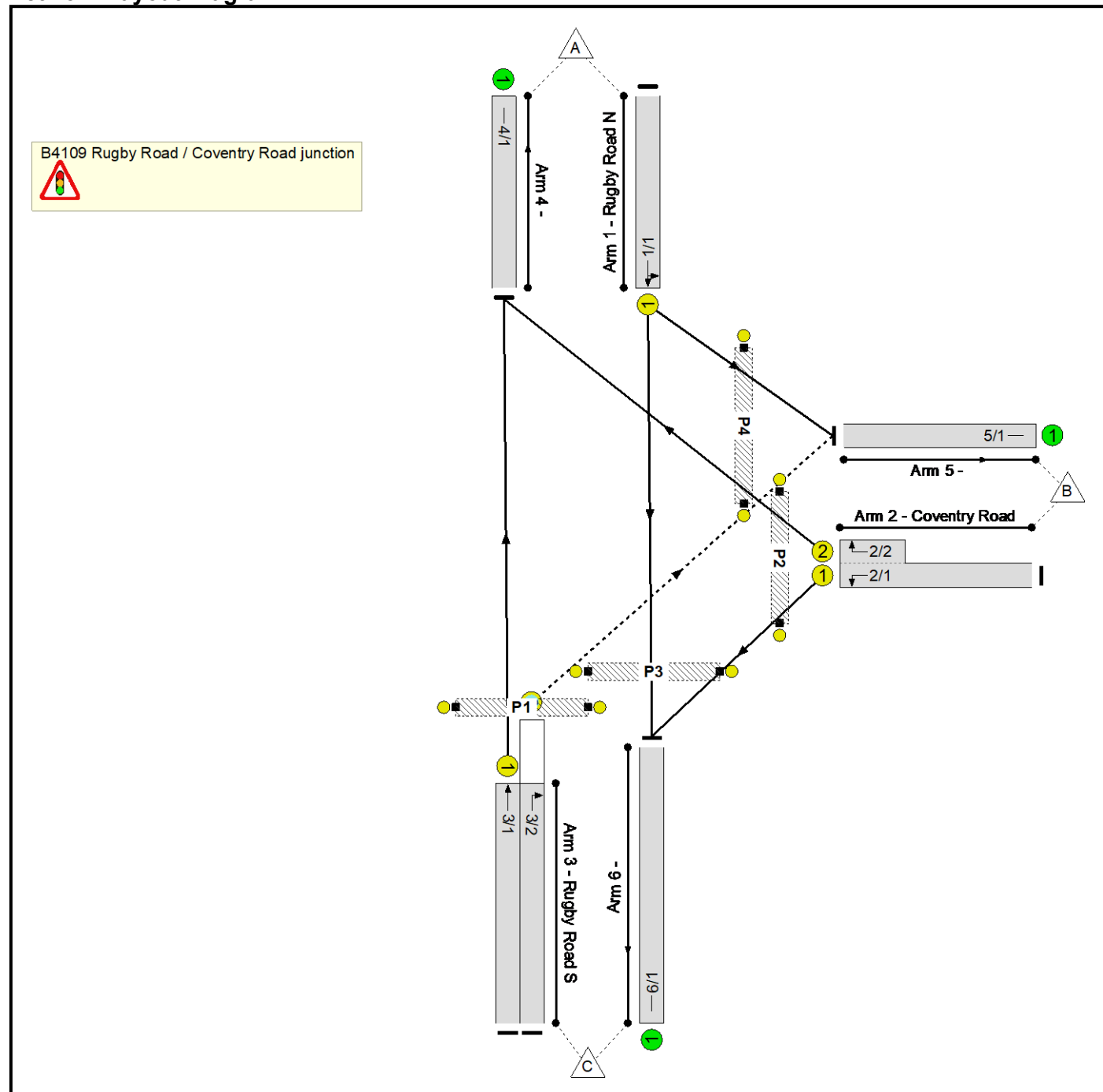


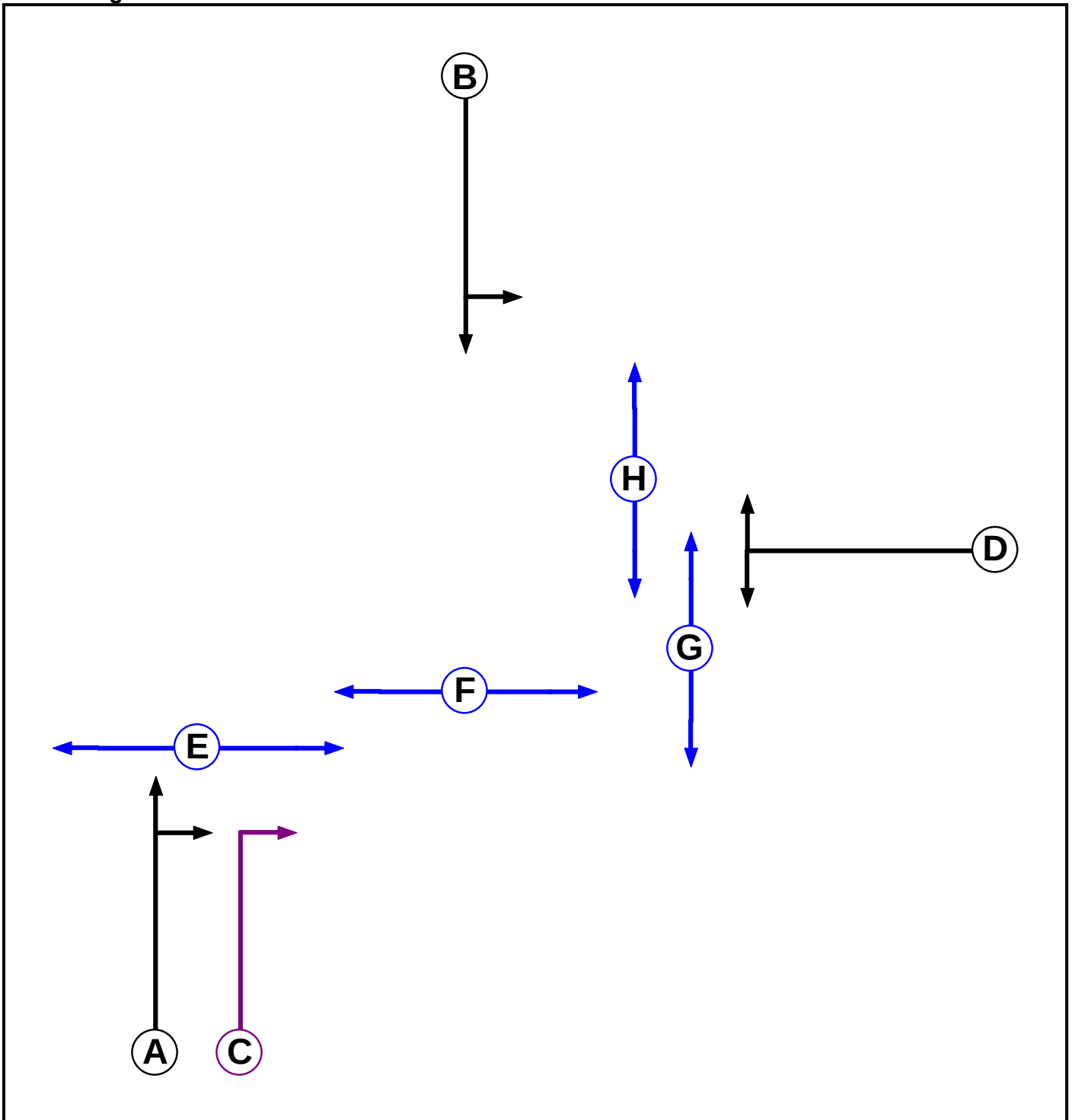
Full Input Data And Results**User and Project Details**

