

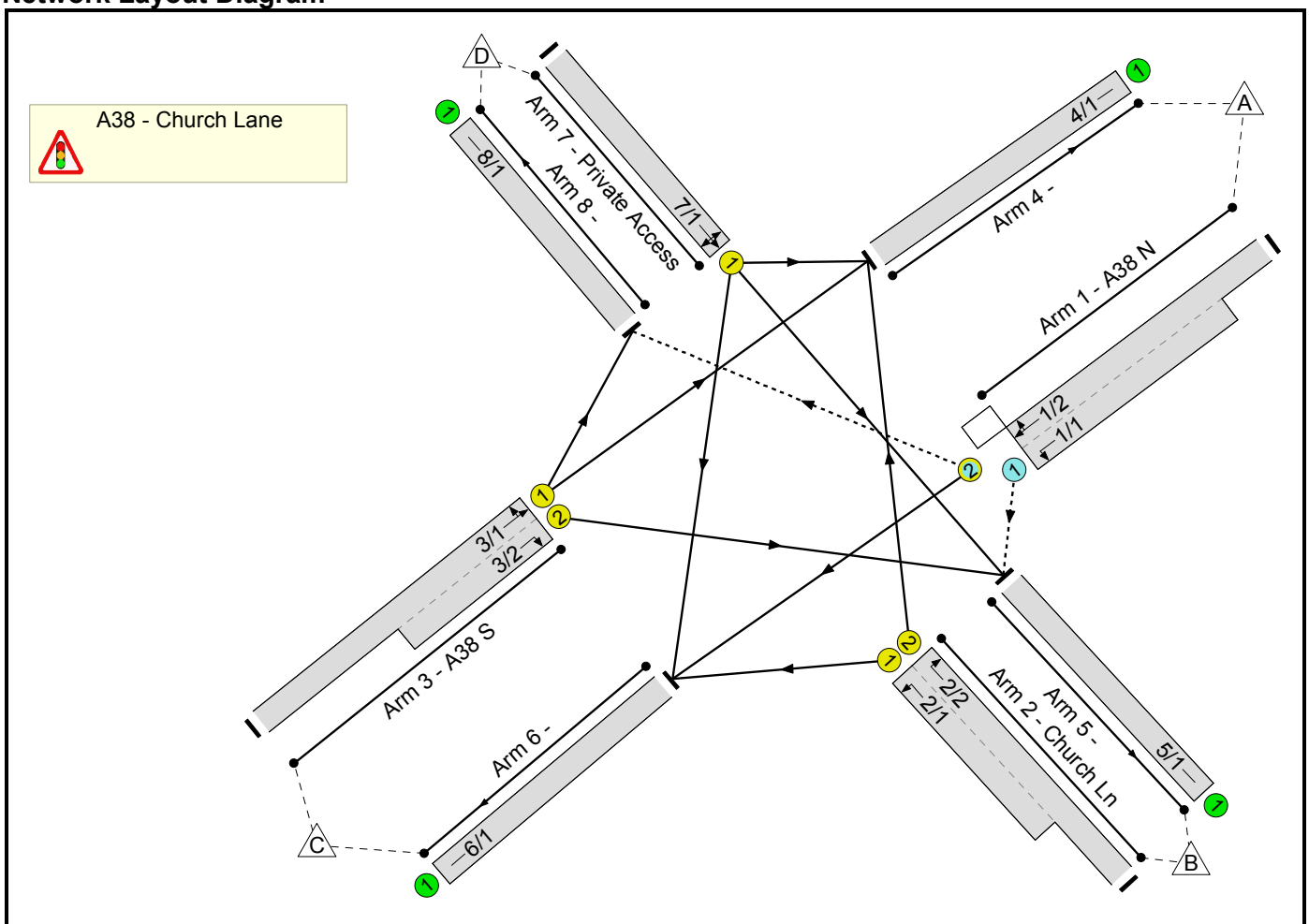
## **Appendix J Junction Capacity Test - Mitigation**

Full Input Data And Results  
Full Input Data And Results

User and Project Details

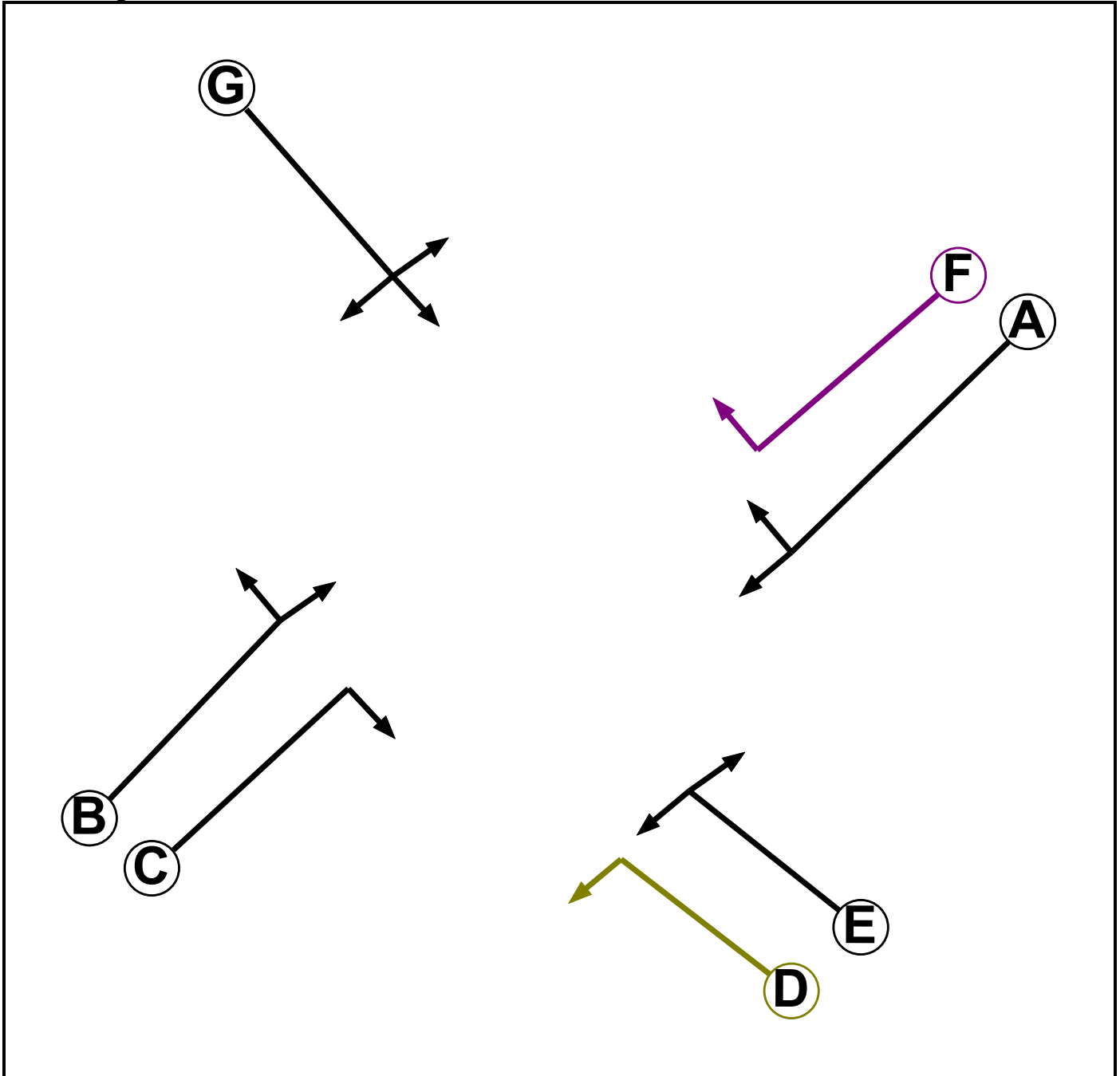
Project:	West of Park Farm, Thornbury
Title:	A38 - Church Road With RPS Further Improvements
Location:	Thornbury
Additional detail:	
File name:	001_A38_Church Ln_RPS_v2.lsg3x
Author:	laurelius
Company:	PBA
Address:	

Network Layout Diagram



Scenario 1: '2017 Base AM' (FG1: '2017 Base AM', Plan 1: 'Network Control Plan 1')

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	6
D	Filter	E	0	0
E	Traffic		7	7
F	Ind. Arrow	A	4	4
G	Traffic		7	7

## Full Input Data And Results

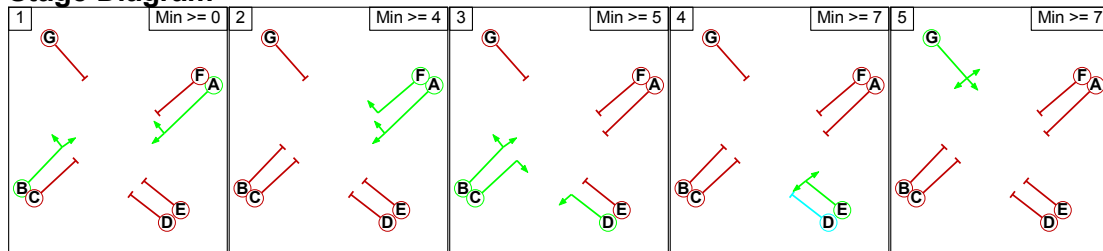
### Phase Intergrens Matrix

		Starting Phase						
		A	B	C	D	E	F	G
Terminating Phase	A	-	7	8	8	-	9	
	B	-	-	-	8	7	7	
	C	7	-	-	7	5	5	
	D	5	-	-	-	5	5	
	E	5	5	5	-	5	5	
	F	-	6	6	6	6	7	
	G	6	6	6	6	6	6	

### Phases in Stage

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

### Stage Diagram



### Phase Delays

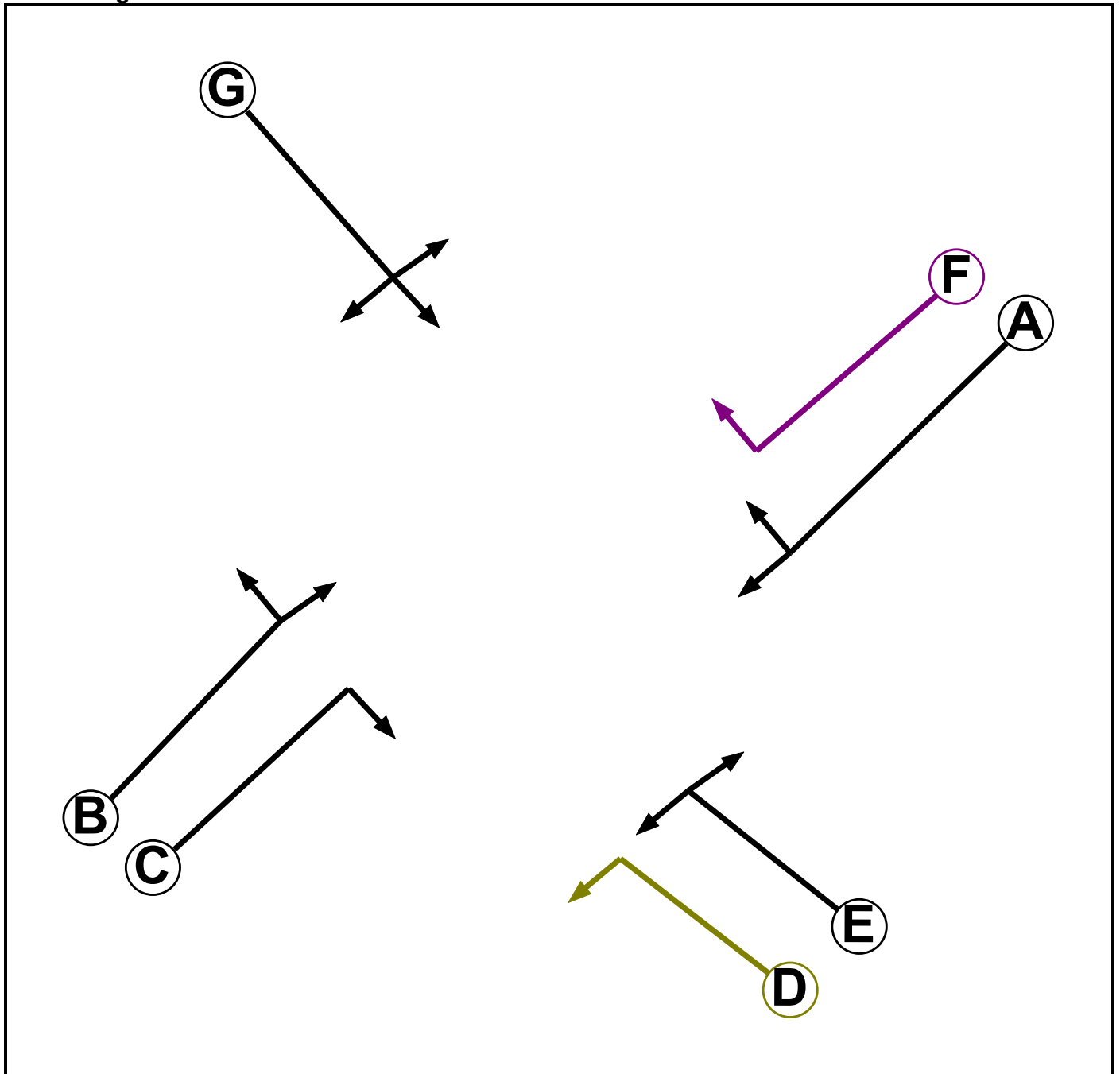
Term. Stage	Start Stage	Phase	Type	Value	Cont value
3	4	C	Losing	1	1

### Prohibited Stage Change

		To Stage				
		1	2	3	4	5
From Stage	1	-	7	8	8	9
	2	6	-	8	8	9
	3	X	X	-	8	X
	4	5	5	5	-	5
	5	6	6	6	6	-

Scenario 2: '2017 Base PM' (FG2: '2017 Base PM', Plan 1: 'Network Control Plan 1')

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	6
D	Filter	E	0	0
E	Traffic		7	7
F	Ind. Arrow	A	4	4
G	Traffic		7	7

## Full Input Data And Results

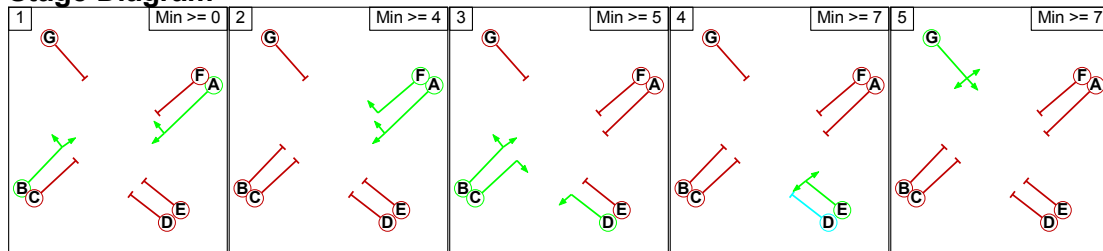
### Phase Intergrens Matrix

		Starting Phase						
		A	B	C	D	E	F	G
Terminating Phase	A	-	7	8	8	-	9	
	B	-	-	-	8	7	7	
	C	7	-	-	7	5	5	
	D	5	-	-	-	5	5	
	E	5	5	5	-	5	5	
	F	-	6	6	6	6	7	
	G	6	6	6	6	6	6	

### Phases in Stage

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

### Stage Diagram



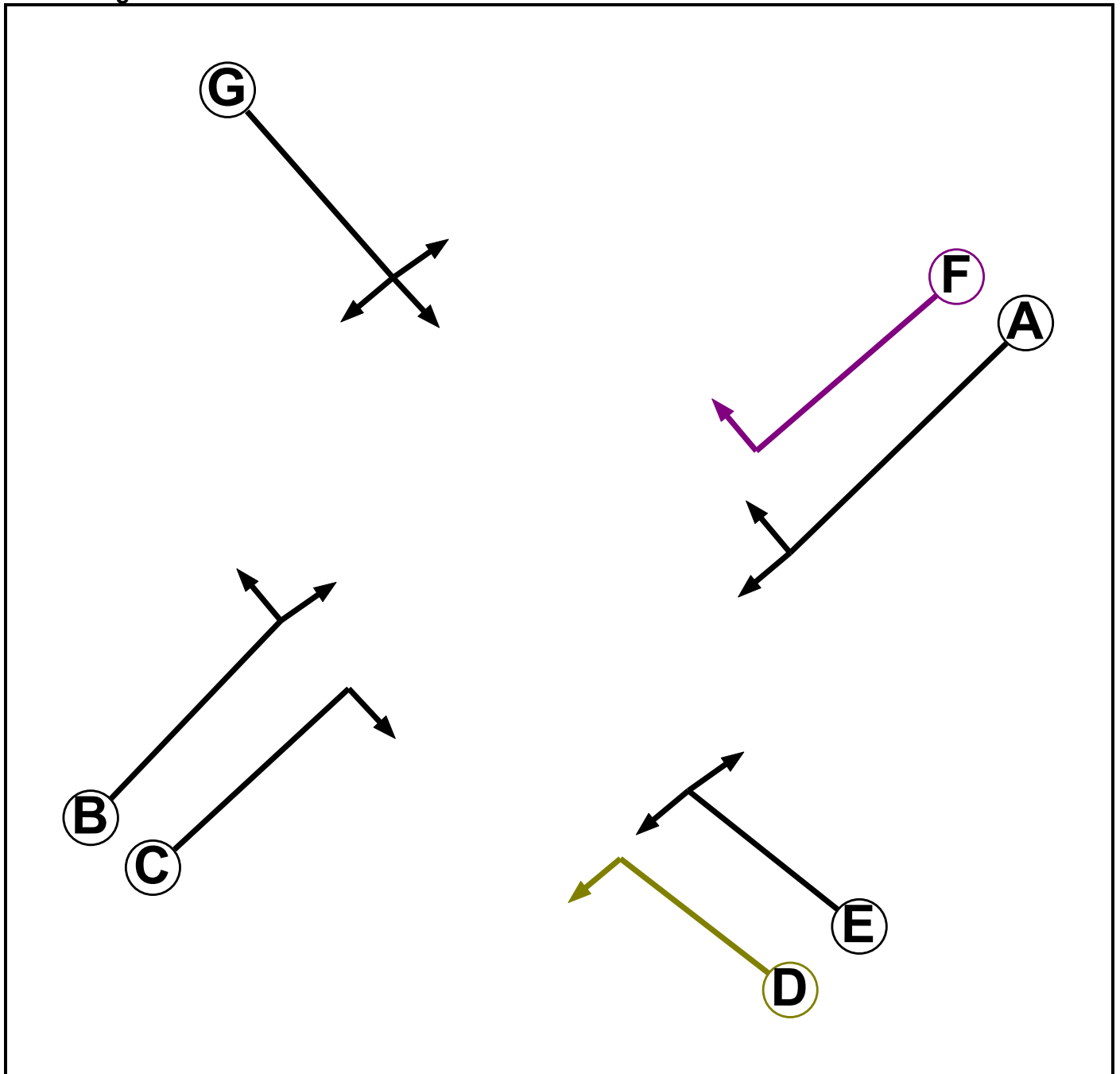
### Phase Delays

Term. Stage	Start Stage	Phase	Type	Value	Cont value
3	4	C	Losing	1	1

### Prohibited Stage Change

		To Stage				
		1	2	3	4	5
From Stage	1	-	7	8	8	9
	2	6	-	8	8	9
	3	X	X	-	8	X
	4	5	5	5	-	5
	5	6	6	6	6	-

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	6
D	Filter	E	0	0
E	Traffic		7	7
F	Ind. Arrow	A	4	4
G	Traffic		7	7

## Full Input Data And Results

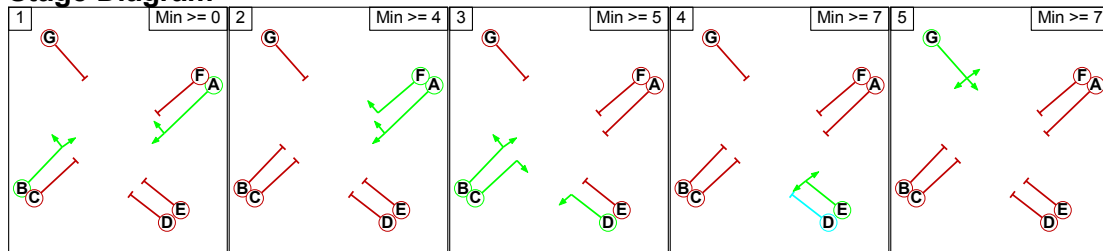
### Phase Intergrens Matrix

		Starting Phase						
		A	B	C	D	E	F	G
Terminating Phase	A	-	7	8	8	-	9	
	B	-	-	-	8	7	7	
	C	7	-	-	7	5	5	
	D	5	-	-	-	5	5	
	E	5	5	5	-	5	5	
	F	-	6	6	6	6	7	
	G	6	6	6	6	6	6	

### Phases in Stage

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

### Stage Diagram



### Phase Delays

Term. Stage	Start Stage	Phase	Type	Value	Cont value
3	4	C	Losing	1	1

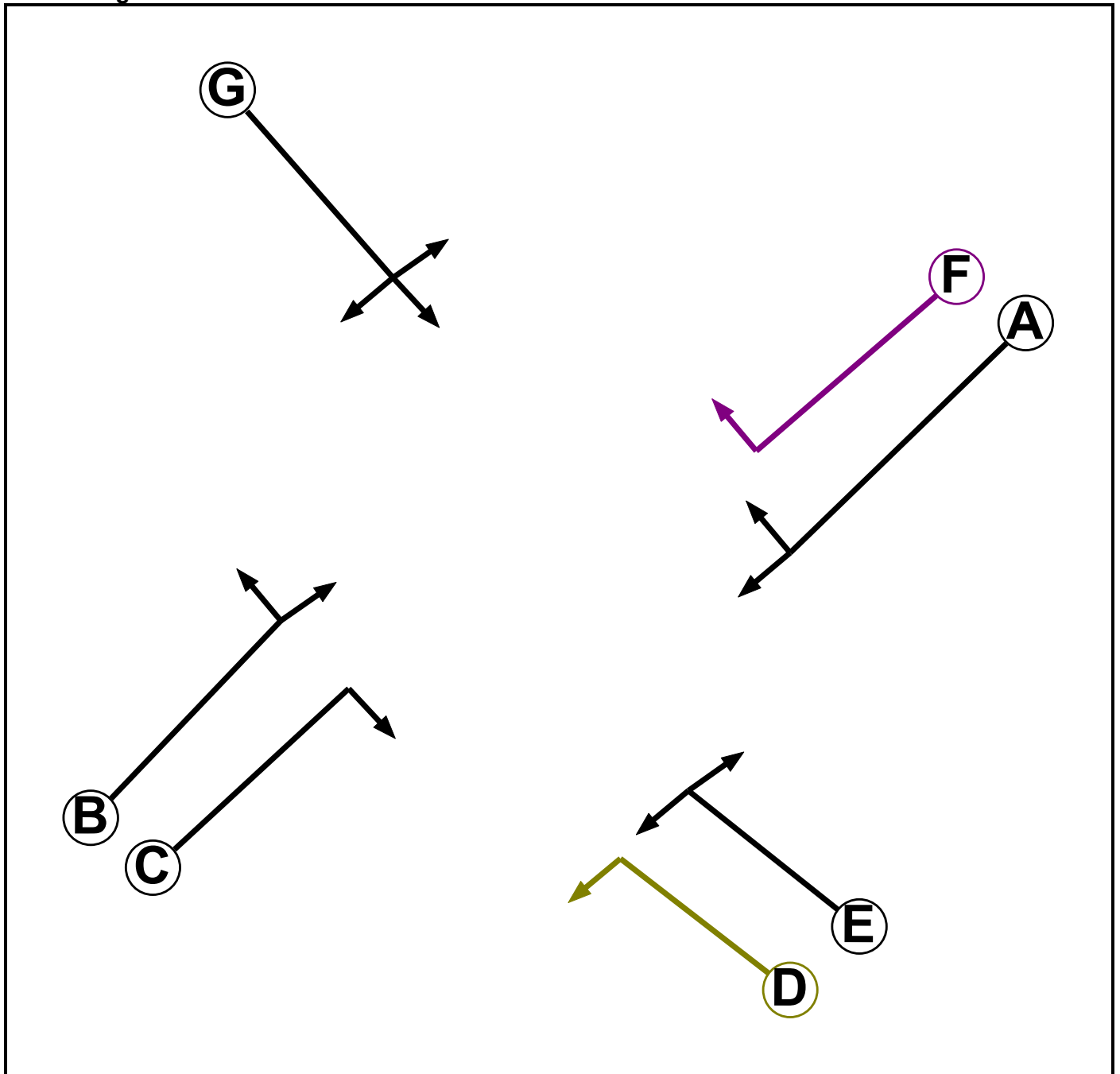
### Prohibited Stage Change

		To Stage				
		1	2	3	4	5
From Stage	1	-	7	8	8	9
	2	6	-	8	8	9
	3	X	X	-	8	X
	4	5	5	5	-	5
	5	6	6	6	6	-



Scenario 4: '2028 Ref Case PM' (FG4: '2028 Ref Case PM', Plan 1: 'Network Control Plan 1')

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	6
D	Filter	E	0	0
E	Traffic		7	7
F	Ind. Arrow	A	4	4
G	Traffic		7	7

## Full Input Data And Results

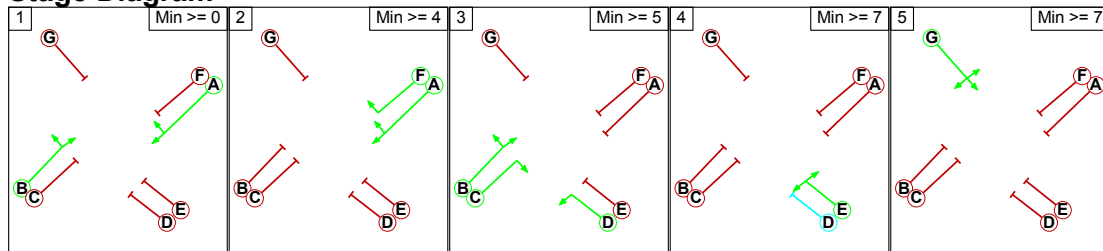
### Phase Intergrens Matrix

		Starting Phase						
		A	B	C	D	E	F	G
Terminating Phase	A	-	7	8	8	-	9	
	B	-	-	-	8	7	7	
	C	7	-	-	7	5	5	
	D	5	-	-	-	5	5	
	E	5	5	5	-	5	5	
	F	-	6	6	6	6	7	
	G	6	6	6	6	6	6	

