

7. Transport

Chris Gomm
Principal Planning Officer
Bath & North East Somerset Council
Lewis House
Manvers Street
Bath
BA1 1JG

11 September 2019

Dear Mr Gomm,

Bristol Airport Outline Planning Application ref 18/P/5118/OUT

I write further to your letter dated 31 January 2019 to Neil Underhay at North Somerset Council (NSC) regarding the above, our subsequent discussions on this matter, and your further letter to NSC dated 18 June 2019.

Following your initial response to the planning application in January, you will recall that we met to review your concerns and we then provided you with a range of further information and analysis work which sought to address your concerns. During this process our consultants PBA engaged directly with your team and your consultant support colleagues in addition to providing you with additional analysis and technical notes.

Whilst we offered to meet with you again following this additional work, we were not made aware of any residual concerns that might lead to your objection to the application in your subsequent letter to NSC.

Your June letter recognises the additional analysis work that has been undertaken, including further information that was undertaken by yourselves. On the issue of traffic associated with the airport and the additional traffic generated by the development proposals, your letter concludes that *'this information shows that the flows associated with Airport activities on the B3130 are not significantly different to those presented within the planning application submissions'*. Furthermore, you state that *'it is unlikely that the estimated traffic flow changes would have a significant impact on the operation of the B3130 within the B&NES authority area'*.

We would support and agree with these statements. However, your letter goes on to state that there remain significant concerns that the mitigation package put forward as part of the planning application may not be sufficient to resolve existing traffic issues on the A38, resulting in traffic diverting onto the B3130 route. This view does not correspond with the findings of the analysis undertaken by PBA or yourselves, or the information submitted within the Transport Assessment which supports the application.

A comprehensive mitigation package has been proposed as part of the planning application. As well as a wide range of public transport improvements, a significant highway improvement package includes a major upgrade to the A38 junction with Downside Road and West Lane, as well as a commitment to monitor traffic flows in future years at key junctions on the A38. This monitoring commitment extends to supporting future mitigations measures, as may be required, should airport traffic cause junctions to operate over capacity in the future. This monitoring package would include the B3130 route in the context of the Chew Valley Transport Strategy. Your concerns should therefore be addressed by this commitment to the combination of immediate and future improvements to the A38 and local junctions for growth at the airport beyond 10 million passengers per annum (mppa).

Your June letter concludes with three issues that should be addressed. These are namely:

1. Strategic impacts and amelioration agreed as part of the S106 Agreement. Heads of Terms should be agreed at this time.
2. The proposal needs to demonstrate how it will address and link to the draft Chew Valley Transport Strategy.
3. The Parking Strategy for the Airport needs to be reviewed and measures secured to ensure that uncontrolled growth in parking numbers is not an unintended consequence of any planning permission.

We are committed to addressing each of these three issues through the planning application proposals and within the Section 106 Agreement that would follow. This letter is copied to NSC and we will also confirm this approach with NSC in our ongoing discussions.

B&NES are currently a member of the Airport Transport Forum (ATF) and would continue to be so throughout as Bristol Airport grows towards 12mppa. The ATF has an important role to oversee the delivery of the Airport's Surface Access Strategy (ASAS) and to scrutinise the implementation of all measures delivered through the S106 Agreement.

We have offered to meet with you and colleagues to discuss the application and the proposed mitigation package and we would continue to welcome the opportunity to meet to discuss matters. In any event, we would trust that our commitments as briefly outlined above, particularly on local highway matters, will address your concerns.

Yours sincerely,

PAUL BAKER

Surface Access Strategy Manager

cc Neil Underhay, North Somerset Council
Bella Fortune, North Somerset Council

Job Name: Development of Bristol Airport to accommodate 12mppa
Job No: 43321
Note No: 025
Date: May 2019
Prepared By: Dave Harrison
Subject: Response to **Bristol Airport Transport Assessment Audit Note 03 – Section 2 (TN013 Public Transport Capacity Assessment)**

1. Introduction

- 1.1. This note has been produced in response to Jacobs' Audit Note 03, specifically dealing with Section 2 which covers public transport capacity. A supplementary note on the Public Transport (PT) Capacity Assessment was provided to NSC in January 2019.
- 1.2. The specific queries raised in the Audit Note are as follows:
 1. There is no reference table in the TA/TN013 showing public transport trips by hour.
 2. Why was 06:00-07:00 chosen as the busiest hour?
 3. Why were only inbound trips included in the assessment?
- 1.3. The below sections set out the responses to the queries contained within the Audit Note.
- 1.4. It should be noted that the figures used in the assessment represent total demand and not the proportional increase between 10 and 12 mppa. Jacobs appear to have believed that the figures represented the increase and therefore a separate assessment of existing capacity was required.

2. Public Transport Trips by Hour

- 2.1. Jacobs state that: *There is no reference table in the TA/TN013 showing public transport trips by hour.*
- 2.2. Table 1 overleaf shows the predicted person and public transport numbers in the 12 mppa scenario by direction. The PT Capacity Assessment set out in TN013 considers the predicted total trips to/from Bristol Airport in the full 12 mppa scenario, by all modes and by PT.
- 2.3. This represents total demand, not the proportional increase between 10 and 12 mppa. Therefore, it can be accurately used to assess the capacity of the available public transport services.
- 2.4. This includes both employees and passengers and inherently includes the trips associated with the baseline position of 8.2 mppa. As set out in TN013, the predicted daily PT demand at 12 mppa has been compared with the available seat capacity on the bus network, which has shown that there is sufficient capacity to support the proposed passenger increase to 12 mppa.



Table 1: Predicted total hourly person and PT trip generation (12 mppa)

	Total People			PT passengers		
	Inbound	Outbound	Total	Inbound	Outbound	Total
00:00 - 01:00	0	2161	2161	0	314	314
01:00 - 02:00	0	426	426	0	62	62
02:00 - 03:00	250	1379	1629	26	196	222
03:00 - 04:00	40	362	402	4	52	57
04:00 - 05:00	225	278	503	31	40	71
05:00 - 06:00	1660	123	1784	225	17	242
06:00 - 07:00	3102	540	3641	435	57	492
07:00 - 08:00	2037	416	2452	286	51	336
08:00 - 09:00	859	108	967	120	16	136
09:00 - 10:00	810	614	1424	113	89	202
10:00 - 11:00	838	713	1551	122	103	225
11:00 - 12:00	984	917	1901	143	133	276
12:00 - 13:00	1756	843	2599	245	113	358
13:00 - 14:00	1447	2395	3842	210	347	557
14:00 - 15:00	1199	1527	2725	161	220	381
15:00 - 16:00	1051	661	1711	148	95	243
16:00 - 17:00	1376	1053	2428	200	152	351
17:00 - 18:00	1547	1592	3139	224	212	436
18:00 - 19:00	1917	1467	3384	267	198	465
19:00 - 20:00	1416	1941	3357	200	271	471
20:00 - 21:00	548	1510	2058	76	219	295
21:00 - 22:00	134	579	713	19	81	100
22:00 - 23:00	67	508	575	10	73	82
23:00 - 24:00	19	1167	1186	3	159	162
Total	23281	23280	46560	3268	3268	6536

3. Public Transport Peak Hour

- 3.1. Jacobs has asked: *Why was 06:00-07:00 chosen as the busiest hour?*
- 3.2. With regards to the PT peak hour analysis, the hour with the greatest predicted PT passengers in any one direction has been selected. Table 1 shows the predicted person and public transport trip generation in the 12 mppa scenario by direction. The numbers include both the employees and passengers, which each have different trip profiles over the day and different PT mode shares.
- 3.3. The highlighted row shows the period of highest expected public transport demand in a single direction, which is 435 trips in the hour 06:00 to 07:00. This is not exceeded in the outbound assessment and therefore represents the greatest predicted one-way public transport demand in any given hour.



- 3.4. The analysis set out in TN013 indicates that the frequency of Airport Flyer buses at this time is 6 per hour, which is lower than the main daytime frequency of 8-9 buses per hour. This level of service is therefore sufficient to cater for the greatest predicted public transport demand in the 12 mppa scenario.

4. Inbound Trips Assessment

- 4.1. Jacobs has asked: *Why were only inbound trips included in the assessment?*
- 4.2. Inbound and outbound public transport capacity is similar, because buses that go to the Airport usually also return to their origin point. The maximum outbound demand is 347 passengers between 13:00 and 14:00, whereas the maximum inbound demand is 435 passengers between 06:00 and 07:00.
- 4.3. The previous note demonstrated that there is sufficient PT capacity to accommodate the inbound peak between 06:00 and 07:00.
- 4.4. During the outbound peak period, there are 7 buses to Bristol, 2 buses to Bath, 1 bus to Weston-super-Mare, 1 coach to Cardiff and 1 coach to Plymouth. This is a greater level of provision to Bristol and Bath – and at least equal for other destinations – than the inbound period between 06:00 and 07:00 for significantly fewer passengers; it therefore follows that sufficient capacity is available.

5. Summary

- 5.1. This note has answered each of the queries raised in Audit Note 03 written by Jacobs, with additional information or clarity provided as appropriate.
- 5.2. We therefore request that Jacobs and NSC confirm agreement to the public transport provision proposed in support of the application.



TECHNICAL NOTE

Job Name: Bristol Airport
Job No: 443321/5501
Note No: TN027 B
Date: 22.07.2019
Prepared By: P Roose
Subject: Response to Jacobs Modelling Comments

1. Introduction

- 1.1. This technical note has been prepared by Peter Brett Associates (PBA), now part of Stantec, to respond to comments raised by Jacobs, dated 18th June 2019, in relation to junction modelling. A copy of the comments is contained within **Appendix A**.
- 1.2. Any comments raised by Jacobs *are in grey italics* and the PBA response has been provided underneath each comment.

2. Junction 1 and 2, Northern and Southern Airport Access Roundabouts – Existing Layout

- 2.1. The following comments have been raised by Jacobs in relation to the northern and southern airport access roundabout existing layouts:

Previous Comments

“All ARCADY modelling of un-signalised roundabouts uses standard ARCADY analysis which assumes balanced utility of entry lanes. If traffic at any of these roundabouts is biased to particular lanes, this will mean that the assessment is over-optimistic regarding capacity and the resulting operational conditions. If this is the case, lane analysis (or another methodology for accounting for imbalanced lane usage) should be employed.”

“This is still relevant, especially for Arm A for the northern roundabout which has high number of U-turns and right-turners. Both movements could use the outside of 3 lanes, which may result in the central lane becoming blocked (space for 3 pcu storage).”

- 2.2. The northern and southern airport access roundabouts junction assessments have now been set up as a lane simulation to better represent on-site conditions.

“There are concerns that the evening PM peak covers a period of 17:00-18:00, however the traffic survey data indicates that flows for the following hour between 18:00-19:00 are also reasonably high, with background flows not dropping off until 19:00. Therefore; we would like to see additional modelling completed for a period of 18:00-19:00. - Still only single PM peak of 17:00 to 18:00. For J1 there is total junction flow of 2834pcu between 17:00 to 18:00 compared to 2249pcu for 18:00 to 19:00.”

- 2.3. **Table 1** provides the 2018 surveyed turning counts for the 17:00 – 18:00 hour period at the northern airport access roundabout.



TECHNICAL NOTE

Table 1: Junction 1, Northern Access Roundabout Flows (17:00 – 18:00)

Origin/Destination	A38 North	Easirent Car Hire	A38 South	Bristol Airport	Total
A38 North	163	6	750	419	1338
Easirent Car Hire	5	0	5	7	17
A38 South	713	4	1	169	887
Bristol Airport	416	5	161	0	582
Total	1297	15	917	595	2824

- 2.4. **Table 2** provides the 2018 surveyed turning counts for the 18:00 – 19:00 hour period at the northern airport access roundabout.

Table 2: Junction 1, Northern Access Roundabout Flows (18:00 – 19:00)

Origin/Destination	A38 North	Easirent Car Hire	A38 South	Bristol Airport	Total
A38 North	127	11	723	407	1268
Easirent Car Hire	3	0	2	20	25
A38 South	548	6	3	160	717
Bristol Airport	441	3	182	1	627
Total	1119	20	910	588	2637

- 2.5. Tables 1 and 2 demonstrate that there is more traffic observed (187 vehicles) during 17:00 – 18:00 hour than the 18:00 – 19:00 hour period.
- 2.6. **Table 3** provides the 2018 surveyed turning counts for the 17:00 – 18:00 hour period at the southern airport access roundabout.

Table 3: Junction 2, Southern Access Roundabout Flows (17:00 – 18:00)

Origin/Destination	A38 North	A38 South	Bristol Airport	Total
A38 North	8	786	67	861
A38 South	634	0	16	650
Bristol Airport	118	51	0	169
Total	760	837	83	1680

- 2.7. **Table 4** provides the 2018 surveyed turning counts for the 18:00 – 19:00 hour period at the southern airport access roundabout.



TECHNICAL NOTE

Table 4: Junction 2, Southern Access Roundabout Flows (18:00 – 19:00)

Origin/Destination	A38 North	A38 South	Bristol Airport	Total
A38 North	10	716	41	767
A38 South	463	0	3	466
Bristol Airport	89	37	0	126
Total	562	753	44	1359

- 2.8. Tables 3 and 4 demonstrate that there is more traffic (321 vehicles) observed during the 17:00 – 18:00 hour period compared to the 18:00 – 19:00 hour period.
- 2.9. Modelling the 18:00 – 19:00 hour period is therefore not required as the 17:00 – 18:00 hour period has more vehicle flows at both junctions, representing a robust assessment of the PM peak.

“The geometric parameters in the ARCADY model appear to be broadly consistent with the current geometry of the roundabout. However, it is noted that Arm C (A38 south) has an effective flare length of 150 metres, which is incorrect as the flare on this approach is only circa 40 metres long. - Reduced to 92m but still seems excessive. Confirm measurement, can measurement diagram be provided?”

- 2.10. Drawing 43321/5501/SK005 provides the measurement of the A38 northbound approach flare. This drawing is provided in **Appendix B**.

New Comments

“Arm A (A38 North) has an entry width of 6.5m for a 3 lane entry. Measurement via image review indicates entry width of approximately 9.5m. Please confirm measurement. Please refer to previous comments regarding the use of Lane Simulation as it is anticipated that due to the short flare and high U-turn movements that this arm may suffer from lane starvation and the use of the simulation is considered the most appropriate method for analysing this.”

- 2.11. The junction layout and model has been reviewed, the entry width has been increased from 6.5m to 9.9m. Drawing 43321/5501/SK006 provides the geometry measurements of the northern airport access roundabout. The drawing is included within **Appendix B**.

“Arm C (A38 South) has an entry radius of 20m. Measurement via image review indicates radius of approximately 30m, please confirm the measurement.”

- 2.12. The junction layout and model has been reviewed, the entry width has been increased from 20m to 30m. Drawing 43321/5501/SK006 provides the geometry measurements of the northern airport access roundabout. The drawing is included within **Appendix B**.

“The results show that on Arm A (A38 North) queues are predicted to extend back to and beyond West Lane for 2026 Reference Case PM, 2026 Test Case IP and PM. This is using the Arm A entry width of 6.5m and relates to item 1.”

- 2.13. Paragraph 2.11 of this technical note resolves this issue.

“J2 Arm B (A38 South) entry radius of 20m seems low. Measurement via image review indicates radius of approximately 30m, please confirm the measurement.”



TECHNICAL NOTE

- 2.14. The junction layout and model has been reviewed, the entry radius has been increased from 20m to 50m. Drawing 43321/5501/SK007 provides the geometry measurements of the southern airport access roundabout. The drawing is included within **Appendix B**.

"J2 Arm C (Bristol Airport Access) entry radius of 12m seems low. Measurement via image review indicates radius of approximately 20m, please confirm the measurement."

- 2.15. The junction layout and model has been reviewed, the entry radius has been increased from 12m to 20m. Drawing 43321/5501/SK007 provides the geometry measurements of the southern airport access roundabout. The drawing is included within **Appendix B**.

"Vehicle mix does not match MCC spreadsheets. The HV% should be that of the original vehicle count (before conversion to PCU). For example, the movement matrix for the J1 AM peak for hourly flow shows 9.5% and 14.3% for Arm D (which has been confirmed by manual checks), but the J9 file has values of 1 and 2%. Please confirm how and what the Heavy vehicle percentages refer?"

- 2.16. The heavy vehicle mix was calculated before the PCU conversion. The heavy vehicle percentages refer to any OGV1, OGV2 and Buses using the junction. The models have been checked, and any inaccuracies have been amended.

"On review of the flows it is evident that the U-turn movement on Arm A of J1 does not alter between the baseline and 2026 flows. Only the 2026 Reference Case PM shows an increase in flow from the baseline. It is assumed that the growth factor for the U-turn movement should apply for all future year assessments."

- 2.17. The TEMPro growth factor has been applied to U-turn movements. The models have been updated to reflect this.

"The provided data makes it hard to determine the predicted increase in flow for the 10MPPA and 12MPPA scenarios. The drawings provided are unclear as to the flows for each roundabout, nor do these display movements out of the Airport. The Saturn plots that were provided are not consistent with some displaying total junction flows and others showing development flows. This makes it difficult to determine the accuracy of the Test and Reference Case flows. Can revised drawings / Saturn plots of development junction flows only be provided of the projected movements, including movements out of the airport?"

- 2.18. The results of the junction capacity assessment at the northern and southern airport access roundabouts is summarised in **Table 5**.



TECHNICAL NOTE

Table 5: Northern and Southern Airport Access Roundabout Existing Layouts - Capacity Results Summary

Junction	Arm	AM Peak Hour (0800-0900)		Inter Peak Hour (1300-1400)		PM Peak Hour (1700-1800)	
		Delay	Queue	Delay	Queue	Delay	Queue
2018 Baseline							
A38 / Northern Roundabout	A38 (N)	9.19	3.3	9.84	3.6	14.24	6.5
	Cul-de-sac	4.79	0.0	5.11	0.0	6.61	0.1
	A38 (S)	6.36	1.9	5.60	1.2	6.79	1.7
	Bristol Airport	6.01	0.8	6.73	1.3	9.24	2.1
A38 / Southern Roundabout	A38 (N)	4.33	0.9	4.53	0.9	4.68	1.4
	A38 (S)	4.42	1.3	3.63	0.6	3.86	0.9
	Bristol Airport	5.32	0.2	3.87	0.3	4.51	0.3
2026 Reference Case							
A38 / Northern Roundabout	A38 (N)	12.89	5.6	20.36	8.3	52.96	29.9
	Cul-de-sac	5.66	0.0	8.5	0.1	12.29	0.1
	A38 (S)	8.89	3.2	8.03	2.1	9.91	3.1
	Bristol Airport	7.45	1.3	16.05	4.9	24.90	6.9
A38 / Southern Roundabout	A38 (N)	4.75	1.2	5.17	1.6	5.41	1.8
	A38 (S)	5.03	1.6	3.93	0.7	4.21	1.1
	Bristol Airport	5.85	0.2	4.68	0.5	5.28	0.5
2026 Test Case							
A38 / Northern Roundabout	A38 (N)	17.10	7.5	84.54	46.0	121.58	76.2
	Cul-de-sac	6.15	0.1	12.41	0.1	13.30	0.1
	A38 (S)	10.63	3.8	11.00	2.8	11.86	3.7
	Bristol Airport	8.34	1.3	87.16	37.6	68.37	21.8
A38 / Southern Roundabout	A38 (N)	4.72	1.3	5.61	1.8	5.43	1.7
	A38 (S)	5.13	1.9	4.19	1.0	4.33	1.2
	Bristol Airport	6.31	0.3	5.21	0.6	5.55	0.6

- 2.19. Please note that the Junctions 9 guide mentions that an RFC for each arm is not calculated and that values provided are the worst lane results. This is due to the nature of the model being done in Lane Simulation mode. Therefore, engineering judgement should be applied to the model and the interpretation of the results.
- 2.20. The modelling outputs of the junction capacity assessment of the northern and southern airport access roundabout existing layouts are provided in **Appendix C**.

3. Junction 1, Northern Airport Access Roundabout – Proposed Layout

- 3.1. The following comments have been raised by Jacobs in relation to the northern airport access roundabout proposed layout:



TECHNICAL NOTE

“The OD data for some movements vary between this proposed layout and the existing junction model. In particular, within the IP the following vary: A-C, A-D, C-A, C-D, D-A and D-C. In the PM, the following vary: A-C, A-D, C-A, D-A and D-C. What is the basis for the change in Demand and OD between the Existing and Proposed junction layout for these two-time periods?”

- 3.2. This is due to human error; the flow data for the proposed layout had not been updated. This has now been resolved.
- 3.3. The results of the junction capacity assessment at the northern airport access roundabout is summarised in **Table 6**.

Table 6: Northern Airport Access Roundabout Proposed Layout - Capacity Results Summary

Table 6: Northern Airport Access Roundabout Proposed Layout - Capacity Results Summary							
Junction	Arm	AM Peak Hour (0800-0900)		Inter Peak Hour (1300-1400)		PM Peak Hour (1700-1800)	
		RFC	Queue	RFC	Queue	RFC	Queue
2026 Test Case							
A38 / Northern Roundabout	A38 (N)	0.63	1.8	0.78	3.6	0.85	5.7
	Cul-de-sac	0.04	0.0	0.13	0.1	0.28	0.4
	A38 (S)	0.81	4.3	0.73	2.9	0.84	5.3
	Bristol Airport	0.17	0.2	0.32	0.5	0.23	0.3

RFC – Ratio of Flow to Capacity

- 3.4. The modelling outputs of the junction capacity assessment of the northern airport access roundabout proposed layout is provided in **Appendix C**.

4. Junction 3, Downside Road Emergency Access

- 4.1. The following comments have been raised by Jacobs in relation to the Downside Road emergency access:
 - *The PM peak within the file is for 17:15 to 18:15, why is this junction different to the other junctions and identified peaks. This would appear to a data entry error as opposed to use of different peak hour flows, but please confirm and amend as required.*
- 4.2. This was a data entry error. The flow data that was used is based on 17:00 – 18:00 hour period. The PM peak file has been amended accordingly.

“Vehicle mix does not match MCC spreadsheets. The HV% should be that of the original vehicle count (before conversion to PCU). Please confirm how and what the Heavy vehicle percentages refer?”
- 4.3. The heavy vehicle mix was calculated before the PCU conversion. The heavy vehicle percentages refer to any OGV1, OGV2 and Buses using the junction. The models have been checked, and any inaccuracies have been amended.
- 4.4. The results of the junction capacity assessment at the Downside Road emergency access is summarised in **Table 7**.



TECHNICAL NOTE

Table 7: Downside Road Emergency Access - Capacity Results Summary

Table 1: Downside Road Emergency Access – Capacity Results Summary							
Junction	Arm	AM Peak Hour (0800-0900)		Inter Peak Hour (1300-1400)		PM Peak Hour (1700-1800)	
		RFC	Queue	RFC	Queue	RFC	Queue
2018 Survey Flows							
Downside Road / Bristol Airport	Bristol Airport Left Turn	0.05	0.1	0.08	0.1	0.12	0.1
	Bristol Airport Right Turn	0.03	0.0	0.07	0.1	0.05	0.1
	Downside Road (W)	0.12	0.2	0.07	0.1	0.08	0.1
2026 Reference Case							
Downside Road / Bristol Airport	Bristol Airport Left Turn	0.06	0.1	0.09	0.1	0.14	0.2
	Bristol Airport Right Turn	0.04	0.0	0.08	0.1	0.06	0.1
	Downside Road (W)	0.14	0.3	0.08	0.1	0.09	0.2
2026 Test Case							
Downside Road / Bristol Airport	Bristol Airport Left Turn	0.06	0.1	0.10	0.1	0.14	0.2
	Bristol Airport Right Turn	0.04	0.0	0.09	0.1	0.06	0.1
	Downside Road (W)	0.14	0.3	0.08	0.1	0.09	0.2

RFC – Ratio of Flow to Capacity

- 4.5. The modelling outputs of the junction capacity assessment of the Downside Road emergency access is provided in **Appendix C**.

5. Junction 4, A38 / West Lane Priority Junction – Existing Layout

- 5.1. The following comments have been raised by Jacobs in relation to the A38 / West Lane priority junction:

“The minor road has been modelled as two lanes, with queue count data also presented as two separate lanes on Arm B. The two-lane minor road option should only be used if there are two full lanes extending back from the give-way line to beyond the normal maximum queue length. This would not appear to be the case based on the layout as per latest images on Google Maps, which indicates that 'One lane plus flare' would be more representative of the road layout.”

- 5.2. The minor road geometries have been amended to model junction as a one lane plus flare instead of two lanes.

“The existing model does not match observed queue lengths. The model is overestimating capacity with shorter queues than those observed, presumably due to the lack of interaction with the Downside Road junction that impacts on the West Lane. Whilst the comparison of one day of maximum queues against J9 models is not considered best practice the queues are consistently higher than those predicted by the model for all time segments for all baseline modelled periods. Even the 95% predicted queues are lower than the observed queues for most of the baseline results. Ideally this would have been modelled as linked system with the



TECHNICAL NOTE

Downside Road junction using LinSig or TRANSYT to obtain more realistic baseline results. It is noted that this has been performed for the proposed layout where both junctions are now signal controlled."

- 5.3. The existing junction arrangement is predicted to operate over capacity in all scenarios assessed. As acknowledged, a mitigation / improvement scheme has therefore been promoted and assessed as part of the application, this includes but not limited to, signalisation of the A38 junction with West Lane and carriageway widening. We therefore consider that re-running of the baseline model as part of a linked LinSig is unnecessary, as it would not alter the position that the existing arrangement will not have sufficient capacity, nor would it change the modelling of the proposed mitigation scheme

"Vehicle mix does not match MCC spreadsheets. The HV% should be that of the original vehicle count (before conversion to PCU). Please confirm how and what the Heavy vehicle percentages refer?"

- 5.4. The heavy vehicle mix was calculated before the PCU conversion. The heavy vehicle percentages refer to any OGV1, OGV2 and Buses using the junction. The models have been checked, and any inaccuracies have been amended.
- 5.5. The results of the junction capacity assessment at the A38 / West Lane priority junction is summarised in **Table 8**.

Table 8: A38 / West Lane Priority Junction - Capacity Results Summary

Table 6: A38 / West Lane Priority Junction - Capacity Results Summary							
Junction	Arm	AM Peak Hour (0800-0900)		Inter Peak Hour (1300-1400)		PM Peak Hour (1700-1800)	
		RFC	Queue	RFC	Queue	RFC	Queue
2018 Survey Flows							
A38 / West Lane	West Lane (Left Turn)	0.53	1.1	0.40	0.7	1.12	17.0
	West Lane (Right Turn)	0.16	0.2	0.15	0.2	0.95	1.6
	A38 (S)	0.37	0.6	0.33	0.5	0.60	1.4
2026 Reference Case							
A38 / West Lane	West Lane (Left Turn)	1.12	17.4	2.24	72.7	-	194.3
	West Lane (Right Turn)	0.97	2.2	2.10	6.5	-	6.5
	A38 (S)	0.50	1.0	0.58	1.4	0.88	6.8
2026 Test Case							
A38 / West Lane	West Lane (Left Turn)	3.43	110.6	-	166.8	-	364.7
	West Lane (Right Turn)	3.26	6.1	-	12.3	-	10.1
	A38 (S)	0.56	1.3	0.82	4.5	1.04	34.2

RFC – Ratio of Flow to Capacity

- 5.6. The modelling outputs of the junction capacity assessment of the A38 / West Lane priority junction is provided in **Appendix C**.

6. Junction 6, A38 / Barrow Lane Priority Junction

- 6.1. The following comments have been raised by Jacobs in relation to the A38 / Barrow Lane priority junction:



TECHNICAL NOTE

"The Minor Road has a width of 5.0m. Measurement via image review indicates a width of approximately 3.9m. Please confirm as 5m seems excessive on review of the most recent images."

- 6.2. The junction layout and model have been reviewed, the lane width has been reduced from 5m to 3.94m. Drawing 43321/5501/SK008 provides the lane width measurement of Barrow Lane (minor arm). The drawing is included within **Appendix B**.

"Based on model outputs stream C-B queue does not exceed storage of the right-turn bay, even 95% queues are not predicted to exceed the storage. The C-B blocks C-A traffic should be turned off in this instance to obtain results just for C-B traffic, which will experience small delay (this is not recorded in the average based results of the combined streams)."

- 6.3. C-B traffic blocks C-A traffic has been unticked.

"Vehicle mix does not match MCC spreadsheets. The HV% should be that of the original vehicle count (before conversion to PCU). Please confirm how and what the Heavy vehicle percentages refer?"

- 6.4. The heavy vehicle mix was calculated before the PCU conversion. The heavy vehicle percentages refer to any OGV1, OGV2 and Buses using the junction. The models have been checked, and any inaccuracies have been amended.
- 6.5. The results of the junction capacity assessment at the A38 / Barrow Lane priority junction is summarised in **Table 9**.

Table 9: A38 / Barrow Lane Priority Junction - Capacity Results Summary

Table 9: A38 / Barrow Lane Priority Junction - Capacity Results Summary							
Junction	Arm	AM Peak Hour (0800-0900)		Inter Peak Hour (1300-1400)		PM Peak Hour (1700-1800)	
		RFC	Queue	RFC	Queue	RFC	Queue
2018 Survey Flows							
A38 / Barrow Lane	Barrow Lane	0.74	2.6	0.51	1.1	0.92	5.4
	A38 South	0.0	0.02	0.01	0.0	0.02	0.0
2026 Reference Case							
A38 / Barrow Lane	Barrow Lane	1.51	29.4	1.08	12.2	2.77	47.5
	A38 South	0.03	0.0	0.01	0.0	0.03	0.0
2026 Test Case							
A38 / Barrow Lane	Barrow Lane	1.97	41.5	2.01	41.8	2.77	52.5
	A38 South	0.03	0.0	0.01	0.0	0.03	0.0

RFC – Ratio of Flow to Capacity

- 6.6. The modelling outputs of the junction capacity assessment of the A38 / Barrow Lane priority junction is provided in **Appendix C**.

7. Downside Road / A38 Signalised Junction

- 7.1. The following comments have been raised by Jacobs in relation to the Downside Road / A38 signalised junction:



TECHNICAL NOTE

“There are concerns that at A38 Downside Road junction, the queue length surveys did not pick up the full extent of queuing, because the queue extended beyond the view of the enumerators. This will have obvious consequences for the junction modelling.”

“The outstanding issue is whether the flows in the PM peak take account of the large amount of latent demand held up in the queue at the end of the peak. Getting the demand right in the base model will be critical, as your forecasting approach is to apply TEMPRO to the base flows and then adding the Airport expansion flows on top of this. So, if the base flows are low, your forecast will also be low.”

- 7.2. A review of the video footage identified that the end of the queue was not visible on the A38 Southbound arm for the PM peak. For all other modelled peaks, the end of queue was visible for each arm. For the A38 southbound arm, the queue survey was only able to capture up to approximately 250m from the stop line.
- 7.3. A review of the video footage identified that the queue exceeded 250m in the PM peak. To best calculate the latent demand held up in the queue at the end of the peak, 2017 HERE mapping data has been used to calculate the typical road speeds during the peak hour. This calculation suggests that there is approximately a 100-car (600m) queue.
- 7.4. **Table 10** provides the amount latent demand flow to be added to the junction based on the video observations and HERE mapping data calculations.

Junction	Arm	AM Peak Hour (0800-0900)	Inter Peak Hour (1300-1400)	PM Peak Hour (1700-1800)
A38/Downside Road	A38 (N)	13	0	100
	Downside Road	7	1	17
	A38 (S)	0	7	4

- 7.5. The results of the junction capacity assessment at the Downside Road / A38 signalised junction is summarised in **Table 11**.

TECHNICAL NOTE

Table 11: A38 / Downside Road Existing Layout - Capacity Results Summary

		Capacity Results Summary					
Junction	Arm	AM Peak Hour (0800-0900)		Inter Peak Hour (1300-1400)		PM Peak Hour (1700-1800)	
		DOS	Queue	DOS	Queue	DOS	Queue
2018 Survey Flows							
A38/Downside Road	A38 (N)	80.9	27.0	72.9	17.9	102.9	118.3
	Downside Road	82.5	13.0	77.5	8.9	101.1	24.3
	A38 (S)	77.7	26.0	65.6	15.0	80.5	40.3
PRC (%)		9.1		16.2		-14.3	
2026 Reference Case							
A38/Downside Road	A38 (N)	98.6	58.6	98.0	51.4	133.6	393.7
	Downside Road	95.9	19.2	94.1	14.1	125.3	57.9
	A38 (S)	92.1	45.8	90.5	38.4	99.4	109.2
PRC (%)		-9.6		-8.9		-48.4	
2026 Test Case							
A38/Downside Road	A38 (N)	105.7	96.9	110.3	128.1	133.7	395.0
	Downside Road	98.1	21.1	109.0	26.8	128.4	63.1
	A38 (S)	95.9	56.1	103.3	94.2	107.3	181.3
PRC (%)		-17.4		-22.6		-48.6	

DOS – Degree of Saturation, PRC – Practical Reserve Capacity

- 7.6. The additional latent demand flow has also been included in the Downside Road / A38 / West Lane proposed layout. The results of the junction capacity assessment at the Downside Road / A38 / West Lane proposed layout is summarised in **Table 12**.

Table 12: A38 / Downside Road / West Lane Proposed Layout - Capacity Results Summary

Junction	Arm	AM Peak Hour (0800-0900)		Inter Peak Hour (1300-1400)		PM Peak Hour (1700-1800)	
		DOS	Queue	DOS	Queue	DOS	Queue
2026 Test Case							
A38 / Downside Road / West Lane	A38 (N)	65.8	8.4	77.1	11.4	84.3	12.0
	West lane	54.1	5.7	54.0	6.3	80.7	7.9
	A38 (S)	74.4	11.8	71.8	13.1	82.7	12.5
	Downside Road	72.7	8.3	78.1	8.5	85.7	7.9
PRC (%)		21.0		15.3		5.0	

DOS – Degree of Saturation, PRC – Practical Reserve Capacity

- 7.7. The modelling outputs of the junction capacity assessments of Downside Road / A38 signalised junction and Downside Road / A38 / West Lane proposed layout signalised junction are provided in **Appendix C**.



TECHNICAL NOTE

Appendix A Modelling Comments



TECHNICAL NOTE

Appendix B PBA Drawings



TECHNICAL NOTE

Appendix C Model Outputs



Roose, Peregrine

From: Templeman, Lee/BRS <Lee.Templeman@jacobs.com>
Sent: 21 June 2019 15:13
To: Roose, Peregrine
Cc: Stevenson, Graham/LON; Bedingfeld, James
Subject: RE: Bristol Airport: Junctions 9 Models Review

Follow Up Flag: Follow up
Flag Status: Flagged

Peregrine,

Further to James' email, I have been looking at the LinSig models prepared by yourselves. Following the updates to the models and receipt of TN11, I am now broadly happy with the LinSig models. However, one fundamental issue raised previously still remains with regard to the modelling at the A38/Downside Road signals, namely:

"There are concerns that at A38 Downside Road junction, the queue length surveys did not pick up the full extent of queuing, because the queue extended beyond the view of the enumerators. This will have obvious consequences for the junction modelling"

The outstanding issue is whether the flows in the PM peak take account of the large amount of latent demand held up in the queue at the end of the peak. Getting the demand right in the base model will be critical, as your forecasting approach is to apply TEMPRO to the base flows and then adding the Airport expansion flows on top of this. So if the base flows are low, your forecast will also be low.

Whilst you are proposing a mitigation scheme at A38/Downside Road, if your forecast modelled traffic represent an under-estimate, NSC will not be able to make an informed decision about the forecast operation of the proposed junction, as the assessment will underestimate future queuing and delay.

If you have any queries on this, please get in touch.

Regards,

[Lee Templeman](#) | [Jacobs](#) | Traffic Engineer | Transport Planning | +44 (0) 117 910 2685
lee.templeman@jacobs.com | www.jacobs.com

From: Bedingfeld, James
Sent: 18 June 2019 14:24
To: Peregrine.Roose@stantec.com

Cc: Templeman, Lee/BRS <Lee.Templeman@jacobs.com>; Stevenson, Graham/LON <Graham.Stevenson@jacobs.com>

Subject: Bristol Airport: Junctions 9 Models Review

Dear Peregrine,

Firstly, let me introduce myself, I work for Jacobs and we are assisting North Somerset Council with the review of junction models submitted in support of the Bristol Airport expansion, for which I believe you are responsible.

I have been tasked with reviewing the latest versions of the ARCADY and PICADY models submitted. My colleague Graham Stevenson has been provided with your details to act as the direct contact for modelling queries that we have identified.

There are a number of items that we would seek clarification on with regard to the priority models. Each model has its own short section below and for J1 and J2 there are a couple of previously submitted queries that to my knowledge do not appear to have been addressed or we have not received a response.

1. J1_J2 North&South Airport Access Roundabouts – Existing

Previous PBA Model Review	Relevance
Previous general comments:	
All ARCADY modelling of un-signalised roundabouts uses standard ARCADY analysis which assumes balanced utility of entry lanes. If traffic at any of these roundabouts is biased to particular lanes, this will mean that the assessment is over-optimistic regarding capacity and the resulting operational conditions. If this is the case, lane analysis (or another methodology for accounting for imbalanced lane usage) should be employed.	This is still relevant, especially for Arm A for the northern roundabout which has high number of U-turns and right-turners. Both movements could use the outside of 3 lanes, which may result in the central lane becoming blocked (space for 3 pcu storage).
There are concerns that the evening PM peak covers a period of 17:00-18:00, however the traffic survey data indicates that flows for the following hour between 18:00-19:00 are also reasonably high, with background flows not dropping off until 19:00. Therefore; we would like to see additional modelling completed for a period of 18:00-19:00.	Still only single PM peak of 17:00 to 18:00. For J1 there is total junction flow of 2834pcu between 17:00 to 18:00 compared to 2249pcu for 18:00 to 19:00
A38/Airport Roundabout (Northern)	
The geometric parameters in the ARCADY model appear to be broadly consistent with the current geometry of the roundabout. However, it is noted that Arm C (A38 south) has an effective flare length of 150 metres, which is incorrect as the flare on this approach is only circa 40 metres long.	Reduced to 92m but still seems excessive. Confirm measurement, can measurement diagram be provided?

