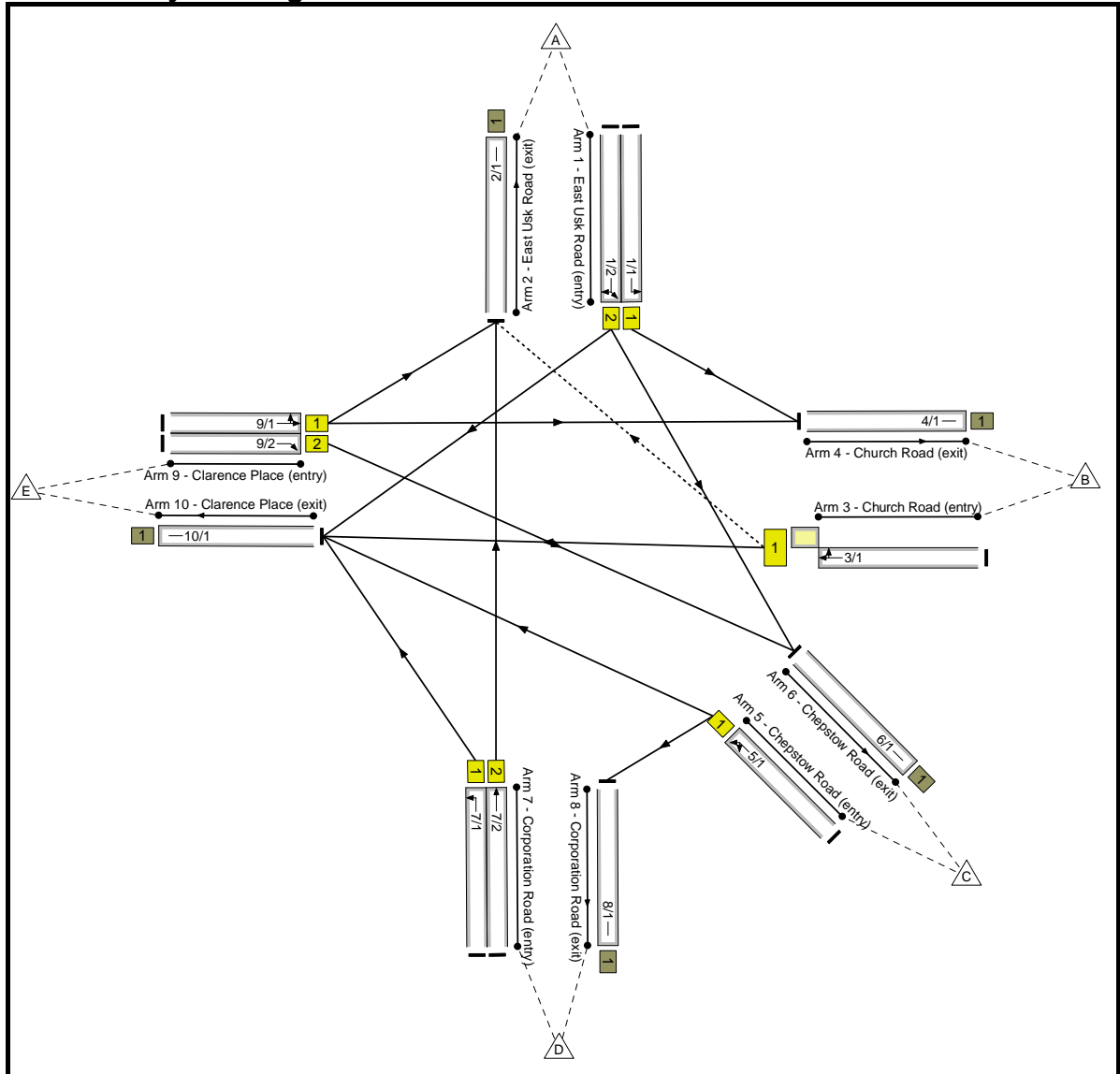


## Full Input Data And Results

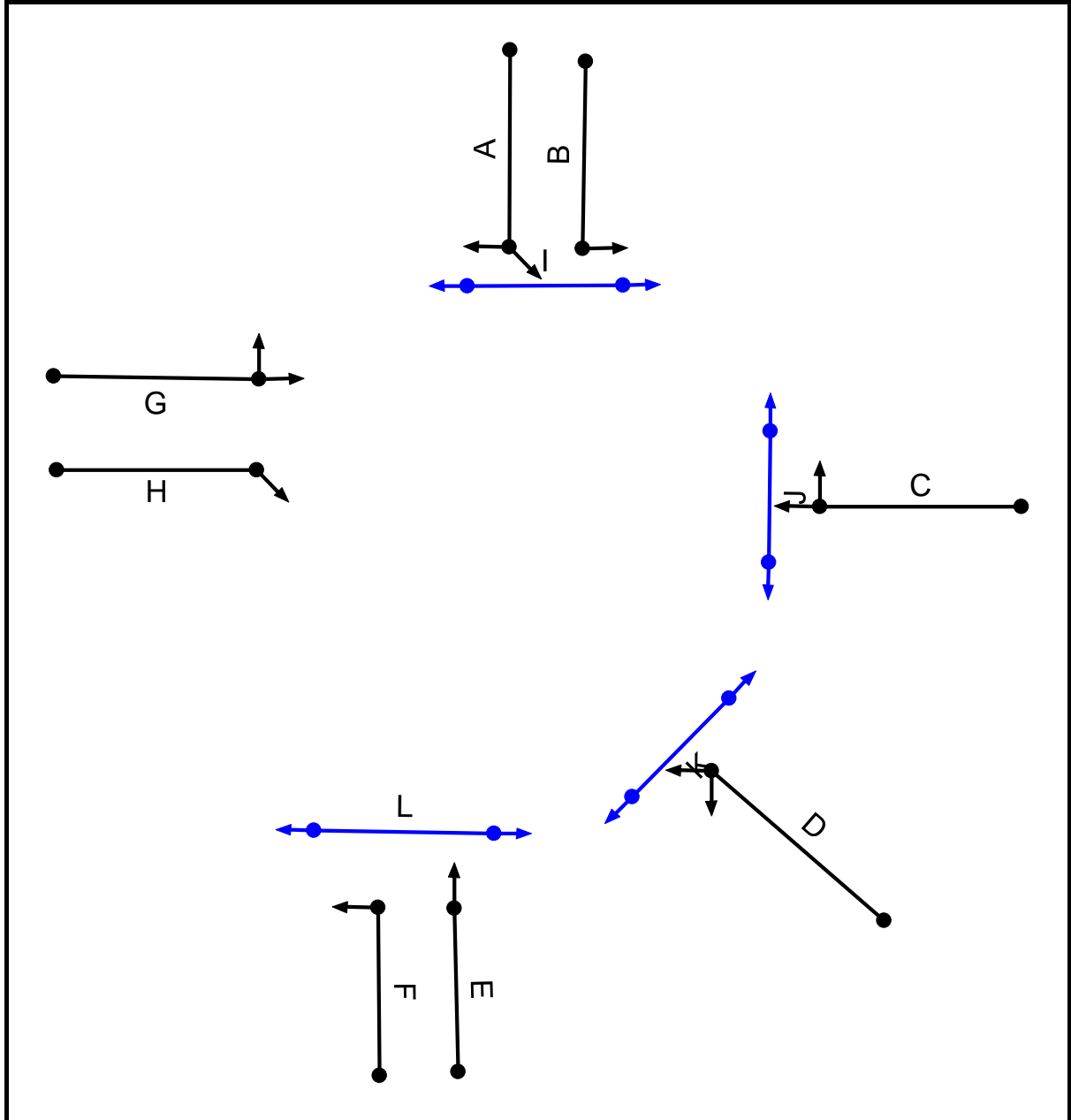
### User and Project Details

<b>Project:</b>	T12.172 Herbert Road, Newport
<b>Title:</b>	Transport Assessment
<b>Location:</b>	Clarence Pl/East Usk Rd/Church Rd/Chepstow Rd/Corporation Rd
<b>File name:</b>	Clarance place signalised jct.lsgx
<b>Author:</b>	Transport Planner
<b>Company:</b>	
<b>Address:</b>	
<b>Controller:</b>	Generic
<b>SCN:</b>	
<b>Notes:</b>	

### Junction Layout Diagram



### Phase Diagram



**Phase Input Data**

Phase Name	Phase type	Assoc Phase	Street Min	Cont Min
A	Traffic		7	7
B	Traffic		7	7
C	Traffic		7	7
D	Traffic		7	7
E	Traffic		7	7
F	Traffic		7	7
G	Traffic		7	7
H	Traffic		7	7
I	Pedestrian		7	7
J	Pedestrian		7	7
K	Pedestrian		7	7
L	Pedestrian		7	7

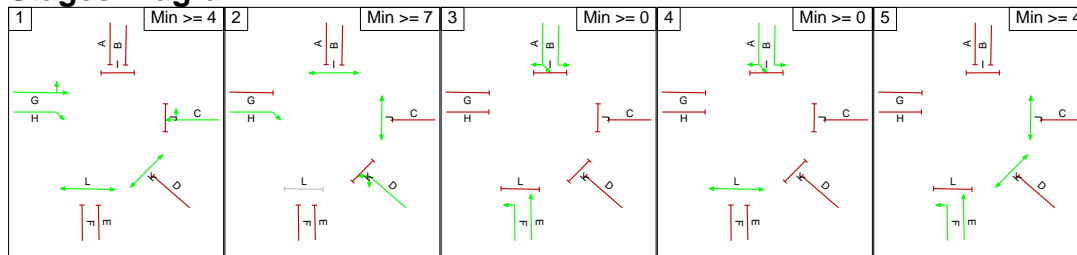
**Phase Intergreens Matrix**

		Starting Phase											
		A	B	C	D	E	F	G	H	I	J	K	L
Terminating Phase	A	-	5	7	-	5	5	5	5	-	8	-	-
	B	-	-	-	-	-	5	-	5	5	-	-	-
	C	5	-	6	6	6	-	-	6	5	-	-	-
	D	6	-	6	5	6	-	-	-	-	5	-	-
	E	-	-	6	5	-	5	5	8	-	-	5	-
	F	-	-	6	6	-	-	-	-	-	-	5	-
	G	5	6	-	5	-	-	5	6	-	-	-	-
	H	5	-	-	5	-	-	-	-	-	-	-	-
	I	5	5	6	-	8	-	5	-	-	-	-	-
	J	-	5	5	-	-	5	-	-	-	-	-	-
	K	8	-	-	5	-	-	-	-	-	-	-	-
	L	-	-	-	5	5	-	-	-	-	-	-	-

### Phases in Stage

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

### Stages Diagram



### Phase Delays

There are no phase delays defined in this stage stream

### Prohibited Stage Changes

		To Stage				
		1	2	3	4	5
From Stage	1		6	8	8	6
	2	6		8	6	8
	3	8	8		5	8
	4	8	7	5		8
	5	6	8	8	8	

Full Input Data And Results

**Link Input Data**

Arm/ Link	Link Name	Link Type	Num Lanes	Phases	Start Disp.	End Disp.
1/1	East Usk Road (entry) Left	U	1	B	2	3
1/2	East Usk Road (entry) Ahead Right	U	1	A	2	3
2/1	East Usk Road (exit)	U	1		2	3
3/1	Church Road (entry) Right Ahead	O	1	C	2	3
4/1	Church Road (exit)	U	1		2	3
5/1	Chepstow Road (entry) U-Turn Ahead	U	1	D	2	3
6/1	Chepstow Road (exit)	U	1		2	3
7/1	Corporation Road (entry) Left	U	1	F	2	3
7/2	Corporation Road (entry) Ahead	U	1	E	2	3
8/1	Corporation Road (exit)	U	1		2	3
9/1	Clarence Place (entry) Left Ahead	U	1	G	2	3
9/2	Clarence Place (entry) Right	U	1	H	2	3
10/1	Clarence Place (exit)	U	1		2	3

Full Input Data And Results

**Give-Way Link Input Data**

Arm/ Link	Link Name	Movement	Max Flow when Giving Way (PCU/Hr)	Opposing Link	Opp. Link Coeff.	Opp. Mvmnts.	Right Turn Storage (PCU)	Non- Blocking Storage (PCU)	RTF	Right Turn Move up time (s)	Max Turns in Intergreen (PCU)
3/1	Church Road (entry) Right Ahead	3/1 to 2/1	1440	9/1	1.09	9/1	2.00	2.00	0.50	2	2.00

**Lane Input Data**

Arm/ Lane	Link Num	Physic al Lengt h (PCU)	Expect ed Usage (PCU)	Sat Flo w Typ e	User Saturati on Flow (PCU/Hr )	Lan e Widt h (m)	Gradie nt	Nearsi de Lane	Allowed Turns	Turni ng Radiu s (m)
1/1 (East Usk Road (entry) Lane 1)	Link 1 (East Usk Road (entry) Left)	Inf	Inf	Geo m	1800	2.38	0.00	Y	Arm 4 Left (Church Road (exit))	Inf
1/2 (East Usk Road (entry) Lane 2)	Link 2 (East Usk Road (entry) Ahead Right)	Inf	Inf	Geo m	1800	2.57	0.00	N	Arm 6 Ahead (Chepsto w Road (exit))	Inf
									Arm 10 Right (Clarence Place (exit))	Inf
2/1 (East Usk Road (exit) Lane 1)	Link 1 (East Usk Road (exit))	Inf	Inf	Inf (Exit )	1800	3.25	0.00	Y		
3/1 (Church Road (entry) Lane 1)	Link 1 (Church Road (entry) Right Ahead)	Inf	Inf	Geo m	1800	4.46	0.00	Y	Arm 2 Right (East Usk Road (exit))	Inf
									Arm 10 Ahead (Clarence Place (exit))	Inf
4/1 (Church Road (exit) Lane 1)	Link 1 (Church Road (exit))	Inf	Inf	Inf (Exit )	1800	3.25	0.00	Y		
5/1 (Chepsto w Road (entry) Lane 1)	Link 1 (Chepsto w Road (entry) U- Turn Ahead)	Inf	Inf	Geo m	1800	3.77	0.00	Y	Arm 8 U- Turn (Corporati on Road (exit))	Inf
									Arm 10 Ahead (Clarence Place (exit))	Inf
6/1 (Chepsto w Road (exit) Lane 1)	Link 1 (Chepsto w Road (exit))	Inf	Inf	Inf (Exit )	1800	3.25	0.00	Y		

## Full Input Data And Results

7/1 (Corporation Road (entry) Lane 1)	Link 1 (Corporation Road (entry) Left)	Inf	Inf	Geom	1800	3.55	0.00	Y	Arm 10 Left (Clarence Place (exit))	Inf
7/2 (Corporation Road (entry) Lane 2)	Link 2 (Corporation Road (entry) Ahead)	Inf	Inf	Geom	1800	4.16	0.00	N	Arm 2 Ahead (East Usk Road (exit))	Inf
8/1 (Corporation Road (exit) Lane 1)	Link 1 (Corporation Road (exit))	Inf	Inf	Inf (Exit)	1800	3.25	0.00	Y		
9/1 (Clarence Place (entry) Lane 1)	Link 1 (Clarence Place (entry) Left Ahead)	Inf	Inf	Geom	1800	3.97	0.00	Y	Arm 2 Left (East Usk Road (exit))	Inf
									Arm 4 Ahead (Church Road (exit))	Inf
9/2 (Clarence Place (entry) Lane 2)	Link 2 (Clarence Place (entry) Right)	Inf	Inf	Geom	1800	4.40	0.00	N	Arm 6 Right (Chepstow Road (exit))	Inf
10/1 (Clarence Place (exit) Lane 1)	Link 1 (Clarence Place (exit))	Inf	Inf	Inf (Exit)	1800	3.25	0.00	Y		

## Traffic Flow Groups

Flow Group	Start Time	End Time	Duration	Formula
1: '2013 no dev AM 0830-0930'	08:30	09:30	01:00	
2: '2013 no dev PM 1700-1800'	17:00	18:00	01:00	
3: '2017 no dev AM 0830-0930'	08:30	09:30	01:00	
4: '2017 no dev PM 1700-1800'	17:00	18:00	01:00	
5: '2022 no dev AM 0830-0930'	08:30	09:30	01:00	
6: '2022 no dev PM 1700-1800'	17:00	18:00	01:00	
7: '2017 with dev AM 0830-0930'	08:30	09:30	01:00	
8: '2017 with dev PM 1700-1800'	17:00	18:00	01:00	
9: '2022 with dev AM 0830-0930'	08:30	09:30	01:00	
10: '2022 with dev PM 1700-1800'	17:00	18:00	01:00	

**Flow Group 1: '2013 no dev AM 0830-0930'**  
**Traffic Flow Matrix**  
**Desired Flow :**

		Destination					
		A	B	C	D	E	Tot.
Origin	A	0	13	5	0	29	47
	B	6	0	0	0	321	327
	C	0	0	0	12	297	309
	D	5	0	0	0	138	143
	E	24	362	561	0	0	947
	Tot.	35	375	566	12	785	1773

**Link Traffic Flows**

Arm/Link	Flow Group 1: 2013 no dev AM 0830-0930
1/1	13
1/2	34
2/1	35
3/1	327
4/1	375
5/1	309
6/1	566
7/1	138
7/2	5
8/1	12
9/1	386
9/2	561
10/1	785

**Lane Saturation Flows**

Arm/ Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat flow (PCU/Hr)
1/1 (East Usk Road (entry) Lane 1)	2.38	0.00	Y	Arm 4 Left (Church Road exit)	Inf	100.0 %	1853
1/2 (East Usk Road (entry) Lane 2)	2.57	0.00	N	Arm 6 Ahead (Chepstow Road exit)  Arm 10 Right (Clarence Place exit)	Inf  Inf	14.7 %  85.3 %	2012
2/1 (East Usk Road (exit) Lane 1)	Infinite Saturation Flow (on Exit Link)						Inf
3/1 (Church Road (entry) Lane 1)	4.46	0.00	Y	Arm 2 Right (East Usk Road exit)  Arm 10 Ahead (Clarence Place exit)	Inf  Inf	1.8 %  98.2 %	2061
4/1 (Church Road (exit) Lane 1)	Infinite Saturation Flow (on Exit Link)						Inf
5/1 (Chepstow Road (entry) Lane 1)	3.77	0.00	Y	Arm 8 U-Turn (Corporation Road exit)  Arm 10 Ahead (Clarence Place exit)	Inf  Inf	3.9 %  96.1 %	1992
6/1 (Chepstow Road (exit) Lane 1)	Infinite Saturation Flow (on Exit Link)						Inf
7/1 (Corporation Road (entry) Lane 1)	3.55	0.00	Y	Arm 10 Left (Clarence Place exit)	Inf	100.0 %	1970
7/2 (Corporation Road (entry) Lane 2)	4.16	0.00	N	Arm 2 Ahead (East Usk Road exit)	Inf	100.0 %	2171
8/1 (Corporation Road (exit) Lane 1)	Infinite Saturation Flow (on Exit Link)						Inf
9/1 (Clarence Place (entry) Lane 1)	3.97	0.00	Y	Arm 2 Left (East Usk Road exit)  Arm 4 Ahead (Church Road exit)	Inf  Inf	6.2 %  93.8 %	2012
9/2 (Clarence Place (entry) Lane 2)	4.40	0.00	N	Arm 6 Right (Chepstow Road exit)	Inf	100.0 %	2195

Full Input Data And Results

10/1 (Clarence Place (exit) Lane 1)	Infinite Saturation Flow (on Exit Link)	Inf
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**Flow Group 2: '2013 no dev PM 1700-1800'**

**Traffic Flow Matrix**

**Desired Flow :**

		Destination					
Origin		A	B	C	D	E	Tot.
	A	0	20	13	0	49	82
	B	6	0	0	0	259	265
	C	0	0	0	16	299	315
	D	14	0	0	0	180	194
	E	20	559	683	0	0	1262
	Tot.	40	579	696	16	787	2118

**Link Traffic Flows**

Arm/Link	Flow Group 2: 2013 no dev PM 1700-1800
1/1	20
1/2	62
2/1	40
3/1	265
4/1	579
5/1	315
6/1	696
7/1	180
7/2	14
8/1	16
9/1	579
9/2	683
10/1	787

