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BELLWAY HOMES (EAST MIDLANDS) LTD

PROPOSED RESIDENTIAL DEVELOPMENT  
LAND NORTH OF ASHLAND ROAD WEST,  
SUTTON IN ASHFIELD

TECHNICAL NOTE H  
JUNCTION CAPACITY ANALYSIS

ADC Infrastructure Limited  
Suite 3a, King Edward Court  
King Edward Street  
Nottingham  
NG1 1EW

tel. 0115 941 4817  
[www.ADCinfrastructure.com](http://www.ADCinfrastructure.com)

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1		Matt Tatler	internal draft
2	05/02/2020	Matt Tatler David Cummins	issued to the client team for comment
3	09/02/2020	Matt Tatler	revised and issued to NCC for comment

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## 1.0 INTRODUCTION

1.1 ADC Infrastructure Limited produced a Transport Assessment and Travel Plan in support of an outline planning application for residential development on land to the north of Ashland Road West in Sutton in Ashfield, Nottinghamshire (application reference V/2020/0184).

1.2 Following comments from Nottinghamshire County Council on the Transport Assessment, a Transport Assessment Addendum was prepared and submitted in October 2020. The Transport Assessment Addendum presented the vehicle trip generation of the development as agreed with NCC via email on 2 July. It also presented the revised distribution and assignment of development traffic using 2011 Census data, as agreed with NCC via email on 13 July 2020. The Transport Assessment Addendum also presented the assessment traffic flows, and an assessment of the impact of the development on the operation and safety of the agreed study area junctions listed below and shown on **Figure 1**:

- Junction 1: A38/Common Road
- Junction 2: Blackwell Road/Common Road
- Junction 3: Blackwell Road/Market Street
- Junction 4: Huthwaite Road/Ashland Road West
- Junction 5: Huthwaite Road/Alfreton Road/Lammas Road
- Junction 6: Lammas Road/Hack Lane
- Junction 7: Kirkby Road/Spring Road
- Junction 8: High Pavement/Forest Street
- Junction 9: A38 Kings Mill Road/Station Road
- Junction 10: Mansfield Road/Stoneyford Road/Downing Street
- Junction 11: Mansfield Road/Dalestorth Street/Outram Street
- Junction 14: Lammas Road/Forest Street/Manor Street

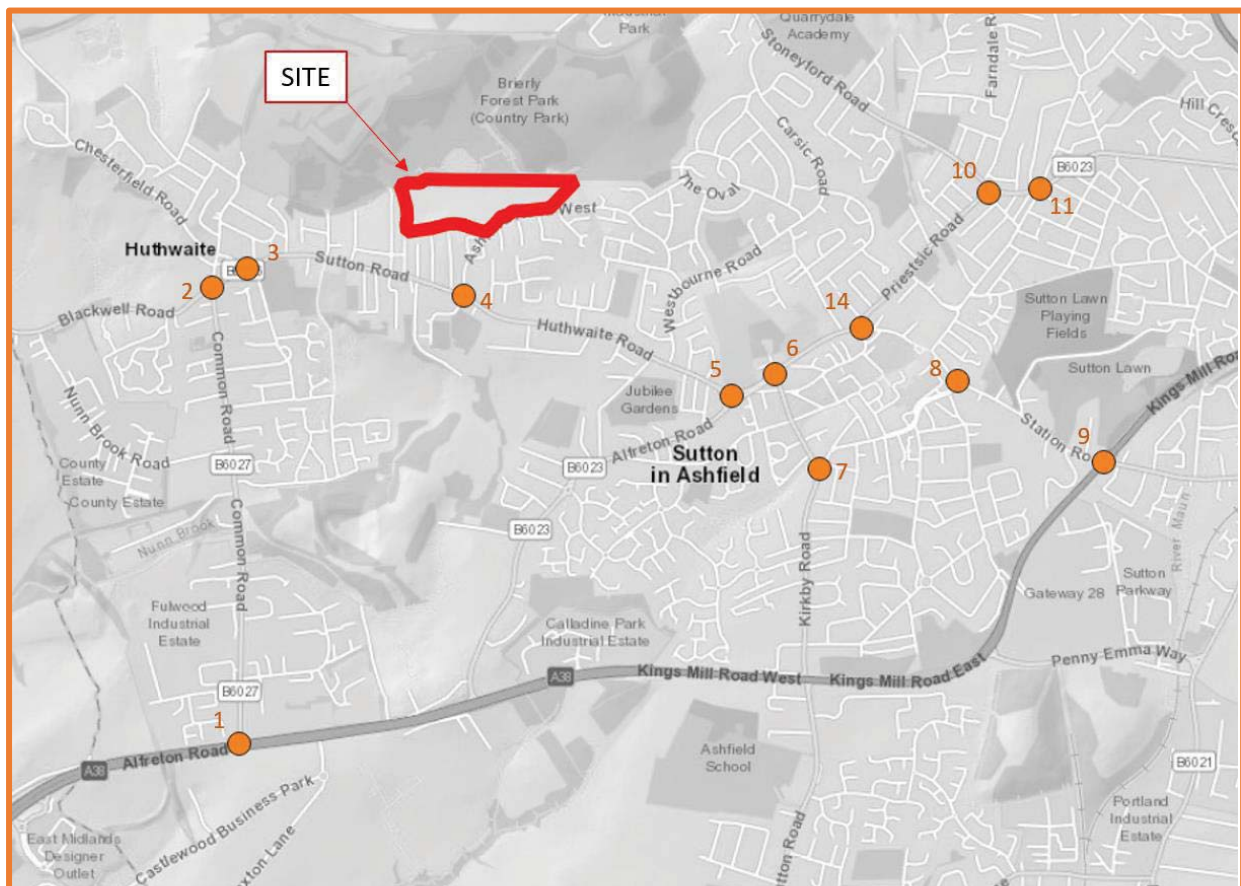


Figure 1: Study area junctions

- 1.3 In response to the Transport Assessment Addendum (dated 10 November 2020), NCC accepted the modelling and conclusions drawn at Junctions 3, 7 and 14. Hence, ADC produced a letter responding to NCC's comments on 20 November 2020. NCC responded on 6 January 2021 and confirmed the modelling and conclusions drawn at Junctions 1, 4, 5, and 9 were acceptable but that further changes were required at Junctions 2, 6, 8, 10 and 11.
- 1.4 Updated models were issued to NCC for checking on 18 January 2021, and at a meeting on 28 January 2021 between Bellway Homes, ADC Infrastructure, Nottinghamshire County Council and Ashfield District Council, NCC confirmed that all modelling was acceptable. NCC therefore requested that the impact at the following junctions be examined further, and whether mitigation was necessary:
  - Junction 2: Blackwell Road/Common Road
  - Junction 9: A38 Kings Mill Road/Station Road
  - Junction 10: Mansfield Road/Stoneyford Road/Downing Street
  - Junction 11: Mansfield Road/Dalestorth Street/Outram Street
- 1.5 NCC also confirmed that there are planned improvement works due to take place in 2021 at Junctions 6 and 8, paid for by LTP funding. NCC therefore requested that the impact of the proposed development be assessed on the improved junctions.
- 1.6 This Technical Note has therefore been prepared to reach an agreed position and present the highway mitigation schemes that can be secured via suitably worded planning conditions.

## 2.0 HIGHWAY IMPACT

### Junction 2: Blackwell Road/Common Road

2.1 The results of the agreed LinSig modelling at the existing junction are summarised in the table below, and the full LinSig report is in **Appendix A**.

Assessment Year	Peak	Practical Reserve Capacity		Total Delay (PCUhr)	
		Background	With Development	Background	With Development
2030	AM	-48.9%	-46.9%	99.48	163.16
	PM	-34.9%	-43.3%	150.18	209.88

2.2 As shown, the junction is forecast to operate above the normally accepted limits of performance and the development has an impact on the operation of the junction. NCC have therefore requested the junction is improved by providing on-crossing and kerbside detection on the signal controlled crossings across the junction.

2.3 As drivers travel further from the development they are presented with increasing numbers of destinations and route choices. The very robust traffic forecasts have simplified those choices, as the assignment process routes development traffic along the main roads only, largely ignoring minor routes and thus the forecasts become less certain with distance from the site. Junction 2 is relatively close to the development, and therefore the mitigation scheme is justified and will be provided in full as part of the proposed development, and can be secured via a suitably worded planning condition.

### Junction 6: Lammas Road/Hack Lane

2.4 The results of the agreed LinSig modelling at the existing junction are summarised in the table below and the full LinSig report is in **Appendix B**.

Assessment Year	Peak	Practical Reserve Capacity		Total Delay (PCUhr)	
		Background	With Development	Background	With Development
2030	AM	-8.1%	-15.8%	37.36	52.95
	PM	-29.4%	-34.9%	138.34	176.77

2.5 To demonstrate the impact on the queueing at the junction, a comparison between the 2030 background and 2030 with development scenarios is provided at the table below.

Scenario	Peak	Lammas Road (S)	Lammas Road (N)	Hack Lane
Background	AM	18.1	18.9	8.2
With Development		29.8	21.3	10.4
Background	PM	39.2	94.1	11.7
With Development		42.4	114.2	25.9

2.6 As shown, the junction is forecast to operate above the normally accepted limits of performance in both the morning and evening peak hours. With regards to queueing on the approach to the junction, the development would result in the queue on Lammas Road (S) increasing by 12 PCUs in the worst case morning peak hour. On all other approaches to the junction, the queues would not be severely impacted by the additional development traffic. In the evening peak hour, the Lammas Road (N) approach operates with least capacity with a forecast queue of 94 PCUs, increasing by 20 PCUs to 114 PCUs with the development in place.

2.7 However, as noted above the junction is due to be refurbished this financial year and will be equipped with Puffin style pedestrian facilities and MOVA control. NCC therefore requested that the impact of the proposed development be assessed with the improvement works in place.

The benefits of MOVA control cannot be replicated in LinSig. However, the benefits of the Puffin style pedestrian facilities can be replicated with a slight reduction in the intergreens across the junction. NCC therefore provided the intended ranges of pedestrian clearance periods across the junction, as follows:

- Phase E (peds across Lammas Road EBND): between 5 and 11 seconds
- Phase F (peds across Lammas Road WBND): between 5 and 12 seconds
- Phase G (peds across Hack Lane): between 5 and 16 seconds

2.8 NCC advised that generally a value towards the lower end of the range is used as the average value throughout the hour would be lower as most pedestrians would be waiting to cross at the start of the green man period and so the full extensions will rarely be seen. The extension is there when required to provide the additional assistance for slower pedestrians to cross safely. Given the above, the following pedestrian clearance times are used:

- Phase E: 6 seconds
- Phase F: 6 seconds
- Phase G: 7 seconds

2.9 The results of the updated LinSig modelling at the improved junction are summarised in the table below and the full LinSig report is in **Appendix C**.

Assessment Year	Peak	Practical Reserve Capacity		Total Delay (PCUhr)	
		Background	With Development	Background	With Development
2030	AM	-3.0%	-9.8%	30.14	42.34
	PM	-26.0%	-28.8%	116.87	154.50

2.10 To demonstrate the impact on the queueing at the junction, a comparison between the 2030 background and 2030 with development scenarios is provided at the table below.

Scenario	Peak	Lammas Road (S)	Lammas Road (N)	Hack Lane
Background	AM	15.7	14.3	8.2
With Development		19.2	21.3	10.4
Background	PM	30.8	83.0	11.7
With Development		42.4	94.7	25.9

2.11 Again, the results above do not replicate the benefits of MOVA. Nevertheless, they demonstrate that the planned improvements provide further capacity at the junction, although it is still forecast to operate above the normally accepted limits of performance in 2030 without the development in place. With regards to queueing, the arm with the least spare capacity is Lammas Road (S) in the morning peak hour where a queue of 16 PCUs is forecast. With the development in place, the queue increases by 3 PCUs to 19 PCUs. In the evening peak, the arm with the least spare capacity is Lammas Road (N) with a forecast queue of 83 PCUs. With the development in place, the queue increases by 12 PCUs to 95 PCUs.

2.12 An increase in queue length from 83 to 95 PCUs is not severe. Nevertheless, as the planned improvement works would improve the capacity of the junction, it would be reasonable for Bellway to provide a financial contribution towards the planned improvements. The financial contribution should be based fairly and reasonably in relation to the scale of impact. The proposed development would have a 6.8% and 2.8% impact on capacity in the morning and evening peak hours, an average of 4.8%. Therefore, it is reasonable to suggest that the proposed development pay a financial contribution of 4.8% of the overall costs for improving the junction.

## Junction 8: High Pavement/Forest Street

2.13 The results of the agreed LinSig modelling at the existing junction are summarised in the table below and the full LinSig report is in **Appendix D**.

Assessment Year	Peak	Practical Reserve Capacity		Total Delay (PCUhr)	
		Background	With Development	Background	With Development
2030	AM	15.5%	12.5%	17.71	18.57
	PM	2.0%	-1.4%	23.57	26.44

2.14 To demonstrate the impact on the queueing at the junction, a comparison between the 2030 background and 2030 with development scenarios is provided at the table below.

Scenario	Peak	Forest Street	High Pavement	Station Road
Background	AM	5.5	12.7	10.3
With Development		5.5	13.8	10.7
Background	PM	8.6	12.5	18.0
With Development		9.0	13.9	20.6

2.15 As shown, the junction is forecast to operate with spare capacity in the 2030 morning peak hour with the development in place. However, the junction is forecast to operate slightly over the normally accepted limits of performance in the evening peak hour with the development in place. With regards to queues, the development would increase the queue on High Pavement and Station Road by 1 PCU in the morning peak and by 2 PCUs in the evening peak hour.

2.16 As noted above, the junction is due to be refurbished this financial year and will be equipped with Puffin style pedestrian facilities and MOVA control. NCC therefore requested that the impact of the proposed development be assessed with the improvement works in place. ADC therefore contacted NCC to request the intended ranges of pedestrian clearance periods across the junction, and these are as follows:

- Phase F (peds across High Pavement EBND): between 5 and 11 secs, currently 8 seconds
- Phase H (peds across Forest Street SBND): between 5 and 11 secs, currently 8 seconds

2.17 Given the above, the following pedestrian clearance times were used:

- Phase F: 6 seconds
- Phase H: 6 seconds

2.18 The results of the updated LinSig modelling at the improved junction are summarised in the table below and the full LinSig report is in **Appendix E**.

Assessment Year	Peak	Practical Reserve Capacity		Total Delay (PCUhr)	
		Background	With Development	Background	With Development
2030	AM	15.5%	12.5%	17.71	18.57
	PM	2.0%	-1.4%	23.57	26.44

2.19 To demonstrate the impact on the queueing at the junction, a comparison between the 2030 background and 2030 with development scenarios is provided at the table below.

Scenario	Peak	Forest Street	High Pavement	Station Road
Background	AM	5.5	12.7	10.3
With Development		5.5	13.8	10.7
Background	PM	8.6	12.5	18.0
With Development		9.0	13.9	20.6

2.20 As shown, the benefits of the slightly reduced pedestrian clearance periods and MOVA control are not fully represented in the updated modelling results given the minor enhancements to capacity provided by the lower intergreen periods. Nevertheless, with MOVA control in place the junction is expected to operate with spare capacity.

2.21 With regards to queues, the development would increase the queue on High Pavement and Station Road by 1 PCU in the morning peak and by 2 PCUs in the evening peak hour. These very modest impacts are not severe and make a mitigation scheme unnecessary.

### Junction 9: A38 Kings Mill Road/Station Road

2.22 The results of the agreed LinSig modelling at the existing junction are summarised in the table below and the full LinSig report is in **Appendix F**.

Assessment Year	Peak	Practical Reserve Capacity		Total Delay (PCUhr)	
		Background	With Development	Background	With Development
2030	AM	-18.3%	-22.1%	141.17	186.41
	PM	-17.4%	-20.5%	128.79	144.14

2.23 To demonstrate the impact on the queueing at the junction, a comparison between the 2030 background and 2030 with development scenarios is provided at the table below.

Scenario	Peak	A38 Kings Mill Road (N)	Station Road (E)	A38 Kings Mill Road (S)	Station Road (W)
Background	AM	51.3	8.9	23.5	37.9
With Development		55.6	8.9	33.1	50.2
Background	PM	31.5	6.7	35.7	37.0
With Development		39.7	6.8	35.7	45.0

2.24 As shown, the junction is forecast to operate above the normally accepted limits of performance and the development has a small impact on the PRC and total delay across the junction. With regards to queues, the arm with the least spare capacity is Station Road (W). In the morning peak hour, the queue on Station Road (W) increases by 12 PCUs from 38 PCUs to 50 PCUs with the development in place. In the evening, the queue increases by 8 PCUs from 37 to 45 PCUs.

2.25 In this location, distant from the development, the very robust traffic forecasts are likely to overestimate the impact of the development traffic, for the reasons set out in para 2.3. Nevertheless, potential mitigation measures have been explored.

2.26 NCC have confirmed that the junction already benefits from MOVA and Puffin style facilities. With regards to geometry, the junction provides two ahead lanes on the A38 in both directions with dedicated left and right turn lanes into Station Road. Single lane, flared approaches are also provided on both Station Road arms at the junction with two lane exits provided on all arms except Station Road east. Given the land constraints around the junction it is not possible to add additional lanes to provide increased capacity.

2.27 Improvements must be related in scale to the impact, and there is nothing that can be done to improve the junction other than major works. The NPPF requires mitigation to be cost effective, and if that is not possible, development should only be refused if its impact would be severe. In this case, the increases in queueing are adverse, they are not severe.



## Junction 10 & 11: Mansfield Road/Stoneyford Road/Dalstorth Road

2.28 The results of the agreed LinSig modelling at the existing junction network are summarised in the table below and the full LinSig report is in **Appendix G**.

Assessment Year	Peak	Practical Reserve Capacity		Total Delay (PCUhr)	
		Background	With Development	Background	With Development
2030	AM	-39.3%	-33.3%	180.03	197.15
	PM	-79.9%	-90.8%	326.74	324.53

2.29 To demonstrate the impact on the queueing at both junctions, a comparison between the 2030 background and 2030 with development scenarios is provided at the table below.

Junction 10: Mansfield Road/Stoneyford Road					
Scenario	Peak	Stoneyford Road	Mansfield Road (E)	Downing Street	Priestsic Road
Background	AM	30.3	26.5	2.1	13.5
With Development		39.3	23.6	2.1	14.2
Background	PM	103.5	23.5	8.7	27.7
With Development		116.3	28.0	8.9	28.1

2.30 As shown, the junction is forecast to operate above the normally accepted limits of performance and the development has a small impact on the operation of the junction. With regards to queues, the arm with the least spare capacity is Stoneyford Road in both the morning and evening peak hours. With the development in place, the queue in the morning peak hour increases by 9 PCUs and in the evening the queue would increase by 12 PCUs.

2.31 NCC have therefore requested that MOVA control is provided at both junctions to mitigate the impact of the development.

2.32 The two junctions are a considerable distance from the development, and as set out in para 2.3, the forecast traffic increases are likely to be a very robust overestimate of the true impact. The proposed development would add 28 and 32 two-way vehicle trips to the junctions in the morning and evening peak hours. This equates to less than one additional vehicle every cycle and is not considered a severe impact.

2.33 Adding MOVA would be a disproportionate response, and also out of keeping with how other developments in the area have been assessed. NCC requested that the traffic from the consented Beck Lane application be added to the forecast assessment flows. As noted in ADC's letter of 20 November 2020, the Beck Lane scheme adds 43 two-way movements at both the Mansfield Road/Stoneyford Road and Mansfield Road/Dalestorth Road junctions. Despite that, the impact of the Beck Lane development was never assessed at the two junctions.

2.34 Nevertheless, Bellway have agreed to provide the mitigation scheme in full as part of the proposed development. The improvement works can be secured via a suitably worded planning condition.

### 3.0 SUMMARY AND CONCLUSIONS

- 3.1 This report provides further analysis of the traffic impacts at six junctions, as follows:
- Junction 2: Blackwell Road/Common Road
  - Junction 6: Lammas Road/Hack Lane
  - Junction 8: High Pavement/Forest Street
  - Junction 9: A38 Kings Mill Road/Station Road
  - Junction 10: Mansfield Road/Stoneyford Road/Downing Street
  - Junction 11: Mansfield Road/Dalestorth Street/Outram Street
- 3.2 At Junction 2, mitigation is proposed in the form of on-crossing and kerbside detection. The mitigation scheme can be secured via a suitably worded planning condition.
- 3.3 At Junction 6, a contribution is proposed to the already planned improvement scheme that is due to be implemented in 2021. The development has a 4.8% impact on the junction.
- 3.4 At Junction 8, the increase in queuing is very small and mitigation is not necessary.
- 3.5 At Junctions 9, it has not been possible to find a mitigation scheme that would be related in scale to the impact and be cost effective. The impact of the development is not severe.
- 3.6 At Junctions 10 and 11, the impact of the development is not severe. Nevertheless, Bellway have agreed to provide the mitigation scheme in full as part of the proposed development. The improvement works can be secured via a suitable worded planning condition.

## APPENDIX A

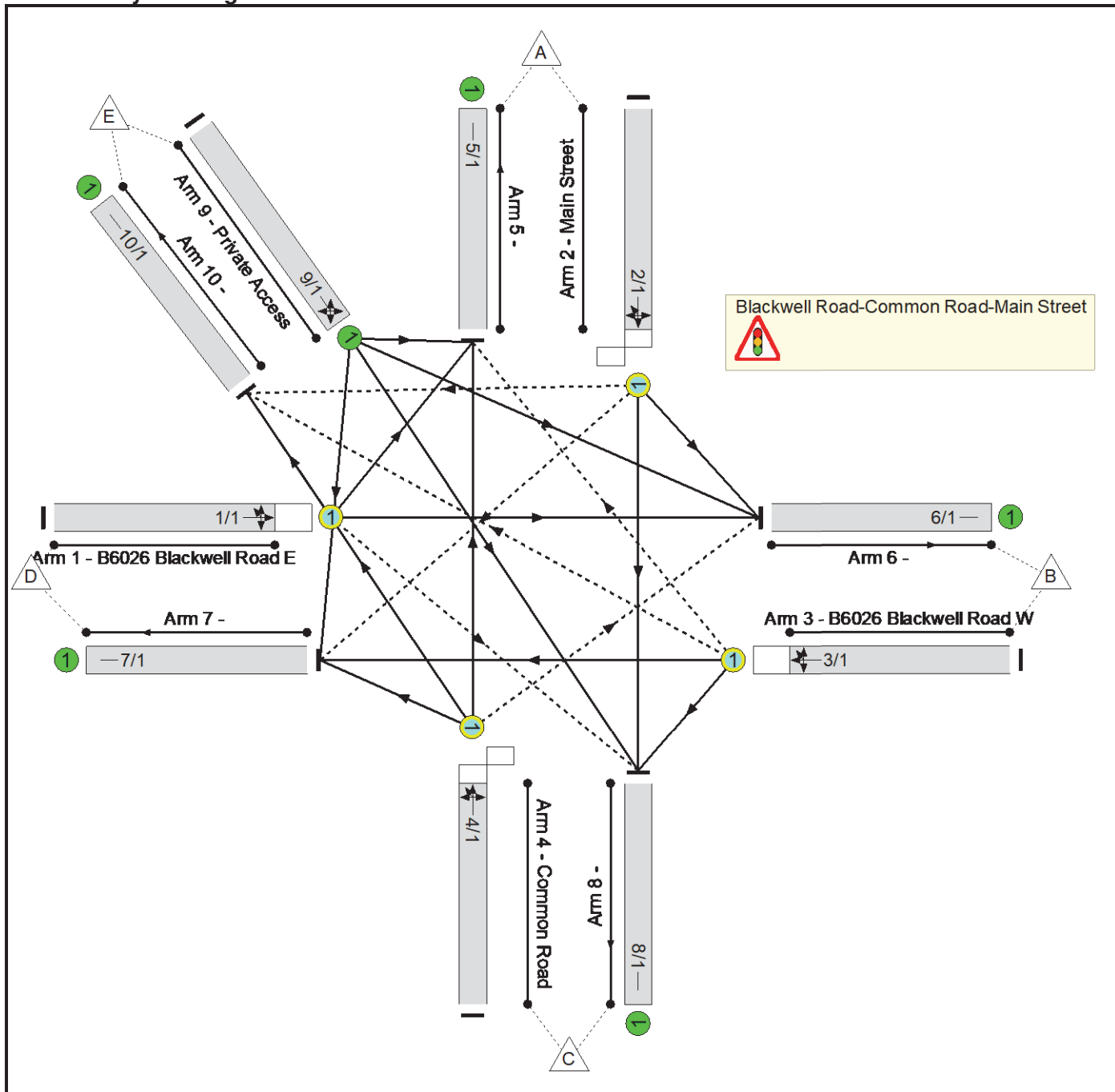
### JUNCTION 2: LINSIG OUTPUT

**Full Input Data And Results**

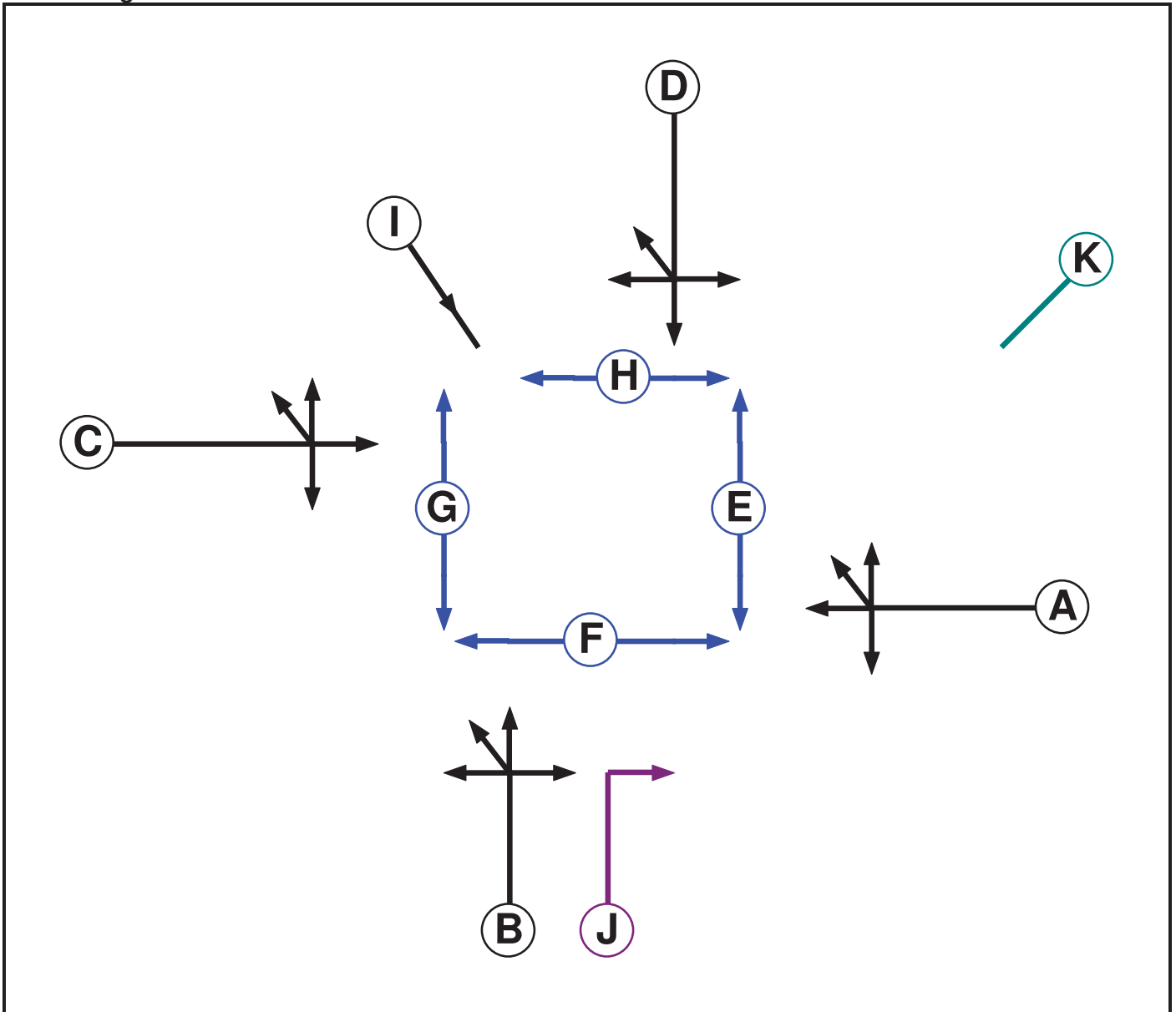
**User and Project Details**

<b>Project:</b>	<b>Ashland Road, Sutton in Ashfield</b>
<b>Title:</b>	<b>J2 Blackwell Road-Common Road-Main Street</b>
<b>Location:</b>	
<b>Client:</b>	Bellway Homes
<b>Additional detail:</b>	
<b>File name:</b>	J2 Blackwell Road-Common Road-Main Street V3.lsg3x
<b>Author:</b>	
<b>Company:</b>	ADC Infrastructure Limited
<b>Address:</b>	King Edward Court, King Edward Street, Nottingham

### Network Layout Diagram



Phase Diagram



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	Traffic		7	7
E	Pedestrian		7	7
F	Pedestrian		6	6
G	Pedestrian		6	6
H	Pedestrian		9	9
I	Traffic		7	7
J	Ind. Arrow	B	4	4
K	Dummy		7	7

Full Input Data And Results

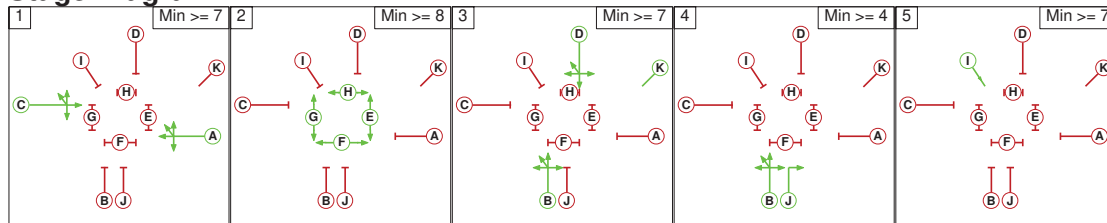
**Phase Intergrens Matrix**

		Starting Phase										
		A	B	C	D	E	F	G	H	I	J	K
Terminating Phase	A		7	-	7	10	9	10	9	8	7	7
	B	5		5	-	10	9	9	9	7	-	-
	C	-	7		7	10	9	10	9	8	5	7
	D	5	-	5		10	9	9	9	7	5	-
	E	13	14	13	14		-	-	-	13	9	14
	F	13	14	13	14	-		-	-	13	10	14
	G	13	14	13	14	-	-		-	13	-	14
	H	13	14	13	14	-	-	-		13	-	14
	I	5	7	5	7	9	8	6	8		5	7
	J	5	-	5	7	10	9	-	-	7		7
	K	8	-	8	-	10	9	9	9	7	5	

**Phases in Stage**

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

**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	3	4	5
From Stage	1		10	7	7	8
	2	13		14	X	13
	3	8	10		5	7
	4	5	10	7		7
	5	5	9	7	X	

## Full Input Data And Results





Full Input Data And Results

**Lane Input Data**

Junction: Blackwell Road-Common Road-Main Street												
Lane	Lane Type	Phases	Start Disp.	End Disp.	Physical Length (PCU)	Sat Flow Type	Def User Saturation Flow (PCU/Hr)	Lane Width (m)	Gradient	Nearside Lane	Turns	Turning Radius (m)
1/1 (B6026 Blackwell Road E)	O	C	2	3	60.0	Geom	-	3.25	0.00	Y	Arm 5 Left	6.00
											Arm 6 Ahead	Inf
											Arm 8 Right	12.00
											Arm 10 Left	Inf
2/1 (Main Street)	O	D	2	3	60.0	Geom	-	3.25	0.00	Y	Arm 6 Left	10.00
											Arm 7 Right	12.00
											Arm 8 Ahead	Inf
											Arm 10 U-Turn	Inf
											Arm 5 Right	12.00
3/1 (B6026 Blackwell Road W)	O	A	2	3	60.0	Geom	-	3.25	0.00	Y	Arm 7 Ahead	Inf
											Arm 8 Left	10.00
											Arm 10 Right	Inf
4/1 (Common Road)	O	B J	2	3	60.0	Geom	-	3.00	0.00	Y	Arm 5 Ahead	Inf
											Arm 6 Right	12.00
											Arm 7 Left	10.00
											Arm 10 Ahead	Inf
5/1	U		2	3	60.0	Inf	-	-	-	-	-	-
6/1	U		2	3	60.0	Inf	-	-	-	-	-	-
7/1	U		2	3	60.0	Inf	-	-	-	-	-	-
8/1	U		2	3	60.0	Inf	-	-	-	-	-	-
9/1 (Private Access)	U		2	3	60.0	Inf	-	-	-	-	-	-
10/1	U		2	3	60.0	Inf	-	-	-	-	-	-

Full Input Data And Results

**Traffic Flow Groups**

Flow Group	Start Time	End Time	Duration	Formula
1: '2030 Bkgd AM'	08:00	09:00	01:00	
2: '2030 Bkgd PM'	17:00	18:00	01:00	
3: '2030 With Dev AM'	08:00	09:00	01:00	
4: '2030 With Dev PM'	17:00	18:00	01:00	

**Scenario 1: '2030 Bkgd AM'** (FG1: '2030 Bkgd AM', Plan 2: 'Excludes Car Garage')

**Traffic Flows, Desired**

**Desired Flow :**

	Destination						Tot.
	A	B	C	D	E		
Origin	A	0	141	317	66	0	524
	B	9	0	192	116	0	317
	C	186	150	0	22	0	358
	D	45	118	44	0	0	207
	E	0	0	0	0	0	0
	Tot.	240	409	553	204	0	1406

**Traffic Lane Flows**

Lane	Scenario 1: 2030 Bkgd AM
<b>Junction: Blackwell Road-Common Road-Main Street</b>	
1/1	207
2/1	524
3/1	317
4/1	358
5/1	240
6/1	409
7/1	204
8/1	553
9/1	0
10/1	0

**Lane Saturation Flows**

Junction: Blackwell Road-Common Road-Main Street								
Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
1/1 (B6026 Blackwell Road E)	3.25	0.00	Y	Arm 5 Left	6.00	21.7 %	1795	1795
				Arm 6 Ahead	Inf	57.0 %		
				Arm 8 Right	12.00	21.3 %		
				Arm 10 Left	Inf	0.0 %		
2/1 (Main Street)	3.25	0.00	Y	Arm 6 Left	10.00	26.9 %	1837	1837
				Arm 7 Right	12.00	12.6 %		
				Arm 8 Ahead	Inf	60.5 %		
				Arm 10 U-Turn	Inf	0.0 %		
3/1 (B6026 Blackwell Road W)	3.25	0.00	Y	Arm 5 Right	12.00	2.8 %	1773	1773
				Arm 7 Ahead	Inf	36.6 %		
				Arm 8 Left	10.00	60.6 %		
				Arm 10 Right	Inf	0.0 %		
4/1 (Common Road)	3.00	0.00	Y	Arm 5 Ahead	Inf	52.0 %	1804	1804
				Arm 6 Right	12.00	41.9 %		
				Arm 7 Left	10.00	6.1 %		
				Arm 10 Ahead	Inf	0.0 %		
5/1	Infinite Saturation Flow						Inf	Inf
6/1	Infinite Saturation Flow						Inf	Inf
7/1	Infinite Saturation Flow						Inf	Inf
8/1	Infinite Saturation Flow						Inf	Inf
9/1 (Private Access Lane 1)	Infinite Saturation Flow						Inf	Inf
10/1	Infinite Saturation Flow						Inf	Inf

**Scenario 2: '2030 With Dev AM'** (FG3: '2030 With Dev AM', Plan 2: 'Excludes Car Garage')

**Traffic Flows, Desired**

**Desired Flow :**

	Destination						
	A	B	C	D	E	Tot.	
Origin	A	0	146	317	66	0	529
	B	9	0	238	116	0	363
	C	186	170	0	22	0	378
	D	45	118	44	0	0	207
	E	0	0	0	0	0	0
	Tot.	240	434	599	204	0	1477

**Traffic Lane Flows**

Lane	Scenario 2: 2030 With Dev AM
<b>Junction: Blackwell Road-Common Road-Main Street</b>	
1/1	207
2/1	529
3/1	363
4/1	378
5/1	240
6/1	434
7/1	204
8/1	599
9/1	0
10/1	0

**Lane Saturation Flows**

<b>Junction: Blackwell Road-Common Road-Main Street</b>								
Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
1/1 (B6026 Blackwell Road E)	3.25	0.00	Y	Arm 5 Left	6.00	21.7 %	1795	1795
				Arm 6 Ahead	Inf	57.0 %		
				Arm 8 Right	12.00	21.3 %		
				Arm 10 Left	Inf	0.0 %		
2/1 (Main Street)	3.25	0.00	Y	Arm 6 Left	10.00	27.6 %	1835	1835
				Arm 7 Right	12.00	12.5 %		
				Arm 8 Ahead	Inf	59.9 %		
				Arm 10 U-Turn	Inf	0.0 %		
3/1 (B6026 Blackwell Road W)	3.25	0.00	Y	Arm 5 Right	12.00	2.5 %	1761	1761
				Arm 7 Ahead	Inf	32.0 %		
				Arm 8 Left	10.00	65.6 %		
				Arm 10 Right	Inf	0.0 %		
4/1 (Common Road)	3.00	0.00	Y	Arm 5 Ahead	Inf	49.2 %	1798	1798
				Arm 6 Right	12.00	45.0 %		
				Arm 7 Left	10.00	5.8 %		
				Arm 10 Ahead	Inf	0.0 %		
5/1				Infinite Saturation Flow			Inf	Inf
6/1				Infinite Saturation Flow			Inf	Inf
7/1				Infinite Saturation Flow			Inf	Inf
8/1				Infinite Saturation Flow			Inf	Inf
9/1 (Private Access Lane 1)				Infinite Saturation Flow			Inf	Inf
10/1				Infinite Saturation Flow			Inf	Inf

Full Input Data And Results

**Scenario 3: '2030 Bkgd PM'** (FG2: '2030 Bkgd PM', Plan 2: 'Excludes Car Garage')

**Traffic Flows, Desired**

**Desired Flow :**

	Destination						
	A	B	C	D	E	Tot.	
Origin	A	0	177	217	33	0	427
B	10	0	142	113	0	265	
C	290	229	0	34	0	553	
D	80	188	20	0	0	288	
E	0	0	0	0	0	0	
Tot.	380	594	379	180	0	1533	

**Traffic Lane Flows**

Lane	Scenario 3: 2030 Bkgd PM
<b>Junction: Blackwell Road-Common Road-Main Street</b>	
1/1	288
2/1	427
3/1	265
4/1	553
5/1	380
6/1	594
7/1	180
8/1	379
9/1	0
10/1	0

**Lane Saturation Flows**

Junction: Blackwell Road-Common Road-Main Street								
Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
1/1 (B6026 Blackwell Road E)	3.25	0.00	Y	Arm 5 Left	6.00	27.8 %	1799	1799
				Arm 6 Ahead	Inf	65.3 %		
				Arm 8 Right	12.00	6.9 %		
				Arm 10 Left	Inf	0.0 %		
2/1 (Main Street)	3.25	0.00	Y	Arm 6 Left	10.00	41.5 %	1810	1810
				Arm 7 Right	12.00	7.7 %		
				Arm 8 Ahead	Inf	50.8 %		
				Arm 10 U-Turn	Inf	0.0 %		
3/1 (B6026 Blackwell Road W)	3.25	0.00	Y	Arm 5 Right	12.00	3.8 %	1788	1788
				Arm 7 Ahead	Inf	42.6 %		
				Arm 8 Left	10.00	53.6 %		
				Arm 10 Right	Inf	0.0 %		
4/1 (Common Road)	3.00	0.00	Y	Arm 5 Ahead	Inf	52.4 %	1805	1805
				Arm 6 Right	12.00	41.4 %		
				Arm 7 Left	10.00	6.1 %		
				Arm 10 Ahead	Inf	0.0 %		
5/1	Infinite Saturation Flow						Inf	Inf
6/1	Infinite Saturation Flow						Inf	Inf
7/1	Infinite Saturation Flow						Inf	Inf
8/1	Infinite Saturation Flow						Inf	Inf
9/1 (Private Access Lane 1)	Infinite Saturation Flow						Inf	Inf
10/1	Infinite Saturation Flow						Inf	Inf

**Scenario 4: '2030 With Dev PM'** (FG4: '2030 With Dev PM', Plan 2: 'Excludes Car Garage')

**Traffic Flows, Desired**

**Desired Flow :**

	Destination						
	A	B	C	D	E	Tot.	
Origin	A	0	190	217	33	0	440
	B	11	0	170	113	0	294
	C	290	275	0	34	0	599
	D	80	188	20	0	0	288
	E	0	0	0	0	0	0
	Tot.	381	653	407	180	0	1621

**Traffic Lane Flows**

Lane	Scenario 4: 2030 With Dev PM
<b>Junction: Blackwell Road-Common Road-Main Street</b>	
1/1	288
2/1	440
3/1	294
4/1	599
5/1	381
6/1	653
7/1	180
8/1	407
9/1	0
10/1	0

**Lane Saturation Flows**

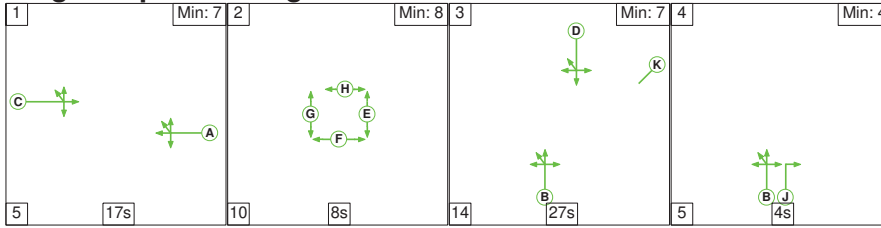
<b>Junction: Blackwell Road-Common Road-Main Street</b>								
Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
1/1 (B6026 Blackwell Road E)	3.25	0.00	Y	Arm 5 Left	6.00	27.8 %	1799	1799
				Arm 6 Ahead	Inf	65.3 %		
				Arm 8 Right	12.00	6.9 %		
				Arm 10 Left	Inf	0.0 %		
2/1 (Main Street)	3.25	0.00	Y	Arm 6 Left	10.00	43.2 %	1806	1806
				Arm 7 Right	12.00	7.5 %		
				Arm 8 Ahead	Inf	49.3 %		
				Arm 10 U-Turn	Inf	0.0 %		
3/1 (B6026 Blackwell Road W)	3.25	0.00	Y	Arm 5 Right	12.00	3.7 %	1778	1778
				Arm 7 Ahead	Inf	38.4 %		
				Arm 8 Left	10.00	57.8 %		
				Arm 10 Right	Inf	0.0 %		
4/1 (Common Road)	3.00	0.00	Y	Arm 5 Ahead	Inf	48.4 %	1797	1797
				Arm 6 Right	12.00	45.9 %		
				Arm 7 Left	10.00	5.7 %		
				Arm 10 Ahead	Inf	0.0 %		
5/1				Infinite Saturation Flow			Inf	Inf
6/1				Infinite Saturation Flow			Inf	Inf
7/1				Infinite Saturation Flow			Inf	Inf
8/1				Infinite Saturation Flow			Inf	Inf
9/1 (Private Access Lane 1)				Infinite Saturation Flow			Inf	Inf
10/1				Infinite Saturation Flow			Inf	Inf



Full Input Data And Results

Scenario 1: '2030 Bkgd AM' (FG1: '2030 Bkgd AM', Plan 2: 'Excludes Car Garage')

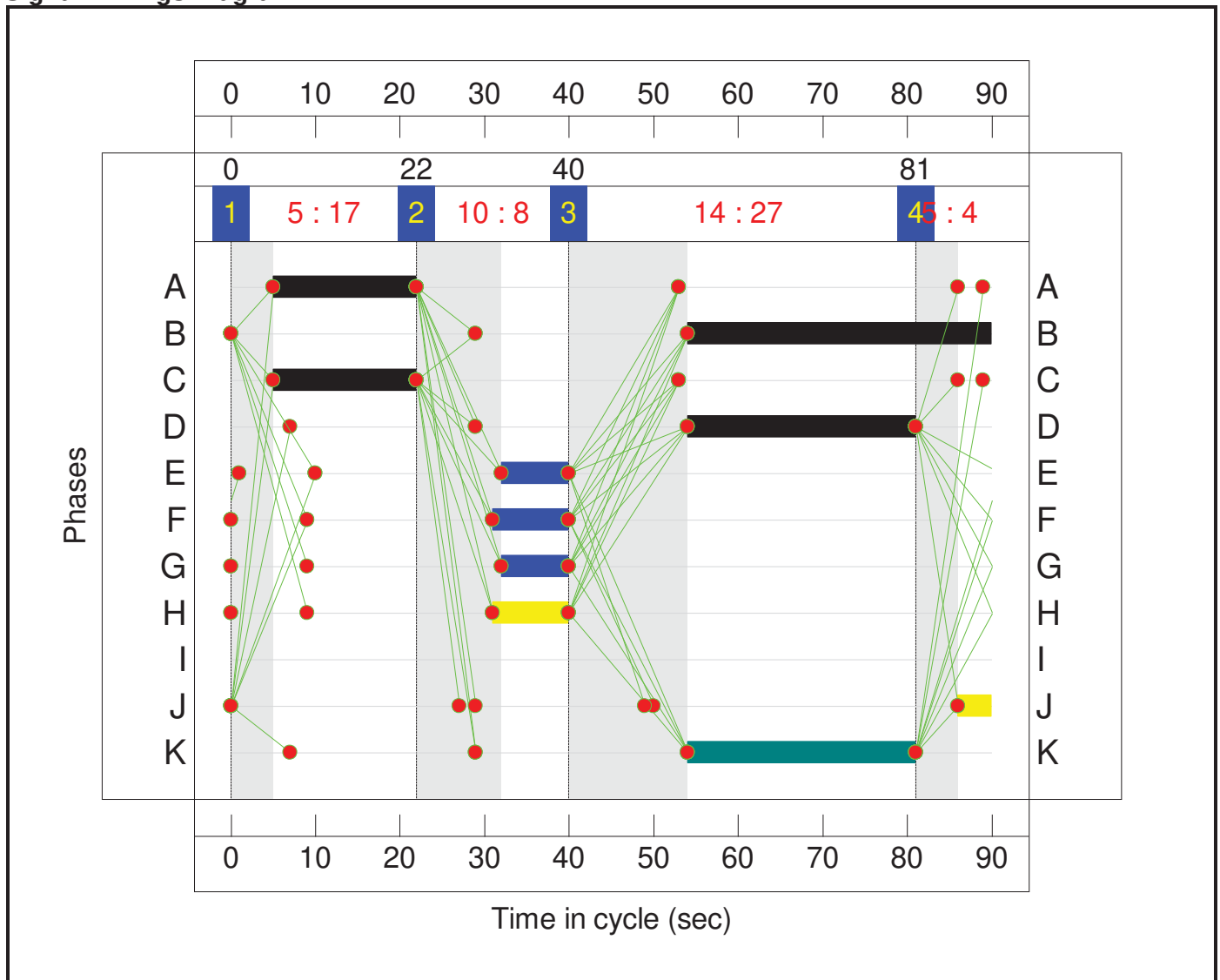
Stage Sequence Diagram



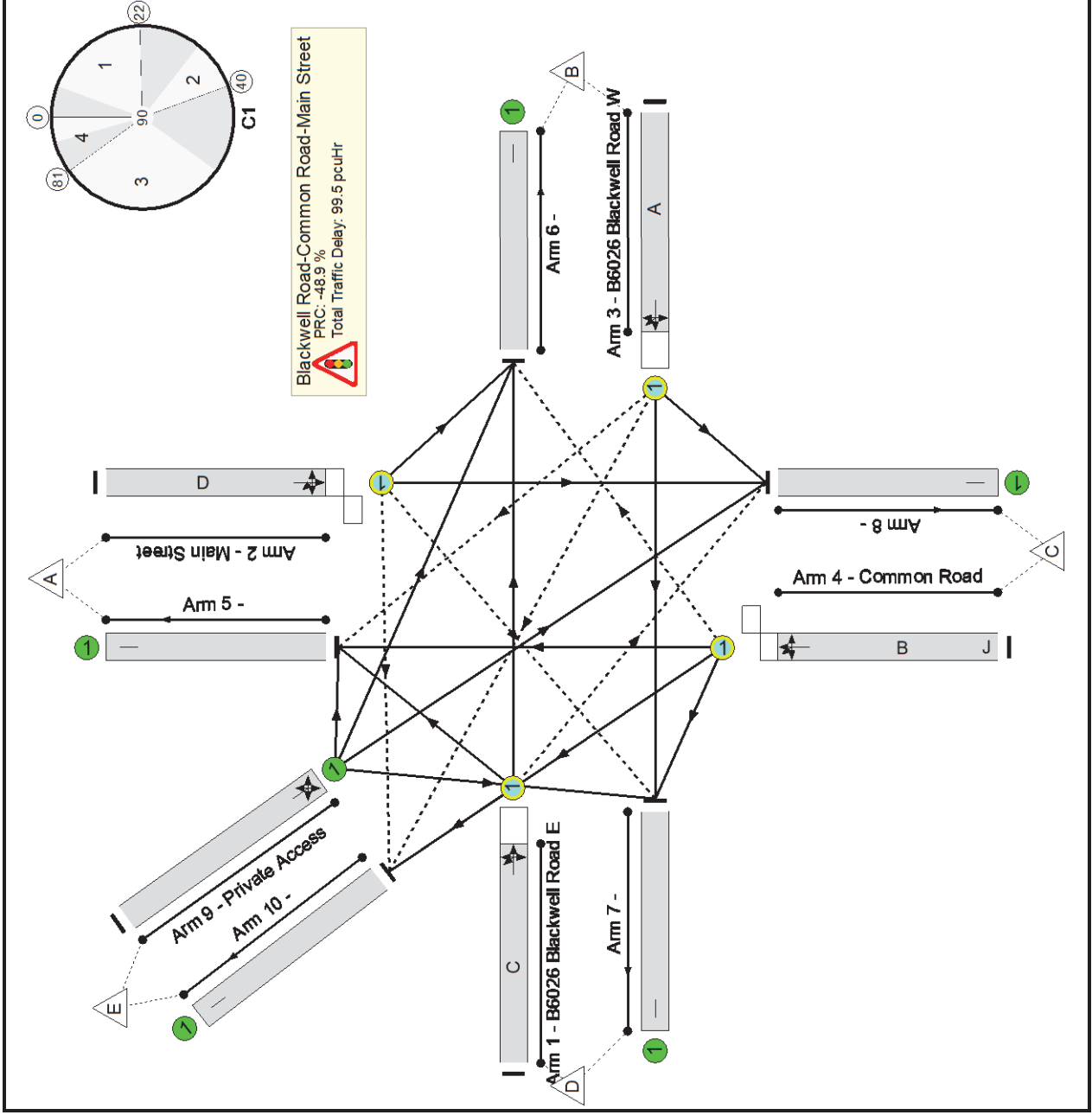
Stage Timings

Stage	1	2	3	4
Duration	17	8	27	4
Change Point	0	22	40	81

Signal Timings Diagram



Full Input Data And Results  
**Network Layout Diagram**



Full Input Data And Results

**Network Results**

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network: J2 Blackwell Road-Common Road-Main Street	-	-	N/A	-	-		-	-	-	-	-	-	134.0%
Blackwell Road-Common Road-Main Street	-	-	N/A	-	-		-	-	-	-	-	-	134.0%
1/1	B6026 Blackwell Road E Left Ahead Right Left2	O	N/A	N/A	C		1	17	-	207	1795	232	89.4%
2/1	Main Street Left Right Ahead U-Turn	O	N/A	N/A	D		1	27	-	524	1837	572	91.7%
3/1	B6026 Blackwell Road W Right Ahead Left Right2	O	N/A	N/A	A		1	17	-	317	1773	237	134.0%
4/1	Common Road Ahead Right Left Ahead2	O	N/A	N/A	B	J	1	36	4	358	1804	303	118.1%
5/1		U	N/A	N/A	-		-	-	-	240	Inf	Inf	0.0%
6/1		U	N/A	N/A	-		-	-	-	409	Inf	Inf	0.0%
7/1		U	N/A	N/A	-		-	-	-	204	Inf	Inf	0.0%
8/1		U	N/A	N/A	-		-	-	-	553	Inf	Inf	0.0%
9/1	Private Access U-Turn Left Right Ahead	U	N/A	N/A	-		-	-	-	0	Inf	Inf	0.0%
10/1		U	N/A	N/A	-		-	-	-	0	Inf	Inf	0.0%

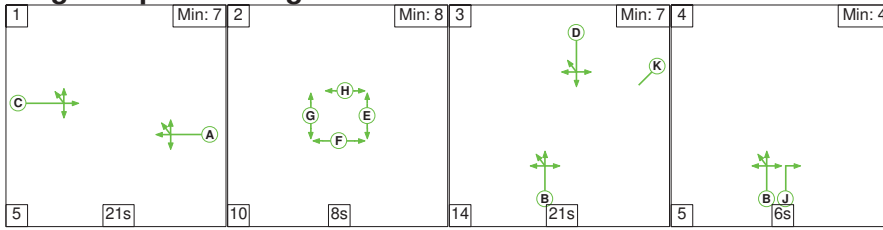
Full Input Data And Results

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
<b>Network: J2 Blackwell Road-Common Road-Main Street</b>	-	-	131	81	32	18.6	80.4	0.4	99.5	-	-	-	-
<b>Blackwell Road-Common Road-Main Street</b>	-	-	131	81	32	18.6	80.4	0.4	99.5	-	-	-	-
1/1	207	207	32	0	12	1.9	3.3	0.0	5.3	92.2	5.1	3.3	8.4
2/1	524	524	65	0	1	4.3	4.6	0.0	9.0	61.7	12.5	4.6	17.1
3/1	317	237	4	0	2	6.8	42.1	0.0	48.9	555.1	9.9	42.1	52.0
4/1	358	303	29	81	17	5.6	30.4	0.4	36.3	365.2	11.4	30.4	41.8
5/1	209	209	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	386	386	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	171	171	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	504	504	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
9/1	0	0	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
10/1	0	0	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
C1										PRC for Signalled Lanes (%):	-48.9	Total Delay for Signalled Lanes (pcuHr):	99.48
										PRC Over All Lanes (%):	-48.9	Total Delay Over All Lanes (pcuHr):	99.48
										Cycle Time (s):	90		

Full Input Data And Results

Scenario 2: '2030 With Dev AM' (FG3: '2030 With Dev AM', Plan 2: 'Excludes Car Garage')

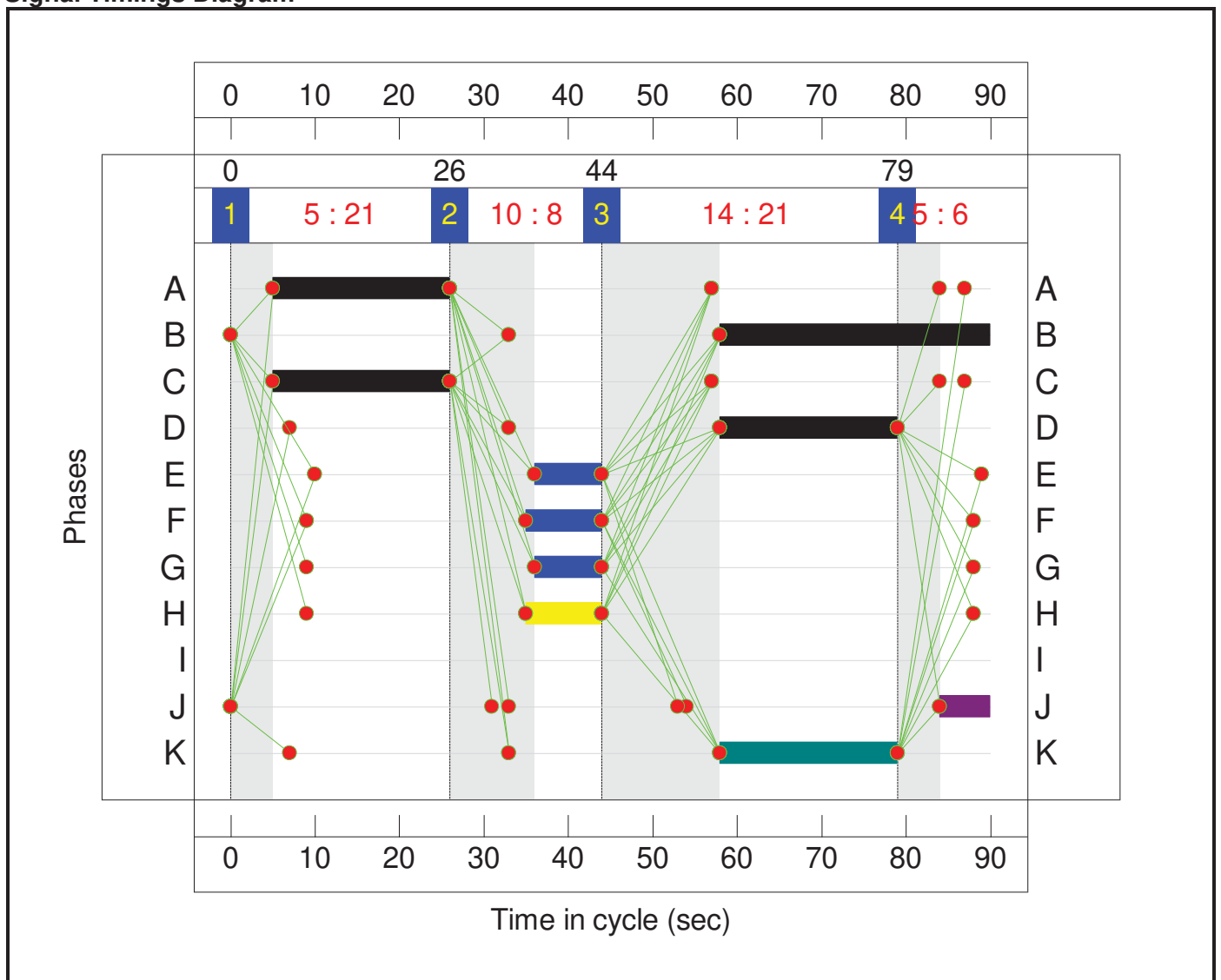
Stage Sequence Diagram



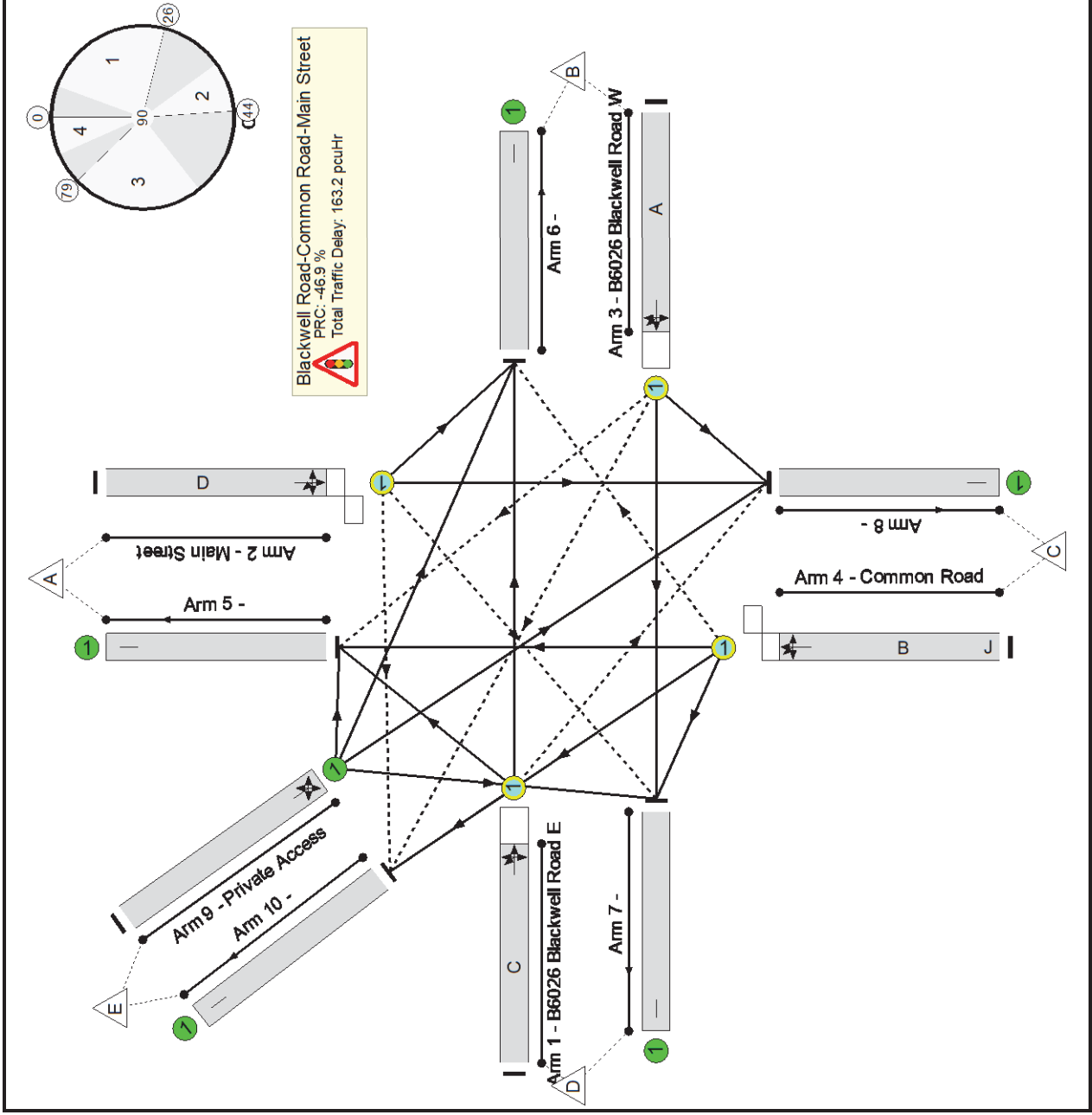
Stage Timings

Stage	1	2	3	4
Duration	21	8	21	6
Change Point	0	26	44	79

Signal Timings Diagram



Full Input Data And Results  
**Network Layout Diagram**



Full Input Data And Results

**Network Results**

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network: J2 Blackwell Road-Common Road-Main Street	-	-	N/A	-	-		-	-	-	-	-	-	132.2%
Blackwell Road-Common Road-Main Street	-	-	N/A	-	-		-	-	-	-	-	-	132.2%
1/1	B6026 Blackwell Road E Left Ahead Right Left2	O	N/A	N/A	C		1	21	-	207	1795	269	76.8%
2/1	Main Street Left Right Ahead U-Turn	O	N/A	N/A	D		1	21	-	529	1835	449	117.9%
3/1	B6026 Blackwell Road W Right Ahead Left Right2	O	N/A	N/A	A		1	21	-	363	1761	275	132.2%
4/1	Common Road Ahead Right Left Ahead2	O	N/A	N/A	B	J	1	32	6	378	1798	289	130.9%
5/1		U	N/A	N/A	-		-	-	-	240	Inf	Inf	0.0%
6/1		U	N/A	N/A	-		-	-	-	434	Inf	Inf	0.0%
7/1		U	N/A	N/A	-		-	-	-	204	Inf	Inf	0.0%
8/1		U	N/A	N/A	-		-	-	-	599	Inf	Inf	0.0%
9/1	Private Access U-Turn Left Right Ahead	U	N/A	N/A	-		-	-	-	0	Inf	Inf	0.0%
10/1		U	N/A	N/A	-		-	-	-	0	Inf	Inf	0.0%

