

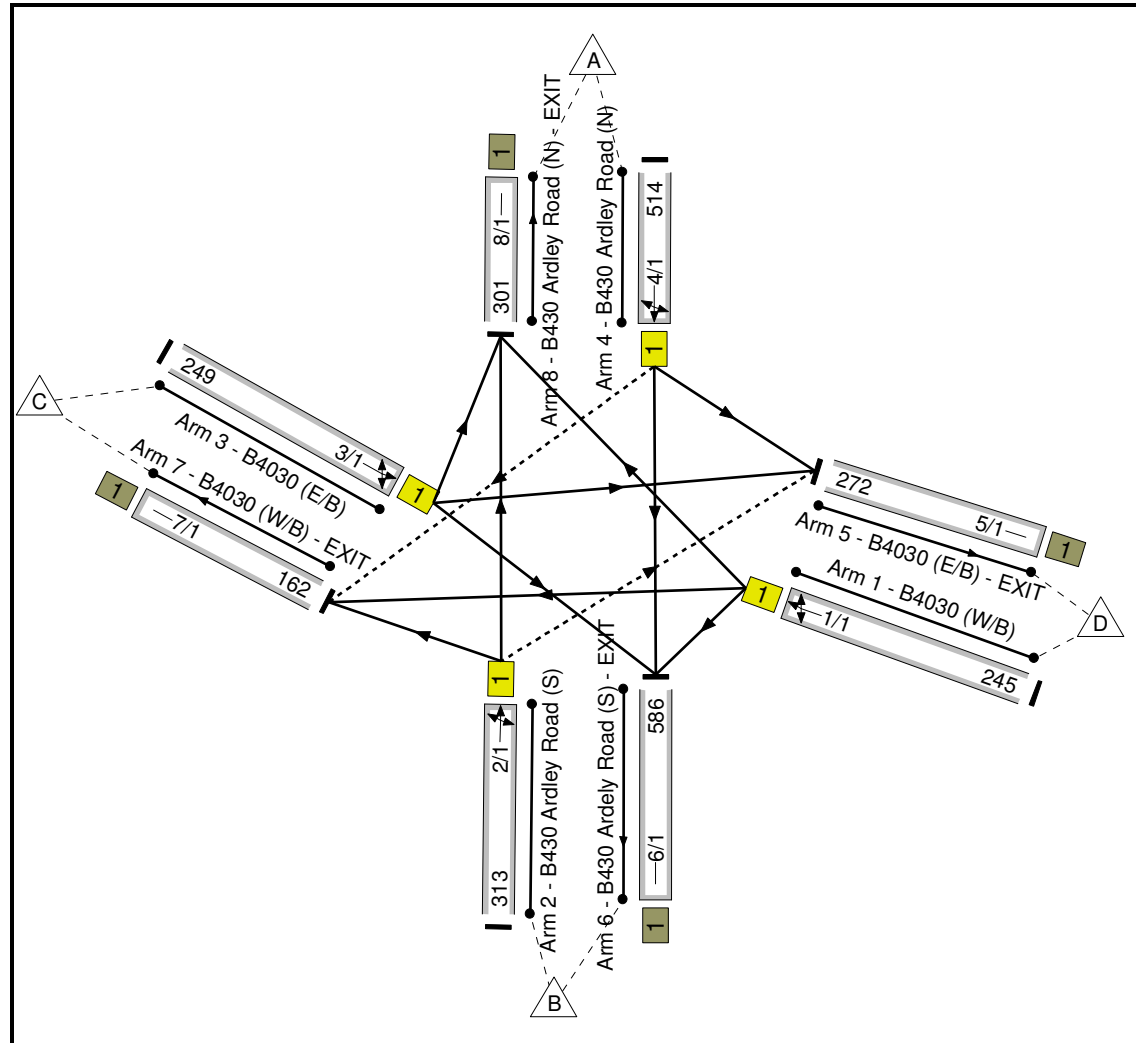
Appendix I

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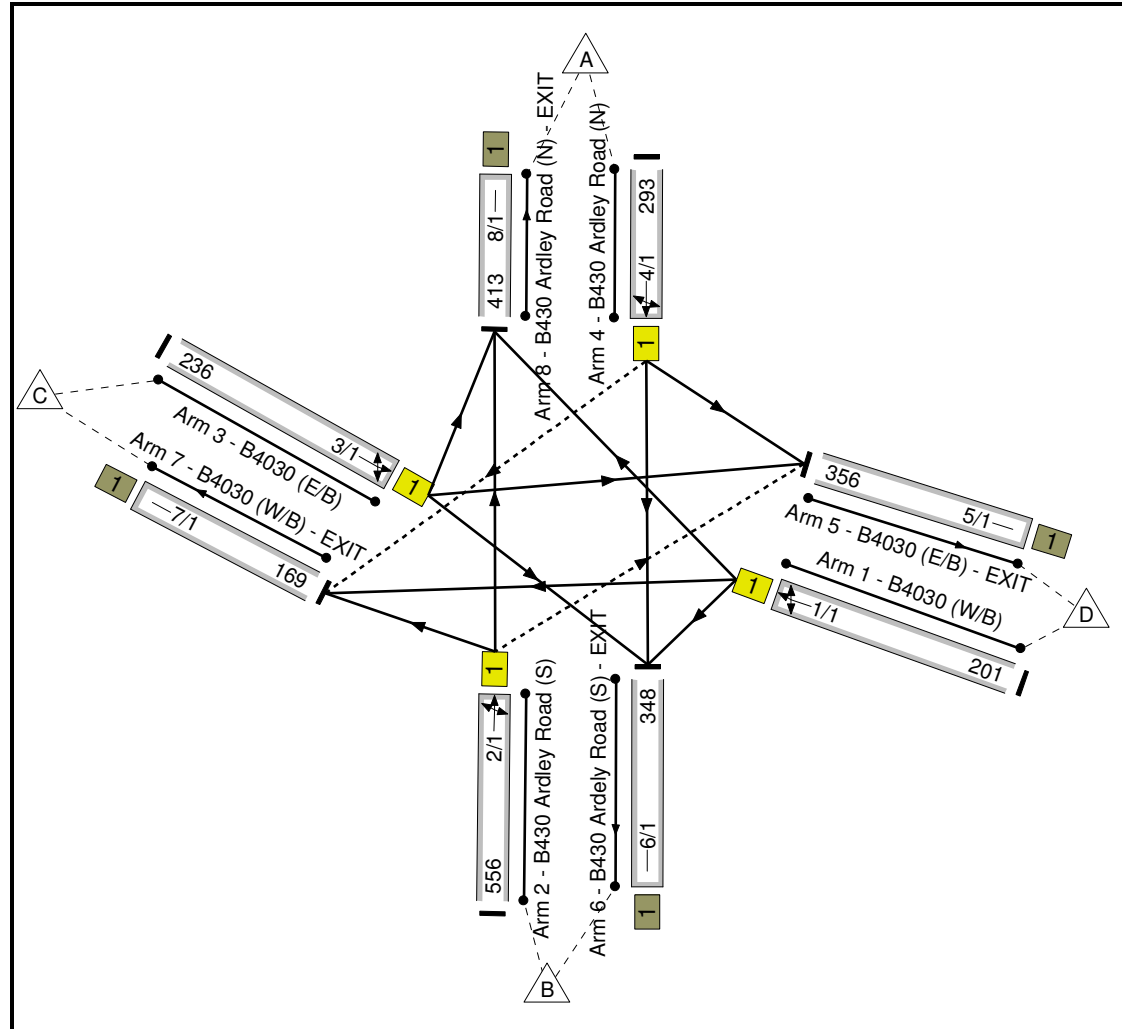
**B4030/B430 Junction at  
Middleton Stoney:  
LINSIG Analyses**

### Middleton Stoney Jct 2006 Base

#### Junction Layout Diagram Flow Group 1: '2006 Base AM'



**Flow Group 2: '2006 Base PM'**



**Lane Data Table**

Arm/ Lane	Actual Length (PCU)	Effective Length (PCU)	Sat Flow Type	User Saturation Flow (PCU/Hr)	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)
1/1 (B4030 (W/B) Lane 1)	Inf	Inf	Geom	1800	3.20	0.00	Y	Arm 6 Left (B430 Ardely Road (S) - EXIT)	17.50
								Arm 7 Ahead (B4030 (W/B) - EXIT)	45.00
								Arm 8 Right (B430 Ardley Road (N) - EXIT)	12.50
2/1 (B430 Ardley Road (S) Lane 1)	Inf	Inf	Geom	1800	3.50	0.00	Y	Arm 5 Right (B4030 (E/B) - EXIT)	10.00
								Arm 7 Left (B4030 (W/B) - EXIT)	27.50
								Arm 8 Ahead (B430 Ardley Road (N) - EXIT)	Inf
3/1 (B4030 (E/B) Lane 1)	Inf	Inf	Geom	1800	3.50	0.00	Y	Arm 5 Ahead (B4030 (E/B) - EXIT)	Inf
								Arm 6 Right (B430 Ardely Road (S) - EXIT)	45.00
								Arm 8 Left (B430 Ardley Road (N) - EXIT)	7.50
4/1 (B430 Ardley Road (N) Lane 1)	Inf	Inf	Geom	1800	3.75	0.00	Y	Arm 5 Left (B4030 (E/B) - EXIT)	17.50
								Arm 6 Ahead (B430 Ardely Road (S) - EXIT)	Inf
								Arm 7 Right (B4030 (W/B) - EXIT)	7.50
5/1 (B4030 (E/B) - EXIT Lane 1)	Inf	Inf	User	9999	3.25	0.00	N		

6/1 (B430 Ardely Road (S) - EXIT Lane 1)	Inf	Inf	User	9999	3.25	0.00	N		
7/1 (B4030 (W/B) - EXIT Lane 1)	Inf	Inf	User	9999	3.25	0.00	N		
8/1 (B430 Ardley Road (N) - EXIT Lane 1)	Inf	Inf	User	9999	3.25	0.00	N		

**Lane Data Table**

**Flow Group 1: '2006 Base AM'**

Arm/ Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat flow (PCU/Hr)
1/1 (B4030 (W/B) Lane 1)	3.20	0.00	Y	Arm 6 Left (B430 Ardely Road (S) - EXIT)	17.50	25.7 %	1804
				Arm 7 Ahead (B4030 (W/B) - EXIT)	45.00	44.5 %	
				Arm 8 Right (B430 Ardley Road (N) - EXIT)	12.50	29.8 %	
2/1 (B430 Ardley Road (S) Lane 1)	3.50	0.00	Y	Arm 5 Right (B4030 (E/B) - EXIT)	10.00	16.6 %	1904
				Arm 7 Left (B4030 (W/B) - EXIT)	27.50	12.8 %	
				Arm 8 Ahead (B430 Ardley Road (N) - EXIT)	Inf	70.6 %	
3/1 (B4030 (E/B) Lane 1)	3.50	0.00	Y	Arm 5 Ahead (B4030 (E/B) - EXIT)	Inf	73.9 %	1939
				Arm 6 Right (B430 Ardely Road (S) - EXIT)	45.00	23.3 %	
4/1 (B430 Ardley Road (N) Lane 1)	3.75	0.00	Y	Arm 8 Left (B430 Ardley Road (N) - EXIT)	7.50	2.8 %	1968
				Arm 5 Left (B4030 (E/B) - EXIT)	17.50	7.0 %	
				Arm 6 Ahead (B430 Ardely Road (S) - EXIT)	Inf	90.5 %	
5/1 (B4030 (E/B) - EXIT Lane 1)				Arm 7 Right (B4030 (W/B) - EXIT)	7.50	2.5 %	9999
				This lane uses a directly entered Saturation Flow			

<p>6/1 (B430 Ardely Road (S) - EXIT Lane 1)</p>	<p>This lane uses a directly entered Saturation Flow</p>	<p>9999</p>
<p>7/1 (B4030 (W/B) - EXIT Lane 1)</p>	<p>This lane uses a directly entered Saturation Flow</p>	<p>9999</p>
<p>8/1 (B430 Ardley Road (N) - EXIT Lane 1)</p>	<p>This lane uses a directly entered Saturation Flow</p>	<p>9999</p>

**Flow Group 2: '2006 Base PM'**

Arm/ Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat flow (PCU/Hr)
1/1 (B4030 (W/B) Lane 1)	3.20	0.00	Y	Arm 6 Left (B430 Ardely Road (S) - EXIT)	17.50	24.4 %	1831
				Arm 7 Ahead (B4030 (W/B) - EXIT)	45.00	63.2 %	
				Arm 8 Right (B430 Ardley Road (N) - EXIT)	12.50	12.4 %	
2/1 (B430 Ardley Road (S) Lane 1)	3.50	0.00	Y	Arm 5 Right (B4030 (E/B) - EXIT)	10.00	27.9 %	1880
				Arm 7 Left (B4030 (W/B) - EXIT)	27.50	5.9 %	
				Arm 8 Ahead (B430 Ardley Road (N) - EXIT)	Inf	66.2 %	
3/1 (B4030 (E/B) Lane 1)	3.50	0.00	Y	Arm 5 Ahead (B4030 (E/B) - EXIT)	Inf	69.9 %	1919
				Arm 6 Right (B430 Ardely Road (S) - EXIT)	45.00	21.6 %	
				Arm 8 Left (B430 Ardley Road (N) - EXIT)	7.50	8.5 %	
4/1 (B430 Ardley Road (N) Lane 1)	3.75	0.00	Y	Arm 5 Left (B4030 (E/B) - EXIT)	17.50	12.3 %	1957
				Arm 6 Ahead (B430 Ardely Road (S) - EXIT)	Inf	84.6 %	
				Arm 7 Right (B4030 (W/B) - EXIT)	7.50	3.1 %	
5/1 (B4030 (E/B) - EXIT Lane 1)	This lane uses a directly entered Saturation Flow						9999

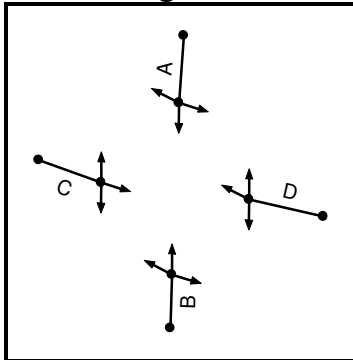


<p>6/1 (B430 Ardely Road (S) - EXIT Lane 1)</p>	<p>This lane uses a directly entered Saturation Flow</p>	<p>9999</p>
<p>7/1 (B4030 (W/B) - EXIT Lane 1)</p>	<p>This lane uses a directly entered Saturation Flow</p>	<p>9999</p>
<p>8/1 (B430 Ardley Road (N) - EXIT Lane 1)</p>	<p>This lane uses a directly entered Saturation Flow</p>	<p>9999</p>

**Intergreens Table**

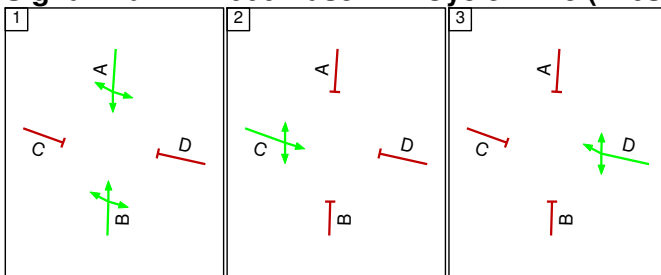
	Starting Phase				
Terminating Phase		A	B	C	D
	A	-	-	7	7
	B	-	-	7	7
	C	7	7	-	7
	D	7	7	7	-

**Phase Diagram**

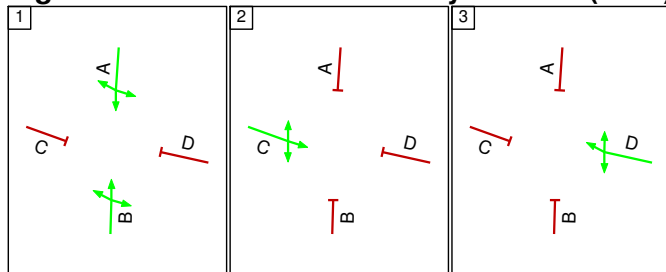


**Stages Diagram**

Signal Plan 1: '2006 Base AM' Cycle Time (120s)