Project:	Land South of Burbage
Title:	Proposed signalisation of the B4109 Rugby Road / Coventry Road junction
Location:	Burbage, Leicestershire
Client:	Redrow Homes
Model Purpose:	Junction capacity testing
Model Assumptions:	LinSig model developed using Rodgers Leask drawing 21390-RLL-23-XX-DR-D-5011P01
Additional detail:	
File name:	Rugby Rd_Coventry Rd_mitigation scheme.lsg3x
Author:	T&T
Company:	Rodgers Leask
Address:	St James House, St Mary's Wharf, Mansfield Road, Derby, DE1 3TQ

Network Layout Diagram



Phase Diagram



Full Input Data And Results

Phase Input Data

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

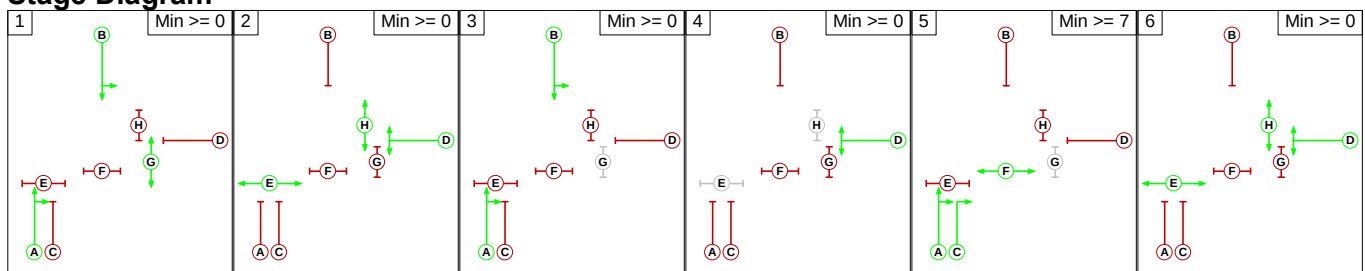
Phase Intergreens Matrix

Terminating Phase	Starting Phase								
		A	B	C	D	E	F	G	H
	A	-	-	-	8	6	-	-	8
	B	-	-	3	7	-	9	-	7
	C	-	7	-	7	6	-	-	8
	D	5	5	5	-	-	7	5	-
	E	9	-	9	-	-	-	-	-
	F	-	7	-	7	-	-	-	-
	G	-	-	-	8	-	-	-	-
	H	9	9	9	-	-	-	-	-

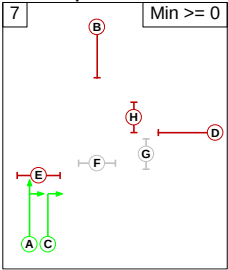
Phases in Stage

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

Stage Diagram



Full Input Data And Results



Phase Delays

Term. Stage	Start Stage	Phase	Type	Value	Cont value
1	2	A	Losing	1	1
1	2	B	Losing	1	1
1	4	A	Losing	1	1
1	4	B	Losing	1	1
1	6	A	Losing	1	1
1	6	B	Losing	1	1
2	1	D	Losing	4	4
2	3	D	Losing	4	4
2	5	D	Losing	4	4
3	4	A	Losing	1	1
3	4	B	Losing	1	1
3	6	A	Losing	1	1
3	6	B	Losing	1	1
6	1	D	Losing	4	4
6	3	D	Losing	4	4
6	5	D	Losing	4	4

Prohibited Stage Change

From Stage	To Stage						
	1	2	3	4	5	6	7
	1		9	0	9	9	3
	2	9		9	0	11	0
	3	0	8		9	9	3
	4	5	0	5		7	0
	5	7	8	7	8		8
	6	9	0	9	0	11	
	7	7	8	7	8	0	

Full Input Data And Results

Give-Way Lane Input Data

Junction: B4109 Rugby Road / Coventry Road junction											
Lane	Movement	Max Flow when Giving Way (PCU/Hr)	Min Flow when Giving Way (PCU/Hr)	Opposing Lane	Opp. Lane Coeff.	Opp. Mvmnts.	Right Turn Storage (PCU)	Non-Blocking Storage (PCU)	RTF	Right Turn Move up (s)	Max Turns in Intergreen (PCU)
3/2 (Rugby Road S)	5/1 (Right)	1439	0	1/1	1.09	All	4.00	-	0.50	4	4.00

Lane Input Data

Junction: B4109 Rugby Road / Coventry Road junction												
Lane	Lane Type	Phases	Start Disp.	End Disp.	Physical Length (PCU)	Sat Flow Type	Def User Saturation Flow (PCU/Hr)	Lane Width (m)	Gradient	Nearside Lane	Turns	Turning Radius (m)
1/1 (Rugby Road N)	U	B	2	3	60.0	Geom	-	3.00	0.00	Y	Arm 5 Left	13.50
2/1 (Coventry Road)	U	D	2	3	60.0	Geom	-	3.20	0.00	Y	Arm 6 Ahead	Inf
2/2 (Coventry Road)	U	D	2	3	60.0	Geom	-	3.20	0.00	Y	Arm 6 Left	15.00
2/2 (Coventry Road)	U	D	2	3	4.1	Geom	-	3.20	0.00	Y	Arm 4 Right	12.00
3/1 (Rugby Road S)	U	A	2	3	12.2	Geom	-	3.65	0.00	Y	Arm 4 Ahead	Inf
3/2 (Rugby Road S)	O	A C	2	3	12.2	Geom	-	3.65	0.00	Y	Arm 5 Right	7.00
4/1	U		2	3	60.0	Inf	-	-	-	-	-	-
5/1	U		2	3	60.0	Inf	-	-	-	-	-	-
6/1	U		2	3	60.0	Inf	-	-	-	-	-	-

Traffic Flow Groups

Flow Group	Start Time	End Time	Duration	Formula
1: '2026 + Land South of Burbage (442dw) AM'	08:00	09:00	01:00	
2: '2026 + Land South of Burbage (442dw) PM'	17:00	18:00	01:00	

Scenario 1: '2026 + Dev AM (no ped crossing calls)' (FG1: '2026 + Land South of Burbage (442dw) AM', Plan 1: 'AM Plan (single) - no crossings called')

Traffic Flows, Desired

Desired Flow :

Origin	Destination				
		A	B	C	Tot.
	A	0	102	904	1006
	B	80	0	398	478
	C	672	157	0	829
	Tot.	752	259	1302	2313

Full Input Data And Results

Traffic Lane Flows

Lane	Scenario 1: 2026 + Dev AM (no ped crossing calls)
Junction: B4109 Rugby Road / Coventry Road junction	
1/1	1006
2/1 (with short)	478(In) 398(Out)
2/2 (short)	80
3/1	672
3/2	157
4/1	752
5/1	259
6/1	1302

Lane Saturation Flows

Junction: B4109 Rugby Road / Coventry Road junction								
Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
1/1 (Rugby Road N)	3.00	0.00	Y	Arm 5 Left Arm 6 Ahead	13.50 Inf	10.1 % 89.9 %	1894	1894
2/1 (Coventry Road)	3.20	0.00	Y	Arm 6 Left	15.00	100.0 %	1759	1759
2/2 (Coventry Road)	3.20	0.00	Y	Arm 4 Right	12.00	100.0 %	1720	1720
3/1 (Rugby Road S)	3.65	0.00	Y	Arm 4 Ahead	Inf	100.0 %	1980	1980
3/2 (Rugby Road S)	3.65	0.00	Y	Arm 5 Right	7.00	100.0 %	1631	1631
4/1	Infinite Saturation Flow						Inf	Inf
5/1	Infinite Saturation Flow						Inf	Inf
6/1	Infinite Saturation Flow						Inf	Inf