Full Input Data And Results

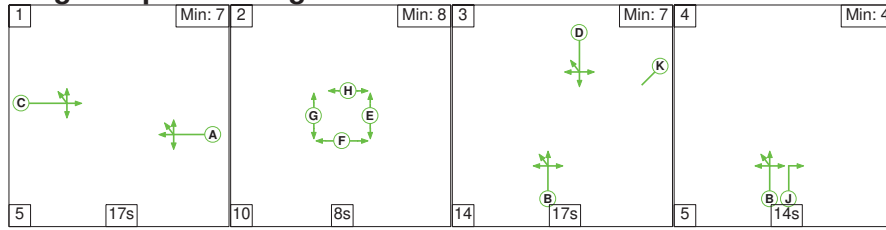
Item	Arriving (pcu)	Leaving (pcu)	Turners in Gaps (pcu)	Turners Unopposed (pcu)	Turners When Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
<b>Network: J2 Blackwell Road-Common Road-Main Street</b>	-	-	107	103	26	25.1	137.7	0.4	163.2	-	-	-	-
<b>Blackwell Road-Common Road-Main Street</b>	-	-	107	103	26	25.1	137.7	0.4	163.2	-	-	-	-
1/1	207	207	40	0	4	1.7	1.6	0.0	3.3	58.1	4.7	1.6	6.2
2/1	529	449	53	0	3	8.3	43.3	0.0	51.6	350.9	16.1	43.3	59.3
3/1	363	275	5	0	2	7.3	46.2	0.0	53.5	530.7	11.3	46.2	57.5
4/1	378	289	9	103	18	7.8	46.6	0.3	54.7	521.3	13.6	46.6	60.2
5/1	194	194	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	371	371	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	160	160	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	492	492	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
9/1	0	0	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
10/1	0	0	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
C1										PRC for Signalled Lanes (%):	-46.9	Total Delay for Signalled Lanes (pcuHr):	163.16
										PRC Over All Lanes (%):	-46.9	Total Delay Over All Lanes (pcuHr):	163.16
										Cycle Time (s):	90		



Full Input Data And Results

Scenario 3: '2030 Bkgd PM' (FG2: '2030 Bkgd PM', Plan 2: 'Excludes Car Garage')

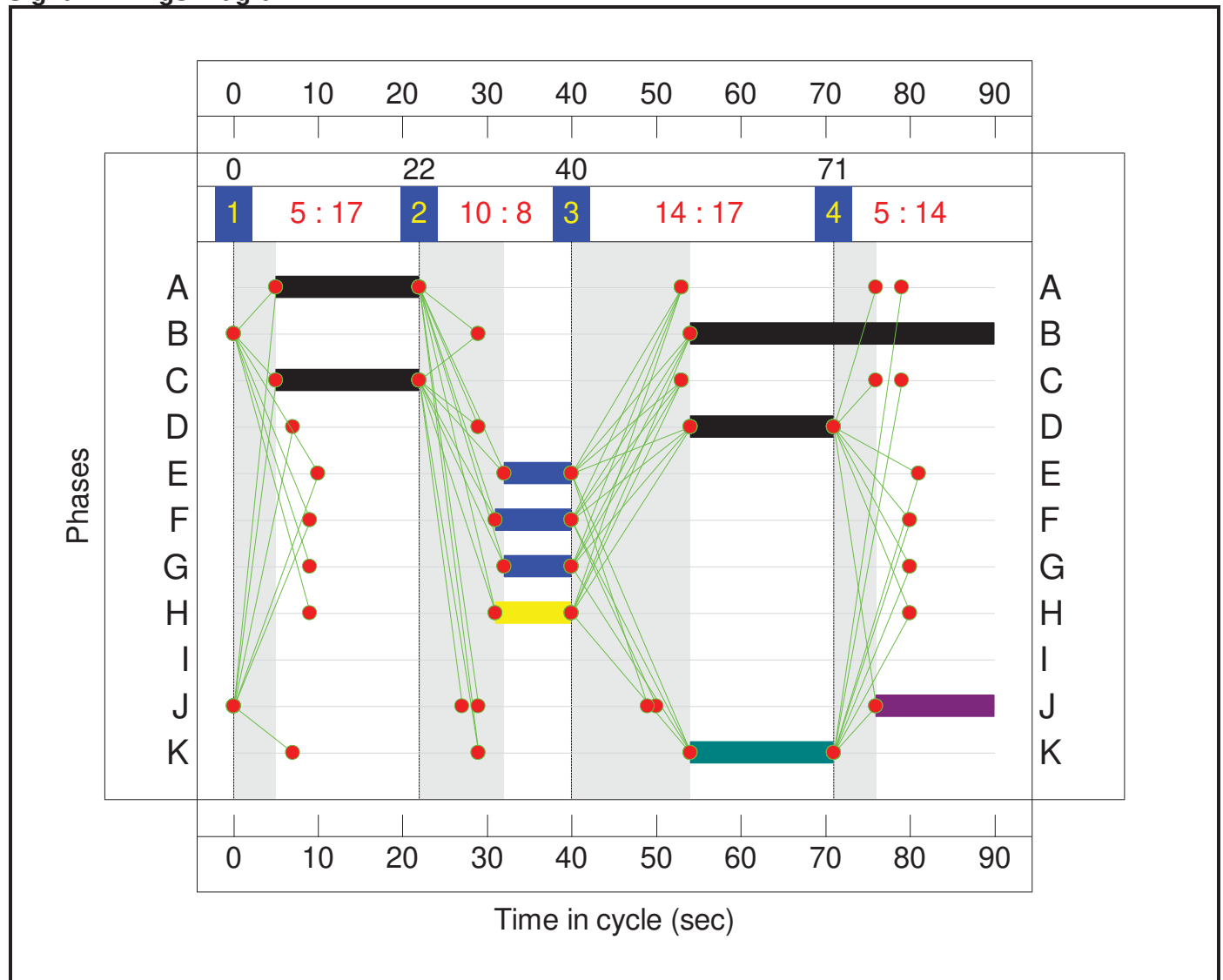
Stage Sequence Diagram



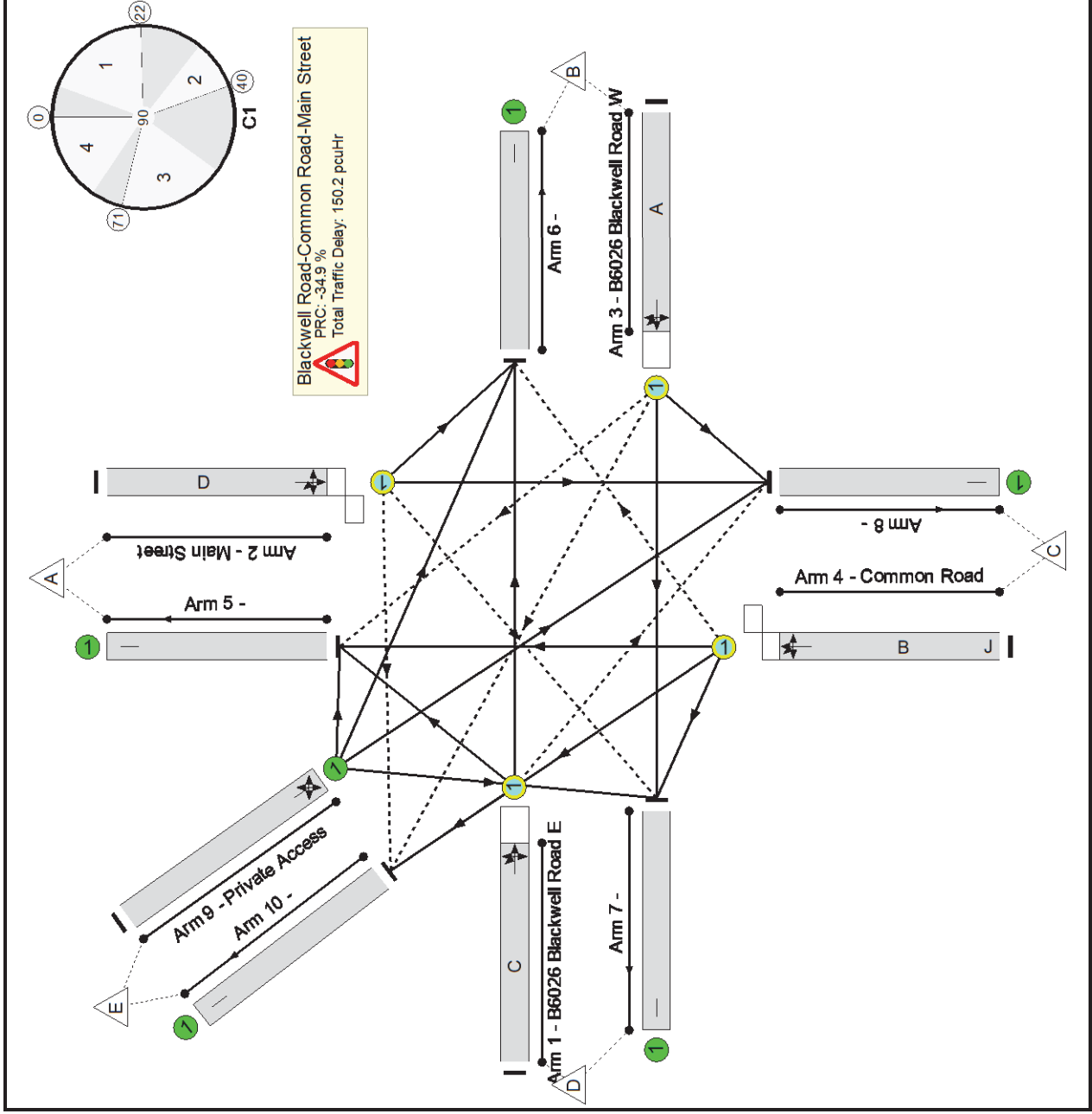
Stage Timings

Stage	1	2	3	4
Duration	17	8	17	14
Change Point	0	22	40	71

Signal Timings Diagram



Full Input Data And Results  
**Network Layout Diagram**



Full Input Data And Results

**Network Results**

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network: J2 Blackwell Road-Common Road-Main Street	-	-	N/A	-	-		-	-	-	-	-	-	121.4%
Blackwell Road-Common Road-Main Street	-	-	N/A	-	-		-	-	-	-	-	-	121.4%
1/1	B6026 Blackwell Road E Left Ahead Right Left2	O	N/A	N/A	C		1	17	-	288	1799	237	121.4%
2/1	Main Street Left Right Ahead U-Turn	O	N/A	N/A	D		1	17	-	427	1810	362	118.0%
3/1	B6026 Blackwell Road W Right Ahead Left Right2	O	N/A	N/A	A		1	17	-	265	1788	237	111.6%
4/1	Common Road Ahead Right Left Ahead2	O	N/A	N/A	B	J	1	36	14	553	1805	470	117.7%
5/1		U	N/A	N/A	-		-	-	-	380	Inf	Inf	0.0%
6/1		U	N/A	N/A	-		-	-	-	594	Inf	Inf	0.0%
7/1		U	N/A	N/A	-		-	-	-	180	Inf	Inf	0.0%
8/1		U	N/A	N/A	-		-	-	-	379	Inf	Inf	0.0%
9/1	Private Access U-Turn Left Right Ahead	U	N/A	N/A	-		-	-	-	0	Inf	Inf	0.0%
10/1		U	N/A	N/A	-		-	-	-	0	Inf	Inf	0.0%

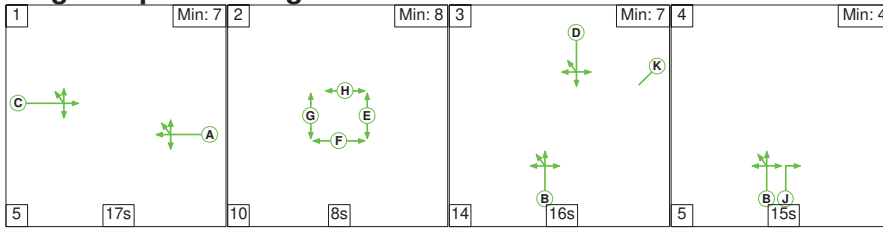
Full Input Data And Results

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
<b>Network: J2 Blackwell Road-Common Road-Main Street</b>	-	-	56	165	27	24.2	125.7	0.3	150.2	-	-	-	-
<b>Blackwell Road-Common Road-Main Street</b>	-	-	56	165	27	24.2	125.7	0.3	150.2	-	-	-	-
1/1	288	237	11	0	6	5.1	28.0	0.0	33.1	414.2	8.5	28.0	36.5
2/1	427	362	26	0	2	6.4	35.5	0.0	41.9	353.1	12.3	35.5	47.8
3/1	265	237	6	0	3	3.8	17.5	0.0	21.4	290.5	7.3	17.5	24.8
4/1	553	470	13	165	17	8.9	44.7	0.2	53.8	350.1	17.5	44.7	62.2
5/1	321	321	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	499	499	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	158	158	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	328	328	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
9/1	0	0	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
10/1	0	0	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
C1										PRC for Signalled Lanes (%):	-34.9	Total Delay for Signalled Lanes (pcuHr):	150.18
										PRC Over All Lanes (%):	-34.9	Total Delay Over All Lanes (pcuHr):	150.18
										Cycle Time (s):	90		

Full Input Data And Results

Scenario 4: '2030 With Dev PM' (FG4: '2030 With Dev PM', Plan 2: 'Excludes Car Garage')

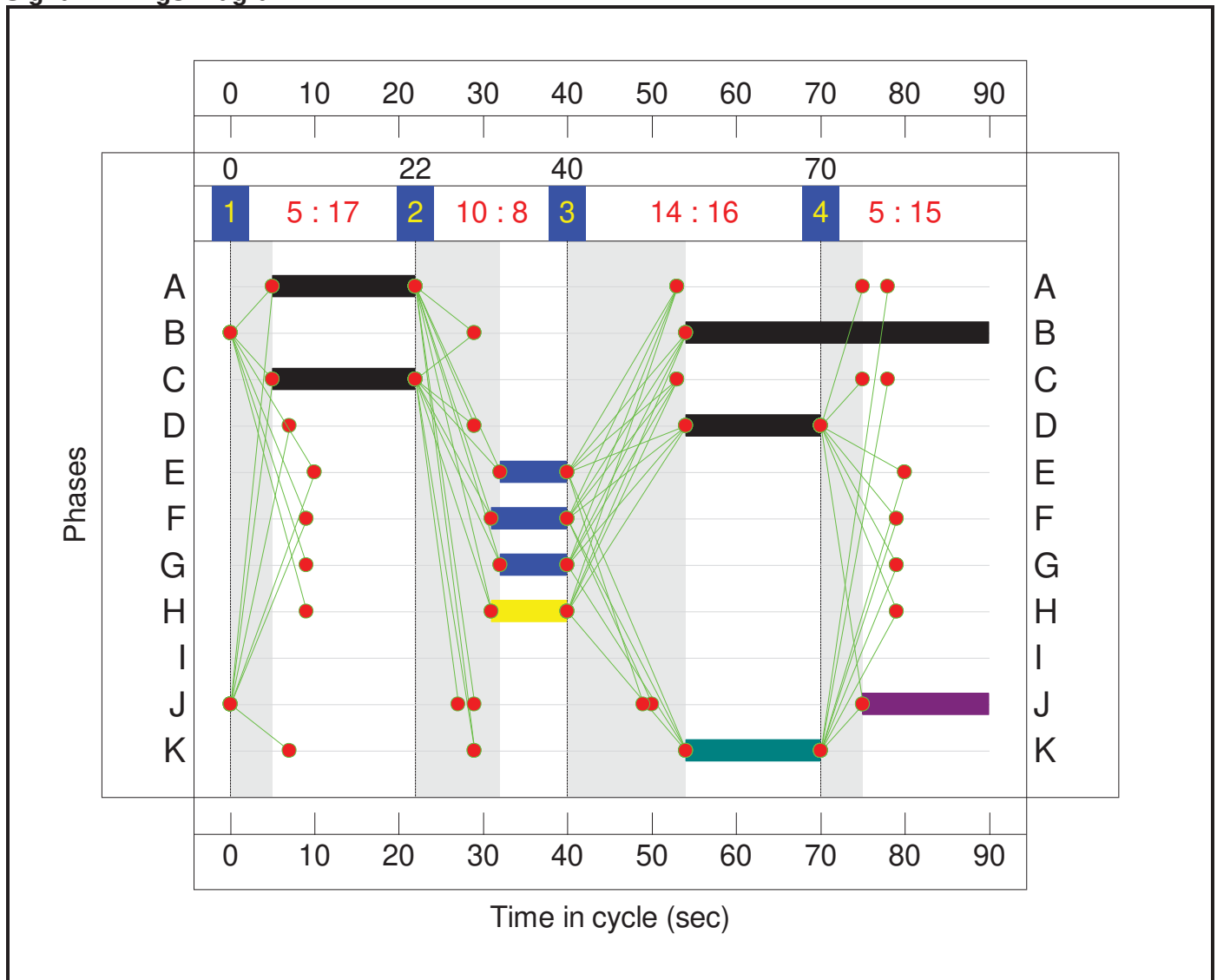
Stage Sequence Diagram



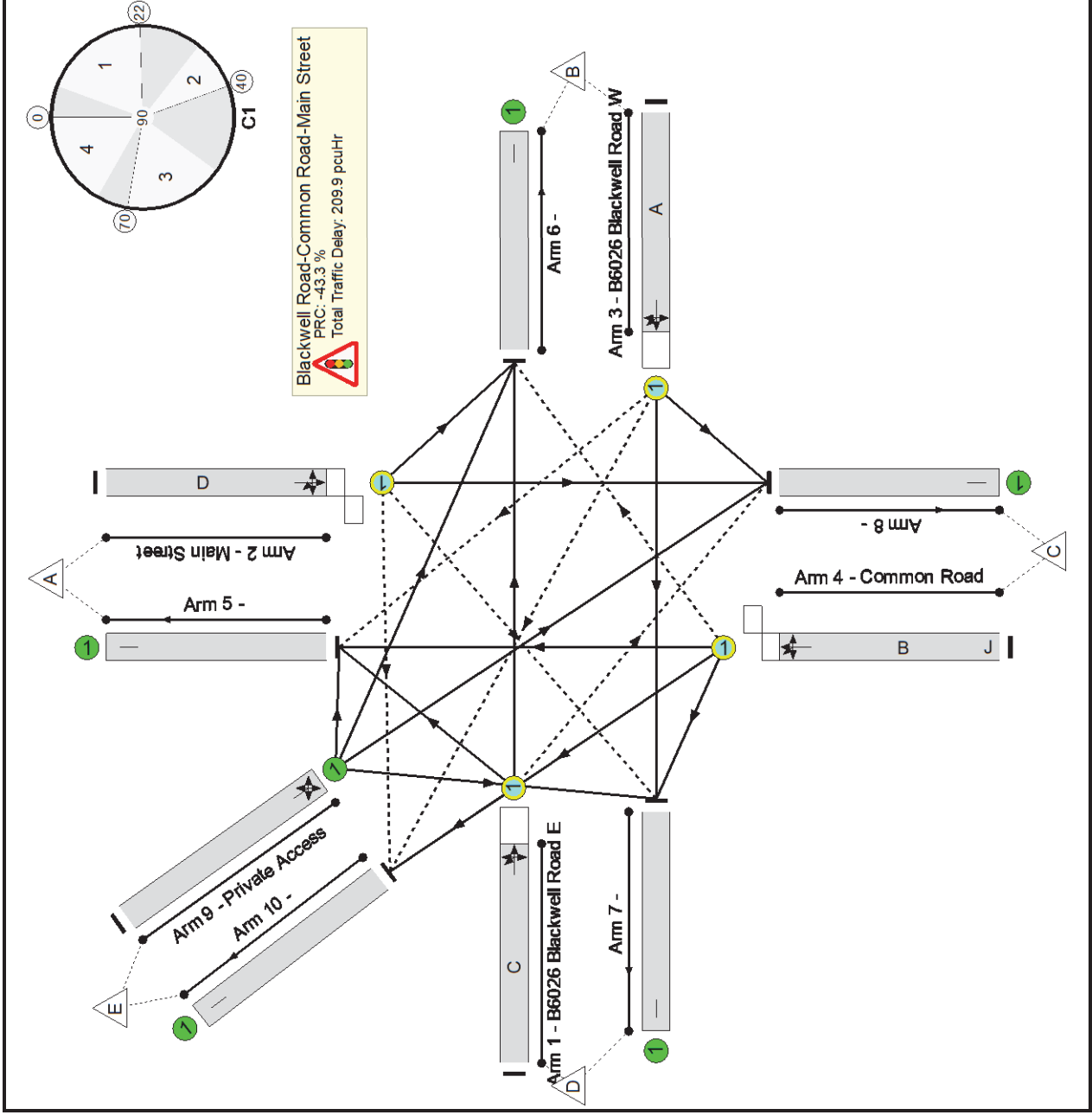
Stage Timings

Stage	1	2	3	4
Duration	17	8	16	15
Change Point	0	22	40	70

Signal Timings Diagram



Full Input Data And Results  
**Network Layout Diagram**



Full Input Data And Results

**Network Results**

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network: J2 Blackwell Road-Common Road-Main Street	-	-	N/A	-	-		-	-	-	-	-	-	129.0%
Blackwell Road-Common Road-Main Street	-	-	N/A	-	-		-	-	-	-	-	-	129.0%
1/1	B6026 Blackwell Road E Left Ahead Right Left2	O	N/A	N/A	C		1	17	-	288	1799	237	121.4%
2/1	Main Street Left Right Ahead U-Turn	O	N/A	N/A	D		1	16	-	440	1806	341	129.0%
3/1	B6026 Blackwell Road W Right Ahead Left Right2	O	N/A	N/A	A		1	17	-	294	1778	237	124.2%
4/1	Common Road Ahead Right Left Ahead2	O	N/A	N/A	B	J	1	36	15	599	1797	467	128.4%
5/1		U	N/A	N/A	-		-	-	-	381	Inf	Inf	0.0%
6/1		U	N/A	N/A	-		-	-	-	653	Inf	Inf	0.0%
7/1		U	N/A	N/A	-		-	-	-	180	Inf	Inf	0.0%
8/1		U	N/A	N/A	-		-	-	-	407	Inf	Inf	0.0%
9/1	Private Access U-Turn Left Right Ahead	U	N/A	N/A	-		-	-	-	0	Inf	Inf	0.0%
10/1		U	N/A	N/A	-		-	-	-	0	Inf	Inf	0.0%

Full Input Data And Results

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)		
<b>Network: J2 Blackwell Road-Common Road-Main Street</b>	-	-	50	187	28	30.6	179.0	0.3	209.9	-	-	-	-		
<b>Blackwell Road-Common Road-Main Street</b>	-	-	50	187	28	30.6	179.0	0.3	209.9	-	-	-	-		
1/1	288	237	11	0	6	5.1	28.0	0.0	33.1	414.2	8.5	28.0	36.5		
2/1	440	341	24	0	2	8.0	51.6	0.0	59.6	487.8	13.9	51.6	65.4		
3/1	294	237	6	0	3	5.5	31.0	0.0	36.5	447.4	8.8	31.0	39.8		
4/1	599	467	9	187	18	11.9	68.4	0.2	80.6	484.4	21.1	68.4	89.5		
5/1	301	301	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0		
6/1	516	516	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0		
7/1	143	143	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0		
8/1	321	321	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0		
9/1	0	0	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0		
10/1	0	0	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0		
C1										PRC for Signalled Lanes (%):	-43.3	Total Delay for Signalled Lanes (pcuHr):	209.88	Cycle Time (s):	90
										PRC Over All Lanes (%):	-43.3	Total Delay Over All Lanes (pcuHr):	209.88		



## APPENDIX B

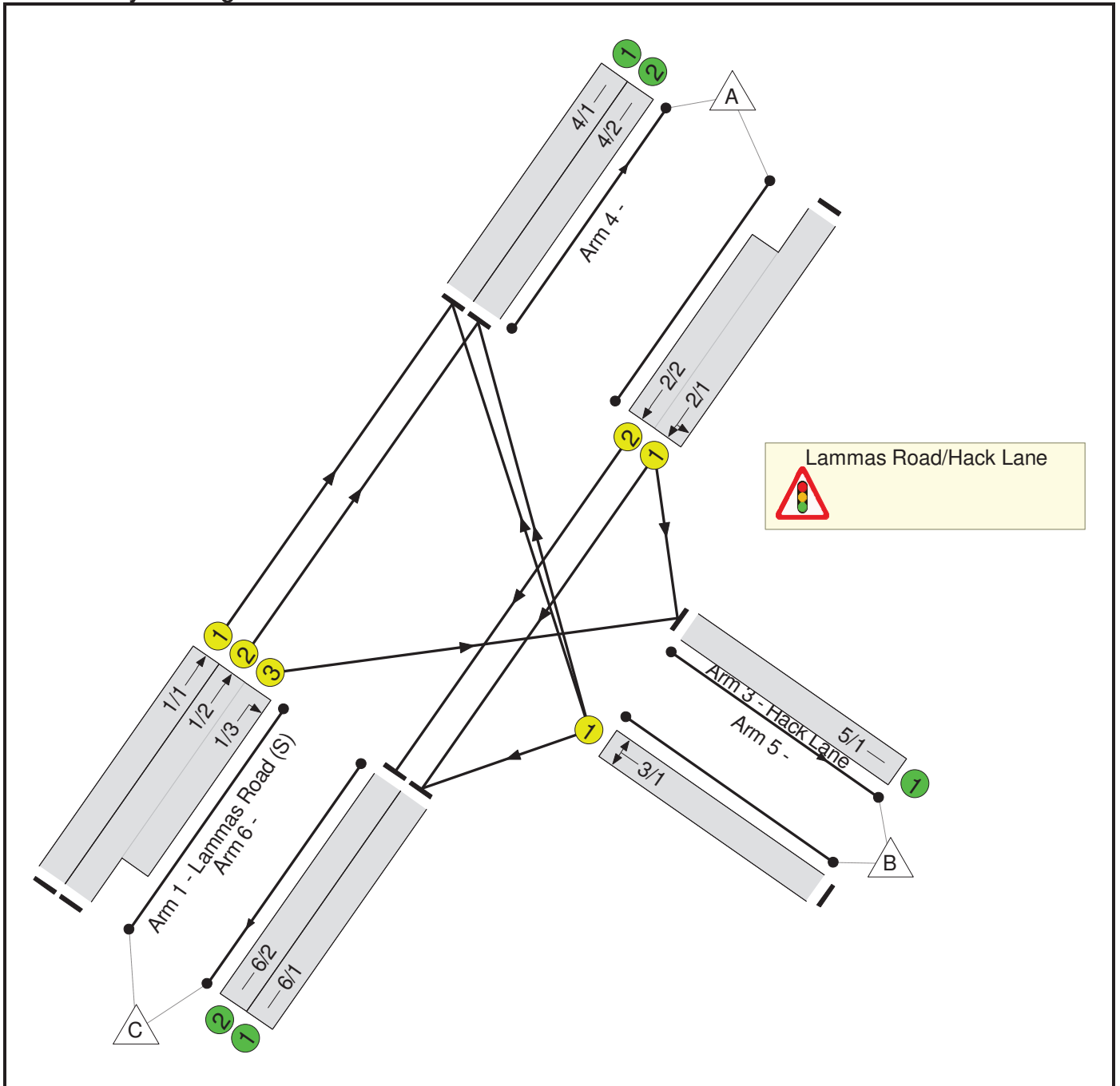
### JUNCTION 6: LINSIG OUTPUT EXISTING JUNCTION LAYOUT

**Full Input Data And Results**

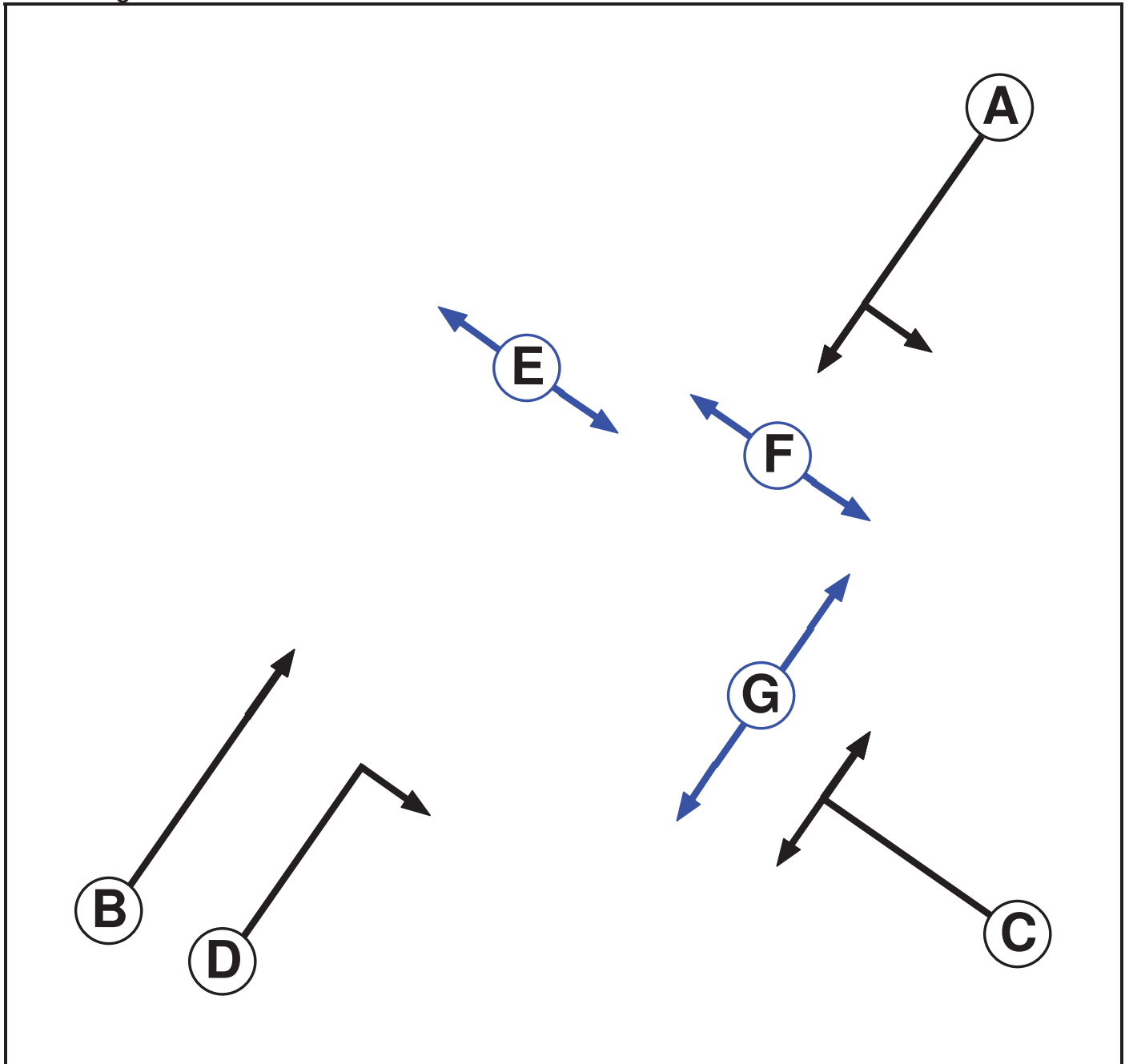
**User and Project Details**

<b>Project:</b>	<b>Ashland Road, Sutton in Ashfield</b>
<b>Title:</b>	<b>Lammas Road-Hack Lane</b>
<b>Location:</b>	
<b>Client:</b>	Bellway Homes
<b>Additional detail:</b>	
<b>File name:</b>	J6 Lammas Road-Hack Lane V3.lsg3x
<b>Author:</b>	
<b>Company:</b>	ADC Infrastructure Limited
<b>Address:</b>	King Edward Court, King Edward Street, Nottingham

### Network Layout Diagram



**Phase Diagram**



**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	Traffic		7	7
E	Pedestrian		6	2
F	Pedestrian		2	2
G	Pedestrian		7	7

Full Input Data And Results

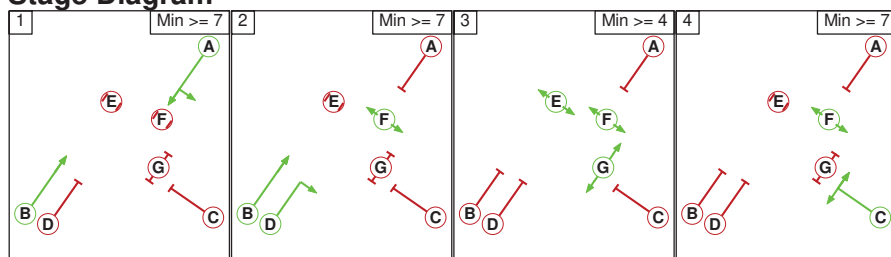
**Phase Intergrens Matrix**

		Starting Phase						
		A	B	C	D	E	F	G
Terminating Phase	A	-	5	5	-	5	7	
	B	-	-	5	-	7	-	-
	C	5	6	-	6	8	-	5
	D	6	-	5	-	-	-	8
	E	-	8	7	-	-	-	-
	F	10	-	-	-	-	-	-
	G	13	-	13	12	-	-	-

**Phases in Stage**

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

**Stage Diagram**



**Phase Delays**

Term. Stage	Start Stage	Phase	Type	Value	Cont value
2	1	D	Losing	4	4
3	1	E	Losing	5	5
3	1	F	Losing	3	3
3	2	E	Losing	4	4
3	4	E	Losing	6	6
4	1	C	Losing	4	4

**Prohibited Stage Change**

		To Stage			
		1	2	3	4
From Stage	1	-	5	7	5
	2	10	-	8	5
	3	13	12	-	13
	4	10	6	8	-

Full Input Data And Results

**Give-Way Lane Input Data**

**Junction: Lammaas Road/Hack Lane**

There are no Opposed Lanes in this Junction

Full Input Data And Results

**Lane Input Data**

Junction: Lammas Road/Hack Lane												
Lane	Lane Type	Phases	Start Disp.	End Disp.	Physical Length (PCU)	Sat Flow Type	Def User Saturation Flow (PCU/Hr)	Lane Width (m)	Gradient	Nearside Lane	Turns	Turning Radius (m)
1/1 (Lammas Road (S))	U	B	2	3	60.0	Geom	-	3.00	0.00	Y	Arm 4 Ahead	Inf
1/2 (Lammas Road (S))	U	B	2	3	60.0	Geom	-	3.00	0.00	N	Arm 4 Ahead	Inf
1/3 (Lammas Road (S))	U	D	2	3	12.2	Geom	-	3.00	0.00	Y	Arm 5 Right	10.00
2/1 (Lammas Road (N))	U	A	2	3	60.0	Geom	-	3.50	0.00	Y	Arm 5 Left	10.00
											Arm 6 Ahead	Inf
2/2 (Lammas Road (N))	U	A	2	3	10.4	Geom	-	3.40	0.00	N	Arm 6 Ahead	Inf
3/1 (Hack Lane)	U	C	2	3	60.0	Geom	-	4.00	0.00	Y	Arm 4 Right	12.00
											Arm 6 Left	10.00
4/1	U		2	3	60.0	Inf	-	-	-	-	-	-
4/2	U		2	3	20.0	Inf	-	-	-	-	-	-
5/1	U		2	3	60.0	Inf	-	-	-	-	-	-
6/1	U		2	3	60.0	Inf	-	-	-	-	-	-
6/2	U		2	3	60.0	Inf	-	-	-	-	-	-

**Traffic Flow Groups**

Flow Group	Start Time	End Time	Duration	Formula
1: '2030 Bkgd AM'	08:00	09:00	01:00	
2: '2030 Bkgd PM'	17:00	18:00	01:00	
3: '2030 With Dev AM'	08:00	09:00	01:00	
4: '2030 With Dev PM'	17:00	18:00	01:00	

**Scenario 1: '2030 Bkgd AM'** (FG1: '2030 Bkgd AM', Plan 1: 'Network Control Plan 1')

**Traffic Flows, Desired**

**Desired Flow :**

	Destination				
	A	B	C	Tot.	
Origin	A	0	100	631	731
	B	201	0	9	210
	C	673	446	0	1119
	Tot.	874	546	640	2060

Full Input Data And Results

**Traffic Lane Flows**

Lane	Scenario 1: 2030 Bkgd AM
<b>Junction: Lammas Road/Hack Lane</b>	
1/1	673
1/2 (with short)	446(In) 0(Out)
1/3 (short)	446
2/1 (with short)	731(In) 346(Out)
2/2 (short)	385
3/1	210
4/1	774
4/2	100
5/1	546
6/1	255
6/2	385

**Lane Saturation Flows**

<b>Junction: Lammas Road/Hack Lane</b>								
Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
1/1 (Lammas Road (S))	3.00	0.00	Y	Arm 4 Ahead	Inf	100.0 %	1915	1915
1/2 (Lammas Road (S))	3.00	0.00	N	Arm 4 Ahead	Inf	0.0 %	2055	2055
1/3 (Lammas Road (S))	3.00	0.00	Y	Arm 5 Right	10.00	100.0 %	1665	1665
2/1 (Lammas Road (N))	3.50	0.00	Y	Arm 5 Left	10.00	28.9 %	1883	1883
				Arm 6 Ahead	Inf	71.1 %		
2/2 (Lammas Road (N))	3.40	0.00	N	Arm 6 Ahead	Inf	100.0 %	2095	2095
3/1 (Hack Lane)	4.00	0.00	Y	Arm 4 Right	12.00	95.7 %	1789	1789
				Arm 6 Left	10.00	4.3 %		
4/1	Infinite Saturation Flow						Inf	Inf
4/2	Infinite Saturation Flow						Inf	Inf
5/1	Infinite Saturation Flow						Inf	Inf
6/1	Infinite Saturation Flow						Inf	Inf
6/2	Infinite Saturation Flow						Inf	Inf



Full Input Data And Results

**Scenario 2: '2030 With Dev AM'** (FG3: '2030 With Dev AM', Plan 1: 'Network Control Plan 1')

**Traffic Flows, Desired**

**Desired Flow :**

	Destination				
	A	B	C	Tot.	
Origin	A	0	100	643	743
	B	201	0	24	225
	C	701	482	0	1183
	Tot.	902	582	667	2151

**Traffic Lane Flows**

Lane	Scenario 2: 2030 With Dev AM
<b>Junction: Lammas Road/Hack Lane</b>	
1/1	701
1/2 (with short)	482(In) 0(Out)
1/3 (short)	482
2/1 (with short)	743(In) 352(Out)
2/2 (short)	391
3/1	225
4/1	802
4/2	100
5/1	582
6/1	276
6/2	391

Full Input Data And Results

**Lane Saturation Flows**

Junction: Lammas Road/Hack Lane									
Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)	
1/1 (Lammas Road (S))	3.00	0.00	Y	Arm 4 Ahead	Inf	100.0 %	1915	1915	
1/2 (Lammas Road (S))	3.00	0.00	N	Arm 4 Ahead	Inf	0.0 %	2055	2055	
1/3 (Lammas Road (S))	3.00	0.00	Y	Arm 5 Right	10.00	100.0 %	1665	1665	
2/1 (Lammas Road (N))	3.50	0.00	Y	Arm 5 Left	10.00	28.4 %	1885	1885	
				Arm 6 Ahead	Inf	71.6 %			
2/2 (Lammas Road (N))	3.40	0.00	N	Arm 6 Ahead	Inf	100.0 %	2095	2095	
3/1 (Hack Lane)	4.00	0.00	Y	Arm 4 Right	12.00	89.3 %	1787	1787	
				Arm 6 Left	10.00	10.7 %			
4/1	Infinite Saturation Flow							Inf	Inf
4/2	Infinite Saturation Flow							Inf	Inf
5/1	Infinite Saturation Flow							Inf	Inf
6/1	Infinite Saturation Flow							Inf	Inf
6/2	Infinite Saturation Flow							Inf	Inf

**Scenario 3: '2030 Bkgd PM'** (FG2: '2030 Bkgd PM', Plan 1: 'Network Control Plan 1')

**Traffic Flows, Desired**

**Desired Flow :**

	Destination				
		A	B	C	Tot.
Origin	A	0	121	839	960
	B	214	0	17	231
	C	899	383	0	1282
	Tot.	1113	504	856	2473

Full Input Data And Results

**Traffic Lane Flows**

Lane	Scenario 3: 2030 Bkgd PM
<b>Junction: Lammas Road/Hack Lane</b>	
1/1	899
1/2 (with short)	383(In) 0(Out)
1/3 (short)	383
2/1 (with short)	960(In) 368(Out)
2/2 (short)	592
3/1	231
4/1	1006
4/2	107
5/1	504
6/1	264
6/2	592

**Lane Saturation Flows**

<b>Junction: Lammas Road/Hack Lane</b>								
Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
1/1 (Lammas Road (S))	3.00	0.00	Y	Arm 4 Ahead	Inf	100.0 %	1915	1915
1/2 (Lammas Road (S))	3.00	0.00	N	Arm 4 Ahead	Inf	0.0 %	2055	2055
1/3 (Lammas Road (S))	3.00	0.00	Y	Arm 5 Right	10.00	100.0 %	1665	1665
2/1 (Lammas Road (N))	3.50	0.00	Y	Arm 5 Left	10.00	32.9 %	1873	1873
				Arm 6 Ahead	Inf	67.1 %		
2/2 (Lammas Road (N))	3.40	0.00	N	Arm 6 Ahead	Inf	100.0 %	2095	2095
3/1 (Hack Lane)	4.00	0.00	Y	Arm 4 Right	12.00	92.6 %	1788	1788
				Arm 6 Left	10.00	7.4 %		
4/1	Infinite Saturation Flow						Inf	Inf
4/2	Infinite Saturation Flow						Inf	Inf
5/1	Infinite Saturation Flow						Inf	Inf
6/1	Infinite Saturation Flow						Inf	Inf
6/2	Infinite Saturation Flow						Inf	Inf

Full Input Data And Results

**Scenario 4: '2030 With Dev PM'** (FG4: '2030 With Dev PM', Plan 1: 'Network Control Plan 1')

**Traffic Flows, Desired**

**Desired Flow :**

	Destination				
	A	B	C	Tot.	
Origin	A	0	121	867	988
	B	214	0	53	267
	C	917	405	0	1322
	Tot.	1131	526	920	2577

**Traffic Lane Flows**

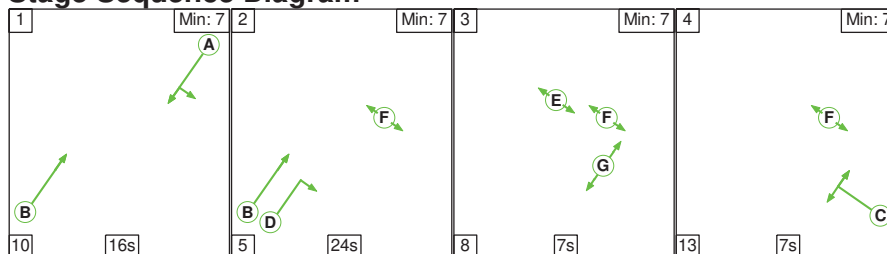
Lane	Scenario 4: 2030 With Dev PM
<b>Junction: Lammas Road/Hack Lane</b>	
1/1	917
1/2 (with short)	405(In) 0(Out)
1/3 (short)	405
2/1 (with short)	988(In) 389(Out)
2/2 (short)	599
3/1	267
4/1	1024
4/2	107
5/1	526
6/1	321
6/2	599

### Lane Saturation Flows

Junction: Lammas Road/Hack Lane									
Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)	
1/1 (Lammas Road (S))	3.00	0.00	Y	Arm 4 Ahead	Inf	100.0 %	1915	1915	
1/2 (Lammas Road (S))	3.00	0.00	N	Arm 4 Ahead	Inf	0.0 %	2055	2055	
1/3 (Lammas Road (S))	3.00	0.00	Y	Arm 5 Right	10.00	100.0 %	1665	1665	
2/1 (Lammas Road (N))	3.50	0.00	Y	Arm 5 Left	10.00	31.1 %	1877	1877	
				Arm 6 Ahead	Inf	68.9 %			
2/2 (Lammas Road (N))	3.40	0.00	N	Arm 6 Ahead	Inf	100.0 %	2095	2095	
3/1 (Hack Lane)	4.00	0.00	Y	Arm 4 Right	12.00	80.1 %	1783	1783	
				Arm 6 Left	10.00	19.9 %			
4/1	Infinite Saturation Flow							Inf	Inf
4/2	Infinite Saturation Flow							Inf	Inf
5/1	Infinite Saturation Flow							Inf	Inf
6/1	Infinite Saturation Flow							Inf	Inf
6/2	Infinite Saturation Flow							Inf	Inf

### Scenario 1: '2030 Bkgd AM' (FG1: '2030 Bkgd AM', Plan 1: 'Network Control Plan 1')

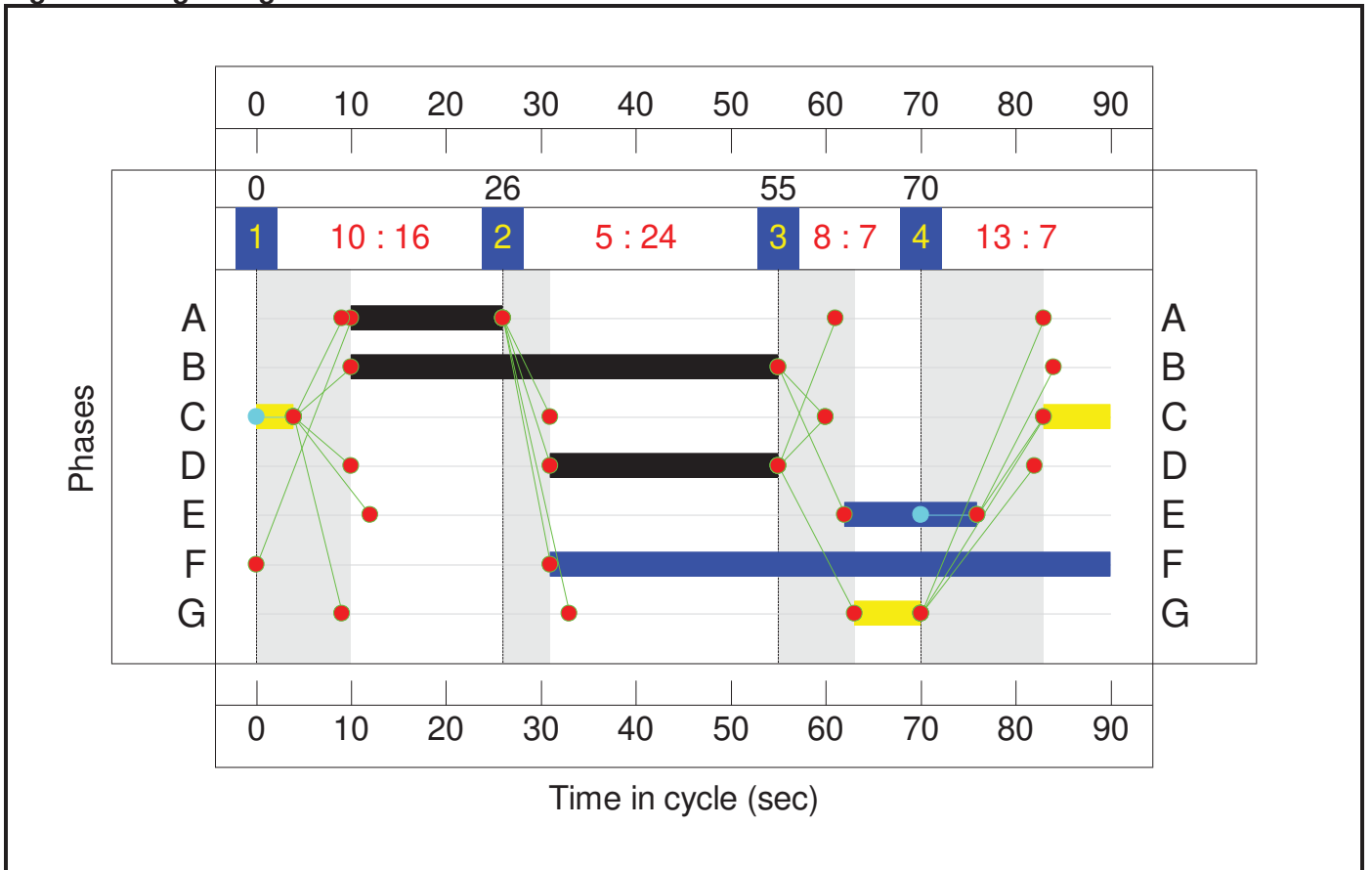
#### Stage Sequence Diagram



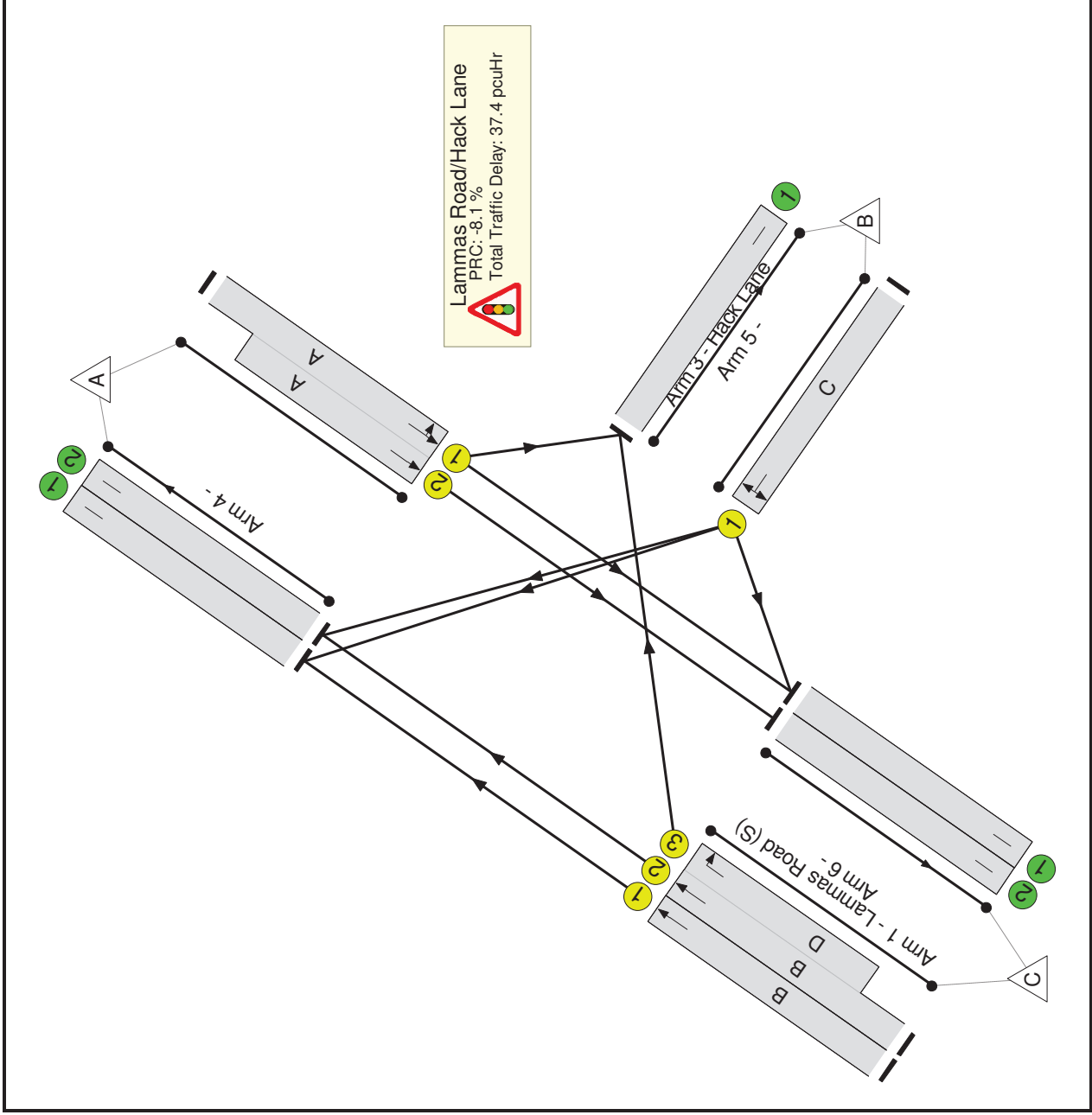
#### Stage Timings

Stage	1	2	3	4
Duration	16	24	7	7
Change Point	0	26	55	70

### Signal Timings Diagram



Full Input Data And Results  
**Network Layout Diagram**



Full Input Data And Results

**Network Results**

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network: Lammas Road-Hack Lane	-	-	N/A	-	-	-	-	-	-	-	-	-	97.3%
Lammas Road/Hack Lane	-	-	N/A	-	-	-	-	-	-	-	-	-	97.3%
1/1	Lammas Road (S) Ahead	U	N/A	N/A	B		1	45	-	673	1915	979	68.8%
1/2+1/3	Lammas Road (S) Ahead Right	U	N/A	N/A	B D		1	45:24	-	446	2055:1665	0+462	0.0 : 96.4%
2/1+2/2	Lammas Road (N) Left Ahead	U	N/A	N/A	A		1	16	-	731	1883:2095	356+396	97.3 : 97.3%
3/1	Hack Lane Right Left	U	N/A	N/A	C		1	11	-	210	1789	239	88.0%
4/1		U	N/A	N/A	-		-	-	-	774	Inf	Inf	0.0%
4/2		U	N/A	N/A	-		-	-	-	100	Inf	Inf	0.0%
5/1		U	N/A	N/A	-		-	-	-	546	Inf	Inf	0.0%
6/1		U	N/A	N/A	-		-	-	-	255	Inf	Inf	0.0%
6/2		U	N/A	N/A	-		-	-	-	385	Inf	Inf	0.0%



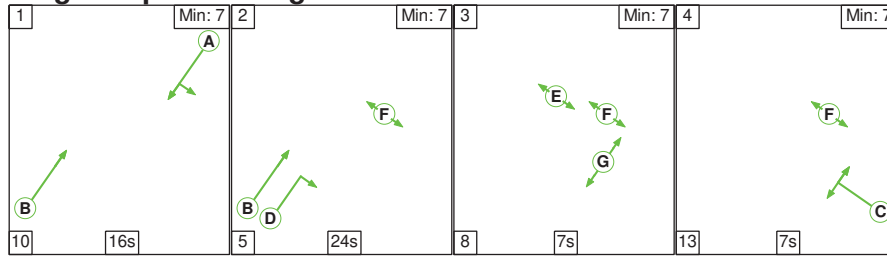
Full Input Data And Results

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)	
Network: Lammas Road-Hack Lane	-	-	0	0	0	16.7	20.7	0.0	37.4	-	-	-	-	
Lammas Road/Hack Lane	-	-	0	0	0	16.7	20.7	0.0	37.4	-	-	-	-	
1/1	673	673	-	-	-	3.1	1.1	-	4.2	22.4	12.5	1.1	13.6	
1/2+1/3	446	446	-	-	-	4.0	7.2	-	11.2 (0.0+11.2)	90.3 (0.0:90.3)	10.9	7.2	18.1	
2/1+2/2	731	731	-	-	-	7.4	9.3	-	16.7 (7.9+8.8)	82.3 (82.3:82.3)	9.5	9.3	18.9	
3/1	210	210	-	-	-	2.2	3.0	-	5.3	90.3	5.1	3.0	8.2	
4/1	774	774	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	
4/2	100	100	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	
5/1	546	546	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	
6/1	255	255	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	
6/2	385	385	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	
C1														
PRC for Signalled Lanes (%):					-8.1	Total Delay for Signalled Lanes (pcuHr):			37.36	Cycle Time (s):		90		
PRC Over All Lanes (%):					-8.1	Total Delay Over All Lanes (pcuHr):			37.36			0.0	0.0	

Full Input Data And Results

Scenario 2: '2030 With Dev AM' (FG3: '2030 With Dev AM', Plan 1: 'Network Control Plan 1')

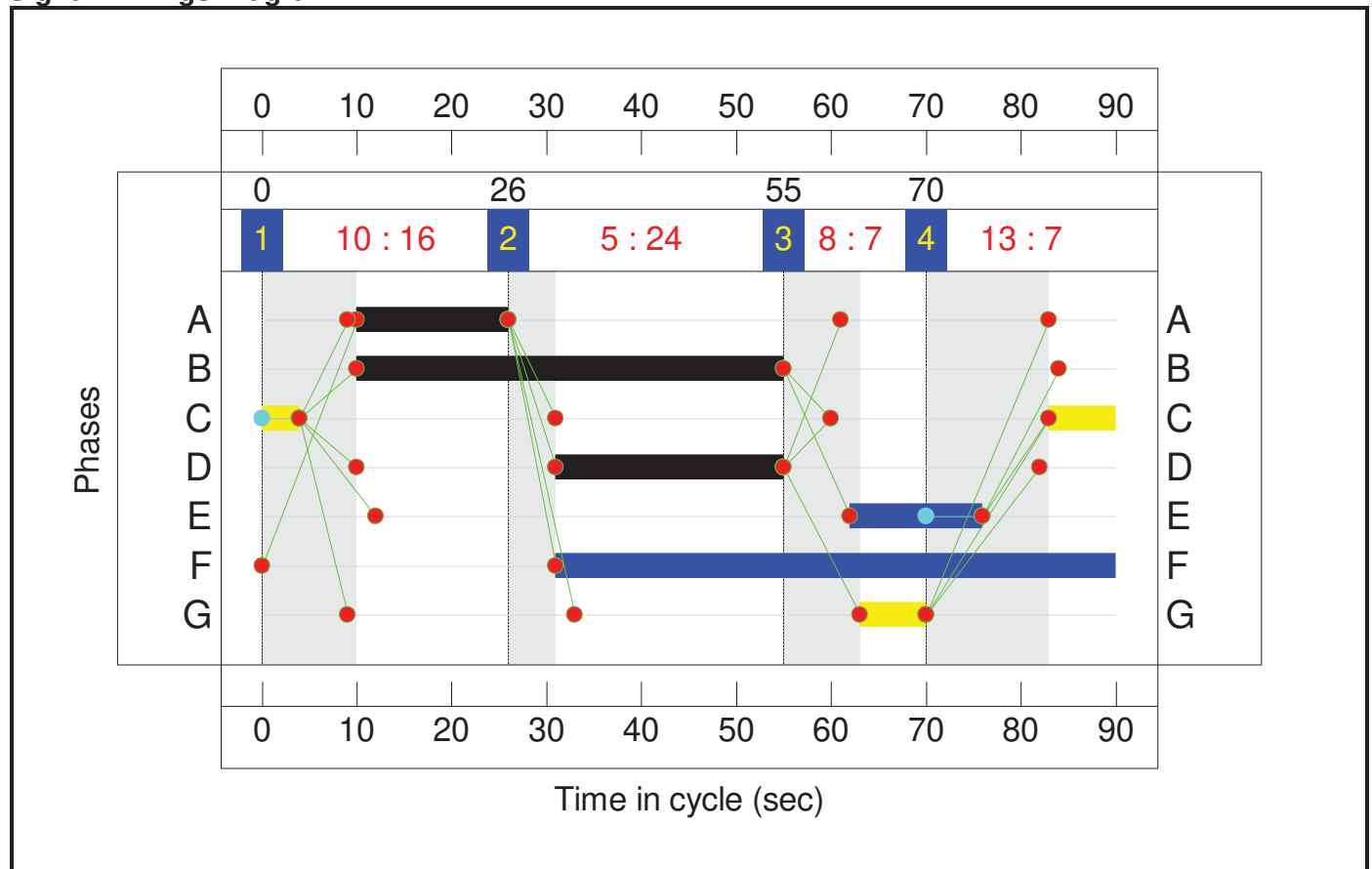
Stage Sequence Diagram



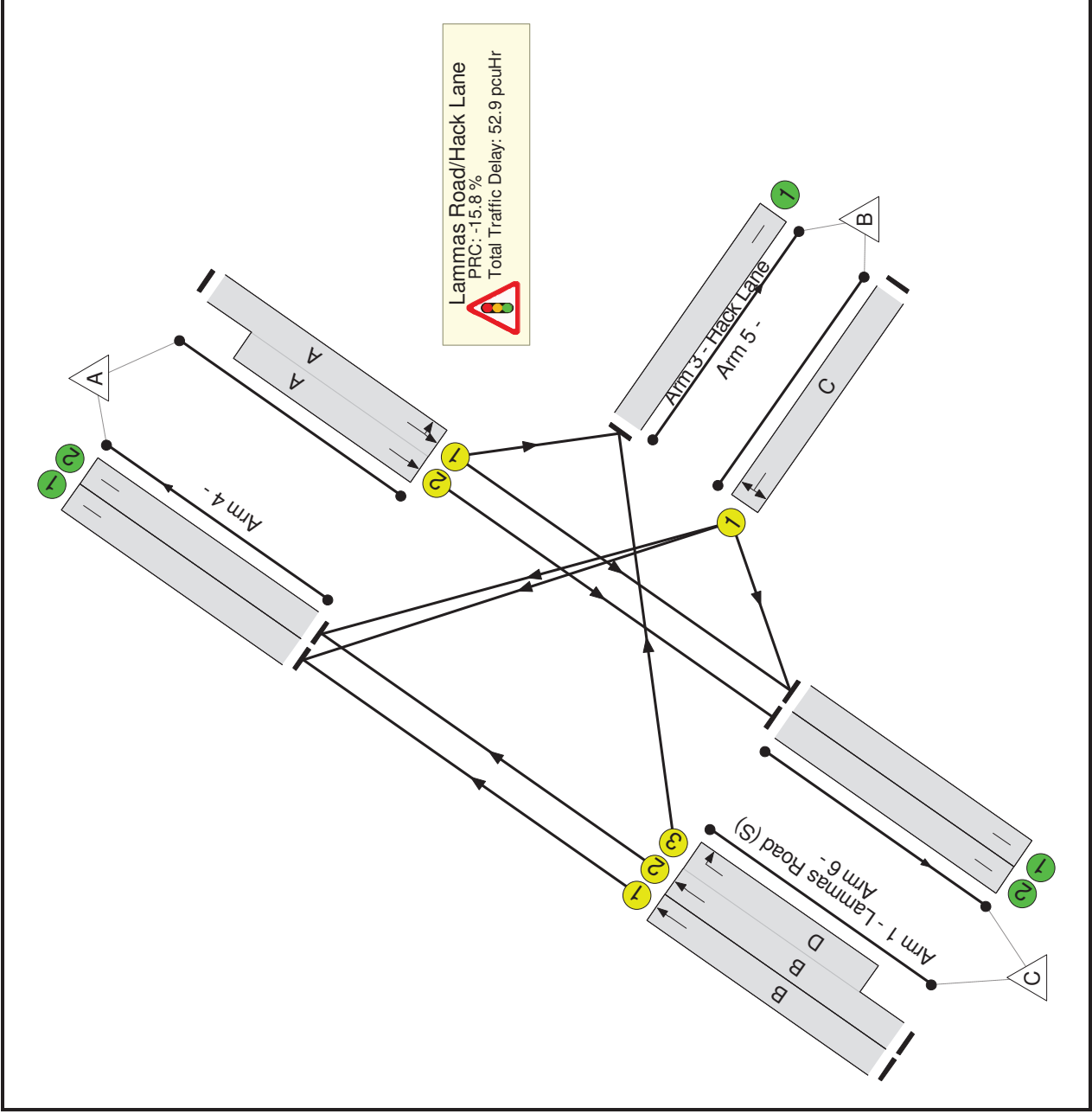
Stage Timings

Stage	1	2	3	4
Duration	16	24	7	7
Change Point	0	26	55	70

Signal Timings Diagram



Full Input Data And Results  
**Network Layout Diagram**



Full Input Data And Results

**Network Results**

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network: Lammas Road-Hack Lane	-	-	N/A	-	-	-	-	-	-	-	-	-	104.2%
Lammas Road/Hack Lane	-	-	N/A	-	-	-	-	-	-	-	-	-	104.2%
1/1	Lammas Road (S) Ahead	U	N/A	N/A	B		1	45	-	701	1915	979	71.6%
1/2+1/3	Lammas Road (S) Ahead Right	U	N/A	N/A	B D		1	45:24	-	482	2055:1665	0+462	0.0 : 104.2%
2/1+2/2	Lammas Road (N) Left Ahead	U	N/A	N/A	A		1	16	-	743	1885:2095	356+396	98.9 : 98.8%
3/1	Hack Lane Right Left	U	N/A	N/A	C		1	11	-	225	1787	238	94.4%
4/1		U	N/A	N/A	-		-	-	-	802	Inf	Inf	0.0%
4/2		U	N/A	N/A	-		-	-	-	100	Inf	Inf	0.0%
5/1		U	N/A	N/A	-		-	-	-	582	Inf	Inf	0.0%
6/1		U	N/A	N/A	-		-	-	-	276	Inf	Inf	0.0%
6/2		U	N/A	N/A	-		-	-	-	391	Inf	Inf	0.0%

