Title: Howes Lane (A4095) / Bucknell Road / A4095 Junction

Technical Note 10 v5

Date: November 2022

1.0 Introduction

1.1.1 Jubb has been commissioned by Hallam Land Management Ltd (HLM) to provide highways and transportation advice in relation to a proposal for a residential-led mixed use development on land north-east of the railway line in North West Bicester 'Hawkwell Village'.

1.1.2 A planning application (Ref: 21/04275/OUT) was submitted in December 2021 for a residential led mixed use development for up to 3,100 dwellings.

1.1.3 The Site forms part of the allocated North West Bicester Eco-Town development. Historical traffic modelling of the allocation has shown a need for the implementation of the A4095 Strategic Link Road (SLR) to bypass the Howes Lane (A4095) / Bucknell Road / A4095 double junction.

1.1.4 The Howes Lane (A4095) / Bucknell Road / A4095 consists of a roundabout junction to the north of the railway line and a priority junction to the south of the railway line and currently operates over capacity.

1.1.5 Oxfordshire County Council (OCC) received funding from Homes England and the Oxfordshire Housing and Growth Deal to implement infrastructure in order to enable proposed development to come forward. The funding allocated to the SLR has enabled the completion of the rail underbridge. Unfortunately, due to time limits on spending of the allocated fund, the remaining monies have been reallocated to other strategic highway schemes in Oxfordshire. Hallam are currently in discussion with OCC & CDC to investigate other potential funding mechanisms for the SLR.

1.1.6 The SLR is a large strategic piece of highway infrastructure and will cost a considerable sum of money. Hawkwell Village will need to deliver and release a significant quantum of dwellings in order to be able financially contribute its share of the S106 requirements to fund the road.

1.1.7 Therefore, this Technical Note undertakes a review of the operation of the existing Howes Lane (A4095) / Bucknell Road / A4095 junctions and promotes a temporary signalisation scheme to mitigate the effects of the early phases of the development in the interim, before the SLR is delivered.

2.0 Technical Background

2.1.1 OCC have specified that the recently revalidated Bicester Transport Model (BTM) is the preferred modelling tool to assess future development and mitigation options in Bicester. It is OCC's model and the development trip generation used in this assessment is the model's trip generation i.e. not the reduced 'Vision' trip generation which has recently been discussed with OCC. Therefore, it is understood that the traffic flow movements produced by the BTM and used for the purposes of this assessment, are in accordance with the requirements of OCC. The model's trip generation is considered to offer an assessment that is a worst-case scenario and in reality, the trip generation of the development will be less.

2.1.2 Tetra Tech, custodians of the Bicester Transport Model, were commissioned by HLM to undertake SATURN mode runs of the following scenarios:

- 2026 Reference Case – Base + Committed Traffic;
- 2026 Hawkwell with Development 2a – 675 dwellings; and

- 2026 Hawkwell with Development 2b – 1250 dwellings.

2.1.3 Tetra Tech provided turning movements for each scenario. From these turning movements, Traffic Flow Diagrams, attached at **Appendix A**, have been produced.

3.0 Existing Junctions

3.1.1 Using the traffic flows provided by the BTM, the '2026 Reference Case' operation of the existing junctions has been undertaken using the JUNCTIONS 10 software. Due to the proximity of the two junctions and their operation being dependent on each other the modelling has been undertaken using 'linked lane simulation'. A summary of the results is shown in **Table 3.1** with the output report attached at **Appendix B.**

3.1.2 The roundabout is modelled as Junction 1 and the priority junction as Junction 2.

Arm	AM			PM		
	Queue (PCU)	Delay (s)	Max LOS / RFC	Queue (PCU)	Delay (s)	Max LOS / RFC
J1 – Bucknell Road (North)	1.1	14.74	B	0.7	11.40	B
J1 – A4095 (East)	184.6	622.83	F	193.5	638.13	F
J1 – Bucknell Road (South)	1.2	4.68	A	1.2	4.50	A
J2 – Bucknell Road (South)	0.2	0.68	A	0.1	0.47	A
J2 – A4095 Howes Lane (West)	53.4	291.99	F	232.6	972.07	F
J2 – Bucknell Road (North)	3.1	16.51	C	3.0	14.67	B

Table 3.1 – Summary of Junction Results for Existing Junctions – Base + Committed Development

3.1.3 The 'linked lane simulation' results indicate that the existing junctions will operate over capacity in 2026 with committed traffic. The committed development traffic is generated by the following committed development that is included in the 2026 BTM: 8,085 dwellings, 15,642sqm retail use, 308,335sqm employment use and 1,899 jobs of other employment use.

3.1.4 Queues on the A4095 East arm of Junction 1 (roundabout) are predicted to be 185 vehicles in the AM peak hour and 194 vehicles in the PM peak hour. In the AM peak hour queues will extend to just before the A4095 / B4100 (Banbury Road) roundabout and in the PM peak hour the queue will extend across the A4095 / B4100 (Banbury Road) roundabout.

3.1.5 Queues on the A4095 West arm of Junction 2 (priority) are predicted to be 54 vehicles in the AM peak hour and 233 vehicles in the PM peak hour. These queues extend across the Avonbury Business Park and Thames Valley Police junctions in the AM peak hour and to just before the A4095/ B4030 / Middleton Stoney Road roundabout in the PM peak hour.

3.1.6 **Figure 3.1** shows a visual representation of the predicted traffic queues for the '2026 Reference Case' scenario.

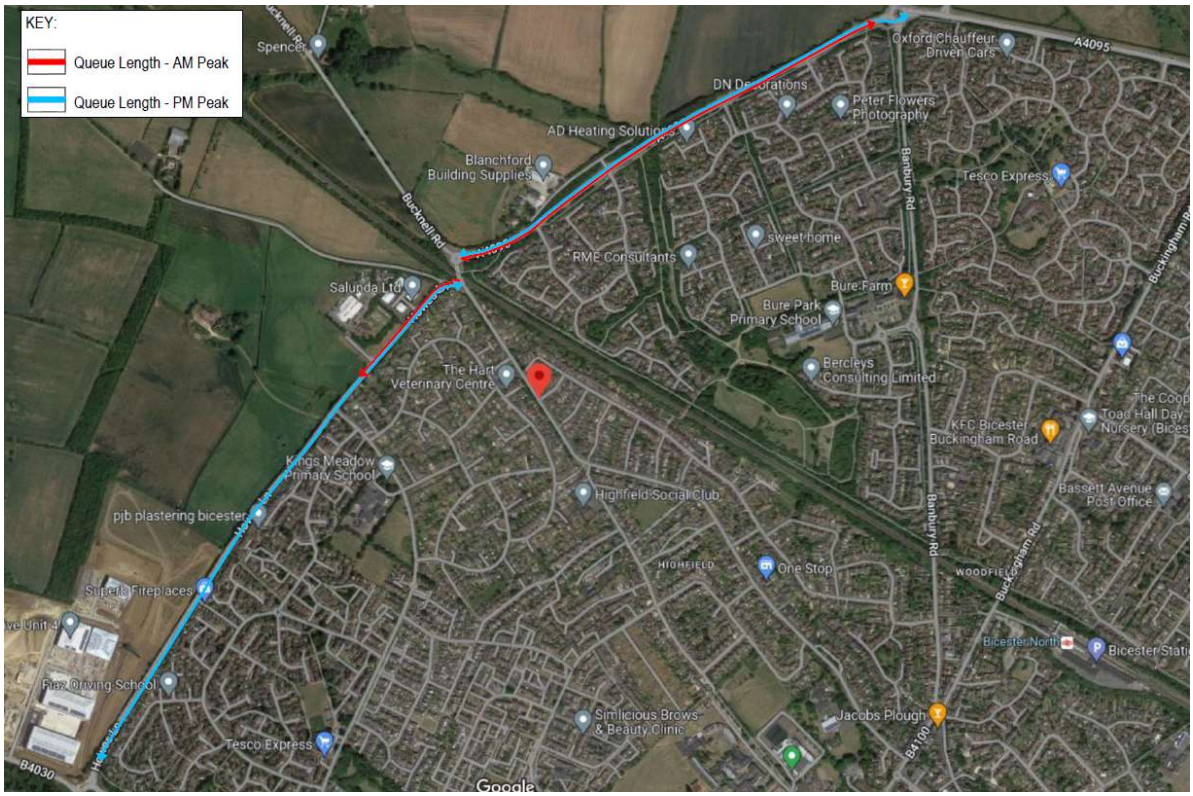

Figure 3.1 – 2026 Reference Case – Predicted Vehicle Queue Lengths

4.0 Proposed Mitigation Scheme

4.1.1 In order to improve the junction and reduce queues and delay, it is proposed to signalise the two junctions with the added benefit of providing controlled pedestrian / cycle crossing points. The preliminary design drawing and swept path assessment is attached at **Appendix C.**

4.1.2 With the exception of the existing footway under the railway bridge on the eastern side of Bucknell Road, all footway provision is 2m wide. Three controlled pedestrian crossing have been introduced to improve pedestrian movements and increase pedestrian safety at the junction.

4.1.3 HGVs manoeuvring through the existing priority junction, from Howes Lane turning left to Bucknell Road North, track over the opposing side of the carriageway requiring oncoming vehicles travelling southbound on Bucknell Road to give way. Additionally, HGV manoeuvring through the priority junction, turning right from Bucknell Road North to Howes Lane, require the right turn lane on Howes Lane to be free of vehicles in proximity of the give-way line. The introduction of the signals and its associated stop lines enables unfettered HGV movements through the junction, allowing free movement of all vehicles within the signal stages and improving highway safety.

4.1.4 Junction capacity modelling has been undertaken using the LINSIG software. A summary of the results is shown in **Table 4.1** with the output report attached at **Appendix D.**

4.1.5 The results indicate that with 1,250 dwellings all arms of the junction operate with a Degree of Saturation below 100% and that there is sufficient internal queueing space for vehicles under the bridge. The modelling indicates that all queued vehicles will move through the junction using an optimised 120 second cycle time.

Arm	Lane	AM			PM		
		DoS (%)	Queue (PCUs)	Delay s/PCU	DoS (%)	Queue (PCUs)	Delay s/PCU
2026 + Committed + 675 dwellings							
Bucknell Road (North)	-	40.5	10.2	49.0	38.3	10.2	43.5
A4095 (East)	Left	81.3	30.1	42.8	95.8	42.8	71.4
	Right	75.0	-	92.0	86.5	-	111.8
Bucknell Road (Internal Southbound)	-	91.1	6.6	14.6	94.8	10.4	11.2
Bucknell Road (South)	-	89.6	31.1	78.5	88.8	31.7	74.7
A4095 (West)	Left	59.2	13.1	37.9	92.4	33.2	70.3
	Right	59.2	-	102.2	924	-	154.8
Bucknell Road (Internal Northbound)	-	54.3	5.5	3.3	82.3	12.2	5.0
PRC (%)		**-1.3**			**-6.4**		
Cycle Time		**180s**					
2026 + Committed + 1250 dwellings							
Bucknell Road (North)	-	42.6	10.4	52.5	52.5	12.6	59.2
A4095 (East)	Left	80.2	30.0	39.8	79.8	29.3	38.4
	Right	80.7	-	92.0	90.4	-	91.2
Bucknell Road (Internal Southbound)	-	91.8	7.8	16.4	94.0	9.6	16.5
Bucknell Road (South)	-	91.4	31.8	84.7	85.9	30.4	68.3
A4095 (West)	Left	57.0	12.5	35.8	94.3	34.4	78.2
	Right	57.0	-	98.6	94.3	-	162.8
Bucknell Road (Internal Northbound)	-	53.0	6.1	3.5	83.4	13.2	7.1
PRC (%)		**-2.1**			**-4.8**		
Cycle Time		**180s**					

Table 4.1 – Summary of LINSIG Results for Signals Mitigation Scheme

4.1.6 The queues on the A4095 eastern arm are significantly improved. With 1,250 dwellings there is a queue of 30 vehicles in both peak hours effectively removing any impact on nearby junctions as the queue ends before the Trefoil Drive junction. This represents a reduction in queues on this arm of 155 vehicles in the AM peak hour and 164 vehicles in the PM peak hour. Maximum delay reduces from 623s per pcu to 92s per pcu in the AM peak hour and from 638s per pcu to 92s per pcu in the PM peak hour, a saving of almost 9 minutes per pcu in the AM peak hour and just over 9 minutes per pcu in the PM peak hour.

4.1.7 The queues on the A4095 western arm also see a significant reduction generating a queue of just 13 vehicles in the AM peak hour and a queue of 35 vehicles in the PM peak hour with the traffic generation of 1,250 dwellings and removes any knock-on impact on nearby junctions in the AM peak hour and queues only to the Avonbury Business Park junction in the PM peak hour. This represents a reduction in queues on this arm of 41 vehicles in the AM peak hour and 198 vehicles in the PM peak hour. Maximum delay reduces from 292s per pcu to 99s per pcu in the AM peak hour and from 972s per pcu to 163s per pcu in the PM peak hour, a saving of just over 3 minutes per pcu in the AM peak hour and over 13 minutes per pcu in the PM peak hour.

4.1.8 The introduction of signals introduces a delay to the movements on Bucknell Road (i.e. north and south arms). However, the assessment of 1,250 dwellings, indicates a queue of 11 and 13 vehicles on the Bucknell Road North arm in the AM and PM peak hours respectively and a queue of 32 and 31 vehicles on the Bucknell Road South arm in the AM and PM peak hours respectively. The predicted delay is considered within a normal range for a signalised junction in an urban environment and the associated vehicle queues do not affect the operation of nearby junctions.

4.1.9 **Figure 4.1** shows a visual representation of the predicted traffic queues for the '2026 Reference Case + 1250 dwellings' scenario.

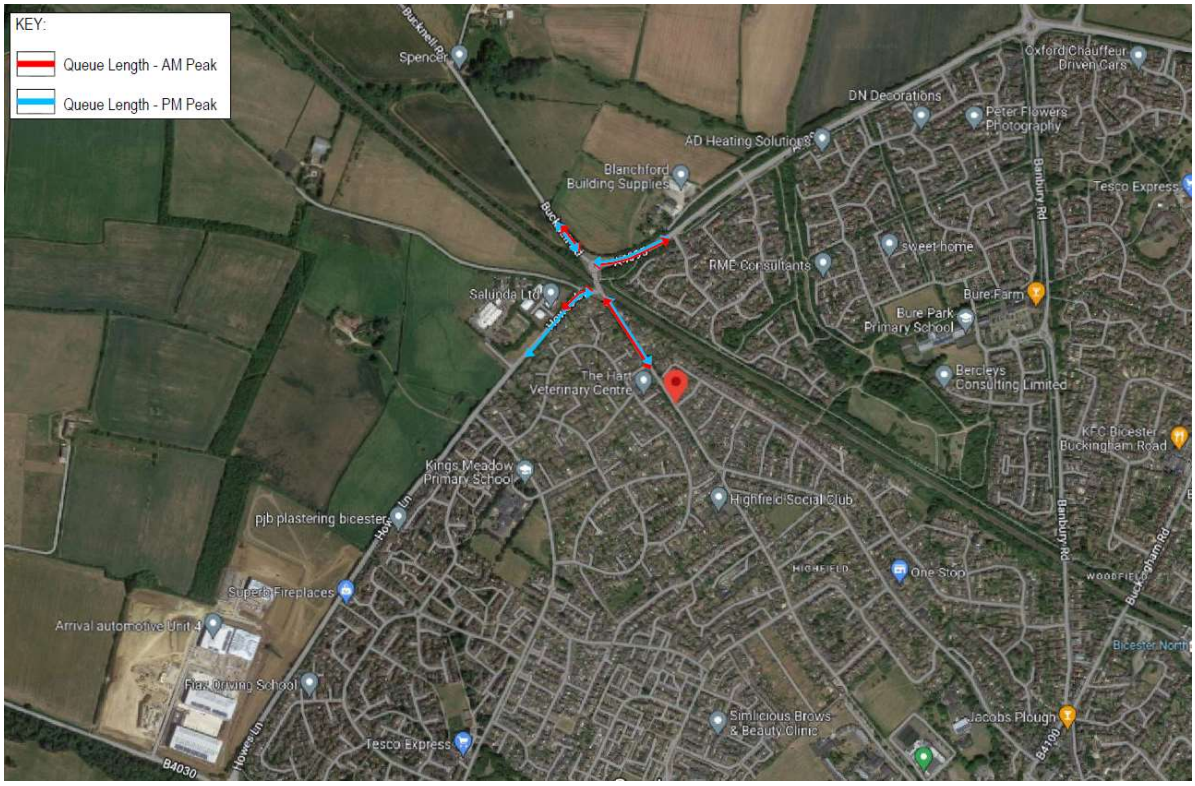

Figure 4.1 – 2026 Reference Case – Predicted Vehicle Queue Lengths

5.0 2031 Future Year Assessment with Full Development Buildout

5.1.1 Jubb have recently received the BTM modelling outputs for the following scenarios from Tetra Tech:

- 2031 Reference Case - Base + Committed Traffic;
- 2031 Hawkwell with Development 1a – full buildout using BTM trip generation; and
- 2031 Hawkwell with Development 1b – full buildout using 'Vision' trip generation.

5.1.2 Junction capacity modelling of the interim mitigation scheme has been undertaken using the 2031 BTM turning movement outputs and LINSIG software. A summary of the results is shown in **Table 5.1** with the output report attached at **Appendix E.**

Arm	Lane	AM			PM		
		DoS (%)	Queue (PCUs)	Delay s/PCU	DoS (%)	Queue (PCUs)	Delay s/PCU
2031 Reference Case							
Bucknell Road (North)	-	14.1	0.7	107.3	8.1	0.6	90.2
A4095 (East)	Left	17.7	2.1	3.6	21.3	3.1	4.9
	Right	0.0	-	0.0	0.0	-	0.0
Bucknell Road (Internal Southbound)	-	19.0	2.6	3.9	26.0	3.0	8.0
Bucknell Road (South)	-	13.1	3.1	37.6	30.1	5.3	63.9
A4095 (West)	Left	17.7	2.9	24.4	30.4	3.6	16.7
	Right	25.6	-	86.2	30.4	-	69.3
Bucknell Road (Internal Northbound)	-	11.6	0.3	0.3	17.7	0.0	0.0
PRC (%)		**251.6**			**196.1**		
Cycle Time		**180s**					
2031 Full Buildout – BTM Trip Generation							
Bucknell Road (North)	-	14.1	0.7	107.3	14.1	0.7	107.3
A4095 (East)	Left	21.4	2.7	3.8	18.5	2.2	3.6
	Right	0.0	-	0.0	0.0	-	0.0
Bucknell Road (Internal Southbound)	-	22.6	3.3	4.1	20.5	2.8	4.0
Bucknell Road (South)	-	12.3	2.9	36.9	27.8	5.5	58.2
A4095 (West)	Left	16.4	2.7	24.7	26.1	4.3	15.1
	Right	16.4	-	85.8	29.3	-	85.9
Bucknell Road (Internal Northbound)	-	10.6	0.3	0.3	20.6	0.7	0.5

PRC (%)		**297.6**			**207.7**		
Cycle Time		**180s**					
2031 Full Buildout – 'Vision' Trip Rates							
Bucknell Road (North)	-	14.1	0.7	107.3	14.1	0.7	107.3
A4095 (East)	Left	20.7	2.6	3.7	20.1	2.5	3.7
	Right	0.0	-	0.0	0.0	-	0.0
Bucknell Road (Internal Southbound)	-	21.8	3.2	4.1	22.2	3.2	4.6
Bucknell Road (South)	-	12.5	2.9	37.6	23.6	4.9	54.0
A4095 (West)	Left	16.4	2.7	24.2	26.8	4.5	16.4
	Right	16.4	-	85.7	29.3	-	86.0
Bucknell Road (Internal Northbound)	-	10.6	0.3	0.3	19.8	1.0	0.6
PRC (%)		**312.0**			**207.7**		
Cycle Time		**180s**					

5.1.3 The results indicate that with the realignment of the A4095 there will be a significant reduction in vehicles routeing through the Howes Lane / Bucknell Road / A4095 junction and the interim mitigation scheme will perform with plenty of spare capacity.

5.1.4 Therefore, as the proposed interim mitigation scheme provides improvements to pedestrian movements through the introduction of controlled crossings and the movement of HGVs through the existing priority junction, it is proposed that the interim mitigation scheme remains in situ with no further works required to mitigate the impact of the full buildout of the Hawkwell Village development.

6.0 Summary and Conclusion

6.1.1 The existing Howes Lane (A4095) / Bucknell Road / A4095 currently exceeds capacity. Modelling of the two junctions for a '2026 + Committed Development' scenario indicates that there will be queuing on the two A4095 arms and therefore, any further development would only increase the queues and journey times through the junction.

6.1.2 A temporary scheme that signalises the two junctions and improves pedestrian severance is proposed to enable initial phases of the proposed Hawkwell Village development to come forward to enable funding of the A4095 Strategic Link Road. The scheme also improves HGV movement through the junction with HGVs accessing and egressing the Howes Lane arm no longer being reliant on the position of other vehicles.

6.1.3 Using traffic flows from the recently revalidated Bicester Transport Model and in accordance with the requirements of OCC, the junction modelling undertaken indicates that the proposed temporary scheme will operate within capacity and offers a benefit to the existing configuration, to all road users in terms of queueing, journey times and crossing facilities for pedestrians, for at least 1250 dwellings.

6.1.4 The reductions in terms of queues and delays at this junction would be extremely beneficial to the local transport network (both public and private modes) and the local economy and also enable the vital delivery of allocated housing at NW Bicester.

6.1.5 The proposed temporary mitigation scheme should be considered by OCC as an interim scheme to accommodate at least 1250 dwellings at Hawkwell Village until the A4095 Strategic Road Link can be funded and delivered.

6.1.6 Junction modelling of the future 2031 with full development buildout indicates that the interim mitigation scheme will operate with plenty of spare capacity due to the reduction in traffic flows through the junction brought about by the realignment of the A4095. As the interim mitigation scheme provides improvements to pedestrian and HGV movements, increasing safety at the junction for all road users, it is proposed that the scheme remains in situ with no further mitigation required at the junction to mitigate the impact of the full buildout of the Hawkwell Village Development.

Appendix A Traffic Flow Diagrams

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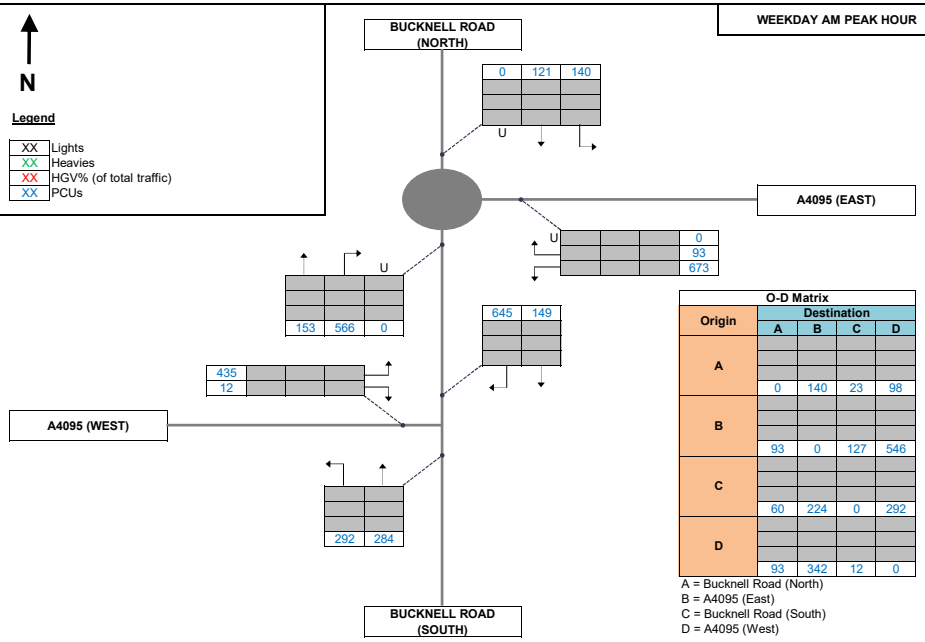
Legend

XX	Lights
XX	Heavies
XX	HGV% (of total traffic)
XX	PCUs

WEEKDAY AM PEAK HOUR

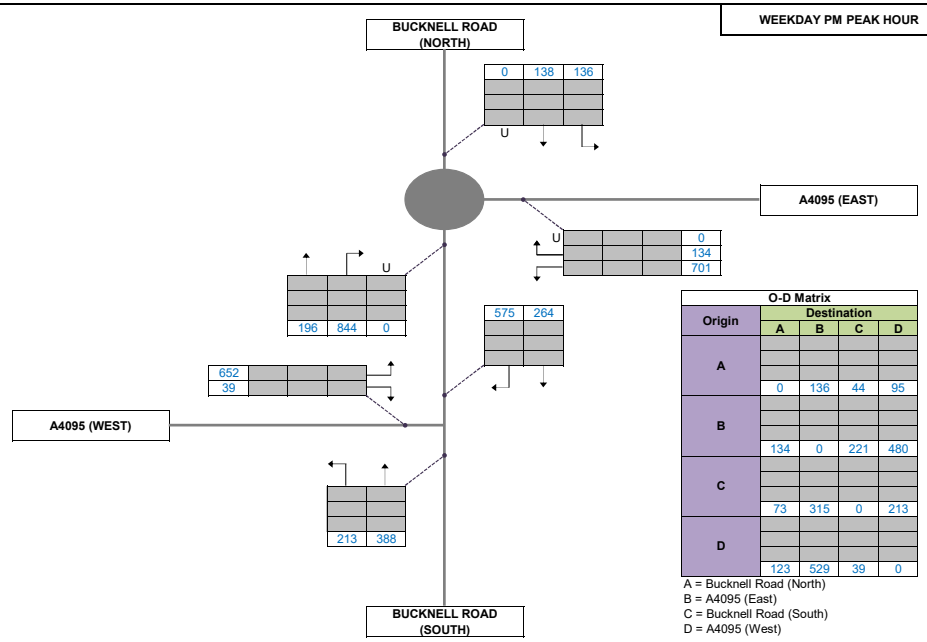


O-D Matrix

Origin	Destination A	B	C	D
A	0	140	23	98
B	93	0	127	546
C	60	224	0	292
D	93	342	12	0

A = Bucknell Road (North)
B = A4095 (East)
C = Bucknell Road (South)
D = A4095 (West)

WEEKDAY PM PEAK HOUR



O-D Matrix

Origin	Destination A	B	C	D
A	0	136	44	95
B	134	0	221	480
C	73	315	0	213
D	123	529	39	0

A = Bucknell Road (North)
B = A4095 (East)
C = Bucknell Road (South)
D = A4095 (West)

Notes:		Diagram No.:	Client: Hallam Land Management Ltd
Project No.: 20300	File Name: NP - 20300_Traffic Forecasts (A4095_Bucknell Road Network).xlsx		Project: North West Bicester - Land North East of the Marylebone-Birmingham Railway Line
Date: 11/08/2022	Drawn: NP / Checked: AW	Approved: MG	Title: Hawkwell Development 1a - AM and PM Peak Flows

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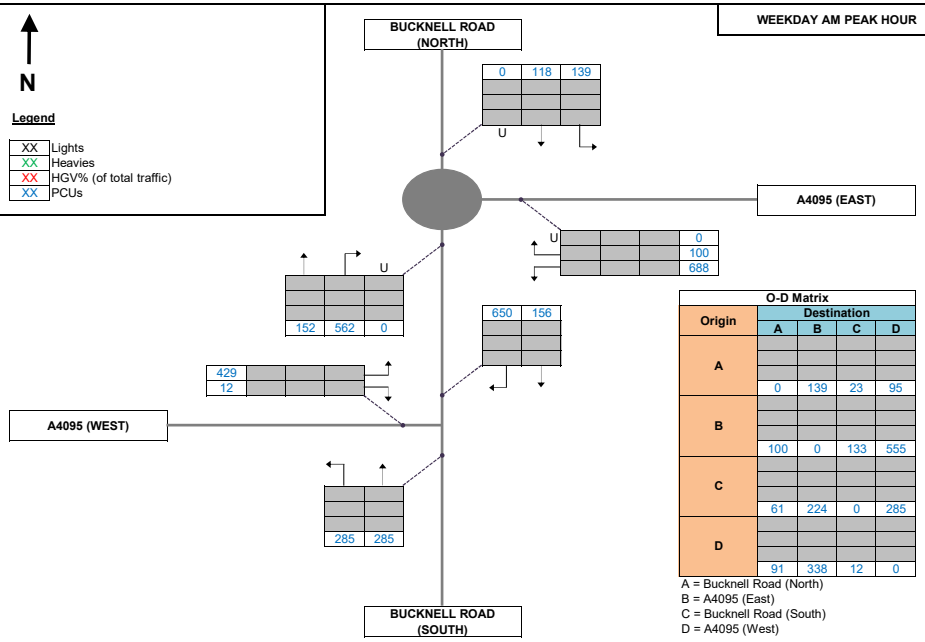
Legend

XX	Lights
XX	Heavies
XX	HGV% (of total traffic)
XX	PCUs

WEEKDAY AM PEAK HOUR

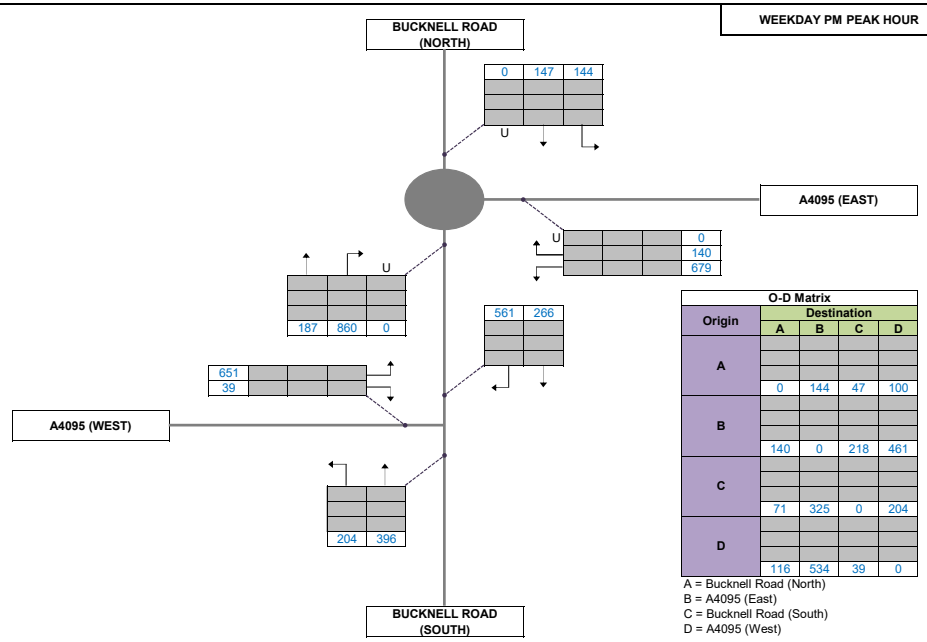


O-D Matrix

Origin	Destination A	B	C	D
A	0	139	23	95
B	100	0	133	555
C	61	224	0	285
D	91	338	12	0

A = Bucknell Road (North)
B = A4095 (East)
C = Bucknell Road (South)
D = A4095 (West)

WEEKDAY PM PEAK HOUR



O-D Matrix

Origin	Destination A	B	C	D
A	0	144	47	100
B	140	0	218	461
C	71	325	0	204
D	116	534	39	0

A = Bucknell Road (North)
B = A4095 (East)
C = Bucknell Road (South)
D = A4095 (West)

Notes:

Diagram No.:

Client: Hallam Land Management Ltd

Project No.: 20300

File Name: NP - 20300_Traffic Forecasts (A4095_Bucknell Road Network).xlsx

Project: North West Bicester - Land North East of the Marylebone-Birmingham Railway Line

Date	Drawn	Checked	Approved
11/08/2022	NP	AW	MG

Title: Hawkwell Development 2a - AM and PM Peak Flows

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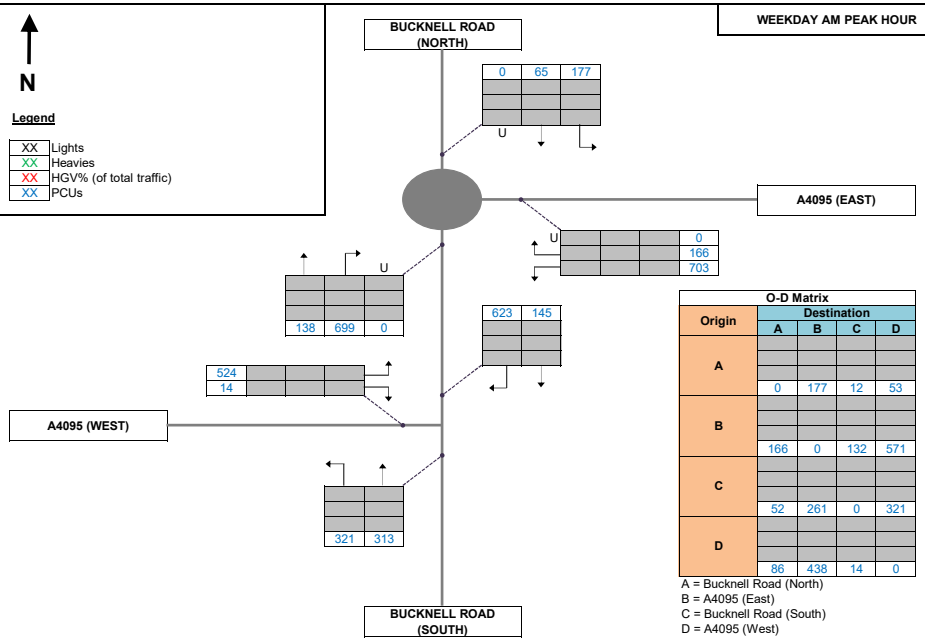
Legend

XX	Lights
XX	Heavies
XX	HGV% (of total traffic)
XX	PCUs

WEEKDAY AM PEAK HOUR

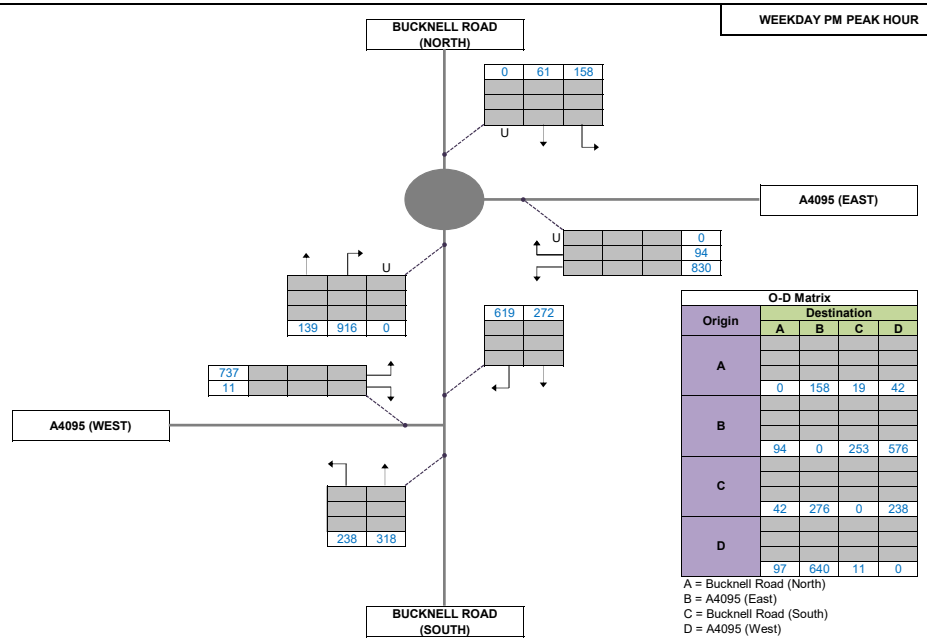


O-D Matrix

Origin	Destination A	B	C	D
A	0	177	12	53
B	166	0	132	571
C	52	261	0	321
D	86	438	14	0

A = Bucknell Road (North)
B = A4095 (East)
C = Bucknell Road (South)
D = A4095 (West)

WEEKDAY PM PEAK HOUR



O-D Matrix

Origin	Destination A	B	C	D
A	0	158	19	42
B	94	0	253	576
C	42	276	0	238
D	97	640	11	0

A = Bucknell Road (North)
B = A4095 (East)
C = Bucknell Road (South)
D = A4095 (West)

Notes:		Diagram No.:	Client: Hallam Land Management Ltd
Project No.: 20300	File Name: NP - 20300_Traffic Forecasts (A4095_Bucknell Road Network).xlsx		Project: North West Bicester - Land North East of the Marylebone-Birmingham Railway Line
Date: 11/08/2022	Drawn: NP / Checked: AW	Approved: MG	Title: Hawkwell Development Base and Committed - AM and PM Peak Flows

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North West Bicester – Hawkwell Village

20300

Appendix B Junctions 10 Output Report – Existing Junctions

Junctions 10

ARCADY 10 - Roundabout Module
PICADY 10 - Priority Intersection Module

Filename: A4095_Bucknell Road Junction Network (Existing)_Strategic Model Scenarios_2022.08.12 (Linked).j10
Path: S:\PROJECT FOLDER\20300 Bicester\Calculations\Transport\Junctions 10
Report generation date: 12/08/2022 10:25:34

Summary of junction performance

	AM			PM		
	Queue (PCU)	Delay (s)	RFC	Queue (PCU)	Delay (s)	RFC
	Linked [Lane Simulation] - Strategic Model Base + Committed					
Junction 1 - Arm A	1.1	14.74		0.7	11.40	
Junction 1 - Arm B	184.6	622.83		193.5	638.13	
Junction 1 - Arm C	1.2	4.68		1.2	4.50	
Junction 2 - Arm A	0.2	0.68		0.1	0.47	
Junction 2 - Arm B	53.4	291.99		232.6	972.07	
Junction 2 - Arm C	3.1	16.51		3.0	14.67	

There are warnings associated with one or more model runs - see the 'Data Errors and Warnings' tables for each Analysis or Demand Set.

Values shown are the highest values encountered over all time segments. Delay is the maximum value of average delay per arriving vehicle. Arm and junction delays are averages for all movements, including movements with zero delay.