Scenario 2: '2026 + Dev AM' (FG1: '2026 + Land South of Burbage (442dw) AM', Plan 2: 'AM Plan (triple) - crossings called')

Traffic Flows, Desired

Desired Flow :

	Destination				
		A	B	C	Tot.
Origin	A	0	102	904	1006
	B	80	0	398	478
	C	672	157	0	829
	Tot.	752	259	1302	2313

Traffic Lane Flows

Lane	Scenario 2: 2026 + Dev AM
Junction: B4109 Rugby Road / Coventry Road junction	
1/1	1006
2/1 (with short)	478(In) 398(Out)
2/2 (short)	80
3/1	672
3/2	157
4/1	752
5/1	259
6/1	1302

Lane Saturation Flows

Junction: B4109 Rugby Road / Coventry Road junction								
Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
1/1 (Rugby Road N)	3.00	0.00	Y	Arm 5 Left Arm 6 Ahead	13.50 Inf	10.1 % 89.9 %	1894	1894
2/1 (Coventry Road)	3.20	0.00	Y	Arm 6 Left	15.00	100.0 %	1759	1759
2/2 (Coventry Road)	3.20	0.00	Y	Arm 4 Right	12.00	100.0 %	1720	1720
3/1 (Rugby Road S)	3.65	0.00	Y	Arm 4 Ahead	Inf	100.0 %	1980	1980
3/2 (Rugby Road S)	3.65	0.00	Y	Arm 5 Right	7.00	100.0 %	1631	1631
4/1	Infinite Saturation Flow						Inf	Inf
5/1	Infinite Saturation Flow						Inf	Inf
6/1	Infinite Saturation Flow						Inf	Inf

Scenario 3: '2026 + Dev PM (no ped crossing calls)' (FG2: '2026 + Land South of Burbage (442dw) PM', Plan 3: 'PM Plan (single) - no crossings called')

Traffic Flows, Desired

Desired Flow :

	Destination				
		A	B	C	Tot.
Origin	A	0	106	661	767
	B	90	0	201	291
	C	958	433	0	1391
	Tot.	1048	539	862	2449

Full Input Data And Results

Traffic Lane Flows

Lane	Scenario 3: 2026 + Dev PM (no ped crossing calls)
Junction: B4109 Rugby Road / Coventry Road junction	
1/1	767
2/1 (with short)	291(In) 201(Out)
2/2 (short)	90
3/1	958
3/2	433
4/1	1048
5/1	539
6/1	862

Lane Saturation Flows

Junction: B4109 Rugby Road / Coventry Road junction								
Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
1/1 (Rugby Road N)	3.00	0.00	Y	Arm 5 Left Arm 6 Ahead	13.50 Inf	13.8 % 86.2 %	1886	1886
2/1 (Coventry Road)	3.20	0.00	Y	Arm 6 Left	15.00	100.0 %	1759	1759
2/2 (Coventry Road)	3.20	0.00	Y	Arm 4 Right	12.00	100.0 %	1720	1720
3/1 (Rugby Road S)	3.65	0.00	Y	Arm 4 Ahead	Inf	100.0 %	1980	1980
3/2 (Rugby Road S)	3.65	0.00	Y	Arm 5 Right	7.00	100.0 %	1631	1631
4/1	Infinite Saturation Flow						Inf	Inf
5/1	Infinite Saturation Flow						Inf	Inf
6/1	Infinite Saturation Flow						Inf	Inf

Scenario 4: '2026 + Dev PM' (FG2: '2026 + Land South of Burbage (442dw) PM', Plan 4: 'PM Plan (double) - crossings called')

Traffic Flows, Desired

Desired Flow :

	Destination				
		A	B	C	Tot.
Origin	A	0	106	661	767
	B	90	0	201	291
	C	958	433	0	1391
	Tot.	1048	539	862	2449

Traffic Lane Flows

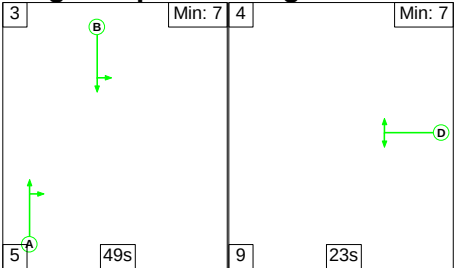
Lane	Scenario 4: 2026 + Dev PM
Junction: B4109 Rugby Road / Coventry Road junction	
1/1	767
2/1 (with short)	291(In) 201(Out)
2/2 (short)	90
3/1	958
3/2	433
4/1	1048
5/1	539
6/1	862

Lane Saturation Flows

Junction: B4109 Rugby Road / Coventry Road junction								
Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
1/1 (Rugby Road N)	3.00	0.00	Y	Arm 5 Left Arm 6 Ahead	13.50 Inf	13.8 % 86.2 %	1886	1886
2/1 (Coventry Road)	3.20	0.00	Y	Arm 6 Left	15.00	100.0 %	1759	1759
2/2 (Coventry Road)	3.20	0.00	Y	Arm 4 Right	12.00	100.0 %	1720	1720
3/1 (Rugby Road S)	3.65	0.00	Y	Arm 4 Ahead	Inf	100.0 %	1980	1980
3/2 (Rugby Road S)	3.65	0.00	Y	Arm 5 Right	7.00	100.0 %	1631	1631
4/1	Infinite Saturation Flow						Inf	Inf
5/1	Infinite Saturation Flow						Inf	Inf
6/1	Infinite Saturation Flow						Inf	Inf

Scenario 1: '2026 + Dev AM (no ped crossing calls)' (FG1: '2026 + Land South of Burbage (442dw) AM', Plan 1: 'AM Plan (single) - no crossings called')