**Signal Plan 2: '2006 Base PM' Cycle Time (120s)**



**Signal Plans Data table**

**Signal Plan 1: '2006 Base AM' Cycle Time (120s)**

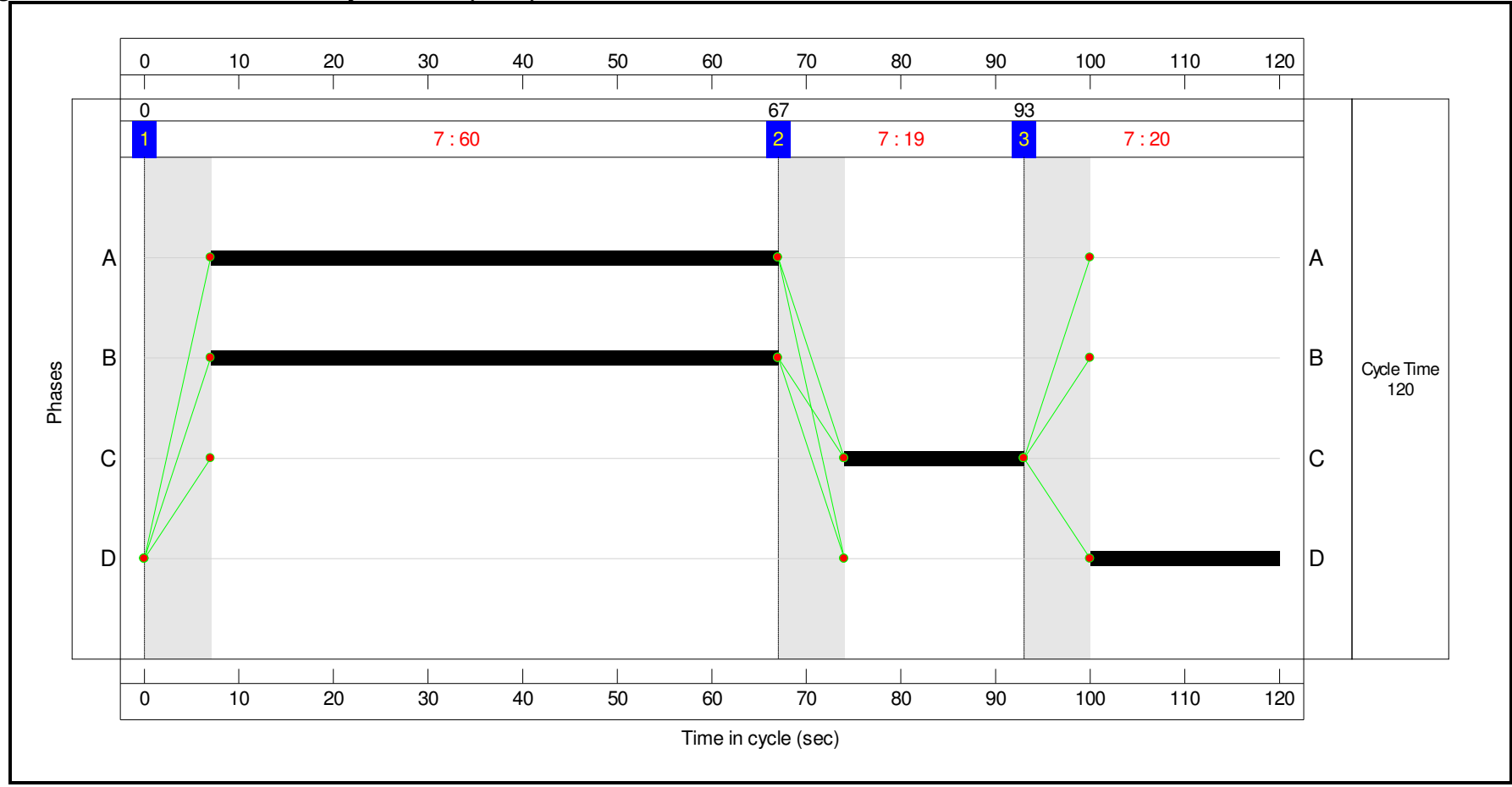
Stage	1	2	3
Duration	60	19	20
Change Point	0	67	93

**Signal Plan 2: '2006 Base PM' Cycle Time (120s)**

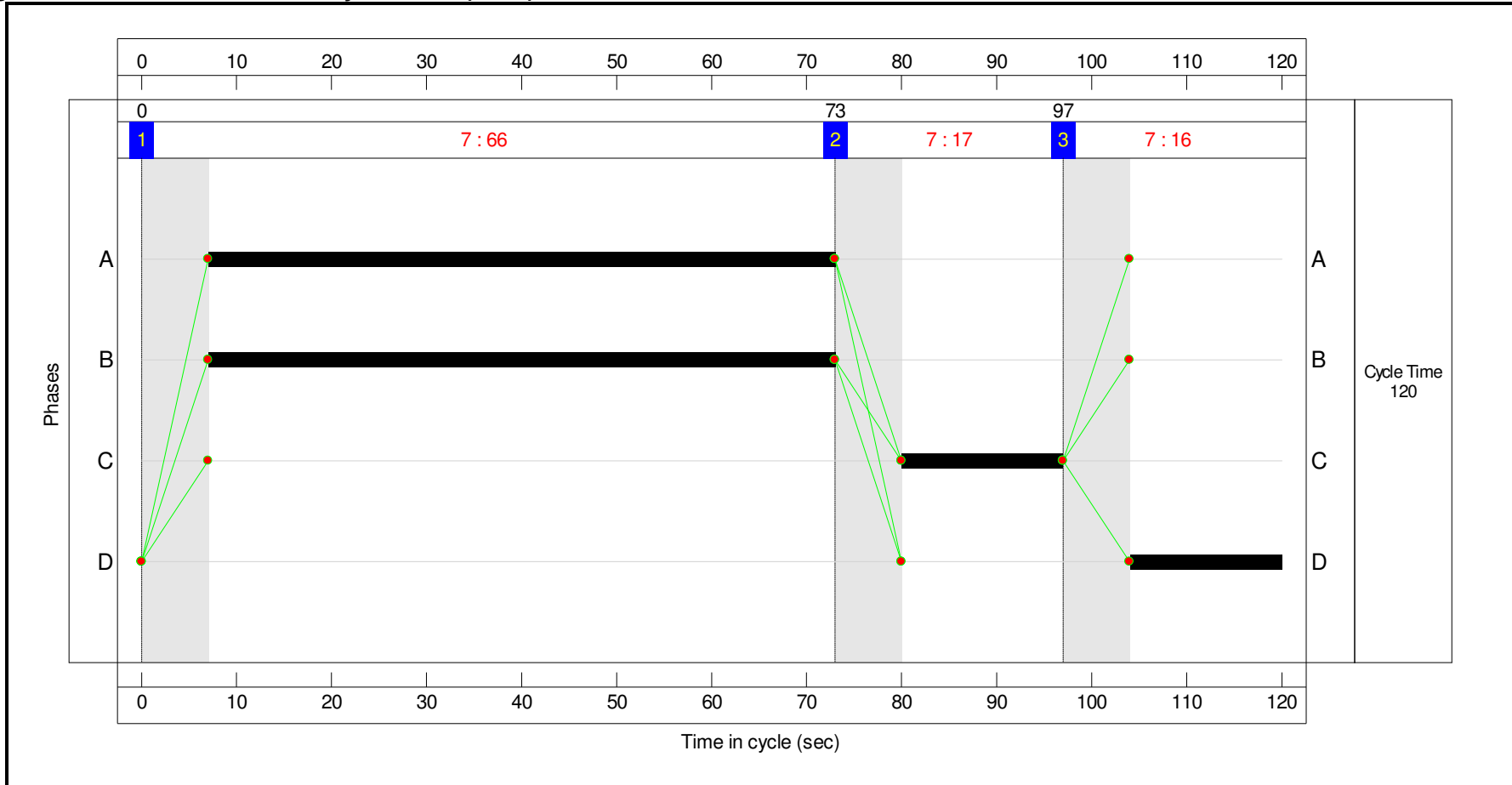
Stage	1	2	3
Duration	66	17	16
Change Point	0	73	97

### Signal Timings Diagram

#### Signal Plan 1: '2006 Base AM' Cycle Time (120s)



**Signal Plan 2: '2006 Base PM' Cycle Time (120s)**



**Traffic Flow Matrix**

**Flow Group 1: '2006 Base AM'**

**Desired Flow :**

		Destination					Tot.
		A	B	C	D		
Origin	A	0	465	13	36	514	
	B	221	0	40	52	313	
	C	7	58	0	184	249	
	D	73	63	109	0	245	
	Tot.	301	586	162	272	1321	

**Flow Group 2: '2006 Base PM'**

**Desired Flow :**

		Destination					Tot.
		A	B	C	D		
Origin	A	0	248	9	36	293	
	B	368	0	33	155	556	
	C	20	51	0	165	236	
	D	25	49	127	0	201	
	Tot.	413	348	169	356	1286	

**Traffic Flow Groups Data**

Flow Group	Start Time	End Time	Duration	Formula
1: '2006 Base AM'	08:00	09:00	01:00	
2: '2006 Base PM'	17:00	18:00	01:00	

**Link Results**

**Scenario 1: '2006 Base AM'**

Signal Plan 1: '2006 Base AM' Cycle Time (120s)

Flow Group 1: '2006 Base AM'

Link Num	Link Desc	Link Type	Deg Sat (%)	Mean Max Queue (pcu)	Full Phase	Arrow Phase	Total Green (s)	Demand Flow (pcu)	Max Sat Flow (pcu/Hr)	Ave Sat Flow (pcu/Hr)	Capacity (pcu)	
1/1	B4030 (W/B) Left Ahead Right	U	77.6	9.4	D		20	245	1804	1804	316	
2/1	B430 Ardley Road (S) Right Left Ahead	O	69.1	7.4	B		60	313	1904	891	453	
3/1	B4030 (E/B) Ahead Right Left	U	77.1	9.5	C		19	249	1939	1939	323	
4/1	B430 Ardley Road (N) Left Ahead Right	O	80.6	16.4	A		60	514	1968	1255	638	
PRC for Signalled Links (%):			11.7	Total Delay for Signalled Links (pcuHr):			18.83					
PRC Over All Links (%):			11.7	Total Delay Over All Links(pcuHr):			18.90	Cycle Time (s): 120				

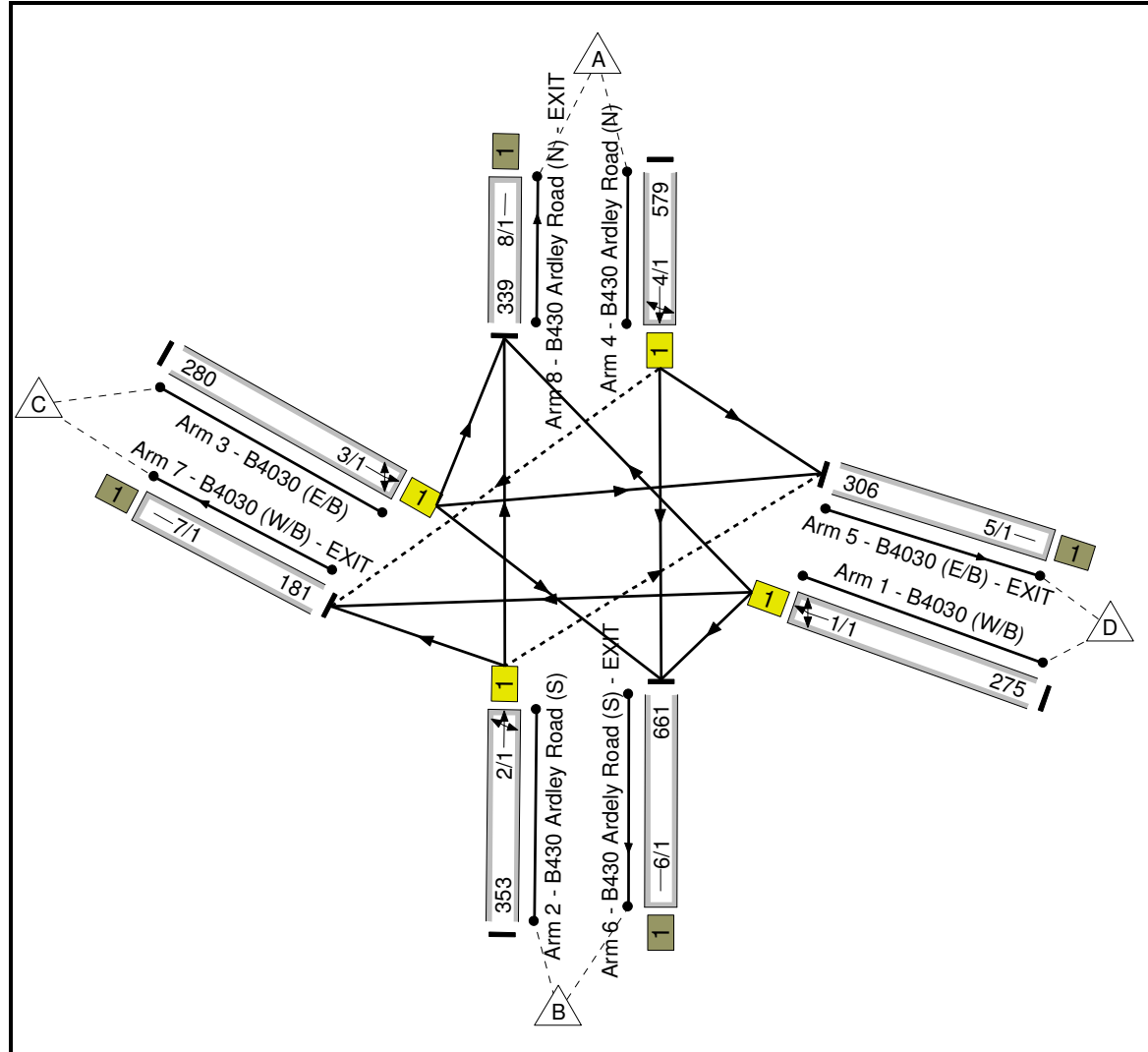
**Scenario 2: '2006 Base PM'**

Signal Plan 2: '2006 Base PM' Cycle Time (120s)

Flow Group 2: '2006 Base PM'

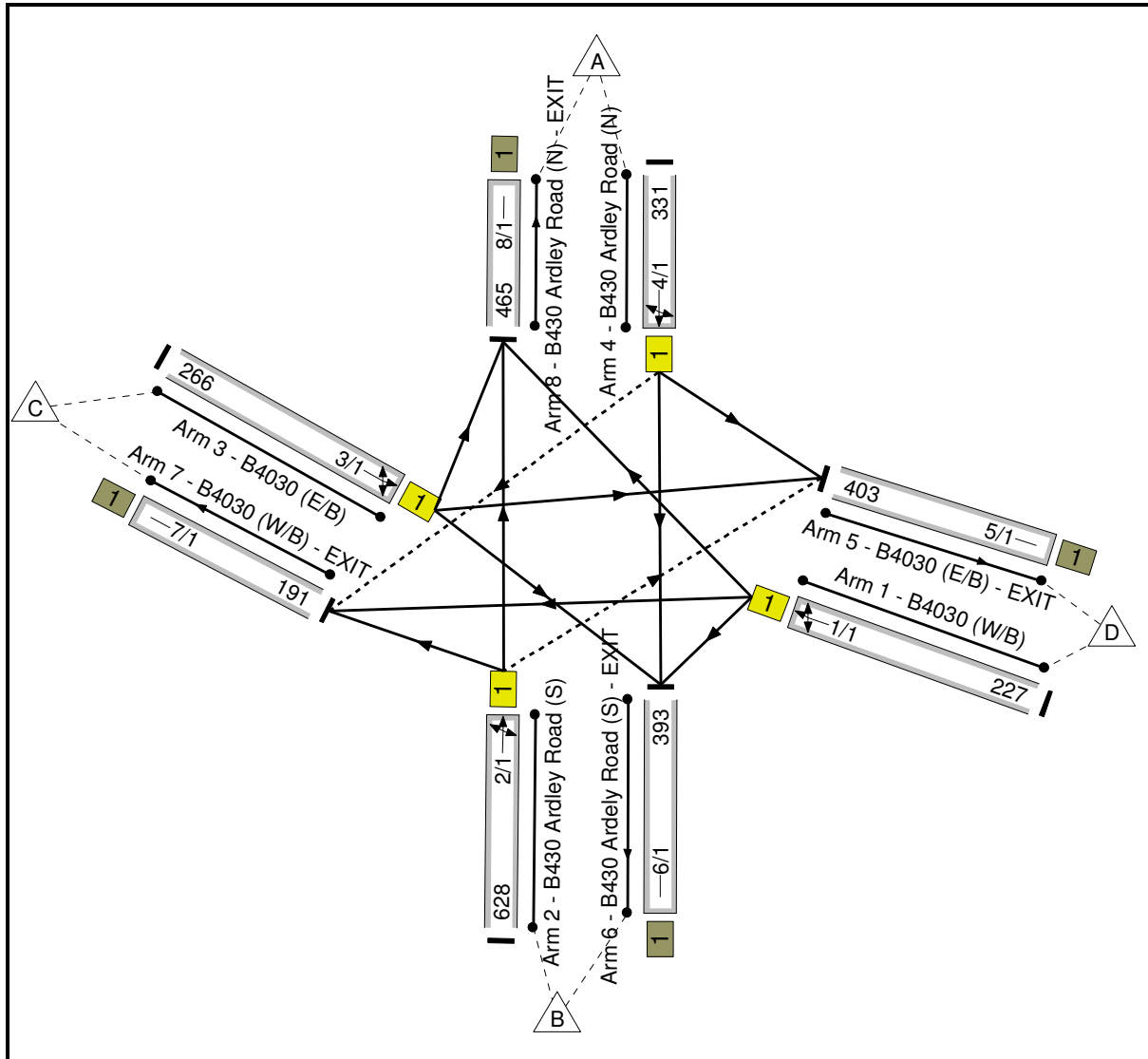
Link Num	Link Desc	Link Type	Deg Sat (%)	Mean Max Queue (pcu)	Full Phase	Arrow Phase	Total Green (s)	Demand Flow (pcu)	Max Sat Flow (pcu/Hr)	Ave Sat Flow (pcu/Hr)	Capacity (pcu)	
1/1	B4030 (W/B) Left Ahead Right	U	77.5	8.1	D		16	201	1831	1831	259	
2/1	B430 Ardley Road (S) Right Left Ahead	O	81.1	14.3	B		66	556	1880	1227	685	
3/1	B4030 (E/B) Ahead Right Left	U	82.0	9.7	C		17	236	1919	1919	288	
4/1	B430 Ardley Road (N) Left Ahead Right	O	61.2	8.7	A		66	293	1957	858	479	
PRC for Signalled Links (%):			9.8	Total Delay for Signalled Links (pcuHr):			17.77					
PRC Over All Links (%):			9.8	Total Delay Over All Links(pcuHr):			17.84	Cycle Time (s): 120				