## Lane Saturation Flows

Arm/ Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat flow (PCU/Hr)
1/1 (East Usk Road (entry) Lane 1)	2.38	0.00	Y	Arm 4 Left (Church Road exit)	Inf	100.0 %	1853
1/2 (East Usk Road (entry) Lane 2)	2.57	0.00	N	Arm 6 Ahead (Chepstow Road exit)  Arm 10 Right (Clarence Place exit)	Inf  Inf	21.0 %  79.0 %	2012
2/1 (East Usk Road (exit) Lane 1)	Infinite Saturation Flow (on Exit Link)						Inf
3/1 (Church Road (entry) Lane 1)	4.46	0.00	Y	Arm 2 Right (East Usk Road exit)  Arm 10 Ahead (Clarence Place exit)	Inf  Inf	2.3 %  97.7 %	2061
4/1 (Church Road (exit) Lane 1)	Infinite Saturation Flow (on Exit Link)						Inf
5/1 (Chepstow Road (entry) Lane 1)	3.77	0.00	Y	Arm 8 U-Turn (Corporation Road exit)  Arm 10 Ahead (Clarence Place exit)	Inf  Inf	5.1 %  94.9 %	1992
6/1 (Chepstow Road (exit) Lane 1)	Infinite Saturation Flow (on Exit Link)						Inf
7/1 (Corporation Road (entry) Lane 1)	3.55	0.00	Y	Arm 10 Left (Clarence Place exit)	Inf	100.0 %	1970
7/2 (Corporation Road (entry) Lane 2)	4.16	0.00	N	Arm 2 Ahead (East Usk Road exit)	Inf	100.0 %	2171
8/1 (Corporation Road (exit) Lane 1)	Infinite Saturation Flow (on Exit Link)						Inf
9/1 (Clarence Place (entry) Lane 1)	3.97	0.00	Y	Arm 2 Left (East Usk Road exit)  Arm 4 Ahead (Church Road exit)	Inf  Inf	3.5 %  96.5 %	2012
9/2 (Clarence Place (entry) Lane 2)	4.40	0.00	N	Arm 6 Right (Chepstow Road exit)	Inf	100.0 %	2195

Full Input Data And Results

10/1 (Clarence Place (exit) Lane 1)	Infinite Saturation Flow (on Exit Link)	Inf
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**Flow Group 3: '2017 no dev AM 0830-0930'**

**Traffic Flow Matrix**

**Desired Flow :**

		Destination					
		A	B	C	D	E	Tot.
Origin	A	0	14	5	0	31	50
	B	6	0	0	0	339	345
	C	0	0	0	13	313	326
	D	5	0	0	0	146	151
	E	26	382	591	0	0	999
	Tot.	37	396	596	13	829	1871

**Link Traffic Flows**

Arm/Link	Flow Group 3: 2017 no dev AM 0830-0930
1/1	14
1/2	36
2/1	37
3/1	345
4/1	396
5/1	326
6/1	596
7/1	146
7/2	5
8/1	13
9/1	408
9/2	591
10/1	829

## Lane Saturation Flows

Arm/ Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat flow (PCU/Hr)
1/1 (East Usk Road (entry) Lane 1)	2.38	0.00	Y	Arm 4 Left (Church Road exit)	Inf	100.0 %	1853
1/2 (East Usk Road (entry) Lane 2)	2.57	0.00	N	Arm 6 Ahead (Chepstow Road exit)  Arm 10 Right (Clarence Place exit)	Inf  Inf	13.9 %  86.1 %	2012
2/1 (East Usk Road (exit) Lane 1)	Infinite Saturation Flow (on Exit Link)						Inf
3/1 (Church Road (entry) Lane 1)	4.46	0.00	Y	Arm 2 Right (East Usk Road exit)  Arm 10 Ahead (Clarence Place exit)	Inf  Inf	1.7 %  98.3 %	2061
4/1 (Church Road (exit) Lane 1)	Infinite Saturation Flow (on Exit Link)						Inf
5/1 (Chepstow Road (entry) Lane 1)	3.77	0.00	Y	Arm 8 U-Turn (Corporation Road exit)  Arm 10 Ahead (Clarence Place exit)	Inf  Inf	4.0 %  96.0 %	1992
6/1 (Chepstow Road (exit) Lane 1)	Infinite Saturation Flow (on Exit Link)						Inf
7/1 (Corporation Road (entry) Lane 1)	3.55	0.00	Y	Arm 10 Left (Clarence Place exit)	Inf	100.0 %	1970
7/2 (Corporation Road (entry) Lane 2)	4.16	0.00	N	Arm 2 Ahead (East Usk Road exit)	Inf	100.0 %	2171
8/1 (Corporation Road (exit) Lane 1)	Infinite Saturation Flow (on Exit Link)						Inf
9/1 (Clarence Place (entry) Lane 1)	3.97	0.00	Y	Arm 2 Left (East Usk Road exit)  Arm 4 Ahead (Church Road exit)	Inf  Inf	6.4 %  93.6 %	2012
9/2 (Clarence Place (entry) Lane 2)	4.40	0.00	N	Arm 6 Right (Chepstow Road exit)	Inf	100.0 %	2195

Full Input Data And Results

10/1 (Clarence Place (exit) Lane 1)	Infinite Saturation Flow (on Exit Link)	Inf
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**Flow Group 4: '2017 no dev PM 1700-1800'**

**Traffic Flow Matrix**

**Desired Flow :**

		Destination					
		A	B	C	D	E	Tot.
Origin	A	0	21	14	0	52	87
	B	6	0	0	0	272	278
	C	0	0	0	17	315	332
	D	15	0	0	0	190	205
	E	21	589	719	0	0	1329
	Tot.	42	610	733	17	829	2231

**Link Traffic Flows**

Arm/Link	Flow Group 4: 2017 no dev PM 1700-1800
1/1	21
1/2	66
2/1	42
3/1	278
4/1	610
5/1	332
6/1	733
7/1	190
7/2	15
8/1	17
9/1	610
9/2	719
10/1	829

## Lane Saturation Flows

Arm/ Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat flow (PCU/Hr)
1/1 (East Usk Road (entry) Lane 1)	2.38	0.00	Y	Arm 4 Left (Church Road exit)	Inf	100.0 %	1853
1/2 (East Usk Road (entry) Lane 2)	2.57	0.00	N	Arm 6 Ahead (Chepstow Road exit)  Arm 10 Right (Clarence Place exit)	Inf  Inf	21.2 %  78.8 %	2012
2/1 (East Usk Road (exit) Lane 1)	Infinite Saturation Flow (on Exit Link)						Inf
3/1 (Church Road (entry) Lane 1)	4.46	0.00	Y	Arm 2 Right (East Usk Road exit)  Arm 10 Ahead (Clarence Place exit)	Inf  Inf	2.2 %  97.8 %	2061
4/1 (Church Road (exit) Lane 1)	Infinite Saturation Flow (on Exit Link)						Inf
5/1 (Chepstow Road (entry) Lane 1)	3.77	0.00	Y	Arm 8 U-Turn (Corporation Road exit)  Arm 10 Ahead (Clarence Place exit)	Inf  Inf	5.1 %  94.9 %	1992
6/1 (Chepstow Road (exit) Lane 1)	Infinite Saturation Flow (on Exit Link)						Inf
7/1 (Corporation Road (entry) Lane 1)	3.55	0.00	Y	Arm 10 Left (Clarence Place exit)	Inf	100.0 %	1970
7/2 (Corporation Road (entry) Lane 2)	4.16	0.00	N	Arm 2 Ahead (East Usk Road exit)	Inf	100.0 %	2171
8/1 (Corporation Road (exit) Lane 1)	Infinite Saturation Flow (on Exit Link)						Inf
9/1 (Clarence Place (entry) Lane 1)	3.97	0.00	Y	Arm 2 Left (East Usk Road exit)  Arm 4 Ahead (Church Road exit)	Inf  Inf	3.4 %  96.6 %	2012
9/2 (Clarence Place (entry) Lane 2)	4.40	0.00	N	Arm 6 Right (Chepstow Road exit)	Inf	100.0 %	2195

Full Input Data And Results

10/1 (Clarence Place (exit) Lane 1)	Infinite Saturation Flow (on Exit Link)	Inf
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**Flow Group 5: '2022 no dev AM 0830-0930'**

**Traffic Flow Matrix**

**Desired Flow :**

		Destination					
		A	B	C	D	E	Tot.
Origin	A	0	15	6	0	33	54
	B	7	0	0	0	369	376
	C	0	0	0	14	341	355
	D	6	0	0	0	159	165
	E	28	416	644	0	0	1088
	Tot.	41	431	650	14	902	2038

**Link Traffic Flows**

Arm/Link	Flow Group 5: 2022 no dev AM 0830-0930
1/1	15
1/2	39
2/1	41
3/1	376
4/1	431
5/1	355
6/1	650
7/1	159
7/2	6
8/1	14
9/1	444
9/2	644
10/1	902

**Lane Saturation Flows**

Arm/ Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat flow (PCU/Hr)
1/1 (East Usk Road (entry) Lane 1)	2.38	0.00	Y	Arm 4 Left (Church Road exit)	Inf	100.0 %	1853
1/2 (East Usk Road (entry) Lane 2)	2.57	0.00	N	Arm 6 Ahead (Chepstow Road exit)  Arm 10 Right (Clarence Place exit)	Inf  Inf	15.4 %  84.6 %	2012
2/1 (East Usk Road (exit) Lane 1)	Infinite Saturation Flow (on Exit Link)						Inf
3/1 (Church Road (entry) Lane 1)	4.46	0.00	Y	Arm 2 Right (East Usk Road exit)	Inf	1.9 %	2061
4/1 (Church Road (exit) Lane 1)				Arm 10 Ahead (Clarence Place exit)	Inf	98.1 %	
5/1 (Chepstow Road (entry) Lane 1)	3.77	0.00	Y	Arm 8 U-Turn (Corporation Road exit)	Inf	3.9 %	1992
6/1 (Chepstow Road (exit) Lane 1)				Arm 10 Ahead (Clarence Place exit)	Inf	96.1 %	
7/1 (Corporation Road (entry) Lane 1)	3.55	0.00	Y	Arm 10 Left (Clarence Place exit)	Inf	100.0 %	1970
7/2 (Corporation Road (entry) Lane 2)	4.16	0.00	N	Arm 2 Ahead (East Usk Road exit)	Inf	100.0 %	2171
8/1 (Corporation Road (exit) Lane 1)	Infinite Saturation Flow (on Exit Link)						Inf
9/1 (Clarence Place (entry) Lane 1)	3.97	0.00	Y	Arm 2 Left (East Usk Road exit)	Inf	6.3 %	2012
9/2 (Clarence Place (entry) Lane 2)				Arm 4 Ahead (Church Road exit)	Inf	93.7 %	
	4.40	0.00	N	Arm 6 Right (Chepstow Road exit)	Inf	100.0 %	2195

Full Input Data And Results

10/1 (Clarence Place (exit) Lane 1)	Infinite Saturation Flow (on Exit Link)	Inf
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**Flow Group 6: '2022 no dev PM 1700-1800'**

**Traffic Flow Matrix**

**Desired Flow :**

		Destination					
		A	B	C	D	E	Tot.
Origin	A	0	23	15	0	56	94
	B	7	0	0	0	296	303
	C	0	0	0	18	342	360
	D	16	0	0	0	206	222
	E	23	639	780	0	0	1442
	Tot.	46	662	795	18	900	2421

**Link Traffic Flows**

Arm/Link	Flow Group 6: 2022 no dev PM 1700-1800
1/1	23
1/2	71
2/1	46
3/1	303
4/1	662
5/1	360
6/1	795
7/1	206
7/2	16
8/1	18
9/1	662
9/2	780
10/1	900

## Lane Saturation Flows

Arm/ Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat flow (PCU/Hr)
1/1 (East Usk Road (entry) Lane 1)	2.38	0.00	Y	Arm 4 Left (Church Road exit)	Inf	100.0 %	1853
1/2 (East Usk Road (entry) Lane 2)	2.57	0.00	N	Arm 6 Ahead (Chepstow Road exit)  Arm 10 Right (Clarence Place exit)	Inf  Inf	21.1 %  78.9 %	2012
2/1 (East Usk Road (exit) Lane 1)	Infinite Saturation Flow (on Exit Link)						Inf
3/1 (Church Road (entry) Lane 1)	4.46	0.00	Y	Arm 2 Right (East Usk Road exit)  Arm 10 Ahead (Clarence Place exit)	Inf  Inf	2.3 %  97.7 %	2061
4/1 (Church Road (exit) Lane 1)	Infinite Saturation Flow (on Exit Link)						Inf
5/1 (Chepstow Road entry) Lane 1)	3.77	0.00	Y	Arm 8 U-Turn (Corporation Road exit)  Arm 10 Ahead (Clarence Place exit)	Inf  Inf	5.0 %  95.0 %	1992
6/1 (Chepstow Road (exit) Lane 1)	Infinite Saturation Flow (on Exit Link)						Inf
7/1 (Corporation Road entry) Lane 1)	3.55	0.00	Y	Arm 10 Left (Clarence Place exit)	Inf	100.0 %	1970
7/2 (Corporation Road entry) Lane 2)	4.16	0.00	N	Arm 2 Ahead (East Usk Road exit)	Inf	100.0 %	2171
8/1 (Corporation Road exit) Lane 1)	Infinite Saturation Flow (on Exit Link)						Inf
9/1 (Clarence Place (entry) Lane 1)	3.97	0.00	Y	Arm 2 Left (East Usk Road exit)  Arm 4 Ahead (Church Road exit)	Inf  Inf	3.5 %  96.5 %	2012
9/2 (Clarence Place (entry) Lane 2)	4.40	0.00	N	Arm 6 Right (Chepstow Road exit)	Inf	100.0 %	2195

Full Input Data And Results

10/1 (Clarence Place (exit) Lane 1)	Infinite Saturation Flow (on Exit Link)	Inf
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**Flow Group 7: '2017 with dev AM 0830-0930'**

**Traffic Flow Matrix**

**Desired Flow :**

		Destination					
		A	B	C	D	E	Tot.
Origin	A	0	14	5	0	31	50
	B	6	0	0	0	390	396
	C	0	0	0	13	313	326
	D	5	0	0	0	146	151
	E	26	407	591	0	0	1024
	Tot.	37	421	596	13	880	1947

**Link Traffic Flows**

Arm/Link	Flow Group 7: 2017 with dev AM 0830-0930
1/1	14
1/2	36
2/1	37
3/1	396
4/1	421
5/1	326
6/1	596
7/1	146
7/2	5
8/1	13
9/1	433
9/2	591
10/1	880

**Lane Saturation Flows**

Arm/ Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat flow (PCU/Hr)
1/1 (East Usk Road (entry) Lane 1)	2.38	0.00	Y	Arm 4 Left (Church Road exit)	Inf	100.0 %	1853
1/2 (East Usk Road (entry) Lane 2)	2.57	0.00	N	Arm 6 Ahead (Chepstow Road exit)  Arm 10 Right (Clarence Place exit)	Inf  Inf	13.9 %  86.1 %	2012
2/1 (East Usk Road (exit) Lane 1)	Infinite Saturation Flow (on Exit Link)						Inf
3/1 (Church Road (entry) Lane 1)	4.46	0.00	Y	Arm 2 Right (East Usk Road exit)  Arm 10 Ahead (Clarence Place exit)	Inf  Inf	1.5 %  98.5 %	2061
4/1 (Church Road (exit) Lane 1)	Infinite Saturation Flow (on Exit Link)						Inf
5/1 (Chepstow Road (entry) Lane 1)	3.77	0.00	Y	Arm 8 U-Turn (Corporation Road exit)  Arm 10 Ahead (Clarence Place exit)	Inf  Inf	4.0 %  96.0 %	1992
6/1 (Chepstow Road (exit) Lane 1)	Infinite Saturation Flow (on Exit Link)						Inf
7/1 (Corporation Road (entry) Lane 1)	3.55	0.00	Y	Arm 10 Left (Clarence Place exit)	Inf	100.0 %	1970
7/2 (Corporation Road (entry) Lane 2)	4.16	0.00	N	Arm 2 Ahead (East Usk Road exit)	Inf	100.0 %	2171
8/1 (Corporation Road (exit) Lane 1)	Infinite Saturation Flow (on Exit Link)						Inf
9/1 (Clarence Place (entry) Lane 1)	3.97	0.00	Y	Arm 2 Left (East Usk Road exit)  Arm 4 Ahead (Church Road exit)	Inf  Inf	6.0 %  94.0 %	2012
9/2 (Clarence Place (entry) Lane 2)	4.40	0.00	N	Arm 6 Right (Chepstow Road exit)	Inf	100.0 %	2195

Full Input Data And Results

10/1 (Clarence Place (exit) Lane 1)	Infinite Saturation Flow (on Exit Link)	Inf
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**Flow Group 8: '2017 with dev PM 1700-1800'**

**Traffic Flow Matrix**

**Desired Flow :**

		Destination					
Origin		A	B	C	D	E	Tot.
		A	0	21	14	0	52
	B	6	0	0	0	299	305
	C	0	0	0	17	315	332
	D	15	0	0	0	190	205
	E	21	642	719	0	0	1382
	Tot.	42	663	733	17	856	2311

**Link Traffic Flows**

Arm/Link	Flow Group 8: 2017 with dev PM 1700-1800
1/1	21
1/2	66
2/1	42
3/1	305
4/1	663
5/1	332
6/1	733
7/1	190
7/2	15
8/1	17
9/1	663
9/2	719
10/1	856

**Lane Saturation Flows**

Arm/ Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat flow (PCU/Hr)
1/1 (East Usk Road (entry) Lane 1)	2.38	0.00	Y	Arm 4 Left (Church Road exit)	Inf	100.0 %	1853
1/2 (East Usk Road (entry) Lane 2)	2.57	0.00	N	Arm 6 Ahead (Chepstow Road exit)  Arm 10 Right (Clarence Place exit)	Inf  Inf	21.2 %  78.8 %	2012
2/1 (East Usk Road (exit) Lane 1)	Infinite Saturation Flow (on Exit Link)						Inf
3/1 (Church Road (entry) Lane 1)	4.46	0.00	Y	Arm 2 Right (East Usk Road exit)  Arm 10 Ahead (Clarence Place exit)	Inf  Inf	2.0 %  98.0 %	2061
4/1 (Church Road (exit) Lane 1)	Infinite Saturation Flow (on Exit Link)						Inf
5/1 (Chepstow Road (entry) Lane 1)	3.77	0.00	Y	Arm 8 U-Turn (Corporation Road exit)  Arm 10 Ahead (Clarence Place exit)	Inf  Inf	5.1 %  94.9 %	1992
6/1 (Chepstow Road (exit) Lane 1)	Infinite Saturation Flow (on Exit Link)						Inf
7/1 (Corporation Road (entry) Lane 1)	3.55	0.00	Y	Arm 10 Left (Clarence Place exit)	Inf	100.0 %	1970
7/2 (Corporation Road (entry) Lane 2)	4.16	0.00	N	Arm 2 Ahead (East Usk Road exit)	Inf	100.0 %	2171
8/1 (Corporation Road (exit) Lane 1)	Infinite Saturation Flow (on Exit Link)						Inf
9/1 (Clarence Place (entry) Lane 1)	3.97	0.00	Y	Arm 2 Left (East Usk Road exit)  Arm 4 Ahead (Church Road exit)	Inf  Inf	3.2 %  96.8 %	2012
9/2 (Clarence Place (entry) Lane 2)	4.40	0.00	N	Arm 6 Right (Chepstow Road exit)	Inf	100.0 %	2195

Full Input Data And Results

10/1 (Clarence Place (exit) Lane 1)	Infinite Saturation Flow (on Exit Link)	Inf
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**Flow Group 9: '2022 with dev AM 0830-0930'**

**Traffic Flow Matrix**

**Desired Flow :**

		Destination					
		A	B	C	D	E	Tot.
Origin	A	0	15	6	0	33	54
	B	7	0	0	0	421	428
	C	0	0	0	14	341	355
	D	16	0	0	0	159	175
	E	28	441	644	0	0	1113
	Tot.	51	456	650	14	954	2125

**Link Traffic Flows**

Arm/Link	Flow Group 9: 2022 with dev AM 0830-0930
1/1	15
1/2	39
2/1	51
3/1	428
4/1	456
5/1	355
6/1	650
7/1	159
7/2	16
8/1	14
9/1	469
9/2	644
10/1	954

