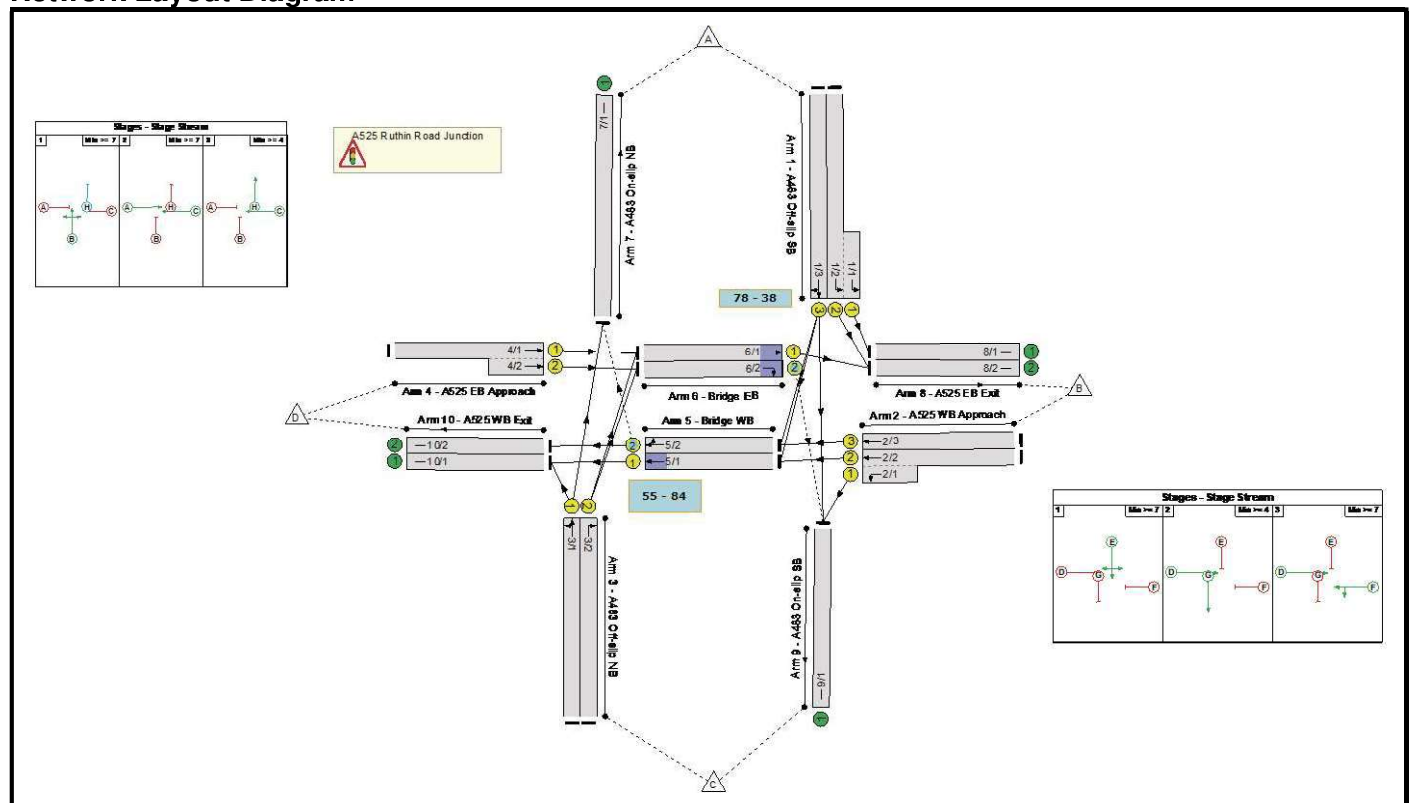


S|C|P

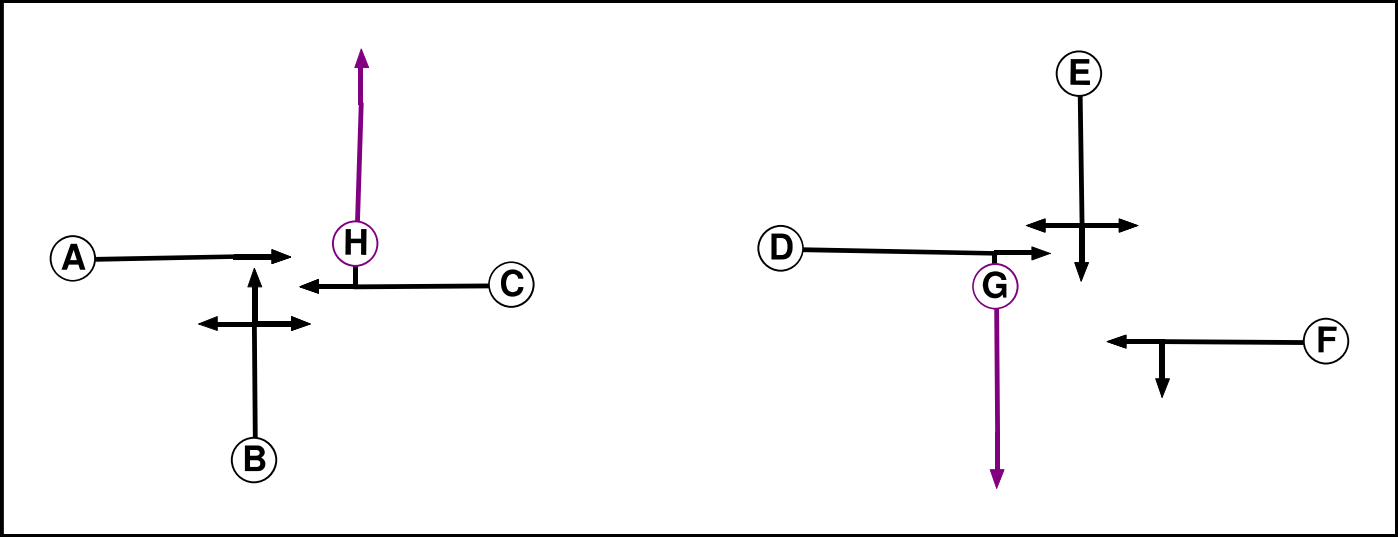
APPENDIX U

Full Input Data And Results**User and Project Details**

Project:	Ruthin Road Wrexham
Title:	A483 / A525 Linsig Model
Location:	Junction of A483 & A525
Additional detail:	Based on Capita model supplied by Wrexham Council Additional Left Turn Lane On A575 N
File name:	Proposed_A525_A483_06.06 LB TEST.lsg3x
Author:	Jon Addy
Company:	SCP Transport
Address:	Colwyn Chambers, 19 York Street, Manchester, M2 3BA

Network Layout Diagram

Phase Diagram



Phase Input Data

Phase Name	Phase Type	Stage Stream	Assoc. Phase	Street Min	Cont Min
A	Traffic	2		7	7
B	Traffic	2		7	7
C	Traffic	2		7	7
D	Traffic	1		7	7
E	Traffic	1		7	7
F	Traffic	1		7	7
G	Ind. Arrow	1	D	4	4
H	Ind. Arrow	2	C	4	4

Phase Intergreens Matrix

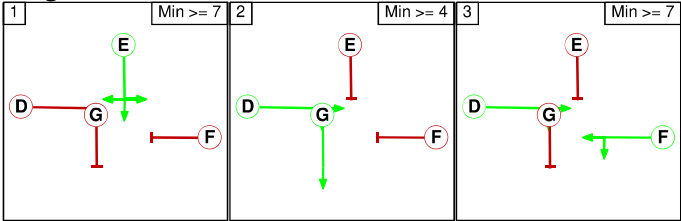
Terminating Phase	Starting Phase								
		A	B	C	D	E	F	G	H
	A		7	-	-	-	-	-	3
	B	7		7	-	-	-	-	-
	C	-	7		-	-	-	-	-
	D	-	-	-		7	-	-	-
	E	-	-	-	7		7	7	-
	F	-	-	-	-	7		5	-
	G	-	-	-	-	7	3		-
	H	5	-	-	-	-	-	-	

Phases in Stage

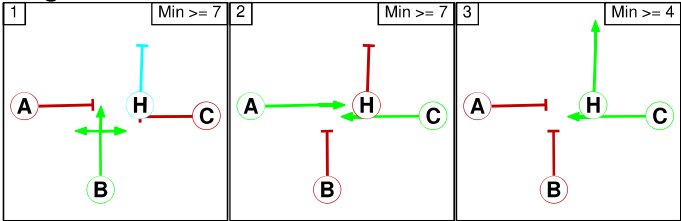
Stream	Stage No.	Phases in Stage
1	1	E
1	2	D G
1	3	D F
2	1	B
2	2	A C
2	3	C H

Stage Diagram

Stage Stream: 1



Stage Stream: 2



Phase Delays

Stage Stream: 1

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

Stage Stream: 2

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

Prohibited Stage Change

Stage Stream: 1

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

Stage Stream: 2

