Appendix E Top Cross Junction LinSig Outputs

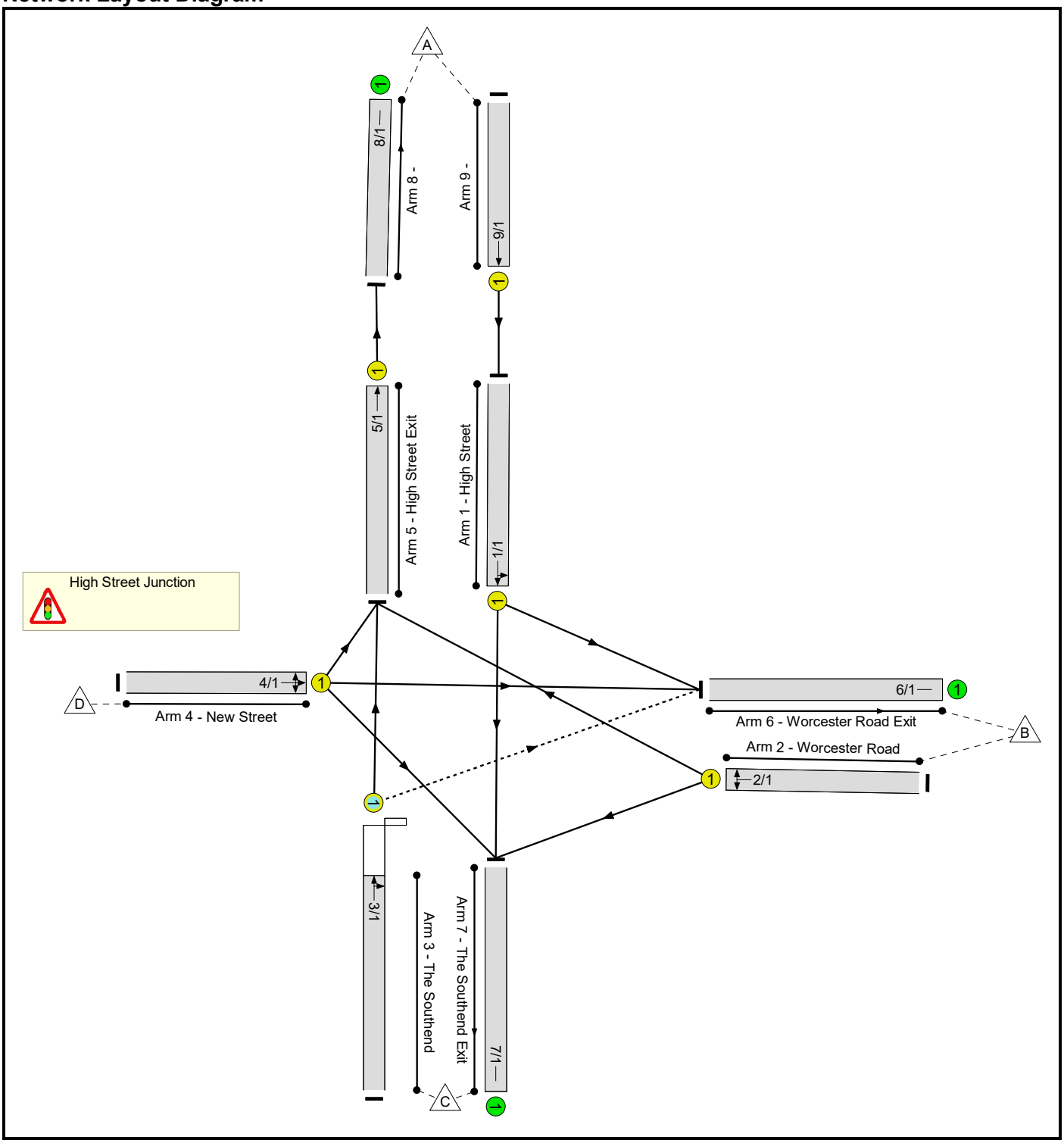
Full Input Data And Results

User and Project Details

Project:	**Land North of the Viaduct, Ledbury**
Title:	**Top Cross Junction**
Location:	
Additional detail:	
File name:	Top Cross Appeal Final 29-06-20.lsg3x
Author:	Joe Wooldridge
Company:	PJA
Address:	

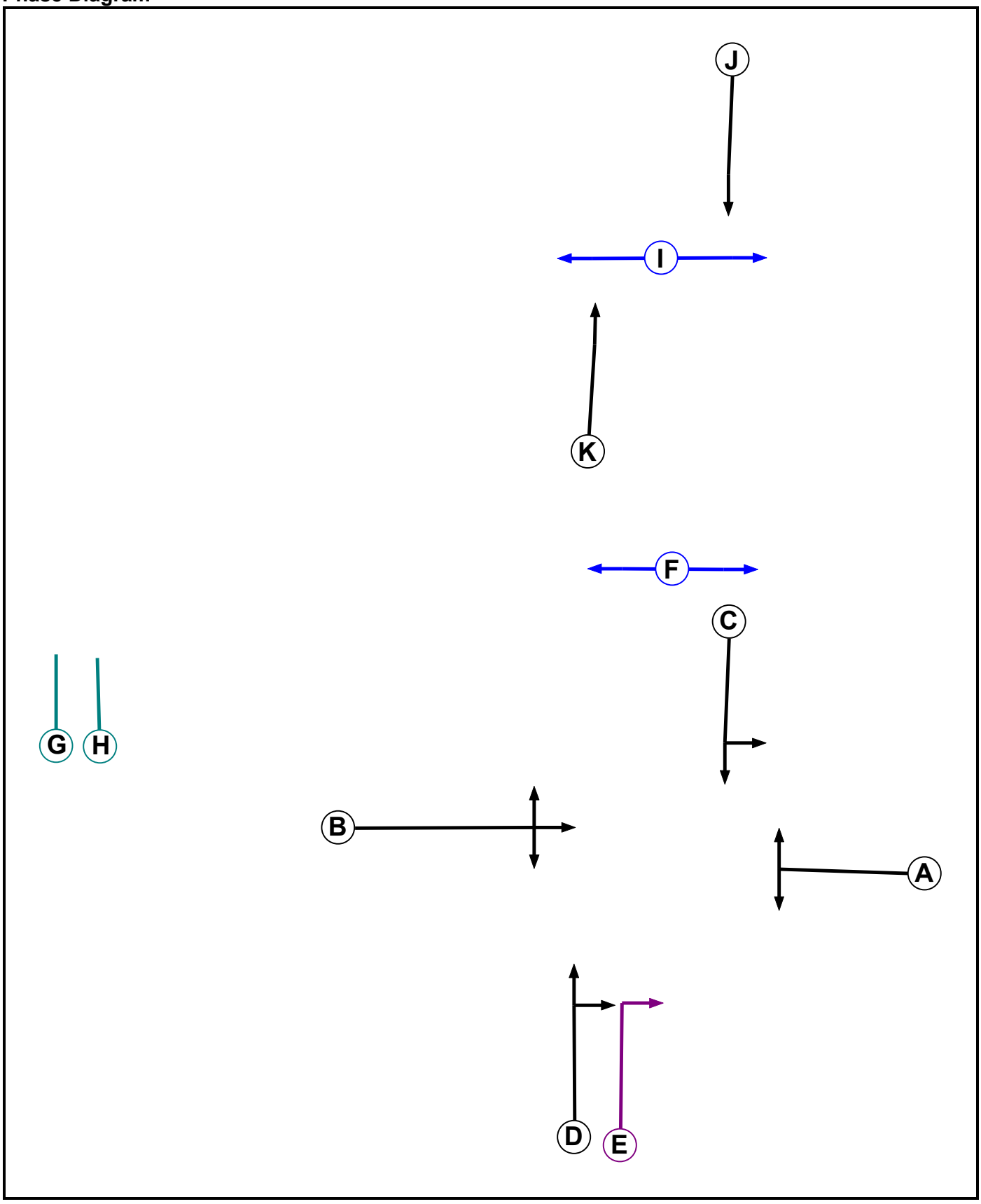
Full Input Data And Results

Network Layout Diagram



Full Input Data And Results

Phase Diagram



Full Input Data And Results

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	1		7	7
D	Traffic	1		7	7
E	Ind. Arrow	1	D	4	4
F	Pedestrian	1		9	9
G	Dummy	1		0	0
H	Dummy	1		2	2
I	Pedestrian	2		7	7
J	Traffic	2		7	7
K	Traffic	2		7	7

Phase Intergreens Matrix

Terminating Phase \ Starting Phase	A	B	C	D	E	F	G	H	I	J	K
A		15	15	15	15	12	12	3	-	-	-
B	18		9	9	6	10	10	3	-	-	-
C	18	5		-	5	5	5	3	-	-	-
D	14	6	-		-	8	8	3	-	-	-
E	7	6	8	-		9	9	3	-	-	-
F	5	5	5	5	5		-	3	-	-	-
G	0	0	0	0	0	-		3	-	-	-
H	2	2	2	2	2	2	2		-	-	-
I	-	-	-	-	-	-	-	-		9	9
J	-	-	-	-	-	-	-	-	5		-
K	-	-	-	-	-	-	-	-	5	-	

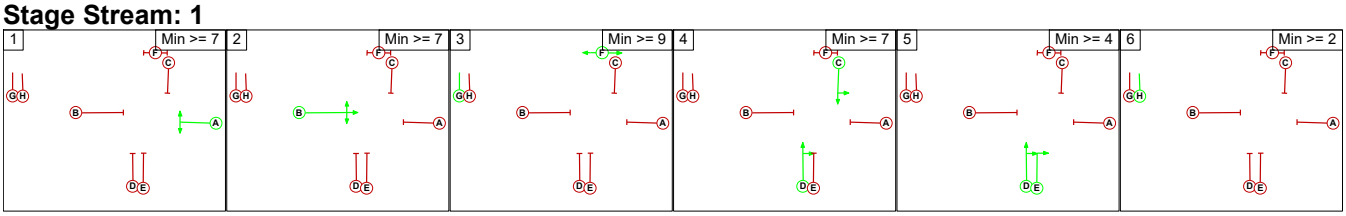
Phases in Stage

Stream	Stage No.	Phases in Stage
1	1	A
1	2	B
1	3	F G
1	4	C D
1	5	D E
1	6	H
2	1	J K
2	2	I

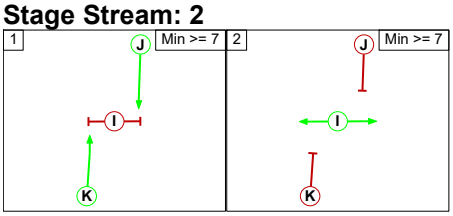
Full Input Data And Results

Stage Diagram

Stage Stream: 1



Stage Stream: 2



Phase Delays

Stage Stream: 1

Term. Stage	Start Stage	Phase	Type	Value	Cont value
6	1	A	Gaining absolute	3	3
6	2	B	Gaining absolute	4	4
6	4	C	Gaining absolute	4	4
6	4	D	Gaining absolute	4	4