J1_J2_North&South Airport Access Roundabouts - Existing - PBA Model Review	
New comments:	
Item	A38/Airport Roundabout (Northern roundabout)
1	Arm A (A38 North) has an entry width of 6.5m for a 3 lane entry. Measurement via image review indicates entry width of approximately 9.5m. Please confirm measurement. Please refer to previous comments regarding the use of Lane Simulation as it is anticipated that due to the short flare and high U-turn movements that this arm may suffer from lane starvation and the use of the simulation is considered the most appropriate method for analysing this.
2	Arm C (A38 South) has an entry radius of 20m. Measurement via image review indicates radius of approximately 30m, please confirm the measurement.
3	The results show that on Arm A (A38 North) queues are predicted to extend back to and beyond West Lane for 2026 Reference Case PM, 2026 Test Case IP and PM. This is using the Arm A entry width of 6.5m and relates to item 1.
A38/Airport Roundabout (Southern)	
4	J2 Arm B (A38 South) entry radius of 20m seems low. Measurement via image review indicates radius of approximately 30m, please confirm the measurement.
5	J2 Arm C (Bristol Airport Access) entry radius of 12m seems low. Measurement via image review indicates radius of approximately 20m, please confirm the measurement.
General Comments	
7	Vehicle mix does not match MCC spreadsheets. The HV% should be that of the original vehicle count (before conversion to PCU). For example the movement matrix for the J1 AM peak for hourly flow shows 9.5% and 14.3% for Arm D (which has been confirmed by manual checks), but the J9 file has values of 1 and 2%. Please confirm how and what the Heavy vehicle percentages refer?
8	On review of the flows it is evident that the U-turn movement on Arm A of J1 does not alter between the baseline and 2026 flows. Only the 2026 Reference Case PM shows an increase in flow from the baseline. It is assumed that the growth factor for the U-turn movement should apply for all future year assessments.
9	<p>The provided data makes it hard to determine the predicted increase in flow for the 10MPPA and 12MPPA scenarios. The drawings provided are unclear as to the flows for each roundabout, nor do these display movements out of the Airport. The Saturn plots that were provided are not consistent with some displaying total junction flows and others showing development flows.</p> <p>This makes it difficult to determine the accuracy of the Test and Reference Case flows. Can revised drawings / Saturn plots of development junction flows only be provided of the projected movements, including movements out of the airport?</p>

2. J1_ North Airport Access Roundabouts – Proposed

Please note that a full assessment has not been undertaken at this time, but on brief review the following was noted:

A38/Airport Roundabout (Northern roundabout)

The OD data for some movements vary between this proposed layout and the existing junction model. In particular, within the IP the following vary:

A-C, A-D, C-A, C-D, D-A and D-C.

In the PM, the following vary:

A-C, A-D, C-A, D-A and D-C.

What is the basis for the change in Demand and OD between the Existing and Proposed junction layout for these two time periods?

3. J3_Downside Road_Emergency Access

Downside Road_Emergency Access

The PM peak within the file is for 17:15 to 18:15, why is this junction different to the other junctions and identified peaks. This would appear to be a data entry error as opposed to use of different peak hour flows, but please confirm and amend as required.

Vehicle mix does not match MCC spreadsheets. The HV% should be that of the original vehicle count (before conversion to PCU). Please confirm how and what the Heavy vehicle percentages refer?

4. J4_A38_West Lane Priority Junction - Existing

J4_A38_West Lane Priority Junction - Existing

The minor road has been modelled as two lanes, with queue count data also presented as two separate lanes on Arm B. The two lane minor road option should only be used if there are two full lanes extending back from the give-way line to beyond the normal maximum queue length. This would not appear to be the case based on the layout as per latest images on Google Maps, which indicates that 'One lane plus flare' would be more representative of the road layout.

The existing model does not match observed queue lengths. The model is overestimating capacity with shorter queues than those observed, presumably due to the lack of interaction with the Downside Road junction that impacts on the West Lane. Whilst the comparison of one day of maximum queues against J9 models is not considered best practice the queues are consistently higher than those predicted by the model for all time segments for all baseline modelled periods. Even the 95% predicted queues are lower than the observed queues for most of the baseline results.

Ideally this would have been modelled as linked system with the Downside Road junction using LinSig or TRANSYT to obtain more realistic baseline results. It is noted that this has been performed for the proposed layout where both junctions are now signal controlled.

Vehicle mix does not match MCC spreadsheets. The HV% should be that of the original vehicle count (before conversion to PCU). Please confirm how and what the Heavy vehicle percentages refer?

5. J6_A38_Barrow Lane

J4_A38_West Lane Priority Junction - Existing

The Minor Road has a width of 5.0m. Measurement via image review indicates a width of approximately 3.9m. Please confirm as 5m seems excessive on review of the most recent images.

Based on model outputs stream C-B queue does not exceed storage of the right-turn bay, even 95% queues are not predicted to exceed the storage. The C-B blocks C-A traffic should be turned off in this instance to obtain results just for C-B traffic, which will experience small delay (this is not recorded in the average based results of the combined streams).

Vehicle mix does not match MCC spreadsheets. The HV% should be that of the original vehicle count (before conversion to PCU). Please confirm how and what the Heavy vehicle percentages refer?

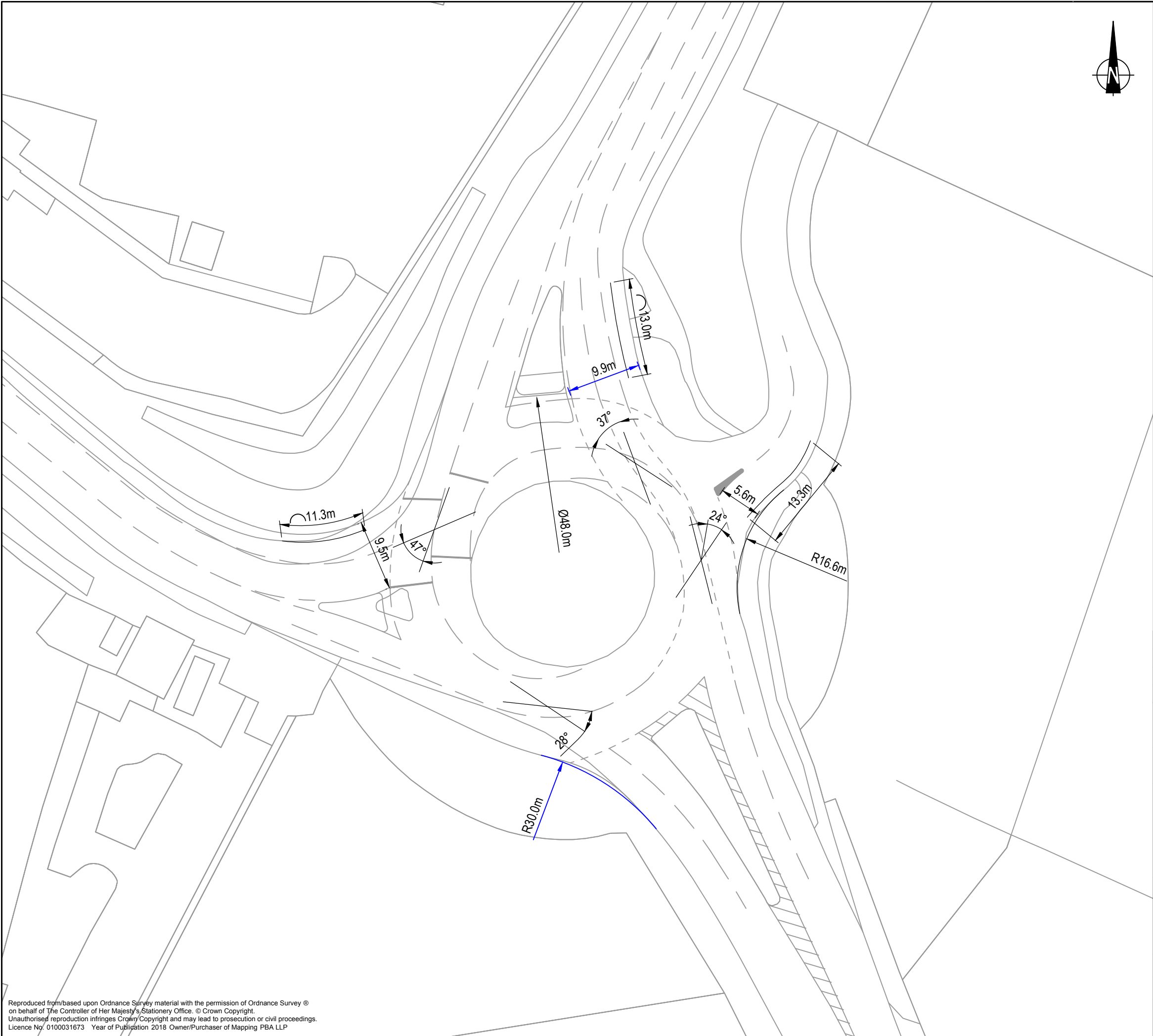
If you have any queries please do not hesitate to contact me.

I look forward to hearing from you.

Best regards

James Bedingfeld | Jacobs | Principal Transport Planner | Transport Consultancy | +44 (0) 118 946 8371 | James.Bedingfeld@jacobs.com | www.jacobs.com

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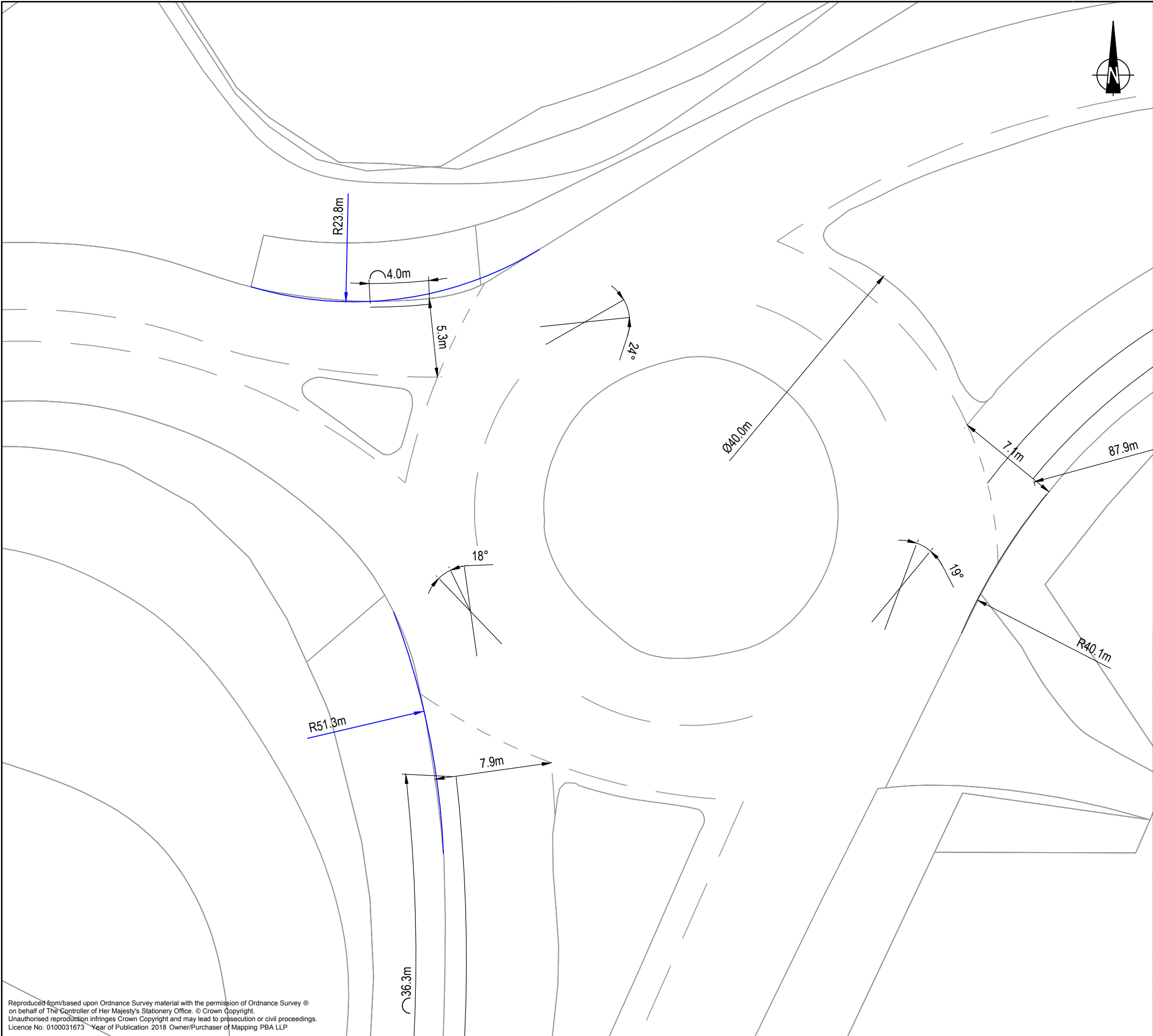
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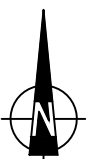
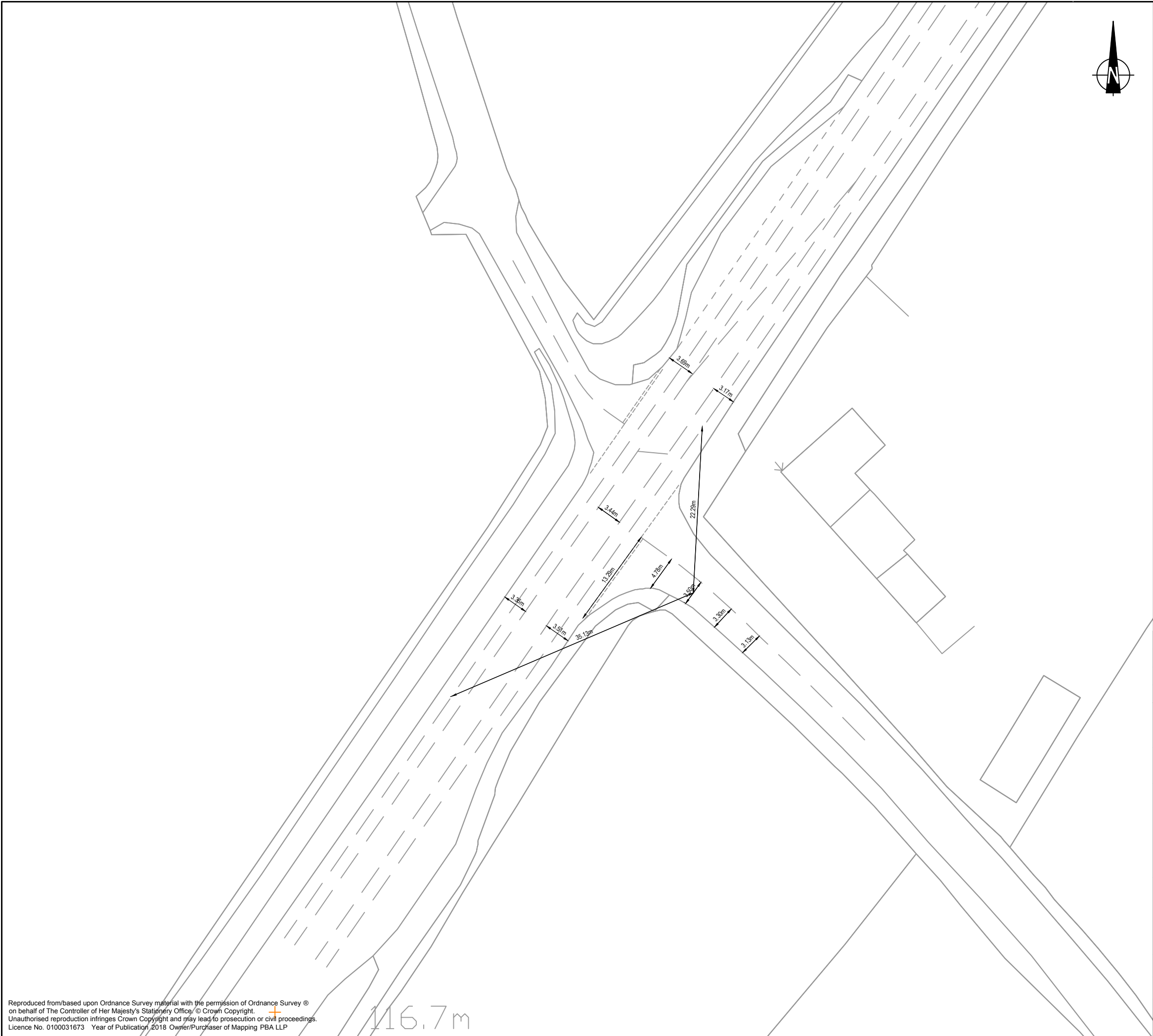
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NOTES:

MINOR ARM LANE WIDTH:
 $W = (5.0 + 4.775 + 3.496 + 3.296 + 3.125)/5$
 $W = 3.94\text{m}$

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A38, BARROW LANE PRIORITY JUNCTION

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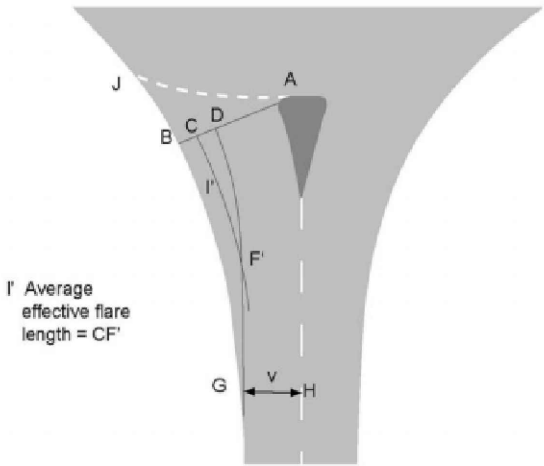
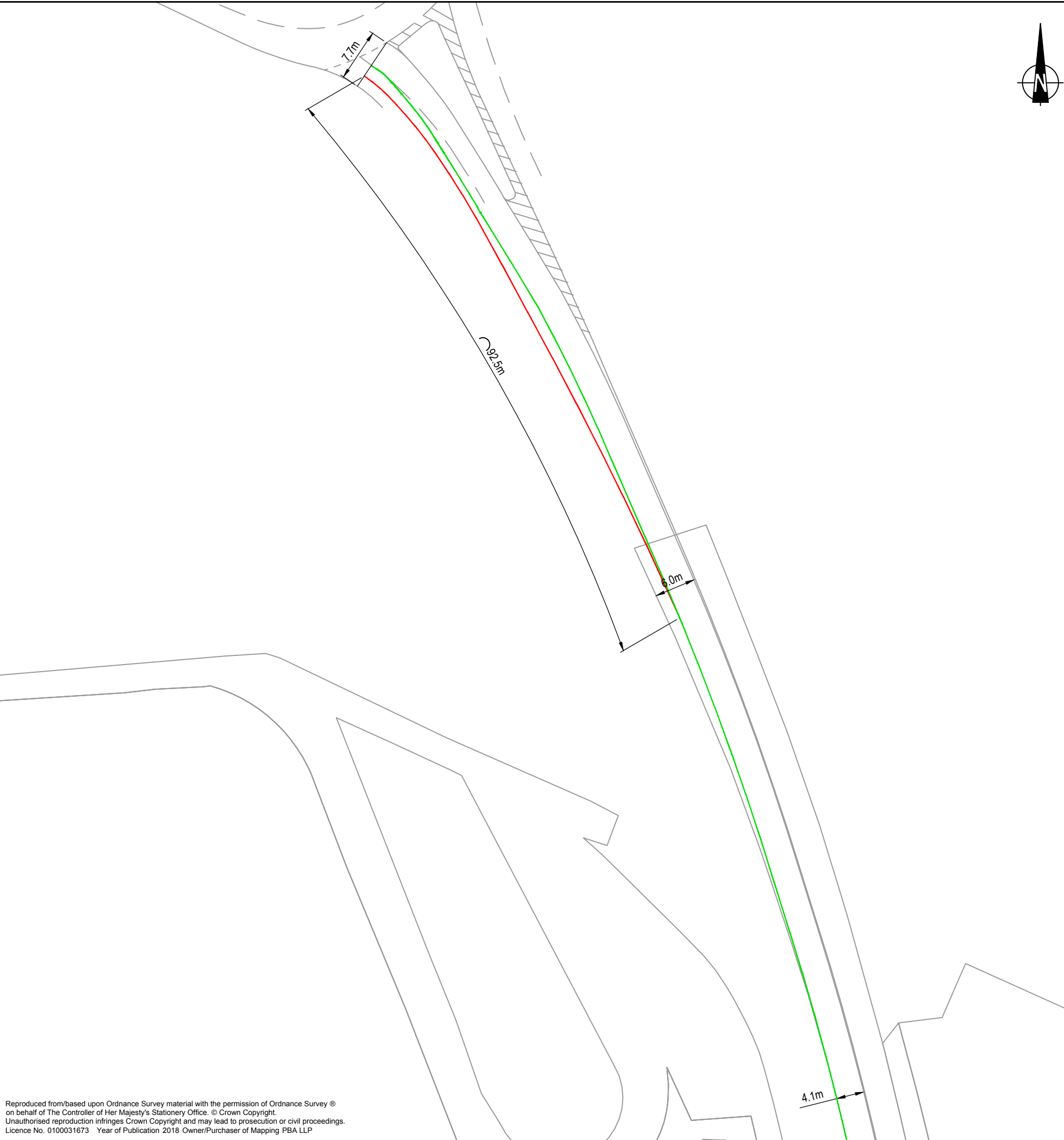
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- Notes:**
1. The nomenclature follows that in **TRL Report LR942**.
 2. $AB = e$ (entry width).
 3. $GH = v$ (approach half width at point G which is the best estimate of the start of the flare).
 4. GD is parallel to AH and distance v from AH (v is measured along a line perpendicular to both AH and GD and, therefore, the length of AD is only equal to v if AB is perpendicular to the median at A).
 5. CF' is parallel to BG and distance $\frac{1}{2} BD$ from the kerbline BG.

Figure 7/7: Average Effective Flare Length

KEY:
— DENOTES GD
— DENOTES I'

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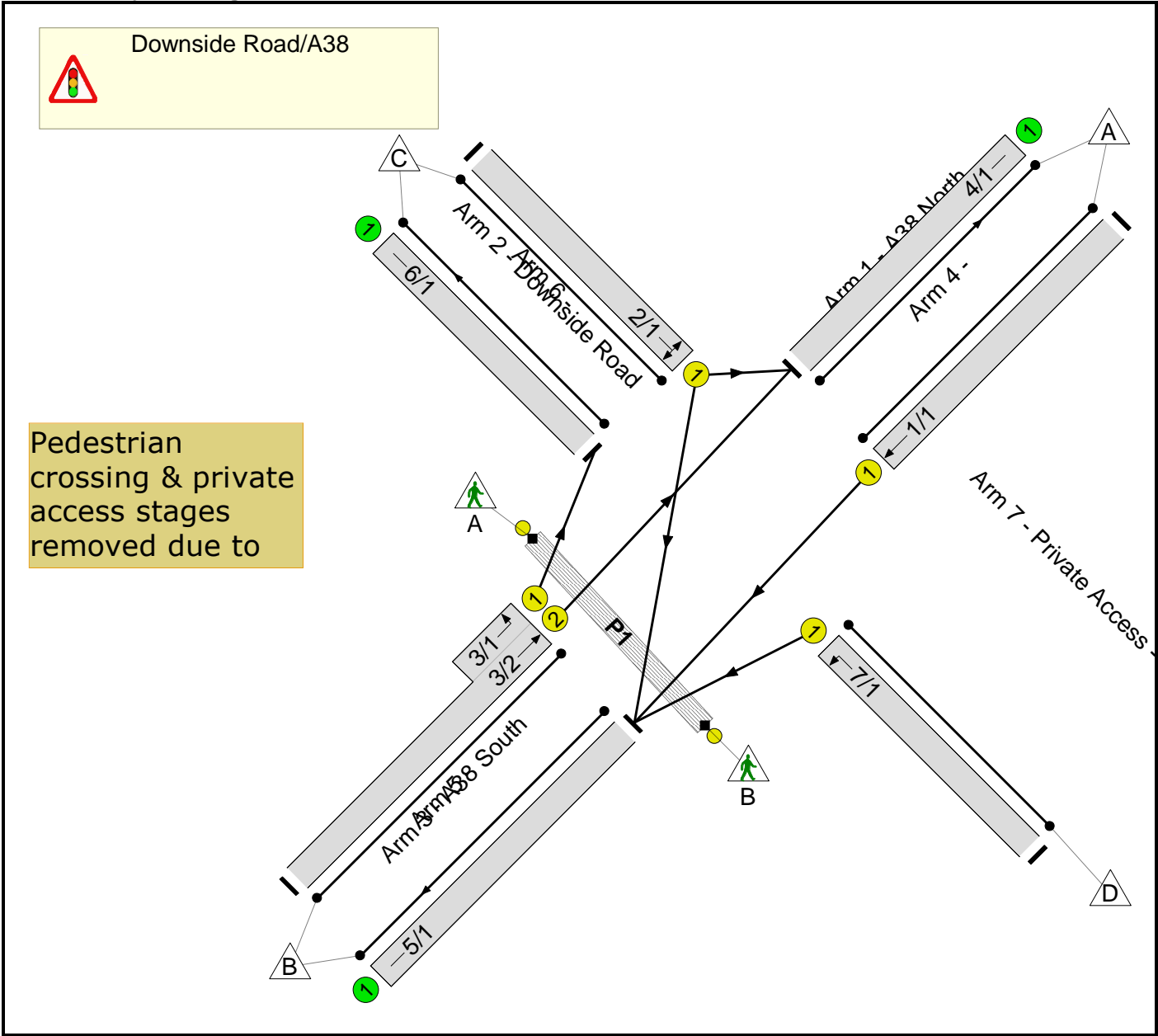
Full Input Data And Results

Full Input Data And Results

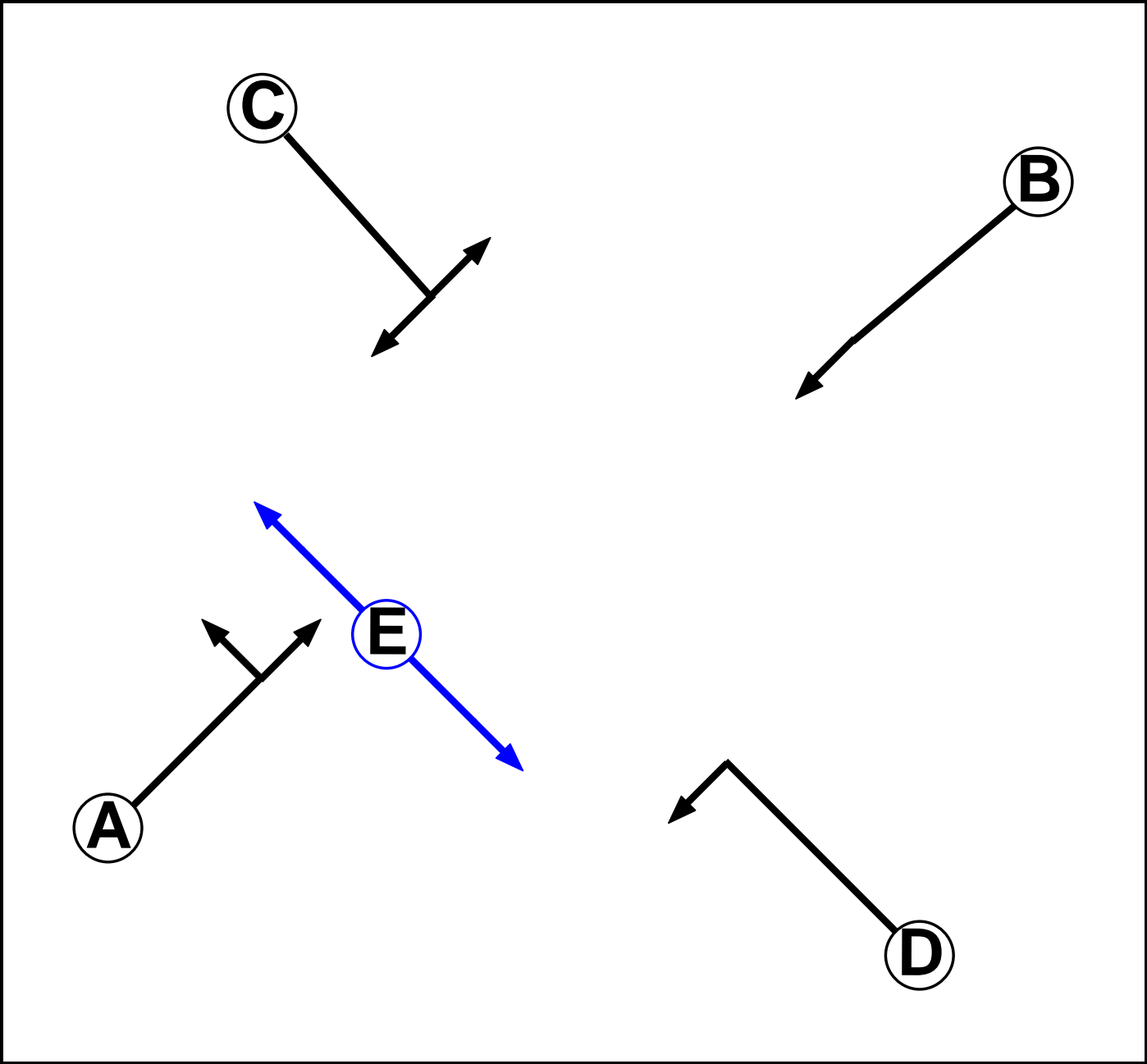
User and Project Details

Project:	Bristol Airport
Title:	A38/Downside Rd Signalised Junction
Location:	Bristol
Additional detail:	Base model provided by CTAS. Updated to reflect controller specification received by Jacobs.
File name:	J4_A38_Downside_Rd_Signalised_Junction_Existing_RevB.lsg3x
Author:	Sblain
Company:	PBA LLP
Address:	RG1 8DN

Network Layout Diagram



Phase Diagram



Phase Input Data

Phase Name	Phase Type	Assoc. Phase	Street Min	Cont Min
A	Traffic		-9999	7
B	Traffic		-9999	7
C	Traffic		-9999	7
D	Traffic		-9999	7
E	Pedestrian		-9999	5

Full Input Data And Results

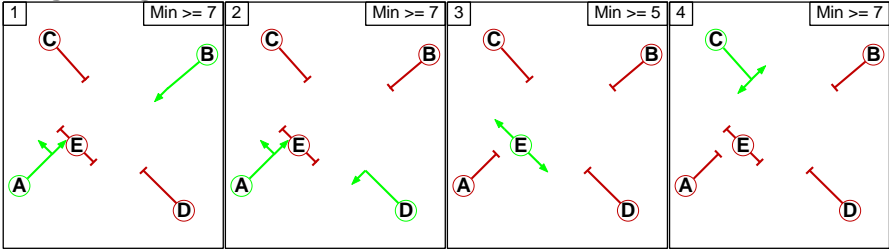
Phase Intergreens Matrix

Terminating Phase	Starting Phase					
		A	B	C	D	E
	A		-	5	-	6
	B	-		5	5	8
	C	5	6		6	9
	D	-	5	5		7
	E	5	5	5	5	

Phases in Stage

Stage No.	Phases in Stage
1	A B
2	A D
3	E
4	C

Stage Diagram



Phase Delays

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

Prohibited Stage Change

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

Full Input Data And Results

Give-Way Lane Input Data

Junction: Downside Road/A38
There are no Opposed Lanes in this Junction

Full Input Data And Results

Lane Input Data

Junction: Downside Road/A38												
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 (A38 North)	U	B	2	3	60.0	Geom	-	3.20	6.00	Y	Arm 5 Ahead	Inf
2/1 (Downside Road)	U	C	2	3	60.0	Geom	-	3.10	0.00	Y	Arm 4 Left	15.00
3/1 (A38 South)	U	A	2	3	4.3	Geom	-	3.10	0.00	Y	Arm 5 Right	20.00
											Arm 6 Left	10.00
3/2 (A38 South)	U	A	2	3	60.0	Geom	-	2.90	0.00	N	Arm 4 Ahead	Inf
4/1	U		2	3	60.0	Inf	-	-	-	-	-	-
5/1	U		2	3	60.0	Inf	-	-	-	-	-	-
6/1	U		2	3	60.0	Inf	-	-	-	-	-	-
7/1 (Private Access - Entry)	U	D	2	3	60.0	Geom	-	2.00	0.00	Y	Arm 5 Left	6.00

Traffic Flow Groups

Flow Group	Start Time	End Time	Duration	Formula
1: '2018 Baseline AM Peak'	08:00	09:00	01:00	
2: '2018 Baseline Inter Peak'	13:00	14:00	01:00	
3: '2018 Baseline PM Peak'	17:00	18:00	01:00	
4: '2026 Reference AM Peak'	08:00	09:00	01:00	
5: '2026 Reference Inter Peak'	13:00	14:00	01:00	
6: '2026 Reference PM Peak'	17:00	18:00	01:00	
7: '2026 Test AM Peak'	08:00	09:00	01:00	
8: '2026 Test Inter Peak'	13:00	14:00	01:00	
9: '2026 Test PM Peak'	17:00	18:00	01:00	

Full Input Data And Results

Scenario 1: '2018 Baseline AM Peak' (FG1: '2018 Baseline AM Peak', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

Origin	Destination					
		A	B	C	D	Tot.
	A	0	997	6	0	1003
	B	890	0	261	0	1151
	C	245	49	0	0	294
	D	0	0	0	0	0
	Tot.	1135	1046	267	0	2448

Traffic Lane Flows

Lane	Scenario 1: 2018 Baseline AM Peak
Junction: Downside Road/A38	
1/1	997
2/1	294
3/1 (short)	261
3/2 (with short)	1151(In) 890(Out)
4/1	1135
5/1	1046
6/1	261
7/1	0

Lane Saturation Flows

Junction: Downside Road/A38								
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 (A38 North)	3.20	6.00	Y	Arm 5 Ahead	Inf	100.0 %	1683	1683
2/1 (Downside Road)	3.10	0.00	Y	Arm 4 Left	15.00	83.3 %	1757	1757
				Arm 5 Right	20.00	16.7 %		
3/1 (A38 South)	3.10	0.00	Y	Arm 6 Left	10.00	100.0 %	1674	1674
3/2 (A38 South)	2.90	0.00	N	Arm 4 Ahead	Inf	100.0 %	2045	2045
4/1	Infinite Saturation Flow						Inf	Inf
5/1	Infinite Saturation Flow						Inf	Inf
6/1	Infinite Saturation Flow						Inf	Inf
7/1 (Private Access - Entry)	2.00	0.00	Y	Arm 5 Left	6.00	0.0 %	1815	1815

Scenario 2: '2018 Baseline Inter Peak' (FG2: '2018 Baseline Inter Peak', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

	Destination					
Origin		A	B	C	D	Tot.
	A	0	931	4	0	935
	B	841	0	174	0	1015
	C	139	89	0	0	228
	D	0	0	0	0	0
	Tot.	980	1020	178	0	2178

Traffic Lane Flows

Lane	Scenario 2: 2018 Baseline Inter Peak
Junction: Downside Road/A38	
1/1	931
2/1	228
3/1 (short)	174
3/2 (with short)	1015(In) 841(Out)
4/1	980
5/1	1020
6/1	174
7/1	0

Lane Saturation Flows

Junction: Downside Road/A38								
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 (A38 North)	3.20	6.00	Y	Arm 5 Ahead	Inf	100.0 %	1683	1683
2/1 (Downside Road)	3.10	0.00	Y	Arm 4 Left	15.00	61.0 %	1766	1766
				Arm 5 Right	20.00	39.0 %		
3/1 (A38 South)	3.10	0.00	Y	Arm 6 Left	10.00	100.0 %	1674	1674
3/2 (A38 South)	2.90	0.00	N	Arm 4 Ahead	Inf	100.0 %	2045	2045
4/1	Infinite Saturation Flow						Inf	Inf
5/1	Infinite Saturation Flow						Inf	Inf
6/1	Infinite Saturation Flow						Inf	Inf
7/1 (Private Access - Entry)	2.00	0.00	Y	Arm 5 Left	6.00	0.0 %	1815	1815

Scenario 3: '2018 Baseline PM Peak' (FG3: '2018 Baseline PM Peak', Plan 1: 'Network Control Plan 1')**Traffic Flows, Desired****Desired Flow :**

	Destination					
Origin		A	B	C	D	Tot.
	A	0	1408	11	0	1419
	B	1015	0	290	0	1305
	C	180	78	0	0	258
	D	0	0	0	0	0
	Tot.	1195	1486	301	0	2982

Traffic Lane Flows

Lane	Scenario 3: 2018 Baseline PM Peak
Junction: Downside Road/A38	
1/1	1408
2/1	258
3/1 (short)	290
3/2 (with short)	1305(In) 1015(Out)
4/1	1195
5/1	1486
6/1	290
7/1	0