**Lane Saturation Flows**

Arm/ Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat flow (PCU/Hr)
1/1 (East Usk Road (entry) Lane 1)	2.38	0.00	Y	Arm 4 Left (Church Road exit)	Inf	100.0 %	1853
1/2 (East Usk Road (entry) Lane 2)	2.57	0.00	N	Arm 6 Ahead (Chepstow Road exit)  Arm 10 Right (Clarence Place exit)	Inf  Inf	15.4 %  84.6 %	2012
2/1 (East Usk Road (exit) Lane 1)	Infinite Saturation Flow (on Exit Link)						Inf
3/1 (Church Road (entry) Lane 1)	4.46	0.00	Y	Arm 2 Right (East Usk Road exit)  Arm 10 Ahead (Clarence Place exit)	Inf  Inf	1.6 %  98.4 %	2061
4/1 (Church Road (exit) Lane 1)	Infinite Saturation Flow (on Exit Link)						Inf
5/1 (Chepstow Road (entry) Lane 1)	3.77	0.00	Y	Arm 8 U-Turn (Corporation Road exit)  Arm 10 Ahead (Clarence Place exit)	Inf  Inf	3.9 %  96.1 %	1992
6/1 (Chepstow Road (exit) Lane 1)	Infinite Saturation Flow (on Exit Link)						Inf
7/1 (Corporation Road (entry) Lane 1)	3.55	0.00	Y	Arm 10 Left (Clarence Place exit)	Inf	100.0 %	1970
7/2 (Corporation Road (entry) Lane 2)	4.16	0.00	N	Arm 2 Ahead (East Usk Road exit)	Inf	100.0 %	2171
8/1 (Corporation Road (exit) Lane 1)	Infinite Saturation Flow (on Exit Link)						Inf
9/1 (Clarence Place (entry) Lane 1)	3.97	0.00	Y	Arm 2 Left (East Usk Road exit)  Arm 4 Ahead (Church Road exit)	Inf  Inf	6.0 %  94.0 %	2012
9/2 (Clarence Place (entry) Lane 2)	4.40	0.00	N	Arm 6 Right (Chepstow Road exit)	Inf	100.0 %	2195

Full Input Data And Results

10/1 (Clarence Place (exit) Lane 1)	Infinite Saturation Flow (on Exit Link)	Inf
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**Flow Group 10: '2022 with dev PM 1700-1800'**

**Traffic Flow Matrix**

**Desired Flow :**

		Destination					
		A	B	C	D	E	Tot.
Origin	A	0	23	15	0	56	94
	B	7	0	0	0	322	329
	C	0	0	0	18	342	360
	D	16	0	0	0	206	222
	E	23	692	780	0	0	1495
	Tot.	46	715	795	18	926	2500

**Link Traffic Flows**

Arm/Link	Flow Group 10: 2022 with dev PM 1700-1800
1/1	23
1/2	71
2/1	46
3/1	329
4/1	715
5/1	360
6/1	795
7/1	206
7/2	16
8/1	18
9/1	715
9/2	780
10/1	926

**Lane Saturation Flows**

Arm/ Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat flow (PCU/Hr)
1/1 (East Usk Road (entry) Lane 1)	2.38	0.00	Y	Arm 4 Left (Church Road exit)	Inf	100.0 %	1853
1/2 (East Usk Road (entry) Lane 2)	2.57	0.00	N	Arm 6 Ahead (Chepstow Road exit)  Arm 10 Right (Clarence Place exit)	Inf  Inf	21.1 %  78.9 %	2012
2/1 (East Usk Road (exit) Lane 1)	Infinite Saturation Flow (on Exit Link)						Inf
3/1 (Church Road (entry) Lane 1)	4.46	0.00	Y	Arm 2 Right (East Usk Road exit)  Arm 10 Ahead (Clarence Place exit)	Inf  Inf	2.1 %  97.9 %	2061
4/1 (Church Road (exit) Lane 1)	Infinite Saturation Flow (on Exit Link)						Inf
5/1 (Chepstow Road (entry) Lane 1)	3.77	0.00	Y	Arm 8 U-Turn (Corporation Road exit)  Arm 10 Ahead (Clarence Place exit)	Inf  Inf	5.0 %  95.0 %	1992
6/1 (Chepstow Road (exit) Lane 1)	Infinite Saturation Flow (on Exit Link)						Inf
7/1 (Corporation Road (entry) Lane 1)	3.55	0.00	Y	Arm 10 Left (Clarence Place exit)	Inf	100.0 %	1970
7/2 (Corporation Road (entry) Lane 2)	4.16	0.00	N	Arm 2 Ahead (East Usk Road exit)	Inf	100.0 %	2171
8/1 (Corporation Road (exit) Lane 1)	Infinite Saturation Flow (on Exit Link)						Inf
9/1 (Clarence Place (entry) Lane 1)	3.97	0.00	Y	Arm 2 Left (East Usk Road exit)  Arm 4 Ahead (Church Road exit)	Inf  Inf	3.2 %  96.8 %	2012
9/2 (Clarence Place (entry) Lane 2)	4.40	0.00	N	Arm 6 Right (Chepstow Road exit)	Inf	100.0 %	2195

Full Input Data And Results

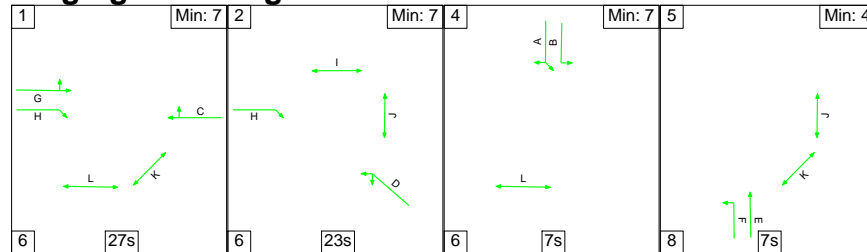
10/1 (Clarence Place (exit) Lane 1)	Infinite Saturation Flow (on Exit Link)	Inf
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**Scenario 1: '2013 no dev Am'**

Staging Plan 1: 'Staging Plan No. 2'

Flow Group 1: '2013 no dev AM 0830-0930'

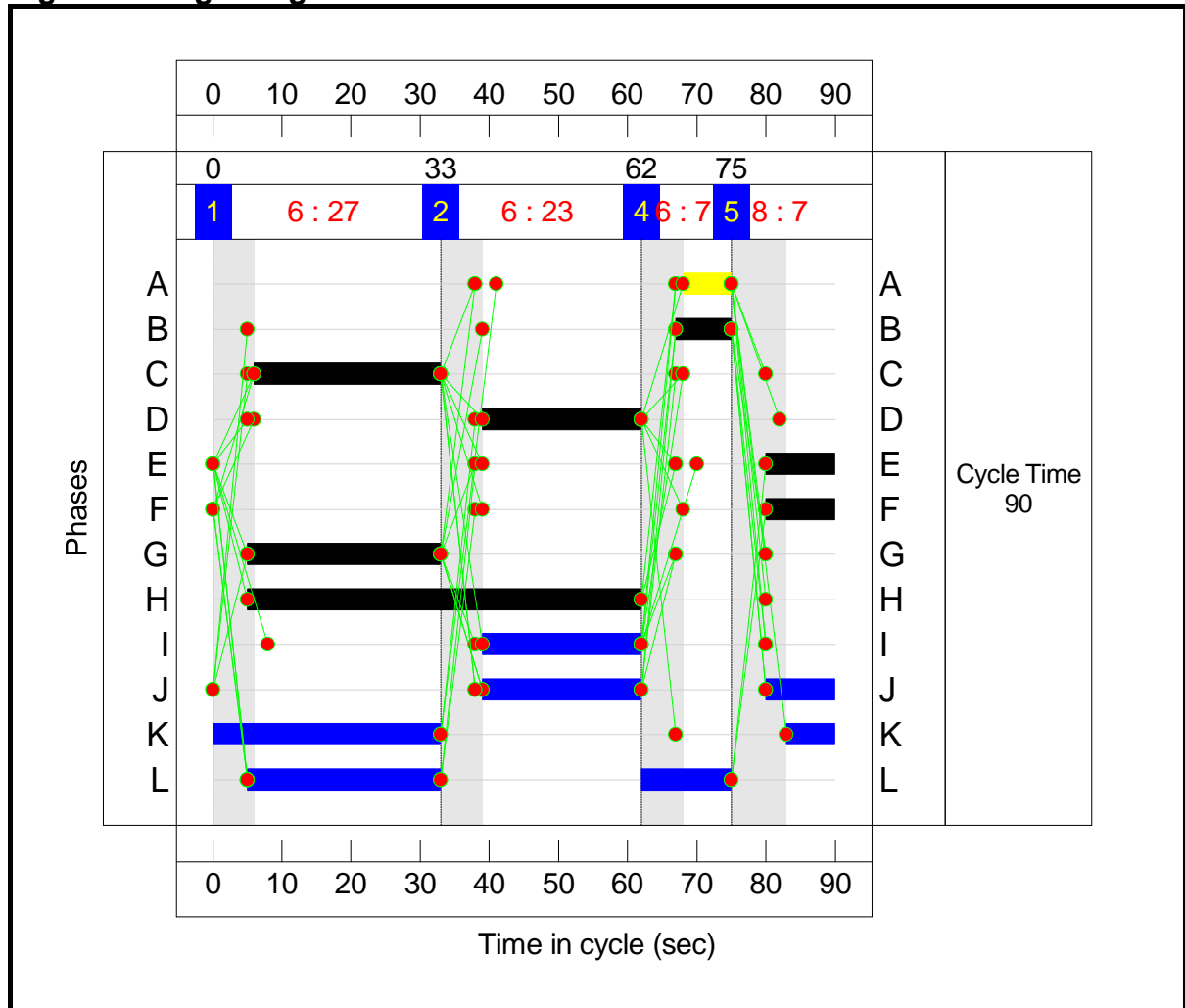
**Staging Plan Diagram**



**Stage Timings**

Stage	1	2	4	5
Duration	27	23	7	7
Change Point	0	33	62	75

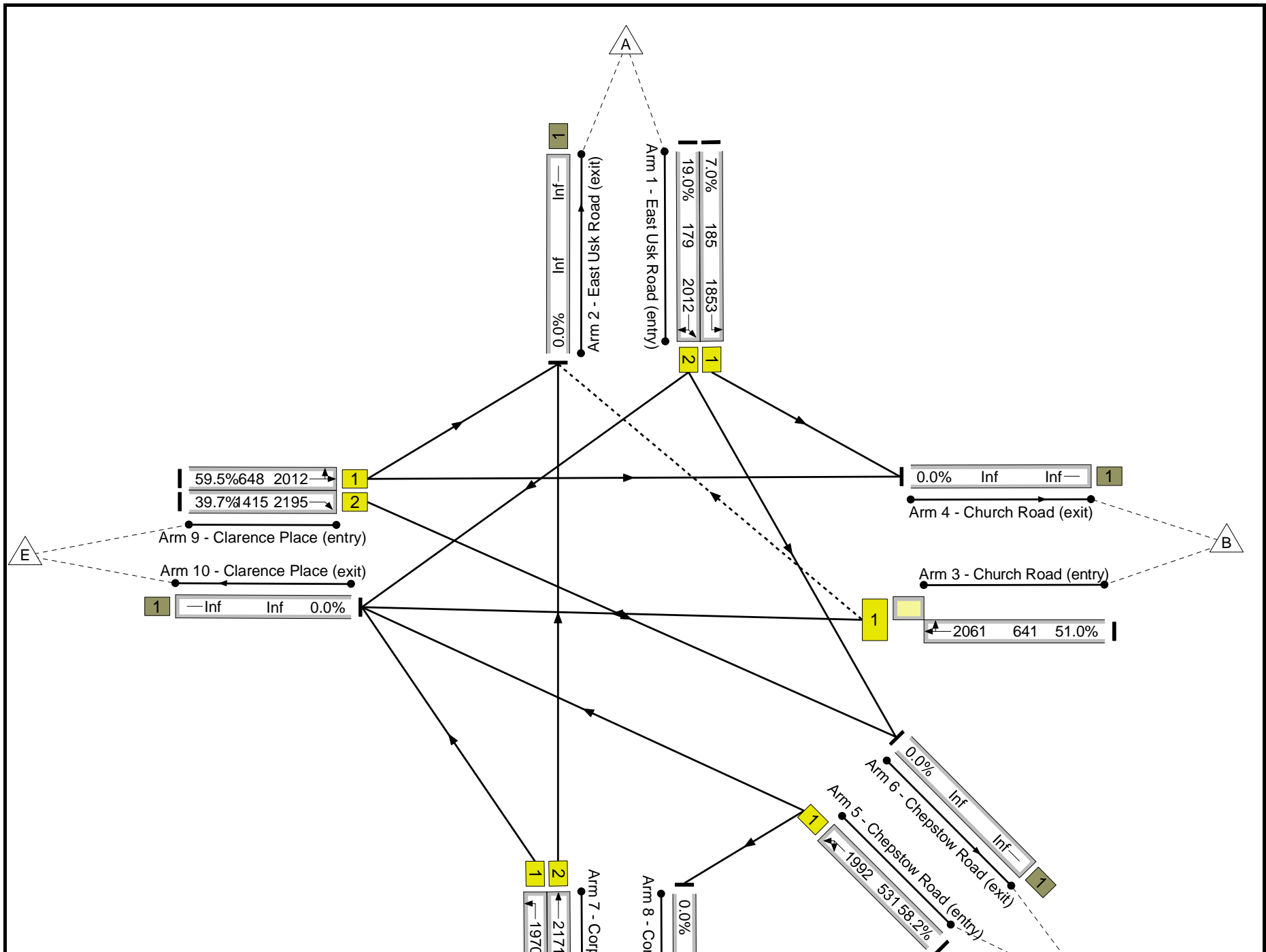
### Signal Timings Diagram



Full Input Data And Results

**Junction Layout Diagram**

Full Input Data And Results



Full Input Data And Results

Full Input Data And Results

**Link Results**

Link Num	Link Desc	Link Type	Stage Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Max Sat Flow (pcu/Hr)	Ave Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
1/1	East Usk Road (entry) Left	U	N/A	N/A	B		1	8	-	13	1853	1853	185	7.0
1/2	East Usk Road (entry) Ahead Right	U	N/A	N/A	A		1	7	-	34	2012	2012	179	19.0
2/1	East Usk Road (exit)	U	N/A	N/A	-		-	-	-	35	Inf	Inf	Inf	0.0
3/1	Church Road (entry) Right Ahead	O	N/A	N/A	C		1	27	-	327	2061	2061	641	51.0
4/1	Church Road (exit)	U	N/A	N/A	-		-	-	-	375	Inf	Inf	Inf	0.0
5/1	Chepstow Road (entry) U-Turn Ahead	U	N/A	N/A	D		1	23	-	309	1992	1992	531	58.2
6/1	Chepstow Road (exit)	U	N/A	N/A	-		-	-	-	566	Inf	Inf	Inf	0.0
7/1	Corporation Road (entry) Left	U	N/A	N/A	F		1	10	-	138	1970	1970	241	57.3
7/2	Corporation Road (entry) Ahead	U	N/A	N/A	E		1	10	-	5	2171	2171	265	1.9
8/1	Corporation Road (exit)	U	N/A	N/A	-		-	-	-	12	Inf	Inf	Inf	0.0
9/1	Clarence Place (entry) Left Ahead	U	N/A	N/A	G		1	28	-	386	2012	2012	648	59.5
9/2	Clarence Place (entry) Right	U	N/A	N/A	H		1	57	-	561	2195	2195	1415	39.7

Full Input Data And Results

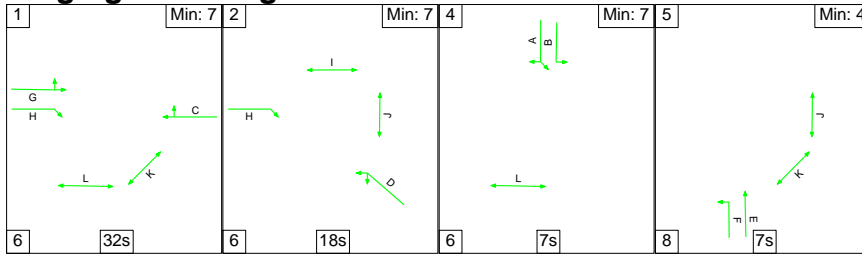
Link Num	Entering (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per Veh (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)	
10/1	Clarence Place (exit)	U	N/A	N/A	-	-	-	-	-	785	Inf	Inf	Inf	0.0
1/1	13	13	-	-	-	0.1	0.0	-	0.2	47.3	0.3	0.0	0.3	
1/2	34	34	-	-	-	0.4	0.1	-	0.5	50.5	0.8	0.1	0.9	
2/1	35	35	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	
3/1	327	327	6	0	0	2.3	0.5	0.0	2.8	31.2	6.6	0.5	7.1	
4/1	375	375	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	
5/1	309	309	-	-	-	2.5	0.7	-	3.1	36.7	6.7	0.7	7.4	
6/1	566	566	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	
7/1	138	138	-	-	-	1.4	0.7	-	2.1	54.6	3.2	0.7	3.9	
7/2	5	5	-	-	-	0.0	0.0	-	0.1	42.0	0.1	0.0	0.1	
8/1	12	12	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	
9/1	386	386	-	-	-	2.7	0.7	-	3.5	32.4	8.0	0.7	8.8	
9/2	561	561	-	-	-	1.2	0.3	-	1.5	9.7	6.5	0.3	6.9	
10/1	785	785	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	
PRC for Signalled Links (%):			51.2		Total Delay for Signalled Links (pcuHr):			13.78						
PRC Over All Links (%):			51.2		Total Delay Over All Links(pcuHr):			13.78		Cycle Time (s): 90				

**Scenario 2: '2013 no dev Pm'**

Staging Plan 1: 'Staging Plan No. 2'

Flow Group 2: '2013 no dev PM 1700-1800'