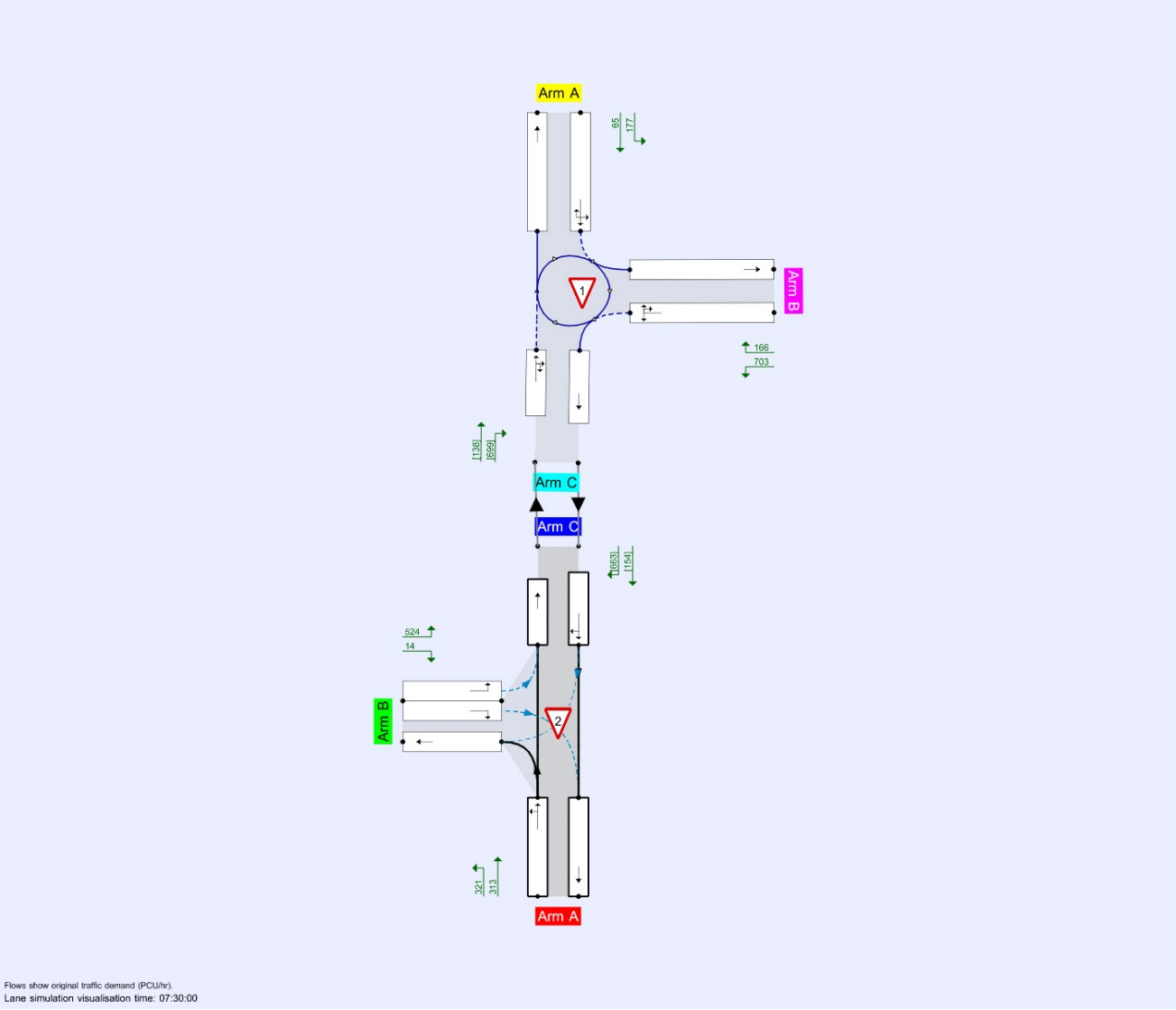
File summary

File Description

Title	A4095 / Bucknell Road Junction Network (Existing)
Location	Bicester, Oxfordshire
Site number	
Date	11/02/2022
Version	
Status	
Identifier	
Client	Hallam Land Management Ltd
Jobnumber	20300
Enumerator	JUBB\MattDavies
Description	

Units

Distance units	Speed units	Traffic units input	Traffic units results	Flow units	Average delay units	Total delay units	Rate of delay units
m	kph	PCU	PCU	perHour	s	-Min	perMin



The junction diagram reflects the last run of Junctions.

Analysis Options

Vehicle length (m)	Calculate Queue Percentiles	Calculate detailed queueing delay	Show lane queues in feet / metres	Show all PICADY stream intercepts	Calculate residual capacity	RFC Threshold	Average Delay threshold (s)	Queue threshold (PCU)	Use iterations with HCM roundabouts	Max number of iterations for roundabouts
5.75						0.85	36.00	20.00		500

Lane Simulation options

Criteria type	Stop criteria (%)	Stop criteria time (s)	Stop criteria number of trials	Random seed	Results refresh speed (s)	Individual vehicle animation number of trials	Average animation capture interval (s)	Use quick response	Do flow sampling	Suppress automatic lane creation	Last run random seed	Last run number of trials	Last run time taken (s)
Delay	1.00	100000	100000	-1	3	1	60	✓			1916309826	190	16.12

Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)	Run automatically
D1	Strategic Model Base + Committed	AM	FLAT	07:30	08:30	60	15	✓
D2	Strategic Model Base + Committed	PM	FLAT	16:15	17:15	60	15	✓

Analysis Set Details

ID	Name	Use Lane Simulation	Include in report	Network flow scaling factor (%)	Network capacity scaling factor (%)
A2	Linked	✓	✓	100.000	100.000

Linked - Strategic Model Base + Committed, AM

Data Errors and Warnings

Severity	Area	Item	Description
Last Run	Lane Simulation	Junction 2 - Arm B - Lane Simulation	Arm B: Queue at end of modelled period is greater than 10 PCU. Delay is likely to have been underestimated.
Last Run	Lane Simulation	Junction 1 - Arm B - Lane Simulation	Arm B: Queue at end of modelled period is greater than 10 PCU. Delay is likely to have been underestimated.
Info	Lane Simulation	A2 - Linked [Lane Simulation]	This analysis set uses Lane Simulation mode. For detailed information on this mode, please see the User Guide.

Junction Network

Junctions

Junction	Name	Junction type	Arm A Direction	Arm B Direction	Arm C Direction	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Bucknell Road / A4095 Roundabout	Standard Roundabout					A, B, C	288.72	F
2	Bucknell Road / A4095 Priority T-Junction	T-Junction	Two-way	Two-way	Two-way			93.00	F

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	193.97	F

Arms

Arms

Junction	Arm	Name	Description	No give-way line	Arm type
1	A	Bucknell Road (North)			
	B	A4095 (East)			
	C	Bucknell Road (South)			
2	A	Bucknell Road (South)			Major
	B	A4095 Howes Lane (West)			Minor
	C	Bucknell Road (North)			Major

Roundabout Geometry

Junction	Arm	V - Approach road half-width (m)	E - Entry width (m)	I' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Entry only	Exit only
1	A	2.97	9.00	9.2	67.9	30.0	25.0		
	B	3.70	6.00	12.5	17.6	30.0	11.0		
	C	3.50	6.80	5.7	30.7	30.0	48.0		

Major Arm Geometry

Junction	Arm	Width of carriageway (m)	Has kerbed central reserve	Has right-turn storage	Visibility for right turn (m)	Blocks?	Blocking queue (PCU)	Vehicles causing blocking (%)
2	C	7.10			250.0	✓	0.00	100

Geometries for Arm C are measured opposite Arm B. Geometries for Arm A (if relevant) are measured opposite Arm D.

Minor Arm Geometry

Junction	Arm	Minor arm type	Lane Width (Left) (m)	Lane Width (Right) (m)	Visibility to left (m)	Visibility to right (m)
2	B	Two lanes	3.76	3.60	27	38

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Junction	Arm	Final slope	Final intercept (PCU/hr)
1	A	0.646	1565
	B	0.666	1652
	C	0.572	1347

The slope and intercept shown above include any corrections and adjustments.

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
2	B-A	535	0.091	0.229	0.144	0.327
	B-C	697	0.104	0.263	-	-
	C-B	719	0.265	0.265	-	-

The slopes and intercepts shown above include custom intercept adjustments only.

Streams may be combined, in which case capacity will be adjusted.

Values are shown for the first time segment only; they may differ for subsequent time segments.

Lane Simulation: Arm options

Junction	Arm	Lane capacity source	Traffic considering secondary lanes (%)
1	A	Evenly split	10.00
	B	Evenly split	10.00
	C	Evenly split	10.00
2	A		10.00
	B		10.00
	C		10.00

Lanes

Junction	Arm	Side	Lane level	Lane	Destination arms	Has limited storage	Storage (PCU)	Has bottleneck	Has obstruction	Minimum capacity (PCU/hr)	Maximum capacity (PCU/hr)	Signalised
1	A	Entry	1	1	A, B, C		Infinity			0	99999	
		Exit	1	1			Infinity					
	B	Entry	1	1	A, B, C		Infinity			0	99999	
		Exit	1	1			Infinity					
	C	Entry	1	1	A, B, C	✓	2.90			0	99999	
		Exit	1	1		✓	3.20					
2	A	Entry	1	1	B, C		Infinity			0	99999	
		Exit	1	1			Infinity					
	B	Entry	1	1	C		Infinity			0	99999	
				2	A		Infinity			0	99999	
		Exit	1	1			Infinity					
	C	Entry	1	1	A, B	✓	3.20			0	99999	
		Exit	1	1		✓	2.90					

Entry Lane slope and intercept

Junction	Arm	Side	Lane level	Lane	Final slope	Final intercept (PCU/hr)
1	A	Entry	1	1	0.646	1565
	B	Entry	1	1	0.666	1652
	C	Entry	1	1	0.572	1347

Summary of Entry Lane allowed movements

Junction	Arm	Lane Level	Lane	Destination arm		
				A	B	C
2	A	1	1		✓	✓
	B	1	1			✓
			2	✓		
	C	1	1	✓	✓	

Summary of Entry Lane allowed movements

Junction	Arm	Lane Level	Lane	Destination arm		
				A	B	C
1	A	1	1	✓	✓	✓
	B	1	1	✓	✓	✓
	C	1	1	✓	✓	✓

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)	Run automatically
D1	Strategic Model Base + Committed	AM	FLAT	07:30	08:30	60	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Linked Arm Data

Junction	Arm	Feeding Junction	Feeding Arm	Link Type	Flow source	Uniform flow (PCU/hr)	Flow multiplier (%)	Internal storage space (PCU)
1	C	2	C	Queue limited	Normal	0	100.00	10.00
2	C	1	C	Queue limited	Normal	0	100.00	10.00

Demand overview (Traffic)

Junction	Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1	A		FLAT	✓	242	100.000
	B		FLAT	✓	869	100.000
	C	✓				
2	A		FLAT	✓	634	100.000
	B		FLAT	✓	538	100.000
	C	✓				

Origin-Destination Data

Junction 2

Demand (PCU/hr)

		To		
		A	B	C
From	A	0	321	313
	B	14	0	524
	C	154	663	0

Proportions

		To		
		A	B	C
From	A	0.00	0.51	0.49
	B	0.03	0.00	0.97
	C	0.19	0.81	0.00

Junction 1

Demand (PCU/hr)

From \ To	A	B	C
A	0	177	65
B	166	0	703
C	138	699	0

Proportions

From \ To	A	B	C
A	0.00	0.73	0.27
B	0.19	0.00	0.81
C	0.16	0.84	0.00

Vehicle Mix

Junction 2

Heavy Vehicle Percentages

From \ To	A	B	C
A	0	2	0
B	0	0	20
C	0	18	2

Average PCU Per Veh

From \ To	A	B	C
A	1.000	1.020	1.000
B	1.000	1.000	1.200
C	1.000	1.180	1.020

Junction 1

Heavy Vehicle Percentages

From \ To	A	B	C
A	0	10	5
B	0	0	14
C	11	12	0

Average PCU Per Veh

From \ To	A	B	C
A	1.000	1.100	1.050
B	1.000	1.000	1.140
C	1.110	1.120	1.000

Detailed Demand Data

Demand for each time segment

Time Segment	Junction	Arm	Demand (PCU/hr)	Demand in PCU (PCU/hr)
07:30-07:45	1	A	242	242
		B	869	869
		C	837	837
	2	A	634	634
		B	538	538
		C	817	817
07:45-08:00	1	A	242	242
		B	869	869
		C	837	837
	2	A	634	634
		B	538	538
		C	817	817
08:00-08:15	1	A	242	242
		B	869	869
		C	837	837
	2	A	634	634
		B	538	538
		C	817	817
08:15-08:30	1	A	242	242
		B	869	869
		C	837	837
	2	A	634	634
		B	538	538
		C	817	817

Results

Results Summary for whole modelled period

Junction	Arm	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1	A	14.74	1.1	B	243	243
	B	622.83	184.6	F	875	875
	C	4.68	1.2	A	795	795
2	A	0.68	0.2	A	638	638
	B	291.99	53.4	F	535	535
	C	16.51	3.1	C	622	622

Main Results for each time segment

07:30 - 07:45

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Throughput (PCU/hr)	Average throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	A	252	63	666	251	242	254	0.0	1.1	12.657	B
	B	876	219	66	686	682	850	0.0	47.1	131.186	F
	C	792	198	128	792	763	623	0.0	1.1	4.679	A
2	A	640	160		641	639	137	0.0	0.1	0.670	A
	B	533	133		480	461	832	0.0	19.6	95.782	F
	C	629	157		629	602	780	0.0	3.0	16.043	C

07:45 - 08:00

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Throughput (PCU/hr)	Average throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	A	246	61	656	248	242	262	1.1	0.8	13.513	B
	B	877	219	63	679	693	841	47.1	89.8	358.179	F
	C	784	196	130	787	793	611	1.1	1.1	4.623	A
2	A	636	159		636	640	130	0.1	0.1	0.683	A
	B	531	133		478	482	822	19.6	32.3	199.576	F
	C	616	154		617	630	780	3.0	3.0	16.457	C

08:00 - 08:15

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Throughput (PCU/hr)	Average throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	A	240	60	675	238	242	258	0.8	1.0	14.742	B
	B	872	218	63	666	682	849	89.8	136.9	603.275	F
	C	806	201	126	807	802	605	1.1	1.0	4.581	A
2	A	644	161		645	641	131	0.1	0.1	0.630	A
	B	539	135		502	496	832	32.3	44.0	281.870	F
	C	615	154		616	629	800	3.0	3.0	16.443	C

08:15 - 08:30

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Throughput (PCU/hr)	Average throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	A	235	59	669	232	243	258	1.0	1.1	13.768	B
	B	877	219	59	689	681	842	136.9	184.6	622.829	F
	C	799	200	128	799	797	617	1.0	1.2	4.595	A
2	A	633	158		632	630	132	0.1	0.2	0.654	A
	B	538	134		494	497	827	44.0	53.4	291.991	F
	C	628	157		627	623	794	3.0	3.1	16.508	C

Lane Results

Lane Level notation: Lane Level 1 is always closest to the junction.

Lanes: Main Results for each time segment

07:30 - 07:45

Junction	Arm	Side	Lane level	Lane	Destination arms	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	A	Entry	1	1	A, B, C	252	1134	0.222	251	242	0.0	1.1	12.657	B
		Exit	1	1		254			254	251	0.0	0.0	0.000	A
	B	Entry	1	1	A, B, C	876	1608	0.545	686	682	0.0	47.1	131.186	F
		Exit	1	1		850			850	819	0.0	0.0	0.000	A
	C	Entry	1	1	A, B, C	792	1274	0.622	792	763	0.0	1.1	4.679	A
		Exit	1	1		624			623	608	0.0	2.3	12.158	B
2	A	Entry	1	1	B, C	640			641	639	0.0	0.1	0.670	A
		Exit	1	1		137			137	130	0.0	0.0	0.000	A
	B	Entry	1	1	C	519			466	447	0.0	19.6	98.394	F
				2	A	14			14	14	0.0	0.0	15.416	C
		Exit	1	1		832			832	810	0.0	0.0	0.000	A
	C	Entry	1	1	A, B	629			629	602	0.0	3.0	16.043	C
		Exit	1	1		780			780	760	0.0	0.4	1.878	A

07:45 - 08:00

Junction	Arm	Side	Lane level	Lane	Destination arms	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	A	Entry	1	1	A, B, C	246	1141	0.216	248	242	1.1	0.8	13.513	B
		Exit	1	1		262			262	263	0.0	0.0	0.000	A
	B	Entry	1	1	A, B, C	877	1610	0.545	679	693	47.1	89.8	358.179	F
		Exit	1	1		841			841	841	0.0	0.0	0.000	A
	C	Entry	1	1	A, B, C	784	1273	0.616	787	793	1.1	1.1	4.623	A
		Exit	1	1		612			611	625	2.3	2.3	13.251	B
2	A	Entry	1	1	B, C	636			636	640	0.1	0.1	0.683	A
		Exit	1	1		130			130	134	0.0	0.0	0.000	A
	B	Entry	1	1	C	517			465	468	19.6	32.3	205.377	F
				2	A	14			14	14	0.0	0.1	17.428	C
		Exit	1	1		822			822	830	0.0	0.0	0.000	A
	C	Entry	1	1	A, B	616			617	630	3.0	3.0	16.457	C
		Exit	1	1		779			780	788	0.4	0.4	1.901	A

08:00 - 08:15

Junction	Arm	Side	Lane level	Lane	Destination arms	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	A	Entry	1	1	A, B, C	240	1129	0.213	238	242	0.8	1.0	14.742	B
		Exit	1	1		258			258	262	0.0	0.0	0.000	A
	B	Entry	1	1	A, B, C	872	1610	0.541	666	682	89.8	136.9	603.275	F
		Exit	1	1		849			849	846	0.0	0.0	0.000	A
	C	Entry	1	1	A, B, C	806	1275	0.632	807	802	1.1	1.0	4.581	A
		Exit	1	1		603			605	619	2.3	2.2	13.557	B
2	A	Entry	1	1	B, C	644			645	641	0.1	0.1	0.630	A
		Exit	1	1		131			131	132	0.0	0.0	0.000	A
	B	Entry	1	1	C	525			487	482	32.3	43.9	290.399	F
				2	A	15			15	14	0.1	0.0	15.048	C
		Exit	1	1		832			832	837	0.0	0.0	0.000	A
	C	Entry	1	1	A, B	615			616	629	3.0	3.0	16.443	C
		Exit	1	1		800			800	796	0.4	0.3	1.854	A

08:15 - 08:30

Junction	Arm	Side	Lane level	Lane	Destination arms	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	A	Entry	1	1	A, B, C	235	1132	0.207	232	243	1.0	1.1	13.768	B
		Exit	1	1		258			258	258	0.0	0.0	0.000	A
	B	Entry	1	1	A, B, C	877	1612	0.544	689	681	136.9	184.6	622.829	F
		Exit	1	1		842			842	847	0.0	0.0	0.000	A
	C	Entry	1	1	A, B, C	799	1274	0.627	799	797	1.0	1.2	4.595	A
		Exit	1	1		620			617	614	2.2	2.5	13.479	B
2	A	Entry	1	1	B, C	633			632	630	0.1	0.2	0.654	A
		Exit	1	1		132			132	130	0.0	0.0	0.000	A
	B	Entry	1	1	C	523			479	484	43.9	53.4	303.872	F
				2	A	15			15	14	0.0	0.1	15.713	C
		Exit	1	1		827			827	825	0.0	0.0	0.000	A
	C	Entry	1	1	A, B	628			627	623	3.0	3.1	16.508	C
		Exit	1	1		795			794	795	0.3	0.5	1.825	A

Lane movements: Main Results for each time segment

07:30 - 07:45

Junction	Arm	Side	Lane level	Lane	To Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Simulation max flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	A	Entry	1	1	A	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
					B	185	46	1565	1137	0.162	184	177	0.0	0.6	9.912	A
					C	67	17	1565	1136	0.059	66	65	0.0	0.5	19.742	C
	B	Entry	1	1	A	161	40	1652	1607	0.100	128	129	0.0	8.6	127.488	F
					B	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
					C	715	179	1652	1607	0.445	558	553	0.0	38.5	132.164	F
	C	Entry	1	1	A	127	32	1347	1274	0.100	126	121	0.0	0.3	4.704	A
					B	665	166	1347	1274	0.522	666	642	0.0	0.8	4.674	A
					C	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
2	A	Entry	1	1	A	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
					B	326	81	-	-	-	326	324	0.0	0.0	0.472	A
					C	315	79	-	-	-	315	315	0.0	0.1	0.868	A
	B	Entry	1	1	A	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
					B	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
					C	519	130	697	574	0.904	466	447	0.0	19.6	98.394	F
				2	A	14	4	527	246	0.058	14	14	0.0	0.0	15.416	C
					B	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
					C	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
	C	Entry	1	1	A	122	30	-	-	-	122	116	0.0	0.3	11.252	B
					B	508	127	719	548	0.926	506	486	0.0	2.7	17.381	C
					C	0	0	0	0	0.000	0	0	0.0	0.0	0.000	

07:45 - 08:00

Junction	Arm	Side	Lane level	Lane	To Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Simulation max flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	A	Entry	1	1	A	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
					B	183	46	1565	1142	0.160	185	179	0.6	0.5	10.883	B
					C	63	16	1565	1144	0.055	63	63	0.5	0.3	20.628	C
	B	Entry	1	1	A	163	41	1652	1610	0.101	130	132	8.6	16.5	356.293	F
					B	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
					C	714	179	1652	1610	0.444	549	562	38.5	73.3	358.678	F
	C	Entry	1	1	A	131	33	1347	1273	0.103	131	132	0.3	0.2	4.534	A
					B	653	163	1347	1273	0.513	656	662	0.8	0.9	4.640	A
					C	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
2	A	Entry	1	1	A	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
					B	322	80	-	-	-	321	321	0.0	0.1	0.454	A
					C	315	79	-	-	-	315	319	0.1	0.1	0.909	A
	B	Entry	1	1	A	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
					B	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
					C	517	129	697	575	0.900	465	468	19.6	32.3	205.377	F
				2	A	14	3	524	241	0.057	14	14	0.0	0.1	17.428	C
					B	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
					C	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
	C	Entry	1	1	A	116	29	-	-	-	116	120	0.3	0.5	12.017	B
					B	500	125	719	550	0.910	501	509	2.7	2.5	17.697	C
					C	0	0	0	0	0.000	0	0	0.0	0.0	0.000	

08:00 - 08:15

Junction	Arm	Side	Lane level	Lane	To Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Simulation max flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	A	Entry	1	1	A	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
					B	175	44	1565	1129	0.155	174	178	0.5	0.5	11.691	B
					C	65	16	1565	1129	0.057	63	64	0.3	0.4	22.689	C
	B	Entry	1	1	A	165	41	1652	1611	0.102	126	128	16.5	25.8	599.790	F
					B	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
					C	707	177	1652	1610	0.439	540	554	73.3	111.1	604.204	F
	C	Entry	1	1	A	131	33	1347	1276	0.103	132	135	0.2	0.1	4.526	A
					B	674	169	1347	1275	0.529	675	668	0.9	0.9	4.592	A
					C	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
2	A	Entry	1	1	A	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
					B	331	83	-	-	-	332	327	0.1	0.0	0.428	A
					C	313	78	-	-	-	313	314	0.1	0.1	0.836	A
	B	Entry	1	1	A	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
					B	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
					C	525	131	697	575	0.912	487	482	32.3	43.9	290.399	F
				2	A	15	4	530	244	0.061	15	14	0.1	0.0	15.048	C
					B	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
					C	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
	C	Entry	1	1	A	116	29	-	-	-	116	118	0.5	0.3	11.824	B
					B	499	125	719	547	0.912	500	511	2.5	2.6	17.705	C
					C	0	0	0	0	0.000	0	0	0.0	0.0	0.000	

08:15 - 08:30

Junction	Arm	Side	Lane level	Lane	To Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Simulation max flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	A	Entry	1	1	A	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
					B	175	44	1565	1130	0.155	172	180	0.5	0.6	10.992	B
					C	60	15	1565	1131	0.053	59	62	0.4	0.5	21.421	C
	B	Entry	1	1	A	168	42	1652	1611	0.104	128	129	25.8	35.1	619.130	F
					B	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
					C	709	177	1652	1612	0.440	560	553	111.1	149.5	623.784	F
	C	Entry	1	1	A	130	32	1347	1275	0.102	129	129	0.1	0.2	4.622	A
					B	669	167	1347	1274	0.525	669	667	0.9	1.0	4.590	A
					C	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
2	A	Entry	1	1	A	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
					B	317	79	-	-	-	317	318	0.0	0.1	0.442	A
					C	316	79	-	-	-	316	312	0.1	0.1	0.865	A
	B	Entry	1	1	A	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
					B	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
					C	523	131	697	572	0.915	479	484	43.9	53.4	303.872	F
				2	A	15	4	515	241	0.062	15	14	0.0	0.1	15.713	C
					B	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
					C	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
	C	Entry	1	1	A	117	29	-	-	-	117	116	0.3	0.4	11.955	B
					B	511	128	719	551	0.929	510	506	2.6	2.7	17.754	C
					C	0	0	0	0	0.000	0	0	0.0	0.0	0.000	

Linked - Strategic Model Base + Committed, PM

Data Errors and Warnings

Severity	Area	Item	Description
Last Run	Lane Simulation	Junction 2 - Arm B - Lane Simulation	Arm B: Queue at end of modelled period is greater than 10 PCU. Delay is likely to have been underestimated.
Last Run	Lane Simulation	Junction 1 - Arm B - Lane Simulation	Arm B: Queue at end of modelled period is greater than 10 PCU. Delay is likely to have been underestimated.
Info	Lane Simulation	A2 - Linked [Lane Simulation]	This analysis set uses Lane Simulation mode. For detailed information on this mode, please see the User Guide.

Junction Network

Junctions

Junction	Name	Junction type	Arm A Direction	Arm B Direction	Arm C Direction	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Bucknell Road / A4095 Roundabout	Standard Roundabout					A, B, C	301.44	F
2	Bucknell Road / A4095 Priority T-Junction	T-Junction	Two-way	Two-way	Two-way			363.58	F

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	332.77	F

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)	Run automatically
D2	Strategic Model Base + Committed	PM	FLAT	16:15	17:15	60	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Linked Arm Data

Junction	Arm	Feeding Junction	Feeding Arm	Link Type	Flow source	Uniform flow (PCU/hr)	Flow multiplier (%)	Internal storage space (PCU)
1	C	2	C	Queue limited	Normal	0	100.00	10.00
2	C	1	C	Queue limited	Normal	0	100.00	10.00

Demand overview (Traffic)

Junction	Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1	A		FLAT	✓	219	100.000
	B		FLAT	✓	924	100.000
	C	✓				
2	A		FLAT	✓	556	100.000
	B		FLAT	✓	748	100.000
	C	✓				

Origin-Destination Data

Junction 2

Demand (PCU/hr)

		To		
		A	B	C
From	A	0	238	318
	B	11	0	737
	C	272	619	0

Proportions

		To		
		A	B	C
From	A	0.00	0.43	0.57
	B	0.01	0.00	0.99
	C	0.31	0.69	0.00

Junction 1

Demand (PCU/hr)

		To		
		A	B	C
From	A	0	158	61
	B	94	0	830
	C	139	916	0

Proportions

		To		
		A	B	C
From	A	0.00	0.72	0.28
	B	0.10	0.00	0.90
	C	0.13	0.87	0.00

Vehicle Mix

Junction 2

Heavy Vehicle Percentages

		To		
		A	B	C
From	A	0	2	0
	B	17	0	8
	C	0	5	0

Average PCU Per Veh

		To		
		A	B	C
From	A	1.000	1.020	1.000
	B	1.170	1.000	1.080
	C	1.000	1.050	1.000

Junction 1

Heavy Vehicle Percentages

		To		
		A	B	C
From	A	0	10	5
	B	38	0	3
	C	3	6	0

Average PCU Per Veh

		To		
		A	B	C
From	A	1.000	1.100	1.050
	B	1.380	1.000	1.030
	C	1.030	1.060	1.000

Detailed Demand Data

Demand for each time segment

Time Segment	Junction	Arm	Demand (PCU/hr)	Demand in PCU (PCU/hr)
16:15-16:30	1	A	219	219
		B	924	924
		C	1055	1055
	2	A	556	556
		B	748	748
		C	891	891
16:30-16:45	1	A	219	219
		B	924	924
		C	1055	1055
	2	A	556	556
		B	748	748
		C	891	891
16:45-17:00	1	A	219	219
		B	924	924
		C	1055	1055
	2	A	556	556
		B	748	748
		C	891	891
17:00-17:15	1	A	219	219
		B	924	924
		C	1055	1055
	2	A	556	556
		B	748	748
		C	891	891

Results

Results Summary for whole modelled period

Junction	Arm	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1	A	11.40	0.7	B	221	221
	B	638.13	193.5	F	926	926
	C	4.50	1.2	A	834	834
2	A	0.47	0.1	A	557	557
	B	972.07	232.6	F	742	742
	C	14.67	3.0	B	715	715

Main Results for each time segment

16:15 - 16:30

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Throughput (PCU/hr)	Average throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	A	217	54	723	216	214	183	0.0	0.7	9.687	A
	B	917	229	55	735	723	884	0.0	47.9	125.793	F
	C	833	208	72	834	821	713	0.0	1.0	4.472	A
2	A	563	141		564	563	223	0.0	0.0	0.397	A
	B	738	185		515	504	744	0.0	59.6	226.125	F
	C	714	179		712	687	823	0.0	3.0	14.255	B

16:30 - 16:45

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Throughput (PCU/hr)	Average throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	A	227	57	720	226	222	180	0.7	0.7	11.308	B
	B	908	227	62	714	723	884	47.9	96.4	362.649	F
	C	830	208	71	829	829	707	1.0	1.2	4.501	A
2	A	559	140		559	559	229	0.0	0.0	0.472	A
	B	741	185		512	517	727	59.6	118.9	637.069	F
	C	708	177		709	711	824	3.0	2.9	14.675	B

16:45 - 17:00

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Throughput (PCU/hr)	Average throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	A	228	57	730	227	222	183	0.7	0.6	11.404	B
	B	932	233	63	720	724	894	96.4	145.8	609.247	F
	C	838	209	77	836	825	709	1.2	1.0	4.472	A
2	A	556	139		557	547	231	0.0	0.0	0.431	A
	B	740	185		527	518	732	118.9	175.1	972.073	F
	C	713	178		714	717	835	2.9	2.9	14.483	B

17:00 - 17:15

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Throughput (PCU/hr)	Average throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	A	211	53	721	213	220	191	0.6	0.6	10.823	B
	B	946	236	61	742	727	873	145.8	193.5	638.128	F
	C	835	209	78	834	838	726	1.0	1.1	4.382	A
2	A	550	137		549	553	233	0.0	0.1	0.452	A
	B	749	187		528	522	742	175.1	232.6	760.308	F
	C	724	181		723	714	824	2.9	3.0	14.500	B

Lane Results

Lane Level notation: Lane Level 1 is always closest to the junction.

Lanes: Main Results for each time segment

16:15 - 16:30

Junction	Arm	Side	Lane level	Lane	Destination arms	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	A	Entry	1	1	A, B, C	217	1098	0.198	216	214	0.0	0.7	9.687	A
		Exit	1	1		183			183	181	0.0	0.0	0.000	A
	B	Entry	1	1	A, B, C	917	1616	0.568	735	723	0.0	47.9	125.793	F
		Exit	1	1		884			884	870	0.0	0.0	0.000	A
	C	Entry	1	1	A, B, C	833	1306	0.638	834	821	0.0	1.0	4.472	A
		Exit	1	1		717			713	698	0.0	2.3	10.296	B
2	A	Entry	1	1	B, C	563			564	563	0.0	0.0	0.397	A
		Exit	1	1		223			223	219	0.0	0.0	0.000	A
	B	Entry	1	1	C	727			504	493	0.0	59.5	228.933	F
				2	A	11			11	10	0.0	0.1	17.779	C
		Exit	1	1		744			744	719	0.0	0.0	0.000	A
	C	Entry	1	1	A, B	714			712	687	0.0	3.0	14.255	B
		Exit	1	1		822			823	815	0.0	0.2	1.554	A

16:30 - 16:45

Junction	Arm	Side	Lane level	Lane	Destination arms	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	A	Entry	1	1	A, B, C	227	1100	0.206	226	222	0.7	0.7	11.308	B
		Exit	1	1		180			180	183	0.0	0.0	0.000	A
	B	Entry	1	1	A, B, C	908	1610	0.564	714	723	47.9	96.4	362.649	F
		Exit	1	1		884			884	880	0.0	0.0	0.000	A
	C	Entry	1	1	A, B, C	830	1307	0.635	829	829	1.0	1.2	4.501	A
		Exit	1	1		705			707	710	2.3	2.2	11.428	B
2	A	Entry	1	1	B, C	559			559	559	0.0	0.0	0.472	A
		Exit	1	1		229			229	226	0.0	0.0	0.000	A
	B	Entry	1	1	C	729			500	506	59.5	118.8	645.701	F
				2	A	12			11	11	0.1	0.1	17.132	C
		Exit	1	1		727			727	737	0.0	0.0	0.000	A
	C	Entry	1	1	A, B	708			709	711	3.0	2.9	14.675	B
		Exit	1	1		824			824	824	0.2	0.4	1.637	A

16:45 - 17:00

Junction	Arm	Side	Lane level	Lane	Destination arms	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	A	Entry	1	1	A, B, C	228	1093	0.209	227	222	0.7	0.6	11.404	B
		Exit	1	1		183			183	176	0.0	0.0	0.000	A
	B	Entry	1	1	A, B, C	932	1610	0.579	720	724	96.4	145.8	609.247	F
		Exit	1	1		894			894	881	0.0	0.0	0.000	A
	C	Entry	1	1	A, B, C	838	1304	0.643	836	825	1.2	1.0	4.472	A
		Exit	1	1		707			709	715	2.2	2.0	11.419	B
2	A	Entry	1	1	B, C	556			557	547	0.0	0.0	0.431	A
		Exit	1	1		231			231	232	0.0	0.0	0.000	A
	B	Entry	1	1	C	730			518	507	118.8	175.0	987.008	F
				2	A	10			10	12	0.1	0.1	21.300	C
		Exit	1	1		732			732	730	0.0	0.0	0.000	A
	C	Entry	1	1	A, B	713			714	717	2.9	2.9	14.483	B
		Exit	1	1		835			835	821	0.4	0.3	1.619	A

17:00 - 17:15

Junction	Arm	Side	Lane level	Lane	Destination arms	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	A	Entry	1	1	A, B, C	211	1099	0.192	213	220	0.6	0.6	10.823	B
		Exit	1	1		191			191	184	0.0	0.0	0.000	A
	B	Entry	1	1	A, B, C	946	1612	0.587	742	727	145.8	193.5	638.128	F
		Exit	1	1		873			873	887	0.0	0.0	0.000	A
	C	Entry	1	1	A, B, C	835	1303	0.641	834	838	1.0	1.1	4.382	A
		Exit	1	1		724			726	713	2.0	2.2	11.239	B
2	A	Entry	1	1	B, C	550			549	553	0.0	0.1	0.452	A
		Exit	1	1		233			233	229	0.0	0.0	0.000	A
	B	Entry	1	1	C	739			516	511	175.0	232.6	847.459	F
				2	A	11			11	11	0.1	0.0	15.715	C
		Exit	1	1		742			742	733	0.0	0.0	0.000	A
	C	Entry	1	1	A, B	724			723	714	2.9	3.0	14.500	B
		Exit	1	1		824			824	827	0.3	0.3	1.557	A

Lane movements: Main Results for each time segment

16:15 - 16:30

Junction	Arm	Side	Lane level	Lane	To Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Simulation max flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	A	Entry	1	1	A	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
					B	161	40	1565	1096	0.147	161	159	0.0	0.3	7.622	A
					C	56	14	1565	1092	0.051	55	56	0.0	0.3	15.194	C
	B	Entry	1	1	A	92	23	1652	1614	0.057	72	71	0.0	4.7	121.911	F
					B	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
					C	825	206	1652	1615	0.510	662	652	0.0	43.2	126.113	F
	C	Entry	1	1	A	110	28	1347	1307	0.084	111	110	0.0	0.1	4.403	A
					B	722	181	1347	1306	0.553	723	711	0.0	0.8	4.483	A
					C	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
2	A	Entry	1	1	A	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
					B	245	61	-	-	-	245	240	0.0	0.0	0.240	A
					C	318	80	-	-	-	319	323	0.0	0.0	0.512	A
	B	Entry	1	1	A	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
					B	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
					C	727	182	697	579	1.256	504	493	0.0	59.5	228.933	F
				2	A	11	3	472	224	0.049	11	10	0.0	0.1	17.779	C
					B	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
					C	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
	C	Entry	1	1	A	212	53	-	-	-	213	208	0.0	0.7	10.817	B
					B	502	125	719	569	0.882	499	479	0.0	2.3	15.815	C
					C	0	0	0	0	0.000	0	0	0.0	0.0	0.000	

16:30 - 16:45

Junction	Arm	Side	Lane level	Lane	To Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Simulation max flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	A	Entry	1	1	A	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
					B	166	41	1565	1103	0.150	164	161	0.3	0.5	8.925	A
					C	61	15	1565	1103	0.056	62	61	0.3	0.2	17.395	C
	B	Entry	1	1	A	83	21	1652	1611	0.052	71	74	4.7	9.1	350.243	F
					B	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
					C	825	206	1652	1610	0.512	643	649	43.2	87.3	363.701	F
	C	Entry	1	1	A	109	27	1347	1304	0.083	109	110	0.1	0.1	4.520	A
					B	722	181	1347	1307	0.553	720	719	0.8	1.1	4.498	A
					C	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
2	A	Entry	1	1	A	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
					B	235	59	-	-	-	235	241	0.0	0.0	0.314	A
					C	324	81	-	-	-	324	319	0.0	0.0	0.590	A
	B	Entry	1	1	A	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
					B	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
					C	729	182	697	580	1.257	500	506	59.5	118.8	645.701	F
				2	A	12	3	493	220	0.054	11	11	0.1	0.1	17.132	C
					B	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
					C	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
	C	Entry	1	1	A	217	54	-	-	-	218	215	0.7	0.6	11.567	B
					B	491	123	719	570	0.860	491	496	2.3	2.3	16.082	C
					C	0	0	0	0	0.000	0	0	0.0	0.0	0.000	