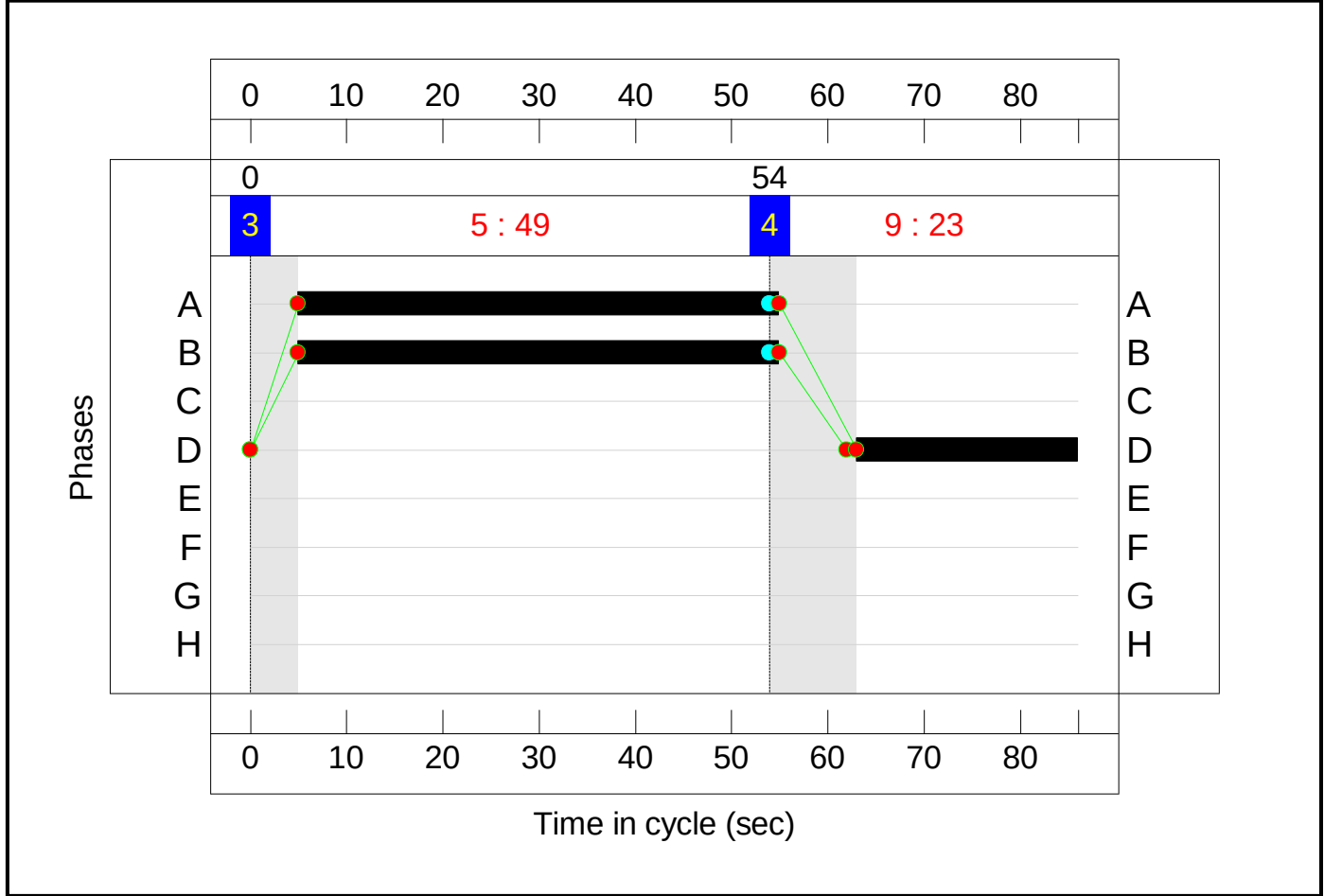
Stage Sequence Diagram



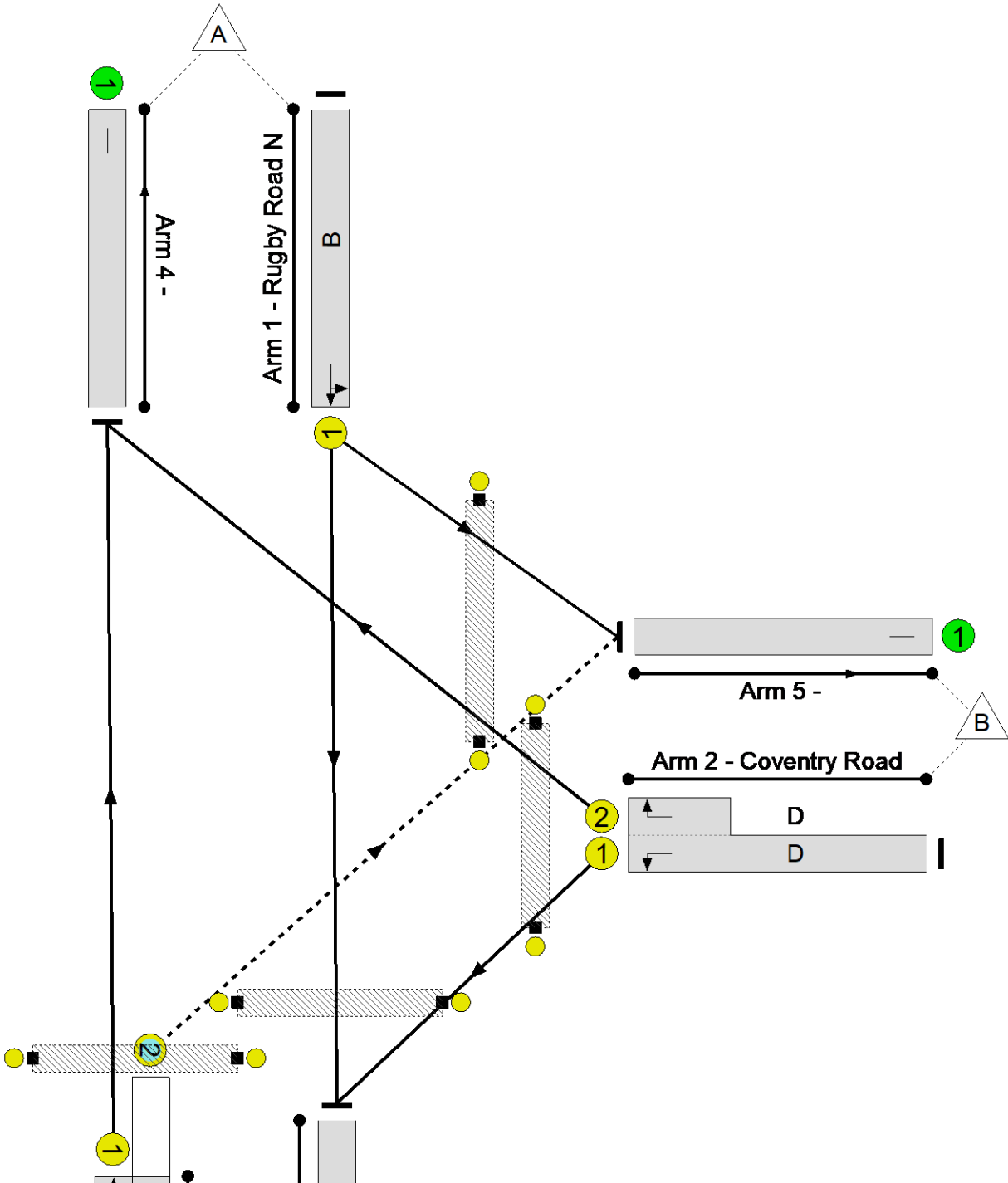
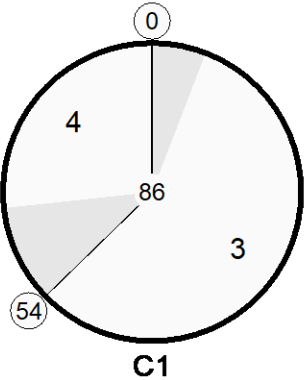
Stage Timings

Stage	3	4
Duration	49	23
Change Point	0	54

Signal Timings Diagram



B4109 Rugby Road / Coventry Road junction
PRC: -0.1 %
Total Traffic Delay: 22.2 pcuHr
Ave. Route Delay Per Ped: 0.0 s/Ped



