

Appendix 58

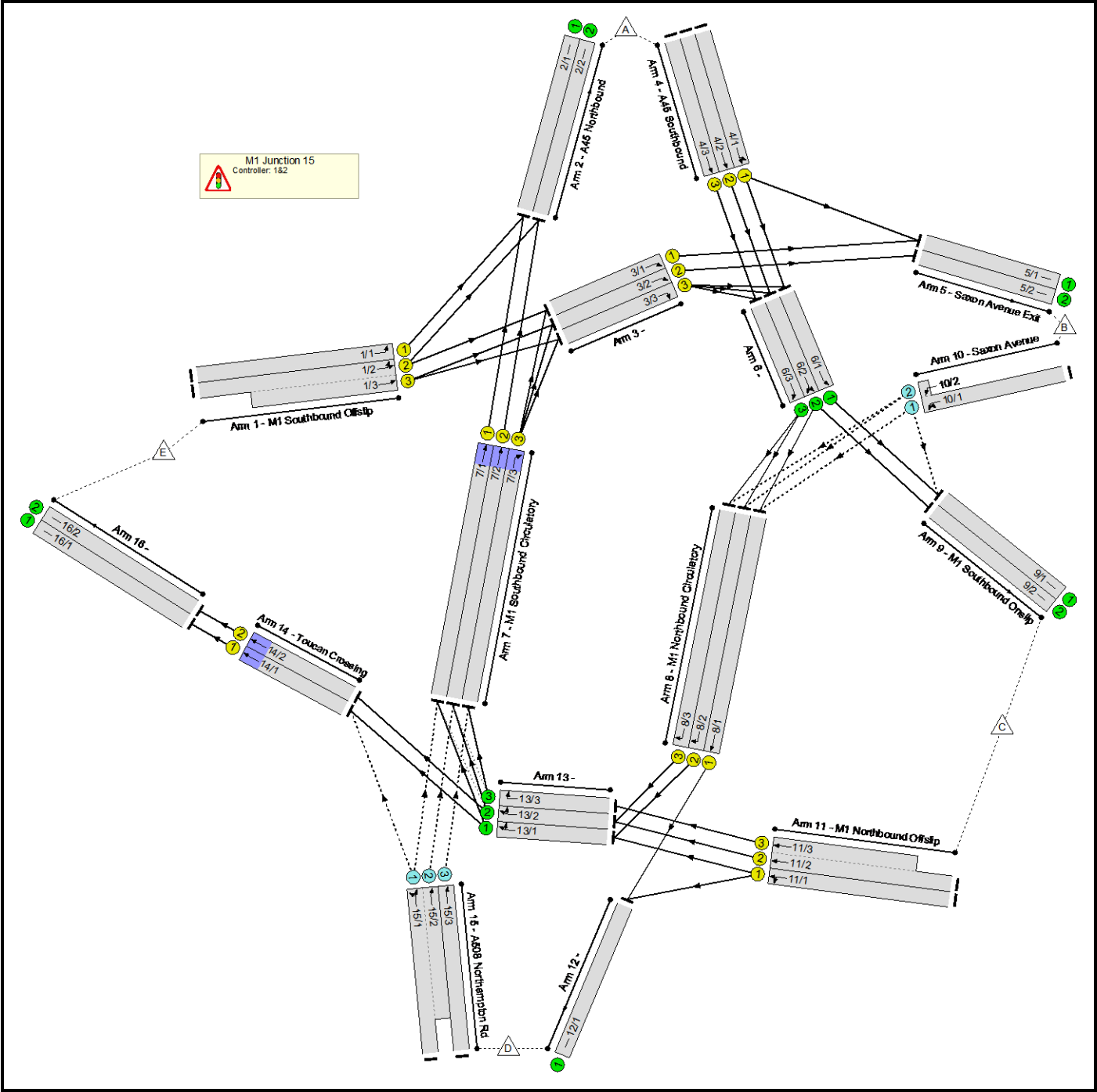
M1 Junction 15 Opening Year assessment results

M1 JUNCTION 15
Existing Junction Model
2021 Opening Year

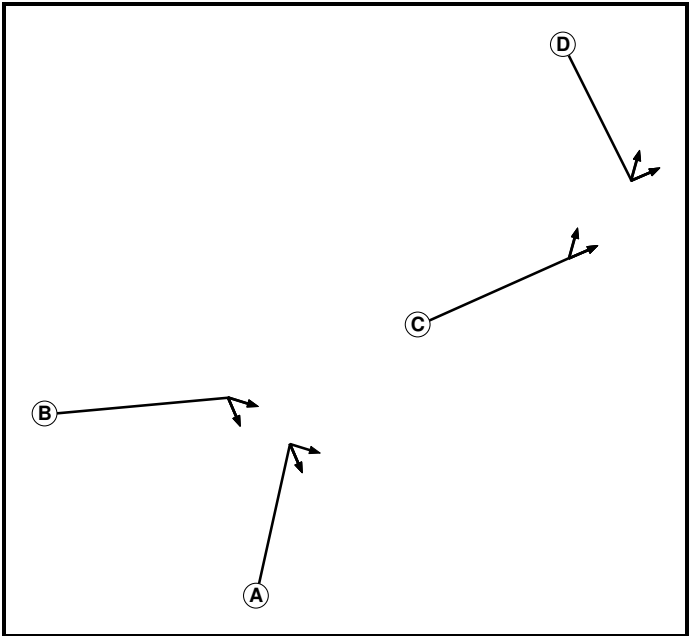
User and Project Details

Project:	Northampton Gateway
Title:	M1 Junction 15 Reference Case Model
File name:	180220 M1 Junction 15 Ref Case Model without WL.lsg3x
Author:	Mark Higgins
Company:	ADC Infrastructure
Address:	Western House, Nottingham
Notes:	NSTM2 B1 and E1

Network Layout Diagram



C1 - Eastside Controller
Phase Diagram



Phase Input Data

Phase Name	Phase Type	Stage Stream	Assoc. Phase	Street Min	Cont Min
A	Traffic	1		7	7
B	Traffic	1		7	7
C	Traffic	2		7	7
D	Traffic	2		7	7

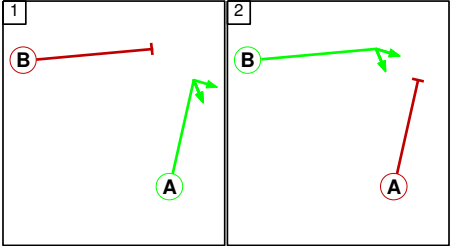
Phase Intergreens Matrix

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

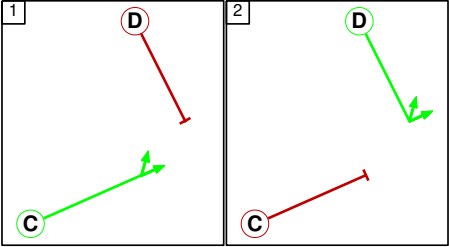
Phases in Stage

Stream	Stage No.	Phases in Stage
1	1	A
1	2	B
2	1	C
2	2	D

Stage Diagram
Stage Stream: 1



Stage Stream: 2



Prohibited Stage Change

Stage Stream: 1

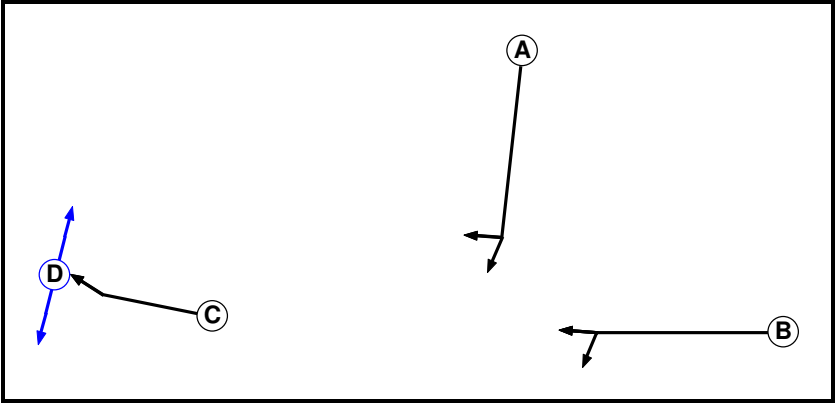
	To Stage		
From Stage		1	2
	1		7
	2	7	

Stage Stream: 2

	To Stage		
From Stage		1	2
	1		7
	2	6	

C2 - Westside Controller

Phase Diagram



Phase Input Data

Phase Name	Phase Type	Stage Stream	Assoc. Phase	Street Min	Cont Min
A	Traffic	1		7	7
B	Traffic	1		7	7
C	Traffic	2		7	7
D	Pedestrian	2		7	7

Phase Intergreens Matrix

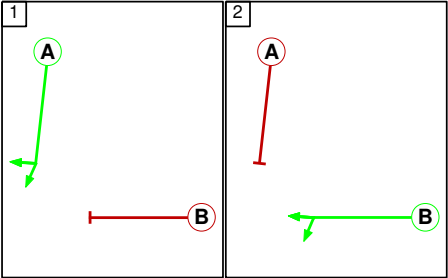
	Starting Phase				
Terminating Phase		A	B	C	D
	A		5	-	-
	B	7		-	-
	C	-	-		5
	D	-	-	7	

Phases in Stage

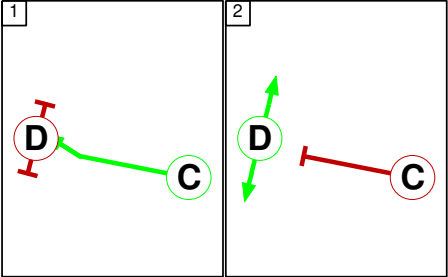
Stream	Stage No.	Phases in Stage
1	1	A
1	2	B
2	1	C
2	2	D

Stage Diagram

Stage Stream: 1



Stage Stream: 2



Prohibited Stage Change

Stage Stream: 1

	To Stage		
From Stage		1	2
	1		5
	2	7	

Stage Stream: 2

	To Stage		
From Stage		1	2
	1		5
	2	7	

Give-Way Lane Input Data

Junction: M1 Junction 15											
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)
10/1 (Saxon Avenue)	8/1 (Left)	838	0	6/1	0.23	All	-	-	-	-	-
				6/2	0.23	All					
				6/3	0.23	All					
	9/1 (Left)	838	0	6/1	0.23	All					
				6/2	0.23	All					
				6/3	0.23	All					
10/2 (Saxon Avenue)	8/2 (Left)	838	0	6/1	0.23	All	-	-	-	-	-
				6/2	0.23	All					
				6/3	0.23	All					
	8/3 (Left)	838	0	6/1	0.23	All					
				6/2	0.23	All					
				6/3	0.23	All					
15/1 (A508 Northampton Rd)	7/1 (Ahead)	800	0	13/1	0.22	All	-	-	-	-	-
				13/2	0.22	All					
				13/3	0.22	All					
	14/1 (Left)	800	0	13/1	0.22	All					
				13/2	0.22	All					
				13/3	0.22	All					
15/2 (A508 Northampton Rd)	7/2 (Ahead)	800	0	13/1	0.22	All	-	-	-	-	-
				13/2	0.22	All					
				13/3	0.22	All					
15/3 (A508 Northampton Rd)	7/3 (Ahead)	800	0	13/1	0.21	All	-	-	-	-	-
				13/2	0.21	All					
				13/3	0.21	All					

Lane Input Data

Junction: M1 Junction 15												
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 (M1 Southbound Offslip)	U	C	2	3	60.0	Geom	-	3.65	0.00	Y	Arm 2 Left	Inf
1/2 (M1 Southbound Offslip)	U	C	2	3	60.0	Geom	-	3.65	0.00	N	Arm 2 Left	Inf
											Arm 3 Ahead	Inf
1/3 (M1 Southbound Offslip)	U	C	2	3	14.0	Geom	-	3.65	0.00	Y	Arm 3 Ahead	Inf
2/1 (A45 Northbound)	U		2	3	4.3	Inf	-	-	-	-	-	-
2/2 (A45 Northbound)	U		2	3	4.3	Inf	-	-	-	-	-	-
3/1	U	B	2	3	12.2	User	1900	-	-	-	-	-
3/2	U	B	2	3	12.2	User	1900	-	-	-	-	-
3/3	U	B	2	3	12.2	User	1900	-	-	-	-	-
4/1 (A45 Southbound)	U	A	2	3	67.8	Geom	-	3.65	0.00	Y	Arm 5 Left	Inf
4/2 (A45 Southbound)	U	A	2	3	67.8	Geom	-	3.65	0.00	N	Arm 6 Ahead	Inf
											Arm 6 Ahead	Inf
4/3 (A45 Southbound)	U	A	2	3	67.8	Geom	-	3.65	0.00	N	Arm 6 Ahead	Inf
5/1 (Saxon Avenue Exit)	U		2	3	4.3	Inf	-	-	-	-	-	-
5/2 (Saxon Avenue Exit)	U		2	3	4.3	Inf	-	-	-	-	-	-
6/1	U		2	3	10.4	Inf	-	-	-	-	-	-
6/2	U		2	3	10.4	Inf	-	-	-	-	-	-
6/3	U		2	3	10.4	Inf	-	-	-	-	-	-
7/1 (M1 Southbound Circulatory)	U	D	2	3	34.8	User	2000	-	-	-	-	-
7/2 (M1 Southbound Circulatory)	U	D	2	3	34.8	User	2000	-	-	-	-	-
7/3 (M1 Southbound Circulatory)	U	D	2	3	34.8	User	2000	-	-	-	-	-
8/1 (M1 Northbound Circulatory)	U	A	2	3	35.7	User	2000	-	-	-	-	-
8/2 (M1 Northbound Circulatory)	U	A	2	3	35.7	User	2000	-	-	-	-	-
8/3 (M1 Northbound Circulatory)	U	A	2	3	35.7	User	2000	-	-	-	-	-
9/1 (M1 Southbound Onslip)	U		2	3	4.3	Inf	-	-	-	-	-	-
9/2 (M1 Southbound Onslip)	U		2	3	4.3	Inf	-	-	-	-	-	-
10/1 (Saxon Avenue)	O		2	3	60.0	Inf	-	-	-	-	-	-
10/2 (Saxon Avenue)	O		2	3	1.0	Inf	-	-	-	-	-	-
11/1 (M1 Northbound	U	B	2	3	60.0	Geom	-	3.65	0.00	Y	Arm 12 Left	Inf

Offslip)											Arm 13 Ahead	Inf
11/2 (M1 Northbound Offslip)	U	B	2	3	60.0	Geom	-	3.65	0.00	N	Arm 13 Ahead	Inf
11/3 (M1 Northbound Offslip)	U	B	2	3	18.0	Geom	-	3.65	0.00	N	Arm 13 Ahead	Inf
12/1	U		2	3	4.3	Inf	-	-	-	-	-	-
13/1	U		2	3	10.4	Inf	-	-	-	-	-	-
13/2	U		2	3	10.4	Inf	-	-	-	-	-	-
13/3	U		2	3	10.4	Inf	-	-	-	-	-	-
14/1 (Toucan Crossing)	U	C	2	3	4.3	Geom	-	3.80	0.00	Y	Arm 16 Ahead	Inf
14/2 (Toucan Crossing)	U	C	2	3	4.3	Geom	-	3.80	0.00	Y	Arm 16 Ahead	Inf
15/1 (A508 Northampton Rd)	O		2	3	60.0	Inf	-	-	-	-	-	-
15/2 (A508 Northampton Rd)	O		2	3	23.0	Inf	-	-	-	-	-	-
15/3 (A508 Northampton Rd)	O		2	3	60.0	Inf	-	-	-	-	-	-
16/1	U		2	3	60.0	Inf	-	-	-	-	-	-
16/2	U		2	3	60.0	Inf	-	-	-	-	-	-

Traffic Flow Groups

Flow Group	Start Time	End Time	Duration	Formula
5: '2021 B1 Ref AM Peak'	08:00	09:00	01:00	
6: '2021 B1 Ref PM Peak'	17:00	18:00	01:00	
7: '2021 E1 Dev AM Peak'	08:00	09:00	01:00	
8: '2021 E1 Dev PM Peak'	17:00	18:00	01:00	

Scenario 5: '2021 AM Ref B1' (FG5: '2021 B1 Ref AM Peak', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

	Destination						
Origin		A	B	C	D	E	Tot.
	A	47	34	1028	669	1416	3194
	B	47	0	17	17	35	116
	C	1351	39	0	70	0	1460
	D	530	14	73	0	299	916
	E	1084	81	0	485	0	1650
	Tot.	3059	168	1118	1241	1750	7336

Traffic Lane Flows

Lane	Scenario 5: 2021 AM Ref B1
1/1	514
1/2 (with short)	1136(In) 596(Out)
1/3 (short)	540
2/1	1508
2/2	1551
3/1	54
3/2	80
3/3	558
4/1	830
4/2	901
4/3	1463
5/1	88
5/2	80
6/1	832
6/2	1423
6/3	1463
7/1	994
7/2	981
7/3	126
8/1	1171
8/2	741
8/3	804
9/1	849
9/2	269
10/1 (with short)	116(In) 34(Out)
10/2 (short)	82
11/1	637
11/2 (with short)	823(In) 684(Out)
11/3 (short)	139
12/1	1241
13/1	1308
13/2	1488
13/3	139
14/1	993
14/2	757
15/1 (with short)	829(In) 415(Out)
15/2 (short)	414
15/3	87
16/1	993
16/2	757

Junction: M1 Junction 15								
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 (M1 Southbound Offslip)	3.65	0.00	Y	Arm 2 Left	Inf	100.0 %	1980	1980
1/2 (M1 Southbound Offslip)	3.65	0.00	N	Arm 2 Left	Inf	95.6 %	2120	2120
				Arm 3 Ahead	Inf	4.4 %		
1/3 (M1 Southbound Offslip)	3.65	0.00	Y	Arm 3 Ahead	Inf	100.0 %	1980	1980
2/1 (A45 Northbound Lane 1)	Infinite Saturation Flow						Inf	Inf
2/2 (A45 Northbound Lane 2)	Infinite Saturation Flow						Inf	Inf
3/1	This lane uses a directly entered Saturation Flow						1900	1900
3/2	This lane uses a directly entered Saturation Flow						1900	1900
3/3	This lane uses a directly entered Saturation Flow						1900	1900
4/1 (A45 Southbound)	3.65	0.00	Y	Arm 5 Left	Inf	4.1 %	1980	1980
				Arm 6 Ahead	Inf	95.9 %		
4/2 (A45 Southbound)	3.65	0.00	N	Arm 6 Ahead	Inf	100.0 %	2120	2120
4/3 (A45 Southbound)	3.65	0.00	N	Arm 6 Ahead	Inf	100.0 %	2120	2120
5/1 (Saxon Avenue Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
5/2 (Saxon Avenue Exit Lane 2)	Infinite Saturation Flow						Inf	Inf
6/1	Infinite Saturation Flow						Inf	Inf
6/2	Infinite Saturation Flow						Inf	Inf
6/3	Infinite Saturation Flow						Inf	Inf
7/1 (M1 Southbound Circulatory Lane 1)	This lane uses a directly entered Saturation Flow						2000	2000
7/2 (M1 Southbound Circulatory Lane 2)	This lane uses a directly entered Saturation Flow						2000	2000
7/3 (M1 Southbound Circulatory Lane 3)	This lane uses a directly entered Saturation Flow						2000	2000
8/1 (M1 Northbound Circulatory Lane 1)	This lane uses a directly entered Saturation Flow						2000	2000
8/2 (M1 Northbound Circulatory Lane 2)	This lane uses a directly entered Saturation Flow						2000	2000
8/3 (M1 Northbound Circulatory Lane 3)	This lane uses a directly entered Saturation Flow						2000	2000
9/1 (M1 Southbound Onslip Lane 1)	Infinite Saturation Flow						Inf	Inf
9/2 (M1 Southbound Onslip Lane 2)	Infinite Saturation Flow						Inf	Inf
10/1 (Saxon Avenue Lane 1)	Infinite Saturation Flow						Inf	Inf
10/2 (Saxon Avenue Lane 2)	Infinite Saturation Flow						Inf	Inf

11/1 (M1 Northbound Offslip)	3.65	0.00	Y	Arm 12 Left Arm 13 Ahead	Inf Inf	11.0 % 89.0 %	1980	1980
11/2 (M1 Northbound Offslip)	3.65	0.00	N	Arm 13 Ahead	Inf	100.0 %	2120	2120
11/3 (M1 Northbound Offslip)	3.65	0.00	N	Arm 13 Ahead	Inf	100.0 %	2120	2120
12/1	Infinite Saturation Flow						Inf	Inf
13/1	Infinite Saturation Flow						Inf	Inf
13/2	Infinite Saturation Flow						Inf	Inf
13/3	Infinite Saturation Flow						Inf	Inf
14/1 (Toucan Crossing)	3.80	0.00	Y	Arm 16 Ahead	Inf	100.0 %	1995	1995
14/2 (Toucan Crossing)	3.80	0.00	Y	Arm 16 Ahead	Inf	100.0 %	1995	1995
15/1 (A508 Northampton Rd Lane 1)	Infinite Saturation Flow						Inf	Inf
15/2 (A508 Northampton Rd Lane 2)	Infinite Saturation Flow						Inf	Inf
15/3 (A508 Northampton Rd Lane 3)	Infinite Saturation Flow						Inf	Inf
16/1	Infinite Saturation Flow						Inf	Inf
16/2	Infinite Saturation Flow						Inf	Inf

Scenario 6: '2021 PM Ref B1' (FG6: '2021 B1 Ref PM Peak', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

	Destination						
Origin		A	B	C	D	E	Tot.
	A	211	85	951	729	1260	3236
	B	21	0	122	12	86	241
	C	1203	20	0	61	0	1284
	D	584	9	28	0	225	846
	E	1139	77	0	308	0	1524
	Tot.	3158	191	1101	1110	1571	7131

Traffic Lane Flows

Lane	Scenario 6: 2021 PM Ref B1
1/1	534
1/2 (with short)	990(In) 605(Out)
1/3 (short)	385
2/1	1580
2/2	1578
3/1	18
3/2	88
3/3	336
4/1	847
4/2	918
4/3	1471
5/1	103
5/2	88
6/1	776
6/2	1240
6/3	1471
7/1	1046
7/2	973
7/3	57
8/1	1049
8/2	789
8/3	789
9/1	898
9/2	203
10/1 (with short)	241(In) 134(Out)
10/2 (short)	107
11/1	534
11/2 (with short)	750(In) 580(Out)
11/3 (short)	170
12/1	1110
13/1	1262
13/2	1369
13/3	170
14/1	803
14/2	768
15/1 (with short)	809(In) 404(Out)
15/2 (short)	405
15/3	37
16/1	803
16/2	768

