

## **Appendix 72**

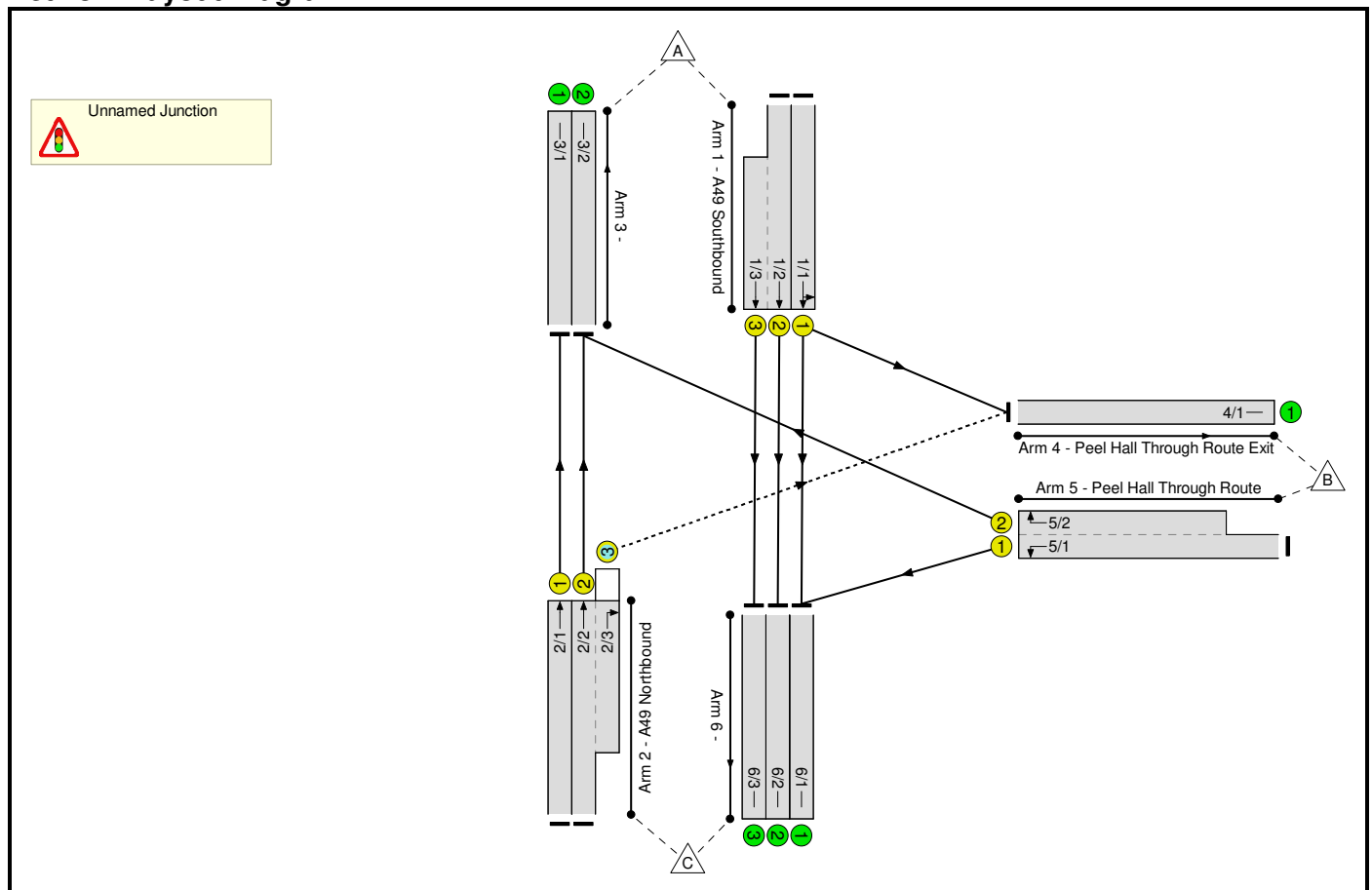
Poplars Avenue/A49 Modelling Reports

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

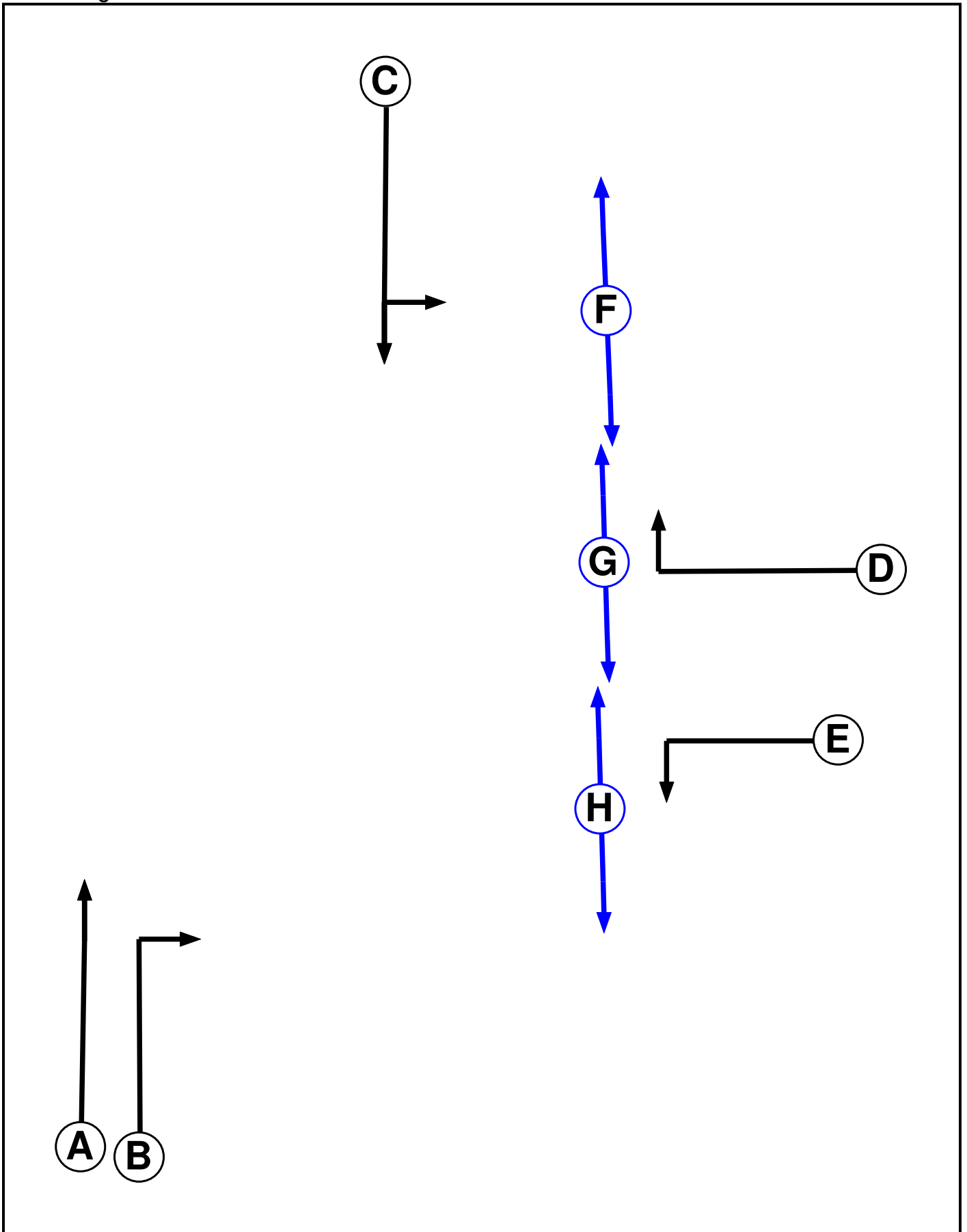
**User and Project Details**

<b>Project:</b>	
<b>Title:</b>	
<b>Location:</b>	
<b>Additional detail:</b>	
<b>File name:</b>	A49 Junction - Three Lanes Southbound.lsg3x
<b>Author:</b>	
<b>Company:</b>	
<b>Address:</b>	

**Network Layout Diagram**



Phase Diagram



**Phase Input Data**

Phase Name	Phase Type	Assoc. Phase	Street Min	Cont Min
A	Traffic		7	7
B	Traffic		7	7
C	Traffic		7	7
D	Traffic		7	7
E	Traffic		7	7
F	Pedestrian		8	8
G	Pedestrian		4	4
H	Pedestrian		5	5

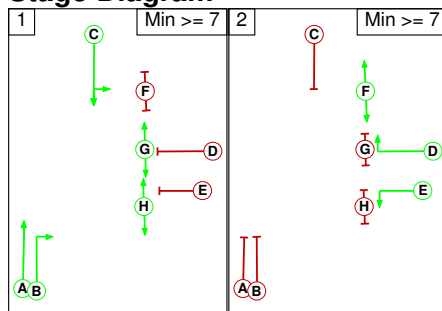
**Phase Intergreens Matrix**

Terminating Phase	Starting Phase							
	A	B	C	D	E	F	G	H
A	-	-	-	5	-	-	-	-
B	-	-	-	-	-	7	-	-
C	-	-	-	7	8	6	-	-
D	6	-	5	-	-	-	5	-
E	-	-	5	-	-	-	-	5
F	-	11	11	-	-	-	-	-
G	-	-	-	7	-	-	-	-
H	-	-	-	-	7	-	-	-

**Phases in Stage**

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

**Stage Diagram**



**Phase Delays**

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

**Prohibited Stage Change**

		To Stage	
		1	2
From Stage	1	■	8
	2	11	■

Full Input Data And Results

**Give-Way Lane Input Data**

Junction: Unnamed Junction											
Lane	Movement	Max Flow when Giving Way (PCU/Hr)	Min Flow when Giving Way (PCU/Hr)	Opposing Lane	Opp. Lane Coeff.	Opp. Mvmnts.	Right Turn Storage (PCU)	Non-Blocking Storage (PCU)	RTF	Right Turn Move up (s)	Max Turns in Intergreen (PCU)
2/3 (A49 Northbound)	4/1 (Right)	1439	0	1/1	1.09	All	2.00	-	0.50	2	2.00
				1/2	1.09	All					