Full Input Data And Results

Network Results

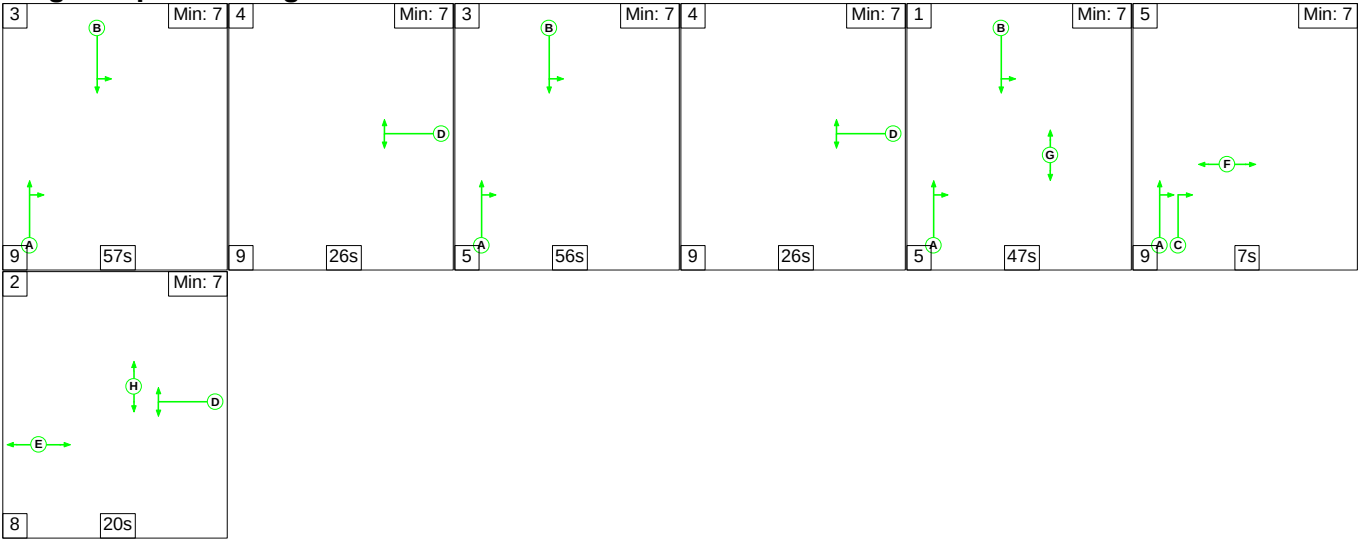
Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network: Proposed signalisation of the B4109 Rugby Road / Coventry Road junction	-	-	N/A	-	-		-	-	-	-	-	-	90.1%
B4109 Rugby Road / Coventry Road junction	-	-	N/A	-	-		-	-	-	-	-	-	90.1%
1/1	Rugby Road N Left Ahead	U	N/A	N/A	B		1	50	-	1006	1894	1123	89.6%
2/1+2/2	Coventry Road Right Left	U	N/A	N/A	D		1	23	-	478	1759:1720	442+89	90.1 : 90.1%
3/1	Rugby Road S Ahead	U	N/A	N/A	A		1	50	-	672	1980	1174	57.2%
3/2	Rugby Road S Right	O	N/A	N/A	A	C	1	50	0	157	1631	203	77.2%
4/1		U	N/A	N/A	-		-	-	-	752	Inf	Inf	0.0%
5/1		U	N/A	N/A	-		-	-	-	259	Inf	Inf	0.0%
6/1		U	N/A	N/A	-		-	-	-	1302	Inf	Inf	0.0%
Ped Link: P1	Rugby Rd toucan	-	N/A	-	E		0	0	-	0	-	0	0.0%
Ped Link: P2	Coventry Rd toucan crossing	-	N/A	-	G		0	0	-	0	-	0	0.0%
Ped Link: P3	Unnamed Ped Link	-	N/A	-	F		0	0	-	0	-	0	0.0%
Ped Link: P4	Unnamed Ped Link	-	N/A	-	H		0	0	-	0	-	0	0.0%

Full Input Data And Results

[illegible]

Full Input Data And Results
Scenario 2: '2026 + Dev AM' (FG1: '2026 + Land South of Burbage (442dw) AM', Plan 2: 'AM Plan (triple) - crossings called')

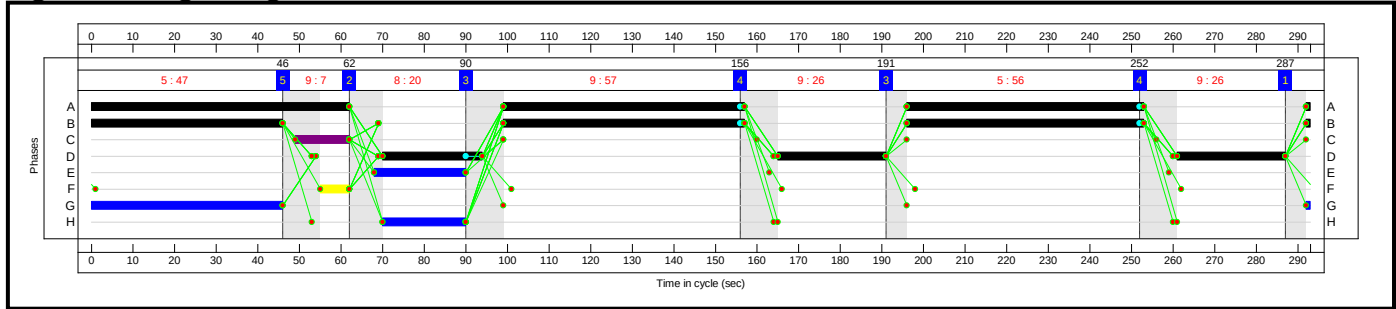
Stage Sequence Diagram



Stage Timings

Stage	3	4	3	4	1	5	2
Duration	57	26	56	26	47	7	20
Change Point	90	156	191	252	287	46	62

Signal Timings Diagram

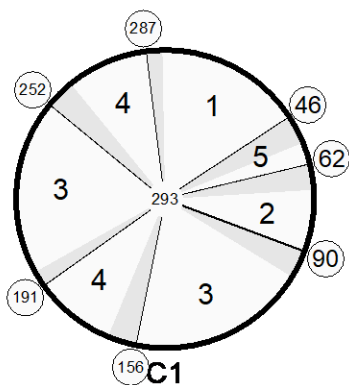


Full Input Data And Results

Network Layout Diagram

Total Traffic Delay: 28.2 pcuHr

Ave. Route Delay Per Ped: 0.0 s/Ped



Full Input Data And Results

Network Results

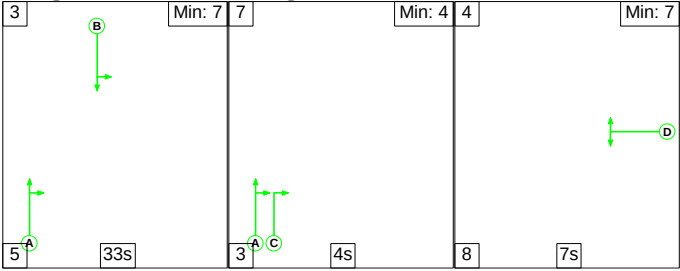
Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network: Proposed signalisation of the B4109 Rugby Road / Coventry Road junction	-	-	N/A	-	-		-	-	-	-	-	-	94.3%
B4109 Rugby Road / Coventry Road junction	-	-	N/A	-	-		-	-	-	-	-	-	94.3%
1/1	Rugby Road N Left Ahead	U	N/A	N/A	B		3	162	-	1006	1894	1067	94.3%
2/1+2/2	Coventry Road Right Left	U	N/A	N/A	D		3	76	-	478	1759:1720	424+85	93.9 : 93.9%
3/1	Rugby Road S Ahead	U	N/A	N/A	A		3	178	-	672	1980	1223	54.9%
3/2	Rugby Road S Right	O	N/A	N/A	A	C	3	178	13	157	1631	246	63.8%
4/1		U	N/A	N/A	-		-	-	-	752	Inf	Inf	0.0%
5/1		U	N/A	N/A	-		-	-	-	259	Inf	Inf	0.0%
6/1		U	N/A	N/A	-		-	-	-	1302	Inf	Inf	0.0%
Ped Link: P1	Rugby Rd toucan	-	N/A	-	E		1	22	-	0	-	0	0.0%
Ped Link: P2	Coventry Rd toucan crossing	-	N/A	-	G		1	47	-	0	-	0	0.0%
Ped Link: P3	Unnamed Ped Link	-	N/A	-	F		1	7	-	0	-	0	0.0%
Ped Link: P4	Unnamed Ped Link	-	N/A	-	H		1	20	-	0	-	0	0.0%