Stage Stream: 2

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

Prohibited Stage Change

Stage Stream: 1

		To Stage					
		1	2	3	4	5	6
From Stage	1		15	12	15	15	3
	2	18		10	9	X	3
	3	5	5		5	5	3
	4	18	6	8		5	3
	5	14	6	9	8		3
	6	3	4	2	4	2	

Stage Stream: 2

		To Stage	
		1	2
From Stage	1		5
	2	9	

Full Input Data And Results

Give-Way Lane Input Data

Junction: High Street 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)**
3/1 (The Southend)	6/1 (Right)	1439	0	1/1	1.09	All	4.00	0.50	0.50	4	4.00

Full Input Data And Results

Lane Input Data

Junction: High Street 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 (High Street)	U	C	2	3	8.7	Geom	-	3.80	0.00	Y	Arm 6 Left	10.00
											Arm 7 Ahead	Inf
2/1 (Worcester Road)	U	A	2	3	60.0	Geom	-	3.00	0.00	Y	Arm 5 Right	12.00
											Arm 7 Left	10.00
3/1 (The Southend)	O	D E	2	3	60.0	Geom	-	3.50	0.00	Y	Arm 5 Ahead	Inf
											Arm 6 Right	12.00
4/1 (New Street)	U	B	2	3	60.0	Geom	-	4.00	0.00	Y	Arm 5 Left	10.00
											Arm 6 Ahead	Inf
											Arm 7 Right	12.00
5/1 (High Street Exit)	U	K	2	3	8.7	Geom	-	3.00	0.00	Y	Arm 8 Ahead	Inf
6/1 (Worcester Road Exit)	U		2	3	60.0	Inf	-	-	-	-	-	-
7/1 (The Southend Exit)	U		2	3	60.0	Inf	-	-	-	-	-	-
8/1	U		2	3	60.0	Inf	-	-	-	-	-	-
9/1	U	J	2	3	60.0	Geom	-	3.00	0.00	Y	Arm 1 Ahead	Inf

Traffic Flow Groups

Flow Group	Start Time	End Time	Duration	Formula
1: '2031 + Com + Dev AM'	07:45	08:45	01:00	
2: '2031 + Com + Dev PM'	16:30	17:30	01:00	
3: '2031 + Dev (2nd Access) PJA AM'	07:45	08:45	01:00	
4: '2031 + Dev (2nd Access) PJA PM'	16:30	17:30	01:00	
5: '2031 + Dev (2nd Access) CC AM'	07:45	08:45	01:00	
6: '2031 + Dev (2nd Access) CC PM'	16:30	17:30	01:00	

Scenario 1: '2031 + Com + Dev AM' (FG1: '2031 + Com + Dev AM', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

		Destination				
		A	B	C	D	Tot.
Origin	A	0	186	233	0	419
	B	213	0	166	0	379
	C	226	94	0	0	320
	D	66	200	30	0	296
	Tot.	505	480	429	0	1414

Traffic Lane Flows

Lane	Scenario 1: 2031 + Com + Dev AM
Junction: High Street Junction	
1/1	419
2/1	379
3/1	320
4/1	296
5/1	505
6/1	480
7/1	429
8/1	505
9/1	419

Full Input Data And Results

Lane Saturation Flows

Junction: High Street 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 (High Street)	3.80	0.00	Y	Arm 6 Left	10.00	44.4 %	1870	1870
				Arm 7 Ahead	Inf	55.6 %		
2/1 (Worcester Road)	3.00	0.00	Y	Arm 5 Right	12.00	56.2 %	1686	1686
				Arm 7 Left	10.00	43.8 %		
3/1 (The Southend)	3.50	0.00	Y	Arm 5 Ahead	Inf	70.6 %	1895	1895
				Arm 6 Right	12.00	29.4 %		
4/1 (New Street)	4.00	0.00	Y	Arm 5 Left	10.00	22.3 %	1926	1926
				Arm 6 Ahead	Inf	67.6 %		
				Arm 7 Right	12.00	10.1 %		
5/1 (High Street Exit)	3.00	0.00	Y	Arm 8 Ahead	Inf	100.0 %	1915	1915
6/1 (Worcester Road Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
7/1 (The Southend Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
8/1	Infinite Saturation Flow						Inf	Inf
9/1	3.00	0.00	Y	Arm 1 Ahead	Inf	100.0 %	1915	1915

Scenario 2: '2031 + Com + Dev PM' (FG2: '2031 + Com + Dev PM', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

		Destination				
		A	B	C	D	Tot.
Origin	A	0	186	254	0	440
	B	256	0	159	0	415
	C	251	76	0	0	327
	D	104	183	26	0	313
	Tot.	611	445	439	0	1495

Full Input Data And Results

Traffic Lane Flows

Lane	Scenario 2: 2031 + Com + Dev PM
Junction: High Street Junction	
1/1	440
2/1	415
3/1	327
4/1	313
5/1	611
6/1	445
7/1	439
8/1	611
9/1	440

Lane Saturation Flows

Junction: High Street 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 (High Street)	3.80	0.00	Y	Arm 6 Left	10.00	42.3 %	1876	1876
				Arm 7 Ahead	Inf	57.7 %		
2/1 (Worcester Road)	3.00	0.00	Y	Arm 5 Right	12.00	61.7 %	1688	1688
				Arm 7 Left	10.00	38.3 %		
3/1 (The Southend)	3.50	0.00	Y	Arm 5 Ahead	Inf	76.8 %	1910	1910
				Arm 6 Right	12.00	23.2 %		
4/1 (New Street)	4.00	0.00	Y	Arm 5 Left	10.00	33.2 %	1901	1901
				Arm 6 Ahead	Inf	58.5 %		
				Arm 7 Right	12.00	8.3 %		
5/1 (High Street Exit)	3.00	0.00	Y	Arm 8 Ahead	Inf	100.0 %	1915	1915
6/1 (Worcester Road Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
7/1 (The Southend Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
8/1	Infinite Saturation Flow						Inf	Inf
9/1	3.00	0.00	Y	Arm 1 Ahead	Inf	100.0 %	1915	1915

Full Input Data And Results

Scenario 3: '2031 + 2nd Access PJA AM' (FG3: '2031 + Dev (2nd Access) PJA AM', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

Origin	Destination					
		A	B	C	D	Tot.
	A	0	186	220	0	406
	B	214	0	166	0	380
	C	214	94	0	0	308
	D	66	200	30	0	296
	Tot.	494	480	416	0	1390

Traffic Lane Flows

Lane	Scenario 3: 2031 + 2nd Access PJA AM
Junction: High Street Junction	
1/1	406
2/1	380
3/1	308
4/1	296
5/1	494
6/1	480
7/1	416
8/1	494
9/1	406

Full Input Data And Results

Lane Saturation Flows

Junction: High Street 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 (High Street)	3.80	0.00	Y	Arm 6 Left	10.00	45.8 %	1867	1867
				Arm 7 Ahead	Inf	54.2 %		
2/1 (Worcester Road)	3.00	0.00	Y	Arm 5 Right	12.00	56.3 %	1686	1686
				Arm 7 Left	10.00	43.7 %		
3/1 (The Southend)	3.50	0.00	Y	Arm 5 Ahead	Inf	69.5 %	1893	1893
				Arm 6 Right	12.00	30.5 %		
4/1 (New Street)	4.00	0.00	Y	Arm 5 Left	10.00	22.3 %	1926	1926
				Arm 6 Ahead	Inf	67.6 %		
				Arm 7 Right	12.00	10.1 %		
5/1 (High Street Exit)	3.00	0.00	Y	Arm 8 Ahead	Inf	100.0 %	1915	1915
6/1 (Worcester Road Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
7/1 (The Southend Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
8/1	Infinite Saturation Flow						Inf	Inf
9/1	3.00	0.00	Y	Arm 1 Ahead	Inf	100.0 %	1915	1915

Scenario 4: '2031 + 2nd Access PJA PM' (FG4: '2031 + Dev (2nd Access) PJA PM', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

	Destination					
Origin		A	B	C	D	Tot.
	A	0	186	242	0	428
	B	256	0	159	0	415
	C	239	76	0	0	315
	D	104	183	26	0	313
	Tot.	599	445	427	0	1471

Full Input Data And Results

Traffic Lane Flows

Lane	Scenario 4: 2031 + 2nd Access PJA PM
Junction: High Street Junction	
1/1	428
2/1	415
3/1	315
4/1	313
5/1	599
6/1	445
7/1	427
8/1	599
9/1	428

Lane Saturation Flows

Junction: High Street 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 (High Street)	3.80	0.00	Y	Arm 6 Left	10.00	43.5 %	1873	1873
				Arm 7 Ahead	Inf	56.5 %		
2/1 (Worcester Road)	3.00	0.00	Y	Arm 5 Right	12.00	61.7 %	1688	1688
				Arm 7 Left	10.00	38.3 %		
3/1 (The Southend)	3.50	0.00	Y	Arm 5 Ahead	Inf	75.9 %	1907	1907
				Arm 6 Right	12.00	24.1 %		
4/1 (New Street)	4.00	0.00	Y	Arm 5 Left	10.00	33.2 %	1901	1901
				Arm 6 Ahead	Inf	58.5 %		
				Arm 7 Right	12.00	8.3 %		
5/1 (High Street Exit)	3.00	0.00	Y	Arm 8 Ahead	Inf	100.0 %	1915	1915
6/1 (Worcester Road Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
7/1 (The Southend Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
8/1	Infinite Saturation Flow						Inf	Inf
9/1	3.00	0.00	Y	Arm 1 Ahead	Inf	100.0 %	1915	1915

Full Input Data And Results

Scenario 5: '2031 + 2nd Acccess CC AM' (FG5: '2031 + Dev (2nd Access) CC AM', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

Origin	Destination					
		A	B	C	D	Tot.
	A	0	186	207	0	393
	B	214	0	166	0	380
	C	204	94	0	0	298
	D	66	200	30	0	296
	Tot.	484	480	403	0	1367

Traffic Lane Flows

Lane	Scenario 5: 2031 + 2nd Acccess CC AM
Junction: High Street Junction	
1/1	393
2/1	380
3/1	298
4/1	296
5/1	484
6/1	480
7/1	403
8/1	484
9/1	393

Full Input Data And Results

Lane Saturation Flows

Junction: High Street 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 (High Street)	3.80	0.00	Y	Arm 6 Left	10.00	47.3 %	1863	1863
				Arm 7 Ahead	Inf	52.7 %		
2/1 (Worcester Road)	3.00	0.00	Y	Arm 5 Right	12.00	56.3 %	1686	1686
				Arm 7 Left	10.00	43.7 %		
3/1 (The Southend)	3.50	0.00	Y	Arm 5 Ahead	Inf	68.5 %	1890	1890
				Arm 6 Right	12.00	31.5 %		
4/1 (New Street)	4.00	0.00	Y	Arm 5 Left	10.00	22.3 %	1926	1926
				Arm 6 Ahead	Inf	67.6 %		
				Arm 7 Right	12.00	10.1 %		
5/1 (High Street Exit)	3.00	0.00	Y	Arm 8 Ahead	Inf	100.0 %	1915	1915
6/1 (Worcester Road Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
7/1 (The Southend Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
8/1	Infinite Saturation Flow						Inf	Inf
9/1	3.00	0.00	Y	Arm 1 Ahead	Inf	100.0 %	1915	1915