Full Input Data And Results

**Lane Input Data**

Junction: Unnamed Junction												
Lane	Lane Type	Phases	Start Disp.	End Disp.	Physical Length (PCU)	Sat Flow Type	Def User Saturation Flow (PCU/Hr)	Lane Width (m)	Gradient	Nearside Lane	Turns	Turning Radius (m)
1/1 (A49 Southbound)	U	C	2	3	60.0	Geom	-	3.50	0.00	Y	Arm 4 Left	12.00
											Arm 6 Ahead	Inf
1/2 (A49 Southbound)	U	C	2	3	60.0	Geom	-	3.50	0.00	N	Arm 6 Ahead	Inf
1/3 (A49 Southbound)	U	C	2	3	9.6	Geom	-	3.50	0.00	N	Arm 6 Ahead	Inf
2/1 (A49 Northbound)	U	A	2	3	60.0	Geom	-	3.50	0.00	N	Arm 3 Ahead	Inf
2/2 (A49 Northbound)	U	A	2	3	60.0	Geom	-	3.50	0.00	N	Arm 3 Ahead	Inf
2/3 (A49 Northbound)	O	B	2	3	9.6	Geom	-	3.50	0.00	N	Arm 4 Right	12.00
3/1	U		2	3	60.0	Inf	-	-	-	-	-	-
3/2	U		2	3	60.0	Inf	-	-	-	-	-	-
4/1 (Peel Hall Through Route Exit)	U		2	3	60.0	Inf	-	-	-	-	-	-
5/1 (Peel Hall Through Route)	U	E	2	3	60.0	Geom	-	3.50	0.00	N	Arm 6 Left	12.00
5/2 (Peel Hall Through Route)	U	D	2	3	14.8	Geom	-	3.50	0.00	Y	Arm 3 Right	15.00
6/1	U		2	3	60.0	Inf	-	-	-	-	-	-
6/2	U		2	3	60.0	Inf	-	-	-	-	-	-
6/3	U		2	3	60.0	Inf	-	-	-	-	-	-

**Traffic Flow Groups**

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

Full Input Data And Results

**Scenario 1: 'AM Actual Flows'** (FG1: 'AM Actual Flows', Plan 1: 'Network Control Plan 1')

**Desired Flow :**

		Destination			
		A	B	C	Tot.
Origin	A	0	106	2117	2223
	B	130	0	119	249
	C	1589	104	0	1693
	Tot.	1719	210	2236	4165

**Traffic Lane Flows**

Lane	Scenario 1: AM Actual Flows
<b>Junction: Unnamed Junction</b>	
1/1	752
1/2 (with short)	1471(In) 735(Out)
1/3 (short)	736
2/1	819
2/2 (with short)	874(In) 770(Out)
2/3 (short)	104
3/1	819
3/2	900
4/1	210
5/1 (with short)	249(In) 119(Out)
5/2 (short)	130
6/1	765
6/2	735
6/3	736



**Lane Saturation Flows**

Junction: Unnamed Junction								
Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
1/1 (A49 Southbound)	3.50	0.00	Y	Arm 4 Left	12.00	14.1 %	1931	1931
				Arm 6 Ahead	Inf	85.9 %		
1/2 (A49 Southbound)	3.50	0.00	N	Arm 6 Ahead	Inf	100.0 %	2105	2105
1/3 (A49 Southbound)	3.50	0.00	N	Arm 6 Ahead	Inf	100.0 %	2105	2105
2/1 (A49 Northbound)	3.50	0.00	N	Arm 3 Ahead	Inf	100.0 %	2105	2105
2/2 (A49 Northbound)	3.50	0.00	N	Arm 3 Ahead	Inf	100.0 %	2105	2105
2/3 (A49 Northbound)	3.50	0.00	N	Arm 4 Right	12.00	100.0 %	1871	1871
3/1	Infinite Saturation Flow						Inf	Inf
3/2	Infinite Saturation Flow						Inf	Inf
4/1 (Peel Hall Through Route Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
5/1 (Peel Hall Through Route)	3.50	0.00	N	Arm 6 Left	12.00	100.0 %	1871	1871
5/2 (Peel Hall Through Route)	3.50	0.00	Y	Arm 3 Right	15.00	100.0 %	1786	1786
6/1	Infinite Saturation Flow						Inf	Inf
6/2	Infinite Saturation Flow						Inf	Inf
6/3	Infinite Saturation Flow						Inf	Inf

Full Input Data And Results

**Scenario 2: 'PM Actual Flows'** (FG2: 'PM Actual Flow', Plan 1: 'Network Control Plan 1')

**Desired Flow :**

		Destination			
		A	B	C	Tot.
Origin	A	0	211	1446	1657
	B	198	0	125	323
	C	2073	47	0	2120
	Tot.	2271	258	1571	4100