Full Input Data And Results

[illegible]

Full Input Data And Results
Scenario 3: '2026 + Dev PM (no ped crossing calls)' (FG2: '2026 + Land South of Burbage (442dw) PM', Plan 3: 'PM Plan (single) - no crossings called')

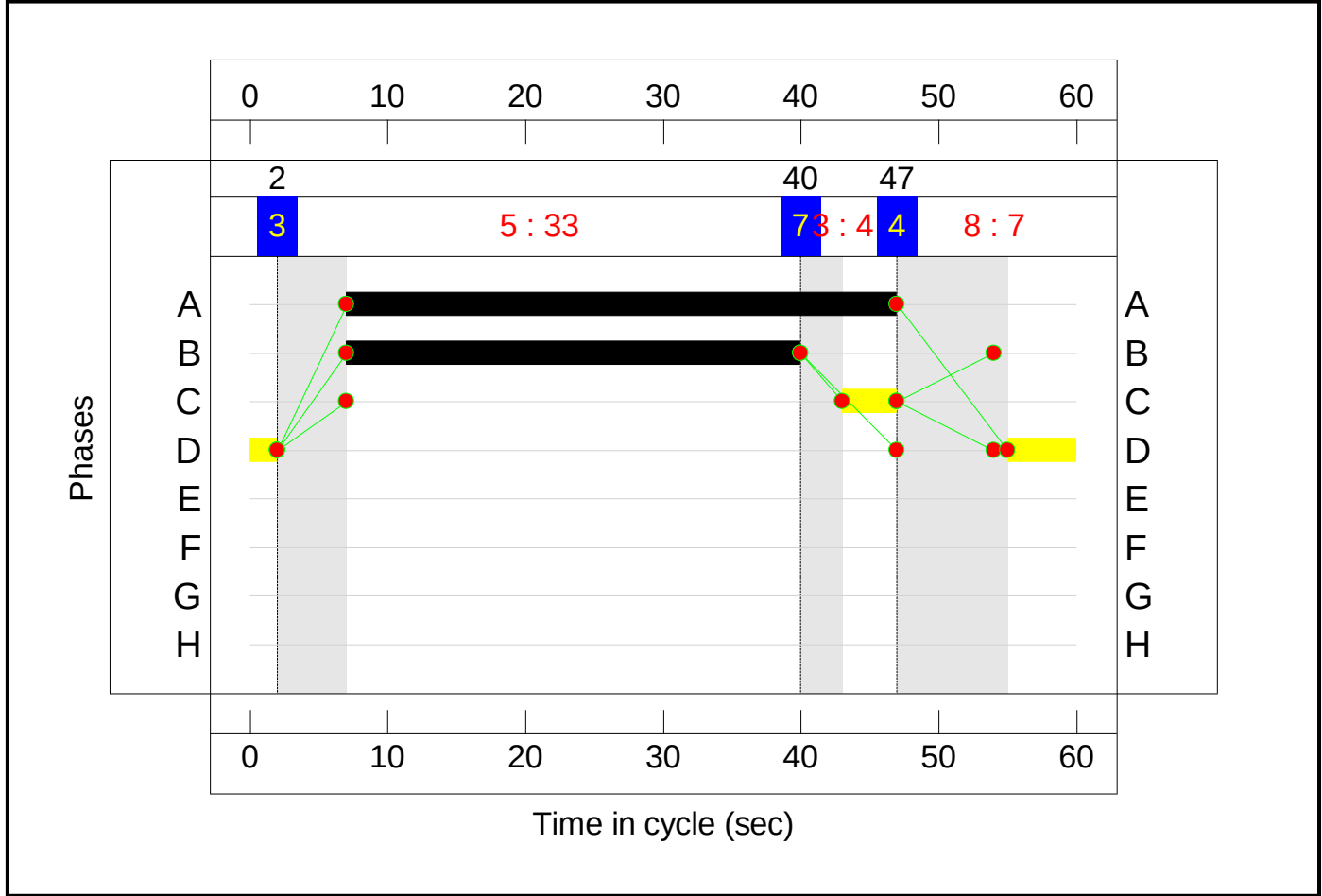
Stage Sequence Diagram



Stage Timings

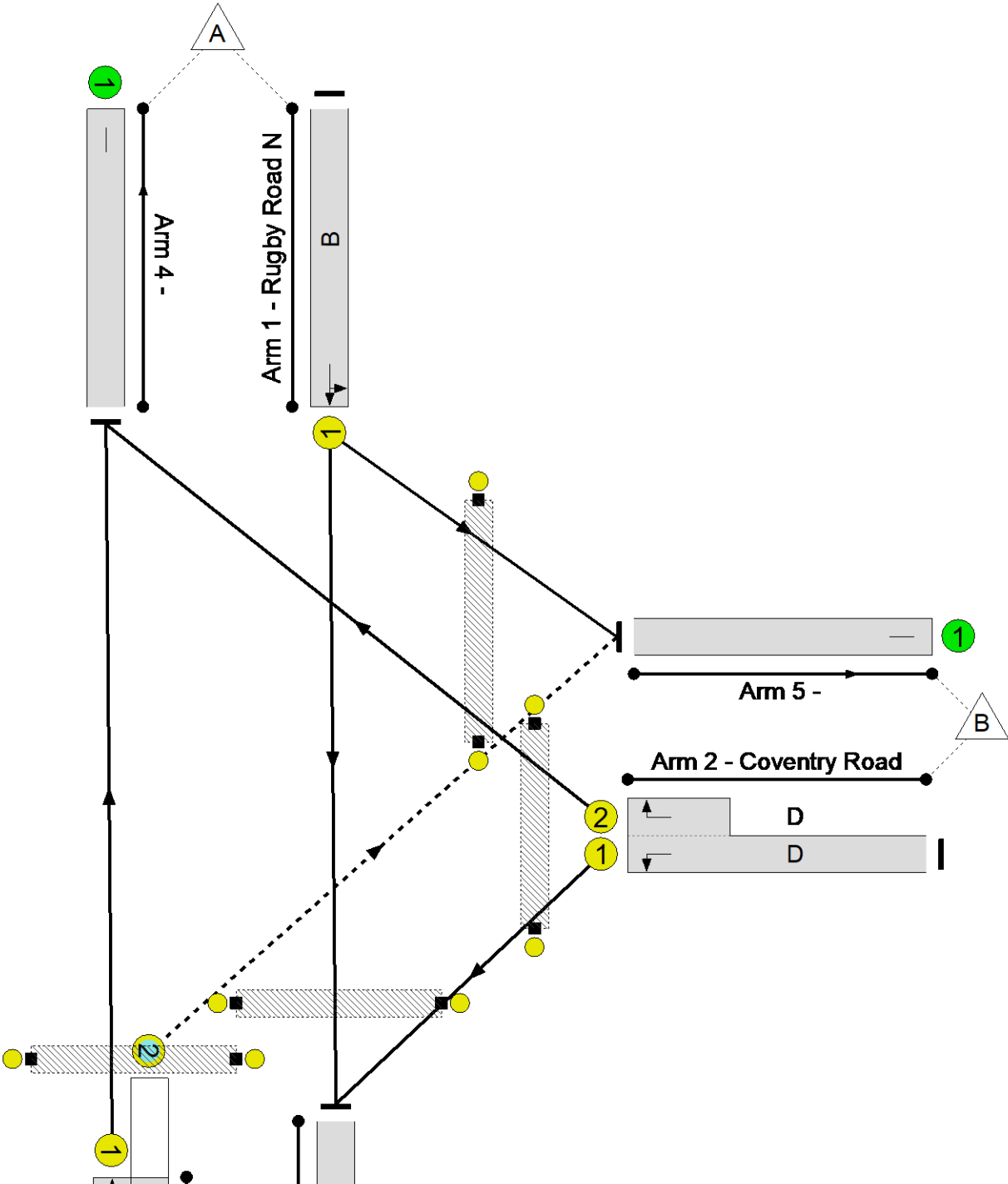
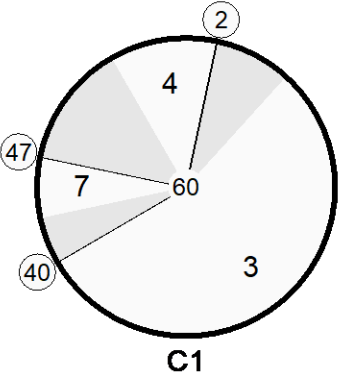
Stage	3	7	4
Duration	33	4	7
Change Point	2	40	47