Scenario 6: '2031 + 2nd Acccess CC PM' (FG6: '2031 + Dev (2nd Access) CC PM', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

		Destination				
		A	B	C	D	Tot.
Origin	A	0	186	230	0	416
	B	256	0	159	0	415
	C	226	76	0	0	302
	D	104	183	26	0	313
	Tot.	586	445	415	0	1446

Full Input Data And Results

Traffic Lane Flows

Lane	Scenario 6: 2031 + 2nd Acccess CC PM
Junction: High Street Junction	
1/1	416
2/1	415
3/1	302
4/1	313
5/1	586
6/1	445
7/1	415
8/1	586
9/1	416

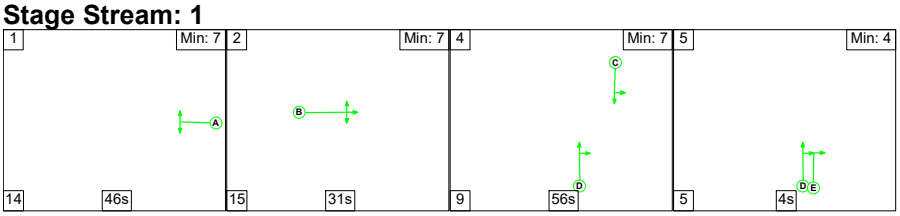
Lane Saturation Flows

Junction: High Street 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 (High Street)	3.80	0.00	Y	Arm 6 Left	10.00	44.7 %	1870	1870
				Arm 7 Ahead	Inf	55.3 %		
2/1 (Worcester Road)	3.00	0.00	Y	Arm 5 Right	12.00	61.7 %	1688	1688
				Arm 7 Left	10.00	38.3 %		
3/1 (The Southend)	3.50	0.00	Y	Arm 5 Ahead	Inf	74.8 %	1905	1905
				Arm 6 Right	12.00	25.2 %		
4/1 (New Street)	4.00	0.00	Y	Arm 5 Left	10.00	33.2 %	1901	1901
				Arm 6 Ahead	Inf	58.5 %		
				Arm 7 Right	12.00	8.3 %		
5/1 (High Street Exit)	3.00	0.00	Y	Arm 8 Ahead	Inf	100.0 %	1915	1915
6/1 (Worcester Road Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
7/1 (The Southend Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
8/1	Infinite Saturation Flow						Inf	Inf
9/1	3.00	0.00	Y	Arm 1 Ahead	Inf	100.0 %	1915	1915

Scenario 1: '2031 + Com + Dev AM' (FG1: '2031 + Com + Dev AM', Plan 1: 'Network Control Plan 1')

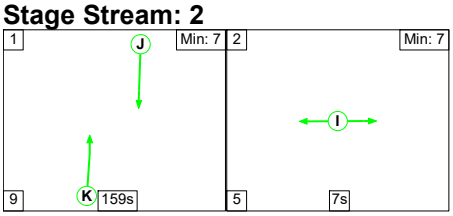
Stage Sequence Diagram

Stage Stream: 1



Full Input Data And Results

Stage Stream: 2



Stage Timings

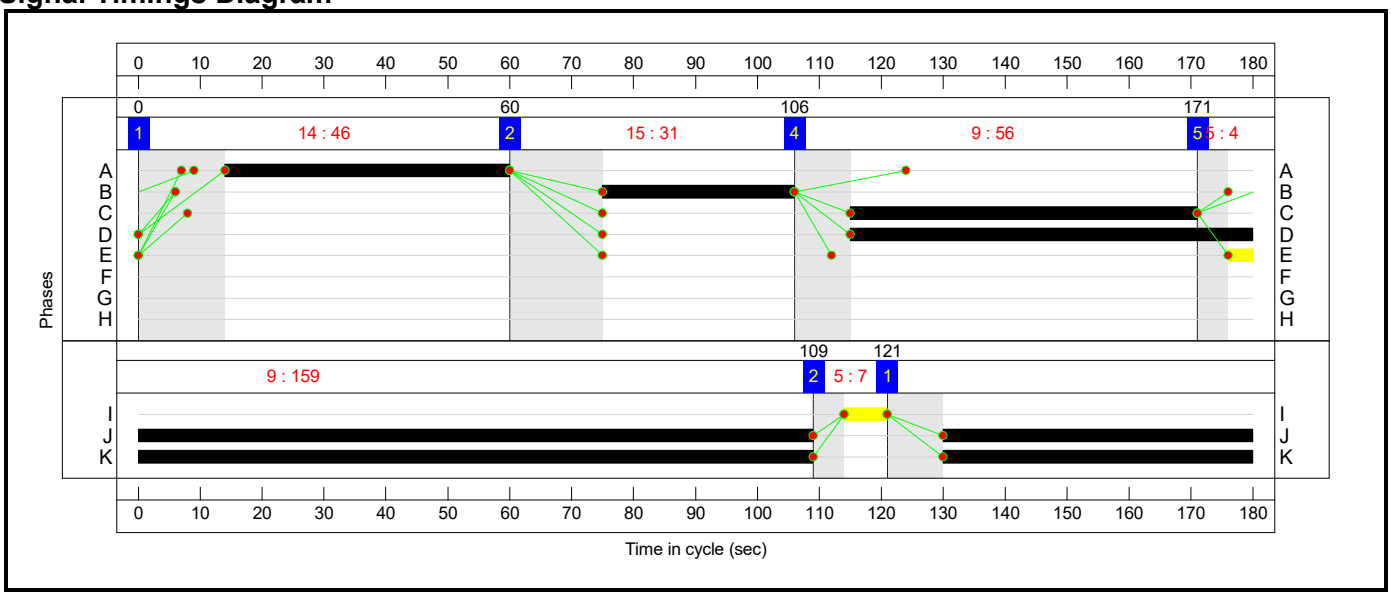
Stage Stream: 1

Stage	1	2	4	5
Duration	46	31	56	4
Change Point	0	60	106	171

Stage Stream: 2

Stage	1	2
Duration	159	7
Change Point	121	109

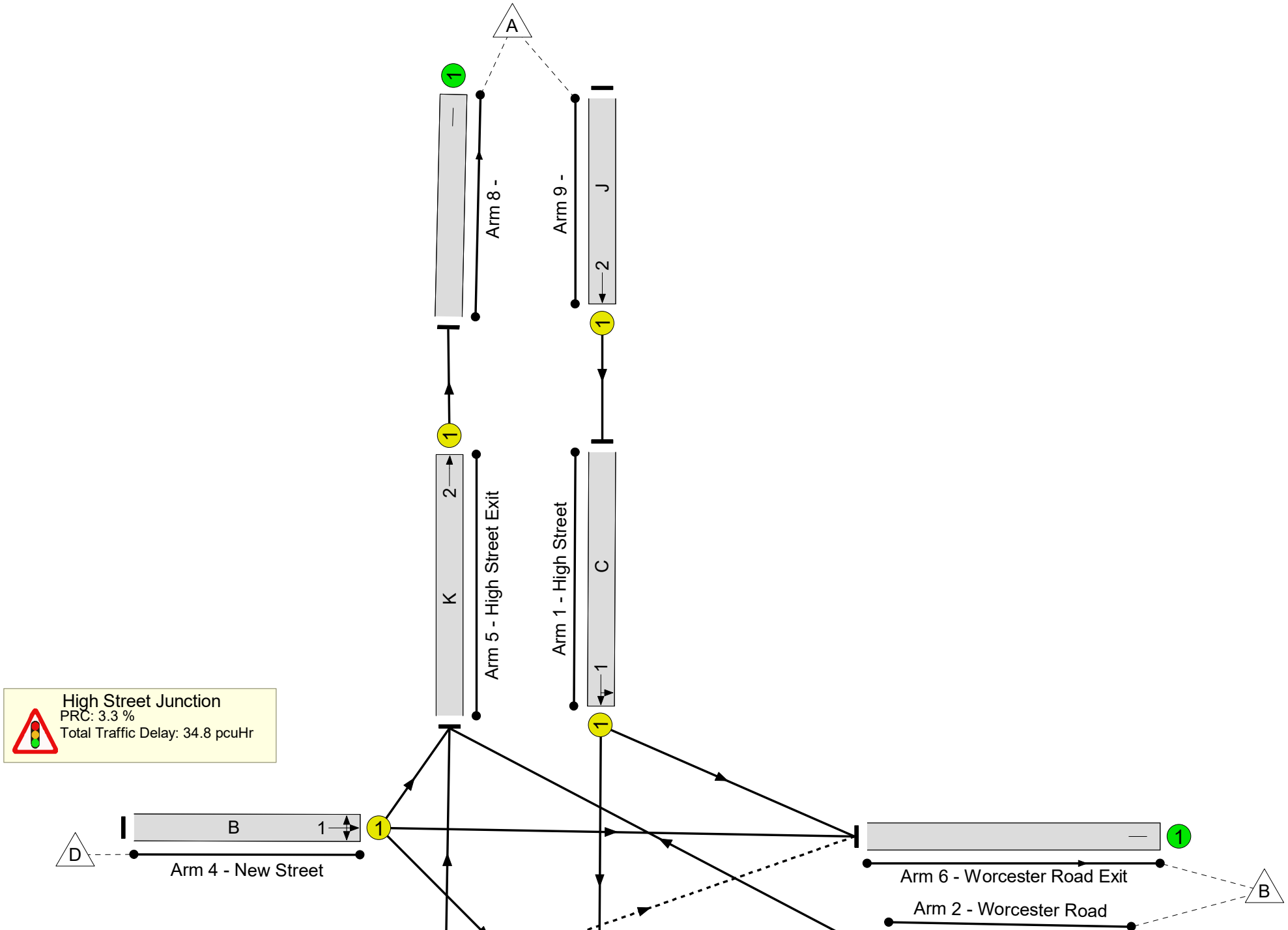
Signal Timings Diagram



Full Input Data And Results

Network Layout Diagram

Full Input Data And Results



Full Input Data And Results

Network Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network: Top Cross Junction	-	-	**N/A**	-	-		-	-	-	-	-	-	**87.1%**
High Street Junction	-	-	**N/A**	-	-		-	-	-	-	-	-	**87.1%**
1/1	High Street Left Ahead	U	1	N/A	C		1	56	-	419	1870	592	70.8%
2/1	Worcester Road Right Left	U	1	N/A	A		1	46	-	379	1686	440	86.1%
3/1	The Southend Ahead Right	O	1	N/A	D	E	1	65	4	320	1895	367	87.1%
4/1	New Street Left Ahead Right	U	1	N/A	B		1	31	-	296	1926	342	86.4%
5/1	High Street Exit Ahead	U	2	N/A	K		1	159	-	505	1915	1702	29.7%
6/1	Worcester Road Exit	U	N/A	N/A	-		-	-	-	480	Inf	Inf	0.0%
7/1	The Southend Exit	U	N/A	N/A	-		-	-	-	429	Inf	Inf	0.0%
8/1		U	N/A	N/A	-		-	-	-	505	Inf	Inf	0.0%
9/1	Ahead	U	2	N/A	J		1	159	-	419	1915	1702	24.6%