Lane Saturation Flows

Junction: M1 Junction 15								
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 (M1 Southbound Offslip)	3.65	0.00	Y	Arm 2 Left	Inf	100.0 %	1980	1980
1/2 (M1 Southbound Offslip)	3.65	0.00	N	Arm 2 Left	Inf	100.0 %	2120	2120
				Arm 3 Ahead	Inf	0.0 %		
1/3 (M1 Southbound Offslip)	3.65	0.00	Y	Arm 3 Ahead	Inf	100.0 %	1980	1980
2/1 (A45 Northbound Lane 1)	Infinite Saturation Flow						Inf	Inf
2/2 (A45 Northbound Lane 2)	Infinite Saturation Flow						Inf	Inf
3/1	This lane uses a directly entered Saturation Flow						1900	1900
3/2	This lane uses a directly entered Saturation Flow						1900	1900
3/3	This lane uses a directly entered Saturation Flow						1900	1900
4/1 (A45 Southbound)	3.65	0.00	Y	Arm 5 Left	Inf	10.0 %	1980	1980
				Arm 6 Ahead	Inf	90.0 %		
4/2 (A45 Southbound)	3.65	0.00	N	Arm 6 Ahead	Inf	100.0 %	2120	2120
4/3 (A45 Southbound)	3.65	0.00	N	Arm 6 Ahead	Inf	100.0 %	2120	2120
5/1 (Saxon Avenue Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
5/2 (Saxon Avenue Exit Lane 2)	Infinite Saturation Flow						Inf	Inf
6/1	Infinite Saturation Flow						Inf	Inf
6/2	Infinite Saturation Flow						Inf	Inf
6/3	Infinite Saturation Flow						Inf	Inf
7/1 (M1 Southbound Circulatory Lane 1)	This lane uses a directly entered Saturation Flow						2000	2000
7/2 (M1 Southbound Circulatory Lane 2)	This lane uses a directly entered Saturation Flow						2000	2000
7/3 (M1 Southbound Circulatory Lane 3)	This lane uses a directly entered Saturation Flow						2000	2000
8/1 (M1 Northbound Circulatory Lane 1)	This lane uses a directly entered Saturation Flow						2000	2000
8/2 (M1 Northbound Circulatory Lane 2)	This lane uses a directly entered Saturation Flow						2000	2000
8/3 (M1 Northbound Circulatory Lane 3)	This lane uses a directly entered Saturation Flow						2000	2000
9/1 (M1 Southbound Onslip Lane 1)	Infinite Saturation Flow						Inf	Inf
9/2 (M1 Southbound Onslip Lane 2)	Infinite Saturation Flow						Inf	Inf
10/1 (Saxon Avenue Lane 1)	Infinite Saturation Flow						Inf	Inf
10/2 (Saxon Avenue Lane 2)	Infinite Saturation Flow						Inf	Inf
11/1	3.65	0.00	Y	Arm 12 Left	Inf	11.4 %	1980	1980

(M1 Northbound Offslip)				Arm 13 Ahead	Inf	88.6 %		
11/2 (M1 Northbound Offslip)	3.65	0.00	N	Arm 13 Ahead	Inf	100.0 %	2120	2120
11/3 (M1 Northbound Offslip)	3.65	0.00	N	Arm 13 Ahead	Inf	100.0 %	2120	2120
12/1	Infinite Saturation Flow						Inf	Inf
13/1	Infinite Saturation Flow						Inf	Inf
13/2	Infinite Saturation Flow						Inf	Inf
13/3	Infinite Saturation Flow						Inf	Inf
14/1 (Toucan Crossing)	3.80	0.00	Y	Arm 16 Ahead	Inf	100.0 %	1995	1995
14/2 (Toucan Crossing)	3.80	0.00	Y	Arm 16 Ahead	Inf	100.0 %	1995	1995
15/1 (A508 Northampton Rd Lane 1)	Infinite Saturation Flow						Inf	Inf
15/2 (A508 Northampton Rd Lane 2)	Infinite Saturation Flow						Inf	Inf
15/3 (A508 Northampton Rd Lane 3)	Infinite Saturation Flow						Inf	Inf
16/1	Infinite Saturation Flow						Inf	Inf
16/2	Infinite Saturation Flow						Inf	Inf

Scenario 7: '2021 AM Ref E1' (FG7: '2021 E1 Dev AM Peak', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

	Destination						
Origin	A	B	C	D	E	Tot.	
	A	62	34	987	373	1393	2849
	B	45	0	18	21	29	113
	C	1302	38	0	121	0	1461
	D	593	15	103	0	332	1043
	E	1093	79	0	507	0	1679
	Tot.	3095	166	1108	1022	1754	7145

Traffic Lane Flows

Lane	Scenario 7: 2021 AM Ref E1
1/1	520
1/2 (with short)	1159(In) 600(Out)
1/3 (short)	559
2/1	1563
2/2	1532
3/1	54
3/2	78
3/3	610
4/1	668
4/2	726
4/3	1455
5/1	88
5/2	78
6/1	685
6/2	1285
6/3	1455
7/1	1043
7/2	959
7/3	156
8/1	901
8/2	737
8/3	792
9/1	703
9/2	405
10/1 (with short)	113(In) 39(Out)
10/2 (short)	74
11/1	637
11/2 (with short)	824(In) 686(Out)
11/3 (short)	138
12/1	1022
13/1	1253
13/2	1478
13/3	138
14/1	1007
14/2	747
15/1 (with short)	925(In) 462(Out)
15/2 (short)	463
15/3	118
16/1	1007
16/2	747

Lane Saturation Flows

Junction: M1 Junction 15								
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 (M1 Southbound Offslip)	3.65	0.00	Y	Arm 2 Left	Inf	100.0 %	1980	1980
1/2 (M1 Southbound Offslip)	3.65	0.00	N	Arm 2 Left	Inf	95.5 %	2120	2120
				Arm 3 Ahead	Inf	4.5 %		
1/3 (M1 Southbound Offslip)	3.65	0.00	Y	Arm 3 Ahead	Inf	100.0 %	1980	1980
2/1 (A45 Northbound Lane 1)	Infinite Saturation Flow						Inf	Inf
2/2 (A45 Northbound Lane 2)	Infinite Saturation Flow						Inf	Inf
3/1	This lane uses a directly entered Saturation Flow						1900	1900
3/2	This lane uses a directly entered Saturation Flow						1900	1900
3/3	This lane uses a directly entered Saturation Flow						1900	1900
4/1 (A45 Southbound)	3.65	0.00	Y	Arm 5 Left	Inf	5.1 %	1980	1980
				Arm 6 Ahead	Inf	94.9 %		
4/2 (A45 Southbound)	3.65	0.00	N	Arm 6 Ahead	Inf	100.0 %	2120	2120
4/3 (A45 Southbound)	3.65	0.00	N	Arm 6 Ahead	Inf	100.0 %	2120	2120
5/1 (Saxon Avenue Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
5/2 (Saxon Avenue Exit Lane 2)	Infinite Saturation Flow						Inf	Inf
6/1	Infinite Saturation Flow						Inf	Inf
6/2	Infinite Saturation Flow						Inf	Inf
6/3	Infinite Saturation Flow						Inf	Inf
7/1 (M1 Southbound Circulatory Lane 1)	This lane uses a directly entered Saturation Flow						2000	2000
7/2 (M1 Southbound Circulatory Lane 2)	This lane uses a directly entered Saturation Flow						2000	2000
7/3 (M1 Southbound Circulatory Lane 3)	This lane uses a directly entered Saturation Flow						2000	2000
8/1 (M1 Northbound Circulatory Lane 1)	This lane uses a directly entered Saturation Flow						2000	2000
8/2 (M1 Northbound Circulatory Lane 2)	This lane uses a directly entered Saturation Flow						2000	2000
8/3 (M1 Northbound Circulatory Lane 3)	This lane uses a directly entered Saturation Flow						2000	2000
9/1 (M1 Southbound Onslip Lane 1)	Infinite Saturation Flow						Inf	Inf
9/2 (M1 Southbound Onslip Lane 2)	Infinite Saturation Flow						Inf	Inf
10/1 (Saxon Avenue Lane 1)	Infinite Saturation Flow						Inf	Inf
10/2 (Saxon Avenue Lane 2)	Infinite Saturation Flow						Inf	Inf
11/1	3.65	0.00	Y	Arm 12 Left	Inf	19.0 %	1980	1980

(M1 Northbound Offslip)				Arm 13 Ahead	Inf	81.0 %		
11/2 (M1 Northbound Offslip)	3.65	0.00	N	Arm 13 Ahead	Inf	100.0 %	2120	2120
11/3 (M1 Northbound Offslip)	3.65	0.00	N	Arm 13 Ahead	Inf	100.0 %	2120	2120
12/1	Infinite Saturation Flow						Inf	Inf
13/1	Infinite Saturation Flow						Inf	Inf
13/2	Infinite Saturation Flow						Inf	Inf
13/3	Infinite Saturation Flow						Inf	Inf
14/1 (Toucan Crossing)	3.80	0.00	Y	Arm 16 Ahead	Inf	100.0 %	1995	1995
14/2 (Toucan Crossing)	3.80	0.00	Y	Arm 16 Ahead	Inf	100.0 %	1995	1995
15/1 (A508 Northampton Rd Lane 1)	Infinite Saturation Flow						Inf	Inf
15/2 (A508 Northampton Rd Lane 2)	Infinite Saturation Flow						Inf	Inf
15/3 (A508 Northampton Rd Lane 3)	Infinite Saturation Flow						Inf	Inf
16/1	Infinite Saturation Flow						Inf	Inf
16/2	Infinite Saturation Flow						Inf	Inf

Scenario 8: '2021 PM Ref E1' (FG8: '2021 E1 Dev PM Peak', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

	Destination						
Origin	A	B	C	D	E	Tot.	
	A	170	87	909	757	1237	3160
	B	23	0	119	12	86	240
	C	1147	22	0	90	0	1259
	D	738	19	57	0	320	1134
	E	1143	93	0	292	0	1528
	Tot.	3221	221	1085	1151	1643	7321

Traffic Lane Flows

Lane	Scenario 8: 2021 PM Ref E1
1/1	536
1/2 (with short)	992(In) 607(Out)
1/3 (short)	385
2/1	1554
2/2	1667
3/1	28
3/2	106
3/3	349
4/1	842
4/2	911
4/3	1407
5/1	115
5/2	106
6/1	783
6/2	1232
6/3	1407
7/1	1018
7/2	1060
7/3	98
8/1	1061
8/2	742
8/3	774
9/1	902
9/2	183
10/1 (with short)	240(In) 131(Out)
10/2 (short)	109
11/1	522
11/2 (with short)	737(In) 565(Out)
11/3 (short)	172
12/1	1151
13/1	1174
13/2	1339
13/3	172
14/1	892
14/2	751
15/1 (with short)	1058(In) 529(Out)
15/2 (short)	529
15/3	76
16/1	892
16/2	751

Lane Saturation Flows

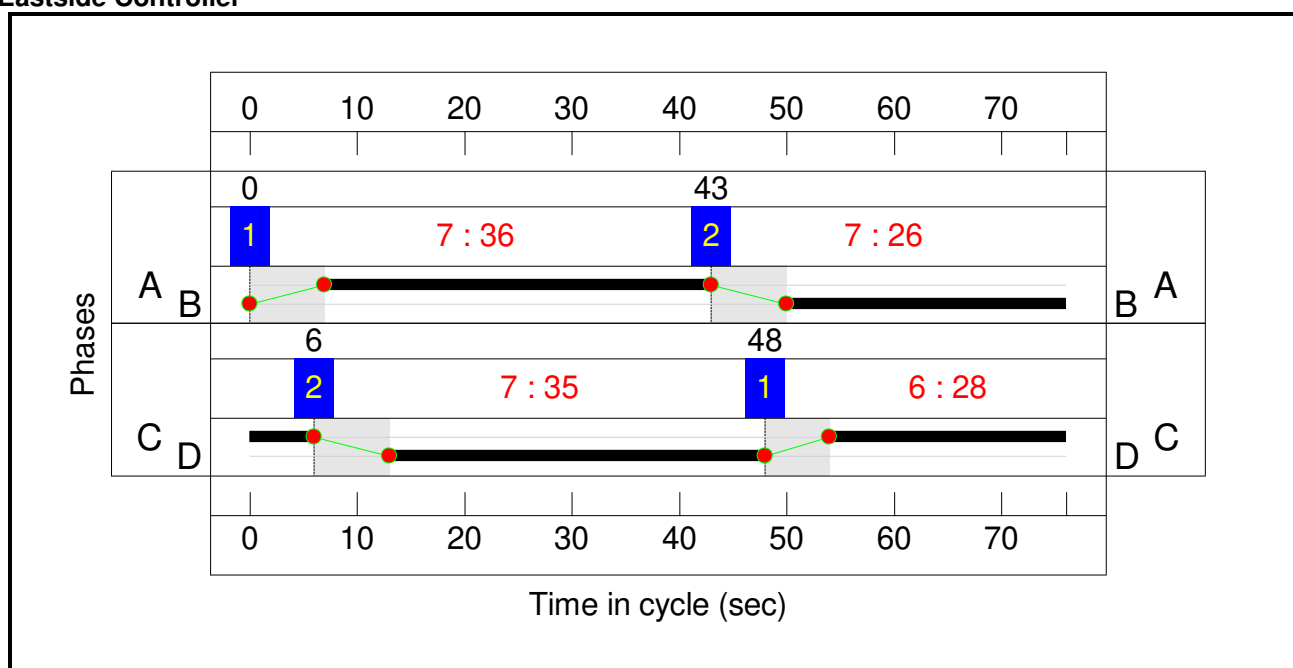
Junction: M1 Junction 15								
Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
1/1 (M1 Southbound Offslip)	3.65	0.00	Y	Arm 2 Left	Inf	100.0 %	1980	1980
1/2 (M1 Southbound Offslip)	3.65	0.00	N	Arm 2 Left	Inf	100.0 %	2120	2120
				Arm 3 Ahead	Inf	0.0 %		
1/3 (M1 Southbound Offslip)	3.65	0.00	Y	Arm 3 Ahead	Inf	100.0 %	1980	1980
2/1 (A45 Northbound Lane 1)	Infinite Saturation Flow						Inf	Inf
2/2 (A45 Northbound Lane 2)	Infinite Saturation Flow						Inf	Inf
3/1	This lane uses a directly entered Saturation Flow						1900	1900
3/2	This lane uses a directly entered Saturation Flow						1900	1900
3/3	This lane uses a directly entered Saturation Flow						1900	1900
4/1 (A45 Southbound)	3.65	0.00	Y	Arm 5 Left	Inf	10.3 %	1980	1980
				Arm 6 Ahead	Inf	89.7 %		
4/2 (A45 Southbound)	3.65	0.00	N	Arm 6 Ahead	Inf	100.0 %	2120	2120
4/3 (A45 Southbound)	3.65	0.00	N	Arm 6 Ahead	Inf	100.0 %	2120	2120
5/1 (Saxon Avenue Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
5/2 (Saxon Avenue Exit Lane 2)	Infinite Saturation Flow						Inf	Inf
6/1	Infinite Saturation Flow						Inf	Inf
6/2	Infinite Saturation Flow						Inf	Inf
6/3	Infinite Saturation Flow						Inf	Inf
7/1 (M1 Southbound Circulatory Lane 1)	This lane uses a directly entered Saturation Flow						2000	2000
7/2 (M1 Southbound Circulatory Lane 2)	This lane uses a directly entered Saturation Flow						2000	2000
7/3 (M1 Southbound Circulatory Lane 3)	This lane uses a directly entered Saturation Flow						2000	2000
8/1 (M1 Northbound Circulatory Lane 1)	This lane uses a directly entered Saturation Flow						2000	2000
8/2 (M1 Northbound Circulatory Lane 2)	This lane uses a directly entered Saturation Flow						2000	2000
8/3 (M1 Northbound Circulatory Lane 3)	This lane uses a directly entered Saturation Flow						2000	2000
9/1 (M1 Southbound Onslip Lane 1)	Infinite Saturation Flow						Inf	Inf
9/2 (M1 Southbound Onslip Lane 2)	Infinite Saturation Flow						Inf	Inf
10/1 (Saxon Avenue Lane 1)	Infinite Saturation Flow						Inf	Inf
10/2 (Saxon Avenue Lane 2)	Infinite Saturation Flow						Inf	Inf
11/1 (M1 Northbound Offslip)	3.65	0.00	Y	Arm 12 Left	Inf	17.2 %	1980	1980
				Arm 13 Ahead	Inf	82.8 %		
11/2 (M1 Northbound Offslip)	3.65	0.00	N	Arm 13 Ahead	Inf	100.0 %	2120	2120
11/3 (M1 Northbound Offslip)	3.65	0.00	N	Arm 13 Ahead	Inf	100.0 %	2120	2120
12/1	Infinite Saturation Flow						Inf	Inf

13/1	Infinite Saturation Flow						Inf	Inf
13/2	Infinite Saturation Flow						Inf	Inf
13/3	Infinite Saturation Flow						Inf	Inf
14/1 (Toucan Crossing)	3.80	0.00	Y	Arm 16 Ahead	Inf	100.0 %	1995	1995
14/2 (Toucan Crossing)	3.80	0.00	Y	Arm 16 Ahead	Inf	100.0 %	1995	1995
15/1 (A508 Northampton Rd Lane 1)	Infinite Saturation Flow						Inf	Inf
15/2 (A508 Northampton Rd Lane 2)	Infinite Saturation Flow						Inf	Inf
15/3 (A508 Northampton Rd Lane 3)	Infinite Saturation Flow						Inf	Inf
16/1	Infinite Saturation Flow						Inf	Inf
16/2	Infinite Saturation Flow						Inf	Inf

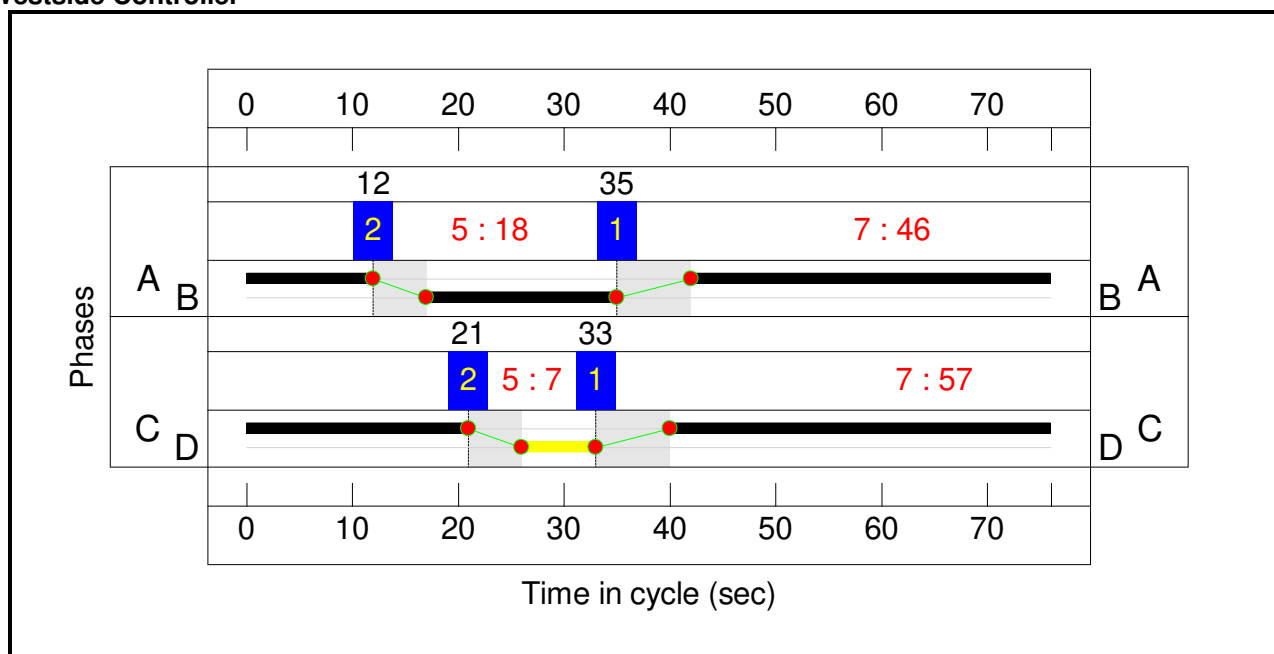
Signal Timings Diagram

Scenario 5: '2021 AM Ref B1' (FG5: '2021 B1 Ref AM Peak', Plan 1: 'Network Control Plan 1')