### Phases in Stage

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

### Stage Diagram



### Phase Delays

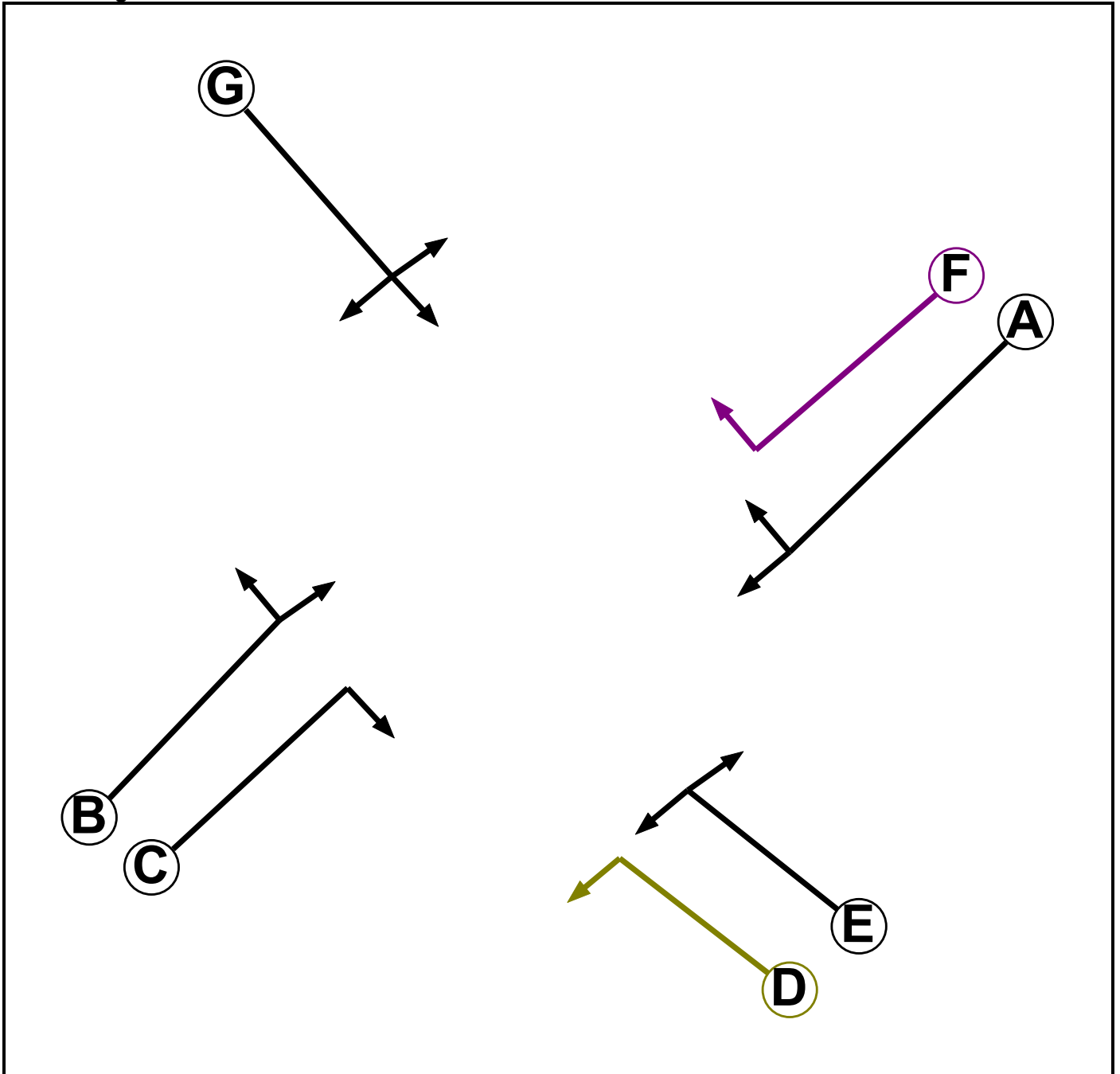
Term. Stage	Start Stage	Phase	Type	Value	Cont value
3	4	C	Losing	1	1

### Prohibited Stage Change

		To Stage				
		1	2	3	4	5
From Stage	1	-	7	8	8	9
	2	6	-	8	8	9
	3	X	X	-	8	X
	4	5	5	5	-	5
	5	6	6	6	6	-

Scenario 5: '2028 Test Case AM' (FG5: '2028 Test Case AM', Plan 1: 'Network Control Plan 1')

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	6
D	Filter	E	0	0
E	Traffic		7	7
F	Ind. Arrow	A	4	4
G	Traffic		7	7

## Full Input Data And Results

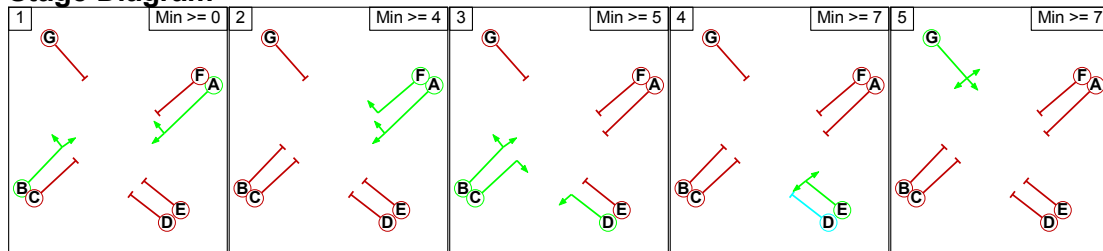
### Phase Intergrens Matrix

		Starting Phase						
		A	B	C	D	E	F	G
Terminating Phase	A	-	7	8	8	-	9	
	B	-	-	-	8	7	7	
	C	7	-	-	7	5	5	
	D	5	-	-	-	5	5	
	E	5	5	5	-	5	5	
	F	-	6	6	6	6	7	
	G	6	6	6	6	6	6	

### Phases in Stage

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

### Stage Diagram



### Phase Delays

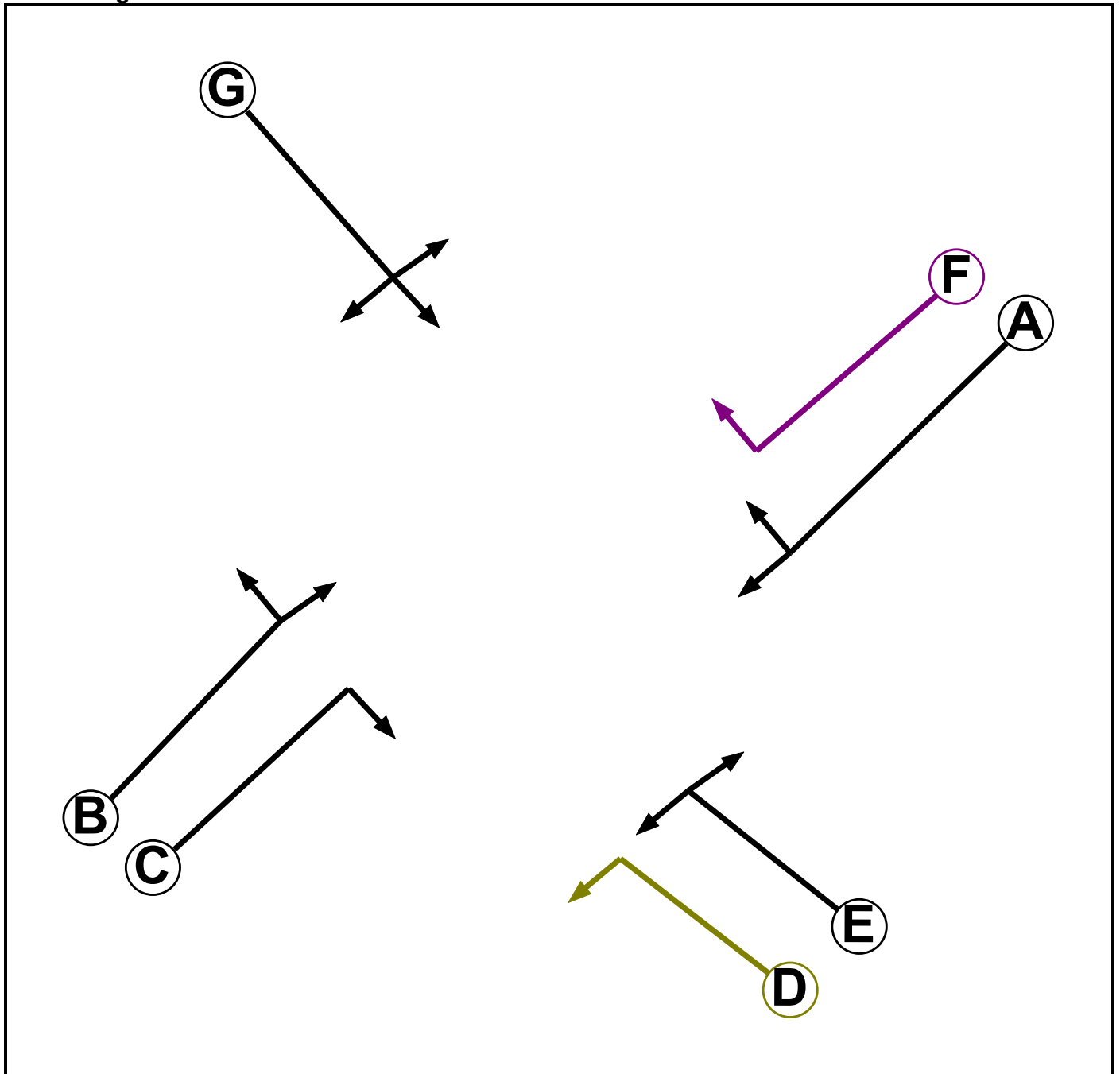
Term. Stage	Start Stage	Phase	Type	Value	Cont value
3	4	C	Losing	1	1

### Prohibited Stage Change

		To Stage				
		1	2	3	4	5
From Stage	1	-	7	8	8	9
	2	6	-	8	8	9
	3	X	X	-	8	X
	4	5	5	5	-	5
	5	6	6	6	6	-

Scenario 6: '2028 Test Case PM' (FG6: '2028 Test Case PM', Plan 1: 'Network Control Plan 1')

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	6
D	Filter	E	0	0
E	Traffic		7	7
F	Ind. Arrow	A	4	4
G	Traffic		7	7

## Full Input Data And Results

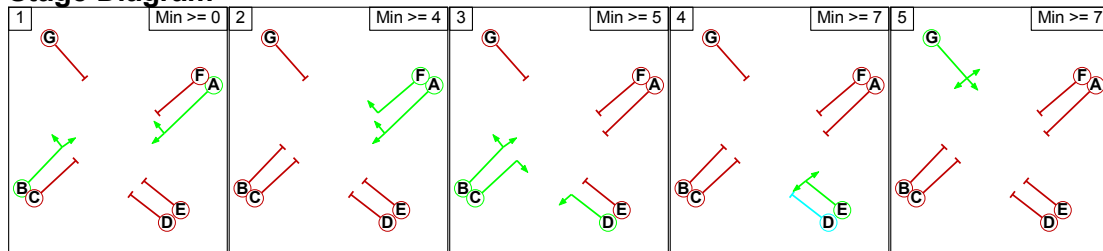
### Phase Intergrens Matrix

		Starting Phase						
		A	B	C	D	E	F	G
Terminating Phase	A	-	7	8	8	-	9	
	B	-	-	-	8	7	7	
	C	7	-	-	7	5	5	
	D	5	-	-	-	5	5	
	E	5	5	5	-	5	5	
	F	-	6	6	6	6	7	
	G	6	6	6	6	6	6	

### Phases in Stage

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

### Stage Diagram



### Phase Delays

Term. Stage	Start Stage	Phase	Type	Value	Cont value
3	4	C	Losing	1	1

### Prohibited Stage Change

		To Stage				
		1	2	3	4	5
From Stage	1	-	7	8	8	9
	2	6	-	8	8	9
	3	X	X	-	8	X
	4	5	5	5	-	5
	5	6	6	6	6	-

Full Input Data And Results

**Give-Way Lane Input Data**

Junction: A38 - Church Lane											
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)
1/1 (A38 N)	5/1 (Left)	1439	0	3/2	0.22	All	-	-	-	-	-
				7/1	0.22	To 5/1 (Ahead)					
1/2 (A38 N)	8/1 (Right)	1439	0	3/1	1.09	All	2.00	2.00	0.50	2	2.00

Full Input Data And Results

**Lane Input Data**

Junction: A38 - Church 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 (A38 N)	O		2	3	15.0	Geom	-	3.25	0.00	Y	Arm 5 Left	22.00
1/2 (A38 N)	O	A F	2	3	60.0	Geom	-	3.70	0.00	Y	Arm 6 Ahead	Inf
2/1 (Church Ln)	U	E D	2	3	12.0	Geom	-	3.65	0.00	Y	Arm 8 Right	8.40
2/2 (Church Ln)	U	E	2	3	60.0	Geom	-	3.65	0.00	N	Arm 6 Left	8.00
3/1 (A38 S)	U	B	2	3	60.0	Geom	-	3.80	0.00	Y	Arm 4 Right	16.00
3/2 (A38 S)	U	C	2	3	10.0	Geom	-	2.80	0.00	N	Arm 4 Ahead	Inf
											Arm 8 Left	9.50
4/1	U		2	3	60.0	Inf	-	-	-	-	Arm 5 Right	17.50
5/1	U		2	3	60.0	Inf	-	-	-	-	-	-
6/1	U		2	3	60.0	Inf	-	-	-	-	-	-
7/1 (Private Access)	U	G	2	3	10.4	Geom	-	2.00	0.00	Y	Arm 4 Left	9.00
											Arm 5 Ahead	Inf
											Arm 6 Right	10.50
8/1	U		2	3	60.0	Inf	-	-	-	-	-	-

**Traffic Flow Groups**

Flow Group	Start Time	End Time	Duration	Formula
1: '2017 Base AM'	08:00	09:00	01:00	
2: '2017 Base PM'	17:00	18:00	01:00	
3: '2028 Ref Case AM'	08:00	09:00	01:00	
4: '2028 Ref Case PM'	17:00	18:00	01:00	
5: '2028 Test Case AM'	08:00	09:00	01:00	
6: '2028 Test Case PM'	17:00	18:00	01:00	



Full Input Data And Results

**Scenario 1: '2017 Base AM'** (FG1: '2017 Base AM', Plan 1: 'Network Control Plan 1')

**Traffic Flows, Desired**

**Desired Flow :**

		Destination				
		A	B	C	D	Tot.
Origin	A	0	229	740	0	969
	B	264	0	287	0	551
	C	827	355	0	0	1182
	D	0	0	0	0	0
	Tot.	1091	584	1027	0	2702

**Traffic Lane Flows**

Lane	Scenario 1: 2017 Base AM
<b>Junction: A38 - Church Lane</b>	
1/1 (short)	229
1/2 (with short)	969(In) 740(Out)
2/1 (short)	287
2/2 (with short)	551(In) 264(Out)
3/1 (with short)	1182(In) 827(Out)
3/2 (short)	355
4/1	1091
5/1	584
6/1	1027
7/1	0
8/1	0

Full Input Data And Results

**Lane Saturation Flows**

Junction: A38 - Church 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 (A38 N)	3.25	0.00	Y	Arm 5 Left	22.00	100.0 %	1816	1816
1/2 (A38 N)	3.70	0.00	Y	Arm 6 Ahead	Inf	100.0 %	1985	1985
				Arm 8 Right	8.40	0.0 %		
2/1 (Church Ln)	3.65	0.00	Y	Arm 6 Left	8.00	100.0 %	1667	1667
2/2 (Church Ln)	3.65	0.00	N	Arm 4 Right	16.00	100.0 %	1938	1938
3/1 (A38 S)	3.80	0.00	Y	Arm 4 Ahead	Inf	100.0 %	1995	1995
				Arm 8 Left	9.50	0.0 %		
3/2 (A38 S)	2.80	0.00	N	Arm 5 Right	17.50	100.0 %	1874	1874
4/1	Infinite Saturation Flow						Inf	Inf
5/1	Infinite Saturation Flow						Inf	Inf
6/1	Infinite Saturation Flow						Inf	Inf
7/1 (Private Access)	2.00	0.00	Y	Arm 4 Left	9.00	0.0 %	1815	1815
				Arm 5 Ahead	Inf	0.0 %		
				Arm 6 Right	10.50	0.0 %		
8/1	Infinite Saturation Flow						Inf	Inf

**Scenario 2: '2017 Base PM'** (FG2: '2017 Base PM', Plan 1: 'Network Control Plan 1')

**Traffic Flows, Desired**

**Desired Flow :**

Origin	Destination					Tot.
	A	B	C	D	Tot.	
A	0	192	689	0	881	
B	303	0	258	0	561	
C	707	329	0	0	1036	
D	0	0	0	0	0	
Tot.	1010	521	947	0	2478	

Full Input Data And Results

**Traffic Lane Flows**

Lane	Scenario 2: 2017 Base PM
<b>Junction: A38 - Church Lane</b>	
1/1 (short)	192
1/2 (with short)	881(In) 689(Out)
2/1 (short)	258
2/2 (with short)	561(In) 303(Out)
3/1 (with short)	1036(In) 707(Out)
3/2 (short)	329
4/1	1010
5/1	521
6/1	947
7/1	0
8/1	0

**Lane Saturation Flows**

<b>Junction: A38 - Church 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 (A38 N)	3.25	0.00	Y	Arm 5 Left	22.00	100.0 %	1816	1816
1/2 (A38 N)	3.70	0.00	Y	Arm 6 Ahead	Inf	100.0 %	1985	1985
				Arm 8 Right	8.40	0.0 %		
2/1 (Church Ln)	3.65	0.00	Y	Arm 6 Left	8.00	100.0 %	1667	1667
2/2 (Church Ln)	3.65	0.00	N	Arm 4 Right	16.00	100.0 %	1938	1938
3/1 (A38 S)	3.80	0.00	Y	Arm 4 Ahead	Inf	100.0 %	1995	1995
				Arm 8 Left	9.50	0.0 %		
3/2 (A38 S)	2.80	0.00	N	Arm 5 Right	17.50	100.0 %	1874	1874
4/1	Infinite Saturation Flow						Inf	Inf
5/1	Infinite Saturation Flow						Inf	Inf
6/1	Infinite Saturation Flow						Inf	Inf
7/1 (Private Access)	2.00	0.00	Y	Arm 4 Left	9.00	0.0 %	1815	1815
				Arm 5 Ahead	Inf	0.0 %		
				Arm 6 Right	10.50	0.0 %		
8/1	Infinite Saturation Flow						Inf	Inf

Full Input Data And Results

**Scenario 3: '2028 Ref Case AM'** (FG3: '2028 Ref Case AM', Plan 1: 'Network Control Plan 1')

**Traffic Flows, Desired**

**Desired Flow :**

		Destination				
		A	B	C	D	Tot.
Origin	A	0	311	1014	0	1325
	B	292	0	290	0	582
	C	897	355	0	0	1252
	D	0	0	0	0	0
	Tot.	1189	666	1304	0	3159

**Traffic Lane Flows**

Lane	Scenario 3: 2028 Ref Case AM
<b>Junction: A38 - Church Lane</b>	
1/1 (short)	311
1/2 (with short)	1325(In) 1014(Out)
2/1 (short)	290
2/2 (with short)	582(In) 292(Out)
3/1 (with short)	1252(In) 897(Out)
3/2 (short)	355
4/1	1189
5/1	666
6/1	1304
7/1	0
8/1	0

Full Input Data And Results

**Lane Saturation Flows**

Junction: A38 - Church 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 (A38 N)	3.25	0.00	Y	Arm 5 Left	22.00	100.0 %	1816	1816
1/2 (A38 N)	3.70	0.00	Y	Arm 6 Ahead	Inf	100.0 %	1985	1985
				Arm 8 Right	8.40	0.0 %		
2/1 (Church Ln)	3.65	0.00	Y	Arm 6 Left	8.00	100.0 %	1667	1667
2/2 (Church Ln)	3.65	0.00	N	Arm 4 Right	16.00	100.0 %	1938	1938
3/1 (A38 S)	3.80	0.00	Y	Arm 4 Ahead	Inf	100.0 %	1995	1995
				Arm 8 Left	9.50	0.0 %		
3/2 (A38 S)	2.80	0.00	N	Arm 5 Right	17.50	100.0 %	1874	1874
4/1	Infinite Saturation Flow						Inf	Inf
5/1	Infinite Saturation Flow						Inf	Inf
6/1	Infinite Saturation Flow						Inf	Inf
7/1 (Private Access)	2.00	0.00	Y	Arm 4 Left	9.00	0.0 %	1815	1815
				Arm 5 Ahead	Inf	0.0 %		
				Arm 6 Right	10.50	0.0 %		
8/1	Infinite Saturation Flow						Inf	Inf

**Scenario 4: '2028 Ref Case PM'** (FG4: '2028 Ref Case PM', Plan 1: 'Network Control Plan 1')

**Traffic Flows, Desired**

**Desired Flow :**

Origin	Destination					Tot.
	A	B	C	D	Tot.	
A	0	230	816	0	1046	
B	373	0	267	0	640	
C	882	329	0	0	1211	
D	0	0	0	0	0	
Tot.	1255	559	1083	0	2897	

Full Input Data And Results

**Traffic Lane Flows**

Lane	Scenario 4: 2028 Ref Case PM
<b>Junction: A38 - Church Lane</b>	
1/1 (short)	230
1/2 (with short)	1046(In) 816(Out)
2/1 (short)	267
2/2 (with short)	640(In) 373(Out)
3/1 (with short)	1211(In) 882(Out)
3/2 (short)	329
4/1	1255
5/1	559
6/1	1083
7/1	0
8/1	0

**Lane Saturation Flows**

<b>Junction: A38 - Church 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 (A38 N)	3.25	0.00	Y	Arm 5 Left	22.00	100.0 %	1816	1816	
1/2 (A38 N)	3.70	0.00	Y	Arm 6 Ahead	Inf	100.0 %	1985	1985	
				Arm 8 Right	8.40	0.0 %			
2/1 (Church Ln)	3.65	0.00	Y	Arm 6 Left	8.00	100.0 %	1667	1667	
2/2 (Church Ln)	3.65	0.00	N	Arm 4 Right	16.00	100.0 %	1938	1938	
3/1 (A38 S)	3.80	0.00	Y	Arm 4 Ahead	Inf	100.0 %	1995	1995	
				Arm 8 Left	9.50	0.0 %			
3/2 (A38 S)	2.80	0.00	N	Arm 5 Right	17.50	100.0 %	1874	1874	
4/1	Infinite Saturation Flow							Inf	Inf
5/1	Infinite Saturation Flow							Inf	Inf
6/1	Infinite Saturation Flow							Inf	Inf
7/1 (Private Access)	2.00	0.00	Y	Arm 4 Left	9.00	0.0 %	1815	1815	
				Arm 5 Ahead	Inf	0.0 %			
				Arm 6 Right	10.50	0.0 %			
8/1	Infinite Saturation Flow							Inf	Inf

Full Input Data And Results

**Scenario 5: '2028 Test Case AM'** (FG5: '2028 Test Case AM', Plan 1: 'Network Control Plan 1')

**Traffic Flows, Desired**

**Desired Flow :**

	Destination					
		A	B	C	D	Tot.
Origin	A	0	340	1075	0	1415
	B	297	0	290	0	587
	C	907	355	0	0	1262
	D	0	0	0	0	0
	Tot.	1204	695	1365	0	3264

**Traffic Lane Flows**

Lane	Scenario 5: 2028 Test Case AM
<b>Junction: A38 - Church Lane</b>	
1/1 (short)	340
1/2 (with short)	1415(In) 1075(Out)
2/1 (short)	290
2/2 (with short)	587(In) 297(Out)
3/1 (with short)	1262(In) 907(Out)
3/2 (short)	355
4/1	1204
5/1	695
6/1	1365
7/1	0
8/1	0

Full Input Data And Results

**Lane Saturation Flows**

Junction: A38 - Church 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 (A38 N)	3.25	0.00	Y	Arm 5 Left	22.00	100.0 %	1816	1816
1/2 (A38 N)	3.70	0.00	Y	Arm 6 Ahead	Inf	100.0 %	1985	1985
				Arm 8 Right	8.40	0.0 %		
2/1 (Church Ln)	3.65	0.00	Y	Arm 6 Left	8.00	100.0 %	1667	1667
2/2 (Church Ln)	3.65	0.00	N	Arm 4 Right	16.00	100.0 %	1938	1938
3/1 (A38 S)	3.80	0.00	Y	Arm 4 Ahead	Inf	100.0 %	1995	1995
				Arm 8 Left	9.50	0.0 %		
3/2 (A38 S)	2.80	0.00	N	Arm 5 Right	17.50	100.0 %	1874	1874
4/1	Infinite Saturation Flow						Inf	Inf
5/1	Infinite Saturation Flow						Inf	Inf
6/1	Infinite Saturation Flow						Inf	Inf
7/1 (Private Access)	2.00	0.00	Y	Arm 4 Left	9.00	0.0 %	1815	1815
				Arm 5 Ahead	Inf	0.0 %		
				Arm 6 Right	10.50	0.0 %		
8/1	Infinite Saturation Flow						Inf	Inf

**Scenario 6: '2028 Test Case PM'** (FG6: '2028 Test Case PM', Plan 1: 'Network Control Plan 1')

**Traffic Flows, Desired**

**Desired Flow :**

Origin	Destination					
	A	B	C	D	Tot.	
A	0	235	827	0	1062	
B	392	0	267	0	659	
C	930	329	0	0	1259	
D	0	0	0	0	0	
Tot.	1322	564	1094	0	2980	



Full Input Data And Results

**Traffic Lane Flows**

Lane	Scenario 6: 2028 Test Case PM
<b>Junction: A38 - Church Lane</b>	
1/1 (short)	235
1/2 (with short)	1062(In) 827(Out)
2/1 (short)	267
2/2 (with short)	659(In) 392(Out)
3/1 (with short)	1259(In) 930(Out)
3/2 (short)	329
4/1	1322
5/1	564
6/1	1094
7/1	0
8/1	0

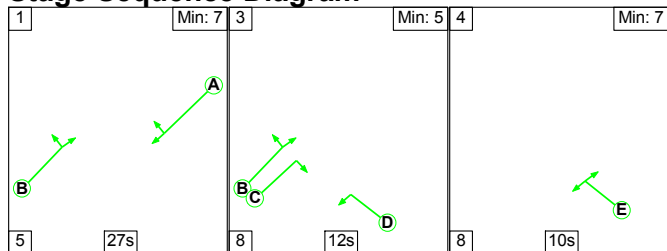
**Lane Saturation Flows**

<b>Junction: A38 - Church 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 (A38 N)	3.25	0.00	Y	Arm 5 Left	22.00	100.0 %	1816	1816
1/2 (A38 N)	3.70	0.00	Y	Arm 6 Ahead	Inf	100.0 %	1985	1985
				Arm 8 Right	8.40	0.0 %		
2/1 (Church Ln)	3.65	0.00	Y	Arm 6 Left	8.00	100.0 %	1667	1667
2/2 (Church Ln)	3.65	0.00	N	Arm 4 Right	16.00	100.0 %	1938	1938
3/1 (A38 S)	3.80	0.00	Y	Arm 4 Ahead	Inf	100.0 %	1995	1995
3/2 (A38 S)	2.80	0.00	N	Arm 8 Left	9.50	0.0 %		
4/1	Infinite Saturation Flow						Inf	Inf
5/1	Infinite Saturation Flow						Inf	Inf
6/1	Infinite Saturation Flow						Inf	Inf
7/1 (Private Access)	2.00	0.00	Y	Arm 4 Left	9.00	0.0 %	1815	1815
				Arm 5 Ahead	Inf	0.0 %		
				Arm 6 Right	10.50	0.0 %		
8/1	Infinite Saturation Flow						Inf	Inf

Full Input Data And Results

Scenario 1: '2017 Base AM' (FG1: '2017 Base AM', Plan 1: 'Network Control Plan 1')