Full Input Data And Results

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network: Top Cross Junction	**-**	**-**	**71**	**21**	**2**	**24.3**	**10.2**	**0.3**	**34.8**	**-**	**-**	**-**	**-**
High Street Junction	**-**	**-**	**71**	**21**	**2**	**24.3**	**10.2**	**0.3**	**34.8**	**-**	**-**	**-**	**-**
1/1	419	419	-	-	-	6.1	1.2	-	7.3	63.0	18.4	1.2	19.6
2/1	379	379	-	-	-	6.7	2.8	-	9.5	90.3	18.0	2.8	20.8
3/1	320	320	71	21	2	5.4	3.0	0.3	8.7	97.3	15.5	3.0	18.5
4/1	296	296	-	-	-	5.9	2.8	-	8.8	106.5	14.3	2.8	17.1
5/1	505	505	-	-	-	0.0	0.2	-	0.3	1.8	1.3	0.2	1.5
6/1	480	480	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	429	429	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	505	505	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
9/1	419	419	-	-	-	0.2	0.2	-	0.3	2.8	2.9	0.2	3.1

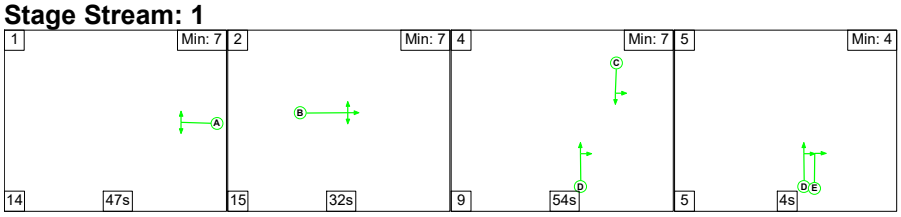
C1	Stream: 1 PRC for Signalled Lanes (%):	3.3	Total Delay for Signalled Lanes (pcuHr):	34.24	Cycle Time (s): 180
C1	Stream: 2 PRC for Signalled Lanes (%):	203.4	Total Delay for Signalled Lanes (pcuHr):	0.58	Cycle Time (s): 180
	PRC Over All Lanes (%):	3.3	Total Delay Over All Lanes(pcuHr):	34.82	

Full Input Data And Results

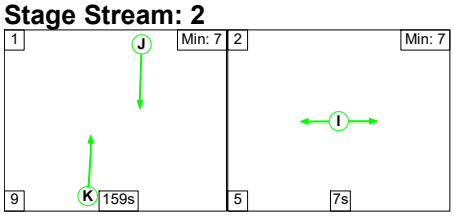
Scenario 2: '2031 + Com + Dev PM' (FG2: '2031 + Com + Dev PM', Plan 1: 'Network Control Plan 1')

Stage Sequence Diagram

Stage Stream: 1



Stage Stream: 2



Stage Timings

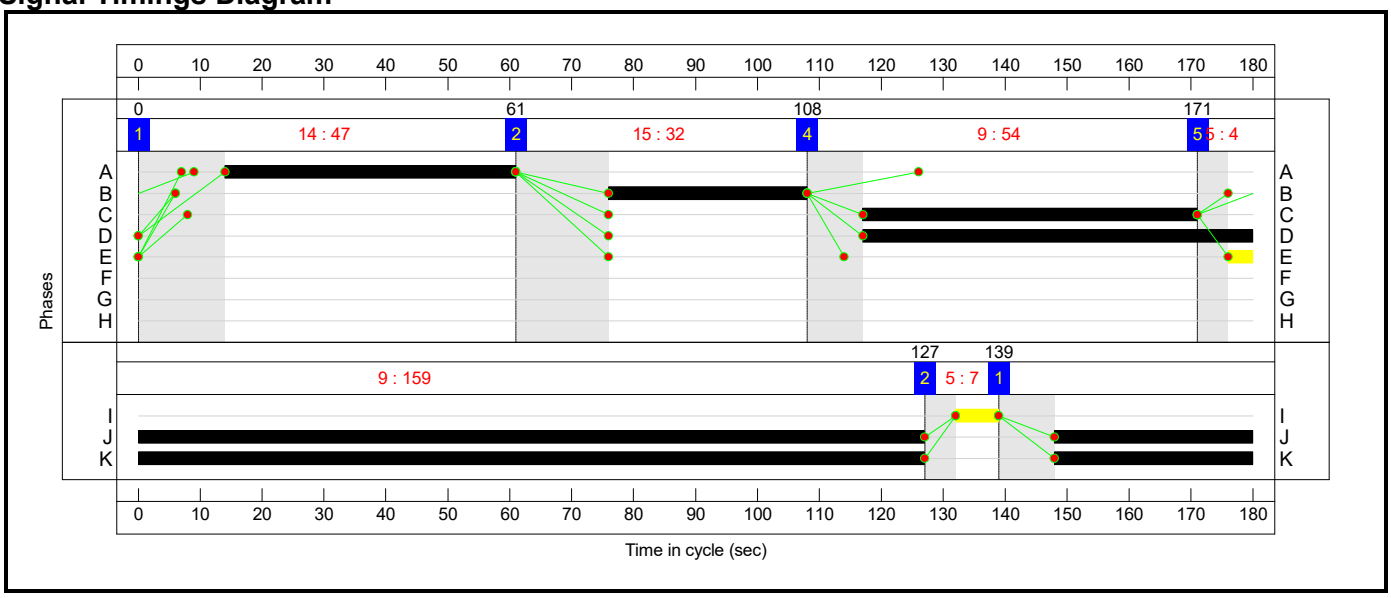
Stage Stream: 1

Stage	1	2	4	5
Duration	47	32	54	4
Change Point	0	61	108	171

Stage Stream: 2

Stage	1	2
Duration	159	7
Change Point	139	127

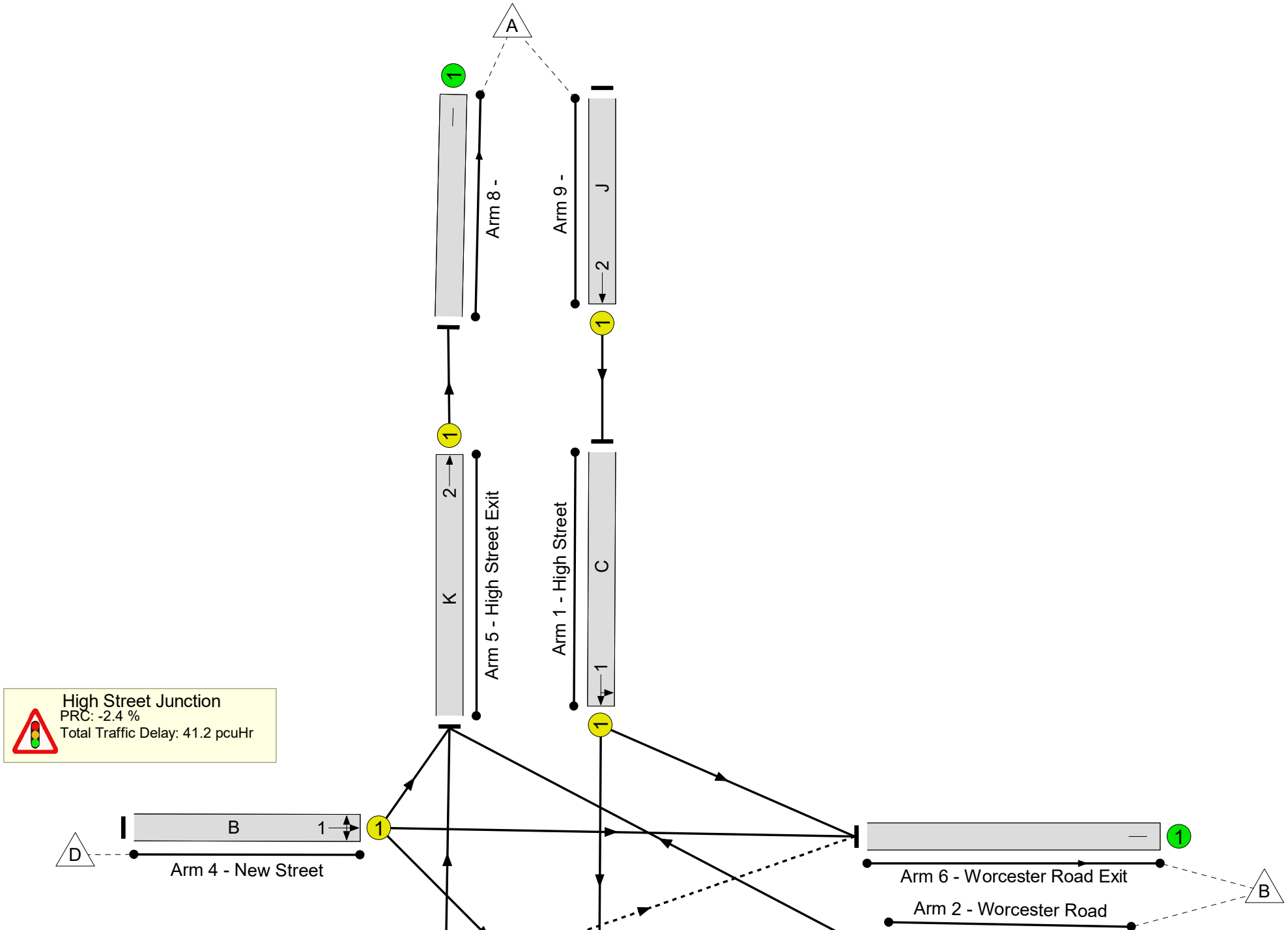
Signal Timings Diagram



Full Input Data And Results

Network Layout Diagram

Full Input Data And Results



Full Input Data And Results

Network Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network: Top Cross Junction	-	-	**N/A**	-	-		-	-	-	-	-	-	**92.2%**
High Street Junction	-	-	**N/A**	-	-		-	-	-	-	-	-	**92.2%**
1/1	High Street Left Ahead	U	1	N/A	C		1	54	-	440	1876	573	76.8%
2/1	Worcester Road Right Left	U	1	N/A	A		1	47	-	415	1688	450	92.2%
3/1	The Southend Ahead Right	O	1	N/A	D	E	1	63	4	327	1910	357	91.6%
4/1	New Street Left Ahead Right	U	1	N/A	B		1	32	-	313	1901	349	89.8%
5/1	High Street Exit Ahead	U	2	N/A	K		1	159	-	611	1915	1702	35.9%
6/1	Worcester Road Exit	U	N/A	N/A	-		-	-	-	445	Inf	Inf	0.0%
7/1	The Southend Exit	U	N/A	N/A	-		-	-	-	439	Inf	Inf	0.0%
8/1		U	N/A	N/A	-		-	-	-	611	Inf	Inf	0.0%
9/1	Ahead	U	2	N/A	J		1	159	-	440	1915	1702	25.8%