C1 - Eastside Controller



C2 - Westside Controller

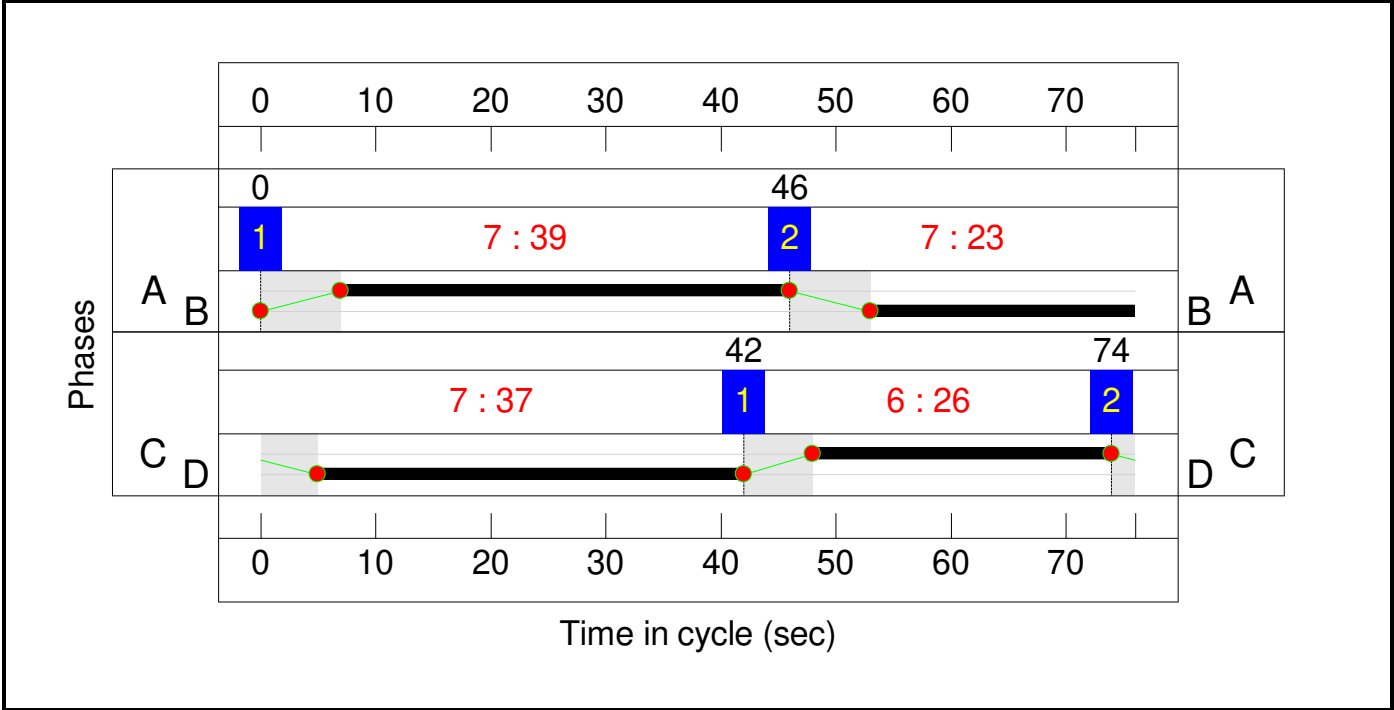


Network Results

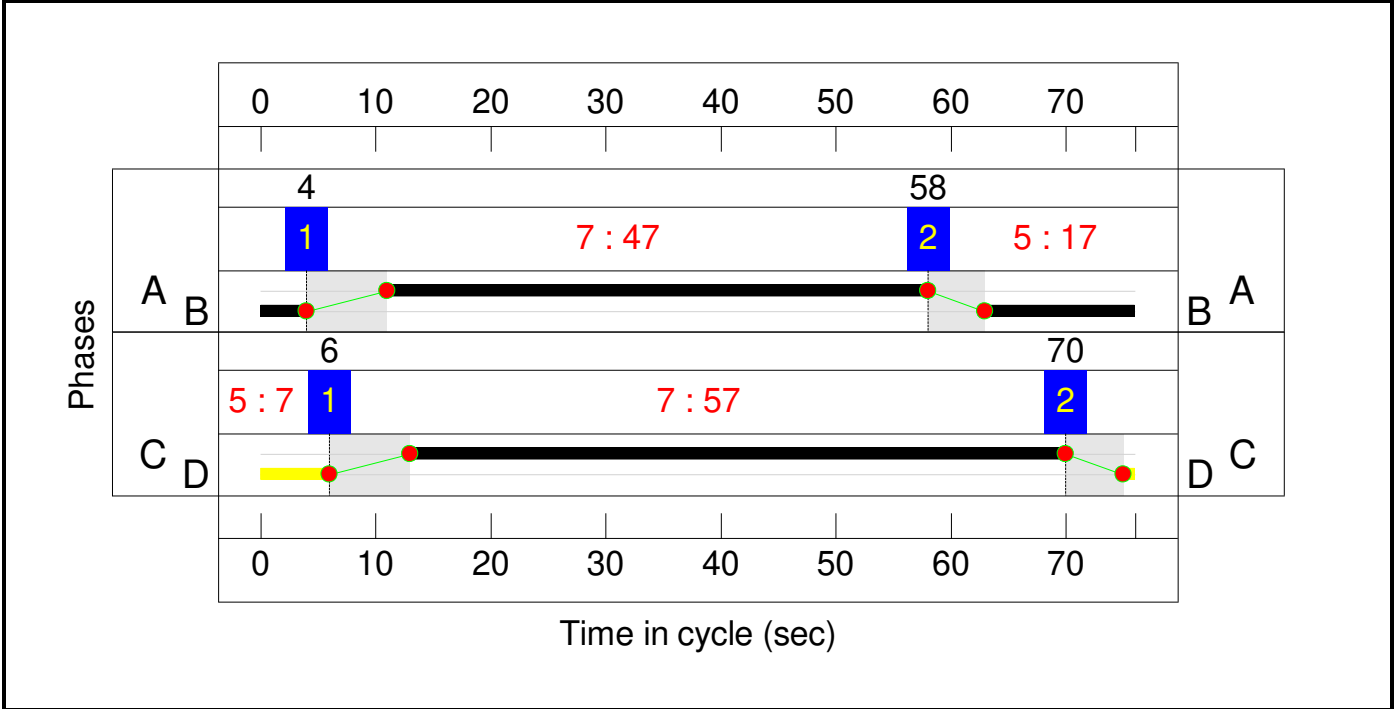
Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
1/1	M1 Southbound Offslip Left	U	1:2	N/A	C1:C		1	28	-	514	1980	756	68.0%
1/2+1/3	M1 Southbound Offslip Left	U	1:2	N/A	C1:C		1	28	-	1136	2120:1980	734+665	81.2 : 81.2%
3/1	Ahead	U	1:1	N/A	C1:B		1	26	-	54	1900	675	8.0%
3/2	Ahead	U	1:1	N/A	C1:B		1	26	-	80	1900	675	11.9%
3/3	Right	U	1:1	N/A	C1:B		1	26	-	558	1900	675	82.7%
4/1	A45 Southbound Left Ahead	U	1:1	N/A	C1:A		1	36	-	830	1980	964	86.1%
4/2	A45 Southbound	U	1:1	N/A	C1:A		1	36	-	901	2120	1032	87.3%
4/3	A45 Southbound	U	1:1	N/A	C1:A		1	36	-	1463	2120	1032	141.7%
7/1	M1 Southbound Circulatory	U	1:2	N/A	C1:D		1	35	-	994	2000	947	83.0%
7/2	M1 Southbound Circulatory	U	1:2	N/A	C1:D		1	35	-	981	2000	947	89.1%
7/3	M1 Southbound Circulatory Right	U	1:2	N/A	C1:D		1	35	-	126	2000	947	13.3%
8/1	M1 Northbound Circulatory	U	2:1	N/A	C2:A		1	46	-	1171	2000	1237	94.7%
8/2	M1 Northbound Circulatory Right	U	2:1	N/A	C2:A		1	46	-	741	2000	1237	42.6%
8/3	M1 Northbound Circulatory Right	U	2:1	N/A	C2:A		1	46	-	804	2000	1237	47.4%
10/1+10/2	Saxon Avenue Left Left2	O	N/A	N/A	-		-	-	-	116	Inf : Inf	125+302	27.2 : 27.2%
11/1	M1 Northbound Offslip Left	U	2:1	N/A	C2:B		1	18	-	637	1980	495	128.7%
11/2+11/3	M1 Northbound Offslip Ahead	U	2:1	N/A	C2:B		1	18	-	823	2120:2120	530+108	129.1 : 129.1%
14/1	Toucan Crossing	U	2:2	N/A	C2:C		1	57	-	993	1995	1523	50.2%
14/2	Toucan Crossing	U	2:2	N/A	C2:C		1	57	-	757	1995	1523	35.4%
15/1+15/2	A508 Northampton Rd Ahead Left	O	N/A	N/A	-		-	-	-	829	Inf : Inf	375+375	110.7 : 110.4%
15/3	A508 Northampton Rd	O	N/A	N/A	-		-	-	-	87	Inf	376	23.1%

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)
1/1	514	514	-	-	-	2.8	1.1	-	3.9	27.0	9.0	1.1	10.0
1/2+1/3	1136	1136	-	-	-	6.3	2.1	-	8.5 (4.5+4.0)	26.8 (27.0:26.7)	10.8	2.1	12.9
3/1	54	54	-	-	-	0.2	0.0	-	0.2	14.5	0.7	0.0	0.7
3/2	80	80	-	-	-	0.2	0.1	-	0.3	12.2	0.7	0.1	0.7
3/3	558	558	-	-	-	1.5	2.3	-	3.8	24.7	3.0	2.3	5.3
4/1	830	830	-	-	-	4.0	3.0	-	6.9	30.1	15.4	3.0	18.4
4/2	901	901	-	-	-	4.4	3.3	-	7.6	30.5	16.8	3.3	20.0
4/3	1463	1032	-	-	-	22.9	217.1	-	240.0	590.6	40.0	217.1	257.1
7/1	787	787	-	-	-	3.4	2.4	-	5.7	26.3	9.4	2.4	11.7
7/2	844	844	-	-	-	1.7	3.8	-	5.5	23.5	7.2	3.8	10.9
7/3	126	126	-	-	-	0.4	0.1	-	0.4	12.5	1.4	0.1	1.5
8/1	1171	1171	-	-	-	4.7	7.3	-	12.0	36.7	18.2	7.3	25.5
8/2	527	527	-	-	-	1.5	0.4	-	1.9	12.7	10.9	0.4	11.2
8/3	587	587	-	-	-	1.6	0.5	-	2.1	12.8	11.2	0.5	11.7
10/1+10/2	116	116	232	0	0	0.3	0.2	-	0.5 (0.1+0.4)	15.6 (15.2:15.8)	0.9	0.2	1.1
11/1	637	495	-	-	-	9.9	73.2	-	83.1	469.7	16.4	73.2	89.6
11/2+11/3	823	669	-	-	-	11.6	94.8	-	106.4 (89.5+16.9)	465.5 (471.2:437.6)	20.7	94.8	115.6
14/1	764	764	-	-	-	0.1	0.5	-	0.6	3.0	0.5	0.5	1.0
14/2	540	540	-	-	-	0.0	0.3	-	0.3	1.9	0.0	0.3	0.3
15/1+15/2	829	750	1499	0	0	7.0	44.3	-	51.4 (26.0+25.4)	223.1 (225.2:220.9)	23.4	44.3	67.7
15/3	87	87	87	0	0	0.1	0.2	-	0.3	11.9	0.6	0.2	0.7
C1 - Eastside Controller C1 - Eastside Controller C2 - Westside Controller C2 - Westside Controller Stream: 1 PRC for Signalled Lanes (%): -57.5 Stream: 2 PRC for Signalled Lanes (%): 1.1 Stream: 1 PRC for Signalled Lanes (%): -43.4 Stream: 2 PRC for Signalled Lanes (%): 79.3 PRC Over All Lanes (%): -57.5 Total Delay for Signalled Lanes (pcuHr): 258.90 Total Delay for Signalled Lanes (pcuHr): 24.03 Total Delay for Signalled Lanes (pcuHr): 205.41 Total Delay for Signalled Lanes (pcuHr): 0.90 Total Delay Over All Lanes(pcuHr): 541.41 Cycle Time (s): 76 Cycle Time (s): 76 Cycle Time (s): 76 Cycle Time (s): 76													

Signal Timings Diagram
Scenario 6: '2021 PM Ref B1' (FG6: '2021 B1 Ref PM Peak', Plan 1: 'Network Control Plan 1')
C1 - Eastside Controller



C2 - Westside Controller

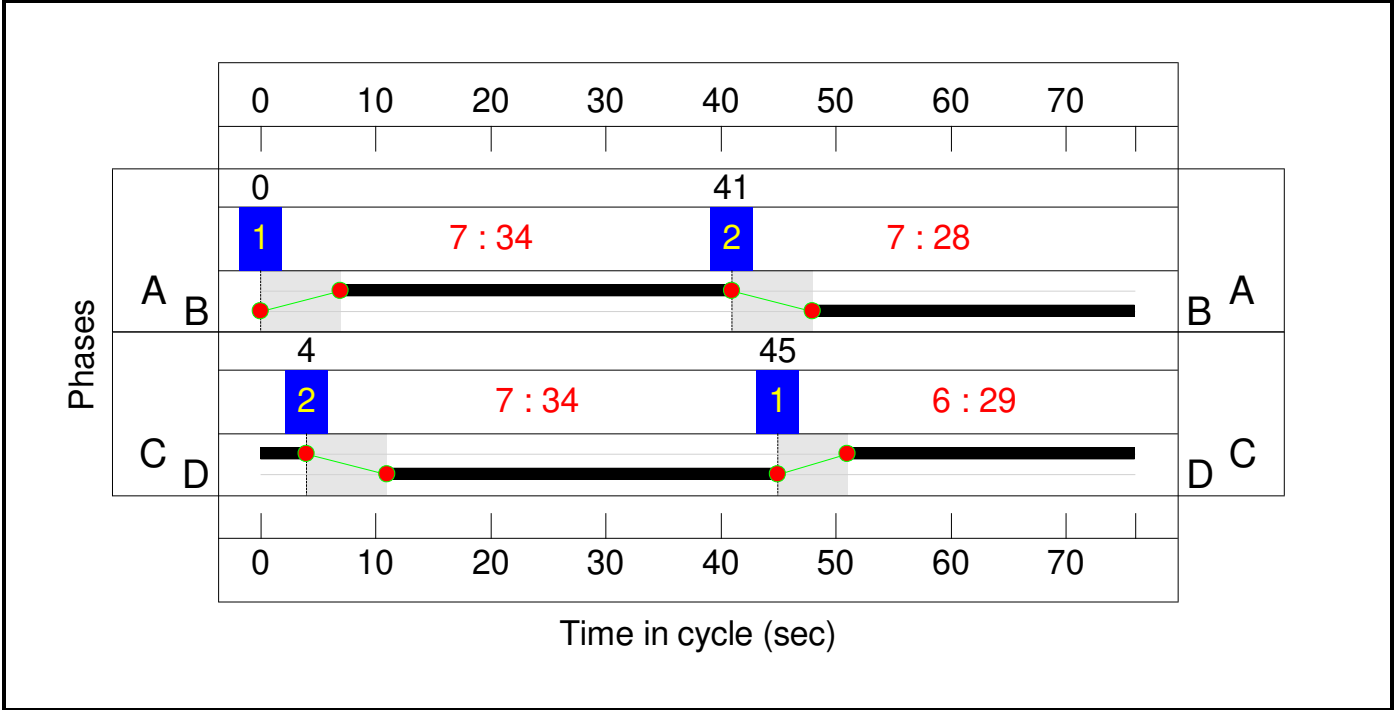


Network Results

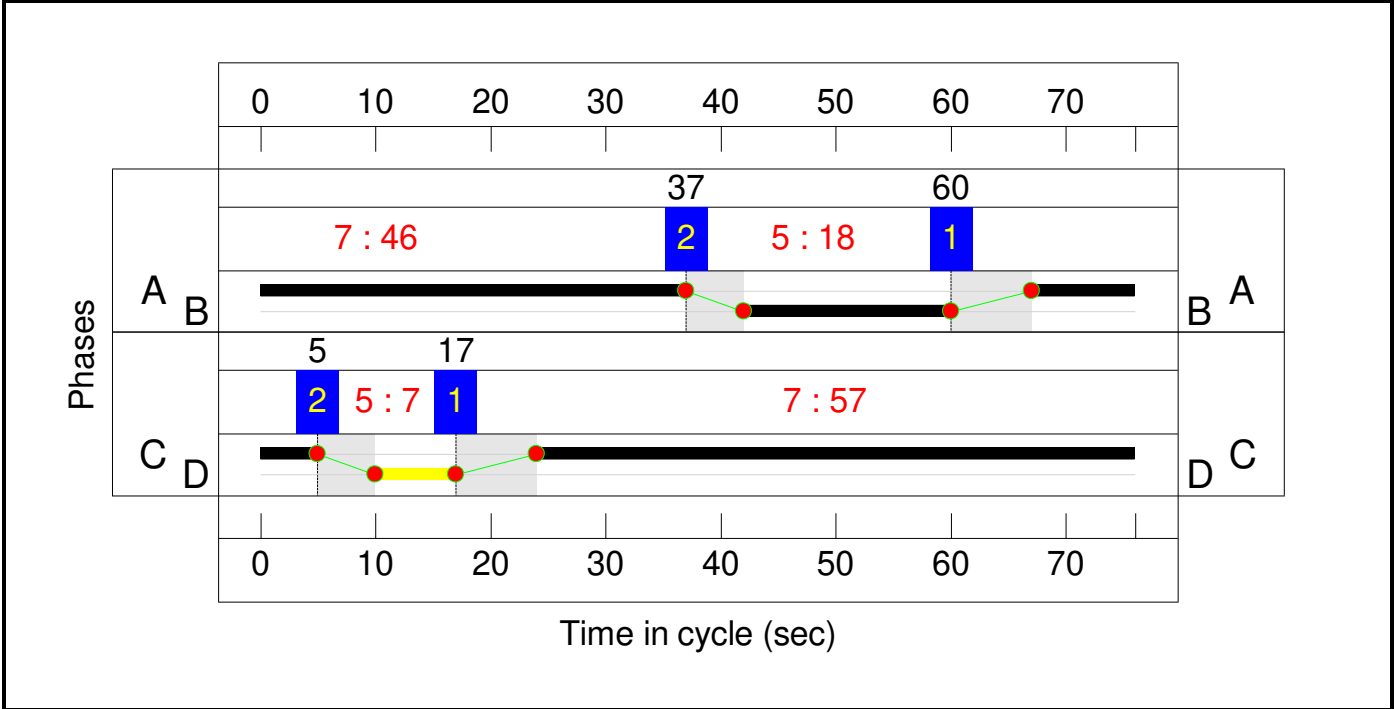
Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
1/1	M1 Southbound Offslip Left	U	1:2	N/A	C1:C		1	26	-	534	1980	703	75.9%
1/2+1/3	M1 Southbound Offslip Left	U	1:2	N/A	C1:C		1	26	-	990	2120:1980	713+454	84.9 : 84.9%
3/1	Ahead	U	1:1	N/A	C1:B		1	23	-	18	1900	600	3.0%
3/2	Ahead	U	1:1	N/A	C1:B		1	23	-	88	1900	600	14.7%
3/3	Right	U	1:1	N/A	C1:B		1	23	-	336	1900	600	56.0%
4/1	A45 Southbound Left	U	1:1	N/A	C1:A		1	39	-	847	1980	1042	81.3%
4/2	A45 Southbound	U	1:1	N/A	C1:A		1	39	-	918	2120	1116	82.3%
4/3	A45 Southbound Ahead	U	1:1	N/A	C1:A		1	39	-	1471	2120	1116	131.8%
7/1	M1 Southbound Circulatory Ahead	U	1:2	N/A	C1:D		1	37	-	1046	2000	1000	88.7%
7/2	M1 Southbound Circulatory Ahead	U	1:2	N/A	C1:D		1	37	-	973	2000	1000	85.9%
7/3	M1 Southbound Circulatory Right	U	1:2	N/A	C1:D		1	37	-	57	2000	1000	5.7%
8/1	M1 Northbound Circulatory Ahead	U	2:1	N/A	C2:A		1	47	-	1049	2000	1263	83.0%
8/2	M1 Northbound Circulatory Right	U	2:1	N/A	C2:A		1	47	-	789	2000	1263	48.2%
8/3	M1 Northbound Circulatory Right	U	2:1	N/A	C2:A		1	47	-	789	2000	1263	48.6%
10/1+10/2	Saxon Avenue Left Left2	O	N/A	N/A	-		-	-	-	241	Inf : Inf	320+255	41.9 : 41.9%
11/1	M1 Northbound Offslip Left Ahead	U	2:1	N/A	C2:B		1	17	-	534	1980	469	113.9%
11/2+11/3	M1 Northbound Offslip Ahead	U	2:1	N/A	C2:B		1	17	-	750	2120:2120	502+147	115.5 : 115.5%
14/1	Toucan Crossing	U	2:2	N/A	C2:C		1	57	-	803	1995	1523	42.1%
14/2	Toucan Crossing	U	2:2	N/A	C2:C		1	57	-	768	1995	1523	39.0%
15/1+15/2	A508 Northampton Rd Ahead Left	O	N/A	N/A	-		-	-	-	809	Inf : Inf	345+345	117.2 : 117.5%
15/3	A508 Northampton Rd Ahead	O	N/A	N/A	-		-	-	-	37	Inf	355	10.4%

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)
1/1	534	534	-	-	-	3.2	1.5	-	4.8	32.1	9.9	1.5	11.5
1/2+1/3	990	990	-	-	-	5.8	2.7	-	8.5 (5.4+3.2)	31.0 (32.0:29.5)	11.4	2.7	14.1
3/1	18	18	-	-	-	0.2	0.0	-	0.2	40.5	0.4	0.0	0.4
3/2	88	88	-	-	-	0.2	0.1	-	0.2	10.2	0.3	0.1	0.4
3/3	336	336	-	-	-	0.5	0.6	-	1.1	11.8	4.8	0.6	5.4
4/1	847	847	-	-	-	3.5	2.1	-	5.6	23.9	14.6	2.1	16.7
4/2	918	918	-	-	-	3.8	2.3	-	6.1	23.9	16.1	2.3	18.3
4/3	1471	1116	-	-	-	19.5	179.7	-	199.2	487.5	38.6	179.7	218.2
7/1	887	887	-	-	-	3.6	3.7	-	7.2	29.4	17.7	3.7	21.4
7/2	859	859	-	-	-	2.9	2.9	-	5.8	24.4	16.4	2.9	19.4
7/3	57	57	-	-	-	0.1	0.0	-	0.1	8.7	0.6	0.0	0.6
8/1	1049	1049	-	-	-	1.8	2.4	-	4.2	14.4	12.2	2.4	14.6
8/2	609	609	-	-	-	0.6	0.5	-	1.1	6.3	2.0	0.5	2.4
8/3	614	614	-	-	-	0.7	0.5	-	1.2	6.9	2.4	0.5	2.8
10/1+10/2	241	241	482	0	0	0.8	0.4	-	1.2 (0.7+0.5)	17.7 (17.9:17.5)	2.1	0.4	2.5
11/1	534	469	-	-	-	7.1	36.2	-	43.3	292.0	13.0	36.2	49.2
11/2+11/3	750	672	-	-	-	8.2	53.8	-	62.0 (48.7+13.3)	297.7 (302.2:282.5)	13.4	53.8	67.3
14/1	640	640	-	-	-	0.0	0.4	-	0.4	2.0	0.0	0.4	0.4
14/2	593	593	-	-	-	0.0	0.3	-	0.3	1.9	0.0	0.3	0.3
15/1+15/2	809	689	1378	0	0	6.8	63.1	-	69.8 (34.6+35.2)	310.8 (308.7:312.9)	25.7	63.1	88.7
15/3	37	37	37	0	0	0.0	0.1	-	0.1	8.0	0.2	0.1	0.2
C1 - Eastside Controller Stream: 1 PRC for Signalled Lanes (%): -46.5 Total Delay for Signalled Lanes (pcuHr): 212.48 Cycle Time (s): 76 C1 - Eastside Controller Stream: 2 PRC for Signalled Lanes (%): 1.5 Total Delay for Signalled Lanes (pcuHr): 26.49 Cycle Time (s): 76 C2 - Westside Controller Stream: 1 PRC for Signalled Lanes (%): -28.3 Total Delay for Signalled Lanes (pcuHr): 111.78 Cycle Time (s): 76 C2 - Westside Controller Stream: 2 PRC for Signalled Lanes (%): 113.9 Total Delay for Signalled Lanes (pcuHr): 0.68 Cycle Time (s): 76 PRC Over All Lanes (%): -46.5 Total Delay Over All Lanes(pcuHr): 422.54													