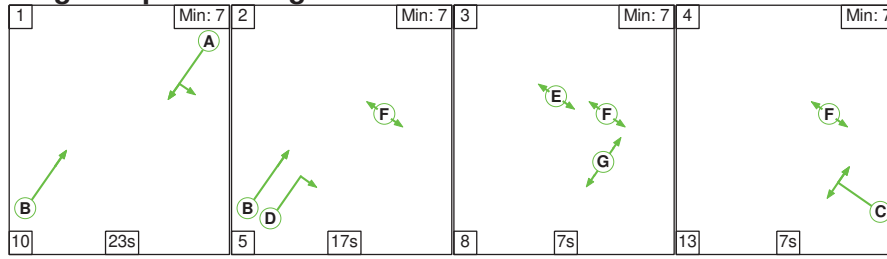
Full Input Data And Results

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)		
<b>Network: Lammas Road/Hack Lane</b>	-	-	0	0	0	18.3	34.6	0.0	52.9	-	-	-	-		
<b>Lammas Road/Hack Lane</b>	-	-	0	0	0	18.3	34.6	0.0	52.9	-	-	-	-		
1/1	701	701	-	-	-	3.3	1.3	-	4.6	23.4	13.4	1.3	14.7		
1/2+1/3	482	463	-	-	-	5.1	16.9	-	22.0 (0.0+22.0)	164.1 (0.0:164.1)	12.9	16.9	29.8		
2/1+2/2	743	743	-	-	-	7.5	11.6	-	19.1 (9.1+10.1)	92.7 (92.7:92.7)	9.7	11.6	21.3		
3/1	225	225	-	-	-	2.4	4.9	-	7.3	116.8	5.6	4.9	10.4		
4/1	802	802	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0		
4/2	100	100	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0		
5/1	563	563	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0		
6/1	276	276	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0		
6/2	391	391	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0		
C1															
PRC for Signalled Lanes (%):					-15.8	Total Delay for Signalled Lanes (pcuHr):					52.95	Cycle Time (s):			90
PRC Over All Lanes (%):					-15.8	Total Delay Over All Lanes (pcuHr):					52.95				

Full Input Data And Results

Scenario 3: '2030 Bkgd PM' (FG2: '2030 Bkgd PM', Plan 1: 'Network Control Plan 1')

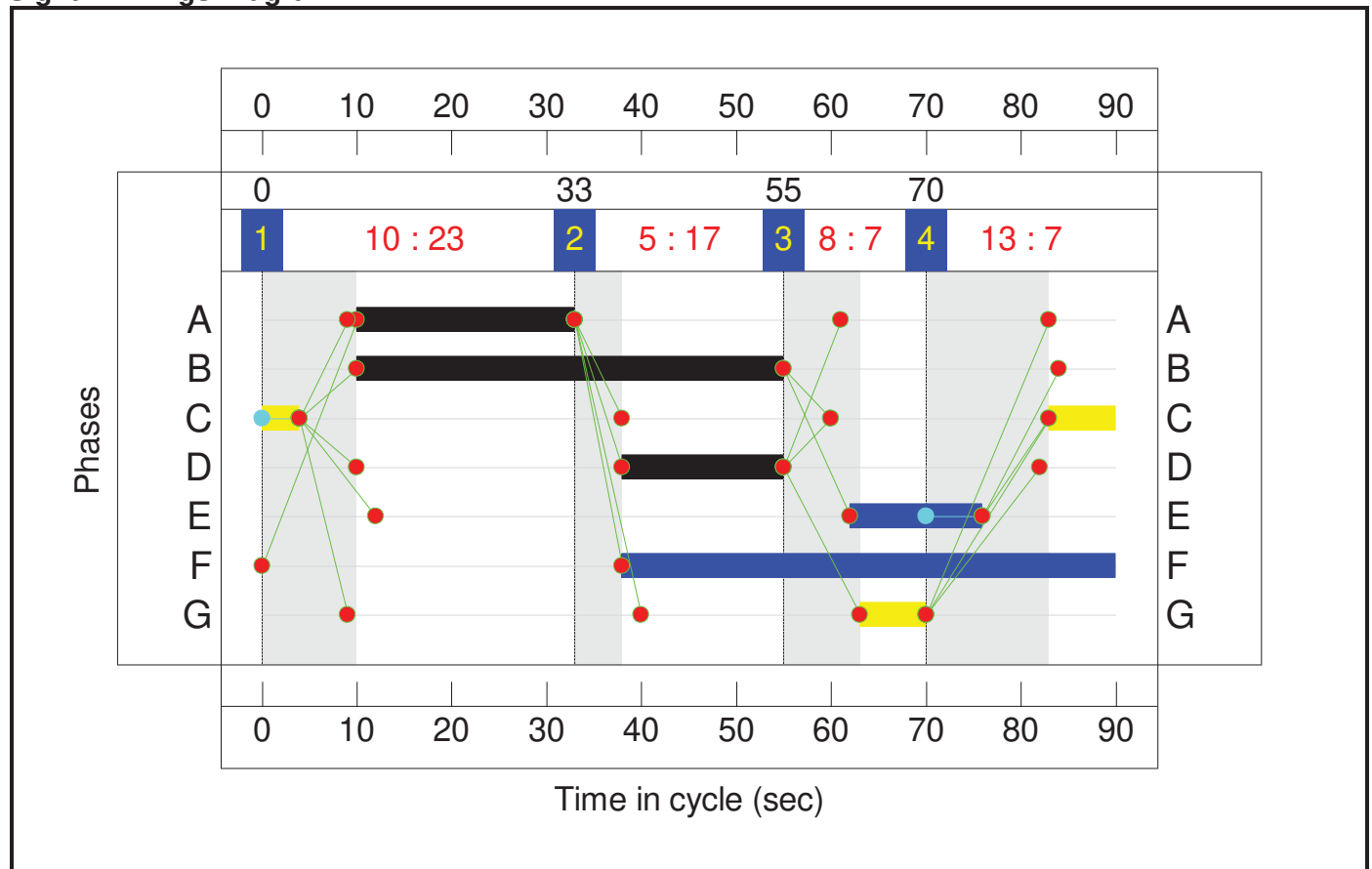
Stage Sequence Diagram



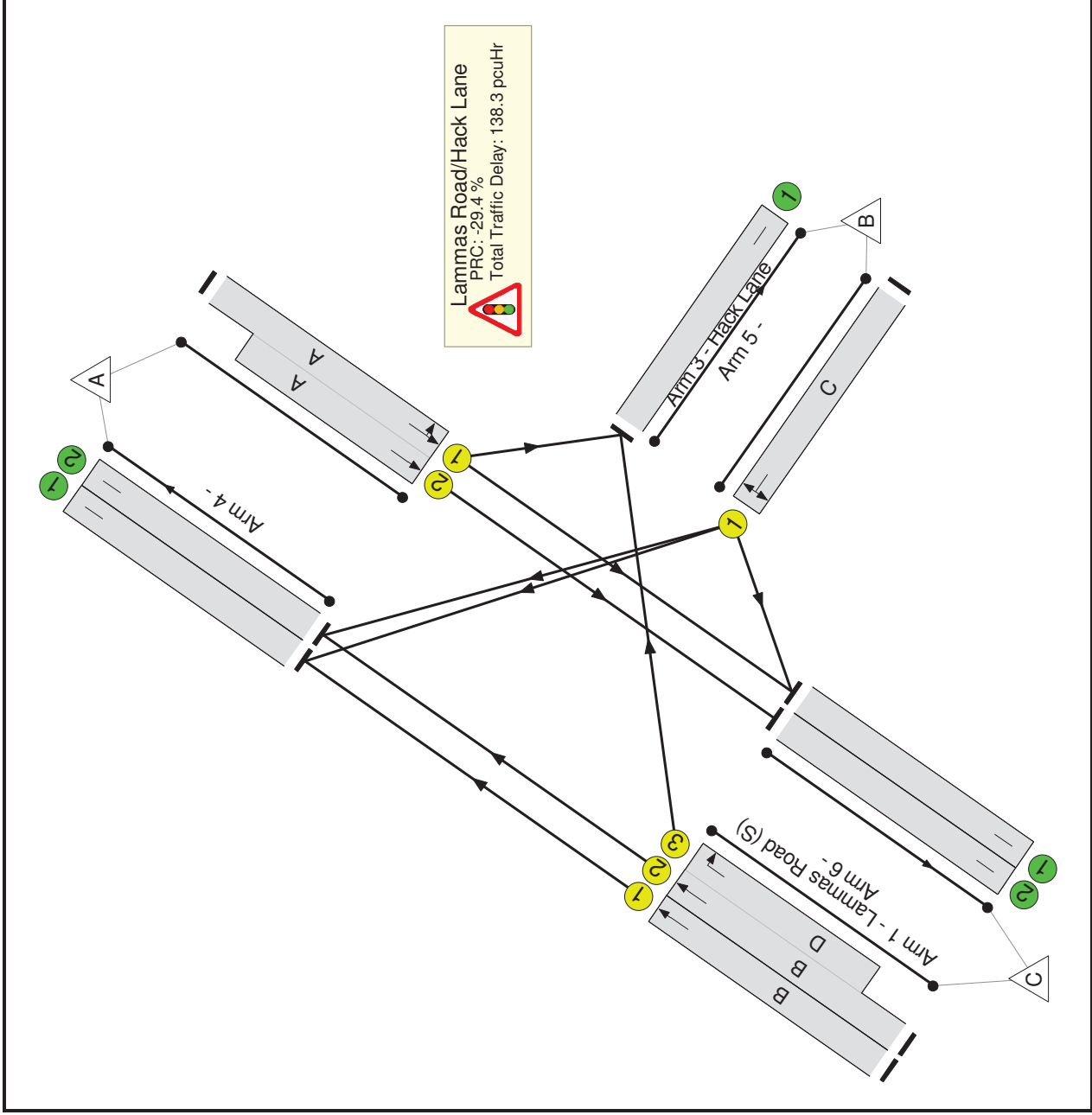
Stage Timings

Stage	1	2	3	4
Duration	23	17	7	7
Change Point	0	33	55	70

Signal Timings Diagram



Full Input Data And Results  
**Network Layout Diagram**



Full Input Data And Results

**Network Results**

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network: Lammas Road-Hack Lane	-	-	N/A	-	-		-	-	-	-	-	-	116.5%
Lammas Road/Hack Lane	-	-	N/A	-	-		-	-	-	-	-	-	116.5%
1/1	Lammas Road (S) Ahead	U	N/A	N/A	B		1	45	-	899	1915	979	91.8%
1/2+1/3	Lammas Road (S) Ahead Right	U	N/A	N/A	B D		1	45:17	-	383	2055:1665	0+333	0.0 : 115.0%
2/1+2/2	Lammas Road (N) Left Ahead	U	N/A	N/A	A		1	23	-	960	1873:2095	316+508	116.5 : 116.5%
3/1	Hack Lane Right Left	U	N/A	N/A	C		1	11	-	231	1788	238	96.9%
4/1		U	N/A	N/A	-		-	-	-	1006	Inf	Inf	0.0%
4/2		U	N/A	N/A	-		-	-	-	107	Inf	Inf	0.0%
5/1		U	N/A	N/A	-		-	-	-	504	Inf	Inf	0.0%
6/1		U	N/A	N/A	-		-	-	-	264	Inf	Inf	0.0%
6/2		U	N/A	N/A	-		-	-	-	592	Inf	Inf	0.0%



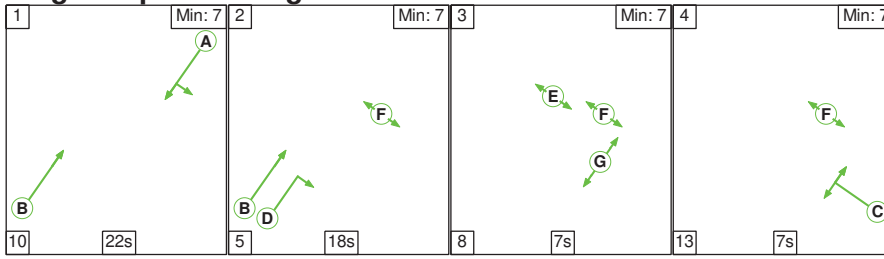
Full Input Data And Results

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)		
Network: Lammas Road/Hack Lane	-	-	0	0	0	27.7	110.6	0.0	138.3	-	-	-	-		
Lammas Road/Hack Lane	-	-	0	0	0	27.7	110.6	0.0	138.3	-	-	-	-		
1/1	899	899	-	-	-	5.1	5.0	-	10.1	40.3	20.5	5.0	25.5		
1/2+1/3	383	333	-	-	-	5.7	28.4	-	34.0 (0.0+34.0)	319.9 (0.0:319.9)	10.8	28.4	39.2		
2/1+2/2	960	824	-	-	-	14.5	71.3	-	85.8 (32.9+52.9)	321.6 (321.6:321.6)	22.8	71.3	94.1		
3/1	231	231	-	-	-	2.5	6.0	-	8.5	131.9	5.7	6.0	11.7		
4/1	1006	1006	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0		
4/2	107	107	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0		
5/1	437	437	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0		
6/1	229	229	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0		
6/2	508	508	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0		
C1										PRC for Signalled Lanes (%):	-29.4	Total Delay for Signalled Lanes (pcuHr):	138.34	Cycle Time (s):	90
										PRC Over All Lanes (%):	-29.4	Total Delay Over All Lanes (pcuHr):	138.34		

Full Input Data And Results

Scenario 4: '2030 With Dev PM' (FG4: '2030 With Dev PM', Plan 1: 'Network Control Plan 1')

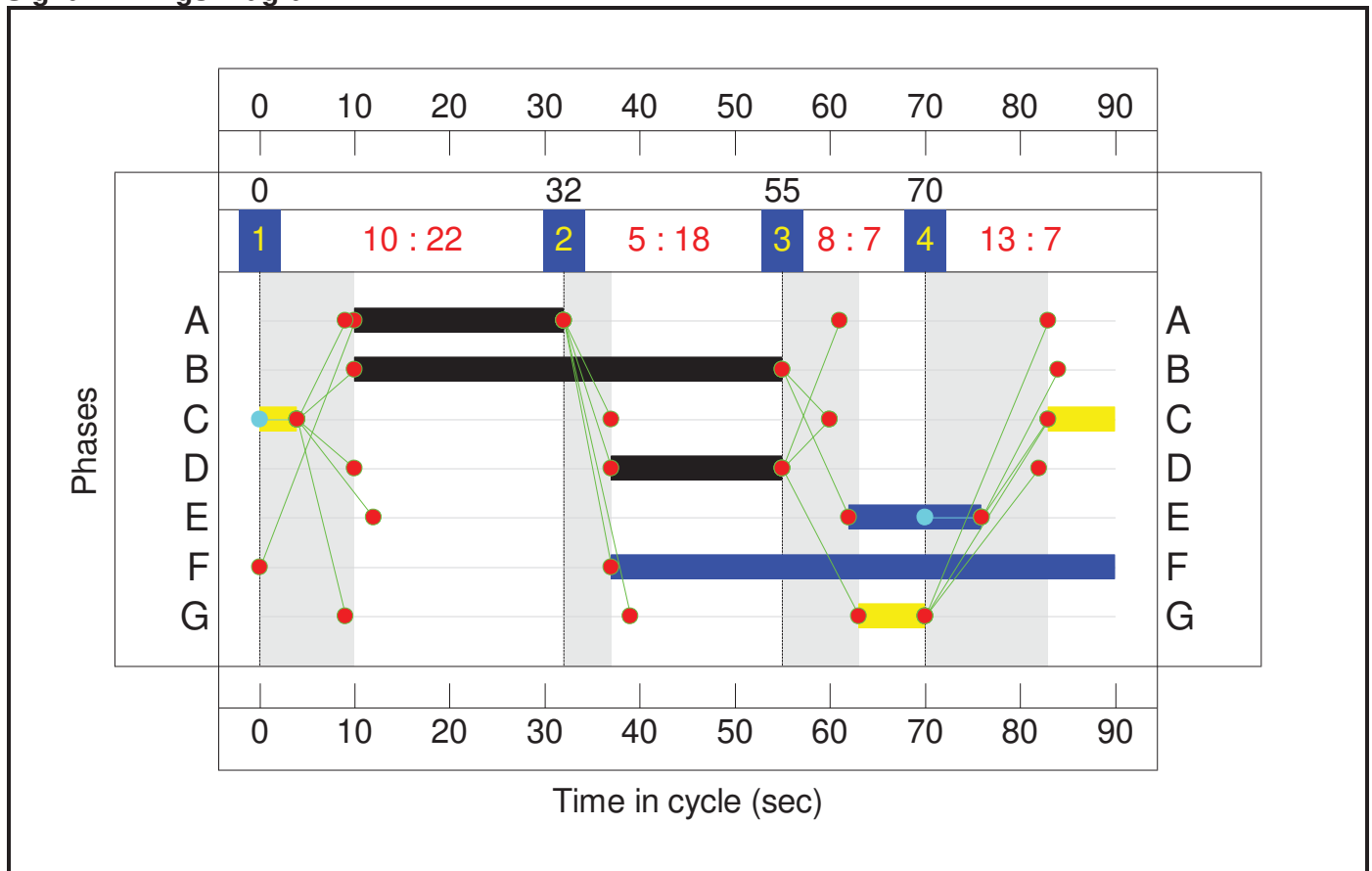
Stage Sequence Diagram



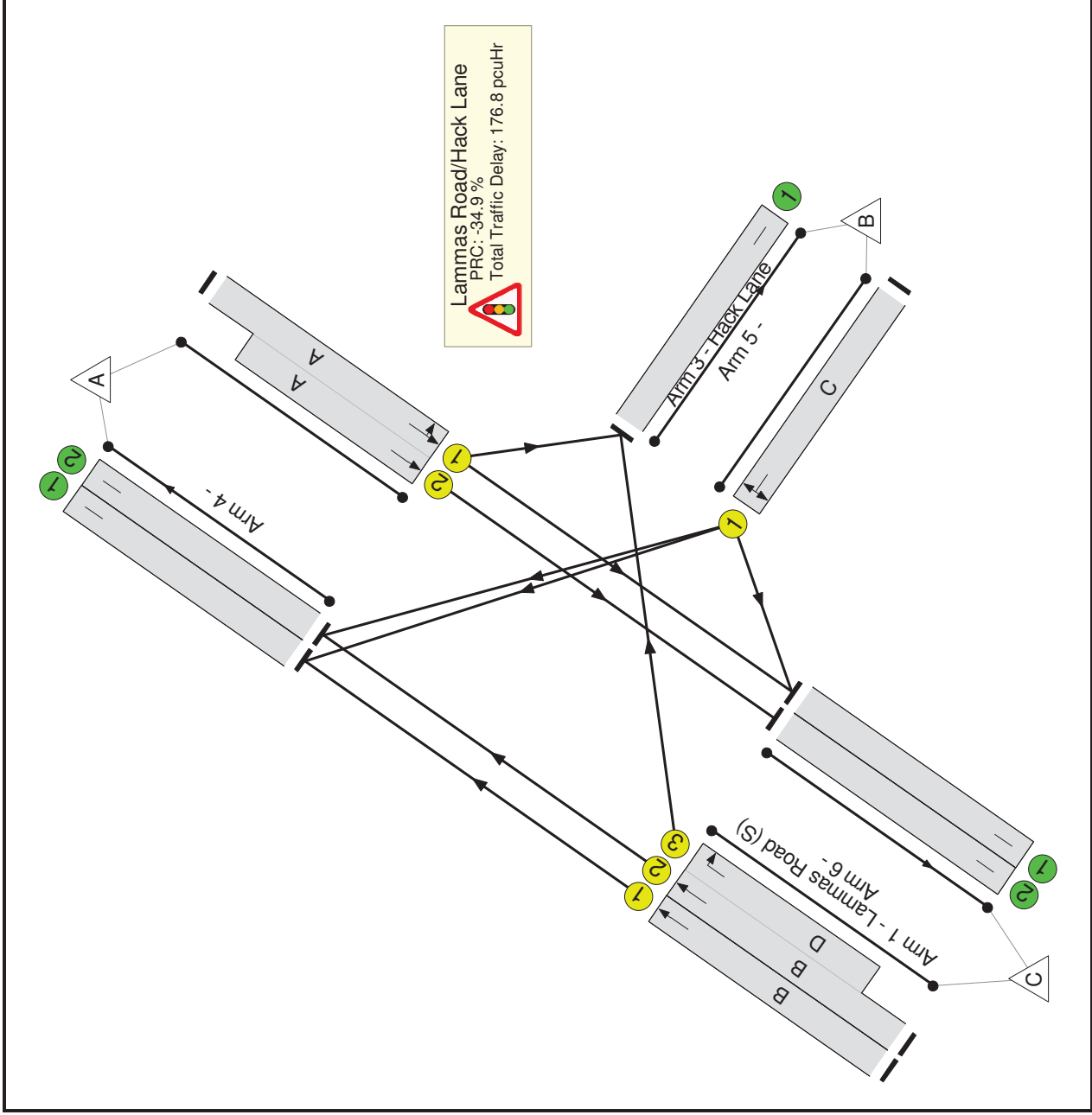
Stage Timings

Stage	1	2	3	4
Duration	22	18	7	7
Change Point	0	32	55	70

Signal Timings Diagram



Full Input Data And Results  
**Network Layout Diagram**



Full Input Data And Results

**Network Results**

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network: Lammas Road-Hack Lane	-	-	N/A	-	-		-	-	-	-	-	-	121.4%
Lammas Road/Hack Lane	-	-	N/A	-	-		-	-	-	-	-	-	121.4%
1/1	Lammas Road (S) Ahead	U	N/A	N/A	B		1	45	-	917	1915	979	93.7%
1/2+1/3	Lammas Road (S) Ahead Right	U	N/A	N/A	B D		1	45:18	-	405	2055:1665	0+352	0.0 : 115.2%
2/1+2/2	Lammas Road (N) Left Ahead	U	N/A	N/A	A		1	22	-	988	1877:2095	320+493	121.4 : 121.4%
3/1	Hack Lane Right Left	U	N/A	N/A	C		1	11	-	267	1783	238	112.3%
4/1		U	N/A	N/A	-		-	-	-	1024	Inf	Inf	0.0%
4/2		U	N/A	N/A	-		-	-	-	107	Inf	Inf	0.0%
5/1		U	N/A	N/A	-		-	-	-	526	Inf	Inf	0.0%
6/1		U	N/A	N/A	-		-	-	-	321	Inf	Inf	0.0%
6/2		U	N/A	N/A	-		-	-	-	599	Inf	Inf	0.0%

Full Input Data And Results

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
<b>Network: Lammas Road/Hack Lane</b>	-	-	0	0	0	32.2	144.6	0.0	176.8	-	-	-	-
<b>Lammas Road/Hack Lane</b>	-	-	0	0	0	32.2	144.6	0.0	176.8	-	-	-	-
1/1	917	917	-	-	-	5.3	6.2	-	11.4	44.9	21.4	6.2	27.6
1/2+1/3	405	352	-	-	-	6.0	30.1	-	36.1 (0.0+36.1)	320.6 (0.0:320.6)	12.3	30.1	42.4
2/1+2/2	988	814	-	-	-	16.6	90.0	-	106.6 (42.0+64.6)	388.5 (388.6:388.5)	24.2	90.0	114.2
3/1	267	238	-	-	-	4.4	18.3	-	22.6	305.2	7.6	18.3	25.9
4/1	1012	1012	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
4/2	95	95	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/1	451	451	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	268	268	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/2	493	493	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
C1										PRC for Signalled Lanes (%): -34.9	Total Delay for Signalled Lanes (pcuHr): 176.77		Cycle Time (s): 90
										PRC Over All Lanes (%): -34.9	Total Delay Over All Lanes (pcuHr): 176.77		

## APPENDIX C

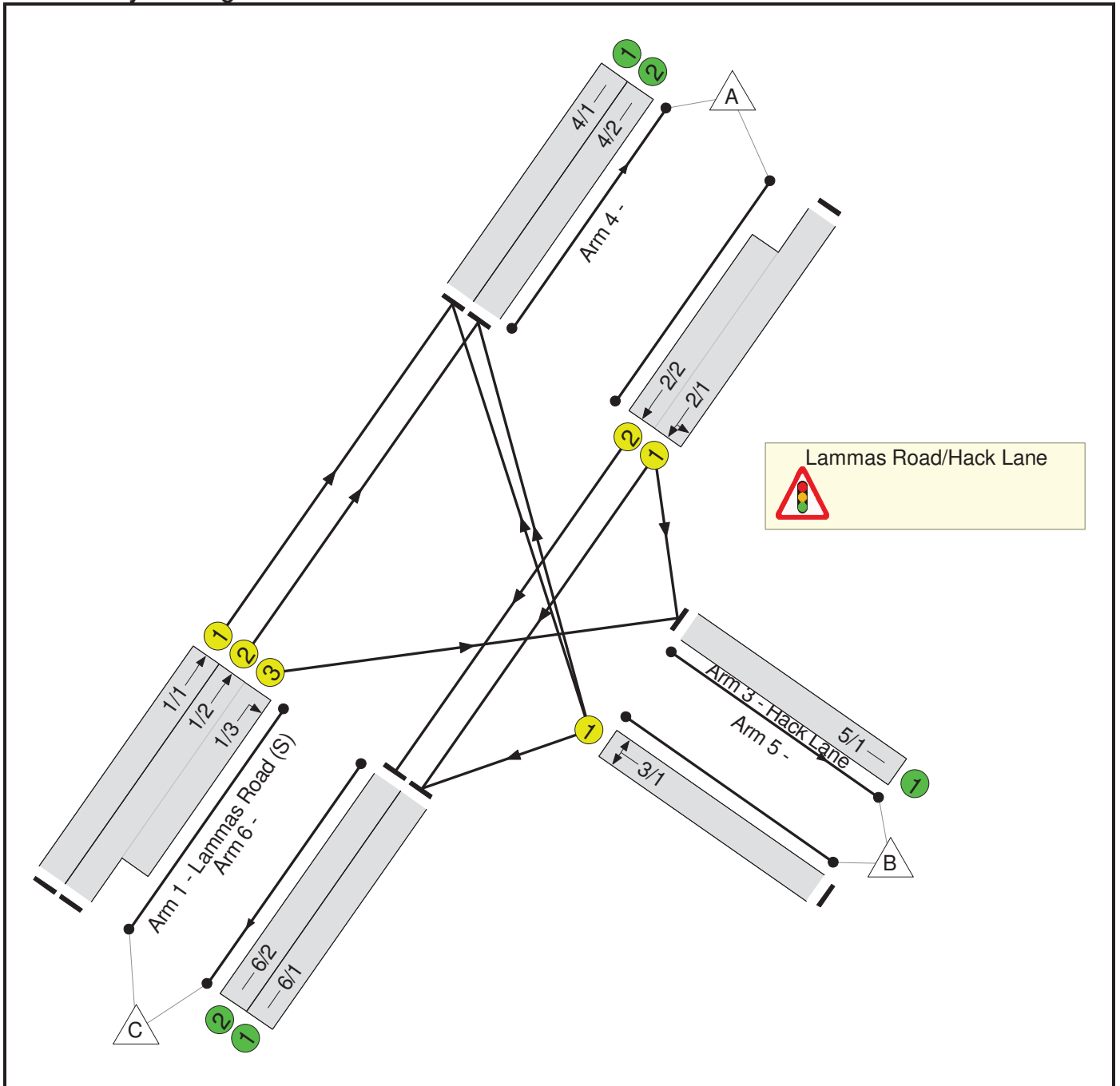
# JUNCTION 6 LINSIG OUTPUT NCC IMPROVED JUNCTION LAYOUT

**Full Input Data And Results**

**User and Project Details**

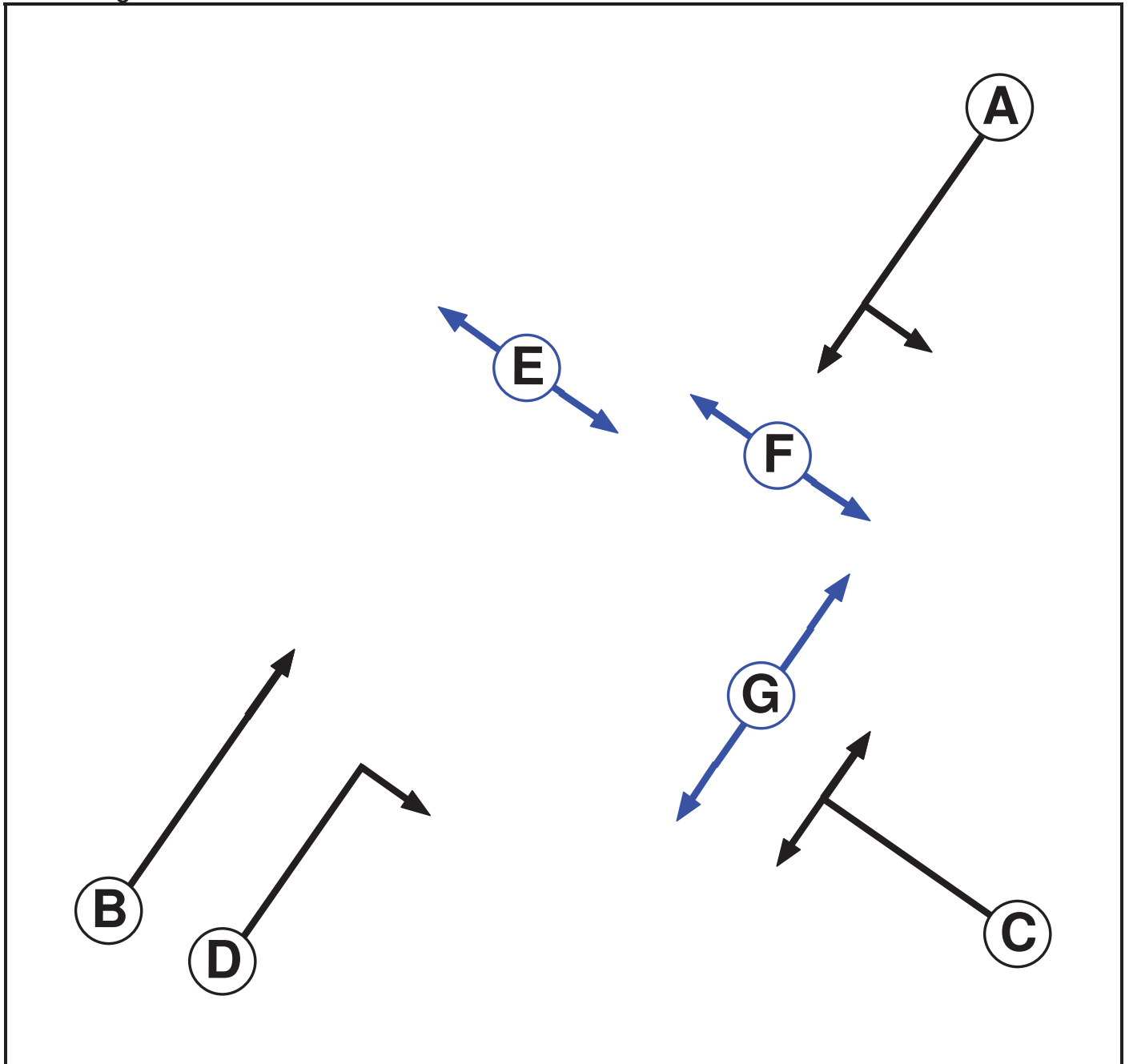
<b>Project:</b>	<b>Ashland Road, Sutton in Ashfield</b>
<b>Title:</b>	<b>Lammas Road-Hack Lane</b>
<b>Location:</b>	
<b>Client:</b>	Bellway Homes
<b>Additional detail:</b>	
<b>File name:</b>	J6 Lammas Road-Hack Lane V3 - With Improvements.lsg3x
<b>Author:</b>	
<b>Company:</b>	ADC Infrastructure Limited
<b>Address:</b>	King Edward Court, King Edward Street, Nottingham

### Network Layout Diagram





**Phase Diagram**



**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	Traffic		7	7
E	Pedestrian		6	5
F	Pedestrian		2	0
G	Pedestrian		7	7

Full Input Data And Results

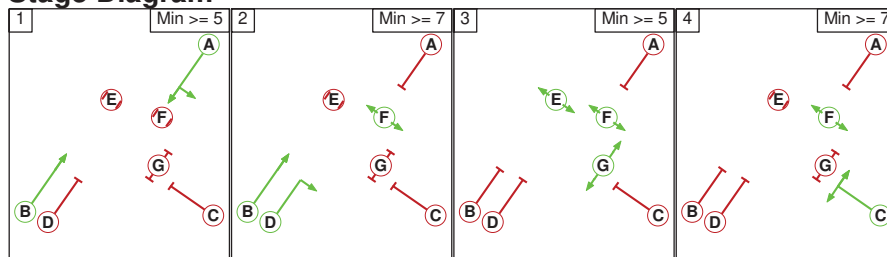
**Phase Intergrens Matrix**

		Starting Phase						
		A	B	C	D	E	F	G
Terminating Phase	A	-	-	5	5	-	5	7
	B	-	-	5	-	7	-	-
	C	5	6	-	6	8	-	5
	D	6	-	5	-	-	-	8
	E	-	6	6	-	-	-	-
	F	6	-	-	-	-	-	-
	G	7	-	7	7	-	-	-

**Phases in Stage**

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

**Stage Diagram**



**Phase Delays**

Term. Stage	Start Stage	Phase	Type	Value	Cont value
2	1	D	Losing	4	4
2	1	F	Losing	4	4
3	1	E	Losing	5	5
3	1	F	Losing	3	3
3	1	G	Losing	2	2
3	2	E	Losing	1	1
3	4	E	Losing	6	6
3	4	G	Losing	5	5
4	1	C	Losing	4	4
4	1	F	Losing	3	3

Full Input Data And Results

**Prohibited Stage Change**

		To Stage			
		1	2	3	4
From Stage	1				
	2	10			
	3	11	7		12
	4	10	6	8	

Full Input Data And Results

**Give-Way Lane Input Data**

**Junction: Lammaas Road/Hack Lane**

There are no Opposed Lanes in this Junction

Full Input Data And Results

**Lane Input Data**

Junction: Lammas Road/Hack Lane												
Lane	Lane Type	Phases	Start Disp.	End Disp.	Physical Length (PCU)	Sat Flow Type	Def User Saturation Flow (PCU/Hr)	Lane Width (m)	Gradient	Nearside Lane	Turns	Turning Radius (m)
1/1 (Lammas Road (S))	U	B	2	3	60.0	Geom	-	3.00	0.00	Y	Arm 4 Ahead	Inf
1/2 (Lammas Road (S))	U	B	2	3	60.0	Geom	-	3.00	0.00	N	Arm 4 Ahead	Inf
1/3 (Lammas Road (S))	U	D	2	3	12.2	Geom	-	3.00	0.00	Y	Arm 5 Right	10.00
2/1 (Lammas Road (N))	U	A	2	3	60.0	Geom	-	3.50	0.00	Y	Arm 5 Left	10.00
											Arm 6 Ahead	Inf
2/2 (Lammas Road (N))	U	A	2	3	10.4	Geom	-	3.40	0.00	N	Arm 6 Ahead	Inf
3/1 (Hack Lane)	U	C	2	3	60.0	Geom	-	4.00	0.00	Y	Arm 4 Right	12.00
											Arm 6 Left	10.00
4/1	U		2	3	60.0	Inf	-	-	-	-	-	-
4/2	U		2	3	20.0	Inf	-	-	-	-	-	-
5/1	U		2	3	60.0	Inf	-	-	-	-	-	-
6/1	U		2	3	60.0	Inf	-	-	-	-	-	-
6/2	U		2	3	60.0	Inf	-	-	-	-	-	-

**Traffic Flow Groups**

Flow Group	Start Time	End Time	Duration	Formula
1: '2030 Bkgd AM'	08:00	09:00	01:00	
2: '2030 Bkgd PM'	17:00	18:00	01:00	
3: '2030 With Dev AM'	08:00	09:00	01:00	
4: '2030 With Dev PM'	17:00	18:00	01:00	

**Scenario 1: '2030 Bkgd AM'** (FG1: '2030 Bkgd AM', Plan 1: 'Network Control Plan 1')

**Traffic Flows, Desired**

**Desired Flow :**

	Destination				
	A	B	C	Tot.	
Origin	A	0	100	631	731
	B	201	0	9	210
	C	673	446	0	1119
	Tot.	874	546	640	2060

Full Input Data And Results

**Traffic Lane Flows**

Lane	Scenario 1: 2030 Bkgd AM
<b>Junction: Lammas Road/Hack Lane</b>	
1/1	673
1/2 (with short)	446(In) 0(Out)
1/3 (short)	446
2/1 (with short)	731(In) 346(Out)
2/2 (short)	385
3/1	210
4/1	774
4/2	100
5/1	546
6/1	255
6/2	385

**Lane Saturation Flows**

<b>Junction: Lammas Road/Hack Lane</b>								
Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
1/1 (Lammas Road (S))	3.00	0.00	Y	Arm 4 Ahead	Inf	100.0 %	1915	1915
1/2 (Lammas Road (S))	3.00	0.00	N	Arm 4 Ahead	Inf	0.0 %	2055	2055
1/3 (Lammas Road (S))	3.00	0.00	Y	Arm 5 Right	10.00	100.0 %	1665	1665
2/1 (Lammas Road (N))	3.50	0.00	Y	Arm 5 Left	10.00	28.9 %	1883	1883
				Arm 6 Ahead	Inf	71.1 %		
2/2 (Lammas Road (N))	3.40	0.00	N	Arm 6 Ahead	Inf	100.0 %	2095	2095
3/1 (Hack Lane)	4.00	0.00	Y	Arm 4 Right	12.00	95.7 %	1789	1789
				Arm 6 Left	10.00	4.3 %		
4/1	Infinite Saturation Flow						Inf	Inf
4/2	Infinite Saturation Flow						Inf	Inf
5/1	Infinite Saturation Flow						Inf	Inf
6/1	Infinite Saturation Flow						Inf	Inf
6/2	Infinite Saturation Flow						Inf	Inf

Full Input Data And Results

**Scenario 2: '2030 With Dev AM'** (FG3: '2030 With Dev AM', Plan 1: 'Network Control Plan 1')

**Traffic Flows, Desired**

**Desired Flow :**

	Destination				
	A	B	C	Tot.	
Origin	A	0	100	643	743
	B	201	0	24	225
	C	701	482	0	1183
	Tot.	902	582	667	2151

**Traffic Lane Flows**

Lane	Scenario 2: 2030 With Dev AM
<b>Junction: Lammas Road/Hack Lane</b>	
1/1	701
1/2 (with short)	482(In) 0(Out)
1/3 (short)	482
2/1 (with short)	743(In) 352(Out)
2/2 (short)	391
3/1	225
4/1	802
4/2	100
5/1	582
6/1	276
6/2	391

Full Input Data And Results

**Lane Saturation Flows**

Junction: Lammas Road/Hack Lane								
Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
1/1 (Lammas Road (S))	3.00	0.00	Y	Arm 4 Ahead	Inf	100.0 %	1915	1915
1/2 (Lammas Road (S))	3.00	0.00	N	Arm 4 Ahead	Inf	0.0 %	2055	2055
1/3 (Lammas Road (S))	3.00	0.00	Y	Arm 5 Right	10.00	100.0 %	1665	1665
2/1 (Lammas Road (N))	3.50	0.00	Y	Arm 5 Left	10.00	28.4 %	1885	1885
				Arm 6 Ahead	Inf	71.6 %		
2/2 (Lammas Road (N))	3.40	0.00	N	Arm 6 Ahead	Inf	100.0 %	2095	2095
3/1 (Hack Lane)	4.00	0.00	Y	Arm 4 Right	12.00	89.3 %	1787	1787
				Arm 6 Left	10.00	10.7 %		
4/1	Infinite Saturation Flow						Inf	Inf
4/2	Infinite Saturation Flow						Inf	Inf
5/1	Infinite Saturation Flow						Inf	Inf
6/1	Infinite Saturation Flow						Inf	Inf
6/2	Infinite Saturation Flow						Inf	Inf

**Scenario 3: '2030 Bkgd PM'** (FG2: '2030 Bkgd PM', Plan 1: 'Network Control Plan 1')

**Traffic Flows, Desired**

**Desired Flow :**

	Destination				
	A	B	C	Tot.	
Origin	A	0	121	839	960
	B	214	0	17	231
	C	899	383	0	1282
	Tot.	1113	504	856	2473



Full Input Data And Results

**Traffic Lane Flows**

Lane	Scenario 3: 2030 Bkgd PM
<b>Junction: Lammas Road/Hack Lane</b>	
1/1	899
1/2 (with short)	383(In) 0(Out)
1/3 (short)	383
2/1 (with short)	960(In) 368(Out)
2/2 (short)	592
3/1	231
4/1	1006
4/2	107
5/1	504
6/1	264
6/2	592

**Lane Saturation Flows**

<b>Junction: Lammas Road/Hack Lane</b>								
Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
1/1 (Lammas Road (S))	3.00	0.00	Y	Arm 4 Ahead	Inf	100.0 %	1915	1915
1/2 (Lammas Road (S))	3.00	0.00	N	Arm 4 Ahead	Inf	0.0 %	2055	2055
1/3 (Lammas Road (S))	3.00	0.00	Y	Arm 5 Right	10.00	100.0 %	1665	1665
2/1 (Lammas Road (N))	3.50	0.00	Y	Arm 5 Left	10.00	32.9 %	1873	1873
				Arm 6 Ahead	Inf	67.1 %		
2/2 (Lammas Road (N))	3.40	0.00	N	Arm 6 Ahead	Inf	100.0 %	2095	2095
3/1 (Hack Lane)	4.00	0.00	Y	Arm 4 Right	12.00	92.6 %	1788	1788
				Arm 6 Left	10.00	7.4 %		
4/1	Infinite Saturation Flow						Inf	Inf
4/2	Infinite Saturation Flow						Inf	Inf
5/1	Infinite Saturation Flow						Inf	Inf
6/1	Infinite Saturation Flow						Inf	Inf
6/2	Infinite Saturation Flow						Inf	Inf

Full Input Data And Results

**Scenario 4: '2030 With Dev PM'** (FG4: '2030 With Dev PM', Plan 1: 'Network Control Plan 1')

**Traffic Flows, Desired**

**Desired Flow :**

	Destination				
	A	B	C	Tot.	
Origin	A	0	121	867	988
	B	214	0	53	267
	C	917	405	0	1322
	Tot.	1131	526	920	2577

**Traffic Lane Flows**

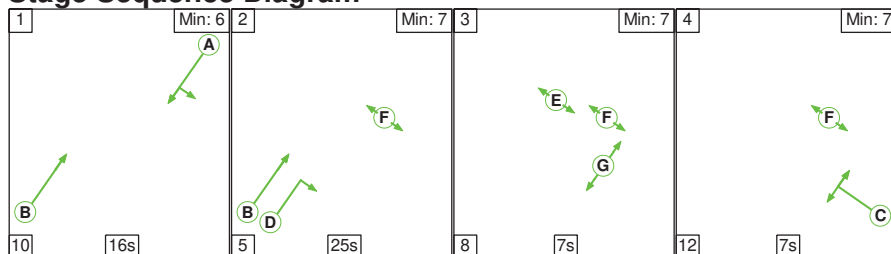
Lane	Scenario 4: 2030 With Dev PM
<b>Junction: Lammas Road/Hack Lane</b>	
1/1	917
1/2 (with short)	405(In) 0(Out)
1/3 (short)	405
2/1 (with short)	988(In) 384(Out)
2/2 (short)	604
3/1	267
4/1	1024
4/2	107
5/1	526
6/1	316
6/2	604

### Lane Saturation Flows

Junction: Lammas Road/Hack Lane									
Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)	
1/1 (Lammas Road (S))	3.00	0.00	Y	Arm 4 Ahead	Inf	100.0 %	1915	1915	
1/2 (Lammas Road (S))	3.00	0.00	N	Arm 4 Ahead	Inf	0.0 %	2055	2055	
1/3 (Lammas Road (S))	3.00	0.00	Y	Arm 5 Right	10.00	100.0 %	1665	1665	
2/1 (Lammas Road (N))	3.50	0.00	Y	Arm 5 Left	10.00	31.5 %	1876	1876	
				Arm 6 Ahead	Inf	68.5 %			
2/2 (Lammas Road (N))	3.40	0.00	N	Arm 6 Ahead	Inf	100.0 %	2095	2095	
3/1 (Hack Lane)	4.00	0.00	Y	Arm 4 Right	12.00	80.1 %	1783	1783	
				Arm 6 Left	10.00	19.9 %			
4/1	Infinite Saturation Flow							Inf	Inf
4/2	Infinite Saturation Flow							Inf	Inf
5/1	Infinite Saturation Flow							Inf	Inf
6/1	Infinite Saturation Flow							Inf	Inf
6/2	Infinite Saturation Flow							Inf	Inf

### Scenario 1: '2030 Bkgd AM' (FG1: '2030 Bkgd AM', Plan 1: 'Network Control Plan 1')

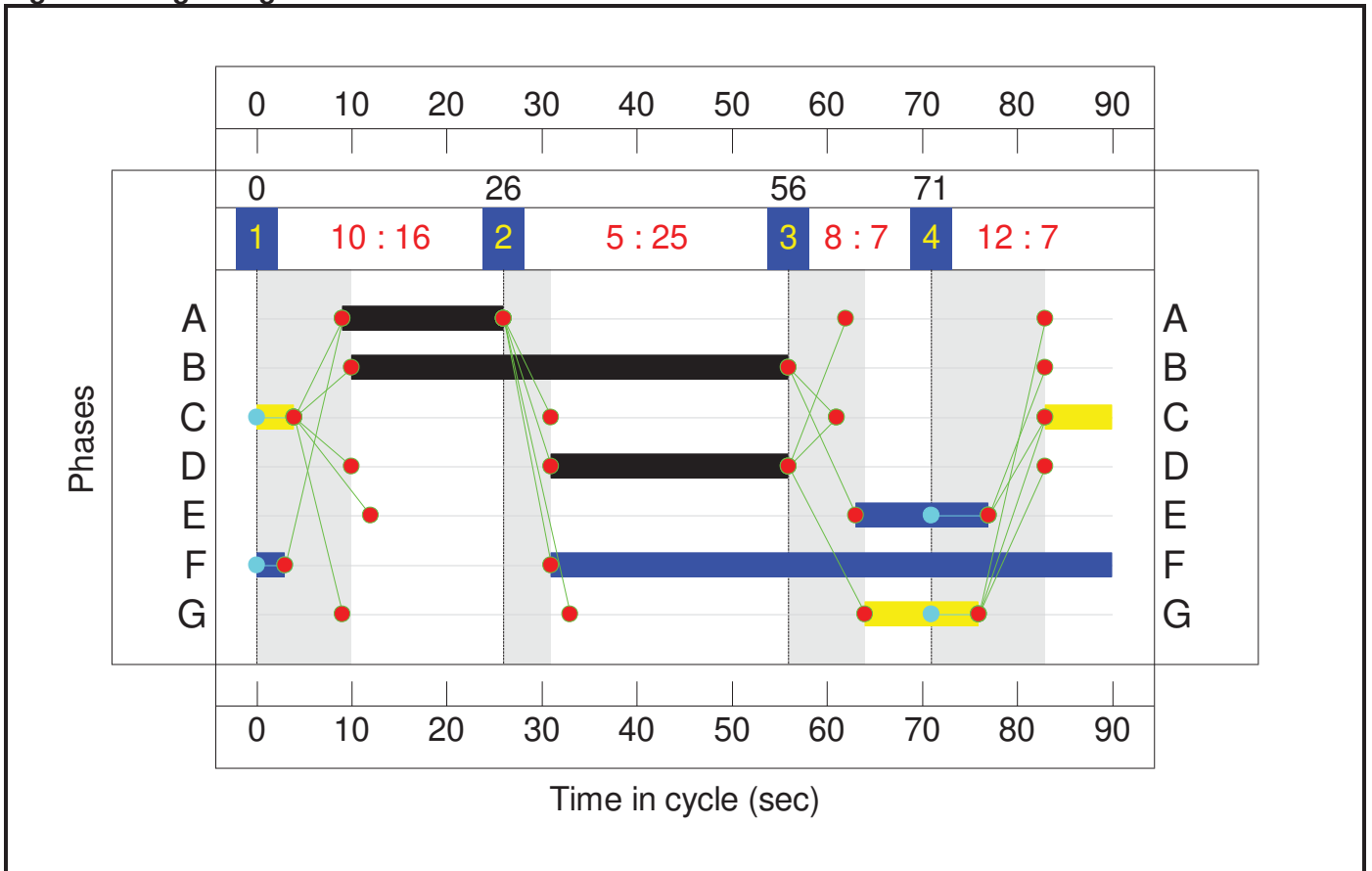
#### Stage Sequence Diagram



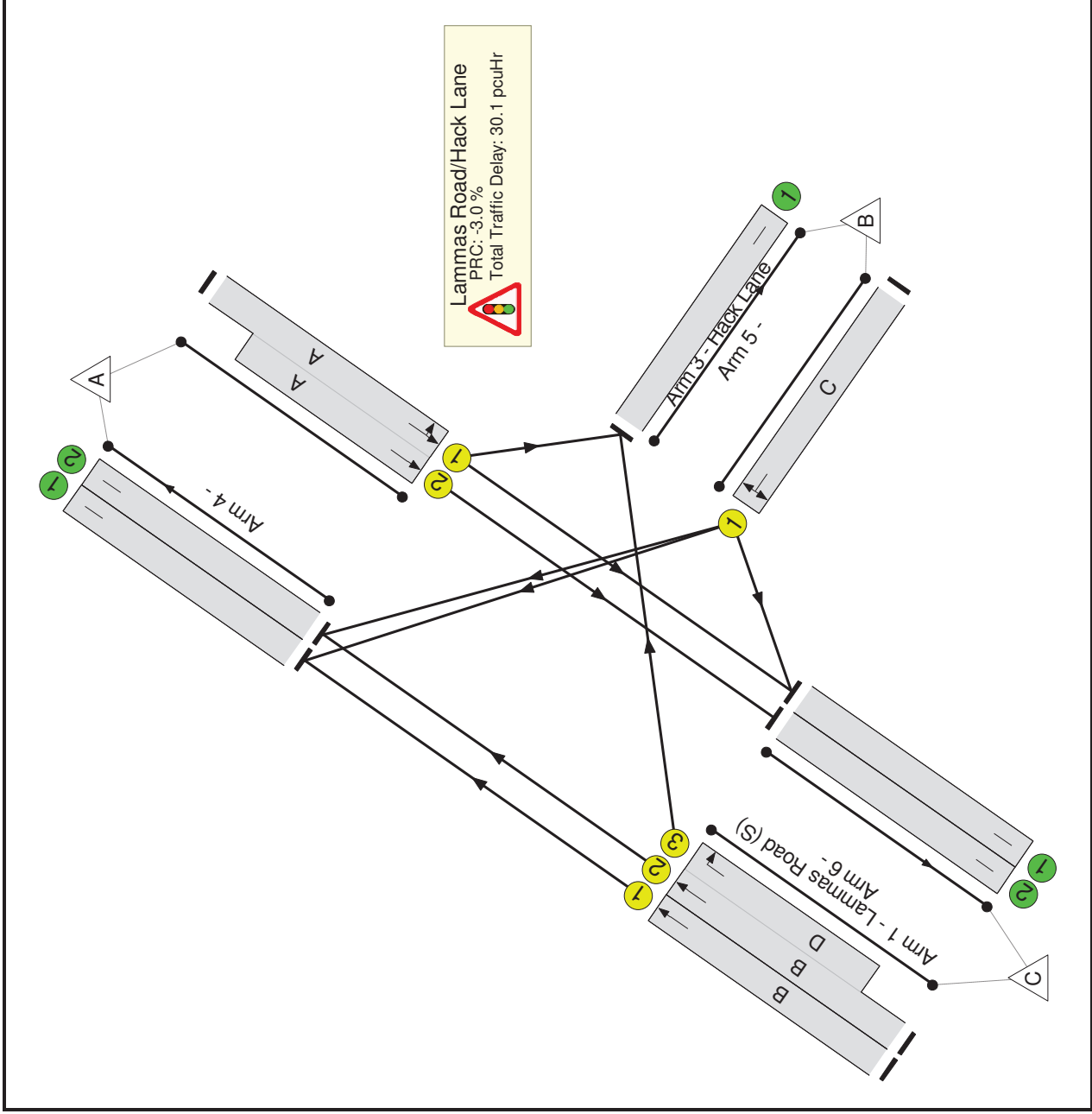
#### Stage Timings

Stage	1	2	3	4
Duration	16	25	7	7
Change Point	0	26	56	71

### Signal Timings Diagram



Full Input Data And Results  
**Network Layout Diagram**



Full Input Data And Results

**Network Results**

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network: Lammas Road-Hack Lane	-	-	N/A	-	-		-	-	-	-	-	-	92.7%
Lammas Road/Hack Lane	-	-	N/A	-	-		-	-	-	-	-	-	92.7%
1/1	Lammas Road (S) Ahead	U	N/A	N/A	B		1	46	-	673	1915	1000	67.3%
1/2+1/3	Lammas Road (S) Ahead Right	U	N/A	N/A	B D		1	46:25	-	446	2055:1665	0+481	0.0 : 92.7%
2/1+2/2	Lammas Road (N) Left Ahead	U	N/A	N/A	A		1	17	-	731	1883:2095	377+419	91.9 : 91.9%
3/1	Hack Lane Right Left	U	N/A	N/A	C		1	11	-	210	1789	239	88.0%
4/1		U	N/A	N/A	-		-	-	-	774	Inf	Inf	0.0%
4/2		U	N/A	N/A	-		-	-	-	100	Inf	Inf	0.0%
5/1		U	N/A	N/A	-		-	-	-	546	Inf	Inf	0.0%
6/1		U	N/A	N/A	-		-	-	-	255	Inf	Inf	0.0%
6/2		U	N/A	N/A	-		-	-	-	385	Inf	Inf	0.0%

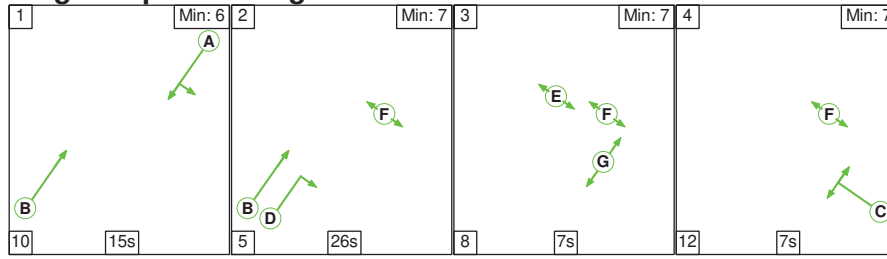
Full Input Data And Results

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network: Lammas Road-Hack Lane	-	-	0	0	0	16.2	13.9	0.0	30.1	-	-	-	-
Lammas Road/Hack Lane	-	-	0	0	0	16.2	13.9	0.0	30.1	-	-	-	-
1/1	673	673	-	-	-	3.0	1.0	-	4.0	21.3	12.3	1.0	13.4
1/2+1/3	446	446	-	-	-	3.9	5.0	-	8.8 (0.0+8.8)	71.1 (0.0:71.1)	10.8	5.0	15.7
2/1+2/2	731	731	-	-	-	7.2	4.9	-	12.1 (5.7+6.4)	59.5 (59.5:59.5)	9.4	4.9	14.3
3/1	210	210	-	-	-	2.2	3.0	-	5.3	90.3	5.1	3.0	8.2
4/1	774	774	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
4/2	100	100	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/1	546	546	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	255	255	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/2	385	385	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
C1													
					PRC for Signalled Lanes (%):	Total Delay for Signalled Lanes (pcuHr):				30.14	Cycle Time (s):		90
					PRC Over All Lanes (%):	Total Delay Over All Lanes (pcuHr):				30.14			
					-3.0								
					-3.0								

Full Input Data And Results

Scenario 2: '2030 With Dev AM' (FG3: '2030 With Dev AM', Plan 1: 'Network Control Plan 1')

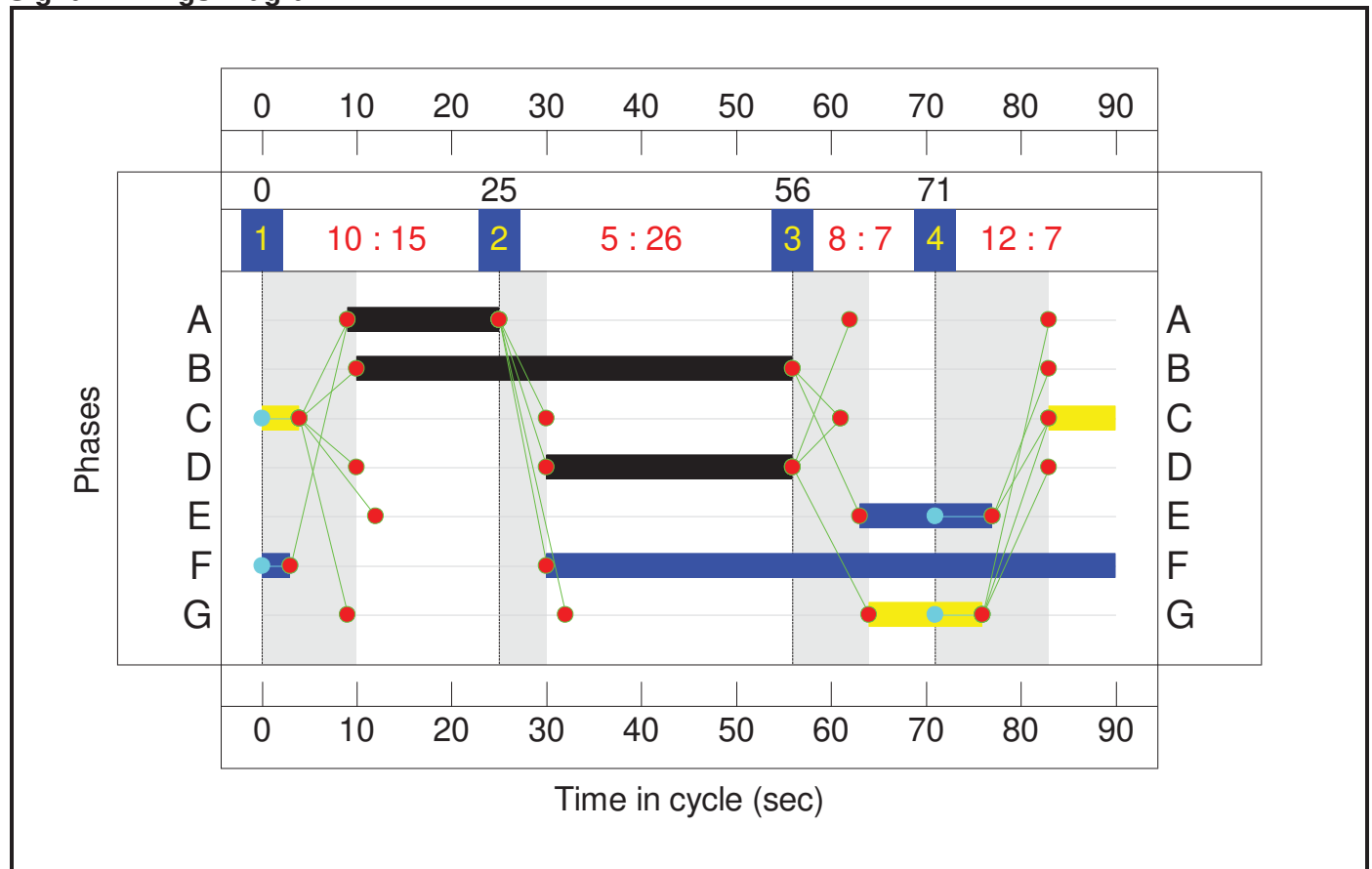
Stage Sequence Diagram



Stage Timings

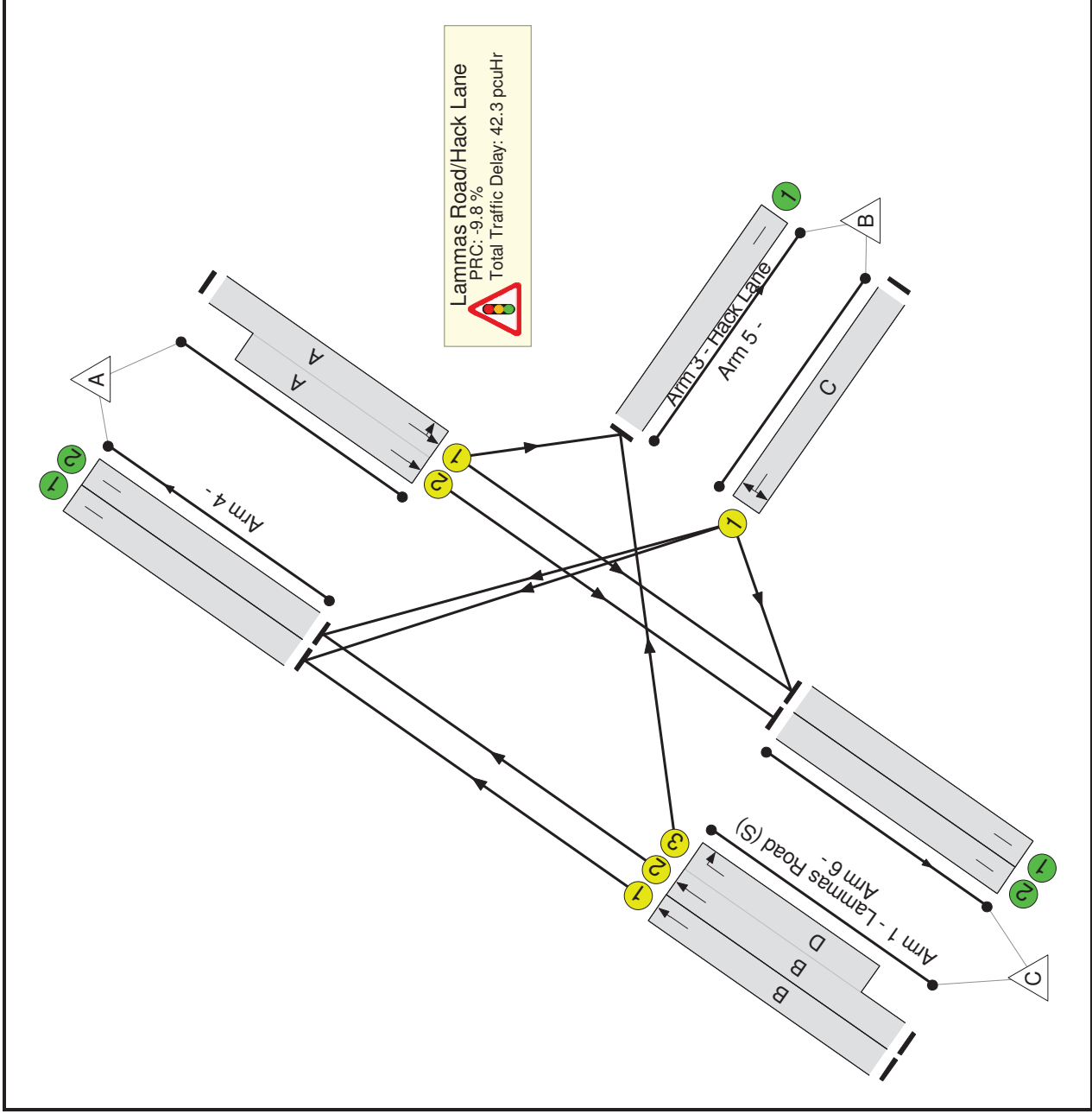
Stage	1	2	3	4
Duration	15	26	7	7
Change Point	0	25	56	71