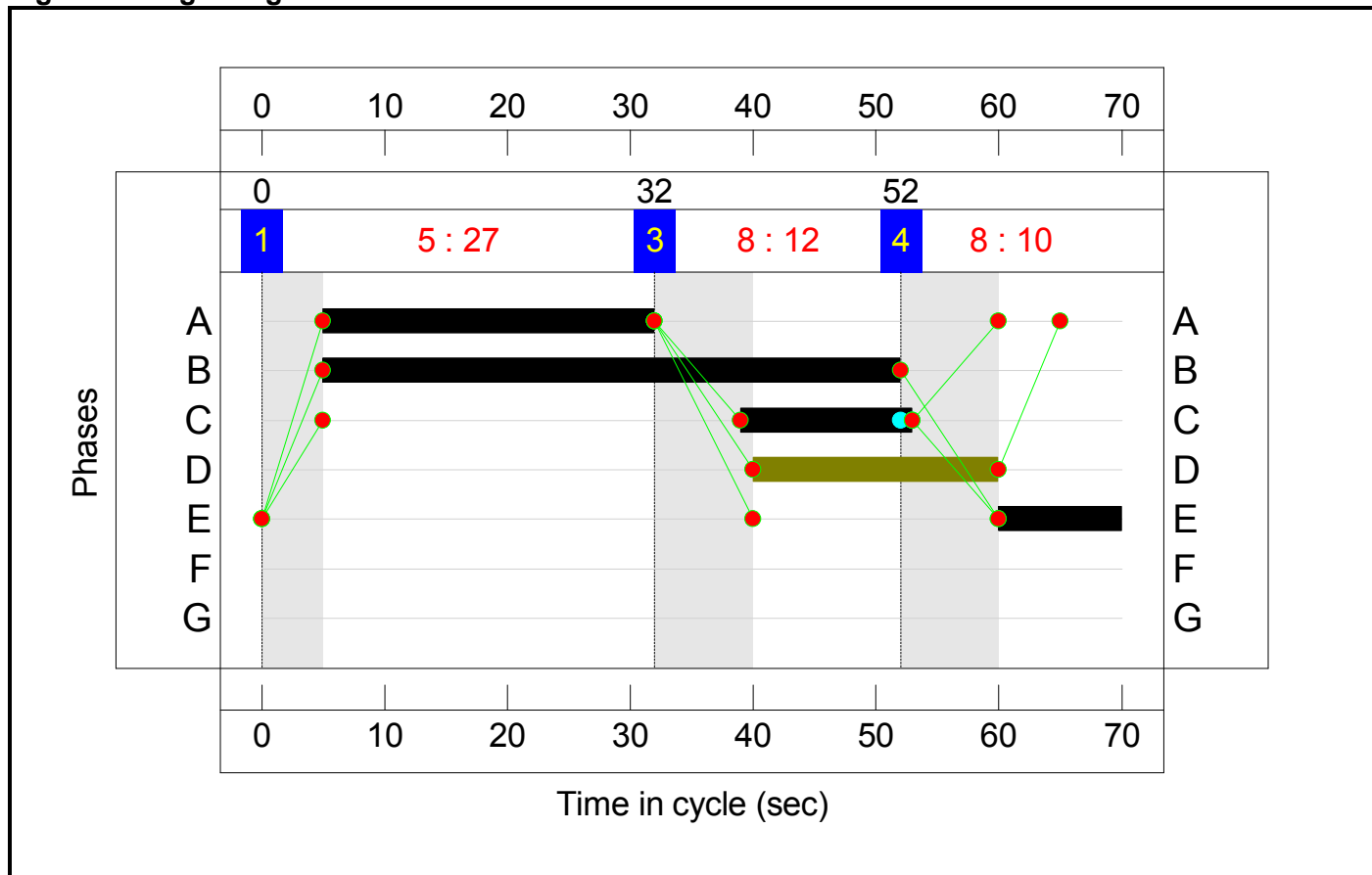
Stage Sequence Diagram



Stage Timings

Stage	1	3	4
Duration	27	12	10
Change Point	0	32	52

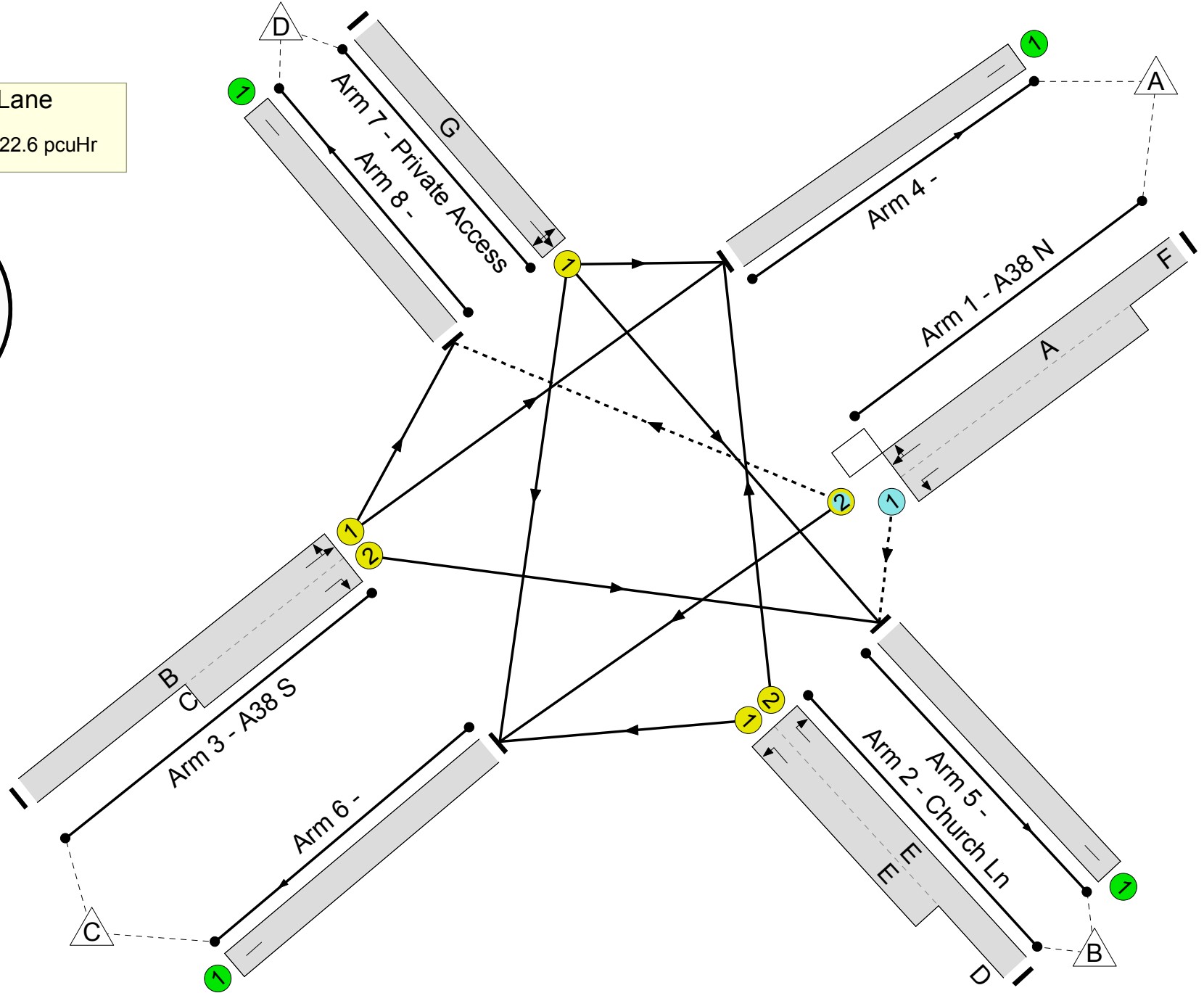
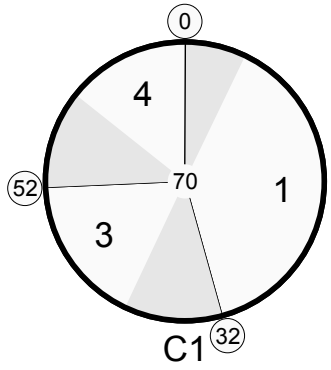
Signal Timings Diagram



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

Full Input Data And Results

**A38 - Church Lane**  
PRC: -3.7 %  
Total Traffic Delay: 22.6 pcuHr



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 - Church Road With RPS Further Improvements</b>	-	-	N/A	-	-		-	-	-	-	-	-	<b>93.4%</b>
<b>A38 - Church Lane</b>	-	-	N/A	-	-		-	-	-	-	-	-	<b>93.4%</b>
1/2+1/1	A38 N Left Ahead Right	O	N/A	N/A	A -	F	1	27	0	969	1985:1816	793+245	93.4 : 93.4%
2/2+2/1	Church Ln Right Left	U	N/A	N/A	E	D	1	10:30	20	551	1938:1667	305+331	86.7 : 86.7%
3/1+3/2	A38 S Ahead Right Left	U	N/A	N/A	B C		1	47:14	-	1182	1995:1874	1032+402	80.1 : 88.4%
4/1		U	N/A	N/A	-		-	-	-	1091	Inf	Inf	0.0%
5/1		U	N/A	N/A	-		-	-	-	584	Inf	Inf	0.0%
6/1		U	N/A	N/A	-		-	-	-	1027	Inf	Inf	0.0%
7/1	Private Access Left Ahead Right	U	N/A	N/A	G		0	0	-	0	1815	0	0.0%
8/1		U	N/A	N/A	-		-	-	-	0	Inf	Inf	0.0%

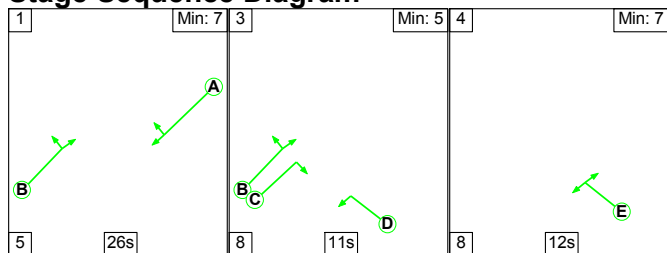
Full Input Data And Results

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: A38 - Church Road With RPS Further Improvements</b>	-	-	111	347	0	11.3	11.3	0.0	22.6	-	-	-	-														
<b>A38 - Church Lane</b>	-	-	111	347	0	11.3	11.3	0.0	22.6	-	-	-	-														
1/2+1/1	969	969	111	347	0	4.1	6.0	0.0	10.1	37.6	13.6	6.0	19.6														
2/2+2/1	551	551	-	-	-	3.2	3.0	-	6.2	40.5	5.0	3.0	8.0														
3/1+3/2	1182	1182	-	-	-	4.0	2.3	-	6.3	19.2	8.5	2.3	10.8														
4/1	1091	1091	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0														
5/1	584	584	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0														
6/1	1027	1027	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0														
7/1	0	0	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0														
8/1	0	0	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0														
<table style="width:100%; border:none;"> <tr> <td style="width:25%;">C1</td> <td style="width:25%;">PRC for Signalled Lanes (%):</td> <td style="width:10%;">-3.7</td> <td style="width:25%;">Total Delay for Signalled Lanes (pcuHr):</td> <td style="width:15%;">22.61</td> <td style="width:20%;">Cycle Time (s):</td> <td style="width:10%;">70</td> </tr> <tr> <td></td> <td>PRC Over All Lanes (%):</td> <td>-3.7</td> <td>Total Delay Over All Lanes(pcuHr):</td> <td>22.61</td> <td></td> <td></td> </tr> </table>														C1	PRC for Signalled Lanes (%):	-3.7	Total Delay for Signalled Lanes (pcuHr):	22.61	Cycle Time (s):	70		PRC Over All Lanes (%):	-3.7	Total Delay Over All Lanes(pcuHr):	22.61		
C1	PRC for Signalled Lanes (%):	-3.7	Total Delay for Signalled Lanes (pcuHr):	22.61	Cycle Time (s):	70																					
	PRC Over All Lanes (%):	-3.7	Total Delay Over All Lanes(pcuHr):	22.61																							

Full Input Data And Results

Scenario 2: '2017 Base PM' (FG2: '2017 Base PM', Plan 1: 'Network Control Plan 1')

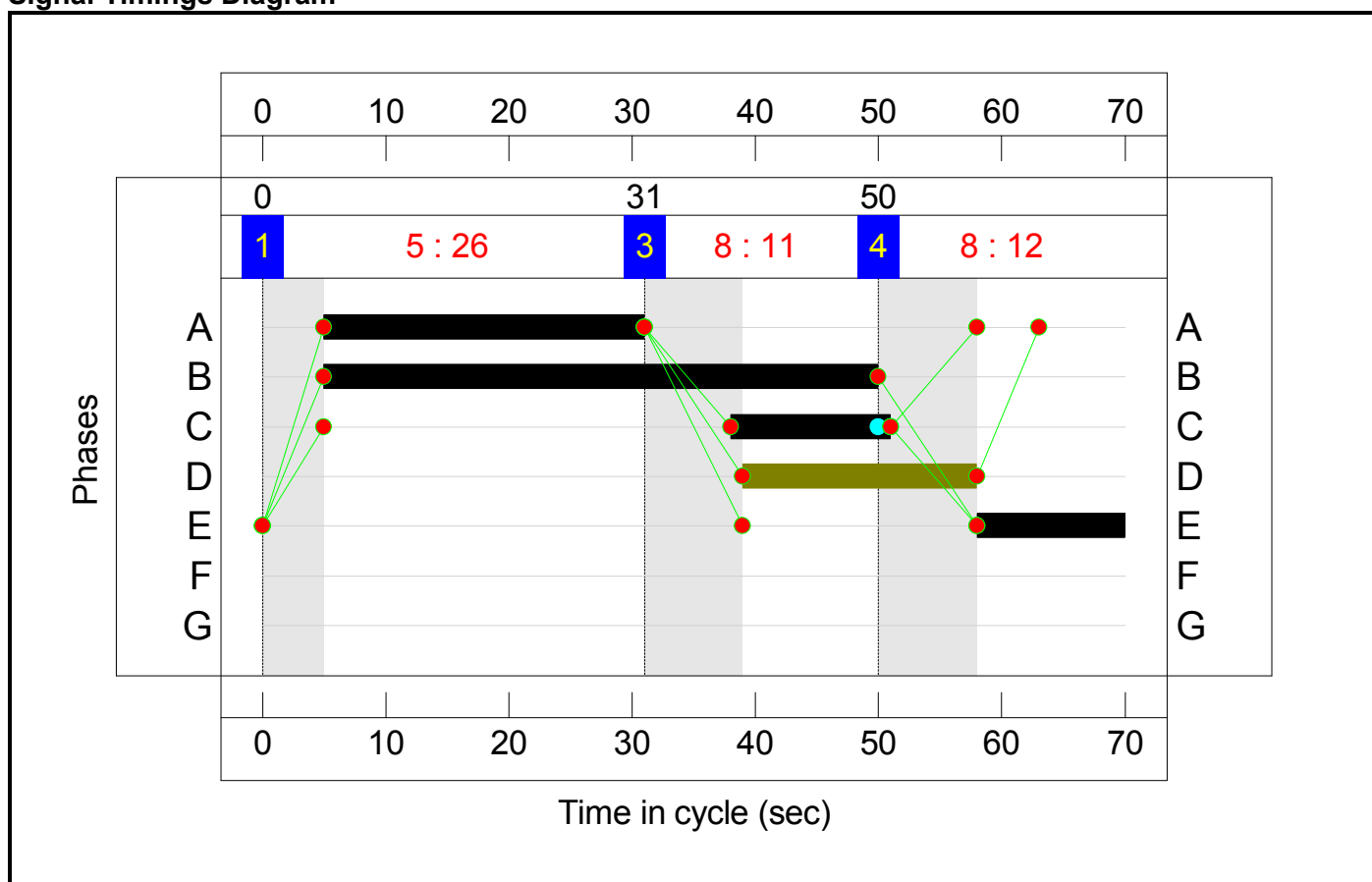
Stage Sequence Diagram



Stage Timings

Stage	1	3	4
Duration	26	11	12
Change Point	0	31	50

Signal Timings Diagram

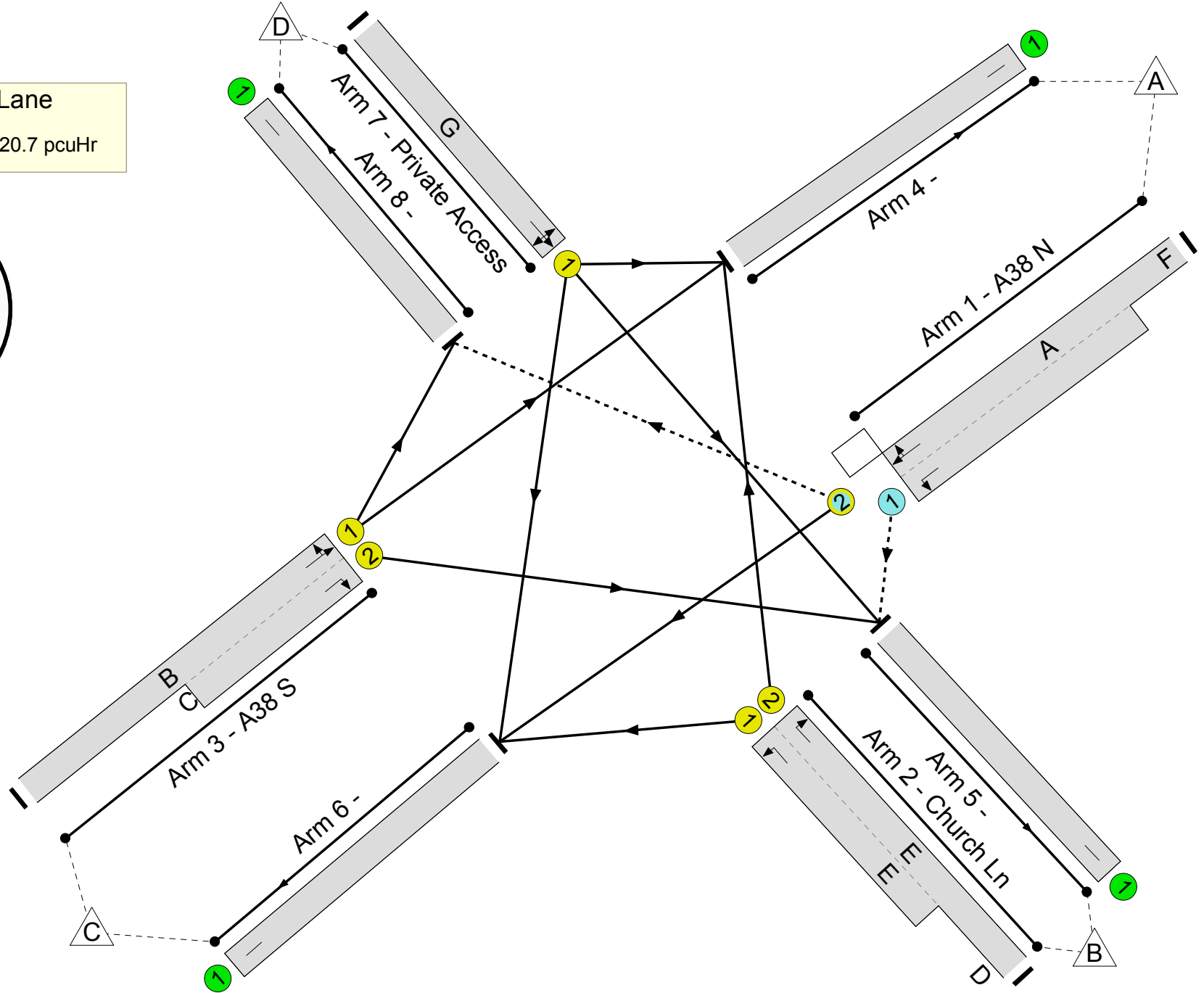
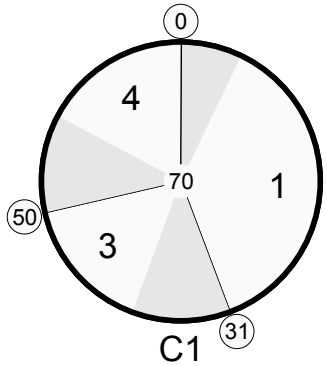


Full Input Data And Results  
**Network Layout Diagram**



Full Input Data And Results

**A38 - Church Lane**  
PRC: 0.0 %  
Total Traffic Delay: 20.7 pcuHr



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 - Church Road With RPS Further Improvements</b>	-	-	N/A	-	-		-	-	-	-	-	-	<b>90.0%</b>
<b>A38 - Church Lane</b>	-	-	N/A	-	-		-	-	-	-	-	-	<b>90.0%</b>
1/2+1/1	A38 N Left Ahead Right	O	N/A	N/A	A -	F	1	26	0	881	1985:1816	766+213	90.0 : 90.0%
2/2+2/1	Church Ln Right Left	U	N/A	N/A	E	D	1	12:31	19	561	1938:1667	360+306	84.2 : 84.2%
3/1+3/2	A38 S Ahead Right Left	U	N/A	N/A	B C		1	45:13	-	1036	1995:1874	818+375	86.5 : 87.8%
4/1		U	N/A	N/A	-		-	-	-	1010	Inf	Inf	0.0%
5/1		U	N/A	N/A	-		-	-	-	521	Inf	Inf	0.0%
6/1		U	N/A	N/A	-		-	-	-	947	Inf	Inf	0.0%
7/1	Private Access Left Ahead Right	U	N/A	N/A	G		0	0	-	0	1815	0	0.0%
8/1		U	N/A	N/A	-		-	-	-	0	Inf	Inf	0.0%

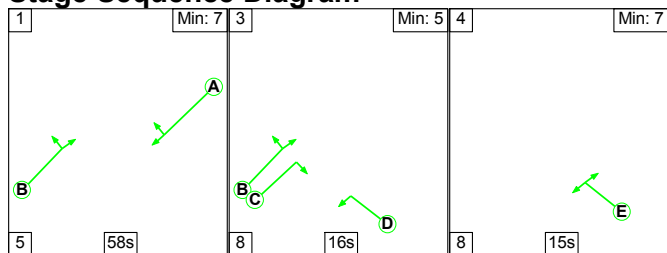
Full Input Data And Results

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: A38 - Church Road With RPS Further Improvements</b>	-	-	88	296	0	10.8	9.9	0.0	20.7	-	-	-	-
<b>A38 - Church Lane</b>	-	-	88	296	0	10.8	9.9	0.0	20.7	-	-	-	-
1/2+1/1	881	881	88	296	0	3.9	4.1	0.0	8.0	32.8	12.4	4.1	16.6
2/2+2/1	561	561	-	-	-	3.2	2.5	-	5.7	36.8	5.6	2.5	8.2
3/1+3/2	1036	1036	-	-	-	3.7	3.2	-	6.9	24.0	7.3	3.2	10.4
4/1	1010	1010	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/1	521	521	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	947	947	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	0	0	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	0	0	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
<p>C1                      PRC for Signalled Lanes (%):    0.0                      Total Delay for Signalled Lanes (pcuHr):    20.66                      Cycle Time (s):    70</p> <p>                                 PRC Over All Lanes (%):    0.0                      Total Delay Over All Lanes(pcuHr):    20.66</p>													

Full Input Data And Results

Scenario 3: '2028 Ref Case AM' (FG3: '2028 Ref Case AM', Plan 1: 'Network Control Plan 1')

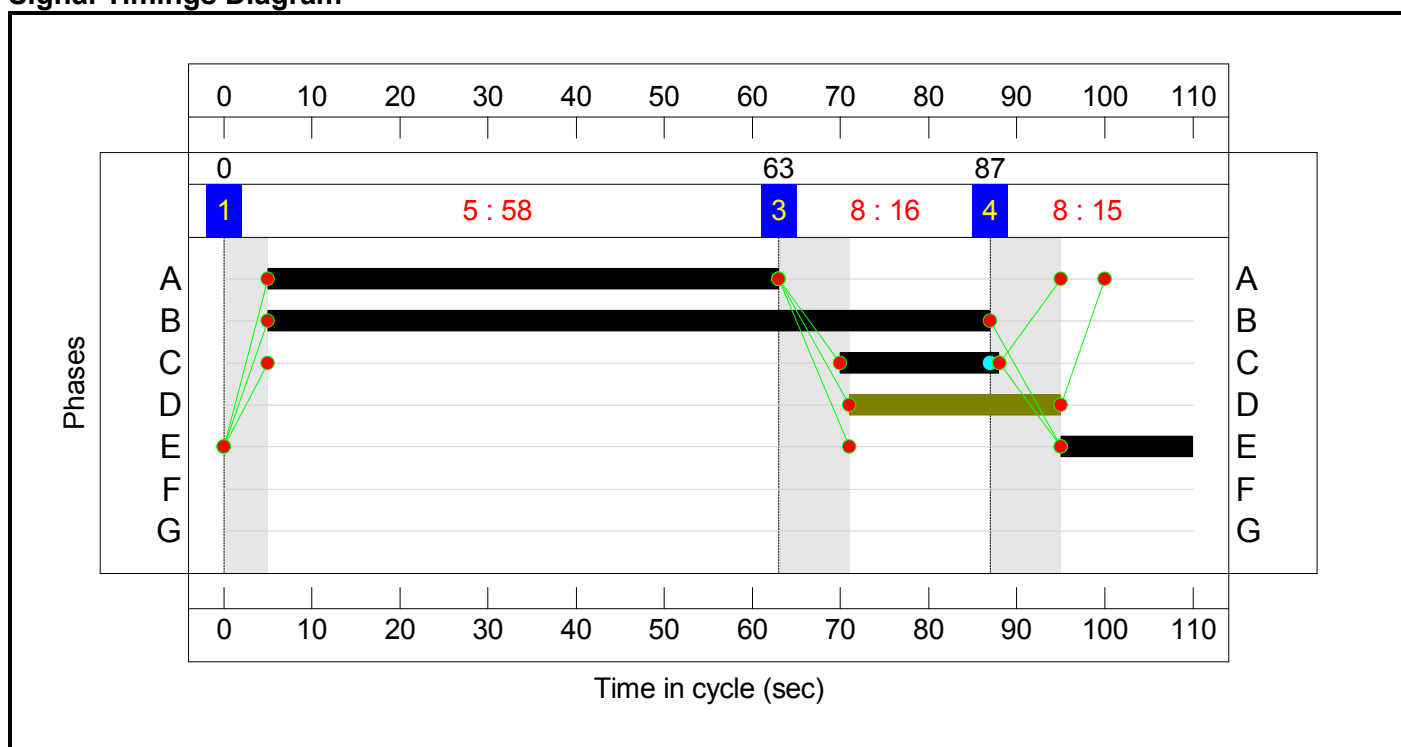
Stage Sequence Diagram



Stage Timings

Stage	1	3	4
Duration	58	16	15
Change Point	0	63	87


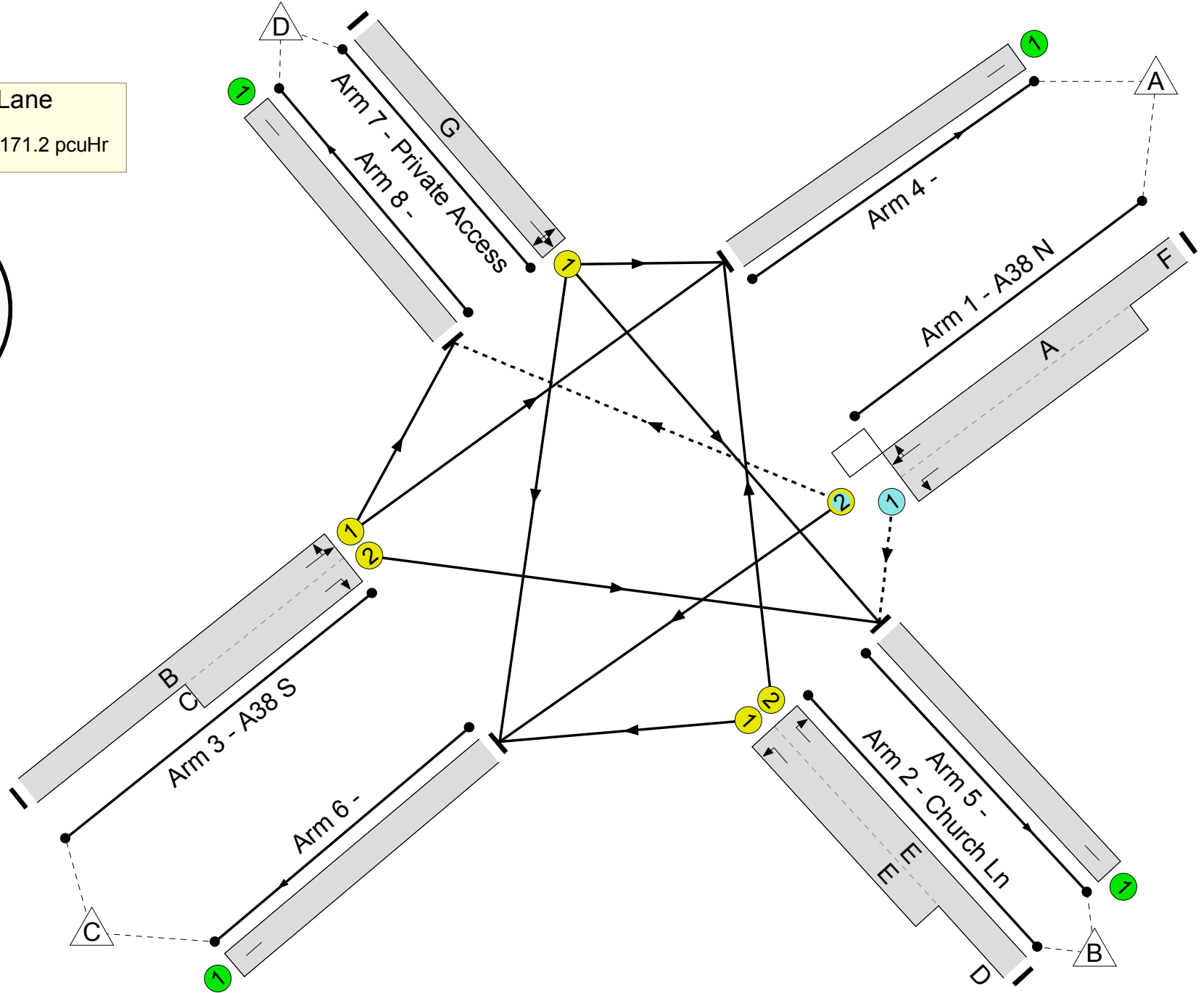
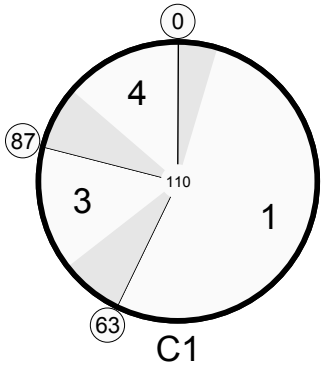
Signal Timings Diagram