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

Give-Way Lane Input Data

Junction: A525 Ruthin Road 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)
5/2 (Bridge WB)	7/1 (Right)	1439	0	4/1	1.09	All	-	-	-	-	-
				4/2	1.09	All					
6/2 (Bridge EB)	9/1 (Right)	1439	0	2/2	1.09	All	0.10	-	0.50	0	2.00
				2/3	1.09	All					

Full Input Data And Results

Lane Input Data

Junction: A525 Ruthin Road 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 (A483 Off-slip SB)	U	E	2	3	6.0	Geom	-	3.25	0.00	Y	Arm 8 Left	Inf
1/2 (A483 Off-slip SB)	U	E	2	3	43.5	Geom	-	3.00	2.00	Y	Arm 8 Left	Inf
1/3 (A483 Off-slip SB)	U	E	2	3	60.0	Geom	-	3.00	2.00	N	Arm 5 Right	15.00
											Arm 9 Ahead	Inf
2/1 (A525 WB Approach)	U	F	2	3	5.0	Geom	-	3.00	0.00	Y	Arm 9 Left	13.50
2/2 (A525 WB Approach)	U	F	2	3	60.0	Geom	-	3.00	0.00	N	Arm 5 Ahead	Inf
2/3 (A525 WB Approach)	U	F	2	3	60.0	User	1900	-	-	-	-	-
3/1 (A483 Off-slip NB)	U	B	2	3	60.0	Geom	-	3.00	2.00	Y	Arm 7 Ahead	Inf
											Arm 10 Left	20.00
3/2 (A483 Off-slip NB)	U	B	2	3	60.0	Geom	-	3.00	2.00	N	Arm 6 Right	10.00
4/1 (A525 EB Approach)	U	A	2	3	60.0	User	1900	-	-	-	-	-
4/2 (A525 EB Approach)	U	A	2	3	5.0	User	1900	-	-	-	-	-
5/1 (Bridge WB)	U	C	2	3	10.1	User	1900	-	-	-	-	-
5/2 (Bridge WB)	O	C H	2	3	10.1	Geom	-	3.25	0.00	Y	Arm 7 Right	15.00
											Arm 10 Ahead	Inf
6/1 (Bridge EB)	U	D	2	3	10.1	User	1900	-	-	-	-	-
6/2 (Bridge EB)	O	D G	2	3	10.1	Geom	-	3.25	0.00	Y	Arm 9 Right	15.00
7/1 (A483 On-slip NB)	U		2	3	60.0	Inf	-	-	-	-	-	-
8/1 (A525 EB Exit)	U		2	3	60.0	Inf	-	-	-	-	-	-