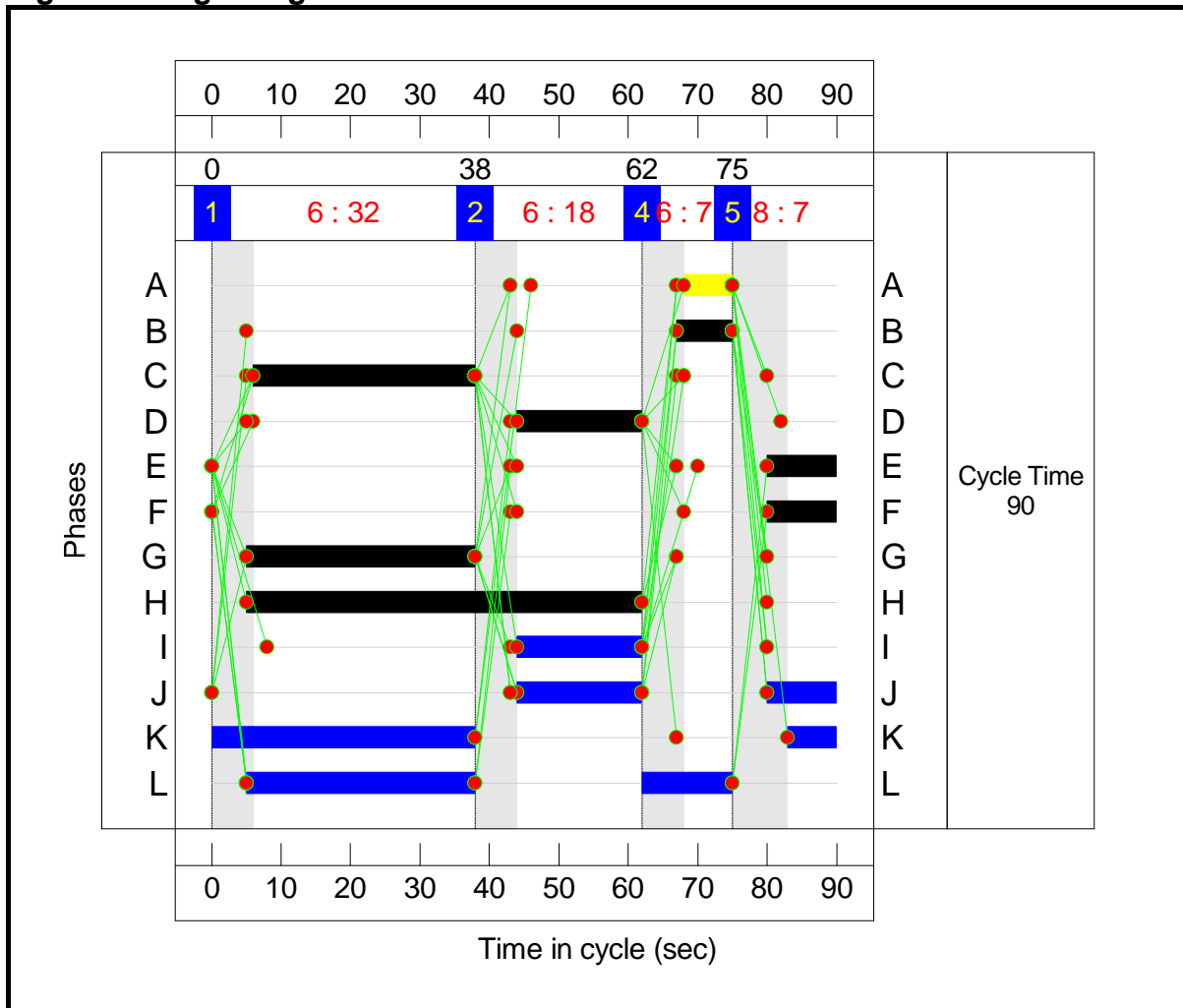
**Staging Plan Diagram**



**Stage Timings**

Stage	1	2	4	5
Duration	32	18	7	7
Change Point	0	38	62	75

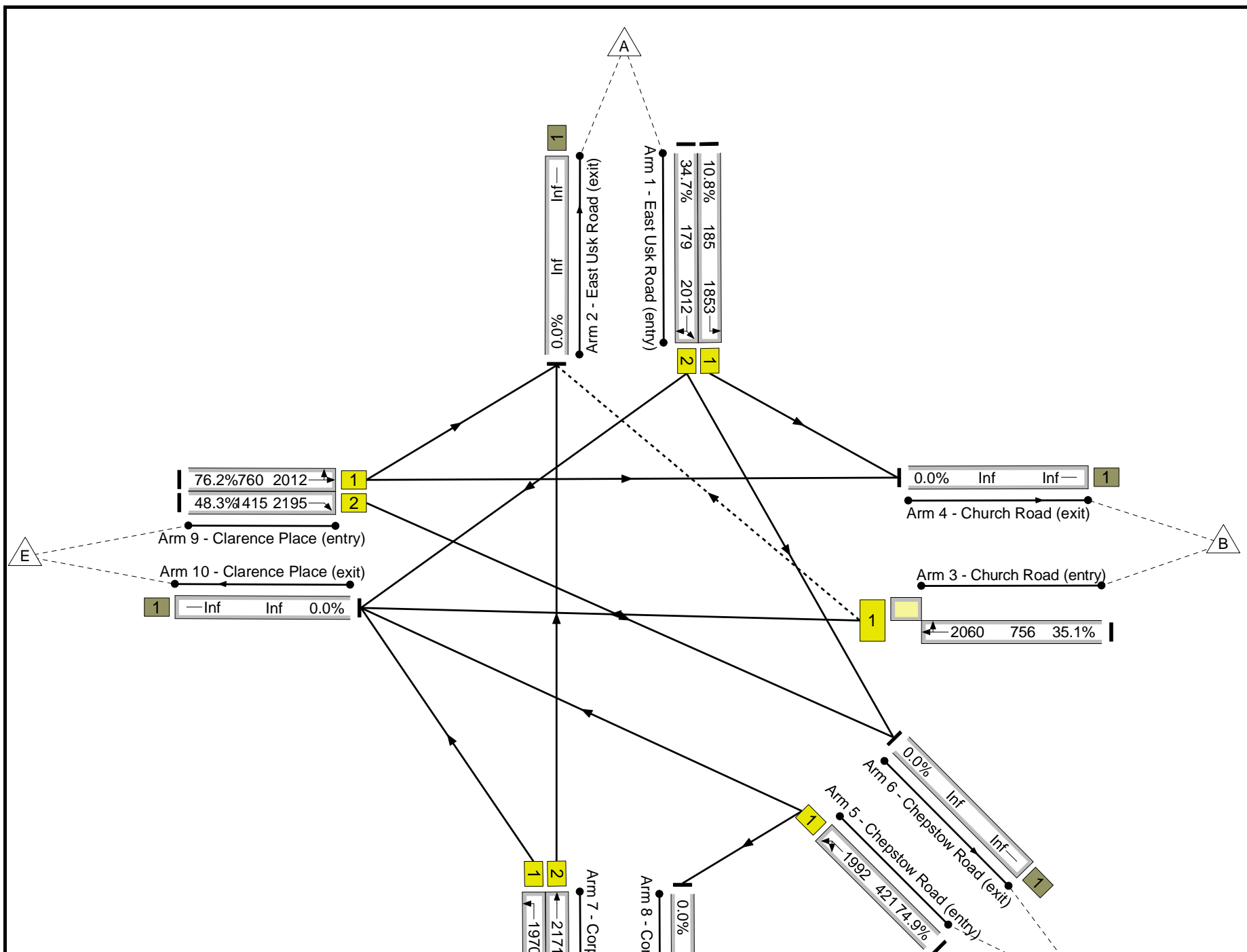
**Signal Timings Diagram**



Full Input Data And Results

**Junction Layout Diagram**

# Full Input Data And Results



Full Input Data And Results

Full Input Data And Results

**Link Results**

Link Num	Link Desc	Link Type	Stage Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Max Sat Flow (pcu/Hr)	Ave Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
1/1	East Usk Road (entry) Left	U	N/A	N/A	B		1	8	-	20	1853	1853	185	10.8
1/2	East Usk Road (entry) Ahead Right	U	N/A	N/A	A		1	7	-	62	2012	2012	179	34.7
2/1	East Usk Road (exit)	U	N/A	N/A	-		-	-	-	40	Inf	Inf	Inf	0.0
3/1	Church Road (entry) Right Ahead	O	N/A	N/A	C		1	32	-	265	2061	2060	756	35.1
4/1	Church Road (exit)	U	N/A	N/A	-		-	-	-	579	Inf	Inf	Inf	0.0
5/1	Chepstow Road (entry) U-Turn Ahead	U	N/A	N/A	D		1	18	-	315	1992	1992	421	74.9
6/1	Chepstow Road (exit)	U	N/A	N/A	-		-	-	-	696	Inf	Inf	Inf	0.0
7/1	Corporation Road (entry) Left	U	N/A	N/A	F		1	10	-	180	1970	1970	241	74.8
7/2	Corporation Road (entry) Ahead	U	N/A	N/A	E		1	10	-	14	2171	2171	265	5.3
8/1	Corporation Road (exit)	U	N/A	N/A	-		-	-	-	16	Inf	Inf	Inf	0.0
9/1	Clarence Place (entry) Left Ahead	U	N/A	N/A	G		1	33	-	579	2012	2012	760	76.2
9/2	Clarence Place (entry) Right	U	N/A	N/A	H		1	57	-	683	2195	2195	1415	48.3

Full Input Data And Results

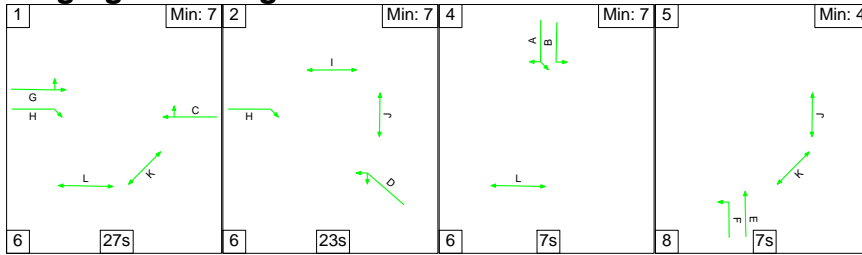
Link Num	Entering (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per Veh (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)	
10/1	Clarence Place (exit)	U	N/A	N/A	-	-	-	-	-	787	Inf	Inf	Inf	0.0
1/1	20	20	-	-	-	0.2	0.1	-	0.3	47.8	0.5	0.1	0.5	
1/2	62	62	-	-	-	0.7	0.3	-	0.9	53.9	1.4	0.3	1.7	
2/1	40	40	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	
3/1	265	265	6	0	0	1.5	0.3	0.0	1.8	24.7	4.8	0.3	5.1	
4/1	579	579	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	
5/1	315	315	-	-	-	2.9	1.5	-	4.4	49.9	7.4	1.5	8.8	
6/1	696	696	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	
7/1	180	180	-	-	-	1.9	1.4	-	3.3	66.5	4.3	1.4	5.7	
7/2	14	14	-	-	-	0.1	0.0	-	0.2	42.3	0.3	0.0	0.3	
8/1	16	16	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	
9/1	579	579	-	-	-	3.9	1.6	-	5.5	34.2	12.5	1.6	14.1	
9/2	683	683	-	-	-	1.6	0.5	-	2.0	10.7	8.7	0.5	9.2	
10/1	787	787	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	
PRC for Signalled Links (%):			18.1		Total Delay for Signalled Links (pcuHr):			18.40						
PRC Over All Links (%):			18.1		Total Delay Over All Links(pcuHr):			18.40		Cycle Time (s): 90				

**Scenario 3: '2017 no dev Am'**

Staging Plan 1: 'Staging Plan No. 2'

Flow Group 3: '2017 no dev AM 0830-0930'

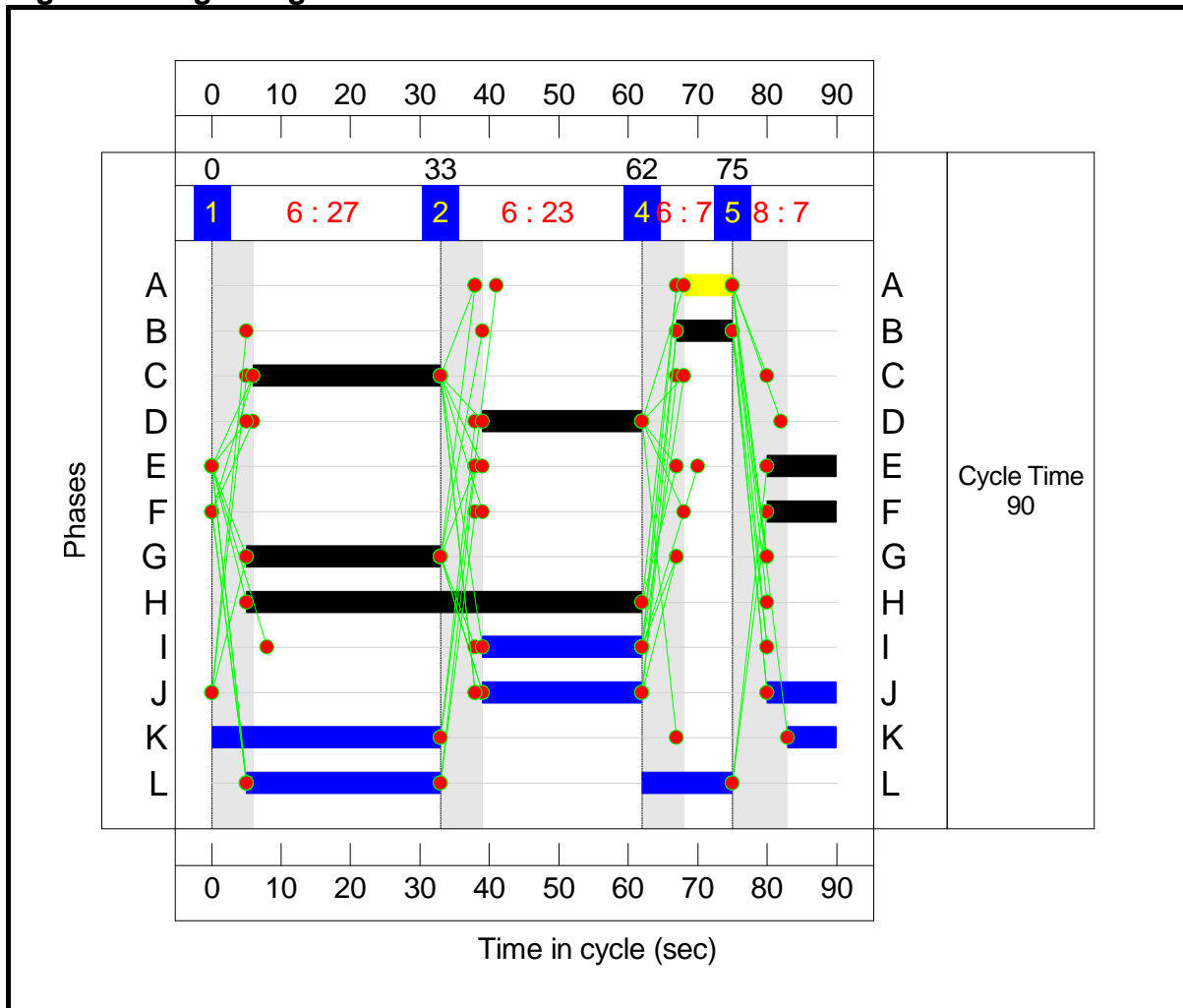
**Staging Plan Diagram**



**Stage Timings**

Stage	1	2	4	5
Duration	27	23	7	7
Change Point	0	33	62	75

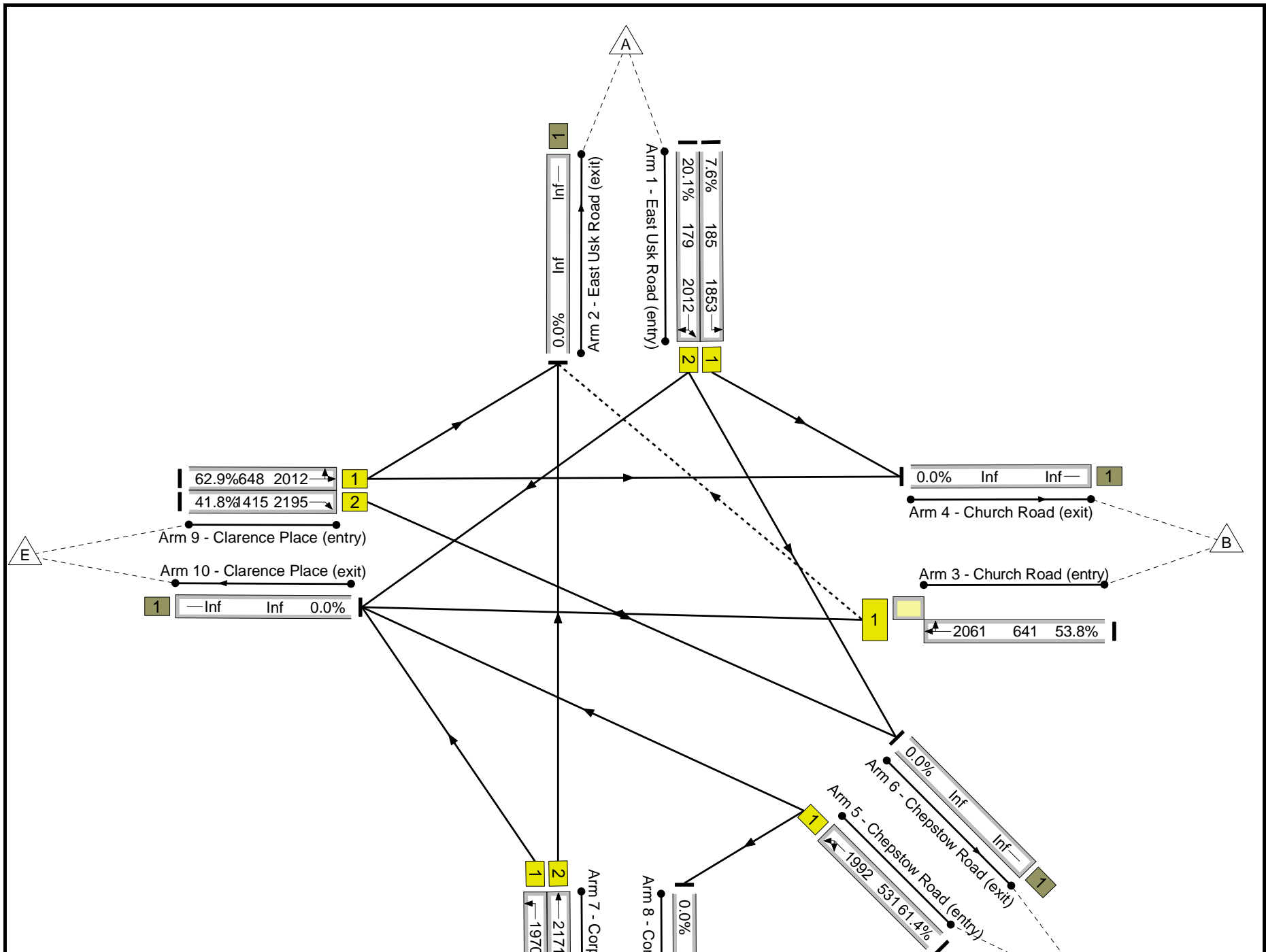
**Signal Timings Diagram**



Full Input Data And Results

**Junction Layout Diagram**

Full Input Data And Results



Full Input Data And Results

Full Input Data And Results

**Link Results**

Link Num	Link Desc	Link Type	Stage Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Max Sat Flow (pcu/Hr)	Ave Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
1/1	East Usk Road (entry) Left	U	N/A	N/A	B		1	8	-	14	1853	1853	185	7.6
1/2	East Usk Road (entry) Ahead Right	U	N/A	N/A	A		1	7	-	36	2012	2012	179	20.1
2/1	East Usk Road (exit)	U	N/A	N/A	-		-	-	-	37	Inf	Inf	Inf	0.0
3/1	Church Road (entry) Right Ahead	O	N/A	N/A	C		1	27	-	345	2061	2061	641	53.8
4/1	Church Road (exit)	U	N/A	N/A	-		-	-	-	396	Inf	Inf	Inf	0.0
5/1	Chepstow Road (entry) U-Turn Ahead	U	N/A	N/A	D		1	23	-	326	1992	1992	531	61.4
6/1	Chepstow Road (exit)	U	N/A	N/A	-		-	-	-	596	Inf	Inf	Inf	0.0
7/1	Corporation Road (entry) Left	U	N/A	N/A	F		1	10	-	146	1970	1970	241	60.6
7/2	Corporation Road (entry) Ahead	U	N/A	N/A	E		1	10	-	5	2171	2171	265	1.9
8/1	Corporation Road (exit)	U	N/A	N/A	-		-	-	-	13	Inf	Inf	Inf	0.0
9/1	Clarence Place (entry) Left Ahead	U	N/A	N/A	G		1	28	-	408	2012	2012	648	62.9
9/2	Clarence Place (entry) Right	U	N/A	N/A	H		1	57	-	591	2195	2195	1415	41.8

Full Input Data And Results

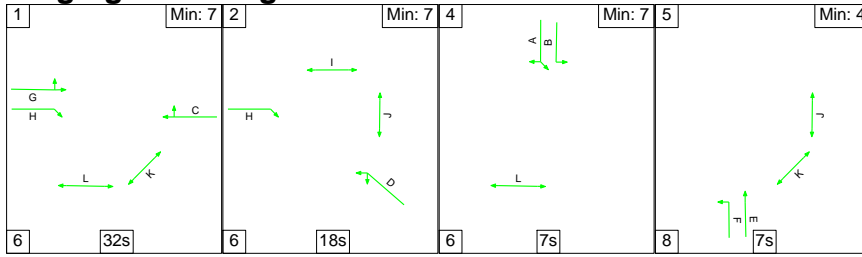
Link Num	Entering (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per Veh (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)	
10/1	Clarence Place (exit)	U	N/A	N/A	-	-	-	-	-	829	Inf	Inf	Inf	0.0
1/1	14	14	-	-	-	0.1	0.0	-	0.2	47.4	0.3	0.0	0.4	
1/2	36	36	-	-	-	0.4	0.1	-	0.5	50.7	0.8	0.1	1.0	
2/1	37	37	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	
3/1	345	345	6	0	0	2.5	0.6	0.0	3.1	31.8	7.1	0.6	7.7	
4/1	396	396	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	
5/1	326	326	-	-	-	2.6	0.8	-	3.4	37.6	7.1	0.8	7.9	
6/1	596	596	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	
7/1	146	146	-	-	-	1.5	0.8	-	2.3	56.2	3.4	0.8	4.2	
7/2	5	5	-	-	-	0.0	0.0	-	0.1	42.0	0.1	0.0	0.1	
8/1	13	13	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	
9/1	408	408	-	-	-	2.9	0.8	-	3.8	33.4	8.6	0.8	9.5	
9/2	591	591	-	-	-	1.3	0.4	-	1.6	10.0	7.1	0.4	7.4	
10/1	829	829	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	
PRC for Signalled Links (%):			43.0		Total Delay for Signalled Links (pcuHr):			14.91						
PRC Over All Links (%):			43.0		Total Delay Over All Links(pcuHr):			14.91		Cycle Time (s): 90				

**Scenario 4: '2017 no dev Pm'**

Staging Plan 1: 'Staging Plan No. 2'

Flow Group 4: '2017 no dev PM 1700-1800'