Full Input Data And Results

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network: Top Cross Junction	**-**	**-**	**53**	**17**	**6**	**26.3**	**14.6**	**0.3**	**41.2**	**-**	**-**	**-**	**-**
High Street Junction	**-**	**-**	**53**	**17**	**6**	**26.3**	**14.6**	**0.3**	**41.2**	**-**	**-**	**-**	**-**
1/1	440	440	-	-	-	6.8	1.6	-	8.4	68.9	17.3	1.6	18.9
2/1	415	415	-	-	-	7.4	4.7	-	12.1	104.7	20.2	4.7	24.8
3/1	327	327	53	17	6	5.5	4.2	0.3	10.0	110.4	16.0	4.2	20.2
4/1	313	313	-	-	-	6.2	3.7	-	9.9	113.9	15.2	3.7	18.9
5/1	611	611	-	-	-	0.1	0.3	-	0.4	2.4	1.3	0.3	1.6
6/1	445	445	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	439	439	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	611	611	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
9/1	440	440	-	-	-	0.2	0.2	-	0.4	2.9	3.1	0.2	3.2

C1	Stream: 1 PRC for Signalled Lanes (%):	-2.4	Total Delay for Signalled Lanes (pcuHr):	40.41
C1	Stream: 2 PRC for Signalled Lanes (%):	150.7	Total Delay for Signalled Lanes (pcuHr):	0.76
	PRC Over All Lanes (%):	-2.4	Total Delay Over All Lanes(pcuHr):	41.18

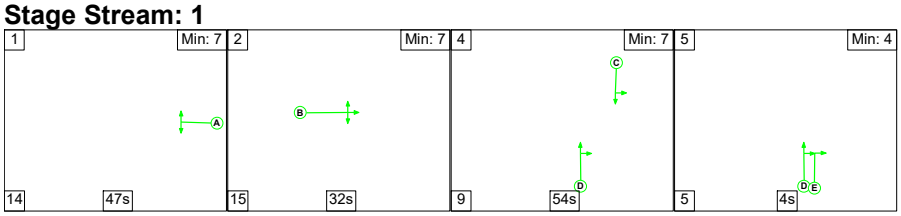
Cycle Time (s): 180
Cycle Time (s): 180

Full Input Data And Results

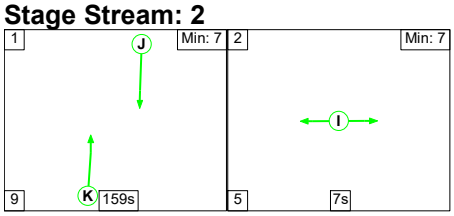
Scenario 3: '2031 + 2nd Access PJA AM' (FG3: '2031 + Dev (2nd Access) PJA AM', Plan 1: 'Network Control Plan 1')

Stage Sequence Diagram

Stage Stream: 1



Stage Stream: 2



Stage Timings

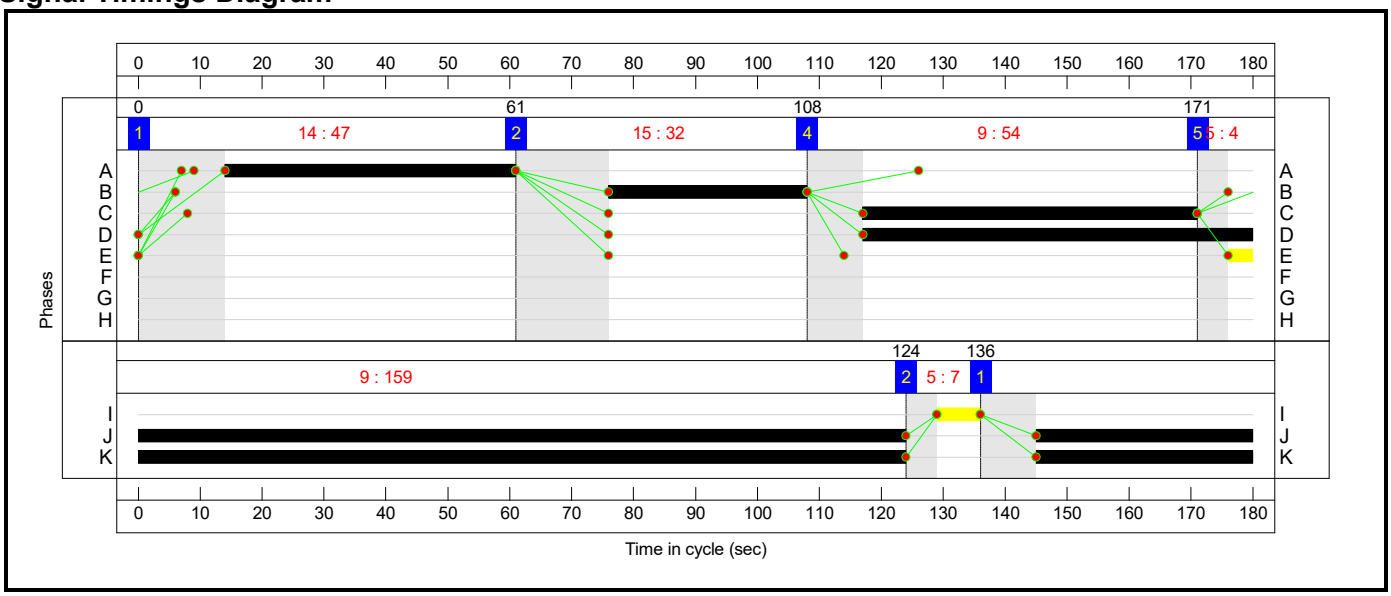
Stage Stream: 1

Stage	1	2	4	5
Duration	47	32	54	4
Change Point	0	61	108	171

Stage Stream: 2

Stage	1	2
Duration	159	7
Change Point	136	124

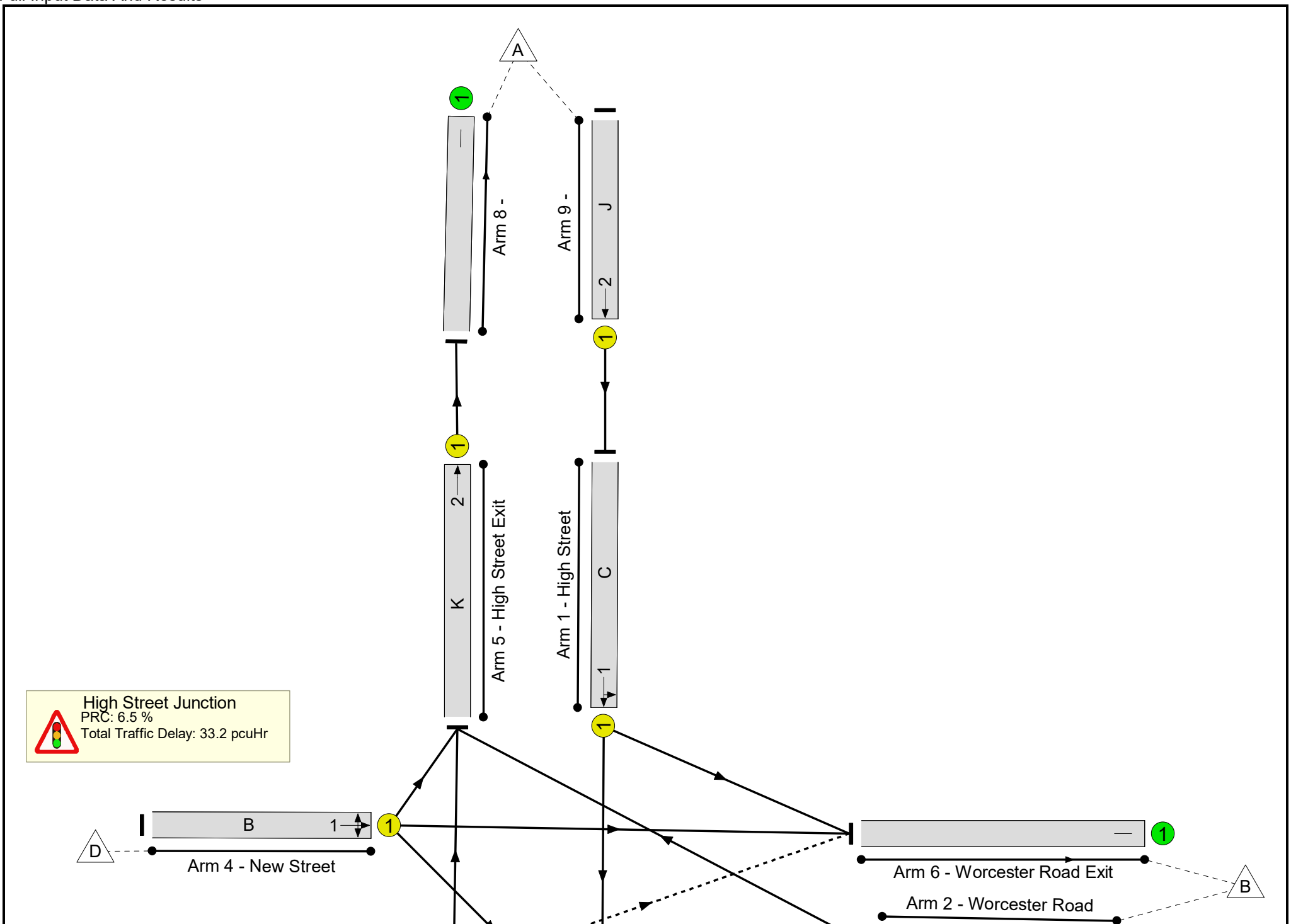
Signal Timings Diagram



Full Input Data And Results

Network Layout Diagram

Full Input Data And Results



Full Input Data And Results

Network Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network: Top Cross Junction	-	-	**N/A**	-	-		-	-	-	-	-	-	**84.5%**
High Street Junction	-	-	**N/A**	-	-		-	-	-	-	-	-	**84.5%**
1/1	High Street Left Ahead	U	1	N/A	C		1	54	-	406	1867	570	71.2%
2/1	Worcester Road Right Left	U	1	N/A	A		1	47	-	380	1686	450	84.5%
3/1	The Southend Ahead Right	O	1	N/A	D	E	1	63	4	308	1893	366	84.1%
4/1	New Street Left Ahead Right	U	1	N/A	B		1	32	-	296	1926	353	83.8%
5/1	High Street Exit Ahead	U	2	N/A	K		1	159	-	494	1915	1702	29.0%
6/1	Worcester Road Exit	U	N/A	N/A	-		-	-	-	480	Inf	Inf	0.0%
7/1	The Southend Exit	U	N/A	N/A	-		-	-	-	416	Inf	Inf	0.0%
8/1		U	N/A	N/A	-		-	-	-	494	Inf	Inf	0.0%
9/1	Ahead	U	2	N/A	J		1	159	-	406	1915	1702	23.9%

Full Input Data And Results

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network: Top Cross Junction	**-**	**-**	**73**	**19**	**2**	**23.9**	**8.9**	**0.3**	**33.2**	**-**	**-**	**-**	**-**
High Street Junction	**-**	**-**	**73**	**19**	**2**	**23.9**	**8.9**	**0.3**	**33.2**	**-**	**-**	**-**	**-**
1/1	406	406	-	-	-	6.1	1.2	-	7.4	65.3	15.6	1.2	16.8
2/1	380	380	-	-	-	6.6	2.5	-	9.1	86.6	17.9	2.5	20.5
3/1	308	308	73	19	2	5.1	2.4	0.3	7.8	91.4	14.8	2.4	17.2
4/1	296	296	-	-	-	5.8	2.4	-	8.2	100.0	14.2	2.4	16.6
5/1	494	494	-	-	-	0.1	0.2	-	0.3	2.2	1.1	0.2	1.3
6/1	480	480	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	416	416	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	494	494	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
9/1	406	406	-	-	-	0.2	0.2	-	0.3	2.8	2.8	0.2	3.0