Signal Timings Diagram





B4109 Rugby Road / Coventry Road junction
PRC: 5.0 %
Total Traffic Delay: 15.3 pcuHr
Ave. Route Delay Per Ped: 0.0 s/Ped



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: Proposed signalisation of the B4109 Rugby Road / Coventry Road junction	-	-	N/A	-	-		-	-	-	-	-	-	85.7%
B4109 Rugby Road / Coventry Road junction	-	-	N/A	-	-		-	-	-	-	-	-	85.7%
1/1	Rugby Road N Left Ahead	U	N/A	N/A	B		1	33	-	767	1886	1069	71.8%
2/1+2/2	Coventry Road Right Left	U	N/A	N/A	D		1	7	-	291	1759:1720	235+105	85.7 : 85.7%
3/1	Rugby Road S Ahead	U	N/A	N/A	A		1	40	-	958	1980	1353	70.8%
3/2	Rugby Road S Right	O	N/A	N/A	A	C	1	40	4	433	1631	537	80.7%
4/1		U	N/A	N/A	-		-	-	-	1048	Inf	Inf	0.0%
5/1		U	N/A	N/A	-		-	-	-	539	Inf	Inf	0.0%
6/1		U	N/A	N/A	-		-	-	-	862	Inf	Inf	0.0%
Ped Link: P1	Rugby Rd toucan	-	N/A	-	E		0	0	-	0	-	0	0.0%
Ped Link: P2	Coventry Rd toucan crossing	-	N/A	-	G		0	0	-	0	-	0	0.0%
Ped Link: P3	Unnamed Ped Link	-	N/A	-	F		0	0	-	0	-	0	0.0%
Ped Link: P4	Unnamed Ped Link	-	N/A	-	H		0	0	-	0	-	0	0.0%

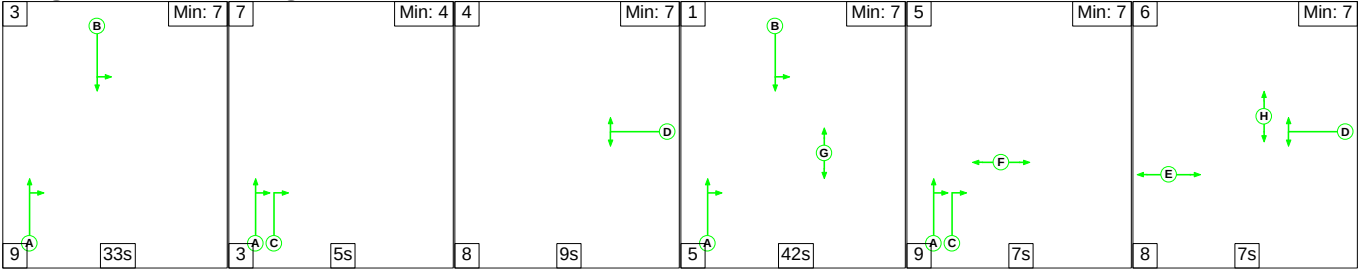
Full Input Data And Results

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Full Input Data And Results

Scenario 4: '2026 + Dev PM' (FG2: '2026 + Land South of Burbage (442dw) PM', Plan 4: 'PM Plan (double) - crossings called')