Full Input Data And Results

8/2 (A525 EB Exit)	U		2	3	60.0	Inf	-	-	-	-	-	-
9/1 (A483 On-slip SB)	U		2	3	60.0	Inf	-	-	-	-	-	-
10/1 (A525 WB Exit)	U		2	3	60.0	Inf	-	-	-	-	-	-
10/2 (A525 WB Exit)	U		2	3	60.0	Geom	-	3.25	0.00	Y		

Traffic Flow Groups

Flow Group	Start Time	End Time	Duration	Formula
1: 'AM Assessment'	08:00	09:00	01:00	
2: 'PM Assessment'	16:30	17:30	01:00	

Scenario 1: '2040 AM Assessment' (FG1: 'AM Assessment', Plan 1: 'AM Control Plan')

Traffic Flows, Desired

Desired Flow :

	Destination					
Origin		A	B	C	D	Tot.
	A	0	370	0	289	659
	B	338	0	151	560	1049
	C	0	464	0	248	712
	D	347	937	232	0	1516
	Tot.	685	1771	383	1097	3936

Traffic Lane Flows

Lane	Scenario 1: 2040 AM Assessment
Junction: A525 Ruthin Road Junction	
1/1 (short)	190
1/2 (with short)	370(In) 180(Out)
1/3	289
2/1 (short)	151
2/2 (with short)	711(In) 560(Out)
2/3	338
3/1	248
3/2	464
4/1 (with short)	1169(In) 937(Out)
4/2 (short)	232
5/1	849
5/2	338
6/1	1401
6/2	232
7/1	338
8/1	190
8/2	1581
9/1	383
10/1	1097
10/2	0

Lane Saturation Flows

Junction: A525 Ruthin Road 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 (A483 Off-slip SB)	3.25	0.00	Y	Arm 8 Left	Inf	100.0 %	1940	1940
1/2 (A483 Off-slip SB)	3.00	2.00	Y	Arm 8 Left	Inf	100.0 %	1831	1831
1/3 (A483 Off-slip SB)	3.00	2.00	N	Arm 5 Right	15.00	100.0 %	1792	1792
				Arm 9 Ahead	Inf	0.0 %		
2/1 (A525 WB Approach)	3.00	0.00	Y	Arm 9 Left	13.50	100.0 %	1724	1724
2/2 (A525 WB Approach)	3.00	0.00	N	Arm 5 Ahead	Inf	100.0 %	2055	2055
2/3 (A525 WB Approach Lane 3)	This lane uses a directly entered Saturation Flow						1900	1900
3/1 (A483 Off-slip NB)	3.00	2.00	Y	Arm 7 Ahead	Inf	0.0 %	1703	1703
				Arm 10 Left	20.00	100.0 %		
3/2 (A483 Off-slip NB)	3.00	2.00	N	Arm 6 Right	10.00	100.0 %	1714	1714
4/1 (A525 EB Approach Lane 1)	This lane uses a directly entered Saturation Flow						1900	1900
4/2 (A525 EB Approach Lane 2)	This lane uses a directly entered Saturation Flow						1900	1900
5/1 (Bridge WB Lane 1)	This lane uses a directly entered Saturation Flow						1900	1900
5/2 (Bridge WB)	3.25	0.00	Y	Arm 7 Right	15.00	100.0 %	1764	1764
				Arm 10 Ahead	Inf	0.0 %		
6/1 (Bridge EB Lane 1)	This lane uses a directly entered Saturation Flow						1900	1900
6/2 (Bridge EB)	3.25	0.00	Y	Arm 9 Right	15.00	100.0 %	1764	1764
7/1 (A483 On-slip NB Lane 1)	Infinite Saturation Flow						Inf	Inf
8/1 (A525 EB Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
8/2 (A525 EB Exit Lane 2)	Infinite Saturation Flow						Inf	Inf
9/1 (A483 On-slip SB Lane 1)	Infinite Saturation Flow						Inf	Inf
10/1 (A525 WB Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
10/2 (A525 WB Exit)	3.25	0.00	Y				1940	1940

Full Input Data And Results

Scenario 2: '2040 PM Assessment' (FG2: 'PM Assessment', Plan 2: 'PM Control Plan')

Traffic Flows, Desired

Desired Flow :