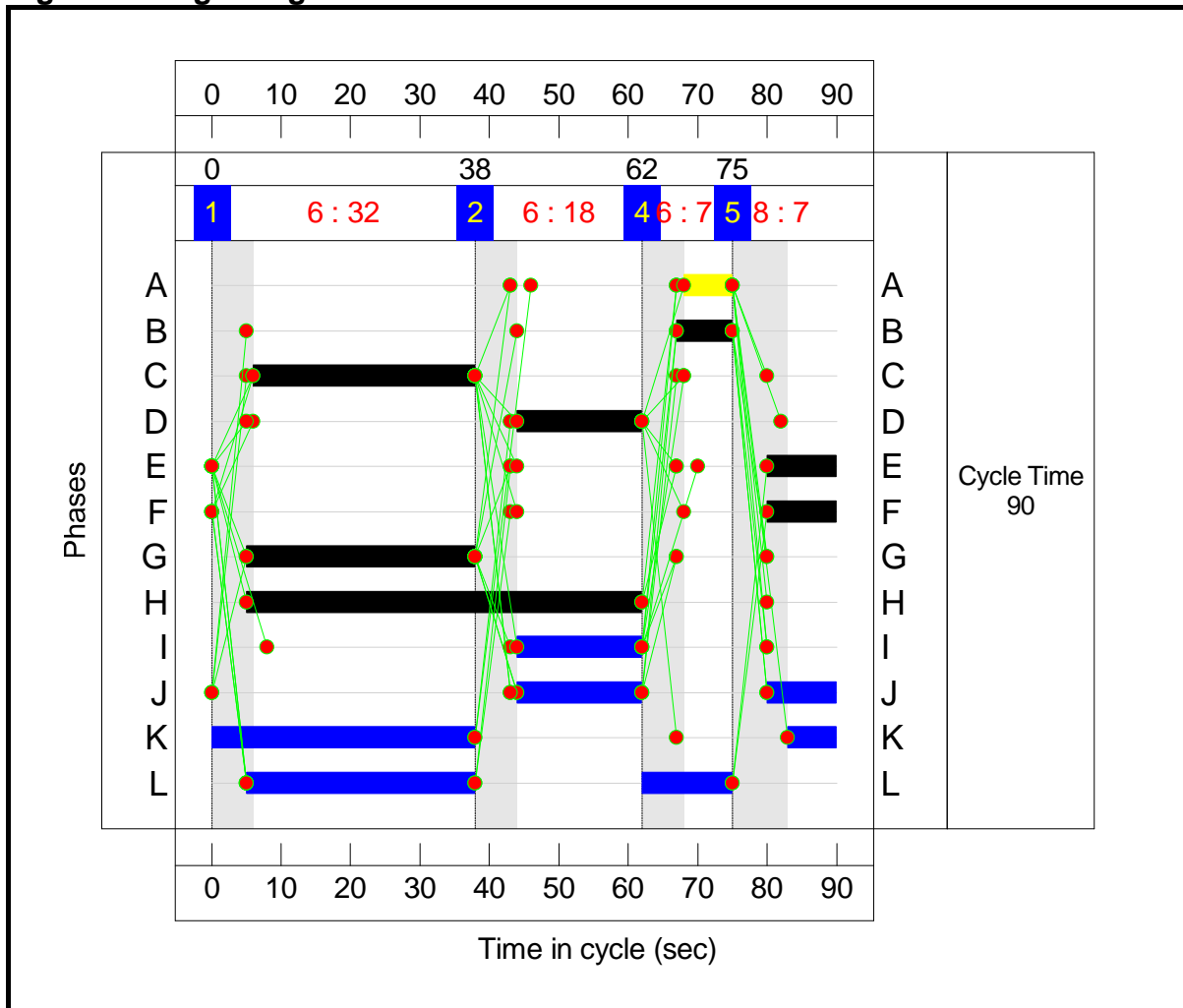
**Staging Plan Diagram**



**Stage Timings**

Stage	1	2	4	5
Duration	32	18	7	7
Change Point	0	38	62	75

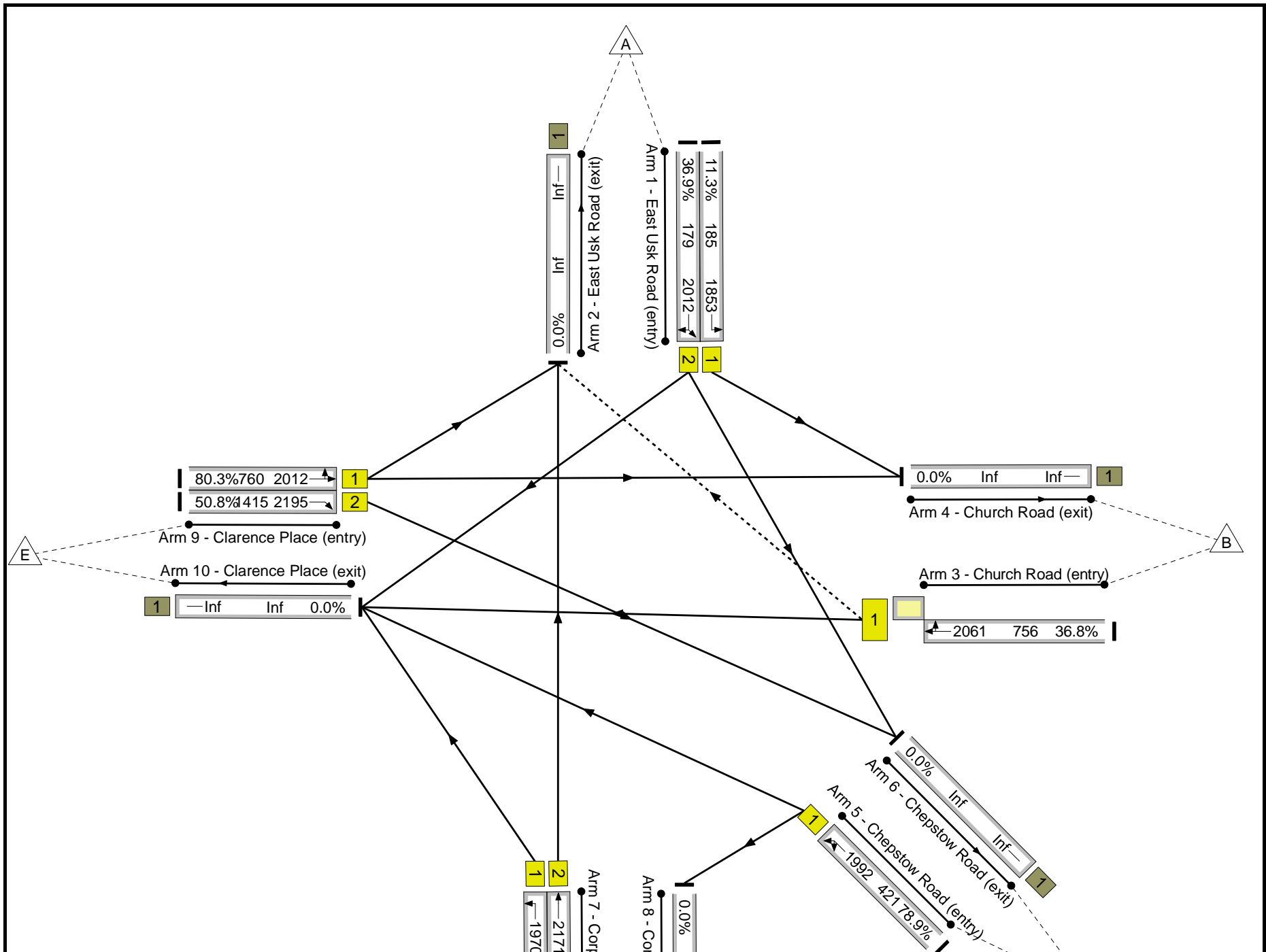
**Signal Timings Diagram**



Full Input Data And Results

**Junction Layout Diagram**

Full Input Data And Results



Full Input Data And Results

Full Input Data And Results

**Link Results**

Link Num	Link Desc	Link Type	Stage Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Max Sat Flow (pcu/Hr)	Ave Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
1/1	East Usk Road (entry) Left	U	N/A	N/A	B		1	8	-	21	1853	1853	185	11.3
1/2	East Usk Road (entry) Ahead Right	U	N/A	N/A	A		1	7	-	66	2012	2012	179	36.9
2/1	East Usk Road (exit)	U	N/A	N/A	-		-	-	-	42	Inf	Inf	Inf	0.0
3/1	Church Road (entry) Right Ahead	O	N/A	N/A	C		1	32	-	278	2061	2061	756	36.8
4/1	Church Road (exit)	U	N/A	N/A	-		-	-	-	610	Inf	Inf	Inf	0.0
5/1	Chepstow Road (entry) U-Turn Ahead	U	N/A	N/A	D		1	18	-	332	1992	1992	421	78.9
6/1	Chepstow Road (exit)	U	N/A	N/A	-		-	-	-	733	Inf	Inf	Inf	0.0
7/1	Corporation Road (entry) Left	U	N/A	N/A	F		1	10	-	190	1970	1970	241	78.9
7/2	Corporation Road (entry) Ahead	U	N/A	N/A	E		1	10	-	15	2171	2171	265	5.7
8/1	Corporation Road (exit)	U	N/A	N/A	-		-	-	-	17	Inf	Inf	Inf	0.0
9/1	Clarence Place (entry) Left Ahead	U	N/A	N/A	G		1	33	-	610	2012	2012	760	80.3
9/2	Clarence Place (entry) Right	U	N/A	N/A	H		1	57	-	719	2195	2195	1415	50.8

Full Input Data And Results

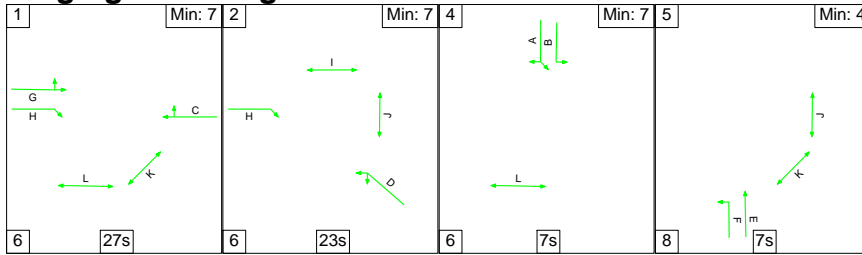
Link Num	Entering (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per Veh (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)	
10/1	Clarence Place (exit)	U	N/A	N/A	-	-	-	-	-	829	Inf	Inf	Inf	0.0
1/1	21	21	-	-	-	0.2	0.1	-	0.3	47.8	0.5	0.1	0.5	
1/2	66	66	-	-	-	0.7	0.3	-	1.0	54.5	1.5	0.3	1.8	
2/1	42	42	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	
3/1	278	278	6	0	0	1.6	0.3	0.0	1.9	25.0	5.0	0.3	5.3	
4/1	610	610	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	
5/1	332	332	-	-	-	3.1	1.8	-	4.9	53.1	7.8	1.8	9.6	
6/1	733	733	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	
7/1	190	190	-	-	-	2.0	1.8	-	3.8	71.5	4.6	1.8	6.3	
7/2	15	15	-	-	-	0.1	0.0	-	0.2	42.3	0.3	0.0	0.4	
8/1	17	17	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	
9/1	610	610	-	-	-	4.2	2.0	-	6.2	36.7	13.6	2.0	15.5	
9/2	719	719	-	-	-	1.7	0.5	-	2.2	11.0	9.4	0.5	9.9	
10/1	829	829	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	
PRC for Signalled Links (%):			12.1		Total Delay for Signalled Links (pcuHr):			20.48						
PRC Over All Links (%):			12.1		Total Delay Over All Links(pcuHr):			20.48		Cycle Time (s): 90				

**Scenario 5: '2022 no dev Am'**

Staging Plan 1: 'Staging Plan No. 2'

Flow Group 5: '2022 no dev AM 0830-0930'

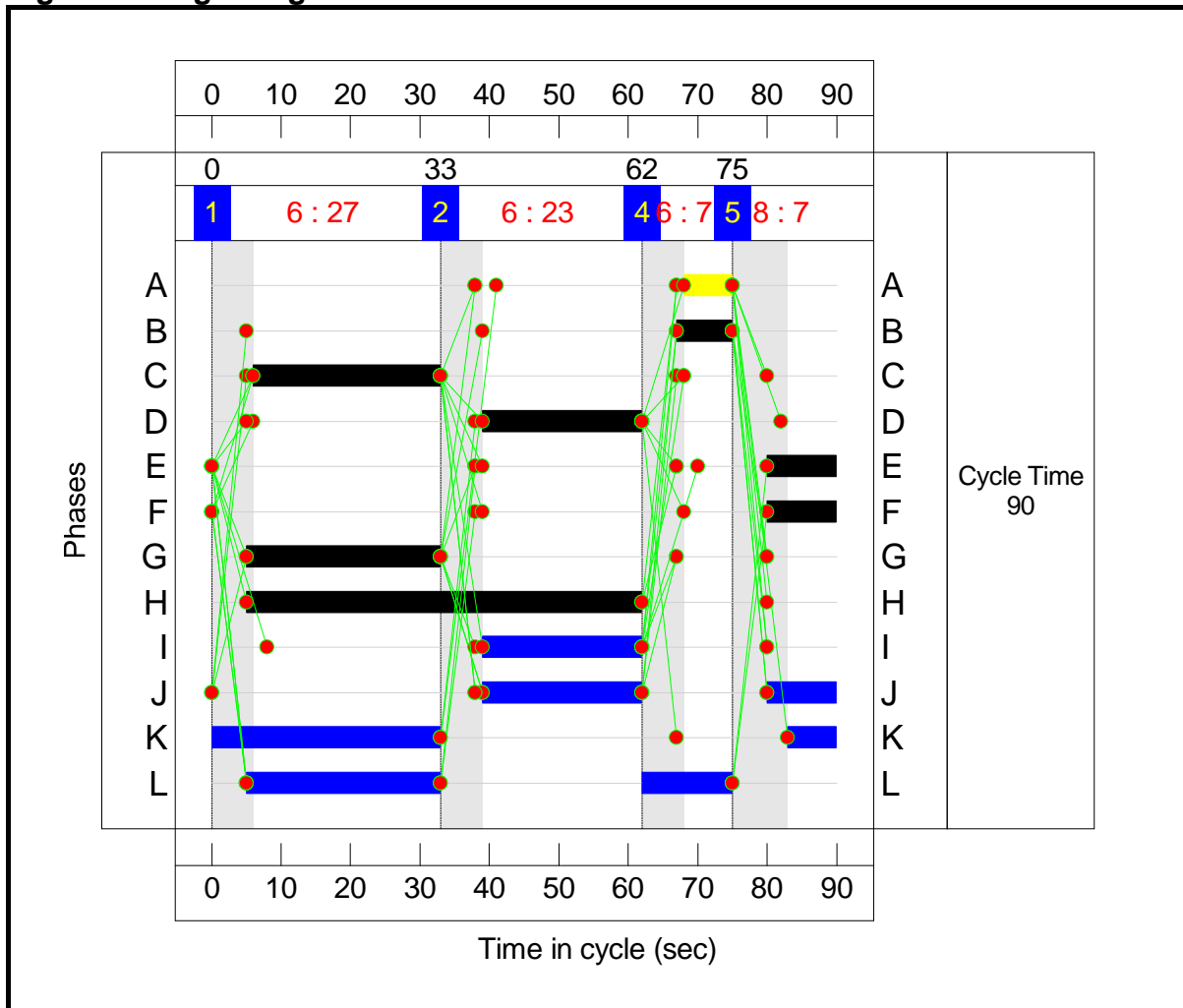
**Staging Plan Diagram**



**Stage Timings**

Stage	1	2	4	5
Duration	27	23	7	7
Change Point	0	33	62	75

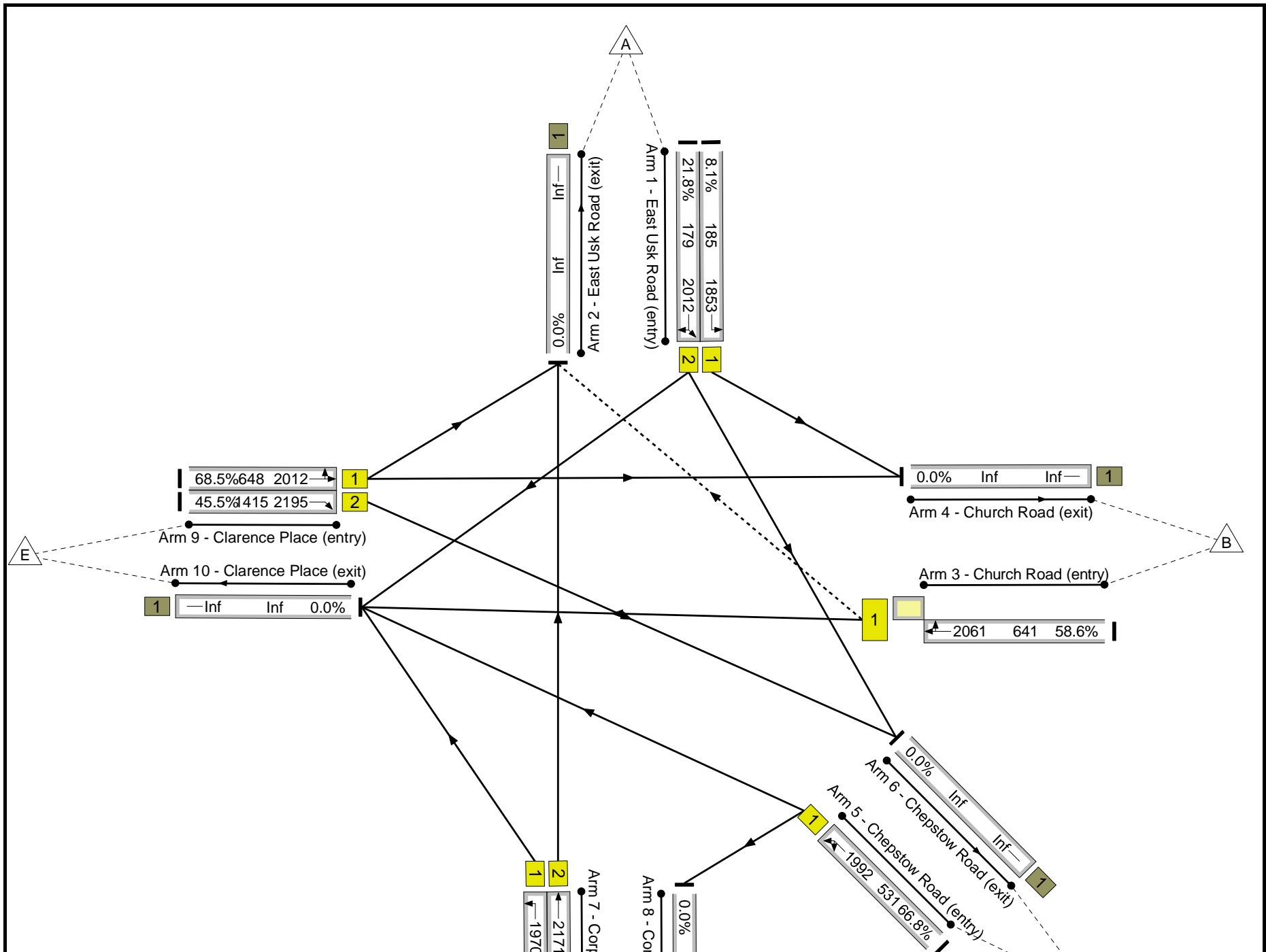
**Signal Timings Diagram**



Full Input Data And Results

**Junction Layout Diagram**

Full Input Data And Results



Full Input Data And Results

Full Input Data And Results

**Link Results**

Link Num	Link Desc	Link Type	Stage Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Max Sat Flow (pcu/Hr)	Ave Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
1/1	East Usk Road (entry) Left	U	N/A	N/A	B		1	8	-	15	1853	1853	185	8.1
1/2	East Usk Road (entry) Ahead Right	U	N/A	N/A	A		1	7	-	39	2012	2012	179	21.8
2/1	East Usk Road (exit)	U	N/A	N/A	-		-	-	-	41	Inf	Inf	Inf	0.0
3/1	Church Road (entry) Right Ahead	O	N/A	N/A	C		1	27	-	376	2061	2061	641	58.6
4/1	Church Road (exit)	U	N/A	N/A	-		-	-	-	431	Inf	Inf	Inf	0.0
5/1	Chepstow Road (entry) U-Turn Ahead	U	N/A	N/A	D		1	23	-	355	1992	1992	531	66.8
6/1	Chepstow Road (exit)	U	N/A	N/A	-		-	-	-	650	Inf	Inf	Inf	0.0
7/1	Corporation Road (entry) Left	U	N/A	N/A	F		1	10	-	159	1970	1970	241	66.0
7/2	Corporation Road (entry) Ahead	U	N/A	N/A	E		1	10	-	6	2171	2171	265	2.3
8/1	Corporation Road (exit)	U	N/A	N/A	-		-	-	-	14	Inf	Inf	Inf	0.0
9/1	Clarence Place (entry) Left Ahead	U	N/A	N/A	G		1	28	-	444	2012	2012	648	68.5
9/2	Clarence Place (entry) Right	U	N/A	N/A	H		1	57	-	644	2195	2195	1415	45.5