Lane Saturation Flows

Junction: Downside Road/A38								
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 (A38 North)	3.20	6.00	Y	Arm 5 Ahead	Inf	100.0 %	1683	1683
2/1 (Downside Road)	3.10	0.00	Y	Arm 4 Left	15.00	69.8 %	1762	1762
				Arm 5 Right	20.00	30.2 %		
3/1 (A38 South)	3.10	0.00	Y	Arm 6 Left	10.00	100.0 %	1674	1674
3/2 (A38 South)	2.90	0.00	N	Arm 4 Ahead	Inf	100.0 %	2045	2045
4/1	Infinite Saturation Flow						Inf	Inf
5/1	Infinite Saturation Flow						Inf	Inf
6/1	Infinite Saturation Flow						Inf	Inf
7/1 (Private Access - Entry)	2.00	0.00	Y	Arm 5 Left	6.00	0.0 %	1815	1815

Scenario 4: '2026 Reference AM ' (FG4: '2026 Reference AM Peak', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

	Destination					
Origin	A	B	C	D	Tot.	
	A	0	1215	7	0	1222
	B	1066	0	299	0	1365
	C	279	63	0	0	342
	D	0	0	0	0	0
	Tot.	1345	1278	306	0	2929

Traffic Lane Flows

Lane	Scenario 4: 2026 Reference AM
Junction: Downside Road/A38	
1/1	1215
2/1	342
3/1 (short)	299
3/2 (with short)	1365(In) 1066(Out)
4/1	1345
5/1	1278
6/1	299
7/1	0

Lane Saturation Flows

Junction: Downside Road/A38								
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 (A38 North)	3.20	6.00	Y	Arm 5 Ahead	Inf	100.0 %	1683	1683
2/1 (Downside Road)	3.10	0.00	Y	Arm 4 Left	15.00	81.6 %	1757	1757
				Arm 5 Right	20.00	18.4 %		
3/1 (A38 South)	3.10	0.00	Y	Arm 6 Left	10.00	100.0 %	1674	1674
3/2 (A38 South)	2.90	0.00	N	Arm 4 Ahead	Inf	100.0 %	2045	2045
4/1	Infinite Saturation Flow						Inf	Inf
5/1	Infinite Saturation Flow						Inf	Inf
6/1	Infinite Saturation Flow						Inf	Inf
7/1 (Private Access - Entry)	2.00	0.00	Y	Arm 5 Left	6.00	0.0 %	1815	1815

Scenario 5: '2026 Reference Inter Peak' (FG5: '2026 Reference Inter Peak', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

	Destination					
	A	B	C	D	Tot.	
Origin	A	0	1251	5	0	1256
	B	1183	0	219	0	1402
	C	163	114	0	0	277
	D	0	0	0	0	0
	Tot.	1346	1365	224	0	2935

Traffic Lane Flows

Lane	Scenario 5: 2026 Reference Inter Peak
Junction: Downside Road/A38	
1/1	1251
2/1	277
3/1 (short)	219
3/2 (with short)	1402(In) 1183(Out)
4/1	1346
5/1	1365
6/1	219
7/1	0

Lane Saturation Flows

Junction: Downside Road/A38								
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 (A38 North)	3.20	6.00	Y	Arm 5 Ahead	Inf	100.0 %	1683	1683
2/1 (Downside Road)	3.10	0.00	Y	Arm 4 Left	15.00	58.8 %	1767	1767
				Arm 5 Right	20.00	41.2 %		
3/1 (A38 South)	3.10	0.00	Y	Arm 6 Left	10.00	100.0 %	1674	1674
3/2 (A38 South)	2.90	0.00	N	Arm 4 Ahead	Inf	100.0 %	2045	2045
4/1	Infinite Saturation Flow						Inf	Inf
5/1	Infinite Saturation Flow						Inf	Inf
6/1	Infinite Saturation Flow						Inf	Inf
7/1 (Private Access - Entry)	2.00	0.00	Y	Arm 5 Left	6.00	0.0 %	1815	1815

Scenario 6: '2026 Reference PM' (FG6: '2026 Reference PM Peak', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

	Destination					
Origin	A	B	C	D	Tot.	
	A	0	1828	13	0	1841
	B	1262	0	350	0	1612
	C	219	101	0	0	320
	D	0	0	0	0	0
	Tot.	1481	1929	363	0	3773

Traffic Lane Flows

Lane	Scenario 6: 2026 Reference PM
Junction: Downside Road/A38	
1/1	1828
2/1	320
3/1 (short)	350
3/2 (with short)	1612(In) 1262(Out)
4/1	1481
5/1	1929
6/1	350
7/1	0

Lane Saturation Flows

Junction: Downside Road/A38								
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 (A38 North)	3.20	6.00	Y	Arm 5 Ahead	Inf	100.0 %	1683	1683
2/1 (Downside Road)	3.10	0.00	Y	Arm 4 Left	15.00	68.4 %	1763	1763
				Arm 5 Right	20.00	31.6 %		
3/1 (A38 South)	3.10	0.00	Y	Arm 6 Left	10.00	100.0 %	1674	1674
3/2 (A38 South)	2.90	0.00	N	Arm 4 Ahead	Inf	100.0 %	2045	2045
4/1	Infinite Saturation Flow						Inf	Inf
5/1	Infinite Saturation Flow						Inf	Inf
6/1	Infinite Saturation Flow						Inf	Inf
7/1 (Private Access - Entry)	2.00	0.00	Y	Arm 5 Left	6.00	0.0 %	1815	1815

Scenario 7: '2026 Test AM Peak' (FG7: '2026 Test AM Peak', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

	Destination					
		A	B	C	D	Tot.
Origin	A	0	1302	7	0	1309
	B	1121	0	302	0	1423
	C	279	71	0	0	350
	D	0	0	0	0	0
	Tot.	1400	1373	309	0	3082

Traffic Lane Flows

Lane	Scenario 7: 2026 Test AM Peak
Junction: Downside Road/A38	
1/1	1302
2/1	350
3/1 (short)	302
3/2 (with short)	1423(In) 1121(Out)
4/1	1400
5/1	1373
6/1	302
7/1	0

Lane Saturation Flows

Junction: Downside Road/A38								
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 (A38 North)	3.20	6.00	Y	Arm 5 Ahead	Inf	100.0 %	1683	1683
2/1 (Downside Road)	3.10	0.00	Y	Arm 4 Left	15.00	79.7 %	1758	1758
				Arm 5 Right	20.00	20.3 %		
3/1 (A38 South)	3.10	0.00	Y	Arm 6 Left	10.00	100.0 %	1674	1674
3/2 (A38 South)	2.90	0.00	N	Arm 4 Ahead	Inf	100.0 %	2045	2045
4/1	Infinite Saturation Flow						Inf	Inf
5/1	Infinite Saturation Flow						Inf	Inf
6/1	Infinite Saturation Flow						Inf	Inf
7/1 (Private Access - Entry)	2.00	0.00	Y	Arm 5 Left	6.00	0.0 %	1815	1815

Scenario 8: '2026 Test Inter Peak' (FG8: '2026 Test Inter Peak', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

	Destination					
Origin	A	B	C	D	Tot.	
	A	0	1439	5	0	1444
	B	1404	0	232	0	1636
	C	163	126	0	0	289
	D	0	0	0	0	0
	Tot.	1567	1565	237	0	3369

Traffic Lane Flows

Lane	Scenario 8: 2026 Test Inter Peak
Junction: Downside Road/A38	
1/1	1439
2/1	289
3/1 (short)	232
3/2 (with short)	1636(In) 1404(Out)
4/1	1567
5/1	1565
6/1	232
7/1	0

Lane Saturation Flows

Junction: Downside Road/A38								
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 (A38 North)	3.20	6.00	Y	Arm 5 Ahead	Inf	100.0 %	1683	1683
2/1 (Downside Road)	3.10	0.00	Y	Arm 4 Left	15.00	56.4 %	1768	1768
				Arm 5 Right	20.00	43.6 %		
3/1 (A38 South)	3.10	0.00	Y	Arm 6 Left	10.00	100.0 %	1674	1674
3/2 (A38 South)	2.90	0.00	N	Arm 4 Ahead	Inf	100.0 %	2045	2045
4/1	Infinite Saturation Flow						Inf	Inf
5/1	Infinite Saturation Flow						Inf	Inf
6/1	Infinite Saturation Flow						Inf	Inf
7/1 (Private Access - Entry)	2.00	0.00	Y	Arm 5 Left	6.00	0.0 %	1815	1815

Scenario 9: '2026 Test PM Peak' (FG9: '2026 Test PM Peak', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

	Destination					
Origin	A	B	C	D	Tot.	
	A	0	1830	13	0	1843
	B	1372	0	370	0	1742
	C	219	109	0	0	328
	D	0	0	0	0	0
	Tot.	1591	1939	383	0	3913

Traffic Lane Flows

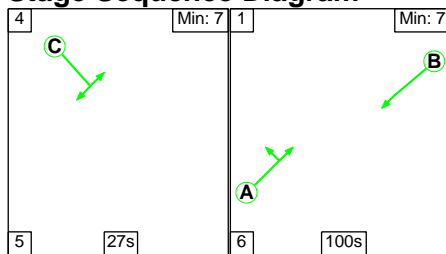
Lane	Scenario 9: 2026 Test PM Peak
Junction: Downside Road/A38	
1/1	1830
2/1	328
3/1 (short)	370
3/2 (with short)	1742(In) 1372(Out)
4/1	1591
5/1	1939
6/1	370
7/1	0

Lane Saturation Flows

Junction: Downside Road/A38								
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 (A38 North)	3.20	6.00	Y	Arm 5 Ahead	Inf	100.0 %	1683	1683
2/1 (Downside Road)	3.10	0.00	Y	Arm 4 Left	15.00	66.8 %	1763	1763
				Arm 5 Right	20.00	33.2 %		
3/1 (A38 South)	3.10	0.00	Y	Arm 6 Left	10.00	100.0 %	1674	1674
3/2 (A38 South)	2.90	0.00	N	Arm 4 Ahead	Inf	100.0 %	2045	2045
4/1	Infinite Saturation Flow						Inf	Inf
5/1	Infinite Saturation Flow						Inf	Inf
6/1	Infinite Saturation Flow						Inf	Inf
7/1 (Private Access - Entry)	2.00	0.00	Y	Arm 5 Left	6.00	0.0 %	1815	1815

Scenario 1: '2018 Baseline AM Peak' (FG1: '2018 Baseline AM Peak', Plan 1: 'Network Control Plan 1')

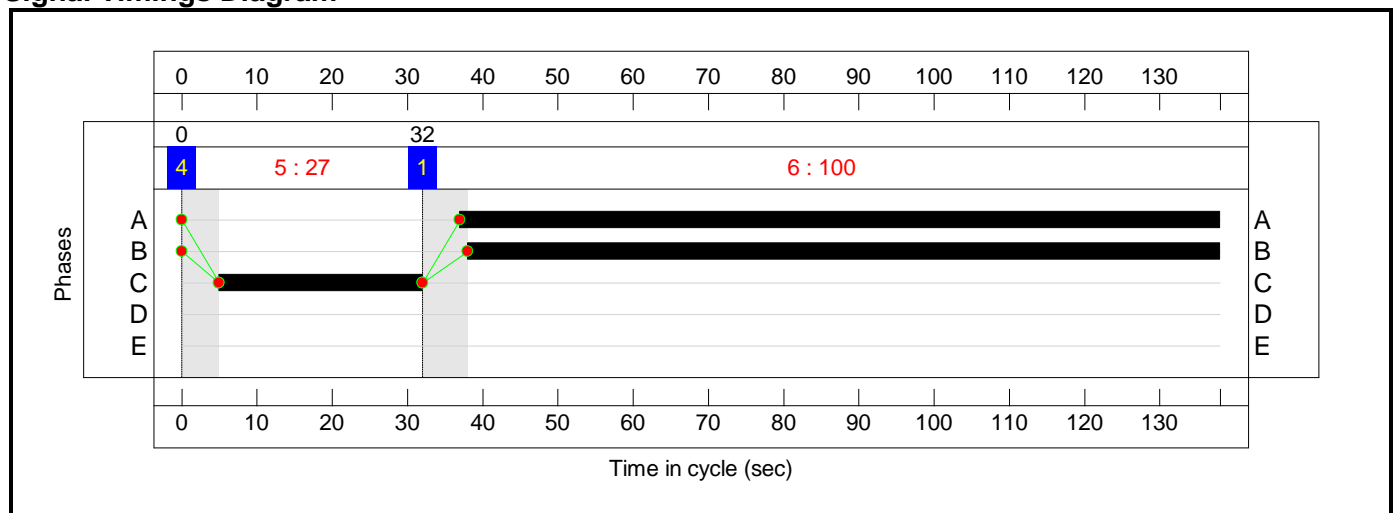
Stage Sequence Diagram



Stage Timings

Stage	4	1
Duration	27	100
Change Point	0	32


Signal Timings Diagram



Full Input Data And Results

Full Input Data And Results

Network Layout Diagram

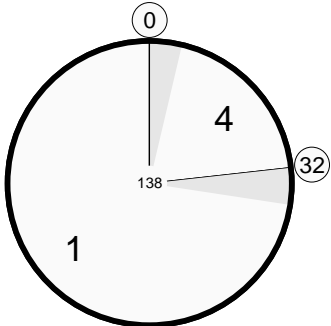


Downside Road/A38

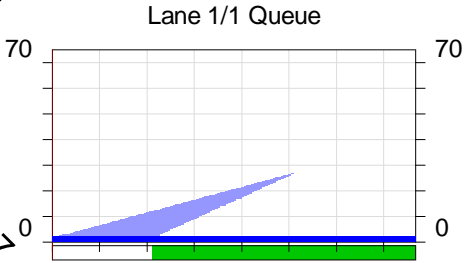
PRC: 9.1 %

Total Traffic Delay: 16.8 pcuHr

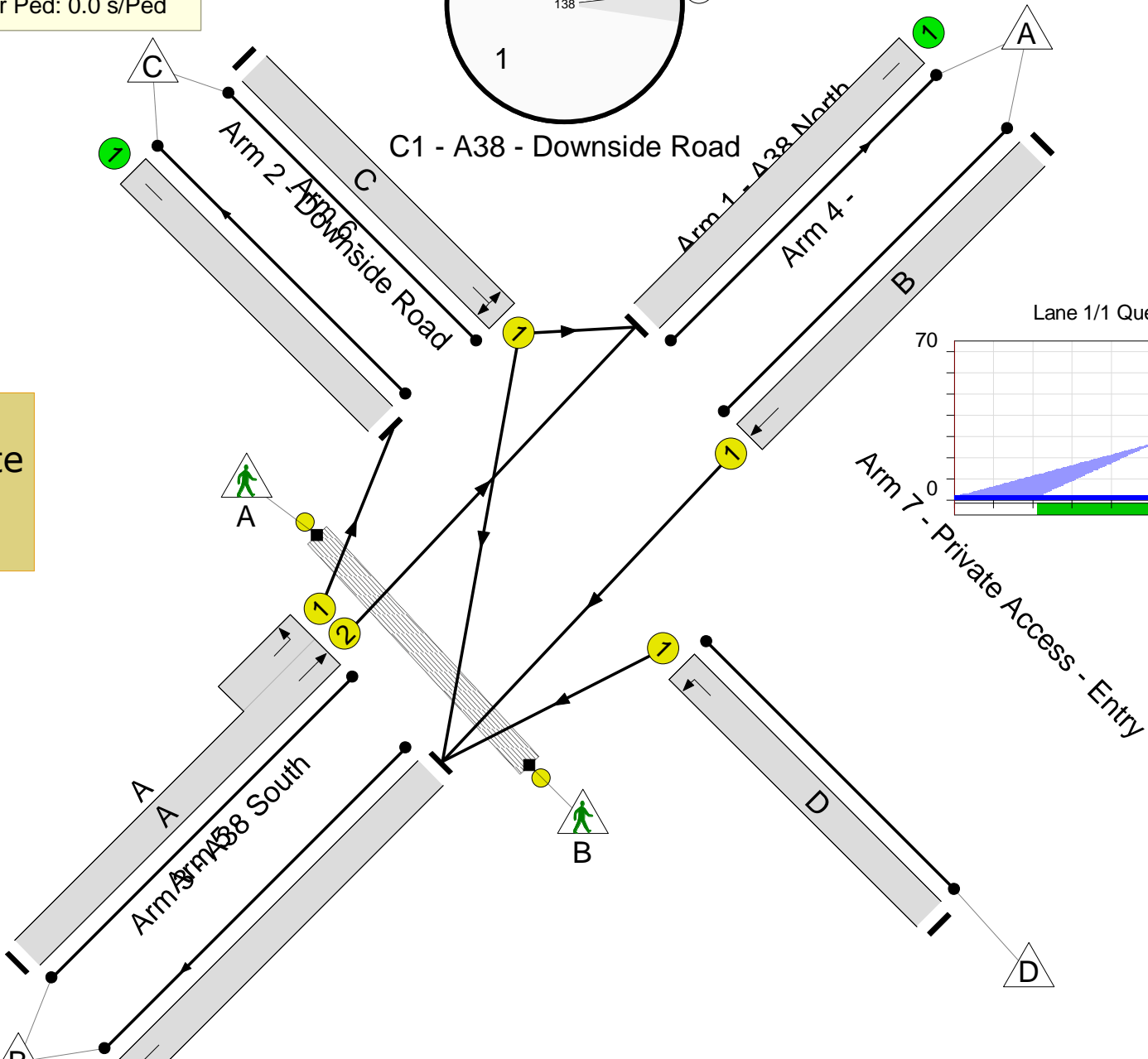
Ave. Route Delay Per Ped: 0.0 s/Ped



C1 - A38 - Downside Road



Pedestrian crossing & private access stages removed due to



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: A38/Downside Rd Signalised Junction	-	-	N/A	-	-		-	-	-	-	-	-	82.5%
Downside Road/A38	-	-	N/A	-	-		-	-	-	-	-	-	82.5%
1/1	A38 North Ahead	U	N/A	N/A	B		1	100	-	997	1683	1232	80.9%
2/1	Downside Road Left Right	U	N/A	N/A	C		1	27	-	294	1757	356	82.5%
3/2+3/1	A38 South Ahead Left	U	N/A	N/A	A		1	101	-	1151	2045:1674	1146+336	77.7 : 77.7%
4/1		U	N/A	N/A	-		-	-	-	1135	Inf	Inf	0.0%
5/1		U	N/A	N/A	-		-	-	-	1046	Inf	Inf	0.0%
6/1		U	N/A	N/A	-		-	-	-	261	Inf	Inf	0.0%
7/1	Private Access - Entry Left	U	N/A	N/A	D		0	0	-	0	1815	0	0.0%
Ped Link: P1	Unnamed Ped Link	-	N/A	-	E		0	0	-	0	-	0	0.0%

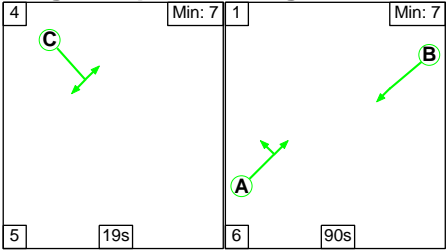
Full Input Data And Results

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network: A38/Downside Rd Signalised Junction	-	-	0	0	0	10.8	6.0	0.0	16.8	-	-	-	-
Downside Road/A38	-	-	0	0	0	10.8	6.0	0.0	16.8	-	-	-	-
1/1	997	997	-	-	-	3.4	2.1	-	5.5	19.7	24.9	2.1	27.0
2/1	294	294	-	-	-	4.3	2.2	-	6.5	79.6	10.8	2.2	13.0
3/2+3/1	1151	1151	-	-	-	3.1	1.7	-	4.9	15.2	24.3	1.7	26.0
4/1	1135	1135	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/1	1046	1046	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	261	261	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	0	0	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
Ped Link: P1	0	0	-	-	-	-	-	-	Inf	Inf	-	-	Inf
C1 - A38 - Downside Road			PRC for Signalled Lanes (%):		9.1	Total Delay for Signalled Lanes (pcuHr):		16.82	Cycle Time (s): 138				
			PRC Over All Lanes (%):		9.1	Total Delay Over All Lanes(pcuHr):		16.82					

Full Input Data And Results

Scenario 2: '2018 Baseline Inter Peak' (FG2: '2018 Baseline Inter Peak', Plan 1: 'Network Control Plan 1')

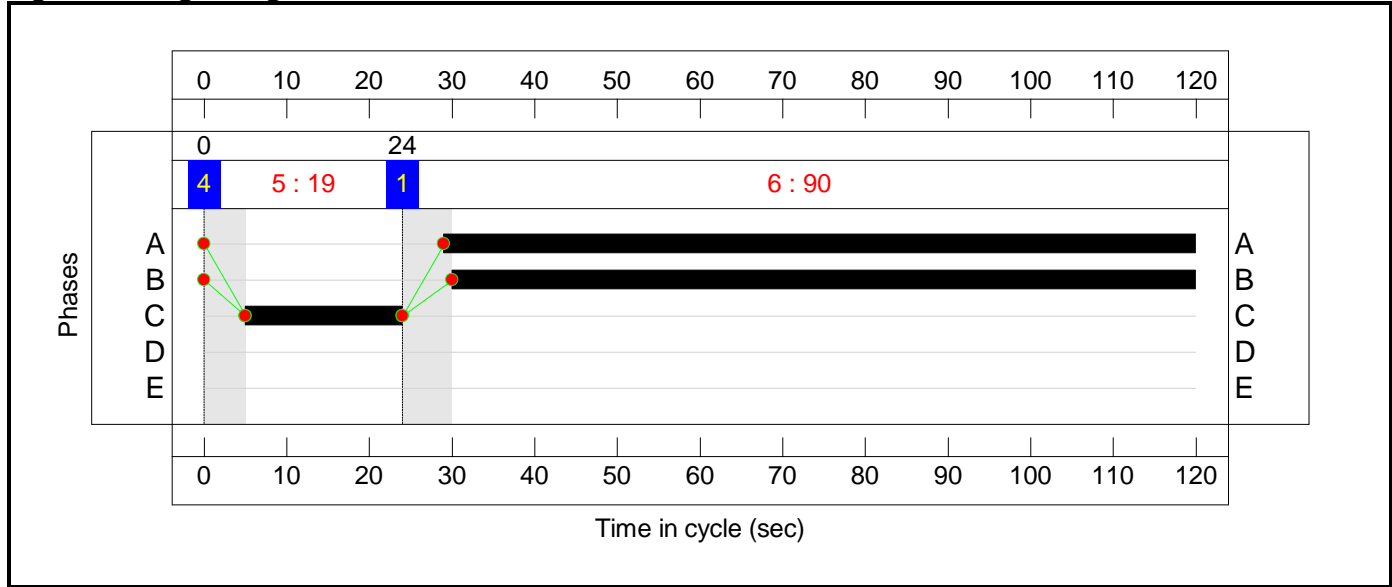
Stage Sequence Diagram



Stage Timings

Stage	4	1
Duration	19	90
Change Point	0	24

Signal Timings Diagram



Full Input Data And Results

Network Layout Diagram

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: A38/Downside Rd Signalised Junction	-	-	N/A	-	-		-	-	-	-	-	-	77.5%
Downside Road/A38	-	-	N/A	-	-		-	-	-	-	-	-	77.5%
1/1	A38 North Ahead	U	N/A	N/A	B		1	90	-	931	1683	1276	72.9%
2/1	Downside Road Left Right	U	N/A	N/A	C		1	19	-	228	1766	294	77.5%
3/2+3/1	A38 South Ahead Left	U	N/A	N/A	A		1	91	-	1015	2045:1674	1282+265	65.6 : 65.6%
4/1		U	N/A	N/A	-		-	-	-	980	Inf	Inf	0.0%
5/1		U	N/A	N/A	-		-	-	-	1020	Inf	Inf	0.0%
6/1		U	N/A	N/A	-		-	-	-	174	Inf	Inf	0.0%
7/1	Private Access - Entry Left	U	N/A	N/A	D		0	0	-	0	1815	0	0.0%
Ped Link: P1	Unnamed Ped Link	-	N/A	-	E		0	0	-	0	-	0	0.0%

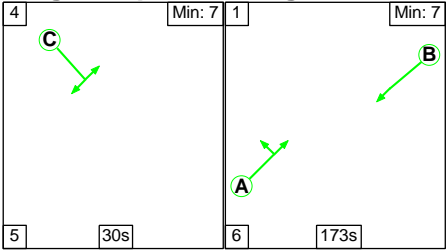
Full Input Data And Results

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network: A38/Downside Rd Signalised Junction	-	-	0	0	0	6.7	3.9	0.0	10.6	-	-	-	-
Downside Road/A38	-	-	0	0	0	6.7	3.9	0.0	10.6	-	-	-	-
1/1	931	931	-	-	-	2.0	1.3	-	3.4	13.0	16.6	1.3	17.9
2/1	228	228	-	-	-	3.0	1.6	-	4.7	73.7	7.2	1.6	8.9
3/2+3/1	1015	1015	-	-	-	1.7	1.0	-	2.6	9.2	14.1	1.0	15.0
4/1	980	980	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/1	1020	1020	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	174	174	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	0	0	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
Ped Link: P1	0	0	-	-	-	-	-	-	Inf	Inf	-	-	Inf
C1 - A38 - Downside Road			PRC for Signalled Lanes (%):		16.2	Total Delay for Signalled Lanes (pcuHr):		10.64	Cycle Time (s): 120				
			PRC Over All Lanes (%):		16.2	Total Delay Over All Lanes(pcuHr):		10.64					

Full Input Data And Results

Scenario 3: '2018 Baseline PM Peak' (FG3: '2018 Baseline PM Peak', Plan 1: 'Network Control Plan 1')

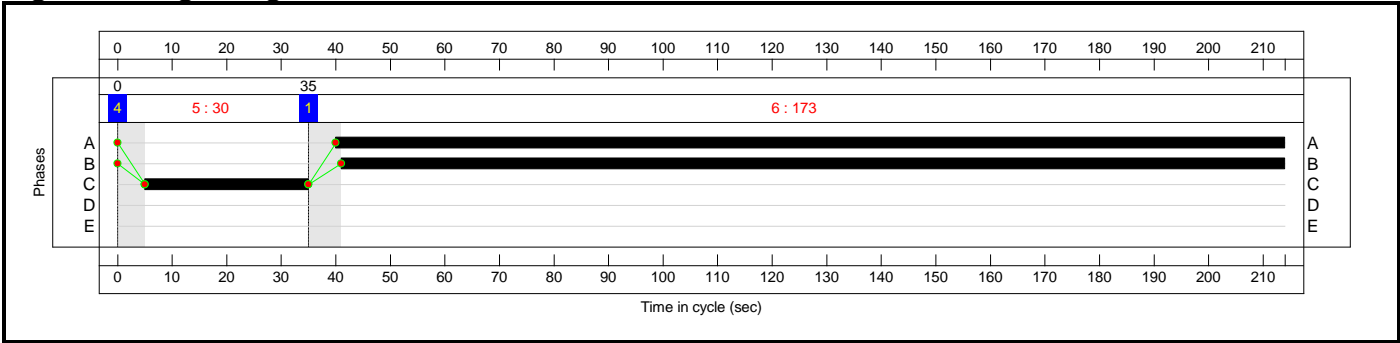
Stage Sequence Diagram




Stage Timings

Stage	4	1
Duration	30	173
Change Point	0	35

Signal Timings Diagram



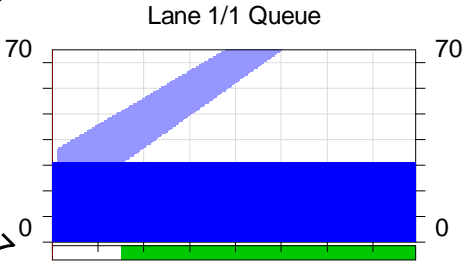
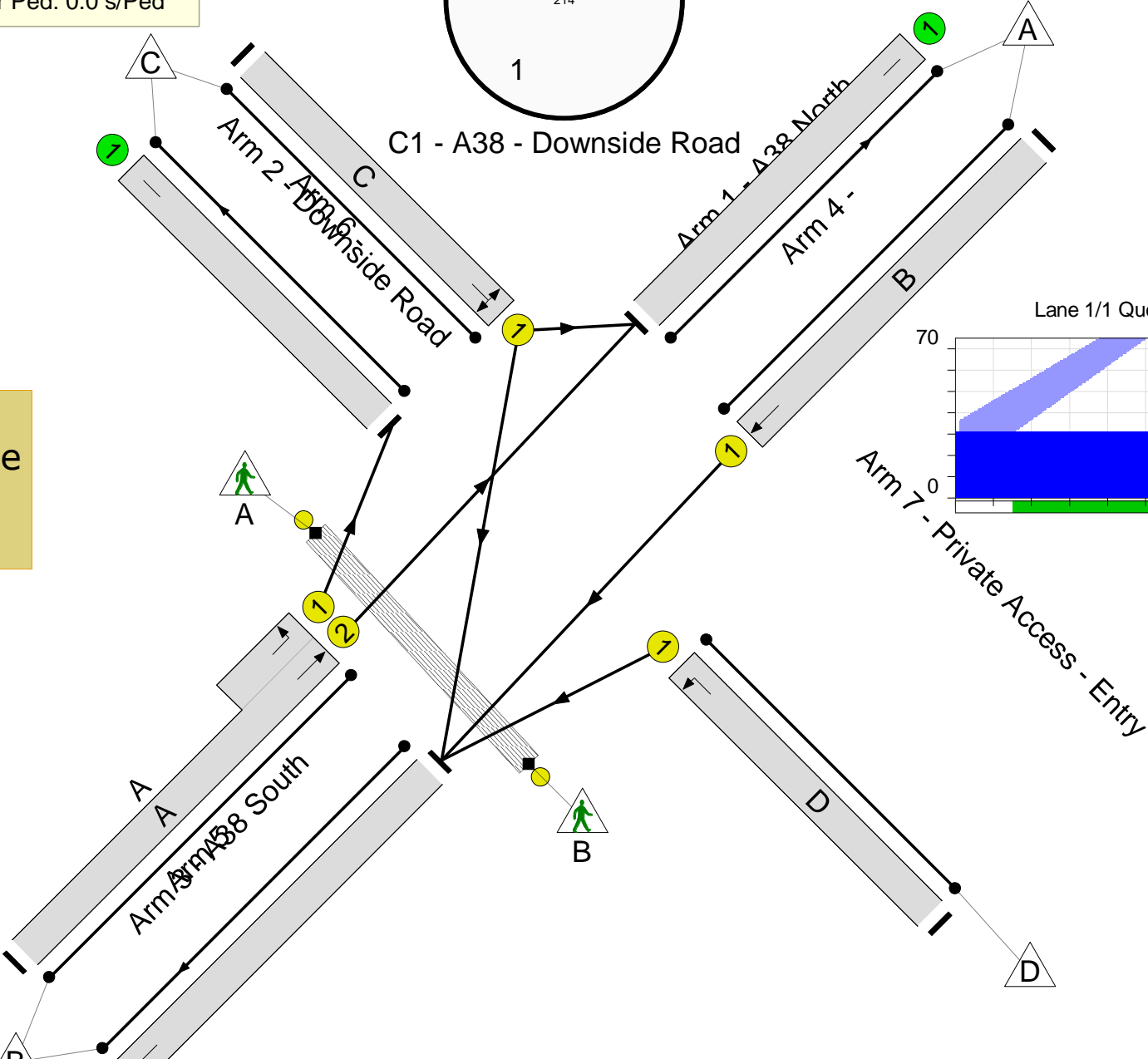
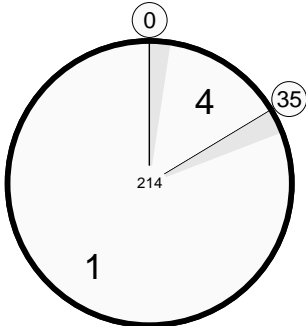


Downside Road/A38

PRC: -14.3 %

Total Traffic Delay: 65.6 pcuHr

Ave. Route Delay Per Ped: 0.0 s/Ped



Pedestrian crossing & private access stages removed due to

Full Input Data And Results

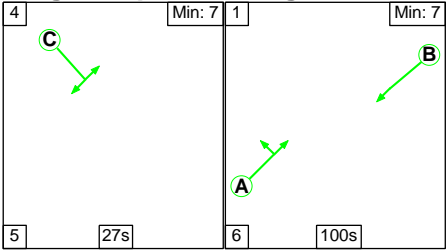
Network Results

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: A38/Downside Rd Signalised Junction	-	-	N/A	-	-		-	-	-	-	-	-	102.9%
Downside Road/A38	-	-	N/A	-	-		-	-	-	-	-	-	102.9%
1/1	A38 North Ahead	U	N/A	N/A	B		1	173	-	1408	1683	1368	102.9%
2/1	Downside Road Left Right	U	N/A	N/A	C		1	30	-	258	1762	255	101.1%
3/2+3/1	A38 South Ahead Left	U	N/A	N/A	A		1	174	-	1305	2045:1674	1261+360	80.5 : 80.5%
4/1		U	N/A	N/A	-		-	-	-	1195	Inf	Inf	0.0%
5/1		U	N/A	N/A	-		-	-	-	1486	Inf	Inf	0.0%
6/1		U	N/A	N/A	-		-	-	-	290	Inf	Inf	0.0%
7/1	Private Access - Entry Left	U	N/A	N/A	D		0	0	-	0	1815	0	0.0%
Ped Link: P1	Unnamed Ped Link	-	N/A	-	E		0	0	-	0	-	0	0.0%

Full Input Data And Results

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network: A38/Downside Rd Signalised Junction	-	-	0	0	0	23.7	41.9	0.0	65.6	-	-	-	-
Downside Road/A38	-	-	0	0	0	23.7	41.9	0.0	65.6	-	-	-	-
1/1	1408	1368	-	-	-	13.5	31.1	-	44.6	113.9	87.2	31.1	118.3
2/1	258	255	-	-	-	6.9	8.7	-	15.6	217.9	15.5	8.7	24.3
3/2+3/1	1305	1305	-	-	-	3.4	2.0	-	5.4	14.9	38.3	2.0	40.3
4/1	1193	1193	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/1	1446	1446	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	290	290	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	0	0	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
Ped Link: P1	0	0	-	-	-	-	-	-	Inf	Inf	-	-	Inf
C1 - A38 - Downside Road			PRC for Signalled Lanes (%):		-14.3	Total Delay for Signalled Lanes (pcuHr):		65.60	Cycle Time (s): 214				
			PRC Over All Lanes (%):		-14.3	Total Delay Over All Lanes(pcuHr):		65.60					