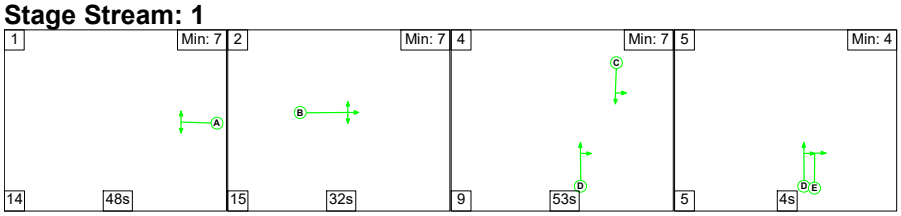
C1	Stream: 1 PRC for Signalled Lanes (%):	6.5	Total Delay for Signalled Lanes (pcuHr):	32.54	Cycle Time (s): 180
C1	Stream: 2 PRC for Signalled Lanes (%):	210.1	Total Delay for Signalled Lanes (pcuHr):	0.62	Cycle Time (s): 180
	PRC Over All Lanes (%):	6.5	Total Delay Over All Lanes(pcuHr):	33.16	

Full Input Data And Results

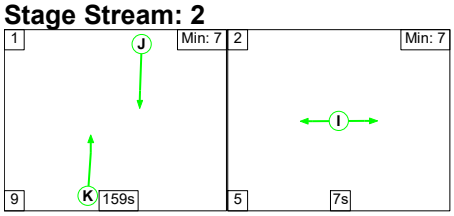
Scenario 4: '2031 + 2nd Access PJA PM' (FG4: '2031 + Dev (2nd Access) PJA PM', Plan 1: 'Network Control Plan 1')

Stage Sequence Diagram

Stage Stream: 1



Stage Stream: 2



Stage Timings

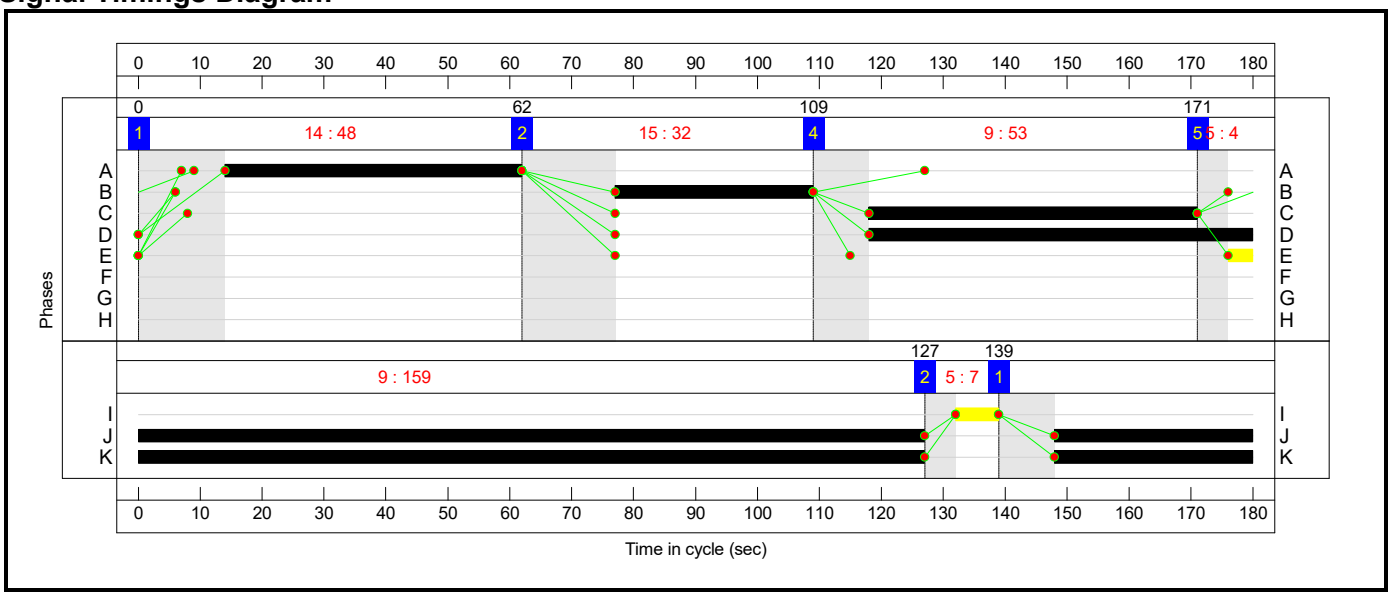
Stage Stream: 1

Stage	1	2	4	5
Duration	48	32	53	4
Change Point	0	62	109	171

Stage Stream: 2

Stage	1	2
Duration	159	7
Change Point	139	127

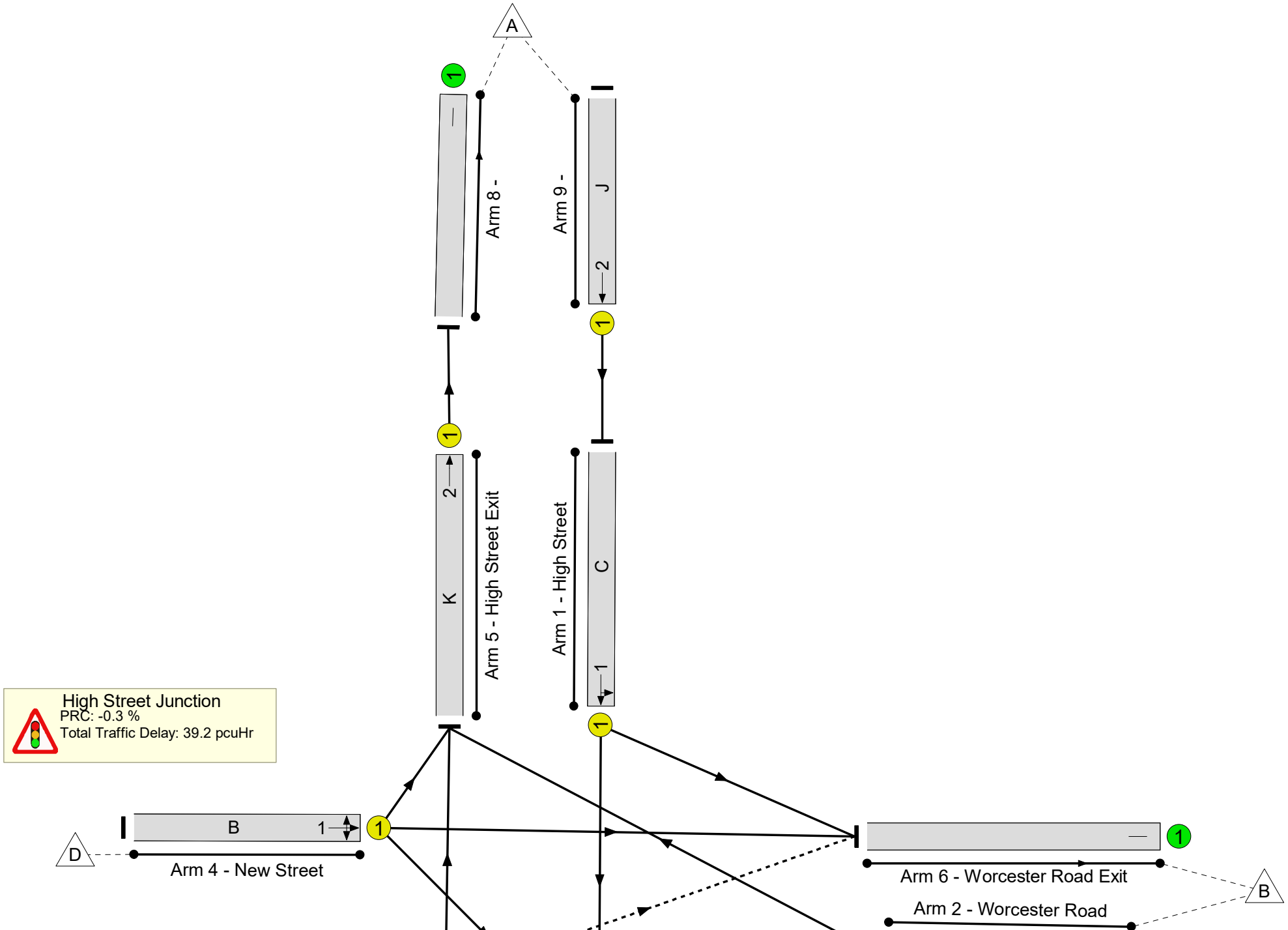
Signal Timings Diagram



Full Input Data And Results

Network Layout Diagram

Full Input Data And Results



Full Input Data And Results

Network Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network: Top Cross Junction	-	-	**N/A**	-	-		-	-	-	-	-	-	**90.3%**
High Street Junction	-	-	**N/A**	-	-		-	-	-	-	-	-	**90.3%**
1/1	High Street Left Ahead	U	1	N/A	C		1	53	-	428	1873	562	76.2%
2/1	Worcester Road Right Left	U	1	N/A	A		1	48	-	415	1688	460	90.3%
3/1	The Southend Ahead Right	O	1	N/A	D	E	1	62	4	315	1907	353	89.3%
4/1	New Street Left Ahead Right	U	1	N/A	B		1	32	-	313	1901	349	89.8%
5/1	High Street Exit Ahead	U	2	N/A	K		1	159	-	599	1915	1702	35.2%
6/1	Worcester Road Exit	U	N/A	N/A	-		-	-	-	445	Inf	Inf	0.0%
7/1	The Southend Exit	U	N/A	N/A	-		-	-	-	427	Inf	Inf	0.0%
8/1		U	N/A	N/A	-		-	-	-	599	Inf	Inf	0.0%
9/1	Ahead	U	2	N/A	J		1	159	-	428	1915	1702	25.1%

Full Input Data And Results

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network: Top Cross Junction	**-**	**-**	**54**	**18**	**4**	**25.8**	**13.1**	**0.3**	**39.2**	**-**	**-**	**-**	**-**
High Street Junction	**-**	**-**	**54**	**18**	**4**	**25.8**	**13.1**	**0.3**	**39.2**	**-**	**-**	**-**	**-**
1/1	428	428	-	-	-	6.7	1.6	-	8.2	69.3	16.8	1.6	18.4
2/1	415	415	-	-	-	7.3	4.0	-	11.2	97.5	19.9	4.0	23.9
3/1	315	315	54	18	4	5.3	3.5	0.3	9.1	103.8	15.3	3.5	18.8
4/1	313	313	-	-	-	6.2	3.7	-	9.9	113.9	15.2	3.7	18.9
5/1	599	599	-	-	-	0.1	0.3	-	0.4	2.5	1.4	0.3	1.7
6/1	445	445	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	427	427	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	599	599	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
9/1	428	428	-	-	-	0.2	0.2	-	0.3	2.8	3.0	0.2	3.1