Signal Timings Diagram





Full Input Data And Results  
**Network Layout Diagram**



Full Input Data And Results

**Network Results**

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network: Lammas Road-Hack Lane	-	-	N/A	-	-		-	-	-	-	-	-	98.9%
Lammas Road/Hack Lane	-	-	N/A	-	-		-	-	-	-	-	-	98.9%
1/1	Lammas Road (S) Ahead	U	N/A	N/A	B		1	46	-	701	1915	1000	70.1%
1/2+1/3	Lammas Road (S) Ahead Right	U	N/A	N/A	B D		1	46:26	-	482	2055:1665	0+500	0.0 : 96.5%
2/1+2/2	Lammas Road (N) Left Ahead	U	N/A	N/A	A		1	16	-	743	1885:2095	356+396	98.9 : 98.8%
3/1	Hack Lane Right Left	U	N/A	N/A	C		1	11	-	225	1787	238	94.4%
4/1		U	N/A	N/A	-		-	-	-	802	Inf	Inf	0.0%
4/2		U	N/A	N/A	-		-	-	-	100	Inf	Inf	0.0%
5/1		U	N/A	N/A	-		-	-	-	582	Inf	Inf	0.0%
6/1		U	N/A	N/A	-		-	-	-	276	Inf	Inf	0.0%
6/2		U	N/A	N/A	-		-	-	-	391	Inf	Inf	0.0%

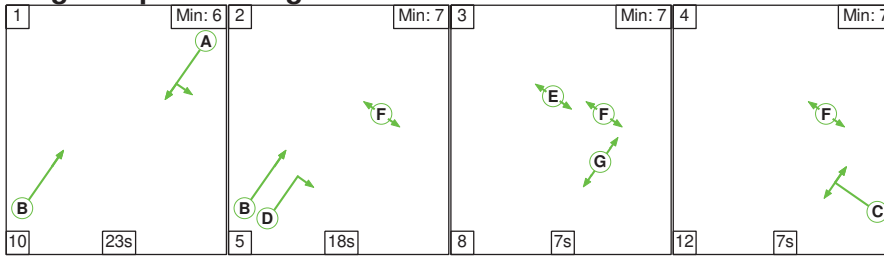
Full Input Data And Results

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network: Lammas Road-Hack Lane	-	-	0	0	0	17.2	25.1	0.0	42.3	-	-	-	-
Lammas Road/Hack Lane	-	-	0	0	0	17.2	25.1	0.0	42.3	-	-	-	-
1/1	701	701	-	-	-	3.2	1.2	-	4.3	22.2	13.0	1.2	14.2
1/2+1/3	482	482	-	-	-	4.2	7.4	-	11.6 (0.0+11.6)	86.6 (0.0:86.6)	11.8	7.4	19.2
2/1+2/2	743	743	-	-	-	7.5	11.6	-	19.1 (9.1+10.1)	92.7 (92.7:92.7)	9.7	11.6	21.3
3/1	225	225	-	-	-	2.4	4.9	-	7.3	116.8	5.6	4.9	10.4
4/1	802	802	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
4/2	100	100	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/1	582	582	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	276	276	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/2	391	391	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
C1													
PRC for Signalled Lanes (%):													-9.8
PRC Over All Lanes (%):													-9.8
Total Delay for Signalled Lanes (pcuHr):													42.34
Total Delay Over All Lanes (pcuHr):													42.34
Cycle Time (s):													90

Full Input Data And Results

Scenario 3: '2030 Bkgd PM' (FG2: '2030 Bkgd PM', Plan 1: 'Network Control Plan 1')

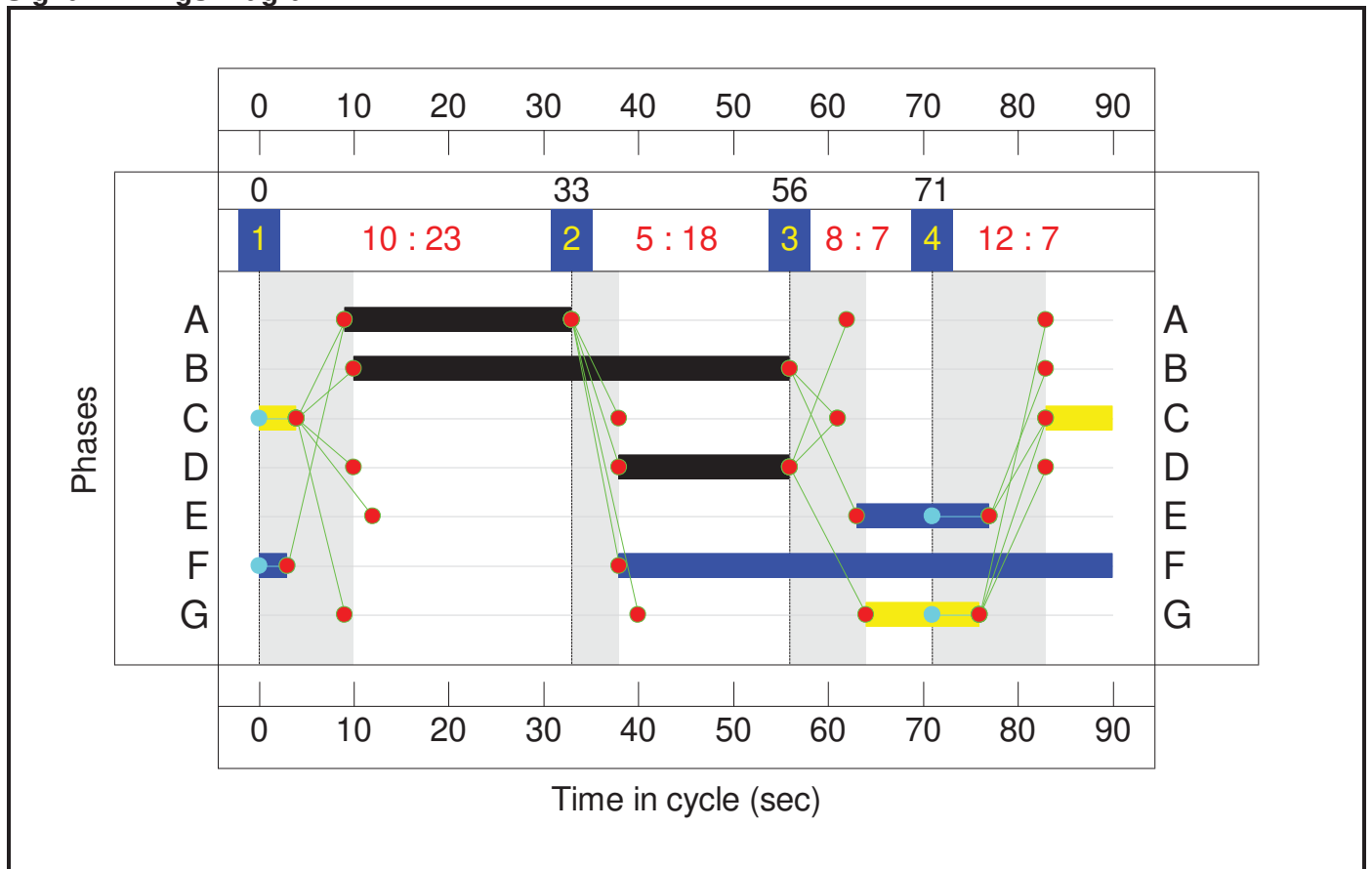
Stage Sequence Diagram



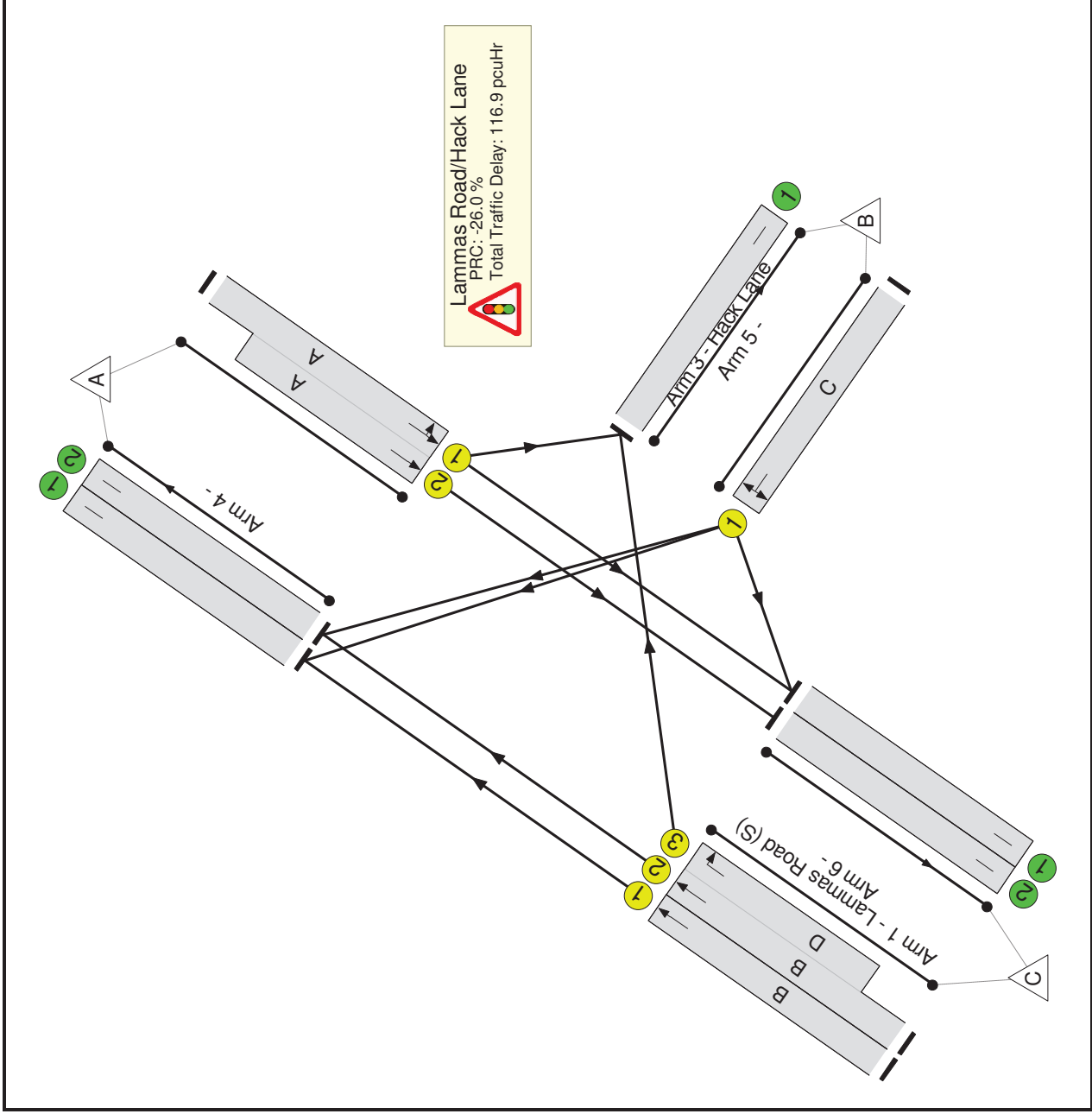
Stage Timings

Stage	1	2	3	4
Duration	23	18	7	7
Change Point	0	33	56	71

Signal Timings Diagram



Full Input Data And Results  
**Network Layout Diagram**



Full Input Data And Results

**Network Results**

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network: Lammas Road-Hack Lane	-	-	N/A	-	-		-	-	-	-	-	-	113.4%
Lammas Road/Hack Lane	-	-	N/A	-	-		-	-	-	-	-	-	113.4%
1/1	Lammas Road (S) Ahead	U	N/A	N/A	B		1	46	-	899	1915	1000	89.9%
1/2+1/3	Lammas Road (S) Ahead Right	U	N/A	N/A	B D		1	46:18	-	383	2055:1665	0+352	0.0 : 109.0%
2/1+2/2	Lammas Road (N) Left Ahead	U	N/A	N/A	A		1	24	-	960	1873:2095	324+522	113.4 : 113.4%
3/1	Hack Lane Right Left	U	N/A	N/A	C		1	11	-	231	1788	238	96.9%
4/1		U	N/A	N/A	-		-	-	-	1006	Inf	Inf	0.0%
4/2		U	N/A	N/A	-		-	-	-	107	Inf	Inf	0.0%
5/1		U	N/A	N/A	-		-	-	-	504	Inf	Inf	0.0%
6/1		U	N/A	N/A	-		-	-	-	264	Inf	Inf	0.0%
6/2		U	N/A	N/A	-		-	-	-	592	Inf	Inf	0.0%

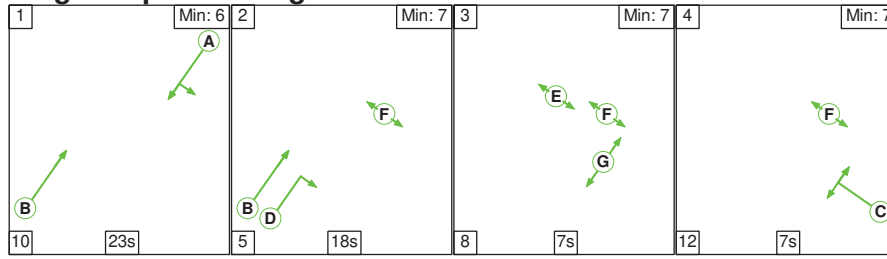
Full Input Data And Results

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)				
Network: Lammas Road/Hack Lane	-	-	0	0	0	25.6	91.3	0.0	116.9	-	-	-	-				
Lammas Road/Hack Lane	-	-	0	0	0	25.6	91.3	0.0	116.9	-	-	-	-				
1/1	899	899	-	-	-	4.8	4.1	-	8.9	35.8	20.2	4.1	24.3				
1/2+1/3	383	352	-	-	-	4.9	20.4	-	25.4 (0.0+25.4)	238.4 (0.0:238.4)	10.4	20.4	30.8				
2/1+2/2	960	846	-	-	-	13.4	60.7	-	74.1 (28.4+45.7)	277.9 (277.9:277.9)	22.2	60.7	83.0				
3/1	231	231	-	-	-	2.5	6.0	-	8.5	131.9	5.7	6.0	11.7				
4/1	1006	1006	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0				
4/2	107	107	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0				
5/1	458	458	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0				
6/1	235	235	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0				
6/2	522	522	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0				
C1																	
PRC for Signalled Lanes (%):				-26.0				Total Delay for Signalled Lanes (pcuHr):				116.87		Cycle Time (s):		90	
PRC Over All Lanes (%):				-26.0				Total Delay Over All Lanes (pcuHr):				116.87					

Full Input Data And Results

Scenario 4: '2030 With Dev PM' (FG4: '2030 With Dev PM', Plan 1: 'Network Control Plan 1')

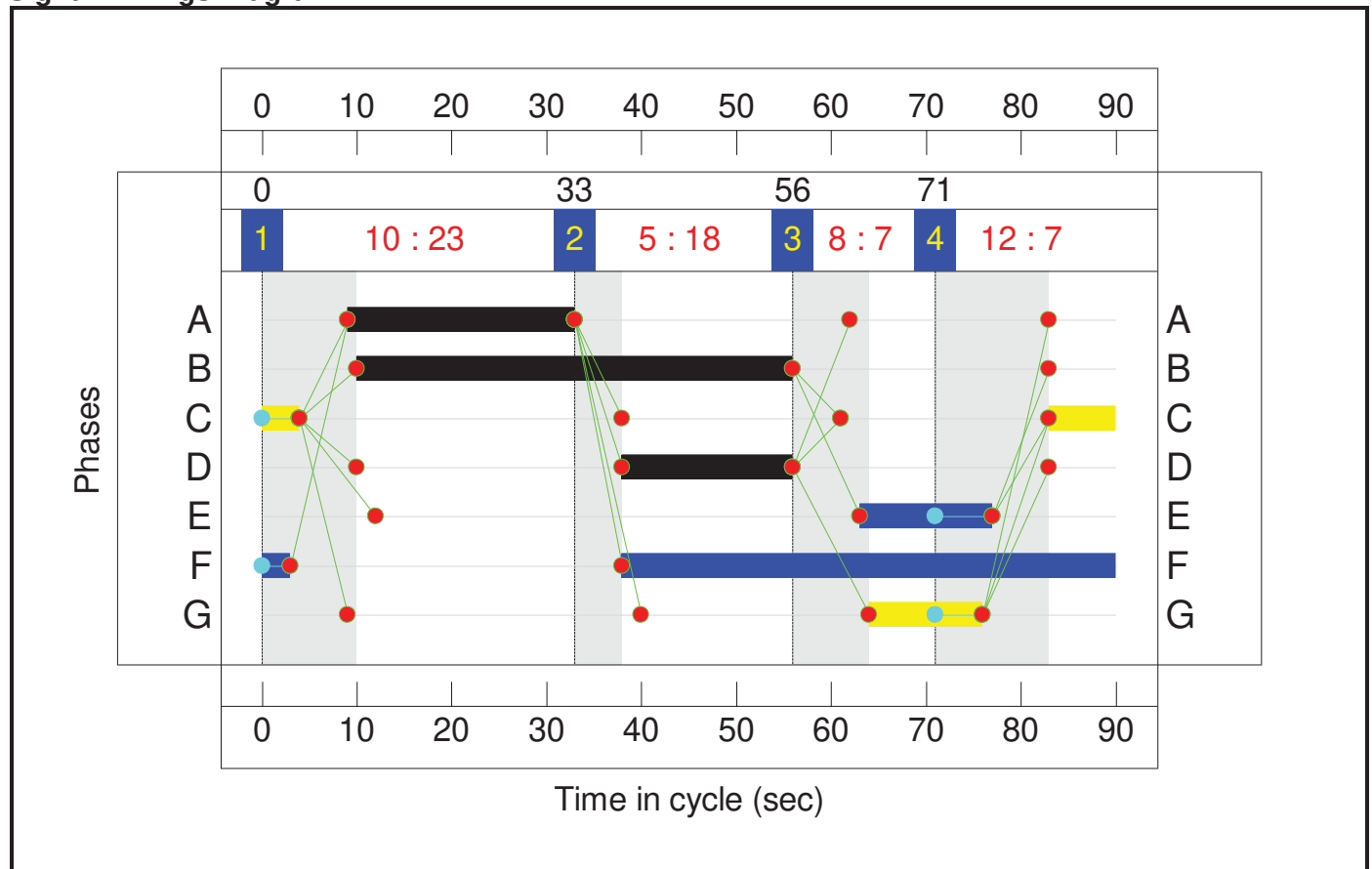
Stage Sequence Diagram



Stage Timings

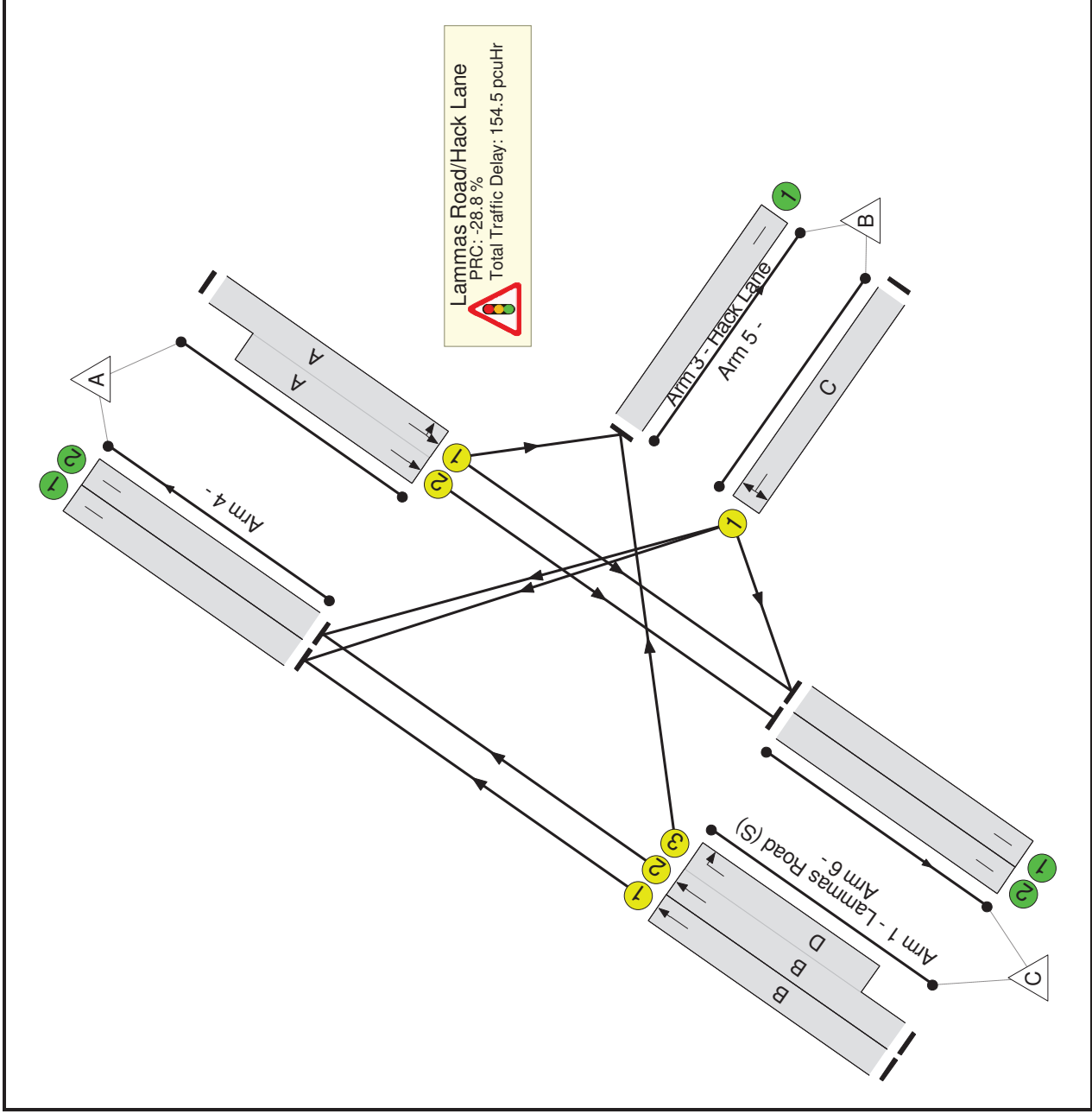
Stage	1	2	3	4
Duration	23	18	7	7
Change Point	0	33	56	71

Signal Timings Diagram





Full Input Data And Results  
**Network Layout Diagram**



Full Input Data And Results

**Network Results**

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network: Lammas Road-Hack Lane	-	-	N/A	-	-		-	-	-	-	-	-	115.9%
Lammas Road/Hack Lane	-	-	N/A	-	-		-	-	-	-	-	-	115.9%
1/1	Lammas Road (S) Ahead	U	N/A	N/A	B		1	46	-	917	1915	1000	91.7%
1/2+1/3	Lammas Road (S) Ahead Right	U	N/A	N/A	B D		1	46:18	-	405	2055:1665	0+352	0.0 : 115.2%
2/1+2/2	Lammas Road (N) Left Ahead	U	N/A	N/A	A		1	24	-	988	1876:2095	331+521	115.9 : 115.9%
3/1	Hack Lane Right Left	U	N/A	N/A	C		1	11	-	267	1783	238	112.3%
4/1		U	N/A	N/A	-		-	-	-	1024	Inf	Inf	0.0%
4/2		U	N/A	N/A	-		-	-	-	107	Inf	Inf	0.0%
5/1		U	N/A	N/A	-		-	-	-	526	Inf	Inf	0.0%
6/1		U	N/A	N/A	-		-	-	-	316	Inf	Inf	0.0%
6/2		U	N/A	N/A	-		-	-	-	604	Inf	Inf	0.0%

Full Input Data And Results

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)				
<b>Network: Lammas Road/Hack Lane</b>	-	-	0	0	0	29.9	124.6	0.0	154.5	-	-	-	-				
<b>Lammas Road/Hack Lane</b>	-	-	0	0	0	29.9	124.6	0.0	154.5	-	-	-	-				
1/1	917	917	-	-	-	5.0	4.9	-	10.0	39.1	20.9	4.9	25.8				
1/2+1/3	405	352	-	-	-	5.9	30.1	-	36.1 (0.0+36.1)	320.5 (0.0:320.5)	12.3	30.1	42.4				
2/1+2/2	988	852	-	-	-	14.6	71.3	-	85.9 (33.4+52.5)	312.8 (312.9:312.8)	23.4	71.3	94.7				
3/1	267	238	-	-	-	4.4	18.3	-	22.6	305.2	7.6	18.3	25.9				
4/1	1012	1012	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0				
4/2	95	95	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0				
5/1	456	456	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0				
6/1	274	274	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0				
6/2	521	521	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0				
C1																	
PRC for Signalled Lanes (%):				-28.8				Total Delay for Signalled Lanes (pcuHr):				154.50		Cycle Time (s):		90	
PRC Over All Lanes (%):				-28.8				Total Delay Over All Lanes (pcuHr):				154.50					

## APPENDIX D

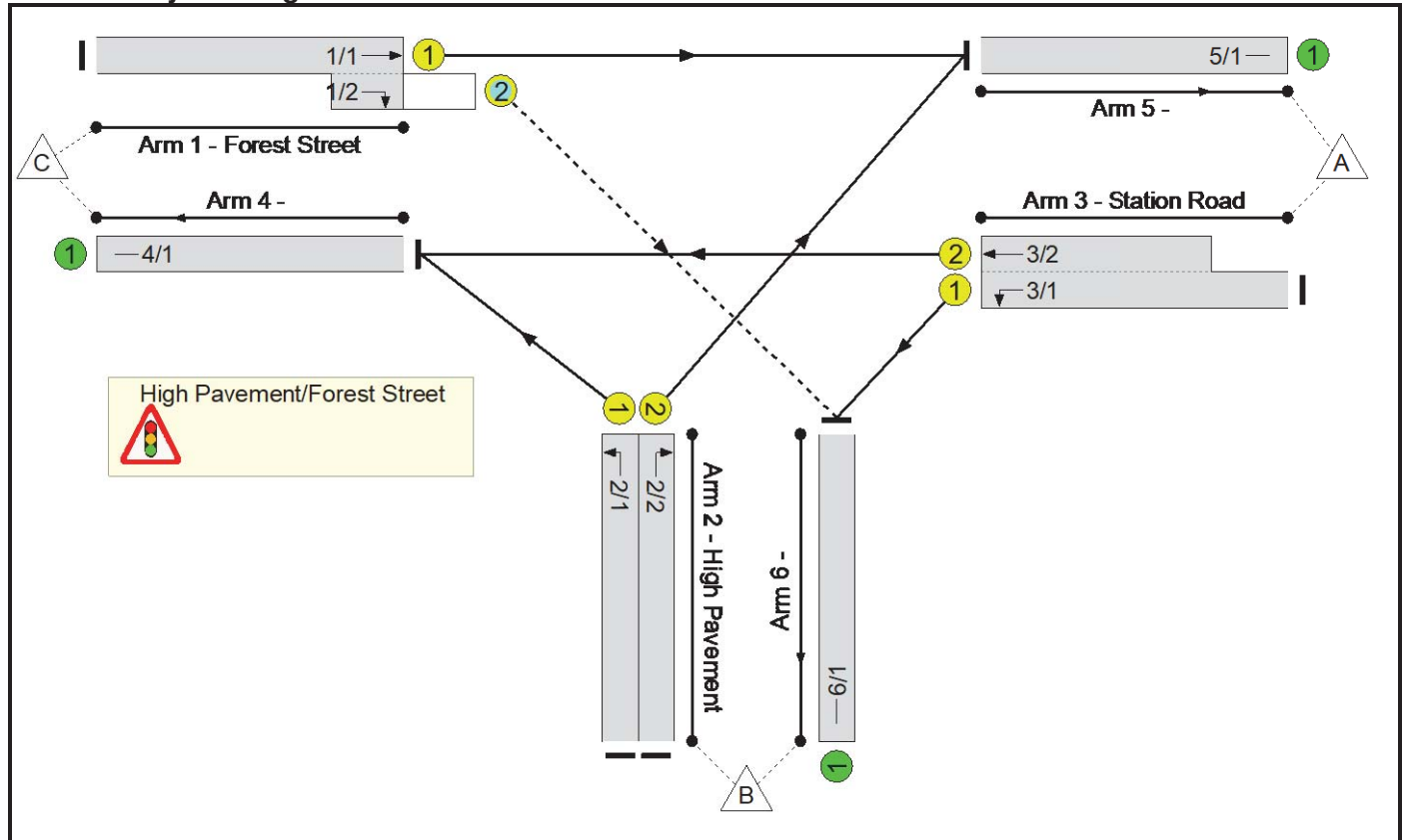
# JUNCTION 8 LINSIG OUTPUT EXISTING JUNCTION LAYOUT

Full Input Data And Results  
**Full Input Data And Results**

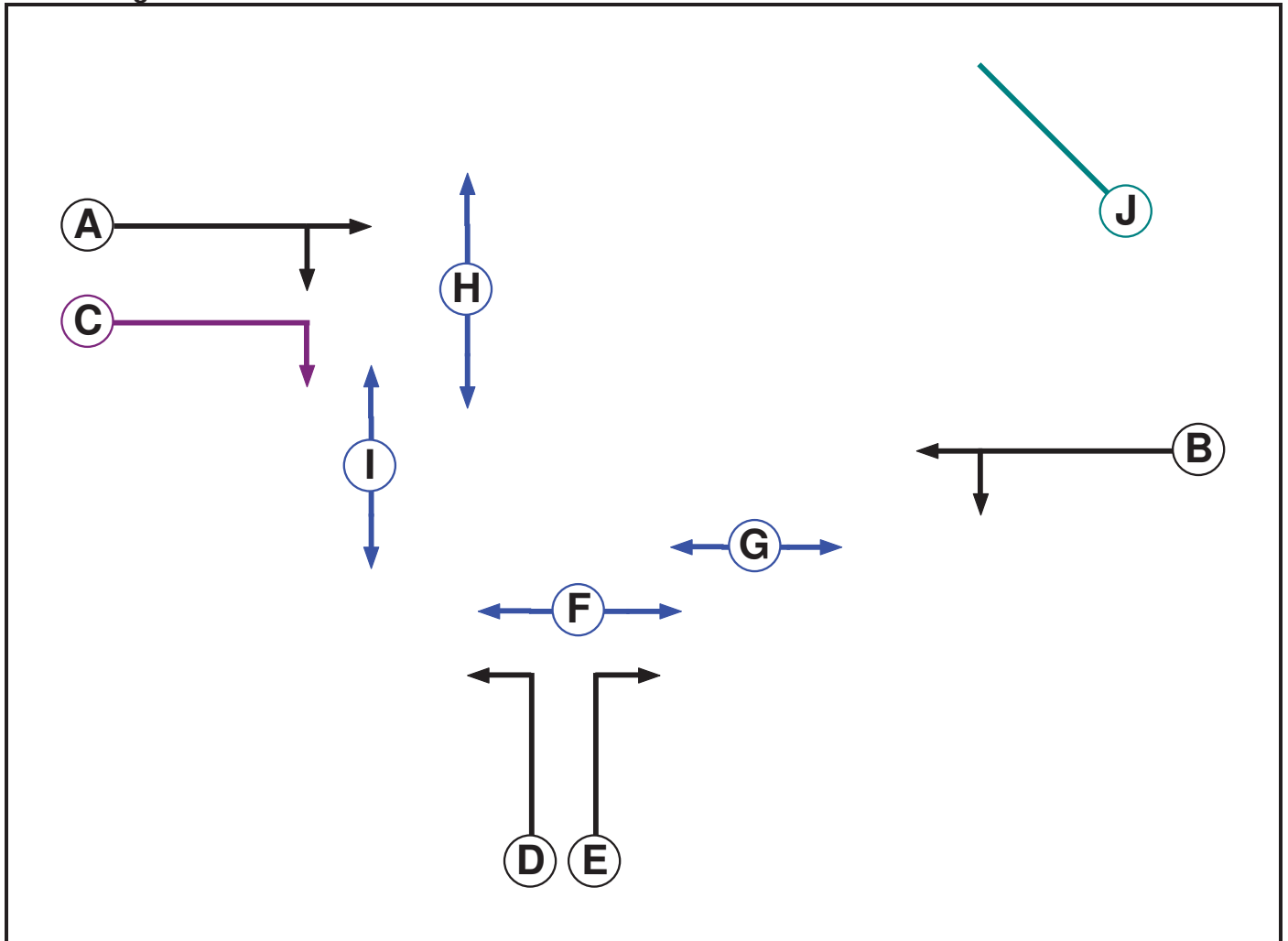
**User and Project Details**

<b>Project:</b>	Ashland Road, Sutton in Ashfield
<b>Title:</b>	High Pavement - Forest Street
<b>Location:</b>	
<b>Client:</b>	Bellway Homes
<b>Additional detail:</b>	
<b>File name:</b>	J8 High Pavement-Forest Street V3.lsg3x
<b>Author:</b>	
<b>Company:</b>	ADC Infrastructure Limited
<b>Address:</b>	King Edward Court, King Edward Street, Nottingham

**Network Layout Diagram**



**Phase Diagram**



**Phase Input Data**

Phase Name	Phase Type	Assoc. Phase	Street Min	Cont Min
A	Traffic		7	7
B	Traffic		7	7
C	Ind. Arrow	A	4	4
D	Traffic		7	7
E	Traffic		7	7
F	Pedestrian		6	6
G	Pedestrian		6	6
H	Pedestrian		6	6
I	Pedestrian		6	6
J	Dummy		3	3

Full Input Data And Results

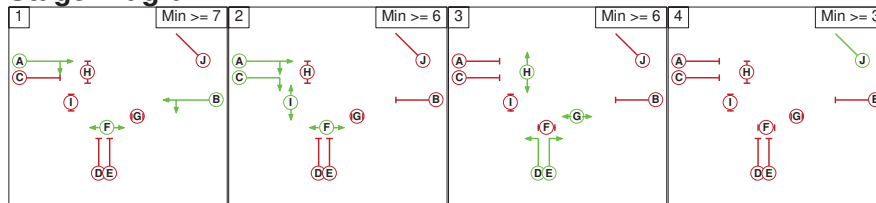
**Phase Intergrens Matrix**

		Starting Phase									
		A	B	C	D	E	F	G	H	I	J
Terminating Phase	A	-	-	-	5	-	9	5	-	3	
	B	-	-	3	6	5	-	7	-	9	3
	C	-	7	-	-	5	-	9	5	-	3
	D	-	5	-	-	5	-	-	9	3	
	E	5	5	5	-	-	5	-	-	-	3
	F	-	-	-	8	8	-	-	-	-	3
	G	7	7	7	-	-	-	-	-	-	3
	H	7	-	7	-	-	-	-	-	-	3
	I	-	6	-	6	-	-	-	-	-	3
	J	2	2	2	2	2	2	2	2	2	2

**Phases in Stage**

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

**Stage Diagram**



**Phase Delays**

Term. Stage	Start Stage	Phase	Type	Value	Cont value
1	3	A	Losing	2	2
1	3	B	Losing	2	2
2	3	A	Losing	3	3
2	3	C	Losing	3	3
2	3	I	Losing	2	2
3	1	D	Losing	2	2
3	1	E	Losing	2	2

Full Input Data And Results

**Prohibited Stage Change**

		To Stage			
		1	2	3	4
From Stage	1		9	11	3
	2	7		12	3
	3	7	9		3
	4	2	2	2	



Full Input Data And Results

**Give-Way Lane Input Data**

Junction: High Pavement/Forest Street												
Lane	Movement	Max Flow when Giving Way (PCU/Hr)	Min Flow when Giving Way (PCU/Hr)	Opposing Lane	Opp. Lane Coeff.	Opp. Mvmnts.	Right Turn Storage (PCU)	Non-Blocking Storage (PCU)	RTF	Right Turn Move up (s)	Max Turns in Intergreen (PCU)	
1/2 (Forest Street)	6/1 (Right)	1439	0	3/1	1.09	All	3.00	-	0.50	3	3.00	
				3/2	1.09	All						

Full Input Data And Results

**Lane Input Data**

Junction: High Pavement/Forest Street												
Lane	Lane Type	Phases	Start Disp.	End Disp.	Physical Length (PCU)	Sat Flow Type	Def User Saturation Flow (PCU/Hr)	Lane Width (m)	Gradient	Nearside Lane	Turns	Turning Radius (m)
1/1 (Forest Street)	U	A	2	3	60.0	Geom	-	3.00	0.00	Y	Arm 5 Ahead	Inf
1/2 (Forest Street)	O	A C	2	3	3.0	Geom	-	3.00	0.00	Y	Arm 6 Right	15.00
2/1 (High Pavement)	U	D	2	3	60.0	Geom	-	3.25	0.00	Y	Arm 4 Left	12.00
2/2 (High Pavement)	U	E	2	3	60.0	Geom	-	3.25	0.00	Y	Arm 5 Right	15.00
3/1 (Station Road)	U	B	2	3	60.0	Geom	-	3.25	0.00	Y	Arm 6 Left	10.00
3/2 (Station Road)	U	B	2	3	9.6	Geom	-	3.25	0.00	N	Arm 4 Ahead	Inf
4/1	U		2	3	60.0	Inf	-	-	-	-	-	-
5/1	U		2	3	60.0	Inf	-	-	-	-	-	-
6/1	U		2	3	60.0	Inf	-	-	-	-	-	-

**Traffic Flow Groups**

Flow Group	Start Time	End Time	Duration	Formula
1: '2030 Bkgd AM'	08:00	09:00	01:00	
2: '2030 Bkgd PM'	17:00	18:00	01:00	
3: '2030 With Dev AM'	08:00	09:00	01:00	
4: '2030 With Dev PM'	17:00	18:00	01:00	

**Scenario 1: '2030 Bkgd AM'** (FG1: '2030 Bkgd AM', Plan 1: 'Network Control Plan 1')

**Traffic Flows, Desired**

**Desired Flow :**

	Destination				
	A	B	C	Tot.	
Origin	A	0	395	294	689
	B	511	0	327	838
	C	274	258	0	532
	Tot.	785	653	621	2059

Full Input Data And Results

**Traffic Lane Flows**

Lane	Scenario 1: 2030 Bkgd AM
<b>Junction: High Pavement/Forest Street</b>	
1/1 (with short)	532(In) 274(Out)
1/2 (short)	258
2/1	327
2/2	511
3/1 (with short)	689(In) 395(Out)
3/2 (short)	294
4/1	621
5/1	785
6/1	653

**Lane Saturation Flows**

<b>Junction: High Pavement/Forest Street</b>								
Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
1/1 (Forest Street)	3.00	0.00	Y	Arm 5 Ahead	Inf	100.0 %	1915	1915
1/2 (Forest Street)	3.00	0.00	Y	Arm 6 Right	15.00	100.0 %	1741	1741
2/1 (High Pavement)	3.25	0.00	Y	Arm 4 Left	12.00	100.0 %	1724	1724
2/2 (High Pavement)	3.25	0.00	Y	Arm 5 Right	15.00	100.0 %	1764	1764
3/1 (Station Road)	3.25	0.00	Y	Arm 6 Left	10.00	100.0 %	1687	1687
3/2 (Station Road)	3.25	0.00	N	Arm 4 Ahead	Inf	100.0 %	2080	2080
4/1	Infinite Saturation Flow						Inf	Inf
5/1	Infinite Saturation Flow						Inf	Inf
6/1	Infinite Saturation Flow						Inf	Inf

**Scenario 2: '2030 With Dev AM'** (FG3: '2030 With Dev AM', Plan 1: 'Network Control Plan 1')

**Traffic Flows, Desired**

**Desired Flow :**

	Destination				
	A	B	C	Tot.	
Origin	A	0	404	294	698
	B	533	0	327	860
	C	274	258	0	532
	Tot.	807	662	621	2090

Full Input Data And Results

**Traffic Lane Flows**

Lane	Scenario 2: 2030 With Dev AM
<b>Junction: High Pavement/Forest Street</b>	
1/1 (with short)	532(In) 274(Out)
1/2 (short)	258
2/1	327
2/2	533
3/1 (with short)	698(In) 404(Out)
3/2 (short)	294
4/1	621
5/1	807
6/1	662

**Lane Saturation Flows**

<b>Junction: High Pavement/Forest Street</b>								
Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
1/1 (Forest Street)	3.00	0.00	Y	Arm 5 Ahead	Inf	100.0 %	1915	1915
1/2 (Forest Street)	3.00	0.00	Y	Arm 6 Right	15.00	100.0 %	1741	1741
2/1 (High Pavement)	3.25	0.00	Y	Arm 4 Left	12.00	100.0 %	1724	1724
2/2 (High Pavement)	3.25	0.00	Y	Arm 5 Right	15.00	100.0 %	1764	1764
3/1 (Station Road)	3.25	0.00	Y	Arm 6 Left	10.00	100.0 %	1687	1687
3/2 (Station Road)	3.25	0.00	N	Arm 4 Ahead	Inf	100.0 %	2080	2080
4/1	Infinite Saturation Flow						Inf	Inf
5/1	Infinite Saturation Flow						Inf	Inf
6/1	Infinite Saturation Flow						Inf	Inf

**Scenario 3: '2030 Bkgd PM'** (FG2: '2030 Bkgd PM', Plan 1: 'Network Control Plan 1')

**Traffic Flows, Desired**

**Desired Flow :**

	Destination				
	A	B	C	Tot.	
Origin	A	0	590	302	892
	B	394	0	314	708
	C	256	324	0	580
	Tot.	650	914	616	2180

Full Input Data And Results

**Traffic Lane Flows**

Lane	Scenario 3: 2030 Bkgd PM
<b>Junction: High Pavement/Forest Street</b>	
1/1 (with short)	580(In) 256(Out)
1/2 (short)	324
2/1	314
2/2	394
3/1 (with short)	892(In) 590(Out)
3/2 (short)	302
4/1	616
5/1	650
6/1	914

**Lane Saturation Flows**

<b>Junction: High Pavement/Forest Street</b>								
Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
1/1 (Forest Street)	3.00	0.00	Y	Arm 5 Ahead	Inf	100.0 %	1915	1915
1/2 (Forest Street)	3.00	0.00	Y	Arm 6 Right	15.00	100.0 %	1741	1741
2/1 (High Pavement)	3.25	0.00	Y	Arm 4 Left	12.00	100.0 %	1724	1724
2/2 (High Pavement)	3.25	0.00	Y	Arm 5 Right	15.00	100.0 %	1764	1764
3/1 (Station Road)	3.25	0.00	Y	Arm 6 Left	10.00	100.0 %	1687	1687
3/2 (Station Road)	3.25	0.00	N	Arm 4 Ahead	Inf	100.0 %	2080	2080
4/1	Infinite Saturation Flow						Inf	Inf
5/1	Infinite Saturation Flow						Inf	Inf
6/1	Infinite Saturation Flow						Inf	Inf

**Scenario 4: '2030 With Dev PM'** (FG4: '2030 With Dev PM', Plan 1: 'Network Control Plan 1')

**Traffic Flows, Desired**

**Desired Flow :**

	Destination				
	A	B	C	Tot.	
Origin	A	0	613	302	915
	B	408	0	314	722
	C	256	324	0	580
	Tot.	664	937	616	2217

Full Input Data And Results

**Traffic Lane Flows**

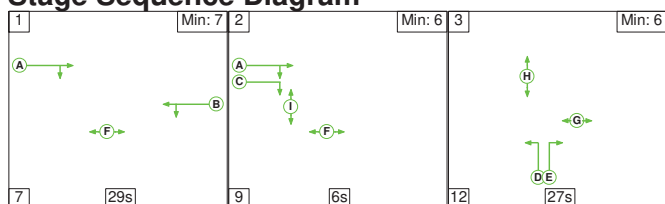
Lane	Scenario 4: 2030 With Dev PM
<b>Junction: High Pavement/Forest Street</b>	
1/1 (with short)	580(In) 256(Out)
1/2 (short)	324
2/1	314
2/2	408
3/1 (with short)	915(In) 613(Out)
3/2 (short)	302
4/1	616
5/1	664
6/1	937

**Lane Saturation Flows**

<b>Junction: High Pavement/Forest Street</b>									
Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)	
1/1 (Forest Street)	3.00	0.00	Y	Arm 5 Ahead	Inf	100.0 %	1915	1915	
1/2 (Forest Street)	3.00	0.00	Y	Arm 6 Right	15.00	100.0 %	1741	1741	
2/1 (High Pavement)	3.25	0.00	Y	Arm 4 Left	12.00	100.0 %	1724	1724	
2/2 (High Pavement)	3.25	0.00	Y	Arm 5 Right	15.00	100.0 %	1764	1764	
3/1 (Station Road)	3.25	0.00	Y	Arm 6 Left	10.00	100.0 %	1687	1687	
3/2 (Station Road)	3.25	0.00	N	Arm 4 Ahead	Inf	100.0 %	2080	2080	
4/1	Infinite Saturation Flow							Inf	Inf
5/1	Infinite Saturation Flow							Inf	Inf
6/1	Infinite Saturation Flow							Inf	Inf

**Scenario 1: '2030 Bkgd AM'** (FG1: '2030 Bkgd AM', Plan 1: 'Network Control Plan 1')

**Stage Sequence Diagram**

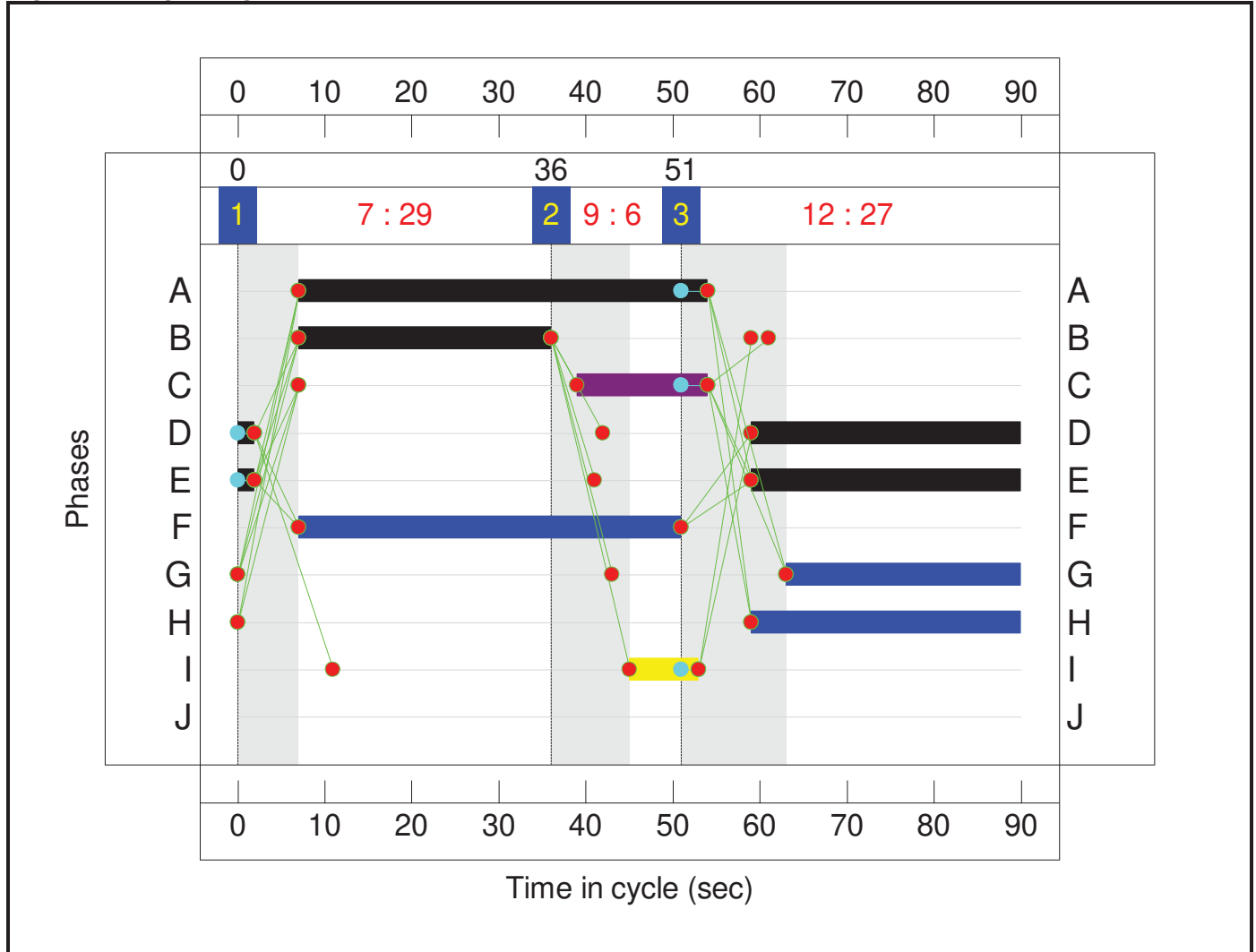


Full Input Data And Results

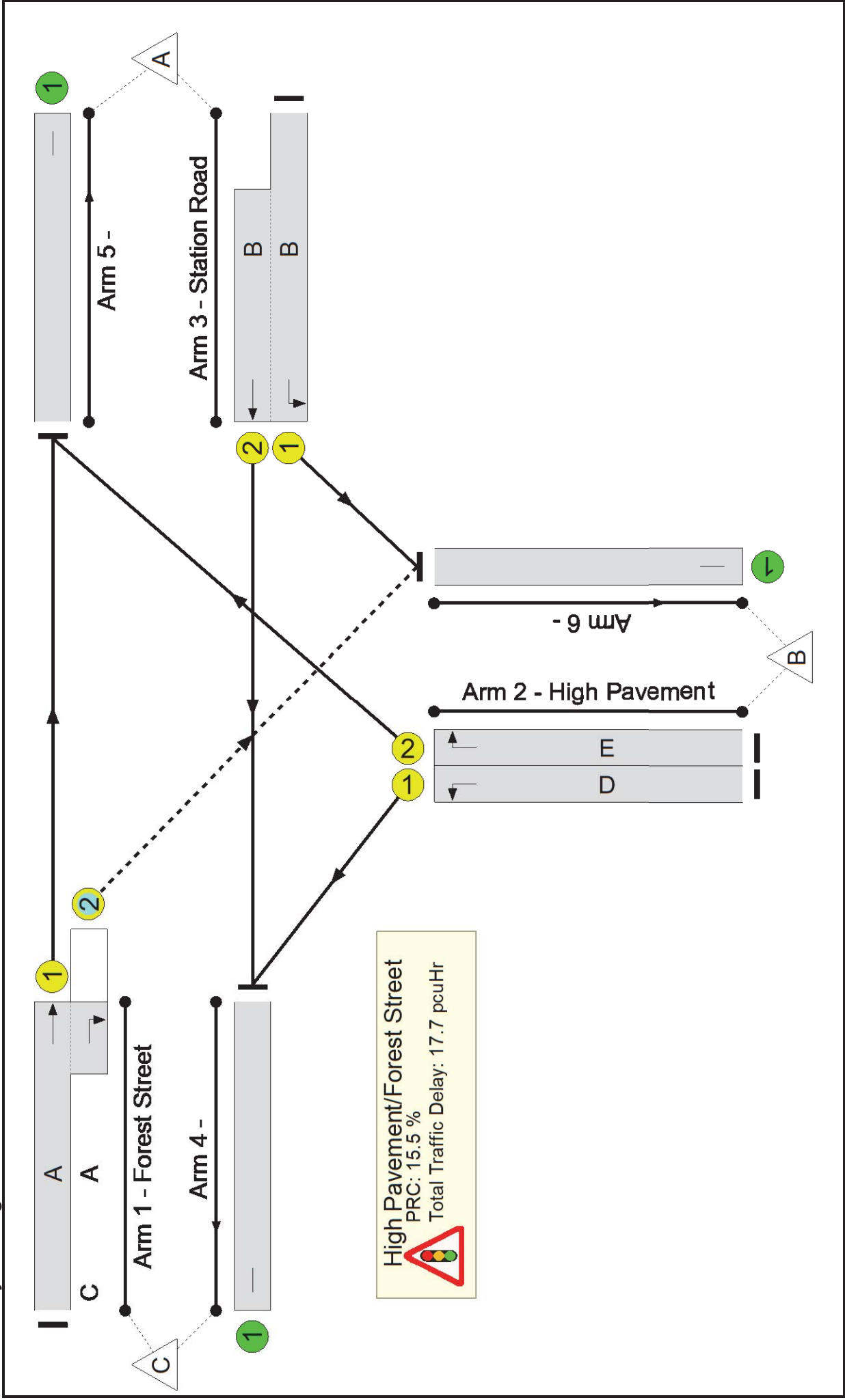
Stage Timings

Stage	1	2	3
Duration	29	6	27
Change Point	0	36	51

Signal Timings Diagram



### Network Layout Diagram





Full Input Data And Results

**Network Results**

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network: High Pavement - Forest Street	-	-	N/A	-	-	-	-	-	-	-	-	-	77.9%
High Pavement/Forest Street	-	-	N/A	-	-	-	-	-	-	-	-	-	77.9%
1/1+1/2	Forest Street Ahead Right	U+O	N/A	N/A	A	C	1	47	15	532	1915:1741	453+427	60.4 : 60.4%
2/1	High Pavement Left	U	N/A	N/A	D	-	1	33	-	327	1724	651	50.2%
2/2	High Pavement Right	U	N/A	N/A	E	-	1	33	-	511	1764	666	76.7%
3/1+3/2	Station Road Ahead Left	U	N/A	N/A	B	-	1	29	-	689	1687:2080	507+377	77.9 : 77.9%
4/1		U	N/A	N/A	-	-	-	-	-	621	Inf	Inf	0.0%
5/1		U	N/A	N/A	-	-	-	-	-	785	Inf	Inf	0.0%
6/1		U	N/A	N/A	-	-	-	-	-	653	Inf	Inf	0.0%

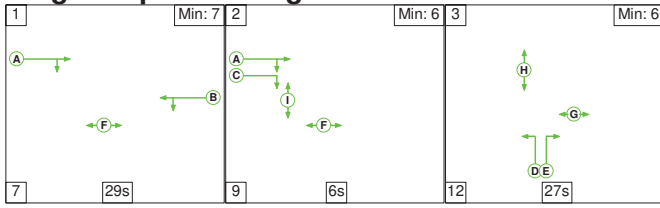
Full Input Data And Results

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)	
Network: High Pavement - Forest Street	-	-	86	163	9	12.2	4.6	0.9	17.7	-	-	-	-	
High Pavement/Forest Street	-	-	86	163	9	12.2	4.6	0.9	17.7	-	-	-	-	
1/1+1/2	532	532	86	163	9	2.0	0.8	0.9	3.7 (1.3+2.4)	24.8 (16.7:33.3)	4.7	0.8	5.5	
2/1	327	327	-	-	-	2.0	0.5	-	2.5	27.0	6.3	0.5	6.8	
2/2	511	511	-	-	-	3.5	1.6	-	5.1	35.9	11.1	1.6	12.7	
3/1+3/2	689	689	-	-	-	4.8	1.7	-	6.5 (3.9+2.6)	34.0 (35.2:32.4)	8.6	1.7	10.3	
4/1	621	621	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	
5/1	785	785	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	
6/1	653	653	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	
C1														
					PRC for Signalled Lanes (%):	15.5	Total Delay for Signalled Lanes (pcuHr):		17.71	Cycle Time (s):		90		
					PRC Over All Lanes (%):	15.5	Total Delay Over All Lanes (pcuHr):		17.71					

Full Input Data And Results

Scenario 2: '2030 With Dev AM' (FG3: '2030 With Dev AM', Plan 1: 'Network Control Plan 1')

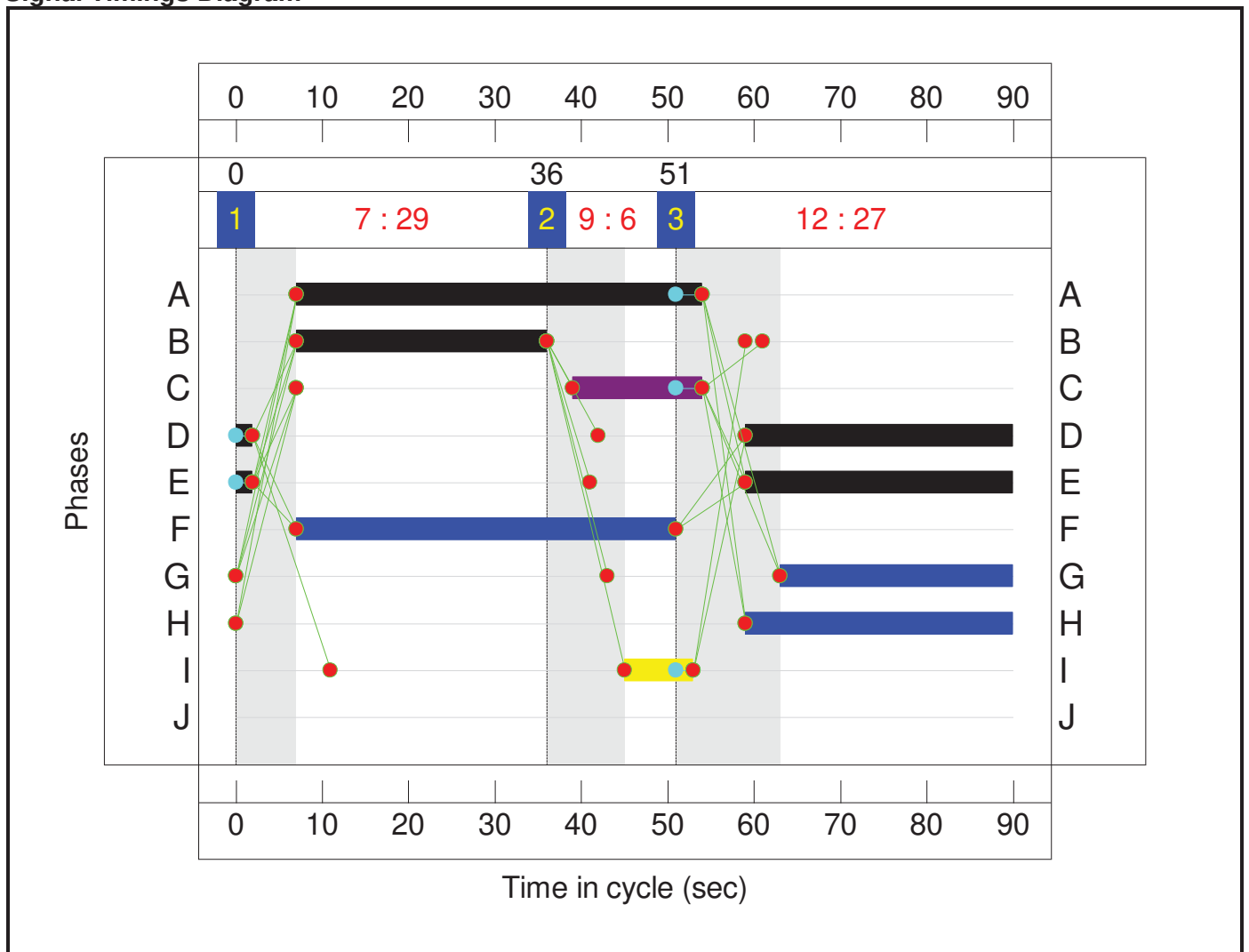
Stage Sequence Diagram



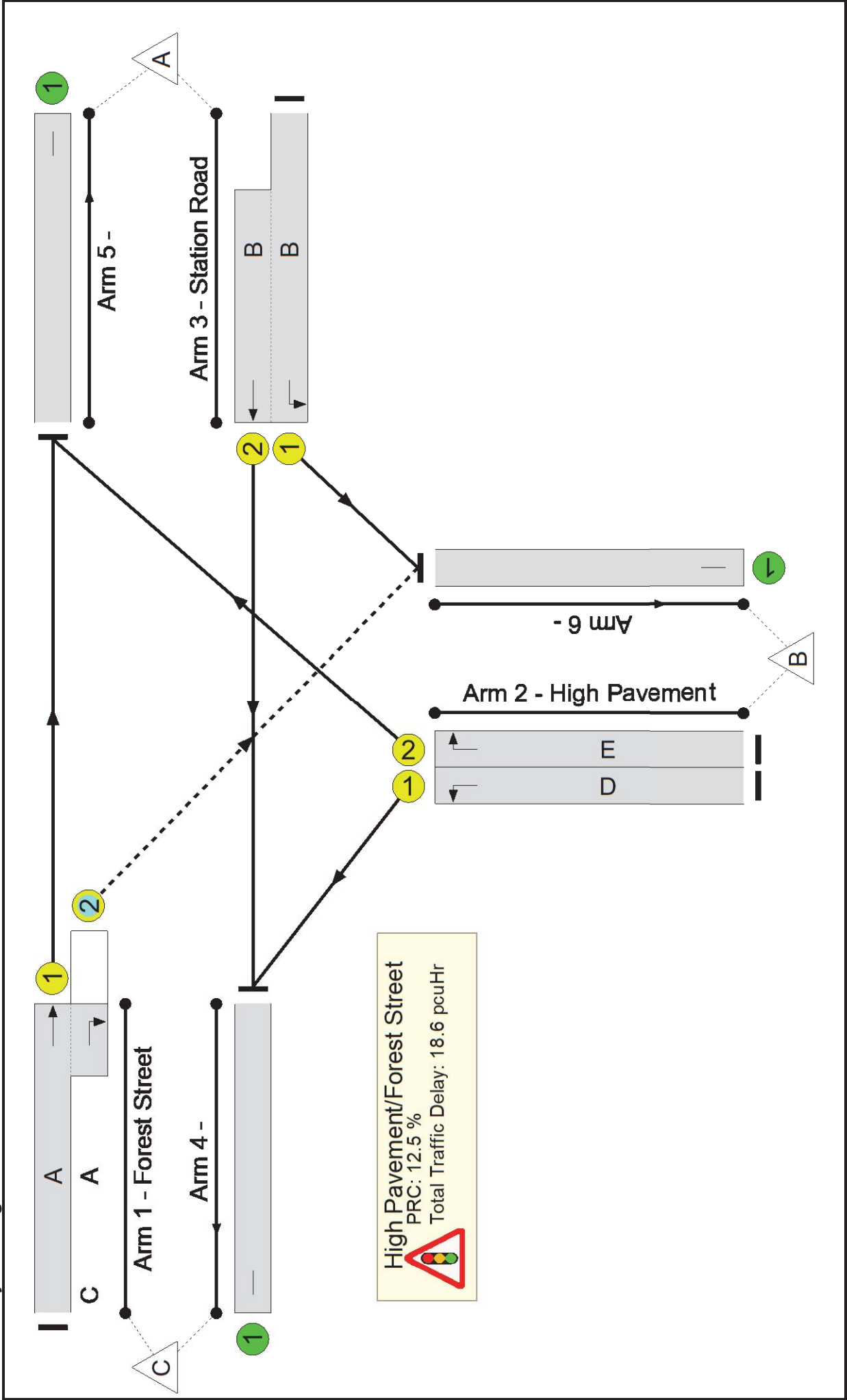
Stage Timings

Stage	1	2	3
Duration	29	6	27
Change Point	0	36	51

Signal Timings Diagram



### Network Layout Diagram



Full Input Data And Results

**Network Results**

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network: High Pavement - Forest Street	-	-	N/A	-	-	-	-	-	-	-	-	-	80.0%
High Pavement/Forest Street	-	-	N/A	-	-	-	-	-	-	-	-	-	80.0%
1/1+1/2	Forest Street Ahead Right	U+O	N/A	N/A	A	C	1	47	15	532	1915:1741	443+417	61.8 : 61.8%
2/1	High Pavement Left	U	N/A	N/A	D	-	1	33	-	327	1724	651	50.2%
2/2	High Pavement Right	U	N/A	N/A	E	-	1	33	-	533	1764	666	80.0%
3/1+3/2	Station Road Ahead Left	U	N/A	N/A	B	-	1	29	-	698	1687:2080	508+370	79.5 : 79.5%
4/1		U	N/A	N/A	-	-	-	-	-	621	Inf	Inf	0.0%
5/1		U	N/A	N/A	-	-	-	-	-	807	Inf	Inf	0.0%
6/1		U	N/A	N/A	-	-	-	-	-	662	Inf	Inf	0.0%