Signal Timings Diagram
Scenario 7: '2021 AM Ref E1' (FG7: '2021 E1 Dev AM Peak', Plan 1: 'Network Control Plan 1')
C1 - Eastside Controller



C2 - Westside Controller

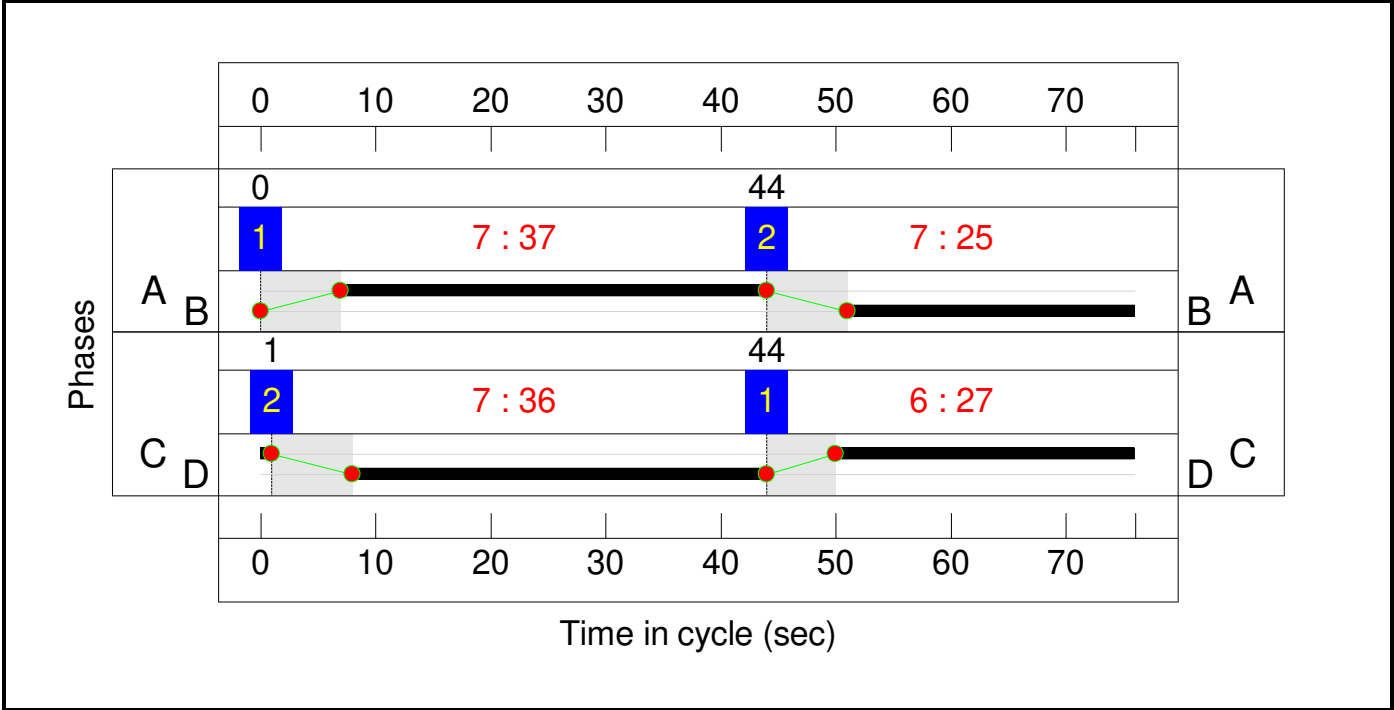


Network Results

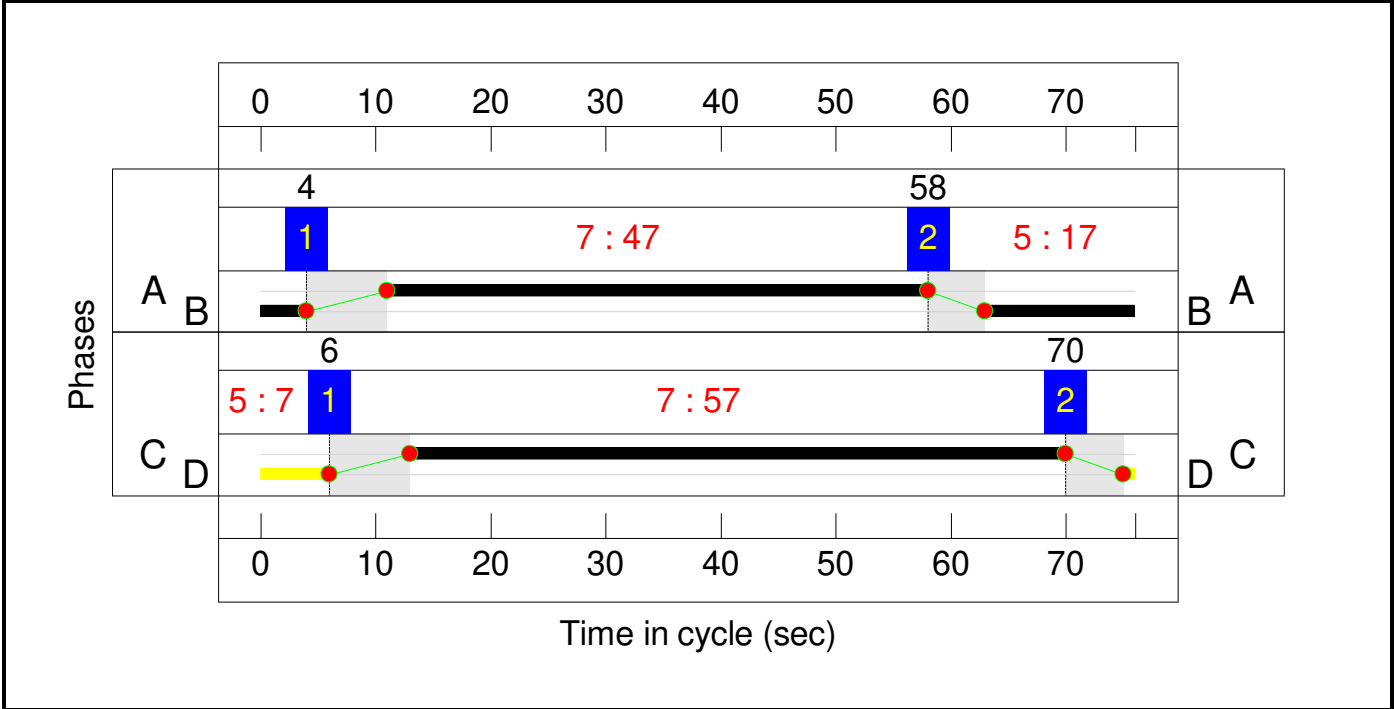
Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
1/1	M1 Southbound Offslip Left	U	1:2	N/A	C1:C		1	29	-	520	1980	782	66.5%
1/2+1/3	M1 Southbound Offslip Left Ahead	U	1:2	N/A	C1:C		1	29	-	1159	2120:1980	747+696	80.3 : 80.3%
3/1	Ahead	U	1:1	N/A	C1:B		1	28	-	54	1900	725	7.4%
3/2	Ahead	U	1:1	N/A	C1:B		1	28	-	78	1900	725	10.8%
3/3	Right	U	1:1	N/A	C1:B		1	28	-	610	1900	725	84.1%
4/1	A45 Southbound Left Ahead	U	1:1	N/A	C1:A		1	34	-	668	1980	912	73.3%
4/2	A45 Southbound Ahead	U	1:1	N/A	C1:A		1	34	-	726	2120	976	74.4%
4/3	A45 Southbound Ahead	U	1:1	N/A	C1:A		1	34	-	1455	2120	976	149.0%
7/1	M1 Southbound Circulatory Ahead	U	1:2	N/A	C1:D		1	34	-	1043	2000	921	87.8%
7/2	M1 Southbound Circulatory Ahead	U	1:2	N/A	C1:D		1	34	-	959	2000	921	86.4%
7/3	M1 Southbound Circulatory Right	U	1:2	N/A	C1:D		1	34	-	156	2000	921	16.9%
8/1	M1 Northbound Circulatory Ahead	U	2:1	N/A	C2:A		1	46	-	901	2000	1237	72.8%
8/2	M1 Northbound Circulatory Right	U	2:1	N/A	C2:A		1	46	-	737	2000	1237	40.7%
8/3	M1 Northbound Circulatory Right	U	2:1	N/A	C2:A		1	46	-	792	2000	1237	44.2%
10/1+10/2	Saxon Avenue Left Left2	O	N/A	N/A	-		-	-	-	113	Inf : Inf	168+318	23.3 : 23.3%
11/1	M1 Northbound Offslip Left Ahead	U	2:1	N/A	C2:B		1	18	-	637	1980	495	128.7%
11/2+11/3	M1 Northbound Offslip	U	2:1	N/A	C2:B		1	18	-	824	2120:2120	530+107	129.4 : 129.4%
14/1	Toucan Crossing	U	2:2	N/A	C2:C		1	57	-	1007	1995	1523	48.3%
14/2	Toucan Crossing	U	2:2	N/A	C2:C		1	57	-	747	1995	1523	33.0%
15/1+15/2	A508 Northampton Rd Ahead Left	O	N/A	N/A	-		-	-	-	925	Inf : Inf	380+380	121.4 : 121.7%
15/3	A508 Northampton Rd	O	N/A	N/A	-		-	-	-	118	Inf	385	30.6%

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)
1/1	520	520	-	-	-	2.7	1.0	-	3.7	25.7	9.0	1.0	9.9
1/2+1/3	1159	1159	-	-	-	6.2	2.0	-	8.3 (4.3+4.0)	25.7 (25.7:25.7)	10.7	2.0	12.7
3/1	54	54	-	-	-	0.3	0.0	-	0.3	19.5	0.6	0.0	0.7
3/2	78	78	-	-	-	0.3	0.1	-	0.3	15.8	0.7	0.1	0.7
3/3	610	610	-	-	-	1.5	2.5	-	4.0	23.7	3.4	2.5	6.0
4/1	668	668	-	-	-	3.1	1.4	-	4.5	24.0	11.3	1.4	12.7
4/2	726	726	-	-	-	3.4	1.4	-	4.8	23.9	12.5	1.4	13.9
4/3	1455	976	-	-	-	25.0	240.9	-	265.9	657.9	40.8	240.9	281.7
7/1	809	809	-	-	-	7.1	3.4	-	10.5	46.6	16.8	3.4	20.2
7/2	796	796	-	-	-	5.0	3.0	-	8.1	36.5	15.9	3.0	18.9
7/3	156	156	-	-	-	0.6	0.1	-	0.7	16.1	2.1	0.1	2.2
8/1	901	901	-	-	-	1.5	1.3	-	2.8	11.3	14.1	1.3	15.5
8/2	503	503	-	-	-	1.9	0.3	-	2.2	16.1	6.1	0.3	6.5
8/3	547	547	-	-	-	2.1	0.4	-	2.5	16.3	6.7	0.4	7.1
10/1+10/2	113	113	226	0	0	0.2	0.2	-	0.4 (0.1+0.3)	12.6 (12.0:12.9)	0.8	0.2	0.9
11/1	637	495	-	-	-	9.6	73.2	-	82.8	468.1	17.1	73.2	90.3
11/2+11/3	824	668	-	-	-	10.6	95.8	-	106.4 (89.5+16.9)	465.0 (469.7:441.6)	20.7	95.8	116.6
14/1	735	735	-	-	-	0.7	0.5	-	1.1	5.5	5.6	0.5	6.1
14/2	502	502	-	-	-	0.3	0.2	-	0.5	3.6	1.1	0.2	1.4
15/1+15/2	925	761	1522	0	0	9.0	84.8	-	93.8 (46.6+47.2)	365.0 (363.3:366.7)	25.3	84.8	110.1
15/3	118	118	118	0	0	0.1	0.2	-	0.3	10.6	0.7	0.2	0.9
C1 - Eastside Controller Stream: 1 PRC for Signalled Lanes (%): -65.6 Total Delay for Signalled Lanes (pcuHr): 279.83 Cycle Time (s): 76 C1 - Eastside Controller Stream: 2 PRC for Signalled Lanes (%): 2.5 Total Delay for Signalled Lanes (pcuHr): 31.23 Cycle Time (s): 76 C2 - Westside Controller Stream: 1 PRC for Signalled Lanes (%): -43.8 Total Delay for Signalled Lanes (pcuHr): 196.82 Cycle Time (s): 76 C2 - Westside Controller Stream: 2 PRC for Signalled Lanes (%): 86.4 Total Delay for Signalled Lanes (pcuHr): 1.64 Cycle Time (s): 76 PRC Over All Lanes (%): -65.6 Total Delay Over All Lanes(pcuHr): 604.04													

Signal Timings Diagram
Scenario 8: '2021 PM Ref E1' (FG8: '2021 E1 Dev PM Peak', Plan 1: 'Network Control Plan 1')
C1 - Eastside Controller



C2 - Westside Controller



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 (%)
1/1	M1 Southbound Offslip Left	U	1:2	N/A	C1:C		1	27	-	536	1980	729	73.5%
1/2+1/3	M1 Southbound Offslip Left Ahead	U	1:2	N/A	C1:C		1	27	-	992	2120:1980	730+463	83.2 : 83.2%
3/1	Ahead	U	1:1	N/A	C1:B		1	25	-	28	1900	650	4.3%
3/2	Ahead	U	1:1	N/A	C1:B		1	25	-	106	1900	650	16.3%
3/3	Right	U	1:1	N/A	C1:B		1	25	-	349	1900	650	53.7%
4/1	A45 Southbound Left Ahead	U	1:1	N/A	C1:A		1	37	-	842	1980	990	85.1%
4/2	A45 Southbound Ahead	U	1:1	N/A	C1:A		1	37	-	911	2120	1060	85.9%
4/3	A45 Southbound Ahead	U	1:1	N/A	C1:A		1	37	-	1407	2120	1060	132.7%
7/1	M1 Southbound Circulatory Ahead	U	1:2	N/A	C1:D		1	36	-	1018	2000	974	86.4%
7/2	M1 Southbound Circulatory Ahead	U	1:2	N/A	C1:D		1	36	-	1060	2000	974	86.9%
7/3	M1 Southbound Circulatory Right	U	1:2	N/A	C1:D		1	36	-	98	2000	974	10.1%
8/1	M1 Northbound Circulatory Ahead	U	2:1	N/A	C2:A		1	47	-	1061	2000	1263	84.0%
8/2	M1 Northbound Circulatory Right	U	2:1	N/A	C2:A		1	47	-	742	2000	1263	45.3%
8/3	M1 Northbound Circulatory Right	U	2:1	N/A	C2:A		1	47	-	774	2000	1263	47.3%
10/1+10/2	Saxon Avenue Left Left2	O	N/A	N/A	-		-	-	-	240	Inf : Inf	339+282	38.7 : 38.7%
11/1	M1 Northbound Offslip Left Ahead	U	2:1	N/A	C2:B		1	17	-	522	1980	469	111.3%
11/2+11/3	M1 Northbound Offslip Ahead	U	2:1	N/A	C2:B		1	17	-	737	2120:2120	502+153	112.5 : 112.5%
14/1	Toucan Crossing	U	2:2	N/A	C2:C		1	57	-	892	1995	1523	43.3%
14/2	Toucan Crossing	U	2:2	N/A	C2:C		1	57	-	751	1995	1523	37.7%
15/1+15/2	A508 Northampton Rd Ahead Left	O	N/A	N/A	-		-	-	-	1058	Inf : Inf	355+355	148.8 : 148.8%
15/3	A508 Northampton Rd	O	N/A	N/A	-		-	-	-	76	Inf	366	20.8%

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)
1/1	536	536	-	-	-	3.1	1.4	-	4.5	30.0	9.7	1.4	11.0
1/2+1/3	992	992	-	-	-	5.6	2.4	-	8.0 (5.1+3.0)	29.1 (30.0:27.6)	11.3	2.4	13.7
3/1	28	28	-	-	-	0.2	0.0	-	0.3	33.8	0.6	0.0	0.6
3/2	106	106	-	-	-	0.2	0.1	-	0.3	10.8	0.4	0.1	0.5
3/3	349	349	-	-	-	0.8	0.6	-	1.3	13.7	1.7	0.6	2.3
4/1	842	842	-	-	-	3.9	2.7	-	6.6	28.3	15.4	2.7	18.2
4/2	911	911	-	-	-	4.2	2.9	-	7.2	28.3	16.7	2.9	19.6
4/3	1407	1060	-	-	-	19.4	175.5	-	194.9	498.8	37.0	175.5	212.5
7/1	841	841	-	-	-	3.6	3.0	-	6.6	28.3	16.9	3.0	19.9
7/2	846	846	-	-	-	3.2	3.2	-	6.4	27.2	16.6	3.2	19.8
7/3	98	98	-	-	-	0.2	0.1	-	0.3	11.0	1.2	0.1	1.2
8/1	1061	1061	-	-	-	1.4	2.6	-	4.0	13.5	7.8	2.6	10.4
8/2	572	572	-	-	-	0.4	0.4	-	0.8	5.3	1.5	0.4	1.9
8/3	597	597	-	-	-	0.5	0.4	-	0.9	5.6	1.6	0.4	2.1
10/1+10/2	240	240	480	0	0	0.7	0.3	-	1.1 (0.6+0.5)	15.8 (16.0:15.7)	1.9	0.3	2.2
11/1	522	469	-	-	-	6.5	30.8	-	37.2	256.9	12.2	30.8	43.0
11/2+11/3	737	674	-	-	-	7.5	45.1	-	52.6 (40.9+11.7)	256.8 (260.5:244.4)	12.5	45.1	57.6
14/1	658	658	-	-	-	0.0	0.4	-	0.4	2.1	0.1	0.4	0.5
14/2	574	574	-	-	-	0.0	0.3	-	0.3	1.9	0.0	0.3	0.3
15/1+15/2	1058	711	1422	0	0	18.7	175.1	-	193.8 (96.9+96.9)	659.5 (659.5:659.5)	33.5	175.1	208.6
15/3	76	76	76	0	0	0.1	0.1	-	0.2	8.6	0.4	0.1	0.5
C1 - Eastside Controller Stream: 1 PRC for Signalled Lanes (%): -47.5 Total Delay for Signalled Lanes (pcuHr): 210.61 Cycle Time (s): 76 C1 - Eastside Controller Stream: 2 PRC for Signalled Lanes (%): 3.6 Total Delay for Signalled Lanes (pcuHr): 25.77 Cycle Time (s): 76 C2 - Westside Controller Stream: 1 PRC for Signalled Lanes (%): -25.0 Total Delay for Signalled Lanes (pcuHr): 95.58 Cycle Time (s): 76 C2 - Westside Controller Stream: 2 PRC for Signalled Lanes (%): 108.1 Total Delay for Signalled Lanes (pcuHr): 0.69 Cycle Time (s): 76 PRC Over All Lanes (%): -65.4 Total Delay Over All Lanes(pcuHr): 527.70													

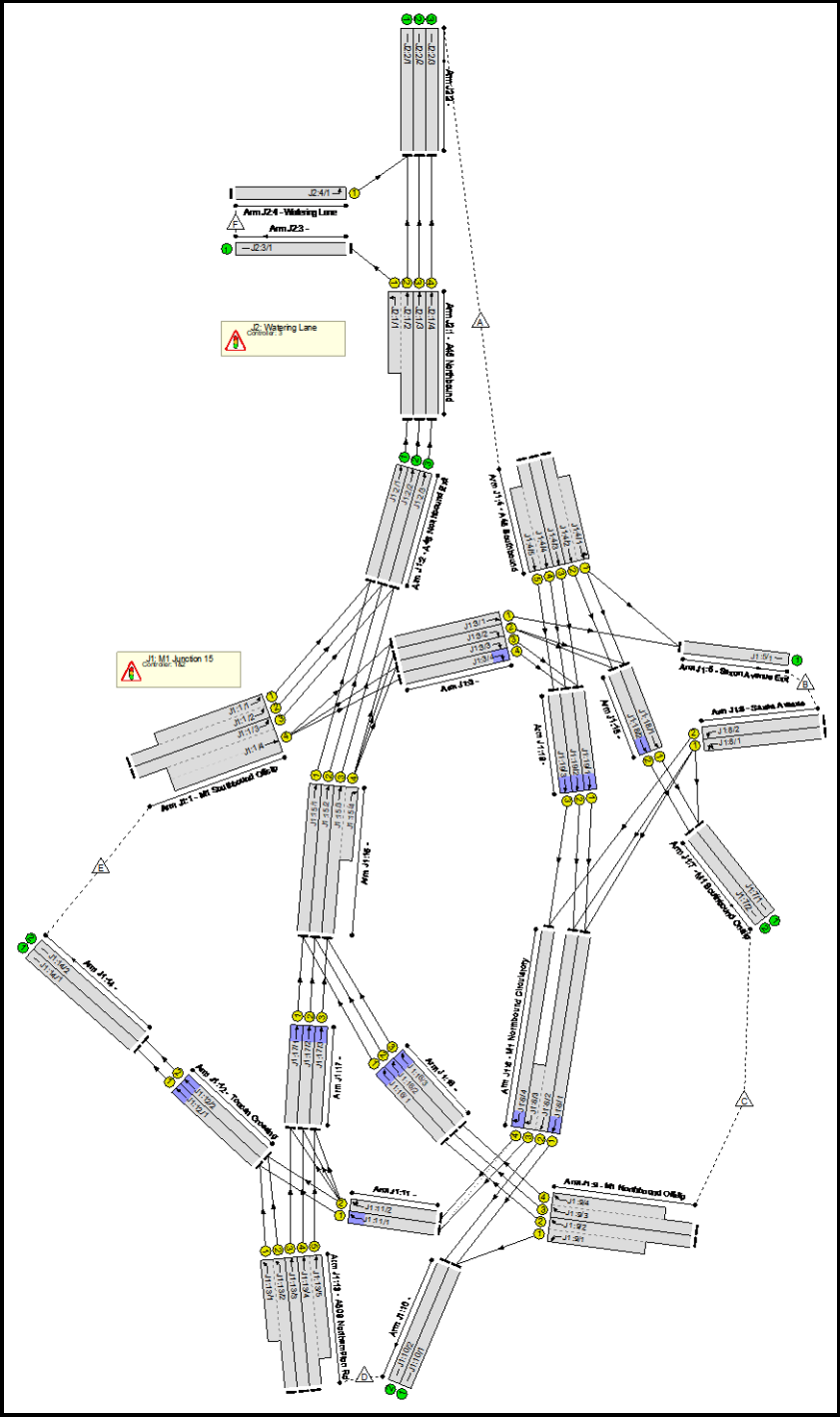
M1 JUNCTION 15
Mitigation Model
2021 Opening Year