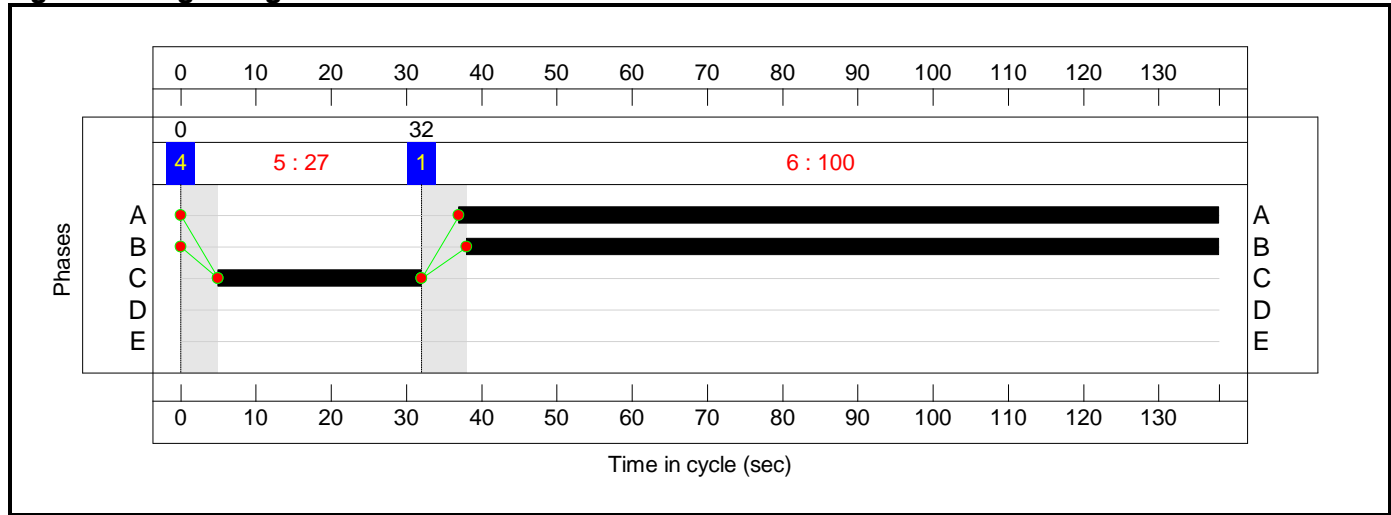
Stage Sequence Diagram




Stage Timings

Stage	4	1
Duration	27	100
Change Point	0	32

Signal Timings Diagram



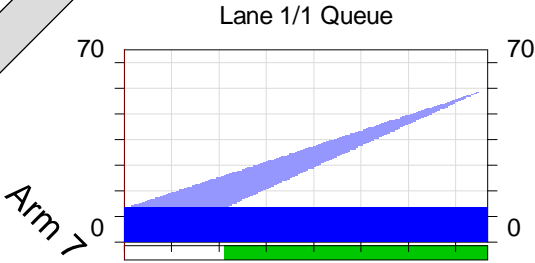
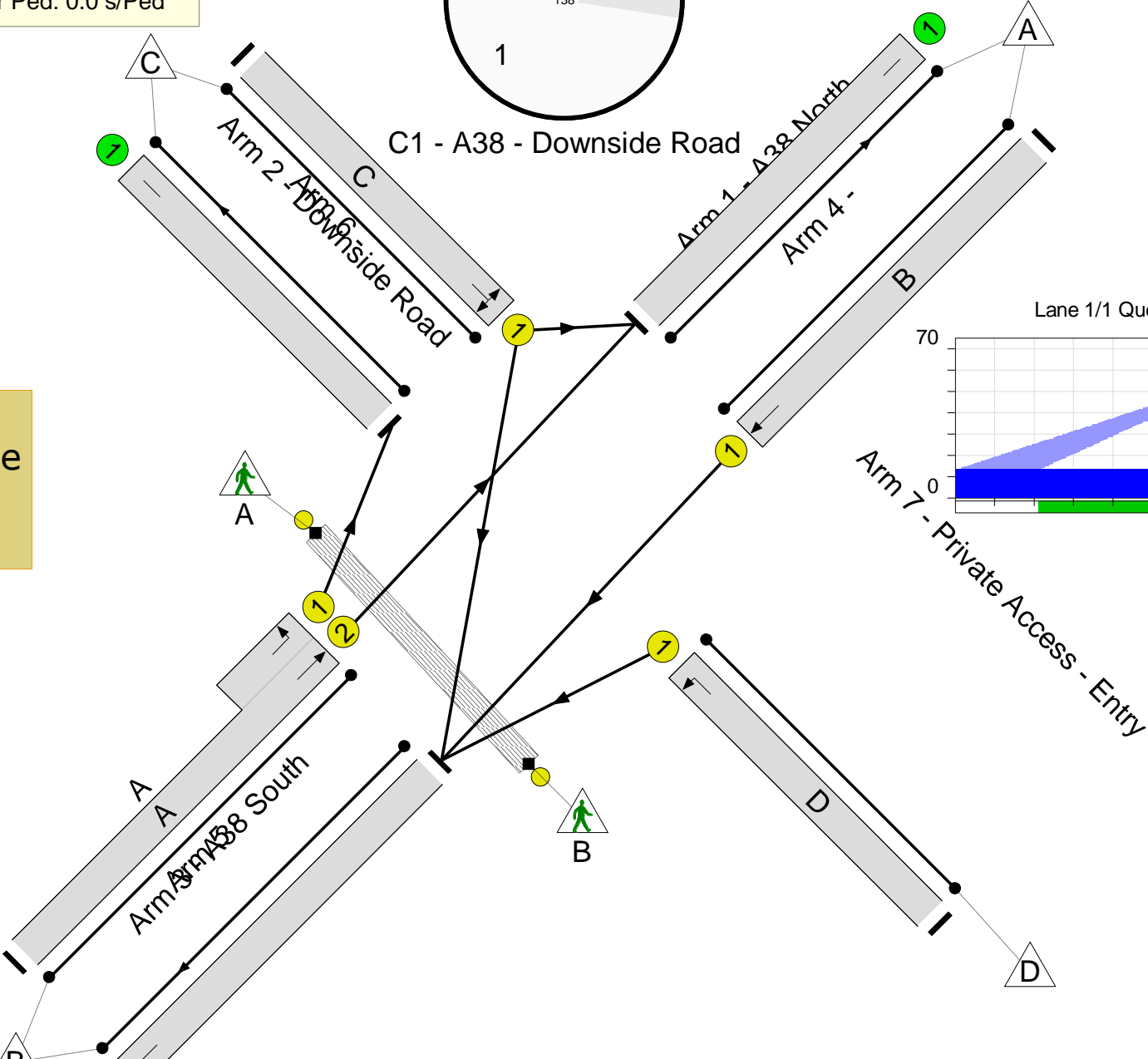
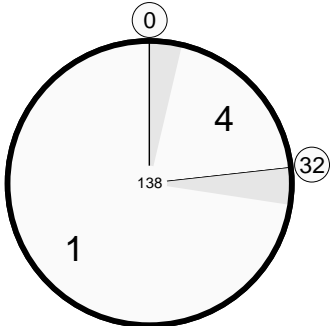


Downside Road/A38

PRC: -9.6 %

Total Traffic Delay: 41.6 pcuHr

Ave. Route Delay Per Ped: 0.0 s/Ped



Pedestrian crossing & private access stages removed due to

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: A38/Downside Rd Signalised Junction	-	-	N/A	-	-		-	-	-	-	-	-	98.6%
Downside Road/A38	-	-	N/A	-	-		-	-	-	-	-	-	98.6%
1/1	A38 North Ahead	U	N/A	N/A	B		1	100	-	1215	1683	1232	98.6%
2/1	Downside Road Left Right	U	N/A	N/A	C		1	27	-	342	1757	356	95.9%
3/2+3/1	A38 South Ahead Left	U	N/A	N/A	A		1	101	-	1365	2045:1674	1158+325	92.1 : 92.1%
4/1		U	N/A	N/A	-		-	-	-	1345	Inf	Inf	0.0%
5/1		U	N/A	N/A	-		-	-	-	1278	Inf	Inf	0.0%
6/1		U	N/A	N/A	-		-	-	-	299	Inf	Inf	0.0%
7/1	Private Access - Entry Left	U	N/A	N/A	D		0	0	-	0	1815	0	0.0%
Ped Link: P1	Unnamed Ped Link	-	N/A	-	E		0	0	-	0	-	0	0.0%

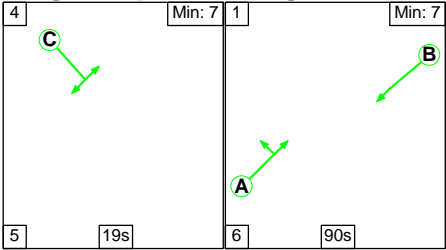
Full Input Data And Results

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network: A38/Downside Rd Signalised Junction	-	-	0	0	0	16.3	25.4	0.0	41.6	-	-	-	-
Downside Road/A38	-	-	0	0	0	16.3	25.4	0.0	41.6	-	-	-	-
1/1	1215	1215	-	-	-	6.0	13.7	-	19.8	58.5	44.9	13.7	58.6
2/1	342	342	-	-	-	5.2	6.3	-	11.5	120.8	12.9	6.3	19.2
3/2+3/1	1365	1365	-	-	-	5.1	5.3	-	10.4	27.4	40.5	5.3	45.8
4/1	1345	1345	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/1	1278	1278	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	299	299	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	0	0	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
Ped Link: P1	0	0	-	-	-	-	-	-	Inf	Inf	-	-	Inf
C1 - A38 - Downside Road			PRC for Signalled Lanes (%):		-9.6	Total Delay for Signalled Lanes (pcuHr):		41.63	Cycle Time (s): 138				
			PRC Over All Lanes (%):		-9.6	Total Delay Over All Lanes(pcuHr):		41.63					

Full Input Data And Results

Scenario 5: '2026 Reference Inter Peak' (FG5: '2026 Reference Inter Peak', Plan 1: 'Network Control Plan 1')

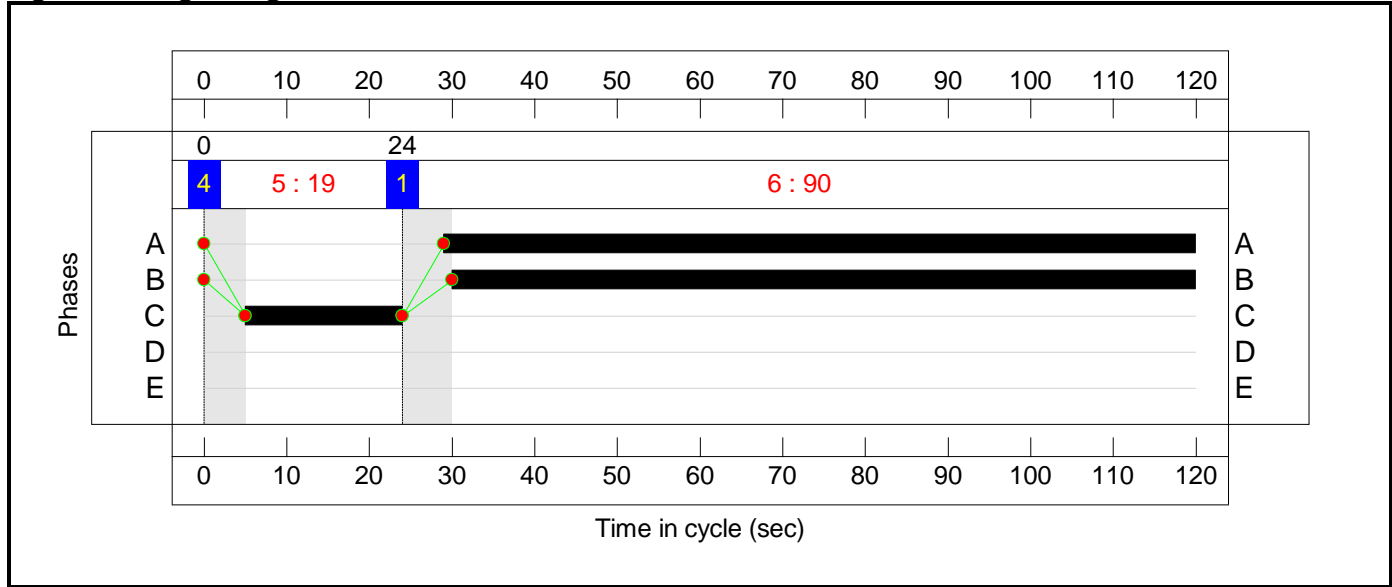
Stage Sequence Diagram




Stage Timings

Stage	4	1
Duration	19	90
Change Point	0	24

Signal Timings Diagram



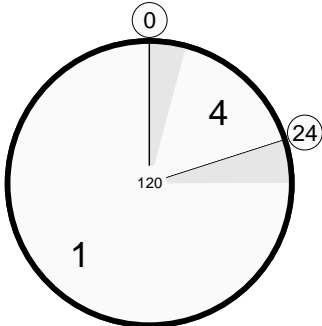


Downside Road/A38

PRC: -8.9 %

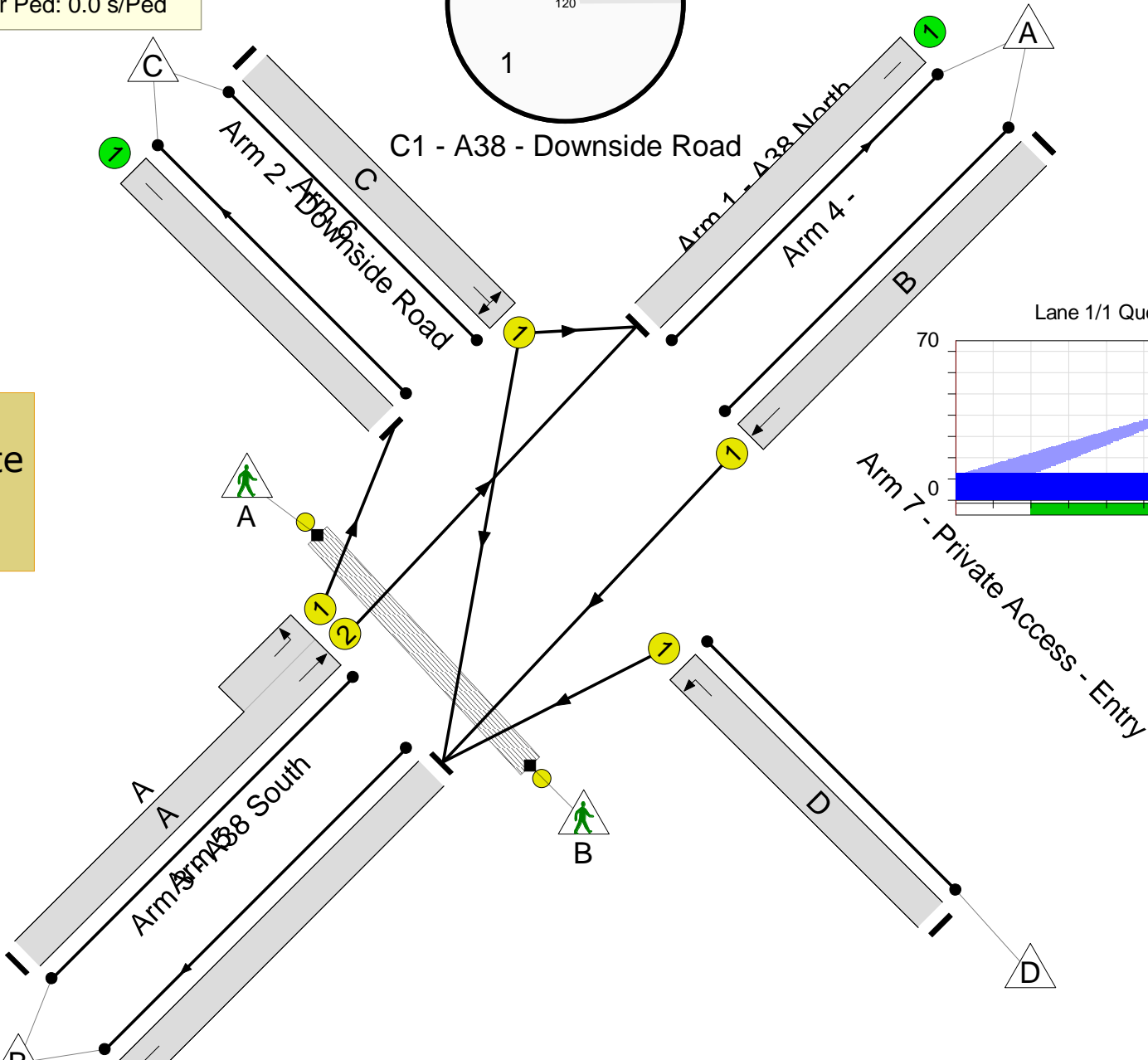
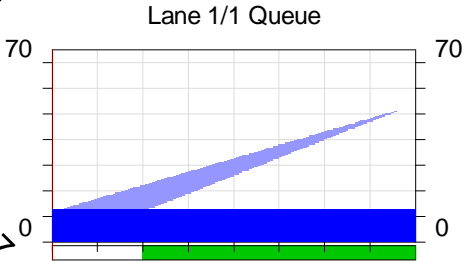
Total Traffic Delay: 34.4 pcuHr

Ave. Route Delay Per Ped: 0.0 s/Ped



C1 - A38 - Downside Road

Pedestrian crossing & private access stages removed due to



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: A38/Downside Rd Signalised Junction	-	-	N/A	-	-		-	-	-	-	-	-	98.0%
Downside Road/A38	-	-	N/A	-	-		-	-	-	-	-	-	98.0%
1/1	A38 North Ahead	U	N/A	N/A	B		1	90	-	1251	1683	1276	98.0%
2/1	Downside Road Left Right	U	N/A	N/A	C		1	19	-	277	1767	294	94.1%
3/2+3/1	A38 South Ahead Left	U	N/A	N/A	A		1	91	-	1402	2045:1674	1307+242	90.5 : 90.5%
4/1		U	N/A	N/A	-		-	-	-	1346	Inf	Inf	0.0%
5/1		U	N/A	N/A	-		-	-	-	1365	Inf	Inf	0.0%
6/1		U	N/A	N/A	-		-	-	-	219	Inf	Inf	0.0%
7/1	Private Access - Entry Left	U	N/A	N/A	D		0	0	-	0	1815	0	0.0%
Ped Link: P1	Unnamed Ped Link	-	N/A	-	E		0	0	-	0	-	0	0.0%

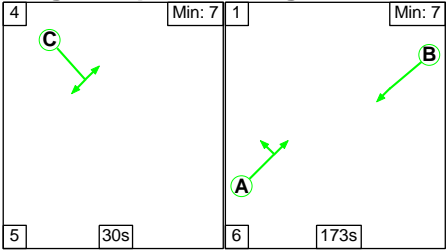
Full Input Data And Results

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network: A38/Downside Rd Signalised Junction	-	-	0	0	0	12.4	22.0	0.0	34.4	-	-	-	-
Downside Road/A38	-	-	0	0	0	12.4	22.0	0.0	34.4	-	-	-	-
1/1	1251	1251	-	-	-	4.7	12.5	-	17.2	49.5	38.9	12.5	51.4
2/1	277	277	-	-	-	3.8	5.0	-	8.8	114.7	9.1	5.0	14.1
3/2+3/1	1402	1402	-	-	-	3.8	4.5	-	8.3	21.4	33.9	4.5	38.4
4/1	1346	1346	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/1	1365	1365	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	219	219	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	0	0	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
Ped Link: P1	0	0	-	-	-	-	-	-	Inf	Inf	-	-	Inf
C1 - A38 - Downside Road			PRC for Signalised Lanes (%):		-8.9	Total Delay for Signalised Lanes (pcuHr):		34.35	Cycle Time (s): 120				
			PRC Over All Lanes (%):		-8.9	Total Delay Over All Lanes(pcuHr):		34.35					

Full Input Data And Results

Scenario 6: '2026 Reference PM' (FG6: '2026 Reference PM Peak', Plan 1: 'Network Control Plan 1')

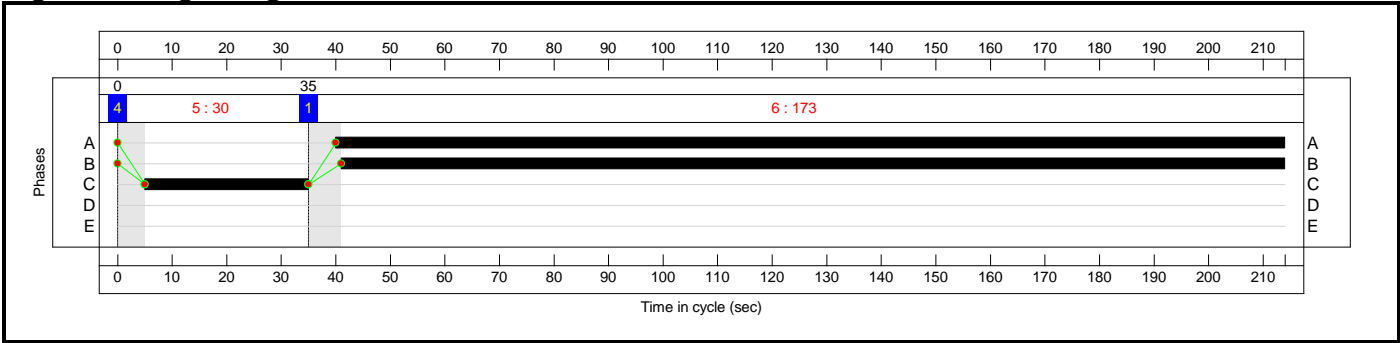
Stage Sequence Diagram



Stage Timings


Stage	4	1
Duration	30	173
Change Point	0	35

Signal Timings Diagram



Full Input Data And Results

Network Layout Diagram

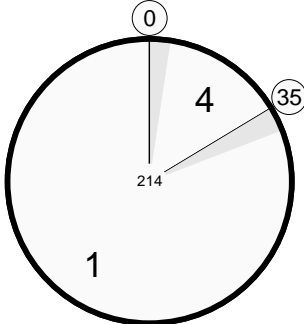


Downside Road/A38

PRC: -48.4 %

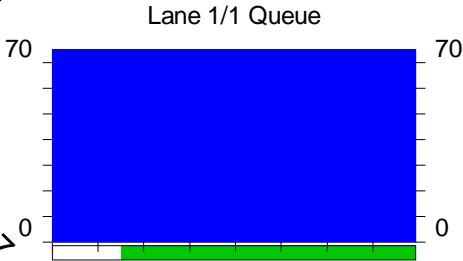
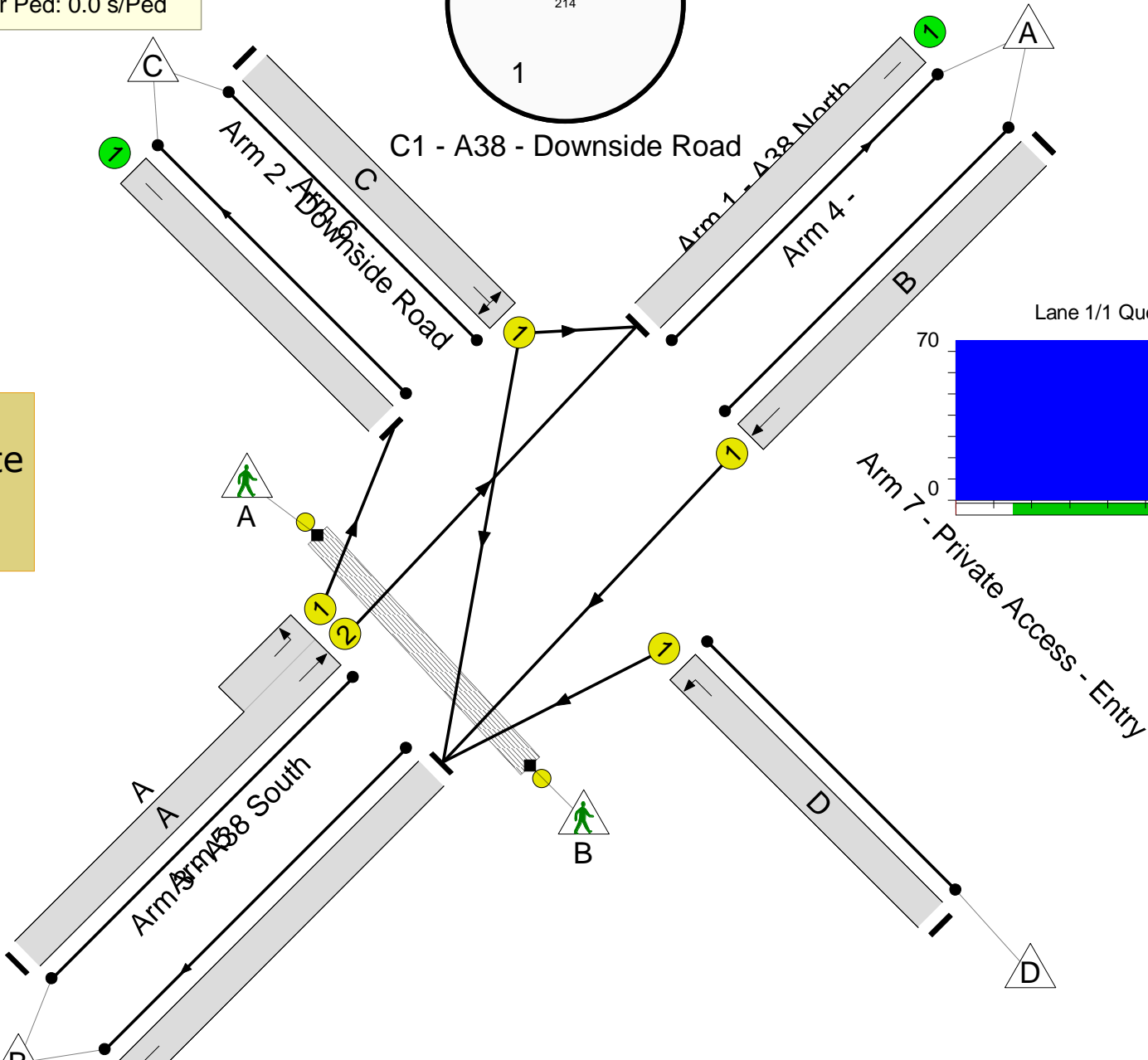
Total Traffic Delay: 383.2 pcuHr

Ave. Route Delay Per Ped: 0.0 s/Ped



C1 - A38 - Downside Road

Pedestrian crossing & private access stages removed due to



Full Input Data And Results

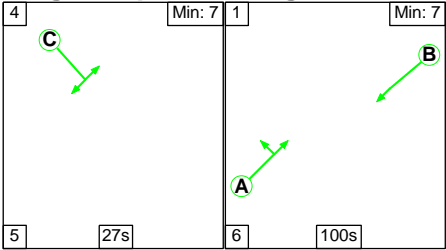
Network Results

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: A38/Downside Rd Signalised Junction	-	-	N/A	-	-		-	-	-	-	-	-	133.6%
Downside Road/A38	-	-	N/A	-	-		-	-	-	-	-	-	133.6%
1/1	A38 North Ahead	U	N/A	N/A	B		1	173	-	1828	1683	1368	133.6%
2/1	Downside Road Left Right	U	N/A	N/A	C		1	30	-	320	1763	255	125.3%
3/2+3/1	A38 South Ahead Left	U	N/A	N/A	A		1	174	-	1612	2045:1674	1270+352	99.4 : 99.4%
4/1		U	N/A	N/A	-		-	-	-	1481	Inf	Inf	0.0%
5/1		U	N/A	N/A	-		-	-	-	1929	Inf	Inf	0.0%
6/1		U	N/A	N/A	-		-	-	-	350	Inf	Inf	0.0%
7/1	Private Access - Entry Left	U	N/A	N/A	D		0	0	-	0	1815	0	0.0%
Ped Link: P1	Unnamed Ped Link	-	N/A	-	E		0	0	-	0	-	0	0.0%

Full Input Data And Results

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network: A38/Downside Rd Signalised Junction	-	-	0	0	0	99.0	284.1	0.0	383.2	-	-	-	-
Downside Road/A38	-	-	0	0	0	99.0	284.1	0.0	383.2	-	-	-	-
1/1	1828	1368	-	-	-	75.7	231.8	-	307.5	605.5	161.9	231.8	393.7
2/1	320	255	-	-	-	15.4	34.6	-	50.0	562.9	23.3	34.6	57.9
3/2+3/1	1612	1612	-	-	-	7.9	17.8	-	25.7	57.3	91.5	17.8	109.2
4/1	1437	1437	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/1	1449	1449	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	350	350	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	0	0	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
Ped Link: P1	0	0	-	-	-	-	-	-	Inf	Inf	-	-	Inf
C1 - A38 - Downside Road			PRC for Signalised Lanes (%):		-48.4	Total Delay for Signalised Lanes (pcuHr):		383.15	Cycle Time (s): 214				
			PRC Over All Lanes (%):		-48.4	Total Delay Over All Lanes(pcuHr):		383.15					

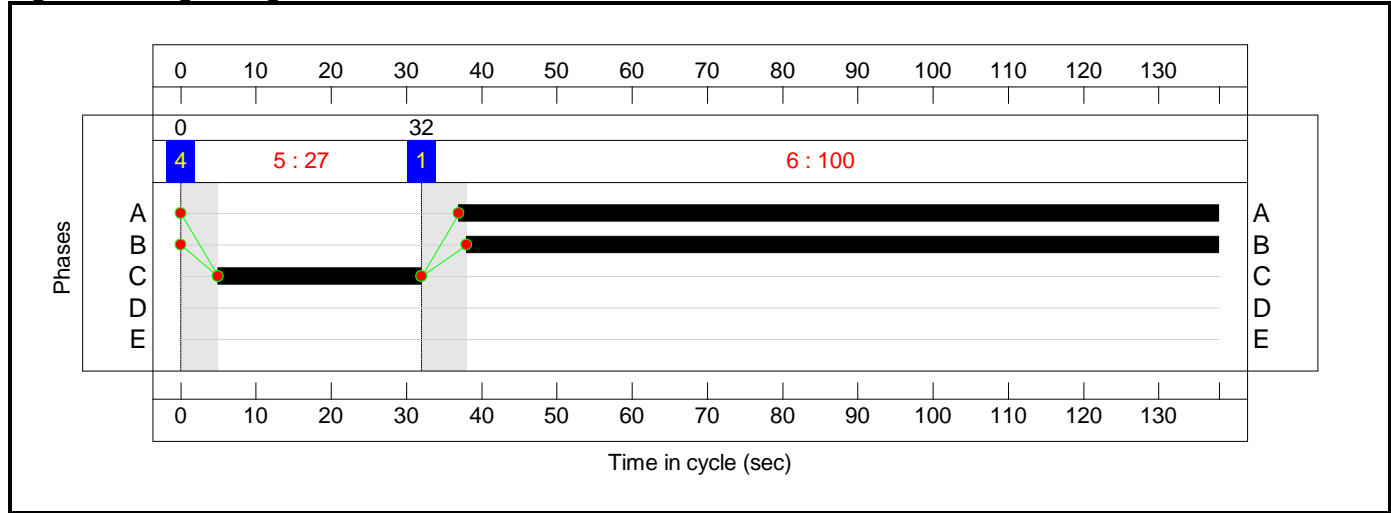
Stage Sequence Diagram




Stage Timings

Stage	4	1
Duration	27	100
Change Point	0	32

Signal Timings Diagram





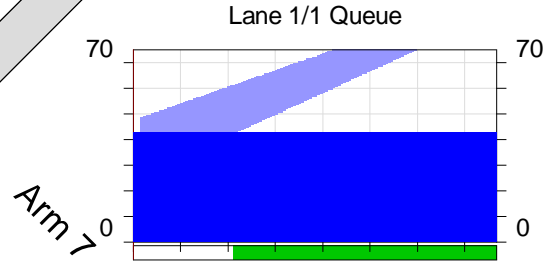
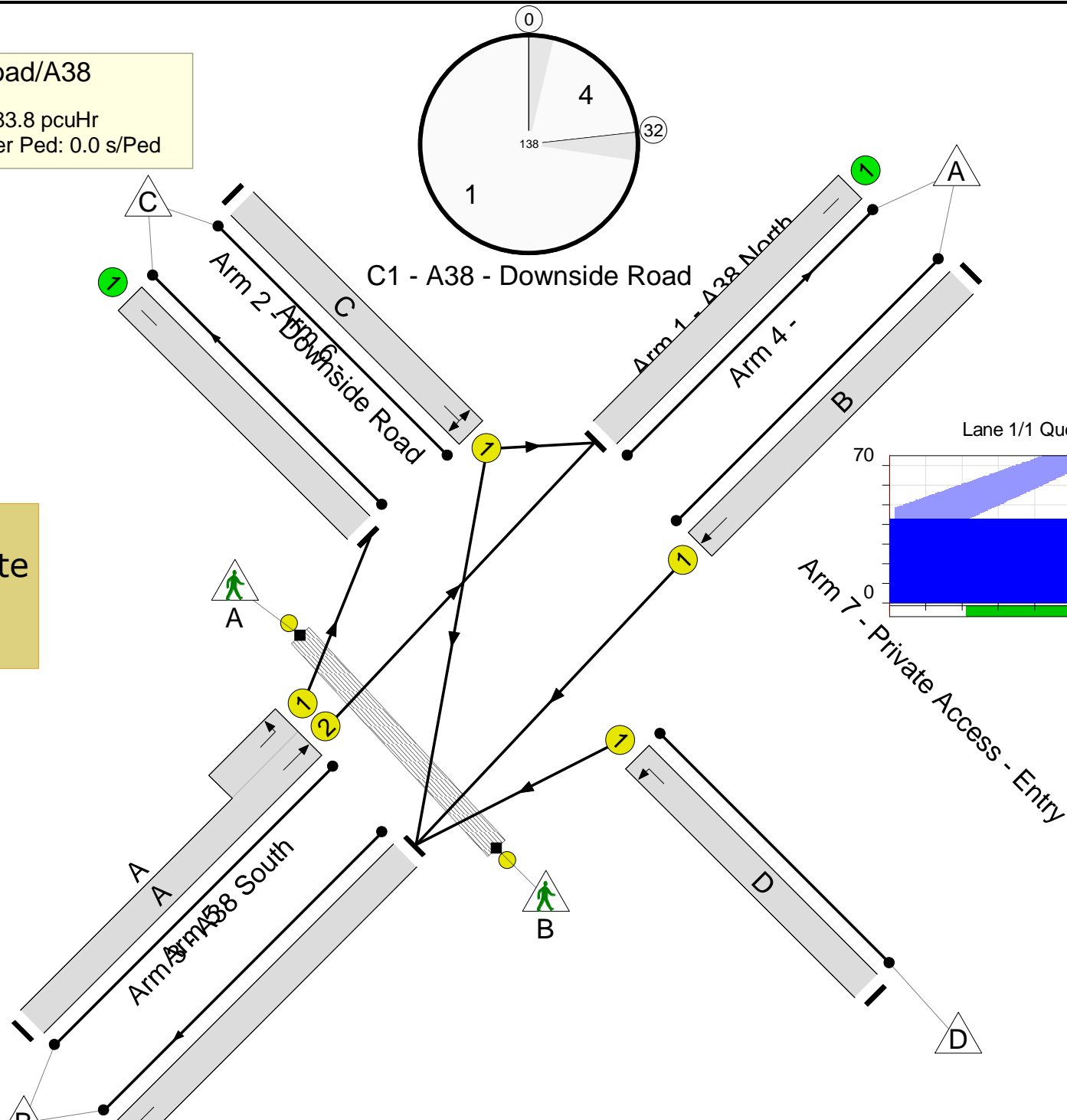
Downside Road/A38

PRC: -17.4 %

Total Traffic Delay: 83.8 pcuHr

Ave. Route Delay Per Ped: 0.0 s/Ped

Pedestrian crossing & private access stages removed due to



Full Input Data And Results

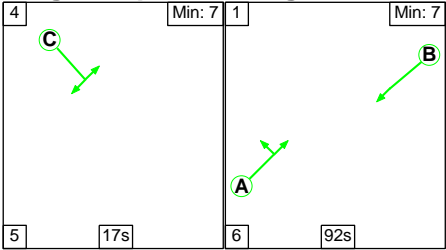
Network Results

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: A38/Downside Rd Signalised Junction	-	-	N/A	-	-		-	-	-	-	-	-	105.7%
Downside Road/A38	-	-	N/A	-	-		-	-	-	-	-	-	105.7%
1/1	A38 North Ahead	U	N/A	N/A	B		1	100	-	1302	1683	1232	105.7%
2/1	Downside Road Left Right	U	N/A	N/A	C		1	27	-	350	1758	357	98.1%
3/2+3/1	A38 South Ahead Left	U	N/A	N/A	A		1	101	-	1423	2045:1674	1169+315	95.9 : 95.9%
4/1		U	N/A	N/A	-		-	-	-	1400	Inf	Inf	0.0%
5/1		U	N/A	N/A	-		-	-	-	1373	Inf	Inf	0.0%
6/1		U	N/A	N/A	-		-	-	-	302	Inf	Inf	0.0%
7/1	Private Access - Entry Left	U	N/A	N/A	D		0	0	-	0	1815	0	0.0%
Ped Link: P1	Unnamed Ped Link	-	N/A	-	E		0	0	-	0	-	0	0.0%

Full Input Data And Results

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network: A38/Downside Rd Signalised Junction	-	-	0	0	0	24.2	59.6	0.0	83.8	-	-	-	-
Downside Road/A38	-	-	0	0	0	24.2	59.6	0.0	83.8	-	-	-	-
1/1	1302	1232	-	-	-	13.0	42.7	-	55.7	154.1	54.2	42.7	96.9
2/1	350	350	-	-	-	5.3	7.8	-	13.2	135.3	13.3	7.8	21.1
3/2+3/1	1423	1423	-	-	-	5.9	9.1	-	14.9	37.8	47.1	9.1	56.1
4/1	1400	1400	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/1	1303	1303	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	302	302	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	0	0	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
Ped Link: P1	0	0	-	-	-	-	-	-	Inf	Inf	-	-	Inf
C1 - A38 - Downside Road													
PRC for Signalled Lanes (%):					-17.4	Total Delay for Signalled Lanes (pcuHr):			83.83	Cycle Time (s): 138			
PRC Over All Lanes (%):					-17.4	Total Delay Over All Lanes(pcuHr):			83.83				