Full Input Data And Results

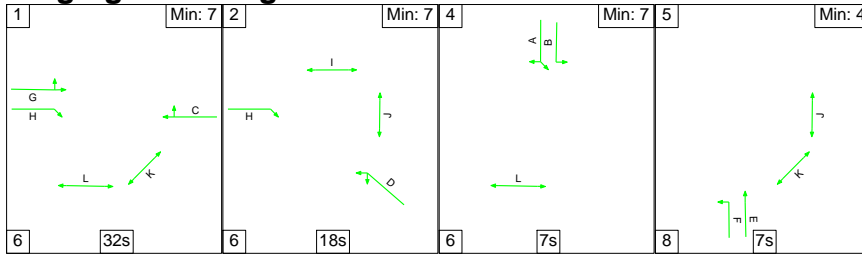
Link Num	Entering (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per Veh (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)	
10/1	Clarence Place (exit)	U	N/A	N/A	-	-	-	-	-	902	Inf	Inf	Inf	0.0
1/1	15	15	-	-	-	0.2	0.0	-	0.2	47.5	0.3	0.0	0.4	
1/2	39	39	-	-	-	0.4	0.1	-	0.6	51.0	0.9	0.1	1.0	
2/1	41	41	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	
3/1	376	376	7	0	0	2.7	0.7	0.0	3.4	33.0	7.8	0.7	8.5	
4/1	431	431	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	
5/1	355	355	-	-	-	2.9	1.0	-	3.9	39.6	7.9	1.0	8.9	
6/1	650	650	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	
7/1	159	159	-	-	-	1.7	1.0	-	2.6	59.2	3.8	1.0	4.7	
7/2	6	6	-	-	-	0.1	0.0	-	0.1	42.1	0.1	0.0	0.1	
8/1	14	14	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	
9/1	444	444	-	-	-	3.3	1.1	-	4.3	35.2	9.6	1.1	10.7	
9/2	644	644	-	-	-	1.4	0.4	-	1.9	10.4	8.1	0.4	8.5	
10/1	902	902	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	
PRC for Signalled Links (%):			31.4		Total Delay for Signalled Links (pcuHr):			16.99						
PRC Over All Links (%):			31.4		Total Delay Over All Links(pcuHr):			16.99		Cycle Time (s): 90				

**Scenario 6: '2022 no dev Pm'**

Staging Plan 1: 'Staging Plan No. 2'

Flow Group 6: '2022 no dev PM 1700-1800'

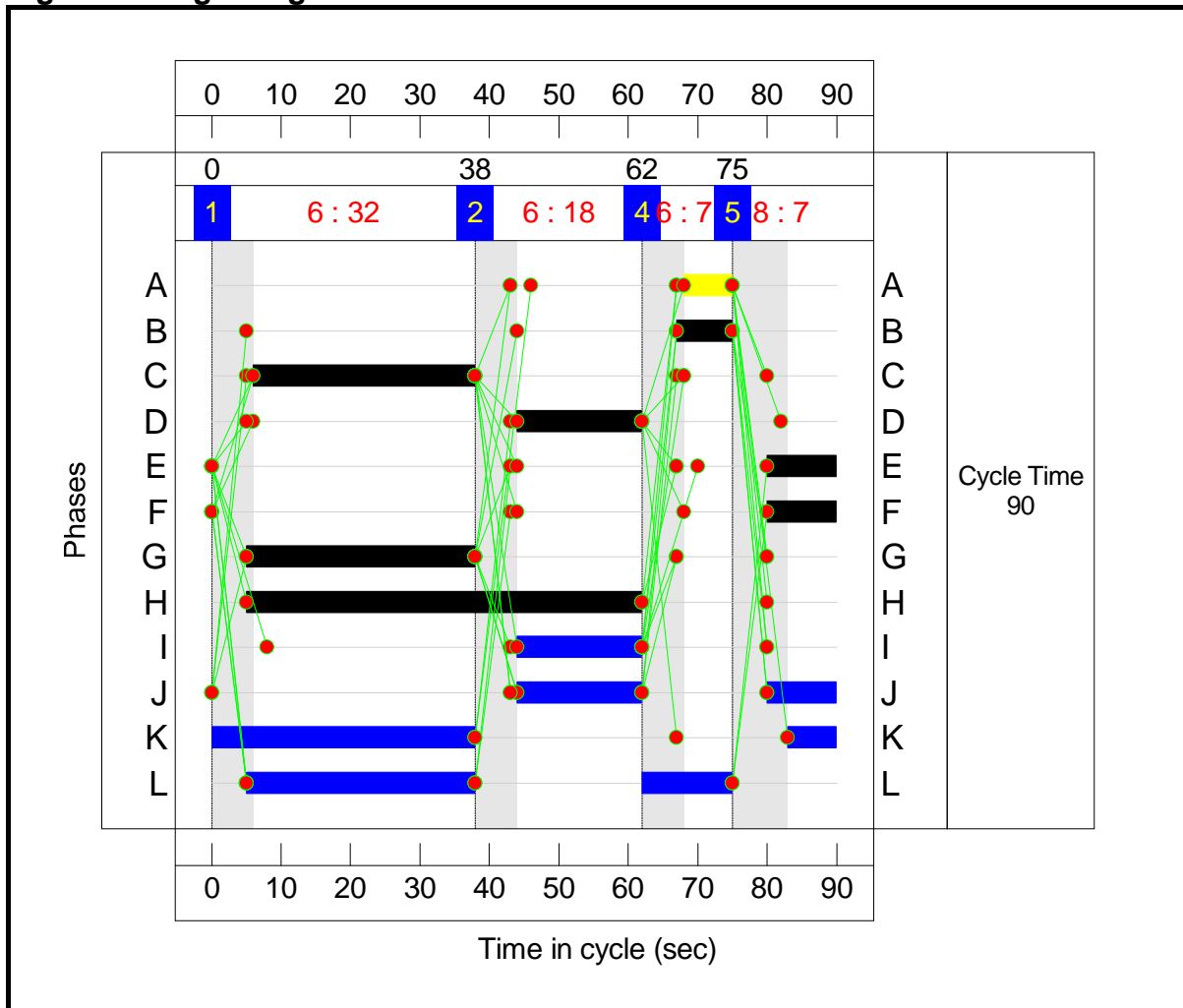
**Staging Plan Diagram**



**Stage Timings**

Stage	1	2	4	5
Duration	32	18	7	7
Change Point	0	38	62	75

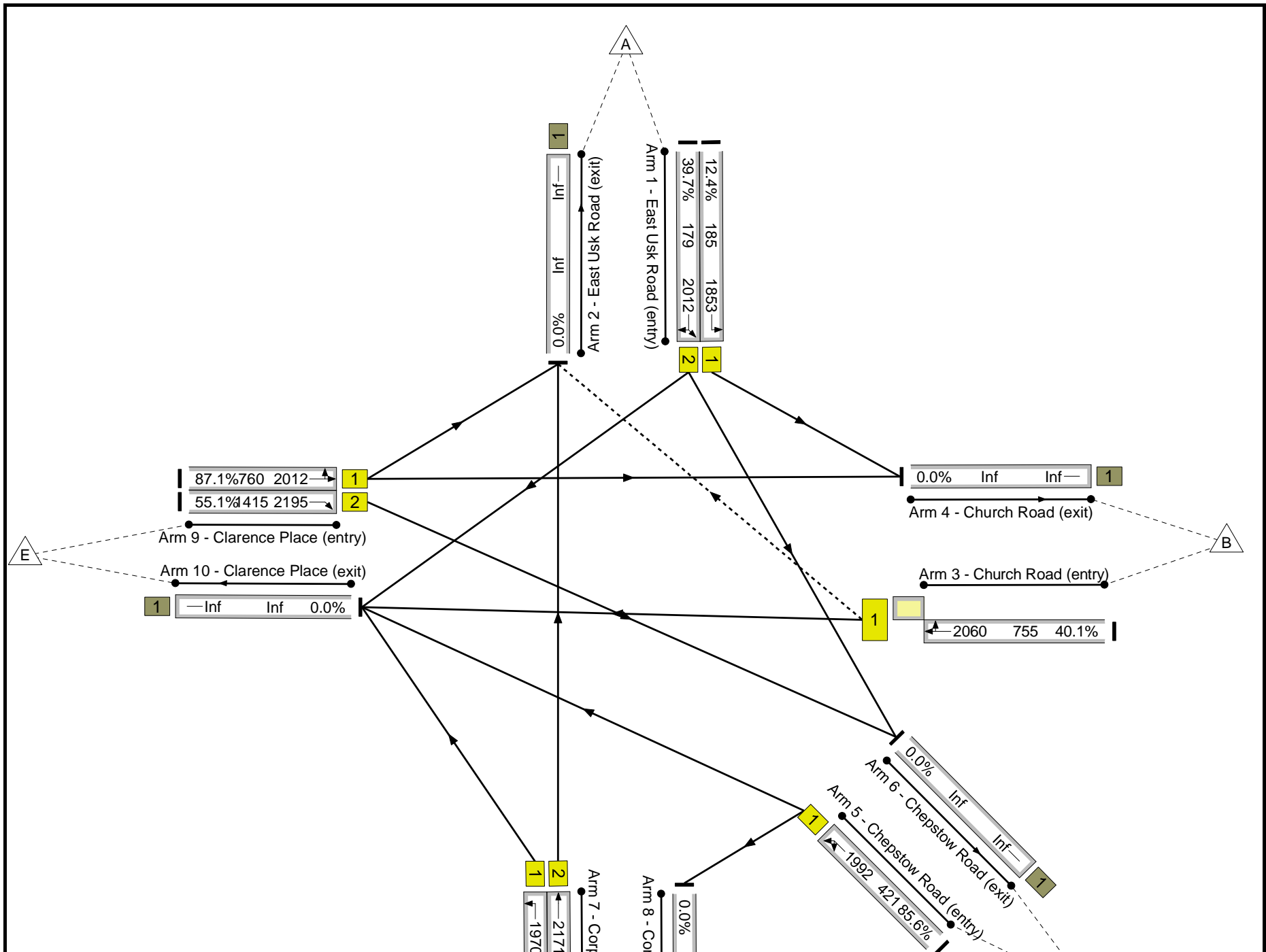
**Signal Timings Diagram**



Full Input Data And Results

**Junction Layout Diagram**

# Full Input Data And Results



Full Input Data And Results

Full Input Data And Results

**Link Results**

Link Num	Link Desc	Link Type	Stage Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Max Sat Flow (pcu/Hr)	Ave Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
1/1	East Usk Road (entry) Left	U	N/A	N/A	B		1	8	-	23	1853	1853	185	12.4
1/2	East Usk Road (entry) Ahead Right	U	N/A	N/A	A		1	7	-	71	2012	2012	179	39.7
2/1	East Usk Road (exit)	U	N/A	N/A	-		-	-	-	46	Inf	Inf	Inf	0.0
3/1	Church Road (entry) Right Ahead	O	N/A	N/A	C		1	32	-	303	2061	2060	755	40.1
4/1	Church Road (exit)	U	N/A	N/A	-		-	-	-	662	Inf	Inf	Inf	0.0
5/1	Chepstow Road (entry) U-Turn Ahead	U	N/A	N/A	D		1	18	-	360	1992	1992	421	85.6
6/1	Chepstow Road (exit)	U	N/A	N/A	-		-	-	-	795	Inf	Inf	Inf	0.0
7/1	Corporation Road (entry) Left	U	N/A	N/A	F		1	10	-	206	1970	1970	241	85.6
7/2	Corporation Road (entry) Ahead	U	N/A	N/A	E		1	10	-	16	2171	2171	265	6.0
8/1	Corporation Road (exit)	U	N/A	N/A	-		-	-	-	18	Inf	Inf	Inf	0.0
9/1	Clarence Place (entry) Left Ahead	U	N/A	N/A	G		1	33	-	662	2012	2012	760	87.1
9/2	Clarence Place (entry) Right	U	N/A	N/A	H		1	57	-	780	2195	2195	1415	55.1

Full Input Data And Results

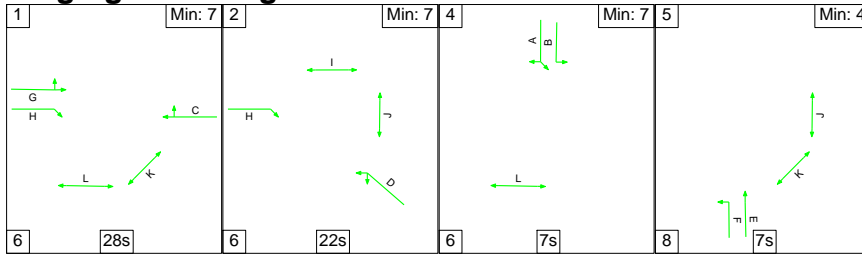
Link Num	Entering (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per Veh (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)				
10/1		Clarence Place (exit)	U	N/A	N/A	-	-	-	-	900	Inf	Inf	Inf	0.0			
1/1	23	23	-	-	-	0.2	0.1	-	0.3	48.0	0.5	0.1	0.6				
1/2	71	71	-	-	-	0.8	0.3	-	1.1	55.3	1.7	0.3	2.0				
2/1	46	46	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0				
3/1	303	303	7	0	0	1.8	0.3	0.0	2.2	25.6	5.6	0.3	5.9				
4/1	662	662	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0				
5/1	360	360	-	-	-	3.4	2.7	-	6.1	61.5	8.6	2.7	11.3				
6/1	795	795	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0				
7/1	206	206	-	-	-	2.2	2.6	-	4.8	83.8	5.0	2.6	7.6				
7/2	16	16	-	-	-	0.2	0.0	-	0.2	42.3	0.4	0.0	0.4				
8/1	18	18	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0				
9/1	662	662	-	-	-	4.8	3.2	-	7.9	43.2	15.3	3.2	18.4				
9/2	780	780	-	-	-	1.9	0.6	-	2.5	11.7	10.6	0.6	11.2				
10/1	900	900	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0				
PRC for Signalled Links (%):			3.3	Total Delay for Signalled Links (pcuHr):			25.15	PRC Over All Links (%):			3.3	Total Delay Over All Links (pcuHr):			25.15	Cycle Time (s):	90

**Scenario 7: '2017 with dev Am'**

Staging Plan 1: 'Staging Plan No. 2'

Flow Group 7: '2017 with dev AM 0830-0930'