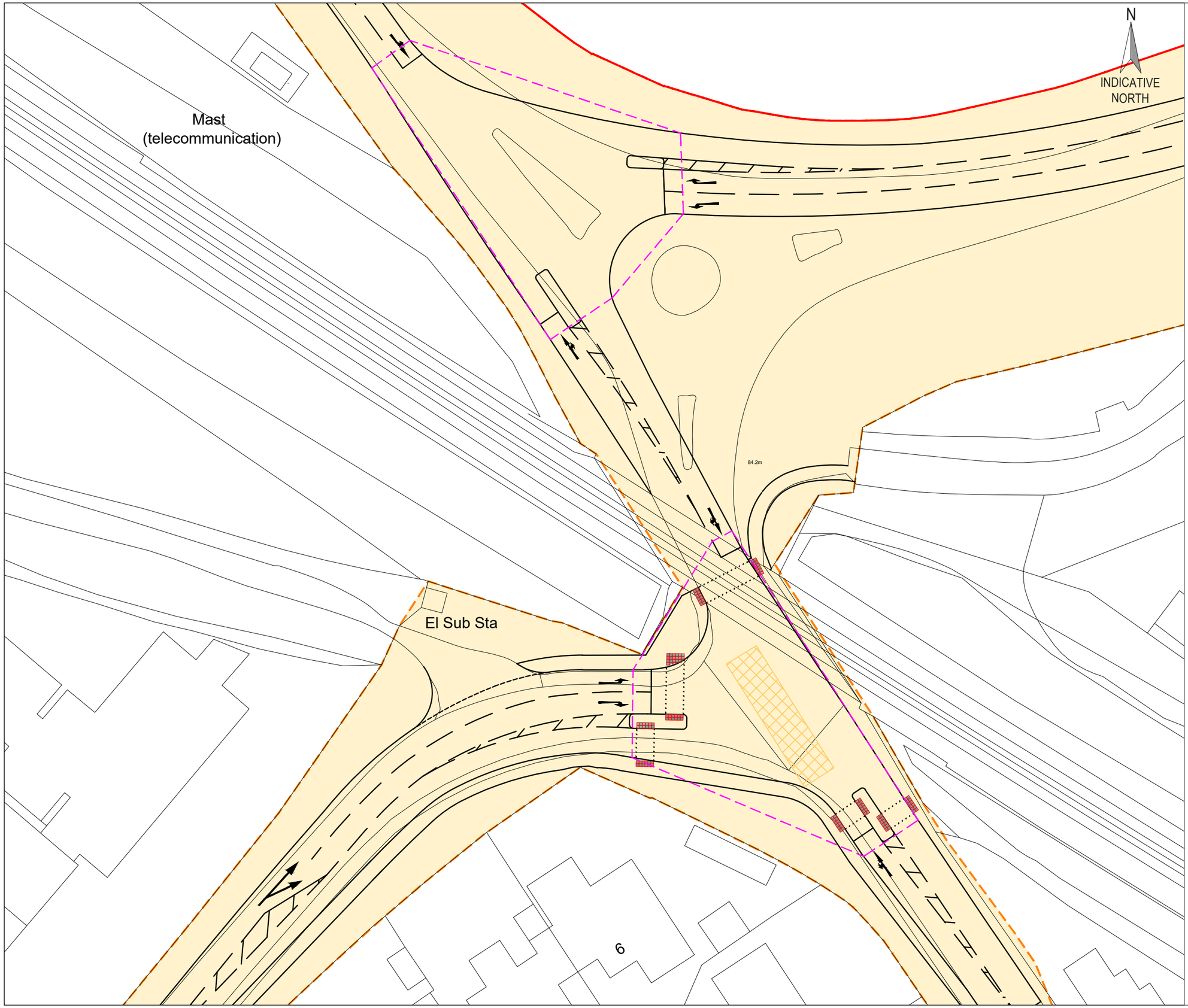
16:45 - 17:00

Junction	Arm	Side	Lane level	Lane	To Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Simulation max flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	A	Entry	1	1	A	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
					B	166	41	1565	1093	0.151	164	160	0.5	0.4	8.622	A
					C	63	16	1565	1095	0.058	63	62	0.2	0.2	18.233	C
	B	Entry	1	1	A	99	25	1652	1609	0.061	77	72	9.1	14.9	612.775	F
					B	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
					C	833	208	1652	1610	0.517	644	653	87.3	130.9	608.946	F
	C	Entry	1	1	A	107	27	1347	1303	0.082	107	104	0.1	0.2	4.304	A
					B	731	183	1347	1304	0.560	730	721	1.1	0.9	4.497	A
					C	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
2	A	Entry	1	1	A	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
					B	240	60	-	-	-	240	233	0.0	0.0	0.220	A
					C	317	79	-	-	-	317	314	0.0	0.0	0.583	A
	B	Entry	1	1	A	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
					B	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
					C	730	182	697	577	1.264	518	507	118.8	175.0	987.008	F
				2	A	10	3	472	218	0.047	10	12	0.1	0.1	21.300	C
					B	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
					C	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
	C	Entry	1	1	A	221	55	-	-	-	222	220	0.6	0.7	11.318	B
					B	492	123	719	571	0.861	492	497	2.3	2.3	15.960	C
					C	0	0	0	0	0.000	0	0	0.0	0.0	0.000	

17:00 - 17:15

Junction	Arm	Side	Lane level	Lane	To Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Simulation max flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Average throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	A	Entry	1	1	A	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
					B	152	38	1565	1098	0.139	152	159	0.4	0.4	8.413	A
					C	59	15	1565	1099	0.054	61	60	0.2	0.2	16.920	C
	B	Entry	1	1	A	95	24	1652	1611	0.059	78	74	14.9	18.9	633.211	F
					B	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
					C	851	213	1652	1611	0.528	664	653	130.9	174.7	638.517	F
	C	Entry	1	1	A	112	28	1347	1304	0.086	112	110	0.2	0.1	4.369	A
					B	723	181	1347	1303	0.555	721	728	0.9	0.9	4.384	A
					C	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
2	A	Entry	1	1	A	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
					B	241	60	-	-	-	241	237	0.0	0.0	0.256	A
					C	308	77	-	-	-	308	316	0.0	0.0	0.596	A
	B	Entry	1	1	A	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
					B	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
					C	739	185	697	588	1.256	516	511	175.0	232.6	847.459	F
				2	A	11	3	498	235	0.046	11	11	0.1	0.0	15.715	C
					B	0	0	0	0	0.000	0	0	0.0	0.0	0.000	
					C	0	0	0	0	0.000	0	0	0.0	0.0	0.000	A
	C	Entry	1	1	A	222	55	-	-	-	221	218	0.7	0.6	11.393	B
					B	502	126	719	573	0.876	502	496	2.3	2.4	15.941	C
					C	0	0	0	0	0.000	0	0	0.0	0.0	0.000	

Appendix C Proposed Signalisation Mitigation Scheme



KEY

- Site Boundary
- Intervisibility
- Extent of Adopted Highway

Rev	Date	Description	By	Apvd
P3	17.08.22	Junction Amendment	JF	AW
P2	12.04.21	Junction Amendment	JF	AW
P1	22.02.22	Preliminary Issue	NP	MD

PROJECT:
BICESTER, OXFORDSHIRE

TITLE:
PROPOSED SIGNALISED JUNCTION AT BUCKNELL ROAD / A4095 / HOWES LANE

CLIENT:
HALLAM LAND MANAGEMENT

SCALE@A3:
1:500

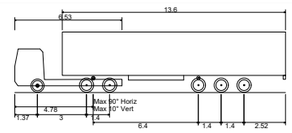
PROJECT REF:
20300

DRAWING No:
017

REV:
P3

Revision Referencing
P = Preliminary A = Approval T = Tender C = Construction

Bristol, Cardiff, Plymouth, Winchester
St James Court, St James Parade, Bristol BS1 3LH
jubb.uk.com
+44(0)117 922 6266



Max Legal Length (UK) Articulated Vehicle (16.5m)

Overall Length	16.500m
Overall Width	2.550m
Overall Body Height	3.681m
Min Body Ground Clearance	0.411m
Max Track Width	2.500m
Lock to lock time	6.00s
Kerb to Kerb Turning Radius	6.530m

Rev	Date	Description	By	Apvd
P1	17.08.22	Preliminary Issue	JF	AW

PROJECT:
BICESTER, OXFORDSHIRE

TITLE:
PROPOSED SIGNALISED JUNCTION AT BUCKNELL ROAD / A4095 / HOWES LANE TRACKING

CLIENT:
HALLAM LAND MANAGEMENT

SCALE@A3:
1:500

PROJECT REF:
20300

DRAWING No:
024

REV:
P1

Revision Referencing
P = Preliminary A = Approval T = Tender C = Construction

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North West Bicester – Hawkwell Village

20300

Appendix D LINSIG Output Report – Proposed Junction 2026

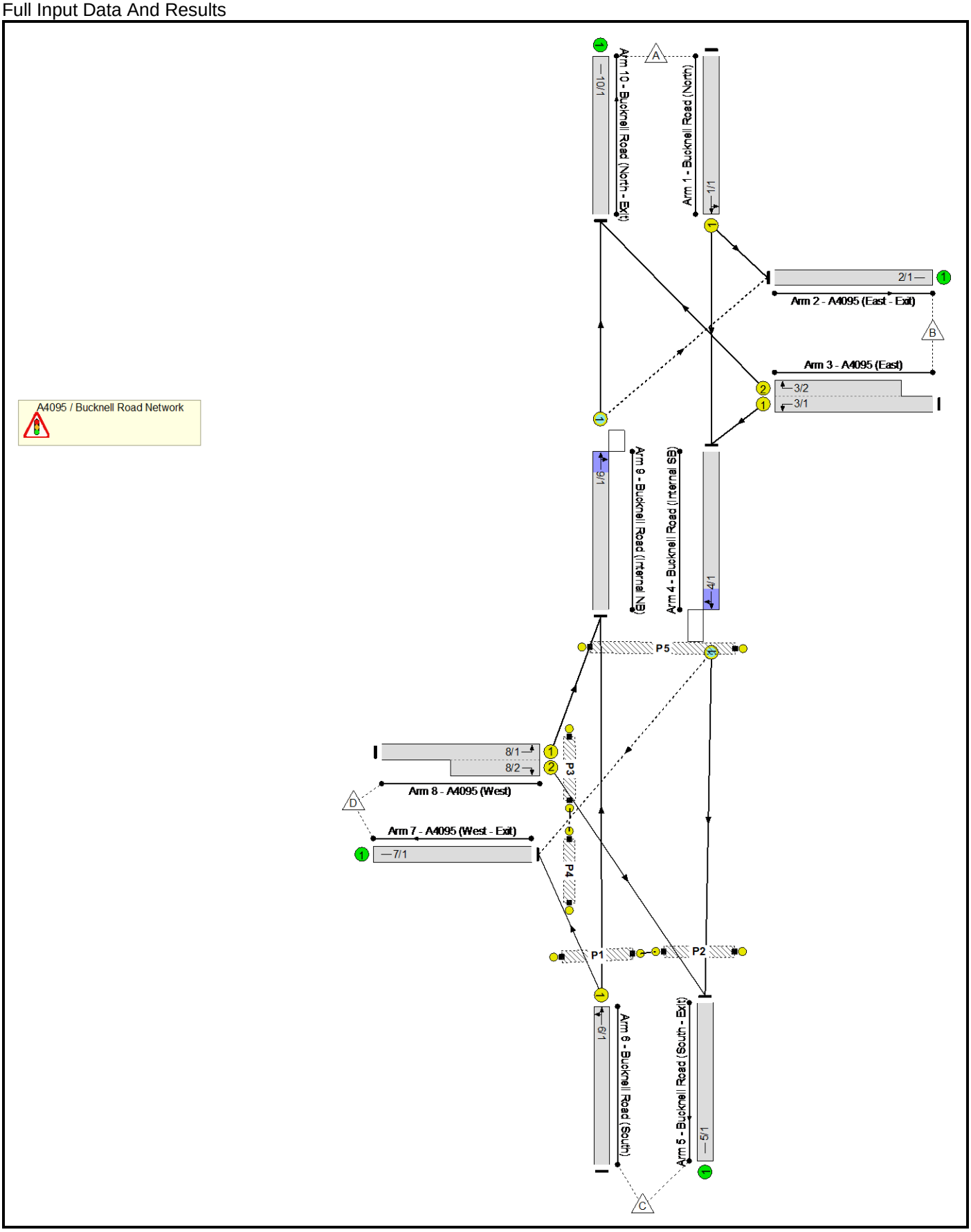
Full Input Data And Results

User and Project Details

Project:	**North West Bicester - Land North East of the Marylebone-Birmingham Railway Line**
Title:	**A4095 / Bucknell Road**
Location:	Bicester, Oxfordshire
Client:	Hallam Land Management Ltd
Additional detail:	Based on Drawing No. 20300-017-P1.
File name:	A4095_Bucknell Road Junction Network (Mitigation - With Give Way)_2022.08.17 New Layout Multi Stream.lsg3x
Author:	MD
Company:	Jubb
Address:	Suite B, Ground Floor West, St James Court, St James Parade, Bristol, BS1 3LH

Network Layout Diagram

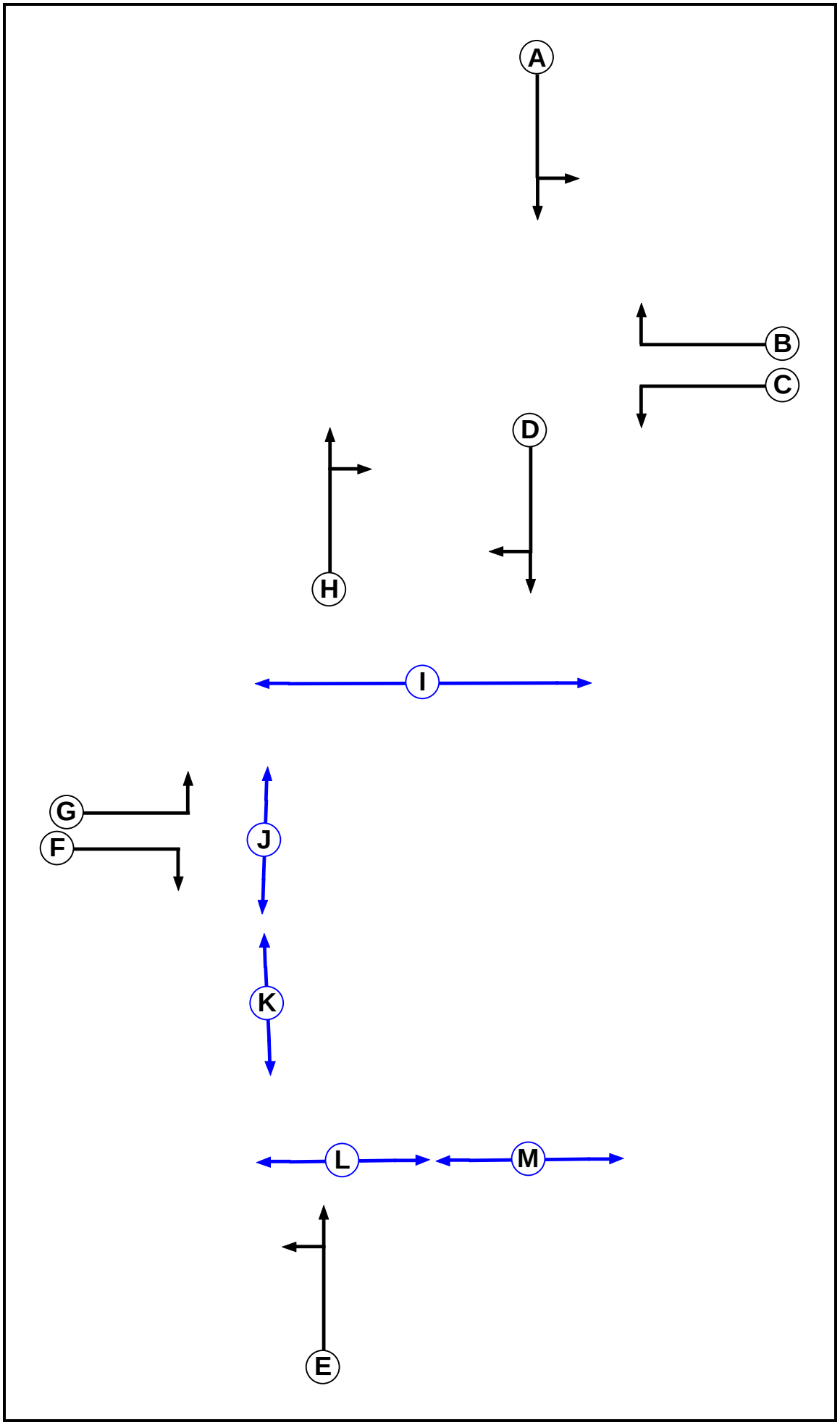
Full Input Data And Results



Full Input Data And Results

Phase Diagram

Full Input Data And Results



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	2		7	7
E	Traffic	2		7	7
F	Traffic	2		7	7
G	Traffic	2		7	7
H	Traffic	1		7	7
I	Pedestrian	2		5	5
J	Pedestrian	2		5	5
K	Pedestrian	2		5	5
L	Pedestrian	2		5	5
M	Pedestrian	2		5	5

Phase Intergreens Matrix

		Starting Phase												
		A	B	C	D	E	F	G	H	I	J	K	L	M
Terminating Phase	A		5	6	-	-	-	-	-	-	-	-	-	-
	B	6		-	-	-	-	-	5	-	-	-	-	-
	C	5	-		-	-	-	-	-	-	-	-	-	-
	D	-	-	-		-	5	-	-	5	-	12	-	9
	E	-	-	-	-		5	6	-	9	-	9	5	-
	F	-	-	-	5	5		-	-	-	5	-	-	10
	G	-	-	-	-	5	-		-	7	5	-	-	-
	H	-	5	-	-	-	-	-		-	-	-	-	-
	I	-	-	-	9	9	-	9	-		-	-	-	-
	J	-	-	-	-	-	8	8	-	-		-	-	-
	K	-	-	-	8	8	-	-	-	-	-		-	-
	L	-	-	-	-	5	-	-	-	-	-	-		-
	M	-	-	-	5	-	5	-	-	-	-	-	-	

Phases in Stage

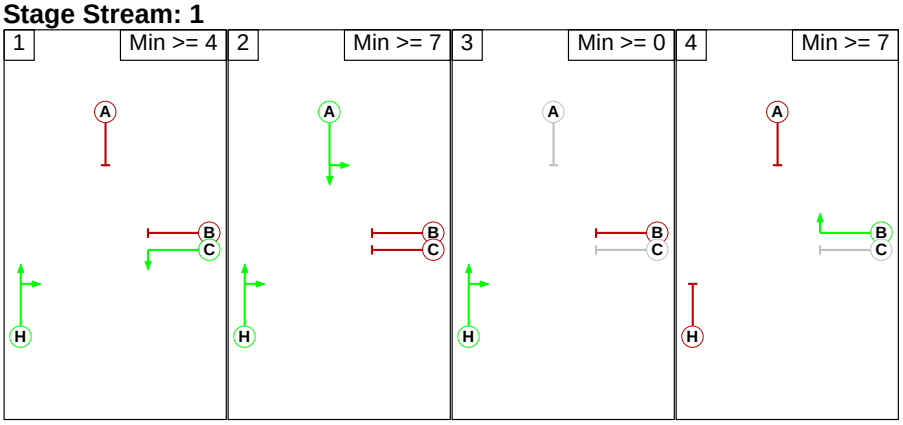
Stream	Stage No.	Phases in Stage
1	1	C H
1	2	A H
1	3	H
1	4	B
2	1	D G
2	2	D E J
2	3	F I K L

Full Input Data And Results

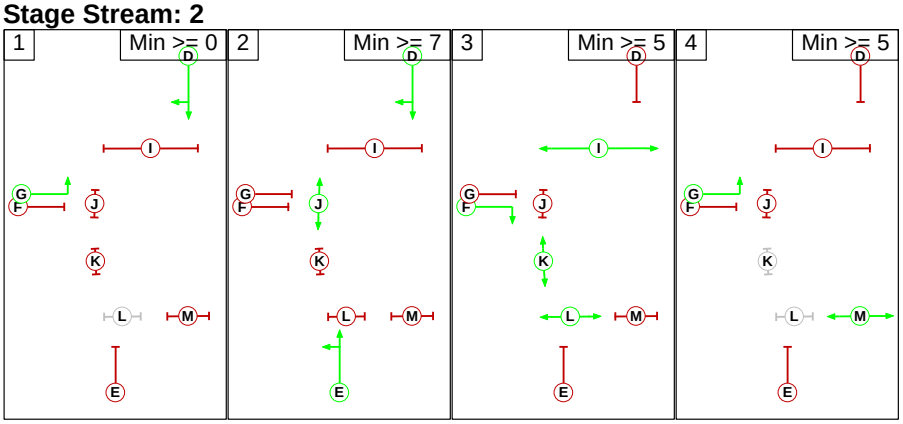
2	4	G M

Stage Diagram

Stage Stream: 1



Stage Stream: 2



Phase Delays

Stage Stream: 1

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

Stage Stream: 2

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

Prohibited Stage Change

Stage Stream: 1

From Stage	To Stage 1	2	3	4
1		5	0	5
2	6		0	5
3	2	2		5
4	5	6	5	

Full Input Data And Results

Stage Stream: 2

		To Stage			
		1	2	3	4
From Stage	1		5	12	9
	2	8		12	9
	3	9	9		10
	4	5	5	7	

Full Input Data And Results

Give-Way Lane Input Data

Junction: A4095 / Bucknell Road Network											
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)**
4/1 (Bucknell Road (Internal SB))	7/1 (Right)	1439	0	6/1	1.09	All	3.00	3.00	0.50	3	2.00
9/1 (Bucknell Road (Internal NB))	2/1 (Right)	1439	0	1/1	1.09	All	2.00	2.00	0.50	2	2.00

Full Input Data And Results

Lane Input Data

Junction: A4095 / Bucknell Road Network												
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 (Bucknell Road (North))	U	A	2	3	60.0	Geom	-	3.00	0.00	Y	Arm 2 Left	20.00
											Arm 4 Ahead	Inf
2/1 (A4095 (East - Exit))	U		2	3	60.0	Inf	-	-	-	-	-	-
3/1 (A4095 (East))	U	C	2	3	18.4	Geom	-	3.00	0.00	Y	Arm 4 Left	9.00
3/2 (A4095 (East))	U	B	2	3	18.4	Geom	-	3.00	0.00	Y	Arm 10 Right	50.00
4/1 (Bucknell Road (Internal SB))	O	D	2	3	6.6	Geom	-	3.00	0.00	Y	Arm 5 Ahead	Inf
											Arm 7 Right	14.00
5/1 (Bucknell Road (South - Exit))	U		2	3	60.0	Inf	-	-	-	-	-	-
6/1 (Bucknell Road (South))	U	E	2	3	60.0	Geom	-	3.00	0.00	Y	Arm 7 Left	10.00
											Arm 9 Ahead	Inf
7/1 (A4095 (West - Exit))	U		2	3	60.0	Inf	-	-	-	-	-	-
8/1 (A4095 (West))	U	G	2	3	60.0	Geom	-	3.00	0.00	Y	Arm 9 Left	7.20
8/2 (A4095 (West))	U	F	2	3	8.5	Geom	-	3.00	0.00	Y	Arm 5 Right	40.00
9/1 (Bucknell Road (Internal NB))	O	H	2	3	7.3	Geom	-	3.00	0.00	Y	Arm 2 Right	15.10
											Arm 10 Ahead	Inf
10/1 (Bucknell Road (North - Exit))	U		2	3	60.0	Inf	-	-	-	-	-	-

Traffic Flow Groups

Flow Group	Start Time	End Time	Duration	Formula
15: 'Strategic Model Base + Committed - AM'	08:00	09:00	01:00	
16: 'Strategic Model Base + Committed - PM'	17:00	18:00	01:00	
17: 'Strategic Model Hawkfield Development 1a - AM'	08:00	09:00	01:00	
18: 'Strategic Model Hawkfield Development 1a - PM'	17:00	18:00	01:00	

19: 'Strategic Model Hawkfield Development 2a - AM'	08:00	09:00	01:00	
20: 'Strategic Model Hawkfield Development 2a - PM'	17:00	18:00	01:00	

Scenario 15: 'Strategic Model Base + Committed - AM' (FG15: 'Strategic Model Base + Committed - AM', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

		Destination				
		A	B	C	D	Tot.
Origin	A	0	177	12	53	242
	B	166	0	132	571	869
	C	52	261	0	321	634
	D	86	438	14	0	538
	Tot.	304	876	158	945	2283

Full Input Data And Results

Traffic Lane Flows

Lane	Scenario 15: Strategic Model Base + Committed - AM
Junction: A4095 / Bucknell Road Network	
1/1	242
2/1	876
3/1 (with short)	869(In) 703(Out)
3/2 (short)	166
4/1	768
5/1	158
6/1	634
7/1	945
8/1 (with short)	538(In) 524(Out)
8/2 (short)	14
9/1	837
10/1	304

Lane Saturation Flows

Junction: A4095 / Bucknell Road Network

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 (Bucknell Road (North))	3.00	0.00	Y	Arm 2 Left	20.00	73.1 %	1815	1815
				Arm 4 Ahead	Inf	26.9 %		
2/1 (A4095 (East - Exit) Lane 1)	Infinite Saturation Flow						Inf	Inf
3/1 (A4095 (East))	3.00	0.00	Y	Arm 4 Left	9.00	100.0 %	1641	1641
3/2 (A4095 (East))	3.00	0.00	Y	Arm 10 Right	50.00	100.0 %	1859	1859
4/1 (Bucknell Road (Internal SB))	3.00	0.00	Y	Arm 5 Ahead	Inf	18.8 %	1762	1762
				Arm 7 Right	14.00	81.3 %		
5/1 (Bucknell Road (South - Exit) Lane 1)	Infinite Saturation Flow						Inf	Inf
6/1 (Bucknell Road (South))	3.00	0.00	Y	Arm 7 Left	10.00	50.6 %	1780	1780
				Arm 9 Ahead	Inf	49.4 %		
7/1 (A4095 (West - Exit) Lane 1)	Infinite Saturation Flow						Inf	Inf
8/1 (A4095 (West))	3.00	0.00	Y	Arm 9 Left	7.20	100.0 %	1585	1585
8/2 (A4095 (West))	3.00	0.00	Y	Arm 5 Right	40.00	100.0 %	1846	1846
9/1	3.00	0.00	Y	Arm 2 Right	15.10	83.5 %	1768	1768

(Bucknell Road (Internal NB))				Arm 10 Ahead	Inf	16.5 %		
10/1 (Bucknell Road (North - Exit) Lane 1)	Infinite Saturation Flow						Inf	Inf

Scenario 16: 'Strategic Model Base + Committed - PM' (FG16: 'Strategic Model Base + Committed - PM', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

		Destination				
		A	B	C	D	Tot.
Origin	A	0	158	19	42	219
	B	94	0	253	576	923
	C	42	276	0	238	556
	D	97	640	11	0	748
	Tot.	233	1074	283	856	2446

Full Input Data And Results

Traffic Lane Flows

Lane	Scenario 16: Strategic Model Base + Committed - PM
Junction: A4095 / Bucknell Road Network	
1/1	219
2/1	1074
3/1 (with short)	923(In) 829(Out)
3/2 (short)	94
4/1	890
5/1	283
6/1	556
7/1	856
8/1 (with short)	748(In) 737(Out)
8/2 (short)	11
9/1	1055
10/1	233

Lane Saturation Flows

Junction: A4095 / Bucknell Road Network

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 (Bucknell Road (North))	3.00	0.00	Y	Arm 2 Left	20.00	72.1 %	1817	1817
				Arm 4 Ahead	Inf	27.9 %		
2/1 (A4095 (East - Exit) Lane 1)	Infinite Saturation Flow						Inf	Inf
3/1 (A4095 (East))	3.00	0.00	Y	Arm 4 Left	9.00	100.0 %	1641	1641
3/2 (A4095 (East))	3.00	0.00	Y	Arm 10 Right	50.00	100.0 %	1859	1859
4/1 (Bucknell Road (Internal SB))	3.00	0.00	Y	Arm 5 Ahead	Inf	30.6 %	1782	1782
				Arm 7 Right	14.00	69.4 %		
5/1 (Bucknell Road (South - Exit) Lane 1)	Infinite Saturation Flow						Inf	Inf
6/1 (Bucknell Road (South))	3.00	0.00	Y	Arm 7 Left	10.00	42.8 %	1799	1799
				Arm 9 Ahead	Inf	57.2 %		
7/1 (A4095 (West - Exit) Lane 1)	Infinite Saturation Flow						Inf	Inf
8/1 (A4095 (West))	3.00	0.00	Y	Arm 9 Left	7.20	100.0 %	1585	1585
8/2 (A4095 (West))	3.00	0.00	Y	Arm 5 Right	40.00	100.0 %	1846	1846
9/1	3.00	0.00	Y	Arm 2 Right	15.10	86.8 %	1763	1763

(Bucknell Road (Internal NB))				Arm 10 Ahead	Inf	13.2 %		
10/1 (Bucknell Road (North - Exit) Lane 1)	Infinite Saturation Flow						Inf	Inf

Scenario 17: 'Strategic Model Hawkfield Development 1a - AM' (FG17: 'Strategic Model Hawkfield Development 1a - AM', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

		Destination				
		A	B	C	D	Tot.
Origin	A	0	140	23	98	261
	B	93	0	127	546	766
	C	60	224	0	292	576
	D	93	342	12	0	447
	Tot.	246	706	162	936	2050

Full Input Data And Results

Traffic Lane Flows

Lane	Scenario 17: Strategic Model Hawkfield Development 1a - AM
Junction: A4095 / Bucknell Road Network	
1/1	261
2/1	706
3/1 (with short)	766(In) 673(Out)
3/2 (short)	93
4/1	794
5/1	162
6/1	576
7/1	936
8/1 (with short)	447(In) 435(Out)
8/2 (short)	12
9/1	719
10/1	246

Lane Saturation Flows

Junction: A4095 / Bucknell Road Network								
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 (Bucknell Road (North))	3.00	0.00	Y	Arm 2 Left	20.00	53.6 %	1841	1841
				Arm 4 Ahead	Inf	46.4 %		
2/1 (A4095 (East - Exit) Lane 1)	Infinite Saturation Flow						Inf	Inf
3/1 (A4095 (East))	3.00	0.00	Y	Arm 4 Left	9.00	100.0 %	1641	1641
3/2 (A4095 (East))	3.00	0.00	Y	Arm 10 Right	50.00	100.0 %	1859	1859
4/1 (Bucknell Road (Internal SB))	3.00	0.00	Y	Arm 5 Ahead	Inf	18.9 %	1762	1762
				Arm 7 Right	14.00	81.1 %		
5/1 (Bucknell Road (South - Exit) Lane 1)	Infinite Saturation Flow						Inf	Inf
6/1 (Bucknell Road (South))	3.00	0.00	Y	Arm 7 Left	10.00	50.7 %	1780	1780
				Arm 9 Ahead	Inf	49.3 %		
7/1 (A4095 (West - Exit) Lane 1)	Infinite Saturation Flow						Inf	Inf
8/1 (A4095 (West))	3.00	0.00	Y	Arm 9 Left	7.20	100.0 %	1585	1585
8/2 (A4095 (West))	3.00	0.00	Y	Arm 5 Right	40.00	100.0 %	1846	1846
9/1	3.00	0.00	Y	Arm 2 Right	15.10	78.7 %	1776	1776

(Bucknell Road (Internal NB))				Arm 10 Ahead	Inf	21.3 %		
10/1 (Bucknell Road (North - Exit) Lane 1)	Infinite Saturation Flow						Inf	Inf

Scenario 18: 'Strategic Model Hawkfield Development 1a - PM' (FG18: 'Strategic Model Hawkfield Development 1a - PM', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

		Destination				
		A	B	C	D	Tot.
Origin	A	0	136	44	95	275
	B	134	0	221	480	835
	C	73	315	0	213	601
	D	123	529	39	0	691
	Tot.	330	980	304	788	2402

Full Input Data And Results

Traffic Lane Flows

Lane	Scenario 18: Strategic Model Hawkfield Development 1a - PM
Junction: A4095 / Bucknell Road Network	
1/1	275
2/1	980
3/1 (with short)	835(In) 701(Out)
3/2 (short)	134
4/1	840
5/1	304
6/1	601
7/1	788
8/1 (with short)	691(In) 652(Out)
8/2 (short)	39
9/1	1040
10/1	330

Lane Saturation Flows

Junction: A4095 / Bucknell Road Network								
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 (Bucknell Road (North))	3.00	0.00	Y	Arm 2 Left	20.00	49.5 %	1847	1847
				Arm 4 Ahead	Inf	50.5 %		
2/1 (A4095 (East - Exit) Lane 1)	Infinite Saturation Flow						Inf	Inf
3/1 (A4095 (East))	3.00	0.00	Y	Arm 4 Left	9.00	100.0 %	1641	1641
3/2 (A4095 (East))	3.00	0.00	Y	Arm 10 Right	50.00	100.0 %	1859	1859
4/1 (Bucknell Road (Internal SB))	3.00	0.00	Y	Arm 5 Ahead	Inf	31.5 %	1784	1784
				Arm 7 Right	14.00	68.5 %		
5/1 (Bucknell Road (South - Exit) Lane 1)	Infinite Saturation Flow						Inf	Inf
6/1 (Bucknell Road (South))	3.00	0.00	Y	Arm 7 Left	10.00	35.4 %	1818	1818
				Arm 9 Ahead	Inf	64.6 %		
7/1 (A4095 (West - Exit) Lane 1)	Infinite Saturation Flow						Inf	Inf
8/1 (A4095 (West))	3.00	0.00	Y	Arm 9 Left	7.20	100.0 %	1585	1585
8/2 (A4095 (West))	3.00	0.00	Y	Arm 5 Right	40.00	100.0 %	1846	1846
9/1	3.00	0.00	Y	Arm 2 Right	15.10	81.2 %	1772	1772

(Bucknell Road (Internal NB))				Arm 10 Ahead	Inf	18.8 %		
10/1 (Bucknell Road (North - Exit) Lane 1)	Infinite Saturation Flow						Inf	Inf

Scenario 19: 'Strategic Model Hawkfield Development 2a - AM' (FG19: 'Strategic Model Hawkfield Development 2a - AM', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

		Destination				
		A	B	C	D	Tot.
Origin	A	0	139	23	95	257
	B	100	0	133	555	788
	C	61	224	0	285	570
	D	91	338	12	0	441
	Tot.	252	701	168	935	2056

Full Input Data And Results

Traffic Lane Flows

Lane	Scenario 19: Strategic Model Hawkfield Development 2a - AM
Junction: A4095 / Bucknell Road Network	
1/1	257
2/1	701
3/1 (with short)	788(In) 688(Out)
3/2 (short)	100
4/1	806
5/1	168
6/1	570
7/1	935
8/1 (with short)	441(In) 429(Out)
8/2 (short)	12
9/1	714
10/1	252

Lane Saturation Flows

Junction: A4095 / Bucknell Road Network								
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 (Bucknell Road (North))	3.00	0.00	Y	Arm 2 Left	20.00	54.1 %	1840	1840
				Arm 4 Ahead	Inf	45.9 %		
2/1 (A4095 (East - Exit) Lane 1)	Infinite Saturation Flow						Inf	Inf
3/1 (A4095 (East))	3.00	0.00	Y	Arm 4 Left	9.00	100.0 %	1641	1641
3/2 (A4095 (East))	3.00	0.00	Y	Arm 10 Right	50.00	100.0 %	1859	1859
4/1 (Bucknell Road (Internal SB))	3.00	0.00	Y	Arm 5 Ahead	Inf	19.4 %	1763	1763
				Arm 7 Right	14.00	80.6 %		
5/1 (Bucknell Road (South - Exit) Lane 1)	Infinite Saturation Flow						Inf	Inf
6/1 (Bucknell Road (South))	3.00	0.00	Y	Arm 7 Left	10.00	50.0 %	1781	1781
				Arm 9 Ahead	Inf	50.0 %		
7/1 (A4095 (West - Exit) Lane 1)	Infinite Saturation Flow						Inf	Inf
8/1 (A4095 (West))	3.00	0.00	Y	Arm 9 Left	7.20	100.0 %	1585	1585
8/2 (A4095 (West))	3.00	0.00	Y	Arm 5 Right	40.00	100.0 %	1846	1846
9/1	3.00	0.00	Y	Arm 2 Right	15.10	78.7 %	1776	1776

(Bucknell Road (Internal NB))				Arm 10 Ahead	Inf	21.3 %		
10/1 (Bucknell Road (North - Exit) Lane 1)	Infinite Saturation Flow						Inf	Inf

Scenario 20: 'Strategic Model Hawkfield Development 2a - PM' (FG20: 'Strategic Model Hawkfield Development 2a - PM', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

		Destination				
		A	B	C	D	Tot.
Origin	A	0	144	47	100	291
	B	140	0	218	461	819
	C	71	325	0	204	600
	D	116	534	39	0	689
	Tot.	327	1003	304	765	2399

Full Input Data And Results

Traffic Lane Flows

Lane	Scenario 20: Strategic Model Hawkfield Development 2a - PM
Junction: A4095 / Bucknell Road Network	
1/1	291
2/1	1003
3/1 (with short)	819(In) 679(Out)
3/2 (short)	140
4/1	826
5/1	304
6/1	600
7/1	765
8/1 (with short)	689(In) 650(Out)
8/2 (short)	39
9/1	1046
10/1	327

Lane Saturation Flows

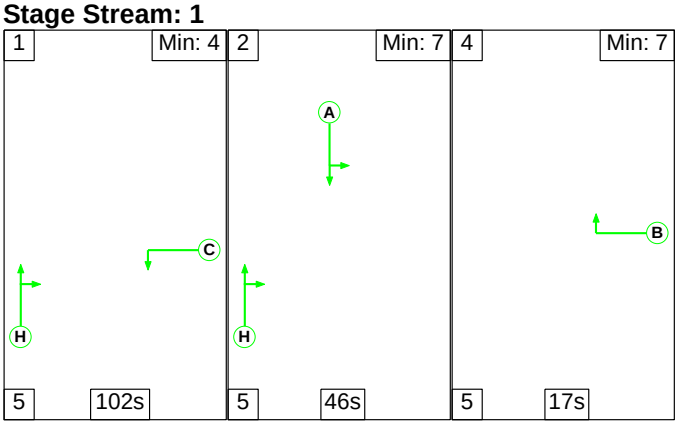
Junction: A4095 / Bucknell Road Network								
Lane	**Lane Width (m)**	**Gradient**	**Nearside Lane**	**Allowed Turns**	**Turning Radius (m)**	**Turning Prop.**	**Sat Flow (PCU/Hr)**	**Flared Sat Flow (PCU/Hr)**
1/1 (Bucknell Road (North))	3.00	0.00	Y	Arm 2 Left	20.00	49.5 %	1846	1846
				Arm 4 Ahead	Inf	50.5 %		
2/1 (A4095 (East - Exit) Lane 1)	Infinite Saturation Flow						Inf	Inf
3/1 (A4095 (East))	3.00	0.00	Y	Arm 4 Left	9.00	100.0 %	1641	1641
3/2 (A4095 (East))	3.00	0.00	Y	Arm 10 Right	50.00	100.0 %	1859	1859
4/1 (Bucknell Road (Internal SB))	3.00	0.00	Y	Arm 5 Ahead	Inf	32.1 %	1785	1785
				Arm 7 Right	14.00	67.9 %		
5/1 (Bucknell Road (South - Exit) Lane 1)	Infinite Saturation Flow						Inf	Inf
6/1 (Bucknell Road (South))	3.00	0.00	Y	Arm 7 Left	10.00	34.0 %	1822	1822
				Arm 9 Ahead	Inf	66.0 %		
7/1 (A4095 (West - Exit) Lane 1)	Infinite Saturation Flow						Inf	Inf
8/1 (A4095 (West))	3.00	0.00	Y	Arm 9 Left	7.20	100.0 %	1585	1585
8/2 (A4095 (West))	3.00	0.00	Y	Arm 5 Right	40.00	100.0 %	1846	1846
9/1	3.00	0.00	Y	Arm 2 Right	15.10	82.1 %	1771	1771