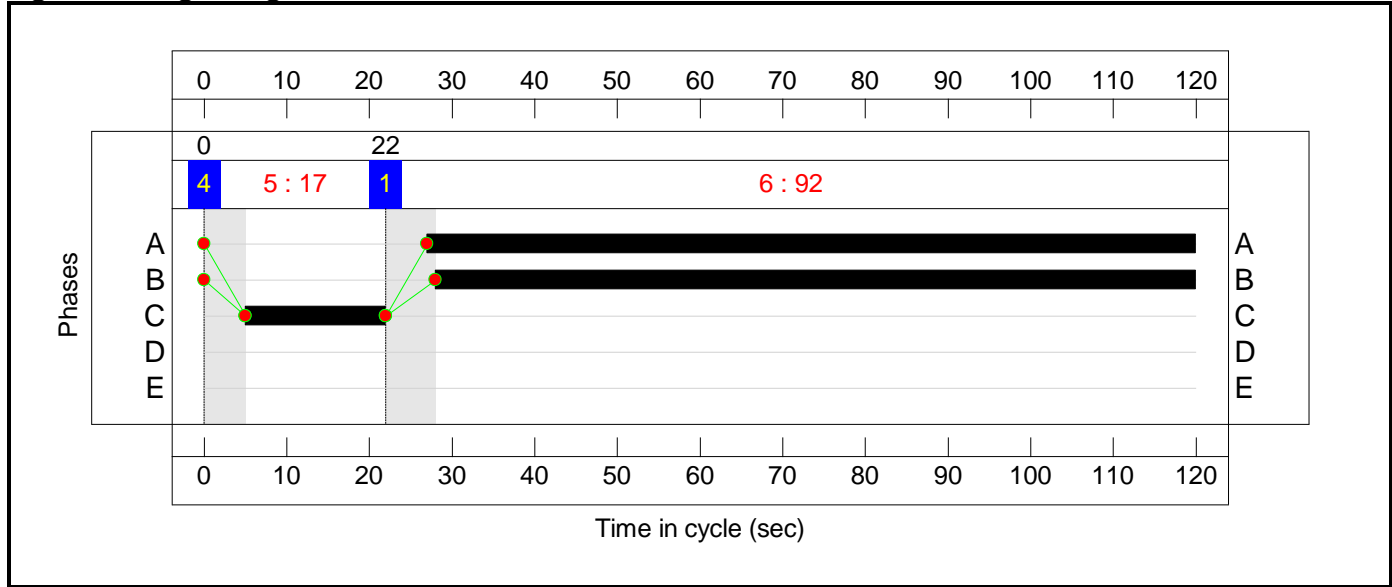
Stage Sequence Diagram




Stage Timings

Stage	4	1
Duration	17	92
Change Point	0	22

Signal Timings Diagram



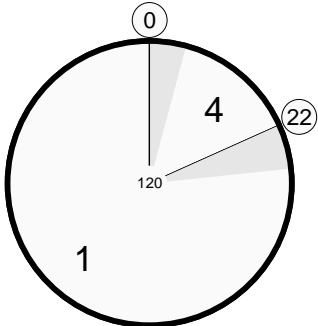


Downside Road/A38

PRC: -22.6 %

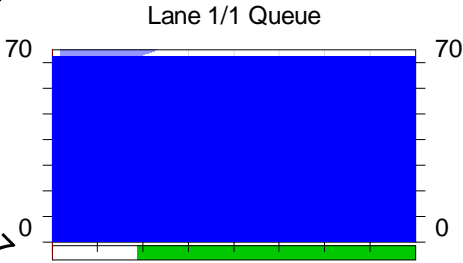
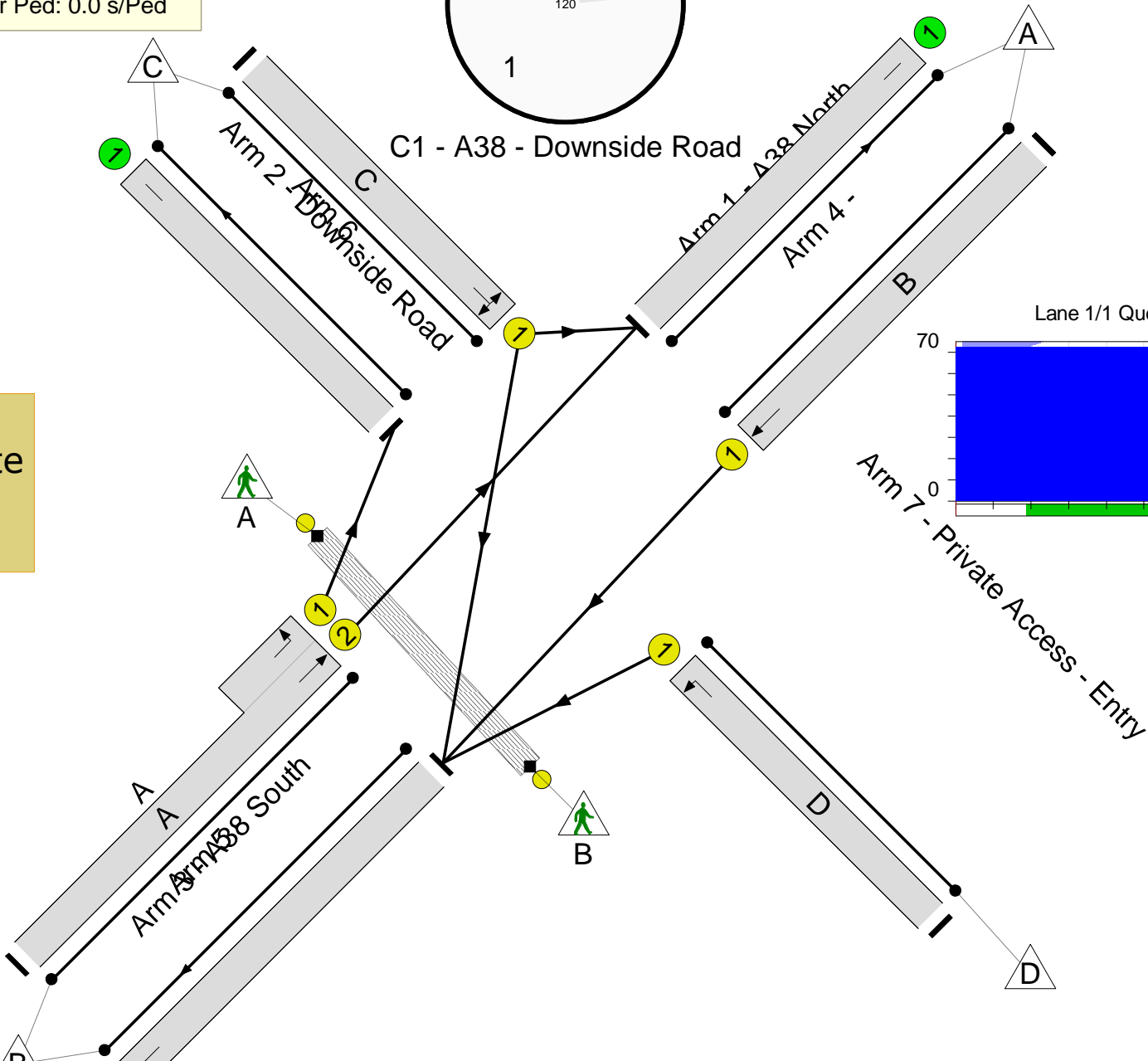
Total Traffic Delay: 157.2 pcuHr

Ave. Route Delay Per Ped: 0.0 s/Ped



C1 - A38 - Downside Road

Pedestrian crossing & private access stages removed due to



Full Input Data And Results

Network Results

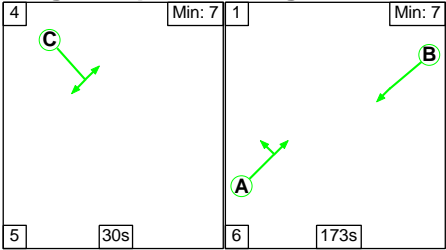
Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network: A38/Downside Rd Signalised Junction	-	-	N/A	-	-		-	-	-	-	-	-	110.3%
Downside Road/A38	-	-	N/A	-	-		-	-	-	-	-	-	110.3%
1/1	A38 North Ahead	U	N/A	N/A	B		1	92	-	1439	1683	1304	110.3%
2/1	Downside Road Left Right	U	N/A	N/A	C		1	17	-	289	1768	265	109.0%
3/2+3/1	A38 South Ahead Left	U	N/A	N/A	A		1	93	-	1636	2045:1674	1359+225	103.3 : 103.3%
4/1		U	N/A	N/A	-		-	-	-	1567	Inf	Inf	0.0%
5/1		U	N/A	N/A	-		-	-	-	1565	Inf	Inf	0.0%
6/1		U	N/A	N/A	-		-	-	-	232	Inf	Inf	0.0%
7/1	Private Access - Entry Left	U	N/A	N/A	D		0	0	-	0	1815	0	0.0%
Ped Link: P1	Unnamed Ped Link	-	N/A	-	E		0	0	-	0	-	0	0.0%

Full Input Data And Results

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network: A38/Downside Rd Signalised Junction	-	-	0	0	0	31.3	125.9	0.0	157.2	-	-	-	-
Downside Road/A38	-	-	0	0	0	31.3	125.9	0.0	157.2	-	-	-	-
1/1	1439	1304	-	-	-	16.0	72.3	-	88.3	221.0	55.7	72.3	128.1
2/1	289	265	-	-	-	5.6	16.3	-	21.9	272.9	10.4	16.3	26.8
3/2+3/1	1636	1583	-	-	-	9.7	37.3	-	47.0	103.4	56.9	37.3	94.2
4/1	1508	1508	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/1	1420	1420	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	225	225	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	0	0	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
Ped Link: P1	0	0	-	-	-	-	-	-	Inf	Inf	-	-	Inf
C1 - A38 - Downside Road			PRC for Signalled Lanes (%):		-22.6	Total Delay for Signalled Lanes (pcuHr):		157.21	Cycle Time (s): 120				
			PRC Over All Lanes (%):		-22.6	Total Delay Over All Lanes(pcuHr):		157.21					

Full Input Data And Results
Scenario 9: '2026 Test PM Peak' (FG9: '2026 Test PM Peak', Plan 1: 'Network Control Plan 1')

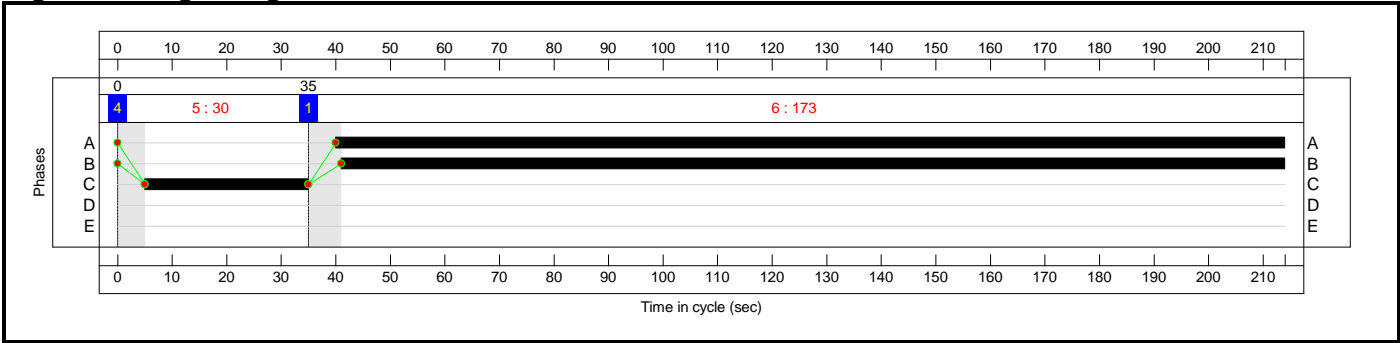
Stage Sequence Diagram



Stage Timings


Stage	4	1
Duration	30	173
Change Point	0	35

Signal Timings Diagram



Full Input Data And Results

Network Layout Diagram

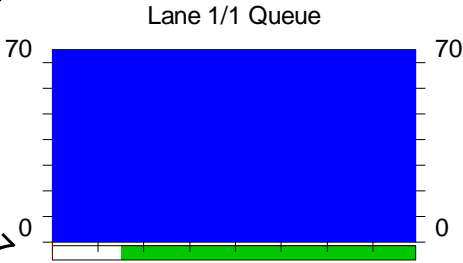
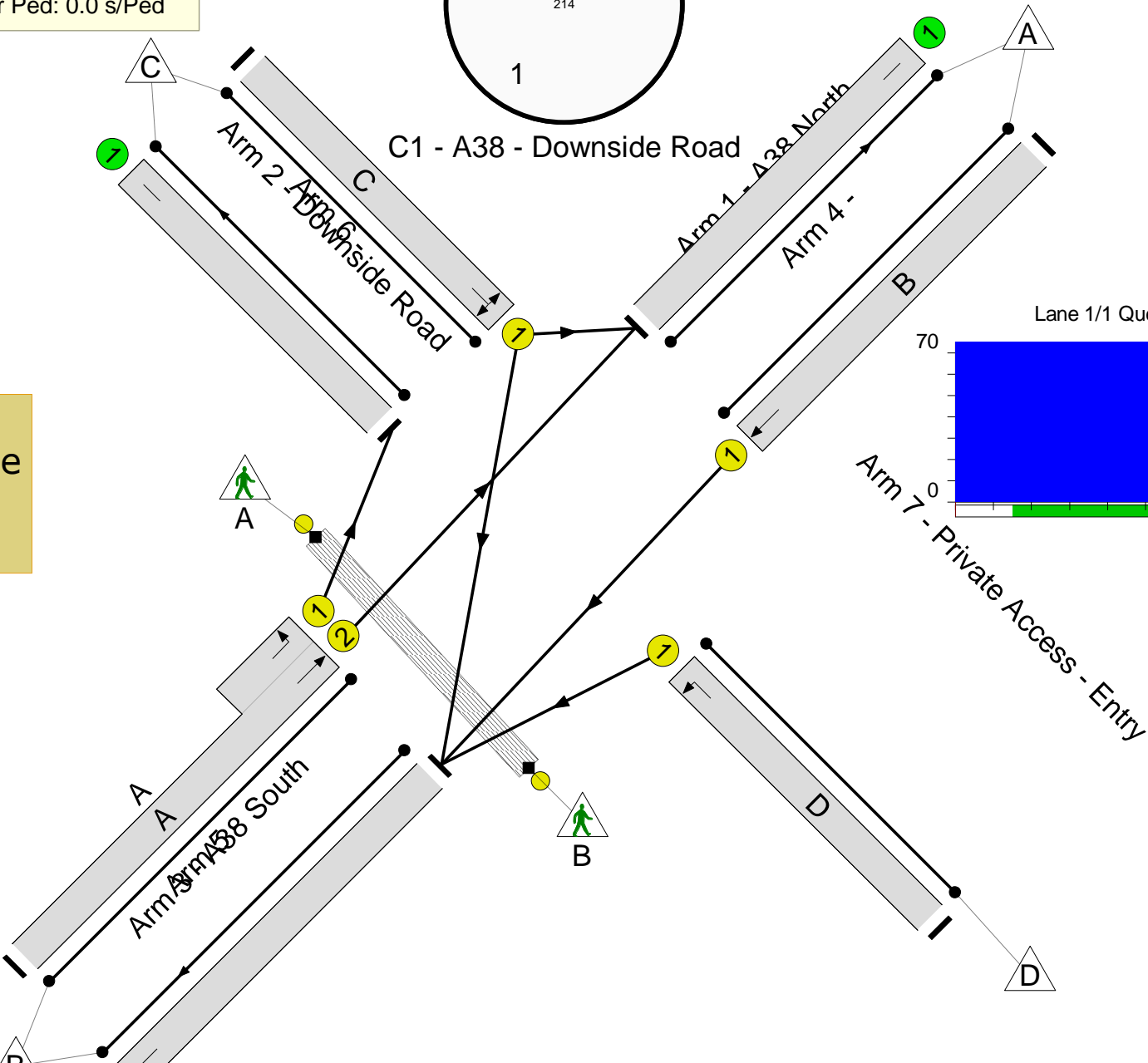
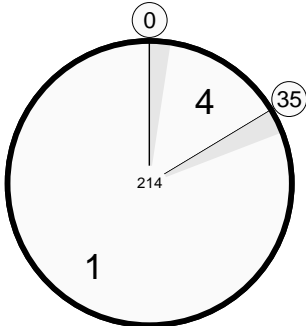


Downside Road/A38

PRC: -48.6 %

Total Traffic Delay: 455.7 pcuHr

Ave. Route Delay Per Ped: 0.0 s/Ped



Pedestrian crossing & private access stages removed due to

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: A38/Downside Rd Signalised Junction	-	-	N/A	-	-		-	-	-	-	-	-	133.7%
Downside Road/A38	-	-	N/A	-	-		-	-	-	-	-	-	133.7%
1/1	A38 North Ahead	U	N/A	N/A	B		1	173	-	1830	1683	1368	133.7%
2/1	Downside Road Left Right	U	N/A	N/A	C		1	30	-	328	1763	255	128.4%
3/2+3/1	A38 South Ahead Left	U	N/A	N/A	A		1	174	-	1742	2045:1674	1278+345	107.3 : 107.3%
4/1		U	N/A	N/A	-		-	-	-	1591	Inf	Inf	0.0%
5/1		U	N/A	N/A	-		-	-	-	1939	Inf	Inf	0.0%
6/1		U	N/A	N/A	-		-	-	-	370	Inf	Inf	0.0%
7/1	Private Access - Entry Left	U	N/A	N/A	D		0	0	-	0	1815	0	0.0%
Ped Link: P1	Unnamed Ped Link	-	N/A	-	E		0	0	-	0	-	0	0.0%

Full Input Data And Results

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network: A38/Downside Rd Signalised Junction	-	-	0	0	0	118.3	337.3	0.0	455.7	-	-	-	-
Downside Road/A38	-	-	0	0	0	118.3	337.3	0.0	455.7	-	-	-	-
1/1	1830	1368	-	-	-	76.0	232.8	-	308.8	607.4	162.3	232.8	395.0
2/1	328	255	-	-	-	16.5	38.4	-	55.0	603.3	24.7	38.4	63.1
3/2+3/1	1742	1623	-	-	-	25.8	66.2	-	92.0	190.1	115.1	66.2	181.3
4/1	1449	1449	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/1	1453	1453	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	345	345	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	0	0	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
Ped Link: P1	0	0	-	-	-	-	-	-	Inf	Inf	-	-	Inf
C1 - A38 - Downside Road			PRC for Signalised Lanes (%):		-48.6	Total Delay for Signalised Lanes (pcuHr):		455.69	Cycle Time (s): 214				
			PRC Over All Lanes (%):		-48.6	Total Delay Over All Lanes(pcuHr):		455.69					

Junctions 9															
PICADY 9 - Priority Intersection Module															
Version: 9.5.0.6896															
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Filename: J4_A38_West Lane Priority Junction - Existing.j9

Path: \\pba.int\BRI\Projects\43321 Bristol Airport\Technical\Transport\Junction Assessments\PICADY

Report generation date: 22/07/2019 17:59:17

»2018 BASELINE, AM

»2018 BASELINE, IP

»2018 BASELINE, PM

»2026 Reference, AM

»2026 Reference, IP

»2026 Reference, PM

»2026 Test, AM

»2026 Test, IP

»2026 Test, PM

Summary of junction performance

	AM					IP					PM				
	Queue (PCU)	Delay (s)	RFC	LOS	Network Residual Capacity	Queue (PCU)	Delay (s)	RFC	LOS	Network Residual Capacity	Queue (PCU)	Delay (s)	RFC	LOS	Network Residual Capacity
	2018 BASELINE														
Stream B-C	1.1	17.01	0.53	C	-7 %	0.7	13.61	0.40	B	1 %	17.0	188.88	1.12	F	-22 %
Stream B-A	0.2	49.55	0.16	E	[Stream B-A]	0.2	33.99	0.15	D	[Stream B-A]	1.6	588.08	0.95	F	[Stream B-A]
Stream C-AB	0.6	12.37	0.37	B		0.5	11.11	0.33	B		1.4	21.34	0.60	C	
	2026 Reference														
Stream B-C	17.4	194.09	1.12	F	-22 %	72.7	1690.07	2.24	F	-25 %	194.3	1997.95	999999999.00	F	-36 %
Stream B-A	2.2	445.80	0.97	F	[Stream B-A]	6.5	2128.57	2.10	F	[Stream B-A]	6.5	2332.75	999999999.00	F	[Stream B-A]
Stream C-AB	1.0	17.00	0.50	C		1.4	20.63	0.58	C		6.8	46.98	0.88	E	
	2026 Test														
Stream B-C	110.6	3273.41	3.43	F	-26 %	166.8	1880.09	999999999.00	F	-35 %	364.7	3733.36	999999999.00	F	-41 %
Stream B-A	6.1	4093.66	3.26	F	[Stream B-A]	12.3	2045.23	999999999.00	F	[Stream B-A]	10.1	4095.70	999999999.00	F	[Stream B-A]
Stream C-AB	1.3	20.15	0.56	C		4.5	40.63	0.82	E		34.2	188.31	1.04	F	

Values shown are the highest values encountered over all time segments. Delay is the maximum value of average delay per arriving vehicle. Network Residual Capacity indicates the amount by which network flow could be increased before a user-definable threshold (see Analysis Options) is met.

File summary

File Description

Title	West Lane / A38 Junction
Location	Bristol Airport
Site number	
Date	23/08/2018
Version	1.0
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	CTAS\Caroline
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

Analysis Options

Calculate Queue Percentiles	Calculate residual capacity	Residual capacity criteria type	RFC Threshold	Average Delay threshold (s)	Queue threshold (PCU)
	✓	Delay	0.85	36.00	20.00

Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D1	2018 BASELINE	AM	ONE HOUR	07:45	09:15	15
D2	2018 BASELINE	IP	ONE HOUR	12:45	14:15	15
D3	2018 BASELINE	PM	ONE HOUR	16:45	18:15	15
D4	2026 Reference	AM	ONE HOUR	07:45	09:15	15
D5	2026 Reference	IP	ONE HOUR	12:45	14:15	15
D6	2026 Reference	PM	ONE HOUR	16:45	18:15	15
D7	2026 Test	AM	ONE HOUR	07:45	09:15	15
D8	2026 Test	IP	ONE HOUR	12:45	14:15	15
D9	2026 Test	PM	ONE HOUR	16:45	18:15	15

Analysis Set Details

ID	Network flow scaling factor (%)
A1	100.000

2018 BASELINE, AM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way		2.89	A

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	-7	Stream B-A

Arms

Arms

Arm	Name	Description	Arm type
A	A38 (North)		Major
B	West Lane		Minor
C	A38 (South)		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Has right turn bay	Width for right turn (m)	Visibility for right turn (m)	Blocks?	Blocking queue (PCU)
C	7.40		✓	3.20	140.0	✓	13.50

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

Minor Arm Geometry

Arm	Minor arm type	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate flare length	Flare length (PCU)	Visibility to left (m)	Visibility to right (m)
B	One lane plus flare	9.60	5.00	3.36	2.70	2.65	✓	1.00	21	49

Slope / Intercept / Capacity

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
1	B-A	480	0.082	0.207	0.131	0.296
1	B-C	699	0.101	0.255	-	-
1	C-B	726	0.264	0.264	-	-

The slopes and intercepts shown above do NOT include any corrections or adjustments.

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.

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D1	2018 BASELINE	AM	ONE HOUR	07:45	09:15	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		✓	822	100.000
B		✓	228	100.000
C		✓	1142	100.000

Origin-Destination Data

Demand (PCU/hr)

	To			
		A	B	C
	A	0	21	801
	B	13	0	215
	C	977	165	0

Vehicle Mix

Heavy Vehicle Percentages

	To			
		A	B	C
	A	0	0	5
	B	0	0	1
	C	4	5	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-C	0.53	17.01	1.1	C
B-A	0.16	49.55	0.2	E
C-AB	0.37	12.37	0.6	B
C-A				
A-B				
A-C				

Main Results for each time segment

07:45 - 08:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	162	538	0.301	160	0.4	9.579	A
B-A	10	215	0.045	10	0.0	17.497	C
C-AB	124	563	0.221	123	0.3	8.574	A
C-A	736			736			
A-B	16			16			
A-C	603			603			

08:00 - 08:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	193	504	0.383	193	0.6	11.627	B
B-A	12	161	0.073	12	0.1	24.042	C
C-AB	148	531	0.279	148	0.4	9.855	A
C-A	878			878			
A-B	19			19			
A-C	720			720			

08:15 - 08:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	237	451	0.525	235	1.1	16.688	C
B-A	14	87	0.164	14	0.2	48.678	E
C-AB	182	487	0.373	181	0.6	12.305	B
C-A	1076			1076			
A-B	23			23			
A-C	882			882			

08:30 - 08:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	237	450	0.526	237	1.1	17.011	C
B-A	14	87	0.165	14	0.2	49.546	E
C-AB	182	487	0.373	182	0.6	12.370	B
C-A	1076			1076			
A-B	23			23			
A-C	882			882			

08:45 - 09:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	193	504	0.384	195	0.6	11.846	B
B-A	12	161	0.073	12	0.1	24.328	C
C-AB	148	531	0.279	149	0.4	9.918	A
C-A	878			878			
A-B	19			19			
A-C	720			720			

09:00 - 09:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	162	538	0.301	163	0.4	9.712	A
B-A	10	214	0.046	10	0.0	17.610	C
C-AB	124	563	0.221	125	0.3	8.638	A
C-A	736			736			
A-B	16			16			
A-C	603			603			

2018 BASELINE, IP

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way		2.28	A

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	1	Stream B-A

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D2	2018 BASELINE	IP	ONE HOUR	12:45	14:15	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		✓	801	100.000
B		✓	185	100.000
C		✓	989	100.000

Origin-Destination Data

Demand (PCU/hr)

	To			
		A	B	C
	A	0	31	770
	B	17	0	168
	C	841	148	0

Vehicle Mix

Heavy Vehicle Percentages

	To			
		A	B	C
	A	0	0	4
	B	0	0	3
	C	5	2	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-C	0.40	13.61	0.7	B
B-A	0.15	33.99	0.2	D
C-AB	0.33	11.11	0.5	B
C-A				
A-B				
A-C				

Main Results for each time segment

12:45 - 13:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	126	540	0.234	125	0.3	8.907	A
B-A	13	241	0.053	13	0.1	15.719	C
C-AB	111	567	0.197	110	0.2	8.027	A
C-A	633			633			
A-B	23			23			
A-C	580			580			

13:00 - 13:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	151	508	0.297	151	0.4	10.369	B
B-A	15	193	0.079	15	0.1	20.280	C
C-AB	133	536	0.248	133	0.3	9.097	A
C-A	756			756			
A-B	28			28			
A-C	692			692			

13:15 - 13:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	185	458	0.404	184	0.7	13.483	B
B-A	19	125	0.150	18	0.2	33.700	D
C-AB	163	493	0.330	162	0.5	11.072	B
C-A	926			926			
A-B	34			34			
A-C	848			848			

13:30 - 13:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	185	457	0.404	185	0.7	13.605	B
B-A	19	125	0.150	19	0.2	33.992	D
C-AB	163	493	0.330	163	0.5	11.114	B
C-A	926			926			
A-B	34			34			
A-C	848			848			

13:45 - 14:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	151	507	0.298	152	0.4	10.469	B
B-A	15	192	0.080	16	0.1	20.426	C
C-AB	133	536	0.248	134	0.3	9.140	A
C-A	756			756			
A-B	28			28			
A-C	692			692			

14:00 - 14:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	126	540	0.234	127	0.3	8.988	A
B-A	13	241	0.053	13	0.1	15.799	C
C-AB	111	567	0.197	112	0.3	8.074	A
C-A	633			633			
A-B	23			23			
A-C	580			580			

2018 BASELINE, PM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way		23.64	C

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	-22	Stream B-A

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D3	2018 BASELINE	PM	ONE HOUR	16:45	18:15	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		✓	1072	100.000
B		✓	274	100.000
C		✓	1198	100.000

Origin-Destination Data

Demand (PCU/hr)

	To			
	A	B	C	
From	A	0	11	1061
	B	9	0	265
	C	974	224	0

Vehicle Mix

Heavy Vehicle Percentages

	To			
	A	B	C	
From	A	0	0	1
	B	0	0	1
	C	2	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-C	1.12	188.88	17.0	F
B-A	0.95	588.08	1.6	F
C-AB	0.60	21.34	1.4	C
C-A				
A-B				
A-C				

Main Results for each time segment

16:45 - 17:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	200	491	0.406	197	0.7	12.246	B
B-A	7	156	0.043	7	0.0	24.021	C
C-AB	169	513	0.329	167	0.5	10.340	B
C-A	733			733			
A-B	8			8			
A-C	799			799			

17:00 - 17:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	238	446	0.534	236	1.1	17.167	C
B-A	8	91	0.089	8	0.1	43.258	E
C-AB	201	472	0.427	200	0.7	13.222	B
C-A	876			876			
A-B	10			10			
A-C	954			954			

17:15 - 17:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	292	298	0.979	266	7.5	83.416	F
B-A	10	10	0.948	6	1.1	588.075	F
C-AB	247	415	0.595	245	1.4	20.750	C
C-A	1072			1072			
A-B	12			12			
A-C	1168			1168			

17:30 - 17:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	292	261	1.120	254	17.0	188.881	F
B-A	10	12	0.847	8	1.6	497.303	F
C-AB	247	415	0.595	247	1.4	21.340	C
C-A	1072			1072			
A-B	12			12			
A-C	1168			1168			

17:45 - 18:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	238	436	0.547	301	1.3	39.648	E
B-A	8	74	0.110	14	0.1	64.680	F
C-AB	201	472	0.427	204	0.8	13.581	B
C-A	876			876			
A-B	10			10			
A-C	954			954			

18:00 - 18:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	200	491	0.407	202	0.7	12.692	B
B-A	7	155	0.044	7	0.0	24.444	C
C-AB	169	513	0.329	170	0.5	10.519	B
C-A	733			733			
A-B	8			8			
A-C	799			799			

2026 Reference, AM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way		23.71	C

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	-22	Stream B-A

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D4	2026 Reference	AM	ONE HOUR	07:45	09:15	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		✓	969	100.000
B		✓	279	100.000
C		✓	1340	100.000

Origin-Destination Data

Demand (PCU/hr)

	To			
	A	B	C	
From	A	0	24	945
	B	15	0	264
	C	1138	202	0

Vehicle Mix

Heavy Vehicle Percentages

	To			
	A	B	C	
From	A	0	0	5
	B	0	0	1
	C	4	5	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-C	1.12	194.09	17.4	F
B-A	0.97	445.80	2.2	F
C-AB	0.50	17.00	1.0	C
C-A				
A-B				
A-C				

Main Results for each time segment

07:45 - 08:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	199	508	0.392	196	0.6	11.586	B
B-A	11	164	0.069	11	0.1	23.438	C
C-AB	152	534	0.285	150	0.4	9.825	A
C-A	857			857			
A-B	18			18			
A-C	711			711			

08:00 - 08:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	237	464	0.512	236	1.0	15.853	C
B-A	13	100	0.135	13	0.1	41.246	E
C-AB	182	496	0.366	181	0.6	11.961	B
C-A	1023			1023			
A-B	22			22			
A-C	850			850			

08:15 - 08:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	291	292	0.996	263	8.0	88.110	F
B-A	17	17	0.975	11	1.6	437.834	F
C-AB	222	445	0.500	221	1.0	16.766	C
C-A	1253			1253			
A-B	26			26			
A-C	1040			1040			

08:30 - 08:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	291	260	1.119	253	17.4	194.087	F
B-A	17	18	0.897	14	2.2	445.802	F
C-AB	222	445	0.500	222	1.0	17.002	C
C-A	1253			1253			
A-B	26			26			
A-C	1040			1040			

08:45 - 09:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	237	447	0.531	302	1.2	36.740	E
B-A	13	83	0.162	21	0.2	64.021	F
C-AB	182	496	0.366	183	0.6	12.144	B
C-A	1023			1023			
A-B	22			22			
A-C	850			850			

09:00 - 09:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	199	507	0.392	201	0.7	11.973	B
B-A	11	163	0.069	12	0.1	23.886	C
C-AB	152	534	0.285	153	0.4	9.951	A
C-A	857			857			
A-B	18			18			
A-C	711			711			

2026 Reference, IP

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way		172.01	F

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	-25	Stream B-A

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D5	2026 Reference	IP	ONE HOUR	12:45	14:15	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		✓	1051	100.000
B		✓	261	100.000
C		✓	1330	100.000

Origin-Destination Data

Demand (PCU/hr)

	To			
	A	B	C	
From	A	0	37	1014
	B	20	0	241
	C	1109	221	0

Vehicle Mix

Heavy Vehicle Percentages

	To			
	A	B	C	
From	A	0	0	4
	B	0	0	3
	C	5	2	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-C	2.24	1690.07	72.7	F
B-A	2.10	2128.57	6.5	F
C-AB	0.58	20.63	1.4	C
C-A				
A-B				
A-C				

Main Results for each time segment

12:45 - 13:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	181	488	0.372	179	0.6	11.903	B
B-A	15	154	0.098	15	0.1	25.710	D
C-AB	166	517	0.322	164	0.5	10.354	B
C-A	835			835			
A-B	28			28			
A-C	763			763			

13:00 - 13:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	217	435	0.498	215	1.0	16.765	C
B-A	18	88	0.204	17	0.2	50.628	F
C-AB	199	477	0.417	198	0.7	13.119	B
C-A	997			997			
A-B	33			33			
A-C	912			912			

13:15 - 13:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	265	128	2.078	125	36.0	576.971	F
B-A	22	11	2.020	9	3.5	951.050	F
C-AB	244	421	0.579	241	1.3	20.117	C
C-A	1221			1221			
A-B	41			41			
A-C	1116			1116			

13:30 - 13:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	265	119	2.239	118	72.7	1690.072	F
B-A	22	10	2.101	10	6.5	2128.573	F
C-AB	244	421	0.579	244	1.4	20.626	C
C-A	1221			1221			
A-B	41			41			
A-C	1116			1116			

13:45 - 14:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	217	373	0.580	368	34.8	508.369	F
B-A	18	32	0.554	28	4.0	525.350	F
C-AB	199	477	0.417	201	0.7	13.447	B
C-A	997			997			
A-B	33			33			
A-C	912			912			

14:00 - 14:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	181	466	0.390	318	0.7	61.129	F
B-A	15	117	0.128	30	0.2	48.069	E
C-AB	166	517	0.322	167	0.5	10.528	B
C-A	835			835			
A-B	28			28			
A-C	763			763			

2026 Reference, PM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way		227.49	F

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	-36	Stream B-A

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D6	2026 Reference	PM	ONE HOUR	16:45	18:15	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		✓	1294	100.000
B		✓	341	100.000
C		✓	1446	100.000

Origin-Destination Data

Demand (PCU/hr)

	To			
		A	B	C
	A	0	13	1281
	B	10	0	331
	C	1168	278	0

Vehicle Mix

Heavy Vehicle Percentages

	To			
		A	B	C
	A	0	0	1
	B	0	0	1
	C	2	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-C	999999999.00	1997.95	194.3	F
B-A	999999999.00	2332.75	6.5	F
C-AB	0.88	46.98	6.8	E
C-A				
A-B				
A-C				

Main Results for each time segment

16:45 - 17:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	249	445	0.561	244	1.2	17.755	C
B-A	8	85	0.088	7	0.1	45.930	E
C-AB	209	469	0.446	206	0.8	13.550	B
C-A	879			879			
A-B	10			10			
A-C	964			964			

17:00 - 17:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	298	341	0.873	284	4.6	54.447	F
B-A	9	14	0.623	6	0.7	390.642	F
C-AB	251	420	0.597	248	1.4	20.648	C
C-A	1049			1049			
A-B	12			12			
A-C	1152			1152			

17:15 - 17:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	364	0	999999999.000	0	95.7	486.814	F
B-A	11	0	999999999.000	0	3.5	387.274	F
C-AB	492	560	0.877	475	5.5	37.255	E
C-A	1100			1100			
A-B	14			14			
A-C	1410			1410			

17:30 - 17:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	364	0	999999999.000	0	186.8	367.788	F
B-A	11	0	999999999.000	0	6.2	354.751	F
C-AB	492	562	0.875	486	6.8	46.979	E
C-A	1100			1100			
A-B	14			14			
A-C	1410			1410			

17:45 - 18:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	298	268	1.111	268	194.3	1997.951	F
B-A	9	9	1.032	8	6.5	2332.747	F
C-AB	251	422	0.594	271	1.6	27.154	D
C-A	1049			1049			
A-B	12			12			
A-C	1152			1152			

18:00 - 18:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	249	409	0.609	407	154.8	1544.232	F
B-A	8	13	0.565	12	5.5	1887.134	F
C-AB	209	469	0.446	212	0.8	14.183	B
C-A	879			879			
A-B	10			10			
A-C	964			964			

2026 Test, AM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way		368.09	F

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	-26	Stream B-A

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D7	2026 Test	AM	ONE HOUR	07:45	09:15	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		✓	1033	100.000
B		✓	302	100.000
C		✓	1396	100.000

Origin-Destination Data

Demand (PCU/hr)

	To			
	A	B	C	
From	A	0	24	1009
	B	15	0	287
	C	1179	217	0

Vehicle Mix

Heavy Vehicle Percentages

	To			
	A	B	C	
From	A	0	0	5
	B	0	0	1
	C	4	5	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-C	3.43	3273.41	110.6	F
B-A	3.26	4093.66	6.1	F
C-AB	0.56	20.15	1.3	C
C-A				
A-B				
A-C				

Main Results for each time segment

07:45 - 08:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	216	495	0.437	213	0.8	12.784	B
B-A	11	144	0.078	11	0.1	26.901	D
C-AB	163	521	0.314	161	0.5	10.467	B
C-A	888			888			
A-B	18			18			
A-C	760			760			

08:00 - 08:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	258	444	0.581	256	1.3	19.051	C
B-A	13	77	0.175	13	0.2	56.009	F
C-AB	195	481	0.406	194	0.7	13.138	B
C-A	1060			1060			
A-B	22			22			
A-C	907			907			

08:15 - 08:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	316	104	3.044	103	54.6	897.057	F
B-A	17	6	2.954	4	3.2	1381.714	F
C-AB	239	427	0.561	237	1.3	19.703	C
C-A	1298			1298			
A-B	26			26			
A-C	1111			1111			

08:30 - 08:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	316	92	3.430	92	110.6	3273.407	F
B-A	17	5	3.261	5	6.1	4093.657	F
C-AB	239	427	0.561	239	1.3	20.149	C
C-A	1298			1298			
A-B	26			26			
A-C	1111			1111			

08:45 - 09:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	258	399	0.647	395	76.3	860.296	F
B-A	13	22	0.623	19	4.9	1048.353	F
C-AB	195	481	0.406	197	0.7	13.439	B
C-A	1060			1060			
A-B	22			22			
A-C	907			907			

09:00 - 09:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	216	466	0.463	460	15.3	365.132	F
B-A	11	27	0.411	23	2.0	600.523	F
C-AB	163	521	0.314	164	0.5	10.635	B
C-A	888			888			
A-B	18			18			
A-C	760			760			

2026 Test, IP

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way		196.83	F

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	-35	Stream B-A

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D8	2026 Test	IP	ONE HOUR	12:45	14:15	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		✓	1189	100.000
B		✓	311	100.000
C		✓	1551	100.000

Origin-Destination Data

Demand (PCU/hr)

	To			
		A	B	C
	A	0	37	1152
	B	20	0	291
	C	1270	281	0

Vehicle Mix

Heavy Vehicle Percentages

	To			
		A	B	C
	A	0	0	4
	B	0	0	3
	C	5	2	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-C	9999999999.00	1880.09	166.8	F
B-A	9999999999.00	2045.23	12.3	F
C-AB	0.82	40.63	4.5	E
C-A				
A-B				
A-C				