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

Full Input Data And Results

**A38 - Church Lane**  
 PRC: -22.0 %  
 Total Traffic Delay: 171.2 pcuHr

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 - Church Road With RPS Further Improvements</b>	-	-	N/A	-	-		-	-	-	-	-	-	<b>109.8%</b>
<b>A38 - Church Lane</b>	-	-	N/A	-	-		-	-	-	-	-	-	<b>109.8%</b>
1/2+1/1	A38 N Left Ahead Right	O	N/A	N/A	A -	F	1	58	0	1325	1985:1816	923+283	109.8 : 109.8%
2/2+2/1	Church Ln Right Left	U	N/A	N/A	E	D	1	15:39	24	582	1938:1667	282+280	103.6 : 103.6%
3/1+3/2	A38 S Ahead Right Left	U	N/A	N/A	B C		1	82:18	-	1252	1995:1874	818+324	109.7 : 109.7%
4/1		U	N/A	N/A	-		-	-	-	1189	Inf	Inf	0.0%
5/1		U	N/A	N/A	-		-	-	-	666	Inf	Inf	0.0%
6/1		U	N/A	N/A	-		-	-	-	1304	Inf	Inf	0.0%
7/1	Private Access Left Ahead Right	U	N/A	N/A	G		0	0	-	0	1815	0	0.0%
8/1		U	N/A	N/A	-		-	-	-	0	Inf	Inf	0.0%

Full Input Data And Results

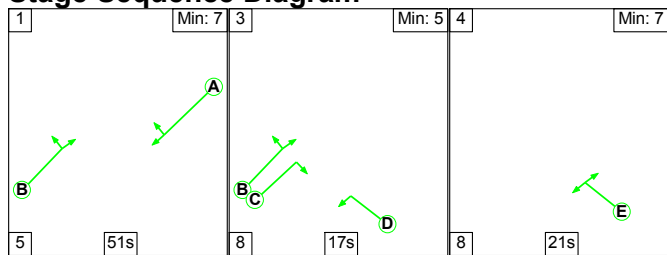
Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
<b>Network: A38 - Church Road With RPS Further Improvements</b>	-	-	174	392	0	28.3	142.9	0.0	171.2	-	-	-	-
<b>A38 - Church Lane</b>	-	-	174	392	0	28.3	142.9	0.0	171.2	-	-	-	-
1/2+1/1	1325	1207	174	392	0	12.8	64.4	0.0	77.1	209.6	55.9	64.4	120.2
2/2+2/1	582	572	-	-	-	6.3	18.1	-	24.4	151.0	9.0	18.1	27.1
3/1+3/2	1252	1142	-	-	-	9.2	60.4	-	69.6	200.2	22.7	60.4	83.1
4/1	1100	1100	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/1	607	607	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	1213	1213	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	0	0	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	0	0	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
C1			PRC for Signalled Lanes (%):		-22.0	Total Delay for Signalled Lanes (pcuHr):		171.19	Cycle Time (s): 110				
			PRC Over All Lanes (%):		-22.0	Total Delay Over All Lanes(pcuHr):		171.19					



Full Input Data And Results

Scenario 4: '2028 Ref Case PM' (FG4: '2028 Ref Case PM', Plan 1: 'Network Control Plan 1')

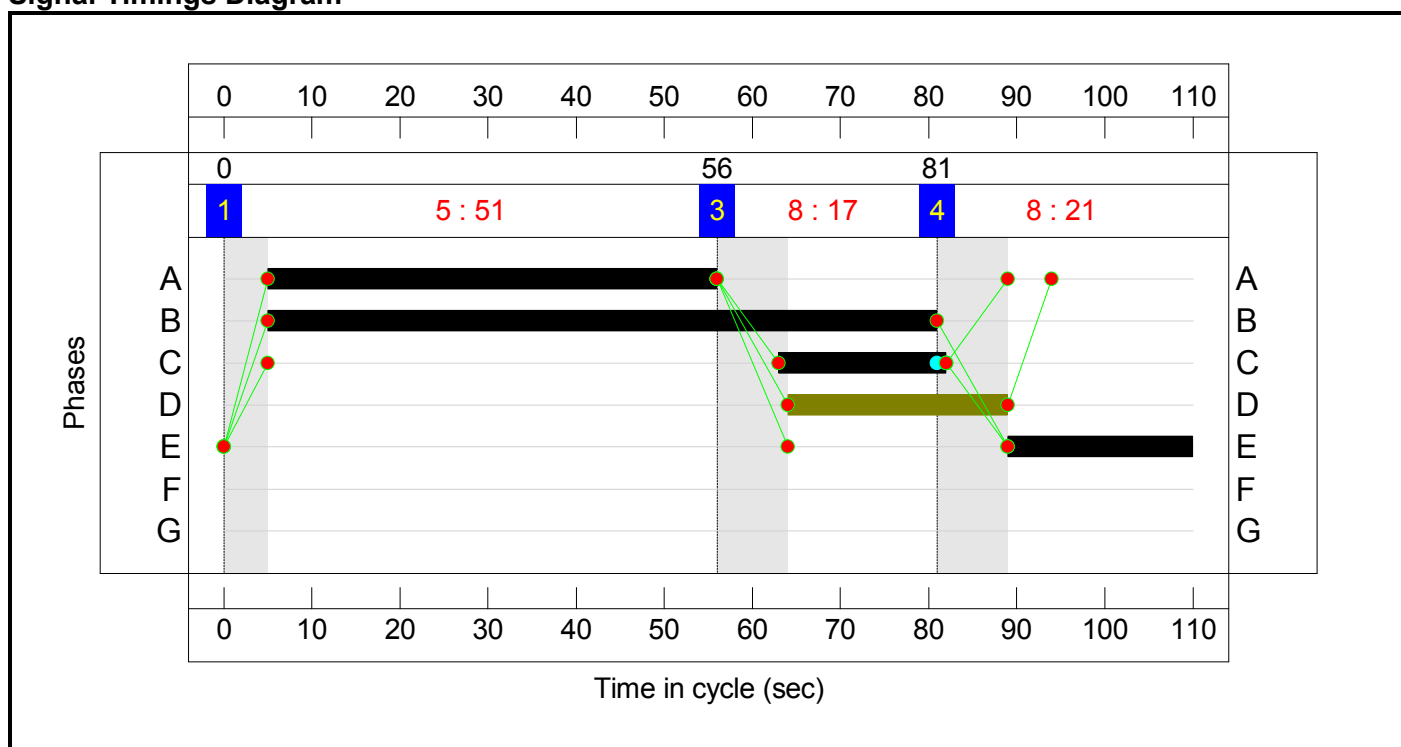
Stage Sequence Diagram



Stage Timings

Stage	1	3	4
Duration	51	17	21
Change Point	0	56	81


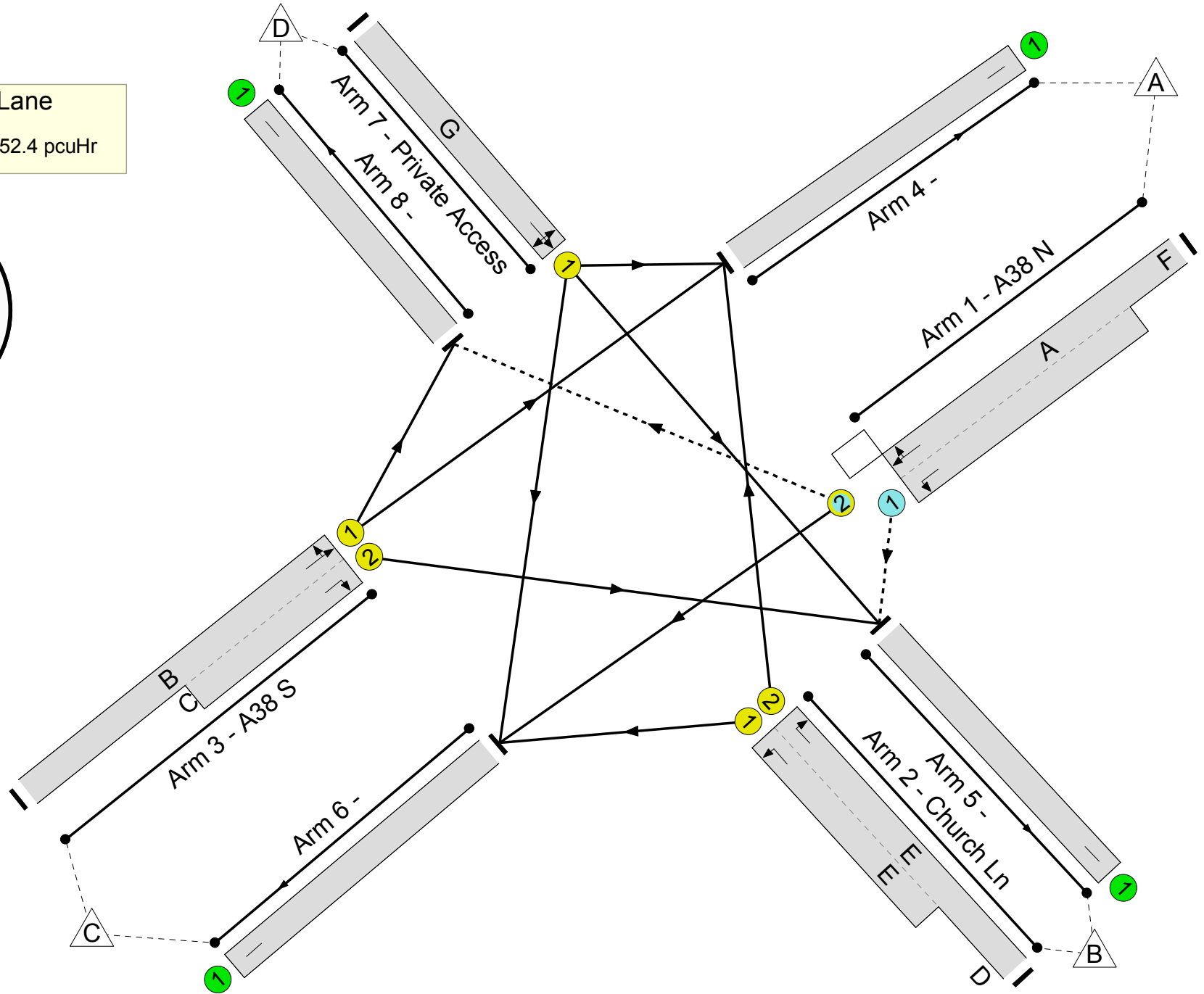
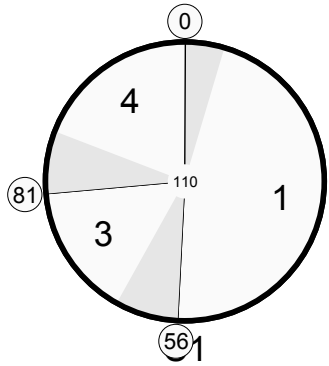
Signal Timings Diagram



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

Full Input Data And Results

**A38 - Church Lane**  
 PRC: -10.1 %  
 Total Traffic Delay: 52.4 pcuHr

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 - Church Road With RPS Further Improvements</b>	-	-	N/A	-	-		-	-	-	-	-	-	<b>99.1%</b>
<b>A38 - Church Lane</b>	-	-	N/A	-	-		-	-	-	-	-	-	<b>99.1%</b>
1/2+1/1	A38 N Left Ahead Right	O	N/A	N/A	A -	F	1	51	0	1046	1985:1816	836+236	97.6 : 97.6%
2/2+2/1	Church Ln Right Left	U	N/A	N/A	E	D	1	21:46	25	640	1938:1667	388+277	96.2 : 96.2%
3/1+3/2	A38 S Ahead Right Left	U	N/A	N/A	B C		1	76:19	-	1211	1995:1874	890+332	99.1 : 99.1%
4/1		U	N/A	N/A	-		-	-	-	1255	Inf	Inf	0.0%
5/1		U	N/A	N/A	-		-	-	-	559	Inf	Inf	0.0%
6/1		U	N/A	N/A	-		-	-	-	1083	Inf	Inf	0.0%
7/1	Private Access Left Ahead Right	U	N/A	N/A	G		0	0	-	0	1815	0	0.0%
8/1		U	N/A	N/A	-		-	-	-	0	Inf	Inf	0.0%

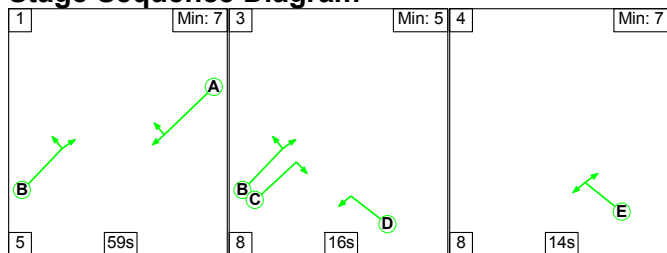
Full Input Data And Results

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: A38 - Church Road With RPS Further Improvements</b>	-	-	<b>92</b>	<b>368</b>	<b>0</b>	<b>18.7</b>	<b>33.6</b>	<b>0.0</b>	<b>52.4</b>	-	-	-	-
<b>A38 - Church Lane</b>	-	-	<b>92</b>	<b>368</b>	<b>0</b>	<b>18.7</b>	<b>33.6</b>	<b>0.0</b>	<b>52.4</b>	-	-	-	-
1/2+1/1	1046	1046	92	368	0	6.3	11.0	0.0	17.3	59.5	26.6	11.0	37.7
2/2+2/1	640	640	-	-	-	6.1	7.9	-	14.0	78.5	11.2	7.9	19.0
3/1+3/2	1211	1211	-	-	-	6.3	14.8	-	21.1	62.8	18.8	14.8	33.6
4/1	1255	1255	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/1	559	559	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	1083	1083	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	0	0	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	0	0	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
<p>C1                      PRC for Signalled Lanes (%): -10.1                      Total Delay for Signalled Lanes (pcuHr): 52.37                      Cycle Time (s): 110                      PRC Over All Lanes (%): -10.1                      Total Delay Over All Lanes(pcuHr): 52.37</p>													

Full Input Data And Results

Scenario 5: '2028 Test Case AM' (FG5: '2028 Test Case AM', Plan 1: 'Network Control Plan 1')

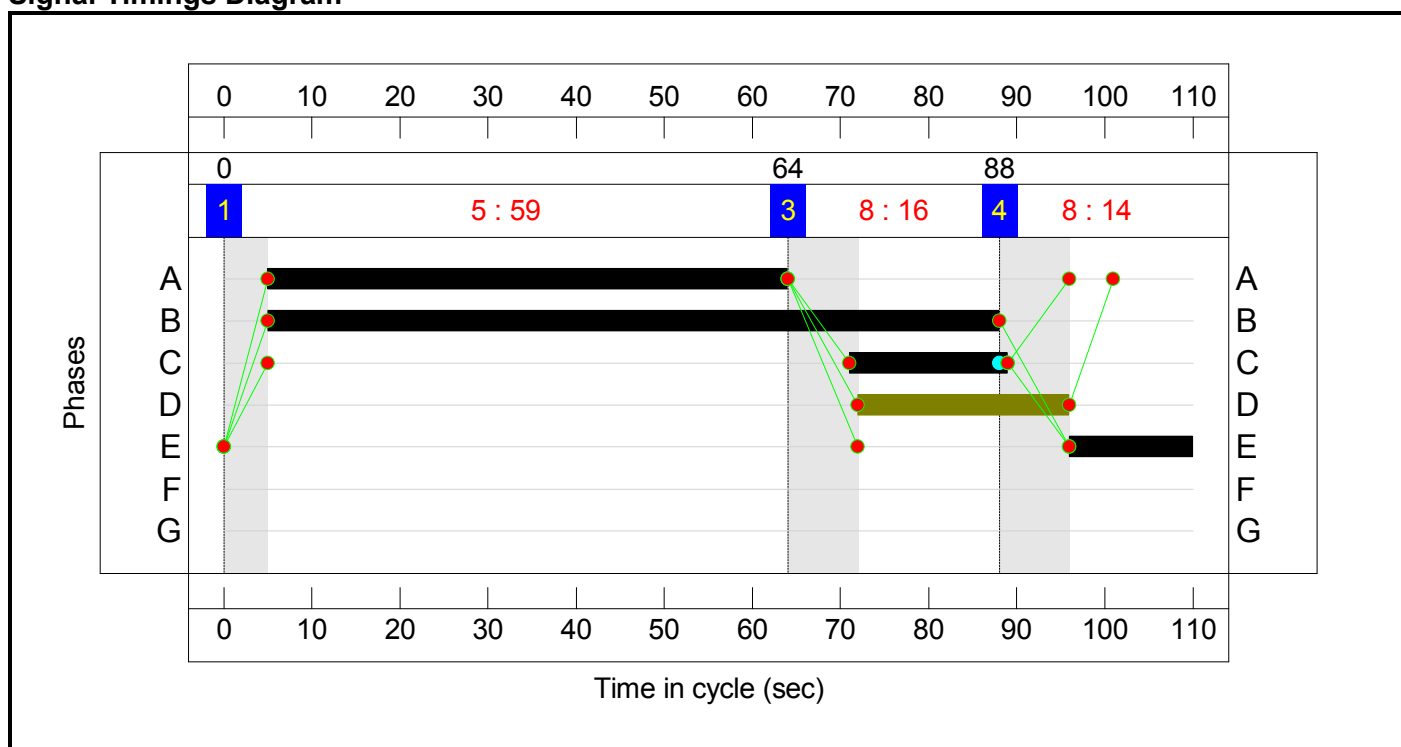
Stage Sequence Diagram



Stage Timings

Stage	1	3	4
Duration	59	16	14
Change Point	0	64	88

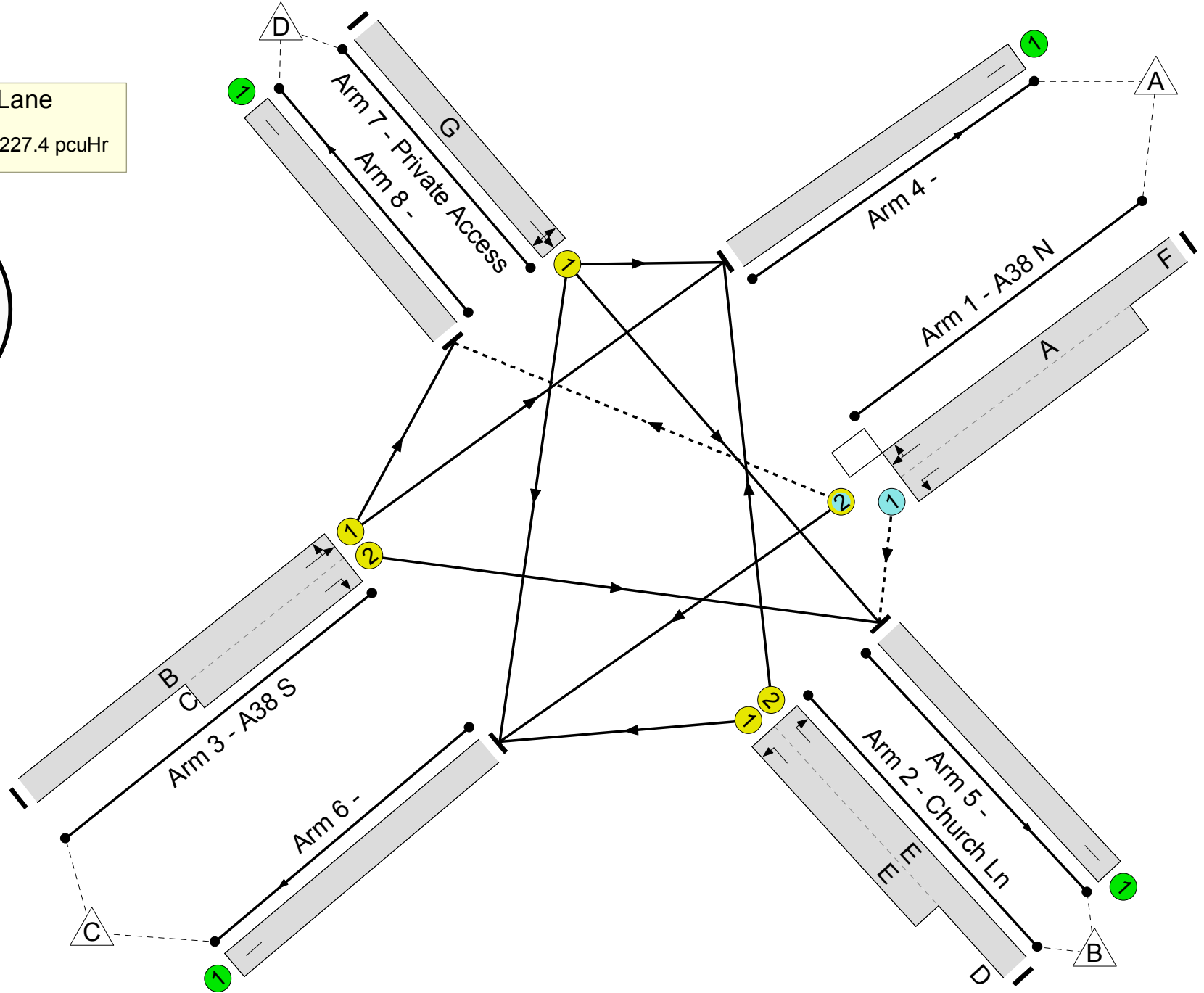
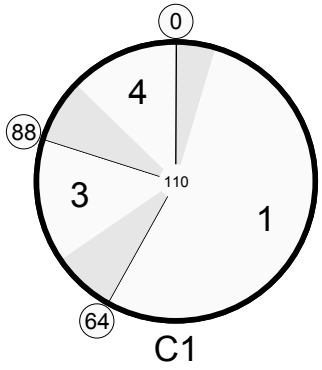
Signal Timings Diagram



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

Full Input Data And Results

**A38 - Church Lane**  
PRC: -28.0 %  
Total Traffic Delay: 227.4 pcuHr





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 - Church Road With RPS Further Improvements</b>	-	-	N/A	-	-		-	-	-	-	-	-	115.2%
<b>A38 - Church Lane</b>	-	-	N/A	-	-		-	-	-	-	-	-	115.2%
1/2+1/1	A38 N Left Ahead Right	O	N/A	N/A	A -	F	1	59	0	1415	1985:1816	933+295	115.2 : 115.2%
2/2+2/1	Church Ln Right Left	U	N/A	N/A	E	D	1	14:38	24	587	1938:1667	264+258	112.4 : 112.4%
3/1+3/2	A38 S Ahead Right Left	U	N/A	N/A	B C		1	83:18	-	1262	1995:1874	827+324	109.7 : 109.7%
4/1		U	N/A	N/A	-		-	-	-	1204	Inf	Inf	0.0%
5/1		U	N/A	N/A	-		-	-	-	695	Inf	Inf	0.0%
6/1		U	N/A	N/A	-		-	-	-	1365	Inf	Inf	0.0%
7/1	Private Access Left Ahead Right	U	N/A	N/A	G		0	0	-	0	1815	0	0.0%
8/1		U	N/A	N/A	-		-	-	-	0	Inf	Inf	0.0%

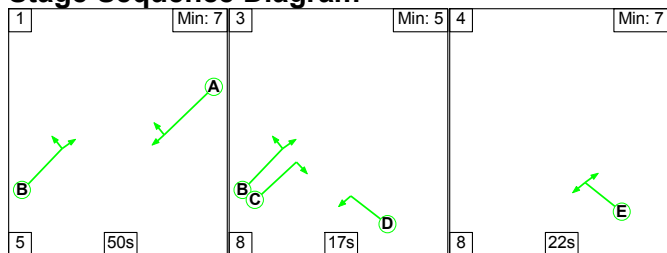
Full Input Data And Results

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: A38 - Church Road With RPS Further Improvements</b>	-	-	178	412	0	33.4	194.0	0.0	227.4	-	-	-	-
<b>A38 - Church Lane</b>	-	-	178	412	0	33.4	194.0	0.0	227.4	-	-	-	-
1/2+1/1	1415	1229	178	412	0	16.6	96.8	0.0	113.4	288.6	98.7	96.8	195.5
2/2+2/1	587	554	-	-	-	7.6	36.4	-	44.0	269.8	10.3	36.4	46.6
3/1+3/2	1262	1151	-	-	-	9.1	60.8	-	70.0	199.5	22.6	60.8	83.4
4/1	1091	1091	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/1	619	619	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	1223	1223	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	0	0	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	0	0	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
C1			PRC for Signalled Lanes (%):		-28.0	Total Delay for Signalled Lanes (pcuHr):		227.40	Cycle Time (s): 110				
			PRC Over All Lanes (%):		-28.0	Total Delay Over All Lanes(pcuHr):		227.40					

Full Input Data And Results

Scenario 6: '2028 Test Case PM' (FG6: '2028 Test Case PM', Plan 1: 'Network Control Plan 1')