**Middleton Stoney Jct 2013 Base**  
**Junction Layout Diagram**  
**Flow Group 1: '2013 Base AM'**





**Flow Group 2: '2013 Base PM'**



**Lane Data Table**

Arm/ Lane	Actual Length (PCU)	Effective Length (PCU)	Sat Flow Type	User Saturation Flow (PCU/Hr)	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)
1/1 (B4030 (W/B) Lane 1)	Inf	Inf	Geom	1800	3.20	0.00	Y	Arm 6 Left (B430 Ardely Road (S) - EXIT)	17.50
								Arm 7 Ahead (B4030 (W/B) - EXIT)	45.00
								Arm 8 Right (B430 Ardley Road (N) - EXIT)	12.50
2/1 (B430 Ardley Road (S) Lane 1)	Inf	Inf	Geom	1800	3.50	0.00	Y	Arm 5 Right (B4030 (E/B) - EXIT)	10.00
								Arm 7 Left (B4030 (W/B) - EXIT)	27.50
								Arm 8 Ahead (B430 Ardley Road (N) - EXIT)	Inf
3/1 (B4030 (E/B) Lane 1)	Inf	Inf	Geom	1800	3.50	0.00	Y	Arm 5 Ahead (B4030 (E/B) - EXIT)	Inf
								Arm 6 Right (B430 Ardely Road (S) - EXIT)	45.00
								Arm 8 Left (B430 Ardley Road (N) - EXIT)	7.50
4/1 (B430 Ardley Road (N) Lane 1)	Inf	Inf	Geom	1800	3.75	0.00	Y	Arm 5 Left (B4030 (E/B) - EXIT)	17.50
								Arm 6 Ahead (B430 Ardely Road (S) - EXIT)	Inf
								Arm 7 Right (B4030 (W/B) - EXIT)	7.50
5/1 (B4030 (E/B) - EXIT Lane 1)	Inf	Inf	User	9999	3.25	0.00	N		

6/1 (B430 Ardely Road (S) - EXIT Lane 1)	Inf	Inf	User	9999	3.25	0.00	N		
7/1 (B4030 (W/B) - EXIT Lane 1)	Inf	Inf	User	9999	3.25	0.00	N		
8/1 (B430 Ardley Road (N) - EXIT Lane 1)	Inf	Inf	User	9999	3.25	0.00	N		

**Lane Data Table**

**Flow Group 1: '2013 Base AM'**

Arm/ Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat flow (PCU/Hr)
1/1 (B4030 (W/B) Lane 1)	3.20	0.00	Y	Arm 6 Left (B430 Ardely Road (S) - EXIT)	17.50	25.8 %	1804
				Arm 7 Ahead (B4030 (W/B) - EXIT)	45.00	44.4 %	
				Arm 8 Right (B430 Ardley Road (N) - EXIT)	12.50	29.8 %	
2/1 (B430 Ardley Road (S) Lane 1)	3.50	0.00	Y	Arm 5 Right (B4030 (E/B) - EXIT)	10.00	16.7 %	1904
				Arm 7 Left (B4030 (W/B) - EXIT)	27.50	12.7 %	
				Arm 8 Ahead (B430 Ardley Road (N) - EXIT)	Inf	70.5 %	
3/1 (B4030 (E/B) Lane 1)	3.50	0.00	Y	Arm 5 Ahead (B4030 (E/B) - EXIT)	Inf	73.9 %	1939
				Arm 6 Right (B430 Ardely Road (S) - EXIT)	45.00	23.2 %	
4/1 (B430 Ardley Road (N) Lane 1)	3.75	0.00	Y	Arm 8 Left (B430 Ardley Road (N) - EXIT)	7.50	2.9 %	1969
				Arm 5 Left (B4030 (E/B) - EXIT)	17.50	6.9 %	
				Arm 6 Ahead (B430 Ardely Road (S) - EXIT)	Inf	90.7 %	
5/1 (B4030 (E/B) - EXIT Lane 1)				Arm 7 Right (B4030 (W/B) - EXIT)	7.50	2.4 %	9999
				This lane uses a directly entered Saturation Flow			

<p>6/1 (B430 Ardely Road (S) - EXIT Lane 1)</p>	<p>This lane uses a directly entered Saturation Flow</p>	<p>9999</p>
<p>7/1 (B4030 (W/B) - EXIT Lane 1)</p>	<p>This lane uses a directly entered Saturation Flow</p>	<p>9999</p>
<p>8/1 (B430 Ardley Road (N) - EXIT Lane 1)</p>	<p>This lane uses a directly entered Saturation Flow</p>	<p>9999</p>

**Flow Group 2: '2013 Base PM'**

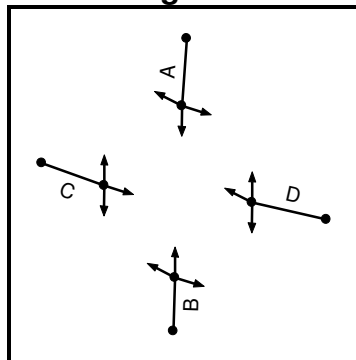
Arm/ Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat flow (PCU/Hr)
1/1 (B4030 (W/B) Lane 1)	3.20	0.00	Y	Arm 6 Left (B430 Ardely Road (S) - EXIT)	17.50	24.7 %	1831
				Arm 7 Ahead (B4030 (W/B) - EXIT)	45.00	63.0 %	
				Arm 8 Right (B430 Ardley Road (N) - EXIT)	12.50	12.3 %	
2/1 (B430 Ardley Road (S) Lane 1)	3.50	0.00	Y	Arm 5 Right (B4030 (E/B) - EXIT)	10.00	27.9 %	1880
				Arm 7 Left (B4030 (W/B) - EXIT)	27.50	6.1 %	
				Arm 8 Ahead (B430 Ardley Road (N) - EXIT)	Inf	66.1 %	
3/1 (B4030 (E/B) Lane 1)	3.50	0.00	Y	Arm 5 Ahead (B4030 (E/B) - EXIT)	Inf	70.3 %	1920
				Arm 6 Right (B430 Ardely Road (S) - EXIT)	45.00	21.4 %	
				Arm 8 Left (B430 Ardley Road (N) - EXIT)	7.50	8.3 %	
4/1 (B430 Ardley Road (N) Lane 1)	3.75	0.00	Y	Arm 5 Left (B4030 (E/B) - EXIT)	17.50	12.4 %	1957
				Arm 6 Ahead (B430 Ardely Road (S) - EXIT)	Inf	84.6 %	
				Arm 7 Right (B4030 (W/B) - EXIT)	7.50	3.0 %	
5/1 (B4030 (E/B) - EXIT Lane 1)	This lane uses a directly entered Saturation Flow						9999

<p>6/1 (B430 Ardely Road (S) - EXIT Lane 1)</p>	<p>This lane uses a directly entered Saturation Flow</p>	<p>9999</p>
<p>7/1 (B4030 (W/B) - EXIT Lane 1)</p>	<p>This lane uses a directly entered Saturation Flow</p>	<p>9999</p>
<p>8/1 (B430 Ardley Road (N) - EXIT Lane 1)</p>	<p>This lane uses a directly entered Saturation Flow</p>	<p>9999</p>

**Intergreens Table**

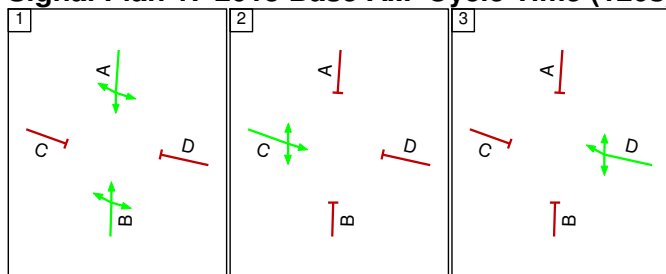
	Starting Phase			
	A	B	C	D
Terminating Phase	A	-	7	7
	B	-	7	7
	C	7	7	-
	D	7	7	7

**Phase Diagram**



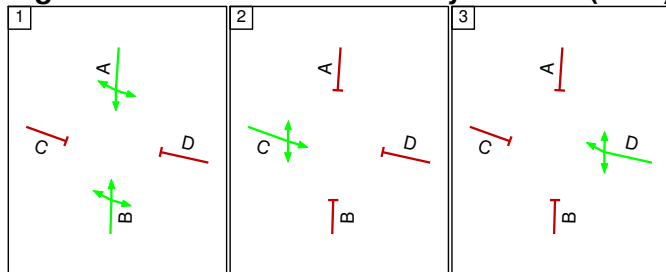
**Stages Diagram**

Signal Plan 1: '2013 Base AM' Cycle Time (120s)





**Signal Plan 2: '2013 Base PM' Cycle Time (120s)**



**Signal Plans Data table**

**Signal Plan 1: '2013 Base AM' Cycle Time (120s)**

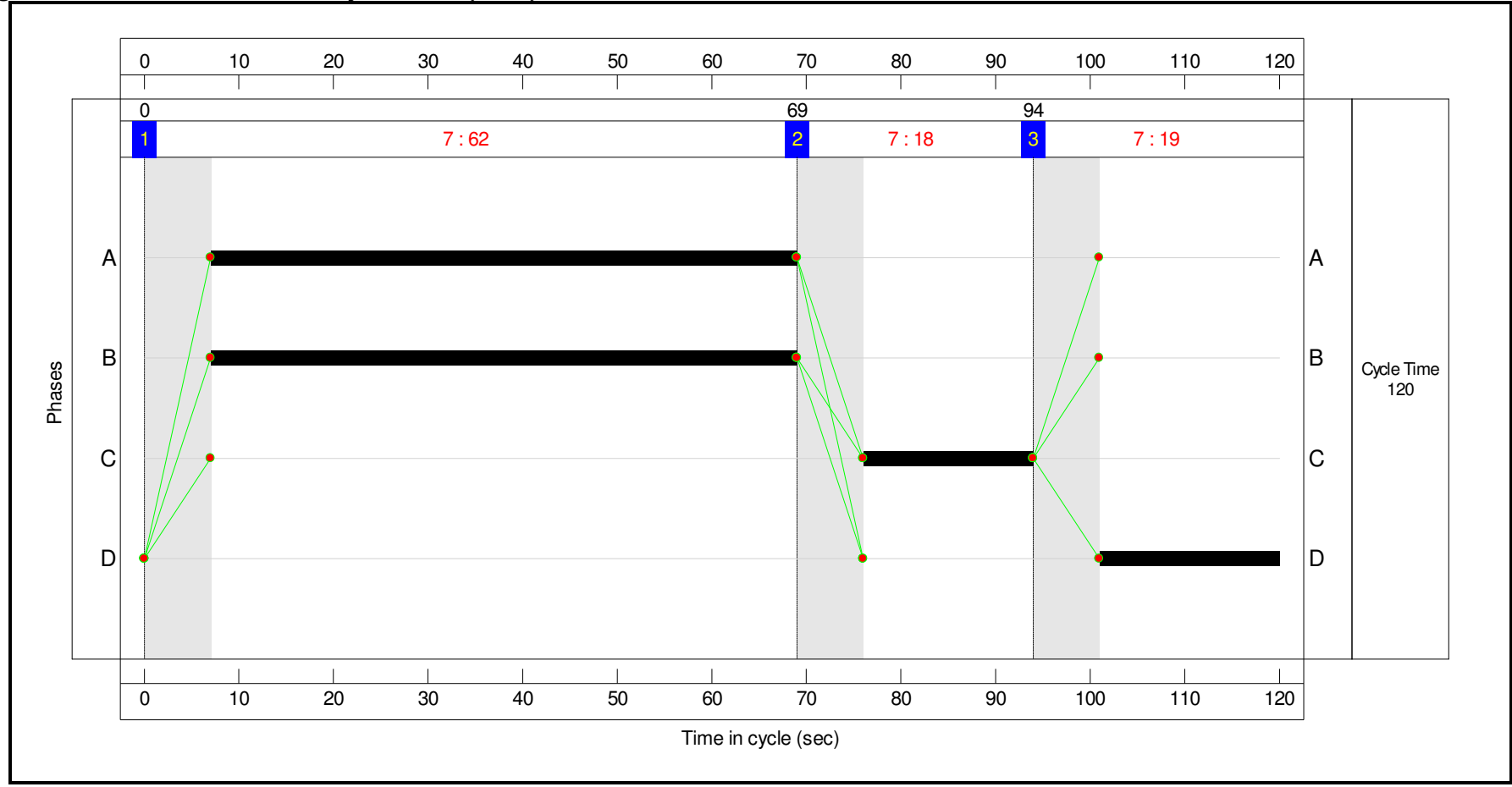
Stage	1	2	3
Duration	62	18	19
Change Point	0	69	94

**Signal Plan 2: '2013 Base PM' Cycle Time (120s)**

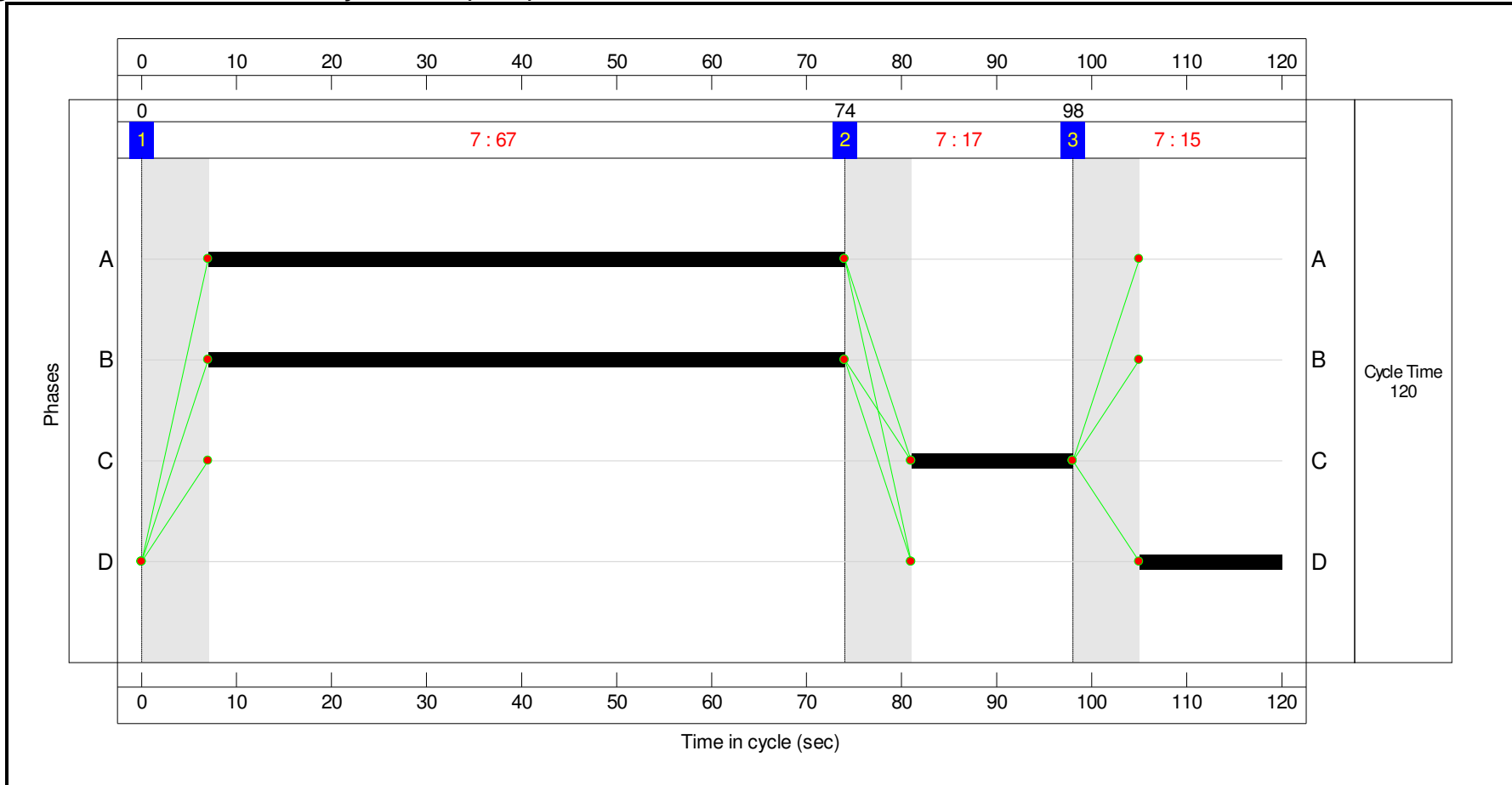
Stage	1	2	3
Duration	67	17	15
Change Point	0	74	98