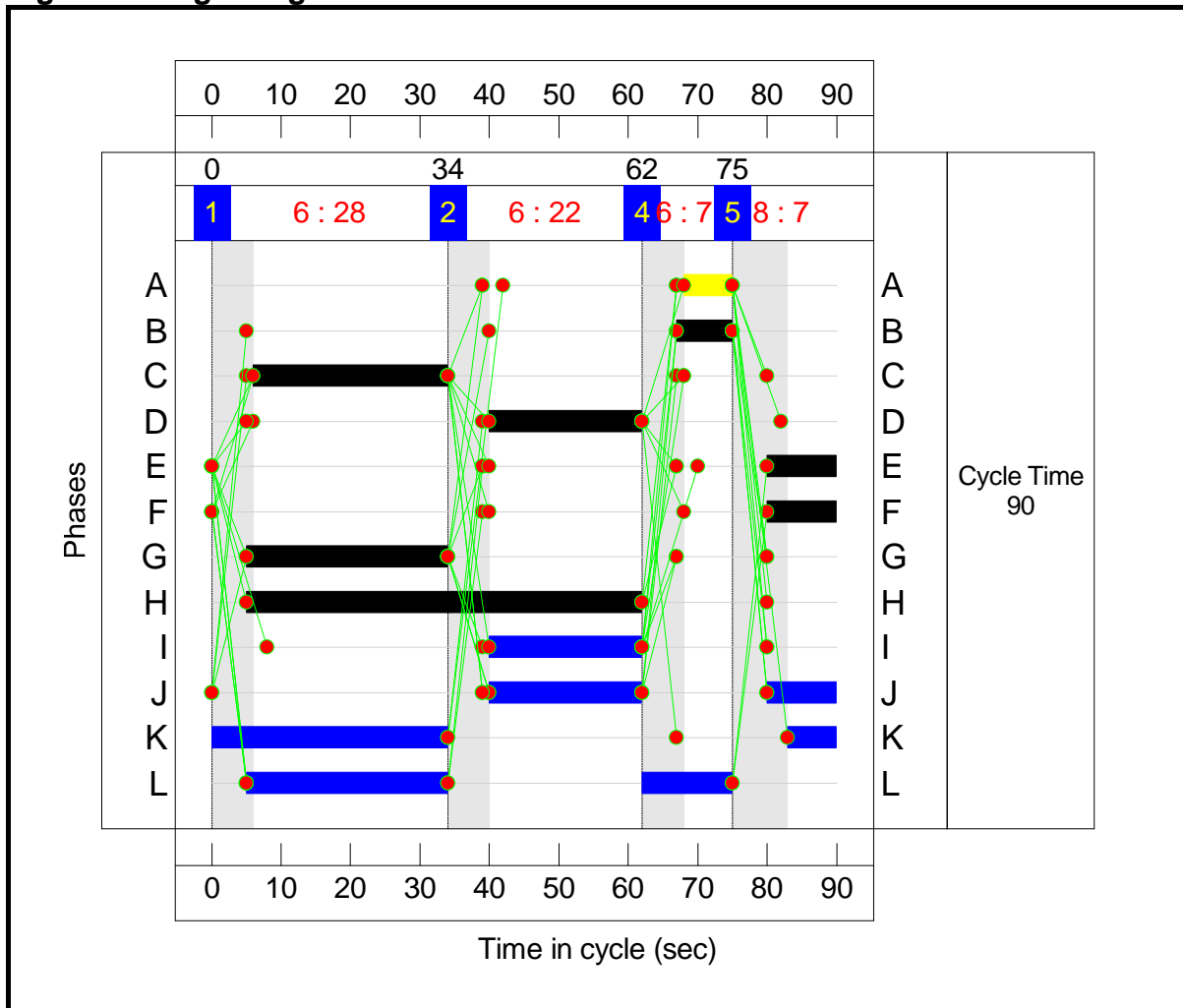
**Staging Plan Diagram**



**Stage Timings**

Stage	1	2	4	5
Duration	28	22	7	7
Change Point	0	34	62	75

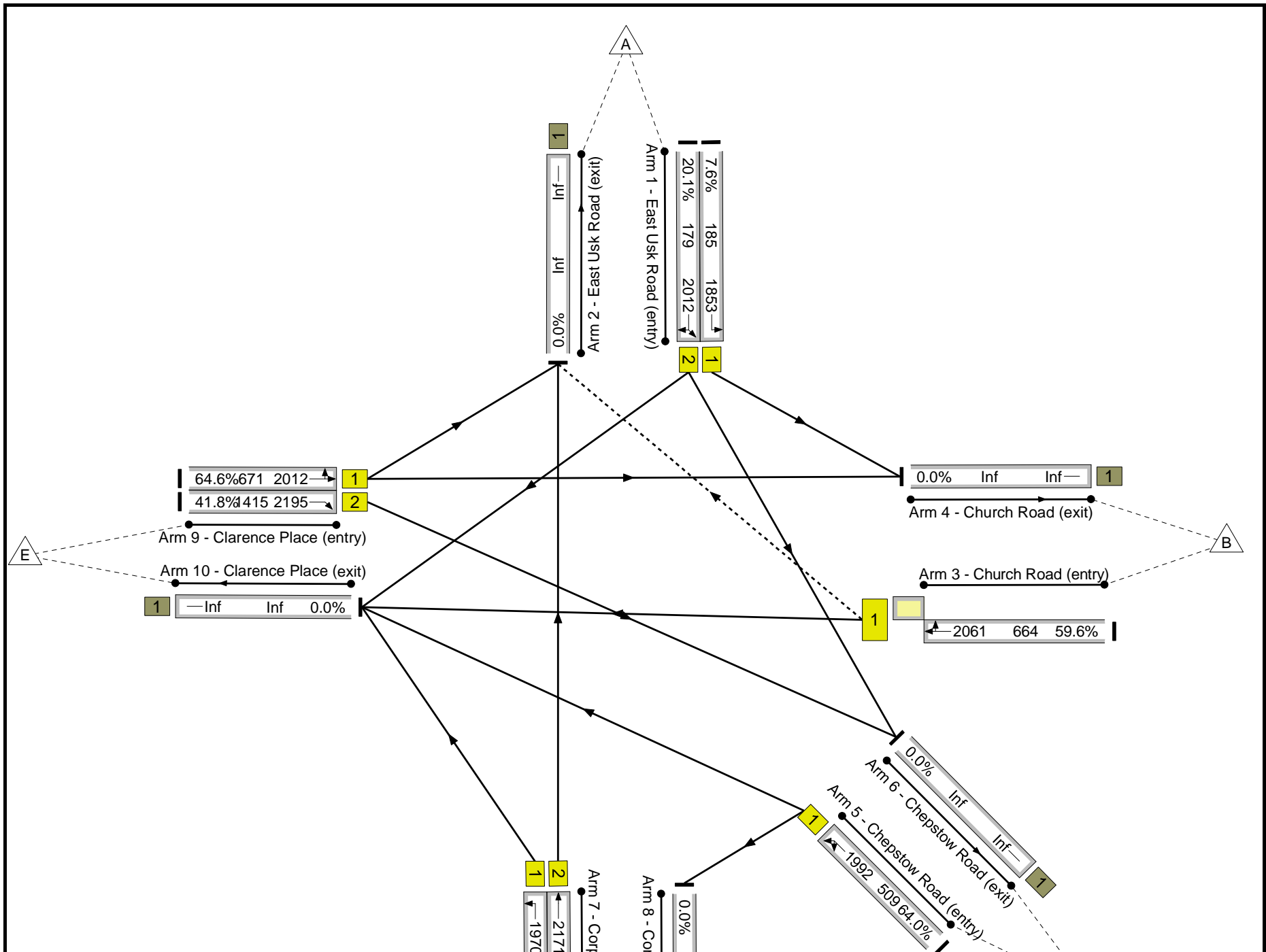
**Signal Timings Diagram**



Full Input Data And Results

## **Junction Layout Diagram**

Full Input Data And Results



Full Input Data And Results

Full Input Data And Results

**Link Results**

Link Num	Link Desc	Link Type	Stage Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Max Sat Flow (pcu/Hr)	Ave Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
1/1	East Usk Road (entry) Left	U	N/A	N/A	B		1	8	-	14	1853	1853	185	7.6
1/2	East Usk Road (entry) Ahead Right	U	N/A	N/A	A		1	7	-	36	2012	2012	179	20.1
2/1	East Usk Road (exit)	U	N/A	N/A	-		-	-	-	37	Inf	Inf	Inf	0.0
3/1	Church Road (entry) Right Ahead	O	N/A	N/A	C		1	28	-	396	2061	2061	664	59.6
4/1	Church Road (exit)	U	N/A	N/A	-		-	-	-	421	Inf	Inf	Inf	0.0
5/1	Chepstow Road (entry) U-Turn Ahead	U	N/A	N/A	D		1	22	-	326	1992	1992	509	64.0
6/1	Chepstow Road (exit)	U	N/A	N/A	-		-	-	-	596	Inf	Inf	Inf	0.0
7/1	Corporation Road (entry) Left	U	N/A	N/A	F		1	10	-	146	1970	1970	241	60.6
7/2	Corporation Road (entry) Ahead	U	N/A	N/A	E		1	10	-	5	2171	2171	265	1.9
8/1	Corporation Road (exit)	U	N/A	N/A	-		-	-	-	13	Inf	Inf	Inf	0.0
9/1	Clarence Place (entry) Left Ahead	U	N/A	N/A	G		1	29	-	433	2012	2012	671	64.6
9/2	Clarence Place (entry) Right	U	N/A	N/A	H		1	57	-	591	2195	2195	1415	41.8

Full Input Data And Results

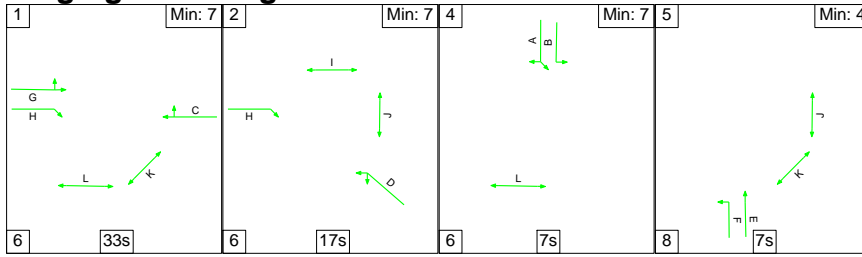
Link Num	Entering (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per Veh (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)	
10/1	Clarence Place (exit)	U	N/A	N/A	-	-	-	-	-	880	Inf	Inf	Inf	0.0
1/1	14	14	-	-	-	0.1	0.0	-	0.2	47.4	0.3	0.0	0.4	
1/2	36	36	-	-	-	0.4	0.1	-	0.5	50.7	0.8	0.1	1.0	
2/1	37	37	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	
3/1	396	396	6	0	0	2.8	0.7	0.0	3.6	32.4	8.3	0.7	9.0	
4/1	421	421	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	
5/1	326	326	-	-	-	2.7	0.9	-	3.6	39.6	7.2	0.9	8.1	
6/1	596	596	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	
7/1	146	146	-	-	-	1.5	0.8	-	2.3	56.2	3.4	0.8	4.2	
7/2	5	5	-	-	-	0.0	0.0	-	0.1	42.0	0.1	0.0	0.1	
8/1	13	13	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	
9/1	433	433	-	-	-	3.1	0.9	-	4.0	33.0	9.1	0.9	10.0	
9/2	591	591	-	-	-	1.3	0.4	-	1.6	10.0	7.1	0.4	7.4	
10/1	880	880	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	
PRC for Signalled Links (%):			39.4		Total Delay for Signalled Links (pcuHr):			15.78						
PRC Over All Links (%):			39.4		Total Delay Over All Links(pcuHr):			15.78		Cycle Time (s): 90				

**Scenario 8: '2017 with dev Pm'**

Staging Plan 1: 'Staging Plan No. 2'

Flow Group 8: '2017 with dev PM 1700-1800'

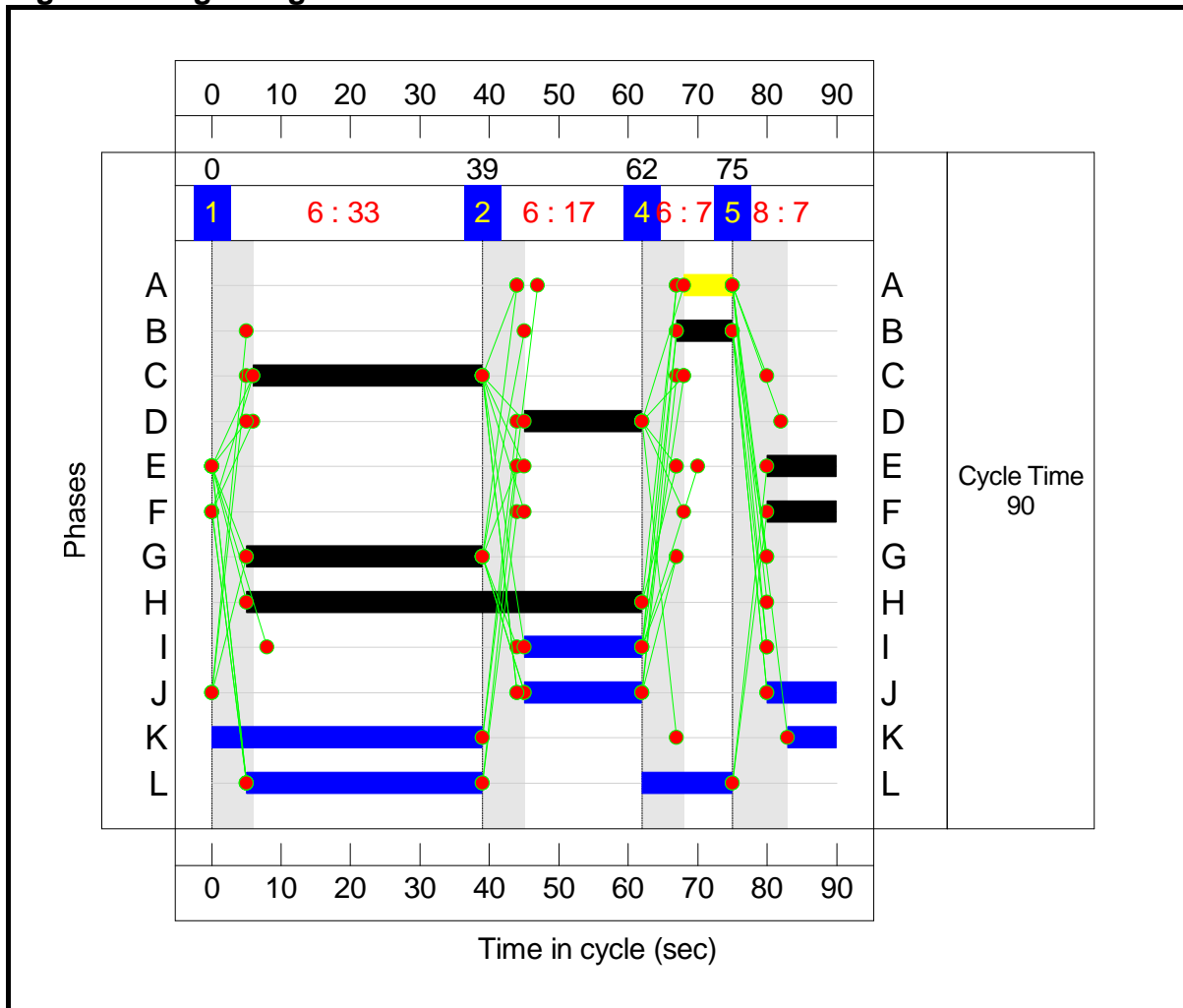
**Staging Plan Diagram**



**Stage Timings**

Stage	1	2	4	5
Duration	33	17	7	7
Change Point	0	39	62	75

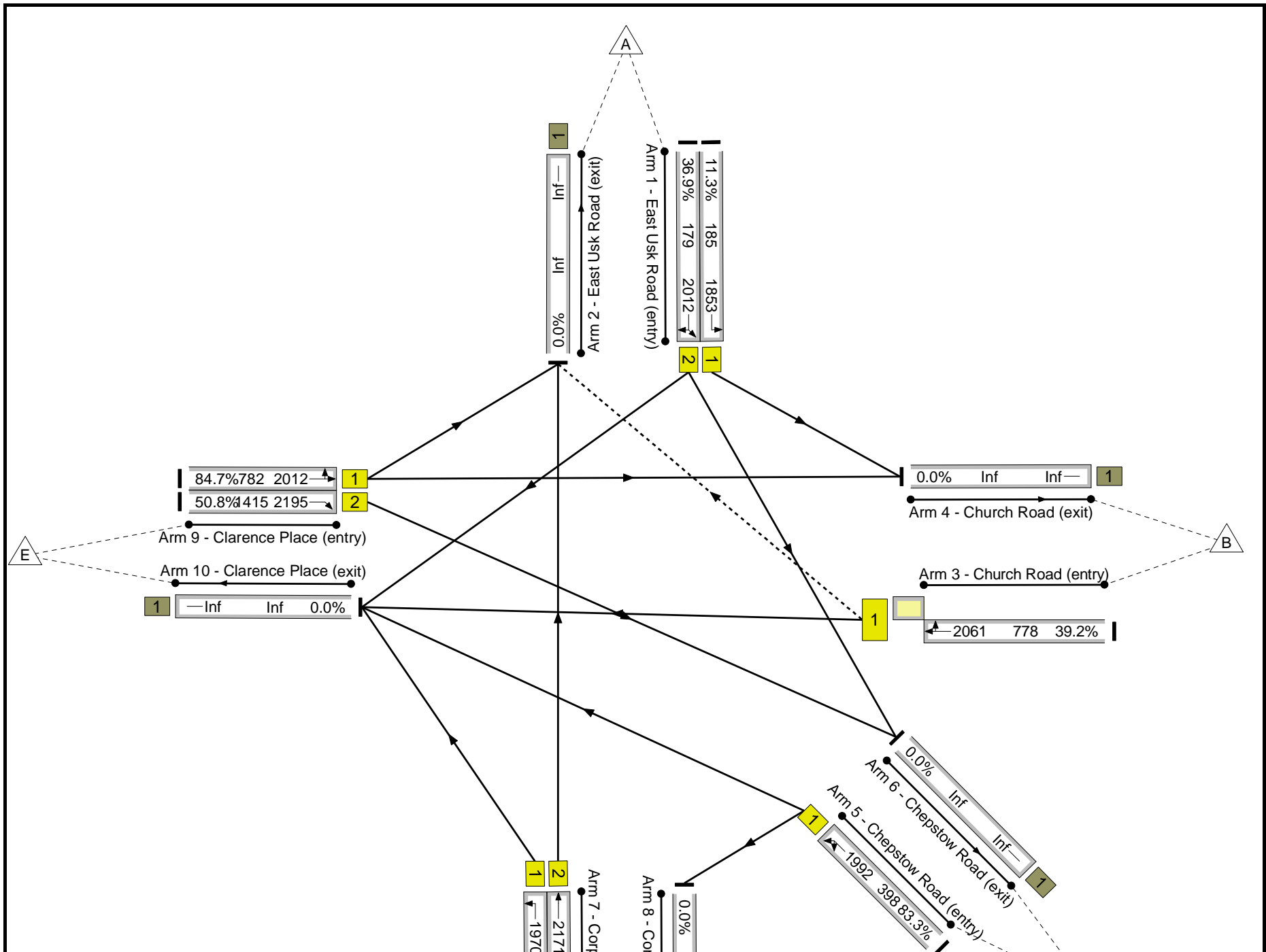
**Signal Timings Diagram**



Full Input Data And Results

## **Junction Layout Diagram**

# Full Input Data And Results



Full Input Data And Results

Full Input Data And Results

**Link Results**

Link Num	Link Desc	Link Type	Stage Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Max Sat Flow (pcu/Hr)	Ave Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
1/1	East Usk Road (entry) Left	U	N/A	N/A	B		1	8	-	21	1853	1853	185	11.3
1/2	East Usk Road (entry) Ahead Right	U	N/A	N/A	A		1	7	-	66	2012	2012	179	36.9
2/1	East Usk Road (exit)	U	N/A	N/A	-		-	-	-	42	Inf	Inf	Inf	0.0
3/1	Church Road (entry) Right Ahead	O	N/A	N/A	C		1	33	-	305	2061	2061	778	39.2
4/1	Church Road (exit)	U	N/A	N/A	-		-	-	-	663	Inf	Inf	Inf	0.0
5/1	Chepstow Road (entry) U-Turn Ahead	U	N/A	N/A	D		1	17	-	332	1992	1992	398	83.3
6/1	Chepstow Road (exit)	U	N/A	N/A	-		-	-	-	733	Inf	Inf	Inf	0.0
7/1	Corporation Road (entry) Left	U	N/A	N/A	F		1	10	-	190	1970	1970	241	78.9
7/2	Corporation Road (entry) Ahead	U	N/A	N/A	E		1	10	-	15	2171	2171	265	5.7
8/1	Corporation Road (exit)	U	N/A	N/A	-		-	-	-	17	Inf	Inf	Inf	0.0
9/1	Clarence Place (entry) Left Ahead	U	N/A	N/A	G		1	34	-	663	2012	2012	782	84.7
9/2	Clarence Place (entry) Right	U	N/A	N/A	H		1	57	-	719	2195	2195	1415	50.8

Full Input Data And Results

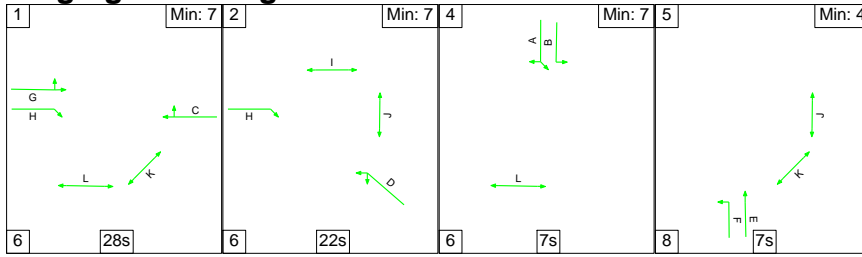
Link Num	Entering (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per Veh (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)	
10/1	Clarence Place (exit)	U	N/A	N/A	-	-	-	-	-	856	Inf	Inf	Inf	0.0
1/1	21	21	-	-	-	0.2	0.1	-	0.3	47.8	0.5	0.1	0.5	
1/2	66	66	-	-	-	0.7	0.3	-	1.0	54.5	1.5	0.3	1.8	
2/1	42	42	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	
3/1	305	305	6	0	0	1.7	0.3	0.0	2.1	24.6	5.5	0.3	5.8	
4/1	663	663	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	
5/1	332	332	-	-	-	3.2	2.3	-	5.5	59.9	7.9	2.3	10.3	
6/1	733	733	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	
7/1	190	190	-	-	-	2.0	1.8	-	3.8	71.5	4.6	1.8	6.3	
7/2	15	15	-	-	-	0.1	0.0	-	0.2	42.3	0.3	0.0	0.4	
8/1	17	17	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	
9/1	663	663	-	-	-	4.6	2.7	-	7.3	39.5	15.1	2.7	17.8	
9/2	719	719	-	-	-	1.7	0.5	-	2.2	11.0	9.4	0.5	9.9	
10/1	856	856	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	
PRC for Signalled Links (%):			6.2		Total Delay for Signalled Links (pcuHr):			22.32						
PRC Over All Links (%):			6.2		Total Delay Over All Links(pcuHr):			22.32		Cycle Time (s): 90				

**Scenario 9: '2022 with dev Am'**

Staging Plan 1: 'Staging Plan No. 2'

Flow Group 9: '2022 with dev AM 0830-0930'