(Bucknell Road (Internal NB))				Arm 10 Ahead	Inf	17.9 %		
10/1 (Bucknell Road (North - Exit) Lane 1)	Infinite Saturation Flow						Inf	Inf

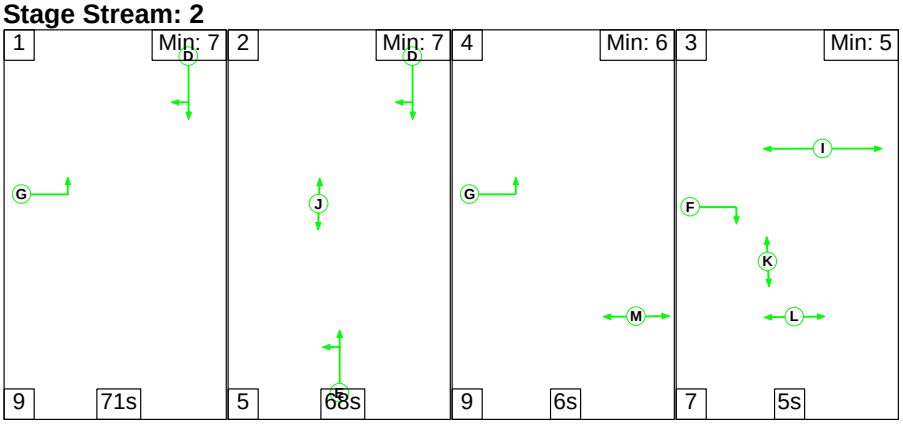
Scenario 15: 'Strategic Model Base + Committed - AM' (FG15: 'Strategic Model Base + Committed - AM', Plan 1: 'Network Control Plan 1')

Stage Sequence Diagram

Stage Stream: 1



Stage Stream: 2



Stage Timings

Stage Stream: 1

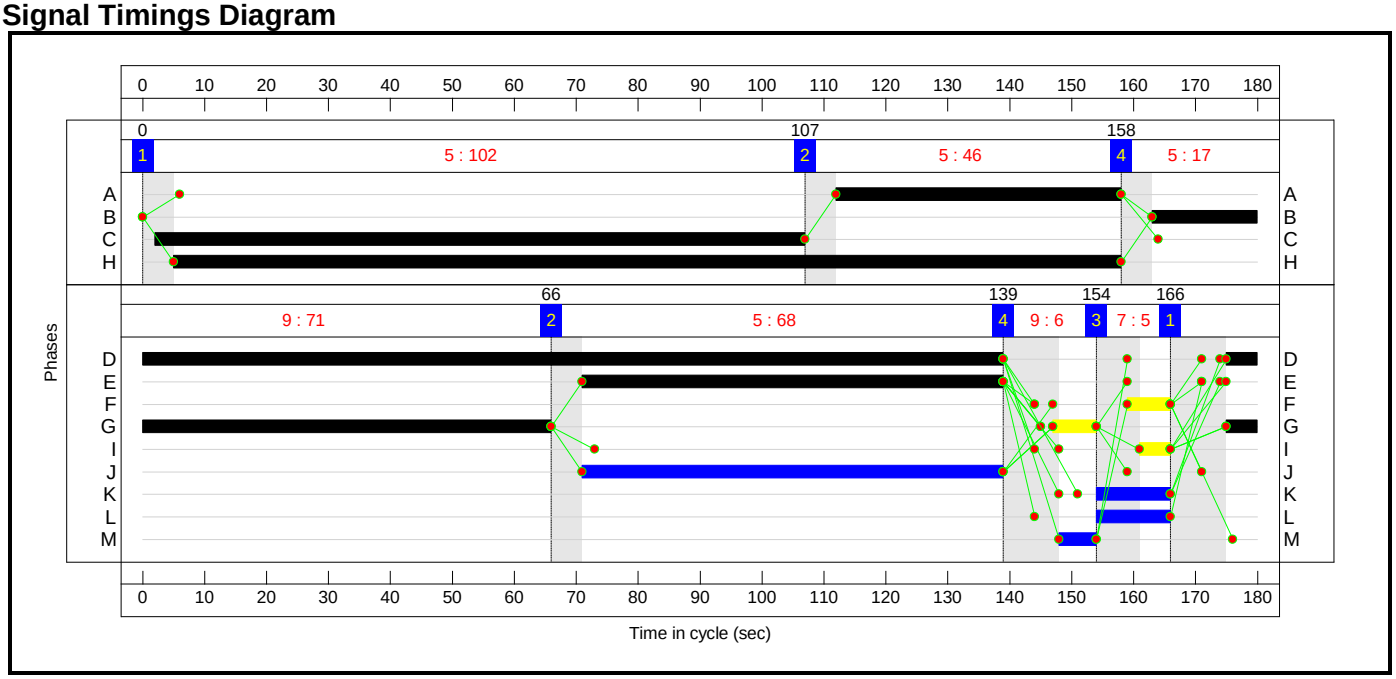
Stage	1	2	4
Duration	102	46	17
Change Point	0	107	158

Full Input Data And Results

Stage Stream: 2

Stage	1	2	4	3
Duration	71	68	6	5
Change Point	166	66	139	154

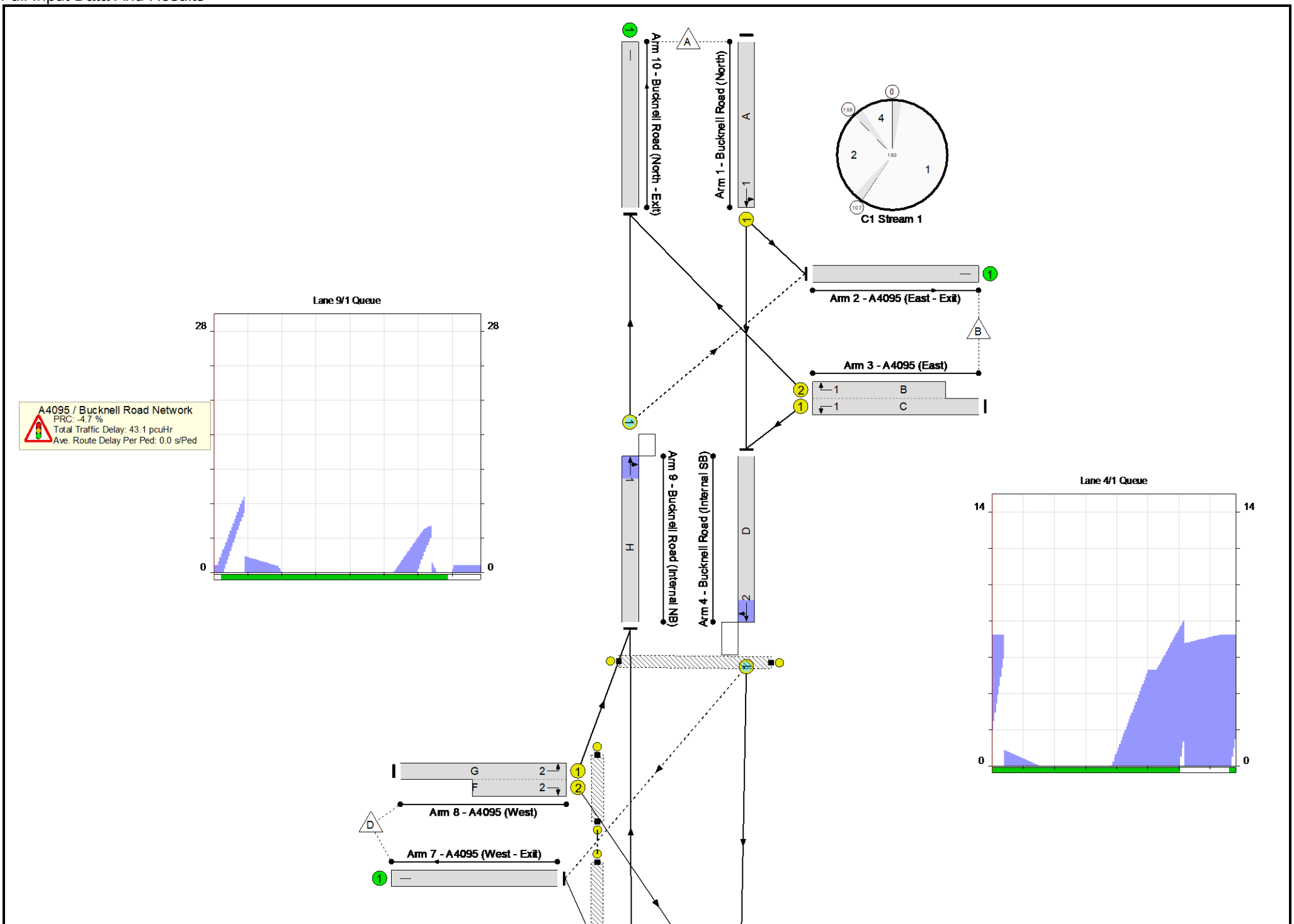
Signal Timings Diagram



Full Input Data And Results

Network Layout Diagram

Full Input Data And Results



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: A4095 / Bucknell Road	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**94.3%**
A4095 / Bucknell Road Network	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**94.3%**
1/1	Bucknell Road (North) Left Ahead	U	1	N/A	A		1	46	-	242	1815	474	51.1%
2/1	A4095 (East - Exit)	U	N/A	N/A	-		-	-	-	876	Inf	Inf	0.0%
3/1+3/2	A4095 (East) Left Right	U	1	N/A	C B		1	105:17	-	869	1641:1859	871+186	80.7 : 89.3%
4/1	Bucknell Road (Internal SB) Ahead Right	O	2	N/A	D		1	144	-	768	1762	815	94.3%
5/1	Bucknell Road (South - Exit)	U	N/A	N/A	-		-	-	-	158	Inf	Inf	0.0%
6/1	Bucknell Road (South) Left Ahead	U	2	N/A	E		1	68	-	634	1780	682	92.9%
7/1	A4095 (West - Exit)	U	N/A	N/A	-		-	-	-	945	Inf	Inf	0.0%
8/1+8/2	A4095 (West) Right Left	U	2	N/A	G F		2:1	78:7	-	538	1585:1846	701+19	74.7 : 74.7%
9/1	Bucknell Road (Internal NB) Right Ahead	O	1	N/A	H		1	153	-	837	1768	1268	66.0%
10/1	Bucknell Road (North - Exit)	U	N/A	N/A	-		-	-	-	304	Inf	Inf	0.0%
Ped Link: P1	Unnamed Ped Link	-	2	-	L		1	12	-	0	-	0	0.0%
Ped Link: P2	Unnamed Ped Link	-	2	-	M		1	6	-	0	-	0	0.0%

Full Input Data And Results

Ped Link: P3	Unnamed Ped Link	-	2	-	J		1	68	-	0	-	0	0.0%
Ped Link: P4	Unnamed Ped Link	-	2	-	K		1	12	-	0	-	0	0.0%
Ped Link: P5	Unnamed Ped Link	-	2	-	I		1	5	-	0	-	0	0.0%

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: A4095 / Bucknell Road	**-**	**-**	**202**	**1074**	**47**	**32.0**	**9.6**	**1.5**	**43.1**	**-**	**-**	**-**	**-**
A4095 / Bucknell Road Network	**-**	**-**	**202**	**1074**	**47**	**32.0**	**9.6**	**1.5**	**43.1**	**-**	**-**	**-**	**-**
1/1	242	242	-	-	-	3.8	0.5	-	4.3	64.4	10.3	0.5	10.8
2/1	876	876	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
3/1+3/2	869	869	-	-	-	8.9	2.3	-	11.2 (7.1+4.1)	46.3 (36.1:89.4)	27.8	2.3	30.0
4/1	768	768	30	554	40	3.0	0.0	1.1	4.1	19.4	8.0	0.0	8.0
5/1	158	158	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	634	634	-	-	-	9.4	5.4	-	14.7	83.6	30.3	5.4	35.7
7/1	945	945	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1+8/2	538	538	-	-	-	6.1	1.5	-	7.6 (7.1+0.5)	50.5 (48.6:124.6)	18.3	1.5	19.7
9/1	837	837	172	520	7	0.8	0.0	0.3	1.2	5.0	8.8	0.0	8.8
10/1	304	304	-	-	-	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	-	-	-	-	-	-	-	-	-	-	-
Ped Link: P5	0	0	-	-	-	-	-	-	-	-	-	-	-

Full Input Data And Results

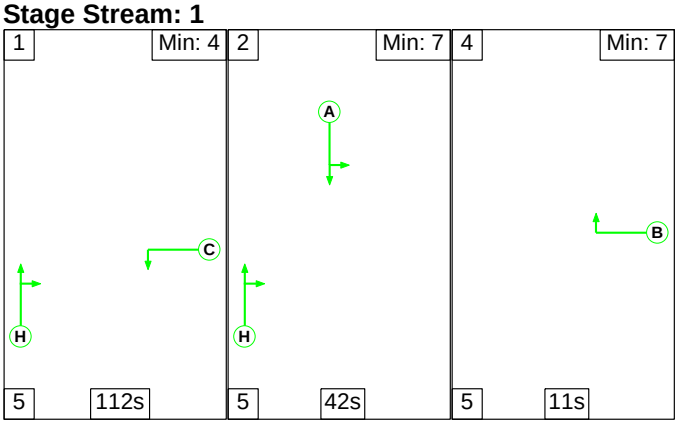
C1	Stream: 1	PRC for Signalled Lanes (%):	0.8	Total Delay for Signalled Lanes (pcuHr):	16.68	Cycle Time (s):	180
C1	Stream: 2	PRC for Signalled Lanes (%):	-4.7	Total Delay for Signalled Lanes (pcuHr):	26.43	Cycle Time (s):	180
		PRC Over All Lanes (%):	-4.7	Total Delay Over All Lanes(pcuHr):	43.11		

Full Input Data And Results

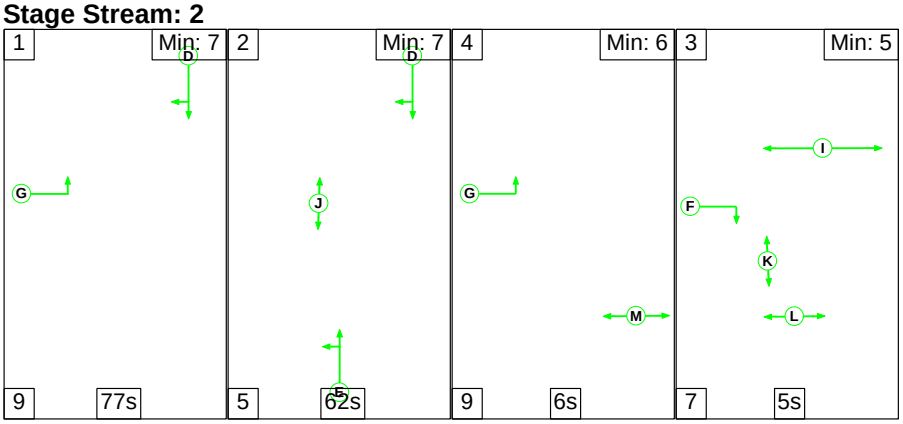
Scenario 16: 'Strategic Model Base + Committed - PM' (FG16: 'Strategic Model Base + Committed - PM', Plan 1: 'Network Control Plan 1')

Stage Sequence Diagram

Stage Stream: 1



Stage Stream: 2



Stage Timings

Stage Stream: 1

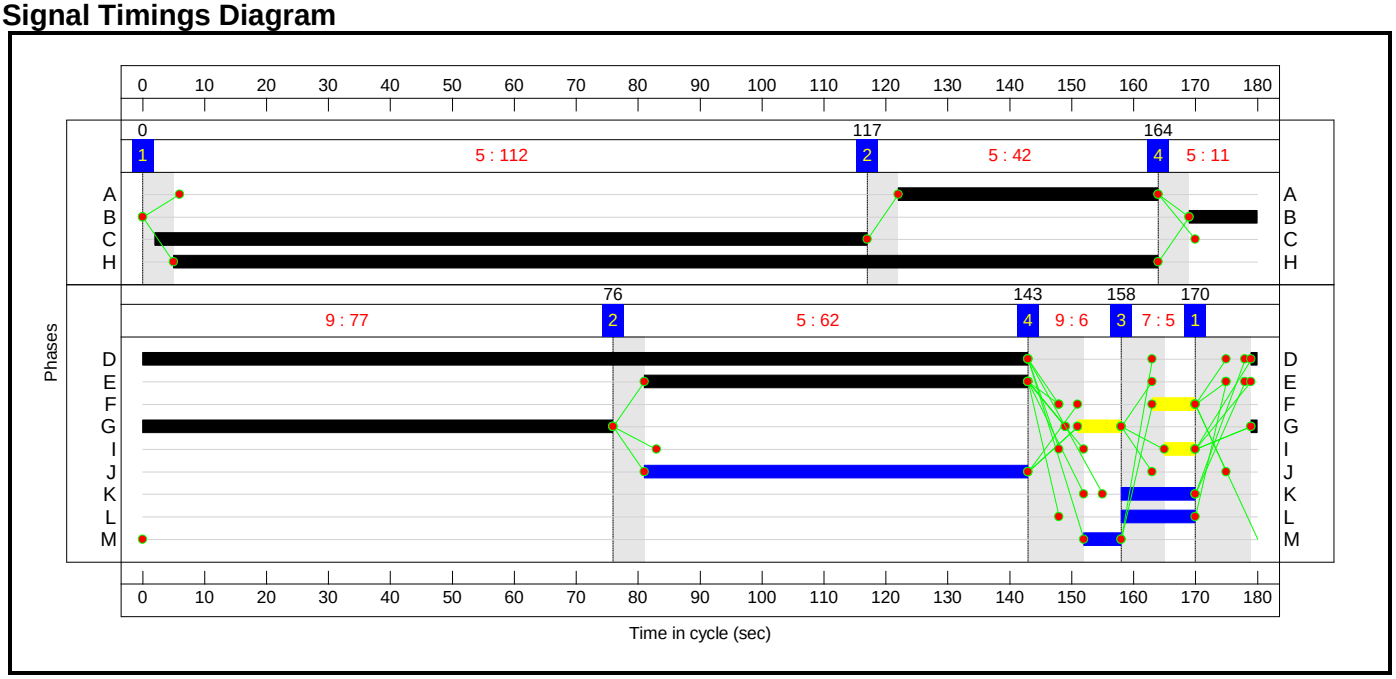
Stage	1	2	4
Duration	112	42	11
Change Point	0	117	164

Full Input Data And Results

Stage Stream: 2

Stage	1	2	4	3
Duration	77	62	6	5
Change Point	170	76	143	158

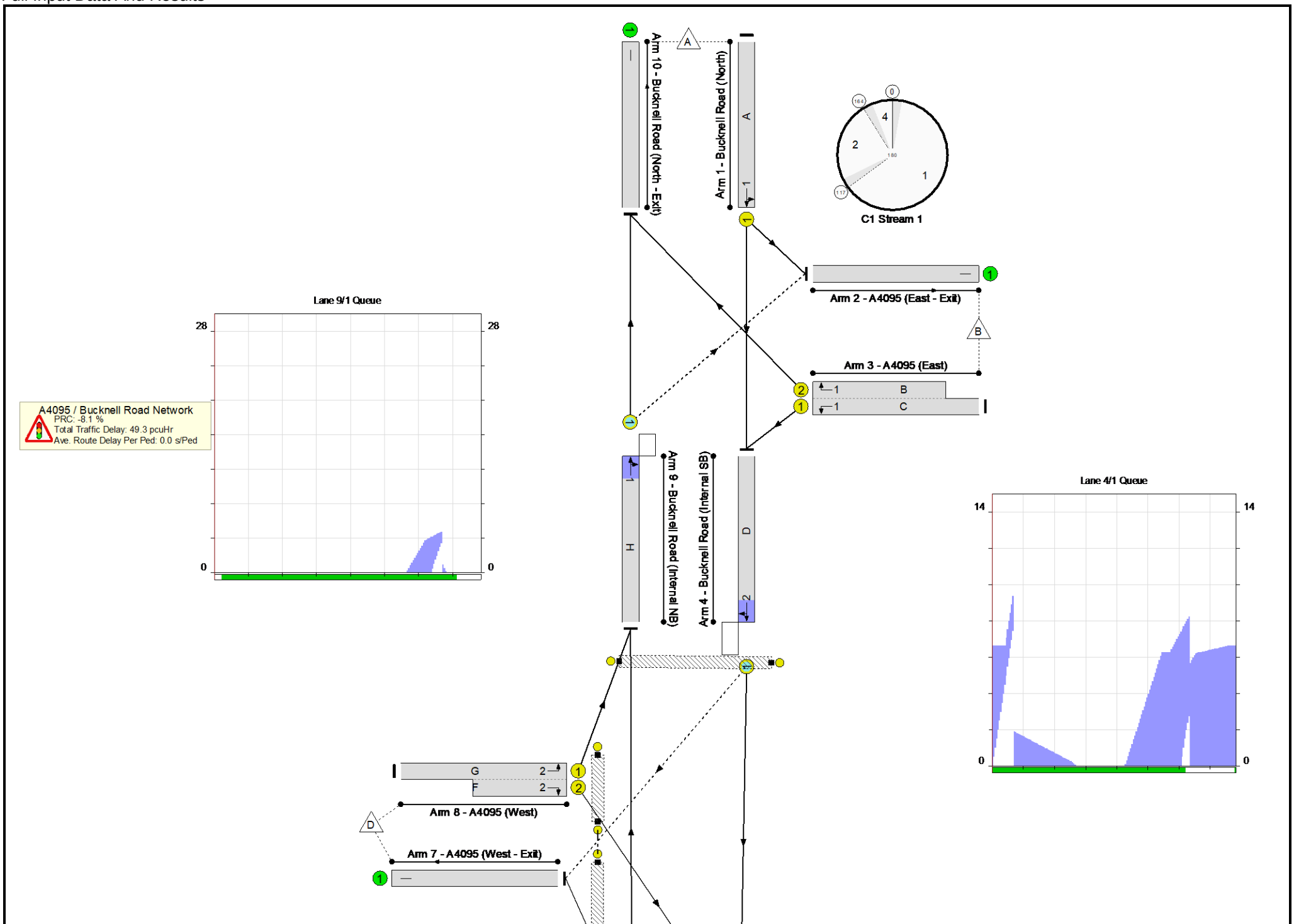
Signal Timings Diagram



Full Input Data And Results

Network Layout Diagram

Full Input Data And Results



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: A4095 / Bucknell Road	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**97.3%**
A4095 / Bucknell Road Network	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**97.3%**
1/1	Bucknell Road (North) Left Ahead	U	1	N/A	A		1	42	-	219	1817	434	50.5%
2/1	A4095 (East - Exit)	U	N/A	N/A	-		-	-	-	1074	Inf	Inf	0.0%
3/1+3/2	A4095 (East) Left Right	U	1	N/A	C B		1	115:11	-	923	1641:1859	1003+124	82.7 : 75.8%
4/1	Bucknell Road (Internal SB) Ahead Right	O	2	N/A	D		1	144	-	890	1782	923	96.4%
5/1	Bucknell Road (South - Exit)	U	N/A	N/A	-		-	-	-	283	Inf	Inf	0.0%
6/1	Bucknell Road (South) Left Ahead	U	2	N/A	E		1	62	-	556	1799	630	88.3%
7/1	A4095 (West - Exit)	U	N/A	N/A	-		-	-	-	856	Inf	Inf	0.0%
8/1+8/2	A4095 (West) Right Left	U	2	N/A	G F		2:1	84:7	-	748	1585:1846	757+11	97.3 : 97.3%
9/1	Bucknell Road (Internal NB) Right Ahead	O	1	N/A	H		1	159	-	1055	1763	1340	78.7%
10/1	Bucknell Road (North - Exit)	U	N/A	N/A	-		-	-	-	233	Inf	Inf	0.0%
Ped Link: P1	Unnamed Ped Link	-	2	-	L		1	12	-	0	-	0	0.0%
Ped Link: P2	Unnamed Ped Link	-	2	-	M		1	6	-	0	-	0	0.0%

Full Input Data And Results

Ped Link: P3	Unnamed Ped Link	-	2	-	J		1	62	-	0	-	0	0.0%
Ped Link: P4	Unnamed Ped Link	-	2	-	K		1	12	-	0	-	0	0.0%
Ped Link: P5	Unnamed Ped Link	-	2	-	I		1	5	-	0	-	0	0.0%

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: A4095 / Bucknell Road	**-**	**-**	**208**	**1262**	**63**	**32.3**	**15.6**	**1.3**	**49.3**	**-**	**-**	**-**	**-**
A4095 / Bucknell Road Network	**-**	**-**	**208**	**1262**	**63**	**32.3**	**15.6**	**1.3**	**49.3**	**-**	**-**	**-**	**-**
1/1	219	219	-	-	-	3.6	0.5	-	4.1	67.6	9.4	0.5	9.9
2/1	1074	1074	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
3/1+3/2	923	923	-	-	-	7.5	2.2	-	9.7 (7.3+2.4)	37.8 (31.8:91.2)	31.8	2.2	34.0
4/1	890	890	48	530	40	3.0	0.0	1.0	4.0	16.1	9.3	0.0	9.3
5/1	283	283	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	556	556	-	-	-	8.5	3.5	-	12.0	77.4	26.1	3.5	29.6
7/1	856	856	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1+8/2	748	748	-	-	-	9.4	9.5	-	18.9 (18.3+0.5)	90.8 (89.5:174.3)	32.7	9.5	42.1
9/1	1055	1055	160	733	23	0.3	0.0	0.3	0.7	2.3	4.7	0.0	4.7
10/1	233	233	-	-	-	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	-	-	-	-	-	-	-	-	-	-	-
Ped Link: P5	0	0	-	-	-	-	-	-	-	-	-	-	-

Full Input Data And Results

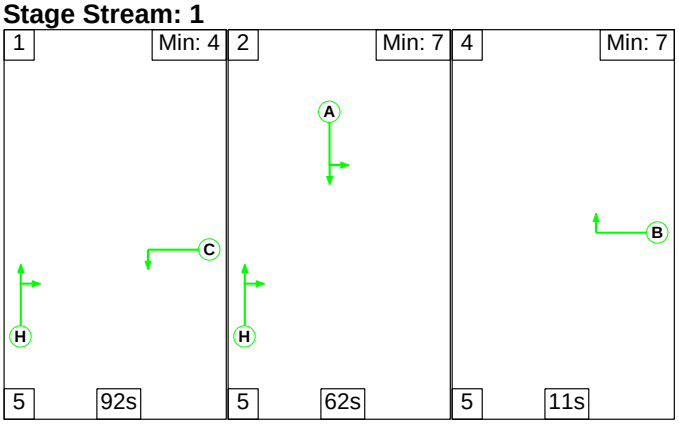
C1	Stream: 1	PRC for Signalled Lanes (%):	8.9	Total Delay for Signalled Lanes (pcuHr):	14.49	Cycle Time (s):	180
C1	Stream: 2	PRC for Signalled Lanes (%):	-8.1	Total Delay for Signalled Lanes (pcuHr):	34.79	Cycle Time (s):	180
		PRC Over All Lanes (%):	-8.1	Total Delay Over All Lanes(pcuHr):	49.28		

Full Input Data And Results

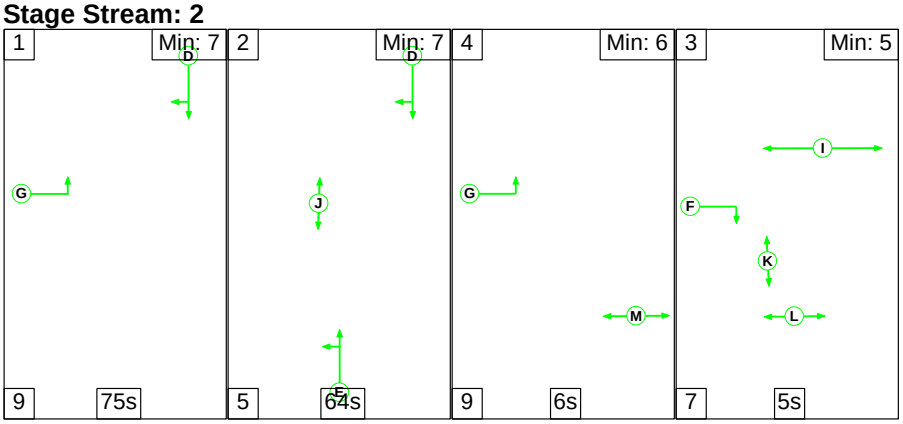
Scenario 17: 'Strategic Model Hawkfield Development 1a - AM' (FG17: 'Strategic Model Hawkfield Development 1a - AM', Plan 1: 'Network Control Plan 1')

Stage Sequence Diagram

Stage Stream: 1



Stage Stream: 2



Stage Timings

Stage Stream: 1

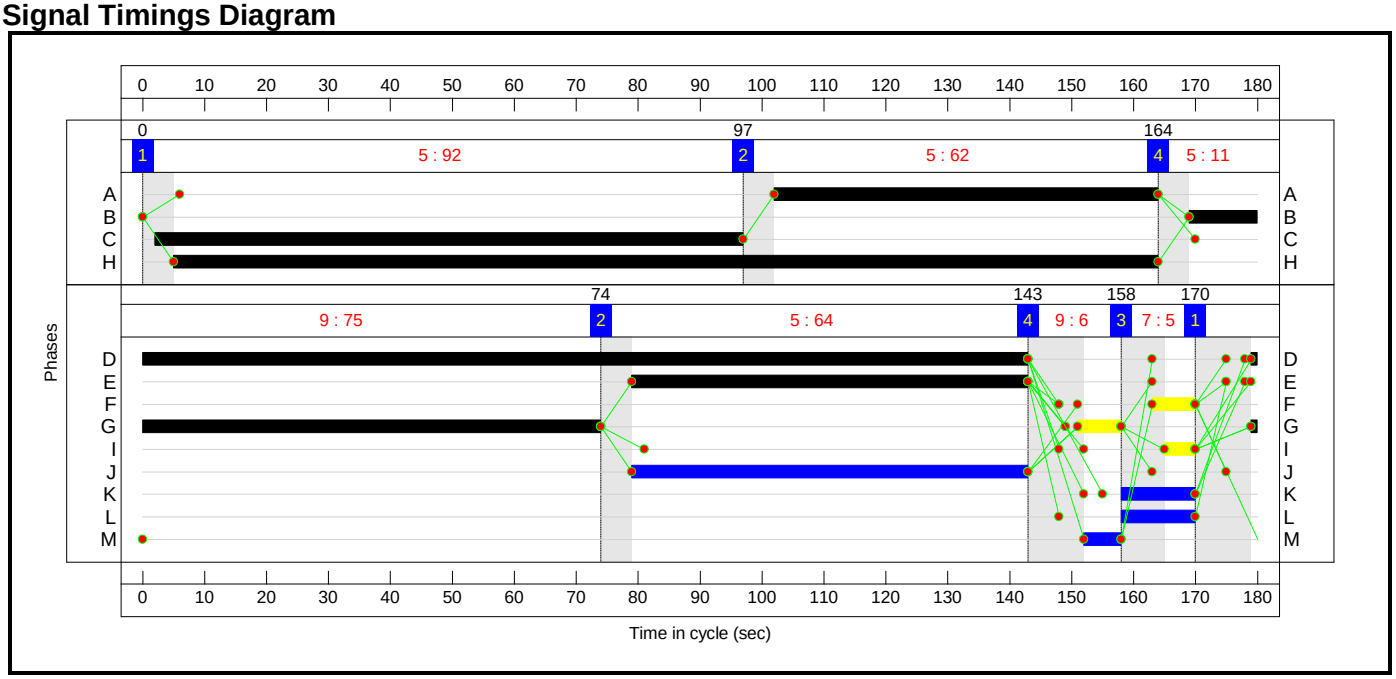
Stage	1	2	4
Duration	92	62	11
Change Point	0	97	164

Full Input Data And Results

Stage Stream: 2

Stage	1	2	4	3
Duration	75	64	6	5
Change Point	170	74	143	158

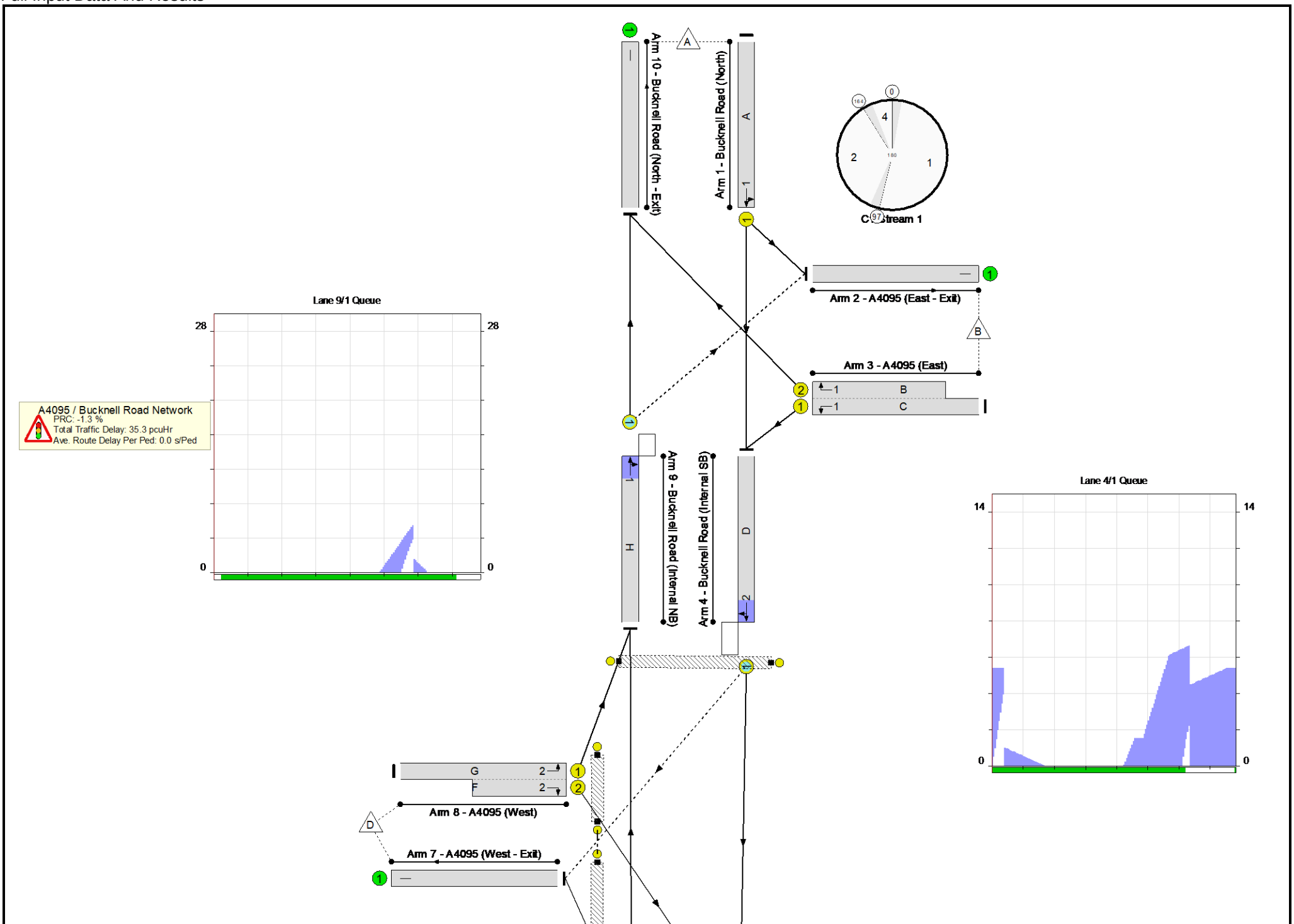
Signal Timings Diagram



Full Input Data And Results

Network Layout Diagram

Full Input Data And Results



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: A4095 / Bucknell Road	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**91.1%**
A4095 / Bucknell Road Network	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**91.1%**
1/1	Bucknell Road (North) Left Ahead	U	1	N/A	A		1	62	-	261	1841	644	40.5%
2/1	A4095 (East - Exit)	U	N/A	N/A	-		-	-	-	706	Inf	Inf	0.0%
3/1+3/2	A4095 (East) Left Right	U	1	N/A	C B		1	95:11	-	766	1641:1859	828+124	81.3 : 75.0%
4/1	Bucknell Road (Internal SB) Ahead Right	O	2	N/A	D		1	144	-	794	1762	871	91.1%
5/1	Bucknell Road (South - Exit)	U	N/A	N/A	-		-	-	-	162	Inf	Inf	0.0%
6/1	Bucknell Road (South) Left Ahead	U	2	N/A	E		1	64	-	576	1780	643	89.6%
7/1	A4095 (West - Exit)	U	N/A	N/A	-		-	-	-	936	Inf	Inf	0.0%
8/1+8/2	A4095 (West) Right Left	U	2	N/A	G F		2:1	82:7	-	447	1585:1846	735+20	59.2 : 59.2%
9/1	Bucknell Road (Internal NB) Right Ahead	O	1	N/A	H		1	159	-	719	1776	1325	54.3%
10/1	Bucknell Road (North - Exit)	U	N/A	N/A	-		-	-	-	246	Inf	Inf	0.0%
Ped Link: P1	Unnamed Ped Link	-	2	-	L		1	12	-	0	-	0	0.0%
Ped Link: P2	Unnamed Ped Link	-	2	-	M		1	6	-	0	-	0	0.0%