Full Input Data And Results

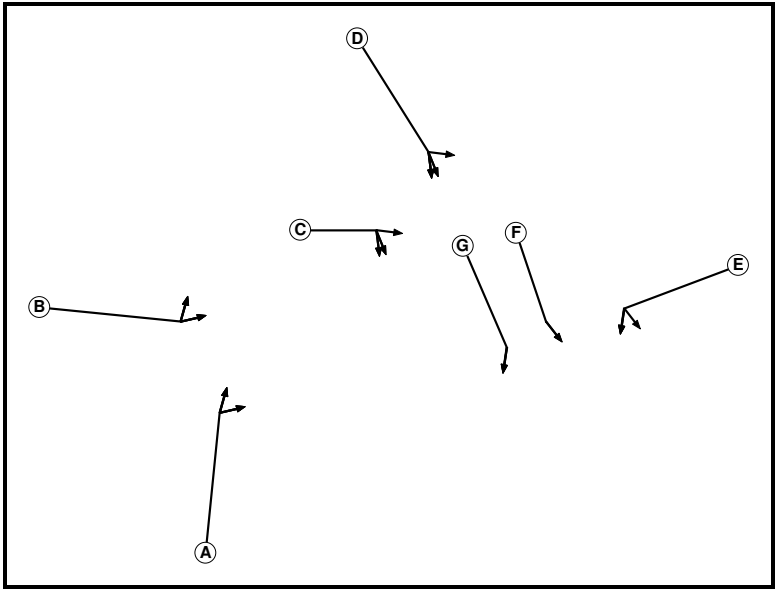
User and Project Details

Project:	Northampton Gateway
Title:	M1 Junction 15 Mitigation Model - Opening Year
File name:	180221 M1 Junction 15 Mitigation with WL.lsg3x
Author:	Mark Higgins
Company:	ADC Infrastructure
Address:	Western House, Nottingham
Notes:	Includes the Watering Lane junction

Network Layout Diagram



C1 - Eastside Controller
Phase Diagram



Phase Input Data

Phase Name	Phase Type	Stage Stream	Assoc. Phase	Street Min	Cont Min
A	Traffic	1		7	7
B	Traffic	1		7	7
C	Traffic	2		7	7
D	Traffic	2		7	7
E	Traffic	3		7	7
F	Traffic	3		7	7
G	Traffic	3		7	7

Phase Intergreens Matrix

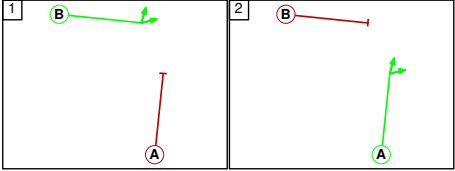
		Starting Phase							
Terminating Phase		A	B	C	D	E	F	G	
	A		6	-	-	-	-	-	
	B	6		-	-	-	-	-	
	C	-	-		6	-	-	-	
	D	-	-	6		-	-	-	
	E	-	-	-	-		8	8	
	F	-	-	-	-	6		-	
	G	-	-	-	-	6	-		

Phases in Stage

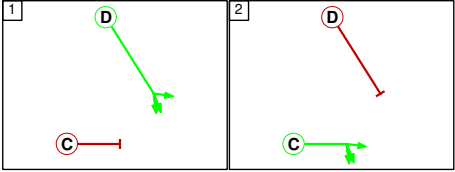
Stream	Stage No.	Phases in Stage
1	1	B
1	2	A
2	1	D
2	2	C
3	1	E
3	2	F G

Stage Diagram

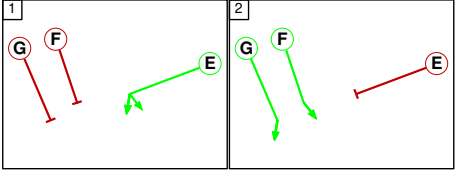
Stage Stream: 1



Stage Stream: 2



Stage Stream: 3



Prohibited Stage Change

Stage Stream: 1

	To Stage		
From Stage		1	2
	1		6
	2	6	

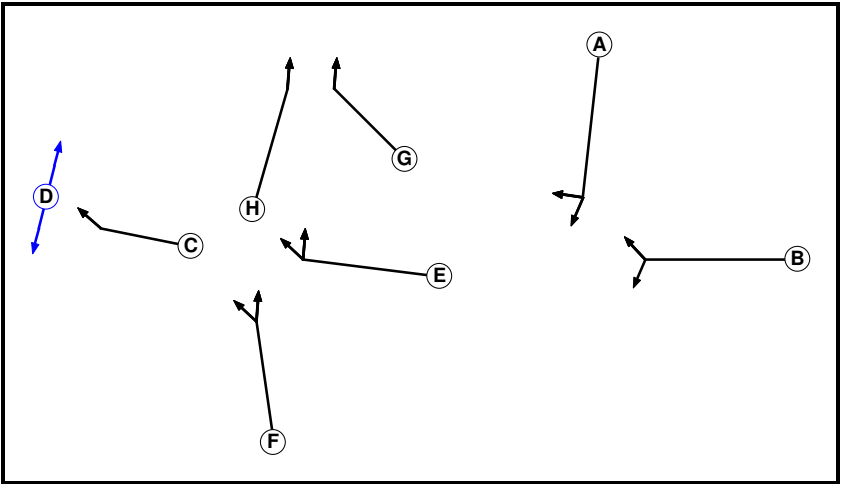
Stage Stream: 2

	To Stage		
From Stage		1	2
	1		6
	2	6	

Stage Stream: 3

	To Stage		
From Stage		1	2
	1		8
	2	6	

C2 - Westside Controller
Phase Diagram



Phase Input Data

Phase Name	Phase Type	Stage Stream	Assoc. Phase	Street Min	Cont Min
A	Traffic	1		7	7
B	Traffic	1		7	7
C	Traffic	2		7	7
D	Pedestrian	2		7	7
E	Traffic	3		7	7
F	Traffic	3		7	7
G	Traffic	4		7	7
H	Traffic	4		7	7

Phase Intergreens Matrix

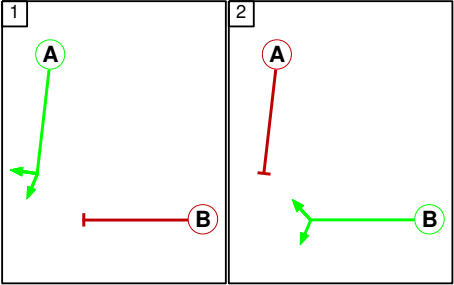
		Starting Phase							
Terminating Phase		A	B	C	D	E	F	G	H
	A		5	-	-	-	-	-	-
	B	7		-	-	-	-	-	-
	C	-	-		5	-	-	-	-
	D	-	-	7		-	-	-	-
	E	-	-	-	-		5	-	-
	F	-	-	-	-	7		-	-
	G	-	-	-	-	-	-		5
	H	-	-	-	-	-	-	7	

Phases in Stage

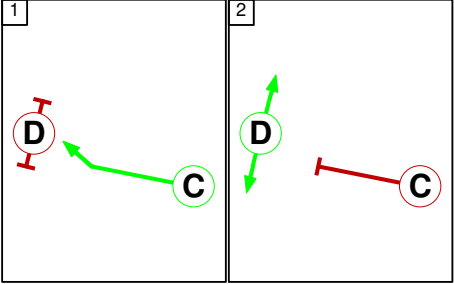
Stream	Stage No.	Phases in Stage
1	1	A
1	2	B
2	1	C
2	2	D
3	1	E
3	2	F
4	1	H
4	2	G

Stage Diagram

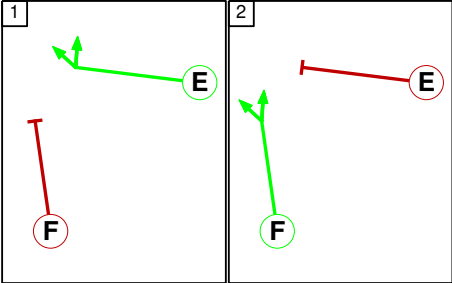
Stage Stream: 1



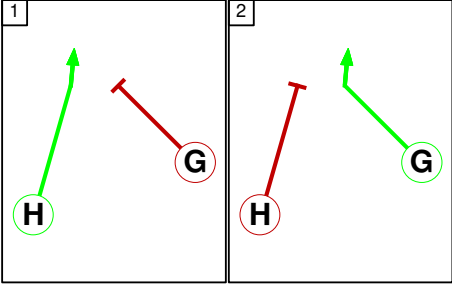
Stage Stream: 2



Stage Stream: 3



Stage Stream: 4



Prohibited Stage Change

Stage Stream: 1

	To Stage		
From Stage		1	2
	1		5
	2	7	

Stage Stream: 2

	To Stage		
From Stage		1	2
	1		5
	2	7	

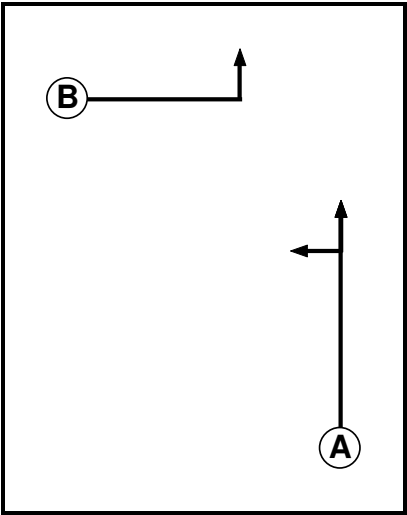
Stage Stream: 3

	To Stage		
From Stage		1	2
	1		5
	2	7	

Stage Stream: 4

	To Stage		
From Stage		1	2
	1		7
	2	5	

C3 - Watering Lane
Phase Diagram



Phase Input Data

Phase Name	Phase Type	Assoc. Phase	Street Min	Cont Min
A	Traffic		7	7
B	Traffic		7	7

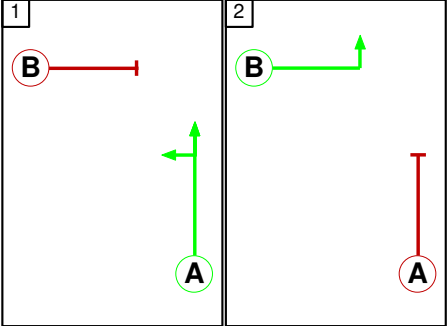
Phase Intergreens Matrix

	Starting Phase		
Terminating Phase		A	B
	A		6
	B	6	

Phases in Stage

Stage No.	Phases in Stage
1	A
2	B

Stage Diagram



Prohibited Stage Change

	To Stage		
From Stage		1	2
	1		6
	2	6	

Lane Input Data

Junction: J1: M1 Junction 15												
Lane	Lane Type	Phases	Start Disp.	End Disp.	Physical Length (PCU)	Sat Flow Type	Def User Saturation Flow (PCU/Hr)	Lane Width (m)	Gradient	Nearside Lane	Turns	Turning Radius (m)
J1:1/1 (M1 Southbound Offslip)	U	B	2	3	18.0	Geom	-	3.65	0.00	Y	Arm J1:2 Left	Inf
J1:1/2 (M1 Southbound Offslip)	U	B	2	3	60.0	Geom	-	3.65	0.00	N	Arm J1:2 Left	Inf
J1:1/3 (M1 Southbound Offslip)	U	B	2	3	60.0	Geom	-	3.65	0.00	N	Arm J1:2 Left	Inf
J1:1/4 (M1 Southbound Offslip)	U	B	2	3	18.0	User	4000	-	-	-	-	-
J1:2/1 (A45 Northbound Exit)	U		2	3	4.3	Inf	-	-	-	-	-	-
J1:2/2 (A45 Northbound Exit)	U		2	3	4.3	Inf	-	-	-	-	-	-
J1:2/3 (A45 Northbound Exit)	U		2	3	4.3	Inf	-	-	-	-	-	-
J1:3/1	U	C	2	3	12.2	User	1900	-	-	-	-	-
J1:3/2	U	C	2	3	12.2	User	1900	-	-	-	-	-
J1:3/3	U	C	2	3	12.2	User	1900	-	-	-	-	-
J1:3/4	U	C	2	3	12.2	User	1900	-	-	-	-	-
J1:4/1 (A45 Southbound)	U	D	2	3	33.0	Geom	-	3.65	0.00	Y	Arm J1:5 Left Arm J1:18 Ahead	Inf Inf
J1:4/2 (A45 Southbound)	U	D	2	3	67.8	Geom	-	3.65	0.00	N	Arm J1:18 Ahead	Inf
J1:4/3 (A45 Southbound)	U	D	2	3	67.8	Geom	-	3.65	0.00	N	Arm J1:19 Ahead	Inf
J1:4/4 (A45 Southbound)	U	D	2	3	67.8	Geom	-	3.65	0.00	N	Arm J1:19 Ahead	Inf
J1:4/5 (A45 Southbound)	U	D	2	3	33.0	Geom	-	3.65	0.00	N	Arm J1:19 Ahead	Inf
J1:5/1 (Saxon Avenue Exit)	U		2	3	4.3	Inf	-	-	-	-	-	-
J1:6/1 (M1 Northbound Circulatory)	U	A	2	3	33.0	User	2000	-	-	-	-	-
J1:6/2 (M1 Northbound Circulatory)	U	A	2	3	33.0	User	2000	-	-	-	-	-
J1:6/3 (M1 Northbound Circulatory)	U	A	2	3	8.0	User	2000	-	-	-	-	-

J1:6/4 (M1 Northbound Circulatory)	U	A	2	3	33.0	User	2000	-	-	-	-	-
J1:7/1 (M1 Southbound Onslip)	U		2	3	4.3	Inf	-	-	-	-	-	-
J1:7/2 (M1 Southbound Onslip)	U		2	3	4.3	Inf	-	-	-	-	-	-
J1:8/1 (Saxon Avenue)	U	E	2	3	60.0	Geom	-	3.50	0.00	Y	Arm J1:6 Left	Inf
											Arm J1:7 Left	30.00
J1:8/2 (Saxon Avenue)	U	E	2	3	60.0	Geom	-	3.50	0.00	N	Arm J1:6 Left	Inf
J1:9/1 (M1 Northbound Offslip)	U	B	2	3	12.0	Geom	-	3.65	0.00	Y	Arm J1:10 Left	Inf
J1:9/2 (M1 Northbound Offslip)	U	B	2	3	60.0	Geom	-	3.65	0.00	N	Arm J1:16 Ahead	Inf
J1:9/3 (M1 Northbound Offslip)	U	B	2	3	60.0	Geom	-	3.65	0.00	N	Arm J1:16 Ahead	Inf
J1:9/4 (M1 Northbound Offslip)	U	B	2	3	40.0	Geom	-	3.65	0.00	N	Arm J1:16 Ahead	Inf
J1:10/1	U		2	3	4.3	Inf	-	-	-	-	-	-
J1:10/2	U		2	3	4.3	Inf	-	-	-	-	-	-
J1:11/1	U	E	2	3	17.4	User	1900	-	-	-	-	-
J1:11/2	U	E	2	3	17.4	User	1900	-	-	-	-	-
J1:12/1 (Toucan Crossing)	U	C	2	3	4.3	Geom	-	3.80	0.00	Y	Arm J1:14 Ahead	Inf
J1:12/2 (Toucan Crossing)	U	C	2	3	4.3	Geom	-	3.80	0.00	Y	Arm J1:14 Ahead	Inf
J1:13/1 (A508 Northampton Rd)	U	F	2	3	10.0	Geom	-	3.65	0.00	Y	Arm J1:12 Ahead	Inf
J1:13/2 (A508 Northampton Rd)	U	F	2	3	60.0	Geom	-	3.65	0.00	Y	Arm J1:12 Ahead	Inf
J1:13/3 (A508 Northampton Rd)	U	F	2	3	60.0	Geom	-	3.65	0.00	N	Arm J1:17 Ahead	Inf
J1:13/4 (A508 Northampton Rd)	U	F	2	3	60.0	Geom	-	3.65	0.00	N	Arm J1:17 Ahead	Inf
J1:13/5 (A508 Northampton Rd)	U	F	2	3	20.0	Geom	-	3.65	0.00	N	Arm J1:17 Ahead	Inf
J1:14/1	U		2	3	60.0	Inf	-	-	-	-	-	-
J1:14/2	U		2	3	60.0	Inf	-	-	-	-	-	-
J1:15/1	U	A	2	3	26.1	User	2000	-	-	-	-	-
J1:15/2	U	A	2	3	26.1	User	2000	-	-	-	-	-

J1:15/3	U	A	2	3	26.1	User	2000	-	-	-	-	-
J1:15/4	U	A	2	3	9.0	User	2000	-	-	-	-	-
J1:16/1	U	G	2	3	13.9	User	2000	-	-	-	-	-
J1:16/2	U	G	2	3	13.9	User	2000	-	-	-	-	-
J1:16/3	U	G	2	3	13.9	User	2000	-	-	-	-	-
J1:17/1	U	H	2	3	13.9	User	2000	-	-	-	-	-
J1:17/2	U	H	2	3	13.9	User	2000	-	-	-	-	-
J1:17/3	U	H	2	3	13.9	User	2000	-	-	-	-	-
J1:18/1	U	F	2	3	13.9	User	2000	-	-	-	-	-
J1:18/2	U	F	2	3	13.9	User	2000	-	-	-	-	-
J1:19/1	U	G	2	3	13.9	User	2000	-	-	-	-	-
J1:19/2	U	G	2	3	13.9	User	2000	-	-	-	-	-
J1:19/3	U	G	2	3	13.9	User	2000	-	-	-	-	-

Junction: J2: Watering 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)
J2:1/1 (A45 Northbound)	U	A	2	3	10.0	Geom	-	3.65	0.00	Y	Arm J2:3 Left	Inf
J2:1/2 (A45 Northbound)	U	A	2	3	60.0	Geom	-	3.65	0.00	N	Arm J2:2 Ahead	Inf
J2:1/3 (A45 Northbound)	U	A	2	3	60.0	Geom	-	3.65	0.00	N	Arm J2:2 Ahead	Inf
J2:1/4 (A45 Northbound)	U	A	2	3	60.0	Geom	-	3.65	0.00	Y	Arm J2:2 Ahead	Inf
J2:2/1	U		2	3	60.0	Inf	-	-	-	-	-	-
J2:2/2	U		2	3	60.0	Inf	-	-	-	-	-	-
J2:2/3	U		2	3	60.0	Inf	-	-	-	-	-	-
J2:3/1	U		2	3	60.0	Inf	-	-	-	-	-	-
J2:4/1 (Watering Lane)	U	B	2	3	60.0	Geom	-	4.00	0.00	Y	Arm J2:2 Left	30.00

Traffic Flow Groups

Flow Group	Start Time	End Time	Duration	Formula
11: '2021 H1 Dev AM Peak'	08:00	09:00	01:00	
12: '2021 H1 Dev PM Peak'	17:00	18:00	01:00	

Scenario 3: '2021 H1 Dev AM' (FG11: '2021 H1 Dev AM Peak', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

	Destination							
Origin	A	B	C	D	E	F	Tot.	
	0	35	1039	864	1616	17	3571	
	29	0	16	22	51	3	121	
	1482	38	0	215	0	176	1911	
	441	13	93	13	350	52	962	
	906	91	0	565	0	108	1670	
	332	0	0	0	0	0	332	
	Tot.	3190	177	1148	1679	2017	356	8567

Traffic Lane Flows

Lane	Scenario 3: 2021 H1 Dev AM
Junction: J1: M1 Junction 15	
J1:1/1 (short)	364
J1:1/2 (with short)	635(In) 271(Out)
J1:1/3 (with short)	1035(In) 379(Out)
J1:1/4 (short)	656
J1:2/1	1138
J1:2/2	1058
J1:2/3	1018
J1:3/1	142
J1:3/2	93
J1:3/3	300
J1:3/4	278
J1:4/1 (short)	538
J1:4/2 (with short)	1074(In) 536(Out)
J1:4/3	674
J1:4/4 (with short)	1823(In) 912(Out)
J1:4/5 (short)	911
J1:5/1	177
J1:6/1	987
J1:6/2 (with short)	1226(In) 477(Out)
J1:6/3 (short)	749
J1:6/4	967
J1:7/1	568
J1:7/2	580
J1:8/1	65
J1:8/2	56
J1:9/1 (short)	215
J1:9/2 (with short)	768(In) 553(Out)
J1:9/3 (with short)	1143(In) 572(Out)
J1:9/4 (short)	571
J1:10/1	1202
J1:10/2	477
J1:11/1	846
J1:11/2	870