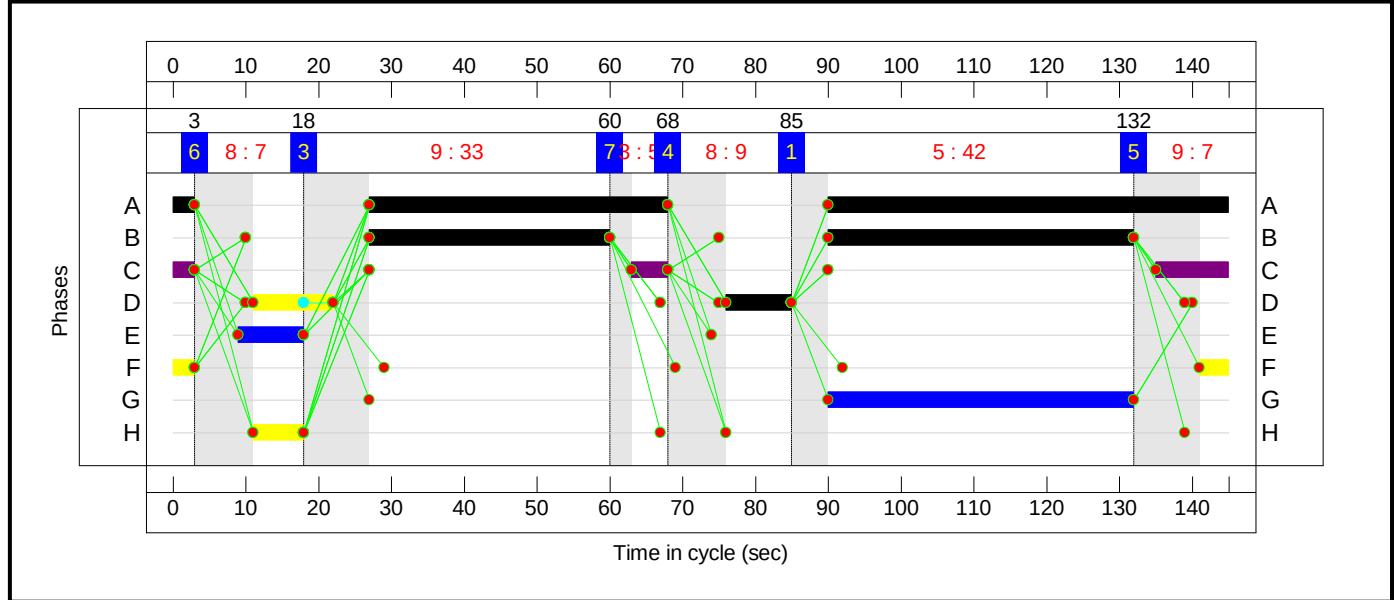
Stage Sequence Diagram



Stage Timings

Stage	3	7	4	1	5	6
Duration	33	5	9	42	7	7
Change Point	18	60	68	85	132	3

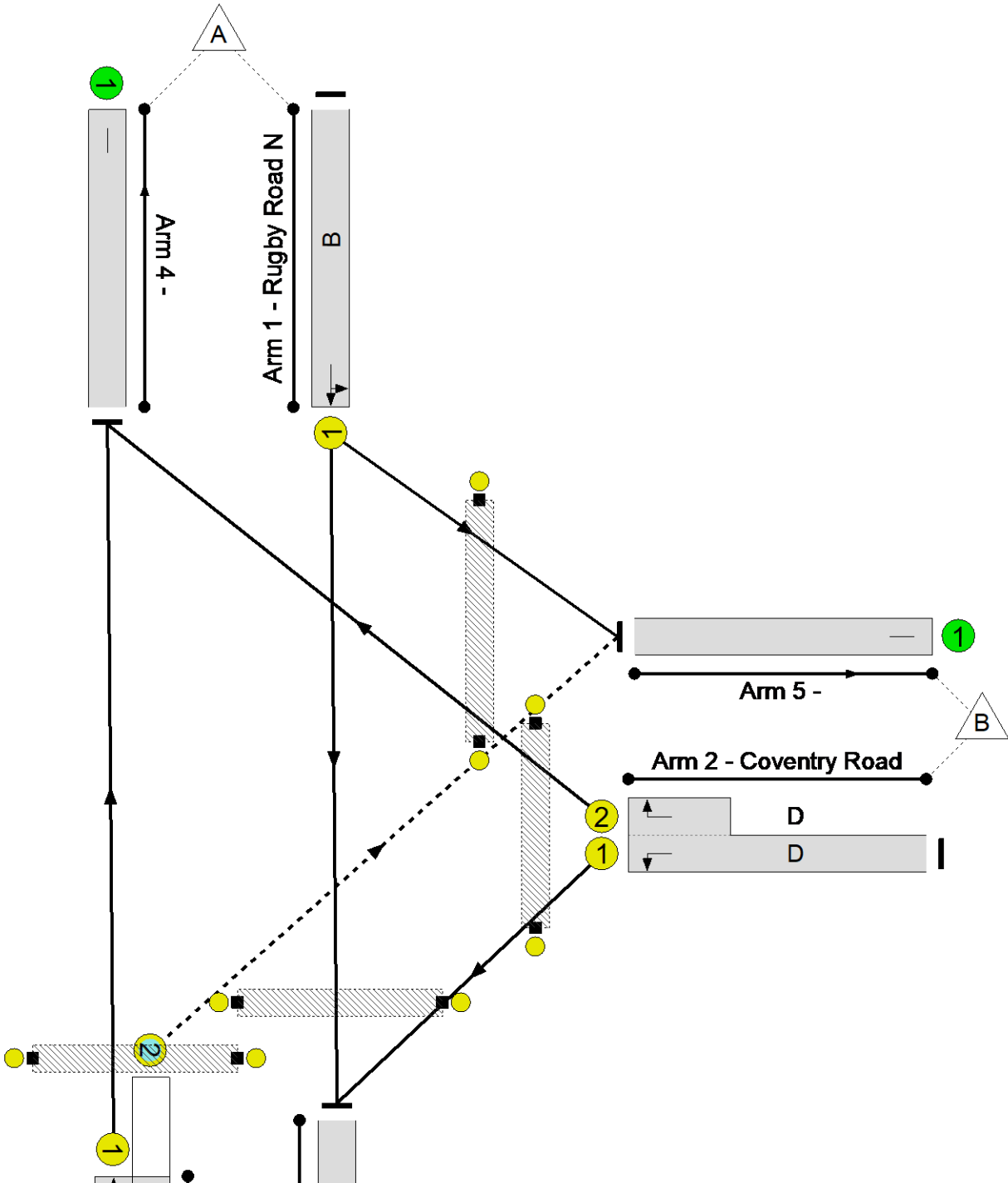
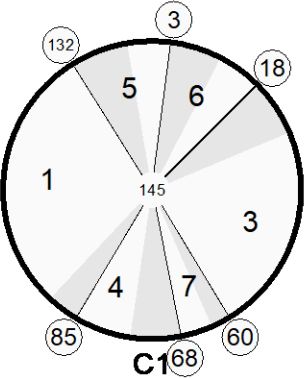
Signal Timings Diagram



Full Input Data And Results

Network Layout Diagram

B4109 Rugby Road / Coventry Road junction
PRC: 13.0 %
Total Traffic Delay: 16.4 pcuHr
Ave. Route Delay Per Ped: 0.0 s/Ped



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: Proposed signalisation of the B4109 Rugby Road / Coventry Road junction	-	-	N/A	-	-		-	-	-	-	-	-	79.7%
B4109 Rugby Road / Coventry Road junction	-	-	N/A	-	-		-	-	-	-	-	-	79.7%
1/1	Rugby Road N Left Ahead	U	N/A	N/A	B		2	75	-	767	1886	1002	76.6%
2/1+2/2	Coventry Road Right Left	U	N/A	N/A	D		2	20	-	291	1759:1720	252+113	79.7 : 79.7%
3/1	Rugby Road S Ahead	U	N/A	N/A	A		2	99	-	958	1980	1379	69.5%
3/2	Rugby Road S Right	O	N/A	N/A	A	C	2	99	18	433	1631	548	79.0%
4/1		U	N/A	N/A	-		-	-	-	1048	Inf	Inf	0.0%
5/1		U	N/A	N/A	-		-	-	-	539	Inf	Inf	0.0%
6/1		U	N/A	N/A	-		-	-	-	862	Inf	Inf	0.0%
Ped Link: P1	Rugby Rd toucan	-	N/A	-	E		1	9	-	0	-	0	0.0%
Ped Link: P2	Coventry Rd toucan crossing	-	N/A	-	G		1	42	-	0	-	0	0.0%
Ped Link: P3	Unnamed Ped Link	-	N/A	-	F		1	7	-	0	-	0	0.0%
Ped Link: P4	Unnamed Ped Link	-	N/A	-	H		1	7	-	0	-	0	0.0%

Full Input Data And Results

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network: Proposed signalisation of the B4109 Rugby Road / Coventry Road junction	-	-	125	199	109	8.0	6.4	1.9	16.4	-	-	-	-
B4109 Rugby Road / Coventry Road junction	-	-	125	199	109	8.0	6.4	1.9	16.4	-	-	-	-
1/1	767	767	-	-	-	2.9	1.6	-	4.5	21.3	13.8	1.6	15.5
2/1+2/2	291	291	-	-	-	2.4	1.9	-	4.2	52.5	4.5	1.9	6.3
3/1	958	958	-	-	-	1.7	1.1	-	2.9	10.7	11.7	1.1	12.8
3/2	433	433	125	199	109	1.0	1.8	1.9	4.8	39.6	4.0	1.8	5.8
4/1	1048	1048	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/1	539	539	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	862	862	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
Ped Link: P1	0	0	-	-	-	-	-	-	-	-	-	-	-
Ped Link: P2	0	0	-	-	-	-	-	-	-	-	-	-	-
Ped Link: P3	0	0	-	-	-	-	-	-	-	-	-	-	-
Ped Link: P4	0	0	-	-	-	-	-	-	-	-	-	-	-
C1 PRC for Signalled Lanes (%): 13.0 Total Delay for Signalled Lanes (pcuHr): 16.40 Cycle Time (s): 145 PRC Over All Lanes (%): 13.0 Total Delay Over All Lanes(pcuHr): 16.40													