Full Input Data And Results

Ped Link: P3	Unnamed Ped Link	-	2	-	J		1	64	-	0	-	0	0.0%
Ped Link: P4	Unnamed Ped Link	-	2	-	K		1	12	-	0	-	0	0.0%
Ped Link: P5	Unnamed Ped Link	-	2	-	I		1	5	-	0	-	0	0.0%

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: A4095 / Bucknell Road	**-**	**-**	**270**	**896**	**44**	**27.0**	**6.9**	**1.4**	**35.3**	**-**	**-**	**-**	**-**
A4095 / Bucknell Road Network	**-**	**-**	**270**	**896**	**44**	**27.0**	**6.9**	**1.4**	**35.3**	**-**	**-**	**-**	**-**
1/1	261	261	-	-	-	3.2	0.3	-	3.6	49.0	9.9	0.3	10.2
2/1	706	706	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
3/1+3/2	766	766	-	-	-	8.4	2.0	-	10.4 (8.0+2.4)	48.8 (42.8:92.0)	28.1	2.0	30.1
4/1	794	794	45	559	40	2.2	0.0	1.0	3.2	14.6	6.6	0.0	6.6
5/1	162	162	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	576	576	-	-	-	8.7	3.9	-	12.6	78.5	27.2	3.9	31.1
7/1	936	936	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1+8/2	447	447	-	-	-	4.2	0.7	-	4.9 (4.6+0.3)	39.6 (37.9:102.2)	12.4	0.7	13.1
9/1	719	719	225	337	4	0.3	0.0	0.4	0.7	3.3	5.5	0.0	5.5
10/1	246	246	-	-	-	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	-	-	-	-	-	-	-	-	-	-	-
Ped Link: P5	0	0	-	-	-	-	-	-	-	-	-	-	-

Full Input Data And Results

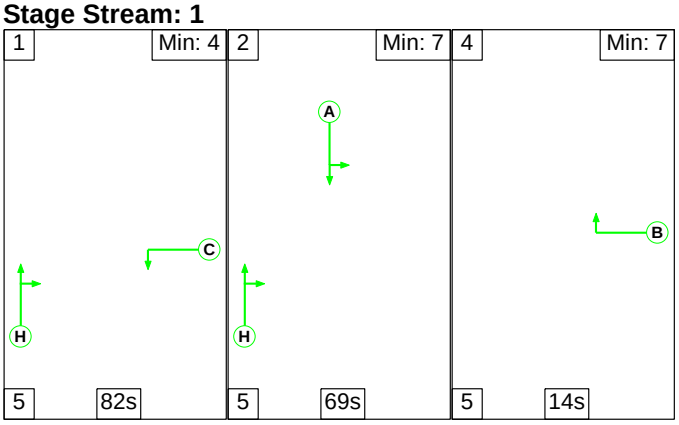
C1	Stream: 1	PRC for Signalled Lanes (%):	10.7	Total Delay for Signalled Lanes (pcuHr):	14.59	Cycle Time (s):	180
C1	Stream: 2	PRC for Signalled Lanes (%):	-1.3	Total Delay for Signalled Lanes (pcuHr):	20.70	Cycle Time (s):	180
		PRC Over All Lanes (%):	-1.3	Total Delay Over All Lanes(pcuHr):	35.29		

Full Input Data And Results

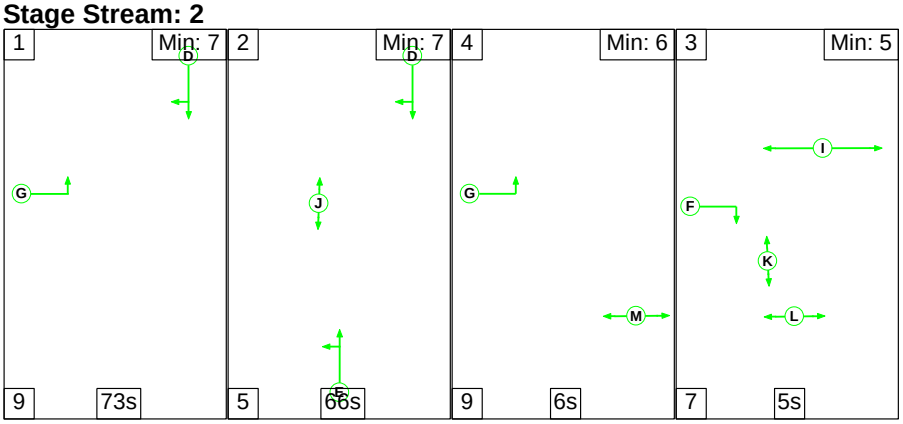
Scenario 18: 'Strategic Model Hawkfield Development 1a - PM' (FG18: 'Strategic Model Hawkfield Development 1a - PM', Plan 1: 'Network Control Plan 1')

Stage Sequence Diagram

Stage Stream: 1



Stage Stream: 2



Stage Timings

Stage Stream: 1

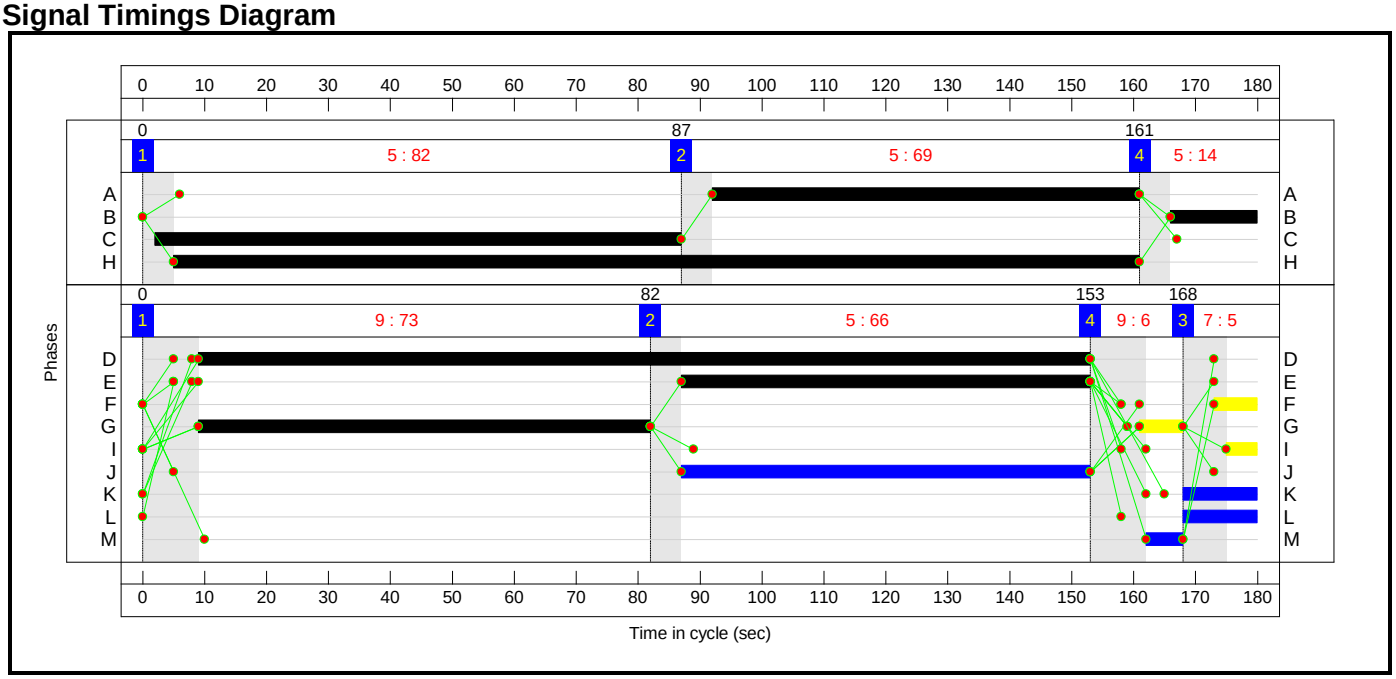
Stage	1	2	4
Duration	82	69	14
Change Point	0	87	161

Full Input Data And Results

Stage Stream: 2

Stage	1	2	4	3
Duration	73	66	6	5
Change Point	0	82	153	168

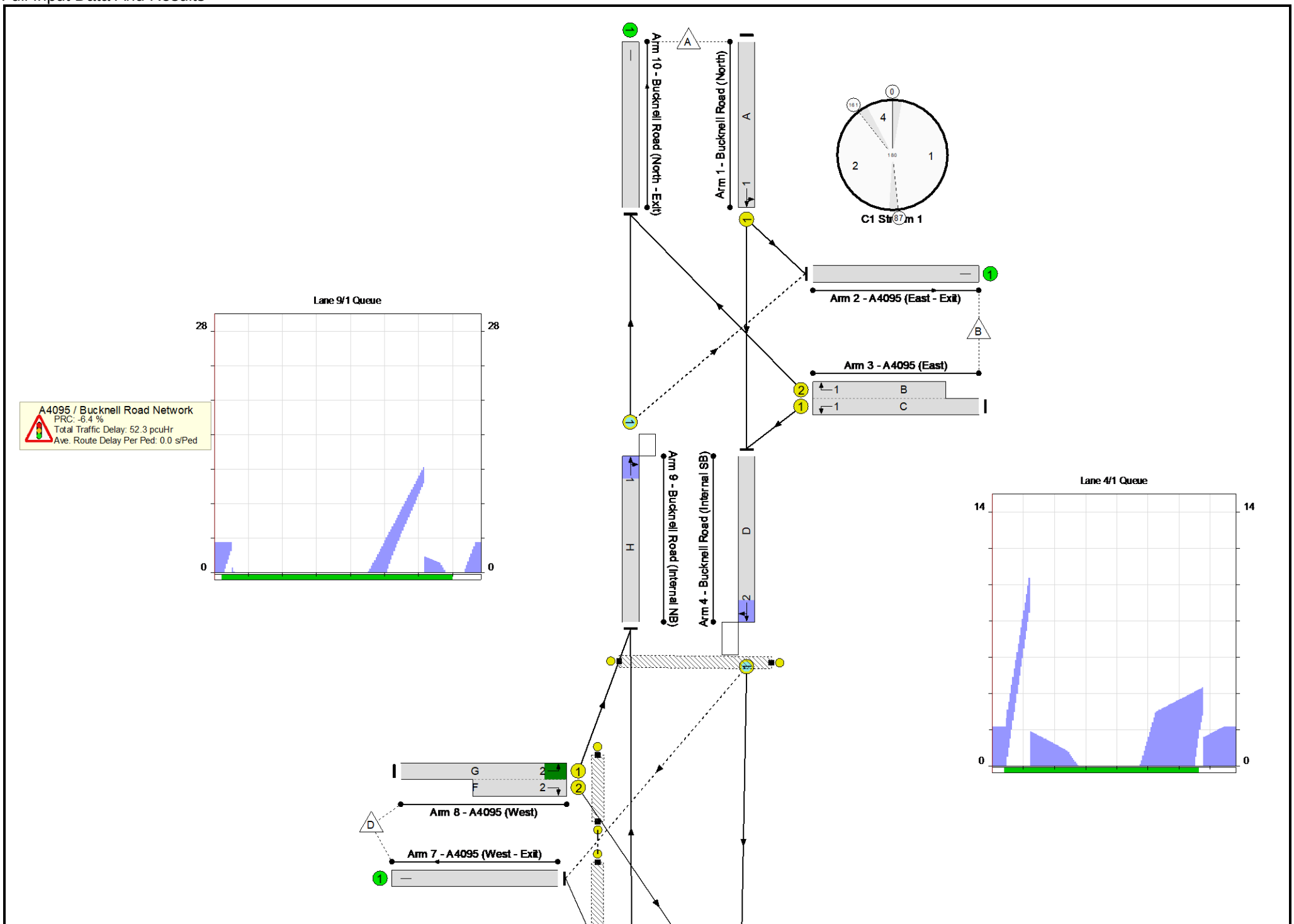
Signal Timings Diagram



Full Input Data And Results

Network Layout Diagram

Full Input Data And Results



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: A4095 / Bucknell Road	-	-	**N/A**	-	-		-	-	-	-	-	-	**95.8%**
A4095 / Bucknell Road Network	-	-	**N/A**	-	-		-	-	-	-	-	-	**95.8%**
1/1	Bucknell Road (North) Left Ahead	U	1	N/A	A		1	69	-	275	1847	718	38.3%
2/1	A4095 (East - Exit)	U	N/A	N/A	-		-	-	-	980	Inf	Inf	0.0%
3/1+3/2	A4095 (East) Left Right	U	1	N/A	C B		1	85:14	-	835	1641:1859	732+155	95.8 : 86.5%
4/1	Bucknell Road (Internal SB) Ahead Right	O	2	N/A	D		1	144	-	840	1784	886	94.8%
5/1	Bucknell Road (South - Exit)	U	N/A	N/A	-		-	-	-	304	Inf	Inf	0.0%
6/1	Bucknell Road (South) Left Ahead	U	2	N/A	E		1	66	-	601	1818	677	88.8%
7/1	A4095 (West - Exit)	U	N/A	N/A	-		-	-	-	788	Inf	Inf	0.0%
8/1+8/2	A4095 (West) Right Left	U	2	N/A	G F		2:1	80:7	-	691	1585:1846	705+42	92.4 : 92.4%
9/1	Bucknell Road (Internal NB) Right Ahead	O	1	N/A	H		1	156	-	1040	1772	1264	82.3%
10/1	Bucknell Road (North - Exit)	U	N/A	N/A	-		-	-	-	330	Inf	Inf	0.0%
Ped Link: P1	Unnamed Ped Link	-	2	-	L		1	12	-	0	-	0	0.0%
Ped Link: P2	Unnamed Ped Link	-	2	-	M		1	6	-	0	-	0	0.0%

Full Input Data And Results

Ped Link: P3	Unnamed Ped Link	-	2	-	J		1	66	-	0	-	0	0.0%
Ped Link: P4	Unnamed Ped Link	-	2	-	K		1	12	-	0	-	0	0.0%
Ped Link: P5	Unnamed Ped Link	-	2	-	I		1	5	-	0	-	0	0.0%

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: A4095 / Bucknell Road	**-**	**-**	**363**	**1016**	**40**	**35.3**	**15.6**	**1.5**	**52.3**	**-**	**-**	**-**	**-**
A4095 / Bucknell Road Network	**-**	**-**	**363**	**1016**	**40**	**35.3**	**15.6**	**1.5**	**52.3**	**-**	**-**	**-**	**-**
1/1	275	275	-	-	-	3.0	0.3	-	3.3	43.5	9.9	0.3	10.2
2/1	980	980	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
3/1+3/2	835	835	-	-	-	11.6	6.5	-	18.1 (13.9+4.2)	77.9 (71.4:111.8)	36.4	6.5	42.8
4/1	840	840	48	487	40	1.6	0.0	1.0	2.6	11.2	10.4	0.0	10.4
5/1	304	304	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	601	601	-	-	-	8.8	3.6	-	12.5	74.7	28.0	3.6	31.7
7/1	788	788	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1+8/2	691	691	-	-	-	9.2	5.2	-	14.4 (12.7+1.7)	75.1 (70.3:154.8)	28.0	5.2	33.2
9/1	1040	1040	315	529	0	1.0	0.0	0.5	1.4	5.0	12.2	0.0	12.2
10/1	330	330	-	-	-	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	-	-	-	-	-	-	-	-	-	-	-
Ped Link: P5	0	0	-	-	-	-	-	-	-	-	-	-	-

Full Input Data And Results

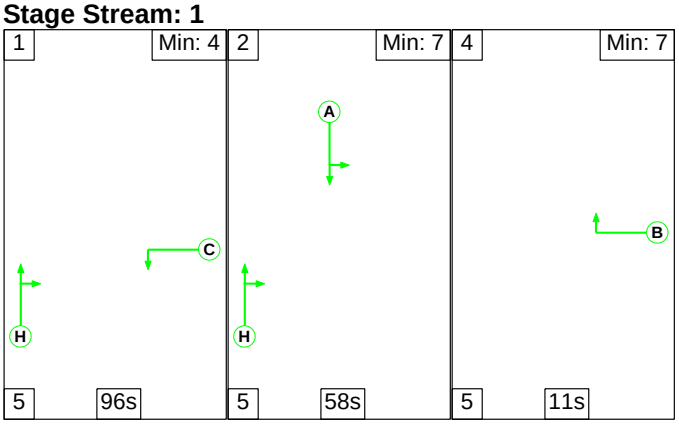
C1	Stream: 1	PRC for Signalled Lanes (%):	-6.4	Total Delay for Signalled Lanes (pcuHr):	22.84	Cycle Time (s):	180
C1	Stream: 2	PRC for Signalled Lanes (%):	-5.3	Total Delay for Signalled Lanes (pcuHr):	29.49	Cycle Time (s):	180
		PRC Over All Lanes (%):	-6.4	Total Delay Over All Lanes(pcuHr):	52.34		

Full Input Data And Results

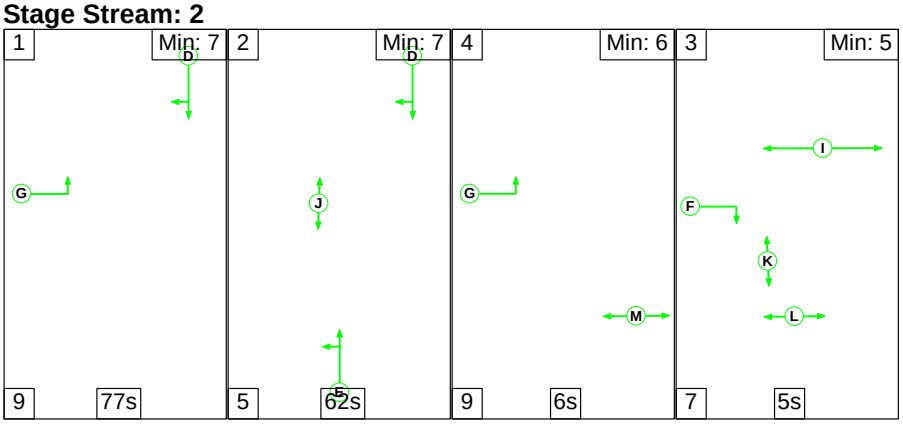
Scenario 19: 'Strategic Model Hawkfield Development 2a - AM' (FG19: 'Strategic Model Hawkfield Development 2a - AM', Plan 1: 'Network Control Plan 1')

Stage Sequence Diagram

Stage Stream: 1



Stage Stream: 2



Stage Timings

Stage Stream: 1

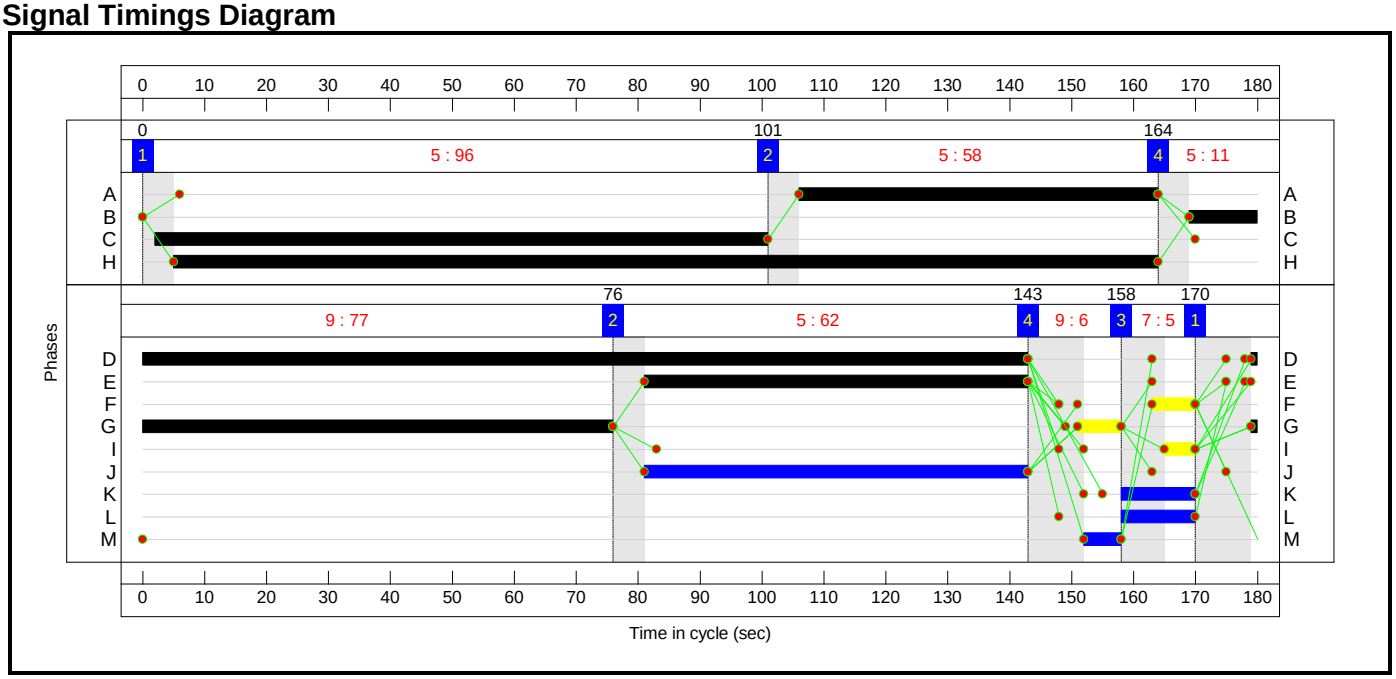
Stage	1	2	4
Duration	96	58	11
Change Point	0	101	164

Full Input Data And Results

Stage Stream: 2

Stage	1	2	4	3
Duration	77	62	6	5
Change Point	170	76	143	158

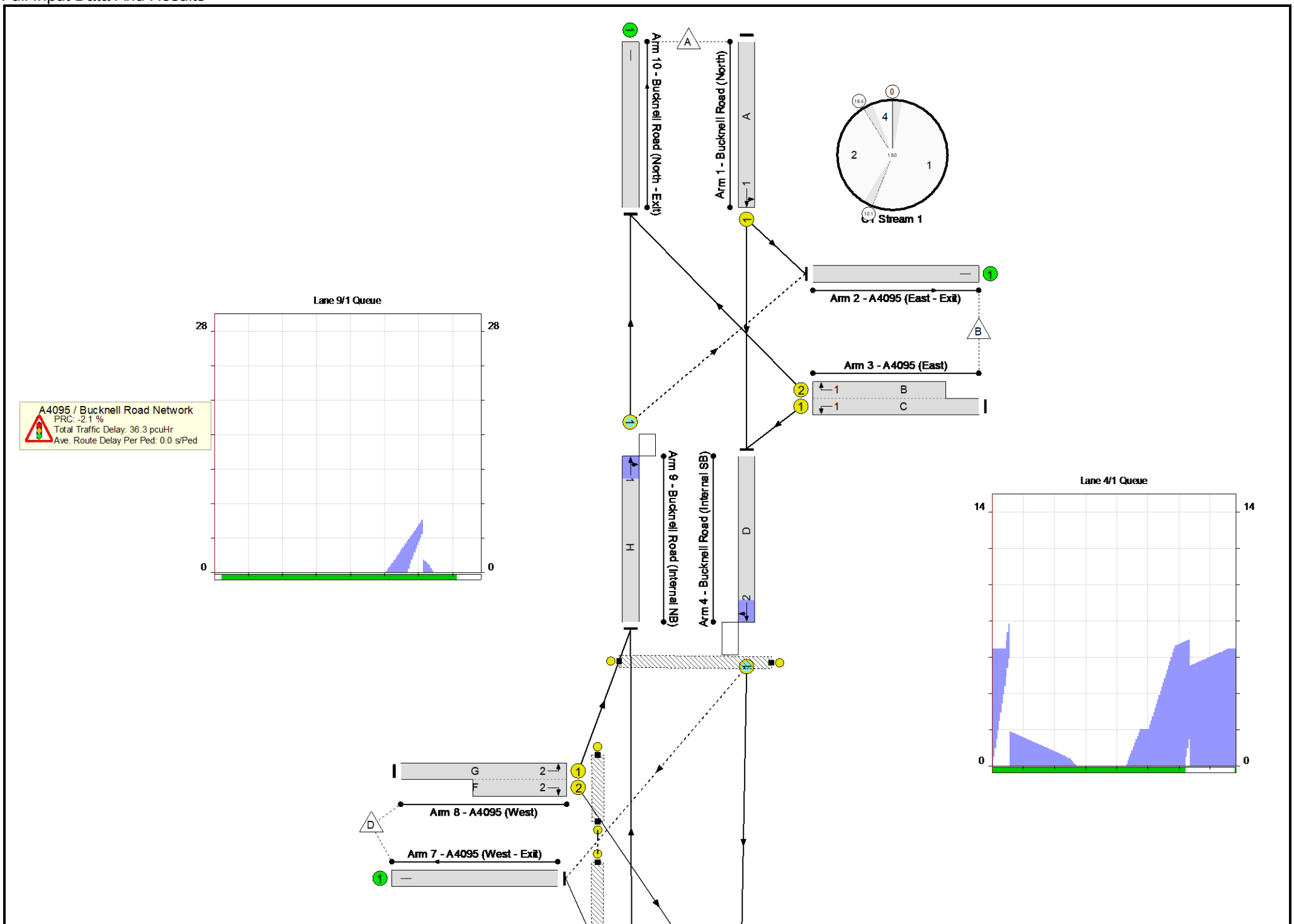
Signal Timings Diagram



Full Input Data And Results

Network Layout Diagram

Full Input Data And Results



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: A4095 / Bucknell Road	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**91.8%**
A4095 / Bucknell Road Network	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**91.8%**
1/1	Bucknell Road (North) Left Ahead	U	1	N/A	A		1	58	-	257	1840	603	42.6%
2/1	A4095 (East - Exit)	U	N/A	N/A	-		-	-	-	701	Inf	Inf	0.0%
3/1+3/2	A4095 (East) Left Right	U	1	N/A	C B		1	99:11	-	788	1641:1859	858+124	80.2 : 80.7%
4/1	Bucknell Road (Internal SB) Ahead Right	O	2	N/A	D		1	144	-	806	1763	878	91.8%
5/1	Bucknell Road (South - Exit)	U	N/A	N/A	-		-	-	-	168	Inf	Inf	0.0%
6/1	Bucknell Road (South) Left Ahead	U	2	N/A	E		1	62	-	570	1781	623	91.4%
7/1	A4095 (West - Exit)	U	N/A	N/A	-		-	-	-	935	Inf	Inf	0.0%
8/1+8/2	A4095 (West) Right Left	U	2	N/A	G F		2:1	84:7	-	441	1585:1846	752+21	57.0 : 57.0%
9/1	Bucknell Road (Internal NB) Right Ahead	O	1	N/A	H		1	159	-	714	1776	1329	53.7%
10/1	Bucknell Road (North - Exit)	U	N/A	N/A	-		-	-	-	252	Inf	Inf	0.0%
Ped Link: P1	Unnamed Ped Link	-	2	-	L		1	12	-	0	-	0	0.0%
Ped Link: P2	Unnamed Ped Link	-	2	-	M		1	6	-	0	-	0	0.0%

Full Input Data And Results

Ped Link: P3	Unnamed Ped Link	-	2	-	J		1	62	-	0	-	0	0.0%
Ped Link: P4	Unnamed Ped Link	-	2	-	K		1	12	-	0	-	0	0.0%
Ped Link: P5	Unnamed Ped Link	-	2	-	I		1	5	-	0	-	0	0.0%

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: A4095 / Bucknell Road	**-**	**-**	**253**	**915**	**44**	**27.4**	**7.6**	**1.3**	**36.3**	**-**	**-**	**-**	**-**
A4095 / Bucknell Road Network	**-**	**-**	**253**	**915**	**44**	**27.4**	**7.6**	**1.3**	**36.3**	**-**	**-**	**-**	**-**
1/1	257	257	-	-	-	3.4	0.4	-	3.7	52.5	10.0	0.4	10.4
2/1	701	701	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
3/1+3/2	788	788	-	-	-	8.2	2.0	-	10.2 (7.6+2.6)	46.4 (39.8:92.0)	28.0	2.0	30.0
4/1	806	806	36	574	40	2.7	0.0	1.0	3.7	16.4	7.8	0.0	7.8
5/1	168	168	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	570	570	-	-	-	8.9	4.6	-	13.4	84.7	27.2	4.6	31.8
7/1	935	935	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1+8/2	441	441	-	-	-	3.9	0.7	-	4.6 (4.3+0.3)	37.5 (35.8:98.6)	11.8	0.7	12.5
9/1	714	714	217	341	4	0.3	0.0	0.4	0.7	3.5	6.1	0.0	6.1
10/1	252	252	-	-	-	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	-	-	-	-	-	-	-	-	-	-	-
Ped Link: P5	0	0	-	-	-	-	-	-	-	-	-	-	-

Full Input Data And Results

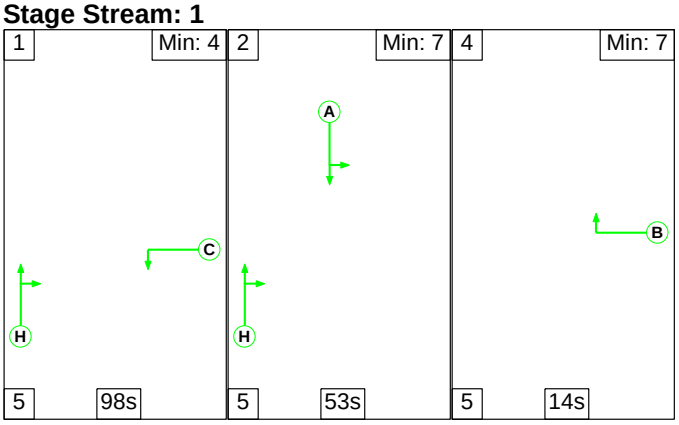
C1	Stream: 1	PRC for Signalled Lanes (%):	11.5	Total Delay for Signalled Lanes (pcuHr):	14.60	Cycle Time (s):	180
C1	Stream: 2	PRC for Signalled Lanes (%):	-2.1	Total Delay for Signalled Lanes (pcuHr):	21.69	Cycle Time (s):	180
		PRC Over All Lanes (%):	-2.1	Total Delay Over All Lanes(pcuHr):	36.28		

Full Input Data And Results

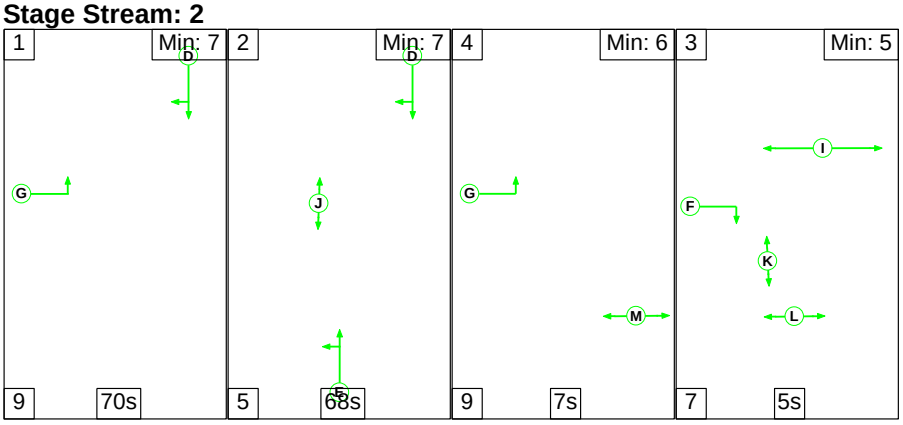
Scenario 20: 'Strategic Model Hawkfield Development 2a - PM' (FG20: 'Strategic Model Hawkfield Development 2a - PM', Plan 1: 'Network Control Plan 1')

Stage Sequence Diagram

Stage Stream: 1



Stage Stream: 2



Stage Timings

Stage Stream: 1

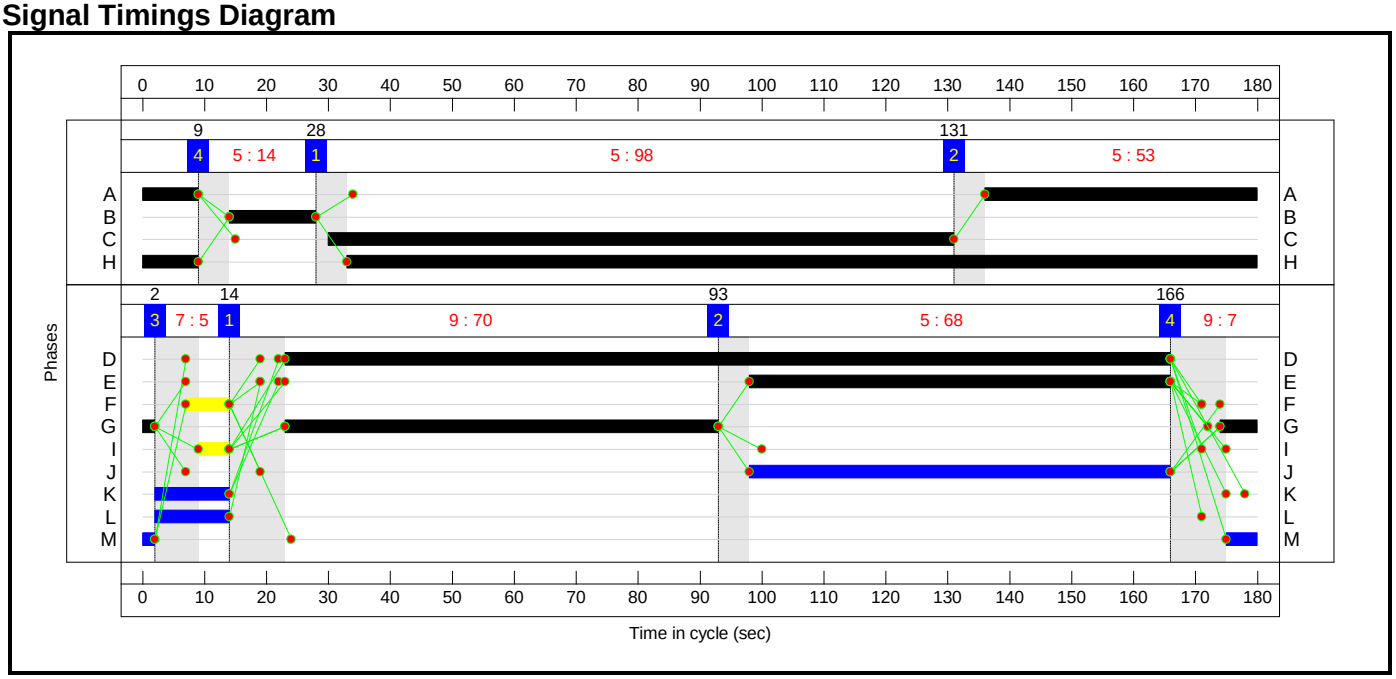
Stage	1	2	4
Duration	98	53	14
Change Point	28	131	9

Full Input Data And Results

Stage Stream: 2

Stage	1	2	4	3
Duration	70	68	7	5
Change Point	14	93	166	2

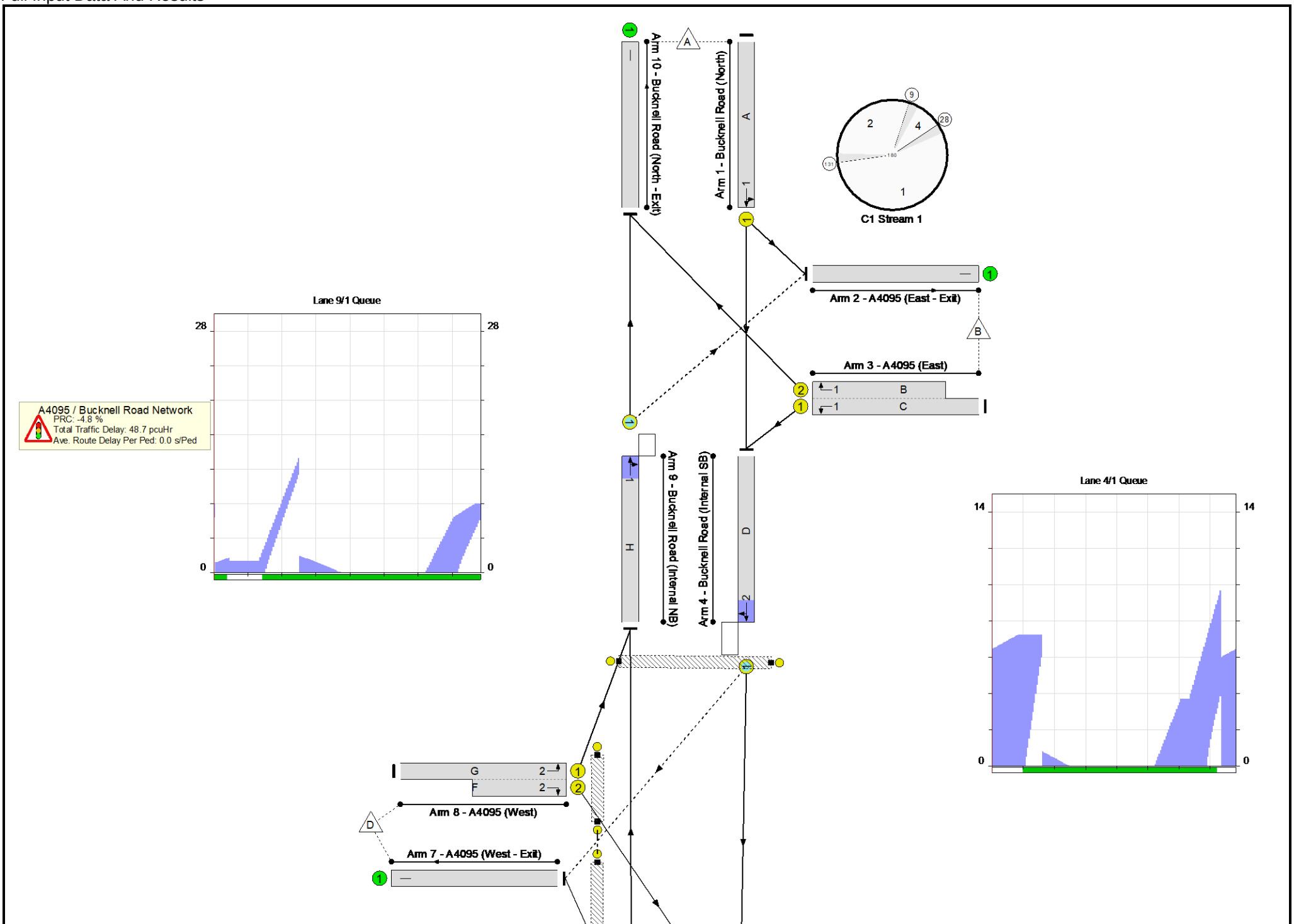
Signal Timings Diagram



Full Input Data And Results

Network Layout Diagram

Full Input Data And Results



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: A4095 / Bucknell Road	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**94.3%**
A4095 / Bucknell Road Network	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**94.3%**
1/1	Bucknell Road (North) Left Ahead	U	1	N/A	A		1	53	-	291	1846	554	52.5%
2/1	A4095 (East - Exit)	U	N/A	N/A	-		-	-	-	1003	Inf	Inf	0.0%
3/1+3/2	A4095 (East) Left Right	U	1	N/A	C B		1	101:14	-	819	1641:1859	851+155	79.8 : 90.4%
4/1	Bucknell Road (Internal SB) Ahead Right	O	2	N/A	D		1	143	-	826	1785	879	94.0%
5/1	Bucknell Road (South - Exit)	U	N/A	N/A	-		-	-	-	304	Inf	Inf	0.0%
6/1	Bucknell Road (South) Left Ahead	U	2	N/A	E		1	68	-	600	1822	698	85.9%
7/1	A4095 (West - Exit)	U	N/A	N/A	-		-	-	-	765	Inf	Inf	0.0%
8/1+8/2	A4095 (West) Right Left	U	2	N/A	G F		2:1	78:7	-	689	1585:1846	689+41	94.3 : 94.3%
9/1	Bucknell Road (Internal NB) Right Ahead	O	1	N/A	H		1	156	-	1046	1771	1255	83.4%
10/1	Bucknell Road (North - Exit)	U	N/A	N/A	-		-	-	-	327	Inf	Inf	0.0%
Ped Link: P1	Unnamed Ped Link	-	2	-	L		1	12	-	0	-	0	0.0%
Ped Link: P2	Unnamed Ped Link	-	2	-	M		1	7	-	0	-	0	0.0%