J1:12/1	1020
J1:12/2	997
J1:13/1 (short)	174
J1:13/2 (with short)	350(In) 176(Out)
J1:13/3	190
J1:13/4 (with short)	422(In) 208(Out)
J1:13/5 (short)	214
J1:14/1	1020
J1:14/2	997
J1:15/1	774
J1:15/2	787
J1:15/3 (with short)	796(In) 639(Out)
J1:15/4 (short)	157
J1:16/1	553
J1:16/2	572
J1:16/3	571
J1:17/1	221
J1:17/2	215
J1:17/3	225
J1:18/1	552
J1:18/2	580
J1:19/1	974
J1:19/2	1190
J1:19/3	911
Junction: J2: Watering Lane	
J2:1/1 (short)	356
J2:1/2 (with short)	1138(In) 782(Out)
J2:1/3	1058
J2:1/4	1018
J2:2/1	1114
J2:2/2	1058
J2:2/3	1018
J2:3/1	356
J2:4/1	332

Lane Saturation Flows

Junction: J1: M1 Junction 15								
Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
J1:1/1 (M1 Southbound Offslip)	3.65	0.00	Y	Arm J1:2 Left	Inf	100.0 %	1980	1980
J1:1/2 (M1 Southbound Offslip)	3.65	0.00	N	Arm J1:2 Left	Inf	100.0 %	2120	2120
J1:1/3 (M1 Southbound Offslip)	3.65	0.00	N	Arm J1:2 Left	Inf	100.0 %	2120	2120
J1:1/4 (M1 Southbound Offslip Lane 4)	This lane uses a directly entered Saturation Flow						4000	4000
J1:2/1 (A45 Northbound Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
J1:2/2 (A45 Northbound Exit Lane 2)	Infinite Saturation Flow						Inf	Inf
J1:2/3 (A45 Northbound Exit Lane 3)	Infinite Saturation Flow						Inf	Inf
J1:3/1	This lane uses a directly entered Saturation Flow						1900	1900
J1:3/2	This lane uses a directly entered Saturation Flow						1900	1900
J1:3/3	This lane uses a directly entered Saturation Flow						1900	1900
J1:3/4	This lane uses a directly entered Saturation Flow						1900	1900
J1:4/1 (A45 Southbound)	3.65	0.00	Y	Arm J1:5 Left	Inf	6.5 %	1980	1980
				Arm J1:18 Ahead	Inf	93.5 %		
J1:4/2 (A45 Southbound)	3.65	0.00	N	Arm J1:18 Ahead	Inf	100.0 %	2120	2120
J1:4/3 (A45 Southbound)	3.65	0.00	N	Arm J1:19 Ahead	Inf	100.0 %	2120	2120
J1:4/4 (A45 Southbound)	3.65	0.00	N	Arm J1:19 Ahead	Inf	100.0 %	2120	2120
J1:4/5 (A45 Southbound)	3.65	0.00	N	Arm J1:19 Ahead	Inf	100.0 %	2120	2120
J1:5/1 (Saxon Avenue Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
J1:6/1 (M1 Northbound Circulatory Lane 1)	This lane uses a directly entered Saturation Flow						2000	2000
J1:6/2 (M1 Northbound Circulatory Lane 2)	This lane uses a directly entered Saturation Flow						2000	2000
J1:6/3 (M1 Northbound Circulatory Lane 3)	This lane uses a directly entered Saturation Flow						2000	2000
J1:6/4 (M1 Northbound Circulatory Lane 4)	This lane uses a directly entered Saturation Flow						2000	2000
J1:7/1 (M1 Southbound Onslip Lane 1)	Infinite Saturation Flow						Inf	Inf
J1:7/2 (M1 Southbound Onslip Lane 2)	Infinite Saturation Flow						Inf	Inf
J1:8/1	3.50	0.00	Y	Arm J1:6 Left	Inf	75.4 %	1941	1941

Junction: J2: Watering Lane								
Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
J2:1/1 (A45 Northbound)	3.65	0.00	Y	Arm J2:3 Left	Inf	100.0 %	1980	1980
J2:1/2 (A45 Northbound)	3.65	0.00	N	Arm J2:2 Ahead	Inf	100.0 %	2120	2120
J2:1/3 (A45 Northbound)	3.65	0.00	N	Arm J2:2 Ahead	Inf	100.0 %	2120	2120
J2:1/4 (A45 Northbound)	3.65	0.00	Y	Arm J2:2 Ahead	Inf	100.0 %	1980	1980
J2:2/1	Infinite Saturation Flow						Inf	Inf
J2:2/2	Infinite Saturation Flow						Inf	Inf
J2:2/3	Infinite Saturation Flow						Inf	Inf
J2:3/1	Infinite Saturation Flow						Inf	Inf
J2:4/1 (Watering Lane)	4.00	0.00	Y	Arm J2:2 Left	30.00	100.0 %	1919	1919

Scenario 4: '2021 H1 Dev PM' (FG12: '2021 H1 Dev PM Peak', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

	Destination							
		A	B	C	D	E	F	Tot.
Origin	A	0	88	956	814	1387	171	3416
	B	25	0	114	13	88	1	241
	C	1238	3	0	99	0	50	1390
	D	758	2	48	12	303	31	1154
	E	1141	63	0	339	0	46	1589
	F	121	0	0	0	0	0	121
	Tot.	3283	156	1118	1277	1778	299	7911

Traffic Lane Flows

Lane	Scenario 4: 2021 H1 Dev PM
Junction: J1: M1 Junction 15	
J1:1/1 (short)	397
J1:1/2 (with short)	787(In) 390(Out)
J1:1/3 (with short)	802(In) 400(Out)
J1:1/4 (short)	402
J1:2/1	1202
J1:2/2	1141
J1:2/3	1118
J1:3/1	68
J1:3/2	48
J1:3/3	192
J1:3/4	159
J1:4/1 (short)	528
J1:4/2 (with short)	1044(In) 516(Out)
J1:4/3	627
J1:4/4 (with short)	1745(In) 912(Out)
J1:4/5 (short)	833
J1:5/1	156
J1:6/1	823
J1:6/2 (with short)	1080(In) 355(Out)
J1:6/3 (short)	725
J1:6/4	947
J1:7/1	581
J1:7/2	537
J1:8/1	127
J1:8/2	114
J1:9/1 (short)	99
J1:9/2 (with short)	496(In) 397(Out)
J1:9/3 (with short)	894(In) 437(Out)
J1:9/4 (short)	457
J1:10/1	922
J1:10/2	355
J1:11/1	826
J1:11/2	846

J1:12/1	954
J1:12/2	824
J1:13/1 (short)	128
J1:13/2 (with short)	303(In) 175(Out)
J1:13/3	231
J1:13/4 (with short)	620(In) 310(Out)
J1:13/5 (short)	310
J1:14/1	954
J1:14/2	824
J1:15/1	805
J1:15/2	751
J1:15/3 (with short)	783(In) 718(Out)
J1:15/4 (short)	65
J1:16/1	397
J1:16/2	437
J1:16/3	457
J1:17/1	408
J1:17/2	314
J1:17/3	326
J1:18/1	467
J1:18/2	537
J1:19/1	819
J1:19/2	1071
J1:19/3	833
Junction: J2: Watering Lane	
J2:1/1 (short)	299
J2:1/2 (with short)	1202(In) 903(Out)
J2:1/3	1141
J2:1/4	1118
J2:2/1	1024
J2:2/2	1141
J2:2/3	1118
J2:3/1	299
J2:4/1	121

Lane Saturation Flows

Junction: J1: M1 Junction 15								
Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
J1:1/1 (M1 Southbound Offslip)	3.65	0.00	Y	Arm J1:2 Left	Inf	100.0 %	1980	1980
J1:1/2 (M1 Southbound Offslip)	3.65	0.00	N	Arm J1:2 Left	Inf	100.0 %	2120	2120
J1:1/3 (M1 Southbound Offslip)	3.65	0.00	N	Arm J1:2 Left	Inf	100.0 %	2120	2120
J1:1/4 (M1 Southbound Offslip Lane 4)	This lane uses a directly entered Saturation Flow						4000	4000
J1:2/1 (A45 Northbound Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
J1:2/2 (A45 Northbound Exit Lane 2)	Infinite Saturation Flow						Inf	Inf
J1:2/3 (A45 Northbound Exit Lane 3)	Infinite Saturation Flow						Inf	Inf
J1:3/1	This lane uses a directly entered Saturation Flow						1900	1900
J1:3/2	This lane uses a directly entered Saturation Flow						1900	1900
J1:3/3	This lane uses a directly entered Saturation Flow						1900	1900
J1:3/4	This lane uses a directly entered Saturation Flow						1900	1900
J1:4/1 (A45 Southbound)	3.65	0.00	Y	Arm J1:5 Left	Inf	16.7 %	1980	1980
				Arm J1:18 Ahead	Inf	83.3 %		
J1:4/2 (A45 Southbound)	3.65	0.00	N	Arm J1:18 Ahead	Inf	100.0 %	2120	2120
J1:4/3 (A45 Southbound)	3.65	0.00	N	Arm J1:19 Ahead	Inf	100.0 %	2120	2120
J1:4/4 (A45 Southbound)	3.65	0.00	N	Arm J1:19 Ahead	Inf	100.0 %	2120	2120
J1:4/5 (A45 Southbound)	3.65	0.00	N	Arm J1:19 Ahead	Inf	100.0 %	2120	2120
J1:5/1 (Saxon Avenue Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
J1:6/1 (M1 Northbound Circulatory Lane 1)	This lane uses a directly entered Saturation Flow						2000	2000
J1:6/2 (M1 Northbound Circulatory Lane 2)	This lane uses a directly entered Saturation Flow						2000	2000
J1:6/3 (M1 Northbound Circulatory Lane 3)	This lane uses a directly entered Saturation Flow						2000	2000
J1:6/4 (M1 Northbound Circulatory Lane 4)	This lane uses a directly entered Saturation Flow						2000	2000
J1:7/1 (M1 Southbound Onslip Lane 1)	Infinite Saturation Flow						Inf	Inf
J1:7/2 (M1 Southbound Onslip Lane 2)	Infinite Saturation Flow						Inf	Inf
J1:8/1	3.50	0.00	Y	Arm J1:6 Left	Inf	10.2 %	1881	1881

(Saxon Avenue)				Arm J1:7 Left	30.00	89.8 %		
J1:8/2 (Saxon Avenue)	3.50	0.00	N	Arm J1:6 Left	Inf	100.0 %	2105	2105
J1:9/1 (M1 Northbound Offslip)	3.65	0.00	Y	Arm J1:10 Left	Inf	100.0 %	1980	1980
J1:9/2 (M1 Northbound Offslip)	3.65	0.00	N	Arm J1:16 Ahead	Inf	100.0 %	2120	2120
J1:9/3 (M1 Northbound Offslip)	3.65	0.00	N	Arm J1:16 Ahead	Inf	100.0 %	2120	2120
J1:9/4 (M1 Northbound Offslip)	3.65	0.00	N	Arm J1:16 Ahead	Inf	100.0 %	2120	2120
J1:10/1	Infinite Saturation Flow						Inf	Inf
J1:10/2	Infinite Saturation Flow						Inf	Inf
J1:11/1	This lane uses a directly entered Saturation Flow						1900	1900
J1:11/2	This lane uses a directly entered Saturation Flow						1900	1900
J1:12/1 (Toucan Crossing)	3.80	0.00	Y	Arm J1:14 Ahead	Inf	100.0 %	1995	1995
J1:12/2 (Toucan Crossing)	3.80	0.00	Y	Arm J1:14 Ahead	Inf	100.0 %	1995	1995
J1:13/1 (A508 Northampton Rd)	3.65	0.00	Y	Arm J1:12 Ahead	Inf	100.0 %	1980	1980
J1:13/2 (A508 Northampton Rd)	3.65	0.00	Y	Arm J1:12 Ahead	Inf	100.0 %	1980	1980
J1:13/3 (A508 Northampton Rd)	3.65	0.00	N	Arm J1:17 Ahead	Inf	100.0 %	2120	2120
J1:13/4 (A508 Northampton Rd)	3.65	0.00	N	Arm J1:17 Ahead	Inf	100.0 %	2120	2120
J1:13/5 (A508 Northampton Rd)	3.65	0.00	N	Arm J1:17 Ahead	Inf	100.0 %	2120	2120
J1:14/1	Infinite Saturation Flow						Inf	Inf
J1:14/2	Infinite Saturation Flow						Inf	Inf
J1:15/1	This lane uses a directly entered Saturation Flow						2000	2000
J1:15/2	This lane uses a directly entered Saturation Flow						2000	2000
J1:15/3	This lane uses a directly entered Saturation Flow						2000	2000
J1:15/4	This lane uses a directly entered Saturation Flow						2000	2000
J1:16/1	This lane uses a directly entered Saturation Flow						2000	2000
J1:16/2	This lane uses a directly entered Saturation Flow						2000	2000
J1:16/3	This lane uses a directly entered Saturation Flow						2000	2000
J1:17/1	This lane uses a directly entered Saturation Flow						2000	2000
J1:17/2	This lane uses a directly entered Saturation Flow						2000	2000
J1:17/3	This lane uses a directly entered Saturation Flow						2000	2000
J1:18/1	This lane uses a directly entered Saturation Flow						2000	2000
J1:18/2	This lane uses a directly entered Saturation Flow						2000	2000
J1:19/1	This lane uses a directly entered Saturation Flow						2000	2000
J1:19/2	This lane uses a directly entered Saturation Flow						2000	2000
J1:19/3	This lane uses a directly entered Saturation Flow						2000	2000

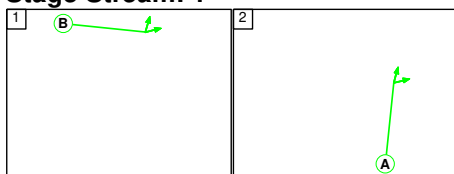
Junction: J2: Watering Lane								
Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
J2:1/1 (A45 Northbound)	3.65	0.00	Y	Arm J2:3 Left	Inf	100.0 %	1980	1980
J2:1/2 (A45 Northbound)	3.65	0.00	N	Arm J2:2 Ahead	Inf	100.0 %	2120	2120
J2:1/3 (A45 Northbound)	3.65	0.00	N	Arm J2:2 Ahead	Inf	100.0 %	2120	2120
J2:1/4 (A45 Northbound)	3.65	0.00	Y	Arm J2:2 Ahead	Inf	100.0 %	1980	1980
J2:2/1	Infinite Saturation Flow						Inf	Inf
J2:2/2	Infinite Saturation Flow						Inf	Inf
J2:2/3	Infinite Saturation Flow						Inf	Inf
J2:3/1	Infinite Saturation Flow						Inf	Inf
J2:4/1 (Watering Lane)	4.00	0.00	Y	Arm J2:2 Left	30.00	100.0 %	1919	1919

Scenario 3: '2021 H1 Dev AM' (FG11: '2021 H1 Dev AM Peak', Plan 1: 'Network Control Plan 1')

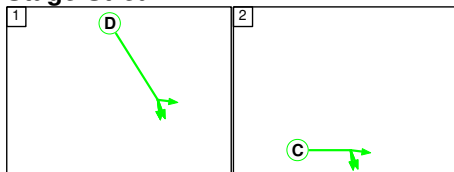
C1 - Eastside Controller

Stage Sequence Diagram

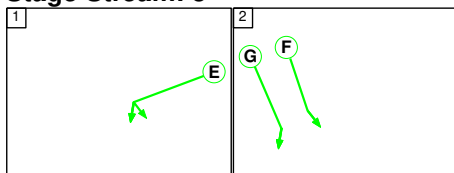
Stage Stream: 1



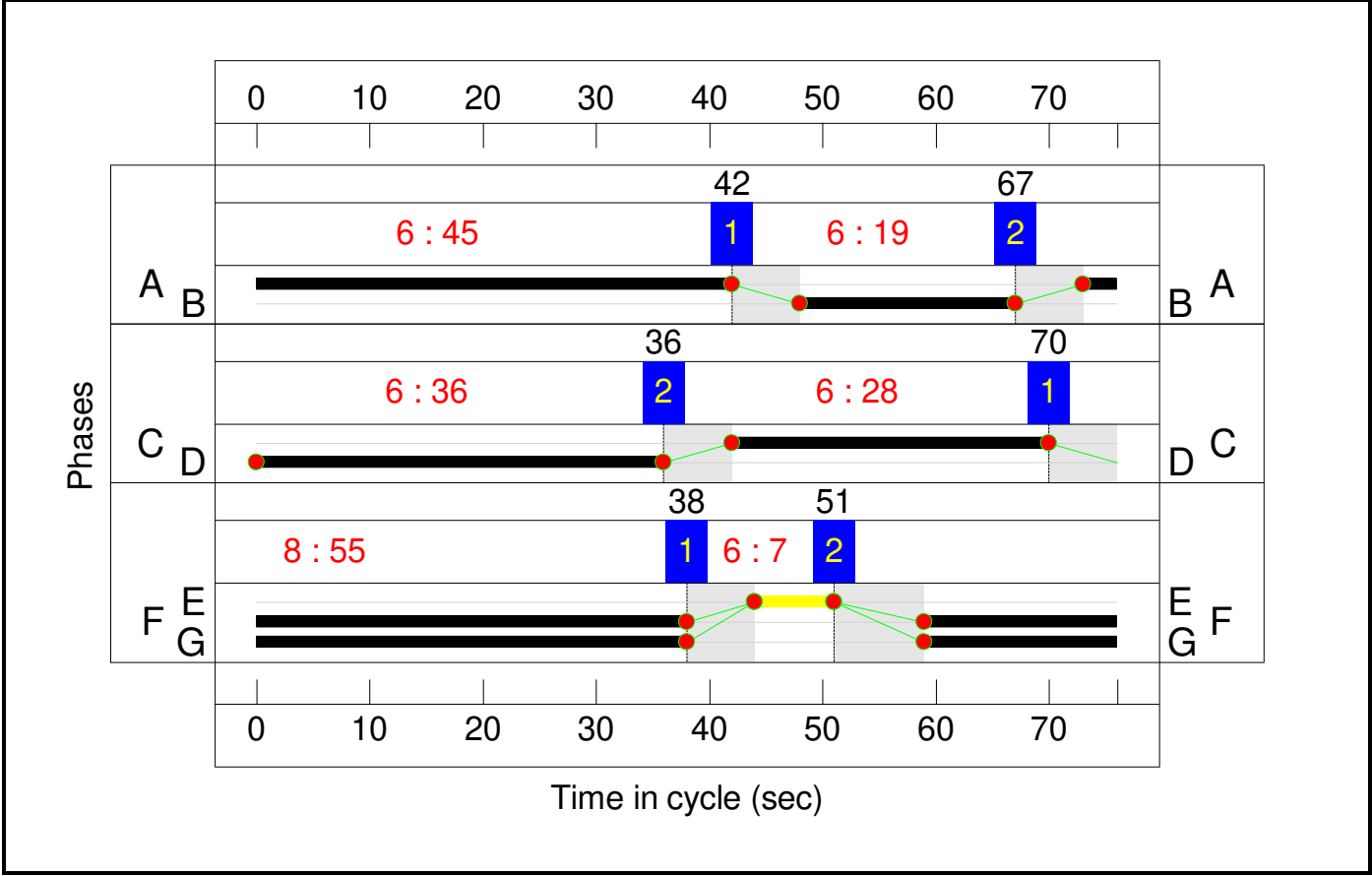
Stage Stream: 2



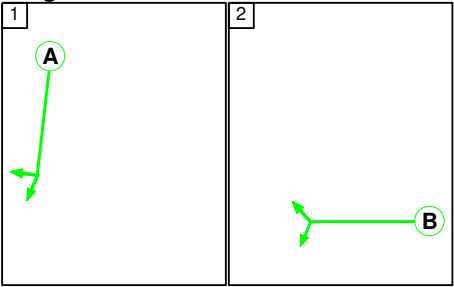
Stage Stream: 3



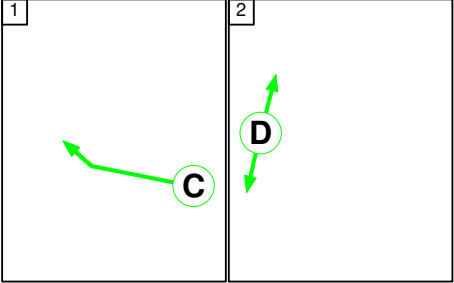
Signal Timings Diagram



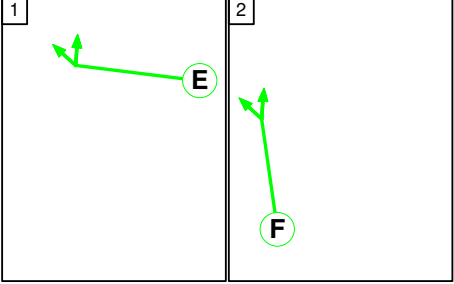
C2 - Westside Controller
Stage Sequence Diagram
Stage Stream: 1