### Signal Timings Diagram

#### Signal Plan 1: '2013 Base AM' Cycle Time (120s)



**Signal Plan 2: '2013 Base PM' Cycle Time (120s)**



**Traffic Flow Matrix**

**Flow Group 1: '2013 Base AM'**

**Desired Flow :**

		Destination					Tot.
		A	B	C	D		
Origin	A	0	525	14	40	579	
	B	249	0	45	59	353	
	C	8	65	0	207	280	
	D	82	71	122	0	275	
	Tot.	339	661	181	306	1487	

**Flow Group 2: '2013 Base PM'**

**Desired Flow :**

		Destination					Tot.
		A	B	C	D		
Origin	A	0	280	10	41	331	
	B	415	0	38	175	628	
	C	22	57	0	187	266	
	D	28	56	143	0	227	
	Tot.	465	393	191	403	1452	

**Traffic Flow Groups Data**

Flow Group	Start Time	End Time	Duration	Formula
1: '2013 Base AM'	08:00	09:00	01:00	
2: '2013 Base PM'	17:00	18:00	01:00	

### Link Results

#### Scenario 1: '2013 Base AM'

Signal Plan 1: '2013 Base AM' Cycle Time (120s)

Flow Group 1: '2013 Base AM'

Link Num	Link Desc	Link Type	Deg Sat (%)	Mean Max Queue (pcu)	Full Phase	Arrow Phase	Total Green (s)	Demand Flow (pcu)	Max Sat Flow (pcu/Hr)	Ave Sat Flow (pcu/Hr)	Capacity (pcu)	
1/1	B4030 (W/B) Left Ahead Right	U	91.5	13.0	D		19	275	1804	1804	301	
2/1	B430 Ardley Road (S) Right Left Ahead	O	85.6	9.8	B		62	353	1904	786	413	
3/1	B4030 (E/B) Ahead Right Left	U	91.2	13.2	C		18	280	1939	1939	307	
4/1	B430 Ardley Road (N) Left Ahead Right	O	95.9	25.1	A		62	579	1969	1150	604	
PRC for Signalled Links (%):			-6.5	Total Delay for Signalled Links (pcuHr):			33.16					
PRC Over All Links (%):			-6.5	Total Delay Over All Links(pcuHr):			33.24	Cycle Time (s): 120				

#### Scenario 2: '2013 Base PM'

Signal Plan 2: '2013 Base PM' Cycle Time (120s)

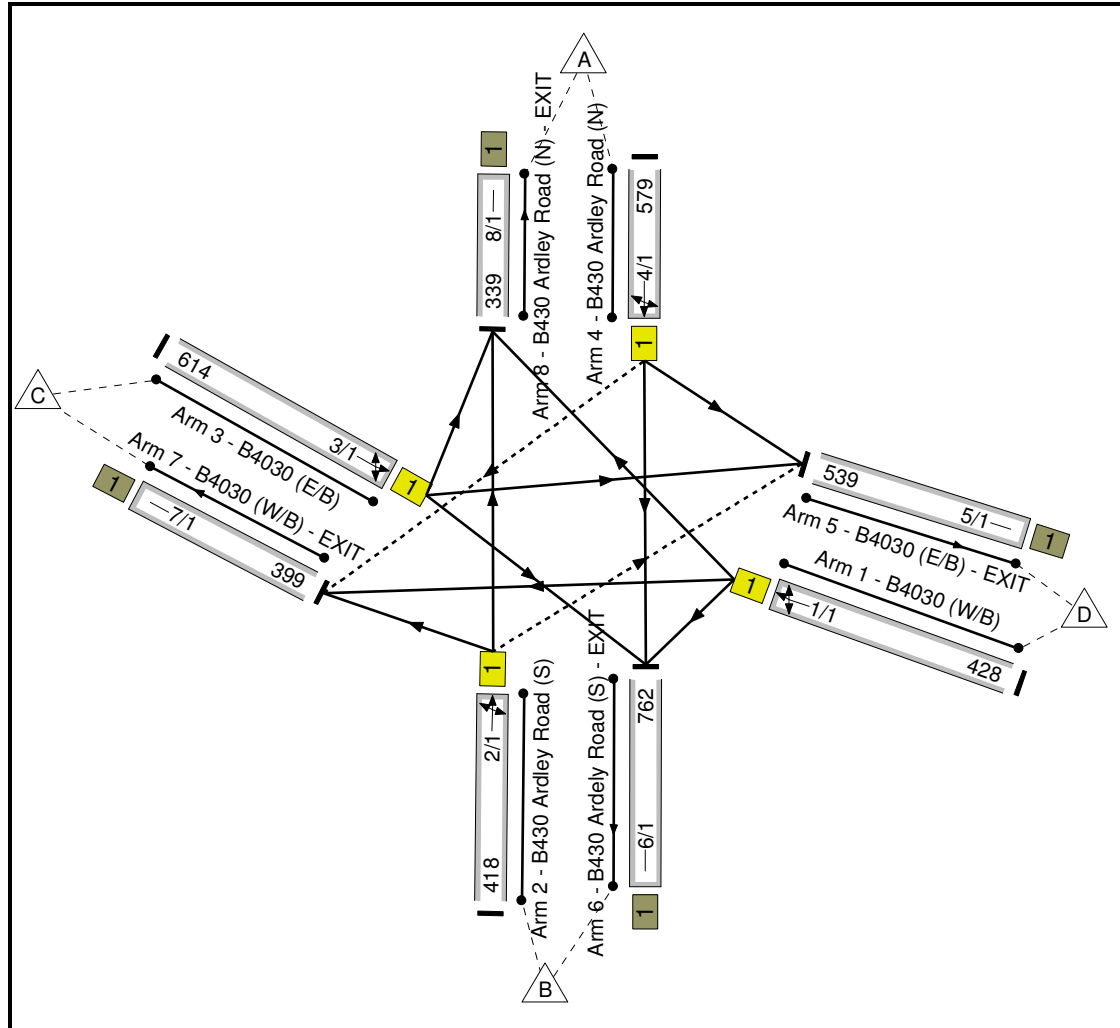
Flow Group 2: '2013 Base PM'

Link Num	Link Desc	Link Type	Deg Sat (%)	Mean Max Queue (pcu)	Full Phase	Arrow Phase	Total Green (s)	Demand Flow (pcu)	Max Sat Flow (pcu/Hr)	Ave Sat Flow (pcu/Hr)	Capacity (pcu)	
1/1	B4030 (W/B) Left Ahead Right	U	93.0	11.8	D		15	227	1831	1831	244	
2/1	B430 Ardley Road (S) Right Left Ahead	O	95.1	21.1	B		67	628	1880	1165	660	
3/1	B4030 (E/B) Ahead Right Left	U	92.4	13.1	C		17	266	1920	1920	288	
4/1	B430 Ardley Road (N) Left Ahead Right	O	92.3	14.8	A		67	331	1957	633	358	
PRC for Signalled Links (%):			-5.7	Total Delay for Signalled Links (pcuHr):			33.95					
PRC Over All Links (%):			-5.7	Total Delay Over All Links(pcuHr):			34.02	Cycle Time (s): 120				

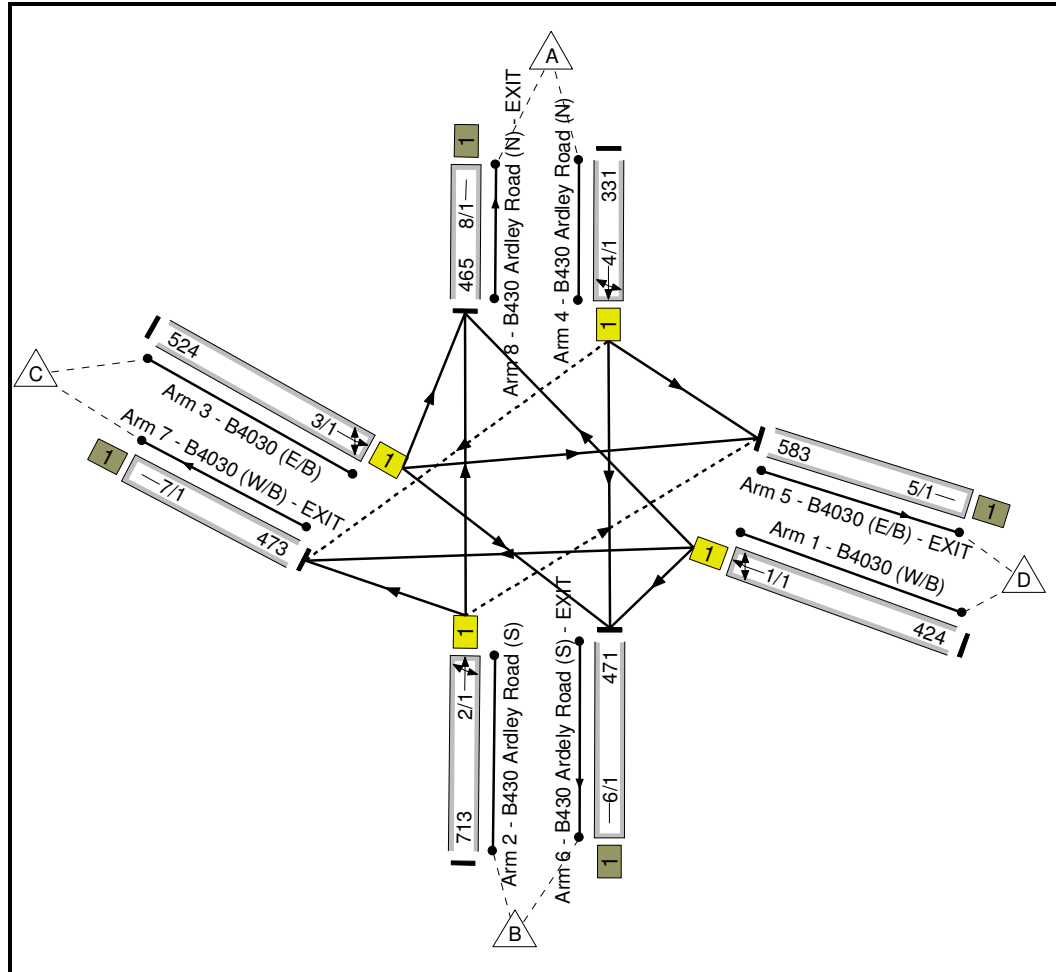
### Middleton Stoney Jct 2013 Base + Gen

#### Junction Layout Diagram

Flow Group 1: '2013 Base + Gen AM'



**Flow Group 2: '2013 Base + Gen PM'**



**Lane Data Table**

Arm/ Lane	Actual Length (PCU)	Effective Length (PCU)	Sat Flow Type	User Saturation Flow (PCU/Hr)	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)
1/1 (B4030 (W/B) Lane 1)	Inf	Inf	Geom	1800	3.20	0.00	Y	Arm 6 Left (B430 Ardely Road (S) - EXIT)	17.50
								Arm 7 Ahead (B4030 (W/B) - EXIT)	45.00
								Arm 8 Right (B430 Ardley Road (N) - EXIT)	12.50
2/1 (B430 Ardley Road (S) Lane 1)	Inf	Inf	Geom	1800	3.50	0.00	Y	Arm 5 Right (B4030 (E/B) - EXIT)	10.00
								Arm 7 Left (B4030 (W/B) - EXIT)	27.50
								Arm 8 Ahead (B430 Ardley Road (N) - EXIT)	Inf
3/1 (B4030 (E/B) Lane 1)	Inf	Inf	Geom	1800	3.50	0.00	Y	Arm 5 Ahead (B4030 (E/B) - EXIT)	Inf
								Arm 6 Right (B430 Ardely Road (S) - EXIT)	45.00
								Arm 8 Left (B430 Ardley Road (N) - EXIT)	7.50
4/1 (B430 Ardley Road (N) Lane 1)	Inf	Inf	Geom	1800	3.75	0.00	Y	Arm 5 Left (B4030 (E/B) - EXIT)	17.50
								Arm 6 Ahead (B430 Ardely Road (S) - EXIT)	Inf
								Arm 7 Right (B4030 (W/B) - EXIT)	7.50
5/1 (B4030 (E/B) - EXIT Lane 1)	Inf	Inf	User	9999	3.25	0.00	N		



6/1 (B430 Ardely Road (S) - EXIT Lane 1)	Inf	Inf	User	9999	3.25	0.00	N		
7/1 (B4030 (W/B) - EXIT Lane 1)	Inf	Inf	User	9999	3.25	0.00	N		
8/1 (B430 Ardley Road (N) - EXIT Lane 1)	Inf	Inf	User	9999	3.25	0.00	N		

**Lane Data Table**

**Flow Group 1: '2013 Base + Gen AM'**

Arm/ Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat flow (PCU/Hr)
1/1 (B4030 (W/B) Lane 1)	3.20	0.00	Y	Arm 6 Left (B430 Ardely Road (S) - EXIT)	17.50	16.6 %	1828
				Arm 7 Ahead (B4030 (W/B) - EXIT)	45.00	64.3 %	
				Arm 8 Right (B430 Ardley Road (N) - EXIT)	12.50	19.2 %	
2/1 (B430 Ardley Road (S) Lane 1)	3.50	0.00	Y	Arm 5 Right (B4030 (E/B) - EXIT)	10.00	14.1 %	1898
				Arm 7 Left (B4030 (W/B) - EXIT)	27.50	26.3 %	
				Arm 8 Ahead (B430 Ardley Road (N) - EXIT)	Inf	59.6 %	
3/1 (B4030 (E/B) Lane 1)	3.50	0.00	Y	Arm 5 Ahead (B4030 (E/B) - EXIT)	Inf	71.7 %	1942
				Arm 6 Right (B430 Ardely Road (S) - EXIT)	45.00	27.0 %	
4/1 (B430 Ardley Road (N) Lane 1)	3.75	0.00	Y	Arm 8 Left (B430 Ardley Road (N) - EXIT)	7.50	1.3 %	1969
				Arm 5 Left (B4030 (E/B) - EXIT)	17.50	6.9 %	
				Arm 6 Ahead (B430 Ardely Road (S) - EXIT)	Inf	90.7 %	
5/1 (B4030 (E/B) - EXIT Lane 1)	This lane uses a directly entered Saturation Flow						9999

<p>6/1 (B430 Ardely Road (S) - EXIT Lane 1)</p>	<p>This lane uses a directly entered Saturation Flow</p>	<p>9999</p>
<p>7/1 (B4030 (W/B) - EXIT Lane 1)</p>	<p>This lane uses a directly entered Saturation Flow</p>	<p>9999</p>
<p>8/1 (B430 Ardley Road (N) - EXIT Lane 1)</p>	<p>This lane uses a directly entered Saturation Flow</p>	<p>9999</p>

**Flow Group 2: '2013 Base + Gen PM'**

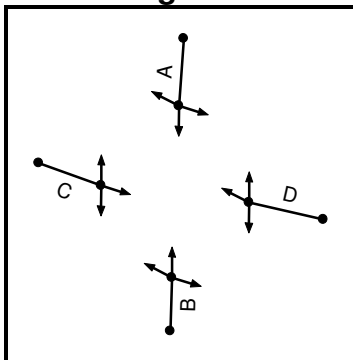
Arm/ Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat flow (PCU/Hr)
1/1 (B4030 (W/B) Lane 1)	3.20	0.00	Y	Arm 6 Left (B430 Ardely Road (S) - EXIT)	17.50	13.2 %	1850
				Arm 7 Ahead (B4030 (W/B) - EXIT)	45.00	80.2 %	
				Arm 8 Right (B430 Ardley Road (N) - EXIT)	12.50	6.6 %	
2/1 (B430 Ardley Road (S) Lane 1)	3.50	0.00	Y	Arm 5 Right (B4030 (E/B) - EXIT)	10.00	24.5 %	1878
				Arm 7 Left (B4030 (W/B) - EXIT)	27.50	17.3 %	
				Arm 8 Ahead (B430 Ardley Road (N) - EXIT)	Inf	58.2 %	
3/1 (B4030 (E/B) Lane 1)	3.50	0.00	Y	Arm 5 Ahead (B4030 (E/B) - EXIT)	Inf	70.0 %	1932
				Arm 6 Right (B430 Ardely Road (S) - EXIT)	45.00	25.8 %	
				Arm 8 Left (B430 Ardley Road (N) - EXIT)	7.50	4.2 %	
4/1 (B430 Ardley Road (N) Lane 1)	3.75	0.00	Y	Arm 5 Left (B4030 (E/B) - EXIT)	17.50	12.4 %	1957
				Arm 6 Ahead (B430 Ardely Road (S) - EXIT)	Inf	84.6 %	
				Arm 7 Right (B4030 (W/B) - EXIT)	7.50	3.0 %	
5/1 (B4030 (E/B) - EXIT Lane 1)	This lane uses a directly entered Saturation Flow						9999

<p>6/1 (B430 Ardely Road (S) - EXIT Lane 1)</p>	<p>This lane uses a directly entered Saturation Flow</p>	<p>9999</p>
<p>7/1 (B4030 (W/B) - EXIT Lane 1)</p>	<p>This lane uses a directly entered Saturation Flow</p>	<p>9999</p>
<p>8/1 (B430 Ardley Road (N) - EXIT Lane 1)</p>	<p>This lane uses a directly entered Saturation Flow</p>	<p>9999</p>