Full Input Data And Results

Ped Link: P3	Unnamed Ped Link	-	2	-	J		1	68	-	0	-	0	0.0%
Ped Link: P4	Unnamed Ped Link	-	2	-	K		1	12	-	0	-	0	0.0%
Ped Link: P5	Unnamed Ped Link	-	2	-	I		1	5	-	0	-	0	0.0%

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: A4095 / Bucknell Road	**-**	**-**	**249**	**1104**	**67**	**35.2**	**11.9**	**1.5**	**48.7**	**-**	**-**	**-**	**-**
A4095 / Bucknell Road Network	**-**	**-**	**249**	**1104**	**67**	**35.2**	**11.9**	**1.5**	**48.7**	**-**	**-**	**-**	**-**
1/1	291	291	-	-	-	4.2	0.6	-	4.8	59.2	12.0	0.6	12.6
2/1	1003	1003	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
3/1+3/2	819	819	-	-	-	8.6	2.1	-	10.8 (7.2+3.5)	47.4 (38.4:91.2)	27.1	2.1	29.3
4/1	826	826	62	459	40	2.7	0.0	1.1	3.8	16.5	9.6	0.0	9.6
5/1	304	304	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	600	600	-	-	-	8.5	2.9	-	11.4	68.3	27.5	2.9	30.4
7/1	765	765	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1+8/2	689	689	-	-	-	9.5	6.4	-	15.9 (14.1+1.8)	83.0 (78.2:162.8)	28.0	6.4	34.4
9/1	1046	1046	188	645	27	1.6	0.0	0.5	2.1	7.1	13.2	0.0	13.2
10/1	327	327	-	-	-	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	-	-	-	-	-	-	-	-	-	-	-
Ped Link: P5	0	0	-	-	-	-	-	-	-	-	-	-	-

Full Input Data And Results

C1	Stream: 1	PRC for Signalled Lanes (%):	-0.4	Total Delay for Signalled Lanes (pcuHr):	17.62	Cycle Time (s):	180
C1	Stream: 2	PRC for Signalled Lanes (%):	-4.8	Total Delay for Signalled Lanes (pcuHr):	31.04	Cycle Time (s):	180
		PRC Over All Lanes (%):	-4.8	Total Delay Over All Lanes(pcuHr):	48.65		

North West Bicester – Hawkwell Village

20300

Appendix E LINSIG Output Report – Proposed Junction 2031

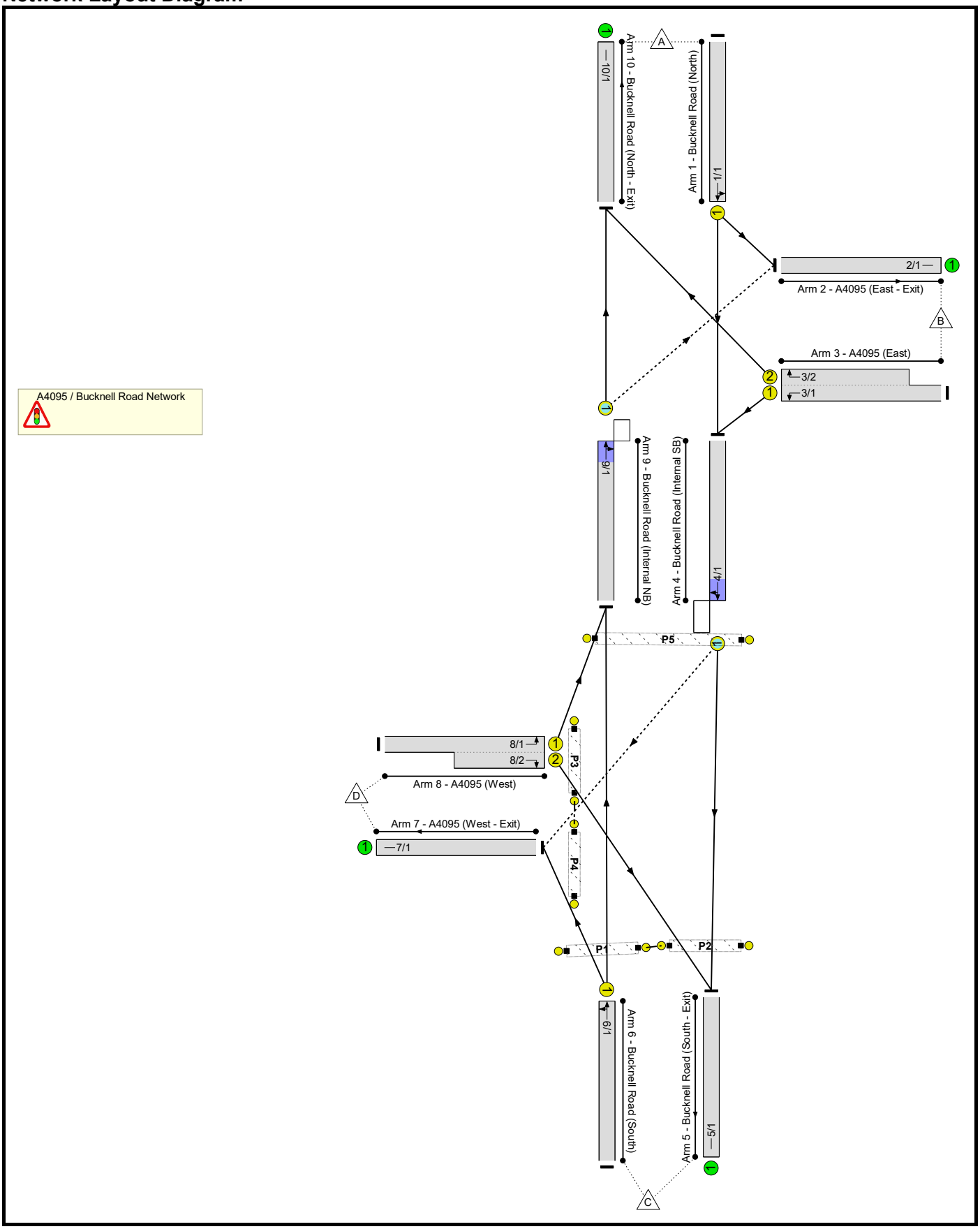
Full Input Data And Results

User and Project Details

Project:	**North West Bicester - Land North East of the Marylebone-Birmingham Railway Line**
Title:	**A4095 / Bucknell Road**
Location:	Bicester, Oxfordshire
Client:	Hallam Land Management Ltd
Additional detail:	Based on Drawing No. 20300-017-P1.
File name:	A4095_Bucknell Road Junction Network (Mitigation - With Give Way)_2022.10.06 New Layout Multi Stream.lsg3x
Author:	MD
Company:	Jubb
Address:	Suite B, Ground Floor West, St James Court, St James Parade, Bristol, BS1 3LH

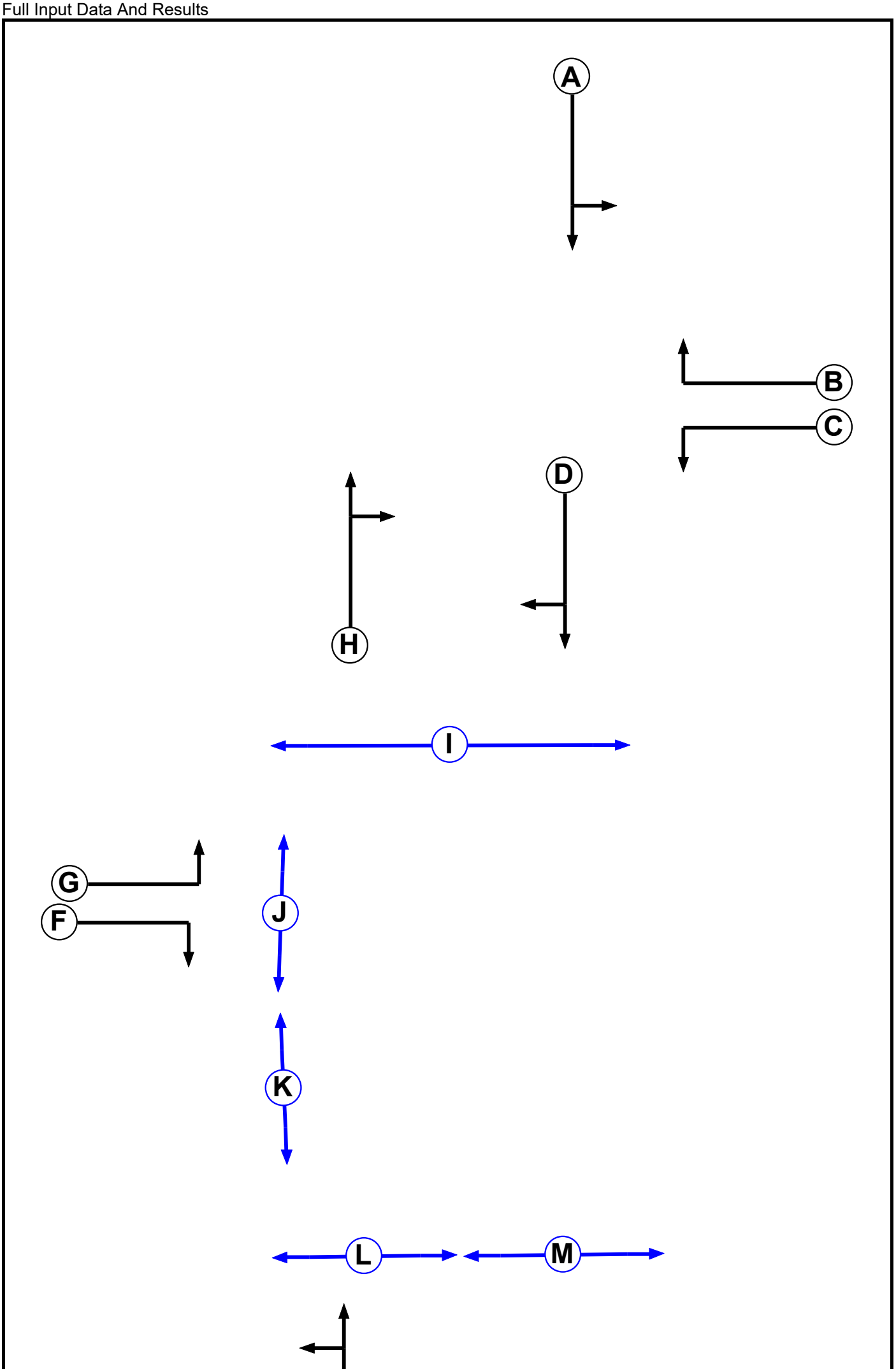
Full Input Data And Results

Network Layout Diagram



Full Input Data And Results

Phase Diagram


A
B
C
D
H
I
G
F
J
K
L
M

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	2		7	7
E	Traffic	2		7	7
F	Traffic	2		7	7
G	Traffic	2		7	7
H	Traffic	1		7	7
I	Pedestrian	2		5	5
J	Pedestrian	2		5	5
K	Pedestrian	2		5	5
L	Pedestrian	2		5	5
M	Pedestrian	2		5	5

Full Input Data And Results

Phase Intergreens Matrix

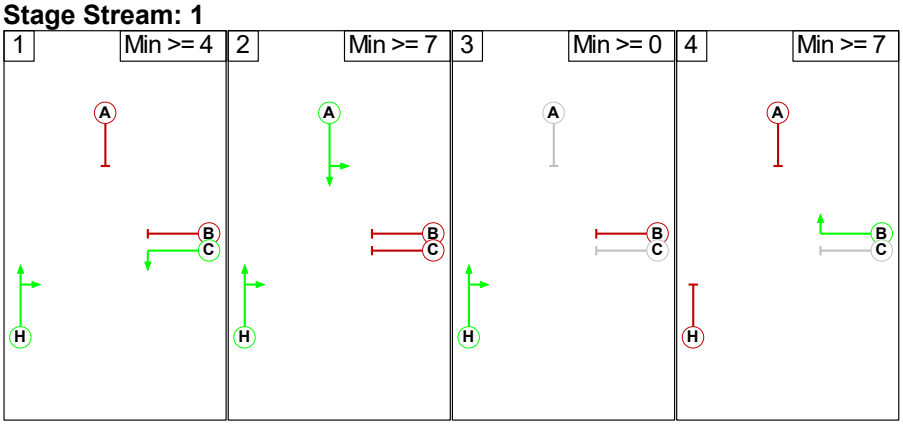
Terminating Phase \ Starting Phase	A	B	C	D	E	F	G	H	I	J	K	L	M
A		5	6	-	-	-	-	-	-	-	-	-	-
B	6		-	-	-	-	-	5	-	-	-	-	-
C	5	-		-	-	-	-	-	-	-	-	-	-
D	-	-	-		-	5	-	-	5	-	12	-	9
E	-	-	-	-		5	6	-	9	-	9	5	-
F	-	-	-	5	5		-	-	-	5	-	-	10
G	-	-	-	-	5	-		-	7	5	-	-	-
H	-	5	-	-	-	-	-		-	-	-	-	-
I	-	-	-	9	9	-	9	-		-	-	-	-
J	-	-	-	-	-	8	8	-	-		-	-	-
K	-	-	-	8	8	-	-	-	-	-		-	-
L	-	-	-	-	5	-	-	-	-	-	-		-
M	-	-	-	5	-	5	-	-	-	-	-	-	

Phases in Stage

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

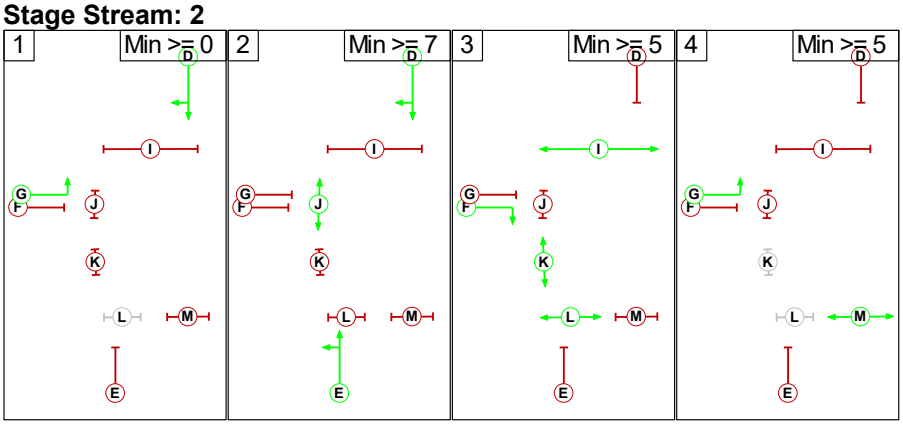
Stage Diagram

Stage Stream: 1



Full Input Data And Results

Stage Stream: 2



Phase Delays

Stage Stream: 1

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

Stage Stream: 2

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

Prohibited Stage Change

Stage Stream: 1

From Stage	To Stage 1	2	3	4
1		5	0	5
2	6		0	5
3	2	2		5
4	5	6	5	

Stage Stream: 2

From Stage	To Stage 1	2	3	4
1		5	12	9
2	8		12	9
3	9	9		10
4	5	5	7	

Full Input Data And Results

Give-Way Lane Input Data

Junction: A4095 / Bucknell Road Network

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)
4/1 (Bucknell Road (Internal SB))	7/1 (Right)	1439	0	6/1	1.09	All	3.00	3.00	0.50	3	2.00
9/1 (Bucknell Road (Internal NB))	2/1 (Right)	1439	0	1/1	1.09	All	2.00	2.00	0.50	2	2.00

Full Input Data And Results

Lane Input Data

Junction: A4095 / Bucknell Road Network

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 (Bucknell Road (North))	U	A	2	3	60.0	Geom	-	3.00	0.00	Y	Arm 2 Left Arm 4 Ahead	20.00 Inf
2/1 (A4095 (East - Exit))	U		2	3	60.0	Inf	-	-	-	-	-	-
3/1 (A4095 (East))	U	C	2	3	18.4	Geom	-	3.00	0.00	Y	Arm 4 Left	9.00
3/2 (A4095 (East))	U	B	2	3	18.4	Geom	-	3.00	0.00	Y	Arm 10 Right	50.00
4/1 (Bucknell Road (Internal SB))	O	D	2	3	6.6	Geom	-	3.00	0.00	Y	Arm 5 Ahead Arm 7 Right	Inf 14.00
5/1 (Bucknell Road (South - Exit))	U		2	3	60.0	Inf	-	-	-	-	-	-
6/1 (Bucknell Road (South))	U	E	2	3	60.0	Geom	-	3.00	0.00	Y	Arm 7 Left Arm 9 Ahead	10.00 Inf
7/1 (A4095 (West - Exit))	U		2	3	60.0	Inf	-	-	-	-	-	-
8/1 (A4095 (West))	U	G	2	3	60.0	Geom	-	3.00	0.00	Y	Arm 9 Left	7.20
8/2 (A4095 (West))	U	F	2	3	8.5	Geom	-	3.00	0.00	Y	Arm 5 Right	40.00
9/1 (Bucknell Road (Internal NB))	O	H	2	3	7.3	Geom	-	3.00	0.00	Y	Arm 2 Right Arm 10 Ahead	15.10 Inf
10/1 (Bucknell Road (North - Exit))	U		2	3	60.0	Inf	-	-	-	-	-	-

Full Input Data And Results

Traffic Flow Groups

Flow Group	Start Time	End Time	Duration	Formula
15: 'Strategic Model Base + Committed - AM'	08:00	09:00	01:00	
16: 'Strategic Model Base + Committed - PM'	17:00	18:00	01:00	
17: 'Strategic Model Hawkfield Development 1a - AM'	08:00	09:00	01:00	
18: 'Strategic Model Hawkfield Development 1a - PM'	17:00	18:00	01:00	
19: 'Strategic Model Hawkfield Development 2a - AM'	08:00	09:00	01:00	
20: 'Strategic Model Hawkfield Development 2a - PM'	17:00	18:00	01:00	

Scenario 15: 'Strategic Model Base + Committed - AM' (FG15: 'Strategic Model Base + Committed - AM', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

		Destination				
		A	B	C	D	Tot.
Origin	A	0	177	12	53	242
	B	166	0	132	571	869
	C	52	261	0	321	634
	D	86	438	14	0	538
	Tot.	304	876	158	945	2283

Traffic Lane Flows

Lane	Scenario 15: Strategic Model Base + Committed - AM
Junction: A4095 / Bucknell Road Network	
1/1	242
2/1	876
3/1 (with short)	869(In) 703(Out)
3/2 (short)	166
4/1	768
5/1	158
6/1	634
7/1	945
8/1 (with short)	538(In) 524(Out)
8/2 (short)	14
9/1	837
10/1	304

Full Input Data And Results

Lane Saturation Flows

Junction: A4095 / Bucknell Road Network								
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 (Bucknell Road (North))	3.00	0.00	Y	Arm 2 Left	20.00	73.1 %	1815	1815
				Arm 4 Ahead	Inf	26.9 %		
2/1 (A4095 (East - Exit) Lane 1)	Infinite Saturation Flow						Inf	Inf
3/1 (A4095 (East))	3.00	0.00	Y	Arm 4 Left	9.00	100.0 %	1641	1641
3/2 (A4095 (East))	3.00	0.00	Y	Arm 10 Right	50.00	100.0 %	1859	1859
4/1 (Bucknell Road (Internal SB))	3.00	0.00	Y	Arm 5 Ahead	Inf	18.8 %	1762	1762
				Arm 7 Right	14.00	81.3 %		
5/1 (Bucknell Road (South - Exit) Lane 1)	Infinite Saturation Flow						Inf	Inf
6/1 (Bucknell Road (South))	3.00	0.00	Y	Arm 7 Left	10.00	50.6 %	1780	1780
				Arm 9 Ahead	Inf	49.4 %		
7/1 (A4095 (West - Exit) Lane 1)	Infinite Saturation Flow						Inf	Inf
8/1 (A4095 (West))	3.00	0.00	Y	Arm 9 Left	7.20	100.0 %	1585	1585
8/2 (A4095 (West))	3.00	0.00	Y	Arm 5 Right	40.00	100.0 %	1846	1846
9/1 (Bucknell Road (Internal NB))	3.00	0.00	Y	Arm 2 Right	15.10	83.5 %	1768	1768
				Arm 10 Ahead	Inf	16.5 %		
10/1 (Bucknell Road (North - Exit) Lane 1)	Infinite Saturation Flow						Inf	Inf

Scenario 16: 'Strategic Model Base + Committed - PM' (FG16: 'Strategic Model Base + Committed - PM', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

		Destination				
		A	B	C	D	Tot.
Origin	A	0	158	19	42	219
	B	94	0	253	576	923
	C	42	276	0	238	556
	D	97	640	11	0	748
	Tot.	233	1074	283	856	2446

Full Input Data And Results

Traffic Lane Flows

Lane	Scenario 16: Strategic Model Base + Committed - PM
Junction: A4095 / Bucknell Road Network	
1/1	219
2/1	1074
3/1 (with short)	923(In) 829(Out)
3/2 (short)	94
4/1	890
5/1	283
6/1	556
7/1	856
8/1 (with short)	748(In) 737(Out)
8/2 (short)	11
9/1	1055
10/1	233

Full Input Data And Results

Lane Saturation Flows

Junction: A4095 / Bucknell Road Network								
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 (Bucknell Road (North))	3.00	0.00	Y	Arm 2 Left	20.00	72.1 %	1817	1817
				Arm 4 Ahead	Inf	27.9 %		
2/1 (A4095 (East - Exit) Lane 1)	Infinite Saturation Flow						Inf	Inf
3/1 (A4095 (East))	3.00	0.00	Y	Arm 4 Left	9.00	100.0 %	1641	1641
3/2 (A4095 (East))	3.00	0.00	Y	Arm 10 Right	50.00	100.0 %	1859	1859
4/1 (Bucknell Road (Internal SB))	3.00	0.00	Y	Arm 5 Ahead	Inf	30.6 %	1782	1782
				Arm 7 Right	14.00	69.4 %		
5/1 (Bucknell Road (South - Exit) Lane 1)	Infinite Saturation Flow						Inf	Inf
6/1 (Bucknell Road (South))	3.00	0.00	Y	Arm 7 Left	10.00	42.8 %	1799	1799
				Arm 9 Ahead	Inf	57.2 %		
7/1 (A4095 (West - Exit) Lane 1)	Infinite Saturation Flow						Inf	Inf
8/1 (A4095 (West))	3.00	0.00	Y	Arm 9 Left	7.20	100.0 %	1585	1585
8/2 (A4095 (West))	3.00	0.00	Y	Arm 5 Right	40.00	100.0 %	1846	1846
9/1 (Bucknell Road (Internal NB))	3.00	0.00	Y	Arm 2 Right	15.10	86.8 %	1763	1763
				Arm 10 Ahead	Inf	13.2 %		
10/1 (Bucknell Road (North - Exit) Lane 1)	Infinite Saturation Flow						Inf	Inf

Scenario 17: 'Strategic Model Hawkfield Development 1a - AM' (FG17: 'Strategic Model Hawkfield Development 1a - AM', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

		Destination				
		A	B	C	D	Tot.
Origin	A	0	140	23	98	261
	B	93	0	127	546	766
	C	60	224	0	292	576
	D	93	342	12	0	447
	Tot.	246	706	162	936	2050

Full Input Data And Results

Traffic Lane Flows

Lane	Scenario 17: Strategic Model Hawkfield Development 1a - AM
Junction: A4095 / Bucknell Road Network	
1/1	261
2/1	706
3/1 (with short)	766(In) 673(Out)
3/2 (short)	93
4/1	794
5/1	162
6/1	576
7/1	936
8/1 (with short)	447(In) 435(Out)
8/2 (short)	12
9/1	719
10/1	246

Full Input Data And Results

Lane Saturation Flows

Junction: A4095 / Bucknell Road Network								
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 (Bucknell Road (North))	3.00	0.00	Y	Arm 2 Left	20.00	53.6 %	1841	1841
				Arm 4 Ahead	Inf	46.4 %		
2/1 (A4095 (East - Exit) Lane 1)	Infinite Saturation Flow						Inf	Inf
3/1 (A4095 (East))	3.00	0.00	Y	Arm 4 Left	9.00	100.0 %	1641	1641
3/2 (A4095 (East))	3.00	0.00	Y	Arm 10 Right	50.00	100.0 %	1859	1859
4/1 (Bucknell Road (Internal SB))	3.00	0.00	Y	Arm 5 Ahead	Inf	18.9 %	1762	1762
				Arm 7 Right	14.00	81.1 %		
5/1 (Bucknell Road (South - Exit) Lane 1)	Infinite Saturation Flow						Inf	Inf
6/1 (Bucknell Road (South))	3.00	0.00	Y	Arm 7 Left	10.00	50.7 %	1780	1780
				Arm 9 Ahead	Inf	49.3 %		
7/1 (A4095 (West - Exit) Lane 1)	Infinite Saturation Flow						Inf	Inf
8/1 (A4095 (West))	3.00	0.00	Y	Arm 9 Left	7.20	100.0 %	1585	1585
8/2 (A4095 (West))	3.00	0.00	Y	Arm 5 Right	40.00	100.0 %	1846	1846
9/1 (Bucknell Road (Internal NB))	3.00	0.00	Y	Arm 2 Right	15.10	78.7 %	1776	1776
				Arm 10 Ahead	Inf	21.3 %		
10/1 (Bucknell Road (North - Exit) Lane 1)	Infinite Saturation Flow						Inf	Inf

Scenario 18: 'Strategic Model Hawkfield Development 1a - PM' (FG18: 'Strategic Model Hawkfield Development 1a - PM', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

		Destination				
		A	B	C	D	Tot.
Origin	A	0	136	44	95	275
	B	134	0	221	480	835
	C	73	315	0	213	601
	D	123	529	39	0	691
	Tot.	330	980	304	788	2402

Full Input Data And Results

Traffic Lane Flows

Lane	Scenario 18: Strategic Model Hawkfield Development 1a - PM
Junction: A4095 / Bucknell Road Network	
1/1	275
2/1	980
3/1 (with short)	835(In) 701(Out)
3/2 (short)	134
4/1	840
5/1	304
6/1	601
7/1	788
8/1 (with short)	691(In) 652(Out)
8/2 (short)	39
9/1	1040
10/1	330

Full Input Data And Results

Lane Saturation Flows

Junction: A4095 / Bucknell Road Network								
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 (Bucknell Road (North))	3.00	0.00	Y	Arm 2 Left	20.00	49.5 %	1847	1847
				Arm 4 Ahead	Inf	50.5 %		
2/1 (A4095 (East - Exit) Lane 1)	Infinite Saturation Flow						Inf	Inf
3/1 (A4095 (East))	3.00	0.00	Y	Arm 4 Left	9.00	100.0 %	1641	1641
3/2 (A4095 (East))	3.00	0.00	Y	Arm 10 Right	50.00	100.0 %	1859	1859
4/1 (Bucknell Road (Internal SB))	3.00	0.00	Y	Arm 5 Ahead	Inf	31.5 %	1784	1784
				Arm 7 Right	14.00	68.5 %		
5/1 (Bucknell Road (South - Exit) Lane 1)	Infinite Saturation Flow						Inf	Inf
6/1 (Bucknell Road (South))	3.00	0.00	Y	Arm 7 Left	10.00	35.4 %	1818	1818
				Arm 9 Ahead	Inf	64.6 %		
7/1 (A4095 (West - Exit) Lane 1)	Infinite Saturation Flow						Inf	Inf
8/1 (A4095 (West))	3.00	0.00	Y	Arm 9 Left	7.20	100.0 %	1585	1585
8/2 (A4095 (West))	3.00	0.00	Y	Arm 5 Right	40.00	100.0 %	1846	1846
9/1 (Bucknell Road (Internal NB))	3.00	0.00	Y	Arm 2 Right	15.10	81.2 %	1772	1772
				Arm 10 Ahead	Inf	18.8 %		
10/1 (Bucknell Road (North - Exit) Lane 1)	Infinite Saturation Flow						Inf	Inf

Scenario 19: 'Strategic Model Hawkfield Development 2a - AM' (FG19: 'Strategic Model Hawkfield Development 2a - AM', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

		Destination				
		A	B	C	D	Tot.
Origin	A	0	139	23	95	257
	B	100	0	133	555	788
	C	61	224	0	285	570
	D	91	338	12	0	441
	Tot.	252	701	168	935	2056

Full Input Data And Results

Traffic Lane Flows

Lane	Scenario 19: Strategic Model Hawkfield Development 2a - AM
Junction: A4095 / Bucknell Road Network	
1/1	257
2/1	701
3/1 (with short)	788(In) 688(Out)
3/2 (short)	100
4/1	806
5/1	168
6/1	570
7/1	935
8/1 (with short)	441(In) 429(Out)
8/2 (short)	12
9/1	714
10/1	252

Full Input Data And Results

Lane Saturation Flows

Junction: A4095 / Bucknell Road Network								
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 (Bucknell Road (North))	3.00	0.00	Y	Arm 2 Left	20.00	54.1 %	1840	1840
				Arm 4 Ahead	Inf	45.9 %		
2/1 (A4095 (East - Exit) Lane 1)	Infinite Saturation Flow						Inf	Inf
3/1 (A4095 (East))	3.00	0.00	Y	Arm 4 Left	9.00	100.0 %	1641	1641
3/2 (A4095 (East))	3.00	0.00	Y	Arm 10 Right	50.00	100.0 %	1859	1859
4/1 (Bucknell Road (Internal SB))	3.00	0.00	Y	Arm 5 Ahead	Inf	19.4 %	1763	1763
				Arm 7 Right	14.00	80.6 %		
5/1 (Bucknell Road (South - Exit) Lane 1)	Infinite Saturation Flow						Inf	Inf
6/1 (Bucknell Road (South))	3.00	0.00	Y	Arm 7 Left	10.00	50.0 %	1781	1781
				Arm 9 Ahead	Inf	50.0 %		
7/1 (A4095 (West - Exit) Lane 1)	Infinite Saturation Flow						Inf	Inf
8/1 (A4095 (West))	3.00	0.00	Y	Arm 9 Left	7.20	100.0 %	1585	1585
8/2 (A4095 (West))	3.00	0.00	Y	Arm 5 Right	40.00	100.0 %	1846	1846
9/1 (Bucknell Road (Internal NB))	3.00	0.00	Y	Arm 2 Right	15.10	78.7 %	1776	1776
				Arm 10 Ahead	Inf	21.3 %		
10/1 (Bucknell Road (North - Exit) Lane 1)	Infinite Saturation Flow						Inf	Inf

Scenario 20: 'Strategic Model Hawkfield Development 2a - PM' (FG20: 'Strategic Model Hawkfield Development 2a - PM', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

		Destination				
		A	B	C	D	Tot.
Origin	A	0	144	47	100	291
	B	140	0	218	461	819
	C	71	325	0	204	600
	D	116	534	39	0	689
	Tot.	327	1003	304	765	2399

Full Input Data And Results

Traffic Lane Flows

Lane	Scenario 20: Strategic Model Hawkfield Development 2a - PM
Junction: A4095 / Bucknell Road Network	
1/1	291
2/1	1003
3/1 (with short)	819(In) 679(Out)
3/2 (short)	140
4/1	826
5/1	304
6/1	600
7/1	765
8/1 (with short)	689(In) 650(Out)
8/2 (short)	39
9/1	1046
10/1	327

Full Input Data And Results

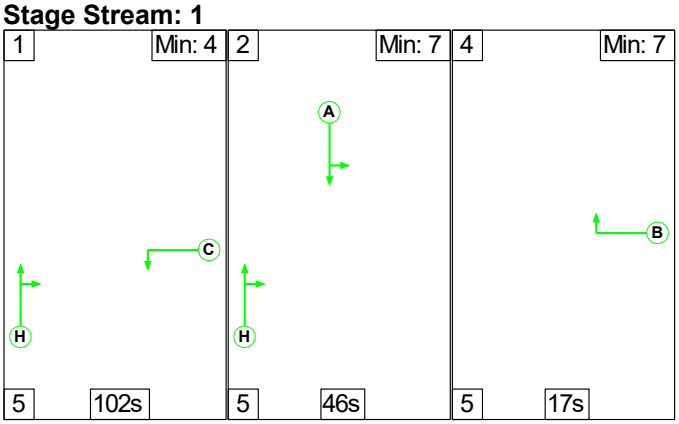
Lane Saturation Flows

Junction: A4095 / Bucknell Road Network								
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 (Bucknell Road (North))	3.00	0.00	Y	Arm 2 Left	20.00	49.5 %	1846	1846
				Arm 4 Ahead	Inf	50.5 %		
2/1 (A4095 (East - Exit) Lane 1)	Infinite Saturation Flow						Inf	Inf
3/1 (A4095 (East))	3.00	0.00	Y	Arm 4 Left	9.00	100.0 %	1641	1641
3/2 (A4095 (East))	3.00	0.00	Y	Arm 10 Right	50.00	100.0 %	1859	1859
4/1 (Bucknell Road (Internal SB))	3.00	0.00	Y	Arm 5 Ahead	Inf	32.1 %	1785	1785
				Arm 7 Right	14.00	67.9 %		
5/1 (Bucknell Road (South - Exit) Lane 1)	Infinite Saturation Flow						Inf	Inf
6/1 (Bucknell Road (South))	3.00	0.00	Y	Arm 7 Left	10.00	34.0 %	1822	1822
				Arm 9 Ahead	Inf	66.0 %		
7/1 (A4095 (West - Exit) Lane 1)	Infinite Saturation Flow						Inf	Inf
8/1 (A4095 (West))	3.00	0.00	Y	Arm 9 Left	7.20	100.0 %	1585	1585
8/2 (A4095 (West))	3.00	0.00	Y	Arm 5 Right	40.00	100.0 %	1846	1846
9/1 (Bucknell Road (Internal NB))	3.00	0.00	Y	Arm 2 Right	15.10	82.1 %	1771	1771
				Arm 10 Ahead	Inf	17.9 %		
10/1 (Bucknell Road (North - Exit) Lane 1)	Infinite Saturation Flow						Inf	Inf

Scenario 15: 'Strategic Model Base + Committed - AM' (FG15: 'Strategic Model Base + Committed - AM', Plan 1: 'Network Control Plan 1')