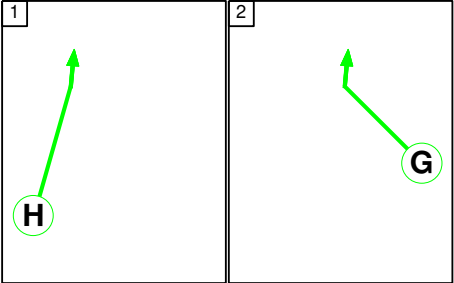
Stage Stream: 2



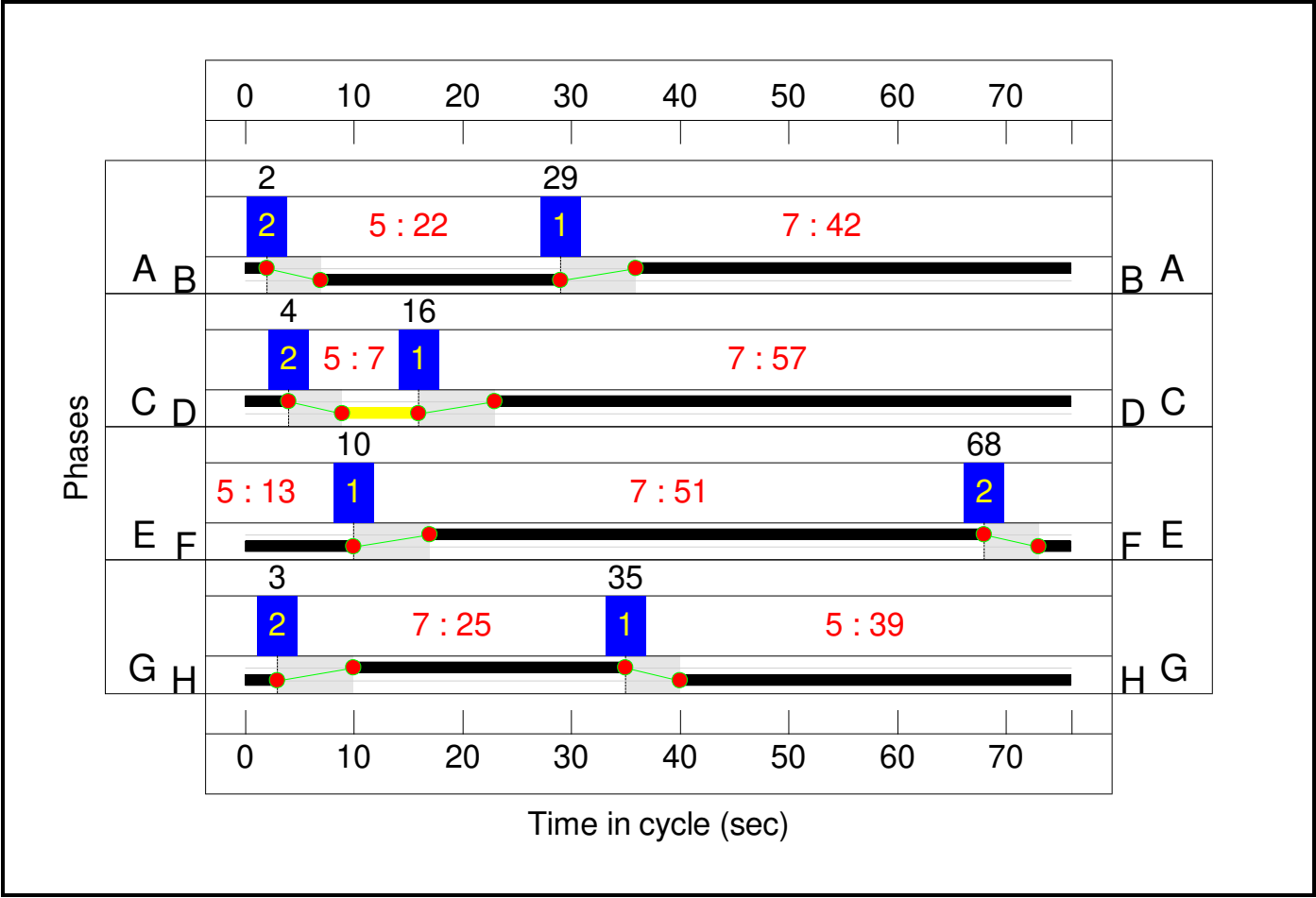
Stage Stream: 3



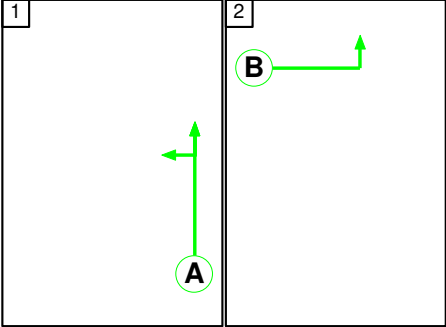
Stage Stream: 4



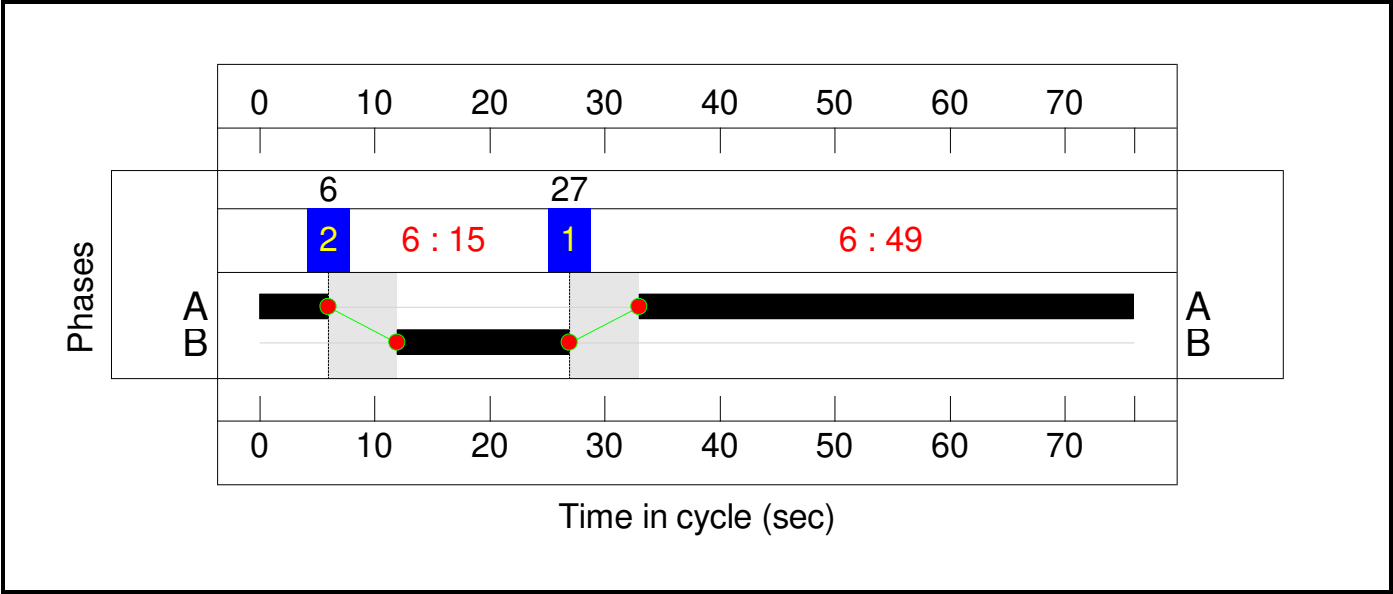
Signal Timings Diagram



C3 - Watering Lane
Stage Sequence Diagram



Signal Timings 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 (%)
J1: M1 Junction 15	-	-	N/A	-	-		-	-	-	-	-	-	89.2%
1/2+1/1	M1 Southbound Offslip Left	U	1:1	N/A	C1:B		1	19	-	635	2120:1980	388+521	69.9 : 69.9%
1/3+1/4	M1 Southbound Offslip Left Ahead	U	1:1	N/A	C1:B		1	19	-	1035	2120:4000	558+1053	67.9 : 62.3%
3/1	Ahead	U	1:2	N/A	C1:C		1	28	-	142	1900	725	19.6%
3/2	Right	U	1:2	N/A	C1:C		1	28	-	93	1900	725	12.8%
3/3	Right	U	1:2	N/A	C1:C		1	28	-	300	1900	725	41.4%
3/4	Right	U	1:2	N/A	C1:C		1	28	-	278	1900	725	38.3%
4/2+4/1	A45 Southbound Left Ahead	U	1:2	N/A	C1:D		1	36	-	1074	2120:1980	1022+964	52.5 : 55.8%
4/3	A45 Southbound Ahead	U	1:2	N/A	C1:D		1	36	-	674	2120	1032	65.3%
4/4+4/5	A45 Southbound Ahead	U	1:2	N/A	C1:D		1	36	-	1823	2120:2120	1032+1032	88.4 : 88.3%
6/1	M1 Northbound Circulatory Ahead	U	2:1	N/A	C2:A		1	42	-	987	2000	1132	87.2%
6/2+6/3	M1 Northbound Circulatory Ahead Right	U	2:1	N/A	C2:A		1	42	-	1226	2000:2000	538+845	88.6 : 88.6%
6/4	M1 Northbound Circulatory Right	U	2:1	N/A	C2:A		1	42	-	967	2000	1132	85.5%
8/1	Saxon Avenue Left Left2	U	1:3	N/A	C1:E		1	7	-	65	1941	204	31.8%
8/2	Saxon Avenue Left	U	1:3	N/A	C1:E		1	7	-	56	2105	222	25.3%
9/2+9/1	M1 Northbound Offslip Left Ahead	U	2:1	N/A	C2:B		1	22	-	768	2120:1980	628+244	88.1 : 88.1%
9/3+9/4	M1 Northbound Offslip Ahead	U	2:1	N/A	C2:B		1	22	-	1143	2120:2120	642+642	89.2 : 89.0%
11/1	Ahead	U	2:3	N/A	C2:E		1	51	-	846	1900	1300	65.1%
11/2	Ahead Right	U	2:3	N/A	C2:E		1	51	-	870	1900	1300	66.9%

12/1	Toucan Crossing Ahead	U	2:2	N/A	C2:C		1	57	-	1020	1995	1523	67.0%
12/2	Toucan Crossing Ahead	U	2:2	N/A	C2:C		1	57	-	997	1995	1523	65.5%
13/2+13/1	A508 Northampton Rd Ahead	U	2:3	N/A	C2:F		1	13	-	350	1980:1980	365+365	48.3 : 47.7%
13/3	A508 Northampton Rd Ahead	U	2:3	N/A	C2:F		1	13	-	190	2120	391	48.7%
13/4+13/5	A508 Northampton Rd Ahead	U	2:3	N/A	C2:F		1	13	-	422	2120:2120	391+391	53.3 : 54.8%
15/1	Ahead	U	1:1	N/A	C1:A		1	45	-	774	2000	1211	63.9%
15/2	Ahead	U	1:1	N/A	C1:A		1	45	-	787	2000	1211	65.0%
15/3+15/4	Ahead Right	U	1:1	N/A	C1:A		1	45	-	796	2000:2000	1060+260	60.3 : 60.3%
16/1	Right	U	2:4	N/A	C2:G		1	25	-	553	2000	684	80.8%
16/2	Right	U	2:4	N/A	C2:G		1	25	-	572	2000	684	83.6%
16/3	Right	U	2:4	N/A	C2:G		1	25	-	571	2000	684	83.5%
17/1	Ahead	U	2:4	N/A	C2:H		1	39	-	221	2000	1053	21.0%
17/2	Ahead	U	2:4	N/A	C2:H		1	39	-	215	2000	1053	20.4%
17/3	Ahead	U	2:4	N/A	C2:H		1	39	-	225	2000	1053	21.4%
18/1	Ahead	U	1:3	N/A	C1:F		1	55	-	552	2000	1474	37.5%
18/2	Ahead	U	1:3	N/A	C1:F		1	55	-	580	2000	1474	39.4%
19/1	Ahead	U	1:3	N/A	C1:G		1	55	-	974	2000	1474	66.1%
19/2	Ahead	U	1:3	N/A	C1:G		1	55	-	1190	2000	1474	80.8%
19/3	Ahead	U	1:3	N/A	C1:G		1	55	-	911	2000	1474	61.8%
J2: Watering Lane	-	-	N/A	-	-		-	-	-	-	-	-	82.2%
1/2+1/1	A45 Northbound Ahead Left	U	N/A	N/A	C3:A		1	49	-	1138	2120:1980	1093+497	71.6 : 71.6%
1/3	A45 Northbound Ahead	U	N/A	N/A	C3:A		1	49	-	1058	2120	1395	75.9%
1/4	A45 Northbound Ahead	U	N/A	N/A	C3:A		1	49	-	1018	1980	1303	78.1%
4/1	Watering Lane Left	U	N/A	N/A	C3:B		1	15	-	332	1919	404	82.2%

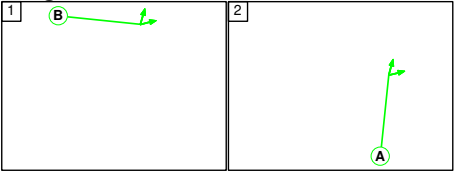
Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network: M1 Junction 15 Mitigation Model - Opening Year	-	-	0	0	0	84.8	52.2	0.0	137.0	-	-	-	-
J1: M1 Junction 15	-	-	0	0	0	78.9	45.4	0.0	124.3	-	-	-	-
1/2+1/1	635	635	-	-	-	4.3	1.1	-	5.5 (2.3+3.2)	31.1 (30.2:31.8)	6.9	1.1	8.0
1/3+1/4	1035	1035	-	-	-	7.1	0.9	-	8.0 (3.0+5.1)	28.0 (28.2:27.8)	7.2	0.9	8.1
3/1	142	142	-	-	-	0.2	0.1	-	0.4	9.1	1.0	0.1	1.1
3/2	93	93	-	-	-	1.0	0.1	-	1.0	39.7	2.0	0.1	2.0
3/3	300	300	-	-	-	0.2	0.4	-	0.6	6.9	0.4	0.4	0.8
3/4	278	278	-	-	-	0.1	0.3	-	0.4	5.2	0.2	0.3	0.5
4/2+4/1	1074	1074	-	-	-	4.0	0.6	-	4.6 (2.3+2.3)	15.5 (15.4:15.7)	7.9	0.6	8.5
4/3	674	674	-	-	-	2.7	0.9	-	3.7	19.7	10.7	0.9	11.6
4/4+4/5	1823	1823	-	-	-	8.9	3.7	-	12.6 (6.3+6.3)	24.8 (24.8:24.8)	17.2	3.7	20.9
6/1	987	987	-	-	-	4.9	3.3	-	8.1	29.7	15.8	3.3	19.1
6/2+6/3	1226	1226	-	-	-	4.9	3.7	-	8.6 (3.0+5.6)	25.2 (22.3:27.1)	17.1	3.7	20.9
6/4	967	967	-	-	-	5.1	2.8	-	7.9	29.5	20.2	2.8	23.1
8/1	65	65	-	-	-	0.6	0.2	-	0.8	44.4	1.3	0.2	1.5
8/2	56	56	-	-	-	0.5	0.2	-	0.7	42.1	1.1	0.2	1.2
9/2+9/1	768	768	-	-	-	5.1	3.5	-	8.6 (6.3+2.2)	40.1 (41.3:37.0)	10.9	3.5	14.4
9/3+9/4	1143	1143	-	-	-	8.0	3.9	-	11.9 (6.0+5.9)	37.5 (37.5:37.5)	11.4	3.9	15.3
11/1	846	846	-	-	-	1.5	0.9	-	2.4	10.2	8.3	0.9	9.3
11/2	870	870	-	-	-	1.5	1.0	-	2.5	10.4	4.8	1.0	5.8
12/1	1020	1020	-	-	-	0.3	1.0	-	1.3	4.6	4.0	1.0	5.0
12/2	997	997	-	-	-	0.3	0.9	-	1.3	4.5	4.5	0.9	5.4

13/2+13/1	350	350	-	-	-	2.7	0.5	-	3.2 (1.6+1.6)	32.5 (32.5:32.5)	3.3	0.5	3.8
13/3	190	190	-	-	-	1.5	0.5	-	1.9	36.7	3.6	0.5	4.1
13/4+13/5	422	422	-	-	-	3.3	0.6	-	3.9 (1.9+2.0)	33.1 (33.0:33.1)	4.0	0.6	4.6
15/1	774	774	-	-	-	1.1	0.9	-	2.0	9.4	3.7	0.9	4.5
15/2	787	787	-	-	-	1.2	0.9	-	2.1	9.5	3.6	0.9	4.5
15/3+15/4	796	796	-	-	-	1.1	0.8	-	1.9 (1.2+0.7)	8.6 (6.6:16.5)	1.9	0.8	2.7
16/1	553	553	-	-	-	0.1	2.0	-	2.1	13.8	0.6	2.0	2.6
16/2	572	572	-	-	-	0.1	2.4	-	2.5	15.9	0.6	2.4	3.1
16/3	571	571	-	-	-	0.1	2.4	-	2.5	15.8	0.6	2.4	3.1
17/1	221	221	-	-	-	1.4	0.1	-	1.6	25.8	3.3	0.1	3.4
17/2	215	215	-	-	-	1.6	0.1	-	1.7	28.6	3.4	0.1	3.6
17/3	225	225	-	-	-	1.7	0.1	-	1.8	28.8	3.6	0.1	3.8
18/1	552	552	-	-	-	0.3	0.3	-	0.6	3.6	1.5	0.3	1.8
18/2	580	580	-	-	-	0.3	0.3	-	0.6	3.8	1.4	0.3	1.7
19/1	974	974	-	-	-	0.4	1.0	-	1.3	4.9	1.0	1.0	2.0
19/2	1190	1190	-	-	-	0.5	2.1	-	2.5	7.7	1.0	2.1	3.0
19/3	911	911	-	-	-	0.4	0.8	-	1.2	4.8	1.0	0.8	1.8
J2: Watering Lane	-	-	0	0	0	5.9	6.7	0.0	12.7	-	-	-	-
1/2+1/1	1138	1138	-	-	-	1.1	1.3	-	2.4 (1.7+0.7)	7.6 (7.7:7.3)	4.2	1.3	5.4
1/3	1058	1058	-	-	-	1.1	1.6	-	2.7	9.1	7.1	1.6	8.7
1/4	1018	1018	-	-	-	1.0	1.8	-	2.8	9.8	4.5	1.8	6.3
4/1	332	332	-	-	-	2.6	2.2	-	4.8	52.2	6.6	2.2	8.8
C1 - Eastside Controller Stream: 1 PRC for Signalled Lanes (%): 28.8 Total Delay for Signalled Lanes (pcuHr): 19.53 Cycle Time (s): 76 C1 - Eastside Controller Stream: 2 PRC for Signalled Lanes (%): 1.9 Total Delay for Signalled Lanes (pcuHr): 23.24 Cycle Time (s): 76 C1 - Eastside Controller Stream: 3 PRC for Signalled Lanes (%): 11.5 Total Delay for Signalled Lanes (pcuHr): 7.71 Cycle Time (s): 76 C2 - Westside Controller Stream: 1 PRC for Signalled Lanes (%): 0.9 Total Delay for Signalled Lanes (pcuHr): 45.11 Cycle Time (s): 76 C2 - Westside Controller Stream: 2 PRC for Signalled Lanes (%): 34.3 Total Delay for Signalled Lanes (pcuHr): 2.55 Cycle Time (s): 76 C2 - Westside Controller Stream: 3 PRC for Signalled Lanes (%): 34.5 Total Delay for Signalled Lanes (pcuHr): 13.88 Cycle Time (s): 76 C2 - Westside Controller Stream: 4 PRC for Signalled Lanes (%): 7.7 Total Delay for Signalled Lanes (pcuHr): 12.26 Cycle Time (s): 76 C3 - Watering Lane PRC for Signalled Lanes (%): 9.5 Total Delay for Signalled Lanes (pcuHr): 12.67 Cycle Time (s): 76 PRC Over All Lanes (%): 0.9 Total Delay Over All Lanes(pcuHr): 136.97													

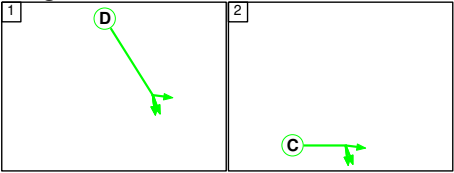
C1 - Eastside Controller

Stage Sequence Diagram

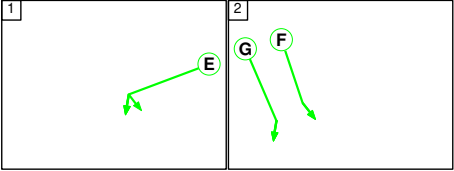
Stage Stream: 1



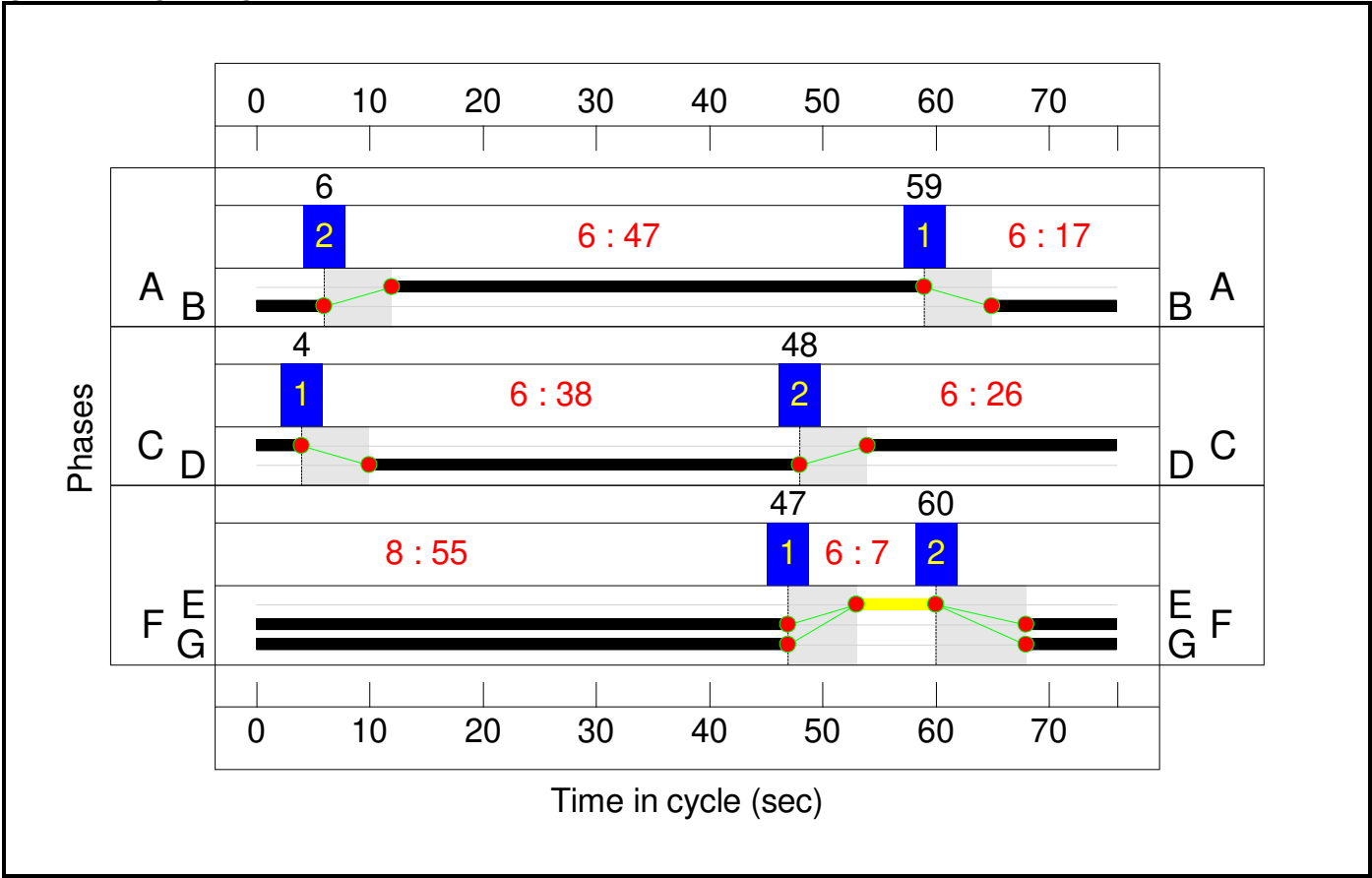
Stage Stream: 2



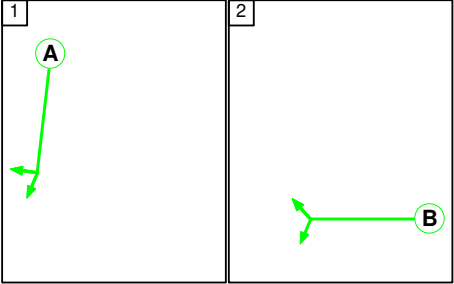
Stage Stream: 3



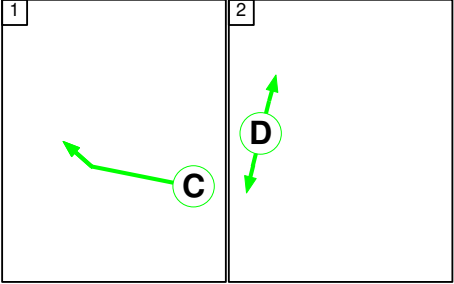
Signal Timings Diagram



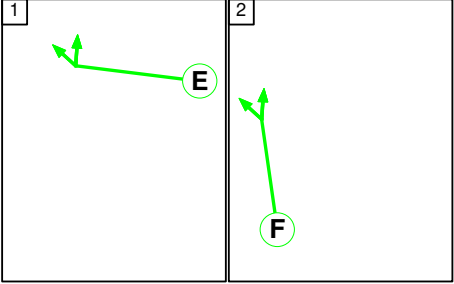
C2 - Westside Controller
Stage Sequence Diagram
Stage Stream: 1