	Destination					
Origin		A	B	C	D	Tot.
	A	0	392	0	604	996
	B	276	0	251	1036	1563
	C	0	186	0	376	562
	D	361	460	256	0	1077
	Tot.	637	1038	507	2016	4198

Traffic Lane Flows

Lane	Scenario 2: 2040 PM Assessment
Junction: A525 Ruthin Road Junction	
1/1 (short)	202
1/2 (with short)	392(In) 190(Out)
1/3	604
2/1 (short)	251
2/2 (with short)	935(In) 684(Out)
2/3	628
3/1	376
3/2	186
4/1 (with short)	716(In) 460(Out)
4/2 (short)	256
5/1	1288
5/2	628
6/1	646
6/2	256
7/1	276
8/1	202
8/2	836
9/1	507
10/1	1664
10/2	352

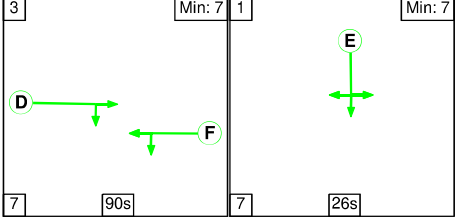
Lane Saturation Flows

Junction: A525 Ruthin Road 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 (A483 Off-slip SB)	3.25	0.00	Y	Arm 8 Left	Inf	100.0 %	1940	1940
1/2 (A483 Off-slip SB)	3.00	2.00	Y	Arm 8 Left	Inf	100.0 %	1831	1831
1/3 (A483 Off-slip SB)	3.00	2.00	N	Arm 5 Right	15.00	100.0 %	1792	1792
				Arm 9 Ahead	Inf	0.0 %		
2/1 (A525 WB Approach)	3.00	0.00	Y	Arm 9 Left	13.50	100.0 %	1724	1724
2/2 (A525 WB Approach)	3.00	0.00	N	Arm 5 Ahead	Inf	100.0 %	2055	2055
2/3 (A525 WB Approach Lane 3)	This lane uses a directly entered Saturation Flow						1900	1900
3/1 (A483 Off-slip NB)	3.00	2.00	Y	Arm 7 Ahead	Inf	0.0 %	1703	1703
				Arm 10 Left	20.00	100.0 %		
3/2 (A483 Off-slip NB)	3.00	2.00	N	Arm 6 Right	10.00	100.0 %	1714	1714
4/1 (A525 EB Approach Lane 1)	This lane uses a directly entered Saturation Flow						1900	1900
4/2 (A525 EB Approach Lane 2)	This lane uses a directly entered Saturation Flow						1900	1900
5/1 (Bridge WB Lane 1)	This lane uses a directly entered Saturation Flow						1900	1900
5/2 (Bridge WB)	3.25	0.00	Y	Arm 7 Right	15.00	43.9 %	1858	1858
				Arm 10 Ahead	Inf	56.1 %		
6/1 (Bridge EB Lane 1)	This lane uses a directly entered Saturation Flow						1900	1900
6/2 (Bridge EB)	3.25	0.00	Y	Arm 9 Right	15.00	100.0 %	1764	1764
7/1 (A483 On-slip NB Lane 1)	Infinite Saturation Flow						Inf	Inf
8/1 (A525 EB Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
8/2 (A525 EB Exit Lane 2)	Infinite Saturation Flow						Inf	Inf
9/1 (A483 On-slip SB Lane 1)	Infinite Saturation Flow						Inf	Inf
10/1 (A525 WB Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
10/2 (A525 WB Exit)	3.25	0.00	Y				1940	1940

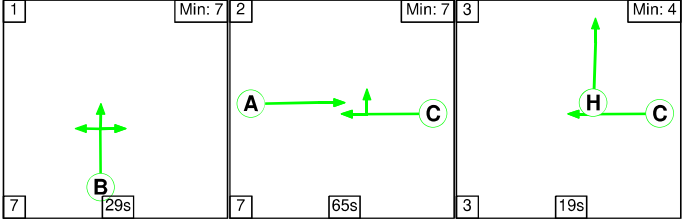
Scenario 1: '2040 AM Assessment' (FG1: 'AM Assessment', Plan 1: 'AM Control Plan')