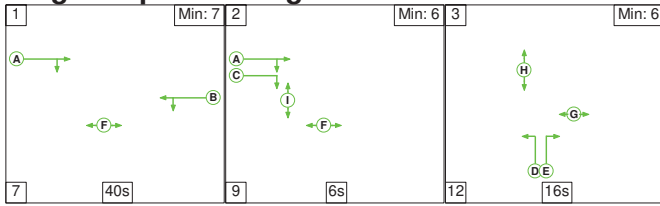
Full Input Data And Results

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)	
Network: High Pavement - Forest Street	-	-	83	167	9	12.5	5.2	0.9	18.6	-	-	-	-	
High Pavement/Forest Street	-	-	83	167	9	12.5	5.2	0.9	18.6	-	-	-	-	
1/1+1/2	532	532	83	167	9	2.0	0.8	0.9	3.7 (1.3+2.4)	25.2 (17.0:33.9)	4.7	0.8	5.5	
2/1	327	327	-	-	-	2.0	0.5	-	2.5	27.0	6.3	0.5	6.8	
2/2	533	533	-	-	-	3.7	1.9	-	5.6	38.1	11.8	1.9	13.8	
3/1+3/2	698	698	-	-	-	4.9	1.9	-	6.8 (4.1+2.7)	34.8 (36.1:33.1)	8.8	1.9	10.7	
4/1	621	621	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	
5/1	807	807	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	
6/1	662	662	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	
C1														
					PRC for Signalled Lanes (%):	12.5	Total Delay for Signalled Lanes (pcuHr):		18.57	Cycle Time (s):		90		
					PRC Over All Lanes (%):	12.5	Total Delay Over All Lanes (pcuHr):		18.57					

Full Input Data And Results

Scenario 3: '2030 Bkgd PM' (FG2: '2030 Bkgd PM', Plan 1: 'Network Control Plan 1')

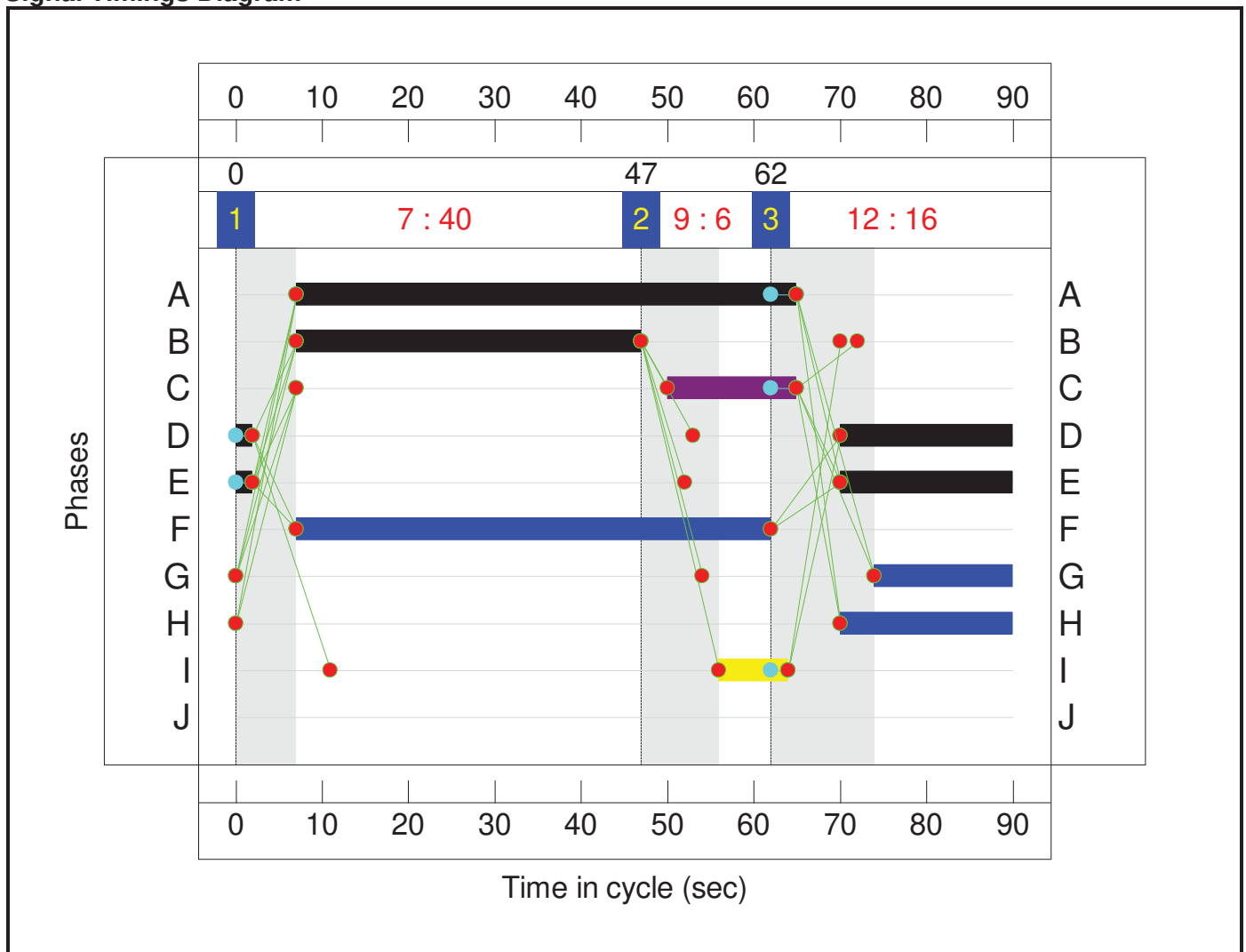
Stage Sequence Diagram



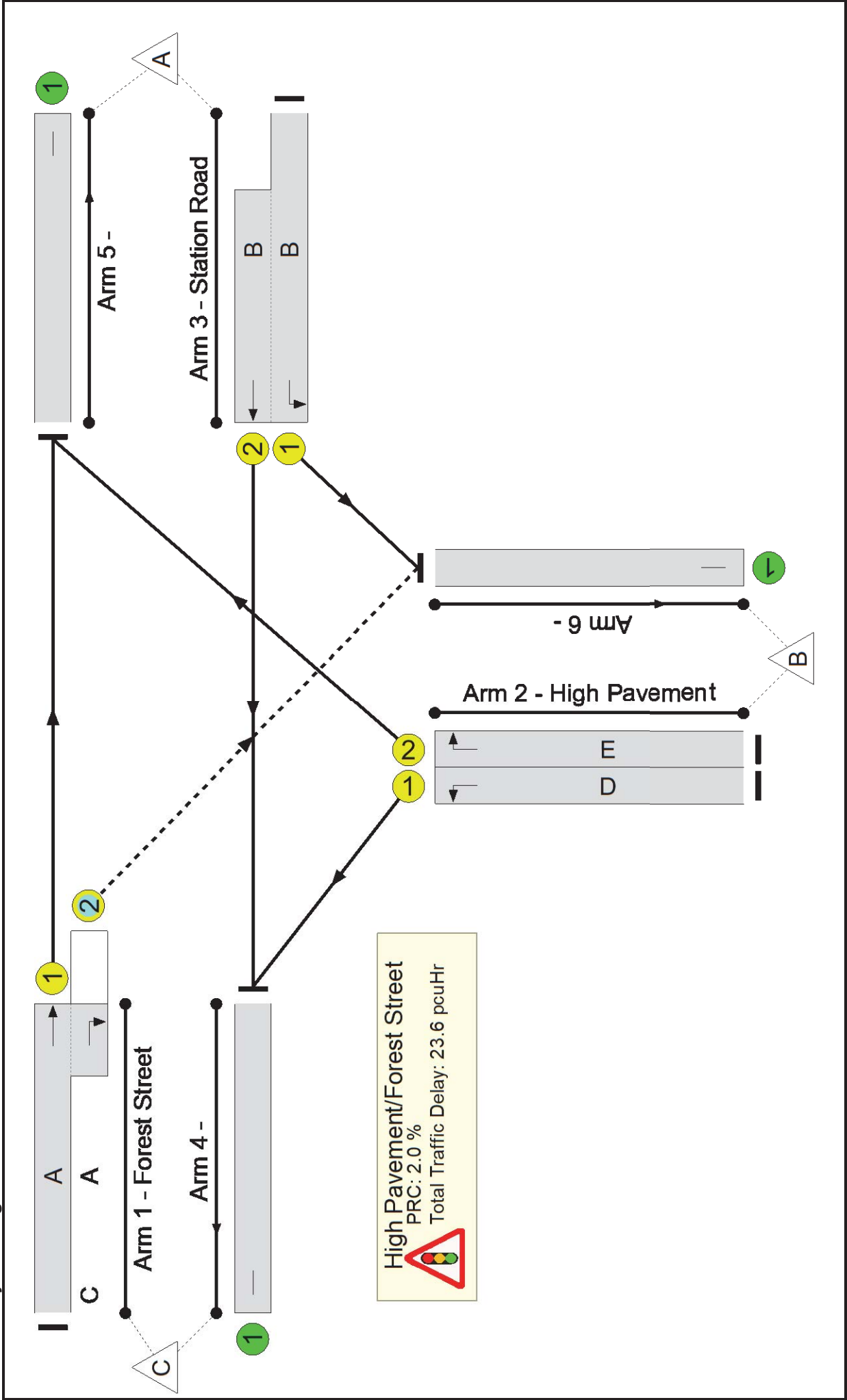
Stage Timings

Stage	1	2	3
Duration	40	6	16
Change Point	0	47	62

Signal Timings Diagram



### Network Layout Diagram





Full Input Data And Results

**Network Results**

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network: High Pavement - Forest Street	-	-	N/A	-	-	-	-	-	-	-	-	-	88.2%
High Pavement/Forest Street	-	-	N/A	-	-	-	-	-	-	-	-	-	88.2%
1/1+1/2	Forest Street Ahead Right	U+O	N/A	N/A	A	C	1	58	15	580	1915:1741	345+436	74.3 : 74.3%
2/1	High Pavement Left	U	N/A	N/A	D	-	1	22	-	314	1724	441	71.3%
2/2	High Pavement Right	U	N/A	N/A	E	-	1	22	-	394	1764	451	87.4%
3/1+3/2	Station Road Ahead Left	U	N/A	N/A	B	-	1	40	-	892	1687:2080	669+342	88.2 : 88.2%
4/1		U	N/A	N/A	-	-	-	-	-	616	Inf	Inf	0.0%
5/1		U	N/A	N/A	-	-	-	-	-	650	Inf	Inf	0.0%
6/1		U	N/A	N/A	-	-	-	-	-	914	Inf	Inf	0.0%

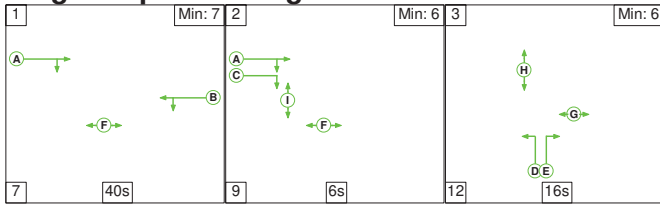
Full Input Data And Results

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network: High Pavement - Forest Street	-	-	60	253	11	12.8	9.3	1.4	23.6	-	-	-	-
High Pavement/Forest Street	-	-	60	253	11	12.8	9.3	1.4	23.6	-	-	-	-
1/1+1/2	580	580	60	253	11	1.9	1.4	1.4	4.7 (1.1+3.6)	29.4 (15.2:40.5)	7.2	1.4	8.6
2/1	314	314	-	-	-	2.7	1.2	-	3.9	44.4	7.1	1.2	8.3
2/2	394	394	-	-	-	3.5	3.1	-	6.6	60.7	9.4	3.1	12.5
3/1+3/2	892	892	-	-	-	4.8	3.5	-	8.3 (5.7+2.6)	33.6 (34.9:31.0)	14.4	3.5	18.0
4/1	616	616	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/1	650	650	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	914	914	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
C1													
PRC for Signalled Lanes (%): 2.0 PRC Over All Lanes (%): 2.0 Total Delay for Signalled Lanes (pcuHr): 23.57 Total Delay Over All Lanes (pcuHr): 23.57 Cycle Time (s): 90													

Full Input Data And Results

Scenario 4: '2030 With Dev PM' (FG4: '2030 With Dev PM', Plan 1: 'Network Control Plan 1')

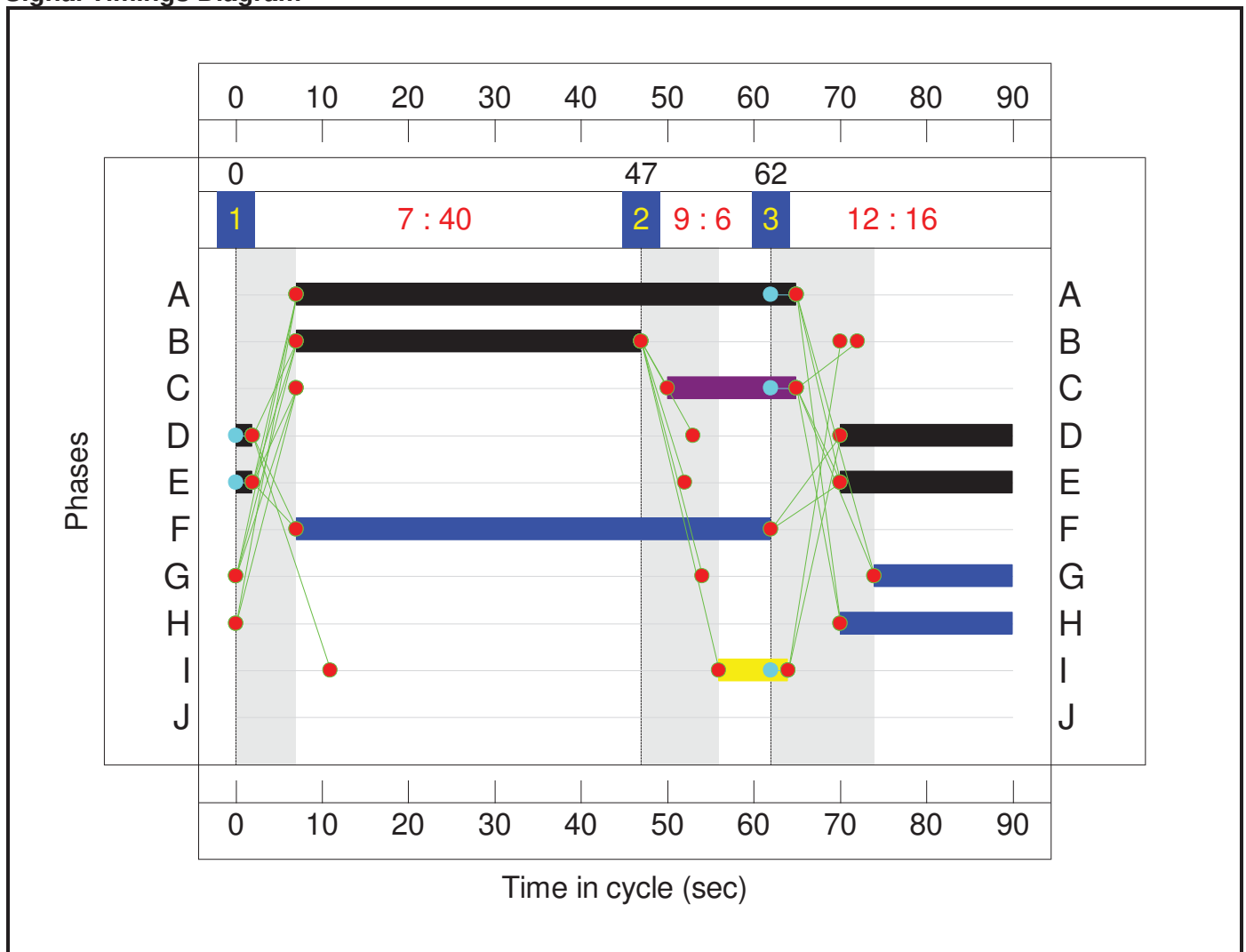
Stage Sequence Diagram



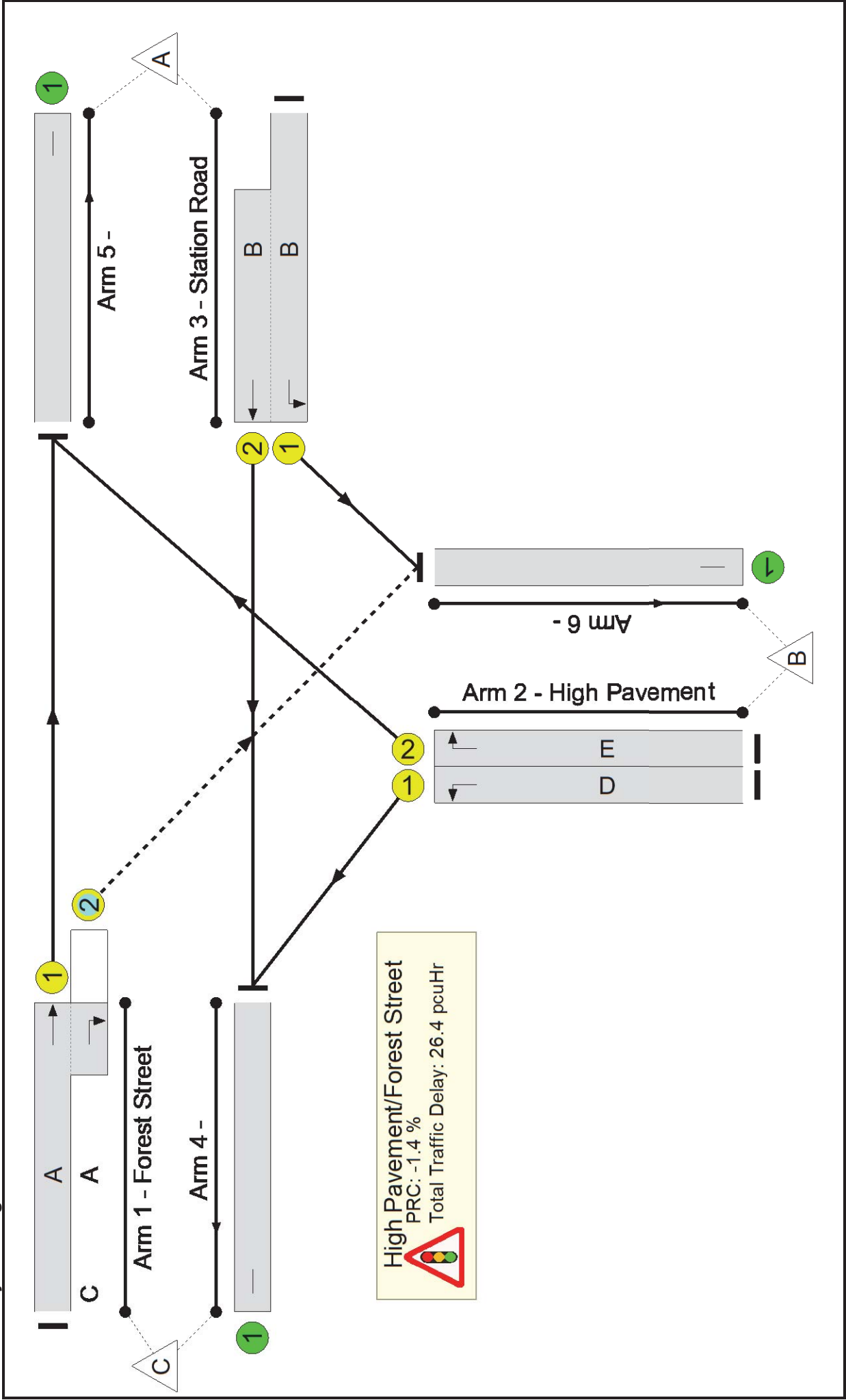
Stage Timings

Stage	1	2	3
Duration	40	6	16
Change Point	0	47	62

Signal Timings Diagram



### Network Layout Diagram



Full Input Data And Results

**Network Results**

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network: High Pavement - Forest Street	-	-	N/A	-	-	-	-	-	-	-	-	-	91.3%
High Pavement/Forest Street	-	-	N/A	-	-	-	-	-	-	-	-	-	91.3%
1/1+1/2	Forest Street Ahead Right	U+O	N/A	N/A	A	C	1	58	15	580	1915:1741	331+419	77.3 : 77.3%
2/1	High Pavement Left	U	N/A	N/A	D	-	1	22	-	314	1724	441	71.3%
2/2	High Pavement Right	U	N/A	N/A	E	-	1	22	-	408	1764	451	90.5%
3/1+3/2	Station Road Ahead Left	U	N/A	N/A	B	-	1	40	-	915	1687:2080	672+331	91.3 : 91.3%
4/1		U	N/A	N/A	-	-	-	-	-	616	Inf	Inf	0.0%
5/1		U	N/A	N/A	-	-	-	-	-	664	Inf	Inf	0.0%
6/1		U	N/A	N/A	-	-	-	-	-	937	Inf	Inf	0.0%

Full Input Data And Results

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network: High Pavement - Forest Street	-	-	44	256	25	13.3	11.6	1.5	26.4	-	-	-	-
High Pavement/Forest Street	-	-	44	256	25	13.3	11.6	1.5	26.4	-	-	-	-
1/1+1/2	580	580	44	256	25	2.0	1.7	1.5	5.1 (1.2+3.9)	31.7 (17.0:43.3)	7.4	1.7	9.0
2/1	314	314	-	-	-	2.7	1.2	-	3.9	44.4	7.1	1.2	8.3
2/2	408	408	-	-	-	3.7	4.0	-	7.7	67.9	9.9	4.0	13.9
3/1+3/2	915	915	-	-	-	5.0	4.7	-	9.8 (6.8+3.0)	38.4 (39.7:35.7)	15.9	4.7	20.6
4/1	616	616	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/1	664	664	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	937	937	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
C1													
PRC for Signalled Lanes (%): -1.4 PRC Over All Lanes (%): -1.4 Total Delay for Signalled Lanes (pcuHr): 26.44 Total Delay Over All Lanes (pcuHr): 26.44 Cycle Time (s): 90													

## APPENDIX E

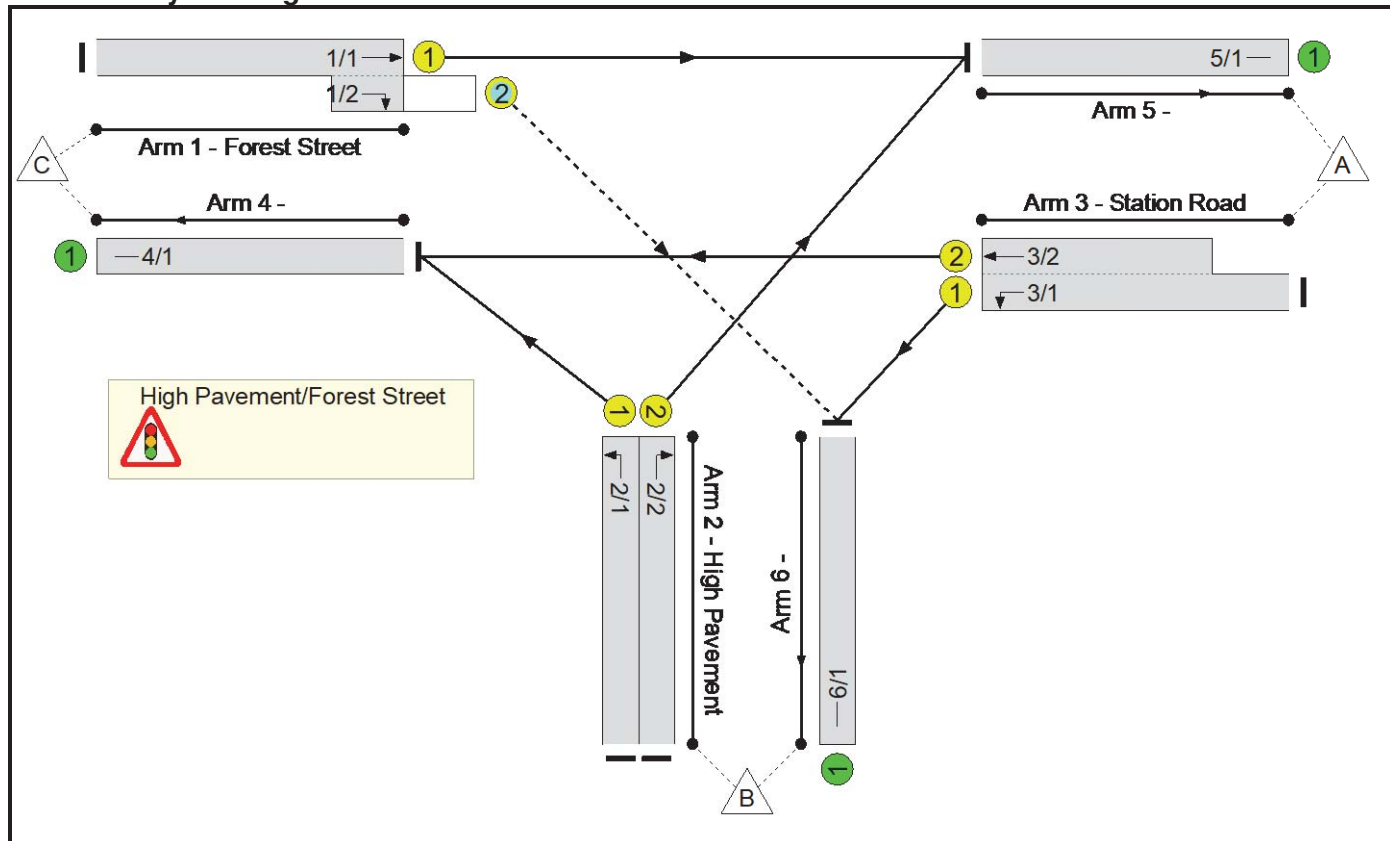
# JUNCTION 8: LINSIG OUTPUT NCC IMPROVED JUNCTION LAYOUT

Full Input Data And Results  
**Full Input Data And Results**

**User and Project Details**

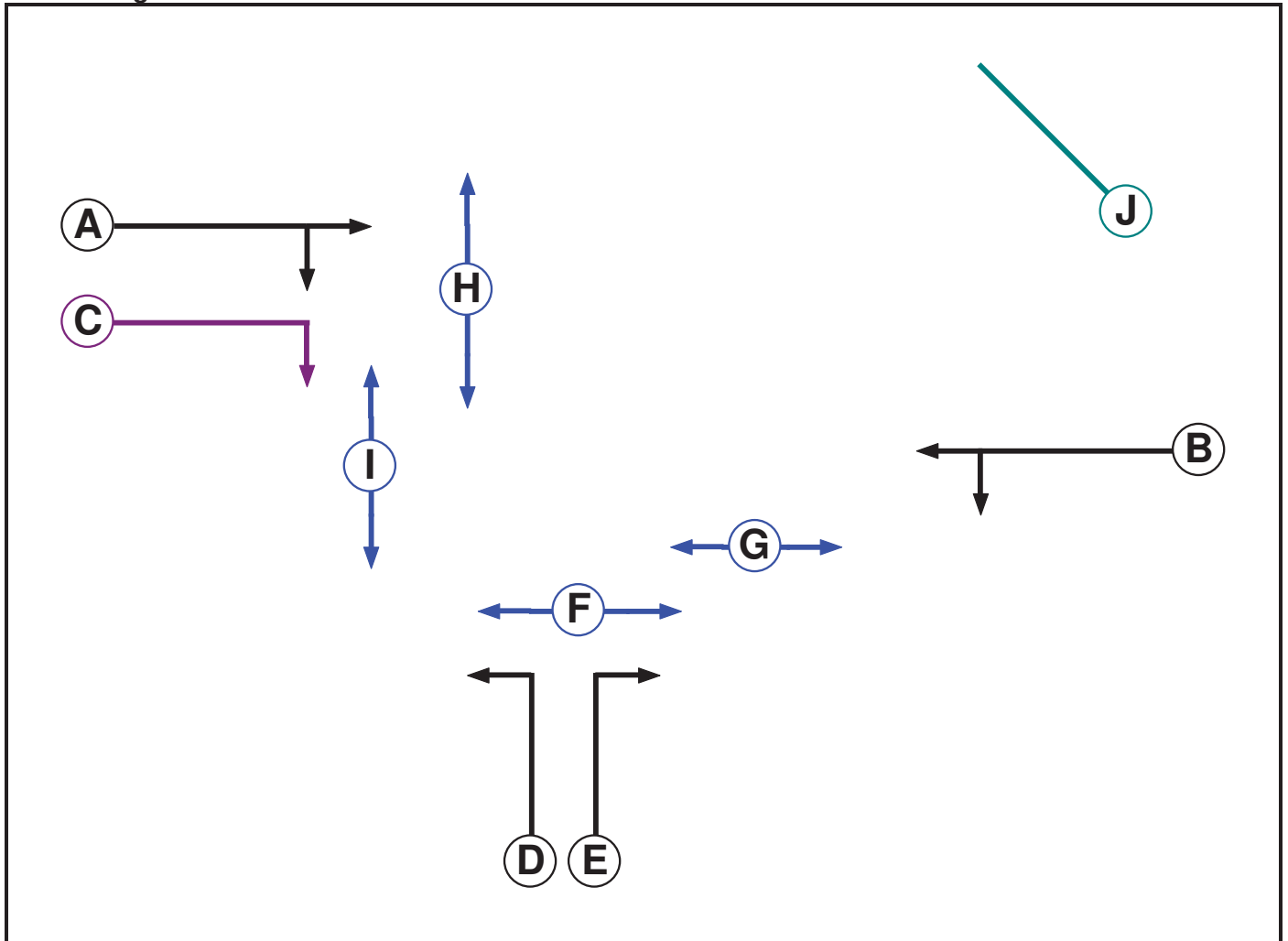
<b>Project:</b>	<b>Ashland Road, Sutton in Ashfield</b>
<b>Title:</b>	<b>High Pavement - Forest Street</b>
<b>Location:</b>	
<b>Client:</b>	Bellway Homes
<b>Additional detail:</b>	
<b>File name:</b>	J8 High Pavement-Forest Street V3 - With Improvements.lsg3x
<b>Author:</b>	
<b>Company:</b>	ADC Infrastructure Limited
<b>Address:</b>	King Edward Court, King Edward Street, Nottingham

**Network Layout Diagram**





Phase Diagram



Phase Input Data

Phase Name	Phase Type	Assoc. Phase	Street Min	Cont Min
A	Traffic		7	7
B	Traffic		7	7
C	Ind. Arrow	A	4	4
D	Traffic		7	7
E	Traffic		7	7
F	Pedestrian		6	6
G	Pedestrian		6	6
H	Pedestrian		6	6
I	Pedestrian		6	6
J	Dummy		3	3

Full Input Data And Results

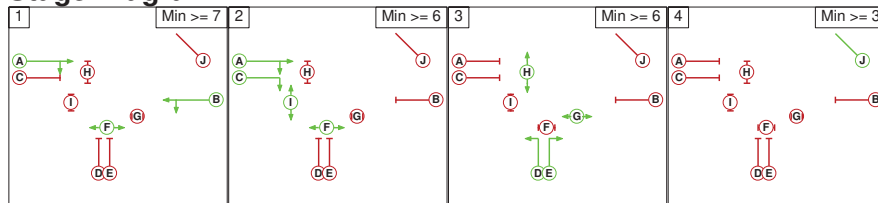
**Phase Intergrens Matrix**

		Starting Phase									
		A	B	C	D	E	F	G	H	I	J
Terminating Phase	A	-	-	-	5	-	9	5	-	3	
	B	-	-	3	6	5	-	7	-	9	3
	C	-	7	-	-	5	-	9	5	-	3
	D	-	5	-	-	5	-	-	9	3	
	E	5	5	5	-	-	5	-	-	-	3
	F	-	-	-	6	6	-	-	-	-	3
	G	7	7	7	-	-	-	-	-	-	3
	H	6	-	6	-	-	-	-	-	-	3
	I	-	6	-	6	-	-	-	-	-	3
	J	2	2	2	2	2	2	2	2	2	2

**Phases in Stage**

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

**Stage Diagram**



**Phase Delays**

Term. Stage	Start Stage	Phase	Type	Value	Cont value
1	3	A	Losing	2	2
1	3	B	Losing	2	2
2	3	A	Losing	3	3
2	3	C	Losing	3	3
2	3	I	Losing	2	2
3	1	D	Losing	2	2
3	1	E	Losing	2	2

Full Input Data And Results

**Prohibited Stage Change**

		To Stage			
		1	2	3	4
From Stage	1		9	11	3
	2	7		12	3
	3	7	9		3
	4	2	2	2	

Full Input Data And Results

**Give-Way Lane Input Data**

Junction: High Pavement/Forest Street											
Lane	Movement	Max Flow when Giving Way (PCU/Hr)	Min Flow when Giving Way (PCU/Hr)	Opposing Lane	Opp. Lane Coeff.	Opp. Mvmnts.	Right Turn Storage (PCU)	Non-Blocking Storage (PCU)	RTF	Right Turn Move up (s)	Max Turns in Intergreen (PCU)
1/2 (Forest Street)	6/1 (Right)	1439	0	3/1	1.09	All	3.00	-	0.50	3	3.00
				3/2	1.09	All					

Full Input Data And Results

**Lane Input Data**

Junction: High Pavement/Forest Street												
Lane	Lane Type	Phases	Start Disp.	End Disp.	Physical Length (PCU)	Sat Flow Type	Def User Saturation Flow (PCU/Hr)	Lane Width (m)	Gradient	Nearside Lane	Turns	Turning Radius (m)
1/1 (Forest Street)	U	A	2	3	60.0	Geom	-	3.00	0.00	Y	Arm 5 Ahead	Inf
1/2 (Forest Street)	O	A C	2	3	3.0	Geom	-	3.00	0.00	Y	Arm 6 Right	15.00
2/1 (High Pavement)	U	D	2	3	60.0	Geom	-	3.25	0.00	Y	Arm 4 Left	12.00
2/2 (High Pavement)	U	E	2	3	60.0	Geom	-	3.25	0.00	Y	Arm 5 Right	15.00
3/1 (Station Road)	U	B	2	3	60.0	Geom	-	3.25	0.00	Y	Arm 6 Left	10.00
3/2 (Station Road)	U	B	2	3	9.6	Geom	-	3.25	0.00	N	Arm 4 Ahead	Inf
4/1	U		2	3	60.0	Inf	-	-	-	-	-	-
5/1	U		2	3	60.0	Inf	-	-	-	-	-	-
6/1	U		2	3	60.0	Inf	-	-	-	-	-	-

**Traffic Flow Groups**

Flow Group	Start Time	End Time	Duration	Formula
1: '2030 Bkgd AM'	08:00	09:00	01:00	
2: '2030 Bkgd PM'	17:00	18:00	01:00	
3: '2030 With Dev AM'	08:00	09:00	01:00	
4: '2030 With Dev PM'	17:00	18:00	01:00	

**Scenario 1: '2030 Bkgd AM'** (FG1: '2030 Bkgd AM', Plan 1: 'Network Control Plan 1')

**Traffic Flows, Desired**

**Desired Flow :**

	Destination				
	A	B	C	Tot.	
Origin	A	0	395	294	689
	B	511	0	327	838
	C	274	258	0	532
	Tot.	785	653	621	2059

Full Input Data And Results

**Traffic Lane Flows**

Lane	Scenario 1: 2030 Bkgd AM
<b>Junction: High Pavement/Forest Street</b>	
1/1 (with short)	532(In) 274(Out)
1/2 (short)	258
2/1	327
2/2	511
3/1 (with short)	689(In) 395(Out)
3/2 (short)	294
4/1	621
5/1	785
6/1	653

**Lane Saturation Flows**

<b>Junction: High Pavement/Forest Street</b>								
Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
1/1 (Forest Street)	3.00	0.00	Y	Arm 5 Ahead	Inf	100.0 %	1915	1915
1/2 (Forest Street)	3.00	0.00	Y	Arm 6 Right	15.00	100.0 %	1741	1741
2/1 (High Pavement)	3.25	0.00	Y	Arm 4 Left	12.00	100.0 %	1724	1724
2/2 (High Pavement)	3.25	0.00	Y	Arm 5 Right	15.00	100.0 %	1764	1764
3/1 (Station Road)	3.25	0.00	Y	Arm 6 Left	10.00	100.0 %	1687	1687
3/2 (Station Road)	3.25	0.00	N	Arm 4 Ahead	Inf	100.0 %	2080	2080
4/1	Infinite Saturation Flow						Inf	Inf
5/1	Infinite Saturation Flow						Inf	Inf
6/1	Infinite Saturation Flow						Inf	Inf

**Scenario 2: '2030 With Dev AM'** (FG3: '2030 With Dev AM', Plan 1: 'Network Control Plan 1')

**Traffic Flows, Desired**

**Desired Flow :**

	Destination				
	A	B	C	Tot.	
Origin	A	0	404	294	698
	B	533	0	327	860
	C	274	258	0	532
	Tot.	807	662	621	2090

Full Input Data And Results

**Traffic Lane Flows**

Lane	Scenario 2: 2030 With Dev AM
<b>Junction: High Pavement/Forest Street</b>	
1/1 (with short)	532(In) 274(Out)
1/2 (short)	258
2/1	327
2/2	533
3/1 (with short)	698(In) 404(Out)
3/2 (short)	294
4/1	621
5/1	807
6/1	662

**Lane Saturation Flows**

<b>Junction: High Pavement/Forest Street</b>								
Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
1/1 (Forest Street)	3.00	0.00	Y	Arm 5 Ahead	Inf	100.0 %	1915	1915
1/2 (Forest Street)	3.00	0.00	Y	Arm 6 Right	15.00	100.0 %	1741	1741
2/1 (High Pavement)	3.25	0.00	Y	Arm 4 Left	12.00	100.0 %	1724	1724
2/2 (High Pavement)	3.25	0.00	Y	Arm 5 Right	15.00	100.0 %	1764	1764
3/1 (Station Road)	3.25	0.00	Y	Arm 6 Left	10.00	100.0 %	1687	1687
3/2 (Station Road)	3.25	0.00	N	Arm 4 Ahead	Inf	100.0 %	2080	2080
4/1	Infinite Saturation Flow						Inf	Inf
5/1	Infinite Saturation Flow						Inf	Inf
6/1	Infinite Saturation Flow						Inf	Inf

**Scenario 3: '2030 Bkgd PM'** (FG2: '2030 Bkgd PM', Plan 1: 'Network Control Plan 1')

**Traffic Flows, Desired**

**Desired Flow :**

	Destination				
	A	B	C	Tot.	
Origin	A	0	590	302	892
	B	394	0	314	708
	C	256	324	0	580
	Tot.	650	914	616	2180

Full Input Data And Results

**Traffic Lane Flows**

Lane	Scenario 3: 2030 Bkgd PM
<b>Junction: High Pavement/Forest Street</b>	
1/1 (with short)	580(In) 256(Out)
1/2 (short)	324
2/1	314
2/2	394
3/1 (with short)	892(In) 590(Out)
3/2 (short)	302
4/1	616
5/1	650
6/1	914

**Lane Saturation Flows**

<b>Junction: High Pavement/Forest Street</b>								
Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
1/1 (Forest Street)	3.00	0.00	Y	Arm 5 Ahead	Inf	100.0 %	1915	1915
1/2 (Forest Street)	3.00	0.00	Y	Arm 6 Right	15.00	100.0 %	1741	1741
2/1 (High Pavement)	3.25	0.00	Y	Arm 4 Left	12.00	100.0 %	1724	1724
2/2 (High Pavement)	3.25	0.00	Y	Arm 5 Right	15.00	100.0 %	1764	1764
3/1 (Station Road)	3.25	0.00	Y	Arm 6 Left	10.00	100.0 %	1687	1687
3/2 (Station Road)	3.25	0.00	N	Arm 4 Ahead	Inf	100.0 %	2080	2080
4/1	Infinite Saturation Flow						Inf	Inf
5/1	Infinite Saturation Flow						Inf	Inf
6/1	Infinite Saturation Flow						Inf	Inf

**Scenario 4: '2030 With Dev PM'** (FG4: '2030 With Dev PM', Plan 1: 'Network Control Plan 1')

**Traffic Flows, Desired**

**Desired Flow :**

	Destination				
	A	B	C	Tot.	
Origin	A	0	613	302	915
	B	408	0	314	722
	C	256	324	0	580
	Tot.	664	937	616	2217



Full Input Data And Results

**Traffic Lane Flows**

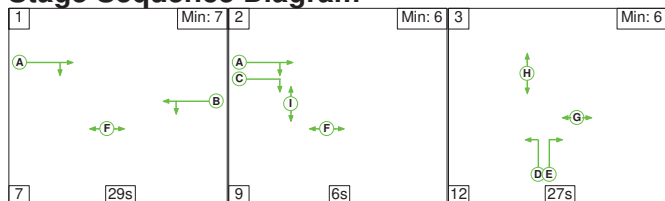
Lane	Scenario 4: 2030 With Dev PM
<b>Junction: High Pavement/Forest Street</b>	
1/1 (with short)	580(In) 256(Out)
1/2 (short)	324
2/1	314
2/2	408
3/1 (with short)	915(In) 613(Out)
3/2 (short)	302
4/1	616
5/1	664
6/1	937

**Lane Saturation Flows**

<b>Junction: High Pavement/Forest Street</b>									
Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)	
1/1 (Forest Street)	3.00	0.00	Y	Arm 5 Ahead	Inf	100.0 %	1915	1915	
1/2 (Forest Street)	3.00	0.00	Y	Arm 6 Right	15.00	100.0 %	1741	1741	
2/1 (High Pavement)	3.25	0.00	Y	Arm 4 Left	12.00	100.0 %	1724	1724	
2/2 (High Pavement)	3.25	0.00	Y	Arm 5 Right	15.00	100.0 %	1764	1764	
3/1 (Station Road)	3.25	0.00	Y	Arm 6 Left	10.00	100.0 %	1687	1687	
3/2 (Station Road)	3.25	0.00	N	Arm 4 Ahead	Inf	100.0 %	2080	2080	
4/1	Infinite Saturation Flow							Inf	Inf
5/1	Infinite Saturation Flow							Inf	Inf
6/1	Infinite Saturation Flow							Inf	Inf

**Scenario 1: '2030 Bkgd AM'** (FG1: '2030 Bkgd AM', Plan 1: 'Network Control Plan 1')

**Stage Sequence Diagram**

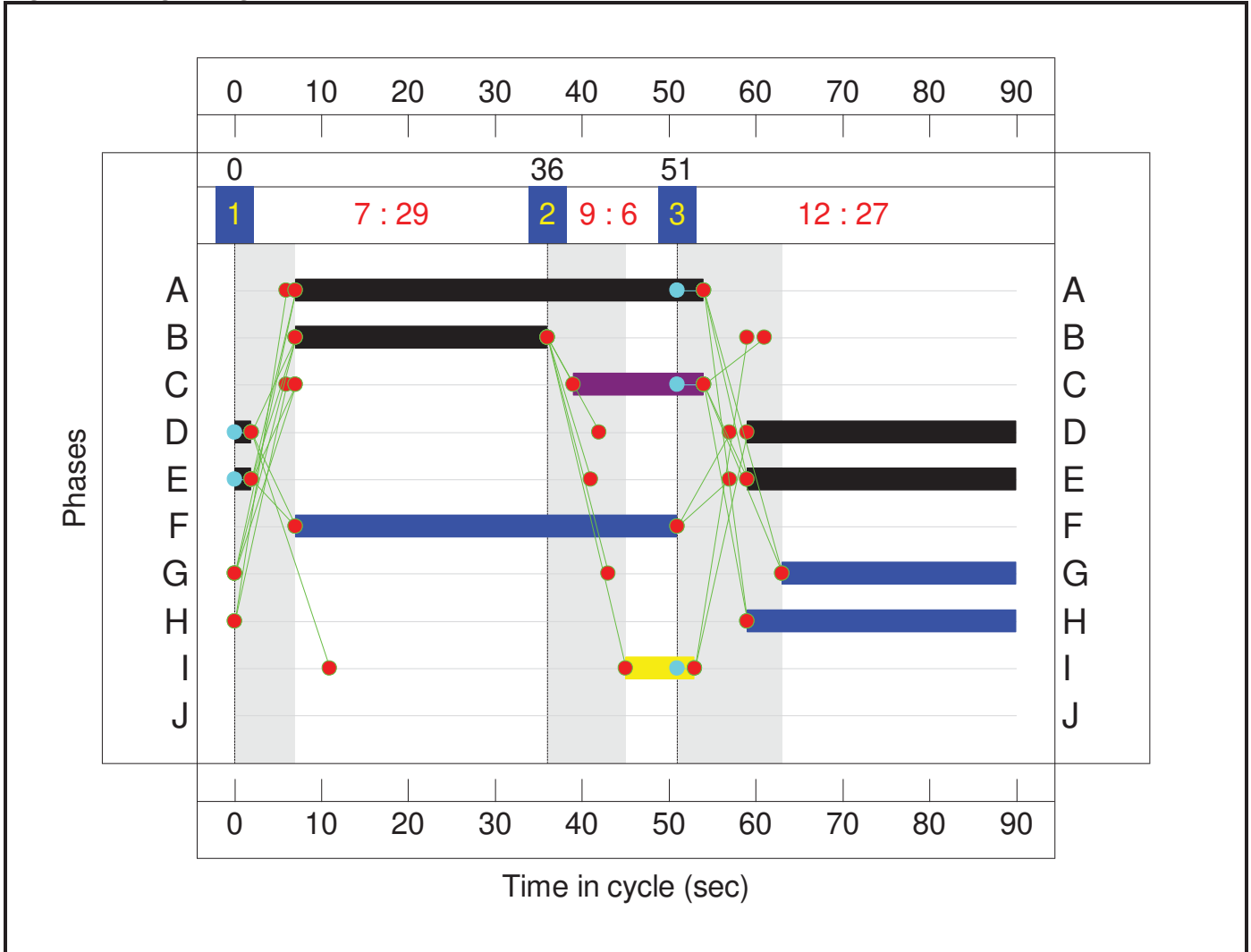


Full Input Data And Results

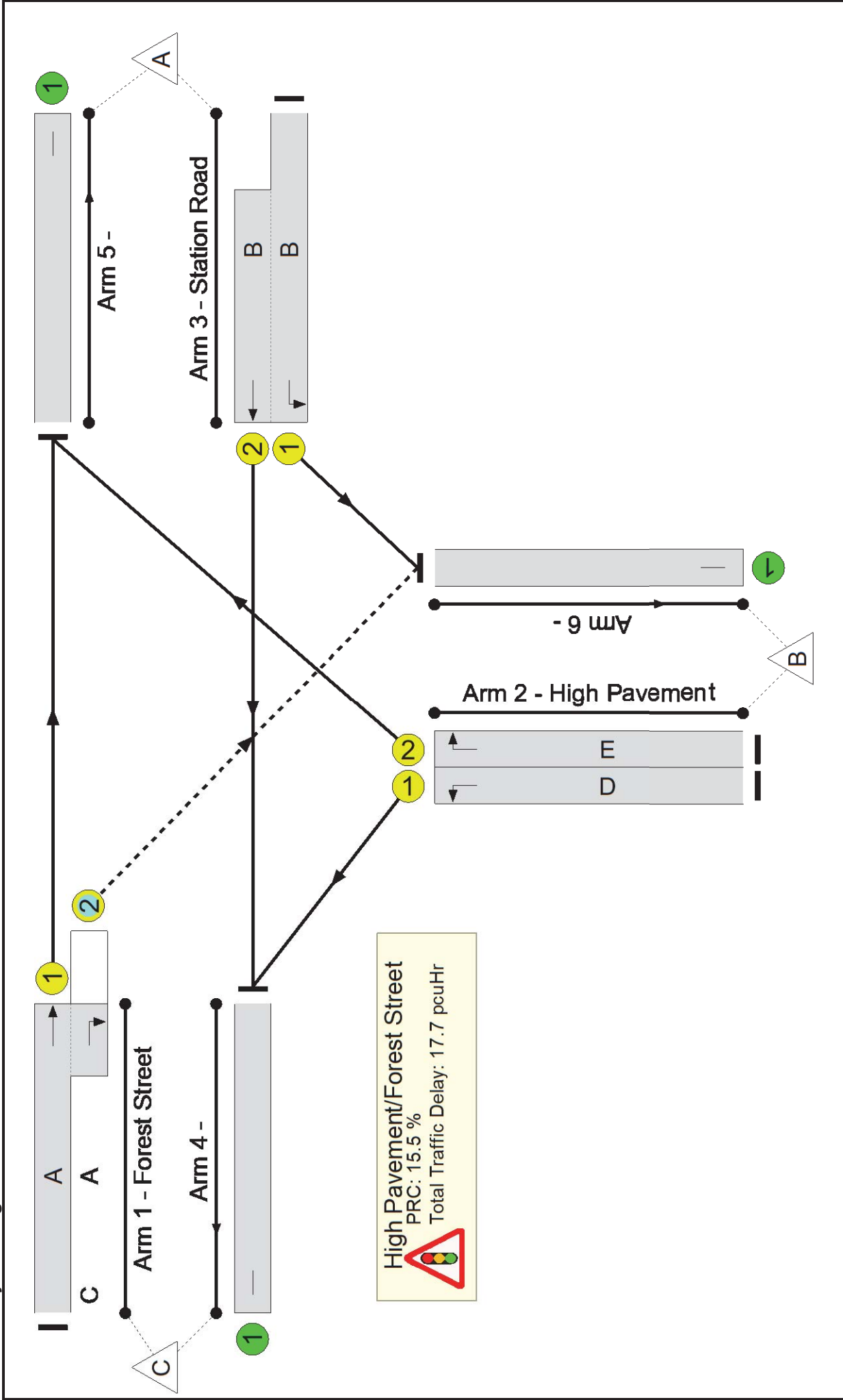
Stage Timings

Stage	1	2	3
Duration	29	6	27
Change Point	0	36	51

Signal Timings Diagram



### Network Layout Diagram



Full Input Data And Results

**Network Results**

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network: High Pavement - Forest Street	-	-	N/A	-	-	-	-	-	-	-	-	-	77.9%
High Pavement/Forest Street	-	-	N/A	-	-	-	-	-	-	-	-	-	77.9%
1/1+1/2	Forest Street Ahead Right	U+O	N/A	N/A	A	C	1	47	15	532	1915:1741	453+427	60.4 : 60.4%
2/1	High Pavement Left	U	N/A	N/A	D	-	1	33	-	327	1724	651	50.2%
2/2	High Pavement Right	U	N/A	N/A	E	-	1	33	-	511	1764	666	76.7%
3/1+3/2	Station Road Ahead Left	U	N/A	N/A	B	-	1	29	-	689	1687:2080	507+377	77.9 : 77.9%
4/1		U	N/A	N/A	-	-	-	-	-	621	Inf	Inf	0.0%
5/1		U	N/A	N/A	-	-	-	-	-	785	Inf	Inf	0.0%
6/1		U	N/A	N/A	-	-	-	-	-	653	Inf	Inf	0.0%

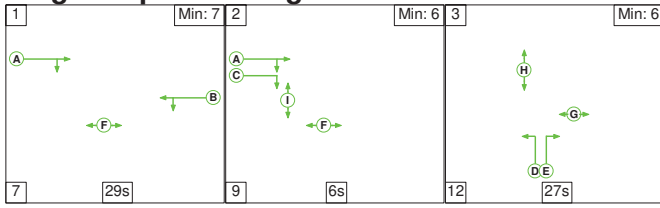
Full Input Data And Results

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network: High Pavement - Forest Street	-	-	86	163	9	12.2	4.6	0.9	17.7	-	-	-	-
High Pavement/Forest Street	-	-	86	163	9	12.2	4.6	0.9	17.7	-	-	-	-
1/1+1/2	532	532	86	163	9	2.0	0.8	0.9	3.7 (1.3+2.4)	24.8 (16.7:33.3)	4.7	0.8	5.5
2/1	327	327	-	-	-	2.0	0.5	-	2.5	27.0	6.3	0.5	6.8
2/2	511	511	-	-	-	3.5	1.6	-	5.1	35.9	11.1	1.6	12.7
3/1+3/2	689	689	-	-	-	4.8	1.7	-	6.5 (3.9+2.6)	34.0 (35.2:32.4)	8.6	1.7	10.3
4/1	621	621	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/1	785	785	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	653	653	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
C1													
PRC for Signalled Lanes (%): 15.5 PRC Over All Lanes (%): 15.5 Total Delay for Signalled Lanes (pcuHr): 17.71 Total Delay Over All Lanes (pcuHr): 17.71 Cycle Time (s): 90													

Full Input Data And Results

Scenario 2: '2030 With Dev AM' (FG3: '2030 With Dev AM', Plan 1: 'Network Control Plan 1')

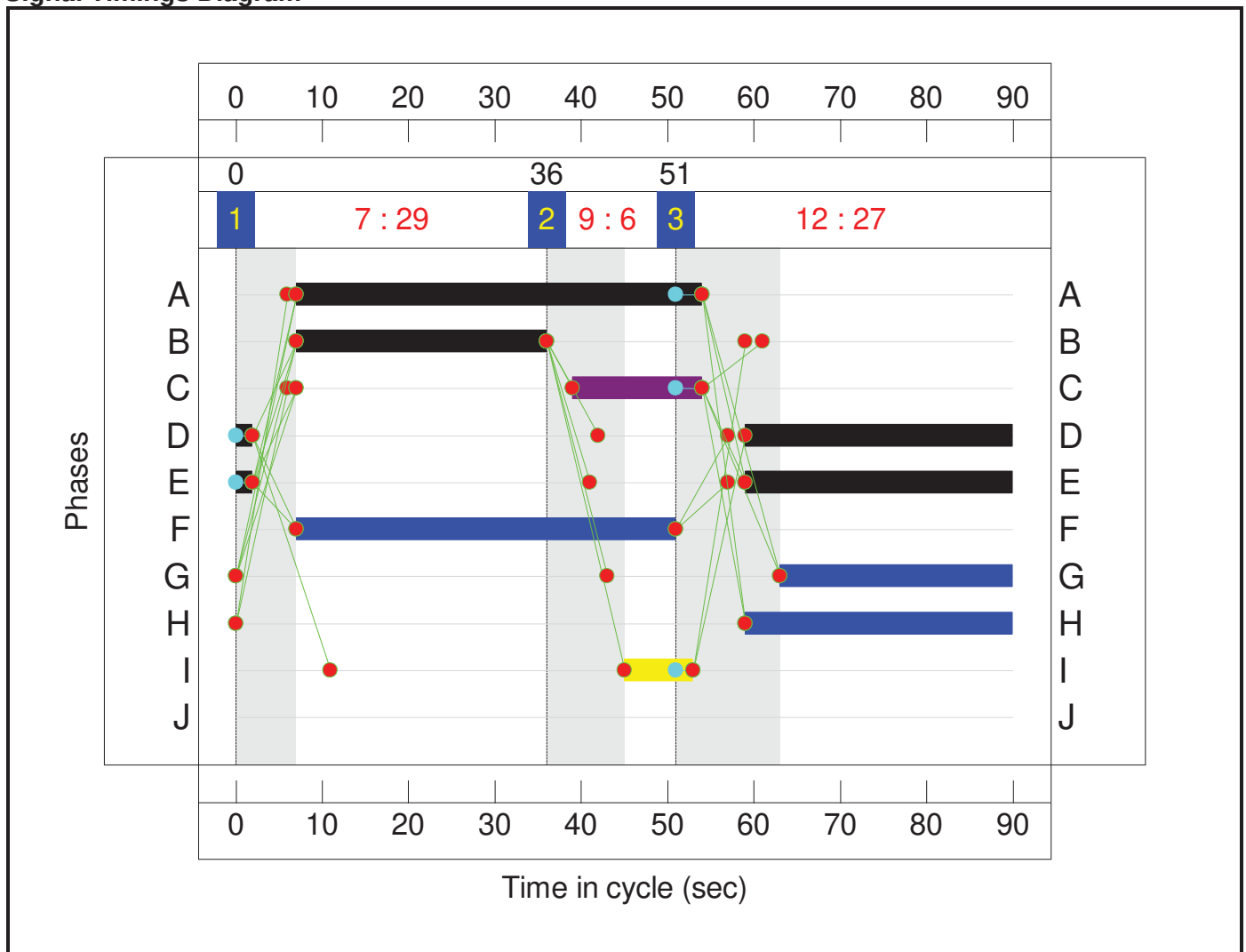
Stage Sequence Diagram



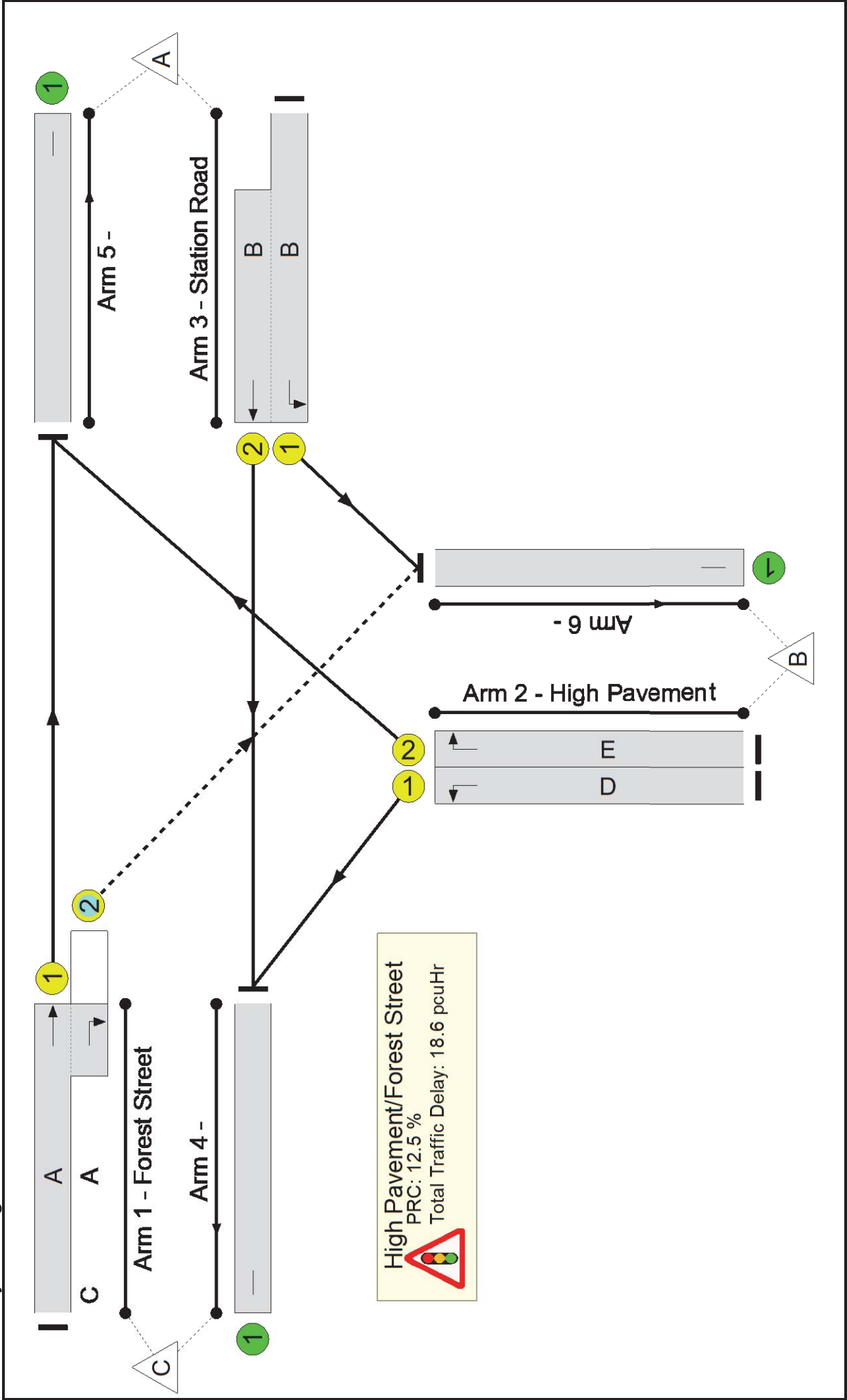
Stage Timings

Stage	1	2	3
Duration	29	6	27
Change Point	0	36	51

Signal Timings Diagram



**Network Layout Diagram**



Full Input Data And Results

**Network Results**

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network: High Pavement - Forest Street	-	-	N/A	-	-	-	-	-	-	-	-	-	80.0%
High Pavement/Forest Street	-	-	N/A	-	-	-	-	-	-	-	-	-	80.0%
1/1+1/2	Forest Street Ahead Right	U+O	N/A	N/A	A	C	1	47	15	532	1915:1741	443+417	61.8 : 61.8%
2/1	High Pavement Left	U	N/A	N/A	D	-	1	33	-	327	1724	651	50.2%
2/2	High Pavement Right	U	N/A	N/A	E	-	1	33	-	533	1764	666	80.0%
3/1+3/2	Station Road Ahead Left	U	N/A	N/A	B	-	1	29	-	698	1687:2080	508+370	79.5 : 79.5%
4/1		U	N/A	N/A	-	-	-	-	-	621	Inf	Inf	0.0%
5/1		U	N/A	N/A	-	-	-	-	-	807	Inf	Inf	0.0%
6/1		U	N/A	N/A	-	-	-	-	-	662	Inf	Inf	0.0%