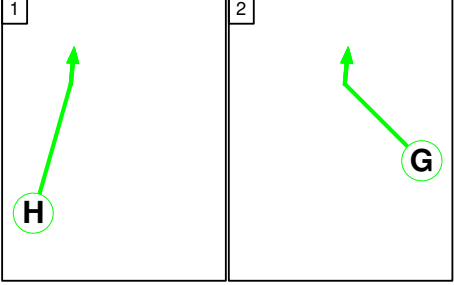
Stage Stream: 2



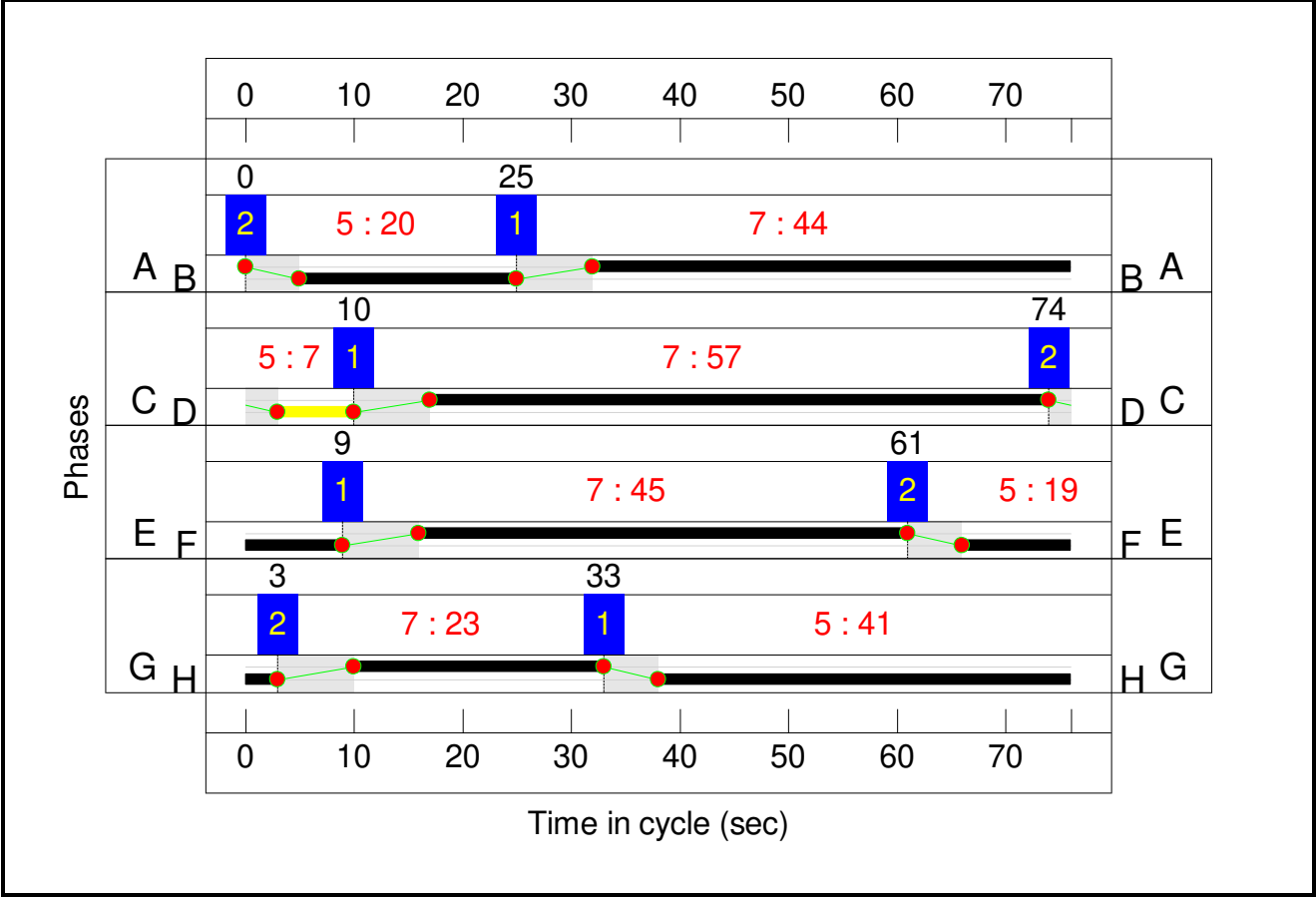
Stage Stream: 3



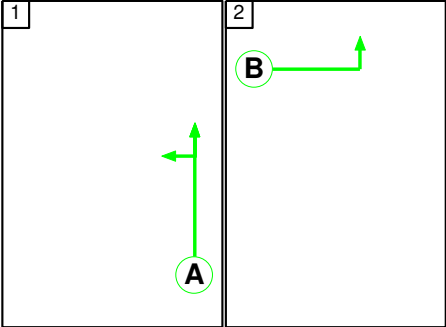
Stage Stream: 4



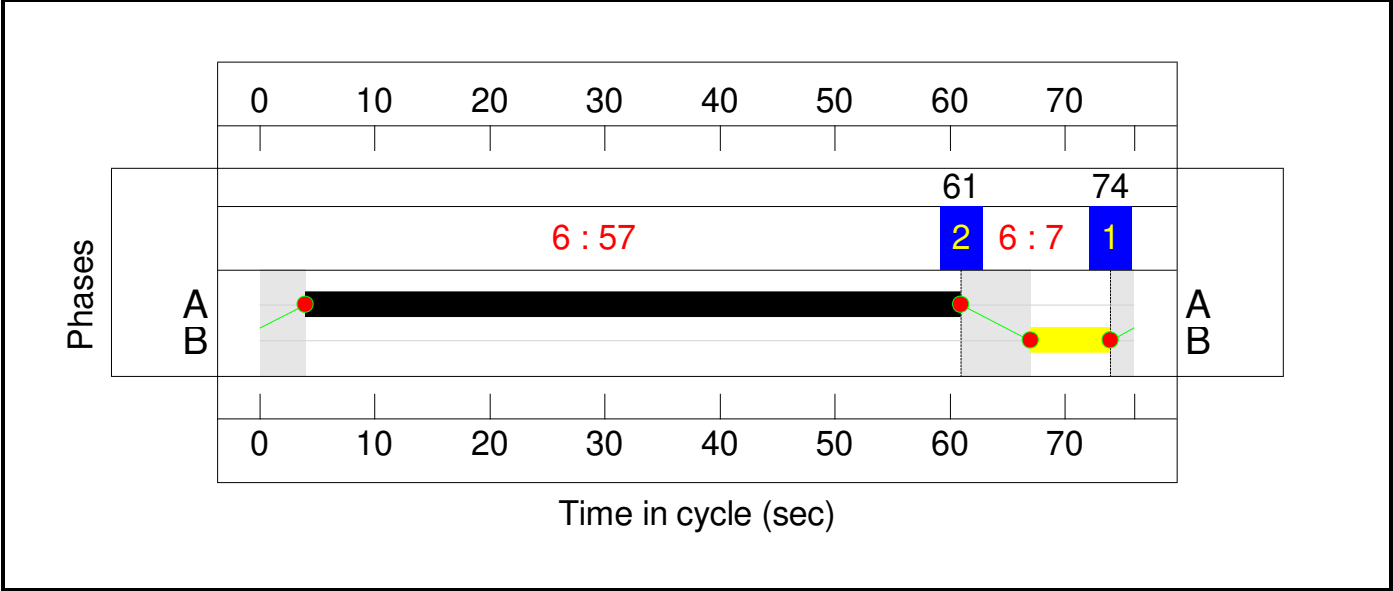
Signal Timings Diagram



C3 - Watering Lane
Stage Sequence Diagram



Signal Timings 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 (%)
J1: M1 Junction 15	-	-	N/A	-	-		-	-	-	-	-	-	84.7%
1/2+1/1	M1 Southbound Offslip Left	U	1:1	N/A	C1:B		1	17	-	787	2120:1980	502+469	77.7 : 84.7%
1/3+1/4	M1 Southbound Offslip Left Ahead	U	1:1	N/A	C1:B		1	17	-	802	2120:4000	502+505	79.7 : 79.7%
3/1	Ahead	U	1:2	N/A	C1:C		1	26	-	68	1900	675	10.1%
3/2	Right	U	1:2	N/A	C1:C		1	26	-	48	1900	675	7.1%
3/3	Right	U	1:2	N/A	C1:C		1	26	-	192	1900	675	28.4%
3/4	Right	U	1:2	N/A	C1:C		1	26	-	159	1900	675	23.6%
4/2+4/1	A45 Southbound Left Ahead	U	1:2	N/A	C1:D		1	38	-	1044	2120:1980	1012+1016	51.0 : 52.0%
4/3	A45 Southbound Ahead	U	1:2	N/A	C1:D		1	38	-	627	2120	1088	57.6%
4/4+4/5	A45 Southbound Ahead	U	1:2	N/A	C1:D		1	38	-	1745	2120:2120	1088+1012	83.8 : 82.3%
6/1	M1 Northbound Circulatory Ahead	U	2:1	N/A	C2:A		1	44	-	823	2000	1184	69.5%
6/2+6/3	M1 Northbound Circulatory Ahead Right	U	2:1	N/A	C2:A		1	44	-	1080	2000:2000	454+927	78.2 : 78.2%
6/4	M1 Northbound Circulatory Right	U	2:1	N/A	C2:A		1	44	-	947	2000	1184	80.0%
8/1	Saxon Avenue Left Left2	U	1:3	N/A	C1:E		1	7	-	127	1881	198	64.1%
8/2	Saxon Avenue Left	U	1:3	N/A	C1:E		1	7	-	114	2105	222	51.4%
9/2+9/1	M1 Northbound Offslip Left Ahead	U	2:1	N/A	C2:B		1	20	-	496	2120:1980	586+146	67.8 : 67.8%
9/3+9/4	M1 Northbound Offslip Ahead	U	2:1	N/A	C2:B		1	20	-	894	2120:2120	586+586	74.6 : 78.0%
11/1	Ahead	U	2:3	N/A	C2:E		1	45	-	826	1900	1150	71.8%
11/2	Ahead Right	U	2:3	N/A	C2:E		1	45	-	846	1900	1150	73.6%

12/1	Toucan Crossing Ahead	U	2:2	N/A	C2:C		1	57	-	954	1995	1523	62.7%
12/2	Toucan Crossing Ahead	U	2:2	N/A	C2:C		1	57	-	824	1995	1523	54.1%
13/2+13/1	A508 Northampton Rd Ahead	U	2:3	N/A	C2:F		1	19	-	303	1980:1980	504+368	34.7 : 34.7%
13/3	A508 Northampton Rd Ahead	U	2:3	N/A	C2:F		1	19	-	231	2120	558	41.4%
13/4+13/5	A508 Northampton Rd Ahead	U	2:3	N/A	C2:F		1	19	-	620	2120:2120	558+558	55.6 : 55.6%
15/1	Ahead	U	1:1	N/A	C1:A		1	47	-	805	2000	1263	63.7%
15/2	Ahead	U	1:1	N/A	C1:A		1	47	-	751	2000	1263	59.5%
15/3+15/4	Ahead Right	U	1:1	N/A	C1:A		1	47	-	783	2000:2000	1199+109	59.9 : 59.9%
16/1	Right	U	2:4	N/A	C2:G		1	23	-	397	2000	632	62.9%
16/2	Right	U	2:4	N/A	C2:G		1	23	-	437	2000	632	69.2%
16/3	Right	U	2:4	N/A	C2:G		1	23	-	457	2000	632	72.4%
17/1	Ahead	U	2:4	N/A	C2:H		1	41	-	408	2000	1105	36.9%
17/2	Ahead	U	2:4	N/A	C2:H		1	41	-	314	2000	1105	28.4%
17/3	Ahead	U	2:4	N/A	C2:H		1	41	-	326	2000	1105	29.5%
18/1	Ahead	U	1:3	N/A	C1:F		1	55	-	467	2000	1474	31.7%
18/2	Ahead	U	1:3	N/A	C1:F		1	55	-	537	2000	1474	36.4%
19/1	Ahead	U	1:3	N/A	C1:G		1	55	-	819	2000	1474	55.6%
19/2	Ahead	U	1:3	N/A	C1:G		1	55	-	1071	2000	1474	72.7%
19/3	Ahead	U	1:3	N/A	C1:G		1	55	-	833	2000	1474	56.5%
J2: Watering Lane	-	-	N/A	-	-		-	-	-	-	-	-	74.0%
1/2+1/1	A45 Northbound Ahead Left	U	N/A	N/A	C3:A		1	57	-	1202	2120:1980	1318+436	68.5 : 68.5%
1/3	A45 Northbound Ahead	U	N/A	N/A	C3:A		1	57	-	1141	2120	1618	70.5%
1/4	A45 Northbound Ahead	U	N/A	N/A	C3:A		1	57	-	1118	1980	1511	74.0%
4/1	Watering Lane Left	U	N/A	N/A	C3:B		1	7	-	121	1919	202	59.9%

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: M1 Junction 15 Mitigation Model - Opening Year	-	-	0	0	0	67.8	36.1	0.0	103.9	-	-	-	-
J1: M1 Junction 15	-	-	0	0	0	65.5	31.7	0.0	97.2	-	-	-	-
1/2+1/1	787	787	-	-	-	6.0	2.1	-	8.1 (4.0+4.1)	37.0 (36.7:37.3)	7.9	2.1	10.0
1/3+1/4	802	802	-	-	-	5.8	1.9	-	7.7 (4.0+3.7)	34.6 (35.9:33.2)	7.9	1.9	9.8
3/1	68	68	-	-	-	0.1	0.1	-	0.2	8.7	0.2	0.1	0.3
3/2	48	48	-	-	-	0.4	0.0	-	0.4	31.5	1.0	0.0	1.1
3/3	192	192	-	-	-	0.3	0.2	-	0.5	9.5	0.6	0.2	0.8
3/4	159	159	-	-	-	0.2	0.2	-	0.3	7.7	0.3	0.2	0.5
4/2+4/1	1044	1044	-	-	-	3.5	0.5	-	4.0 (2.0+2.1)	13.9 (13.7:14.1)	7.3	0.5	7.9
4/3	627	627	-	-	-	2.2	0.7	-	2.9	16.7	9.1	0.7	9.7
4/4+4/5	1745	1745	-	-	-	7.4	2.4	-	9.9 (5.3+4.6)	20.3 (20.8:19.8)	16.2	2.4	18.6
6/1	823	823	-	-	-	3.9	1.1	-	5.1	22.1	17.3	1.1	18.4
6/2+6/3	1080	1080	-	-	-	2.8	1.8	-	4.6 (1.9+2.7)	15.4 (19.5:13.3)	17.4	1.8	19.2
6/4	947	947	-	-	-	2.3	2.0	-	4.3	16.2	17.6	2.0	19.5
8/1	127	127	-	-	-	1.2	0.9	-	2.0	57.4	2.5	0.9	3.4
8/2	114	114	-	-	-	1.0	0.5	-	1.5	48.7	2.2	0.5	2.8
9/2+9/1	496	496	-	-	-	3.3	1.0	-	4.3 (3.5+0.8)	31.4 (32.1:28.5)	7.4	1.0	8.4
9/3+9/4	894	894	-	-	-	6.3	1.6	-	7.9 (3.8+4.0)	31.6 (31.5:31.8)	8.9	1.6	10.5
11/1	826	826	-	-	-	2.2	1.3	-	3.4	14.9	5.7	1.3	6.9
11/2	846	846	-	-	-	2.2	1.4	-	3.6	15.2	5.6	1.4	7.0
12/1	954	954	-	-	-	0.1	0.8	-	0.9	3.4	0.5	0.8	1.3
12/2	824	824	-	-	-	0.1	0.6	-	0.7	3.0	0.6	0.6	1.2

13/2+13/1	303	303	-	-	-	1.9	0.3	-	2.2 (1.3+0.9)	25.6 (25.8:25.2)	3.0	0.3	3.2
13/3	231	231	-	-	-	1.5	0.4	-	1.8	28.7	4.0	0.4	4.3
13/4+13/5	620	620	-	-	-	4.2	0.6	-	4.8 (2.4+2.4)	27.8 (27.8:27.8)	5.6	0.6	6.2
15/1	805	805	-	-	-	1.5	0.9	-	2.4	10.7	14.0	0.9	14.9
15/2	751	751	-	-	-	0.8	0.7	-	1.5	7.1	13.7	0.7	14.5
15/3+15/4	783	783	-	-	-	0.4	0.7	-	1.2 (1.1+0.1)	5.5 (5.4:6.7)	12.8	0.7	13.6
16/1	397	397	-	-	-	0.0	0.8	-	0.9	8.0	0.4	0.8	1.2
16/2	437	437	-	-	-	0.0	1.1	-	1.2	9.5	0.5	1.1	1.6
16/3	457	457	-	-	-	0.1	1.3	-	1.3	10.6	0.5	1.3	1.8
17/1	408	408	-	-	-	0.5	0.3	-	0.8	6.8	1.7	0.3	2.0
17/2	314	314	-	-	-	0.7	0.2	-	0.9	10.1	1.6	0.2	1.8
17/3	326	326	-	-	-	0.7	0.2	-	0.9	10.2	1.9	0.2	2.1
18/1	467	467	-	-	-	0.2	0.2	-	0.5	3.6	1.3	0.2	1.5
18/2	537	537	-	-	-	0.3	0.3	-	0.6	3.9	1.3	0.3	1.6
19/1	819	819	-	-	-	0.4	0.6	-	1.0	4.4	1.6	0.6	2.3
19/2	1071	1071	-	-	-	0.6	1.3	-	1.9	6.5	1.8	1.3	3.2
19/3	833	833	-	-	-	0.5	0.6	-	1.1	4.8	1.4	0.6	2.0
J2: Watering Lane	-	-	0	0	0	2.3	4.4	0.0	6.7	-	-	-	-
1/2+1/1	1202	1202	-	-	-	0.4	1.1	-	1.5 (1.0+0.4)	4.4 (4.0:5.4)	1.8	1.1	2.9
1/3	1141	1141	-	-	-	0.4	1.2	-	1.6	5.1	2.7	1.2	3.9
1/4	1118	1118	-	-	-	0.4	1.4	-	1.8	5.8	2.5	1.4	3.9
4/1	121	121	-	-	-	1.1	0.7	-	1.8	54.3	2.4	0.7	3.2
C1 - Eastside Controller Stream: 1 PRC for Signalled Lanes (%): 6.3 Total Delay for Signalled Lanes (pcuHr): 20.87 Cycle Time (s): 76 C1 - Eastside Controller Stream: 2 PRC for Signalled Lanes (%): 7.4 Total Delay for Signalled Lanes (pcuHr): 18.24 Cycle Time (s): 76 C1 - Eastside Controller Stream: 3 PRC for Signalled Lanes (%): 23.8 Total Delay for Signalled Lanes (pcuHr): 8.66 Cycle Time (s): 76 C2 - Westside Controller Stream: 1 PRC for Signalled Lanes (%): 12.5 Total Delay for Signalled Lanes (pcuHr): 26.11 Cycle Time (s): 76 C2 - Westside Controller Stream: 2 PRC for Signalled Lanes (%): 43.6 Total Delay for Signalled Lanes (pcuHr): 1.60 Cycle Time (s): 76 C2 - Westside Controller Stream: 3 PRC for Signalled Lanes (%): 22.3 Total Delay for Signalled Lanes (pcuHr): 15.76 Cycle Time (s): 76 C2 - Westside Controller Stream: 4 PRC for Signalled Lanes (%): 24.4 Total Delay for Signalled Lanes (pcuHr): 5.95 Cycle Time (s): 76 C3 - Watering Lane PRC for Signalled Lanes (%): 21.6 Total Delay for Signalled Lanes (pcuHr): 6.71 Cycle Time (s): 76 PRC Over All Lanes (%): 6.3 Total Delay Over All Lanes(pcuHr): 103.90													