Stage Sequence Diagram

Stage Stream: 1



Stage Stream: 2



Stage Timings

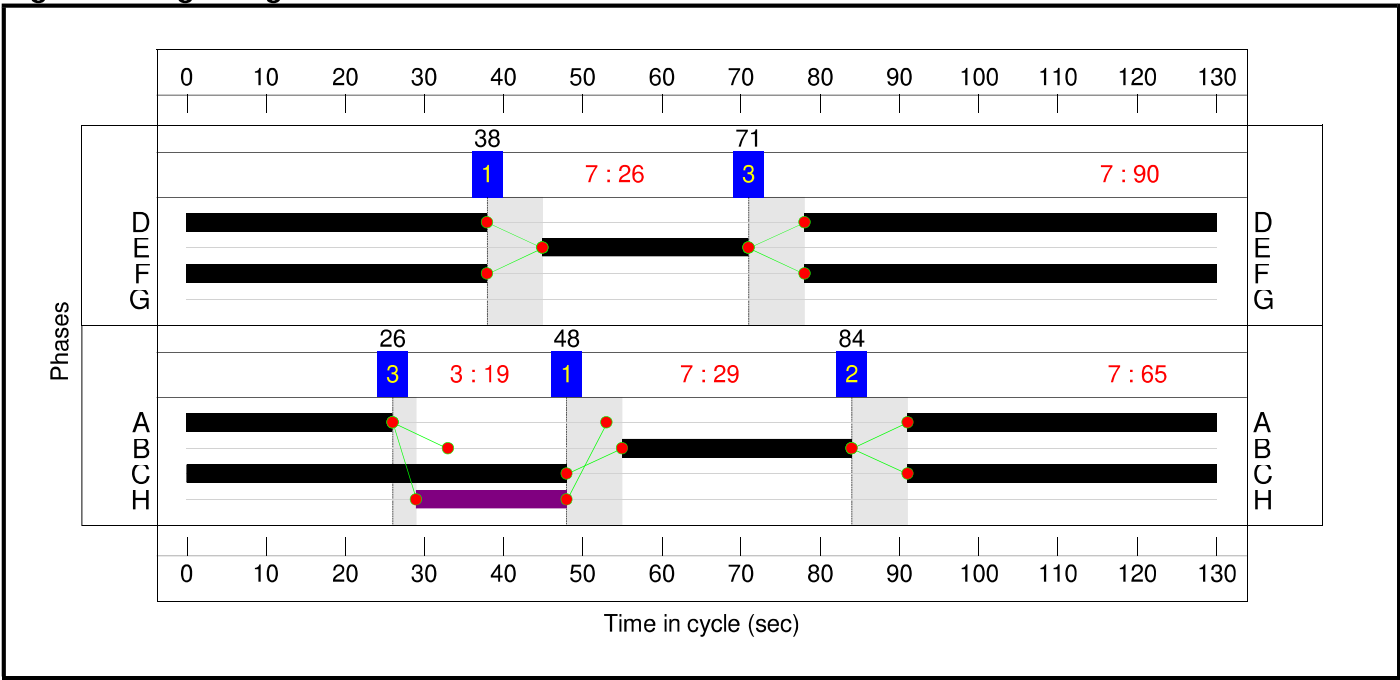
Stage Stream: 1

Stage	3	1
Duration	90	26
Change Point	71	38

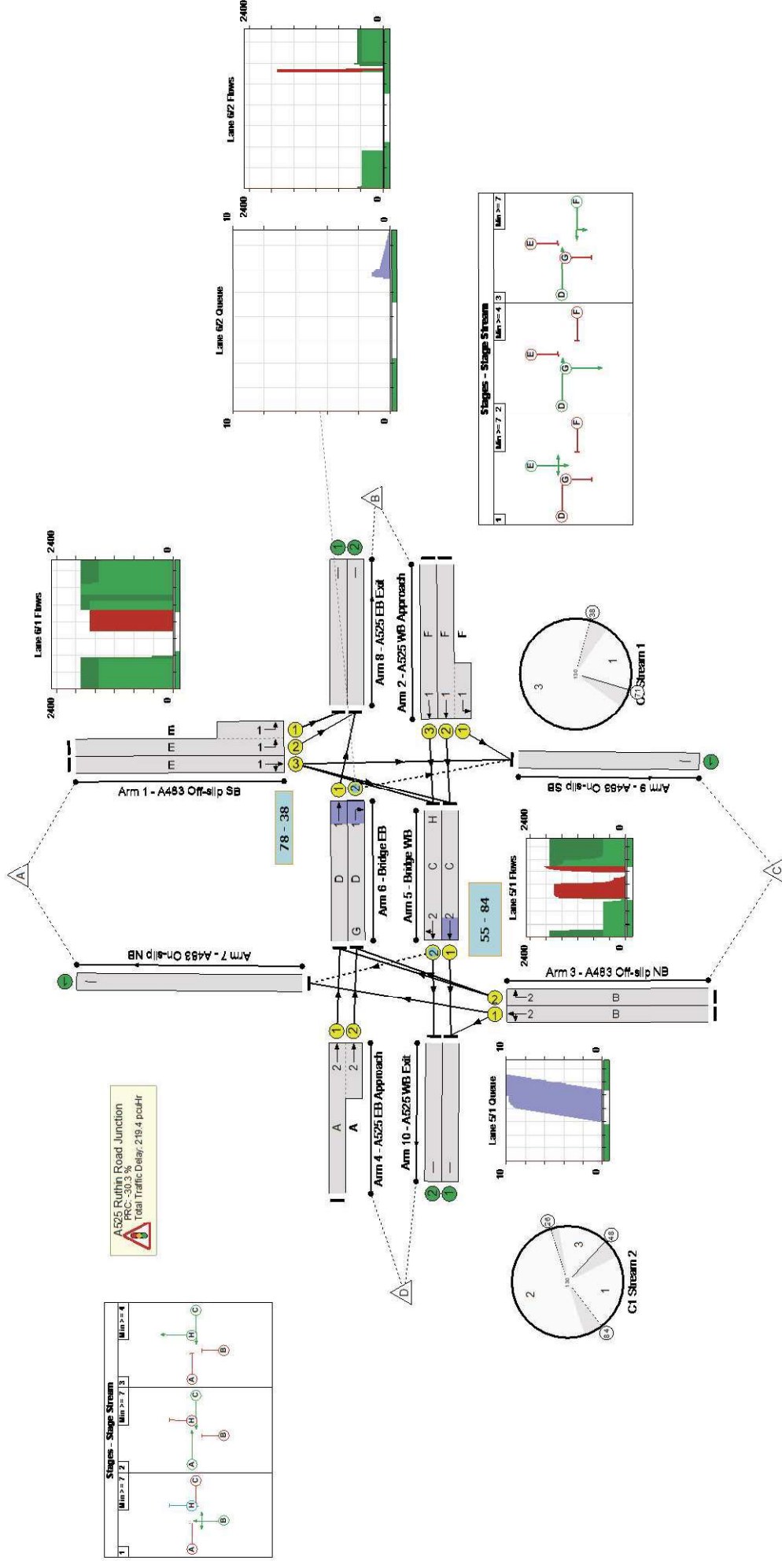
Stage Stream: 2

Stage	1	2	3
Duration	29	65	19
Change Point	48	84	26

Signal Timings Diagram



Network Layout Diagram

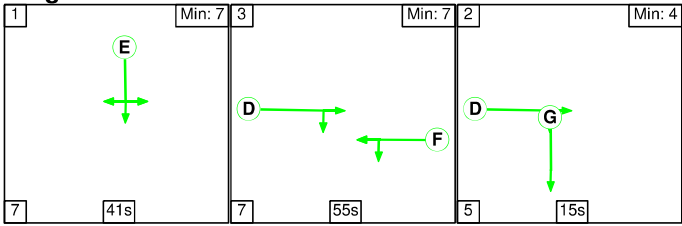


Network Results

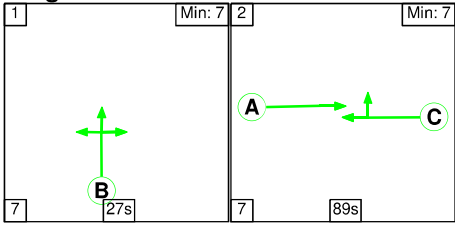
Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network: A483 / A525 Linsig Model	-	-	N/A	-	-		-	-	-	-	-	-	117.3%
A525 Ruthin Road Junction	-	-	N/A	-	-		-	-	-	-	-	-	117.3%
1/2+1/1	A483 Off-slip SB Left	U	1	N/A	E		1	26	-	370	1831:1940	270+285	66.6 : 66.6%
1/3	A483 Off-slip SB Right Ahead	U	1	N/A	E		1	26	-	289	1792	372	77.6%