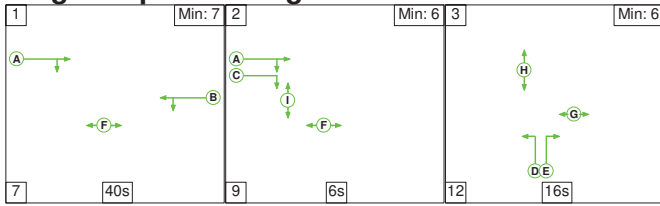
Full Input Data And Results

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)	
Network: High Pavement - Forest Street	-	-	83	167	9	12.5	5.2	0.9	18.6	-	-	-	-	
High Pavement/Forest Street	-	-	83	167	9	12.5	5.2	0.9	18.6	-	-	-	-	
1/1+1/2	532	532	83	167	9	2.0	0.8	0.9	3.7 (1.3+2.4)	25.2 (17.0:33.9)	4.7	0.8	5.5	
2/1	327	327	-	-	-	2.0	0.5	-	2.5	27.0	6.3	0.5	6.8	
2/2	533	533	-	-	-	3.7	1.9	-	5.6	38.1	11.8	1.9	13.8	
3/1+3/2	698	698	-	-	-	4.9	1.9	-	6.8 (4.1+2.7)	34.8 (36.1:33.1)	8.8	1.9	10.7	
4/1	621	621	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	
5/1	807	807	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	
6/1	662	662	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	
C1														
					PRC for Signalled Lanes (%):	12.5	Total Delay for Signalled Lanes (pcuHr):		18.57	Cycle Time (s):		90		
					PRC Over All Lanes (%):	12.5	Total Delay Over All Lanes (pcuHr):		18.57					

Full Input Data And Results

Scenario 3: '2030 Bkgd PM' (FG2: '2030 Bkgd PM', Plan 1: 'Network Control Plan 1')

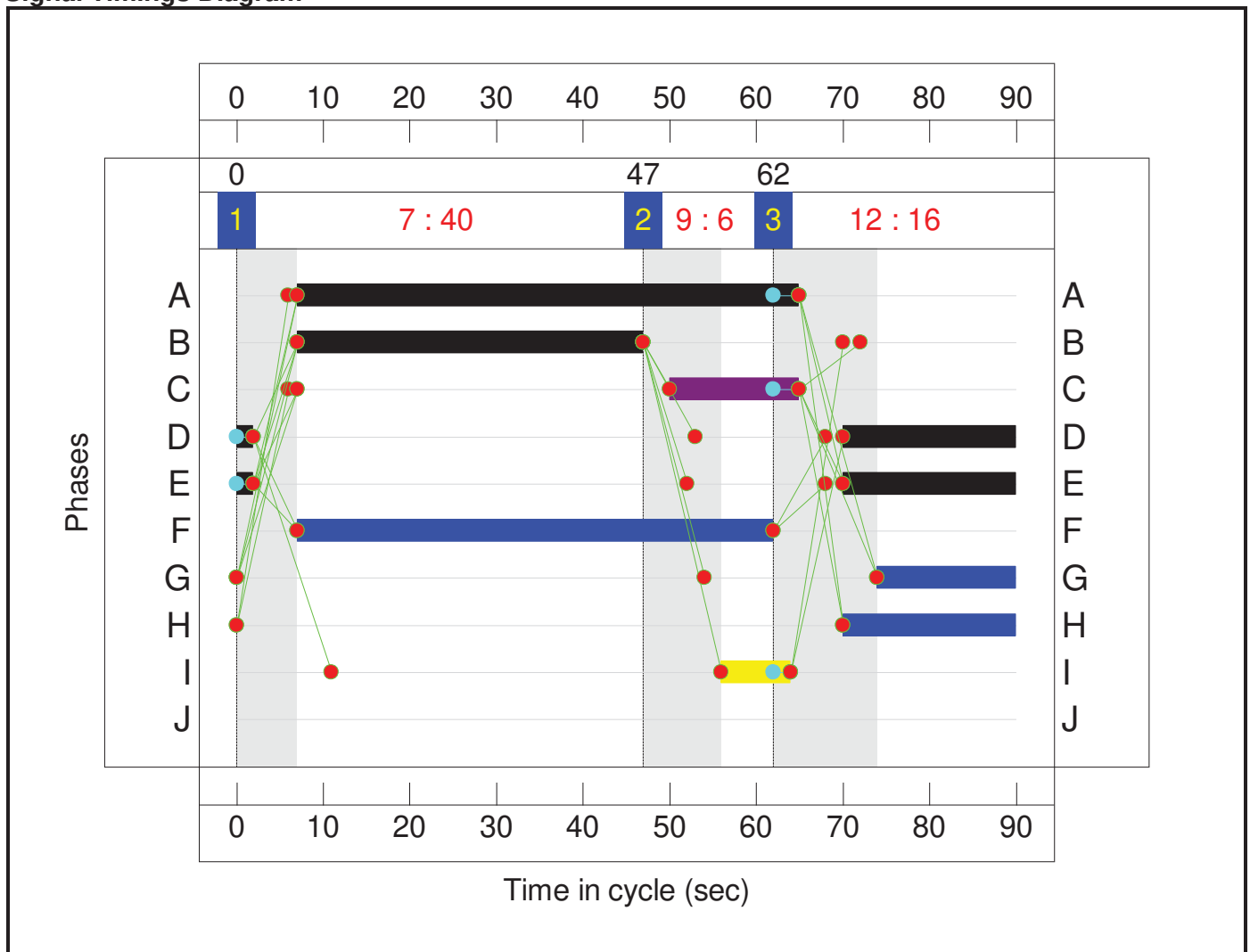
Stage Sequence Diagram



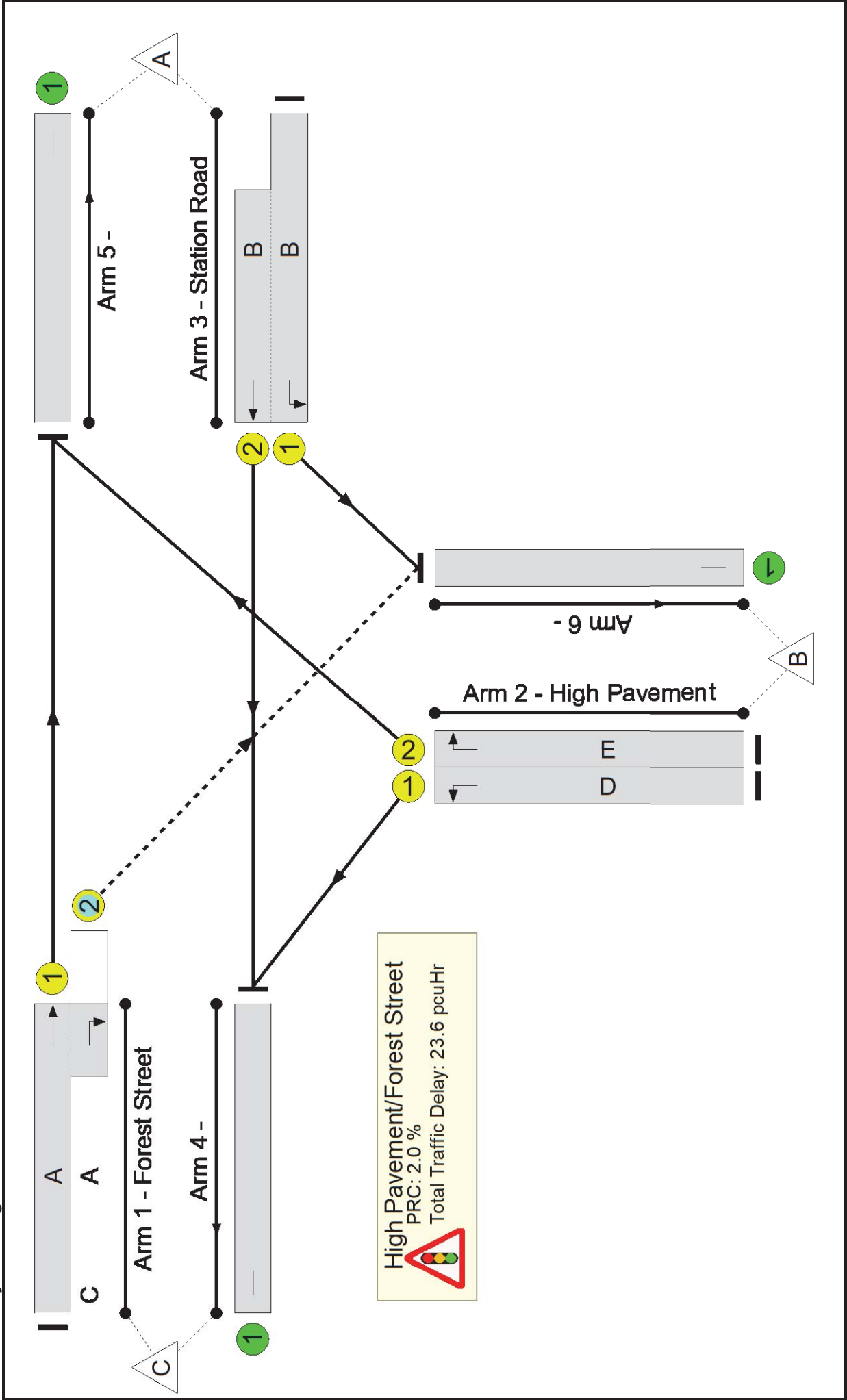
Stage Timings

Stage	1	2	3
Duration	40	6	16
Change Point	0	47	62

Signal Timings Diagram



### Network Layout Diagram



Full Input Data And Results

**Network Results**

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network: High Pavement - Forest Street	-	-	N/A	-	-	-	-	-	-	-	-	-	88.2%
High Pavement/Forest Street	-	-	N/A	-	-	-	-	-	-	-	-	-	88.2%
1/1+1/2	Forest Street Ahead Right	U+O	N/A	N/A	A	C	1	58	15	580	1915:1741	345+436	74.3 : 74.3%
2/1	High Pavement Left	U	N/A	N/A	D	-	1	22	-	314	1724	441	71.3%
2/2	High Pavement Right	U	N/A	N/A	E	-	1	22	-	394	1764	451	87.4%
3/1+3/2	Station Road Ahead Left	U	N/A	N/A	B	-	1	40	-	892	1687:2080	669+342	88.2 : 88.2%
4/1		U	N/A	N/A	-	-	-	-	-	616	Inf	Inf	0.0%
5/1		U	N/A	N/A	-	-	-	-	-	650	Inf	Inf	0.0%
6/1		U	N/A	N/A	-	-	-	-	-	914	Inf	Inf	0.0%

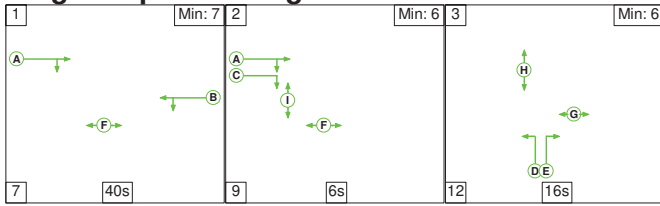
Full Input Data And Results

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network: High Pavement - Forest Street	-	-	60	253	11	12.8	9.3	1.4	23.6	-	-	-	-
High Pavement/Forest Street	-	-	60	253	11	12.8	9.3	1.4	23.6	-	-	-	-
1/1+1/2	580	580	60	253	11	1.9	1.4	1.4	4.7 (1.1+3.6)	29.4 (15.2:40.5)	7.2	1.4	8.6
2/1	314	314	-	-	-	2.7	1.2	-	3.9	44.4	7.1	1.2	8.3
2/2	394	394	-	-	-	3.5	3.1	-	6.6	60.7	9.4	3.1	12.5
3/1+3/2	892	892	-	-	-	4.8	3.5	-	8.3 (5.7+2.6)	33.6 (34.9:31.0)	14.4	3.5	18.0
4/1	616	616	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/1	650	650	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	914	914	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
C1													
PRC for Signalled Lanes (%): 2.0 PRC Over All Lanes (%): 2.0 Total Delay for Signalled Lanes (pcuHr): 23.57 Total Delay Over All Lanes (pcuHr): 23.57 Cycle Time (s): 90													

Full Input Data And Results

Scenario 4: '2030 With Dev PM' (FG4: '2030 With Dev PM', Plan 1: 'Network Control Plan 1')

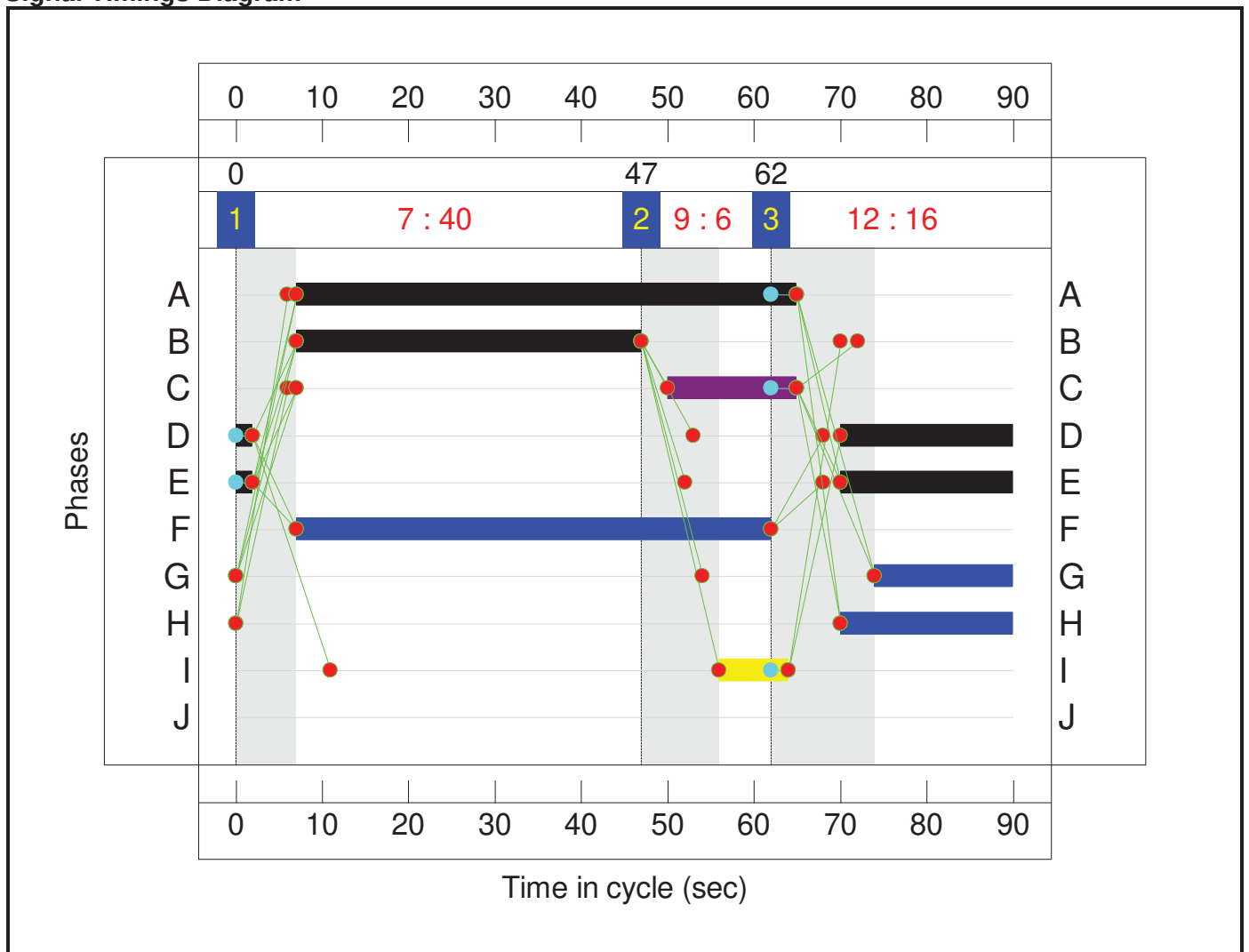
Stage Sequence Diagram



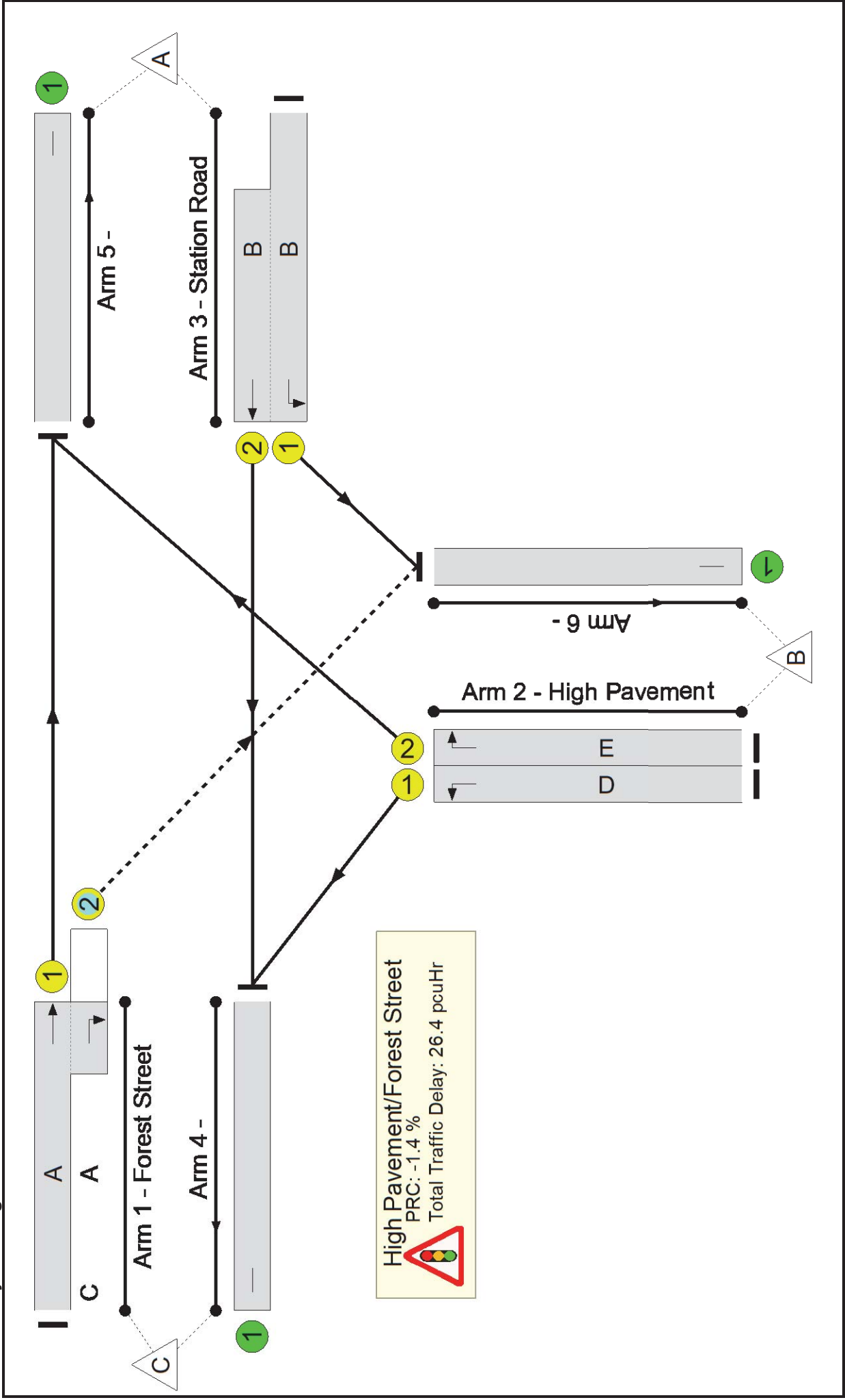
Stage Timings

Stage	1	2	3
Duration	40	6	16
Change Point	0	47	62

Signal Timings Diagram



### Network Layout Diagram



Full Input Data And Results

**Network Results**

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network: High Pavement - Forest Street	-	-	N/A	-	-	-	-	-	-	-	-	-	91.3%
High Pavement/Forest Street	-	-	N/A	-	-	-	-	-	-	-	-	-	91.3%
1/1+1/2	Forest Street Ahead Right	U+O	N/A	N/A	A	C	1	58	15	580	1915:1741	331+419	77.3 : 77.3%
2/1	High Pavement Left	U	N/A	N/A	D	-	1	22	-	314	1724	441	71.3%
2/2	High Pavement Right	U	N/A	N/A	E	-	1	22	-	408	1764	451	90.5%
3/1+3/2	Station Road Ahead Left	U	N/A	N/A	B	-	1	40	-	915	1687:2080	672+331	91.3 : 91.3%
4/1		U	N/A	N/A	-	-	-	-	-	616	Inf	Inf	0.0%
5/1		U	N/A	N/A	-	-	-	-	-	664	Inf	Inf	0.0%
6/1		U	N/A	N/A	-	-	-	-	-	937	Inf	Inf	0.0%



Full Input Data And Results

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network: High Pavement - Forest Street	-	-	44	256	25	13.3	11.6	1.5	26.4	-	-	-	-
High Pavement/Forest Street	-	-	44	256	25	13.3	11.6	1.5	26.4	-	-	-	-
1/1+1/2	580	580	44	256	25	2.0	1.7	1.5	5.1 (1.2+3.9)	31.7 (17.0:43.3)	7.4	1.7	9.0
2/1	314	314	-	-	-	2.7	1.2	-	3.9	44.4	7.1	1.2	8.3
2/2	408	408	-	-	-	3.7	4.0	-	7.7	67.9	9.9	4.0	13.9
3/1+3/2	915	915	-	-	-	5.0	4.7	-	9.8 (6.8+3.0)	38.4 (39.7:35.7)	15.9	4.7	20.6
4/1	616	616	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/1	664	664	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	937	937	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
C1													
PRC for Signalled Lanes (%): -1.4 PRC Over All Lanes (%): -1.4 Total Delay for Signalled Lanes (pcuHr): 26.44 Total Delay Over All Lanes (pcuHr): 26.44 Cycle Time (s): 90													

## APPENDIX F

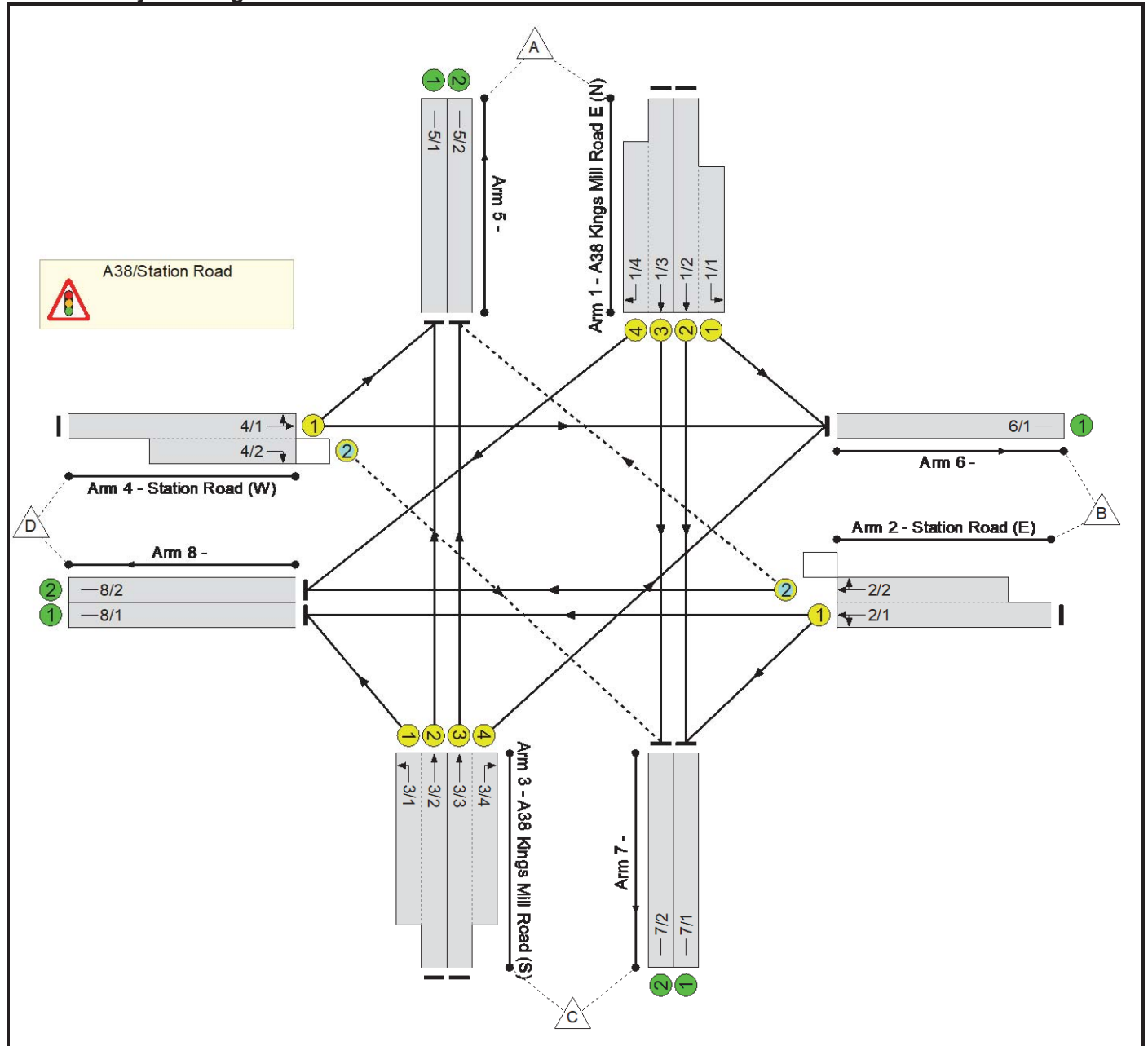
### JUNCTION 9: LINSIG OUTPUT

Full Input Data And Results  
**Full Input Data And Results**

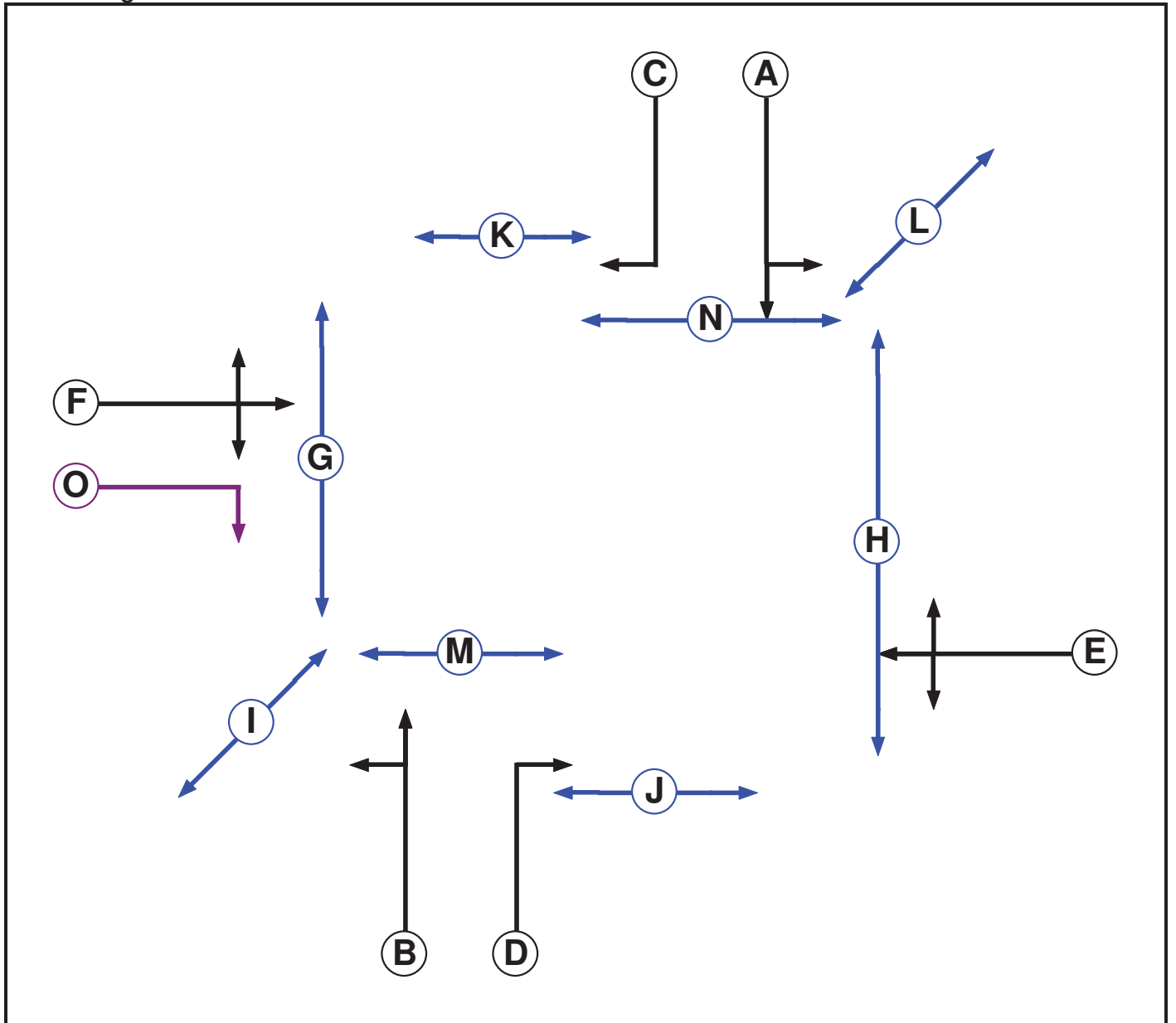
**User and Project Details**

Project:	Ashland Road, Sutton in Ashfield
Title:	A38 - Station Road
Location:	
Client:	Bellway Homes
Additional detail:	
File name:	J9 A38-Station Road V2.lsg3x
Author:	
Company:	ADC Infrastructure Limited
Address:	King Edward Court, King Edward Street, Nottingham

**Network Layout Diagram**



Phase Diagram



## Full Input Data And Results

### 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	Traffic		7	7
E	Traffic		7	7
F	Traffic		7	7
G	Pedestrian		7	7
H	Pedestrian		7	7
I	Pedestrian		7	7
J	Pedestrian		7	7
K	Pedestrian		7	7
L	Pedestrian		7	7
M	Pedestrian		7	7
N	Pedestrian		7	7
O	Ind. Arrow	F	4	4

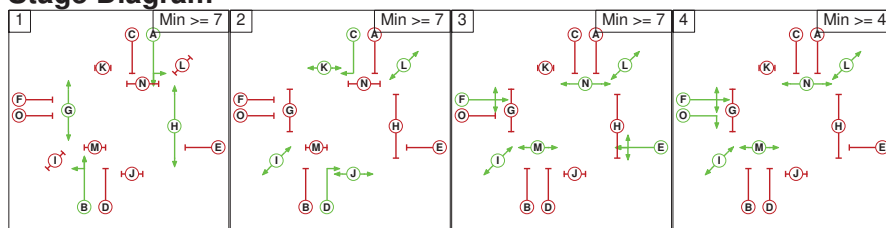
### Phase Intergrens Matrix

		Starting Phase														
		A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
Terminating Phase	A	-	-	7	8	8	-	-	-	11	-	7	-	7	7	
	B	-	-	7	-	8	8	-	-	7	-	11	-	7	-	8
	C	-	12	-	-	7	7	11	-	-	-	-	-	-	5	5
	D	12	-	-	-	7	7	-	12	-	-	-	-	5	-	5
	E	5	9	5	5	-	-	9	5	-	10	11	-	-	-	5
	F	9	5	5	5	-	-	5	9	-	10	8	-	-	-	-
	G	-	-	13	-	14	12	-	-	-	-	-	-	-	-	12
	H	-	-	-	12	12	14	-	-	-	-	-	-	-	-	-
	I	-	9	-	-	-	-	-	-	-	-	-	-	-	-	-
	J	6	-	-	-	7	7	-	-	-	-	-	-	-	-	7
	K	-	6	-	-	7	7	-	-	-	-	-	-	-	-	-
	L	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	M	-	9	-	9	-	-	-	-	-	-	-	-	-	-	-
	N	9	-	9	-	-	-	-	-	-	-	-	-	-	-	-
	O	5	5	5	5	5	-	5	-	-	11	-	-	-	-	-

### Phases in Stage

Stage No.	Phases in Stage
1	ABGH
2	CDIJKL
3	EFILMN
4	FILMNO

### Stage Diagram



### Phase Delays

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

Full Input Data And Results

**Prohibited Stage Change**

		To Stage			
		1	2	3	4
From Stage	1	█	13	14	X
	2	12	█	7	7
	3	9	11	█	5
	4	9	11	5	█

Full Input Data And Results

**Give-Way Lane Input Data**

Junction: A38/Station Road											
Lane	Movement	Max Flow when Giving Way (PCU/Hr)	Min Flow when Giving Way (PCU/Hr)	Opposing Lane	Opp. Lane Coeff.	Opp. Mvmnts.	Right Turn Storage (PCU)	Non-Blocking Storage (PCU)	RTF	Right Turn Move up (s)	Max Turns in Intergreen (PCU)
2/2 (Station Road (E))	5/2 (Right)	1440	0	4/1	1.09	All	2.00	2.00	0.50	2	2.00
4/2 (Station Road (W))	7/2 (Right)	1440	0	2/2	1.09	All	2.00	-	0.50	2	2.00



Full Input Data And Results

**Lane Input Data**

Junction: A38/Station 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)
1/1 (A38 Kings Mill Road E (N))	U	A	2	3	8.7	User	1800	-	-	-	-	-
1/2 (A38 Kings Mill Road E (N))	U	A	2	3	60.0	User	1900	-	-	-	-	-
1/3 (A38 Kings Mill Road E (N))	U	A	2	3	22.6	User	2000	-	-	-	-	-
1/4 (A38 Kings Mill Road E (N))	U	C	2	3	13.9	User	1800	-	-	-	-	-
2/1 (Station Road (E))	U	E	2	3	60.0	User	1900	-	-	-	-	-
2/2 (Station Road (E))	O	E	2	3	12.2	User	1800	-	-	-	-	-
3/1 (A38 Kings Mill Road (S))	U	B	2	3	27.8	User	1800	-	-	-	-	-
3/2 (A38 Kings Mill Road (S))	U	B	2	3	60.0	User	1900	-	-	-	-	-
3/3 (A38 Kings Mill Road (S))	U	B	2	3	27.8	User	2000	-	-	-	-	-
3/4 (A38 Kings Mill Road (S))	U	D	2	3	173.9	User	1800	-	-	-	-	-
4/1 (Station Road (W))	U	F	2	3	60.0	User	1900	-	-	-	-	-
4/2 (Station Road (W))	O	F O	2	3	8.7	User	1800	-	-	-	-	-
5/1	U		2	3	60.0	Inf	-	-	-	-	-	-
5/2	U		2	3	60.0	Inf	-	-	-	-	-	-
6/1	U		2	3	60.0	Inf	-	-	-	-	-	-
7/1	U		2	3	60.0	Inf	-	-	-	-	-	-
7/2	U		2	3	60.0	Inf	-	-	-	-	-	-
8/1	U		2	3	60.0	Inf	-	-	-	-	-	-
8/2	U		2	3	60.0	Inf	-	-	-	-	-	-

Full Input Data And Results

**Traffic Flow Groups**

Flow Group	Start Time	End Time	Duration	Formula
1: 'Validation'	08:00	09:00	01:00	
2: '2030 Bkgd AM'	08:00	09:00	01:00	
3: '2030 Bkgd PM'	17:00	18:00	01:00	
4: '2030 With Dev AM'	08:00	09:00	01:00	
5: '2030 With Dev PM'	17:00	18:00	01:00	

**Scenario 1: '2030 Bkgd AM'** (FG2: '2030 Bkgd AM', Plan 1: 'Network Control Plan 1')

**Traffic Flows, Desired**

**Desired Flow :**

		Destination				
		A	B	C	D	Tot.
Origin	A	0	86	1224	213	1523
	B	72	0	69	342	483
	C	1167	62	0	133	1362
	D	224	329	162	0	715
	Tot.	1463	477	1455	688	4083

Full Input Data And Results

**Traffic Lane Flows**

Lane	Scenario 1: 2030 Bkgd AM
<b>Junction: A38/Station Road</b>	
1/1 (short)	86
1/2 (with short)	673(In) 587(Out)
1/3 (with short)	850(In) 637(Out)
1/4 (short)	213
2/1 (with short)	483(In) 248(Out)
2/2 (short)	235
3/1 (short)	133
3/2 (with short)	690(In) 557(Out)
3/3 (with short)	672(In) 610(Out)
3/4 (short)	62
4/1 (with short)	715(In) 553(Out)
4/2 (short)	162
5/1	781
5/2	682
6/1	477
7/1	656
7/2	799
8/1	312
8/2	376

Full Input Data And Results

**Lane Saturation Flows**

Junction: A38/Station Road								
Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
1/1 (A38 Kings Mill Road E (N) Lane 1)	This lane uses a directly entered Saturation Flow						1800	1800
1/2 (A38 Kings Mill Road E (N) Lane 2)	This lane uses a directly entered Saturation Flow						1900	1900
1/3 (A38 Kings Mill Road E (N) Lane 3)	This lane uses a directly entered Saturation Flow						2000	2000
1/4 (A38 Kings Mill Road E (N) Lane 4)	This lane uses a directly entered Saturation Flow						1800	1800
2/1 (Station Road (E) Lane 1)	This lane uses a directly entered Saturation Flow						1900	1900
2/2 (Station Road (E) Lane 2)	This lane uses a directly entered Saturation Flow						1800	1800
3/1 (A38 Kings Mill Road (S) Lane 1)	This lane uses a directly entered Saturation Flow						1800	1800
3/2 (A38 Kings Mill Road (S) Lane 2)	This lane uses a directly entered Saturation Flow						1900	1900
3/3 (A38 Kings Mill Road (S) Lane 3)	This lane uses a directly entered Saturation Flow						2000	2000
3/4 (A38 Kings Mill Road (S) Lane 4)	This lane uses a directly entered Saturation Flow						1800	1800
4/1 (Station Road (W) Lane 1)	This lane uses a directly entered Saturation Flow						1900	1900
4/2 (Station Road (W) Lane 2)	This lane uses a directly entered Saturation Flow						1800	1800
5/1	Infinite Saturation Flow						Inf	Inf
5/2	Infinite Saturation Flow						Inf	Inf
6/1	Infinite Saturation Flow						Inf	Inf
7/1	Infinite Saturation Flow						Inf	Inf
7/2	Infinite Saturation Flow						Inf	Inf
8/1	Infinite Saturation Flow						Inf	Inf
8/2	Infinite Saturation Flow						Inf	Inf

**Scenario 2: '2030 With Dev AM'** (FG4: '2030 With Dev AM', Plan 1: 'Network Control Plan 1')

**Traffic Flows, Desired**

**Desired Flow :**

	Destination					
	A	B	C	D	Tot.	
Origin	A	0	86	1224	221	1531
	B	72	0	69	343	484
	C	1167	62	0	133	1362
	D	244	331	162	0	737
	Tot.	1483	479	1455	697	4114

Full Input Data And Results

**Traffic Lane Flows**

Lane	Scenario 2: 2030 With Dev AM
<b>Junction: A38/Station Road</b>	
1/1 (short)	86
1/2 (with short)	676(In) 590(Out)
1/3 (with short)	855(In) 634(Out)
1/4 (short)	221
2/1 (with short)	484(In) 249(Out)
2/2 (short)	235
3/1 (short)	133
3/2 (with short)	697(In) 564(Out)
3/3 (with short)	665(In) 603(Out)
3/4 (short)	62
4/1 (with short)	737(In) 575(Out)
4/2 (short)	162
5/1	808
5/2	675
6/1	479
7/1	659
7/2	796
8/1	313
8/2	384

Full Input Data And Results

**Lane Saturation Flows**

Junction: A38/Station Road								
Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
1/1 (A38 Kings Mill Road E (N) Lane 1)	This lane uses a directly entered Saturation Flow						1800	1800
1/2 (A38 Kings Mill Road E (N) Lane 2)	This lane uses a directly entered Saturation Flow						1900	1900
1/3 (A38 Kings Mill Road E (N) Lane 3)	This lane uses a directly entered Saturation Flow						2000	2000
1/4 (A38 Kings Mill Road E (N) Lane 4)	This lane uses a directly entered Saturation Flow						1800	1800
2/1 (Station Road (E) Lane 1)	This lane uses a directly entered Saturation Flow						1900	1900
2/2 (Station Road (E) Lane 2)	This lane uses a directly entered Saturation Flow						1800	1800
3/1 (A38 Kings Mill Road (S) Lane 1)	This lane uses a directly entered Saturation Flow						1800	1800
3/2 (A38 Kings Mill Road (S) Lane 2)	This lane uses a directly entered Saturation Flow						1900	1900
3/3 (A38 Kings Mill Road (S) Lane 3)	This lane uses a directly entered Saturation Flow						2000	2000
3/4 (A38 Kings Mill Road (S) Lane 4)	This lane uses a directly entered Saturation Flow						1800	1800
4/1 (Station Road (W) Lane 1)	This lane uses a directly entered Saturation Flow						1900	1900
4/2 (Station Road (W) Lane 2)	This lane uses a directly entered Saturation Flow						1800	1800
5/1	Infinite Saturation Flow						Inf	Inf
5/2	Infinite Saturation Flow						Inf	Inf
6/1	Infinite Saturation Flow						Inf	Inf
7/1	Infinite Saturation Flow						Inf	Inf
7/2	Infinite Saturation Flow						Inf	Inf
8/1	Infinite Saturation Flow						Inf	Inf
8/2	Infinite Saturation Flow						Inf	Inf

**Scenario 3: '2030 Bkgd PM'** (FG3: '2030 Bkgd PM', Plan 1: 'Network Control Plan 1')

**Traffic Flows, Desired**

**Desired Flow :**

	Destination					
	A	B	C	D	Tot.	
Origin	A	0	83	1155	280	1518
	B	66	0	42	313	421
	C	1216	104	0	187	1507
	D	223	276	117	0	616
	Tot.	1505	463	1314	780	4062

Full Input Data And Results

**Traffic Lane Flows**

Lane	Scenario 3: 2030 Bkgd PM
<b>Junction: A38/Station Road</b>	
1/1 (short)	83
1/2 (with short)	635(In) 552(Out)
1/3 (with short)	883(In) 603(Out)
1/4 (short)	280
2/1 (with short)	421(In) 216(Out)
2/2 (short)	205
3/1 (short)	187
3/2 (with short)	774(In) 587(Out)
3/3 (with short)	733(In) 629(Out)
3/4 (short)	104
4/1 (with short)	616(In) 499(Out)
4/2 (short)	117
5/1	810
5/2	695
6/1	463
7/1	594
7/2	720
8/1	361
8/2	419

Full Input Data And Results

**Lane Saturation Flows**

Junction: A38/Station Road								
Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
1/1 (A38 Kings Mill Road E (N) Lane 1)	This lane uses a directly entered Saturation Flow						1800	1800
1/2 (A38 Kings Mill Road E (N) Lane 2)	This lane uses a directly entered Saturation Flow						1900	1900
1/3 (A38 Kings Mill Road E (N) Lane 3)	This lane uses a directly entered Saturation Flow						2000	2000
1/4 (A38 Kings Mill Road E (N) Lane 4)	This lane uses a directly entered Saturation Flow						1800	1800
2/1 (Station Road (E) Lane 1)	This lane uses a directly entered Saturation Flow						1900	1900
2/2 (Station Road (E) Lane 2)	This lane uses a directly entered Saturation Flow						1800	1800
3/1 (A38 Kings Mill Road (S) Lane 1)	This lane uses a directly entered Saturation Flow						1800	1800
3/2 (A38 Kings Mill Road (S) Lane 2)	This lane uses a directly entered Saturation Flow						1900	1900
3/3 (A38 Kings Mill Road (S) Lane 3)	This lane uses a directly entered Saturation Flow						2000	2000
3/4 (A38 Kings Mill Road (S) Lane 4)	This lane uses a directly entered Saturation Flow						1800	1800
4/1 (Station Road (W) Lane 1)	This lane uses a directly entered Saturation Flow						1900	1900
4/2 (Station Road (W) Lane 2)	This lane uses a directly entered Saturation Flow						1800	1800
5/1	Infinite Saturation Flow						Inf	Inf
5/2	Infinite Saturation Flow						Inf	Inf
6/1	Infinite Saturation Flow						Inf	Inf
7/1	Infinite Saturation Flow						Inf	Inf
7/2	Infinite Saturation Flow						Inf	Inf
8/1	Infinite Saturation Flow						Inf	Inf
8/2	Infinite Saturation Flow						Inf	Inf

**Scenario 4: '2030 With Dev PM' (FG5: '2030 With Dev PM', Plan 1: 'Network Control Plan 1')**

**Traffic Flows, Desired**

**Desired Flow :**

		Destination				
		A	B	C	D	Tot.
Origin	A	0	83	1155	300	1538
	B	66	0	42	316	424
	C	1216	104	0	187	1507
	D	235	278	117	0	630
	Tot.	1517	465	1314	803	4099



Full Input Data And Results

**Traffic Lane Flows**

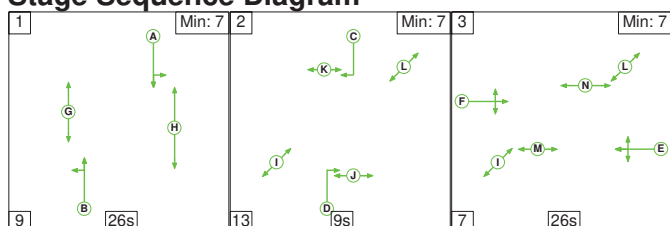
Lane	Scenario 4: 2030 With Dev PM
<b>Junction: A38/Station Road</b>	
1/1 (short)	83
1/2 (with short)	631(In) 548(Out)
1/3 (with short)	907(In) 607(Out)
1/4 (short)	300
2/1 (with short)	424(In) 218(Out)
2/2 (short)	206
3/1 (short)	187
3/2 (with short)	774(In) 587(Out)
3/3 (with short)	733(In) 629(Out)
3/4 (short)	104
4/1 (with short)	630(In) 513(Out)
4/2 (short)	117
5/1	822
5/2	695
6/1	465
7/1	590
7/2	724
8/1	363
8/2	440

**Lane Saturation Flows**

Junction: A38/Station Road								
Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
1/1 (A38 Kings Mill Road E (N) Lane 1)	This lane uses a directly entered Saturation Flow						1800	1800
1/2 (A38 Kings Mill Road E (N) Lane 2)	This lane uses a directly entered Saturation Flow						1900	1900
1/3 (A38 Kings Mill Road E (N) Lane 3)	This lane uses a directly entered Saturation Flow						2000	2000
1/4 (A38 Kings Mill Road E (N) Lane 4)	This lane uses a directly entered Saturation Flow						1800	1800
2/1 (Station Road (E) Lane 1)	This lane uses a directly entered Saturation Flow						1900	1900
2/2 (Station Road (E) Lane 2)	This lane uses a directly entered Saturation Flow						1800	1800
3/1 (A38 Kings Mill Road (S) Lane 1)	This lane uses a directly entered Saturation Flow						1800	1800
3/2 (A38 Kings Mill Road (S) Lane 2)	This lane uses a directly entered Saturation Flow						1900	1900
3/3 (A38 Kings Mill Road (S) Lane 3)	This lane uses a directly entered Saturation Flow						2000	2000
3/4 (A38 Kings Mill Road (S) Lane 4)	This lane uses a directly entered Saturation Flow						1800	1800
4/1 (Station Road (W) Lane 1)	This lane uses a directly entered Saturation Flow						1900	1900
4/2 (Station Road (W) Lane 2)	This lane uses a directly entered Saturation Flow						1800	1800
5/1	Infinite Saturation Flow						Inf	Inf
5/2	Infinite Saturation Flow						Inf	Inf
6/1	Infinite Saturation Flow						Inf	Inf
7/1	Infinite Saturation Flow						Inf	Inf
7/2	Infinite Saturation Flow						Inf	Inf
8/1	Infinite Saturation Flow						Inf	Inf
8/2	Infinite Saturation Flow						Inf	Inf

**Scenario 1: '2030 Bkgd AM'** (FG2: '2030 Bkgd AM', Plan 1: 'Network Control Plan 1')

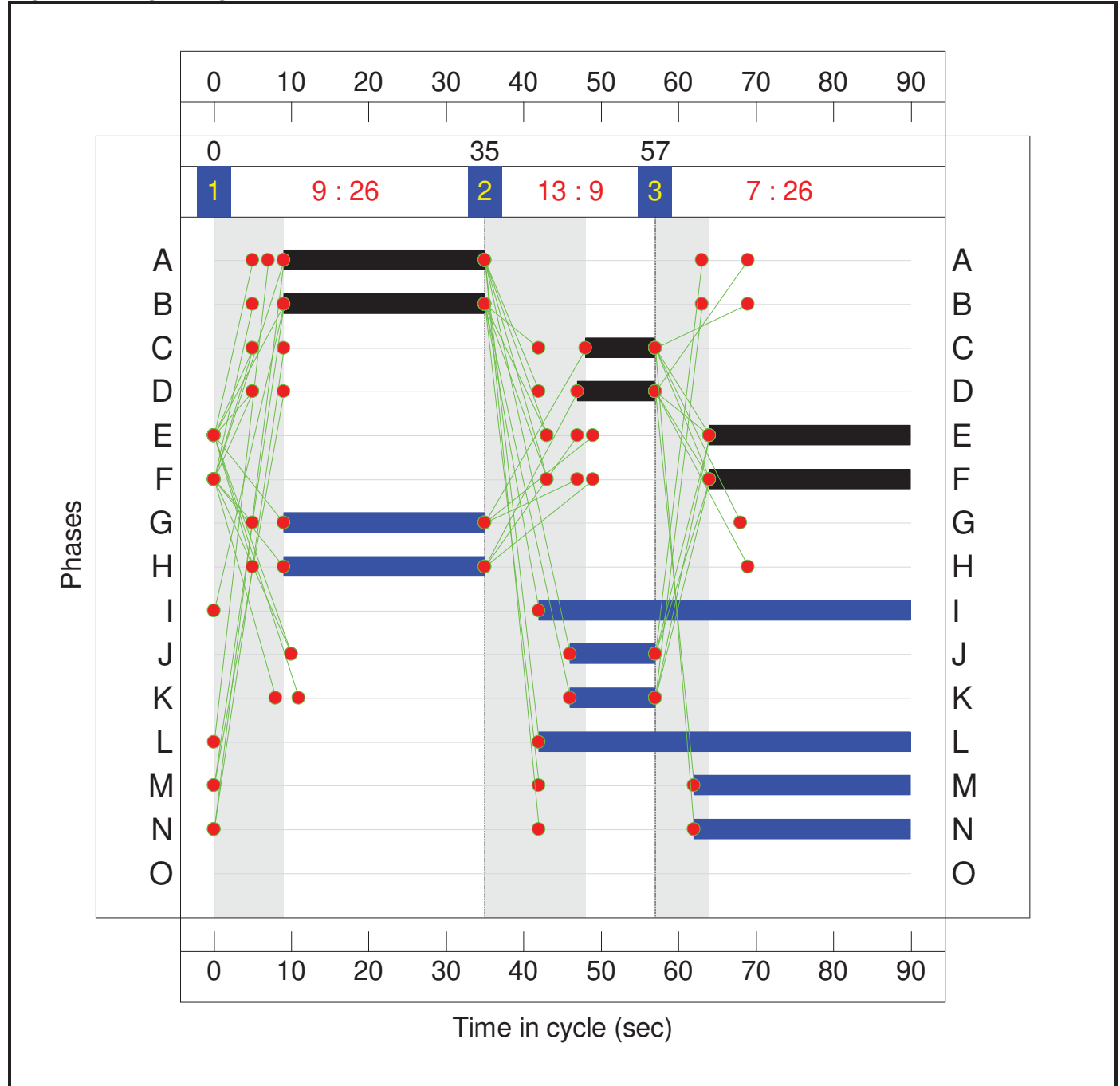
**Stage Sequence Diagram**



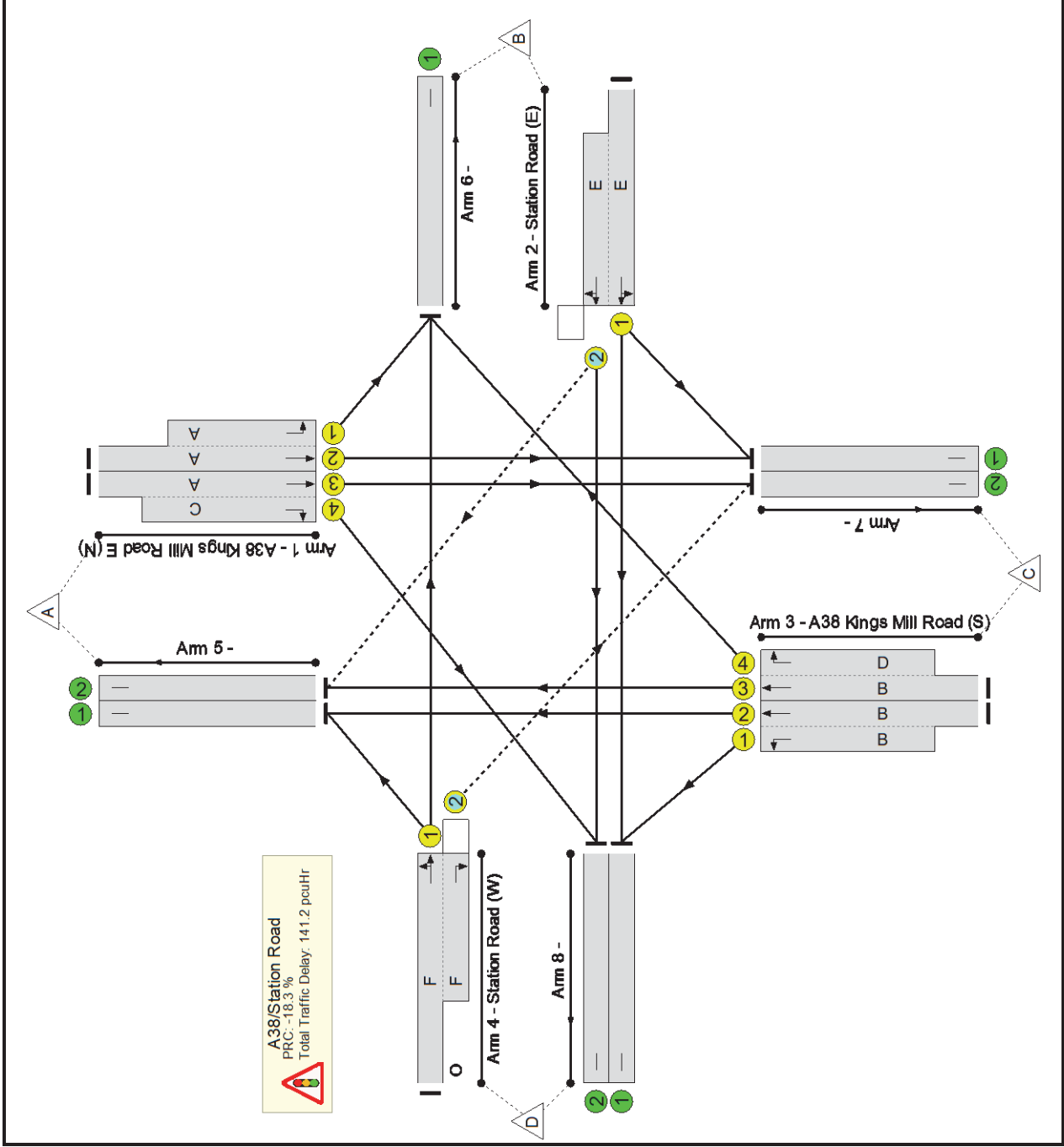
**Stage Timings**

Stage	1	2	3
Duration	26	9	26
Change Point	0	35	57

**Signal Timings Diagram**



Full Input Data And Results  
**Network Layout Diagram**



Full Input Data And Results

**Network Results**

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
<b>Network: A38 - Station Road</b>	-	-	N/A	-	-	-	-	-	-	-	-	-	106.5%
<b>A38/Station Road</b>	-	-	N/A	-	-	-	-	-	-	-	-	-	106.5%
1/2+1/1	A38 Kings Mill Road E (N) Left Ahead	U	N/A	N/A	A		1	26	-	673	1900:1800	555+81	105.7 : 105.7%
1/3+1/4	A38 Kings Mill Road E (N) Ahead Right	U	N/A	N/A	A C		1	26.9	-	850	2000:1800	600+200	106.2 : 106.5%
2/1+2/2	Station Road (E) Right Left Ahead	U+O	N/A	N/A	E		1	26	-	483	1900:1800	276+261	90.0 : 90.0%
3/2+3/1	A38 Kings Mill Road (S) Ahead Left	U	N/A	N/A	B		1	26	-	690	1900:1800	570+136	97.7 : 97.7%
3/3+3/4	A38 Kings Mill Road (S) Ahead Right	U	N/A	N/A	B D		1	26:10	-	672	2000:1800	600+136	101.7 : 45.6%
4/1+4/2	Station Road (W) Left Ahead Right	U+O	N/A	N/A	F	O	1	26	0	715	1900:1800	531+156	104.1 : 104.1%
5/1		U	N/A	N/A	-		-	-	-	781	Inf	Inf	0.0%
5/2		U	N/A	N/A	-		-	-	-	682	Inf	Inf	0.0%
6/1		U	N/A	N/A	-		-	-	-	477	Inf	Inf	0.0%
7/1		U	N/A	N/A	-		-	-	-	656	Inf	Inf	0.0%
7/2		U	N/A	N/A	-		-	-	-	799	Inf	Inf	0.0%
8/1		U	N/A	N/A	-		-	-	-	312	Inf	Inf	0.0%
8/2		U	N/A	N/A	-		-	-	-	376	Inf	Inf	0.0%

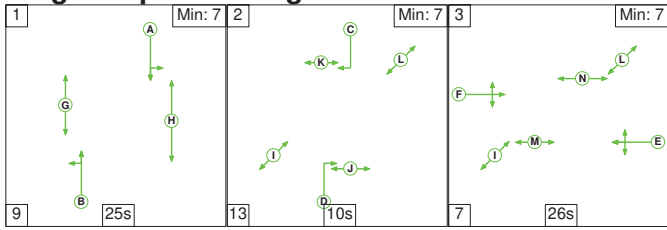
Full Input Data And Results

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)		
<b>Network: A38 - Station Road</b>	-	-	156	0	72	38.4	102.1	0.7	141.2	-	-	-	-		
<b>A38/Station Road</b>	-	-	156	0	72	38.4	102.1	0.7	141.2	-	-	-	-		
1/2+1/1	673	637	-	-	-	7.4	25.0	-	32.3 (28.3+4.1)	173.0 (173.3:170.5)	17.4	25.0	42.4		
1/3+1/4	850	800	-	-	-	10.0	31.7	-	41.7 (30.7+11.0)	176.6 (173.5:185.9)	19.6	31.7	51.3		
2/1+2/2	483	483	0	0	72	3.4	3.9	0.4	7.8 (3.8+4.0)	57.9 (54.6:61.3)	5.0	3.9	8.9		
3/2+3/1	690	690	-	-	-	5.7	9.7	-	15.4 (12.7+2.8)	80.4 (81.9:74.5)	13.8	9.7	23.5		
3/3+3/4	672	588	-	-	-	5.1	9.6	-	14.7 (13.9+0.8)	78.7 (81.8:47.5)	12.9	9.6	22.5		
4/1+4/2	715	687	156	0	0	6.9	22.2	0.2	29.3 (22.5+6.8)	147.4 (146.5:150.5)	15.7	22.2	37.9		
5/1	772	772	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0		
5/2	614	614	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0		
6/1	444	444	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0		
7/1	624	624	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0		
7/2	756	756	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0		
8/1	312	312	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0		
8/2	363	363	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0		
C1										PRC for Signalled Lanes (%):	-18.3	Total Delay for Signalled Lanes (pcuHr):	141.17	Cycle Time (s):	90
										PRC Over All Lanes (%):	-18.3	Total Delay Over All Lanes (pcuHr):	141.17		

Full Input Data And Results

Scenario 2: '2030 With Dev AM' (FG4: '2030 With Dev AM', Plan 1: 'Network Control Plan 1')