**Traffic Lane Flows**

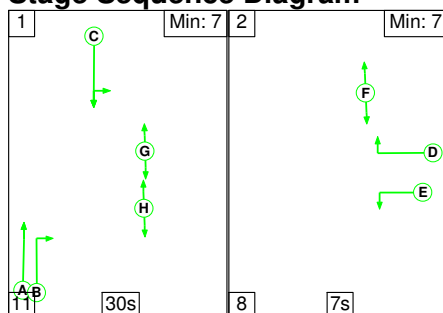
Lane	Scenario 2: PM Actual Flows
<b>Junction: Unnamed Junction</b>	
1/1	489
1/2 (with short)	1168(In) 584(Out)
1/3 (short)	584
2/1	1036
2/2 (with short)	1084(In) 1037(Out)
2/3 (short)	47
3/1	1036
3/2	1235
4/1	258
5/1 (with short)	323(In) 125(Out)
5/2 (short)	198
6/1	403
6/2	584
6/3	584

**Lane Saturation Flows**

Junction: Unnamed Junction								
Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
1/1 (A49 Southbound)	3.50	0.00	Y	Arm 4 Left	12.00	43.1 %	1864	1864
				Arm 6 Ahead	Inf	56.9 %		
1/2 (A49 Southbound)	3.50	0.00	N	Arm 6 Ahead	Inf	100.0 %	2105	2105
1/3 (A49 Southbound)	3.50	0.00	N	Arm 6 Ahead	Inf	100.0 %	2105	2105
2/1 (A49 Northbound)	3.50	0.00	N	Arm 3 Ahead	Inf	100.0 %	2105	2105
2/2 (A49 Northbound)	3.50	0.00	N	Arm 3 Ahead	Inf	100.0 %	2105	2105
2/3 (A49 Northbound)	3.50	0.00	N	Arm 4 Right	12.00	100.0 %	1871	1871
3/1	Infinite Saturation Flow						Inf	Inf
3/2	Infinite Saturation Flow						Inf	Inf
4/1 (Peel Hall Through Route Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
5/1 (Peel Hall Through Route)	3.50	0.00	N	Arm 6 Left	12.00	100.0 %	1871	1871
5/2 (Peel Hall Through Route)	3.50	0.00	Y	Arm 3 Right	15.00	100.0 %	1786	1786
6/1	Infinite Saturation Flow						Inf	Inf
6/2	Infinite Saturation Flow						Inf	Inf
6/3	Infinite Saturation Flow						Inf	Inf