Main Results for each time segment

12:45 - 13:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	219	456	0.481	215	0.9	15.217	C
B-A	15	100	0.151	14	0.2	41.966	E
C-AB	212	490	0.432	209	0.8	12.924	B
C-A	956			956			
A-B	28			28			
A-C	867			867			

13:00 - 13:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	262	313	0.837	250	3.9	51.955	F
B-A	18	25	0.730	14	1.2	282.146	F
C-AB	253	444	0.569	251	1.3	18.752	C
C-A	1141			1141			
A-B	33			33			
A-C	1036			1036			

13:15 - 13:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	320	0	9999999999.000	0	84.0	401.570	F
B-A	22	0	9999999999.000	0	6.7	280.101	F
C-AB	383	470	0.815	373	3.9	34.875	D
C-A	1324			1324			
A-B	41			41			
A-C	1268			1268			

13:30 - 13:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	320	0	9999999999.000	0	164.1	281.026	F
B-A	22	0	9999999999.000	0	12.2	248.142	F
C-AB	383	471	0.813	381	4.5	40.635	E
C-A	1324			1324			
A-B	41			41			
A-C	1268			1268			

13:45 - 14:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	262	251	1.044	250	166.8	1880.085	F
B-A	18	18	0.986	17	12.3	2045.234	F
C-AB	253	446	0.567	265	1.4	21.701	C
C-A	1141			1141			
A-B	33			33			
A-C	1036			1036			

14:00 - 14:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	219	382	0.573	380	126.7	1392.390	F
B-A	15	28	0.542	26	9.7	1560.517	F
C-AB	212	490	0.432	214	0.8	13.431	B
C-A	956			956			
A-B	28			28			
A-C	867			867			

2026 Test, PM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way		468.16	F

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	-41	Stream B-A

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D9	2026 Test	PM	ONE HOUR	16:45	18:15	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		✓	1379	100.000
B		✓	373	100.000
C		✓	1555	100.000

Origin-Destination Data

Demand (PCU/hr)

	To			
	A	B	C	
From	A	0	13	1366
	B	10	0	363
	C	1249	306	0

Vehicle Mix

Heavy Vehicle Percentages

	To			
	A	B	C	
From	A	0	0	1
	B	0	0	1
	C	2	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-C	999999999.00	3733.36	364.7	F
B-A	999999999.00	4095.70	10.1	F
C-AB	1.04	188.31	34.2	F
C-A				
A-B				
A-C				

Main Results for each time segment

16:45 - 17:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	273	424	0.644	266	1.7	22.194	C
B-A	8	56	0.133	7	0.1	71.987	F
C-AB	230	452	0.510	226	1.0	15.693	C
C-A	940			940			
A-B	10			10			
A-C	1028			1028			

17:00 - 17:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	326	0	999999999.000	0	83.3	3589.633	F
B-A	9	0	999999999.000	0	2.4	3974.123	F
C-AB	280	406	0.690	276	2.1	26.850	D
C-A	1118			1118			
A-B	12			12			
A-C	1228			1228			

17:15 - 17:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	400	0	999999999.000	0	183.2	3606.662	F
B-A	11	0	999999999.000	0	5.1	3984.008	F
C-AB	1712	1648	1.039	1667	13.3	45.199	E
C-A	0			0			
A-B	14			14			
A-C	1504			1504			

17:30 - 17:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	400	0	999999999.000	0	283.1	3716.330	F
B-A	11	0	999999999.000	0	7.9	4085.811	F
C-AB	1712	1652	1.036	1629	34.2	73.990	F
C-A	0			0			
A-B	14			14			
A-C	1504			1504			

17:45 - 18:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	326	0	999999999.000	0	364.7	3733.359	F
B-A	9	0	999999999.000	0	10.1	4095.696	F
C-AB	280	412	0.681	403	3.5	188.306	F
C-A	1118			1118			
A-B	12			12			
A-C	1228			1228			

18:00 - 18:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	273	356	0.767	355	344.2	3592.026	F
B-A	8	10	0.761	9	9.8	3988.251	F
C-AB	230	452	0.510	240	1.1	17.691	C
C-A	940			940			
A-B	10			10			
A-C	1028			1028			

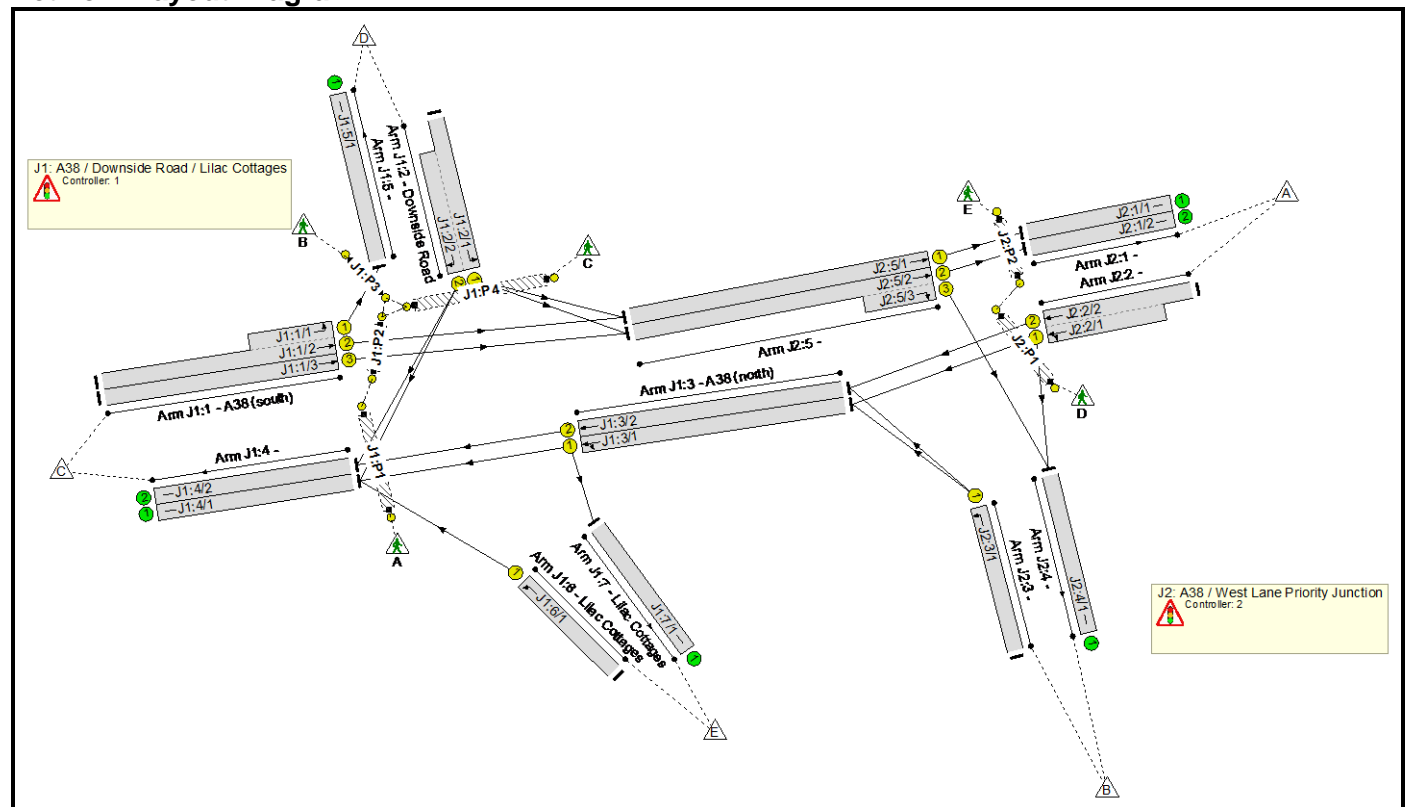
Full Input Data And Results

Full Input Data And Results

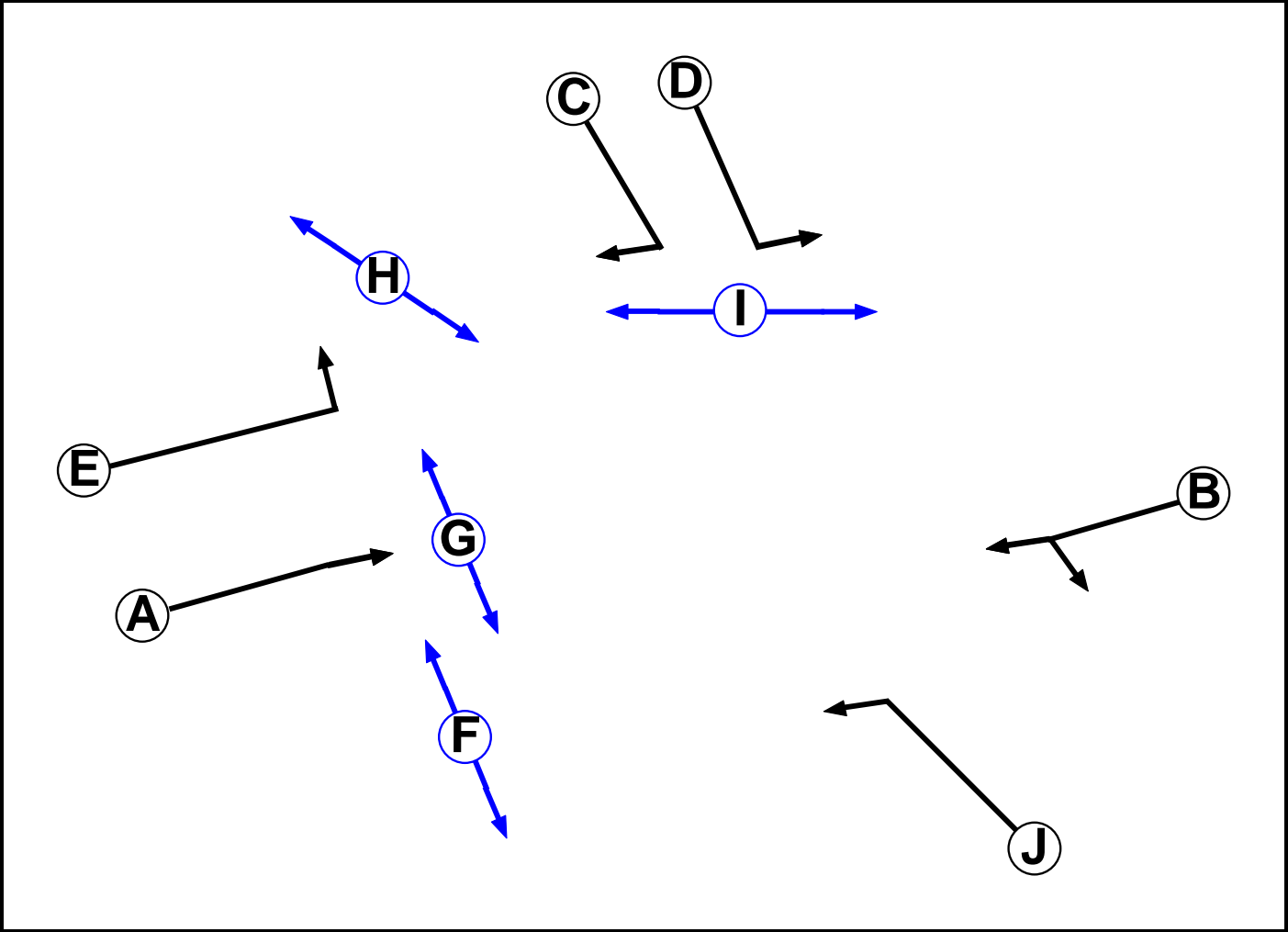
User and Project Details

Project:	
Title:	
Location:	
Additional detail:	
File name:	J4_Downside Road_A38_West Lane_Signalised Junction Proposed.lsg3x
Author:	
Company:	
Address:	

Network Layout Diagram



C1
Phase Diagram



Phase Input Data

Phase Name	Phase Type	Assoc. Phase	Street Min	Cont Min
A	Traffic		7	7
B	Traffic		7	7
C	Traffic		7	7
D	Traffic		7	7
E	Traffic		7	7
F	Pedestrian		7	7
G	Pedestrian		7	7
H	Pedestrian		7	7
I	Pedestrian		7	7
J	Traffic		7	7

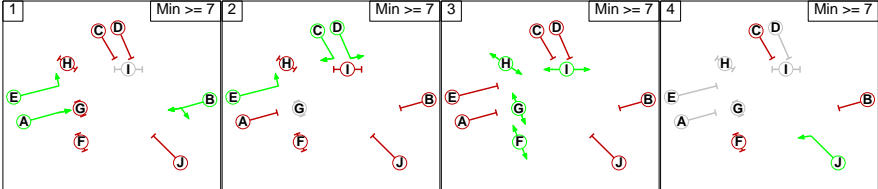
Phase Intergreens Matrix

Terminating Phase	Starting Phase										
		A	B	C	D	E	F	G	H	I	J
	A		-	5	5	-	-	5	-	-	-
	B	-		5	-	-	8	-	-	-	5
	C	5	6		-	-	7	-	-	5	5
	D	5	-	-		-	-	-	-	5	-
	E	-	-	-	-		-	-	5	-	-
	F	-	10	10	-	-		-	-	-	7
	G	10	-	-	-	-	-		-	-	-
	H	-	-	-	-	10	-	-		-	-
	I	-	-	10	10	-	-	-	-		-
	J	-	5	5	-	-	10	-	-	-	

Phases in Stage

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

Stage Diagram



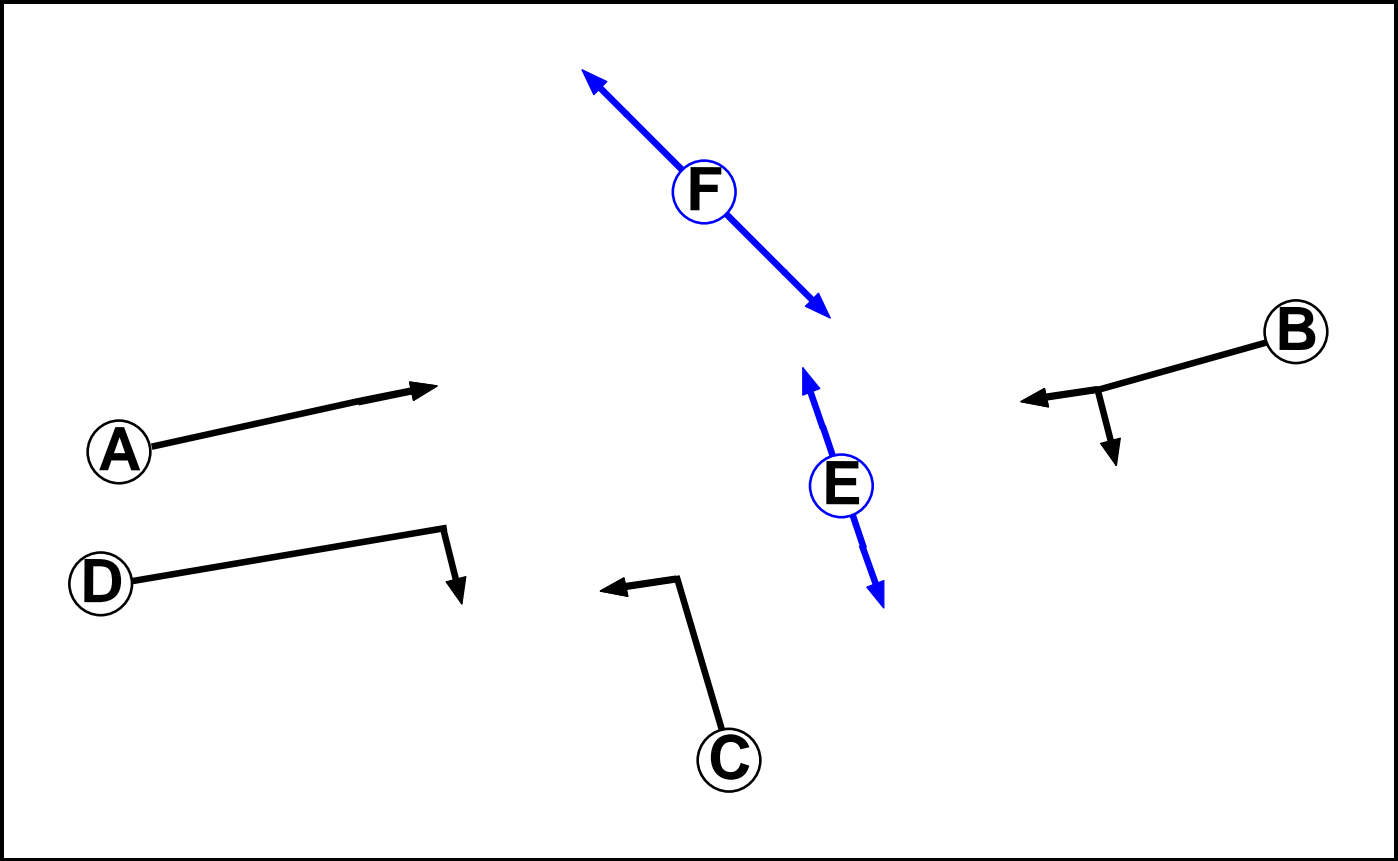
Phase Delays

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

Prohibited Stage Change

From Stage	To Stage				
		1	2	3	4
	1		5	8	5
	2	6		7	5
	3	10	10		7
	4	5	5	10	

C2
Phase Diagram



Phase Input Data

Phase Name	Phase Type	Assoc. Phase	Street Min	Cont Min
A	Traffic		7	7
B	Traffic		7	7
C	Traffic		7	7
D	Traffic		7	7
E	Pedestrian		10	10
F	Pedestrian		7	7

Full Input Data And Results

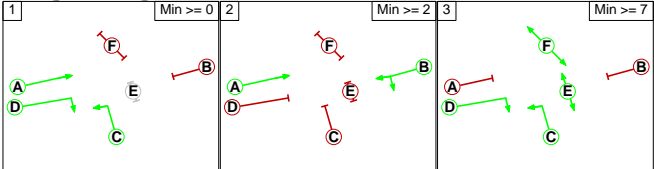
Phase Intergreens Matrix

Terminating Phase	Starting Phase						
		A	B	C	D	E	F
	A		-	-	-	-	7
	B	-		6	5	5	-
	C	-	5		-	-	-
	D	-	5	-		-	-
	E	-	5	-	-		-
	F	10	-	-	-	-	

Phases in Stage

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

Stage Diagram



Phase Delays

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

Prohibited Stage Change

From Stage	To Stage			
		1	2	3
	1		5	7
	2	6		7
	3	10	10	

Full Input Data And Results

Give-Way Lane Input Data

Junction: J1: A38 / Downside Road / Lilac Cottages
There are no Opposed Lanes in this Junction

Junction: J2: A38 / West Lane Priority Junction
There are no Opposed Lanes in this Junction

Lane Input Data

Junction: J1: A38 / Downside Road / Lilac Cottages												
Lane	Lane Type	Phases	Start Disp.	End Disp.	Physical Length (PCU)	Sat Flow Type	Def User Saturation Flow (PCU/Hr)	Lane Width (m)	Gradient	Nearside Lane	Turns	Turning Radius (m)
J1:1/1 (A38 (south))	U	E	2	3	7.8	Geom	-	3.50	0.00	Y	Arm J1:5 Left	14.00
J1:1/2 (A38 (south))	U	A	2	3	34.8	Geom	-	3.50	0.00	Y	Arm J2:5 Ahead	Inf
J1:1/3 (A38 (south))	U	A	2	3	34.8	Geom	-	3.50	0.00	N	Arm J2:5 Ahead	Inf
J1:2/1 (Downside Road)	U	D	2	3	60.0	Geom	-	3.00	0.00	Y	Arm J2:5 Left	15.00
J1:2/2 (Downside Road)	U	C	2	3	12.5	Geom	-	3.00	0.00	Y	Arm J1:4 Right	13.00
J1:3/1 (A38 (north))	U	B	2	3	20.3	Geom	-	3.25	6.00	Y	Arm J1:4 Ahead	Inf
											Arm J1:7 Left	2.00
J1:3/2 (A38 (north))	U	B	2	3	20.3	Geom	-	3.25	6.00	N	Arm J1:4 Ahead	Inf
J1:4/1	U		2	3	31.3	Inf	-	-	-	-	-	-
J1:4/2	U		2	3	31.3	Inf	-	-	-	-	-	-
J1:5/1	U		2	3	60.0	Inf	-	-	-	-	-	-
J1:6/1 (Lilac Cottages)	U	J	2	3	9.6	Geom	-	3.25	0.00	Y	Arm J1:4 Left	5.00
J1:7/1 (Lilac Cottages)	U		2	3	9.6	Geom	-	3.25	0.00	Y		

Full Input Data And Results

Junction: J2: A38 / West Lane Priority Junction												
Lane	Lane Type	Phases	Start Disp.	End Disp.	Physical Length (PCU)	Sat Flow Type	Def User Saturation Flow (PCU/Hr)	Lane Width (m)	Gradient	Nearside Lane	Turns	Turning Radius (m)
J2:1/1	U		2	3	60.0	Inf	-	-	-	-	-	-
J2:1/2	U		2	3	17.4	Inf	-	-	-	-	-	-
J2:2/1	U	B	2	3	12.2	Geom	-	3.00	0.00	Y	Arm J1:3 Ahead Arm J2:4 Left	Inf 12.00
J2:2/2	U	B	2	3	60.0	Geom	-	3.00	0.00	N	Arm J1:3 Ahead	Inf
J2:3/1	U	C	2	3	60.0	Geom	-	3.80	6.00	Y	Arm J1:3 Left	10.00
J2:4/1	U		2	3	60.0	Inf	-	-	-	-	-	-
J2:5/1	U	A	2	3	20.9	Geom	-	3.00	6.00	Y	Arm J2:1 Ahead	Inf
J2:5/2	U	A	2	3	20.9	Geom	-	3.00	6.00	N	Arm J2:1 Ahead	Inf
J2:5/3	U	D	2	3	6.6	Geom	-	3.00	0.00	Y	Arm J2:4 Right	6.00

Traffic Flow Groups

Flow Group	Start Time	End Time	Duration	Formula
1: '2026 Test AM'	08:00	09:00	01:00	
2: '2026 Test Inter Peak'	13:00	14:00	01:00	
3: '2026 Test PM'	17:00	18:00	01:00	

Scenario 1: '2026 Test Case - AM' (FG1: '2026 Test AM', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

	Destination						
Origin		A	B	C	D	E	Tot.
	A	0	24	1022	0	0	1046
	B	15	0	287	0	0	302
	C	1195	228	0	302	0	1725
	D	293	55	71	0	0	419
	E	0	0	0	0	0	0
	Tot.	1503	307	1380	302	0	3492

Full Input Data And Results

Traffic Lane Flows

Lane	Scenario 1: 2026 Test Case - AM
Junction: J1: A38 / Downside Road / Lilac Cottages	
J1:1/1 (short)	302
J1:1/2 (with short)	1014(In) 712(Out)
J1:1/3	711
J1:2/1 (with short)	419(In) 348(Out)
J1:2/2 (short)	71
J1:3/1	643
J1:3/2	666
J1:4/1	679
J1:4/2	701
J1:5/1	302
J1:6/1	0
J1:7/1	0
Junction: J2: A38 / West Lane Priority Junction	
J2:1/1	859
J2:1/2	629
J2:2/1 (short)	523
J2:2/2 (with short)	1046(In) 523(Out)
J2:3/1	287
J2:4/1	307
J2:5/1	859
J2:5/2 (with short)	912(In) 629(Out)
J2:5/3 (short)	283

Lane Saturation Flows

Junction: J1: A38 / Downside Road / Lilac Cottages								
Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
J1:1/1 (A38 (south))	3.50	0.00	Y	Arm J1:5 Left	14.00	100.0 %	1775	1775
J1:1/2 (A38 (south))	3.50	0.00	Y	Arm J2:5 Ahead	Inf	100.0 %	1965	1965
J1:1/3 (A38 (south))	3.50	0.00	N	Arm J2:5 Ahead	Inf	100.0 %	2105	2105
J1:2/1 (Downside Road)	3.00	0.00	Y	Arm J2:5 Left	15.00	100.0 %	1741	1741
J1:2/2 (Downside Road)	3.00	0.00	Y	Arm J1:4 Right	13.00	100.0 %	1717	1717
J1:3/1 (A38 (north))	3.25	6.00	Y	Arm J1:4 Ahead	Inf	100.0 %	1688	1688
				Arm J1:7 Left	2.00	0.0 %		
J1:3/2 (A38 (north))	3.25	6.00	N	Arm J1:4 Ahead	Inf	100.0 %	1828	1828
J1:4/1	Infinite Saturation Flow						Inf	Inf
J1:4/2	Infinite Saturation Flow						Inf	Inf
J1:5/1	Infinite Saturation Flow						Inf	Inf
J1:6/1 (Lilac Cottages)	3.25	0.00	Y	Arm J1:4 Left	5.00	0.0 %	1940	1940
J1:7/1 (Lilac Cottages)	3.25	0.00	Y				1940	1940

Junction: J2: A38 / West Lane Priority Junction								
Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
J2:1/1	Infinite Saturation Flow						Inf	Inf
J2:1/2	Infinite Saturation Flow						Inf	Inf
J2:2/1	3.00	0.00	Y	Arm J1:3 Ahead	Inf	95.4 %	1904	1904
				Arm J2:4 Left	12.00	4.6 %		
J2:2/2	3.00	0.00	N	Arm J1:3 Ahead	Inf	100.0 %	2055	2055
J2:3/1	3.80	6.00	Y	Arm J1:3 Left	10.00	100.0 %	1516	1516
J2:4/1	Infinite Saturation Flow						Inf	Inf
J2:5/1	3.00	6.00	Y	Arm J2:1 Ahead	Inf	100.0 %	1663	1663
J2:5/2	3.00	6.00	N	Arm J2:1 Ahead	Inf	100.0 %	1803	1803
J2:5/3	3.00	0.00	Y	Arm J2:4 Right	6.00	100.0 %	1532	1532

Full Input Data And Results

Scenario 2: '2026 Test Case - Inter Peak' (FG2: '2026 Test Inter Peak', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

	Destination						
Origin		A	B	C	D	E	Tot.
	A	0	37	1152	0	0	1189
	B	20	0	291	0	0	311
	C	1346	279	0	230	0	1855
	D	238	49	125	0	0	412
	E	0	0	0	0	0	0
	Tot.	1604	365	1568	230	0	3767

Traffic Lane Flows

Lane	Scenario 2: 2026 Test Case - Inter Peak
Junction: J1: A38 / Downside Road / Lilac Cottages	
J1:1/1 (short)	230
J1:1/2 (with short)	1042(In) 812(Out)
J1:1/3	813
J1:2/1 (with short)	412(In) 287(Out)
J1:2/2 (short)	125
J1:3/1	704
J1:3/2	739
J1:4/1	766
J1:4/2	802
J1:5/1	230
J1:6/1	0
J1:7/1	0
Junction: J2: A38 / West Lane Priority Junction	
J2:1/1	931
J2:1/2	653
J2:2/1 (short)	595
J2:2/2 (with short)	1189(In) 594(Out)
J2:3/1	291
J2:4/1	365
J2:5/1	931
J2:5/2 (with short)	981(In) 653(Out)
J2:5/3 (short)	328

Lane Saturation Flows

Junction: J1: A38 / Downside Road / Lilac Cottages								
Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
J1:1/1 (A38 (south))	3.50	0.00	Y	Arm J1:5 Left	14.00	100.0 %	1775	1775
J1:1/2 (A38 (south))	3.50	0.00	Y	Arm J2:5 Ahead	Inf	100.0 %	1965	1965
J1:1/3 (A38 (south))	3.50	0.00	N	Arm J2:5 Ahead	Inf	100.0 %	2105	2105
J1:2/1 (Downside Road)	3.00	0.00	Y	Arm J2:5 Left	15.00	100.0 %	1741	1741
J1:2/2 (Downside Road)	3.00	0.00	Y	Arm J1:4 Right	13.00	100.0 %	1717	1717
J1:3/1 (A38 (north))	3.25	6.00	Y	Arm J1:4 Ahead	Inf	100.0 %	1688	1688
				Arm J1:7 Left	2.00	0.0 %		
J1:3/2 (A38 (north))	3.25	6.00	N	Arm J1:4 Ahead	Inf	100.0 %	1828	1828
J1:4/1	Infinite Saturation Flow						Inf	Inf
J1:4/2	Infinite Saturation Flow						Inf	Inf
J1:5/1	Infinite Saturation Flow						Inf	Inf
J1:6/1 (Lilac Cottages)	3.25	0.00	Y	Arm J1:4 Left	5.00	0.0 %	1940	1940
J1:7/1 (Lilac Cottages)	3.25	0.00	Y				1940	1940

Junction: J2: A38 / West Lane Priority Junction								
Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
J2:1/1	Infinite Saturation Flow						Inf	Inf
J2:1/2	Infinite Saturation Flow						Inf	Inf
J2:2/1	3.00	0.00	Y	Arm J1:3 Ahead	Inf	93.8 %	1900	1900
				Arm J2:4 Left	12.00	6.2 %		
J2:2/2	3.00	0.00	N	Arm J1:3 Ahead	Inf	100.0 %	2055	2055
J2:3/1	3.80	6.00	Y	Arm J1:3 Left	10.00	100.0 %	1516	1516
J2:4/1	Infinite Saturation Flow						Inf	Inf
J2:5/1	3.00	6.00	Y	Arm J2:1 Ahead	Inf	100.0 %	1663	1663
J2:5/2	3.00	6.00	N	Arm J2:1 Ahead	Inf	100.0 %	1803	1803
J2:5/3	3.00	0.00	Y	Arm J2:4 Right	6.00	100.0 %	1532	1532

Full Input Data And Results

Scenario 3: '2026 Test Case - PM' (FG3: '2026 Test PM', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

	Destination						
		A	B	C	D	E	Tot.
Origin	A	0	13	1480	0	0	1493
	B	10	0	363	0	0	373
	C	1400	337	0	369	0	2106
	D	247	56	103	0	0	406
	E	0	0	0	0	0	0
	Tot.	1657	406	1946	369	0	4378

Traffic Lane Flows

Lane	Scenario 3: 2026 Test Case - PM
Junction: J1: A38 / Downside Road / Lilac Cottages	
J1:1/1 (short)	369
J1:1/2 (with short)	1237(In) 868(Out)
J1:1/3	869
J1:2/1 (with short)	406(In) 303(Out)
J1:2/2 (short)	103
J1:3/1	916
J1:3/2	927
J1:4/1	968
J1:4/2	978
J1:5/1	369
J1:6/1	0
J1:7/1	0
Junction: J2: A38 / West Lane Priority Junction	
J2:1/1	991
J2:1/2	656
J2:2/1 (short)	747
J2:2/2 (with short)	1493(In) 746(Out)
J2:3/1	363
J2:4/1	406
J2:5/1	991
J2:5/2 (with short)	1049(In) 656(Out)
J2:5/3 (short)	393

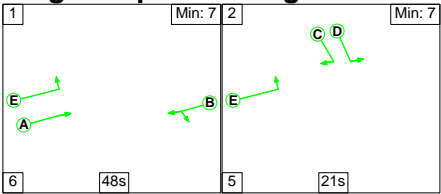
Lane Saturation Flows

Junction: J1: A38 / Downside Road / Lilac Cottages								
Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
J1:1/1 (A38 (south))	3.50	0.00	Y	Arm J1:5 Left	14.00	100.0 %	1775	1775
J1:1/2 (A38 (south))	3.50	0.00	Y	Arm J2:5 Ahead	Inf	100.0 %	1965	1965
J1:1/3 (A38 (south))	3.50	0.00	N	Arm J2:5 Ahead	Inf	100.0 %	2105	2105
J1:2/1 (Downside Road)	3.00	0.00	Y	Arm J2:5 Left	15.00	100.0 %	1741	1741
J1:2/2 (Downside Road)	3.00	0.00	Y	Arm J1:4 Right	13.00	100.0 %	1717	1717
J1:3/1 (A38 (north))	3.25	6.00	Y	Arm J1:4 Ahead	Inf	100.0 %	1688	1688
				Arm J1:7 Left	2.00	0.0 %		
J1:3/2 (A38 (north))	3.25	6.00	N	Arm J1:4 Ahead	Inf	100.0 %	1828	1828
J1:4/1	Infinite Saturation Flow						Inf	Inf
J1:4/2	Infinite Saturation Flow						Inf	Inf
J1:5/1	Infinite Saturation Flow						Inf	Inf
J1:6/1 (Lilac Cottages)	3.25	0.00	Y	Arm J1:4 Left	5.00	0.0 %	1940	1940
J1:7/1 (Lilac Cottages)	3.25	0.00	Y				1940	1940

Junction: J2: A38 / West Lane Priority Junction								
Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
J2:1/1	Infinite Saturation Flow						Inf	Inf
J2:1/2	Infinite Saturation Flow						Inf	Inf
J2:2/1	3.00	0.00	Y	Arm J1:3 Ahead	Inf	98.3 %	1911	1911
				Arm J2:4 Left	12.00	1.7 %		
J2:2/2	3.00	0.00	N	Arm J1:3 Ahead	Inf	100.0 %	2055	2055
J2:3/1	3.80	6.00	Y	Arm J1:3 Left	10.00	100.0 %	1516	1516
J2:4/1	Infinite Saturation Flow						Inf	Inf
J2:5/1	3.00	6.00	Y	Arm J2:1 Ahead	Inf	100.0 %	1663	1663
J2:5/2	3.00	6.00	N	Arm J2:1 Ahead	Inf	100.0 %	1803	1803
J2:5/3	3.00	0.00	Y	Arm J2:4 Right	6.00	100.0 %	1532	1532

Scenario 1: '2026 Test Case - AM' (FG1: '2026 Test AM', Plan 1: 'Network Control Plan 1')
C1

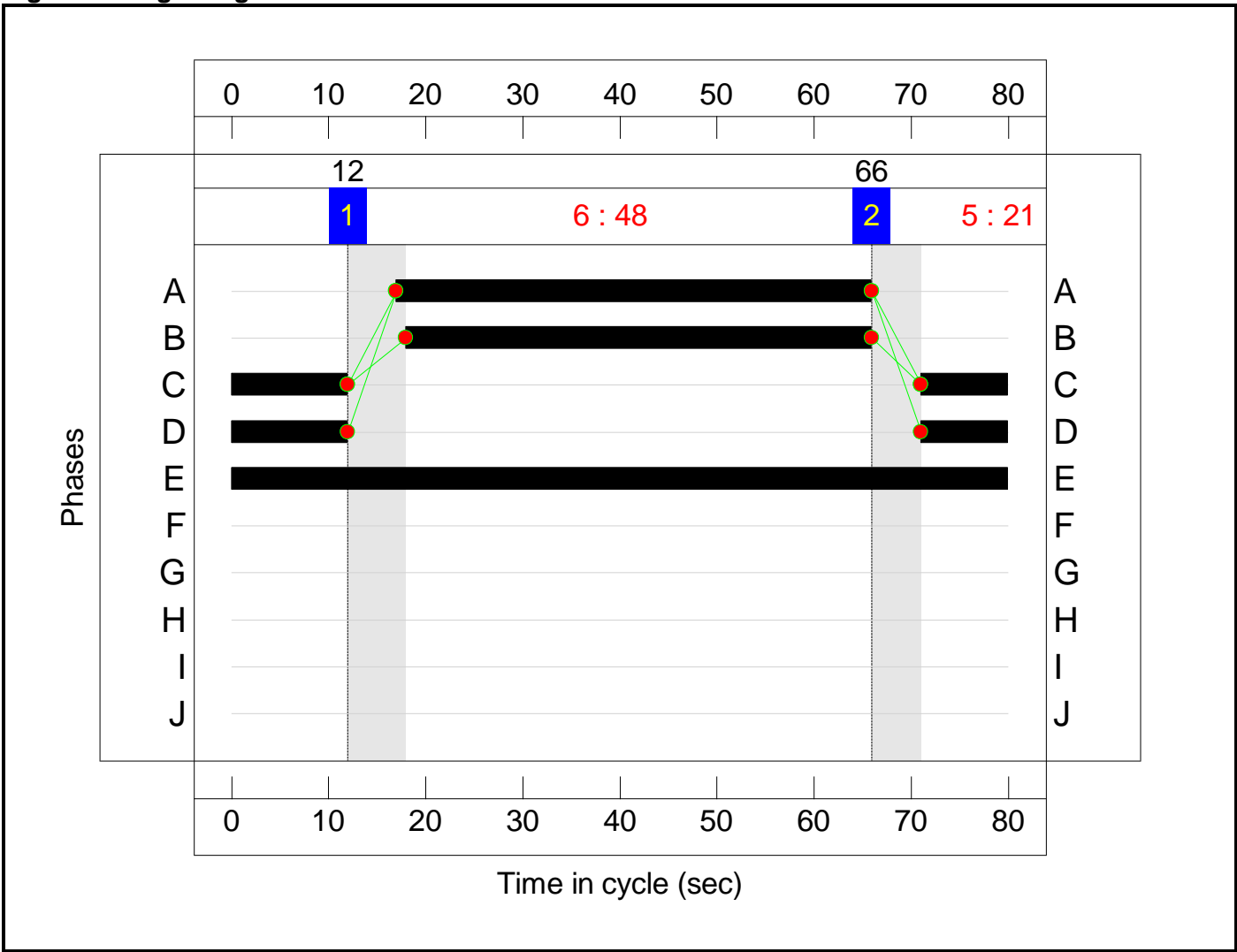
Stage Sequence Diagram



Stage Timings

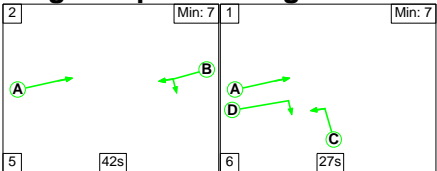
Stage	1	2
Duration	48	21
Change Point	12	66