2/2+2/1	A525 WB Approach Ahead Left	U	1	N/A	F		1	90	-	711	2055:1724	1119+302	50.0 : 50.0%
2/3	A525 WB Approach Ahead	U	1	N/A	F		1	90	-	338	1900	1330	25.4%
3/1	A483 Off-slip NB Ahead Left	U	2	N/A	B		1	29	-	248	1703	393	63.1%
3/2	A483 Off-slip NB Right	U	2	N/A	B		1	29	-	464	1714	396	117.3%
4/1+4/2	A525 EB Approach Ahead	U	2	N/A	A		1	65	-	1169	1900:1900	806+200	116.2 : 116.2%
5/1	Bridge WB Ahead	U	2	N/A	C		1	87	-	849	1900	1286	66.0%
5/2	Bridge WB Right Ahead	O	2	N/A	C	H	1	87	19	338	1764	299	113.2%
6/1	Bridge EB Ahead	U	1	N/A	D		1	90	-	1401	1900	1330	90.4%
6/2	Bridge EB Right	O	1	N/A	D	G	1	90	0	232	1764	254	78.6%
7/1	A483 On-slip NB	U	N/A	N/A	-		-	-	-	338	Inf	Inf	0.0%
8/1	A525 EB Exit	U	N/A	N/A	-		-	-	-	190	Inf	Inf	0.0%
8/2	A525 EB Exit	U	N/A	N/A	-		-	-	-	1581	Inf	Inf	0.0%