**Scenario 1: 'AM Actual Flows'** (FG1: 'AM Actual Flows', Plan 1: 'Network Control Plan 1')

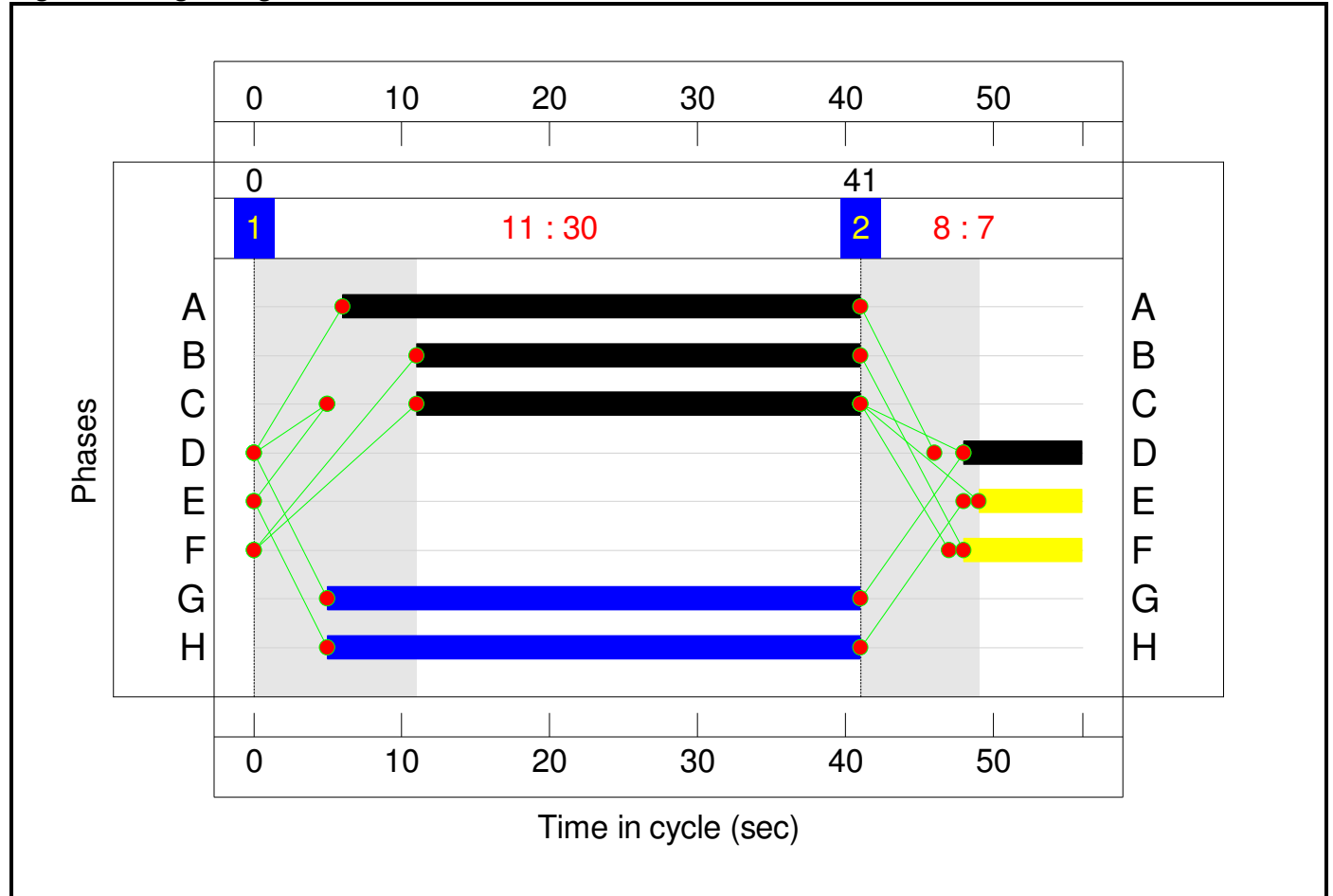
**Stage Sequence Diagram**



**Stage Timings**

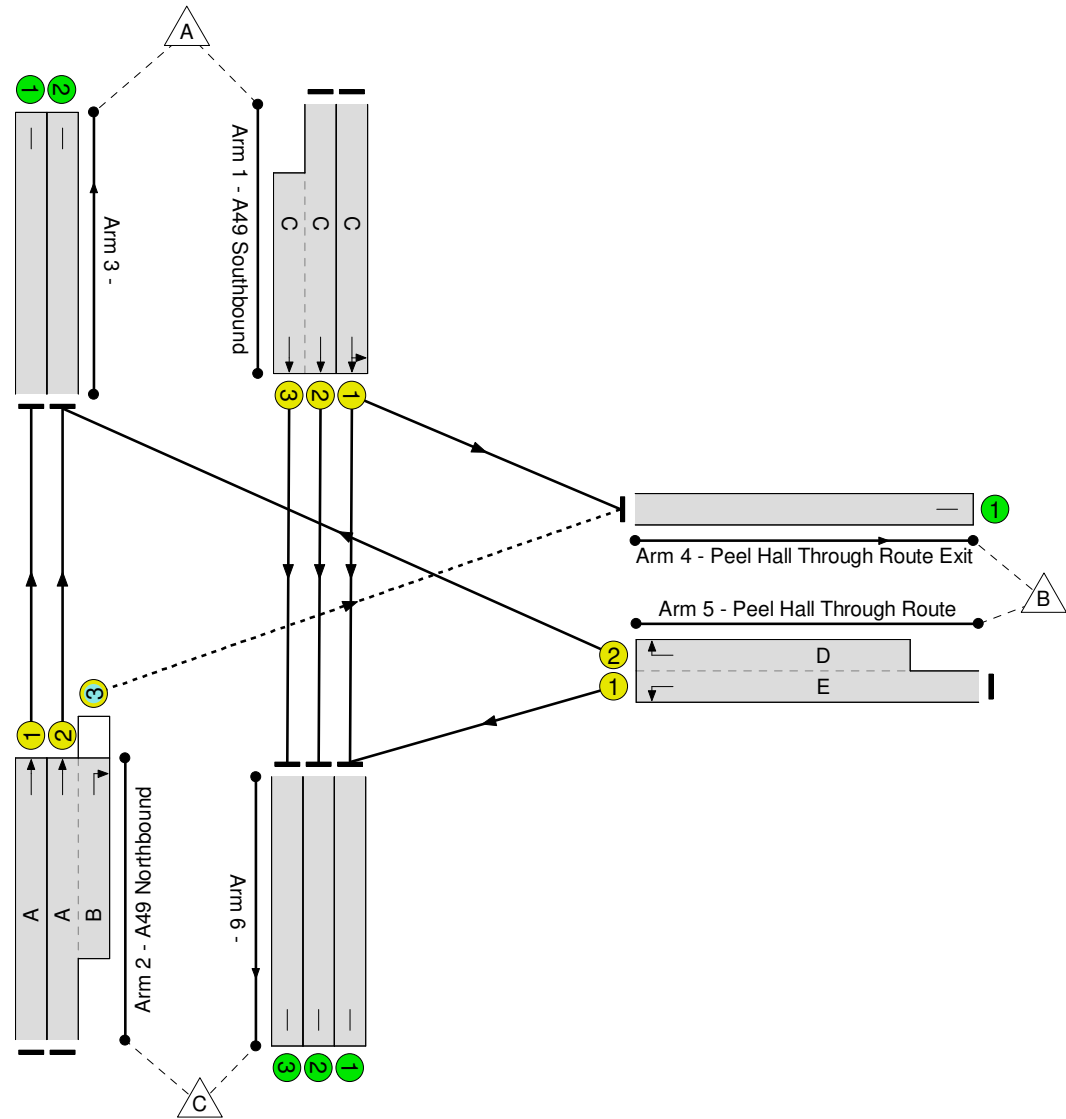
Stage	1	2
Duration	30	7
Change Point	0	41