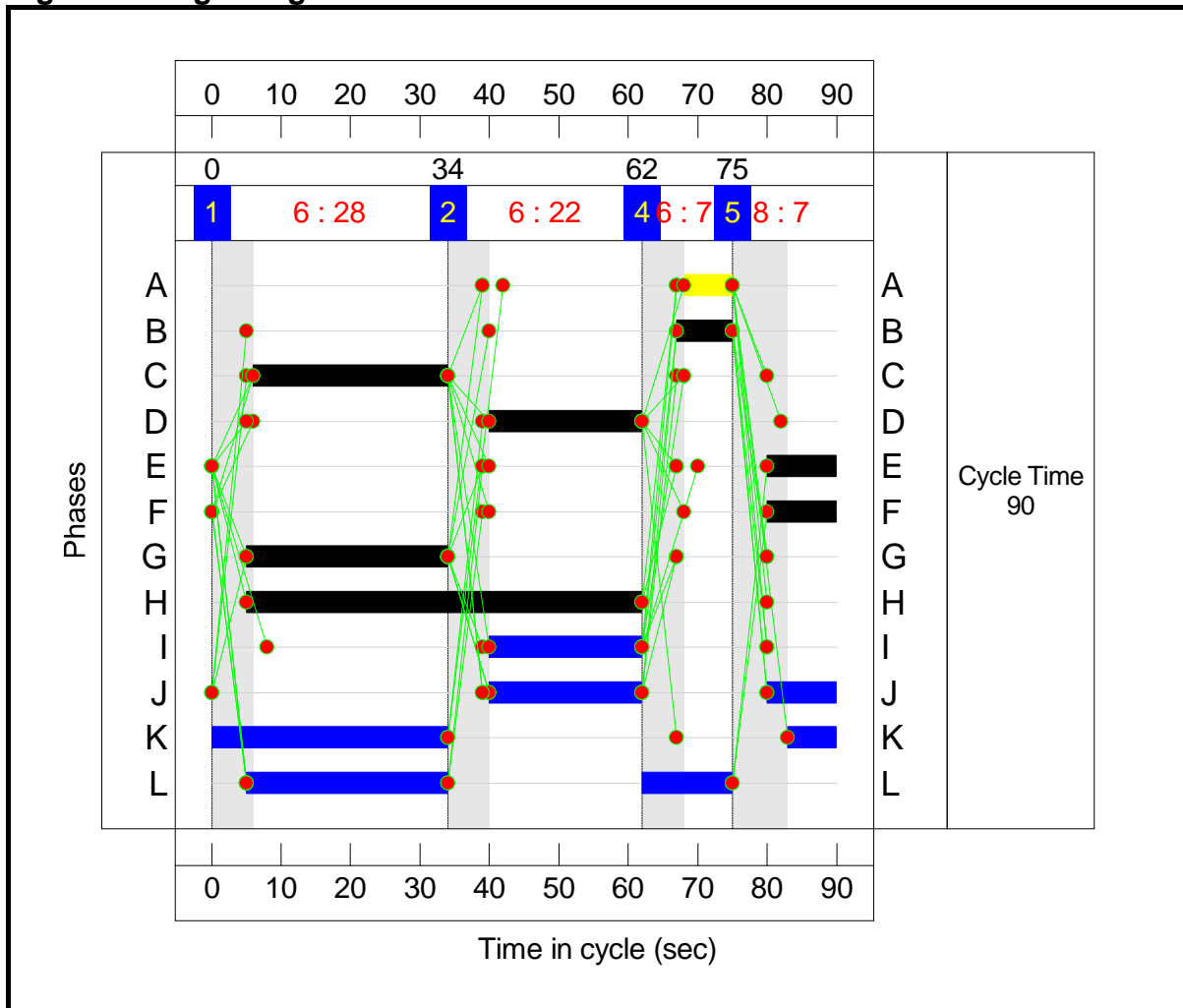
**Staging Plan Diagram**



**Stage Timings**

Stage	1	2	4	5
Duration	28	22	7	7
Change Point	0	34	62	75

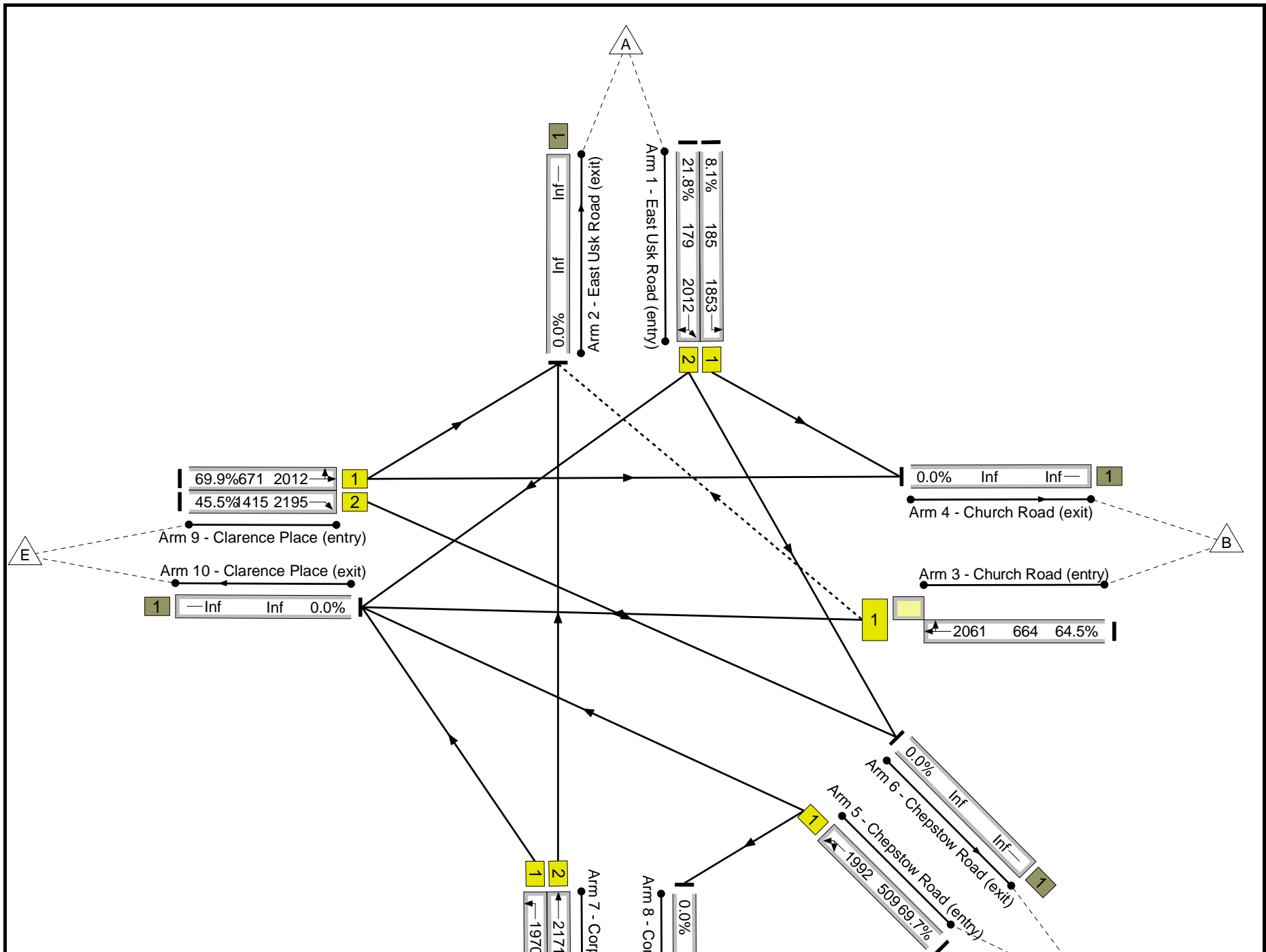
**Signal Timings Diagram**



Full Input Data And Results

**Junction Layout Diagram**

Full Input Data And Results



Full Input Data And Results

Full Input Data And Results

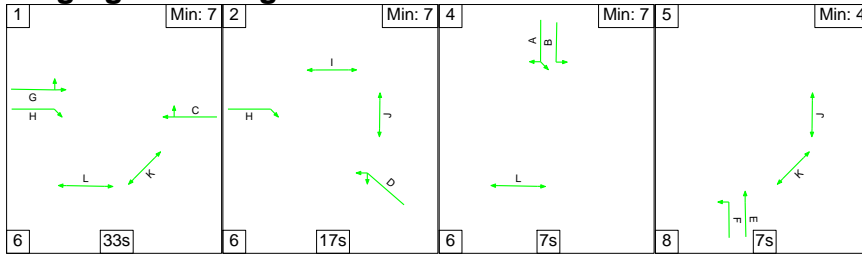
**Link Results**

Link Num	Link Desc	Link Type	Stage Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Max Sat Flow (pcu/Hr)	Ave Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
1/1	East Usk Road (entry) Left	U	N/A	N/A	B		1	8	-	15	1853	1853	185	8.1
1/2	East Usk Road (entry) Ahead Right	U	N/A	N/A	A		1	7	-	39	2012	2012	179	21.8
2/1	East Usk Road (exit)	U	N/A	N/A	-		-	-	-	51	Inf	Inf	Inf	0.0
3/1	Church Road (entry) Right Ahead	O	N/A	N/A	C		1	28	-	428	2061	2061	664	64.5
4/1	Church Road (exit)	U	N/A	N/A	-		-	-	-	456	Inf	Inf	Inf	0.0
5/1	Chepstow Road (entry) U-Turn Ahead	U	N/A	N/A	D		1	22	-	355	1992	1992	509	69.7
6/1	Chepstow Road (exit)	U	N/A	N/A	-		-	-	-	650	Inf	Inf	Inf	0.0
7/1	Corporation Road (entry) Left	U	N/A	N/A	F		1	10	-	159	1970	1970	241	66.0
7/2	Corporation Road (entry) Ahead	U	N/A	N/A	E		1	10	-	16	2171	2171	265	6.0
8/1	Corporation Road (exit)	U	N/A	N/A	-		-	-	-	14	Inf	Inf	Inf	0.0
9/1	Clarence Place (entry) Left Ahead	U	N/A	N/A	G		1	29	-	469	2012	2012	671	69.9
9/2	Clarence Place (entry) Right	U	N/A	N/A	H		1	57	-	644	2195	2195	1415	45.5

Full Input Data And Results

Link Num	Entering (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 Veh (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)	
10/1	Clarence Place (exit)	U	N/A	N/A	-	-	-	-	-	954	Inf	Inf	Inf	0.0
1/1	15	15	-	-	-	0.2	0.0	-	0.2	47.5	0.3	0.0	0.4	
1/2	39	39	-	-	-	0.4	0.1	-	0.6	51.0	0.9	0.1	1.0	
2/1	51	51	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	
3/1	428	428	7	0	0	3.1	0.9	0.0	4.0	33.8	9.0	0.9	9.9	
4/1	456	456	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	
5/1	355	355	-	-	-	3.0	1.1	-	4.1	41.9	8.0	1.1	9.1	
6/1	650	650	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	
7/1	159	159	-	-	-	1.7	1.0	-	2.6	59.2	3.8	1.0	4.7	
7/2	16	16	-	-	-	0.2	0.0	-	0.2	42.3	0.4	0.0	0.4	
8/1	14	14	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	
9/1	469	469	-	-	-	3.4	1.1	-	4.5	34.9	10.2	1.1	11.3	
9/2	644	644	-	-	-	1.4	0.4	-	1.9	10.4	8.1	0.4	8.5	
10/1	954	954	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	
PRC for Signalled Links (%):			28.7		Total Delay for Signalled Links (pcuHr):			18.11						
PRC Over All Links (%):			28.7		Total Delay Over All Links(pcuHr):			18.11		Cycle Time (s): 90				

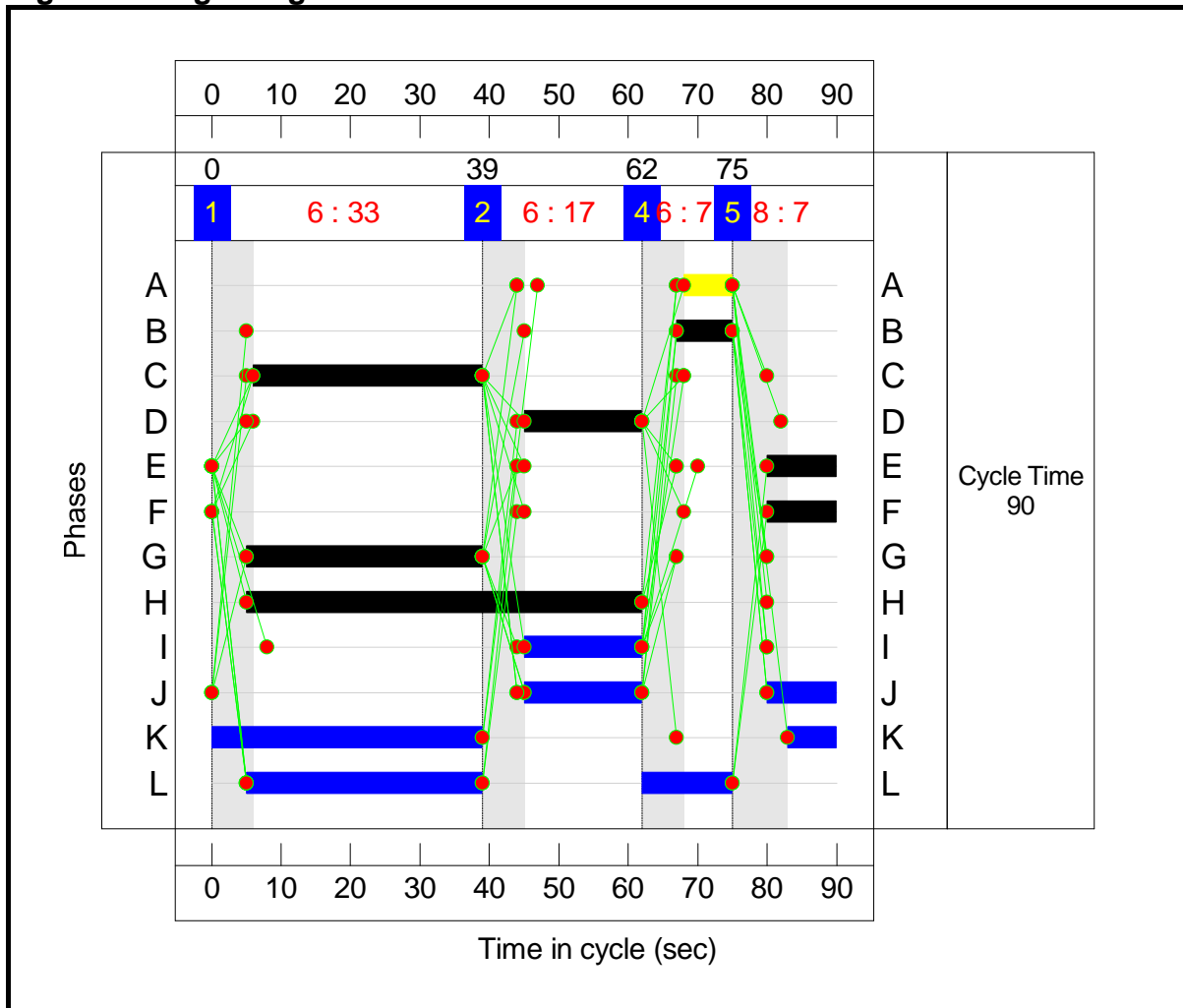
**Scenario 10: '2022 with dev Pm'**  
 Staging Plan 1: 'Staging Plan No. 2'  
 Flow Group 10: '2022 with dev PM 1700-1800'  
**Staging Plan Diagram**



**Stage Timings**

Stage	1	2	4	5
Duration	33	17	7	7
Change Point	0	39	62	75

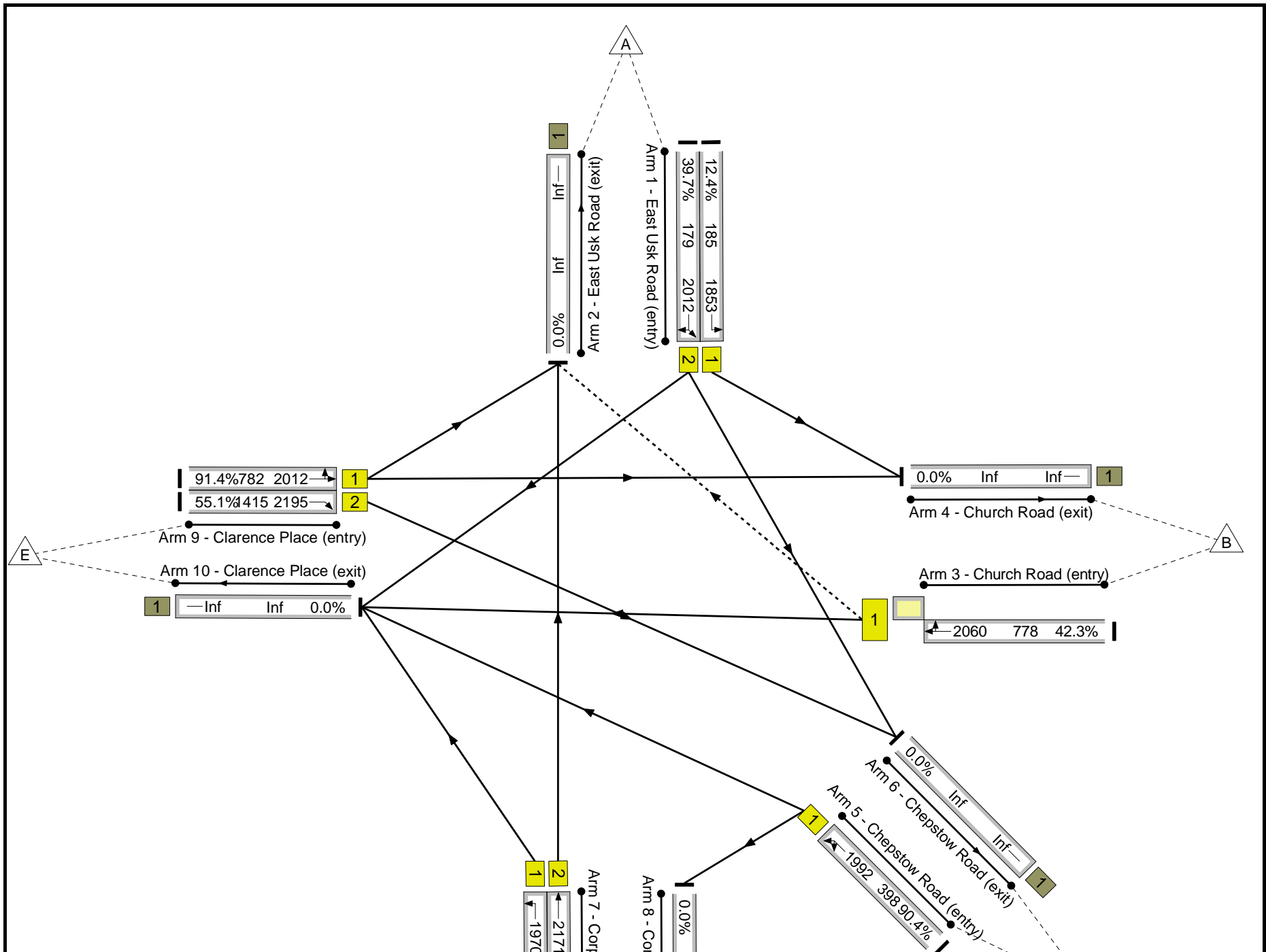
**Signal Timings Diagram**



Full Input Data And Results

**Junction Layout Diagram**

Full Input Data And Results



Full Input Data And Results

Full Input Data And Results

**Link Results**

Link Num	Link Desc	Link Type	Stage Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Max Sat Flow (pcu/Hr)	Ave Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
1/1	East Usk Road (entry) Left	U	N/A	N/A	B		1	8	-	23	1853	1853	185	12.4
1/2	East Usk Road (entry) Ahead Right	U	N/A	N/A	A		1	7	-	71	2012	2012	179	39.7
2/1	East Usk Road (exit)	U	N/A	N/A	-		-	-	-	46	Inf	Inf	Inf	0.0
3/1	Church Road (entry) Right Ahead	O	N/A	N/A	C		1	33	-	329	2061	2060	778	42.3
4/1	Church Road (exit)	U	N/A	N/A	-		-	-	-	715	Inf	Inf	Inf	0.0
5/1	Chepstow Road (entry) U-Turn Ahead	U	N/A	N/A	D		1	17	-	360	1992	1992	398	90.4
6/1	Chepstow Road (exit)	U	N/A	N/A	-		-	-	-	795	Inf	Inf	Inf	0.0
7/1	Corporation Road (entry) Left	U	N/A	N/A	F		1	10	-	206	1970	1970	241	85.6
7/2	Corporation Road (entry) Ahead	U	N/A	N/A	E		1	10	-	16	2171	2171	265	6.0
8/1	Corporation Road (exit)	U	N/A	N/A	-		-	-	-	18	Inf	Inf	Inf	0.0
9/1	Clarence Place (entry) Left Ahead	U	N/A	N/A	G		1	34	-	715	2012	2012	782	91.4
9/2	Clarence Place (entry) Right	U	N/A	N/A	H		1	57	-	780	2195	2195	1415	55.1

Full Input Data And Results

Link Num	Entering (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 Veh (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)	
10/1	Clarence Place (exit)	U	N/A	N/A	-	-	-	-	-	926	Inf	Inf	Inf	0.0
1/1	23	23	-	-	-	0.2	0.1	-	0.3	48.0	0.5	0.1	0.6	
1/2	71	71	-	-	-	0.8	0.3	-	1.1	55.3	1.7	0.3	2.0	
2/1	46	46	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	
3/1	329	329	7	0	0	1.9	0.4	0.0	2.3	25.2	6.0	0.4	6.4	
4/1	715	715	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	
5/1	360	360	-	-	-	3.5	3.9	-	7.4	74.1	8.7	3.9	12.6	
6/1	795	795	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	
7/1	206	206	-	-	-	2.2	2.6	-	4.8	83.8	5.0	2.6	7.6	
7/2	16	16	-	-	-	0.2	0.0	-	0.2	42.3	0.4	0.0	0.4	
8/1	18	18	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	
9/1	715	715	-	-	-	5.2	4.7	-	9.8	49.5	16.9	4.7	21.5	
9/2	780	780	-	-	-	1.9	0.6	-	2.5	11.7	10.6	0.6	11.2	
10/1	926	926	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	
PRC for Signalled Links (%):			-1.5		Total Delay for Signalled Links (pcuHr):			28.46						
PRC Over All Links (%):			-1.5		Total Delay Over All Links(pcuHr):			28.46		Cycle Time (s): 90				