**Intergreens Table**

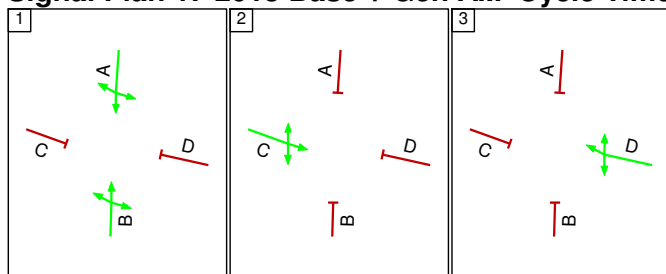
		Starting Phase			
		A	B	C	D
Terminating Phase	A			7	7
	B			7	7
	C	7	7		7
	D	7	7	7	

**Phase Diagram**

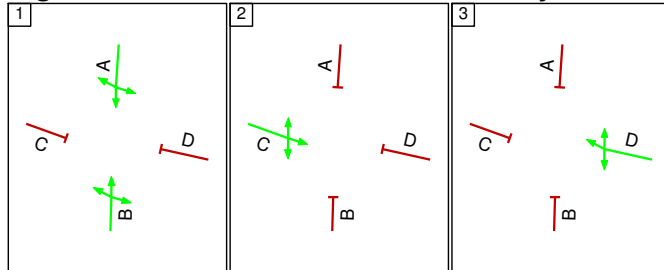


**Stages Diagram**

Signal Plan 1: '2013 Base + Gen AM' Cycle Time (120s)



**Signal Plan 2: '2013 Base + Gen PM' Cycle Time (120s)**



**Signal Plans Data table**

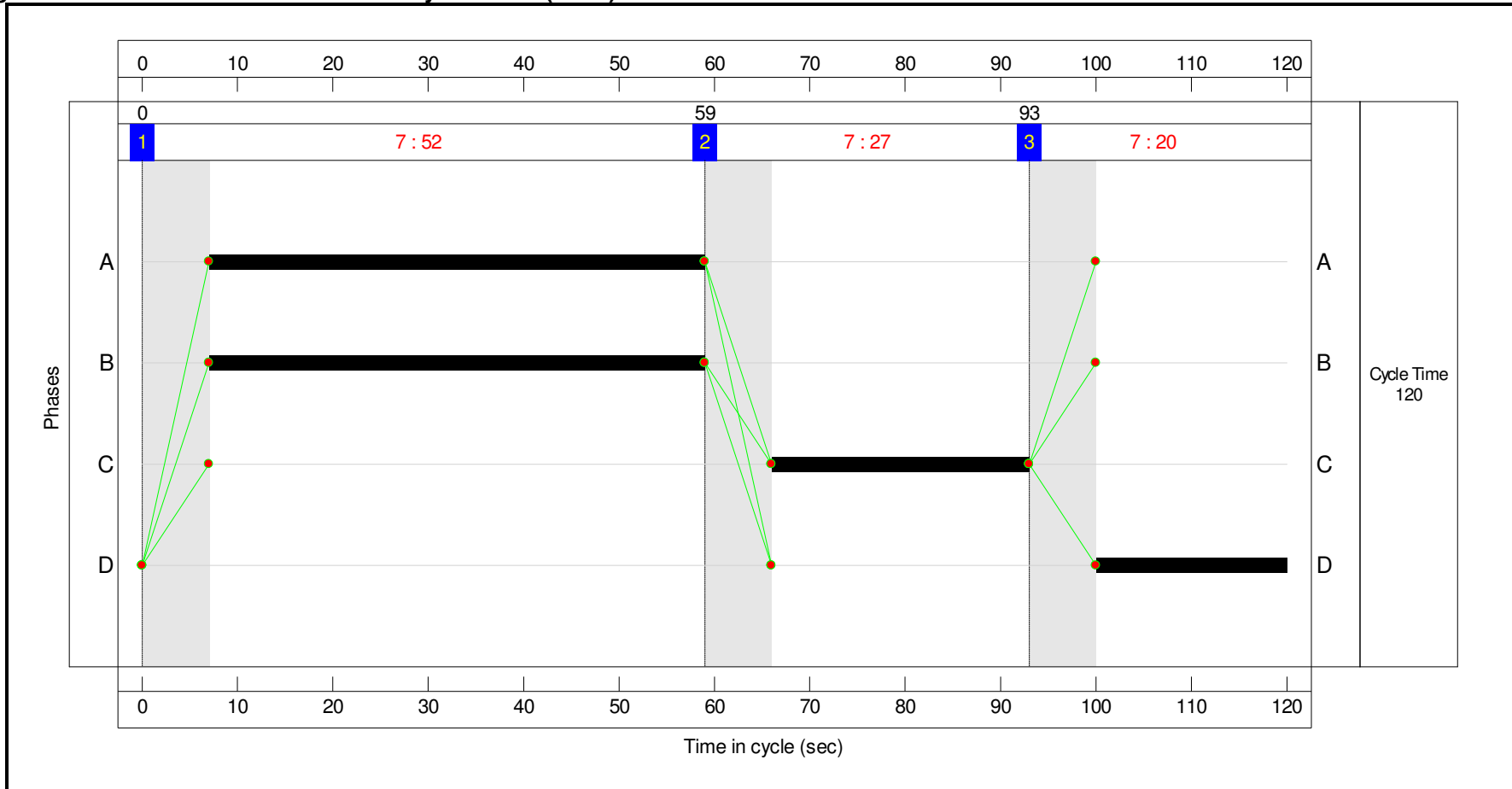
**Signal Plan 1: '2013 Base + Gen AM' Cycle Time (120s)**

Stage	1	2	3
Duration	52	27	20
Change Point	0	59	93

**Signal Plan 2: '2013 Base + Gen PM' Cycle Time (120s)**

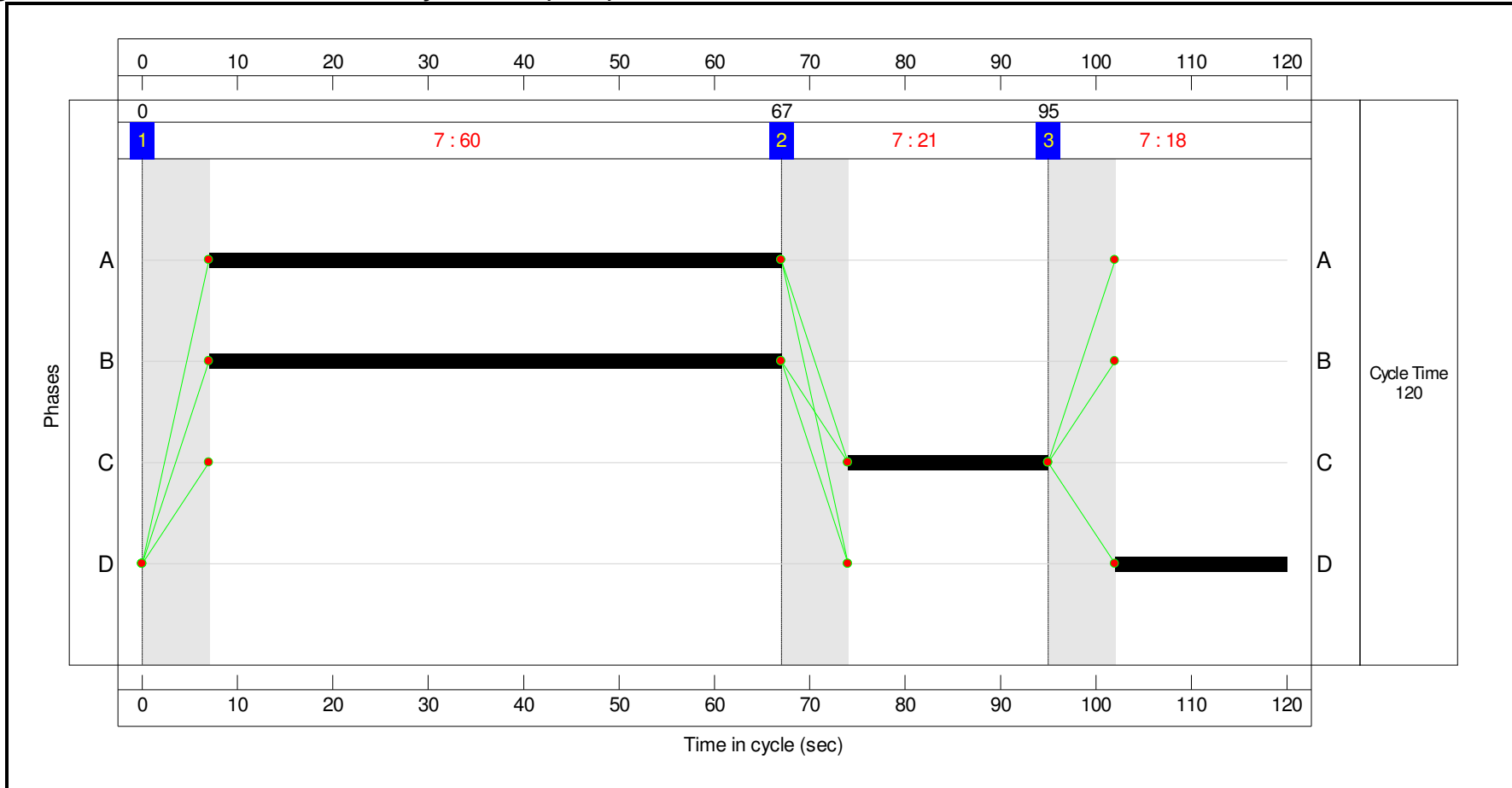
Stage	1	2	3
Duration	60	21	18
Change Point	0	67	95

### Signal Timings Diagram Signal Plan 1: '2013 Base + Gen AM' Cycle Time (120s)





**Signal Plan 2: '2013 Base + Gen PM' Cycle Time (120s)**



**Traffic Flow Matrix**

**Flow Group 1: '2013 Base + Gen AM'**

**Desired Flow :**

		Destination					Tot.
		A	B	C	D		
Origin	A	0	525	14	40	579	
	B	249	0	110	59	418	
	C	8	166	0	440	614	
	D	82	71	275	0	428	
	Tot.	339	762	399	539	2039	

**Flow Group 2: '2013 Base + Gen PM'**

**Desired Flow :**

		Destination					Tot.
		A	B	C	D		
Origin	A	0	280	10	41	331	
	B	415	0	123	175	713	
	C	22	135	0	367	524	
	D	28	56	340	0	424	
	Tot.	465	471	473	583	1992	

**Traffic Flow Groups Data**

Flow Group	Start Time	End Time	Duration	Formula
1: '2013 Base + Gen AM'	08:00	09:00	01:00	
2: '2013 Base + Gen PM'	17:00	18:00	01:00	

### Link Results

#### Scenario 1: '2013 Base + Gen AM'

Signal Plan 1: '2013 Base + Gen AM' Cycle Time (120s)

Flow Group 1: '2013 Base + Gen AM'

Link Num	Link Desc	Link Type	Deg Sat (%)	Mean Max Queue (pcu)	Full Phase	Arrow Phase	Total Green (s)	Demand Flow (pcu)	Max Sat Flow (pcu/Hr)	Ave Sat Flow (pcu/Hr)	Capacity (pcu)	
1/1	B4030 (W/B) Left Ahead Right	U	133.8	77.1	D		20	428	1828	1828	320	
2/1	B430 Ardley Road (S) Right Left Ahead	O	118.2	50.2	B		52	418	1898	801	354	
3/1	B4030 (E/B) Ahead Right Left	U	135.5	109.4	C		27	614	1942	1942	453	
4/1	B430 Ardley Road (N) Left Ahead Right	O	131.9	95.0	A		52	579	1969	994	439	
PRC for Signalled Links (%):			-50.6	Total Delay for Signalled Links (pcuHr):			294.31					
PRC Over All Links (%):			-50.6	Total Delay Over All Links (pcuHr):			294.39	Cycle Time (s): 120				

#### Scenario 2: '2013 Base + Gen PM'

Signal Plan 2: '2013 Base + Gen PM' Cycle Time (120s)

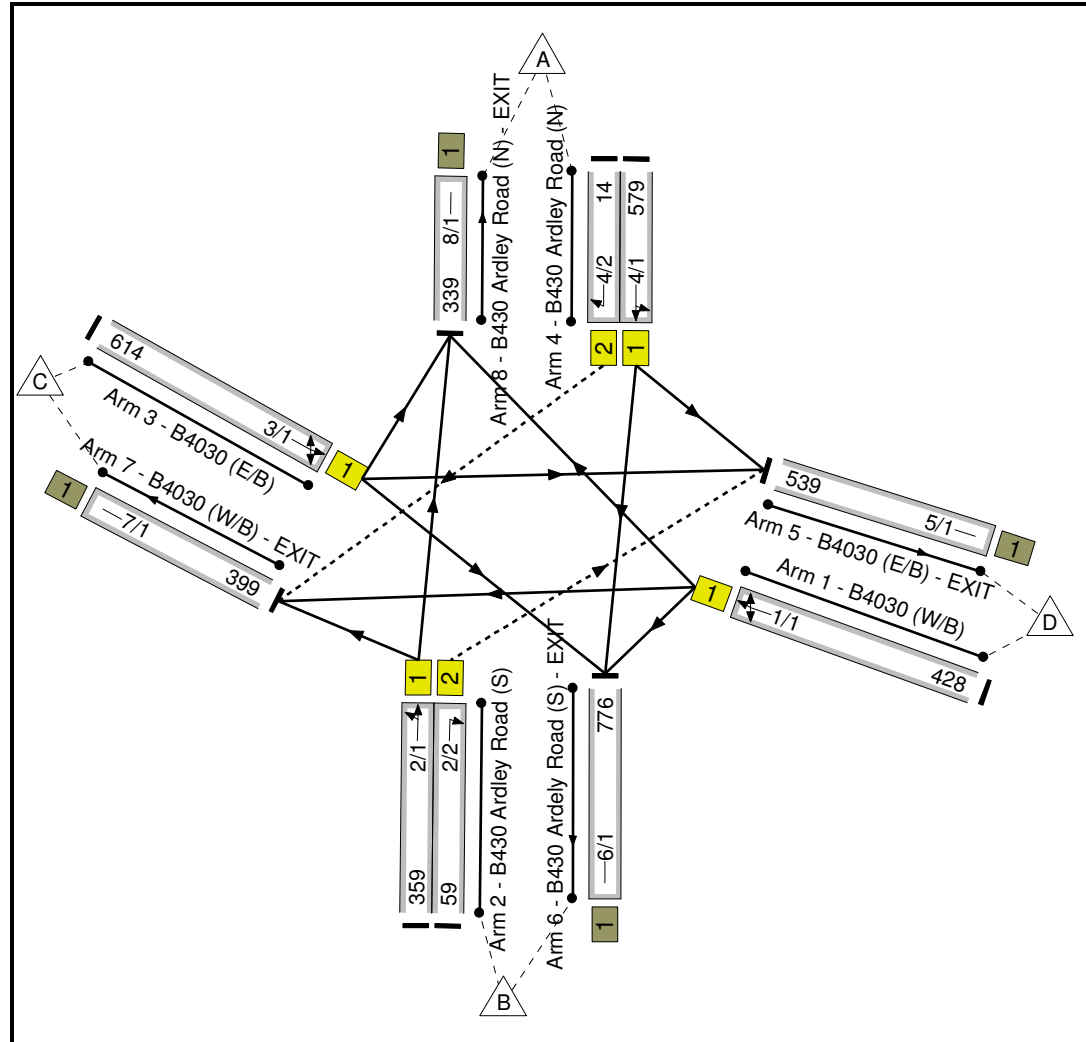
Flow Group 2: '2013 Base + Gen PM'

Link Num	Link Desc	Link Type	Deg Sat (%)	Mean Max Queue (pcu)	Full Phase	Arrow Phase	Total Green (s)	Demand Flow (pcu)	Max Sat Flow (pcu/Hr)	Ave Sat Flow (pcu/Hr)	Capacity (pcu)	
1/1	B4030 (W/B) Left Ahead Right	U	144.8	89.6	D		18	424	1850	1850	293	
2/1	B430 Ardley Road (S) Right Left Ahead	O	109.7	61.0	B		60	713	1878	1278	650	
3/1	B4030 (E/B) Ahead Right Left	U	147.9	112.0	C		21	524	1932	1932	354	
4/1	B430 Ardley Road (N) Left Ahead Right	O	146.6	68.3	A		60	331	1957	444	226	
PRC for Signalled Links (%):			-64.4	Total Delay for Signalled Links (pcuHr):			292.55					
PRC Over All Links (%):			-64.4	Total Delay Over All Links (pcuHr):			292.63	Cycle Time (s): 120				