**Signal Timings Diagram**



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

Unnamed Junction  
PRC: 10.9 %  
Total Traffic Delay: 15.6 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</b>	-	-	N/A	-	-		-	-	-	-	-	-	81.1%
<b>Unnamed Junction</b>	-	-	N/A	-	-		-	-	-	-	-	-	81.1%
1/1	A49 Southbound Left Ahead	U	N/A	N/A	C		1	30	-	752	1931	1069	70.3%
1/2+1/3	A49 Southbound Ahead	U	N/A	N/A	C		1	30	-	1471	2105:2105	906+907	81.1 : 81.1%
2/1	A49 Northbound Ahead	U	N/A	N/A	A		1	35	-	819	2105	1353	60.5%
2/2+2/3	A49 Northbound Ahead Right	U+O	N/A	N/A	A B		1	35:30	-	874	2105:1871	1284+129	60.0 : 80.9%
3/1		U	N/A	N/A	-		-	-	-	819	Inf	Inf	0.0%
3/2		U	N/A	N/A	-		-	-	-	900	Inf	Inf	0.0%
4/1	Peel Hall Through Route Exit	U	N/A	N/A	-		-	-	-	210	Inf	Inf	0.0%
5/1+5/2	Peel Hall Through Route Right Left	U	N/A	N/A	E D		1	7:8	-	249	1871:1786	267+287	44.5 : 45.3%
6/1		U	N/A	N/A	-		-	-	-	765	Inf	Inf	0.0%
6/2		U	N/A	N/A	-		-	-	-	735	Inf	Inf	0.0%
6/3		U	N/A	N/A	-		-	-	-	736	Inf	Inf	0.0%

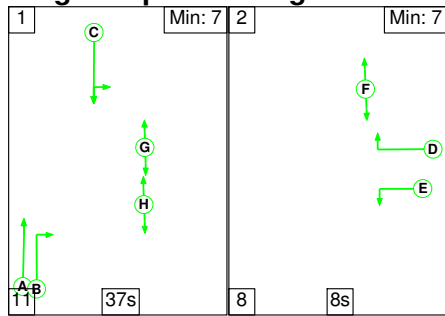
Full Input Data And Results

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</b>	-	-	0	0	104	9.6	5.3	0.7	15.6	-	-	-	-
<b>Unnamed Junction</b>	-	-	0	0	104	9.6	5.3	0.7	15.6	-	-	-	-
1/1	752	752	-	-	-	1.9	1.2	-	3.1	14.8	8.4	1.2	9.5
1/2+1/3	1471	1471	-	-	-	3.5	2.1	-	5.6	13.8	7.8	2.1	9.9
2/1	819	819	-	-	-	1.3	0.8	-	2.1	9.2	7.3	0.8	8.0
2/2+2/3	874	874	0	0	104	1.4	0.8	0.7	2.9	11.9	6.6	0.8	7.4
3/1	819	819	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
3/2	900	900	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
4/1	210	210	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/1+5/2	249	249	-	-	-	1.5	0.4	-	1.9	27.5	1.8	0.4	2.2
6/1	765	765	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/2	735	735	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/3	736	736	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
C1			PRC for Signalled Lanes (%):		10.9	Total Delay for Signalled Lanes (pcuHr):		15.60	Cycle Time (s):		56		
			PRC Over All Lanes (%):		10.9	Total Delay Over All Lanes(pcuHr):		15.60					

Full Input Data And Results

Scenario 2: 'PM Actual Flows' (FG2: 'PM Actual Flow', Plan 1: 'Network Control Plan 1')