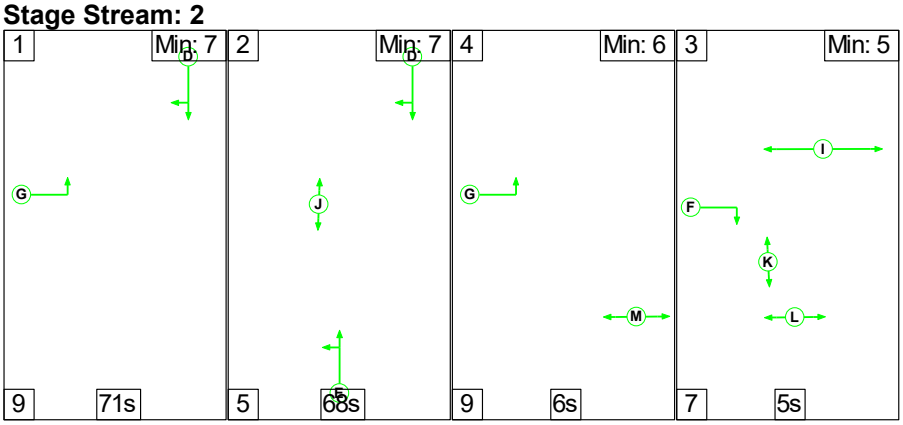
Stage Sequence Diagram

Stage Stream: 1



Full Input Data And Results

Stage Stream: 2



Stage Timings

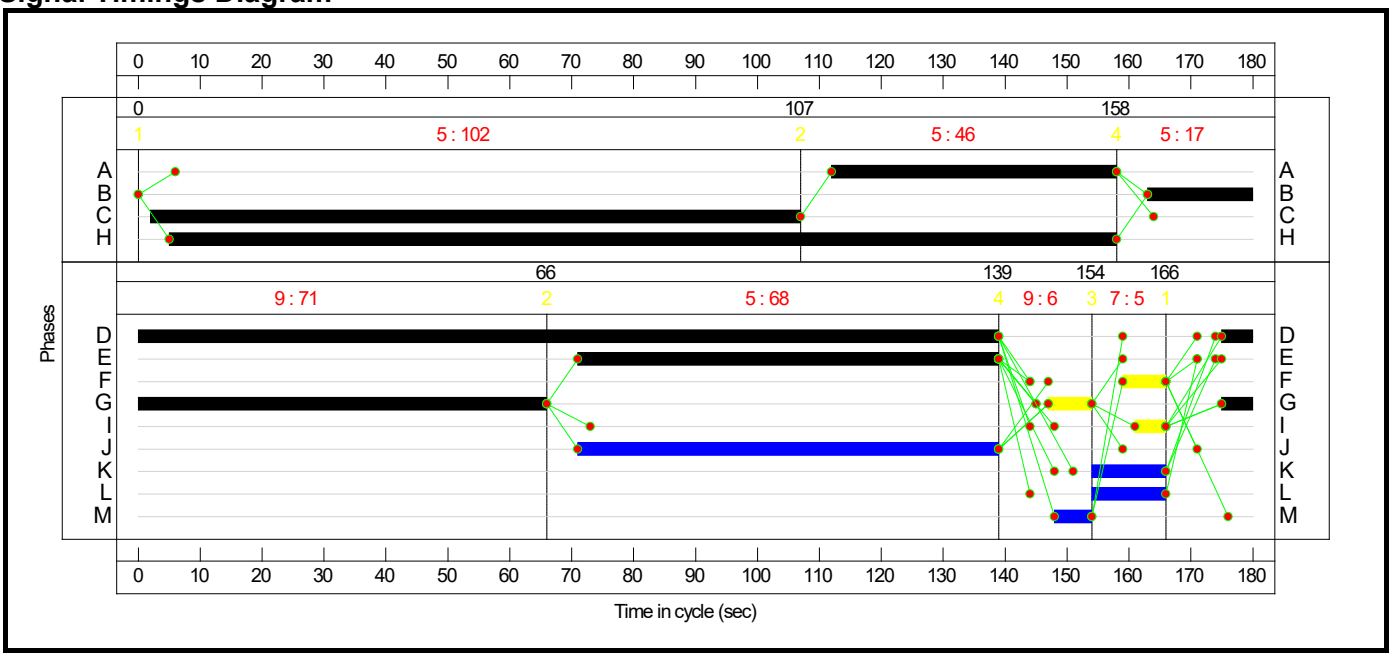
Stage Stream: 1

Stage	1	2	4
Duration	102	46	17
Change Point	0	107	158

Stage Stream: 2

Stage	1	2	4	3
Duration	71	68	6	5
Change Point	166	66	139	154

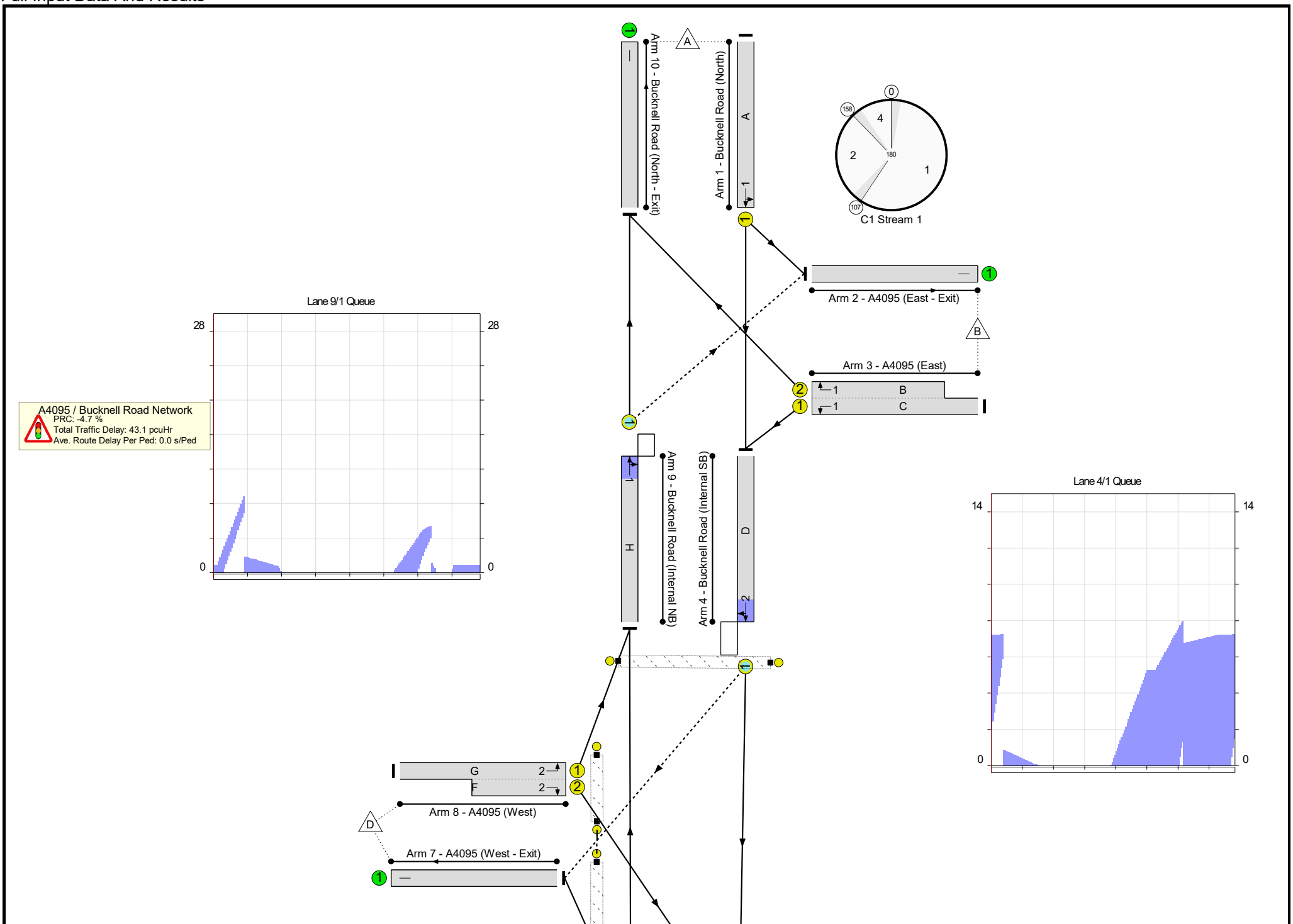
Signal Timings Diagram



Full Input Data And Results

Network Layout Diagram

Full Input Data And Results



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: A4095 / Bucknell Road	-	-	**N/A**	-	-		-	-	-	-	-	-	**94.3%**
A4095 / Bucknell Road Network	-	-	**N/A**	-	-		-	-	-	-	-	-	**94.3%**
1/1	Bucknell Road (North) Left Ahead	U	1	N/A	A		1	46	-	242	1815	474	51.1%
2/1	A4095 (East - Exit)	U	N/A	N/A	-		-	-	-	876	Inf	Inf	0.0%
3/1+3/2	A4095 (East) Left Right	U	1	N/A	C B		1	105:17	-	869	1641:1859	871+186	80.7 : 89.3%
4/1	Bucknell Road (Internal SB) Ahead Right	O	2	N/A	D		1	144	-	768	1762	815	94.3%
5/1	Bucknell Road (South - Exit)	U	N/A	N/A	-		-	-	-	158	Inf	Inf	0.0%
6/1	Bucknell Road (South) Left Ahead	U	2	N/A	E		1	68	-	634	1780	682	92.9%
7/1	A4095 (West - Exit)	U	N/A	N/A	-		-	-	-	945	Inf	Inf	0.0%
8/1+8/2	A4095 (West) Right Left	U	2	N/A	G F		2:1	78:7	-	538	1585:1846	701+19	74.7 : 74.7%
9/1	Bucknell Road (Internal NB) Right Ahead	O	1	N/A	H		1	153	-	837	1768	1268	66.0%
10/1	Bucknell Road (North - Exit)	U	N/A	N/A	-		-	-	-	304	Inf	Inf	0.0%
Ped Link: P1	Unnamed Ped Link	-	2	-	L		1	12	-	0	-	0	0.0%
Ped Link: P2	Unnamed Ped Link	-	2	-	M		1	6	-	0	-	0	0.0%

Full Input Data And Results

Ped Link: P3	Unnamed Ped Link	-	2	-	J		1	68	-	0	-	0	0.0%
Ped Link: P4	Unnamed Ped Link	-	2	-	K		1	12	-	0	-	0	0.0%
Ped Link: P5	Unnamed Ped Link	-	2	-	I		1	5	-	0	-	0	0.0%

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: A4095 / Bucknell Road	**-**	**-**	**202**	**1074**	**47**	**32.0**	**9.6**	**1.5**	**43.1**	**-**	**-**	**-**	**-**
A4095 / Bucknell Road Network	**-**	**-**	**202**	**1074**	**47**	**32.0**	**9.6**	**1.5**	**43.1**	**-**	**-**	**-**	**-**
1/1	242	242	-	-	-	3.8	0.5	-	4.3	64.4	10.3	0.5	10.8
2/1	876	876	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
3/1+3/2	869	869	-	-	-	8.9	2.3	-	11.2 (7.1+4.1)	46.3 (36.1:89.4)	27.8	2.3	30.0
4/1	768	768	30	554	40	3.0	0.0	1.1	4.1	19.4	8.0	0.0	8.0
5/1	158	158	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	634	634	-	-	-	9.4	5.4	-	14.7	83.6	30.3	5.4	35.7
7/1	945	945	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1+8/2	538	538	-	-	-	6.1	1.5	-	7.6 (7.1+0.5)	50.5 (48.6:124.6)	18.3	1.5	19.7
9/1	837	837	172	520	7	0.8	0.0	0.3	1.2	5.0	8.8	0.0	8.8
10/1	304	304	-	-	-	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	-	-	-	-	-	-	-	-	-	-	-
Ped Link: P5	0	0	-	-	-	-	-	-	-	-	-	-	-

Full Input Data And Results

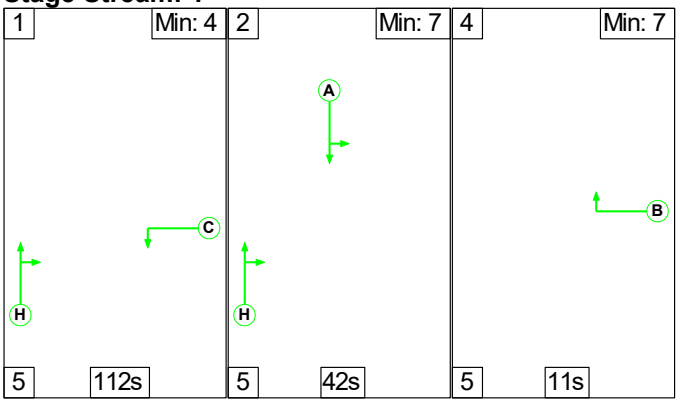
C1	Stream: 1	PRC for Signalled Lanes (%):	0.8	Total Delay for Signalled Lanes (pcuHr):	16.68	Cycle Time (s):	180
C1	Stream: 2	PRC for Signalled Lanes (%):	-4.7	Total Delay for Signalled Lanes (pcuHr):	26.43	Cycle Time (s):	180
		PRC Over All Lanes (%):	-4.7	Total Delay Over All Lanes(pcuHr):	43.11		

Full Input Data And Results

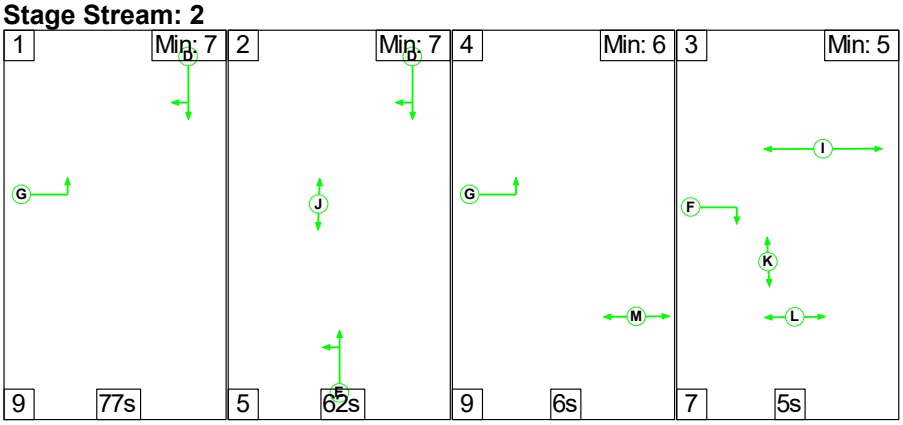
Scenario 16: 'Strategic Model Base + Committed - PM' (FG16: 'Strategic Model Base + Committed - PM', Plan 1: 'Network Control Plan 1')

Stage Sequence Diagram

Stage Stream: 1



Stage Stream: 2



Stage Timings

Stage Stream: 1

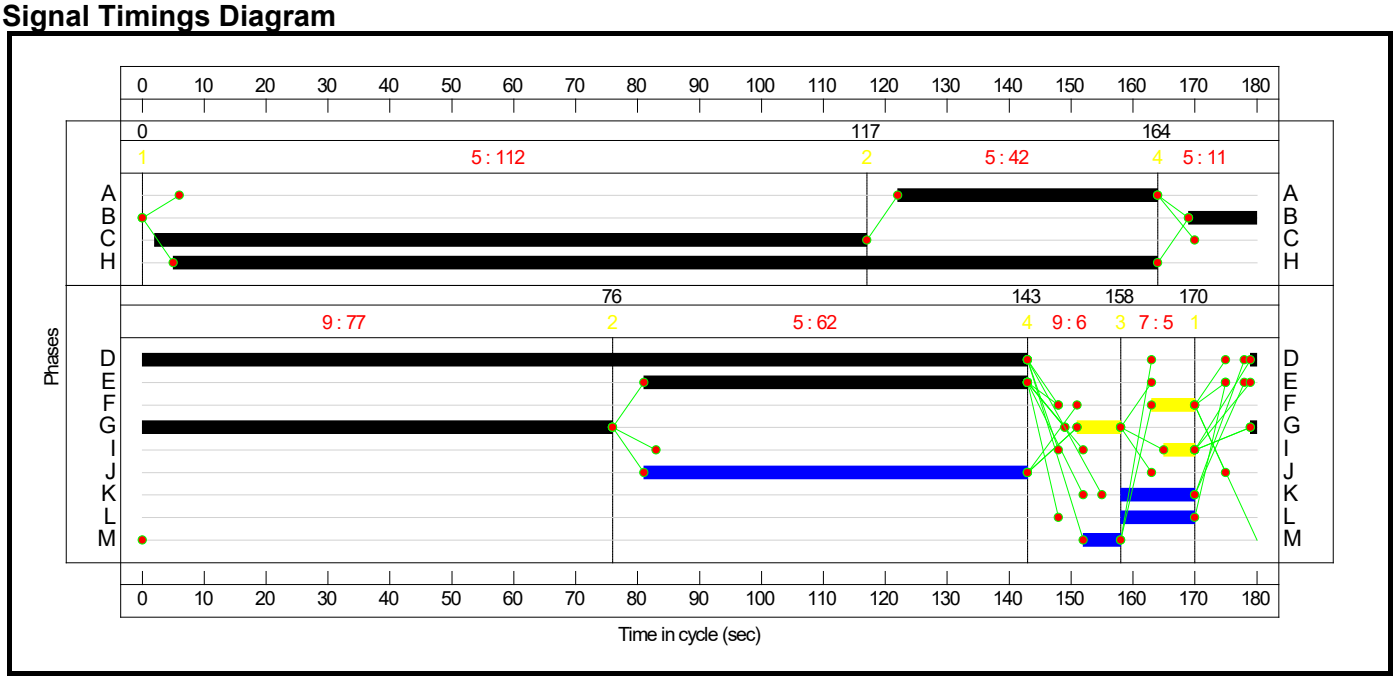
Stage	1	2	4
Duration	112	42	11
Change Point	0	117	164

Stage Stream: 2

Stage	1	2	4	3
Duration	77	62	6	5
Change Point	170	76	143	158

Full Input Data And Results

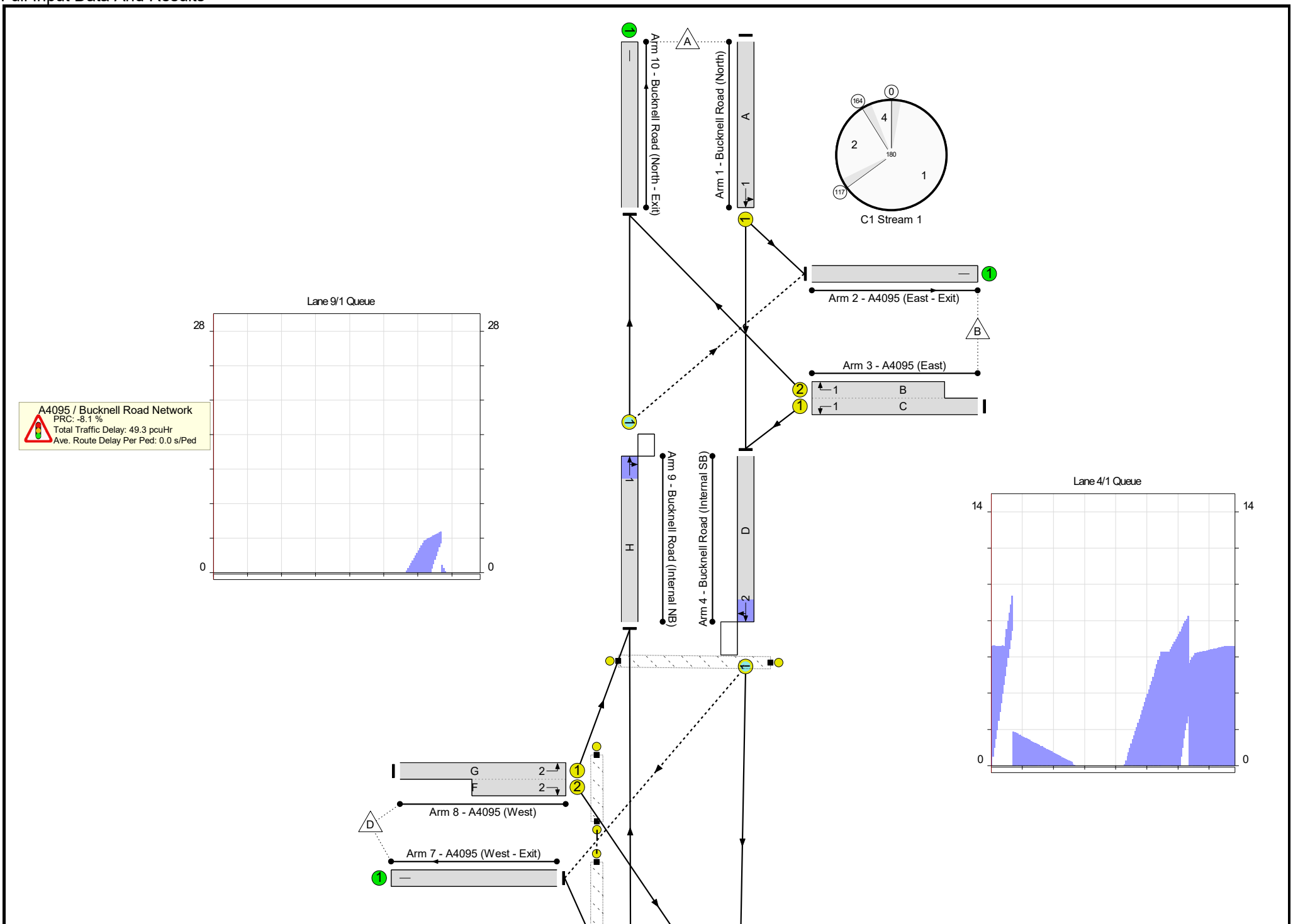
Signal Timings Diagram



Full Input Data And Results

Network Layout Diagram

Full Input Data And Results



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: A4095 / Bucknell Road	-	-	**N/A**	-	-		-	-	-	-	-	-	**97.3%**
A4095 / Bucknell Road Network	-	-	**N/A**	-	-		-	-	-	-	-	-	**97.3%**
1/1	Bucknell Road (North) Left Ahead	U	1	N/A	A		1	42	-	219	1817	434	50.5%
2/1	A4095 (East - Exit)	U	N/A	N/A	-		-	-	-	1074	Inf	Inf	0.0%
3/1+3/2	A4095 (East) Left Right	U	1	N/A	C B		1	115:11	-	923	1641:1859	1003+124	82.7 : 75.8%
4/1	Bucknell Road (Internal SB) Ahead Right	O	2	N/A	D		1	144	-	890	1782	923	96.4%
5/1	Bucknell Road (South - Exit)	U	N/A	N/A	-		-	-	-	283	Inf	Inf	0.0%
6/1	Bucknell Road (South) Left Ahead	U	2	N/A	E		1	62	-	556	1799	630	88.3%
7/1	A4095 (West - Exit)	U	N/A	N/A	-		-	-	-	856	Inf	Inf	0.0%
8/1+8/2	A4095 (West) Right Left	U	2	N/A	G F		2:1	84:7	-	748	1585:1846	757+11	97.3 : 97.3%
9/1	Bucknell Road (Internal NB) Right Ahead	O	1	N/A	H		1	159	-	1055	1763	1340	78.7%
10/1	Bucknell Road (North - Exit)	U	N/A	N/A	-		-	-	-	233	Inf	Inf	0.0%
Ped Link: P1	Unnamed Ped Link	-	2	-	L		1	12	-	0	-	0	0.0%
Ped Link: P2	Unnamed Ped Link	-	2	-	M		1	6	-	0	-	0	0.0%

Full Input Data And Results

Ped Link: P3	Unnamed Ped Link	-	2	-	J		1	62	-	0	-	0	0.0%
Ped Link: P4	Unnamed Ped Link	-	2	-	K		1	12	-	0	-	0	0.0%
Ped Link: P5	Unnamed Ped Link	-	2	-	I		1	5	-	0	-	0	0.0%

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: A4095 / Bucknell Road	**-**	**-**	**208**	**1262**	**63**	**32.3**	**15.6**	**1.3**	**49.3**	**-**	**-**	**-**	**-**
A4095 / Bucknell Road Network	**-**	**-**	**208**	**1262**	**63**	**32.3**	**15.6**	**1.3**	**49.3**	**-**	**-**	**-**	**-**
1/1	219	219	-	-	-	3.6	0.5	-	4.1	67.6	9.4	0.5	9.9
2/1	1074	1074	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
3/1+3/2	923	923	-	-	-	7.5	2.2	-	9.7 (7.3+2.4)	37.8 (31.8:91.2)	31.8	2.2	34.0
4/1	890	890	48	530	40	3.0	0.0	1.0	4.0	16.1	9.3	0.0	9.3
5/1	283	283	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	556	556	-	-	-	8.5	3.5	-	12.0	77.4	26.1	3.5	29.6
7/1	856	856	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1+8/2	748	748	-	-	-	9.4	9.5	-	18.9 (18.3+0.5)	90.8 (89.5:174.3)	32.7	9.5	42.1
9/1	1055	1055	160	733	23	0.3	0.0	0.3	0.7	2.3	4.7	0.0	4.7
10/1	233	233	-	-	-	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	-	-	-	-	-	-	-	-	-	-	-
Ped Link: P5	0	0	-	-	-	-	-	-	-	-	-	-	-

Full Input Data And Results

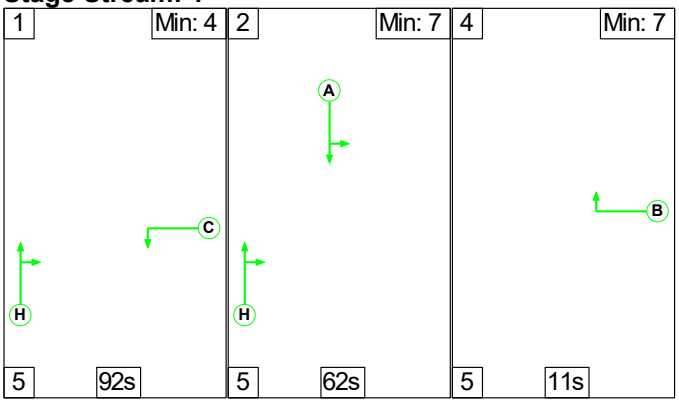
C1	Stream: 1	PRC for Signalled Lanes (%):	8.9	Total Delay for Signalled Lanes (pcuHr):	14.49	Cycle Time (s):	180
C1	Stream: 2	PRC for Signalled Lanes (%):	-8.1	Total Delay for Signalled Lanes (pcuHr):	34.79	Cycle Time (s):	180
		PRC Over All Lanes (%):	-8.1	Total Delay Over All Lanes(pcuHr):	49.28		

Full Input Data And Results

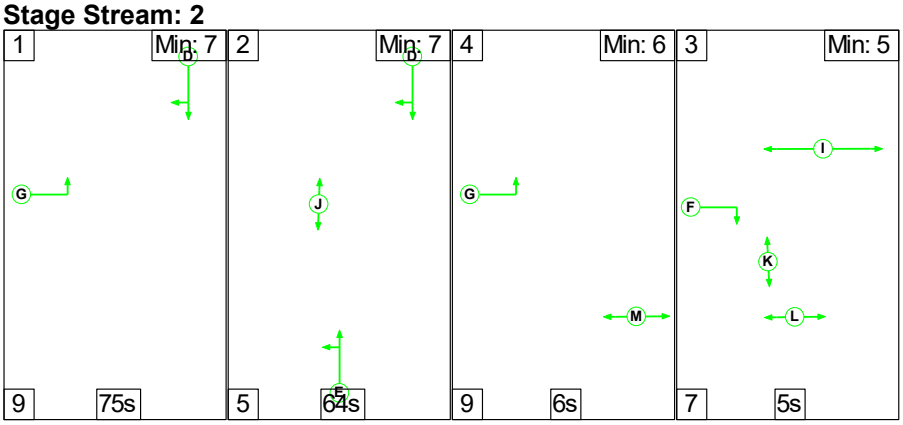
Scenario 17: 'Strategic Model Hawkfield Development 1a - AM' (FG17: 'Strategic Model Hawkfield Development 1a - AM', Plan 1: 'Network Control Plan 1')

Stage Sequence Diagram

Stage Stream: 1



Stage Stream: 2



Stage Timings

Stage Stream: 1

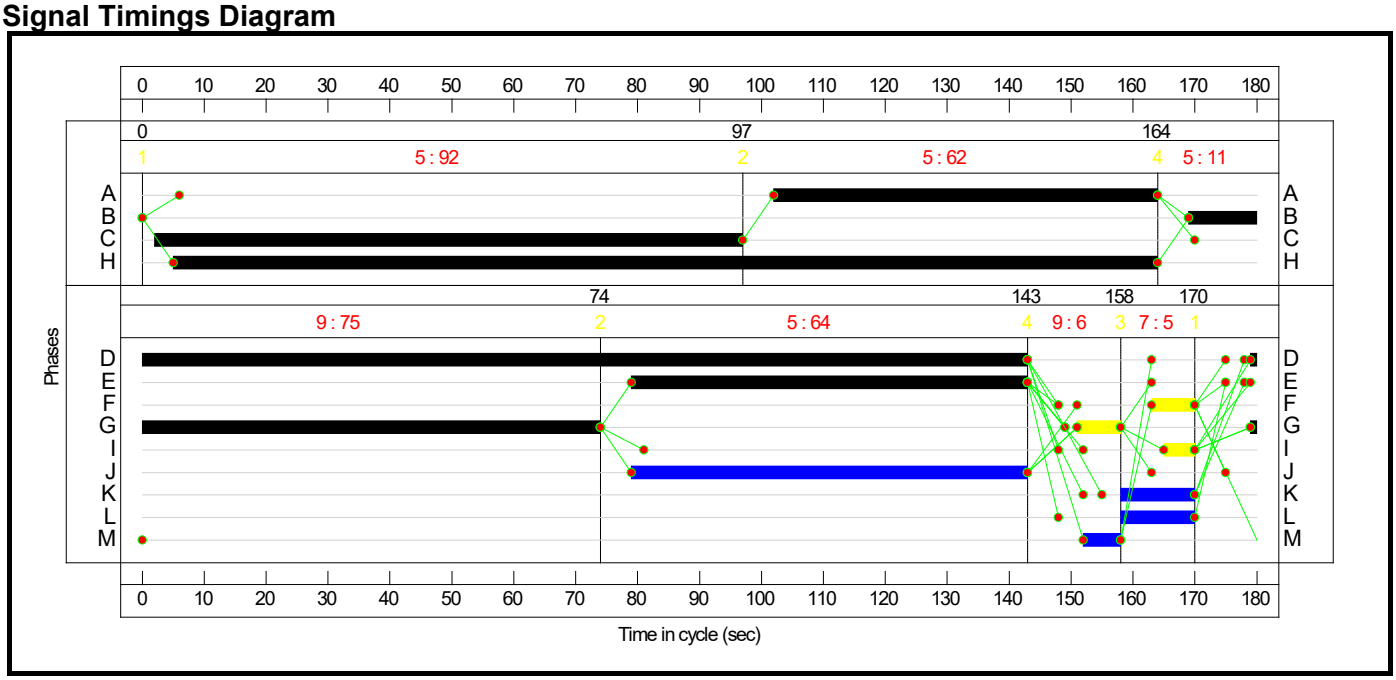
Stage	1	2	4
Duration	92	62	11
Change Point	0	97	164

Stage Stream: 2

Stage	1	2	4	3
Duration	75	64	6	5
Change Point	170	74	143	158

Full Input Data And Results

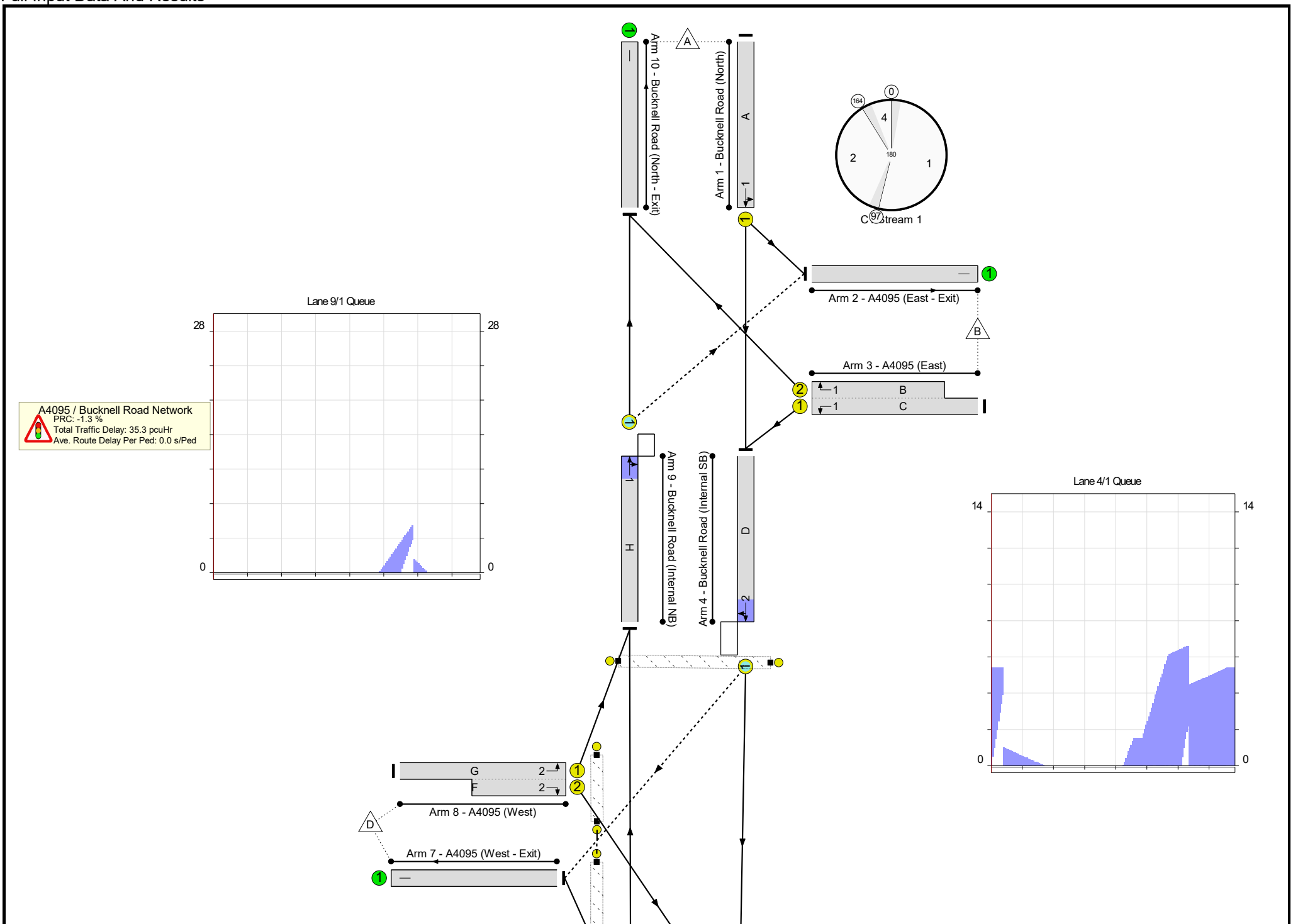
Signal Timings Diagram



Full Input Data And Results

Network Layout Diagram

Full Input Data And Results



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: A4095 / Bucknell Road	-	-	**N/A**	-	-		-	-	-	-	-	-	**91.1%**
A4095 / Bucknell Road Network	-	-	**N/A**	-	-		-	-	-	-	-	-	**91.1%**
1/1	Bucknell Road (North) Left Ahead	U	1	N/A	A		1	62	-	261	1841	644	40.5%
2/1	A4095 (East - Exit)	U	N/A	N/A	-		-	-	-	706	Inf	Inf	0.0%
3/1+3/2	A4095 (East) Left Right	U	1	N/A	C B		1	95:11	-	766	1641:1859	828+124	81.3 : 75.0%
4/1	Bucknell Road (Internal SB) Ahead Right	O	2	N/A	D		1	144	-	794	1762	871	91.1%
5/1	Bucknell Road (South - Exit)	U	N/A	N/A	-		-	-	-	162	Inf	Inf	0.0%
6/1	Bucknell Road (South) Left Ahead	U	2	N/A	E		1	64	-	576	1780	643	89.6%
7/1	A4095 (West - Exit)	U	N/A	N/A	-		-	-	-	936	Inf	Inf	0.0%
8/1+8/2	A4095 (West) Right Left	U	2	N/A	G F		2:1	82:7	-	447	1585:1846	735+20	59.2 : 59.2%
9/1	Bucknell Road (Internal NB) Right Ahead	O	1	N/A	H		1	159	-	719	1776	1325	54.3%
10/1	Bucknell Road (North - Exit)	U	N/A	N/A	-		-	-	-	246	Inf	Inf	0.0%
Ped Link: P1	Unnamed Ped Link	-	2	-	L		1	12	-	0	-	0	0.0%
Ped Link: P2	Unnamed Ped Link	-	2	-	M		1	6	-	0	-	0	0.0%

Full Input Data And Results

Ped Link: P3	Unnamed Ped Link	-	2	-	J		1	64	-	0	-	0	0.0%
Ped Link: P4	Unnamed Ped Link	-	2	-	K		1	12	-	0	-	0	0.0%
Ped Link: P5	Unnamed Ped Link	-	2	-	I		1	5	-	0	-	0	0.0%

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: A4095 / Bucknell Road	**-**	**-**	**270**	**896**	**44**	**27.0**	**6.9**	**1.4**	**35.3**	**-**	**-**	**-**	**-**
A4095 / Bucknell Road Network	**-**	**-**	**270**	**896**	**44**	**27.0**	**6.9**	**1.4**	**35.3**	**-**	**-**	**-**	**-**
1/1	261	261	-	-	-	3.2	0.3	-	3.6	49.0	9.9	0.3	10.2
2/1	706	706	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
3/1+3/2	766	766	-	-	-	8.4	2.0	-	10.4 (8.0+2.4)	48.8 (42.8:92.0)	28.1	2.0	30.1
4/1	794	794	45	559	40	2.2	0.0	1.0	3.2	14.6	6.6	0.0	6.6
5/1	162	162	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	576	576	-	-	-	8.7	3.9	-	12.6	78.5	27.2	3.9	31.1
7/1	936	936	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1+8/2	447	447	-	-	-	4.2	0.7	-	4.9 (4.6+0.3)	39.6 (37.9:102.2)	12.4	0.7	13.1
9/1	719	719	225	337	4	0.3	0.0	0.4	0.7	3.3	5.5	0.0	5.5
10/1	246	246	-	-	-	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	-	-	-	-	-	-	-	-	-	-	-
Ped Link: P5	0	0	-	-	-	-	-	-	-	-	-	-	-

Full Input Data And Results

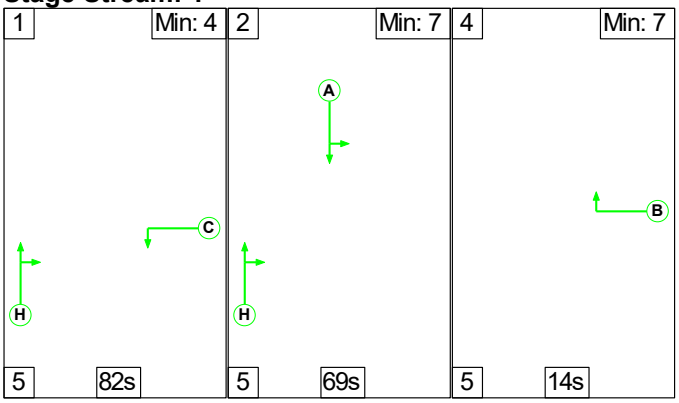
C1	Stream: 1	PRC for Signalled Lanes (%):	10.7	Total Delay for Signalled Lanes (pcuHr):	14.59	Cycle Time (s):	180
C1	Stream: 2	PRC for Signalled Lanes (%):	-1.3	Total Delay for Signalled Lanes (pcuHr):	20.70	Cycle Time (s):	180
		PRC Over All Lanes (%):	-1.3	Total Delay Over All Lanes(pcuHr):	35.29		

Full Input Data And Results

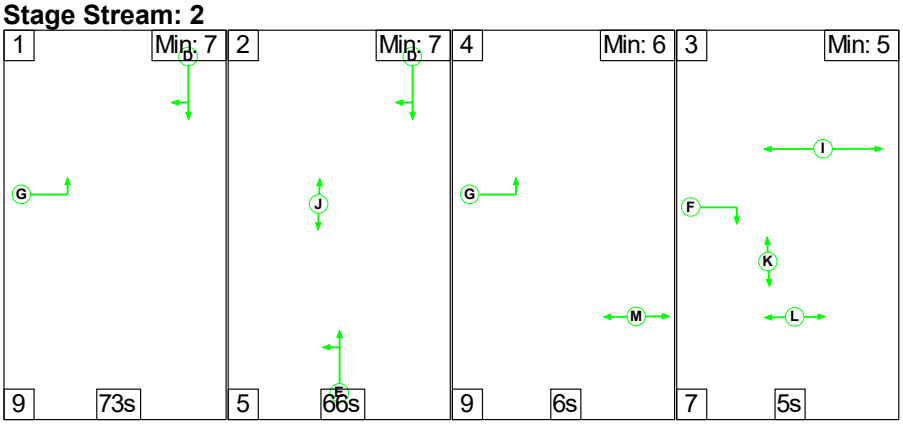
Scenario 18: 'Strategic Model Hawkfield Development 1a - PM' (FG18: 'Strategic Model Hawkfield Development 1a - PM', Plan 1: 'Network Control Plan 1')