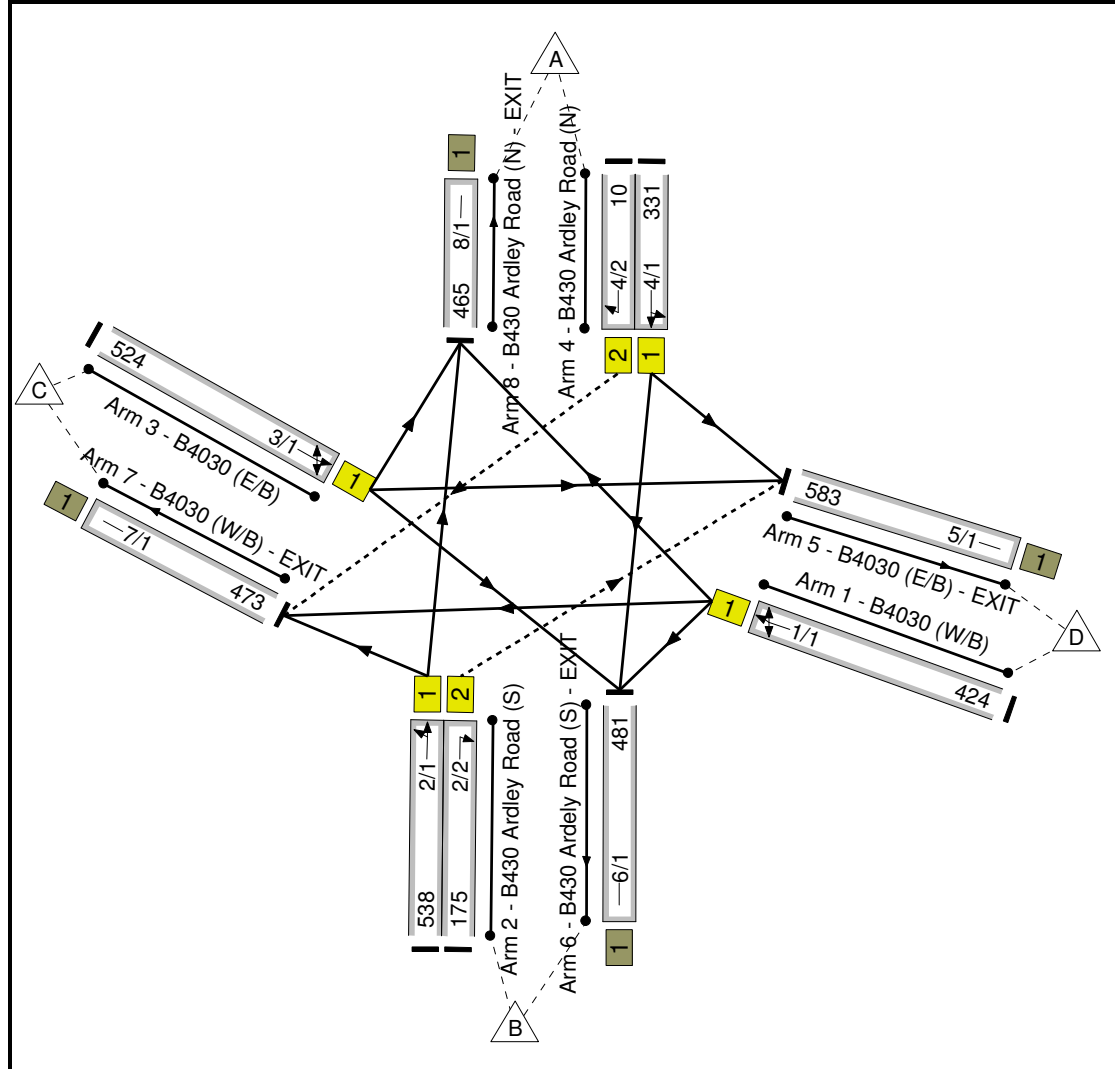
### Middleton Stoney Jct 2013 Base + Gen (Proposed Staging) JI

#### Junction Layout Diagram

#### Flow Group 1: '2013 Base + Gen AM'



**Flow Group 2: '2013 Base + Gen PM'**



**Lane Data Table**

Arm/ Lane	Actual Length (PCU)	Effective Length (PCU)	Sat Flow Type	User Saturation Flow (PCU/Hr)	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)
1/1 (B4030 (W/B) Lane 1)	Inf	Inf	Geom	1800	3.50	0.00	Y	Arm 6 Left (B430 Ardely Road (S) - EXIT)	10.00
								Arm 7 Ahead (B4030 (W/B) - EXIT)	22.50
								Arm 8 Right (B430 Ardley Road (N) - EXIT)	22.50
2/1 (B430 Ardley Road (S) Lane 1)	Inf	Inf	Geom	1800	3.00	0.00	Y	Arm 7 Left (B4030 (W/B) - EXIT)	45.00
								Arm 8 Ahead (B430 Ardley Road (N) - EXIT)	54.00
2/2 (B430 Ardley Road (S) Lane 2)	Inf	Inf	Geom	1800	3.00	0.00	N	Arm 5 Right (B4030 (E/B) - EXIT)	7.50
3/1 (B4030 (E/B) Lane 1)	Inf	Inf	Geom	1800	3.00	0.00	Y	Arm 5 Ahead (B4030 (E/B) - EXIT)	15.00
								Arm 6 Right (B430 Ardely Road (S) - EXIT)	35.00
4/1 (B430 Ardley Road (N) Lane 1)	Inf	Inf	Geom	1800	3.00	0.00	Y	Arm 8 Left (B430 Ardley Road (N) - EXIT)	5.00
								Arm 5 Left (B4030 (E/B) - EXIT)	15.00
4/2 (B430 Ardley Road (N) Lane 2)	Inf	Inf	Geom	1800	3.00	0.00	N	Arm 6 Ahead (B430 Ardely Road (S) - EXIT)	Inf
								Arm 7 Right (B4030 (W/B) - EXIT)	7.50
5/1 (B4030 (E/B) - EXIT Lane 1)	Inf	Inf	User	9999	3.25	0.00	N		

6/1 (B430 Ardely Road (S) - EXIT Lane 1)	Inf	Inf	User	9999	3.25	0.00	N		
7/1 (B4030 (W/B) - EXIT Lane 1)	Inf	Inf	User	9999	3.25	0.00	N		
8/1 (B430 Ardley Road (N) - EXIT Lane 1)	Inf	Inf	User	9999	3.25	0.00	N		

**Lane Data Table****Flow Group 1: '2013 Base + Gen AM'**

Arm/ Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat flow (PCU/Hr)
1/1 (B4030 (W/B) Lane 1)	3.50	0.00	Y	Arm 6 Left (B430 Ardely Road (S) - EXIT)	10.00	16.6 %	1819
				Arm 7 Ahead (B4030 (W/B) - EXIT)	22.50	64.3 %	
				Arm 8 Right (B430 Ardely Road (N) - EXIT)	22.50	19.2 %	
2/1 (B430 Ardley Road (S) Lane 1)	3.00	0.00	Y	Arm 7 Left (B4030 (W/B) - EXIT)	45.00	30.6 %	1860
				Arm 8 Ahead (B430 Ardley Road (N) - EXIT)	54.00	69.4 %	
2/2 (B430 Ardley Road (S) Lane 2)	3.00	0.00	N	Arm 5 Right (B4030 (E/B) - EXIT)	7.50	100.0 %	1713
3/1 (B4030 (E/B) Lane 1)	3.00	0.00	Y	Arm 5 Ahead (B4030 (E/B) - EXIT)	15.00	71.7 %	1761
				Arm 6 Right (B430 Ardely Road (S) - EXIT)	35.00	27.0 %	
4/1 (B430 Ardley Road (N) Lane 1)	3.00	0.00	Y	Arm 8 Left (B430 Ardley Road (N) - EXIT)	5.00	1.3 %	1902
				Arm 5 Left (B4030 (E/B) - EXIT)	15.00	6.9 %	
4/2 (B430 Ardley Road (N) Lane 2)	3.00	0.00	N	Arm 6 Ahead (B430 Ardely Road (S) - EXIT)	Inf	93.1 %	1713
				Arm 7 Right (B4030 (W/B) - EXIT)	7.50	100.0 %	
5/1 (B4030 (E/B) - EXIT Lane 1)	This lane uses a directly entered Saturation Flow						9999



<p>6/1 (B430 Ardely Road (S) - EXIT Lane 1)</p>	<p>This lane uses a directly entered Saturation Flow</p>	<p>9999</p>
<p>7/1 (B4030 (W/B) - EXIT Lane 1)</p>	<p>This lane uses a directly entered Saturation Flow</p>	<p>9999</p>
<p>8/1 (B430 Ardley Road (N) - EXIT Lane 1)</p>	<p>This lane uses a directly entered Saturation Flow</p>	<p>9999</p>

**Flow Group 2: '2013 Base + Gen PM'**

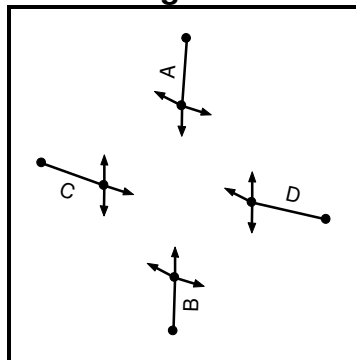
Arm/ Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat flow (PCU/Hr)
1/1 (B4030 (W/B) Lane 1)	3.50	0.00	Y	Arm 6 Left (B430 Ardely Road (S) - EXIT)	10.00	13.2 %	1823
				Arm 7 Ahead (B4030 (W/B) - EXIT)	22.50	80.2 %	
				Arm 8 Right (B430 Ardley Road (N) - EXIT)	22.50	6.6 %	
2/1 (B430 Ardley Road (S) Lane 1)	3.00	0.00	Y	Arm 7 Left (B4030 (W/B) - EXIT)	45.00	22.9 %	1861
				Arm 8 Ahead (B430 Ardley Road (N) - EXIT)	54.00	77.1 %	
2/2 (B430 Ardley Road (S) Lane 2)	3.00	0.00	N	Arm 5 Right (B4030 (E/B) - EXIT)	7.50	100.0 %	1713
3/1 (B4030 (E/B) Lane 1)	3.00	0.00	Y	Arm 5 Ahead (B4030 (E/B) - EXIT)	15.00	70.0 %	1751
				Arm 6 Right (B430 Ardely Road (S) - EXIT)	35.00	25.8 %	
				Arm 8 Left (B430 Ardley Road (N) - EXIT)	5.00	4.2 %	
4/1 (B430 Ardley Road (N) Lane 1)	3.00	0.00	Y	Arm 5 Left (B4030 (E/B) - EXIT)	15.00	12.4 %	1892
				Arm 6 Ahead (B430 Ardely Road (S) - EXIT)	Inf	87.6 %	
4/2 (B430 Ardley Road (N) Lane 2)	3.00	0.00	N	Arm 7 Right (B4030 (W/B) - EXIT)	7.50	100.0 %	1713
5/1 (B4030 (E/B) - EXIT Lane 1)	This lane uses a directly entered Saturation Flow						9999

6/1 (B430 Ardely Road (S) - EXIT Lane 1)	This lane uses a directly entered Saturation Flow	9999
7/1 (B4030 (W/B) - EXIT Lane 1)	This lane uses a directly entered Saturation Flow	9999
8/1 (B430 Ardley Road (N) - EXIT Lane 1)	This lane uses a directly entered Saturation Flow	9999

**Intergreens Table**

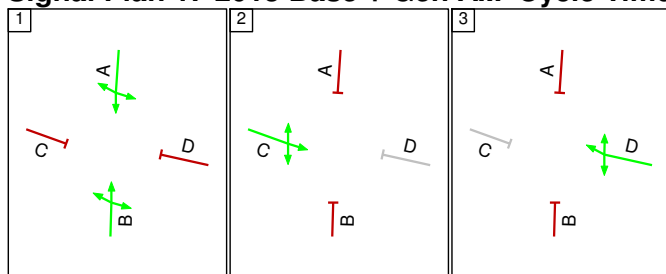
		Starting Phase			
		A	B	C	D
Terminating Phase	A	-	-	6	8
	B	-	-	7	5
	C	5	6	-	-
	D	7	5	-	-

**Phase Diagram**

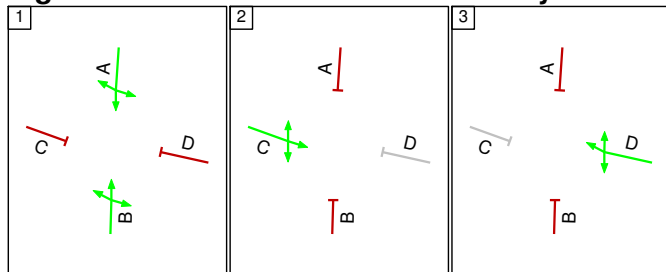


**Stages Diagram**

Signal Plan 1: '2013 Base + Gen AM' Cycle Time (120s)



**Signal Plan 2: '2013 Base + Gen PM' Cycle Time (120s)**



**Signal Plans Data table**

**Signal Plan 1: '2013 Base + Gen AM' Cycle Time (120s)**

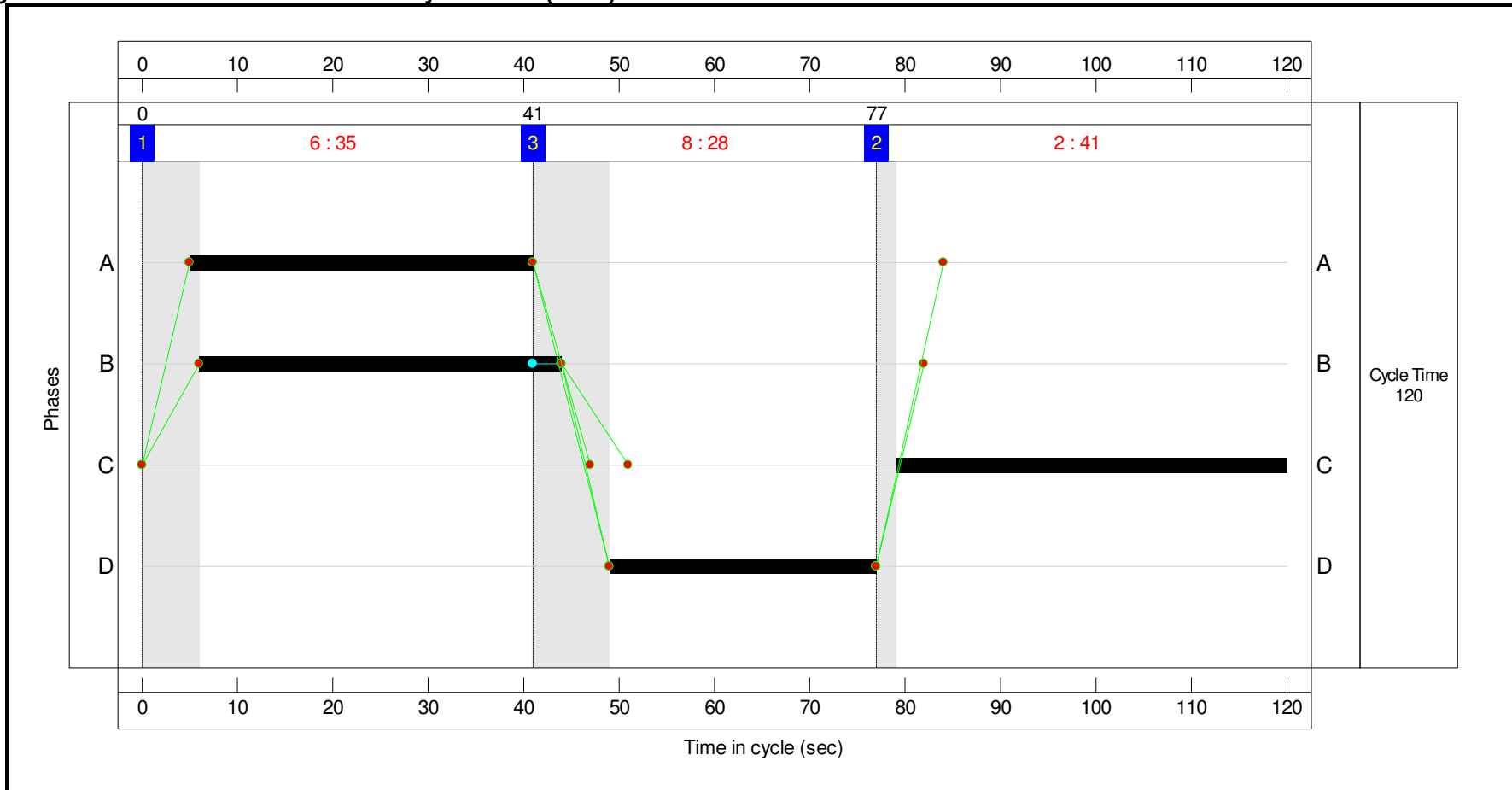
Stage	1	3	2
Duration	35	28	41
Change Point	0	41	77