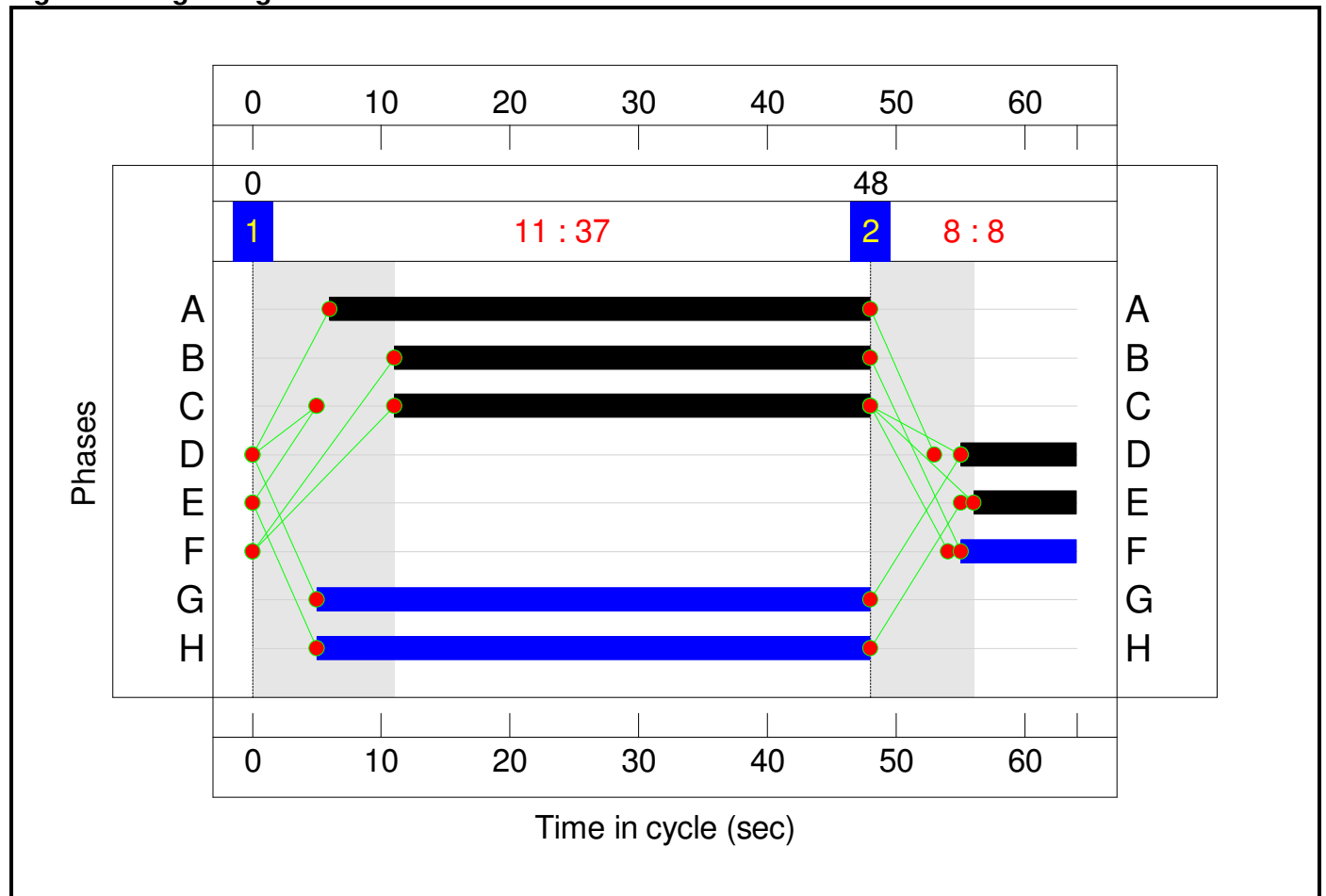
Stage Sequence Diagram



Stage Timings

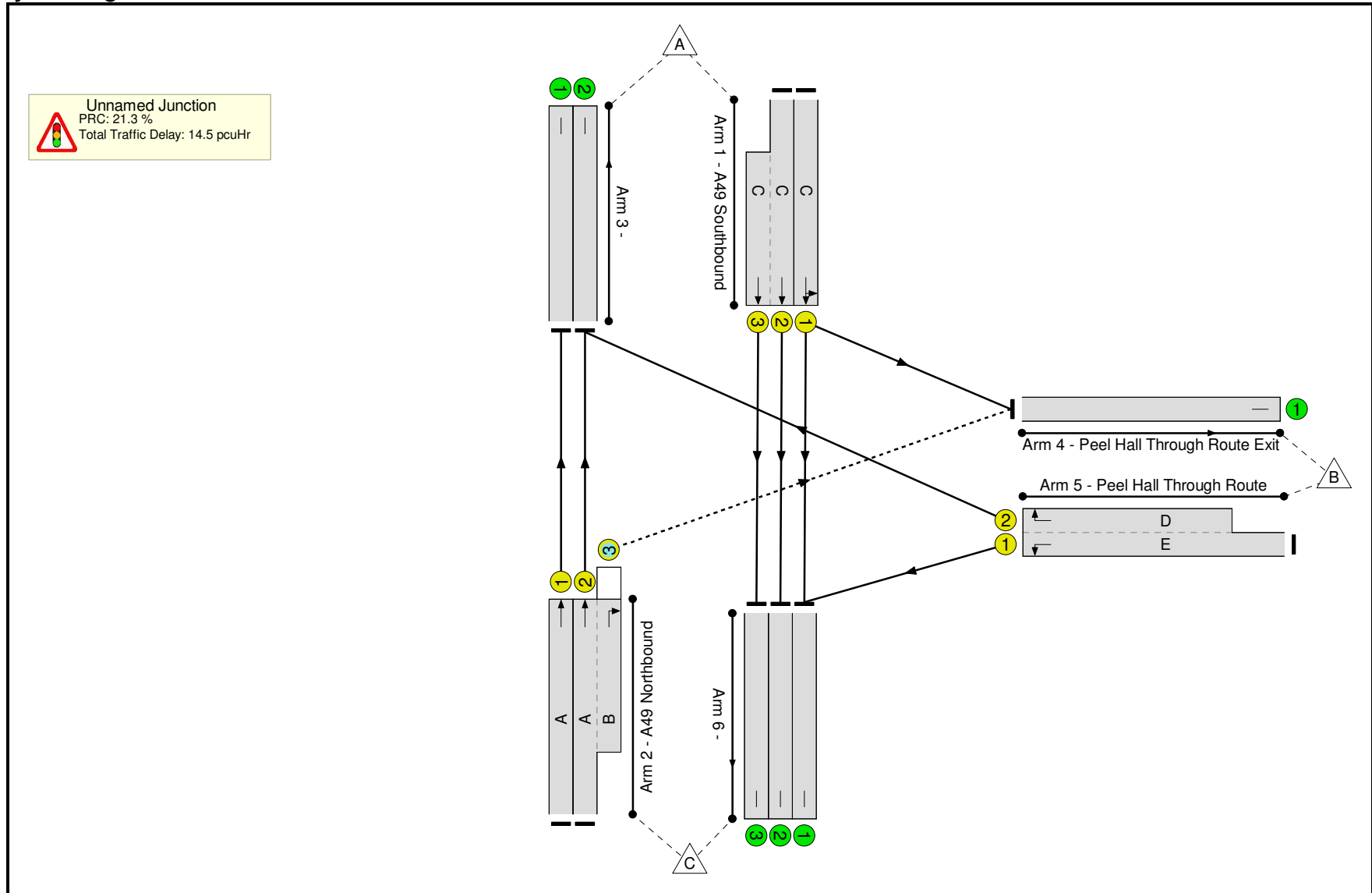
Stage	1	2
Duration	37	8
Change Point	0	48

Signal Timings Diagram





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



Full Input Data And Results

**Network Results**

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
<b>Network</b>	-	-	<b>N/A</b>	-	-		-	-	-	-	-	-	<b>74.2%</b>
<b>Unnamed Junction</b>	-	-	<b>N/A</b>	-	-		-	-	-	-	-	-	<b>74.2%</b>
1/1	A49 Southbound Left Ahead	U	N/A	N/A	C		1	37	-	489	1864	1107	44.2%
1/2+1/3	A49 Southbound Ahead	U	N/A	N/A	C		1	37	-	1168	2105:2105	908+908	64.3 : 64.3%
2/1	A49 Northbound Ahead	U	N/A	N/A	A		1	42	-	1036	2105	1414	73.3%
2/2+2/3	A49 Northbound Ahead Right	U+O	N/A	N/A	A B		1	42:37	-	1084	2105:1871	1398+63	74.2 : 74.2%
3/1		U	N/A	N/A	-		-	-	-	1036	Inf	Inf	0.0%
3/2		U	N/A	N/A	-		-	-	-	1235	Inf	Inf	0.0%
4/1	Peel Hall Through Route Exit	U	N/A	N/A	-		-	-	-	258	Inf	Inf	0.0%
5/1+5/2	Peel Hall Through Route Right Left	U	N/A	N/A	E D		1	8:9	-	323	1871:1786	263+279	47.5 : 71.0%
6/1		U	N/A	N/A	-		-	-	-	403	Inf	Inf	0.0%