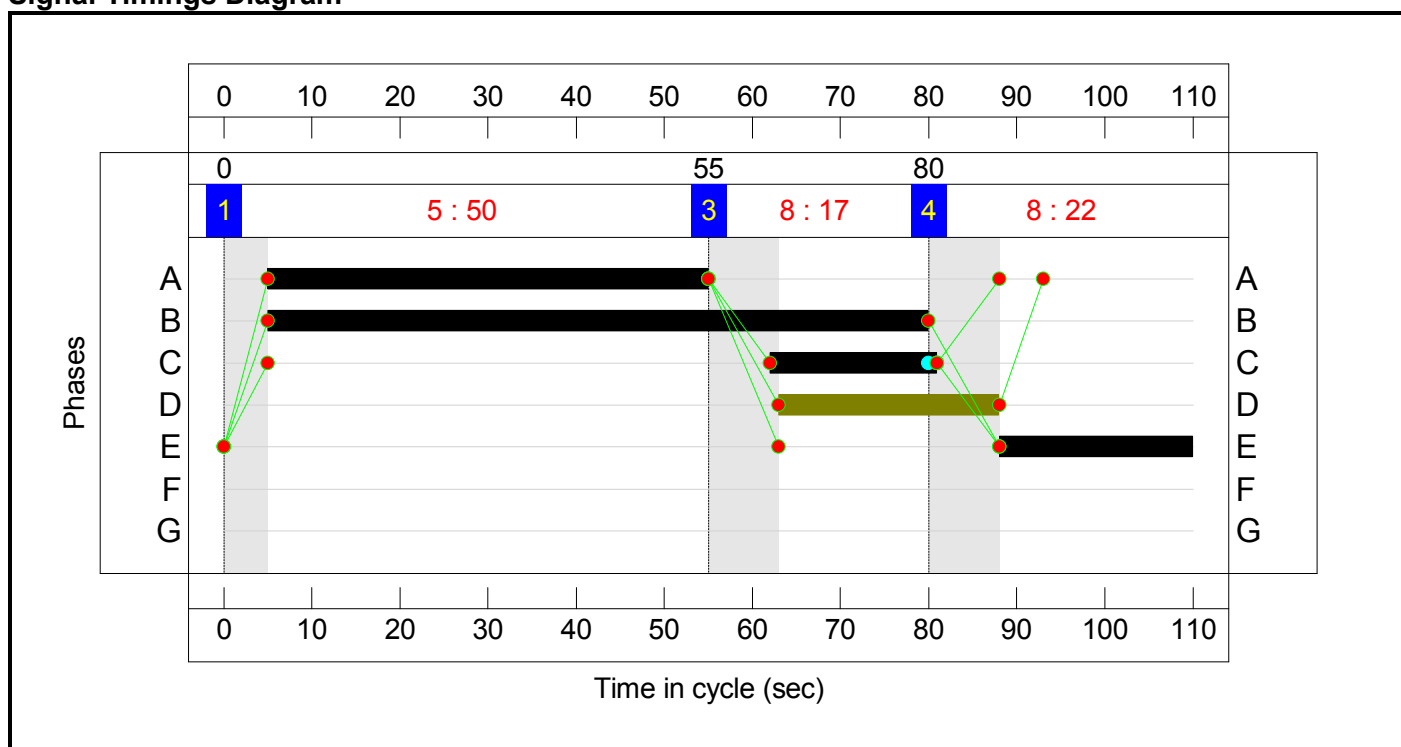
Stage Sequence Diagram



Stage Timings

Stage	1	3	4
Duration	50	17	22
Change Point	0	55	80


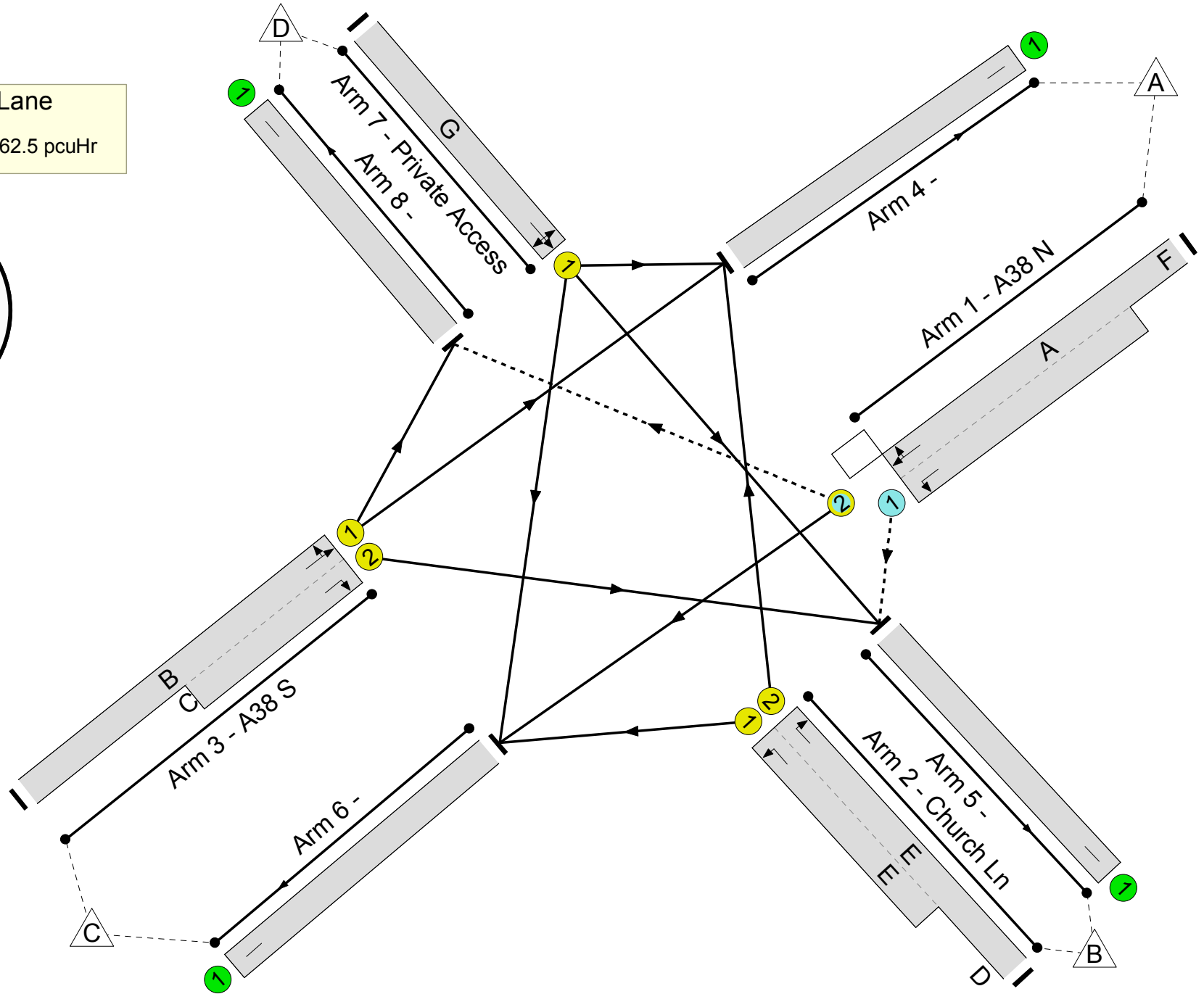
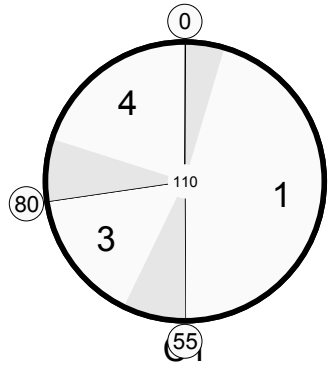
Signal Timings Diagram



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

Full Input Data And Results

**A38 - Church Lane**  
 PRC: -11.9 %  
 Total Traffic Delay: 62.5 pcuHr

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 - Church Road With RPS Further Improvements</b>	-	-	N/A	-	-		-	-	-	-	-	-	100.7%
<b>A38 - Church Lane</b>	-	-	N/A	-	-		-	-	-	-	-	-	100.7%
1/2+1/1	A38 N Left Ahead Right	O	N/A	N/A	A -	F	1	50	0	1062	1985:1816	821+233	100.7 : 100.7%
2/2+2/1	Church Ln Right Left	U	N/A	N/A	E	D	1	22:47	25	659	1938:1667	403+274	97.4 : 97.4%
3/1+3/2	A38 S Ahead Right Left	U	N/A	N/A	B C		1	75:19	-	1259	1995:1874	938+332	99.1 : 99.1%
4/1		U	N/A	N/A	-		-	-	-	1322	Inf	Inf	0.0%
5/1		U	N/A	N/A	-		-	-	-	564	Inf	Inf	0.0%
6/1		U	N/A	N/A	-		-	-	-	1094	Inf	Inf	0.0%
7/1	Private Access Left Ahead Right	U	N/A	N/A	G		0	0	-	0	1815	0	0.0%
8/1		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: A38 - Church Road With RPS Further Improvements</b>	-	-	<b>94</b>	<b>376</b>	<b>0</b>	<b>20.0</b>	<b>42.5</b>	<b>0.0</b>	<b>62.5</b>	-	-	-	-
<b>A38 - Church Lane</b>	-	-	<b>94</b>	<b>376</b>	<b>0</b>	<b>20.0</b>	<b>42.5</b>	<b>0.0</b>	<b>62.5</b>	-	-	-	-
1/2+1/1	1062	1056	94	376	0	7.0	18.2	0.0	25.2	85.4	28.9	18.2	47.1
2/2+2/1	659	659	-	-	-	6.2	9.1	-	15.4	84.0	11.9	9.1	21.0
3/1+3/2	1259	1259	-	-	-	6.8	15.2	-	22.0	62.8	22.7	15.2	37.8
4/1	1322	1322	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/1	564	564	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	1088	1088	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	0	0	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	0	0	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
C1			PRC for Signalled Lanes (%):	-11.9	Total Delay for Signalled Lanes (pcuHr):			62.55	Cycle Time (s): 110				
			PRC Over All Lanes (%):	-11.9	Total Delay Over All Lanes(pcuHr):			62.55					

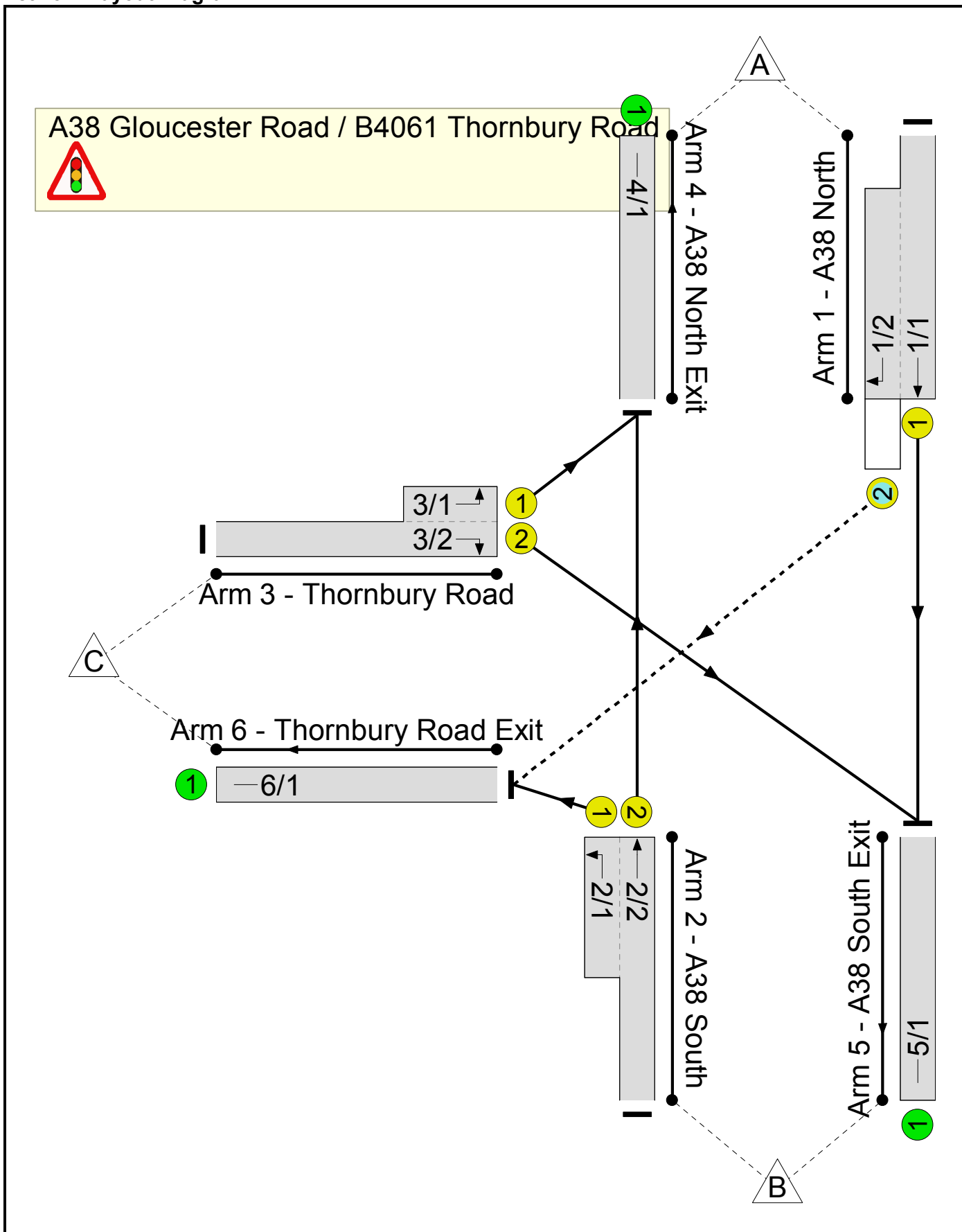
**Full Input Data And Results**

**User and Project Details**

<b>Project:</b>	<b>West of Park Farm</b>
<b>Title:</b>	<b>A38 Gloucester Road / B4061 Thornbury Road</b>
<b>Location:</b>	Thornbury
<b>Additional detail:</b>	
<b>File name:</b>	002_A38_Thornbury Road_RPS_v2.lsg3x
<b>Author:</b>	laurelius
<b>Company:</b>	PBA
<b>Address:</b>	

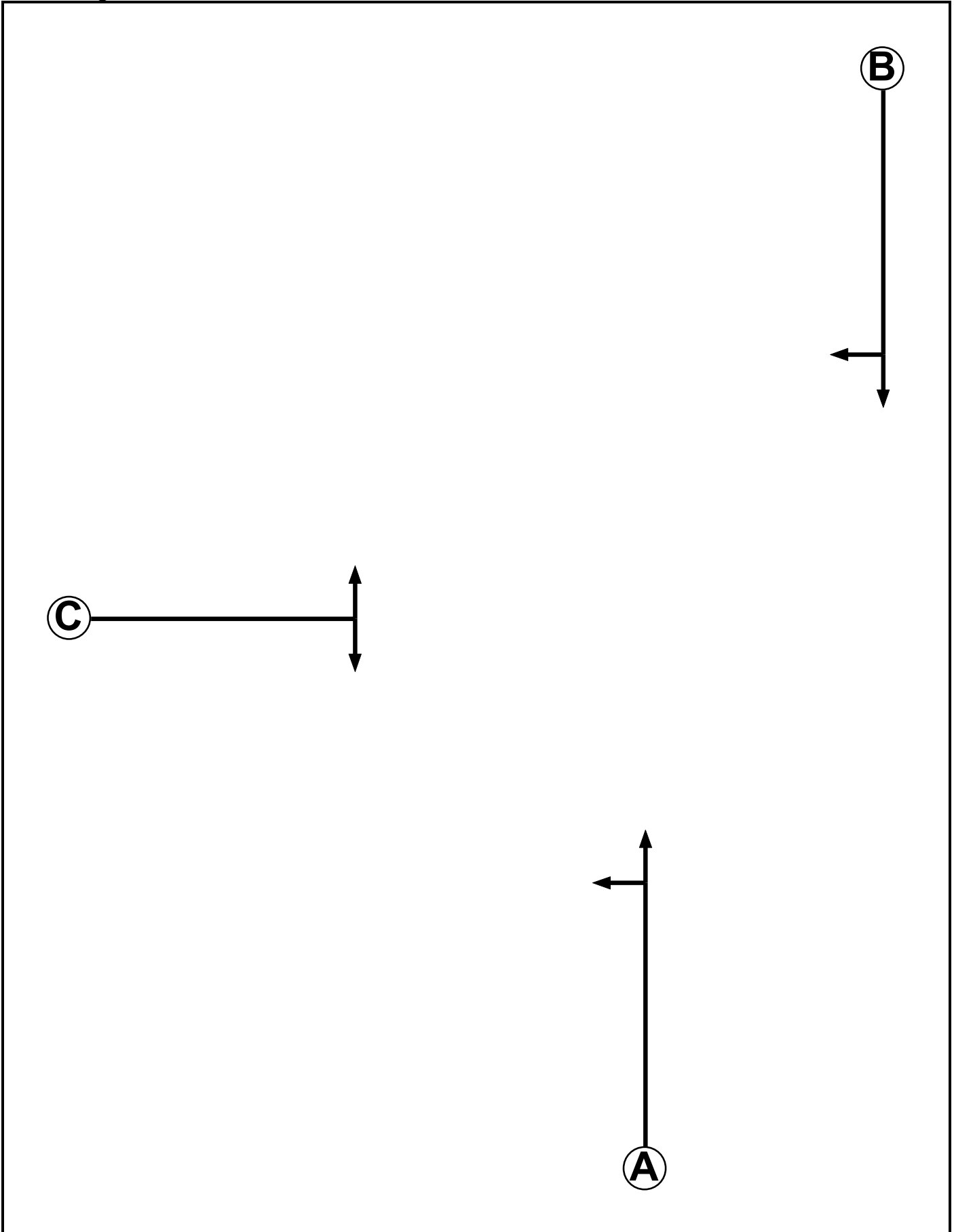


Network Layout Diagram



Scenario 1: '2015 Base AM' (FG1: '2015 Base AM', Plan 2: 'Network Control Plan 2')