Signal Timings Diagram



C2

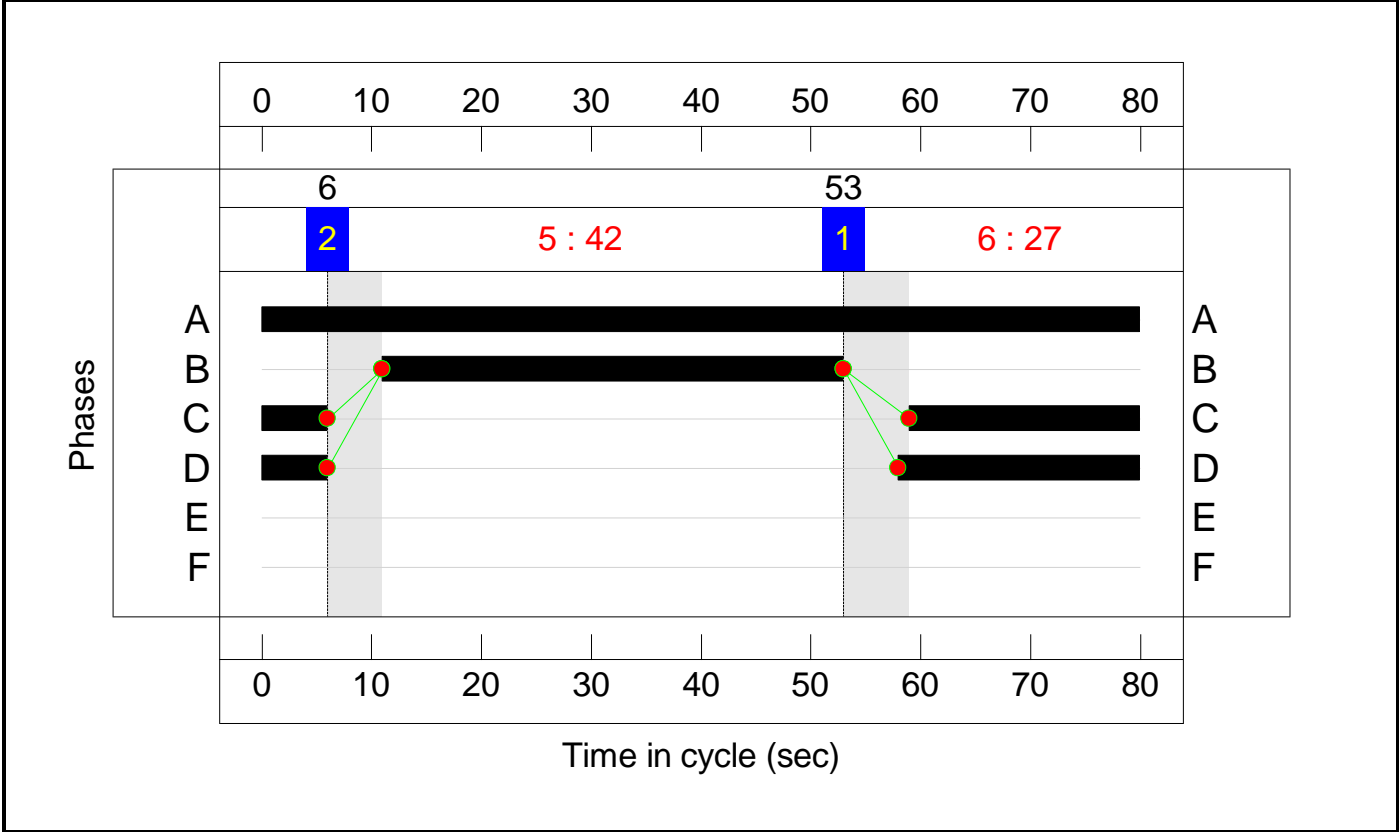
Stage Sequence Diagram



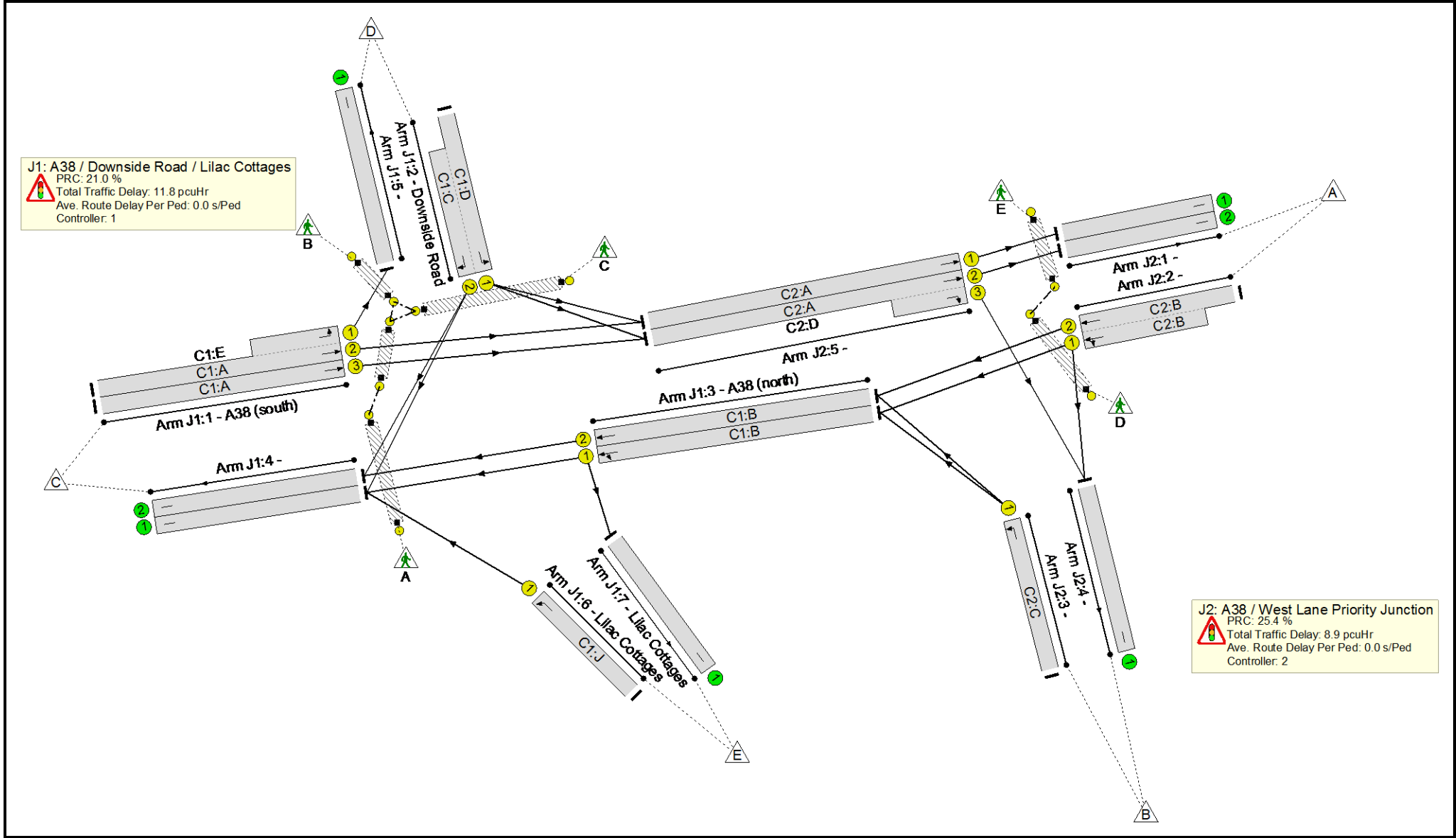
Stage Timings

Stage	2	1
Duration	42	27
Change Point	6	53

Signal Timings Diagram



Full Input Data And Results
Network Layout Diagram



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	-	-	N/A	-	-		-	-	-	-	-	-	74.4%
J1: A38 / Downside Road / Lilac Cottages	-	-	N/A	-	-		-	-	-	-	-	-	74.4%
1/2+1/1	A38 (south) Left Ahead	U	N/A	N/A	C1:A C1:E		1	49:80	-	1014	1965:1775	957+406	74.4 : 74.4%
1/3	A38 (south) Ahead	U	N/A	N/A	C1:A		1	49	-	711	2105	1316	54.0%
2/1+2/2	Downside Road Right Left	U	N/A	N/A	C1:D C1:C		1	21	-	419	1741:1717	479+98	72.7 : 72.7%
3/1	A38 (north) Ahead Left	U	N/A	N/A	C1:B		1	48	-	643	1688	1034	62.2%
3/2	A38 (north) Ahead	U	N/A	N/A	C1:B		1	48	-	666	1828	1120	59.5%
4/1		U	N/A	N/A	-		-	-	-	679	Inf	Inf	0.0%
4/2		U	N/A	N/A	-		-	-	-	701	Inf	Inf	0.0%
5/1		U	N/A	N/A	-		-	-	-	302	Inf	Inf	0.0%
6/1	Lilac Cottages Left	U	N/A	N/A	C1:J		0	0	-	0	1940	0	0.0%
7/1	Lilac Cottages	U	N/A	N/A	-		-	-	-	0	1940	1940	0.0%
Ped Link: P1	Unnamed Ped Link	-	N/A	-	C1:F		0	0	-	0	-	0	0.0%
Ped Link: P2	Unnamed Ped Link	-	N/A	-	C1:G		0	0	-	0	-	0	0.0%
Ped Link: P3	Unnamed Ped Link	-	N/A	-	C1:H		0	0	-	0	-	0	0.0%
Ped Link: P4	Unnamed Ped Link	-	N/A	-	C1:I		0	0	-	0	-	0	0.0%
J2: A38 / West Lane Priority Junction	-	-	N/A	-	-		-	-	-	-	-	-	71.8%
1/1		U	N/A	N/A	-		-	-	-	859	Inf	Inf	0.0%

Full Input Data And Results

1/2		U	N/A	N/A	-		-	-	-	629	Inf	Inf	0.0%
2/2+2/1	Ahead Left	U	N/A	N/A	C2:B		1	42	-	1046	2055:1904	795+795	65.8 : 65.8%
3/1	Left	U	N/A	N/A	C2:C		1	27	-	287	1516	531	54.1%
4/1		U	N/A	N/A	-		-	-	-	307	Inf	Inf	0.0%
5/1	Ahead	U	N/A	N/A	C2:A		1	80	-	859	1663	1663	51.7%
5/2+5/3	Ahead Right	U	N/A	N/A	C2:A C2:D		1	80:28	-	912	1803:1532	876+394	71.8 : 71.8%
Ped Link: P1	Unnamed Ped Link	-	N/A	-	C2:E		0	0	-	0	-	0	0.0%
Ped Link: P2	Unnamed Ped Link	-	N/A	-	C2:F		0	0	-	0	-	0	0.0%

Full Input Data And Results

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network	-	-	0	0	0	15.2	5.4	0.0	20.6	-	-	-	-
J1: A38 / Downside Road / Lilac Cottages	-	-	0	0	0	8.5	3.3	0.0	11.8	-	-	-	-
1/2+1/1	1014	1014	-	-	-	1.8	1.4	-	3.2	11.4	10.3	1.4	11.8
1/3	711	711	-	-	-	1.7	0.6	-	2.3	11.5	8.9	0.6	9.5
2/1+2/2	419	419	-	-	-	3.0	1.3	-	4.3	36.8	7.0	1.3	8.3
3/1	643	643	-	-	-	1.0	0.0	-	1.0	5.7	4.3	0.0	4.3
3/2	666	666	-	-	-	1.0	0.0	-	1.0	5.5	4.1	0.0	4.1
4/1	679	679	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
4/2	701	701	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/1	302	302	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	0	0	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	0	0	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
Ped Link: P1	0	0	-	-	-	-	-	-	Inf	Inf	-	-	Inf
Ped Link: P2	0	0	-	-	-	-	-	-	Inf	Inf	-	-	Inf
Ped Link: P3	0	0	-	-	-	-	-	-	Inf	Inf	-	-	Inf
Ped Link: P4	0	0	-	-	-	-	-	-	Inf	Inf	-	-	Inf
J2: A38 / West Lane Priority Junction	-	-	0	0	0	6.8	2.1	0.0	8.9	-	-	-	-
1/1	859	859	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
1/2	629	629	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
2/2+2/1	1046	1046	-	-	-	3.4	1.0	-	4.3	14.9	7.4	1.0	8.4
3/1	287	287	-	-	-	1.7	0.6	-	2.2	28.2	5.1	0.6	5.7
4/1	307	307	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/1	859	859	-	-	-	0.0	0.5	-	0.6	2.3	5.6	0.5	6.2
5/2+5/3	912	912	-	-	-	1.7	0.0	-	1.7	6.7	14.3	0.0	14.3
Ped Link: P1	0	0	-	-	-	-	-	-	Inf	Inf	-	-	Inf

Full Input Data And Results

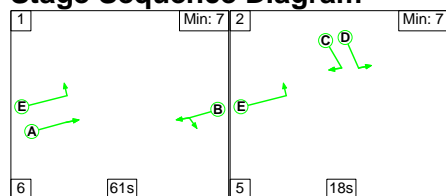
Ped Link: P2	0	0	-	-	-	-	-	-	Inf	Inf	-	-	Inf
	C1	PRC for Signalled Lanes (%)			21.0	Total Delay for Signalled Lanes (pcuHr)			11.79	Cycle Time (s)		80	
	C2	PRC for Signalled Lanes (%)			25.4	Total Delay for Signalled Lanes (pcuHr)			8.86	Cycle Time (s)		80	
		PRC Over All Lanes (%)			21.0	Total Delay Over All Lanes(pcuHr)			20.65				

Full Input Data And Results

Scenario 2: '2026 Test Case - Inter Peak' (FG2: '2026 Test Inter Peak', Plan 1: 'Network Control Plan 1')

C1

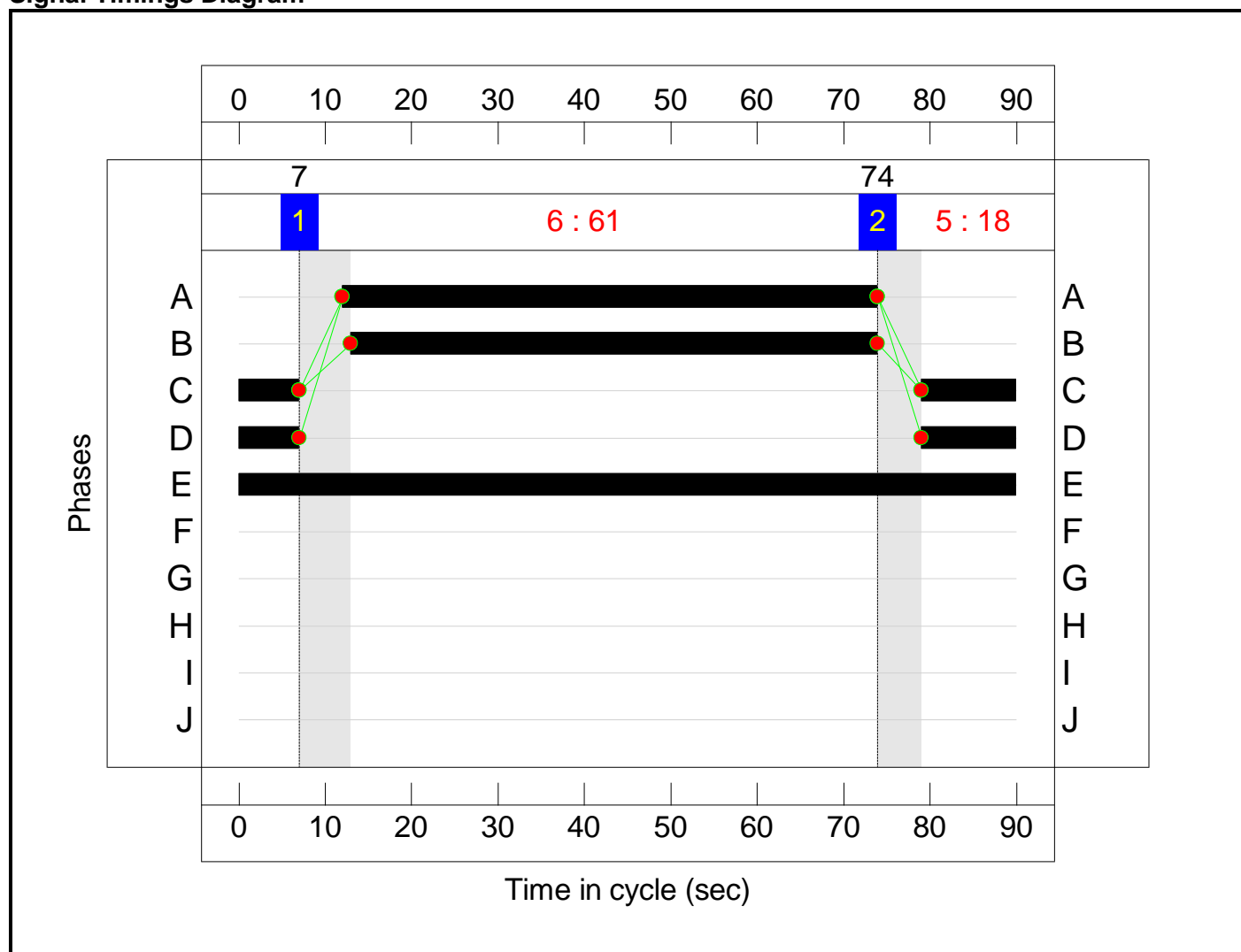
Stage Sequence Diagram



Stage Timings

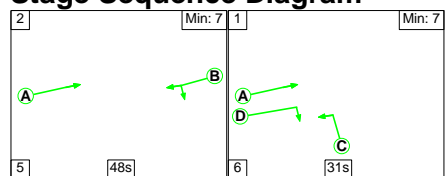
Stage	1	2
Duration	61	18
Change Point	7	74

Signal Timings Diagram



C2

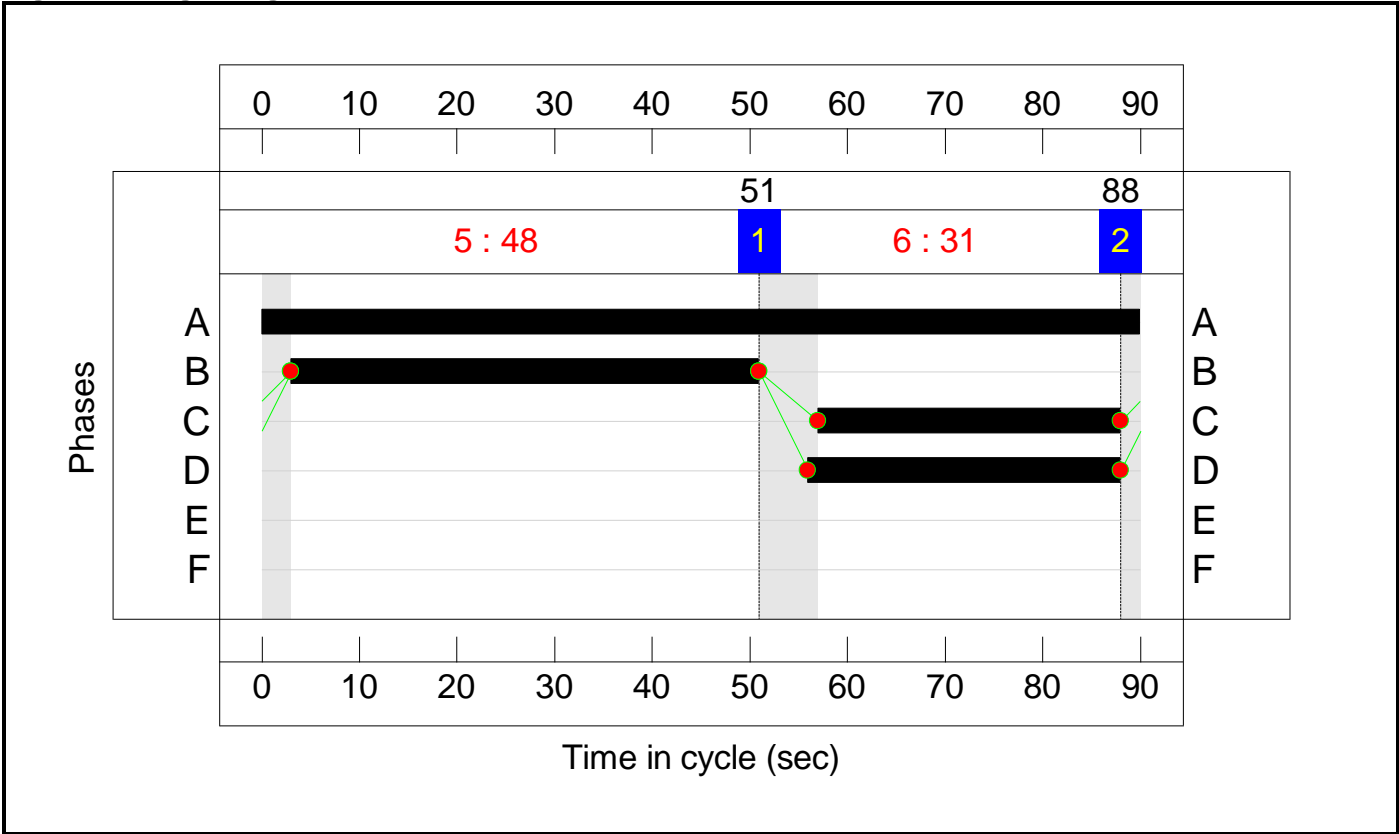
Stage Sequence Diagram



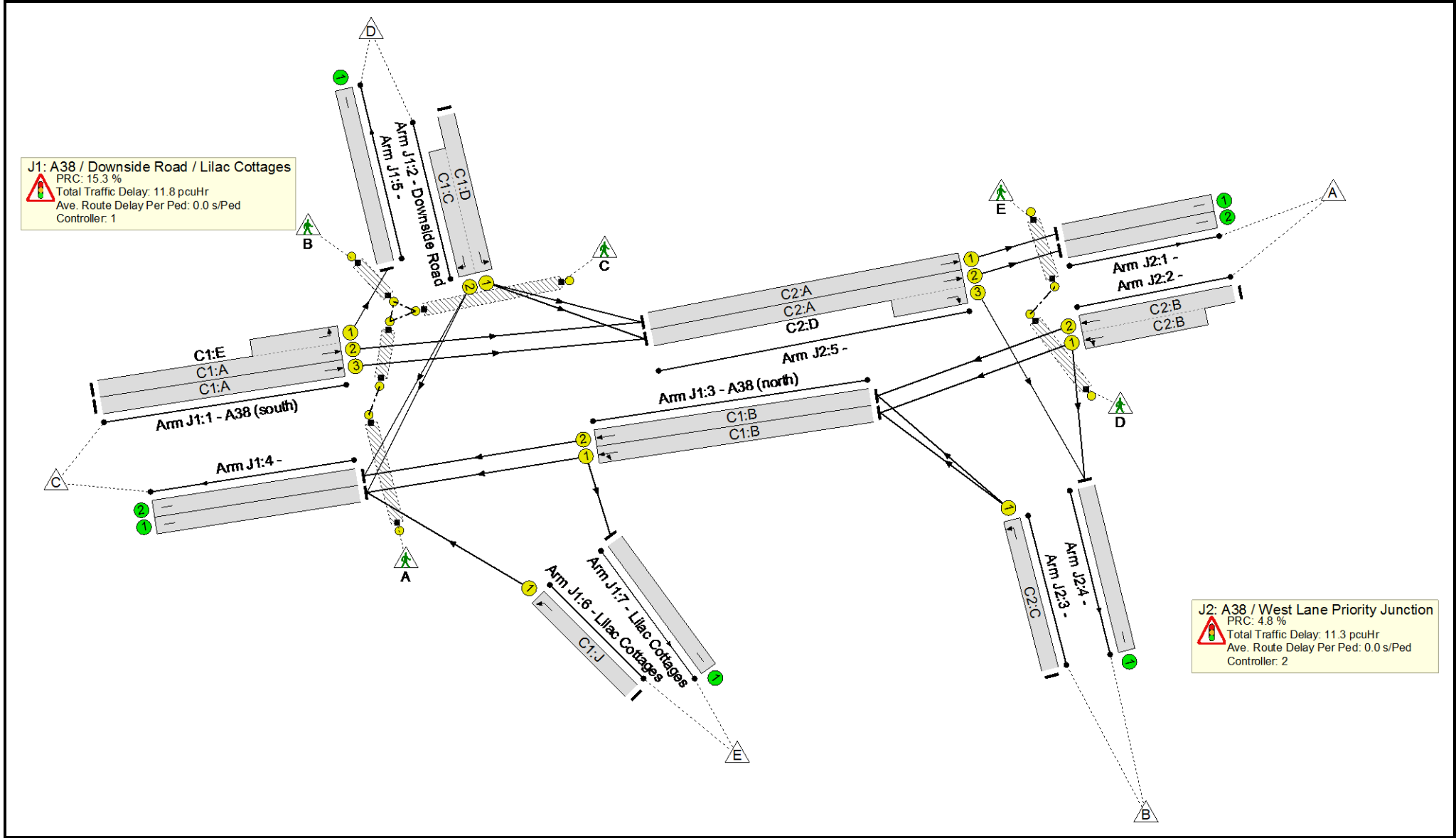
Stage Timings

Stage	2	1
Duration	48	31
Change Point	88	51

Signal Timings Diagram



Full Input Data And Results
Network Layout Diagram



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	-	-	N/A	-	-		-	-	-	-	-	-	85.9%
J1: A38 / Downside Road / Lilac Cottages	-	-	N/A	-	-		-	-	-	-	-	-	78.1%
1/2+1/1	A38 (south) Left Ahead	U	N/A	N/A	C1:A C1:E		1	62:90	-	1042	1965:1775	1131+320	71.8 : 71.8%
1/3	A38 (south) Ahead	U	N/A	N/A	C1:A		1	62	-	813	2105	1473	55.2%
2/1+2/2	Downside Road Right Left	U	N/A	N/A	C1:D C1:C		1	18	-	412	1741:1717	368+160	78.1 : 78.1%
3/1	A38 (north) Ahead Left	U	N/A	N/A	C1:B		1	61	-	704	1688	1163	60.5%
3/2	A38 (north) Ahead	U	N/A	N/A	C1:B		1	61	-	739	1828	1259	58.7%
4/1		U	N/A	N/A	-		-	-	-	766	Inf	Inf	0.0%
4/2		U	N/A	N/A	-		-	-	-	802	Inf	Inf	0.0%
5/1		U	N/A	N/A	-		-	-	-	230	Inf	Inf	0.0%
6/1	Lilac Cottages Left	U	N/A	N/A	C1:J		0	0	-	0	1940	0	0.0%
7/1	Lilac Cottages	U	N/A	N/A	-		-	-	-	0	1940	1940	0.0%
Ped Link: P1	Unnamed Ped Link	-	N/A	-	C1:F		0	0	-	0	-	0	0.0%
Ped Link: P2	Unnamed Ped Link	-	N/A	-	C1:G		0	0	-	0	-	0	0.0%
Ped Link: P3	Unnamed Ped Link	-	N/A	-	C1:H		0	0	-	0	-	0	0.0%
Ped Link: P4	Unnamed Ped Link	-	N/A	-	C1:I		0	0	-	0	-	0	0.0%
J2: A38 / West Lane Priority Junction	-	-	N/A	-	-		-	-	-	-	-	-	85.9%
1/1		U	N/A	N/A	-		-	-	-	931	Inf	Inf	0.0%

Full Input Data And Results

1/2		U	N/A	N/A	-		-	-	-	653	Inf	Inf	0.0%
2/2+2/1	Ahead Left	U	N/A	N/A	C2:B		1	48	-	1189	2055:1900	771+772	77.1 : 77.1%
3/1	Left	U	N/A	N/A	C2:C		1	31	-	291	1516	539	54.0%
4/1		U	N/A	N/A	-		-	-	-	365	Inf	Inf	0.0%
5/1	Ahead	U	N/A	N/A	C2:A		1	90	-	931	1663	1663	56.0%
5/2+5/3	Ahead Right	U	N/A	N/A	C2:A C2:D		1	90:32	-	981	1803:1532	760+382	85.9 : 85.9%
Ped Link: P1	Unnamed Ped Link	-	N/A	-	C2:E		0	0	-	0	-	0	0.0%
Ped Link: P2	Unnamed Ped Link	-	N/A	-	C2:F		0	0	-	0	-	0	0.0%

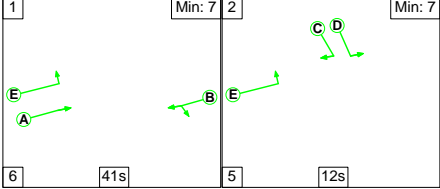
Full Input Data And Results

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network	-	-	0	0	0	16.6	6.5	0.0	23.1	-	-	-	-
J1: A38 / Downside Road / Lilac Cottages	-	-	0	0	0	8.2	3.6	0.0	11.8	-	-	-	-
1/2+1/1	1042	1042	-	-	-	1.6	1.3	-	2.9	9.9	11.9	1.3	13.1
1/3	813	813	-	-	-	1.5	0.6	-	2.1	9.3	9.7	0.6	10.3
2/1+2/2	412	412	-	-	-	3.7	1.7	-	5.5	47.6	6.8	1.7	8.5
3/1	704	704	-	-	-	0.7	0.0	-	0.7	3.7	4.3	0.0	4.3
3/2	739	739	-	-	-	0.7	0.0	-	0.7	3.4	4.1	0.0	4.1
4/1	766	766	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
4/2	802	802	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/1	230	230	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	0	0	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	0	0	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
Ped Link: P1	0	0	-	-	-	-	-	-	Inf	Inf	-	-	Inf
Ped Link: P2	0	0	-	-	-	-	-	-	Inf	Inf	-	-	Inf
Ped Link: P3	0	0	-	-	-	-	-	-	Inf	Inf	-	-	Inf
Ped Link: P4	0	0	-	-	-	-	-	-	Inf	Inf	-	-	Inf
J2: A38 / West Lane Priority Junction	-	-	0	0	0	8.4	2.9	0.0	11.3	-	-	-	-
1/1	931	931	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
1/2	653	653	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
2/2+2/1	1189	1189	-	-	-	4.4	1.7	-	6.1	18.4	9.8	1.7	11.4
3/1	291	291	-	-	-	1.9	0.6	-	2.5	30.4	5.7	0.6	6.3
4/1	365	365	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/1	931	931	-	-	-	0.0	0.6	-	0.7	2.6	7.4	0.6	8.0
5/2+5/3	981	981	-	-	-	2.1	0.0	-	2.1	7.6	15.8	0.0	15.8
Ped Link: P1	0	0	-	-	-	-	-	-	Inf	Inf	-	-	Inf

Full Input Data And Results

Ped Link: P2	0	0	-	-	-	-	-	-	Inf	Inf	-	-	Inf
		C1	PRC for Signalled Lanes (%):		15.3	Total Delay for Signalled Lanes (pcuHr):		11.84	Cycle Time (s):		90		
		C2	PRC for Signalled Lanes (%):		4.8	Total Delay for Signalled Lanes (pcuHr):		11.28	Cycle Time (s):		90		
			PRC Over All Lanes (%):		4.8	Total Delay Over All Lanes(pcuHr):		23.12					

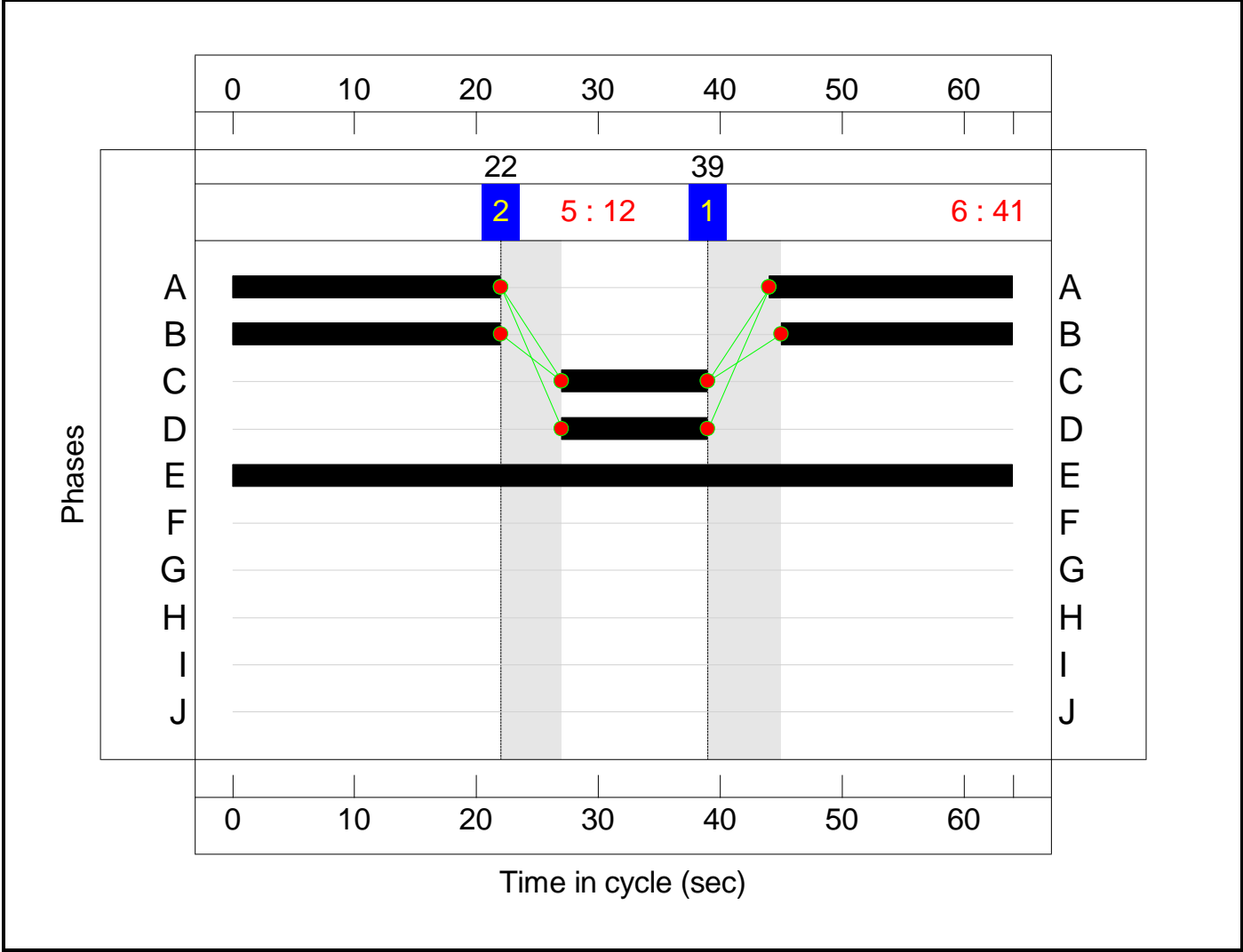
Stage Sequence Diagram



Stage Timings

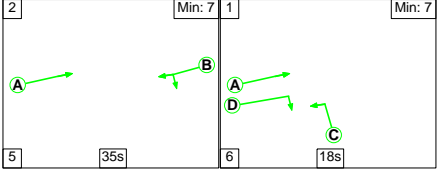
Stage	1	2
Duration	41	12
Change Point	39	22