Stage Sequence Diagram

Stage Stream: 1



Stage Stream: 2



Stage Timings

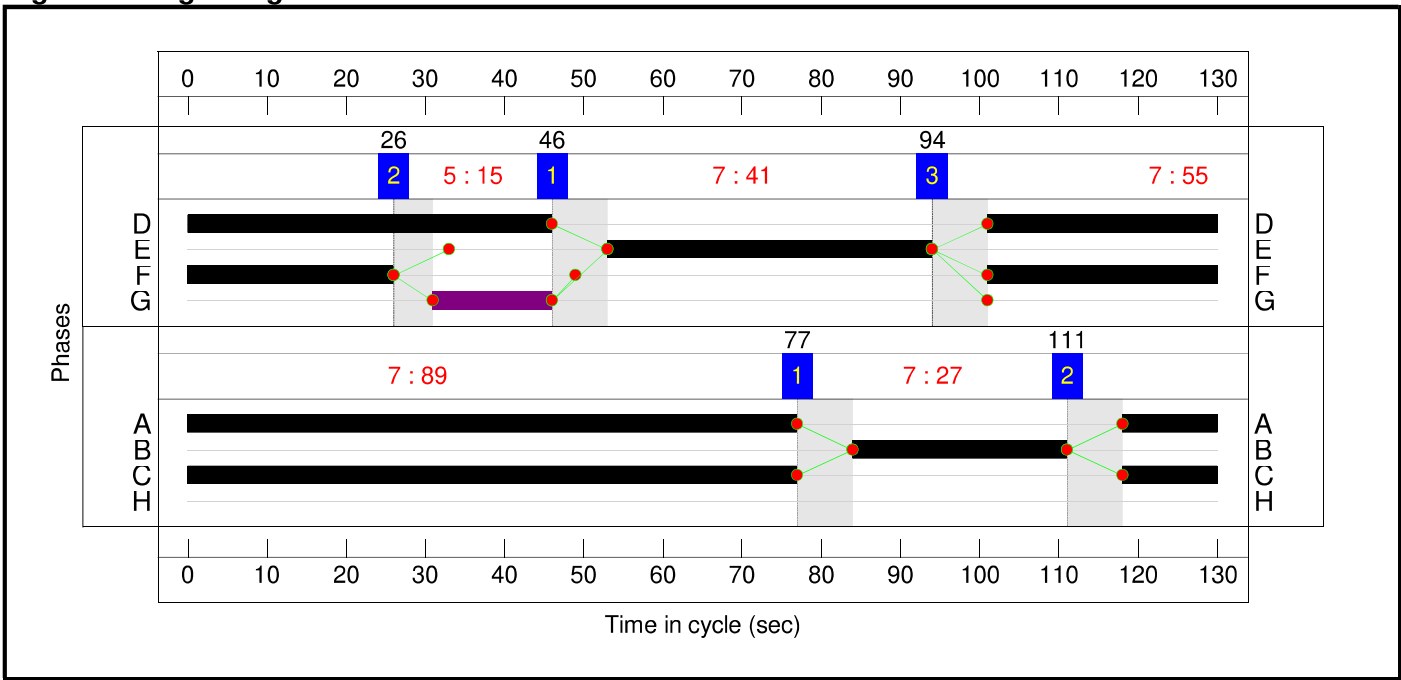
Stage Stream: 1

Stage	1	3	2
Duration	41	55	15
Change Point	46	94	26

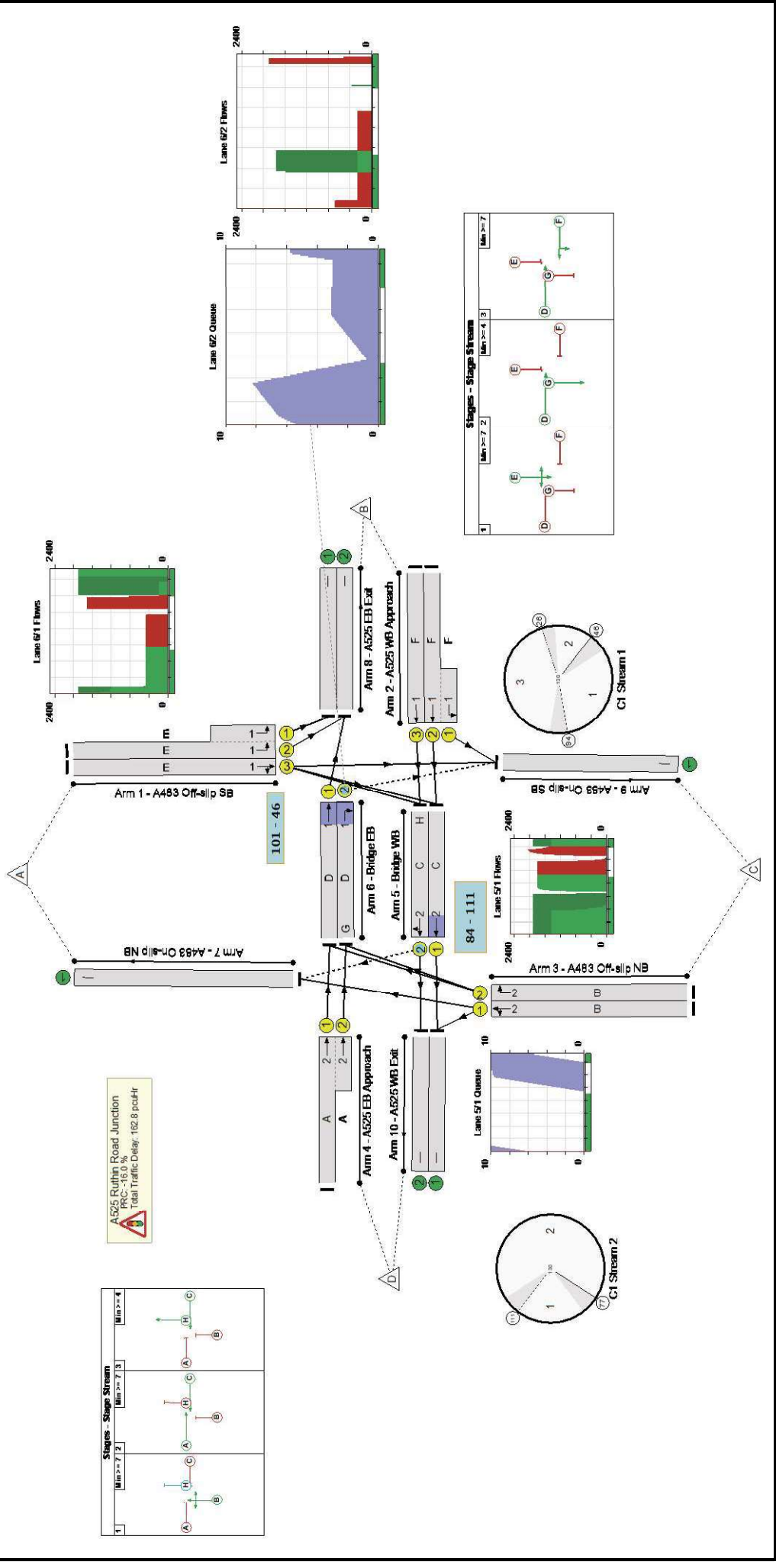
Stage Stream: 2

Stage	1	2
Duration	27	89
Change Point	77	111

Signal Timings Diagram



Full Input Data And Results
Network Layout Diagram



Network Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network: A483 / A525 Linsig Model	-	-	N/A	-	-		-	-	-	-	-	-	104.4%
A525 Ruthin Road Junction	-	-	N/A	-	-		-	-	-	-	-	-	104.4%
1/2+1/1	A483 Off-slip SB Left	U	1	N/A	E		1	41	-	392	1831:1940	374+398	50.8 : 50.8%
1/3	A483 Off-slip SB Right Ahead	U	1	N/A	E		1	41	-	604	1792	579	104.3%
2/2+2/1	A525 WB Approach Ahead Left	U	1	N/A	F		1	55	-	935	2055:1724	655+240	104.4 : 104.4%
2/3	A525 WB Approach Ahead	U	1	N/A	F		1	55	-	628	1900	818	76.7%
3/1	A483 Off-slip NB Ahead Left	U	2	N/A	B		1	27	-	376	1703	367	102.5%
3/2	A483 Off-slip NB Right	U	2	N/A	B		1	27	-	186	1714	369	50.4%
4/1+4/2	A525 EB Approach Ahead	U	2	N/A	A		1	89	-	716	1900:1900	899+500	51.2 : 51.2%
5/1	Bridge WB Ahead	U	2	N/A	C		1	89	-	1288	1900	1315	93.8%
5/2	Bridge WB Right Ahead	O	2	N/A	C	H	1	89	0	628	1858	608	103.3%
6/1	Bridge EB Ahead	U	1	N/A	D		1	75	-	646	1900	1111	58.2%
6/2	Bridge EB Right	O	1	N/A	D	G	1	75	15	256	1764	246	104.2%
7/1	A483 On-slip NB	U	N/A	N/A	-		-	-	-	276	Inf	Inf	0.0%
8/1	A525 EB Exit	U	N/A	N/A	-		-	-	-	202	Inf	Inf	0.0%
8/2	A525 EB Exit	U	N/A	N/A	-		-	-	-	836	Inf	Inf	0.0%

Full Input Data And Results

9/1	A483 On-slip SB	U	N/A	N/A	-	-	-	-	507	Inf	Inf	0.0%	
10/1	A525 WB Exit	U	N/A	N/A	-	-	-	-	1664	Inf	Inf	0.0%	