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

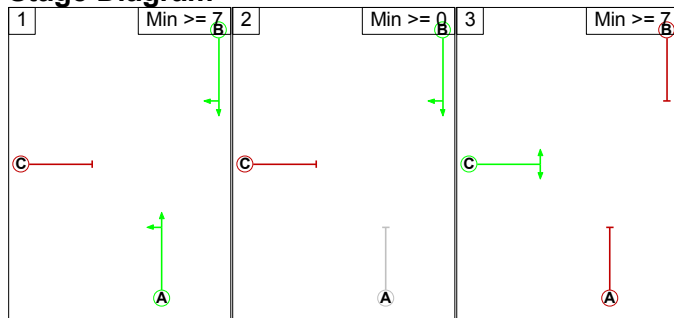
### Phase Intergreens Matrix

		Starting Phase		
		A	B	C
Terminating Phase	A		-	7
	B	-		7
	C	5	5	

### Phases in Stage

Stage No.	Phases in Stage
1	A B
2	B
3	C

### Stage Diagram



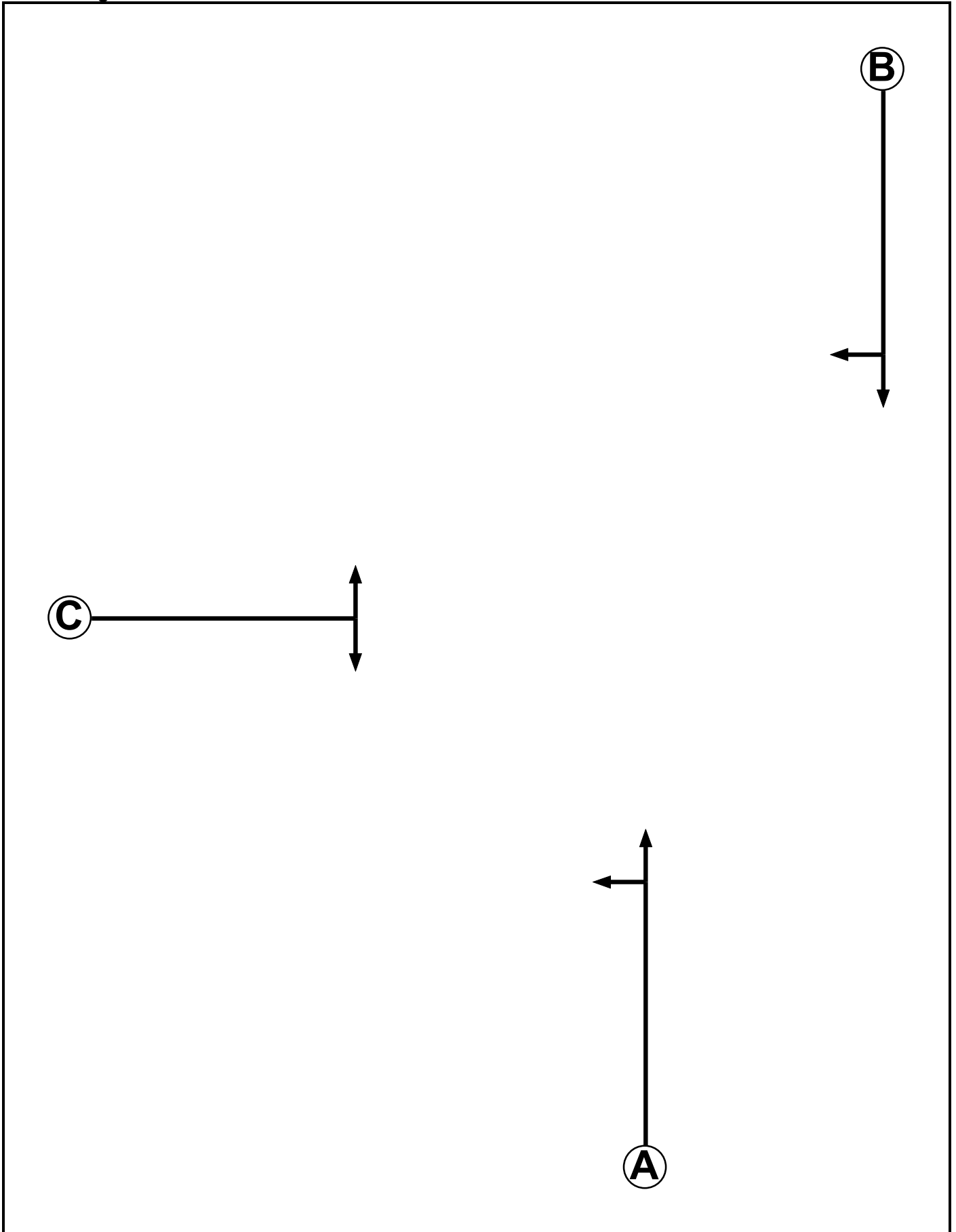
### Phase Delays

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

### Prohibited Stage Change

		To Stage		
		1	2	3
From Stage	1		0	7
	2	2		7
	3	5	5	

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

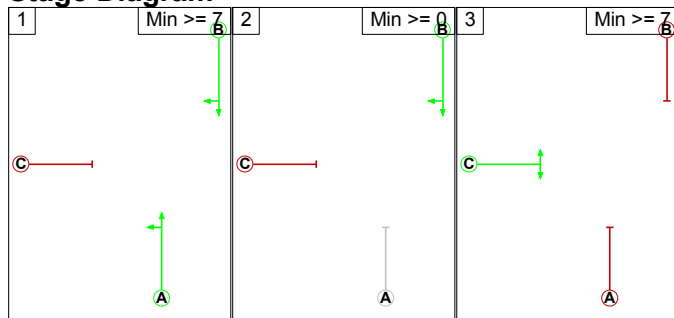
### Phase Intergreens Matrix

		Starting Phase		
		A	B	C
Terminating Phase	A			
	B			
	C	5	5	

### Phases in Stage

Stage No.	Phases in Stage
1	A B
2	B
3	C

### Stage Diagram



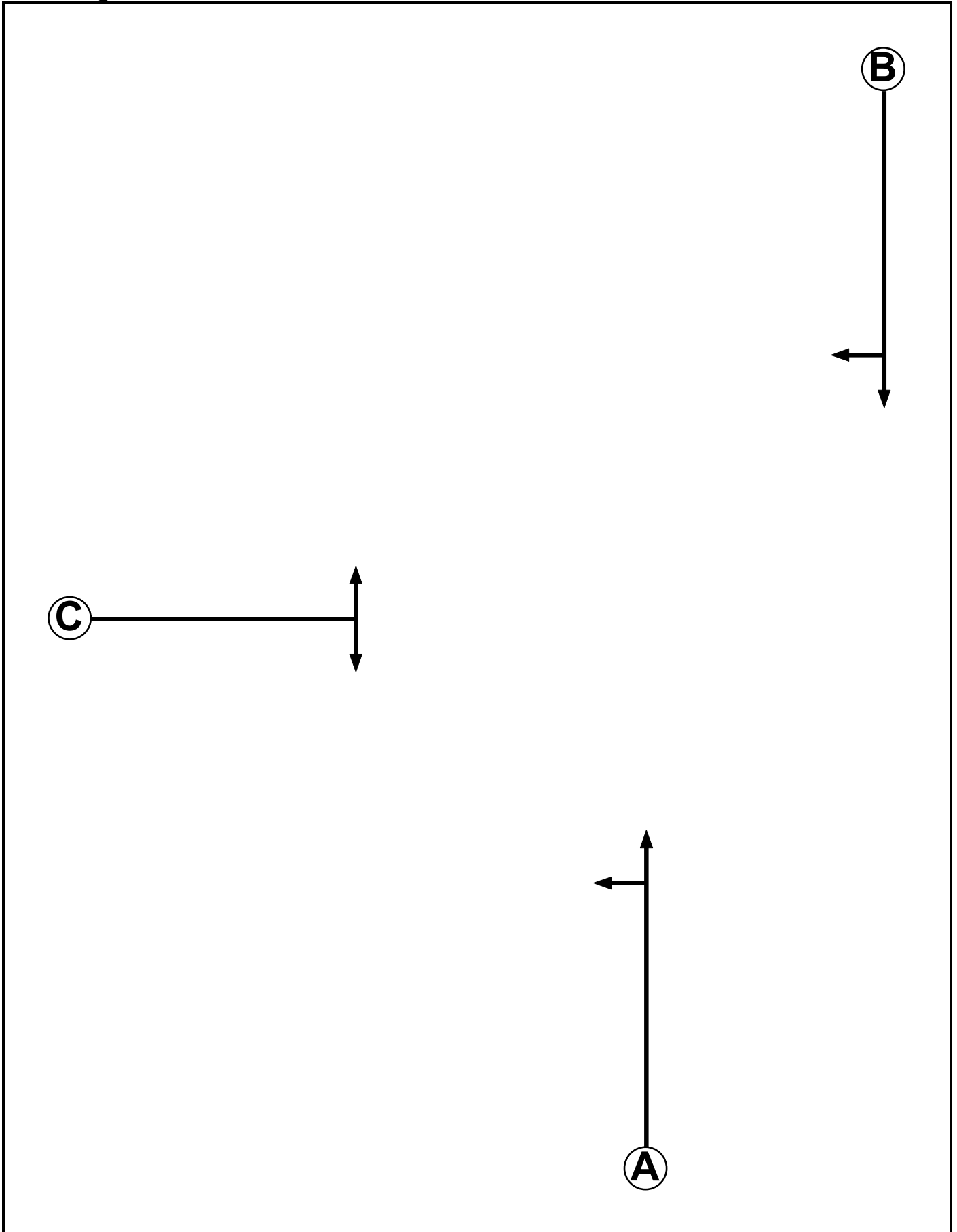
### Phase Delays

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

### Prohibited Stage Change

		To Stage		
		1	2	3
From Stage	1		0	7
	2	2		7
	3	5	5	

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

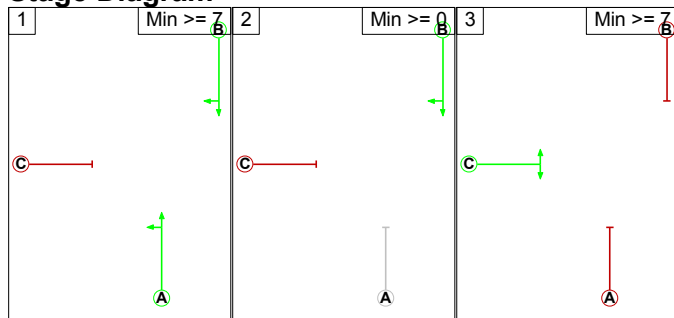
### Phase Intergreens Matrix

		Starting Phase		
		A	B	C
Terminating Phase	A		-	7
	B	-		7
	C	5	5	

### Phases in Stage

Stage No.	Phases in Stage
1	A B
2	B
3	C

### Stage Diagram



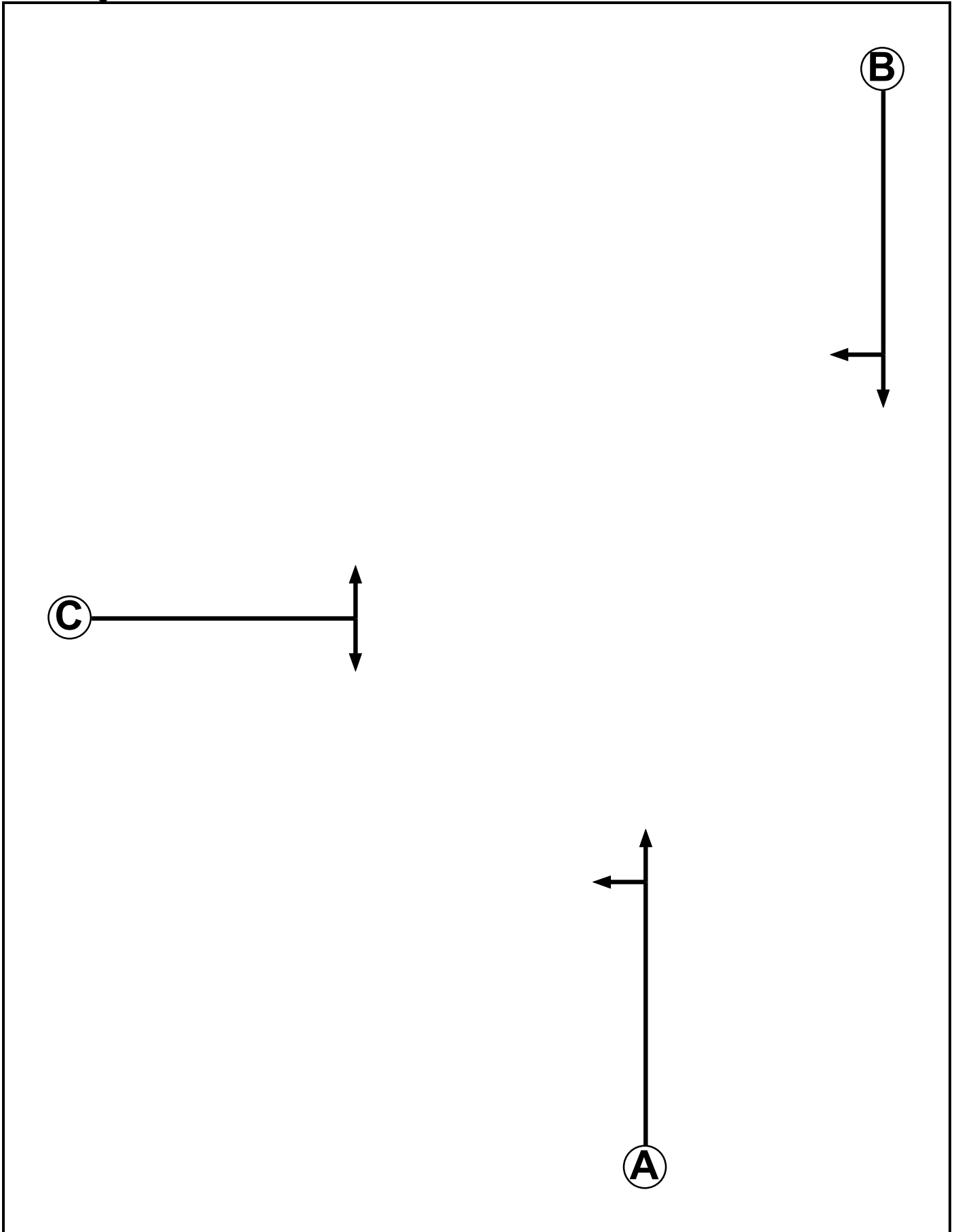
### Phase Delays

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

### Prohibited Stage Change

		To Stage		
		1	2	3
From Stage	1		0	7
	2	2		7
	3	5	5	

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

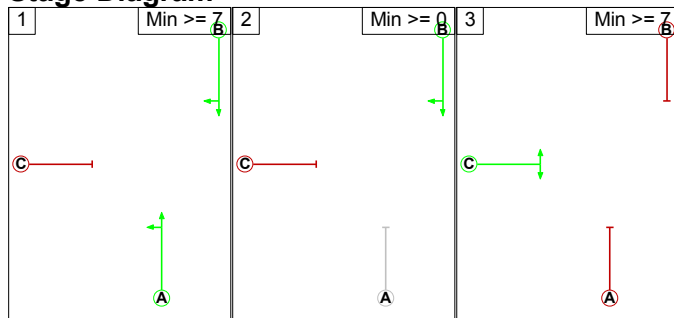
### Phase Intergreens Matrix

		Starting Phase		
		A	B	C
Terminating Phase	A		-	7
	B	-		7
	C	5	5	

### Phases in Stage

Stage No.	Phases in Stage
1	A B
2	B
3	C

### Stage Diagram



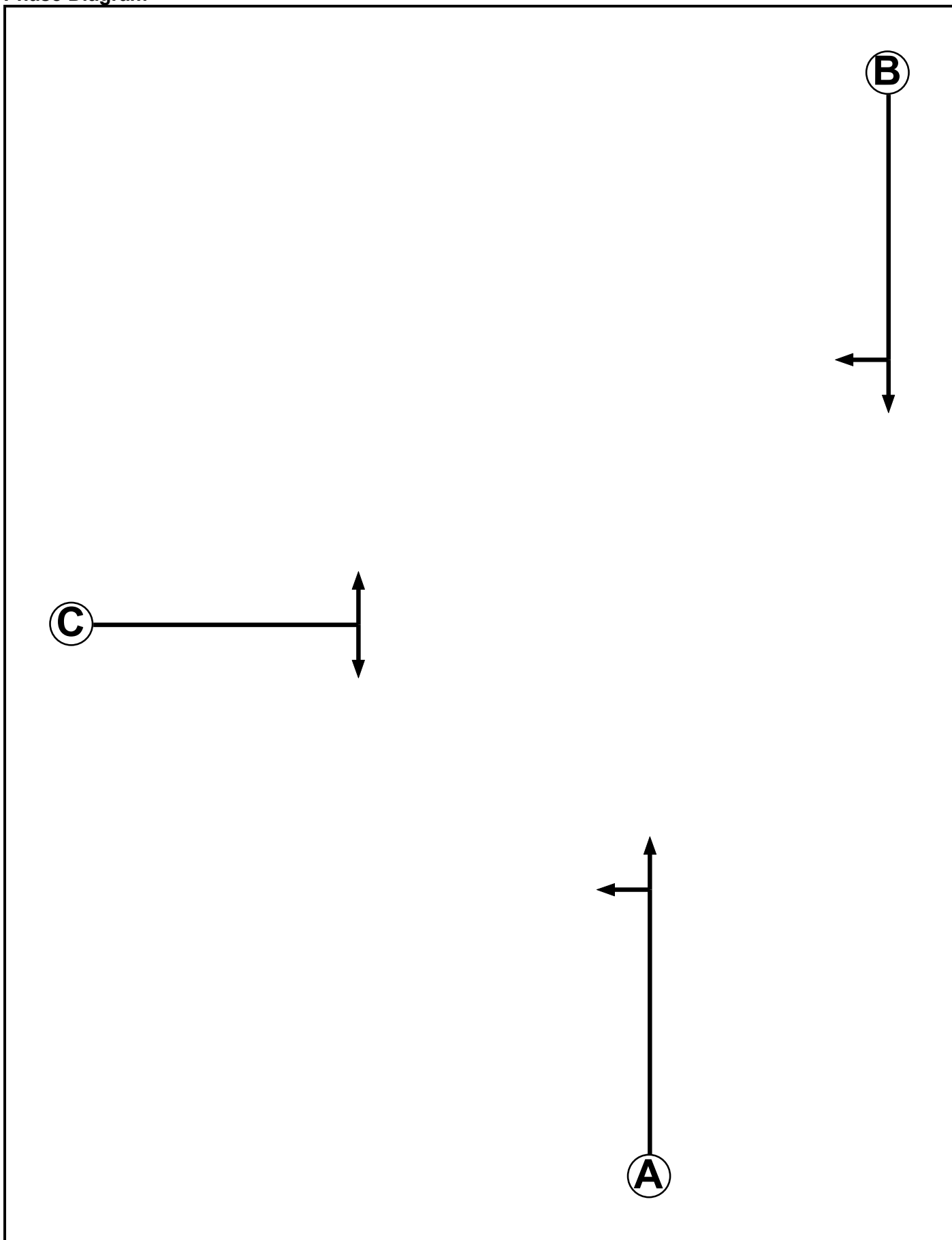
### Phase Delays

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

### Prohibited Stage Change

		To Stage		
		1	2	3
From Stage	1		0	7
	2	2		7
	3	5	5	

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

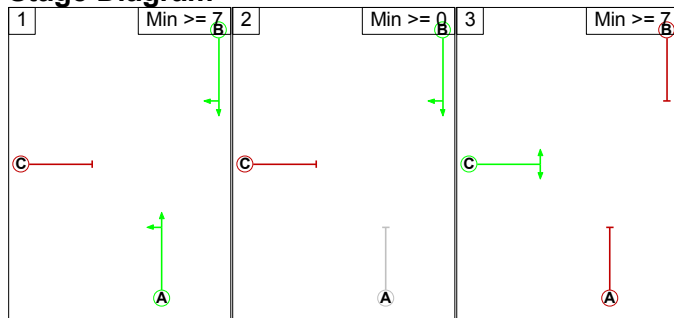
### Phase Intergreens Matrix

		Starting Phase		
		A	B	C
Terminating Phase	A			
	B			
	C	5	5	

### Phases in Stage

Stage No.	Phases in Stage
1	A B
2	B
3	C

### Stage Diagram



### Phase Delays

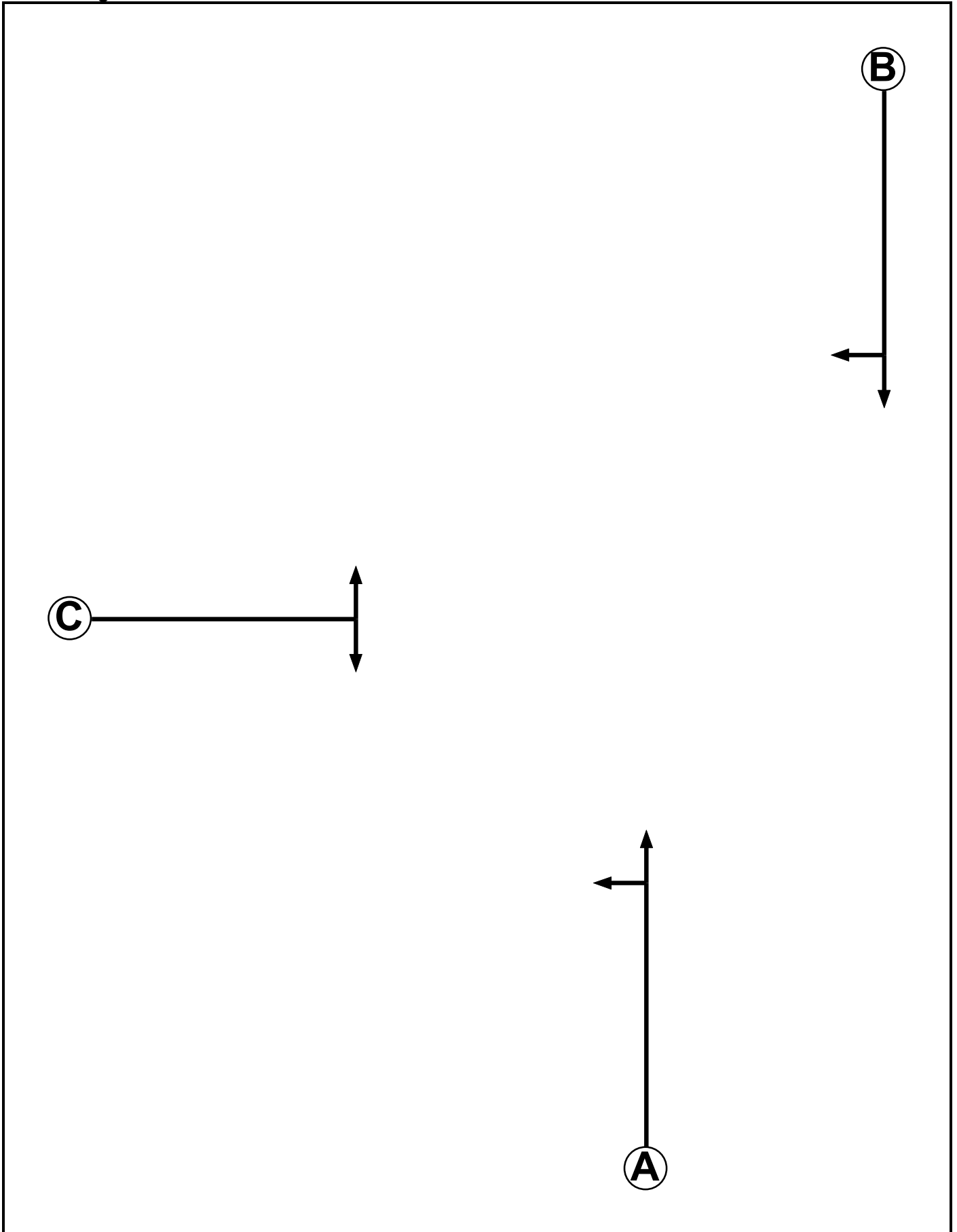
Term. Stage	Start Stage	Phase	Type	Value	Cont value
There are no Phase Delays defined					

### Prohibited Stage Change

		To Stage		
		1	2	3
From Stage	1		0	7
	2	2		7
	3	5	5	

Scenario 6: '2028 Test Case PM' (FG6: '2028 Test Case PM', Plan 2: 'Network Control Plan 2')

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

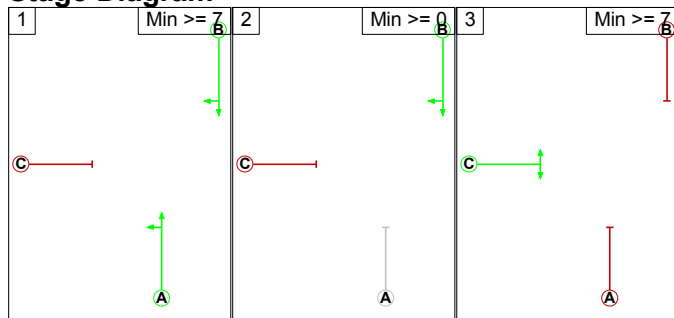
### Phase Intergreens Matrix

		Starting Phase		
		A	B	C
Terminating Phase	A			
	B			
	C	5	5	

### Phases in Stage

Stage No.	Phases in Stage
1	A B
2	B
3	C

### 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
From Stage	1		0	7
	2	2		7
	3	5	5	

Full Input Data And Results

**Give-Way Lane Input Data**

Junction: A38 Gloucester Road / B4061 Thornbury 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)
1/2 (A38 North)	6/1 (Right)	1439	0	2/1	1.09	All	3.00	-	0.50	3	2.00
				2/2	1.09	All					

Full Input Data And Results

**Lane Input Data**

Junction: A38 Gloucester Road / B4061 Thornbury 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 North)	U	B	2	3	60.0	Geom	-	3.12	0.00	Y	Arm 5 Ahead	Inf
1/2 (A38 North)	O	B	2	3	13.0	Geom	-	3.12	0.00	N	Arm 6 Right	20.00
2/1 (A38 South)	U	A	2	3	6.0	Geom	-	4.70	0.00	Y	Arm 6 Left	26.00
2/2 (A38 South)	U	A	2	3	60.0	Geom	-	5.00	0.00	N	Arm 4 Ahead	Inf
3/1 (Thornbury Road)	U	C	2	3	4.0	Geom	-	4.00	0.00	Y	Arm 4 Left	15.00
3/2 (Thornbury Road)	U	C	2	3	60.0	Geom	-	3.10	0.00	N	Arm 5 Right	28.00
4/1 (A38 North Exit)	U		2	3	60.0	Inf	-	-	-	-	-	-
5/1 (A38 South Exit)	U		2	3	60.0	Inf	-	-	-	-	-	-
6/1 (Thornbury Road Exit)	U		2	3	60.0	Inf	-	-	-	-	-	-

**Traffic Flow Groups**

Flow Group	Start Time	End Time	Duration	Formula
1: '2015 Base AM'	08:00	09:00	01:00	
2: '2015 Base PM'	17:00	18:00	01:00	
3: '2028 Ref Case AM'	08:00	09:00	01:00	
4: '2028 Ref Case PM'	17:00	18:00	01:00	
5: '2028 Test Case AM'	08:00	09:00	01:00	
6: '2028 Test Case PM'	17:00	18:00	01:00	

**Scenario 1: '2015 Base AM'** (FG1: '2015 Base AM', Plan 2: 'Network Control Plan 2')

**Traffic Flows, Desired**

**Desired Flow :**

	Destination				
		A	B	C	Tot.
Origin	A	0	385	93	478
	B	293	0	748	1041
	C	76	459	0	535
	Tot.	369	844	841	2054

Full Input Data And Results

**Traffic Lane Flows**

Lane	Scenario 1: 2015 Base AM
<b>Junction: A38 Gloucester Road / B4061 Thornbury Road</b>	
1/1 (with short)	478(In) 385(Out)
1/2 (short)	93
2/1 (short)	748
2/2 (with short)	1041(In) 293(Out)
3/1 (short)	76
3/2 (with short)	535(In) 459(Out)
4/1	369
5/1	844
6/1	841

**Lane Saturation Flows**

<b>Junction: A38 Gloucester Road / B4061 Thornbury Road</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 (A38 North)	3.12	0.00	Y	Arm 5 Ahead	Inf	100.0 %	1927	1927
1/2 (A38 North)	3.12	0.00	N	Arm 6 Right	20.00	100.0 %	1923	1923
2/1 (A38 South)	4.70	0.00	Y	Arm 6 Left	26.00	100.0 %	1971	1971
2/2 (A38 South)	5.00	0.00	N	Arm 4 Ahead	Inf	100.0 %	2255	2255
3/1 (Thornbury Road)	4.00	0.00	Y	Arm 4 Left	15.00	100.0 %	1832	1832
3/2 (Thornbury Road)	3.10	0.00	N	Arm 5 Right	28.00	100.0 %	1960	1960
4/1 (A38 North Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
5/1 (A38 South Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
6/1 (Thornbury Road Exit Lane 1)	Infinite Saturation Flow						Inf	Inf



Full Input Data And Results

**Scenario 2: '2015 Base PM'** (FG2: '2015 Base PM', Plan 2: 'Network Control Plan 2')

**Traffic Flows, Desired**

**Desired Flow :**

		Destination			
		A	B	C	Tot.
Origin	A	0	284	66	350
	B	391	0	538	929
	C	61	482	0	543
	Tot.	452	766	604	1822

**Traffic Lane Flows**

Lane	Scenario 2: 2015 Base PM
<b>Junction: A38 Gloucester Road / B4061 Thornbury Road</b>	
1/1 (with short)	350(In) 284(Out)
1/2 (short)	66
2/1 (short)	538
2/2 (with short)	929(In) 391(Out)
3/1 (short)	61
3/2 (with short)	543(In) 482(Out)
4/1	452
5/1	766
6/1	604

Full Input Data And Results

**Lane Saturation Flows**

Junction: A38 Gloucester Road / B4061 Thornbury 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 North)	3.12	0.00	Y	Arm 5 Ahead	Inf	100.0 %	1927	1927
1/2 (A38 North)	3.12	0.00	N	Arm 6 Right	20.00	100.0 %	1923	1923
2/1 (A38 South)	4.70	0.00	Y	Arm 6 Left	26.00	100.0 %	1971	1971
2/2 (A38 South)	5.00	0.00	N	Arm 4 Ahead	Inf	100.0 %	2255	2255
3/1 (Thornbury Road)	4.00	0.00	Y	Arm 4 Left	15.00	100.0 %	1832	1832
3/2 (Thornbury Road)	3.10	0.00	N	Arm 5 Right	28.00	100.0 %	1960	1960
4/1 (A38 North Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
5/1 (A38 South Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
6/1 (Thornbury Road Exit Lane 1)	Infinite Saturation Flow						Inf	Inf

**Scenario 3: '2028 Ref Case AM'** (FG3: '2028 Ref Case AM', Plan 2: 'Network Control Plan 2')

**Traffic Flows, Desired**

**Desired Flow :**

	Destination				
		A	B	C	Tot.
Origin	A	0	680	93	773
	B	380	0	748	1128
	C	76	459	0	535
	Tot.	456	1139	841	2436

Full Input Data And Results

**Traffic Lane Flows**

Lane	Scenario 3: 2028 Ref Case AM
<b>Junction: A38 Gloucester Road / B4061 Thornbury Road</b>	
1/1 (with short)	773(In) 680(Out)
1/2 (short)	93
2/1 (short)	748
2/2 (with short)	1128(In) 380(Out)
3/1 (short)	76
3/2 (with short)	535(In) 459(Out)
4/1	456
5/1	1139
6/1	841

**Lane Saturation Flows**

<b>Junction: A38 Gloucester Road / B4061 Thornbury Road</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 (A38 North)	3.12	0.00	Y	Arm 5 Ahead	Inf	100.0 %	1927	1927
1/2 (A38 North)	3.12	0.00	N	Arm 6 Right	20.00	100.0 %	1923	1923
2/1 (A38 South)	4.70	0.00	Y	Arm 6 Left	26.00	100.0 %	1971	1971
2/2 (A38 South)	5.00	0.00	N	Arm 4 Ahead	Inf	100.0 %	2255	2255
3/1 (Thornbury Road)	4.00	0.00	Y	Arm 4 Left	15.00	100.0 %	1832	1832
3/2 (Thornbury Road)	3.10	0.00	N	Arm 5 Right	28.00	100.0 %	1960	1960
4/1 (A38 North Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
5/1 (A38 South Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
6/1 (Thornbury Road Exit Lane 1)	Infinite Saturation Flow						Inf	Inf

Full Input Data And Results

**Scenario 4: '2028 Ref Case PM'** (FG4: '2028 Ref Case PM', Plan 2: 'Network Control Plan 2')

**Traffic Flows, Desired**

**Desired Flow :**

		Destination			
		A	B	C	Tot.
Origin	A	0	423	66	489
	B	610	0	538	1148
	C	61	482	0	543
	Tot.	671	905	604	2180

**Traffic Lane Flows**

Lane	Scenario 4: 2028 Ref Case PM
<b>Junction: A38 Gloucester Road / B4061 Thornbury Road</b>	
1/1 (with short)	489(In) 423(Out)
1/2 (short)	66
2/1 (short)	538
2/2 (with short)	1148(In) 610(Out)
3/1 (short)	61
3/2 (with short)	543(In) 482(Out)
4/1	671
5/1	905
6/1	604

Full Input Data And Results

**Lane Saturation Flows**

Junction: A38 Gloucester Road / B4061 Thornbury 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 North)	3.12	0.00	Y	Arm 5 Ahead	Inf	100.0 %	1927	1927
1/2 (A38 North)	3.12	0.00	N	Arm 6 Right	20.00	100.0 %	1923	1923
2/1 (A38 South)	4.70	0.00	Y	Arm 6 Left	26.00	100.0 %	1971	1971
2/2 (A38 South)	5.00	0.00	N	Arm 4 Ahead	Inf	100.0 %	2255	2255
3/1 (Thornbury Road)	4.00	0.00	Y	Arm 4 Left	15.00	100.0 %	1832	1832
3/2 (Thornbury Road)	3.10	0.00	N	Arm 5 Right	28.00	100.0 %	1960	1960
4/1 (A38 North Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
5/1 (A38 South Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
6/1 (Thornbury Road Exit Lane 1)	Infinite Saturation Flow						Inf	Inf

**Scenario 5: '2028 Test Case AM'** (FG5: '2028 Test Case AM', Plan 2: 'Network Control Plan 2')

**Traffic Flows, Desired**

**Desired Flow :**

	Destination				
	A	B	C	Tot.	
Origin	A	0	758	93	851
	B	393	0	748	1141
	C	76	459	0	535
	Tot.	469	1217	841	2527

Full Input Data And Results

**Traffic Lane Flows**

Lane	Scenario 5: 2028 Test Case AM
<b>Junction: A38 Gloucester Road / B4061 Thornbury Road</b>	
1/1 (with short)	851(In) 758(Out)
1/2 (short)	93
2/1 (short)	748
2/2 (with short)	1141(In) 393(Out)
3/1 (short)	76
3/2 (with short)	535(In) 459(Out)
4/1	469
5/1	1217
6/1	841

**Lane Saturation Flows**

<b>Junction: A38 Gloucester Road / B4061 Thornbury Road</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 (A38 North)	3.12	0.00	Y	Arm 5 Ahead	Inf	100.0 %	1927	1927
1/2 (A38 North)	3.12	0.00	N	Arm 6 Right	20.00	100.0 %	1923	1923
2/1 (A38 South)	4.70	0.00	Y	Arm 6 Left	26.00	100.0 %	1971	1971
2/2 (A38 South)	5.00	0.00	N	Arm 4 Ahead	Inf	100.0 %	2255	2255
3/1 (Thornbury Road)	4.00	0.00	Y	Arm 4 Left	15.00	100.0 %	1832	1832
3/2 (Thornbury Road)	3.10	0.00	N	Arm 5 Right	28.00	100.0 %	1960	1960
4/1 (A38 North Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
5/1 (A38 South Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
6/1 (Thornbury Road Exit Lane 1)	Infinite Saturation Flow						Inf	Inf

Full Input Data And Results

**Scenario 6: '2028 Test Case PM'** (FG6: '2028 Test Case PM', Plan 2: 'Network Control Plan 2')

**Traffic Flows, Desired**

**Desired Flow :**

		Destination			
		A	B	C	Tot.
Origin	A	0	438	66	504
	B	672	0	538	1210
	C	61	482	0	543
	Tot.	733	920	604	2257

**Traffic Lane Flows**

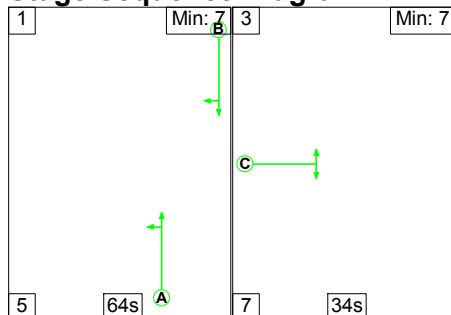
Lane	Scenario 6: 2028 Test Case PM
<b>Junction: A38 Gloucester Road / B4061 Thornbury Road</b>	
1/1 (with short)	504(In) 438(Out)
1/2 (short)	66
2/1 (short)	538
2/2 (with short)	1210(In) 672(Out)
3/1 (short)	61
3/2 (with short)	543(In) 482(Out)
4/1	733
5/1	920
6/1	604

**Lane Saturation Flows**

Junction: A38 Gloucester Road / B4061 Thornbury 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 North)	3.12	0.00	Y	Arm 5 Ahead	Inf	100.0 %	1927	1927
1/2 (A38 North)	3.12	0.00	N	Arm 6 Right	20.00	100.0 %	1923	1923
2/1 (A38 South)	4.70	0.00	Y	Arm 6 Left	26.00	100.0 %	1971	1971
2/2 (A38 South)	5.00	0.00	N	Arm 4 Ahead	Inf	100.0 %	2255	2255
3/1 (Thornbury Road)	4.00	0.00	Y	Arm 4 Left	15.00	100.0 %	1832	1832
3/2 (Thornbury Road)	3.10	0.00	N	Arm 5 Right	28.00	100.0 %	1960	1960
4/1 (A38 North Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
5/1 (A38 South Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
6/1 (Thornbury Road Exit Lane 1)	Infinite Saturation Flow						Inf	Inf