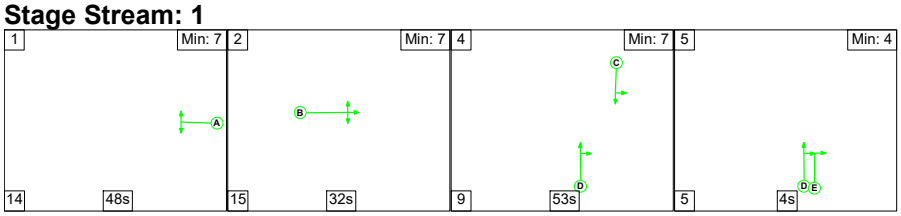
C1	Stream: 1 PRC for Signalled Lanes (%):	-0.3	Total Delay for Signalled Lanes (pcuHr):	38.47	Cycle Time (s): 180
C1	Stream: 2 PRC for Signalled Lanes (%):	155.8	Total Delay for Signalled Lanes (pcuHr):	0.75	Cycle Time (s): 180
	PRC Over All Lanes (%):	-0.3	Total Delay Over All Lanes(pcuHr):	39.22	

Full Input Data And Results

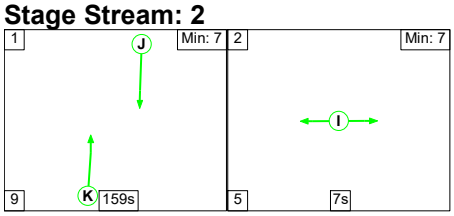
Scenario 5: '2031 + 2nd Acccess CC AM' (FG5: '2031 + Dev (2nd Access) CC AM', Plan 1: 'Network Control Plan 1')

Stage Sequence Diagram

Stage Stream: 1



Stage Stream: 2



Stage Timings

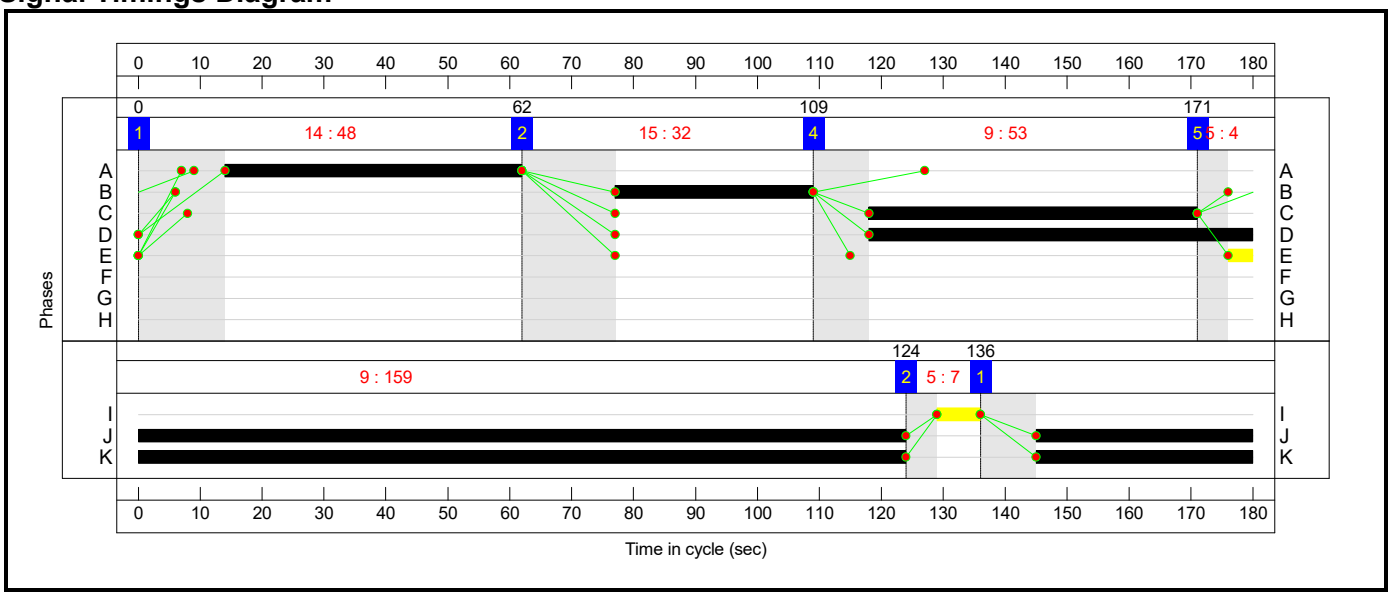
Stage Stream: 1

Stage	1	2	4	5
Duration	48	32	53	4
Change Point	0	62	109	171

Stage Stream: 2

Stage	1	2
Duration	159	7
Change Point	136	124

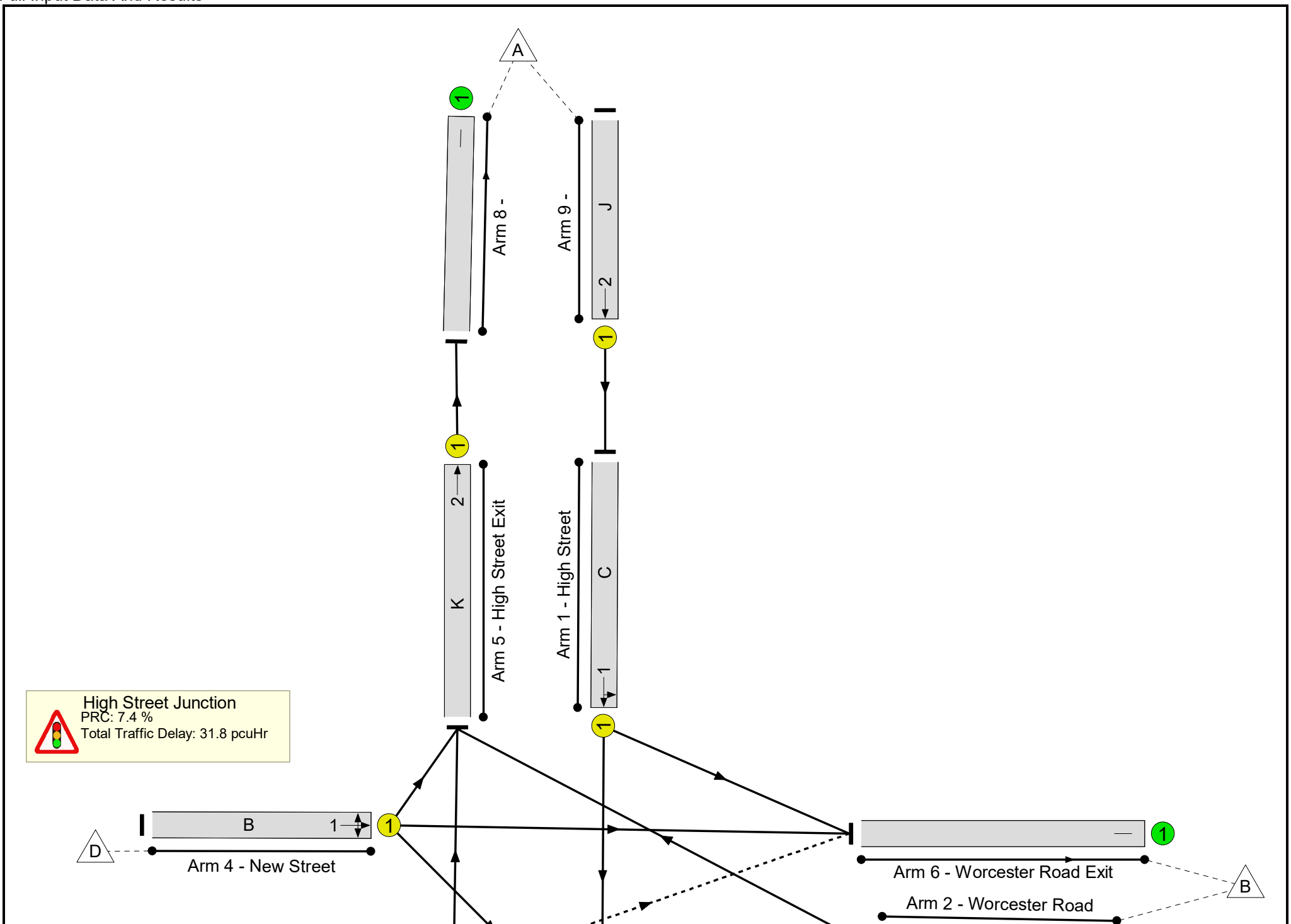
Signal Timings Diagram



Full Input Data And Results

Network Layout Diagram

Full Input Data And Results



Full Input Data And Results

Network Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network: Top Cross Junction	-	-	**N/A**	-	-		-	-	-	-	-	-	**83.8%**
High Street Junction	-	-	**N/A**	-	-		-	-	-	-	-	-	**83.8%**
1/1	High Street Left Ahead	U	1	N/A	C		1	53	-	393	1863	559	70.3%
2/1	Worcester Road Right Left	U	1	N/A	A		1	48	-	380	1686	459	82.8%
3/1	The Southend Ahead Right	O	1	N/A	D	E	1	62	4	298	1890	373	79.8%
4/1	New Street Left Ahead Right	U	1	N/A	B		1	32	-	296	1926	353	83.8%
5/1	High Street Exit Ahead	U	2	N/A	K		1	159	-	484	1915	1702	28.4%
6/1	Worcester Road Exit	U	N/A	N/A	-		-	-	-	480	Inf	Inf	0.0%
7/1	The Southend Exit	U	N/A	N/A	-		-	-	-	403	Inf	Inf	0.0%
8/1		U	N/A	N/A	-		-	-	-	484	Inf	Inf	0.0%
9/1	Ahead	U	2	N/A	J		1	159	-	393	1915	1702	23.1%

Full Input Data And Results

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network: Top Cross Junction	**-**	**-**	**75**	**17**	**2**	**23.5**	**8.1**	**0.3**	**31.8**	**-**	**-**	**-**	**-**
High Street Junction	**-**	**-**	**75**	**17**	**2**	**23.5**	**8.1**	**0.3**	**31.8**	**-**	**-**	**-**	**-**
1/1	393	393	-	-	-	6.0	1.2	-	7.2	65.6	15.1	1.2	16.3
2/1	380	380	-	-	-	6.5	2.3	-	8.8	83.1	17.8	2.3	20.1
3/1	298	298	75	17	2	4.9	1.9	0.3	7.1	85.3	14.2	1.9	16.0
4/1	296	296	-	-	-	5.8	2.4	-	8.2	100.0	14.2	2.4	16.6
5/1	484	484	-	-	-	0.1	0.2	-	0.3	2.2	1.1	0.2	1.3
6/1	480	480	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	403	403	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	484	484	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
9/1	393	393	-	-	-	0.2	0.2	-	0.3	2.8	2.7	0.2	2.9