10/2	A525 WB Exit	U	N/A	N/A	-	-	-	-	352	1940	1940	17.6%	
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: A483 / A525 Linsig Model	-	-	255	257	1	62.5	100.3	0.1	162.8	-	-	-	-
A525 Ruthin Road Junction	-	-	255	257	1	62.5	100.3	0.1	162.8	-	-	-	-
1/2+1/1	392	392	-	-	-	3.6	0.5	-	4.1	38.0	5.5	0.5	6.0
1/3	604	579	-	-	-	8.7	20.1	-	28.7	171.2	22.7	20.1	42.8
2/2+2/1	935	896	-	-	-	12.1	28.0	-	40.1	154.3	34.4	28.0	62.3
2/3	628	628	-	-	-	5.5	1.6	-	7.1	40.8	19.2	1.6	20.8
3/1	376	367	-	-	-	5.7	12.3	-	18.0	172.4	13.9	12.3	26.2
3/2	186	186	-	-	-	2.3	0.5	-	2.8	54.7	5.9	0.5	6.4
4/1+4/2	716	716	-	-	-	1.6	0.5	-	2.1	10.6	8.0	0.5	8.5
5/1	1234	1234	-	-	-	7.7	6.6	-	14.3	41.6	33.5	6.6	40.0
5/2	628	608	255	13	0	8.7	18.5	-	27.2	155.8	23.4	18.5	41.9
6/1	646	646	-	-	-	2.5	0.7	-	3.2	18.0	10.9	0.7	11.6
6/2	256	246	0	244	1	4.0	11.0	0.1	15.1	212.0	8.2	11.0	19.2
7/1	267	267	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	202	202	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/2	836	836	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
9/1	486	486	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
10/1	1601	1601	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
10/2	341	341	-	-	-	0.0	0.1	-	0.1	1.1	0.0	0.1	0.1
C1 Stream: 1 PRC for Signalled Lanes (%): -16.0 Cycle Time (s): 130													
C1 Stream: 2 PRC for Signalled Lanes (%): -14.8 Cycle Time (s): 130													
PRC Over All Lanes (%): -16.0 Total Delay Over All Lanes(pcuHr): 162.81													
Total Delay for Signalled Lanes (pcuHr): 98.33													
Total Delay for Signalled Lanes (pcuHr): 64.38													