6/2		U	N/A	N/A	-		-	-	-	584	Inf	Inf	0.0%
6/3		U	N/A	N/A	-		-	-	-	584	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</b>	-	-	47	0	0	9.6	4.8	0.1	14.5	-	-	-	-
<b>Unnamed Junction</b>	-	-	47	0	0	9.6	4.8	0.1	14.5	-	-	-	-
1/1	489	489	-	-	-	1.0	0.4	-	1.4	10.1	4.8	0.4	5.1
1/2+1/3	1168	1168	-	-	-	2.4	0.9	-	3.3	10.1	5.7	0.9	6.6
2/1	1036	1036	-	-	-	2.0	1.4	-	3.3	11.5	11.8	1.4	13.2
2/2+2/3	1084	1084	47	0	0	2.0	1.4	0.1	3.5	11.8	11.8	1.4	13.2
3/1	1036	1036	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
3/2	1235	1235	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
4/1	258	258	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/1+5/2	323	323	-	-	-	2.3	0.7	-	3.0	33.7	3.3	0.7	4.0
6/1	403	403	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/2	584	584	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/3	584	584	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
C1			PRC for Signalled Lanes (%):		21.3	Total Delay for Signalled Lanes (pcuHr):		14.51	Cycle Time (s):		64		
			PRC Over All Lanes (%):		21.3	Total Delay Over All Lanes(pcuHr):		14.51					