**Scenario 1: '2015 Base AM'** (FG1: '2015 Base AM', Plan 2: 'Network Control Plan 2')

**Stage Sequence Diagram**

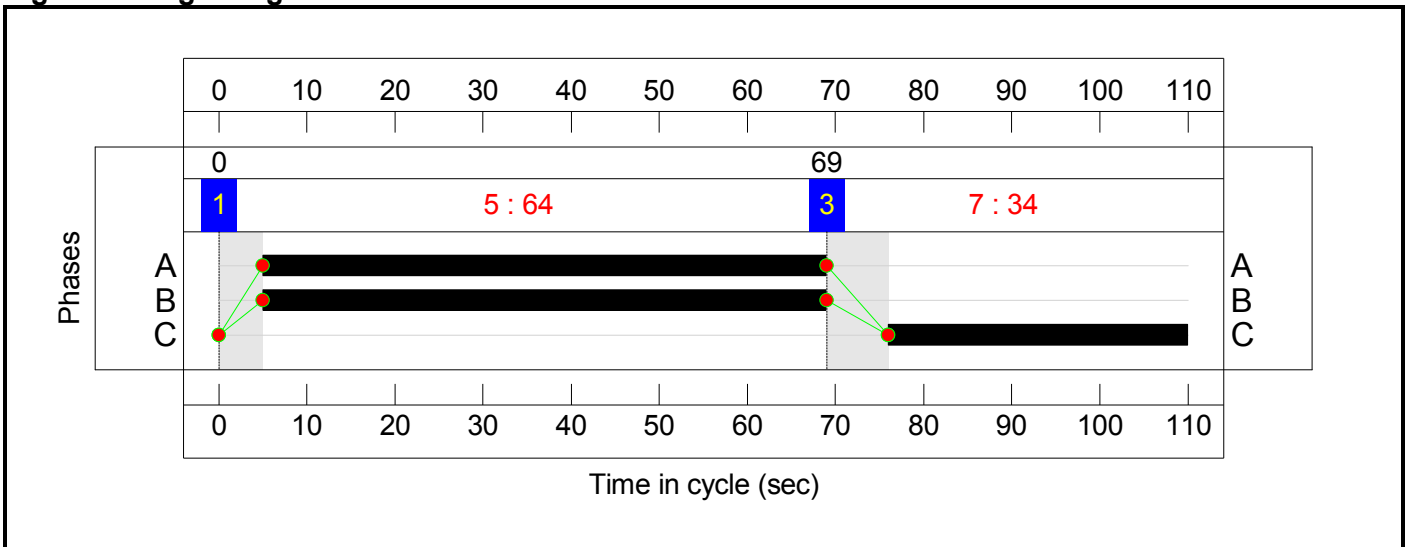


**Stage Timings**

Stage	1	3
Duration	64	34
Change Point	0	69

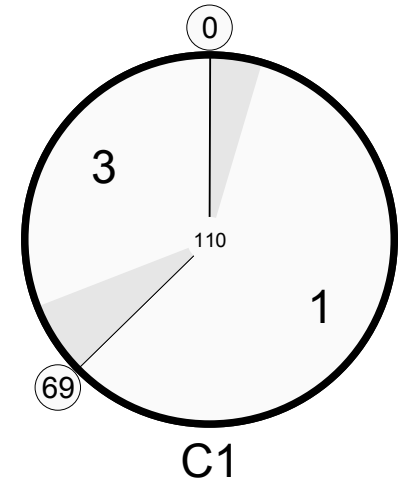
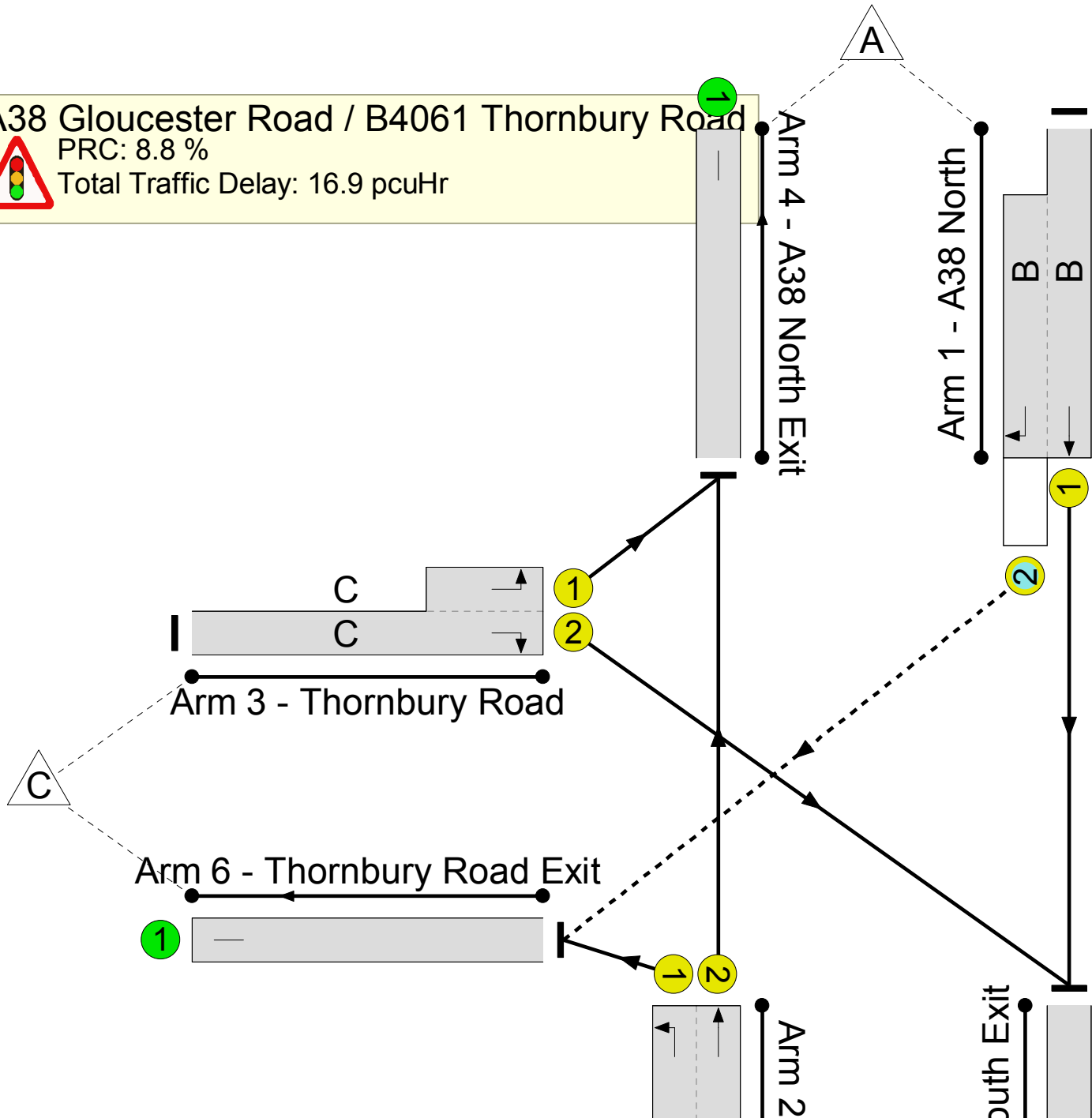


### Signal Timings Diagram



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

A38 Gloucester Road / B4061 Thornbury Road  
PRC: 8.8 %  
Total Traffic Delay: 16.9 pcuHr



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 Gloucester Road / B4061 Thornbury Road</b>	-	-	N/A	-	-		-	-	-	-	-	-	<b>82.7%</b>
<b>A38 Gloucester Road / B4061 Thornbury Road</b>	-	-	N/A	-	-		-	-	-	-	-	-	<b>82.7%</b>
1/1+1/2	A38 North Ahead Right	U+O	N/A	N/A	B		1	64	-	478	1927:1923	1004+136	38.4 : 68.3%
2/2+2/1	A38 South Ahead Left	U	N/A	N/A	A		1	64	-	1041	2255:1971	359+917	81.6 : 81.6%
3/2+3/1	Thornbury Road Left Right	U	N/A	N/A	C		1	34	-	535	1960:1832	555+92	82.7 : 82.7%
4/1	A38 North Exit	U	N/A	N/A	-		-	-	-	369	Inf	Inf	0.0%
5/1	A38 South Exit	U	N/A	N/A	-		-	-	-	844	Inf	Inf	0.0%
6/1	Thornbury Road Exit	U	N/A	N/A	-		-	-	-	841	Inf	Inf	0.0%

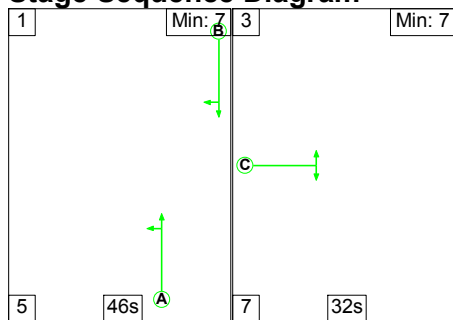
Full Input Data And Results

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 Gloucester Road / B4061 Thornbury Road</b>	-	-	71	0	22	11.1	4.8	0.9	16.9	-	-	-	-
<b>A38 Gloucester Road / B4061 Thornbury Road</b>	-	-	71	0	22	11.1	4.8	0.9	16.9	-	-	-	-
1/1+1/2	478	478	71	0	22	1.5	0.4	0.9	2.7	20.6	6.0	0.4	6.3
2/2+2/1	1041	1041	-	-	-	4.6	2.2	-	6.8	23.5	21.9	2.2	24.1
3/2+3/1	535	535	-	-	-	5.1	2.3	-	7.4	49.5	14.3	2.3	16.6
4/1	369	369	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/1	844	844	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	841	841	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
<p>C1                      PRC for Signalled Lanes (%): 8.8                      Total Delay for Signalled Lanes (pcuHr): 16.88                      Cycle Time (s): 110</p> <p>                                 PRC Over All Lanes (%): 8.8                      Total Delay Over All Lanes(pcuHr): 16.88</p>													

Full Input Data And Results

Scenario 2: '2015 Base PM' (FG2: '2015 Base PM', Plan 2: 'Network Control Plan 2')

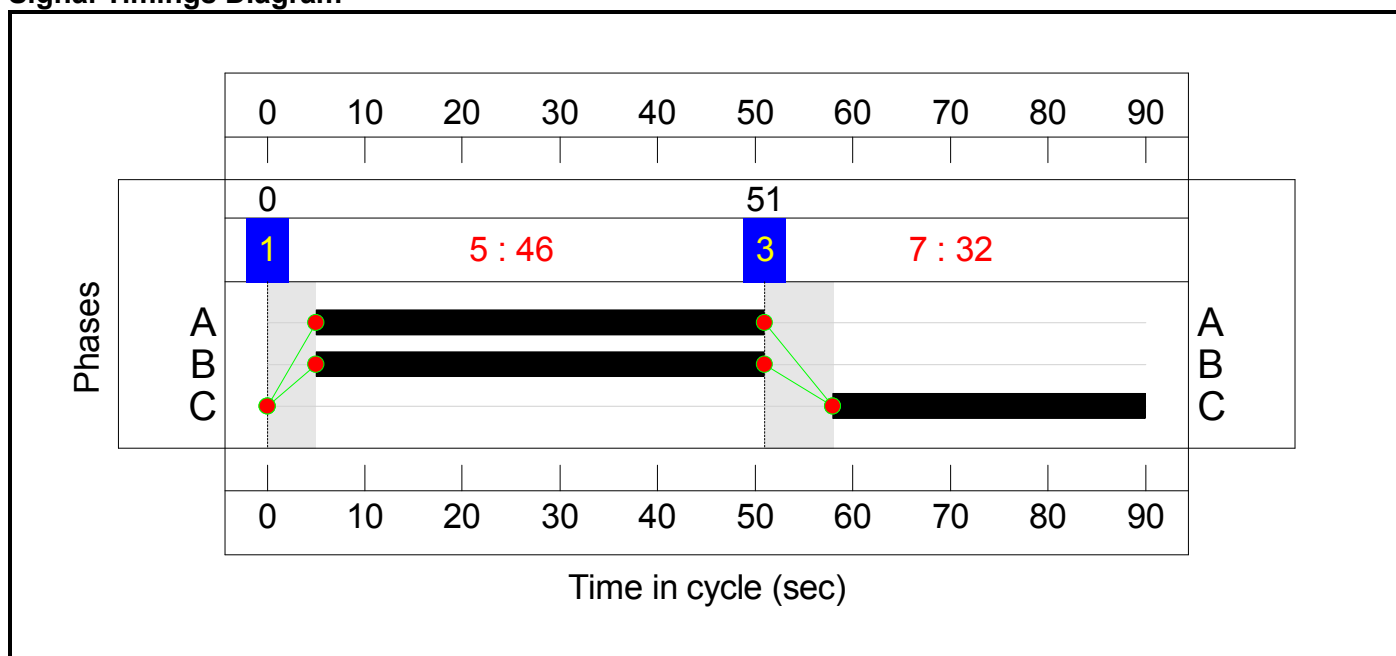
Stage Sequence Diagram



Stage Timings

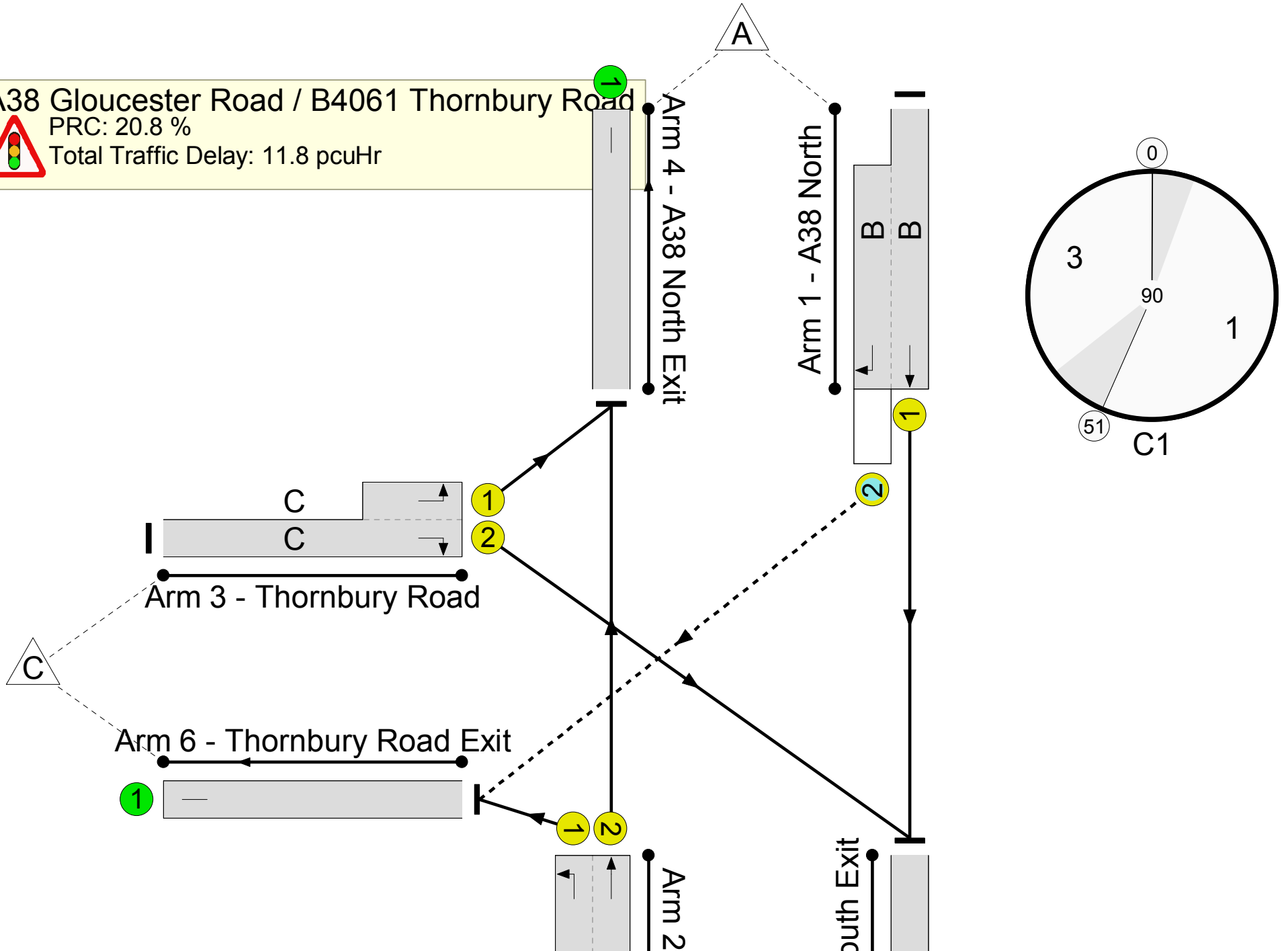
Stage	1	3
Duration	46	32
Change Point	0	51

Signal Timings Diagram



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

A38 Gloucester Road / B4061 Thornbury Road  
PRC: 20.8 %  
Total Traffic Delay: 11.8 pcuHr





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 Gloucester Road / B4061 Thornbury Road</b>	-	-	<b>N/A</b>	-	-		-	-	-	-	-	-	<b>74.5%</b>
<b>A38 Gloucester Road / B4061 Thornbury Road</b>	-	-	<b>N/A</b>	-	-		-	-	-	-	-	-	<b>74.5%</b>
1/1+1/2	A38 North Ahead Right	U+O	N/A	N/A	B		1	46	-	350	1927:1923	919+211	30.9 : 31.3%
2/2+2/1	A38 South Ahead Left	U	N/A	N/A	A		1	46	-	929	2255:1971	525+722	74.5 : 74.5%
3/2+3/1	Thornbury Road Left Right	U	N/A	N/A	C		1	32	-	543	1960:1832	659+83	73.2 : 73.2%
4/1	A38 North Exit	U	N/A	N/A	-		-	-	-	452	Inf	Inf	0.0%
5/1	A38 South Exit	U	N/A	N/A	-		-	-	-	766	Inf	Inf	0.0%
6/1	Thornbury Road Exit	U	N/A	N/A	-		-	-	-	604	Inf	Inf	0.0%

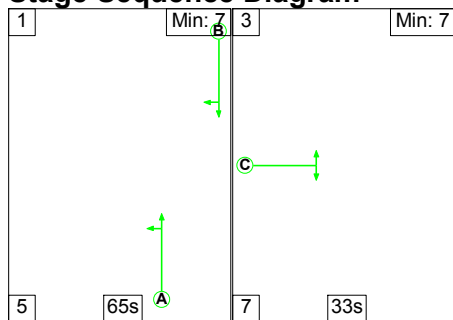
Full Input Data And Results

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)
Network: A38 Gloucester Road / B4061 Thornbury Road	-	-	65	0	1	8.4	3.0	0.3	11.8	-	-	-	-
A38 Gloucester Road / B4061 Thornbury Road	-	-	65	0	1	8.4	3.0	0.3	11.8	-	-	-	-
1/1+1/2	350	350	65	0	1	1.1	0.2	0.3	1.7	17.2	3.9	0.2	4.2
2/2+2/1	929	929	-	-	-	3.7	1.4	-	5.1	19.8	12.4	1.4	13.9
3/2+3/1	543	543	-	-	-	3.6	1.3	-	5.0	33.0	11.1	1.3	12.5
4/1	452	452	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/1	766	766	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	604	604	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
C1			PRC for Signalled Lanes (%):		20.8	Total Delay for Signalled Lanes (pcuHr):		11.76	Cycle Time (s): 90				
			PRC Over All Lanes (%):		20.8	Total Delay Over All Lanes(pcuHr):		11.76					

Full Input Data And Results

Scenario 3: '2028 Ref Case AM' (FG3: '2028 Ref Case AM', Plan 2: 'Network Control Plan 2')

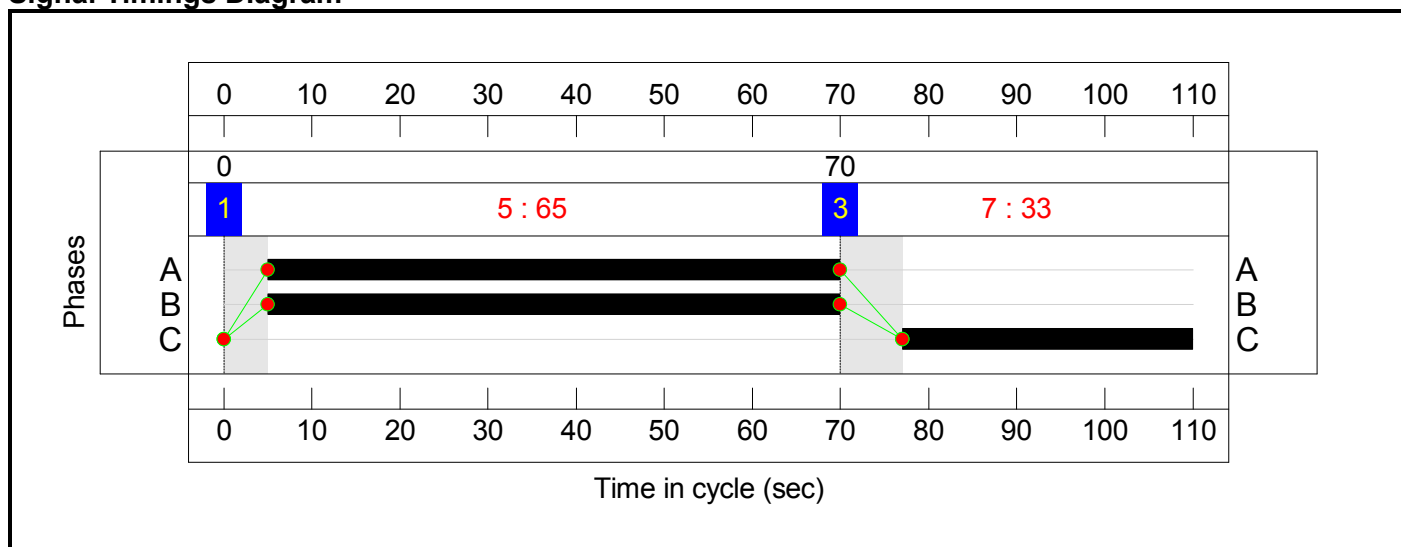
Stage Sequence Diagram



Stage Timings

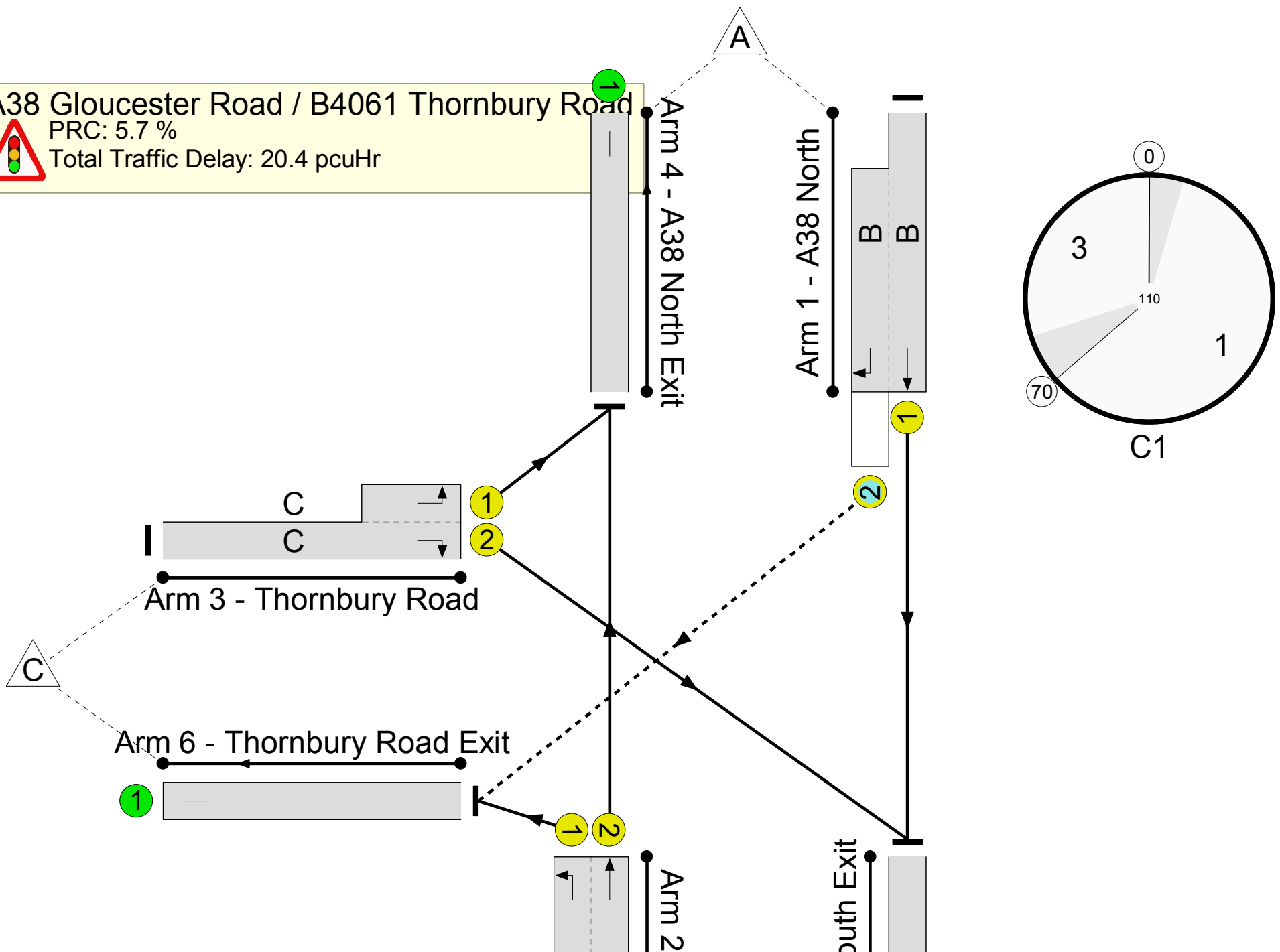
Stage	1	3
Duration	65	33
Change Point	0	70

Signal Timings Diagram



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

A38 Gloucester Road / B4061 Thornbury Road  
PRC: 5.7 %  
Total Traffic Delay: 20.4 pcuHr



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 Gloucester Road / B4061 Thornbury Road</b>	-	-	N/A	-	-		-	-	-	-	-	-	85.1%
<b>A38 Gloucester Road / B4061 Thornbury Road</b>	-	-	N/A	-	-		-	-	-	-	-	-	85.1%
1/1+1/2	A38 North Ahead Right	U+O	N/A	N/A	B		1	65	-	773	1927:1923	1073+109	63.4 : 85.1%
2/2+2/1	A38 South Ahead Left	U	N/A	N/A	A		1	65	-	1128	2255:1971	446+879	85.1 : 85.1%
3/2+3/1	Thornbury Road Left Right	U	N/A	N/A	C		1	33	-	535	1960:1832	540+89	85.1 : 85.1%
4/1	A38 North Exit	U	N/A	N/A	-		-	-	-	456	Inf	Inf	0.0%
5/1	A38 South Exit	U	N/A	N/A	-		-	-	-	1139	Inf	Inf	0.0%
6/1	Thornbury Road Exit	U	N/A	N/A	-		-	-	-	841	Inf	Inf	0.0%

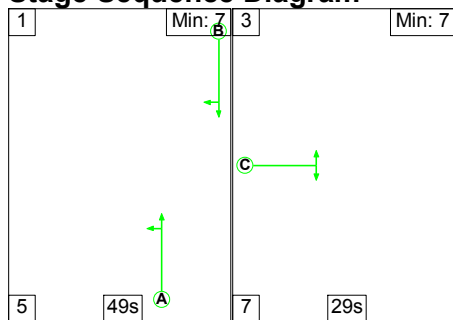
Full Input Data And Results

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 Gloucester Road / B4061 Thornbury Road</b>	-	-	44	0	49	12.9	6.4	1.0	20.4	-	-	-	-
<b>A38 Gloucester Road / B4061 Thornbury Road</b>	-	-	44	0	49	12.9	6.4	1.0	20.4	-	-	-	-
1/1+1/2	773	773	44	0	49	2.8	0.9	1.0	4.8	22.3	12.7	0.9	13.6
2/2+2/1	1128	1128	-	-	-	4.9	2.8	-	7.7	24.6	23.9	2.8	26.7
3/2+3/1	535	535	-	-	-	5.2	2.7	-	7.9	53.1	14.5	2.7	17.2
4/1	456	456	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/1	1139	1139	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	841	841	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
<p>C1                      PRC for Signalled Lanes (%): 5.7                      Total Delay for Signalled Lanes (pcuHr): 20.38                      Cycle Time (s): 110</p> <p>                                 PRC Over All Lanes (%): 5.7                      Total Delay Over All Lanes(pcuHr): 20.38</p>													

Full Input Data And Results

Scenario 4: '2028 Ref Case PM' (FG4: '2028 Ref Case PM', Plan 2: 'Network Control Plan 2')