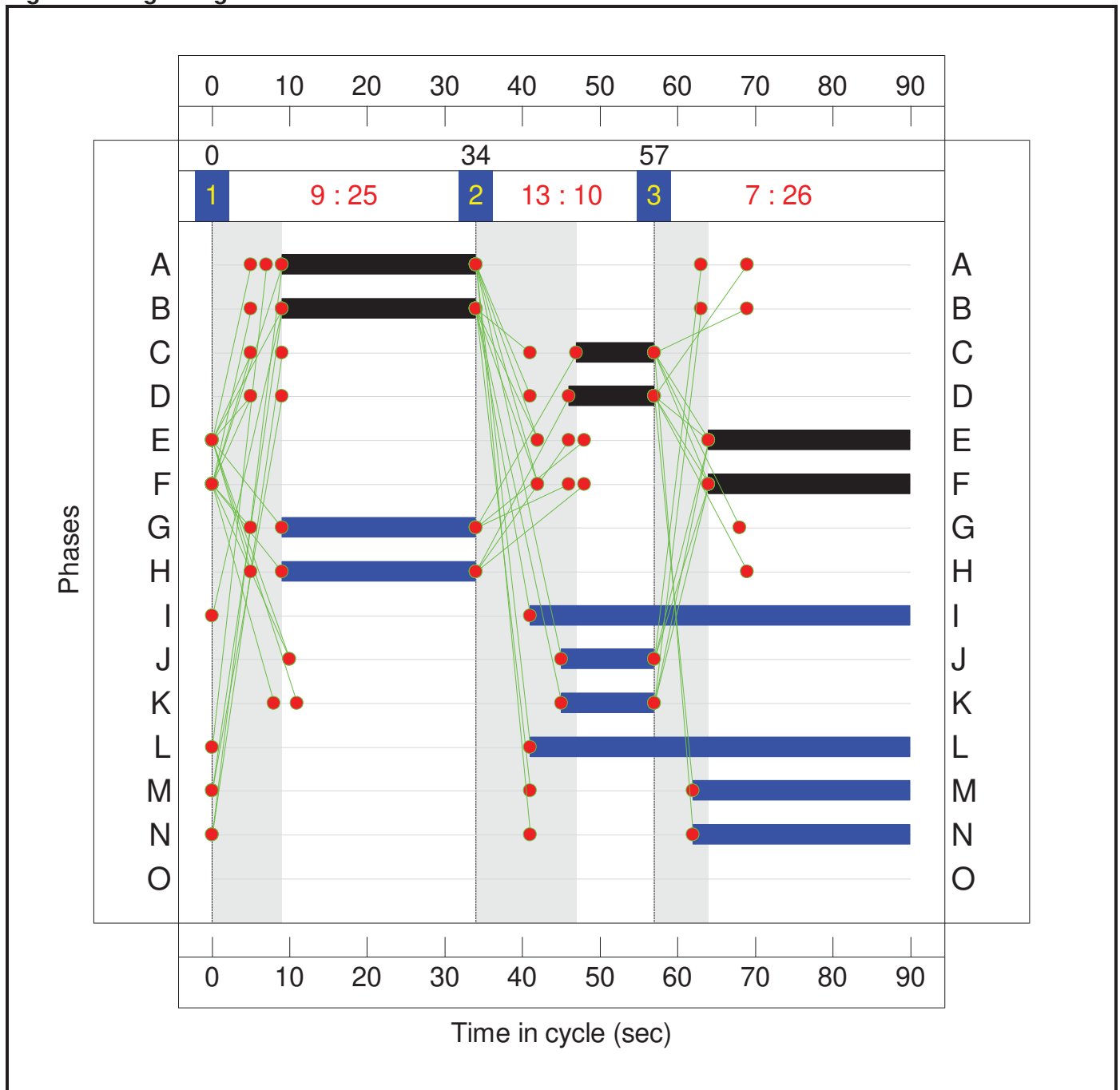
Stage Sequence Diagram



Stage Timings

Stage	1	2	3
Duration	25	10	26
Change Point	0	34	57

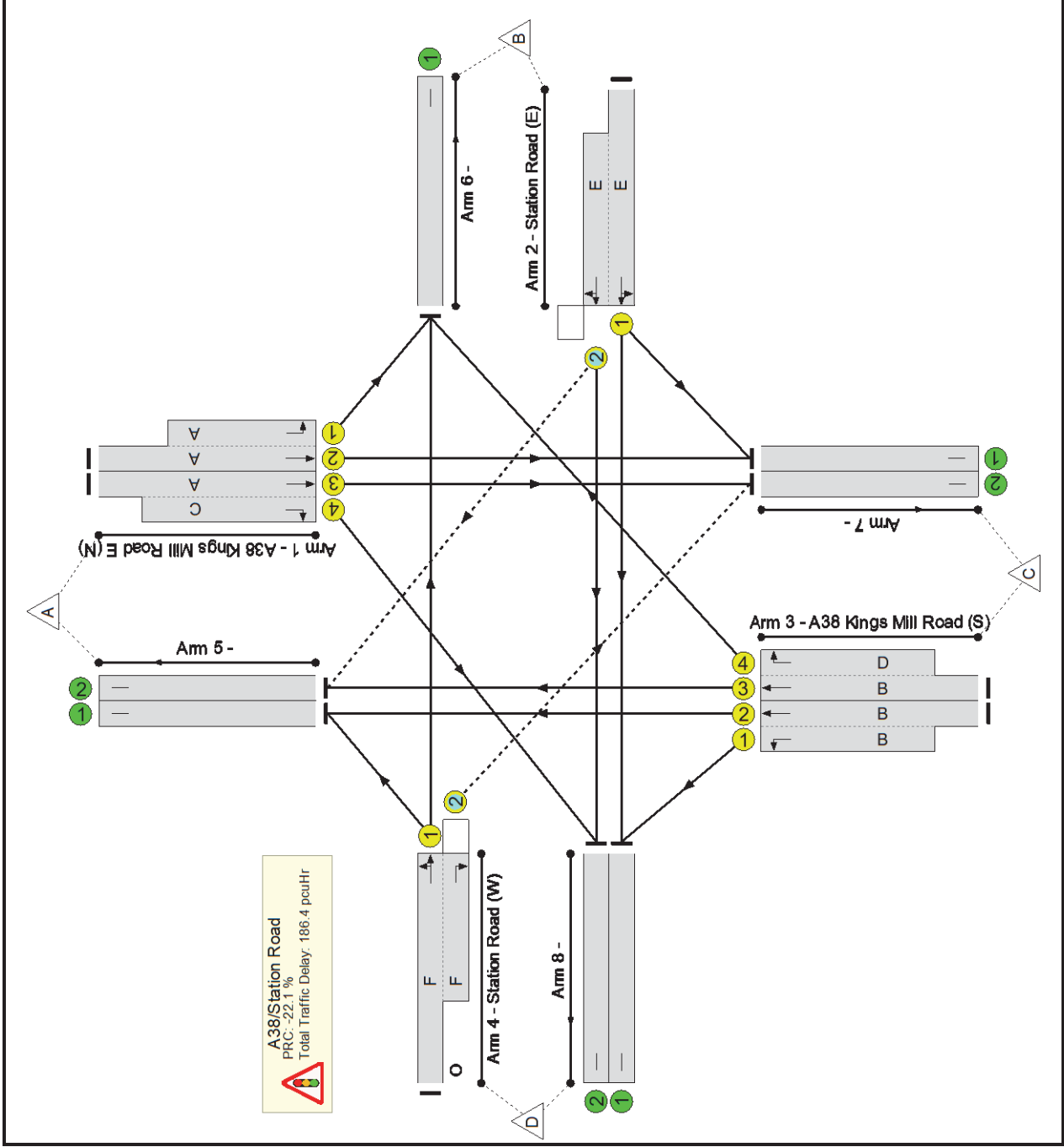
Signal Timings Diagram



## Full Input Data And Results



Full Input Data And Results  
**Network Layout Diagram**



Full Input Data And Results

**Network Results**

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
<b>Network: A38 - Station Road</b>	-	-	N/A	-	-	-	-	-	-	-	-	-	109.9%
<b>A38/Station Road</b>	-	-	N/A	-	-	-	-	-	-	-	-	-	109.9%
1/2+1/1	A38 Kings Mill Road E (N) Left Ahead	U	N/A	N/A	A		1	25	-	676	1900:1800	537+78	109.9 : 109.9%
1/3+1/4	A38 Kings Mill Road E (N) Ahead Right	U	N/A	N/A	A C		1	25:10	-	855	2000:1800	578+220	109.7 : 100.5%
2/1+2/2	Station Road (E) Right Left Ahead	U+O	N/A	N/A	E		1	26	-	484	1900:1800	277+261	90.0 : 90.0%
3/2+3/1	A38 Kings Mill Road (S) Ahead Left	U	N/A	N/A	B		1	25	-	697	1900:1800	549+129	102.8 : 102.8%
3/3+3/4	A38 Kings Mill Road (S) Ahead Right	U	N/A	N/A	B D		1	25:11	-	665	2000:1800	578+137	104.4 : 45.1%
4/1+4/2	Station Road (W) Left Ahead Right	U+O	N/A	N/A	F	O	1	26	0	737	1900:1800	533+150	107.9 : 107.9%
5/1		U	N/A	N/A	-		-	-	-	808	Inf	Inf	0.0%
5/2		U	N/A	N/A	-		-	-	-	675	Inf	Inf	0.0%
6/1		U	N/A	N/A	-		-	-	-	479	Inf	Inf	0.0%
7/1		U	N/A	N/A	-		-	-	-	659	Inf	Inf	0.0%
7/2		U	N/A	N/A	-		-	-	-	796	Inf	Inf	0.0%
8/1		U	N/A	N/A	-		-	-	-	313	Inf	Inf	0.0%
8/2		U	N/A	N/A	-		-	-	-	384	Inf	Inf	0.0%

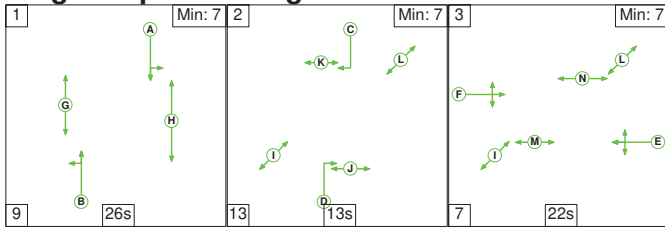
Full Input Data And Results

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)	
<b>Network: A38 - Station Road</b>	-	-	150	0	72	42.5	143.3	0.7	186.4	-	-	-	-	
<b>A38/Station Road</b>	-	-	150	0	72	42.5	143.3	0.7	186.4	-	-	-	-	
1/2+1/1	676	615	-	-	-	8.5	35.2	-	43.7 (38.2+5.5)	232.7 (233.1:230.3)	18.5	35.2	53.6	
1/3+1/4	855	798	-	-	-	10.5	34.8	-	45.3 (40.8+4.5)	190.7 (231.4:74.1)	20.8	34.8	55.6	
2/1+2/2	484	484	0	0	72	3.4	3.9	0.4	7.8 (3.8+4.0)	57.8 (54.6:61.3)	5.0	3.9	8.9	
3/2+3/1	697	682	-	-	-	6.6	18.7	-	25.2 (20.8+4.5)	130.4 (132.6:121.0)	14.5	18.7	33.1	
3/3+3/4	665	575	-	-	-	5.1	18.1	-	23.2 (22.3+0.9)	125.4 (133.0:51.7)	12.6	18.1	30.6	
4/1+4/2	737	683	150	0	0	8.3	32.7	0.2	41.2 (32.0+9.2)	201.3 (200.5:204.3)	17.5	32.7	50.2	
5/1	775	775	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	
5/2	601	601	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	
6/1	431	431	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	
7/1	606	606	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	
7/2	728	728	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	
8/1	313	313	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	
8/2	383	383	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	
C1														
PRC for Signalled Lanes (%):					-22.1	Total Delay for Signalled Lanes (pcuHr):			186.41	Cycle Time (s):		90		
PRC Over All Lanes (%):					-22.1	Total Delay Over All Lanes (pcuHr):			186.41					

Full Input Data And Results

Scenario 3: '2030 Bkgd PM' (FG3: '2030 Bkgd PM', Plan 1: 'Network Control Plan 1')

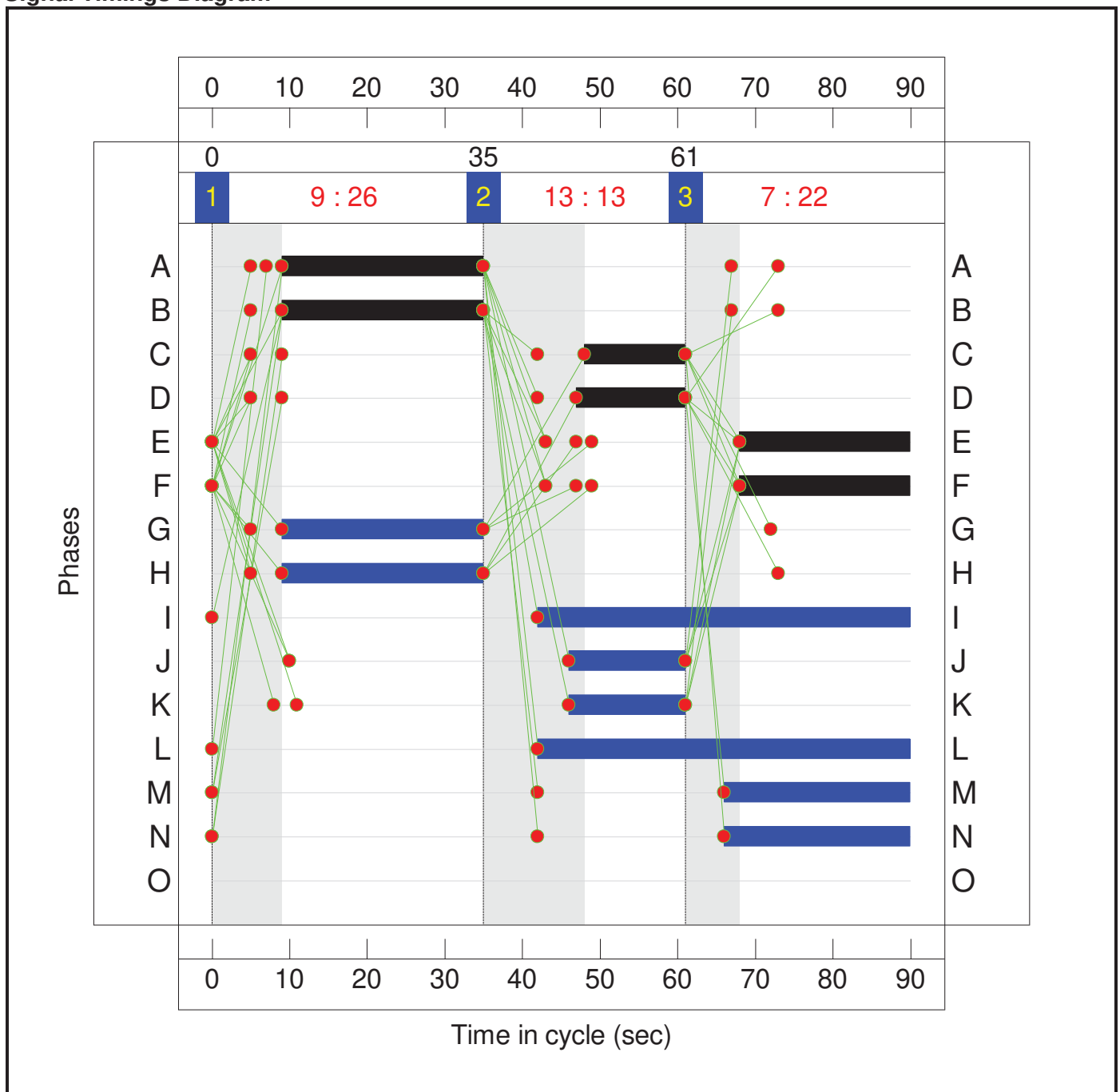
Stage Sequence Diagram



Stage Timings

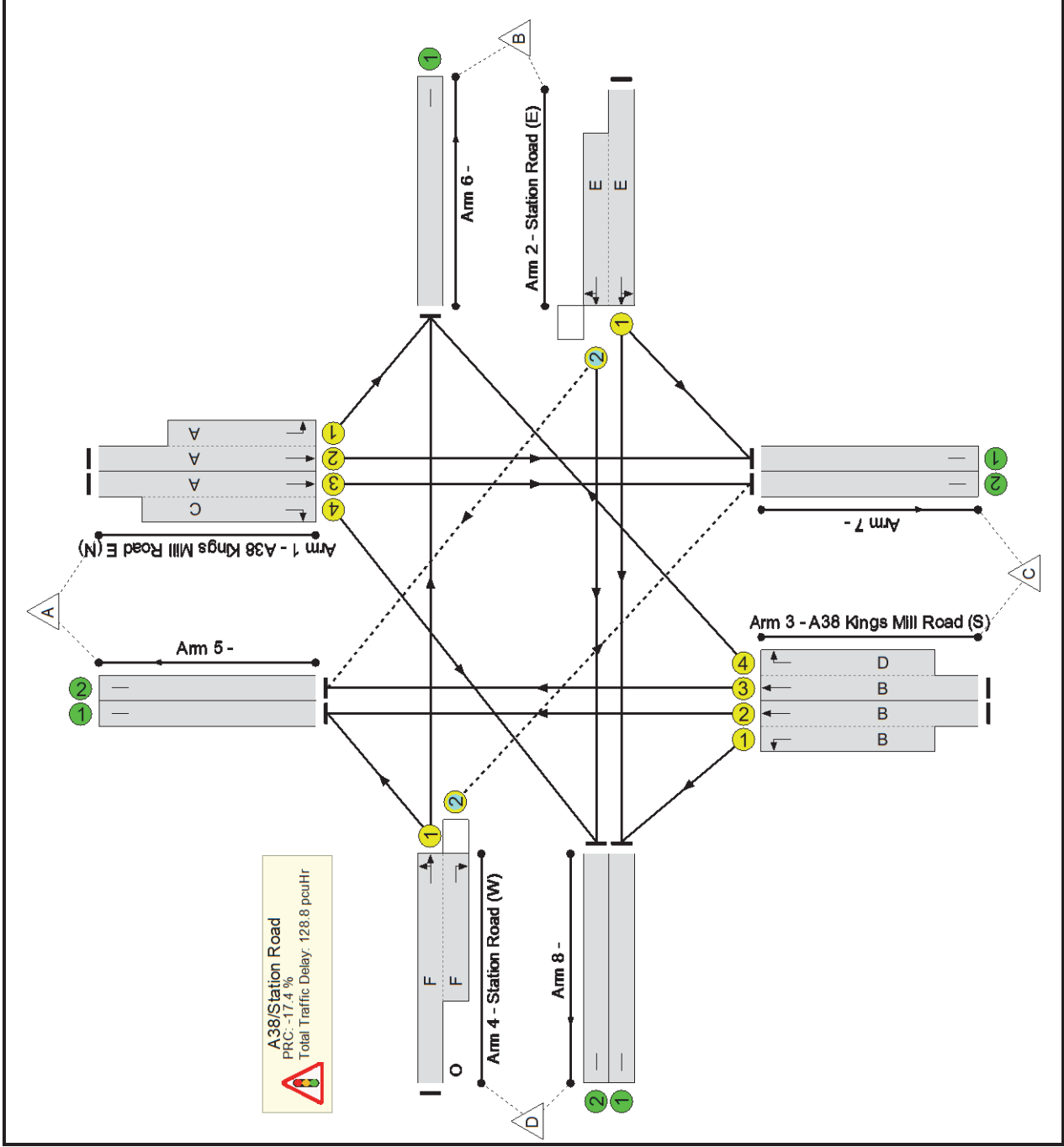
Stage	1	2	3
Duration	26	13	22
Change Point	0	35	61

Signal Timings Diagram



## Full Input Data And Results

Full Input Data And Results  
**Network Layout Diagram**



Full Input Data And Results

**Network Results**

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
<b>Network: A38 - Station Road</b>	-	-	N/A	-	-	-	-	-	-	-	-	-	105.6%
<b>A38/Station Road</b>	-	-	N/A	-	-	-	-	-	-	-	-	-	105.6%
1/2+1/1	A38 Kings Mill Road E (N) Left Ahead	U	N/A	N/A	A		1	26	-	635	1900:1800	554+83	99.6 : 99.6%
1/3+1/4	A38 Kings Mill Road E (N) Ahead Right	U	N/A	N/A	A C		1	26:13	-	883	2000:1800	600+280	100.5 : 100.0%
2/1+2/2	Station Road (E) Right Left Ahead	U+O	N/A	N/A	E		1	22	-	421	1900:1800	262+248	82.5 : 82.5%
3/2+3/1	A38 Kings Mill Road (S) Ahead Left	U	N/A	N/A	B		1	26	-	774	1900:1800	570+182	103.0 : 103.0%
3/3+3/4	A38 Kings Mill Road (S) Ahead Right	U	N/A	N/A	B D		1	26:14	-	733	2000:1800	600+220	104.8 : 47.2%
4/1+4/2	Station Road (W) Left Ahead Right	U+O	N/A	N/A	F	O	1	22	0	616	1900:1800	472+111	105.6 : 105.6%
5/1		U	N/A	N/A	-		-	-	-	810	Inf	Inf	0.0%
5/2		U	N/A	N/A	-		-	-	-	695	Inf	Inf	0.0%
6/1		U	N/A	N/A	-		-	-	-	463	Inf	Inf	0.0%
7/1		U	N/A	N/A	-		-	-	-	594	Inf	Inf	0.0%
7/2		U	N/A	N/A	-		-	-	-	720	Inf	Inf	0.0%
8/1		U	N/A	N/A	-		-	-	-	361	Inf	Inf	0.0%
8/2		U	N/A	N/A	-		-	-	-	419	Inf	Inf	0.0%

Full Input Data And Results

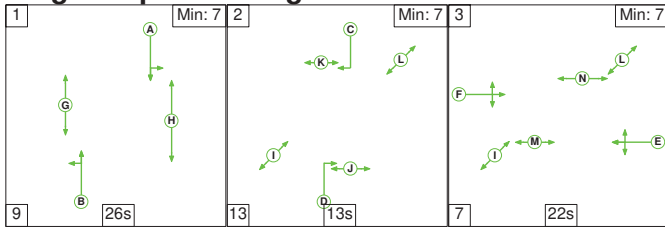
Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
<b>Network: A38 - Station Road</b>	-	-	111	0	66	36.4	91.8	0.5	128.8	-	-	-	-
<b>A38/Station Road</b>	-	-	111	0	66	36.4	91.8	0.5	128.8	-	-	-	-
1/2+1/1	635	635	-	-	-	5.4	11.9	-	17.3 (15.1+2.2)	98.3 (98.7-95.5)	14.4	11.9	26.3
1/3+1/4	883	880	-	-	-	8.4	15.6	-	24.0 (16.6+7.4)	97.8 (98.8-95.6)	15.9	15.6	31.5
2/1+2/2	421	421	0	0	66	3.3	2.2	0.3	5.9 (2.8+3.0)	50.3 (47.3-53.4)	4.5	2.2	6.7
3/2+3/1	774	757	-	-	-	7.2	20.6	-	27.8 (21.5+6.3)	129.1 (131.8-120.4)	15.1	20.6	35.7
3/3+3/4	733	641	-	-	-	5.5	18.4	-	23.9 (22.7+1.2)	117.3 (130.0-41.0)	13.5	18.4	31.8
4/1+4/2	616	583	111	0	0	6.6	23.1	0.2	29.9 (24.2+5.8)	175.0 (174.4-177.7)	13.8	23.1	37.0
5/1	781	781	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/2	625	625	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	426	426	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	594	594	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/2	711	711	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	361	361	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/2	419	419	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
C1													
PRC for Signalled Lanes (%): -17.4 PRC Over All Lanes (%): -17.4 Total Delay for Signalled Lanes (pcuHr): 128.79 Total Delay Over All Lanes (pcuHr): 128.79 Cycle Time (s): 90													



Full Input Data And Results

Scenario 4: '2030 With Dev PM' (FG5: '2030 With Dev PM', Plan 1: 'Network Control Plan 1')

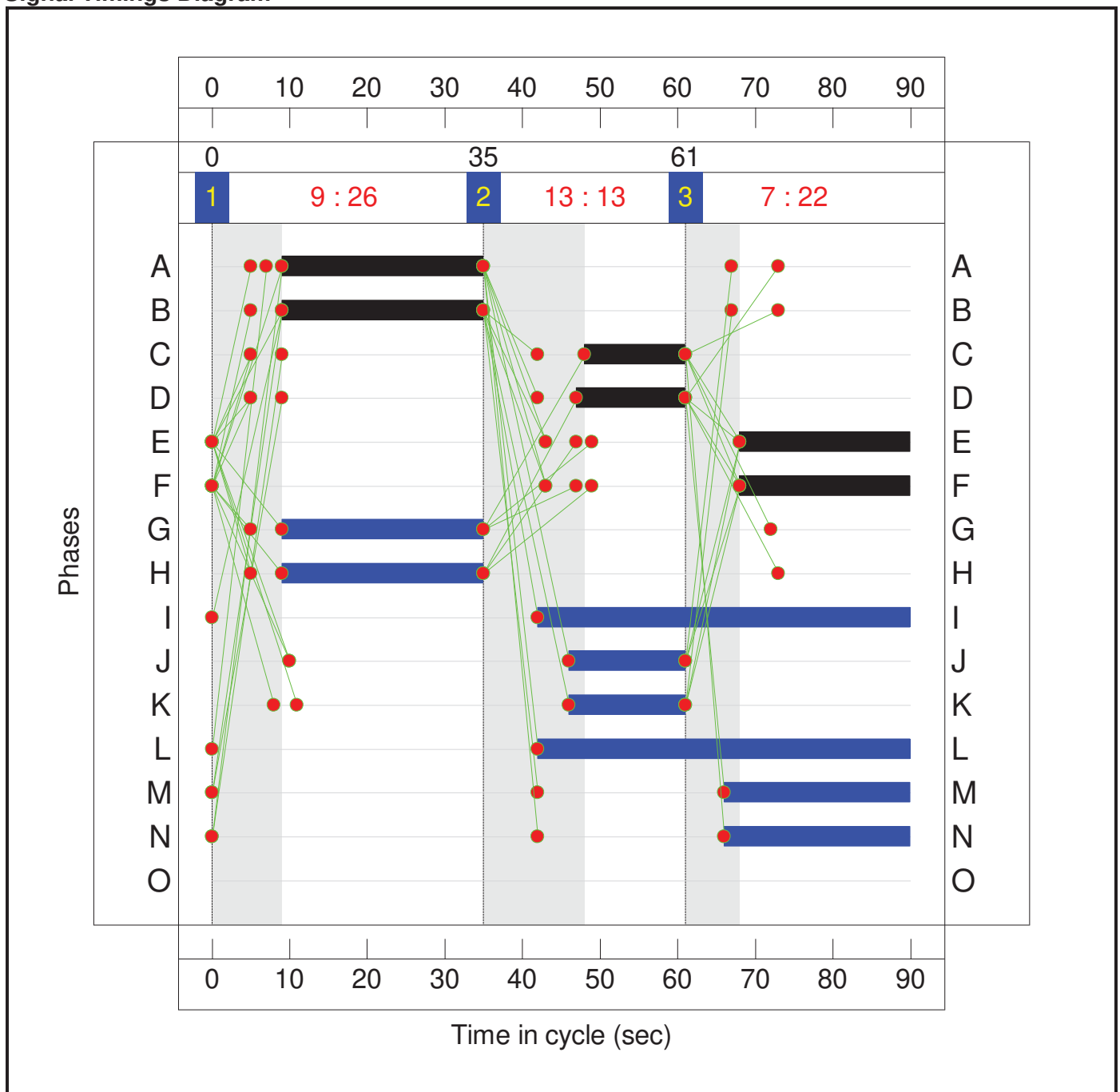
Stage Sequence Diagram



Stage Timings

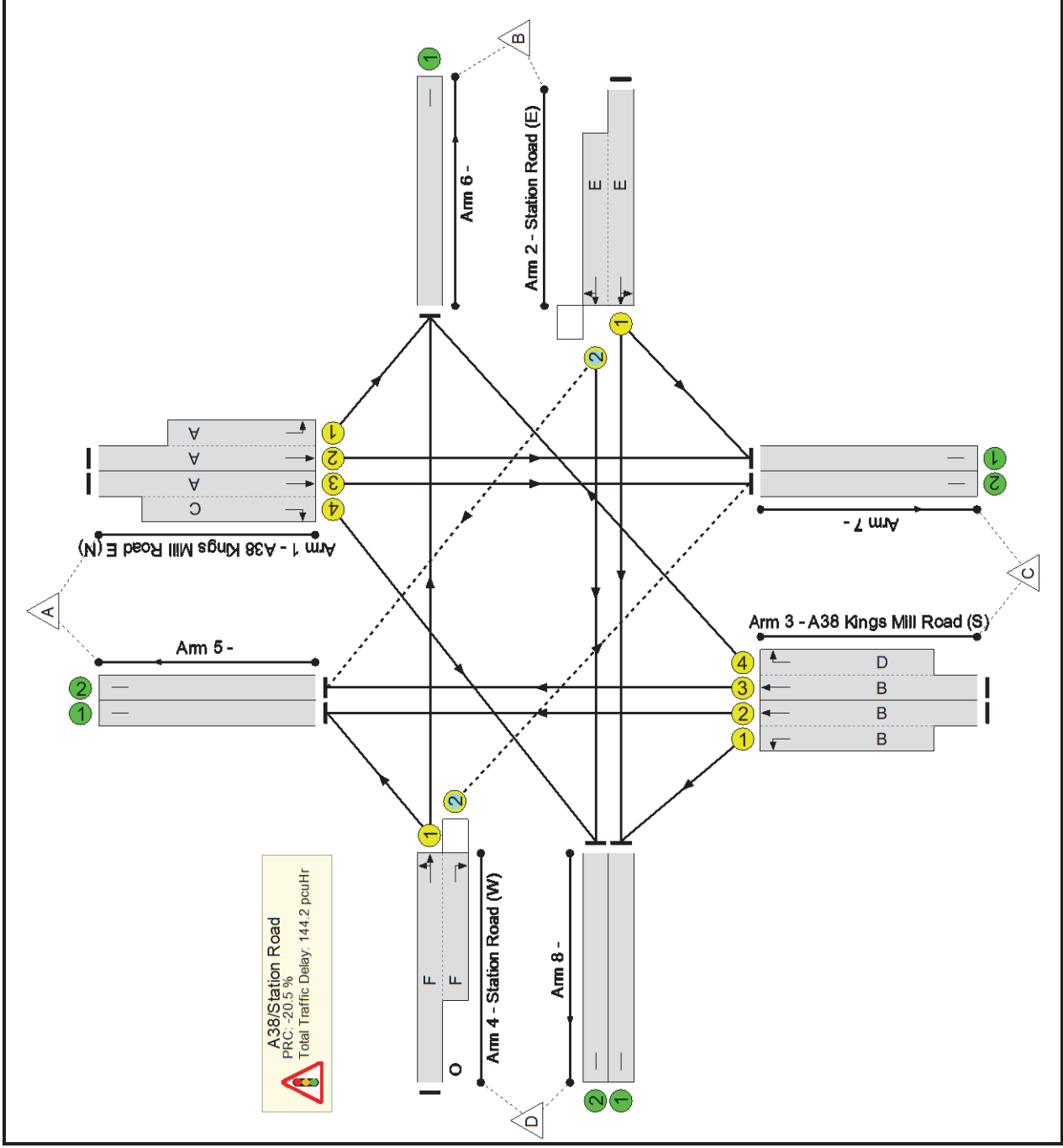
Stage	1	2	3
Duration	26	13	22
Change Point	0	35	61

Signal Timings Diagram



## Full Input Data And Results

Full Input Data And Results  
**Network Layout Diagram**



Full Input Data And Results

**Network Results**

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
<b>Network: A38 - Station Road</b>	-	-	N/A	-	-	-	-	-	-	-	-	-	108.5%
<b>A38/Station Road</b>	-	-	N/A	-	-	-	-	-	-	-	-	-	108.5%
1/2+1/1	A38 Kings Mill Road E (N) Left Ahead	U	N/A	N/A	A		1	26	-	631	1900:1800	554+84	98.9 : 98.9%
1/3+1/4	A38 Kings Mill Road E (N) Ahead Right	U	N/A	N/A	A C		1	26:13	-	907	2000:1800	600+280	101.2 : 107.1%
2/1+2/2	Station Road (E) Right Left Ahead	U+O	N/A	N/A	E		1	22	-	424	1900:1800	264+250	82.5 : 82.5%
3/2+3/1	A38 Kings Mill Road (S) Ahead Left	U	N/A	N/A	B		1	26	-	774	1900:1800	570+182	103.0 : 103.0%
3/3+3/4	A38 Kings Mill Road (S) Ahead Right	U	N/A	N/A	B D		1	26:14	-	733	2000:1800	600+220	104.8 : 47.2%
4/1+4/2	Station Road (W) Left Ahead Right	U+O	N/A	N/A	F	O	1	22	0	630	1900:1800	473+108	108.5 : 108.5%
5/1		U	N/A	N/A	-		-	-	-	822	Inf	Inf	0.0%
5/2		U	N/A	N/A	-		-	-	-	695	Inf	Inf	0.0%
6/1		U	N/A	N/A	-		-	-	-	465	Inf	Inf	0.0%
7/1		U	N/A	N/A	-		-	-	-	590	Inf	Inf	0.0%
7/2		U	N/A	N/A	-		-	-	-	724	Inf	Inf	0.0%
8/1		U	N/A	N/A	-		-	-	-	363	Inf	Inf	0.0%
8/2		U	N/A	N/A	-		-	-	-	440	Inf	Inf	0.0%

Full Input Data And Results

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)	
<b>Network: A38 - Station Road</b>	-	-	108	0	66	38.4	105.2	0.5	144.2	-	-	-	-	
<b>A38/Station Road</b>	-	-	108	0	66	38.4	105.2	0.5	144.2	-	-	-	-	
1/2+1/1	631	631	-	-	-	5.4	10.9	-	16.2 (14.2+2.1)	92.7 (93.2:89.5)	14.3	10.9	25.2	
1/3+1/4	907	880	-	-	-	9.5	23.3	-	32.7 (15.6+17.1)	129.9 (92.8:204.9)	16.4	23.3	39.7	
2/1+2/2	424	424	0	0	66	3.3	2.2	0.3	5.9 (2.9+3.0)	50.2 (47.2:53.3)	4.5	2.2	6.8	
3/2+3/1	774	757	-	-	-	7.2	20.6	-	27.8 (21.5+6.3)	129.1 (131.8:120.4)	15.1	20.6	35.7	
3/3+3/4	733	641	-	-	-	5.5	18.4	-	23.9 (22.7+1.2)	117.3 (130.0:41.0)	13.5	18.4	31.8	
4/1+4/2	630	581	108	0	0	7.6	29.8	0.2	37.6 (30.6+7.1)	215.1 (214.5:217.6)	15.2	29.8	45.0	
5/1	787	787	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	
5/2	625	625	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	
6/1	421	421	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	
7/1	590	590	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	
7/2	708	708	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	
8/1	363	363	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	
8/2	420	420	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	
C1														
			PRC for Signalled Lanes (%):	-20.5	Total Delay for Signalled Lanes (pcuHr):			144.15	Cycle Time (s):			90		
			PRC Over All Lanes (%):	-20.5	Total Delay Over All Lanes (pcuHr):			144.15						

## APPENDIX G

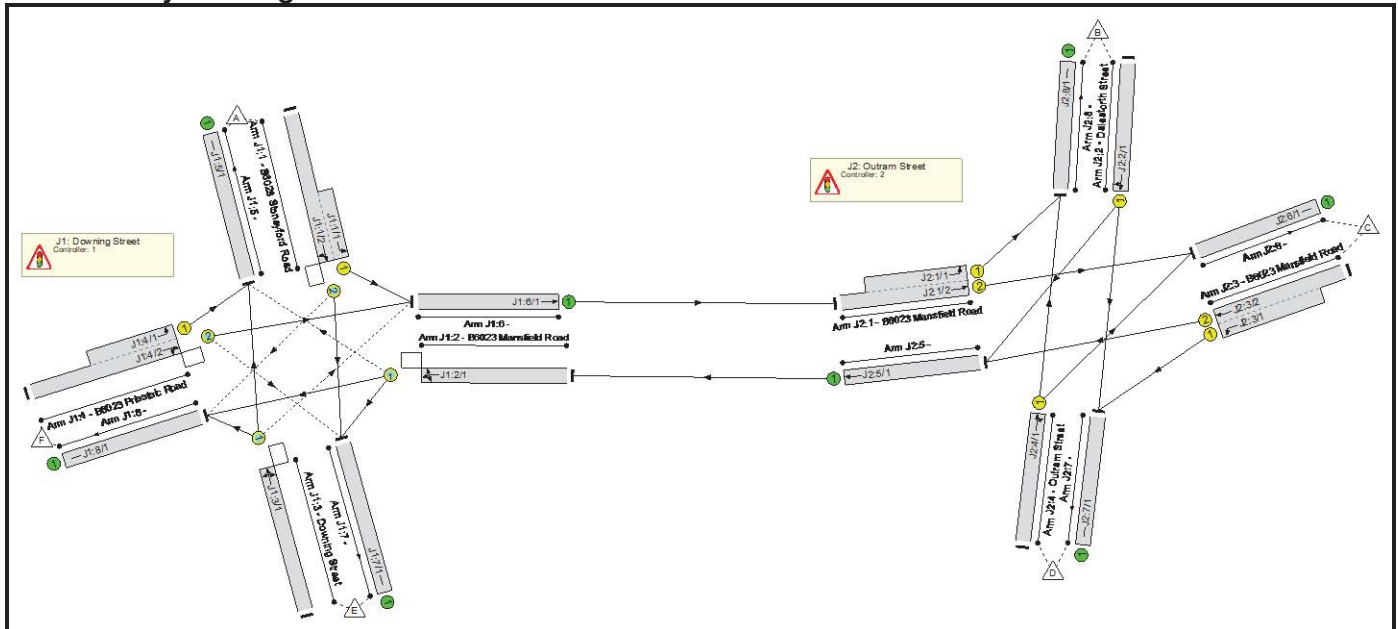
### JUNCTIONS 10 & 11 LINSIG OUTPUT

Full Input Data And Results  
**Full Input Data And Results**

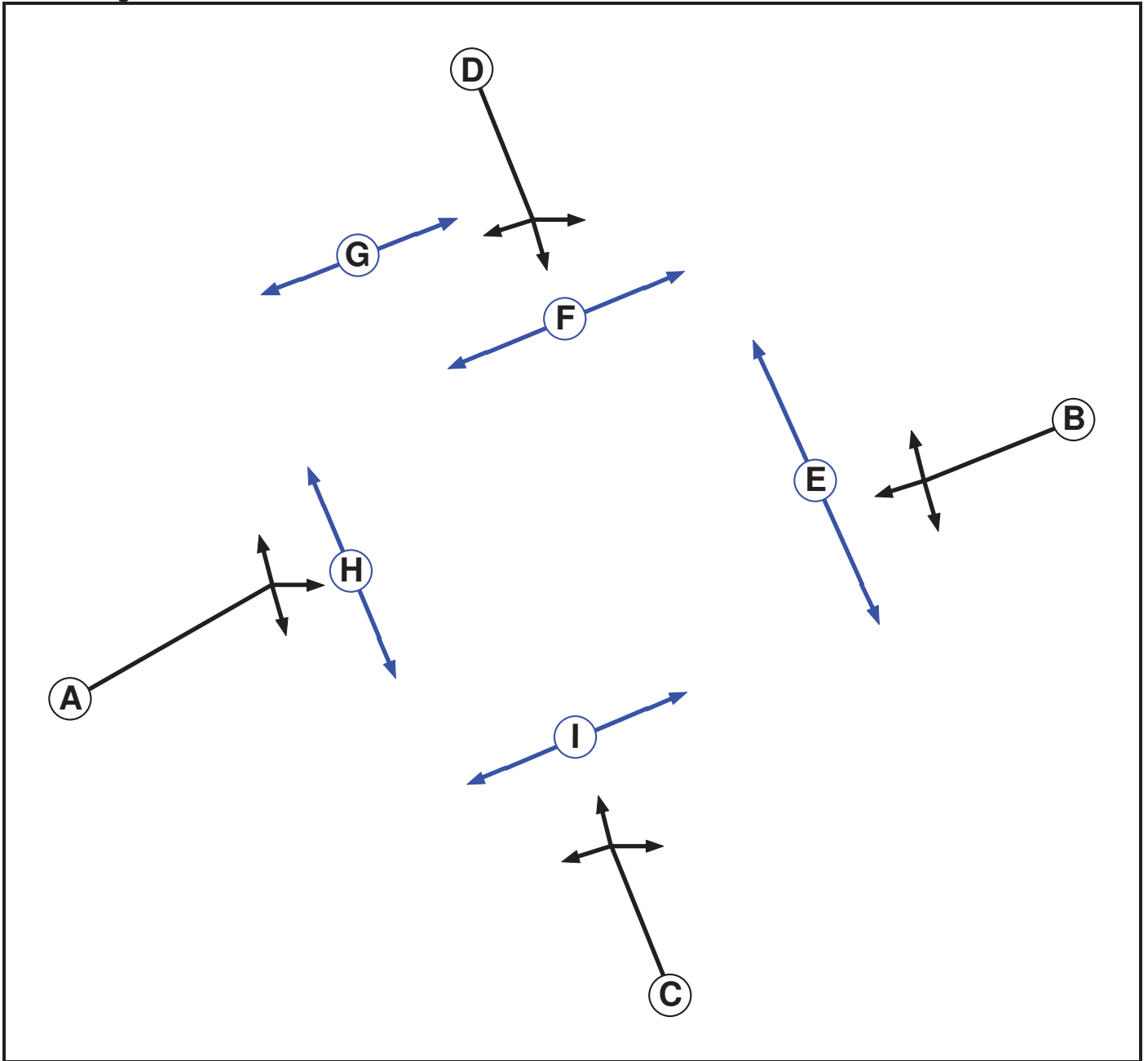
**User and Project Details**

<b>Project:</b>	<b>Ashland Road, Sutton in Ashfield</b>
<b>Title:</b>	<b>Mansfield Road-Stoneyford Road-Downing Street-Dalestorth Street</b>
<b>Location:</b>	
<b>Client:</b>	Bellway Homes
<b>Additional detail:</b>	
<b>File name:</b>	J10-11 Mansfield Road-Stoneyford Road-Dalestorth Street (Network) V3.lsg3x
<b>Author:</b>	
<b>Company:</b>	ADC Infrastructure Limited
<b>Address:</b>	King Edward Court, King Edward Street, Nottingham

**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
C	Traffic		7	7
D	Traffic		7	7
E	Pedestrian		6	6
F	Pedestrian		6	6
G	Pedestrian		6	6
H	Pedestrian		6	6
I	Pedestrian		6	6



Full Input Data And Results

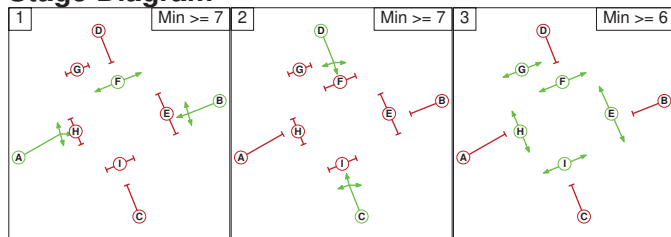
**Phase Intergrens Matrix**

		Starting Phase								
		A	B	C	D	E	F	G	H	I
Terminating Phase	A	-	7	7	9	-	10	8	10	
	B	-	7	7	9	-	10	8	10	
	C	7	7	-	10	5	8	10	8	
	D	7	7	-	10	5	8	10	8	
	E	8	8	8	8	-	-	-	-	
	F	-	-	9	9	-	-	-	-	
	G	8	8	8	8	-	-	-	-	
	H	8	8	8	8	-	-	-	-	
	I	9	9	9	9	-	-	-	-	

**Phases in Stage**

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

**Stage Diagram**



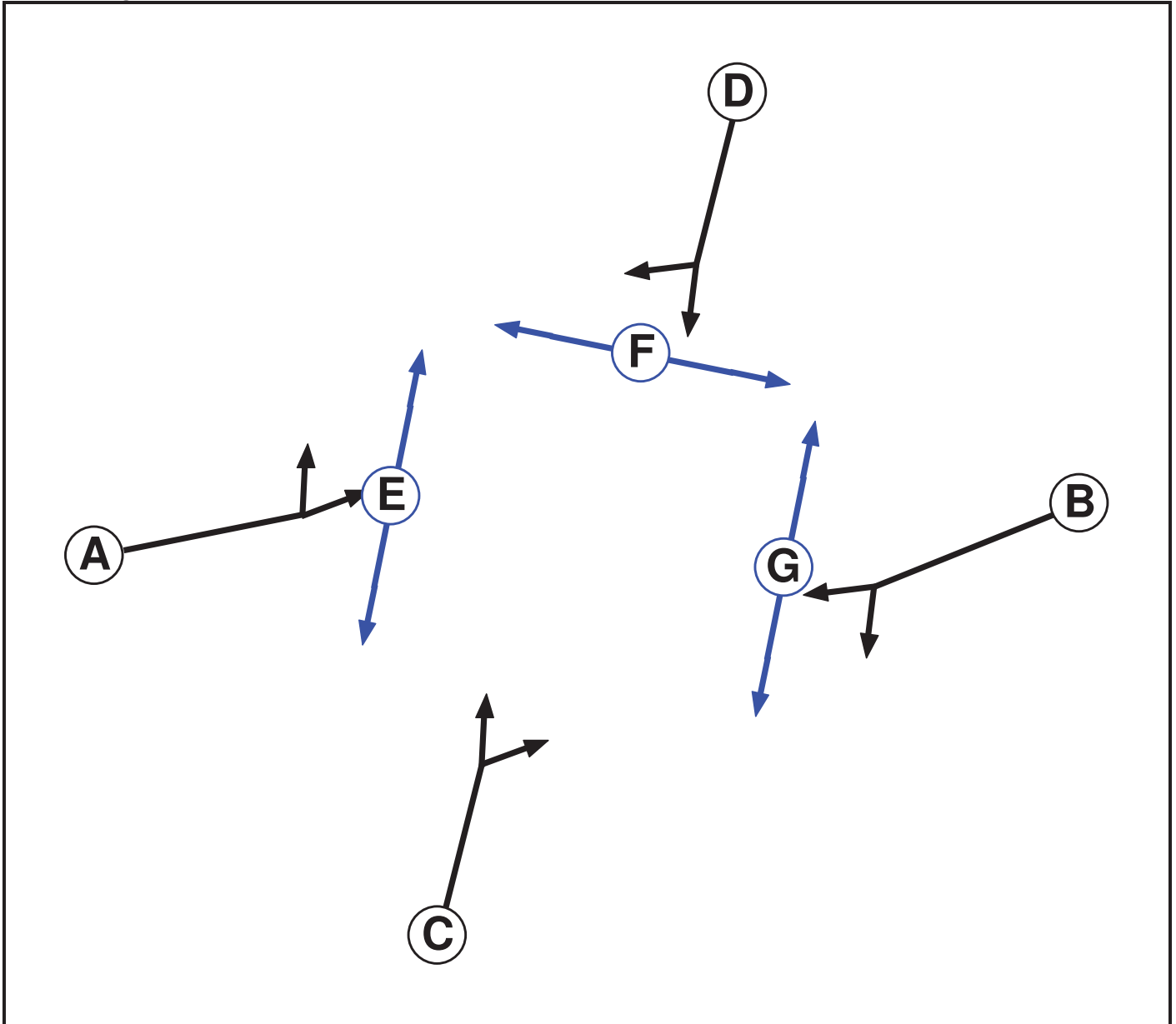
**Phase Delays**

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

**Prohibited Stage Change**

		To Stage		
		1	2	3
From Stage	1	-	9	12
	2	7	-	10
	3	9	9	-

**C2**  
**Phase Diagram**



**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	Traffic		7	7
E	Pedestrian		6	6
F	Pedestrian		6	6
G	Pedestrian		6	6

Full Input Data And Results

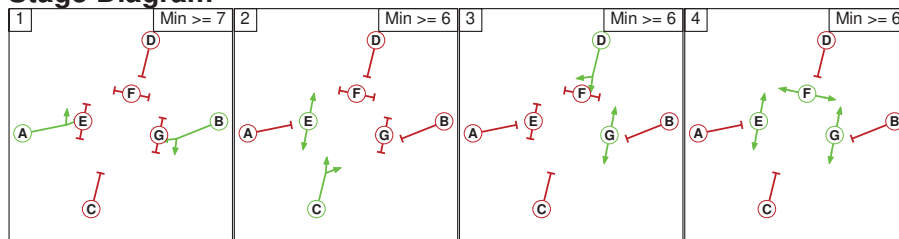
**Phase Intergrens Matrix**

		Starting Phase						
		A	B	C	D	E	F	G
Terminating Phase	A	-	-	7	7	5	8	8
	B	-	-	7	7	8	10	5
	C	7	7	-	5	-	10	8
	D	7	7	5	-	8	8	-
	E	8	8	-	8	-	-	-
	F	8	8	8	8	-	-	-
	G	8	8	8	-	-	-	-

**Phases in Stage**

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

**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	3	4
From Stage	1	-	8	8	10
	2	8	-	8	10
	3	8	8	-	8
	4	8	8	8	-

Full Input Data And Results  
**Give-Way Lane Input Data**

Junction: J1 : Downing Street											
Lane	Movement	Max Flow when Giving Way (PCU/Hr)	Min Flow when Giving Way (PCU/Hr)	Opposing Lane	Opp. Lane Coeff.	Opp. Mvmnts.	Right Turn Storage (PCU)	Non-Blocking Storage (PCU)	RTF	Right Turn Move up (s)	Max Turns in Intergreen (PCU)
J1:1/2 (B6028 Stoneyford Road)	J1:8/1 (Right)	1439	0	J1:3/1	1.09	To J1:5/1 (Ahead) To J1:8/1 (Left)	2.00	2.00	0.50	2	2.00
				J1:4/1		All					
J1:2/1 (B6023 Mansfield Road)	J1:5/1 (Right)	1439	0	J1:4/2	1.09	To J1:6/1 (Ahead)	2.00	2.00	0.50	2	2.00
				J1:1/1		All					
J1:3/1 (Downing Street)	J1:6/1 (Right)	1439	0	J1:1/2	1.09	To J1:7/1 (Ahead)	2.00	2.00	0.50	2	2.00
				J1:2/1		To J1:7/1 (Left) To J1:8/1 (Ahead)					
J1:4/2 (B6023 Prieststic Road)	J1:7/1 (Right)	1439	0	J1:2/1	1.09	To J1:7/1 (Left) To J1:8/1 (Ahead)	2.00	2.00	0.50	2	2.00

**Junction: J2: Outram Street**  
 There are no Opposed Lanes in this Junction

Full Input Data And Results

**Lane Input Data**

Junction: J1: Downing Street												
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 (B6028 Stoneyford Road)	U	D	2	3	7.0	Geom	-	3.00	0.00	Y	Arm J1:6 Left	12.00
J1:1/2 (B6028 Stoneyford Road)	O	D	2	3	60.0	Geom	-	3.00	0.00	Y	Arm J1:7 Ahead	Inf
											Arm J1:8 Right	20.00
											Arm J1:5 Right	12.00
J1:2/1 (B6023 Mansfield Road)	O	B	2	3	31.3	Geom	-	4.50	0.00	Y	Arm J1:7 Left	12.00
											Arm J1:8 Ahead	Inf
J1:3/1 (Downing Street)	O	C	2	3	60.0	Geom	-	4.00	0.00	Y	Arm J1:5 Ahead	Inf
											Arm J1:6 Right	20.00
											Arm J1:8 Left	6.00
J1:4/1 (B6023 Priestsic Road)	U	A	2	3	9.0	Geom	-	2.75	0.00	Y	Arm J1:5 Left	15.00
J1:4/2 (B6023 Priestsic Road)	O	A	2	3	60.0	Geom	-	2.75	0.00	Y	Arm J1:6 Ahead	Inf
											Arm J1:7 Right	18.00
J1:5/1	U		2	3	60.0	Inf	-	-	-	-	-	-
J1:6/1	U		2	3	3.5	Inf	-	-	-	-	-	-
J1:7/1	U		2	3	60.0	Inf	-	-	-	-	-	-
J1:8/1	U		2	3	60.0	Inf	-	-	-	-	-	-

Full Input Data And Results

Junction: J2: Outram Street												
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 (B6023 Mansfield Road)	U	A	2	3	13.9	User	1800	-	-	-	-	-
J2:1/2 (B6023 Mansfield Road)	U	A	2	3	34.8	User	1800	-	-	-	-	-
J2:2/1 (Dalestorth Street)	U	D	2	3	60.0	User	1800	-	-	-	-	-
J2:3/1 (B6023 Mansfield Road)	U	B	2	3	13.9	User	1800	-	-	-	-	-
J2:3/2 (B6023 Mansfield Road)	U	B	2	3	60.0	User	1800	-	-	-	-	-
J2:4/1 (Outram Street)	U	C	2	3	60.0	User	1800	-	-	-	-	-
J2:5/1	U		2	3	3.5	Inf	-	-	-	-	-	-
J2:6/1	U		2	3	60.0	Inf	-	-	-	-	-	-
J2:7/1	U		2	3	60.0	Inf	-	-	-	-	-	-
J2:8/1	U		2	3	60.0	Inf	-	-	-	-	-	-

Traffic Flow Groups

Flow Group	Start Time	End Time	Duration	Formula
1: 'Validation'	17:00	18:00	01:00	
2: '2030 Bkgd AM'	08:00	09:00	01:00	
3: '2030 Bkgd PM'	17:00	18:00	01:00	
4: '2030 With Dev AM'	08:00	09:00	01:00	
5: '2030 With Dev PM'	17:00	18:00	01:00	

Scenario 1: '2030 Bkgd AM' (FG2: '2030 Bkgd AM', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

	Destination							
	A	B	C	D	E	F	Tot.	
Origin	A	0	69	154	0	65	310	598
	B	67	0	0	216	0	264	547
	C	72	0	0	280	0	280	632
	D	0	129	294	0	0	0	423
	E	67	1	3	0	0	22	93
	F	254	162	325	0	17	0	758
	Tot.	460	361	776	496	82	876	3051

Full Input Data And Results

**Traffic Lane Flows**

Lane	Scenario 1: 2030 Bkgd AM
<b>Junction: J1: Downing Street</b>	
J1:1/1 (short)	223
J1:1/2 (with short)	598(In) 375(Out)
J1:2/1	683
J1:3/1	93
J1:4/1 (short)	254
J1:4/2 (with short)	758(In) 504(Out)
J1:5/1	460
J1:6/1	714
J1:7/1	82
J1:8/1	876
<b>Junction: J2: Outram Street</b>	
J2:1/1 (short)	232
J2:1/2 (with short)	714(In) 482(Out)
J2:2/1	547
J2:3/1 (short)	280
J2:3/2 (with short)	632(In) 352(Out)
J2:4/1	423
J2:5/1	683
J2:6/1	776
J2:7/1	496
J2:8/1	361

Full Input Data And Results

**Lane Saturation Flows**

Junction: J1: Downing Street								
Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
J1:1/1 (B6028 Stoneyford Road)	3.00	0.00	Y	Arm J1:6 Left	12.00	100.0 %	1702	1702
J1:1/2 (B6028 Stoneyford Road)	3.00	0.00	Y	Arm J1:7 Ahead	Inf	17.3 %	1803	1803
				Arm J1:8 Right	20.00	82.7 %		
J1:2/1 (B6023 Mansfield Road)	4.50	0.00	Y	Arm J1:5 Right	12.00	20.4 %	2014	2014
				Arm J1:7 Left	12.00	0.0 %		
				Arm J1:8 Ahead	Inf	79.6 %		
J1:3/1 (Downing Street)	4.00	0.00	Y	Arm J1:5 Ahead	Inf	72.0 %	1897	1897
				Arm J1:6 Right	20.00	4.3 %		
				Arm J1:8 Left	6.00	23.7 %		
J1:4/1 (B6023 Priestsic Road)	2.75	0.00	Y	Arm J1:5 Left	15.00	100.0 %	1718	1718
J1:4/2 (B6023 Priestsic Road)	2.75	0.00	Y	Arm J1:6 Ahead	Inf	96.6 %	1885	1885
				Arm J1:7 Right	18.00	3.4 %		
J1:5/1	Infinite Saturation Flow						Inf	Inf
J1:6/1	Infinite Saturation Flow						Inf	Inf
J1:7/1	Infinite Saturation Flow						Inf	Inf
J1:8/1	Infinite Saturation Flow						Inf	Inf

Junction: J2: Outram Street								
Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
J2:1/1 (B6023 Mansfield Road Lane 1)	This lane uses a directly entered Saturation Flow						1800	1800
J2:1/2 (B6023 Mansfield Road Lane 2)	This lane uses a directly entered Saturation Flow						1800	1800
J2:2/1 (Dalestorth Street Lane 1)	This lane uses a directly entered Saturation Flow						1800	1800
J2:3/1 (B6023 Mansfield Road Lane 1)	This lane uses a directly entered Saturation Flow						1800	1800
J2:3/2 (B6023 Mansfield Road Lane 2)	This lane uses a directly entered Saturation Flow						1800	1800
J2:4/1 (Outram Street Lane 1)	This lane uses a directly entered Saturation Flow						1800	1800
J2:5/1	Infinite Saturation Flow						Inf	Inf
J2:6/1	Infinite Saturation Flow						Inf	Inf
J2:7/1	Infinite Saturation Flow						Inf	Inf
J2:8/1	Infinite Saturation Flow						Inf	Inf



Full Input Data And Results

**Scenario 2: '2030 With Dev AM'** (FG4: '2030 With Dev AM', Plan 1: 'Network Control Plan 1')

**Traffic Flows, Desired**

**Desired Flow :**

	Destination							
		A	B	C	D	E	F	Tot.
Origin	A	0	70	154	0	65	310	599
	B	67	0	0	216	0	268	551
	C	72	0	0	280	0	284	636
	D	0	129	294	0	0	0	423
	E	67	1	3	0	0	22	93
	F	254	171	336	0	17	0	778
	Tot.	460	371	787	496	82	884	3080

**Traffic Lane Flows**

Lane	Scenario 2: 2030 With Dev AM
<b>Junction: J1: Downing Street</b>	
J1:1/1 (short)	224
J1:1/2 (with short)	599(In) 375(Out)
J1:2/1	691
J1:3/1	93
J1:4/1 (short)	254
J1:4/2 (with short)	778(In) 524(Out)
J1:5/1	460
J1:6/1	735
J1:7/1	82
J1:8/1	884
<b>Junction: J2: Outram Street</b>	
J2:1/1 (short)	242
J2:1/2 (with short)	735(In) 493(Out)
J2:2/1	551
J2:3/1 (short)	280
J2:3/2 (with short)	636(In) 356(Out)
J2:4/1	423
J2:5/1	691
J2:6/1	787
J2:7/1	496
J2:8/1	371

Full Input Data And Results

**Lane Saturation Flows**

Junction: J1: Downing Street								
Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
J1:1/1 (B6028 Stoneyford Road)	3.00	0.00	Y	Arm J1:6 Left	12.00	100.0 %	1702	1702
J1:1/2 (B6028 Stoneyford Road)	3.00	0.00	Y	Arm J1:7 Ahead	Inf	17.3 %	1803	1803
				Arm J1:8 Right	20.00	82.7 %		
J1:2/1 (B6023 Mansfield Road)	4.50	0.00	Y	Arm J1:5 Right	12.00	20.1 %	2014	2014
				Arm J1:7 Left	12.00	0.0 %		
				Arm J1:8 Ahead	Inf	79.9 %		
J1:3/1 (Downing Street)	4.00	0.00	Y	Arm J1:5 Ahead	Inf	72.0 %	1897	1897
				Arm J1:6 Right	20.00	4.3 %		
				Arm J1:8 Left	6.00	23.7 %		
J1:4/1 (B6023 Priestsic Road)	2.75	0.00	Y	Arm J1:5 Left	15.00	100.0 %	1718	1718
J1:4/2 (B6023 Priestsic Road)	2.75	0.00	Y	Arm J1:6 Ahead	Inf	96.8 %	1885	1885
				Arm J1:7 Right	18.00	3.2 %		
J1:5/1	Infinite Saturation Flow						Inf	Inf
J1:6/1	Infinite Saturation Flow						Inf	Inf
J1:7/1	Infinite Saturation Flow						Inf	Inf
J1:8/1	Infinite Saturation Flow						Inf	Inf

Junction: J2: Outram Street								
Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
J2:1/1 (B6023 Mansfield Road Lane 1)	This lane uses a directly entered Saturation Flow						1800	1800
J2:1/2 (B6023 Mansfield Road Lane 2)	This lane uses a directly entered Saturation Flow						1800	1800
J2:2/1 (Dalestorth Street Lane 1)	This lane uses a directly entered Saturation Flow						1800	1800
J2:3/1 (B6023 Mansfield Road Lane 1)	This lane uses a directly entered Saturation Flow						1800	1800
J2:3/2 (B6023 Mansfield Road Lane 2)	This lane uses a directly entered Saturation Flow						1800	1800
J2:4/1 (Outram Street Lane 1)	This lane uses a directly entered Saturation Flow						1800	1800
J2:5/1	Infinite Saturation Flow						Inf	Inf
J2:6/1	Infinite Saturation Flow						Inf	Inf
J2:7/1	Infinite Saturation Flow						Inf	Inf
J2:8/1	Infinite Saturation Flow						Inf	Inf

Full Input Data And Results

**Scenario 3: '2030 Bkgd PM'** (FG3: '2030 Bkgd PM', Plan 1: 'Network Control Plan 1')

**Traffic Flows, Desired**

**Desired Flow :**

	Destination							
	A	B	C	D	E	F	Tot.	
Origin	A	0	53	62	0	110	178	403
B	55	0	0	217	232	1	505	
C	76	0	0	355	300	1	732	
D	0	268	284	0	0	0	552	
E	186	5	7	0	0	47	245	
F	350	300	339	0	23	0	1012	
Tot.	667	626	692	572	665	227	3449	

**Traffic Lane Flows**

Lane	Scenario 3: 2030 Bkgd PM
<b>Junction: J1: Downing Street</b>	
J1:1/1 (short)	115
J1:1/2 (with short)	403(In) 288(Out)
J1:2/1	665
J1:3/1	245
J1:4/1 (short)	350
J1:4/2 (with short)	1012(In) 662(Out)
J1:5/1	667
J1:6/1	766
J1:7/1	665
J1:8/1	227
<b>Junction: J2: Outram Street</b>	
J2:1/1 (short)	358
J2:1/2 (with short)	766(In) 408(Out)
J2:2/1	505
J2:3/1 (short)	355
J2:3/2 (with short)	732(In) 377(Out)
J2:4/1	552
J2:5/1	665
J2:6/1	692
J2:7/1	572
J2:8/1	626