**Signal Plan 2: '2013 Base + Gen PM' Cycle Time (120s)**

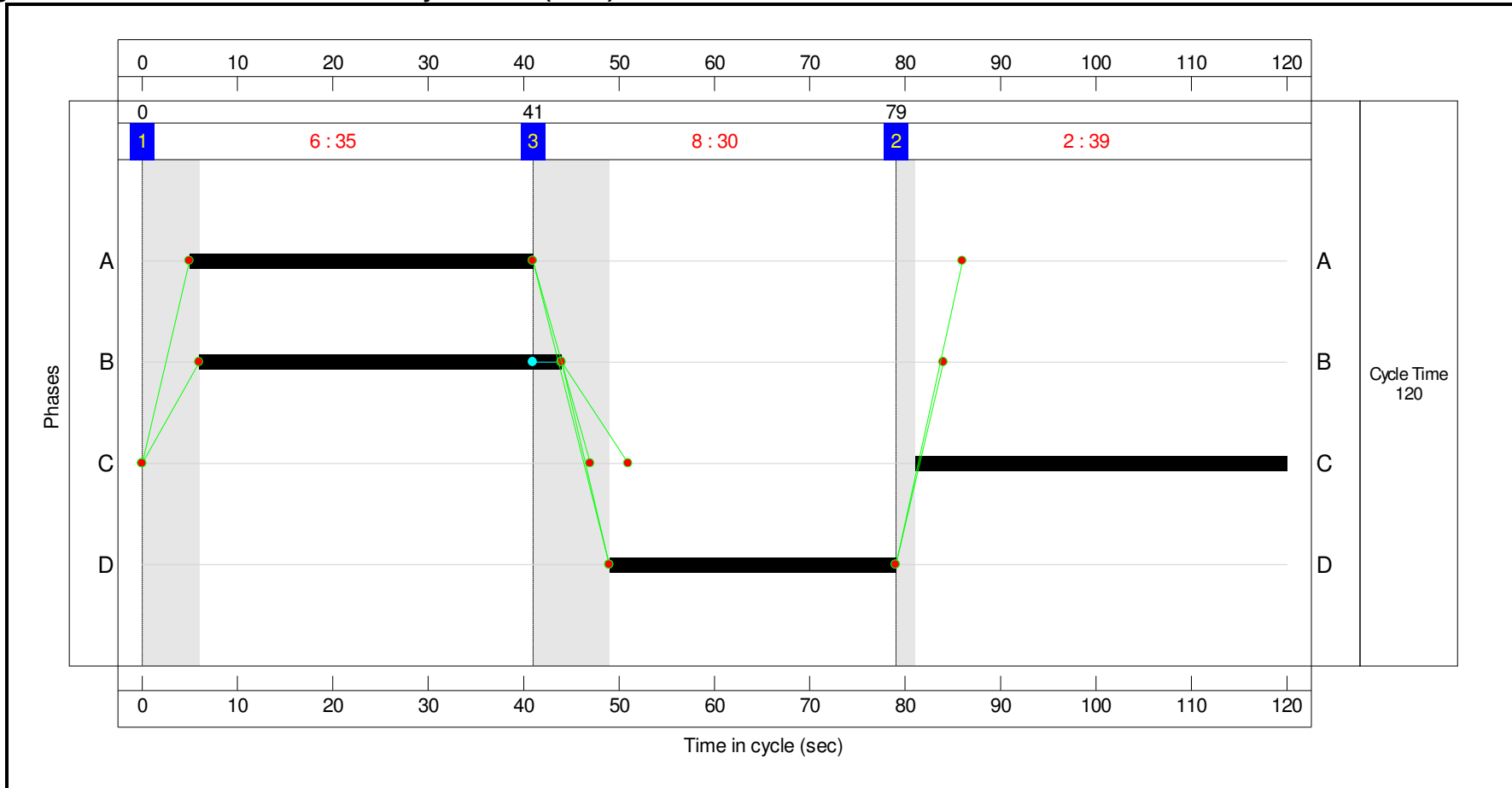
Stage	1	3	2
Duration	35	30	39
Change Point	0	41	79

### Signal Timings Diagram

#### Signal Plan 1: '2013 Base + Gen AM' Cycle Time (120s)



**Signal Plan 2: '2013 Base + Gen PM' Cycle Time (120s)**



**Traffic Flow Matrix**

**Flow Group 1: '2013 Base + Gen AM'**

**Desired Flow :**

		Destination				
		A	B	C	D	Tot.
Origin	A	0	539	14	40	593
	B	249	0	110	59	418
	C	8	166	0	440	614
	D	82	71	275	0	428
	Tot.	339	776	399	539	2053

**Flow Group 2: '2013 Base + Gen PM'**

**Desired Flow :**

		Destination				
		A	B	C	D	Tot.
Origin	A	0	290	10	41	341
	B	415	0	123	175	713
	C	22	135	0	367	524
	D	28	56	340	0	424
	Tot.	465	481	473	583	2002

**Traffic Flow Groups Data**

Flow Group	Start Time	End Time	Duration	Formula
1: '2013 Base + Gen AM'	08:00	09:00	01:00	
2: '2013 Base + Gen PM'	17:00	18:00	01:00	



## Link Results

### Scenario 1: '2013 Base + Gen AM'

Signal Plan 1: '2013 Base + Gen AM' Cycle Time (120s)

Flow Group 1: '2013 Base + Gen AM'

Link Num	Link Desc	Link Type	Deg Sat (%)	Mean Max Queue (pcu)	Full Phase	Arrow Phase	Total Green (s)	Demand Flow (pcu)	Max Sat Flow (pcu/Hr)	Ave Sat Flow (pcu/Hr)	Capacity (pcu)	
1/1	B4030 (W/B) Left Ahead Right	U	97.4	21.9	D		28	428	1819	1819	440	
2/1	B430 Ardley Road (S) Left Ahead	O	59.4	10.7	B		38	359	1860	1860	604	
2/2	B430 Ardley Road (S) Right	O	65.6	2.3	B		38	59	1713	277	90	
3/1	B4030 (E/B) Ahead Right Left	U	99.6	32.1	C		41	614	1761	1761	616	
4/1	B430 Ardley Road (N) Left Ahead	O	98.7	29.5	A		36	579	1902	1902	586	
4/2	B430 Ardley Road (N) Right	O	9.3	0.4	A		36	14	1713	490	151	
PRC for Signalled Links (%):			-10.7	Total Delay for Signalled Links (pcuHr):			54.83					
PRC Over All Links (%):			-10.7	Total Delay Over All Links (pcuHr):			54.94	Cycle Time (s): 120				

**Scenario 2: '2013 Base + Gen PM'**

Signal Plan 2: '2013 Base + Gen PM' Cycle Time (120s)

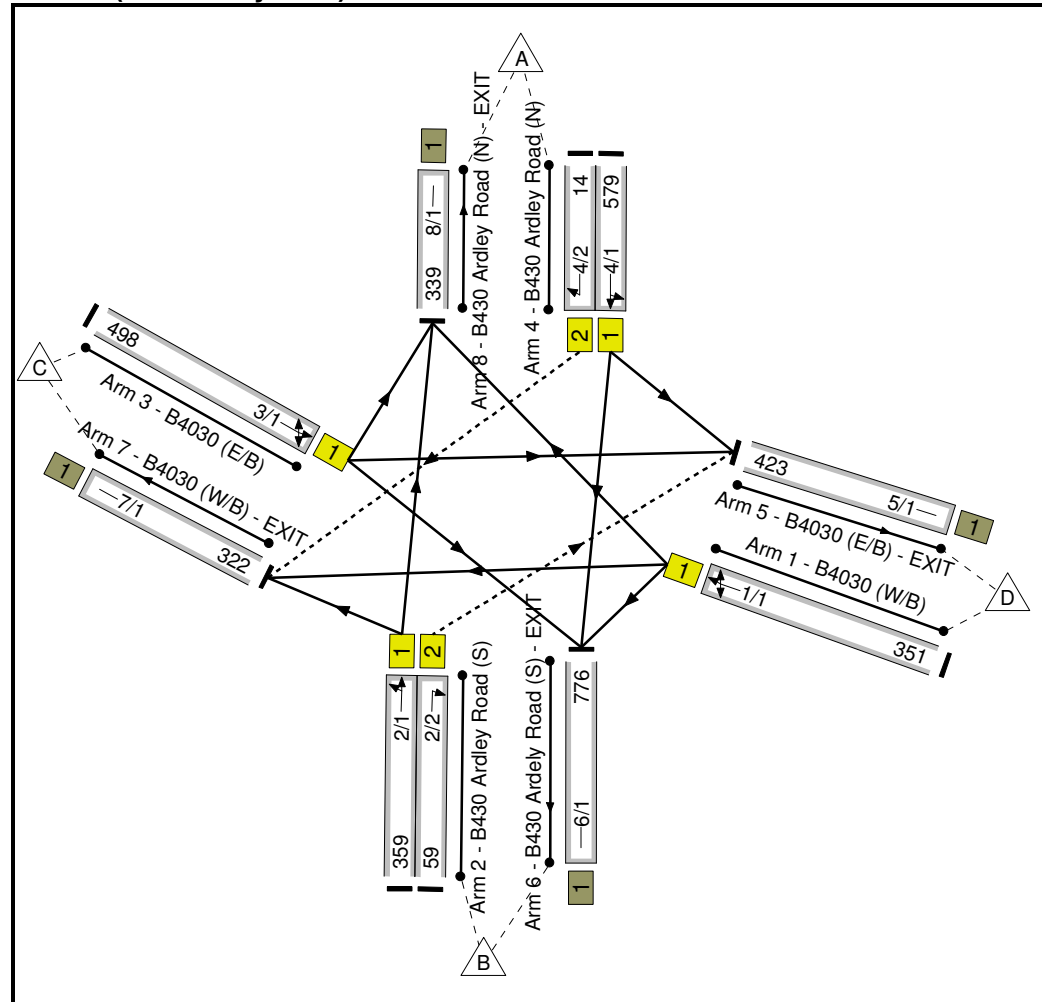
Flow Group 2: '2013 Base + Gen PM'

Link Num	Link Desc	Link Type	Deg Sat (%)	Mean Max Queue (pcu)	Full Phase	Arrow Phase	Total Green (s)	Demand Flow (pcu)	Max Sat Flow (pcu/Hr)	Ave Sat Flow (pcu/Hr)	Capacity (pcu)	
1/1	B4030 (W/B) Left Ahead Right	U	90.0	17.4	D		30	424	1823	1823	471	
2/1	B430 Ardley Road (S) Left Ahead	O	89.0	20.5	B		38	538	1861	1861	605	
2/2	B430 Ardley Road (S) Right	O	65.1	6.2	B		38	175	1713	827	269	
3/1	B4030 (E/B) Ahead Right Left	U	89.8	20.5	C		39	524	1751	1751	584	
4/1	B430 Ardley Road (N) Left Ahead	O	56.7	9.8	A		36	331	1892	1892	583	
4/2	B430 Ardley Road (N) Right	O	33.3	0.5	A		36	10	1713	97	30	
PRC for Signalled Links (%):			-0.0	Total Delay for Signalled Links (pcuHr):			35.21					
PRC Over All Links (%):			-0.0	Total Delay Over All Links (pcuHr):			35.31	Cycle Time (s): 120				

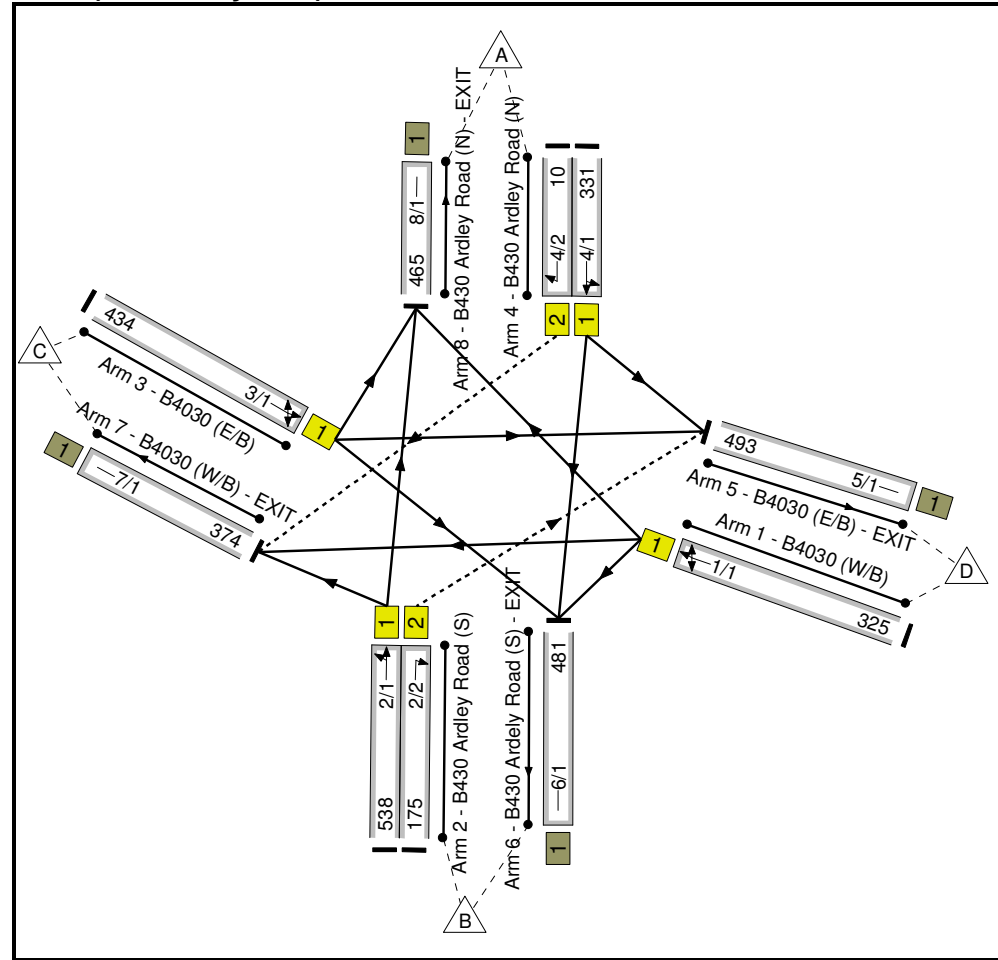
### Middleton Stoney Jct 2013 Base + Gen (Proposed Staging) Sensitivity Test JI

#### Junction Layout Diagram

#### Flow Group 1: '2013 Base + Gen AM (Sensitivity Test)'



**Flow Group 2: '2013 Base + Gen PM (Sensitivity Test)'**



**Lane Data Table**

Arm/ Lane	Actual Length (PCU)	Effective Length (PCU)	Sat Flow Type	User Saturation Flow (PCU/Hr)	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)
1/1 (B4030 (W/B) Lane 1)	Inf	Inf	Geom	1800	3.50	0.00	Y	Arm 6 Left (B430 Ardely Road (S) - EXIT)	10.00
								Arm 7 Ahead (B4030 (W/B) - EXIT)	22.50
								Arm 8 Right (B430 Ardley Road (N) - EXIT)	22.50
2/1 (B430 Ardley Road (S) Lane 1)	Inf	Inf	Geom	1800	3.00	0.00	Y	Arm 7 Left (B4030 (W/B) - EXIT)	45.00
								Arm 8 Ahead (B430 Ardley Road (N) - EXIT)	54.00
2/2 (B430 Ardley Road (S) Lane 2)	Inf	Inf	Geom	1800	3.00	0.00	N	Arm 5 Right (B4030 (E/B) - EXIT)	7.50
3/1 (B4030 (E/B) Lane 1)	Inf	Inf	Geom	1800	3.00	0.00	Y	Arm 5 Ahead (B4030 (E/B) - EXIT)	15.00
								Arm 6 Right (B430 Ardely Road (S) - EXIT)	35.00
4/1 (B430 Ardley Road (N) Lane 1)	Inf	Inf	Geom	1800	3.00	0.00	Y	Arm 8 Left (B430 Ardley Road (N) - EXIT)	5.00
								Arm 5 Left (B4030 (E/B) - EXIT)	15.00
4/2 (B430 Ardley Road (N) Lane 2)	Inf	Inf	Geom	1800	3.00	0.00	N	Arm 6 Ahead (B430 Ardely Road (S) - EXIT)	Inf
								Arm 7 Right (B4030 (W/B) - EXIT)	7.50
5/1 (B4030 (E/B) - EXIT Lane 1)	Inf	Inf	User	9999	3.25	0.00	N		

6/1 (B430 Ardely Road (S) - EXIT Lane 1)	Inf	Inf	User	9999	3.25	0.00	N		
7/1 (B4030 (W/B) - EXIT Lane 1)	Inf	Inf	User	9999	3.25	0.00	N		
8/1 (B430 Ardley Road (N) - EXIT Lane 1)	Inf	Inf	User	9999	3.25	0.00	N		

**Lane Data Table****Flow Group 1: '2013 Base + Gen AM (Sensitivity Test)'**

Arm/ Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat flow (PCU/Hr)
1/1 (B4030 (W/B) Lane 1)	3.50	0.00	Y	Arm 6 Left (B430 Ardely Road (S) - EXIT)	10.00	20.2 %	1814
				Arm 7 Ahead (B4030 (W/B) - EXIT)	22.50	56.4 %	
				Arm 8 Right (B430 Ardley Road (N) - EXIT)	22.50	23.4 %	
2/1 (B430 Ardley Road (S) Lane 1)	3.00	0.00	Y	Arm 7 Left (B4030 (W/B) - EXIT)	45.00	30.6 %	1860
				Arm 8 Ahead (B430 Ardley Road (N) - EXIT)	54.00	69.4 %	
2/2 (B430 Ardley Road (S) Lane 2)	3.00	0.00	N	Arm 5 Right (B4030 (E/B) - EXIT)	7.50	100.0 %	1713
3/1 (B4030 (E/B) Lane 1)	3.00	0.00	Y	Arm 5 Ahead (B4030 (E/B) - EXIT)	15.00	65.1 %	1766
				Arm 6 Right (B430 Ardely Road (S) - EXIT)	35.00	33.3 %	
4/1 (B430 Ardley Road (N) Lane 1)	3.00	0.00	Y	Arm 8 Left (B430 Ardley Road (N) - EXIT)	5.00	1.6 %	1902
				Arm 5 Left (B4030 (E/B) - EXIT)	15.00	6.9 %	
4/2 (B430 Ardley Road (N) Lane 2)	3.00	0.00	N	Arm 6 Ahead (B430 Ardely Road (S) - EXIT)	Inf	93.1 %	1713
				Arm 7 Right (B4030 (W/B) - EXIT)	7.50	100.0 %	
5/1 (B4030 (E/B) - EXIT Lane 1)	This lane uses a directly entered Saturation Flow						9999