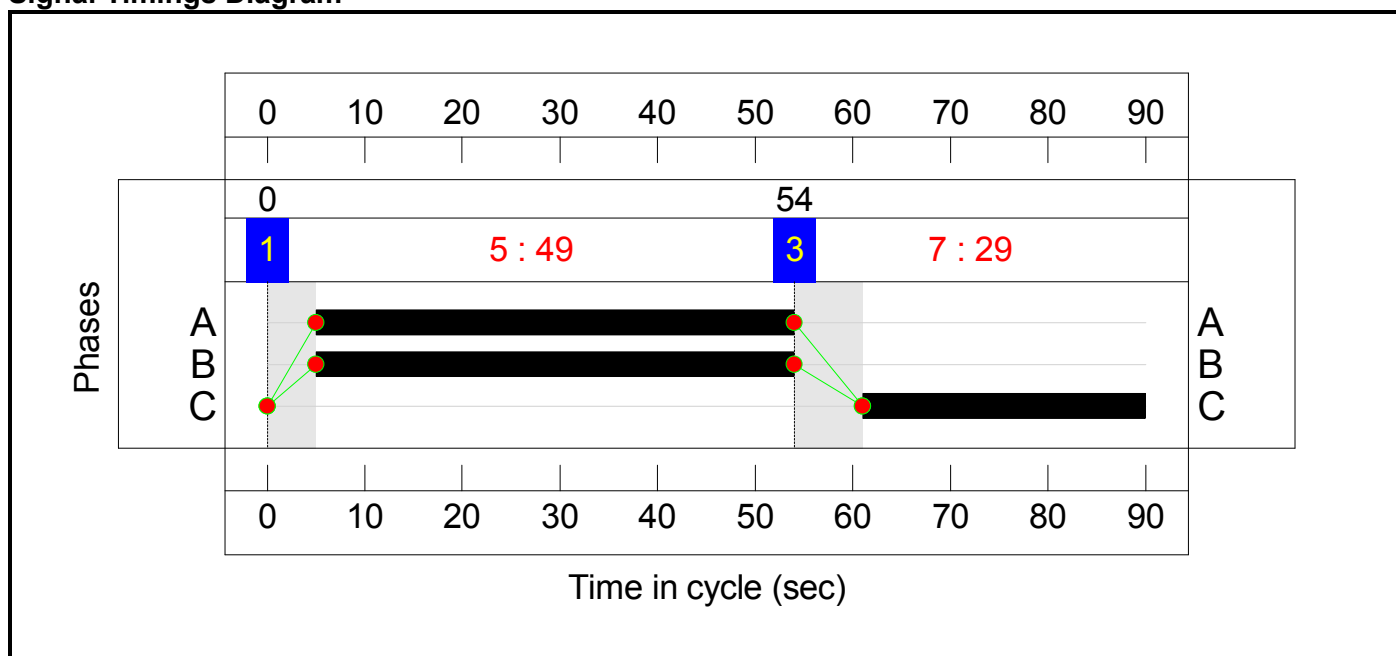
Stage Sequence Diagram



Stage Timings

Stage	1	3
Duration	49	29
Change Point	0	54

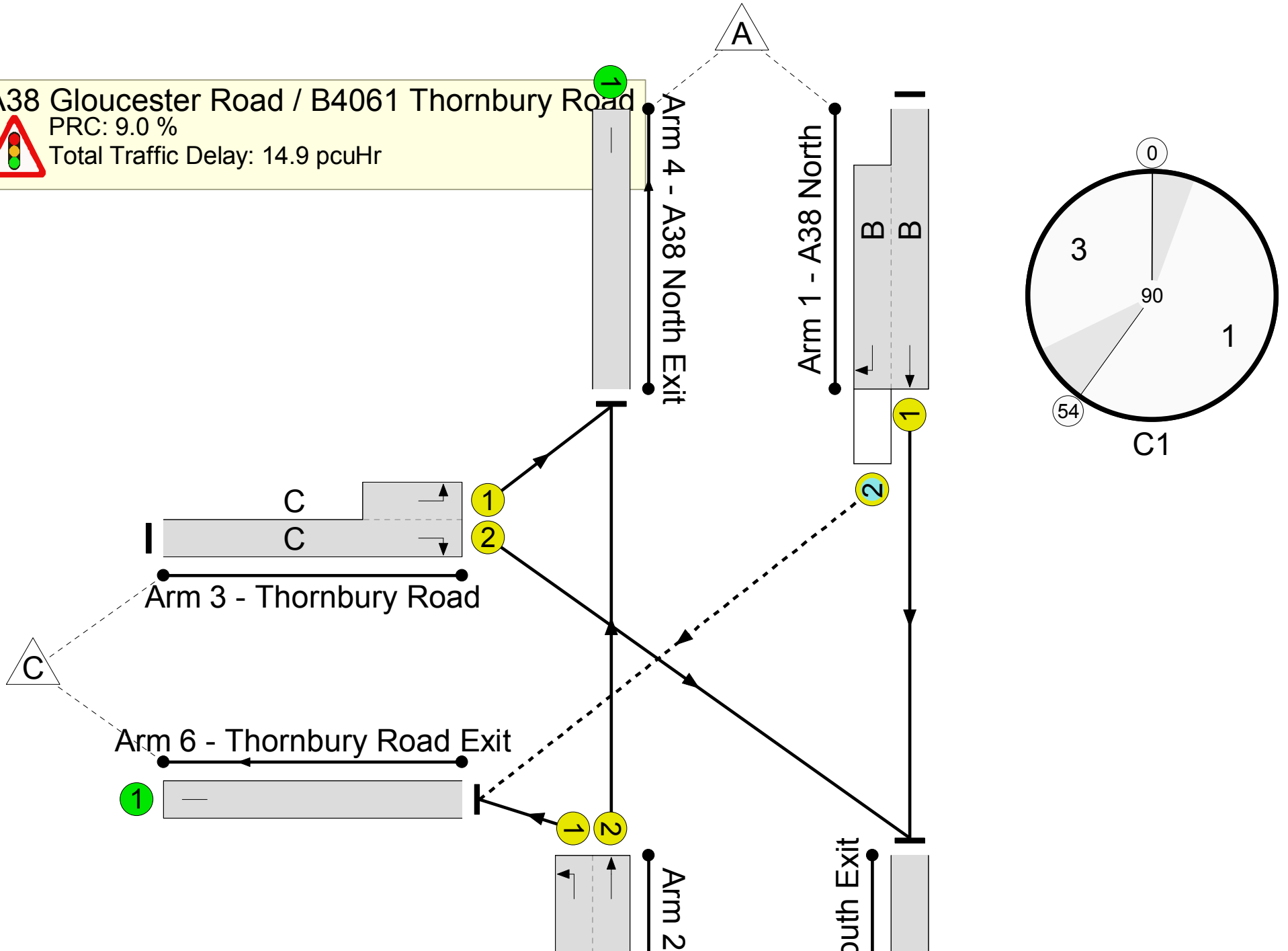
Signal Timings Diagram





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

A38 Gloucester Road / B4061 Thornbury Road  
PRC: 9.0 %  
Total Traffic Delay: 14.9 pcuHr



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 Gloucester Road / B4061 Thornbury Road</b>	-	-	N/A	-	-		-	-	-	-	-	-	<b>82.6%</b>
<b>A38 Gloucester Road / B4061 Thornbury Road</b>	-	-	N/A	-	-		-	-	-	-	-	-	<b>82.6%</b>
1/1+1/2	A38 North Ahead Right	U+O	N/A	N/A	B		1	49	-	489	1927:1923	1001+126	42.2 : 52.3%
2/2+2/1	A38 South Ahead Left	U	N/A	N/A	A		1	49	-	1148	2255:1971	739+652	82.6 : 82.6%
3/2+3/1	Thornbury Road Left Right	U	N/A	N/A	C		1	29	-	543	1960:1832	601+76	80.2 : 80.2%
4/1	A38 North Exit	U	N/A	N/A	-		-	-	-	671	Inf	Inf	0.0%
5/1	A38 South Exit	U	N/A	N/A	-		-	-	-	905	Inf	Inf	0.0%
6/1	Thornbury Road Exit	U	N/A	N/A	-		-	-	-	604	Inf	Inf	0.0%

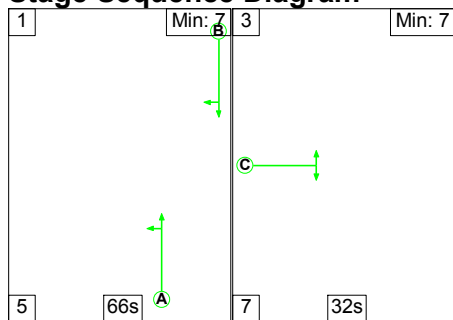
Full Input Data And Results

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: A38 Gloucester Road / B4061 Thornbury Road</b>	-	-	46	0	20	9.8	4.7	0.5	14.9	-	-	-	-
<b>A38 Gloucester Road / B4061 Thornbury Road</b>	-	-	46	0	20	9.8	4.7	0.5	14.9	-	-	-	-
1/1+1/2	489	489	46	0	20	1.5	0.4	0.5	2.4	17.5	6.0	0.4	6.4
2/2+2/1	1148	1148	-	-	-	4.3	2.3	-	6.6	20.6	16.1	2.3	18.4
3/2+3/1	543	543	-	-	-	4.0	2.0	-	6.0	39.8	11.7	2.0	13.7
4/1	671	671	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/1	905	905	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	604	604	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
<p>C1                      PRC for Signalled Lanes (%): 9.0                      Total Delay for Signalled Lanes (pcuHr): 14.95                      Cycle Time (s): 90</p> <p>   PRC Over All Lanes (%): 9.0                      Total Delay Over All Lanes(pcuHr): 14.95</p>													

Full Input Data And Results

Scenario 5: '2028 Test Case AM' (FG5: '2028 Test Case AM', Plan 2: 'Network Control Plan 2')

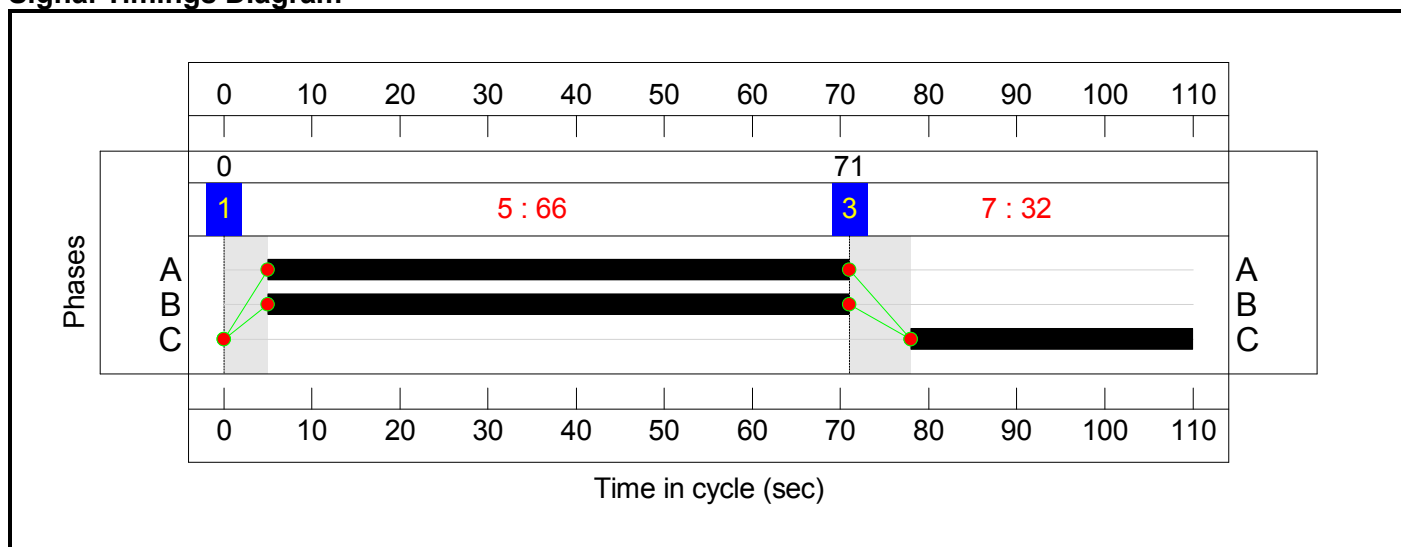
Stage Sequence Diagram



Stage Timings

Stage	1	3
Duration	66	32
Change Point	0	71

Signal Timings Diagram

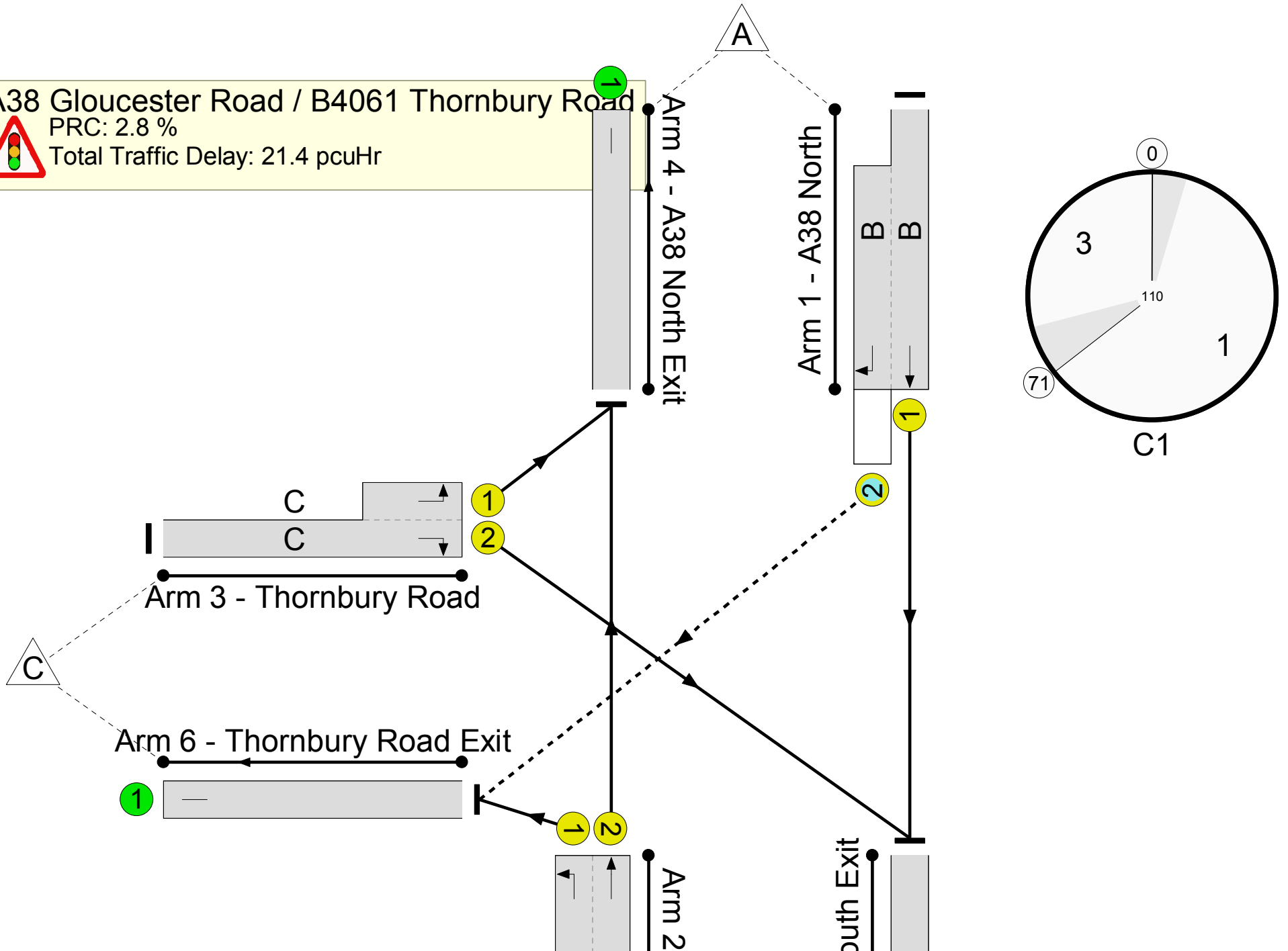


Full Input Data And Results  
**Network Layout Diagram**

### A38 Gloucester Road / B4061 Thornbury Road

PRC: 2.8 %

Total Traffic Delay: 21.4 pcuHr



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 Gloucester Road / B4061 Thornbury Road</b>	-	-	N/A	-	-		-	-	-	-	-	-	<b>87.5%</b>
<b>A38 Gloucester Road / B4061 Thornbury Road</b>	-	-	N/A	-	-		-	-	-	-	-	-	<b>87.5%</b>
1/1+1/2	A38 North Ahead Right	U+O	N/A	N/A	B		1	66	-	851	1927:1923	1096+109	69.1 : 85.5%
2/2+2/1	A38 South Ahead Left	U	N/A	N/A	A		1	66	-	1141	2255:1971	464+884	84.6 : 84.6%
3/2+3/1	Thornbury Road Left Right	U	N/A	N/A	C		1	32	-	535	1960:1832	524+87	87.5 : 87.5%
4/1	A38 North Exit	U	N/A	N/A	-		-	-	-	469	Inf	Inf	0.0%
5/1	A38 South Exit	U	N/A	N/A	-		-	-	-	1217	Inf	Inf	0.0%
6/1	Thornbury Road Exit	U	N/A	N/A	-		-	-	-	841	Inf	Inf	0.0%



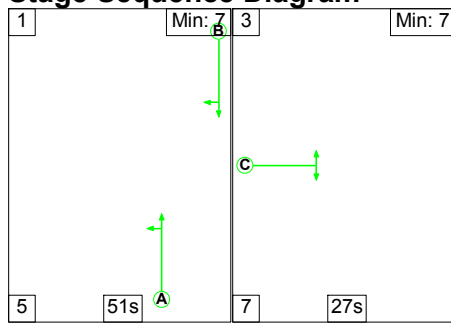
Full Input Data And Results

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 Gloucester Road / B4061 Thornbury Road</b>	-	-	43	0	50	13.2	7.1	1.0	21.4	-	-	-	-
<b>A38 Gloucester Road / B4061 Thornbury Road</b>	-	-	43	0	50	13.2	7.1	1.0	21.4	-	-	-	-
1/1+1/2	851	851	43	0	50	3.2	1.2	1.0	5.4	22.8	15.4	1.2	16.6
2/2+2/1	1141	1141	-	-	-	4.8	2.7	-	7.4	23.5	23.8	2.7	26.5
3/2+3/1	535	535	-	-	-	5.3	3.2	-	8.6	57.6	14.8	3.2	18.0
4/1	469	469	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/1	1217	1217	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	841	841	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
<p>C1                      PRC for Signalled Lanes (%): 2.8                      Total Delay for Signalled Lanes (pcuHr): 21.39                      Cycle Time (s): 110</p> <p>                                 PRC Over All Lanes (%): 2.8                      Total Delay Over All Lanes(pcuHr): 21.39</p>													

Full Input Data And Results

**Scenario 6: '2028 Test Case PM'** (FG6: '2028 Test Case PM', Plan 2: 'Network Control Plan 2')

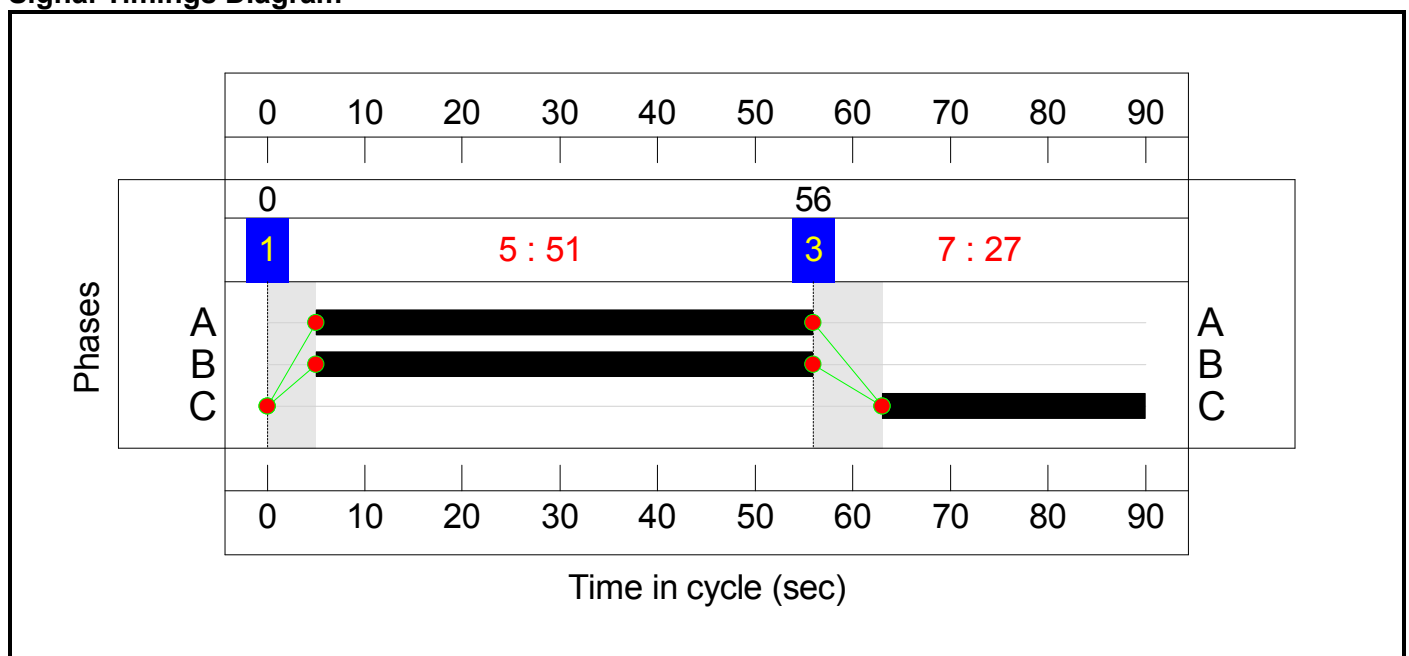
**Stage Sequence Diagram**



**Stage Timings**

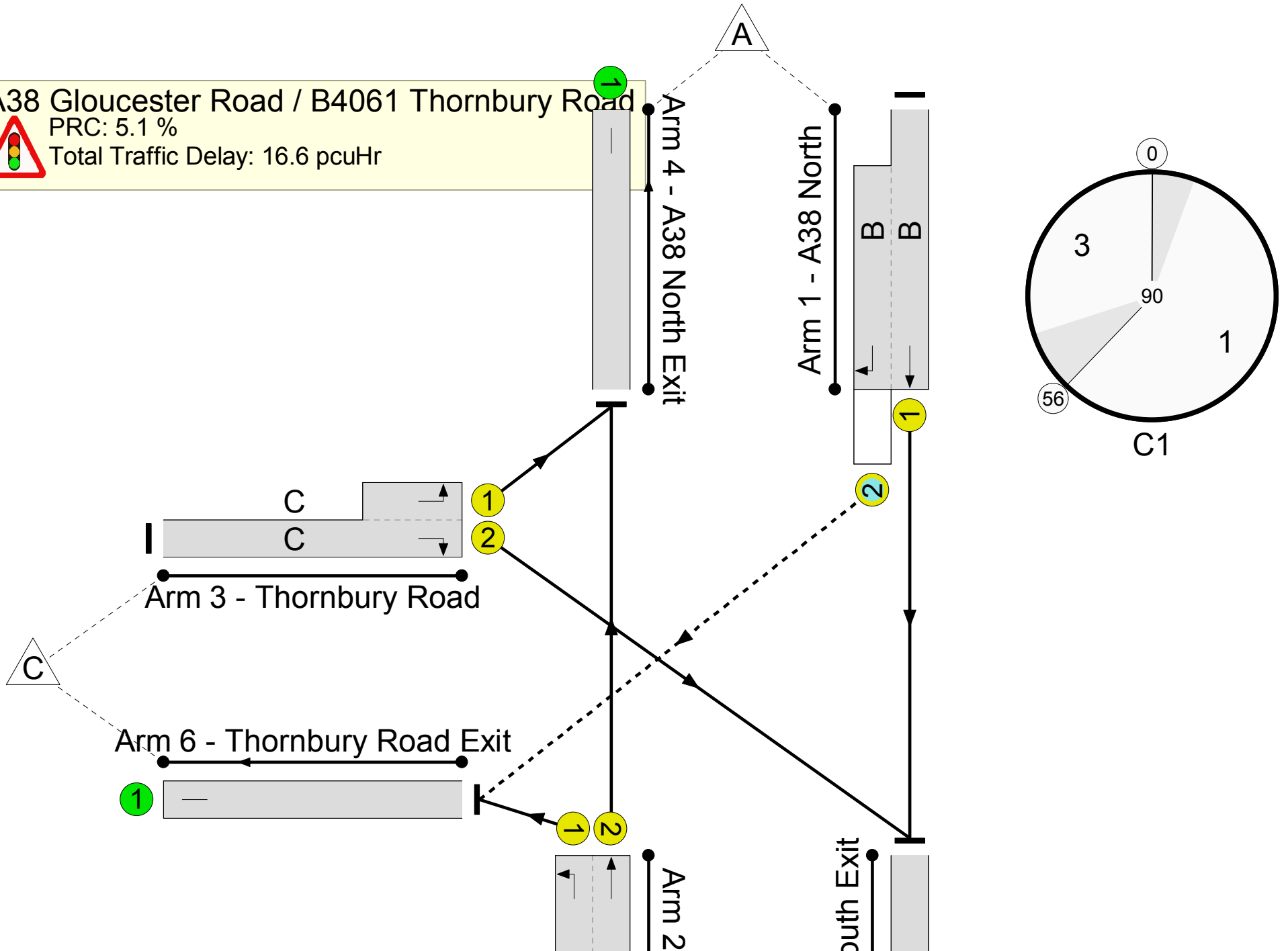
Stage	1	3
Duration	51	27
Change Point	0	56

**Signal Timings Diagram**



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

A38 Gloucester Road / B4061 Thornbury Road  
PRC: 5.1 %  
Total Traffic Delay: 16.6 pcuHr



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 Gloucester Road / B4061 Thornbury Road</b>	-	-	N/A	-	-		-	-	-	-	-	-	<b>85.6%</b>
<b>A38 Gloucester Road / B4061 Thornbury Road</b>	-	-	N/A	-	-		-	-	-	-	-	-	<b>85.6%</b>
1/1+1/2	A38 North Ahead Right	U+O	N/A	N/A	B		1	51	-	504	1927:1923	1041+108	42.1 : 61.2%
2/2+2/1	A38 South Ahead Left	U	N/A	N/A	A		1	51	-	1210	2255:1971	789+632	85.1 : 85.1%
3/2+3/1	Thornbury Road Left Right	U	N/A	N/A	C		1	27	-	543	1960:1832	563+71	85.6 : 85.6%
4/1	A38 North Exit	U	N/A	N/A	-		-	-	-	733	Inf	Inf	0.0%
5/1	A38 South Exit	U	N/A	N/A	-		-	-	-	920	Inf	Inf	0.0%
6/1	Thornbury Road Exit	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: A38 Gloucester Road / B4061 Thornbury Road</b>	-	-	28	0	38	10.0	6.0	0.6	16.6	-	-	-	-
<b>A38 Gloucester Road / B4061 Thornbury Road</b>	-	-	28	0	38	10.0	6.0	0.6	16.6	-	-	-	-
1/1+1/2	504	504	28	0	38	1.4	0.4	0.6	2.4	17.0	6.0	0.4	6.4
2/2+2/1	1210	1210	-	-	-	4.3	2.8	-	7.1	21.1	18.4	2.8	21.2
3/2+3/1	543	543	-	-	-	4.3	2.8	-	7.1	47.2	12.2	2.8	15.0
4/1	733	733	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/1	920	920	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	604	604	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
<p>C1                      PRC for Signalled Lanes (%): 5.1                      Total Delay for Signalled Lanes (pcuHr): 16.60                      Cycle Time (s): 90</p> <p>                                 PRC Over All Lanes (%): 5.1                      Total Delay Over All Lanes(pcuHr): 16.60</p>													