Full Input Data And Results

**Lane Saturation Flows**

Junction: J1: Downing Street								
Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
J1:1/1 (B6028 Stoneyford Road)	3.00	0.00	Y	Arm J1:6 Left	12.00	100.0 %	1702	1702
J1:1/2 (B6028 Stoneyford Road)	3.00	0.00	Y	Arm J1:7 Ahead	Inf	38.2 %	1830	1830
				Arm J1:8 Right	20.00	61.8 %		
J1:2/1 (B6023 Mansfield Road)	4.50	0.00	Y	Arm J1:5 Right	12.00	19.7 %	1836	1836
				Arm J1:7 Left	12.00	80.0 %		
				Arm J1:8 Ahead	Inf	0.3 %		
J1:3/1 (Downing Street)	4.00	0.00	Y	Arm J1:5 Ahead	Inf	75.9 %	1916	1916
				Arm J1:6 Right	20.00	4.9 %		
				Arm J1:8 Left	6.00	19.2 %		
J1:4/1 (B6023 Priestsic Road)	2.75	0.00	Y	Arm J1:5 Left	15.00	100.0 %	1718	1718
J1:4/2 (B6023 Priestsic Road)	2.75	0.00	Y	Arm J1:6 Ahead	Inf	96.5 %	1885	1885
				Arm J1:7 Right	18.00	3.5 %		
J1:5/1	Infinite Saturation Flow						Inf	Inf
J1:6/1	Infinite Saturation Flow						Inf	Inf
J1:7/1	Infinite Saturation Flow						Inf	Inf
J1:8/1	Infinite Saturation Flow						Inf	Inf

Junction: J2: Outram Street								
Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
J2:1/1 (B6023 Mansfield Road Lane 1)	This lane uses a directly entered Saturation Flow						1800	1800
J2:1/2 (B6023 Mansfield Road Lane 2)	This lane uses a directly entered Saturation Flow						1800	1800
J2:2/1 (Dalestorth Street Lane 1)	This lane uses a directly entered Saturation Flow						1800	1800
J2:3/1 (B6023 Mansfield Road Lane 1)	This lane uses a directly entered Saturation Flow						1800	1800
J2:3/2 (B6023 Mansfield Road Lane 2)	This lane uses a directly entered Saturation Flow						1800	1800
J2:4/1 (Outram Street Lane 1)	This lane uses a directly entered Saturation Flow						1800	1800
J2:5/1	Infinite Saturation Flow						Inf	Inf
J2:6/1	Infinite Saturation Flow						Inf	Inf
J2:7/1	Infinite Saturation Flow						Inf	Inf
J2:8/1	Infinite Saturation Flow						Inf	Inf

Full Input Data And Results

**Scenario 4: '2030 With Dev PM'** (FG5: '2030 With Dev PM', Plan 1: 'Network Control Plan 1')

**Traffic Flows, Desired**

**Desired Flow :**

	Destination							
		A	B	C	D	E	F	Tot.
Origin	A	0	52	62	0	111	178	403
	B	55	0	0	217	242	1	515
	C	76	0	0	355	311	1	743
	D	0	283	269	0	0	0	552
	E	185	5	7	0	0	47	244
	F	350	306	344	0	23	0	1023
	Tot.	666	646	682	572	687	227	3480

**Traffic Lane Flows**

Lane	Scenario 4: 2030 With Dev PM
<b>Junction: J1: Downing Street</b>	
J1:1/1 (short)	114
J1:1/2 (with short)	403(In) 289(Out)
J1:2/1	686
J1:3/1	244
J1:4/1 (short)	350
J1:4/2 (with short)	1023(In) 673(Out)
J1:5/1	666
J1:6/1	776
J1:7/1	687
J1:8/1	227
<b>Junction: J2: Outram Street</b>	
J2:1/1 (short)	363
J2:1/2 (with short)	776(In) 413(Out)
J2:2/1	515
J2:3/1 (short)	355
J2:3/2 (with short)	743(In) 388(Out)
J2:4/1	552
J2:5/1	686
J2:6/1	682
J2:7/1	572
J2:8/1	646

Full Input Data And Results

**Lane Saturation Flows**

Junction: J1: Downing Street								
Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
J1:1/1 (B6028 Stoneyford Road)	3.00	0.00	Y	Arm J1:6 Left	12.00	100.0 %	1702	1702
J1:1/2 (B6028 Stoneyford Road)	3.00	0.00	Y	Arm J1:7 Ahead	Inf	38.4 %	1830	1830
				Arm J1:8 Right	20.00	61.6 %		
J1:2/1 (B6023 Mansfield Road)	4.50	0.00	Y	Arm J1:5 Right	12.00	19.1 %	1836	1836
				Arm J1:7 Left	12.00	80.6 %		
				Arm J1:8 Ahead	Inf	0.3 %		
J1:3/1 (Downing Street)	4.00	0.00	Y	Arm J1:5 Ahead	Inf	75.8 %	1916	1916
				Arm J1:6 Right	20.00	4.9 %		
				Arm J1:8 Left	6.00	19.3 %		
J1:4/1 (B6023 Priestsic Road)	2.75	0.00	Y	Arm J1:5 Left	15.00	100.0 %	1718	1718
J1:4/2 (B6023 Priestsic Road)	2.75	0.00	Y	Arm J1:6 Ahead	Inf	96.6 %	1885	1885
				Arm J1:7 Right	18.00	3.4 %		
J1:5/1	Infinite Saturation Flow						Inf	Inf
J1:6/1	Infinite Saturation Flow						Inf	Inf
J1:7/1	Infinite Saturation Flow						Inf	Inf
J1:8/1	Infinite Saturation Flow						Inf	Inf

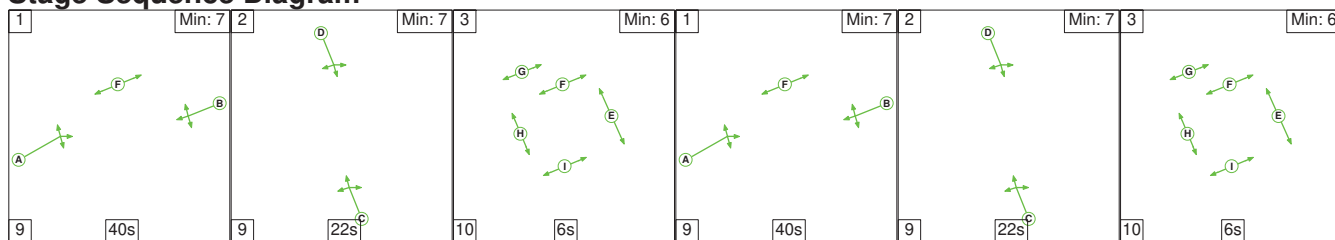
Junction: J2: Outram Street								
Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
J2:1/1 (B6023 Mansfield Road Lane 1)	This lane uses a directly entered Saturation Flow						1800	1800
J2:1/2 (B6023 Mansfield Road Lane 2)	This lane uses a directly entered Saturation Flow						1800	1800
J2:2/1 (Dalestorth Street Lane 1)	This lane uses a directly entered Saturation Flow						1800	1800
J2:3/1 (B6023 Mansfield Road Lane 1)	This lane uses a directly entered Saturation Flow						1800	1800
J2:3/2 (B6023 Mansfield Road Lane 2)	This lane uses a directly entered Saturation Flow						1800	1800
J2:4/1 (Outram Street Lane 1)	This lane uses a directly entered Saturation Flow						1800	1800
J2:5/1	Infinite Saturation Flow						Inf	Inf
J2:6/1	Infinite Saturation Flow						Inf	Inf
J2:7/1	Infinite Saturation Flow						Inf	Inf
J2:8/1	Infinite Saturation Flow						Inf	Inf

Full Input Data And Results

Scenario 1: '2030 Bkgd AM' (FG2: '2030 Bkgd AM', Plan 1: 'Network Control Plan 1')

C1

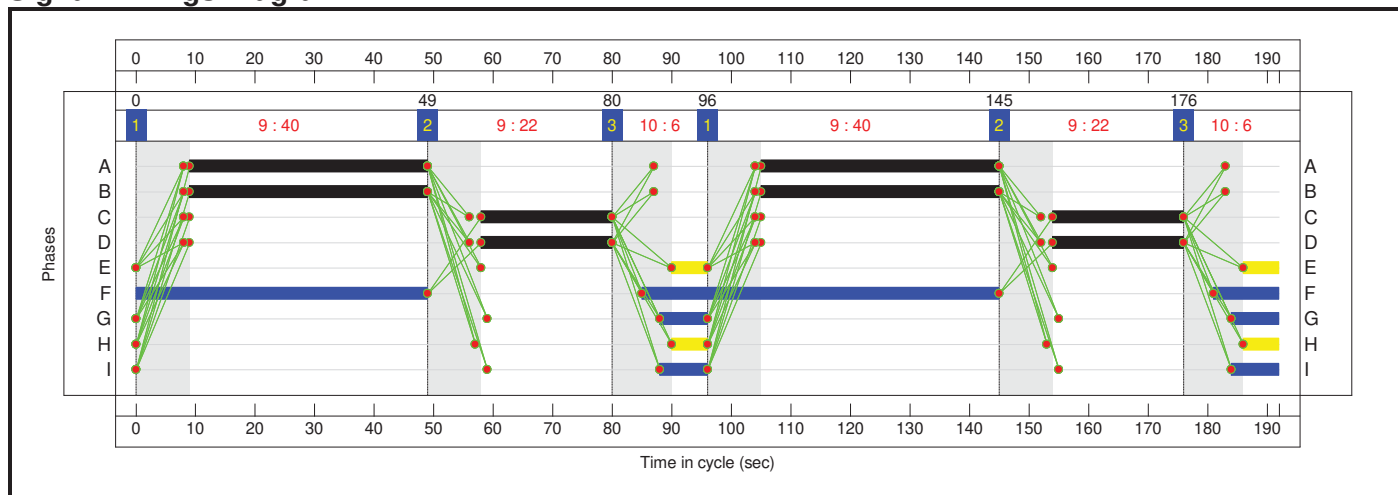
Stage Sequence Diagram



Stage Timings

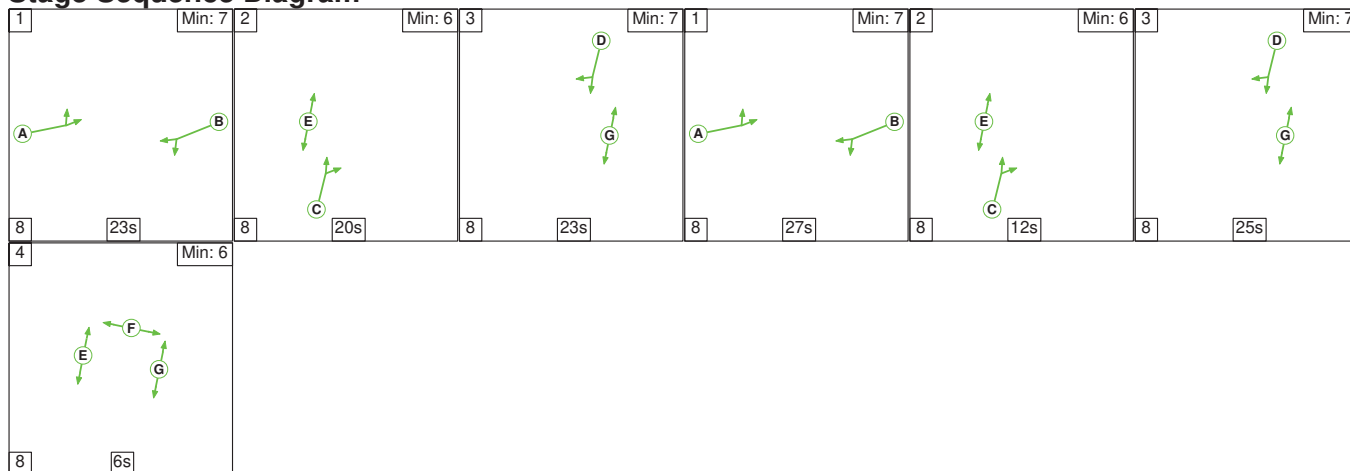
Stage	1	2	3	1	2	3
Duration	40	22	6	40	22	6
Change Point	0	49	80	96	145	176

Signal Timings Diagram



C2

Stage Sequence Diagram

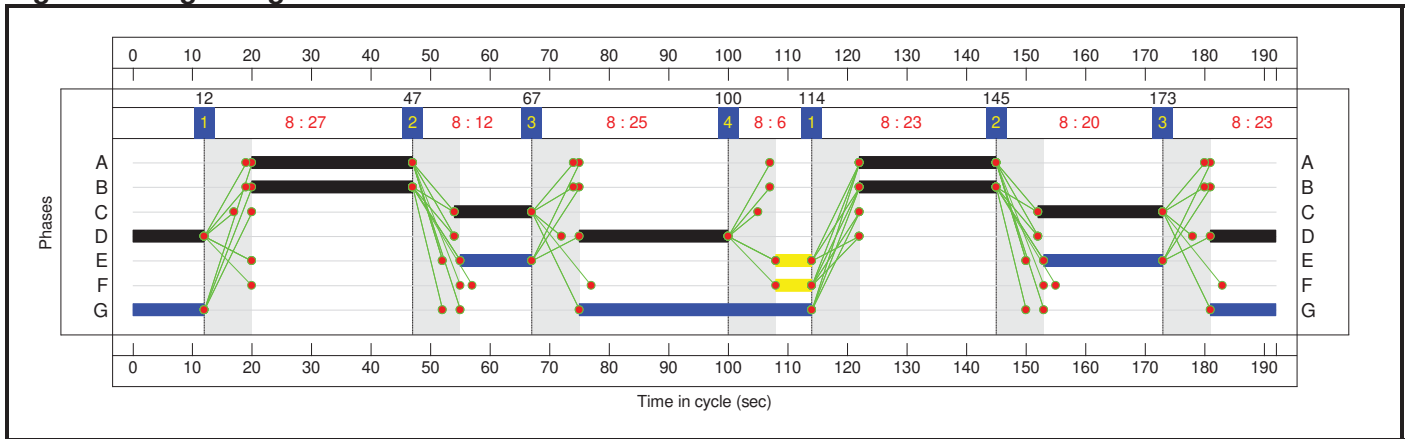


Stage Timings

Stage	1	2	3	1	2	3	4
Duration	23	20	23	27	12	25	6
Change Point	114	145	173	12	47	67	100

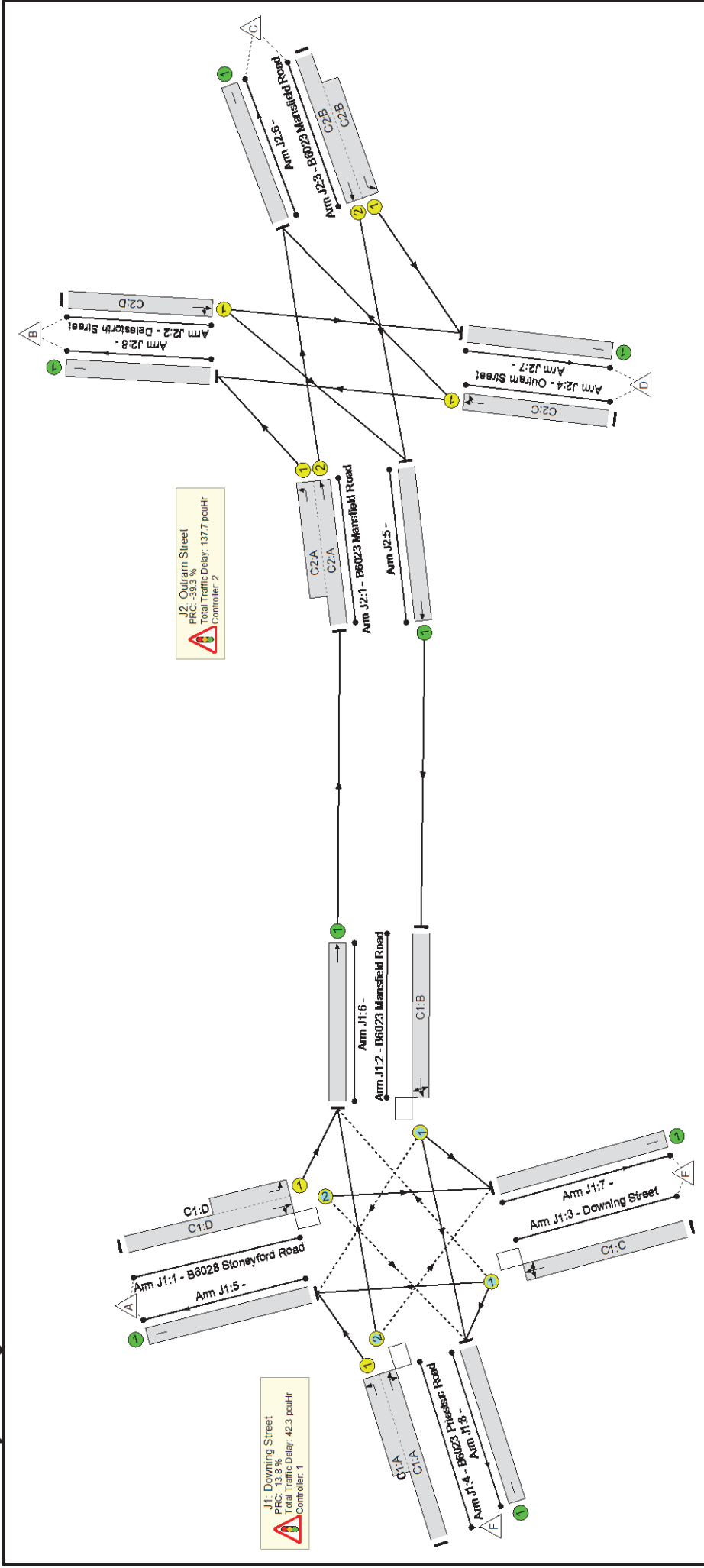
# Full Input Data And Results

## Signal Timings Diagram





Full Input Data And Results  
**Network Layout Diagram**



Full Input Data And Results

**Network Results**

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
<b>Network: Mansfield Road-Stoneyford Road-Downing Street-Dalestorth Street</b>													
<b>J1: Downing Street</b>													
1/2+1/1	B6028 Stoneyford Road Left Ahead Right	O+U	N/A	N/A	C1:D		2	44	-	598	1803:1702	366+218	102.4 : 102.4%
2/1	B6023 Mansfield Road Right Left Ahead	O	N/A	N/A	C1:B		2	80	-	683	2014	667	95.3%
3/1	Downing Street Ahead Right Left	O	N/A	N/A	C1:C		2	44	-	93	1897	454	20.5%
4/2+4/1	B6023 Priestscic Road Left Ahead Right	O+U	N/A	N/A	C1:A		2	80	-	758	1885:1718	641+323	78.6 : 78.6%
5/1		U	N/A	N/A	-		-	-	-	460	Inf	Inf	0.0%
6/1	Ahead	U	N/A	N/A	-		-	-	-	714	Inf	Inf	0.0%
7/1		U	N/A	N/A	-		-	-	-	82	Inf	Inf	0.0%
8/1		U	N/A	N/A	-		-	-	-	876	Inf	Inf	0.0%
<b>J2: Outram Street</b>													
1/2+1/1	B6023 Mansfield Road Ahead Left	U	N/A	N/A	C2:A		2	50	-	714	1800:1800	488+235	98.1 : 98.2%
2/1	Dalestorth Street Right Ahead	U	N/A	N/A	C2:D		2	48	-	547	1800	469	116.7%
3/2+3/1	B6023 Mansfield Road Ahead Left	U	N/A	N/A	C2:B		2	50	-	632	1800:1800	488+388	72.2 : 72.2%
4/1	Outram Street Right Ahead	U	N/A	N/A	C2:C		2	34	-	423	1800	338	125.3%



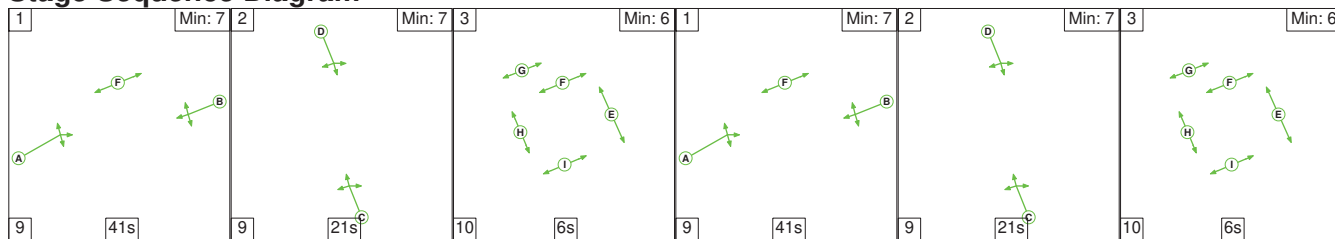


Full Input Data And Results

Scenario 2: '2030 With Dev AM' (FG4: '2030 With Dev AM', Plan 1: 'Network Control Plan 1')

C1

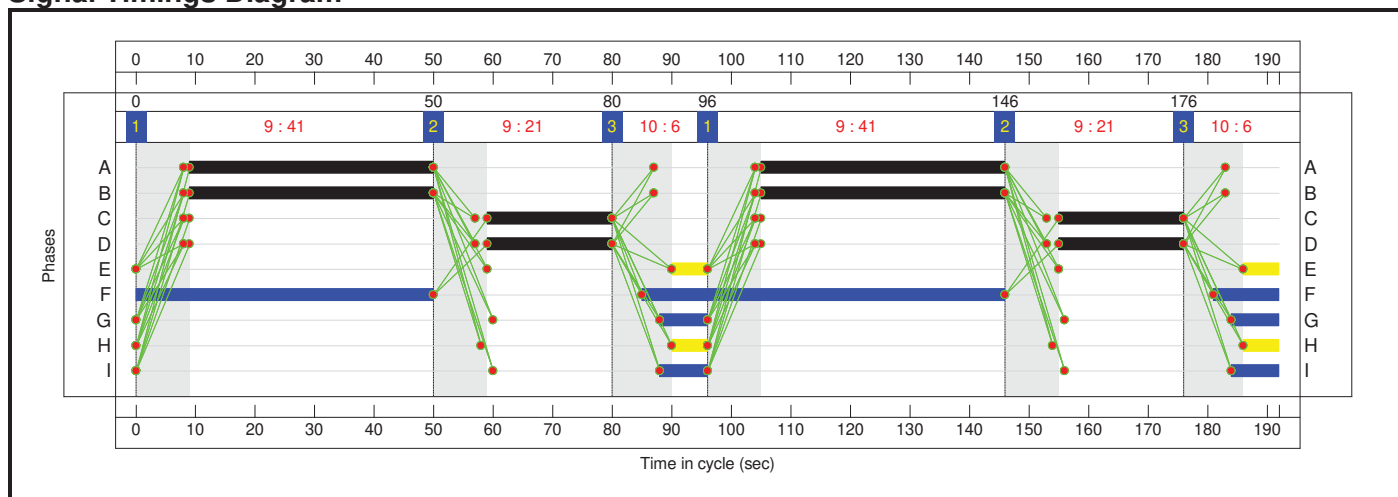
Stage Sequence Diagram



Stage Timings

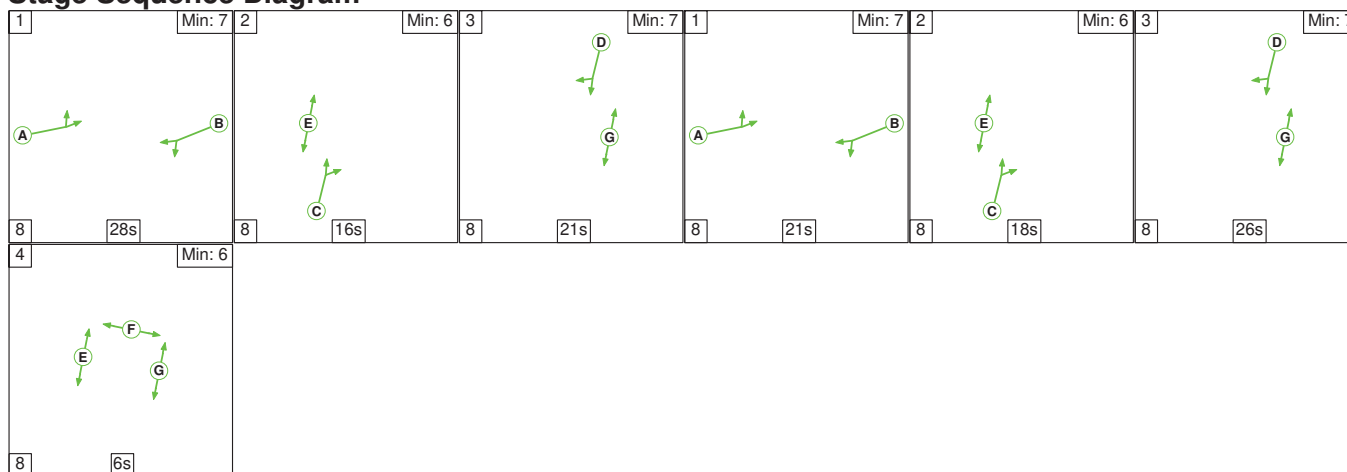
Stage	1	2	3	1	2	3
Duration	41	21	6	41	21	6
Change Point	0	50	80	96	146	176

Signal Timings Diagram



C2

Stage Sequence Diagram

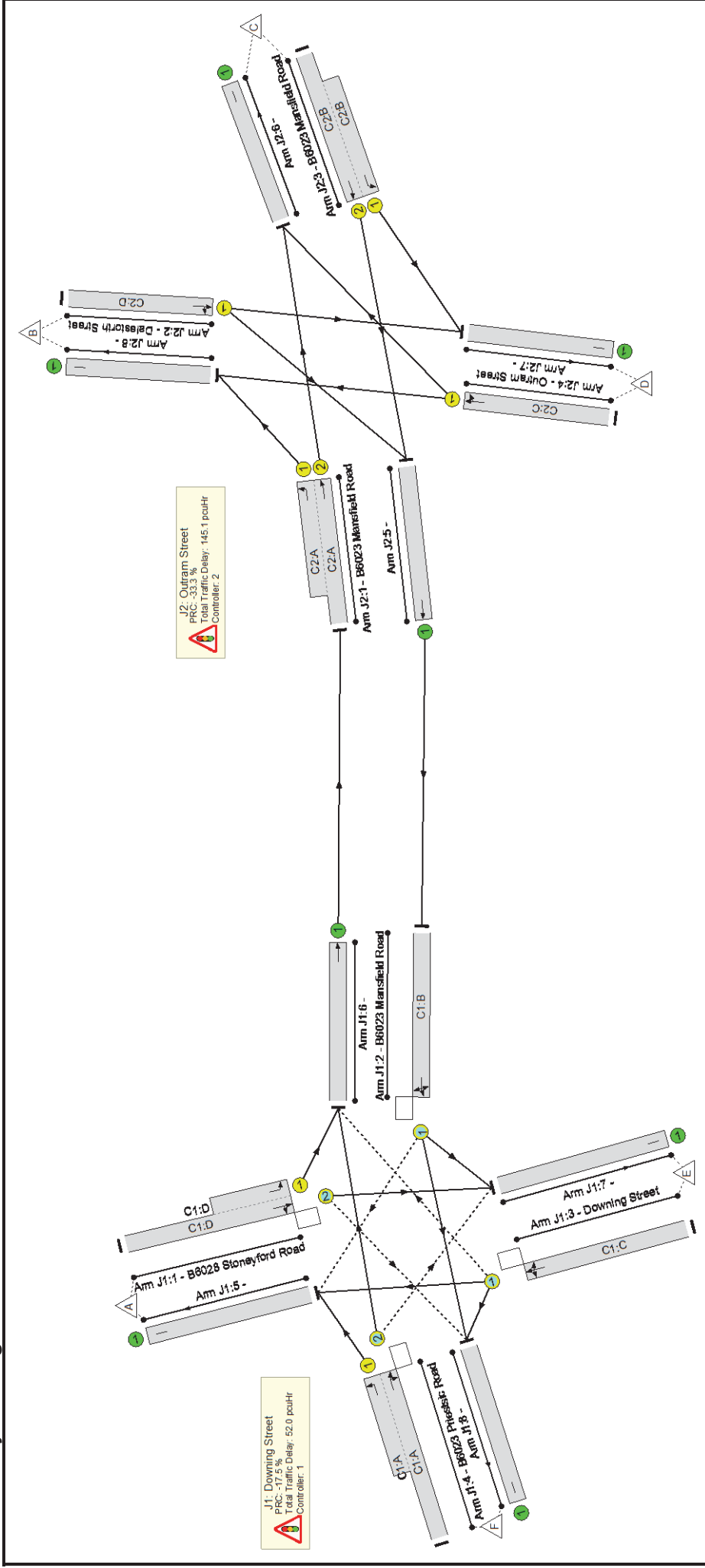


Stage Timings

Stage	1	2	3	1	2	3	4
Duration	28	16	21	21	18	26	6
Change Point	43	79	103	132	161	187	29



Full Input Data And Results  
**Network Layout Diagram**



Full Input Data And Results

**Network Results**

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
<b>Network: Mansfield Road-Stoneyford Road-Downing Street-Dalestorth Street</b>													
<b>J1: Downing Street</b>													
1/2+1/1	B6028 Stoneyford Road Left Ahead Right	O+U	N/A	N/A	C1:D		2	42	-	599	1803:1702	355+212	105.8% 105.8%
2/1	B6023 Mansfield Road Right Left Ahead	O	N/A	N/A	C1:B		2	82	-	691	2014	668	95.1%
3/1	Downing Street Ahead Right Left	O	N/A	N/A	C1:C		2	42	-	93	1897	435	21.4%
4/2+4/1	B6023 Prieststic Road Left Ahead Right	O+U	N/A	N/A	C1:A		2	82	-	778	1885:1718	658+319	79.6% 79.6%
5/1		U	N/A	N/A	-		-	-	-	460	Inf	Inf	0.0%
6/1	Ahead	U	N/A	N/A	-		-	-	-	735	Inf	Inf	0.0%
7/1		U	N/A	N/A	-		-	-	-	82	Inf	Inf	0.0%
8/1		U	N/A	N/A	-		-	-	-	884	Inf	Inf	0.0%
<b>J2: Outram Street</b>													
1/2+1/1	B6023 Mansfield Road Ahead Left	U	N/A	N/A	C2:A		2	49	-	735	1800:1800	478+235	101.4% 101.5%
2/1	Dalestorth Street Right Ahead	U	N/A	N/A	C2:D		2	47	-	551	1800	459	119.9%
3/2+3/1	B6023 Mansfield Road Ahead Left	U	N/A	N/A	C2:B		2	49	-	636	1800:1800	478+376	74.5% 74.5%
4/1	Outram Street Right Ahead	U	N/A	N/A	C2:C		2	36	-	423	1800	356	118.7%



Full Input Data And Results

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
5/1	Ahead	U	N/A	N/A	-	-	-	-	-	691	Inf	Inf	0.0%
6/1		U	N/A	N/A	-	-	-	-	-	787	Inf	Inf	0.0%
7/1		U	N/A	N/A	-	-	-	-	-	496	Inf	Inf	0.0%
8/1		U	N/A	N/A	-	-	-	-	-	371	Inf	Inf	0.0%
<b>Network: Mansfield Road-Stoneyford Road-Downing Street-Dalesforth Street</b>													
<b>J1: Downing Street</b>			<b>381</b>	<b>0</b>	<b>61</b>	<b>62.0</b>	<b>134.3</b>	<b>0.9</b>	<b>197.2</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>
1/2+1/1	599	566	252	0	41	9.4	22.9	0.3	32.6	195.8	16.4	22.9	39.3
2/1	635	635	109	0	19	4.8	6.8	0.5	12.2	69.1	16.7	6.8	23.6
3/1	93	93	4	0	0	0.8	0.1	0.0	0.9	35.4	2.0	0.1	2.1
4/2+4/1	778	778	17	0	0	4.4	1.9	0.0	6.3	29.4	12.3	1.9	14.2
5/1	449	449	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	723	723	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	78	78	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	823	823	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
<b>J2: Outram Street</b>			<b>0</b>	<b>0</b>	<b>0</b>	<b>42.6</b>	<b>102.5</b>	<b>0.0</b>	<b>145.1</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>
1/2+1/1	723	716	-	-	-	6.6	16.2	-	22.7	113.2	16.4	16.2	32.6
2/1	551	459	-	-	-	17.0	48.6	-	65.6	428.8	25.5	48.6	74.2
3/2+3/1	636	636	-	-	-	5.7	1.4	-	7.1	40.4	9.9	1.4	11.3
4/1	423	356	-	-	-	13.3	36.3	-	49.6	422.3	20.4	36.3	56.7
5/1	635	635	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	726	726	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	460	460	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	347	347	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
C1			PRC for Signalled Lanes (%)	-17.5	Total Delay for Signalled Lanes (pcuHr)	52.03	Cycle Time (s)	192					
C2			PRC for Signalled Lanes (%)	-33.3	Total Delay for Signalled Lanes (pcuHr)	145.12	Cycle Time (s)	192					
			PRC Over All Lanes (%)	-33.3	Total Delay Over All Lanes (pcuHr)	197.15							

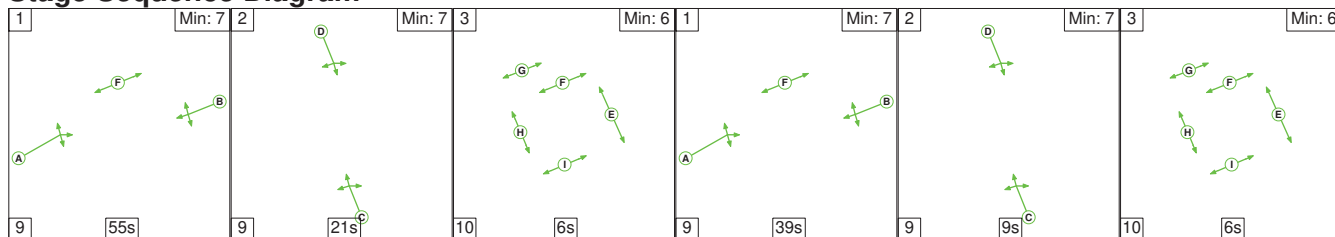


Full Input Data And Results

Scenario 3: '2030 Bkgd PM' (FG3: '2030 Bkgd PM', Plan 1: 'Network Control Plan 1')

C1

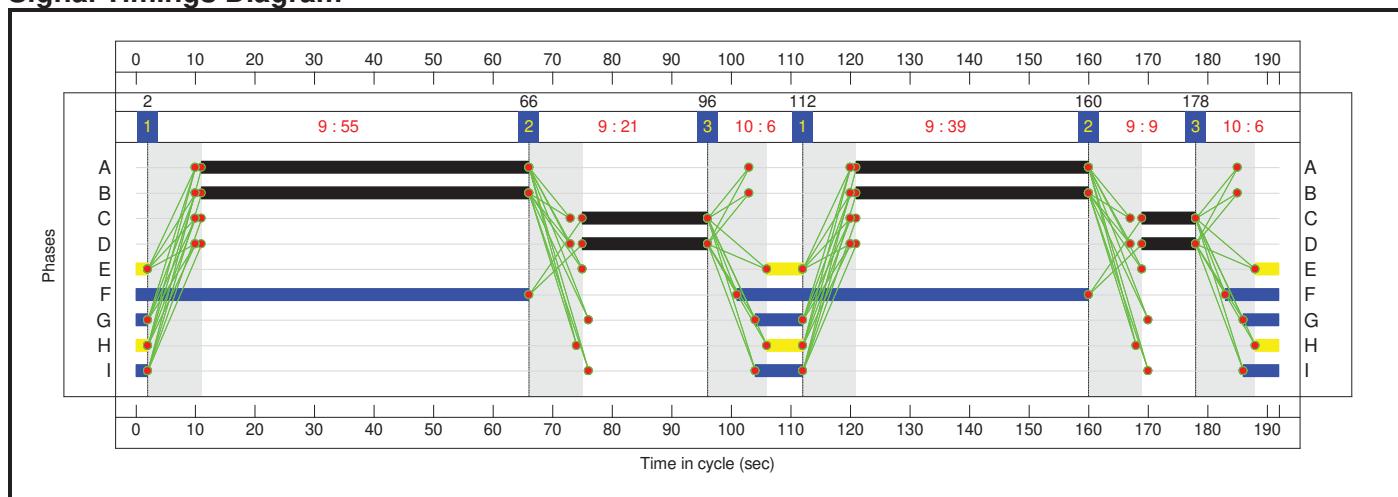
Stage Sequence Diagram



Stage Timings

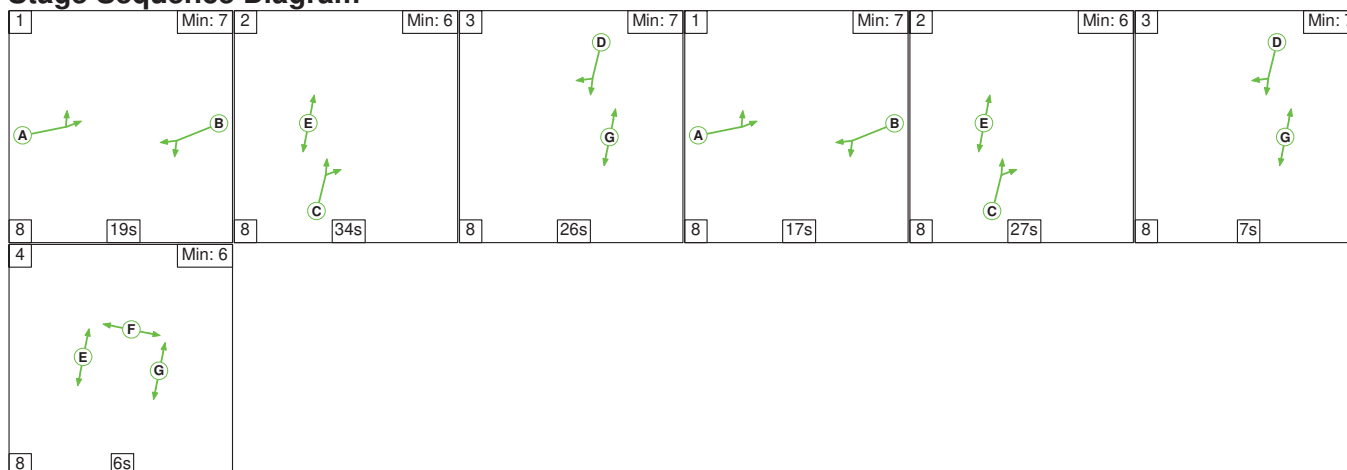
Stage	1	2	3	1	2	3
Duration	55	21	6	39	9	6
Change Point	2	66	96	112	160	178

Signal Timings Diagram



C2

Stage Sequence Diagram

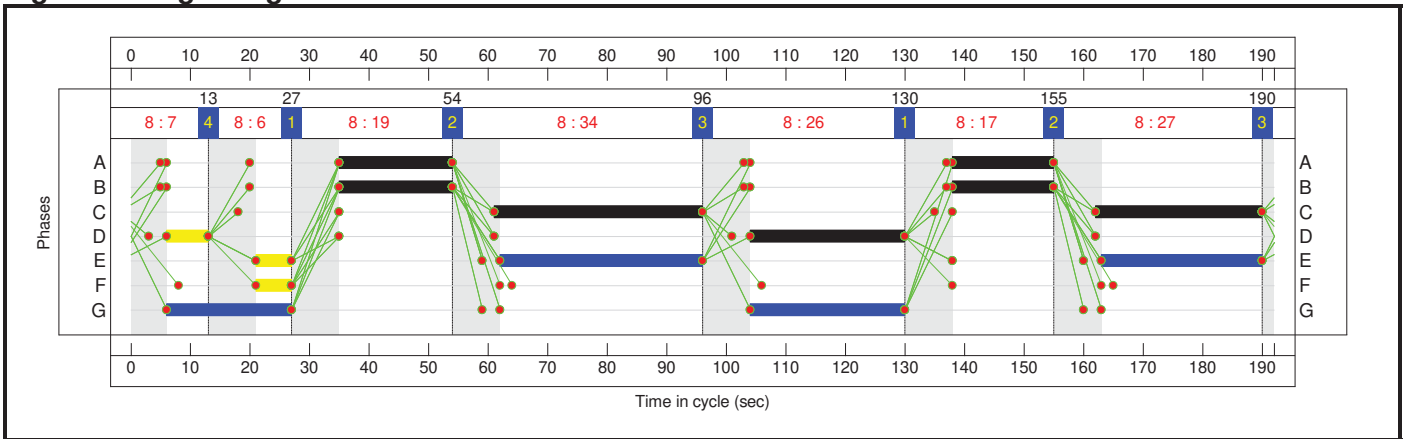


Stage Timings

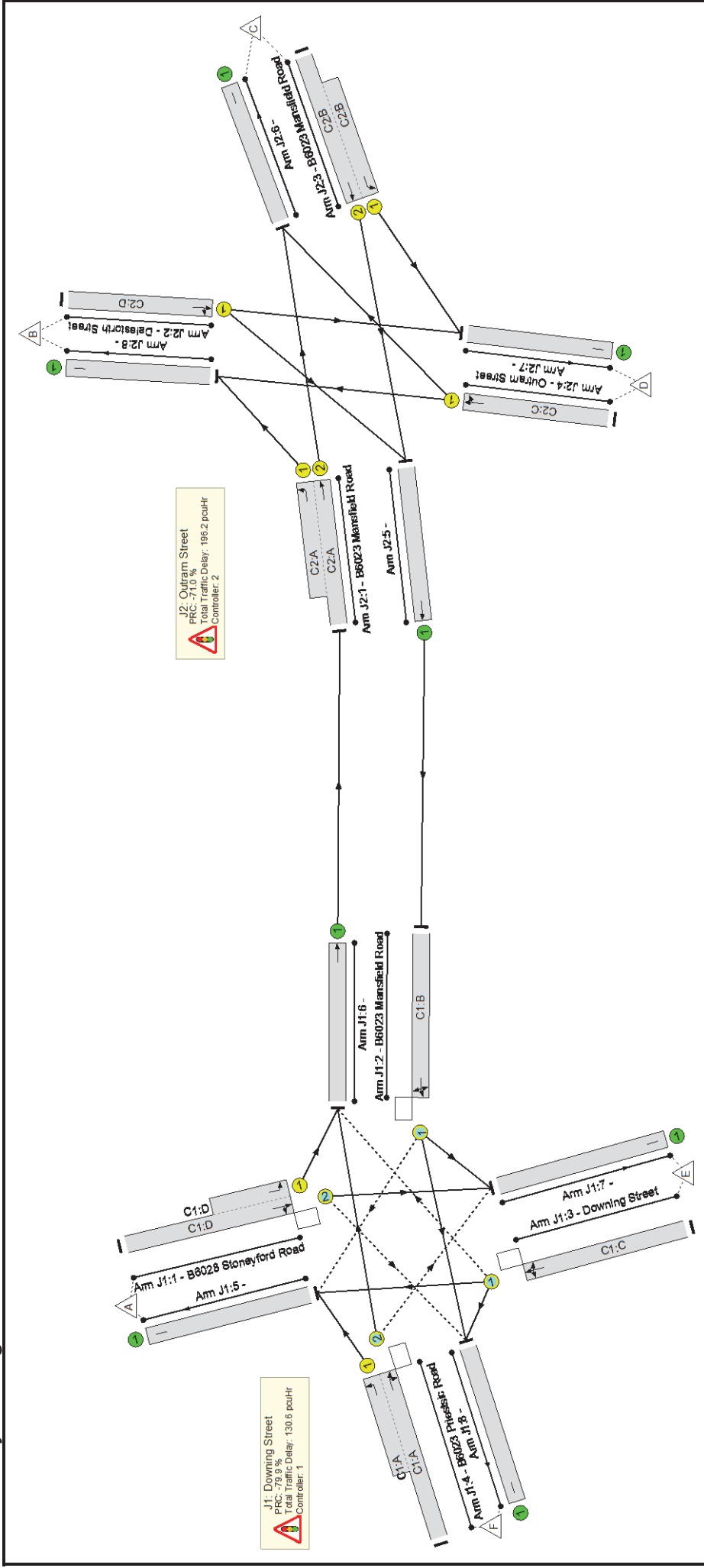
Stage	1	2	3	1	2	3	4
Duration	19	34	26	17	27	7	6
Change Point	27	54	96	130	155	190	13

# Full Input Data And Results

## Signal Timings Diagram



Full Input Data And Results  
**Network Layout Diagram**



Full Input Data And Results

**Network Results**

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
<b>Network: Mansfield Road-Stoneyford Road-Downing Street-Dalestorth Street</b>													
<b>J1: Downing Street</b>													
1/2+1/1	B6028 Stoneyford Road Left Ahead Right	O+U	N/A	N/A	C1:D		2	30	-	403	1830:1702	178+71	162.0 : 162.0%
2/1	B6023 Mansfield Road Right Left Ahead	O	N/A	N/A	C1:B		2	94	-	665	1836	537	101.2%
3/1	Downing Street Ahead Right Left	O	N/A	N/A	C1:C		2	30	-	245	1916	319	76.7%
4/2+4/1	B6023 Priestscic Road Left Ahead Right	O+U	N/A	N/A	C1:A		2	94	-	1012	1885:1718	723+382	91.6 : 91.6%
5/1		U	N/A	N/A	-		-	-	-	667	Inf	Inf	0.0%
6/1	Ahead	U	N/A	N/A	-		-	-	-	766	Inf	Inf	0.0%
7/1		U	N/A	N/A	-		-	-	-	665	Inf	Inf	0.0%
8/1		U	N/A	N/A	-		-	-	-	227	Inf	Inf	0.0%
<b>J2: Outram Street</b>													
1/2+1/1	B6023 Mansfield Road Ahead Left	U	N/A	N/A	C2:A		2	36	-	766	1800:1800	356+313	107.9 : 108.0%
2/1	Dalestorth Street Right Ahead	U	N/A	N/A	C2:D		2	33	-	505	1800	328	153.9%
3/2+3/1	B6023 Mansfield Road Ahead Left	U	N/A	N/A	C2:B		2	36	-	732	1800:1800	356+356	105.8 : 99.6%
4/1	Outram Street Right Ahead	U	N/A	N/A	C2:C		2	63	-	552	1800	609	90.6%

Full Input Data And Results

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
5/1	Ahead	U	N/A	N/A	-	-	-	-	-	665	Inf	Inf	0.0%
6/1		U	N/A	N/A	-	-	-	-	-	692	Inf	Inf	0.0%
7/1		U	N/A	N/A	-	-	-	-	-	572	Inf	Inf	0.0%
8/1		U	N/A	N/A	-	-	-	-	-	626	Inf	Inf	0.0%
<b>Network: Mansfield Road-Stoneyford Road-Downing Street-Dalesforth Street</b>													
<b>J1: Downing Street</b>													
1/2+1/1	403	249	126	0	126	81.4	244.3	1.1	326.7	-	-	-	-
2/1	543	536	40	0	66	2.9	13.3	0.8	17.0	112.8	10.2	13.3	23.5
3/1	245	245	12	0	0	2.8	1.6	0.0	4.3	63.9	7.1	1.6	8.7
4/2+4/1	1012	1012	22	0	1	5.8	4.9	0.0	10.8	38.4	22.8	4.9	27.7
5/1	642	642	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	722	722	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	520	520	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	158	158	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
<b>J2: Outram Street</b>													
1/2+1/1	722	694	-	-	-	9.2	32.2	-	41.3	206.1	15.4	32.2	47.6
2/1	505	328	-	-	-	25.3	89.8	-	115.1	820.6	35.3	89.8	125.1
3/2+3/1	732	711	-	-	-	11.0	19.9	-	30.9	151.8	12.8	19.9	32.7
4/1	552	552	-	-	-	4.6	4.2	-	8.8	57.7	14.3	4.2	18.5
5/1	543	543	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	640	640	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	496	496	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	606	606	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
C1		PRC for Signalled Lanes (%)	-79.9		Total Delay for Signalled Lanes (pcuHr)	130.58			Cycle Time (s)	192			
C2		PRC for Signalled Lanes (%)	-71.0		Total Delay for Signalled Lanes (pcuHr)	196.17			Cycle Time (s)	192			
		PRC Over All Lanes (%)	-79.9		Total Delay Over All Lanes (pcuHr)	326.74							



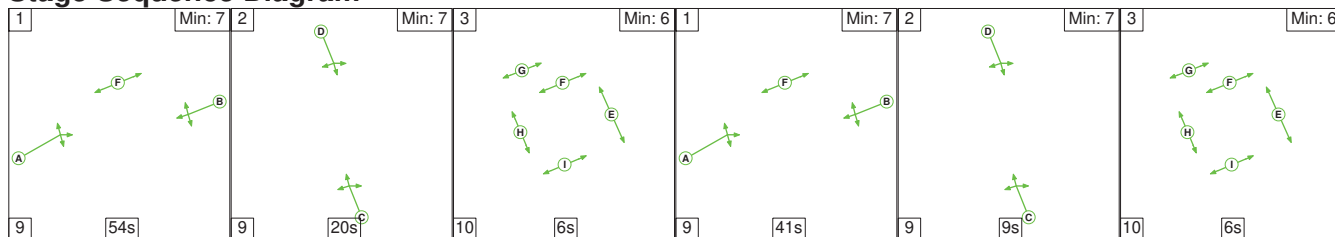


Full Input Data And Results

Scenario 4: '2030 With Dev PM' (FG5: '2030 With Dev PM', Plan 1: 'Network Control Plan 1')

C1

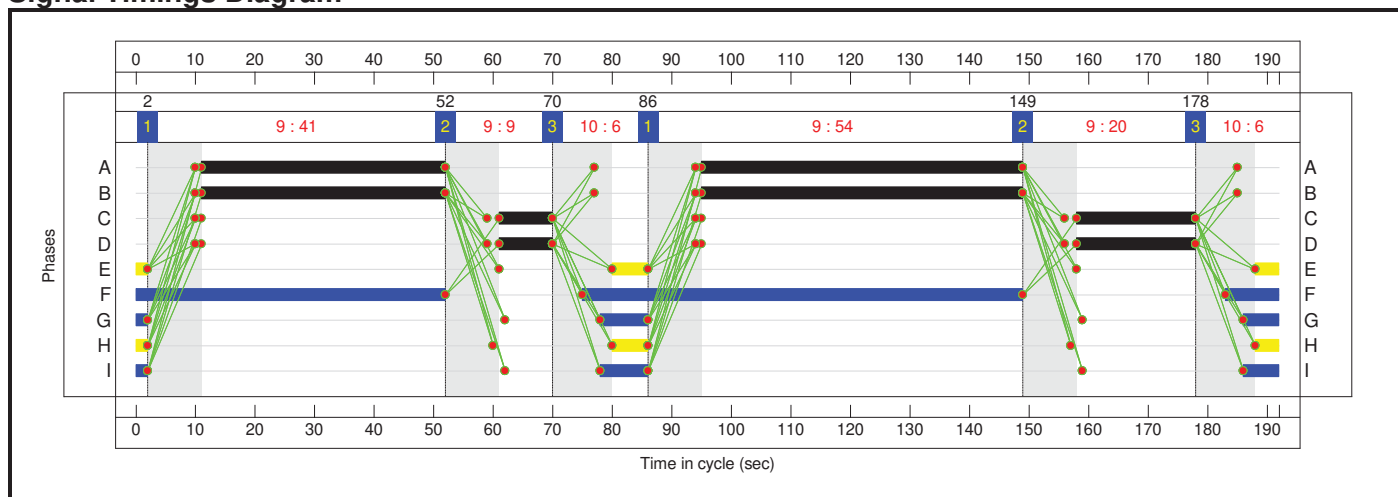
Stage Sequence Diagram



Stage Timings

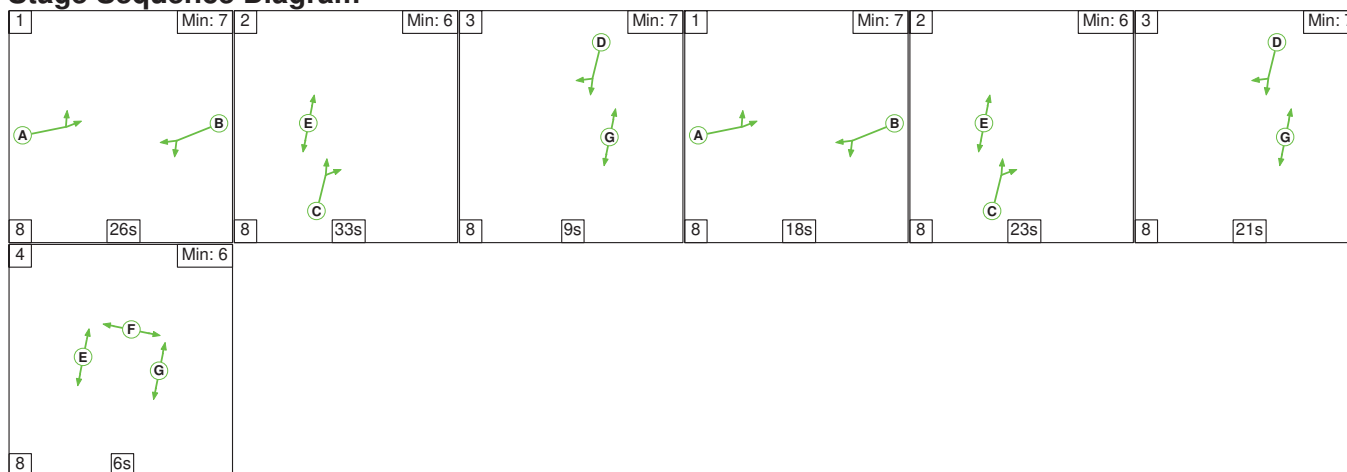
Stage	1	2	3	1	2	3
Duration	54	20	6	41	9	6
Change Point	86	149	178	2	52	70

Signal Timings Diagram



C2

Stage Sequence Diagram

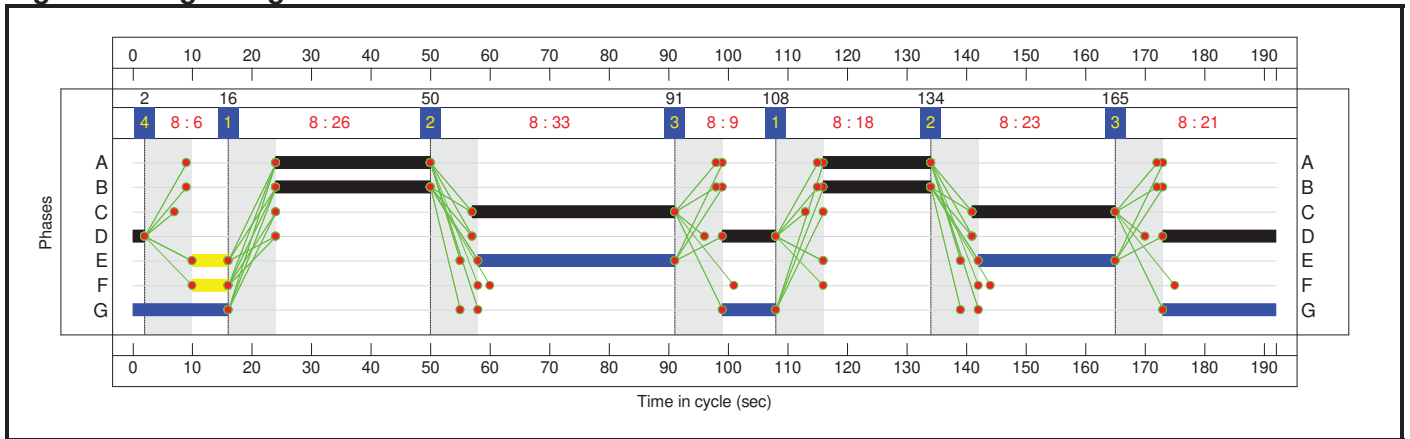


Stage Timings

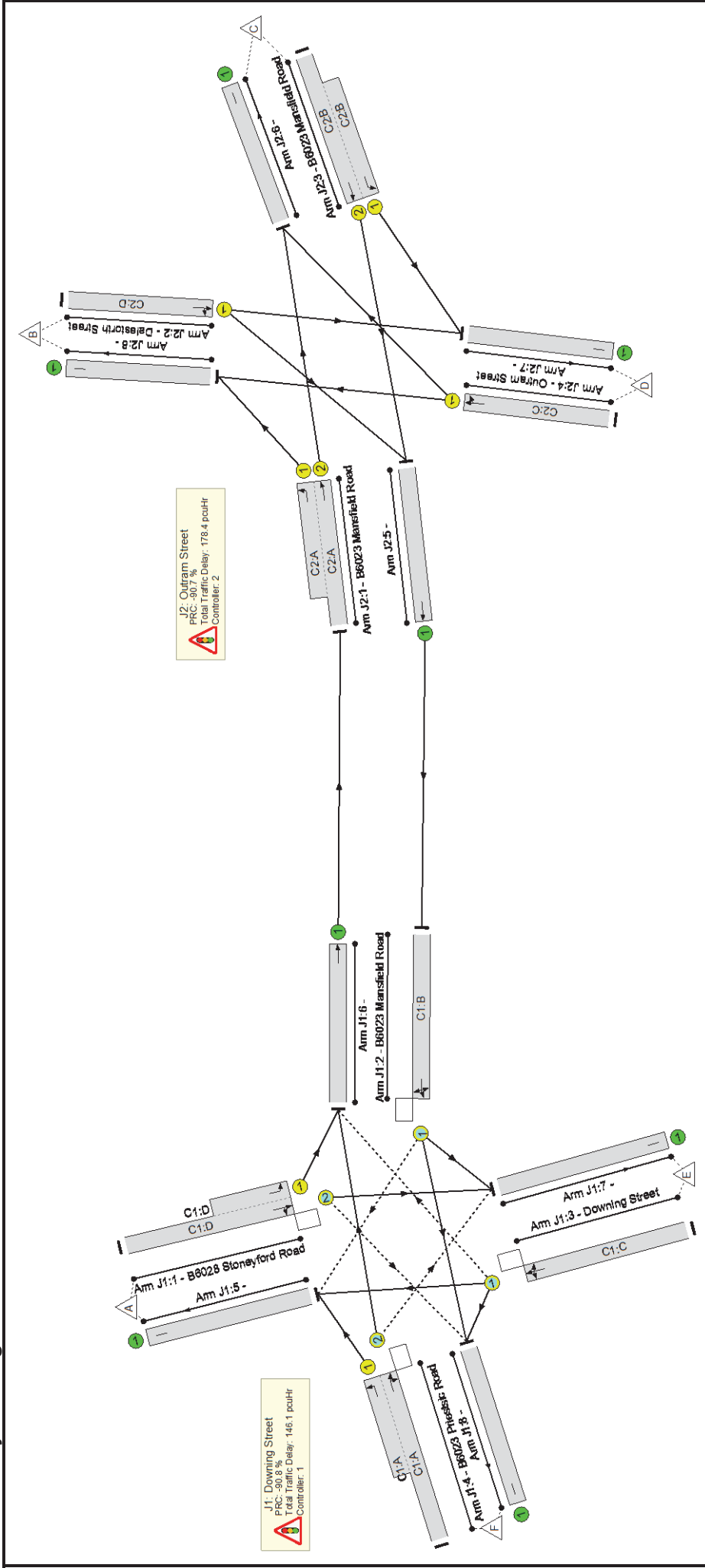
Stage	1	2	3	1	2	3	4
Duration	26	33	9	18	23	21	6
Change Point	16	50	91	108	134	165	2

# Full Input Data And Results

## Signal Timings Diagram



Full Input Data And Results  
**Network Layout Diagram**



Full Input Data And Results

**Network Results**

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
<b>Network: Mansfield Road-Stoneyford Road-Downing Street-Dalestorth Street</b>													
<b>J1: Downing Street</b>													
1/2+1/1	B6028 Stoneyford Road Left Ahead Right	O+U	N/A	N/A	C1:D		2	29	-	403	1830:1702	168+66	171.7 : 171.7%
2/1	B6023 Mansfield Road Right Left Ahead	O	N/A	N/A	C1:B		2	95	-	686	1836	542	103.7%
3/1	Downing Street Ahead Right Left	O	N/A	N/A	C1:C		2	29	-	244	1916	309	78.9%
4/2+4/1	B6023 Priestscic Road Left Ahead Right	O+U	N/A	N/A	C1:A		2	95	-	1023	1885:1718	731+380	92.0 : 92.0%
5/1		U	N/A	N/A	-		-	-	-	666	Inf	Inf	0.0%
6/1	Ahead	U	N/A	N/A	-		-	-	-	776	Inf	Inf	0.0%
7/1		U	N/A	N/A	-		-	-	-	687	Inf	Inf	0.0%
8/1		U	N/A	N/A	-		-	-	-	227	Inf	Inf	0.0%
<b>J2: Outram Street</b>													
1/2+1/1	B6023 Mansfield Road Ahead Left	U	N/A	N/A	C2:A		2	44	-	776	1800:1800	431+379	89.8 : 90.0%
2/1	Dalestorth Street Right Ahead	U	N/A	N/A	C2:D		2	30	-	515	1800	300	171.7%
3/2+3/1	B6023 Mansfield Road Ahead Left	U	N/A	N/A	C2:B		2	44	-	743	1800:1800	431+395	90.0 : 90.0%
4/1	Outram Street Right Ahead	U	N/A	N/A	C2:C		2	58	-	552	1800	563	98.1%

Full Input Data And Results

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)		
5/1	Ahead	U	N/A	N/A	-	-	-	-	-	686	Inf	Inf	0.0%		
6/1		U	N/A	N/A	-	-	-	-	-	682	Inf	Inf	0.0%		
7/1		U	N/A	N/A	-	-	-	-	-	572	Inf	Inf	0.0%		
8/1		U	N/A	N/A	-	-	-	-	-	646	Inf	Inf	0.0%		
<b>Network: Mansfield Road-Stoneyford Road-Downing Street-Dalesforth Street</b>															
<b>J1: Downing Street</b>			116	0	126	87.1	236.4	1.0	324.5	-	-	-	-		
1/2+1/1	403	235	45	0	59	22.6	85.3	0.3	108.2	966.2	30.9	85.3	116.3		
2/1	562	540	37	0	66	3.8	17.9	0.8	22.5	144.0	10.1	17.9	28.0		
3/1	244	244	12	0	0	2.8	1.8	0.0	4.6	67.9	7.1	1.8	8.9		
4/2+4/1	1023	1023	22	0	1	5.7	5.2	0.0	10.9	38.3	22.9	5.2	28.1		
5/1	639	639	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0		
6/1	728	728	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0		
7/1	522	522	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0		
8/1	152	152	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0		
<b>J2: Outram Street</b>			0	0	0	52.2	126.2	0.0	178.4	-	-	-	-		
1/2+1/1	728	728	-	-	-	5.9	4.0	-	10.0	49.2	17.4	4.0	21.5		
2/1	515	300	-	-	-	33.4	108.7	-	142.1	993.2	44.7	108.7	153.4		
3/2+3/1	743	743	-	-	-	7.3	4.1	-	11.4	55.2	11.1	4.1	15.2		
4/1	552	552	-	-	-	5.6	9.4	-	15.0	97.7	18.1	9.4	27.5		
5/1	562	562	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0		
6/1	656	656	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0		
7/1	481	481	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0		
8/1	624	624	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0		
C1															
C2															
										PRC for Signalised Lanes (%):	-90.8	Total Delay for Signalised Lanes (pcuHr):	146.12	Cycle Time (s):	192
										PRC for Signalised Lanes (%):	-90.7	Total Delay for Signalised Lanes (pcuHr):	178.41	Cycle Time (s):	192
										PRC Over All Lanes (%):	-90.8	Total Delay Over All Lanes (pcuHr):	324.53		