6/1 (B430 Ardely Road (S) - EXIT Lane 1)	This lane uses a directly entered Saturation Flow	9999
7/1 (B4030 (W/B) - EXIT Lane 1)	This lane uses a directly entered Saturation Flow	9999
8/1 (B430 Ardley Road (N) - EXIT Lane 1)	This lane uses a directly entered Saturation Flow	9999



**Flow Group 2: '2013 Base + Gen PM (Sensitivity Test)'**

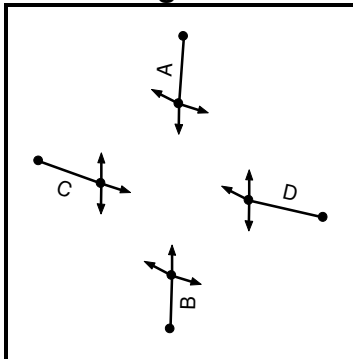
Arm/ Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat flow (PCU/Hr)
1/1 (B4030 (W/B) Lane 1)	3.50	0.00	Y	Arm 6 Left (B430 Ardely Road (S) - EXIT)	10.00	17.2 %	1818
				Arm 7 Ahead (B4030 (W/B) - EXIT)	22.50	74.2 %	
				Arm 8 Right (B430 Ardley Road (N) - EXIT)	22.50	8.6 %	
2/1 (B430 Ardley Road (S) Lane 1)	3.00	0.00	Y	Arm 7 Left (B4030 (W/B) - EXIT)	45.00	22.9 %	1861
				Arm 8 Ahead (B430 Ardley Road (N) - EXIT)	54.00	77.1 %	
2/2 (B430 Ardley Road (S) Lane 2)	3.00	0.00	N	Arm 5 Right (B4030 (E/B) - EXIT)	7.50	100.0 %	1713
3/1 (B4030 (E/B) Lane 1)	3.00	0.00	Y	Arm 5 Ahead (B4030 (E/B) - EXIT)	15.00	63.8 %	1753
				Arm 6 Right (B430 Ardely Road (S) - EXIT)	35.00	31.1 %	
				Arm 8 Left (B430 Ardley Road (N) - EXIT)	5.00	5.1 %	
4/1 (B430 Ardley Road (N) Lane 1)	3.00	0.00	Y	Arm 5 Left (B4030 (E/B) - EXIT)	15.00	12.4 %	1892
				Arm 6 Ahead (B430 Ardely Road (S) - EXIT)	Inf	87.6 %	
4/2 (B430 Ardley Road (N) Lane 2)	3.00	0.00	N	Arm 7 Right (B4030 (W/B) - EXIT)	7.50	100.0 %	1713
5/1 (B4030 (E/B) - EXIT Lane 1)	This lane uses a directly entered Saturation Flow						9999

6/1 (B430 Ardely Road (S) - EXIT Lane 1)	This lane uses a directly entered Saturation Flow	9999
7/1 (B4030 (W/B) - EXIT Lane 1)	This lane uses a directly entered Saturation Flow	9999
8/1 (B430 Ardley Road (N) - EXIT Lane 1)	This lane uses a directly entered Saturation Flow	9999

**Intergreens Table**

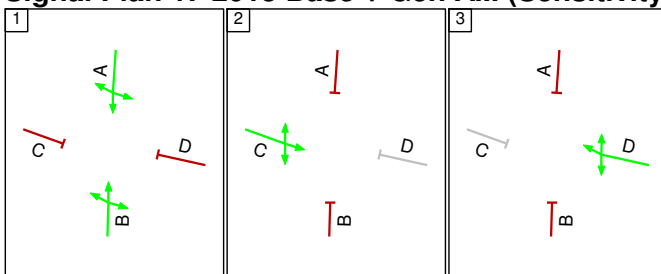
		Starting Phase			
		A	B	C	D
Terminating Phase	A				
	B				
	C				
	D				
		6	8	7	5
		5	6	-	-
		7	5	-	-

**Phase Diagram**

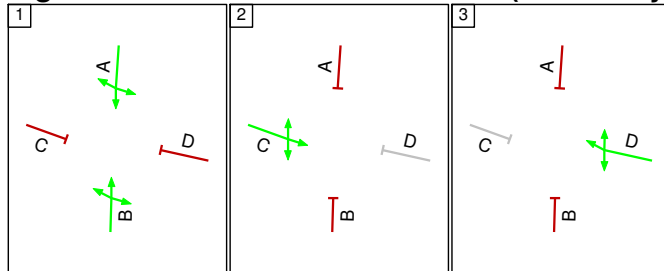


**Stages Diagram**

Signal Plan 1: '2013 Base + Gen AM (Sensitivity Test)' Cycle Time (120s)



**Signal Plan 2: '2013 Base + Gen PM (Sensitivity Test)' Cycle Time (120s)**



**Signal Plans Data table**

**Signal Plan 1: '2013 Base + Gen AM (Sensitivity Test)' Cycle Time (120s)**

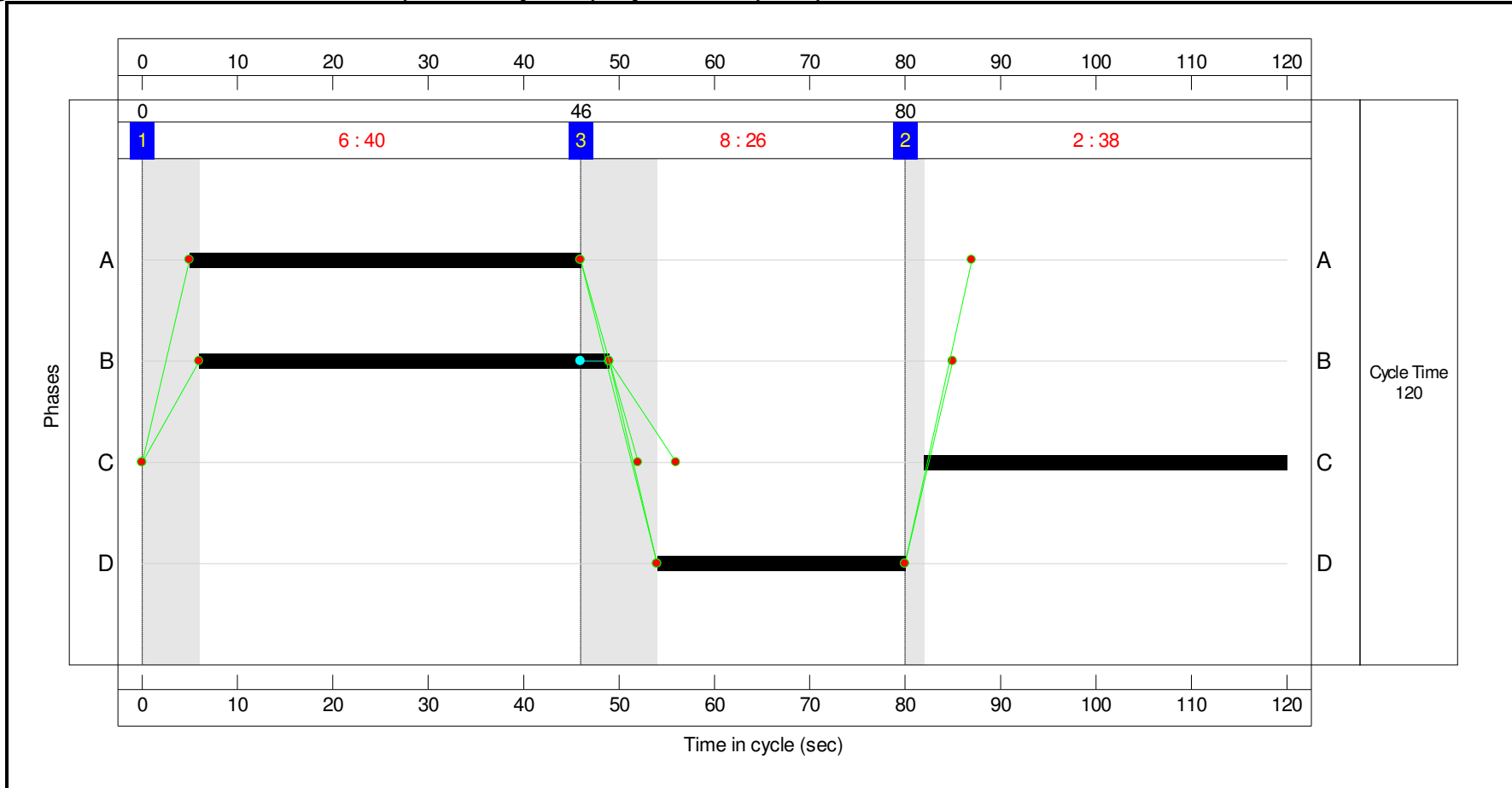
Stage	1	3	2
Duration	40	26	38
Change Point	0	46	80

**Signal Plan 2: '2013 Base + Gen PM (Sensitivity Test)' Cycle Time (120s)**

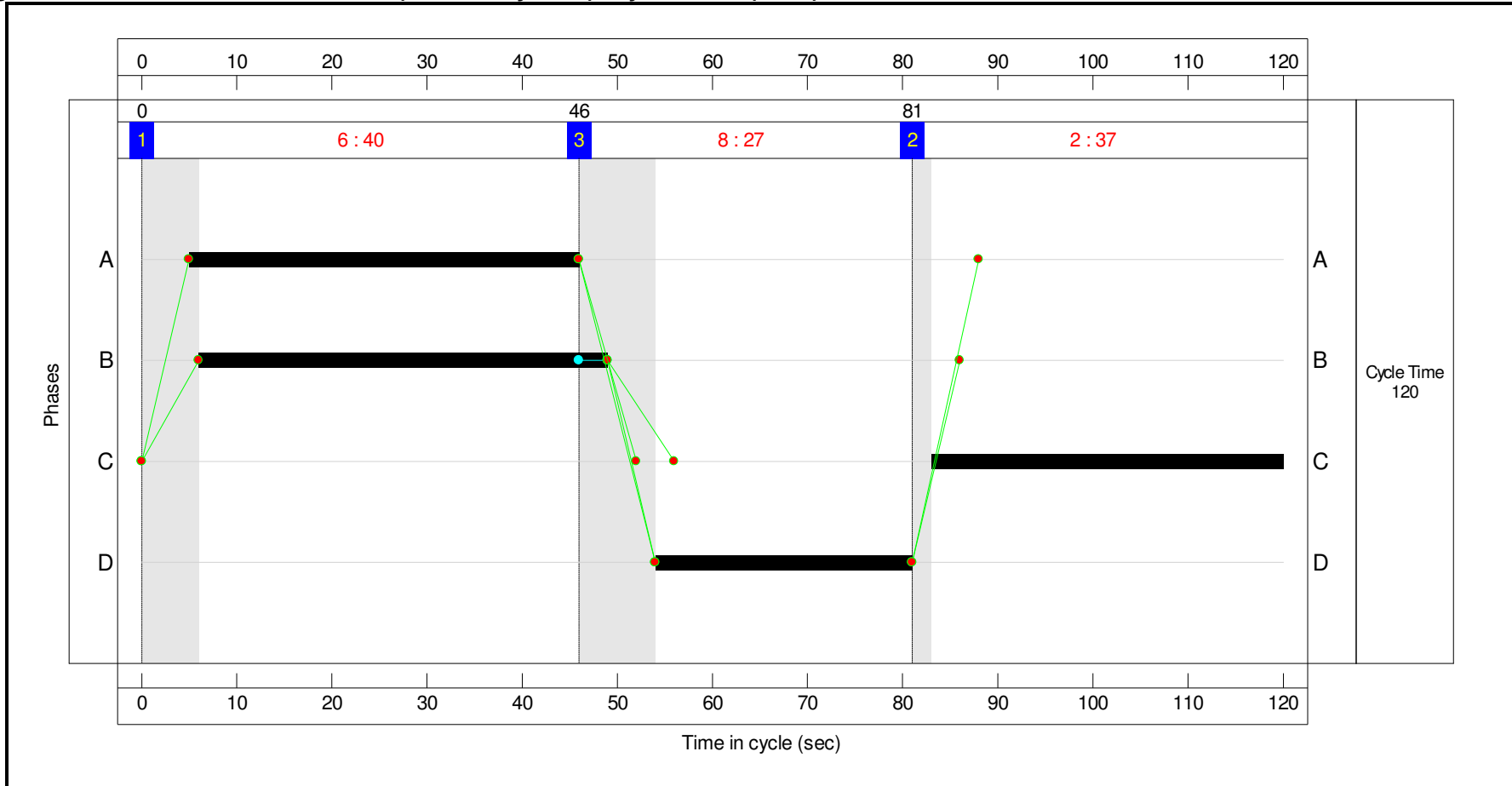
Stage	1	3	2
Duration	40	27	37
Change Point	0	46	81

### Signal Timings Diagram

#### Signal Plan 1: '2013 Base + Gen AM (Sensitivity Test)' Cycle Time (120s)



**Signal Plan 2: '2013 Base + Gen PM (Sensitivity Test)' Cycle Time (120s)**



**Traffic Flow Matrix**

**Flow Group 1: '2013 Base + Gen AM (Sensitivity Test)'**

**Desired Flow :**

		Destination					Tot.
		A	B	C	D		
Origin	A	0	539	14	40	593	
	B	249	0	110	59	418	
	C	8	166	0	324	498	
	D	82	71	198	0	351	
	Tot.	339	776	322	423	1860	

**Flow Group 2: '2013 Base + Gen PM (Sensitivity Test)'**

**Desired Flow :**

		Destination					Tot.
		A	B	C	D		
Origin	A	0	290	10	41	341	
	B	415	0	123	175	713	
	C	22	135	0	277	434	
	D	28	56	241	0	325	
	Tot.	465	481	374	493	1813	

**Traffic Flow Groups Data**

Flow Group	Start Time	End Time	Duration	Formula
1: '2013 Base + Gen AM (Sensitivity Test)'	08:00	09:00	01:00	
2: '2013 Base + Gen PM (Sensitivity Test)'	17:00	18:00	01:00	

## Link Results

### Scenario 1: '2013 Base + Gen AM (Sensitivity Test)'

Signal Plan 1: '2013 Base + Gen AM (Sensitivity Test)' Cycle Time (120s)

Flow Group 1: '2013 Base + Gen AM (Sensitivity Test)'

Link Num	Link Desc	Link Type	Deg Sat (%)	Mean Max Queue (pcu)	Full Phase	Arrow Phase	Total Green (s)	Demand Flow (pcu)	Max Sat Flow (pcu/Hr)	Ave Sat Flow (pcu/Hr)	Capacity (pcu)	
1/1	B4030 (W/B) Left Ahead Right	U	86.0	14.0	D		26	351	1814	1814	408	
2/1	B430 Ardley Road (S) Left Ahead	O	52.6	9.9	B		43	359	1860	1860	682	
2/2	B430 Ardley Road (S) Right	O	38.3	1.6	B		43	59	1713	420	154	
3/1	B4030 (E/B) Ahead Right Left	U	86.8	18.5	C		38	498	1766	1766	574	
4/1	B430 Ardley Road (N) Left Ahead	O	87.0	21.1	A		41	579	1902	1902	666	
4/2	B430 Ardley Road (N) Right	O	6.9	0.3	A		41	14	1713	583	204	
PRC for Signalled Links (%):			3.5	Total Delay for Signalled Links (pcuHr):			29.33					
PRC Over All Links (%):			3.5	Total Delay Over All Links (pcuHr):			29.43	Cycle Time (s): 120				



**Scenario 2: '2013 Base + Gen PM (Sensitivity Test)'**

Signal Plan 2: '2013 Base + Gen PM (Sensitivity Test)' Cycle Time (120s)

Flow Group 2: '2013 Base + Gen PM (Sensitivity Test)'

Link Num	Link Desc	Link Type	Deg Sat (%)	Mean Max Queue (pcu)	Full Phase	Arrow Phase	Total Green (s)	Demand Flow (pcu)	Max Sat Flow (pcu/Hr)	Ave Sat Flow (pcu/Hr)	Capacity (pcu)	
1/1	B4030 (W/B) Left Ahead Right	U	76.6	11.7	D		27	325	1818	1818	424	
2/1	B430 Ardley Road (S) Left Ahead	O	78.8	17.7	B		43	538	1861	1861	682	
2/2	B430 Ardley Road (S) Right	O	54.4	5.5	B		43	175	1713	877	322	
3/1	B4030 (E/B) Ahead Right Left	U	78.2	14.8	C		37	434	1753	1753	555	
4/1	B430 Ardley Road (N) Left Ahead	O	50.0	9.1	A		41	331	1892	1892	662	
4/2	B430 Ardley Road (N) Right	O	11.9	0.3	A		41	10	1713	241	84	
PRC for Signalled Links (%):			14.2	Total Delay for Signalled Links (pcuHr):			24.71					
PRC Over All Links (%):			14.2	Total Delay Over All Links (pcuHr):			24.81	Cycle Time (s): 120				