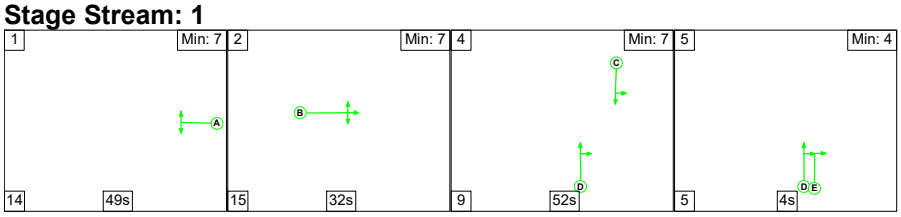
C1	Stream: 1 PRC for Signalled Lanes (%):	7.4	Total Delay for Signalled Lanes (pcuHr):	31.22	Cycle Time (s): 180
C1	Stream: 2 PRC for Signalled Lanes (%):	216.5	Total Delay for Signalled Lanes (pcuHr):	0.59	Cycle Time (s): 180
	PRC Over All Lanes (%):	7.4	Total Delay Over All Lanes(pcuHr):	31.81	

Full Input Data And Results

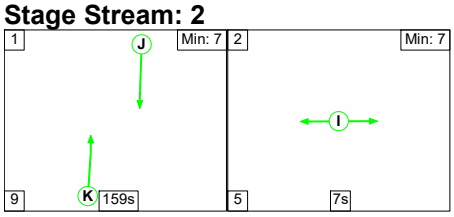
Scenario 6: '2031 + 2nd Acccess CC PM' (FG6: '2031 + Dev (2nd Access) CC PM', Plan 1: 'Network Control Plan 1')

Stage Sequence Diagram

Stage Stream: 1



Stage Stream: 2



Stage Timings

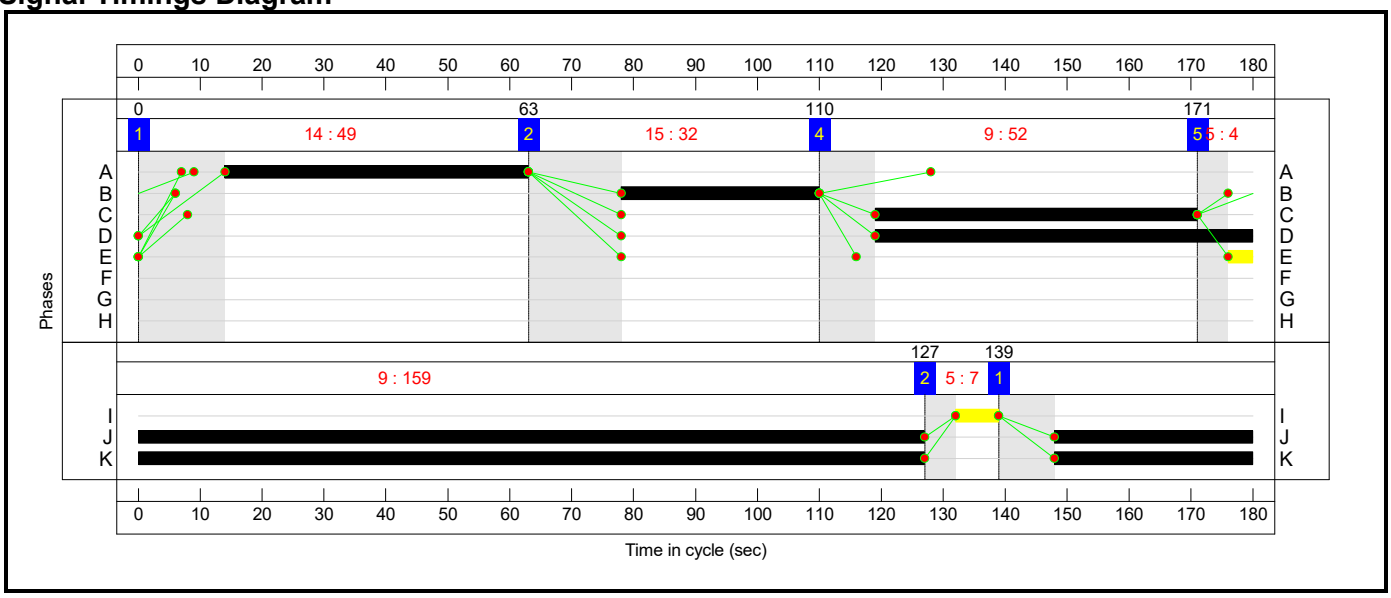
Stage Stream: 1

Stage	1	2	4	5
Duration	49	32	52	4
Change Point	0	63	110	171

Stage Stream: 2

Stage	1	2
Duration	159	7
Change Point	139	127

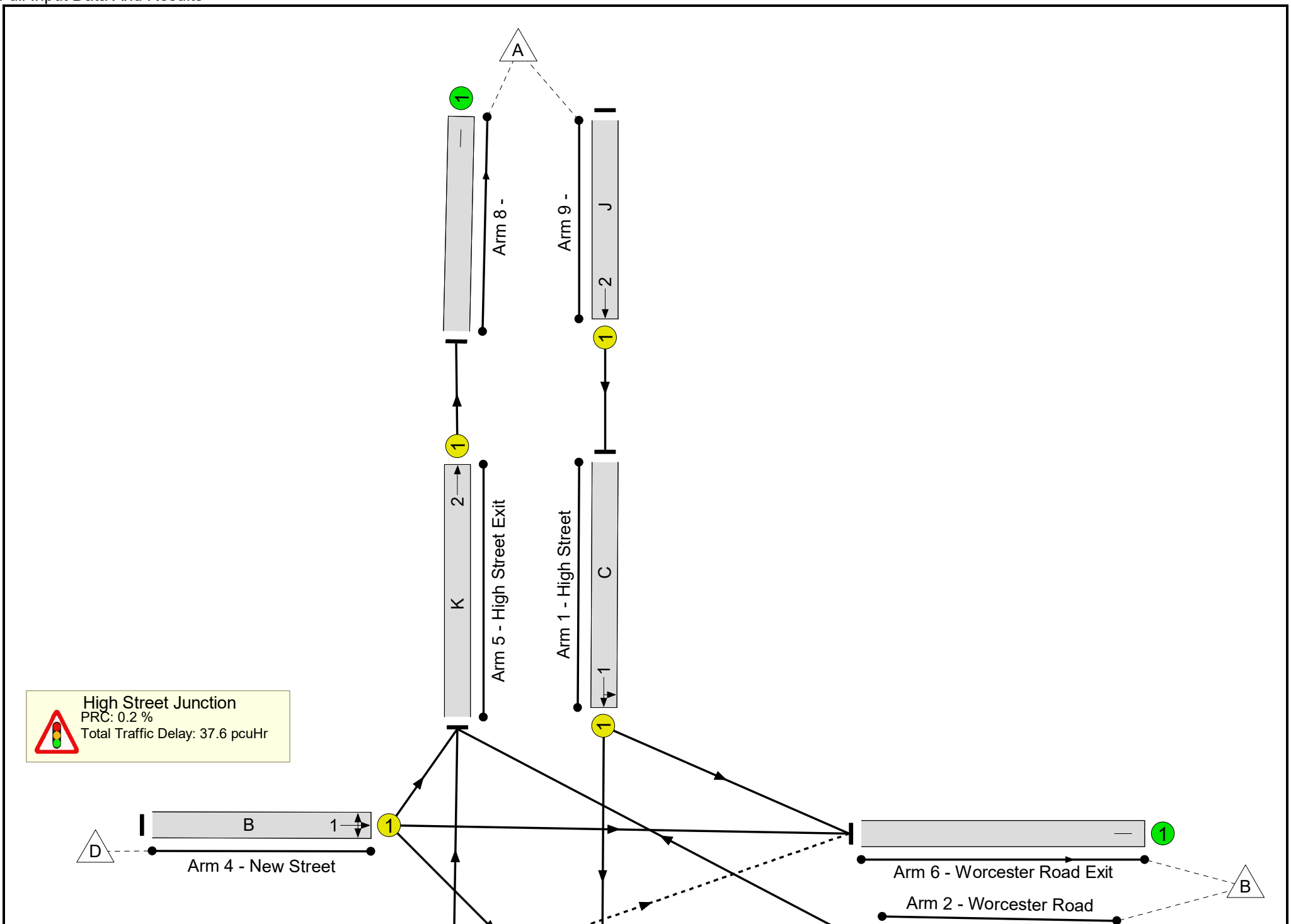
Signal Timings Diagram



Full Input Data And Results

Network Layout Diagram

Full Input Data And Results



Full Input Data And Results

Network Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network: Top Cross Junction	-	-	**N/A**	-	-		-	-	-	-	-	-	**89.8%**
High Street Junction	-	-	**N/A**	-	-		-	-	-	-	-	-	**89.8%**
1/1	High Street Left Ahead	U	1	N/A	C		1	52	-	416	1870	551	75.6%
2/1	Worcester Road Right Left	U	1	N/A	A		1	49	-	415	1688	469	88.5%
3/1	The Southend Ahead Right	O	1	N/A	D	E	1	61	4	302	1905	346	87.2%
4/1	New Street Left Ahead Right	U	1	N/A	B		1	32	-	313	1901	349	89.8%
5/1	High Street Exit Ahead	U	2	N/A	K		1	159	-	586	1915	1702	34.4%
6/1	Worcester Road Exit	U	N/A	N/A	-		-	-	-	445	Inf	Inf	0.0%
7/1	The Southend Exit	U	N/A	N/A	-		-	-	-	415	Inf	Inf	0.0%
8/1		U	N/A	N/A	-		-	-	-	586	Inf	Inf	0.0%
9/1	Ahead	U	2	N/A	J		1	159	-	416	1915	1702	24.4%

Full Input Data And Results

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network: Top Cross Junction	**-**	**-**	**55**	**18**	**2**	**25.3**	**12.0**	**0.3**	**37.6**	**-**	**-**	**-**	**-**
High Street Junction	**-**	**-**	**55**	**18**	**2**	**25.3**	**12.0**	**0.3**	**37.6**	**-**	**-**	**-**	**-**
1/1	416	416	-	-	-	6.5	1.5	-	8.0	69.7	16.3	1.5	17.9
2/1	415	415	-	-	-	7.2	3.4	-	10.6	91.9	19.8	3.4	23.2
3/1	302	302	55	18	2	5.1	3.0	0.3	8.3	99.1	14.6	3.0	17.6
4/1	313	313	-	-	-	6.2	3.7	-	9.9	113.9	15.2	3.7	18.9
5/1	586	586	-	-	-	0.1	0.3	-	0.4	2.5	1.5	0.3	1.8
6/1	445	445	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	415	415	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	586	586	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
9/1	416	416	-	-	-	0.2	0.2	-	0.3	2.8	2.9	0.2	3.1

C1	Stream: 1 PRC for Signalled Lanes (%):	0.2	Total Delay for Signalled Lanes (pcuHr):	36.85	Cycle Time (s): 180
C1	Stream: 2 PRC for Signalled Lanes (%):	161.4	Total Delay for Signalled Lanes (pcuHr):	0.73	Cycle Time (s): 180
	PRC Over All Lanes (%):	0.2	Total Delay Over All Lanes(pcuHr):	37.58	