Stage Sequence Diagram

Stage Stream: 1



Stage Stream: 2



Stage Timings

Stage Stream: 1

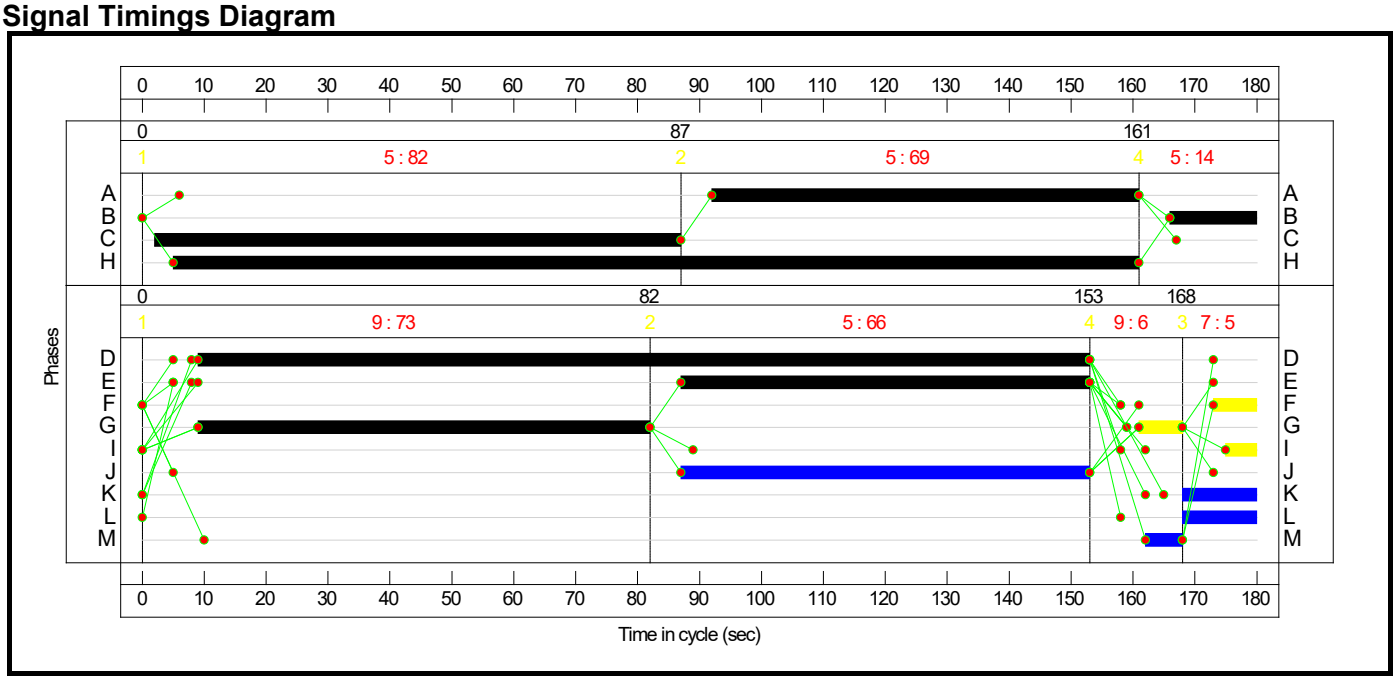
Stage	1	2	4
Duration	82	69	14
Change Point	0	87	161

Stage Stream: 2

Stage	1	2	4	3
Duration	73	66	6	5
Change Point	0	82	153	168

Full Input Data And Results

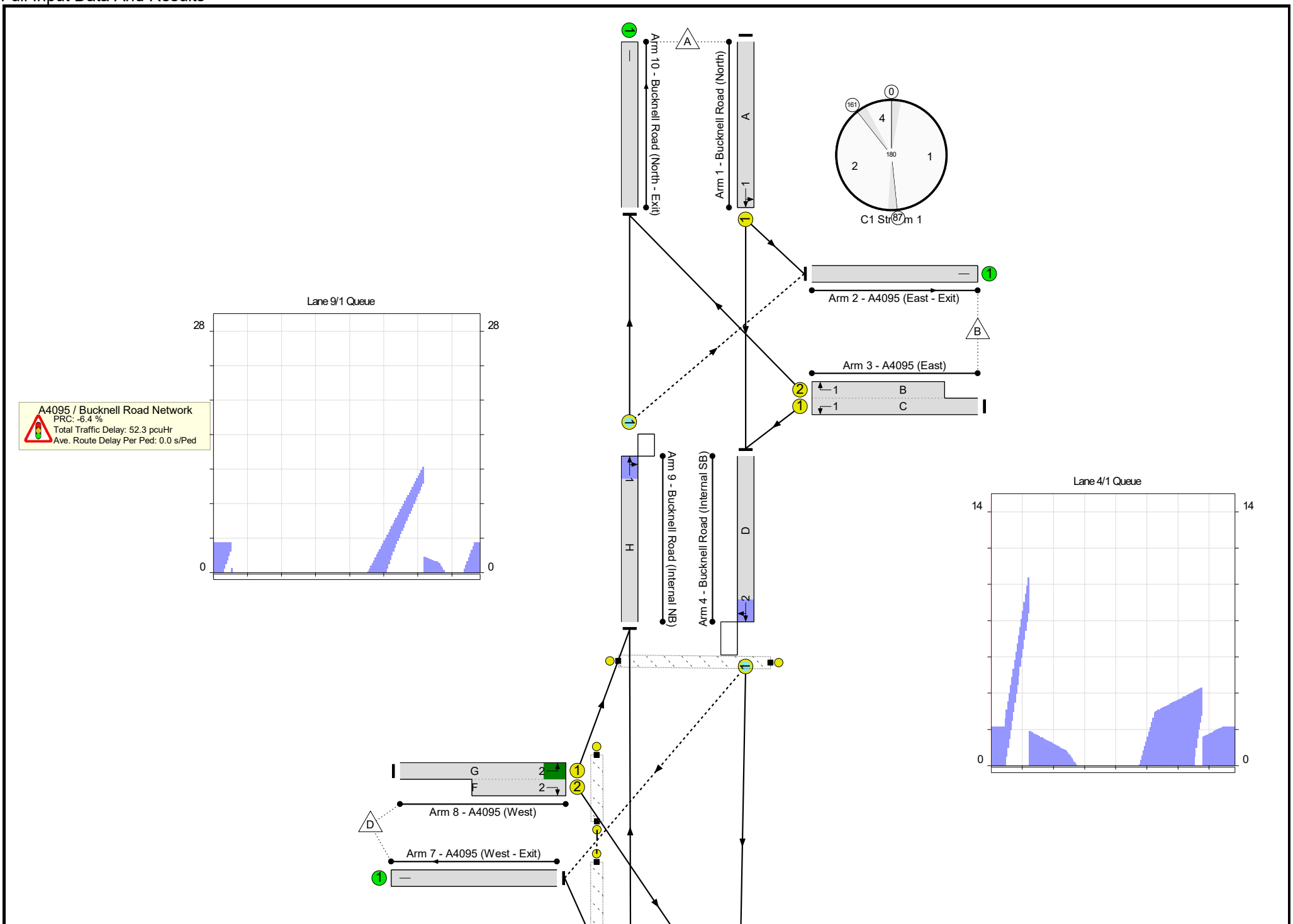
Signal Timings Diagram



Full Input Data And Results

Network Layout Diagram

Full Input Data And Results



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: A4095 / Bucknell Road	-	-	**N/A**	-	-		-	-	-	-	-	-	**95.8%**
A4095 / Bucknell Road Network	-	-	**N/A**	-	-		-	-	-	-	-	-	**95.8%**
1/1	Bucknell Road (North) Left Ahead	U	1	N/A	A		1	69	-	275	1847	718	38.3%
2/1	A4095 (East - Exit)	U	N/A	N/A	-		-	-	-	980	Inf	Inf	0.0%
3/1+3/2	A4095 (East) Left Right	U	1	N/A	C B		1	85:14	-	835	1641:1859	732+155	95.8 : 86.5%
4/1	Bucknell Road (Internal SB) Ahead Right	O	2	N/A	D		1	144	-	840	1784	886	94.8%
5/1	Bucknell Road (South - Exit)	U	N/A	N/A	-		-	-	-	304	Inf	Inf	0.0%
6/1	Bucknell Road (South) Left Ahead	U	2	N/A	E		1	66	-	601	1818	677	88.8%
7/1	A4095 (West - Exit)	U	N/A	N/A	-		-	-	-	788	Inf	Inf	0.0%
8/1+8/2	A4095 (West) Right Left	U	2	N/A	G F		2:1	80:7	-	691	1585:1846	705+42	92.4 : 92.4%
9/1	Bucknell Road (Internal NB) Right Ahead	O	1	N/A	H		1	156	-	1040	1772	1264	82.3%
10/1	Bucknell Road (North - Exit)	U	N/A	N/A	-		-	-	-	330	Inf	Inf	0.0%
Ped Link: P1	Unnamed Ped Link	-	2	-	L		1	12	-	0	-	0	0.0%
Ped Link: P2	Unnamed Ped Link	-	2	-	M		1	6	-	0	-	0	0.0%

Full Input Data And Results

Ped Link: P3	Unnamed Ped Link	-	2	-	J		1	66	-	0	-	0	0.0%
Ped Link: P4	Unnamed Ped Link	-	2	-	K		1	12	-	0	-	0	0.0%
Ped Link: P5	Unnamed Ped Link	-	2	-	I		1	5	-	0	-	0	0.0%

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: A4095 / Bucknell Road	**-**	**-**	**363**	**1016**	**40**	**35.3**	**15.6**	**1.5**	**52.3**	**-**	**-**	**-**	**-**
A4095 / Bucknell Road Network	**-**	**-**	**363**	**1016**	**40**	**35.3**	**15.6**	**1.5**	**52.3**	**-**	**-**	**-**	**-**
1/1	275	275	-	-	-	3.0	0.3	-	3.3	43.5	9.9	0.3	10.2
2/1	980	980	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
3/1+3/2	835	835	-	-	-	11.6	6.5	-	18.1 (13.9+4.2)	77.9 (71.4:111.8)	36.4	6.5	42.8
4/1	840	840	48	487	40	1.6	0.0	1.0	2.6	11.2	10.4	0.0	10.4
5/1	304	304	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	601	601	-	-	-	8.8	3.6	-	12.5	74.7	28.0	3.6	31.7
7/1	788	788	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1+8/2	691	691	-	-	-	9.2	5.2	-	14.4 (12.7+1.7)	75.1 (70.3:154.8)	28.0	5.2	33.2
9/1	1040	1040	315	529	0	1.0	0.0	0.5	1.4	5.0	12.2	0.0	12.2
10/1	330	330	-	-	-	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	-	-	-	-	-	-	-	-	-	-	-
Ped Link: P5	0	0	-	-	-	-	-	-	-	-	-	-	-

Full Input Data And Results

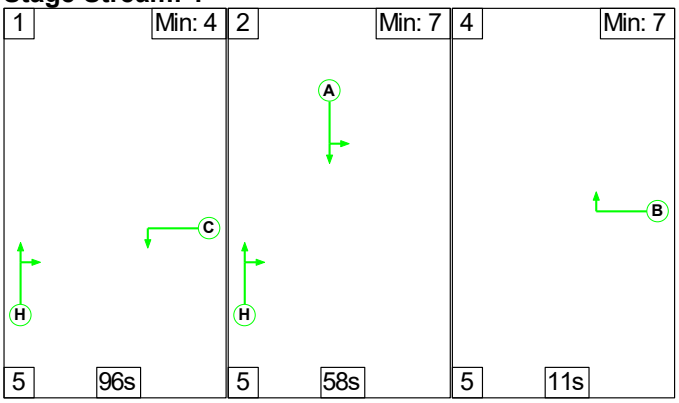
C1	Stream: 1	PRC for Signalled Lanes (%):	-6.4	Total Delay for Signalled Lanes (pcuHr):	22.84	Cycle Time (s):	180
C1	Stream: 2	PRC for Signalled Lanes (%):	-5.3	Total Delay for Signalled Lanes (pcuHr):	29.49	Cycle Time (s):	180
		PRC Over All Lanes (%):	-6.4	Total Delay Over All Lanes(pcuHr):	52.34		

Full Input Data And Results

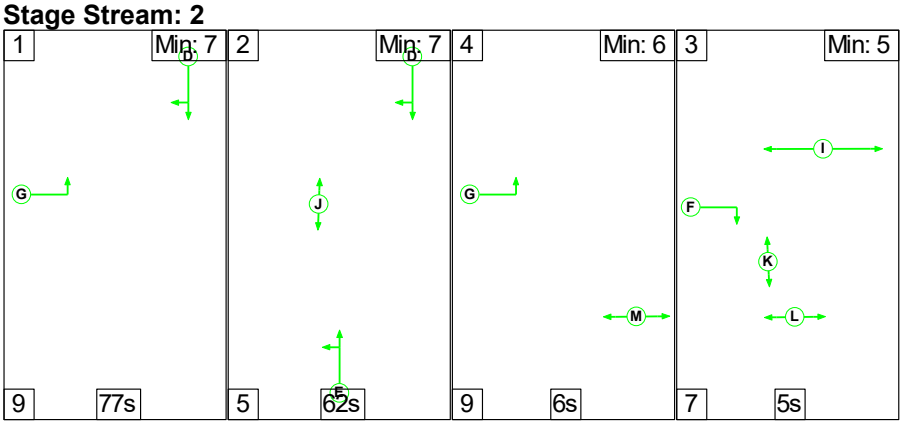
Scenario 19: 'Strategic Model Hawkfield Development 2a - AM' (FG19: 'Strategic Model Hawkfield Development 2a - AM', Plan 1: 'Network Control Plan 1')

Stage Sequence Diagram

Stage Stream: 1



Stage Stream: 2



Stage Timings

Stage Stream: 1

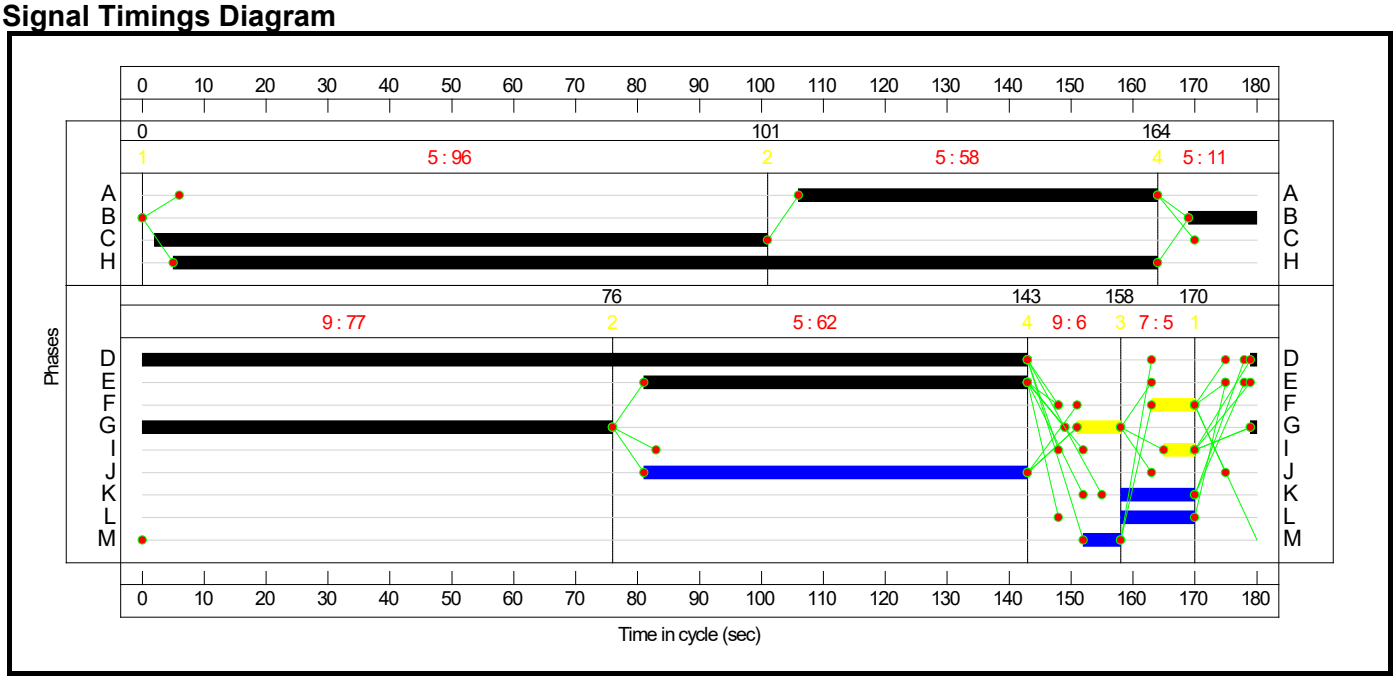
Stage	1	2	4
Duration	96	58	11
Change Point	0	101	164

Stage Stream: 2

Stage	1	2	4	3
Duration	77	62	6	5
Change Point	170	76	143	158

Full Input Data And Results

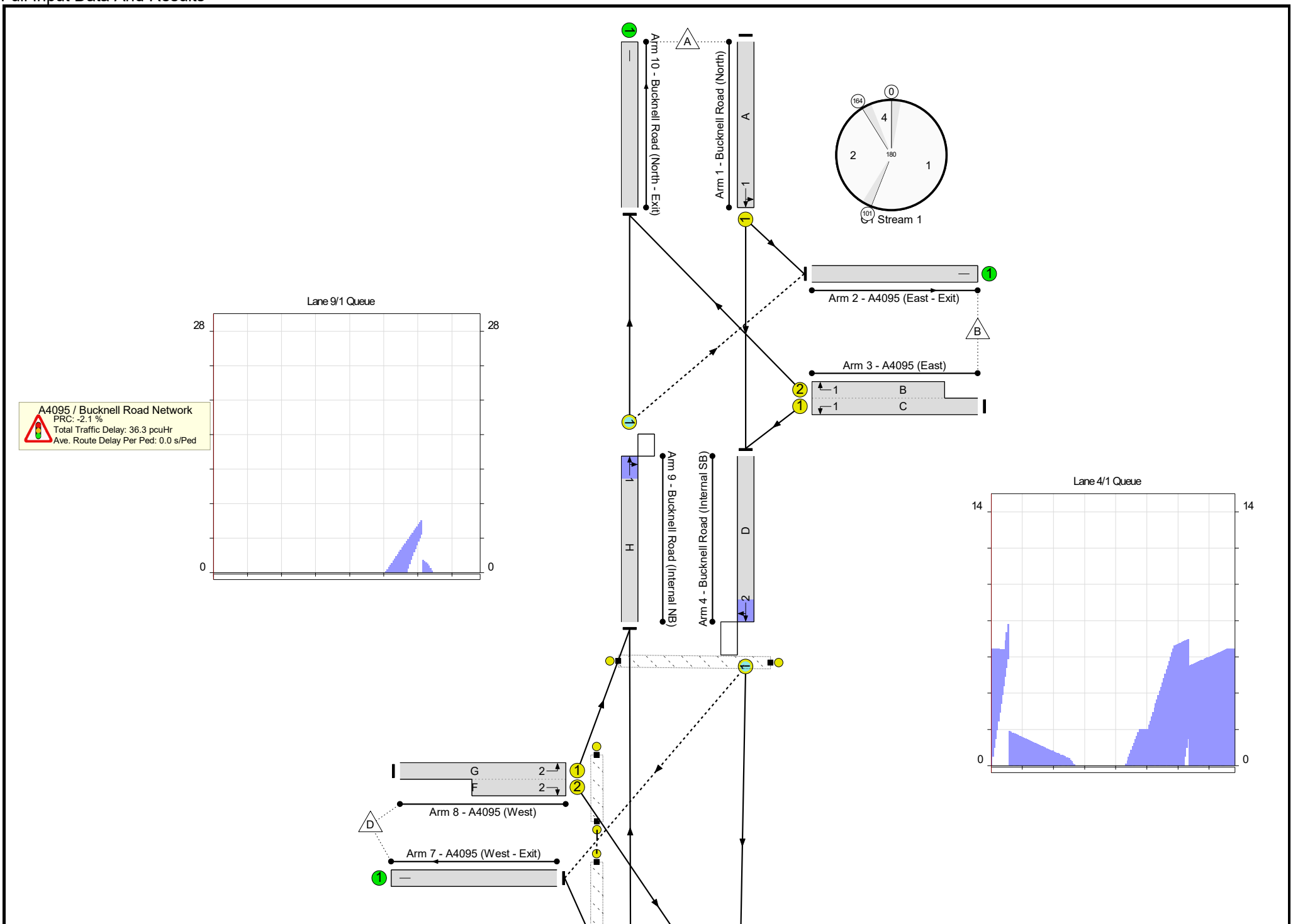
Signal Timings Diagram



Full Input Data And Results

Network Layout Diagram

Full Input Data And Results



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: A4095 / Bucknell Road	-	-	**N/A**	-	-		-	-	-	-	-	-	**91.8%**
A4095 / Bucknell Road Network	-	-	**N/A**	-	-		-	-	-	-	-	-	**91.8%**
1/1	Bucknell Road (North) Left Ahead	U	1	N/A	A		1	58	-	257	1840	603	42.6%
2/1	A4095 (East - Exit)	U	N/A	N/A	-		-	-	-	701	Inf	Inf	0.0%
3/1+3/2	A4095 (East) Left Right	U	1	N/A	C B		1	99:11	-	788	1641:1859	858+124	80.2 : 80.7%
4/1	Bucknell Road (Internal SB) Ahead Right	O	2	N/A	D		1	144	-	806	1763	878	91.8%
5/1	Bucknell Road (South - Exit)	U	N/A	N/A	-		-	-	-	168	Inf	Inf	0.0%
6/1	Bucknell Road (South) Left Ahead	U	2	N/A	E		1	62	-	570	1781	623	91.4%
7/1	A4095 (West - Exit)	U	N/A	N/A	-		-	-	-	935	Inf	Inf	0.0%
8/1+8/2	A4095 (West) Right Left	U	2	N/A	G F		2:1	84:7	-	441	1585:1846	752+21	57.0 : 57.0%
9/1	Bucknell Road (Internal NB) Right Ahead	O	1	N/A	H		1	159	-	714	1776	1329	53.7%
10/1	Bucknell Road (North - Exit)	U	N/A	N/A	-		-	-	-	252	Inf	Inf	0.0%
Ped Link: P1	Unnamed Ped Link	-	2	-	L		1	12	-	0	-	0	0.0%
Ped Link: P2	Unnamed Ped Link	-	2	-	M		1	6	-	0	-	0	0.0%

Full Input Data And Results

Ped Link: P3	Unnamed Ped Link	-	2	-	J		1	62	-	0	-	0	0.0%
Ped Link: P4	Unnamed Ped Link	-	2	-	K		1	12	-	0	-	0	0.0%
Ped Link: P5	Unnamed Ped Link	-	2	-	I		1	5	-	0	-	0	0.0%

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: A4095 / Bucknell Road	**-**	**-**	**253**	**915**	**44**	**27.4**	**7.6**	**1.3**	**36.3**	**-**	**-**	**-**	**-**
A4095 / Bucknell Road Network	**-**	**-**	**253**	**915**	**44**	**27.4**	**7.6**	**1.3**	**36.3**	**-**	**-**	**-**	**-**
1/1	257	257	-	-	-	3.4	0.4	-	3.7	52.5	10.0	0.4	10.4
2/1	701	701	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
3/1+3/2	788	788	-	-	-	8.2	2.0	-	10.2 (7.6+2.6)	46.4 (39.8:92.0)	28.0	2.0	30.0
4/1	806	806	36	574	40	2.7	0.0	1.0	3.7	16.4	7.8	0.0	7.8
5/1	168	168	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	570	570	-	-	-	8.9	4.6	-	13.4	84.7	27.2	4.6	31.8
7/1	935	935	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1+8/2	441	441	-	-	-	3.9	0.7	-	4.6 (4.3+0.3)	37.5 (35.8:98.6)	11.8	0.7	12.5
9/1	714	714	217	341	4	0.3	0.0	0.4	0.7	3.5	6.1	0.0	6.1
10/1	252	252	-	-	-	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	-	-	-	-	-	-	-	-	-	-	-
Ped Link: P5	0	0	-	-	-	-	-	-	-	-	-	-	-

Full Input Data And Results

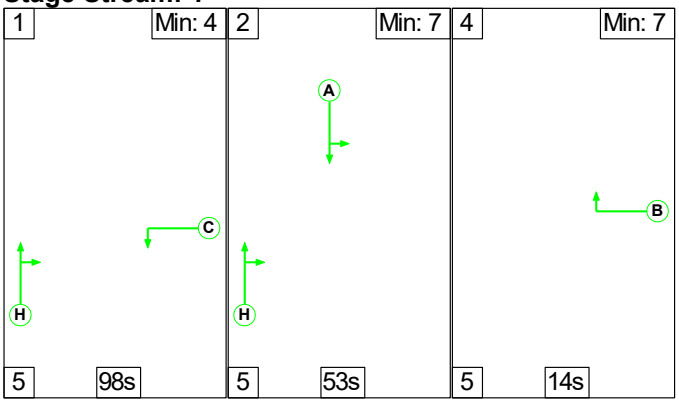
C1	Stream: 1	PRC for Signalled Lanes (%):	11.5	Total Delay for Signalled Lanes (pcuHr):	14.60	Cycle Time (s):	180
C1	Stream: 2	PRC for Signalled Lanes (%):	-2.1	Total Delay for Signalled Lanes (pcuHr):	21.69	Cycle Time (s):	180
		PRC Over All Lanes (%):	-2.1	Total Delay Over All Lanes(pcuHr):	36.28		

Full Input Data And Results

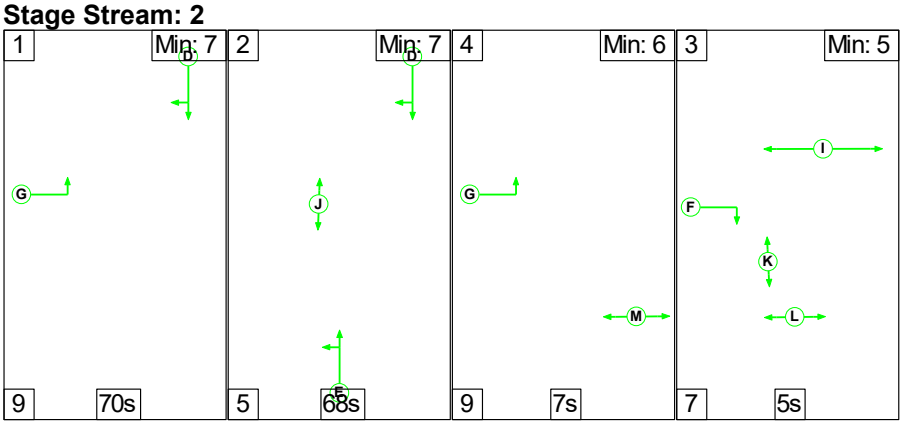
Scenario 20: 'Strategic Model Hawkfield Development 2a - PM' (FG20: 'Strategic Model Hawkfield Development 2a - PM', Plan 1: 'Network Control Plan 1')

Stage Sequence Diagram

Stage Stream: 1



Stage Stream: 2



Stage Timings

Stage Stream: 1

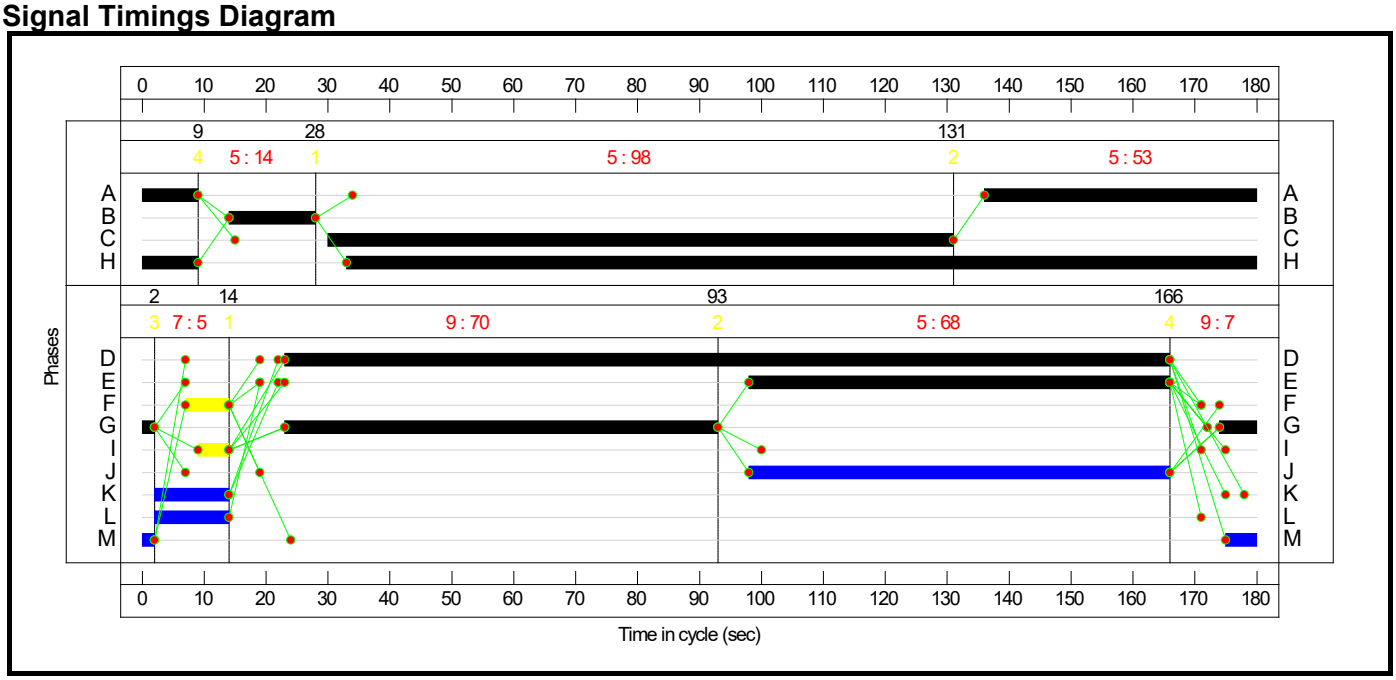
Stage	1	2	4
Duration	98	53	14
Change Point	28	131	9

Stage Stream: 2

Stage	1	2	4	3
Duration	70	68	7	5
Change Point	14	93	166	2

Full Input Data And Results

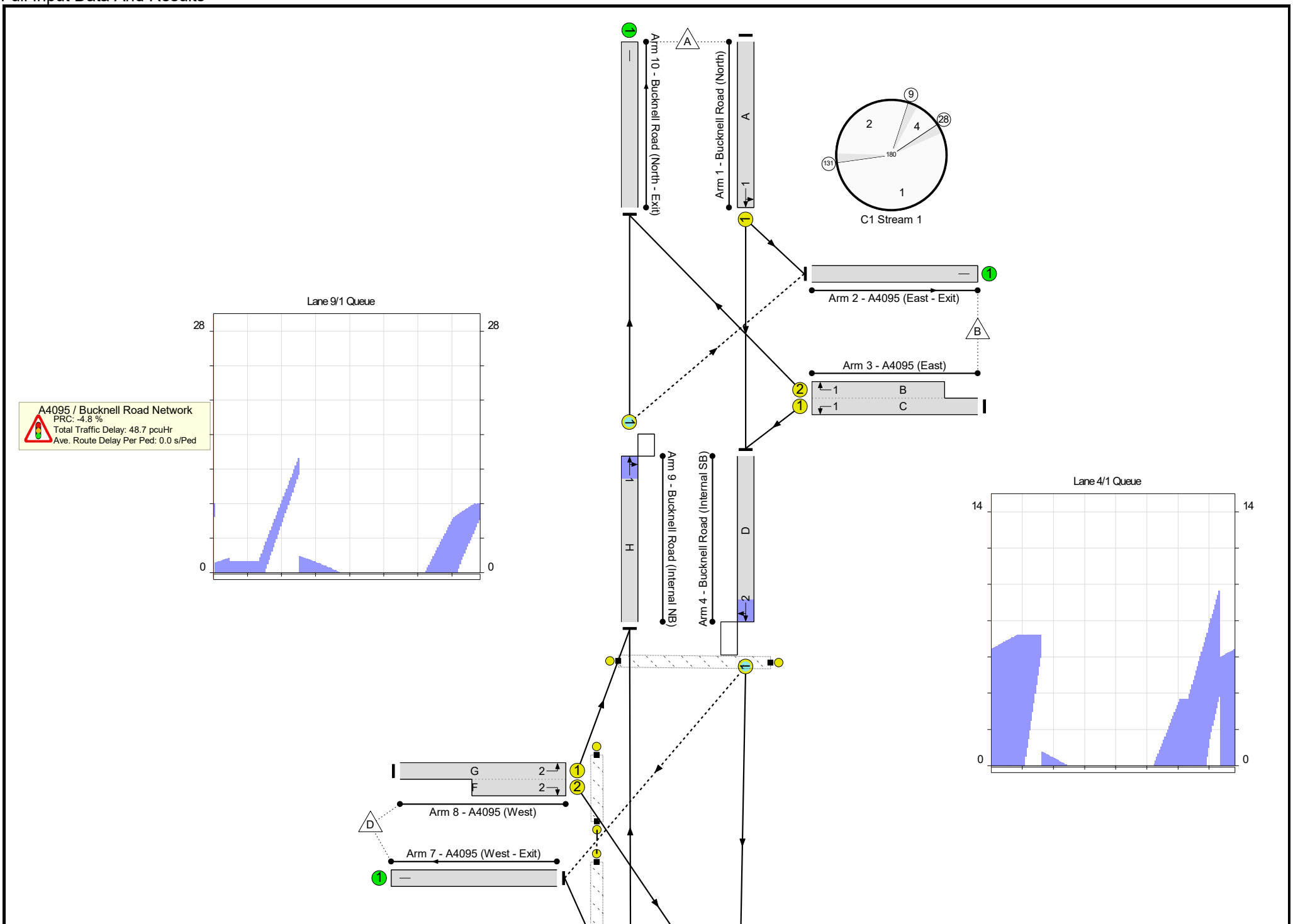
Signal Timings Diagram



Full Input Data And Results

Network Layout Diagram

Full Input Data And Results



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: A4095 / Bucknell Road	-	-	**N/A**	-	-		-	-	-	-	-	-	**94.3%**
A4095 / Bucknell Road Network	-	-	**N/A**	-	-		-	-	-	-	-	-	**94.3%**
1/1	Bucknell Road (North) Left Ahead	U	1	N/A	A		1	53	-	291	1846	554	52.5%
2/1	A4095 (East - Exit)	U	N/A	N/A	-		-	-	-	1003	Inf	Inf	0.0%
3/1+3/2	A4095 (East) Left Right	U	1	N/A	C B		1	101:14	-	819	1641:1859	851+155	79.8 : 90.4%
4/1	Bucknell Road (Internal SB) Ahead Right	O	2	N/A	D		1	143	-	826	1785	879	94.0%
5/1	Bucknell Road (South - Exit)	U	N/A	N/A	-		-	-	-	304	Inf	Inf	0.0%
6/1	Bucknell Road (South) Left Ahead	U	2	N/A	E		1	68	-	600	1822	698	85.9%
7/1	A4095 (West - Exit)	U	N/A	N/A	-		-	-	-	765	Inf	Inf	0.0%
8/1+8/2	A4095 (West) Right Left	U	2	N/A	G F		2:1	78:7	-	689	1585:1846	689+41	94.3 : 94.3%
9/1	Bucknell Road (Internal NB) Right Ahead	O	1	N/A	H		1	156	-	1046	1771	1255	83.4%
10/1	Bucknell Road (North - Exit)	U	N/A	N/A	-		-	-	-	327	Inf	Inf	0.0%
Ped Link: P1	Unnamed Ped Link	-	2	-	L		1	12	-	0	-	0	0.0%
Ped Link: P2	Unnamed Ped Link	-	2	-	M		1	7	-	0	-	0	0.0%

Full Input Data And Results

Ped Link: P3	Unnamed Ped Link	-	2	-	J		1	68	-	0	-	0	0.0%
Ped Link: P4	Unnamed Ped Link	-	2	-	K		1	12	-	0	-	0	0.0%
Ped Link: P5	Unnamed Ped Link	-	2	-	I		1	5	-	0	-	0	0.0%

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: A4095 / Bucknell Road	**-**	**-**	**249**	**1104**	**67**	**35.2**	**11.9**	**1.5**	**48.7**	**-**	**-**	**-**	**-**
A4095 / Bucknell Road Network	**-**	**-**	**249**	**1104**	**67**	**35.2**	**11.9**	**1.5**	**48.7**	**-**	**-**	**-**	**-**
1/1	291	291	-	-	-	4.2	0.6	-	4.8	59.2	12.0	0.6	12.6
2/1	1003	1003	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
3/1+3/2	819	819	-	-	-	8.6	2.1	-	10.8 (7.2+3.5)	47.4 (38.4:91.2)	27.1	2.1	29.3
4/1	826	826	62	459	40	2.7	0.0	1.1	3.8	16.5	9.6	0.0	9.6
5/1	304	304	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	600	600	-	-	-	8.5	2.9	-	11.4	68.3	27.5	2.9	30.4
7/1	765	765	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1+8/2	689	689	-	-	-	9.5	6.4	-	15.9 (14.1+1.8)	83.0 (78.2:162.8)	28.0	6.4	34.4
9/1	1046	1046	188	645	27	1.6	0.0	0.5	2.1	7.1	13.2	0.0	13.2
10/1	327	327	-	-	-	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	-	-	-	-	-	-	-	-	-	-	-
Ped Link: P5	0	0	-	-	-	-	-	-	-	-	-	-	-

Full Input Data And Results

C1	Stream: 1	PRC for Signalled Lanes (%):	-0.4	Total Delay for Signalled Lanes (pcuHr):	17.62	Cycle Time (s):	180
C1	Stream: 2	PRC for Signalled Lanes (%):	-4.8	Total Delay for Signalled Lanes (pcuHr):	31.04	Cycle Time (s):	180
		PRC Over All Lanes (%):	-4.8	Total Delay Over All Lanes(pcuHr):	48.65		