Signal Timings Diagram



C2

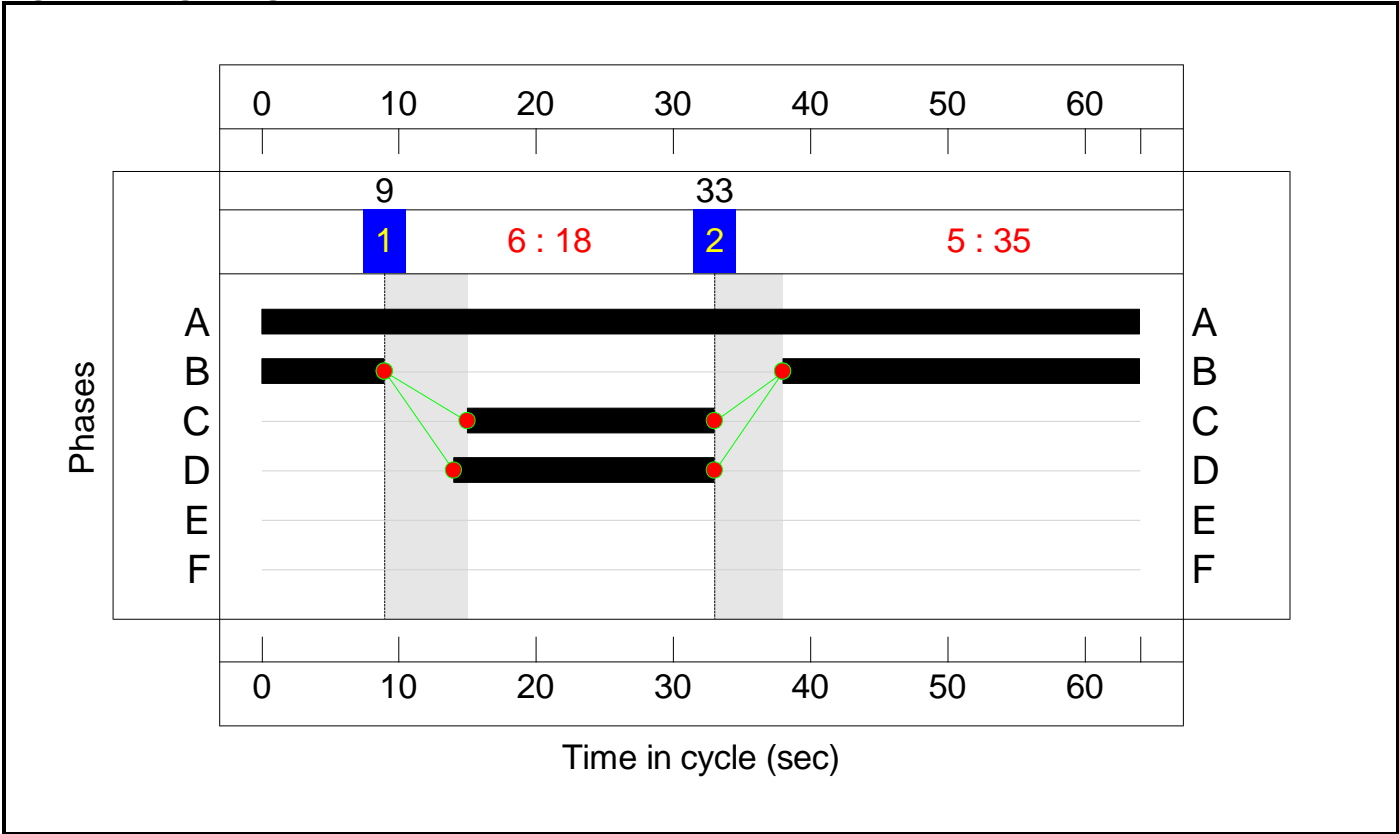
Stage Sequence Diagram



Stage Timings

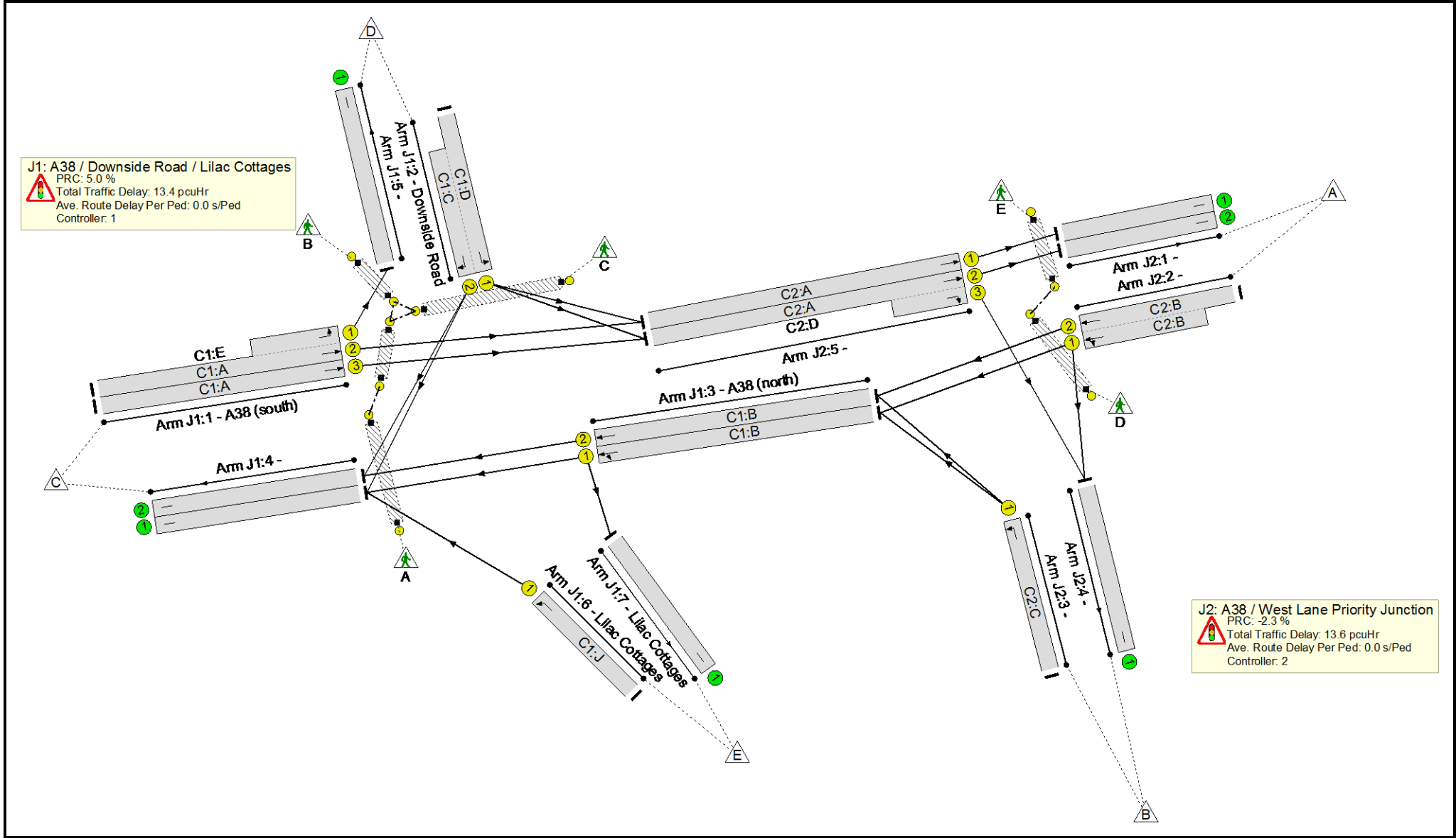
Stage	2	1
Duration	35	18
Change Point	33	9

Signal Timings Diagram



Full Input Data And Results

Network Layout Diagram



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	-	-	N/A	-	-		-	-	-	-	-	-	92.1%
J1: A38 / Downside Road / Lilac Cottages	-	-	N/A	-	-		-	-	-	-	-	-	85.7%
1/2+1/1	A38 (south) Left Ahead	U	N/A	N/A	C1:A C1:E		1	42:64	-	1237	1965:1775	1050+446	82.7 : 82.7%
1/3	A38 (south) Ahead	U	N/A	N/A	C1:A		1	42	-	869	2105	1414	61.4%
2/1+2/2	Downside Road Right Left	U	N/A	N/A	C1:D C1:C		1	12	-	406	1741:1717	354+120	85.7 : 85.7%
3/1	A38 (north) Ahead Left	U	N/A	N/A	C1:B		1	41	-	916	1688	1108	82.7%
3/2	A38 (north) Ahead	U	N/A	N/A	C1:B		1	41	-	927	1828	1200	77.3%
4/1		U	N/A	N/A	-		-	-	-	968	Inf	Inf	0.0%
4/2		U	N/A	N/A	-		-	-	-	978	Inf	Inf	0.0%
5/1		U	N/A	N/A	-		-	-	-	369	Inf	Inf	0.0%
6/1	Lilac Cottages Left	U	N/A	N/A	C1:J		0	0	-	0	1940	0	0.0%
7/1	Lilac Cottages	U	N/A	N/A	-		-	-	-	0	1940	1940	0.0%
Ped Link: P1	Unnamed Ped Link	-	N/A	-	C1:F		0	0	-	0	-	0	0.0%
Ped Link: P2	Unnamed Ped Link	-	N/A	-	C1:G		0	0	-	0	-	0	0.0%
Ped Link: P3	Unnamed Ped Link	-	N/A	-	C1:H		0	0	-	0	-	0	0.0%
Ped Link: P4	Unnamed Ped Link	-	N/A	-	C1:I		0	0	-	0	-	0	0.0%
J2: A38 / West Lane Priority Junction	-	-	N/A	-	-		-	-	-	-	-	-	92.1%
1/1		U	N/A	N/A	-		-	-	-	991	Inf	Inf	0.0%

Full Input Data And Results

1/2		U	N/A	N/A	-		-	-	-	656	Inf	Inf	0.0%
2/2+2/1	Ahead Left	U	N/A	N/A	C2:B		1	35	-	1493	2055:1911	885+886	84.3 : 84.3%
3/1	Left	U	N/A	N/A	C2:C		1	18	-	363	1516	450	80.7%
4/1		U	N/A	N/A	-		-	-	-	406	Inf	Inf	0.0%
5/1	Ahead	U	N/A	N/A	C2:A		1	64	-	991	1663	1663	59.6%
5/2+5/3	Ahead Right	U	N/A	N/A	C2:A C2:D		1	64:19	-	1049	1803:1532	713+427	92.1 : 92.1%
Ped Link: P1	Unnamed Ped Link	-	N/A	-	C2:E		0	0	-	0	-	0	0.0%
Ped Link: P2	Unnamed Ped Link	-	N/A	-	C2:F		0	0	-	0	-	0	0.0%

Full Input Data And Results

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network	-	-	0	0	0	15.7	11.3	0.0	27.0	-	-	-	-
J1: A38 / Downside Road / Lilac Cottages	-	-	0	0	0	7.5	5.9	0.0	13.4	-	-	-	-
1/2+1/1	1237	1237	-	-	-	1.5	2.3	-	3.9	11.2	10.2	2.3	12.5
1/3	869	869	-	-	-	1.4	0.8	-	2.2	9.2	8.4	0.8	9.2
2/1+2/2	406	406	-	-	-	2.7	2.8	-	5.5	48.4	5.1	2.8	7.9
3/1	916	916	-	-	-	1.0	0.0	-	1.0	3.8	5.7	0.0	5.7
3/2	927	927	-	-	-	0.9	0.0	-	0.9	3.6	4.7	0.0	4.7
4/1	968	968	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
4/2	978	978	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/1	369	369	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	0	0	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	0	0	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
Ped Link: P1	0	0	-	-	-	-	-	-	Inf	Inf	-	-	Inf
Ped Link: P2	0	0	-	-	-	-	-	-	Inf	Inf	-	-	Inf
Ped Link: P3	0	0	-	-	-	-	-	-	Inf	Inf	-	-	Inf
Ped Link: P4	0	0	-	-	-	-	-	-	Inf	Inf	-	-	Inf
J2: A38 / West Lane Priority Junction	-	-	0	0	0	8.2	5.4	0.0	13.6	-	-	-	-
1/1	991	991	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
1/2	656	656	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
2/2+2/1	1493	1493	-	-	-	4.1	2.6	-	6.7	16.2	9.3	2.6	12.0
3/1	363	363	-	-	-	2.1	2.0	-	4.1	40.6	5.9	2.0	7.9
4/1	406	406	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/1	991	991	-	-	-	0.0	0.7	-	0.8	2.8	6.5	0.7	7.2
5/2+5/3	1049	1049	-	-	-	2.0	0.0	-	2.0	6.9	15.1	0.0	15.1
Ped Link: P1	0	0	-	-	-	-	-	-	Inf	Inf	-	-	Inf

Full Input Data And Results

Ped Link: P2	0	0	-	-	-	-	-	-	Inf	Inf	-	-	Inf
C1				PRC for Signalled Lanes (%):		5.0	Total Delay for Signalled Lanes (pcuHr):		13.39	Cycle Time (s):		64	
C2				PRC for Signalled Lanes (%):		-2.3	Total Delay for Signalled Lanes (pcuHr):		13.60	Cycle Time (s):		64	
				PRC Over All Lanes (%):		-2.3	Total Delay Over All Lanes(pcuHr):		26.99				

Junctions 9			
PICADY 9 - Priority Intersection Module			
Version: 9.0.2.5947 © Copyright TRL Limited, 2017			
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Filename: J6_A38_Barrow Lane.j9

Path: \\pba.int\BRI\Projects\43321 Bristol Airport\Technical\Transport\Junction Assessments\PICADY

Report generation date: 02/07/2019 17:39:55

»2018, AM
 »2018, IP
 »2018, PM
 »2026 Reference Case, AM
 »2026 Reference Case, IP
 »2026 Reference Case, PM
 »2026 Test Case, AM
 »2026 Test Case, IP
 »2026 Test Case, PM

Summary of junction performance

	AM				IP				PM			
	Queue (PCU)	Delay (s)	RFC	LOS	Queue (PCU)	Delay (s)	RFC	LOS	Queue (PCU)	Delay (s)	RFC	LOS
2018												
Stream B-AC	2.6	74.09	0.74	F	1.1	31.07	0.51	D	5.4	168.86	0.92	F
Stream C-B	0.0	8.25	0.02	A	0.0	6.69	0.01	A	0.0	9.68	0.02	A
2026 Reference Case												
Stream B-AC	29.4	641.45	1.51	F	12.2	279.54	1.08	F	47.5	2706.65	2.77	F
Stream C-B	0.0	9.53	0.03	A	0.0	7.97	0.01	A	0.0	12.68	0.03	B
2026 Test Case												
Stream B-AC	41.5	1495.67	1.97	F	41.8	1557.21	2.01	F	52.5	2919.76	2.77	F
Stream C-B	0.0	10.04	0.03	B	0.0	8.87	0.01	A	0.0	14.08	0.03	B

Values shown are the highest values encountered over all time segments. Delay is the maximum value of average delay per arriving vehicle.

File summary

File Description

Title	J6_Barrow Lane T-Junction
Location	Bristol
Site number	6
Date	09/05/2019
Version	
Status	(new file)
Identifier	sblain
Client	
Jobnumber	43321
Enumerator	CORP\sblain
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

Analysis Options

Vehicle length (m)	Calculate Queue Percentiles	Calculate detailed queueing delay	Calculate residual capacity	RFC Threshold	Average Delay threshold (s)	Queue threshold (PCU)
5.75				0.85	36.00	20.00

Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D1	2018	AM	ONE HOUR	07:45	09:15	15	✓
D2	2018	IP	ONE HOUR	12:45	14:15	15	✓
D3	2018	PM	ONE HOUR	16:45	18:15	15	✓
D4	2026 Reference Case	AM	ONE HOUR	07:45	09:15	15	✓
D5	2026 Reference Case	IP	ONE HOUR	12:45	14:15	15	✓
D6	2026 Reference Case	PM	ONE HOUR	16:45	18:15	15	✓
D7	2026 Test Case	AM	ONE HOUR	07:45	09:15	15	✓
D8	2026 Test Case	IP	ONE HOUR	12:45	14:15	15	✓
D9	2026 Test Case	PM	ONE HOUR	16:45	18:15	15	✓

Analysis Set Details

ID	Include in report	Network flow scaling factor (%)	Network capacity scaling factor (%)
A1	✓	100.000	100.000

2018, AM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction Type	Major road direction	Junction Delay (s)	Junction LOS
1	Barrow Lane T-Junction	T-Junction	Two-way	4.32	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Name	Description	Arm type
A	A38 (N)		Major
B	Barrow Lane		Minor
C	A38 (S)		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Has right turn bay	Width for right turn (m)	Visibility for right turn (m)	Blocks?	Blocking queue (PCU)
C	6.90		✓	3.40	250.0		-

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

Minor Arm Geometry

Arm	Minor arm type	Lane width (m)	Visibility to left (m)	Visibility to right (m)
B	One lane	3.94	35	22

Slope / Intercept / Capacity

Stream Intercept Adjustments

Stream intercept adjustment	Use adjustment	Reason	Direct intercept adjustment (PCU/hr)
B-AC	✓	Video Observations	50
C-B			

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
1	B-A	547	0.096	0.242	0.152	0.346
1	B-C	698	0.103	0.260	-	-
1	C-B	813	0.303	0.303	-	-

The slopes and intercepts shown above do NOT include any corrections or adjustments.

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.

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D1	2018	AM	ONE HOUR	07:45	09:15	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		ONE HOUR	✓	952	100.000
B		ONE HOUR	✓	125	100.000
C		ONE HOUR	✓	1085	100.000

Origin-Destination Data

Demand (PCU/hr)

	To			
		A	B	C
	A	0	146	806
	B	121	0	4
	C	1075	10	0

Vehicle Mix

Heavy Vehicle Percentages

	To			
		A	B	C
	A	0	4	6
	B	6	0	0
	C	4	11	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-AC	0.74	74.09	2.6	F	115	172
C-A					986	1480
C-B	0.02	8.25	0.0	A	9	14
A-B					134	201
A-C					740	1109

Main Results for each time segment

07:45 - 08:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-AC	94	24	318	0.296	92	0.0	0.4	16.755	C
C-A	809	202			809				
C-B	8	2	596	0.013	7	0.0	0.0	6.792	A
A-B	110	27			110				
A-C	607	152			607				

08:00 - 08:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-AC	112	28	263	0.428	111	0.4	0.8	24.899	C
C-A	966	242			966				
C-B	9	2	554	0.016	9	0.0	0.0	7.335	A
A-B	131	33			131				
A-C	725	181			725				

08:15 - 08:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-AC	138	34	186	0.740	131	0.8	2.4	63.491	F
C-A	1184	296			1184				
C-B	11	3	496	0.022	11	0.0	0.0	8.247	A
A-B	161	40			161				
A-C	887	222			887				

08:30 - 08:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-AC	138	34	186	0.740	137	2.4	2.6	74.085	F
C-A	1184	296			1184				
C-B	11	3	496	0.022	11	0.0	0.0	8.247	A
A-B	161	40			161				
A-C	887	222			887				

08:45 - 09:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-AC	112	28	263	0.428	120	2.6	0.8	27.781	D
C-A	966	242			966				
C-B	9	2	554	0.016	9	0.0	0.0	7.335	A
A-B	131	33			131				
A-C	725	181			725				

09:00 - 09:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-AC	94	24	318	0.296	96	0.8	0.5	17.234	C
C-A	809	202			809				
C-B	8	2	596	0.013	8	0.0	0.0	6.795	A
A-B	110	27			110				
A-C	607	152			607				

2018, IP

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction Type	Major road direction	Junction Delay (s)	Junction LOS
1	Barrow Lane T-Junction	T-Junction	Two-way	2.12	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D2	2018	IP	ONE HOUR	12:45	14:15	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		ONE HOUR	✓	812	100.000
B		ONE HOUR	✓	121	100.000
C		ONE HOUR	✓	851	100.000

Origin-Destination Data

Demand (PCU/hr)

	To			
	A	B	C	
From	A	0	97	715
	B	115	0	6
	C	847	4	0

Vehicle Mix

Heavy Vehicle Percentages

	To			
	A	B	C	
From	A	0	4	5
	B	8	0	25
	C	5	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-AC	0.51	31.07	1.1	D	111	167
C-A					777	1166
C-B	0.01	6.69	0.0	A	4	6
A-B					89	134
A-C					656	984

Main Results for each time segment

12:45 - 13:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-AC	91	23	368	0.247	90	0.0	0.3	13.978	B
C-A	638	159			638				
C-B	3	0.75	628	0.005	3	0.0	0.0	5.762	A
A-B	73	18			73				
A-C	538	135			538				

13:00 - 13:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-AC	109	27	322	0.337	108	0.3	0.5	18.185	C
C-A	761	190			761				
C-B	4	0.90	592	0.006	4	0.0	0.0	6.119	A
A-B	87	22			87				
A-C	643	161			643				

13:15 - 13:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-AC	133	33	259	0.515	131	0.5	1.1	30.150	D
C-A	933	233			933				
C-B	4	1	542	0.008	4	0.0	0.0	6.693	A
A-B	107	27			107				
A-C	787	197			787				

13:30 - 13:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-AC	133	33	259	0.515	133	1.1	1.1	31.068	D
C-A	933	233			933				
C-B	4	1	542	0.008	4	0.0	0.0	6.693	A
A-B	107	27			107				
A-C	787	197			787				

13:45 - 14:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-AC	109	27	322	0.337	111	1.1	0.6	18.688	C
C-A	761	190			761				
C-B	4	0.90	592	0.006	4	0.0	0.0	6.122	A
A-B	87	22			87				
A-C	643	161			643				

14:00 - 14:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-AC	91	23	368	0.247	92	0.6	0.4	14.200	B
C-A	638	159			638				
C-B	3	0.75	628	0.005	3	0.0	0.0	5.762	A
A-B	73	18			73				
A-C	538	135			538				

2018, PM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction Type	Major road direction	Junction Delay (s)	Junction LOS
1	Barrow Lane T-Junction	T-Junction	Two-way	7.79	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D3	2018	PM	ONE HOUR	16:45	18:15	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		ONE HOUR	✓	1303	100.000
B		ONE HOUR	✓	110	100.000
C		ONE HOUR	✓	978	100.000

Origin-Destination Data

Demand (PCU/hr)

	To			
	A	B	C	
From	A	0	265	1038
	B	103	0	7
	C	972	6	0

Vehicle Mix

Heavy Vehicle Percentages

	To			
	A	B	C	
From	A	0	1	2
	B	1	0	0
	C	3	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-AC	0.92	168.86	5.4	F	101	151
C-A					892	1338
C-B	0.02	9.68	0.0	A	6	8
A-B					243	365
A-C					952	1429

Main Results for each time segment

16:45 - 17:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-AC	83	21	284	0.292	81	0.0	0.4	17.821	C
C-A	732	183			732				
C-B	5	1	516	0.009	4	0.0	0.0	7.039	A
A-B	200	50			200				
A-C	781	195			781				

17:00 - 17:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-AC	99	25	220	0.449	97	0.4	0.8	29.239	D
C-A	874	218			874				
C-B	5	1	458	0.012	5	0.0	0.0	7.949	A
A-B	238	60			238				
A-C	933	233			933				

17:15 - 17:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-AC	121	30	131	0.922	108	0.8	4.1	118.644	F
C-A	1070	268			1070				
C-B	7	2	379	0.017	7	0.0	0.0	9.676	A
A-B	292	73			292				
A-C	1143	286			1143				

17:30 - 17:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-AC	121	30	131	0.922	116	4.1	5.4	168.856	F
C-A	1070	268			1070				
C-B	7	2	379	0.017	7	0.0	0.0	9.676	A
A-B	292	73			292				
A-C	1143	286			1143				

17:45 - 18:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-AC	99	25	220	0.449	117	5.4	0.9	40.392	E
C-A	874	218			874				
C-B	5	1	458	0.012	5	0.0	0.0	7.951	A
A-B	238	60			238				
A-C	933	233			933				

18:00 - 18:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-AC	83	21	284	0.292	85	0.9	0.4	18.422	C
C-A	732	183			732				
C-B	5	1	516	0.009	5	0.0	0.0	7.039	A
A-B	200	50			200				
A-C	781	195			781				

2026 Reference Case, AM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction Type	Major road direction	Junction Delay (s)	Junction LOS
1	Barrow Lane T-Junction	T-Junction	Two-way	35.83	E

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D4	2026 Reference Case	AM	ONE HOUR	07:45	09:15	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		ONE HOUR	✓	1145	100.000
B		ONE HOUR	✓	143	100.000
C		ONE HOUR	✓	1275	100.000

Origin-Destination Data

Demand (PCU/hr)

	To			
		A	B	C
	A	0	167	978
	B	138	0	5
	C	1264	11	0

Vehicle Mix

Heavy Vehicle Percentages

	To			
		A	B	C
	A	0	4	6
	B	6	0	0
	C	4	11	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-AC	1.51	641.45	29.4	F	131	197
C-A					1160	1740
C-B	0.03	9.53	0.0	A	10	15
A-B					153	230
A-C					897	1346

Main Results for each time segment

07:45 - 08:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-AC	108	27	263	0.409	105	0.0	0.7	23.650	C
C-A	952	238			952				
C-B	8	2	552	0.015	8	0.0	0.0	7.350	A
A-B	126	31			126				
A-C	736	184			736				

08:00 - 08:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-AC	129	32	197	0.653	124	0.7	1.7	49.981	E
C-A	1136	284			1136				
C-B	10	2	501	0.020	10	0.0	0.0	8.132	A
A-B	150	38			150				
A-C	879	220			879				

08:15 - 08:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-AC	157	39	104	1.508	100	1.7	16.0	368.907	F
C-A	1392	348			1392				
C-B	12	3	431	0.028	12	0.0	0.0	9.533	A
A-B	184	46			184				
A-C	1077	269			1077				

08:30 - 08:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-AC	157	39	104	1.508	104	16.0	29.4	641.448	F
C-A	1392	348			1392				
C-B	12	3	431	0.028	12	0.0	0.0	9.533	A
A-B	184	46			184				
A-C	1077	269			1077				

08:45 - 09:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-AC	129	32	197	0.653	190	29.4	14.0	405.328	F
C-A	1136	284			1136				
C-B	10	2	501	0.020	10	0.0	0.0	8.134	A
A-B	150	38			150				
A-C	879	220			879				

09:00 - 09:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-AC	108	27	263	0.409	161	14.0	0.8	56.070	F
C-A	952	238			952				
C-B	8	2	552	0.015	8	0.0	0.0	7.351	A
A-B	126	31			126				
A-C	736	184			736				

2026 Reference Case, IP

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction Type	Major road direction	Junction Delay (s)	Junction LOS
1	Barrow Lane T-Junction	T-Junction	Two-way	16.84	C

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D5	2026 Reference Case	IP	ONE HOUR	12:45	14:15	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		ONE HOUR	✓	1067	100.000
B		ONE HOUR	✓	141	100.000
C		ONE HOUR	✓	1135	100.000

Origin-Destination Data

Demand (PCU/hr)

	To			
		A	B	C
	A	0	113	954
	B	134	0	7
	C	1130	5	0

Vehicle Mix

Heavy Vehicle Percentages

	To			
		A	B	C
	A	0	4	5
	B	8	0	25
	C	5	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-AC	1.08	279.54	12.2	F	129	194
C-A					1037	1555
C-B	0.01	7.97	0.0	A	5	7
A-B					104	156
A-C					875	1313

Main Results for each time segment

12:45 - 13:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-AC	106	27	291	0.365	104	0.0	0.6	20.705	C
C-A	851	213			851				
C-B	4	0.94	570	0.007	4	0.0	0.0	6.361	A
A-B	85	21			85				
A-C	718	180			718				

13:00 - 13:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-AC	127	32	229	0.553	124	0.6	1.2	36.469	E
C-A	1016	254			1016				
C-B	4	1	522	0.009	4	0.0	0.0	6.949	A
A-B	102	25			102				
A-C	858	214			858				

13:15 - 13:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-AC	155	39	143	1.084	129	1.2	7.8	169.046	F
C-A	1244	311			1244				
C-B	6	1	457	0.012	5	0.0	0.0	7.969	A
A-B	124	31			124				
A-C	1050	263			1050				

13:30 - 13:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-AC	155	39	143	1.084	138	7.8	12.2	279.543	F
C-A	1244	311			1244				
C-B	6	1	457	0.012	6	0.0	0.0	7.969	A
A-B	124	31			124				
A-C	1050	263			1050				

13:45 - 14:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-AC	127	32	229	0.553	170	12.2	1.5	91.983	F
C-A	1016	254			1016				
C-B	4	1	522	0.009	5	0.0	0.0	6.950	A
A-B	102	25			102				
A-C	858	214			858				

14:00 - 14:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-AC	106	27	291	0.365	110	1.5	0.6	22.038	C
C-A	851	213			851				
C-B	4	0.94	570	0.007	4	0.0	0.0	6.361	A
A-B	85	21			85				
A-C	718	180			718				

2026 Reference Case, PM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction Type	Major road direction	Junction Delay (s)	Junction LOS
1	Barrow Lane T-Junction	T-Junction	Two-way	118.41	F

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D6	2026 Reference Case	PM	ONE HOUR	16:45	18:15	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		ONE HOUR	✓	1564	100.000
B		ONE HOUR	✓	126	100.000
C		ONE HOUR	✓	1191	100.000

Origin-Destination Data

Demand (PCU/hr)

	To			
		A	B	C
	A	0	302	1262
	B	118	0	8
	C	1184	7	0

Vehicle Mix

Heavy Vehicle Percentages

	To			
		A	B	C
	A	0	1	2
	B	1	0	0
	C	3	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-AC	2.77	2706.65	47.5	F	116	173
C-A					1086	1630
C-B	0.03	12.68	0.0	B	6	10
A-B					277	416
A-C					1158	1737

Main Results for each time segment

16:45 - 17:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-AC	95	24	214	0.443	92	0.0	0.8	29.015	D
C-A	891	223			891				
C-B	5	1	456	0.012	5	0.0	0.0	7.978	A
A-B	227	57			227				
A-C	950	238			950				

17:00 - 17:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-AC	113	28	137	0.830	104	0.8	3.0	95.400	F
C-A	1064	266			1064				
C-B	6	2	387	0.016	6	0.0	0.0	9.449	A
A-B	271	68			271				
A-C	1135	284			1135				

17:15 - 17:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-AC	139	35	50	2.775	49	3.0	25.3	982.484	F
C-A	1304	326			1304				
C-B	8	2	292	0.026	8	0.0	0.0	12.674	B
A-B	333	83			333				
A-C	1389	347			1389				

17:30 - 17:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-AC	139	35	50	2.775	50	25.3	47.5	2706.650	F
C-A	1304	326			1304				
C-B	8	2	292	0.026	8	0.0	0.0	12.676	B
A-B	333	83			333				
A-C	1389	347			1389				

17:45 - 18:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-AC	113	28	137	0.830	134	47.5	42.4	1100.012	F
C-A	1064	266			1064				
C-B	6	2	387	0.016	6	0.0	0.0	9.452	A
A-B	271	68			271				
A-C	1135	284			1135				

18:00 - 18:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-AC	95	24	214	0.443	209	42.4	13.8	494.052	F
C-A	891	223			891				
C-B	5	1	456	0.012	5	0.0	0.0	7.980	A
A-B	227	57			227				
A-C	950	238			950				

2026 Test Case, AM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction Type	Major road direction	Junction Delay (s)	Junction LOS
1	Barrow Lane T-Junction	T-Junction	Two-way	80.21	F

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D7	2026 Test Case	AM	ONE HOUR	07:45	09:15	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		ONE HOUR	✓	1209	100.000
B		ONE HOUR	✓	143	100.000
C		ONE HOUR	✓	1316	100.000

Origin-Destination Data

Demand (PCU/hr)

	To			
	A	B	C	
From	A	0	167	1042
	B	138	0	5
	C	1305	11	0

Vehicle Mix

Heavy Vehicle Percentages

	To			
	A	B	C	
From	A	0	4	6
	B	6	0	0
	C	4	11	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-AC	1.97	1495.67	41.5	F	131	197
C-A					1197	1796
C-B	0.03	10.04	0.0	B	10	15
A-B					153	230
A-C					956	1434

Main Results for each time segment

07:45 - 08:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-AC	108	27	247	0.436	105	0.0	0.8	26.254	D
C-A	982	246			982				
C-B	8	2	537	0.015	8	0.0	0.0	7.553	A
A-B	126	31			126				
A-C	784	196			784				

08:00 - 08:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-AC	129	32	177	0.726	123	0.8	2.2	64.355	F
C-A	1173	293			1173				
C-B	10	2	484	0.020	10	0.0	0.0	8.431	A
A-B	150	38			150				
A-C	937	234			937				

08:15 - 08:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-AC	157	39	80	1.973	78	2.2	22.1	615.331	F
C-A	1437	359			1437				
C-B	12	3	410	0.030	12	0.0	0.0	10.042	B
A-B	184	46			184				
A-C	1147	287			1147				

08:30 - 08:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-AC	157	39	80	1.973	80	22.1	41.5	1495.671	F
C-A	1437	359			1437				
C-B	12	3	410	0.030	12	0.0	0.0	10.044	B
A-B	184	46			184				
A-C	1147	287			1147				

08:45 - 09:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-AC	129	32	177	0.726	173	41.5	30.5	670.066	F
C-A	1173	293			1173				
C-B	10	2	484	0.020	10	0.0	0.0	8.434	A
A-B	150	38			150				
A-C	937	234			937				

09:00 - 09:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-AC	108	27	247	0.436	225	30.5	1.1	236.183	F
C-A	982	246			982				
C-B	8	2	537	0.015	8	0.0	0.0	7.556	A
A-B	126	31			126				
A-C	784	196			784				

2026 Test Case, IP

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction Type	Major road direction	Junction Delay (s)	Junction LOS
1	Barrow Lane T-Junction	T-Junction	Two-way	83.12	F

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D8	2026 Test Case	IP	ONE HOUR	12:45	14:15	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		ONE HOUR	✓	1205	100.000
B		ONE HOUR	✓	141	100.000
C		ONE HOUR	✓	1296	100.000

Origin-Destination Data

Demand (PCU/hr)

	To			
	A	B	C	
From	A	0	113	1092
	B	134	0	7
	C	1291	5	0

Vehicle Mix

Heavy Vehicle Percentages

	To			
	A	B	C	
From	A	0	4	5
	B	8	0	25
	C	5	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-AC	2.01	1557.21	41.8	F	129	194
C-A					1185	1777
C-B	0.01	8.87	0.0	A	5	7
A-B					104	156
A-C					1002	1503

Main Results for each time segment

12:45 - 13:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-AC	106	27	246	0.431	103	0.0	0.8	26.765	D
C-A	972	243			972				
C-B	4	0.94	538	0.007	4	0.0	0.0	6.735	A
A-B	85	21			85				
A-C	822	206			822				

13:00 - 13:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-AC	127	32	176	0.720	121	0.8	2.2	65.420	F
C-A	1161	290			1161				
C-B	4	1	485	0.009	4	0.0	0.0	7.492	A
A-B	102	25			102				
A-C	982	245			982				

13:15 - 13:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-AC	155	39	77	2.013	75	2.2	22.2	638.054	F
C-A	1421	355			1421				
C-B	6	1	411	0.013	5	0.0	0.0	8.872	A
A-B	124	31			124				
A-C	1202	301			1202				

13:30 - 13:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-AC	155	39	77	2.013	77	22.2	41.8	1557.212	F
C-A	1421	355			1421				
C-B	6	1	411	0.013	6	0.0	0.0	8.872	A
A-B	124	31			124				
A-C	1202	301			1202				

13:45 - 14:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-AC	127	32	176	0.720	171	41.8	30.6	675.378	F
C-A	1161	290			1161				
C-B	4	1	485	0.009	5	0.0	0.0	7.493	A
A-B	102	25			102				
A-C	982	245			982				

14:00 - 14:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-AC	106	27	246	0.431	224	30.6	1.1	236.714	F
C-A	972	243			972				
C-B	4	0.94	538	0.007	4	0.0	0.0	6.735	A
A-B	85	21			85				
A-C	822	206			822				

2026 Test Case, PM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction Type	Major road direction	Junction Delay (s)	Junction LOS
1	Barrow Lane T-Junction	T-Junction	Two-way	120.77	F

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D9	2026 Test Case	PM	ONE HOUR	16:45	18:15	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		ONE HOUR	✓	1649	100.000
B		ONE HOUR	✓	126	100.000
C		ONE HOUR	✓	1272	100.000

Origin-Destination Data

Demand (PCU/hr)

	To			
	A	B	C	
From	A	0	302	1347
	B	118	0	8
	C	1265	7	0

Vehicle Mix

Heavy Vehicle Percentages

	To			
	A	B	C	
From	A	0	1	2
	B	1	0	0
	C	3	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-AC	2.77	2919.76	52.5	F	116	173
C-A					1161	1741
C-B	0.03	14.08	0.0	B	6	10
A-B					277	416
A-C					1236	1854

Main Results for each time segment

16:45 - 17:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-AC	95	24	189	0.502	91	0.0	0.9	35.928	E
C-A	952	238			952				
C-B	5	1	437	0.012	5	0.0	0.0	8.335	A
A-B	227	57			227				
A-C	1014	254			1014				

17:00 - 17:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-AC	113	28	106	1.072	93	0.9	6.0	210.676	F
C-A	1137	284			1137				
C-B	6	2	364	0.017	6	0.0	0.0	10.059	B
A-B	271	68			271				
A-C	1211	303			1211				

17:15 - 17:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-AC	139	35	50	2.775	50	6.0	28.3	1169.375	F
C-A	1393	348			1393				
C-B	8	2	263	0.029	8	0.0	0.0	14.079	B
A-B	333	83			333				
A-C	1483	371			1483				

17:30 - 17:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-AC	139	35	50	2.775	50	28.3	50.5	2919.762	F
C-A	1393	348			1393				
C-B	8	2	263	0.029	8	0.0	0.0	14.080	B
A-B	333	83			333				
A-C	1483	371			1483				

17:45 - 18:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-AC	113	28	106	1.072	105	50.5	52.5	1402.114	F
C-A	1137	284			1137				
C-B	6	2	364	0.017	6	0.0	0.0	10.064	B
A-B	271	68			271				
A-C	1211	303			1211				

18:00 - 18:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-AC	95	24	189	0.502	185	52.5	29.9	805.826	F
C-A	952	238			952				
C-B	5	1	437	0.012	5	0.0	0.0	8.338	A
A-B	227	57			227				
A-C	1014	254			1014				

Junctions 9															
ARCADY 9 - Roundabout Module															
Version: 9.5.0.6896															
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Filename: J1_North Airport Access Roundabouts - Proposed.j9

Path: \\pba.int\BRI\Projects\43321 Bristol Airport\Technical\Transport\Junction Assessments\ARCADY

Report generation date: 22/07/2019 17:56:38

»2026 Test, AM

»2026 Test, IP

»2026 Test, PM

Summary of junction performance

	AM					IP					PM				
	Queue (PCU)	Delay (s)	RFC	LOS	Network Residual Capacity	Queue (PCU)	Delay (s)	RFC	LOS	Network Residual Capacity	Queue (PCU)	Delay (s)	RFC	LOS	Network Residual Capacity
	2026 Test														
Arm A	1.8	4.24	0.63	A	11 %	3.6	7.73	0.78	A	1 %	5.7	10.58	0.85	B	-4 %
Arm B	0.0	9.89	0.04	A		0.1	29.47	0.13	D		0.4	58.20	0.28	F	
Arm C	4.3	13.25	0.81	B	[Arm C]	2.9	11.09	0.73	B	[Arm B]	5.3	18.17	0.84	C	[Arm B]
Arm D	0.2	4.68	0.17	A		0.5	4.48	0.32	A		0.3	4.45	0.23	A	

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. Network Residual Capacity indicates the amount by which network flow could be increased before a user-definable threshold (see Analysis Options) is met.

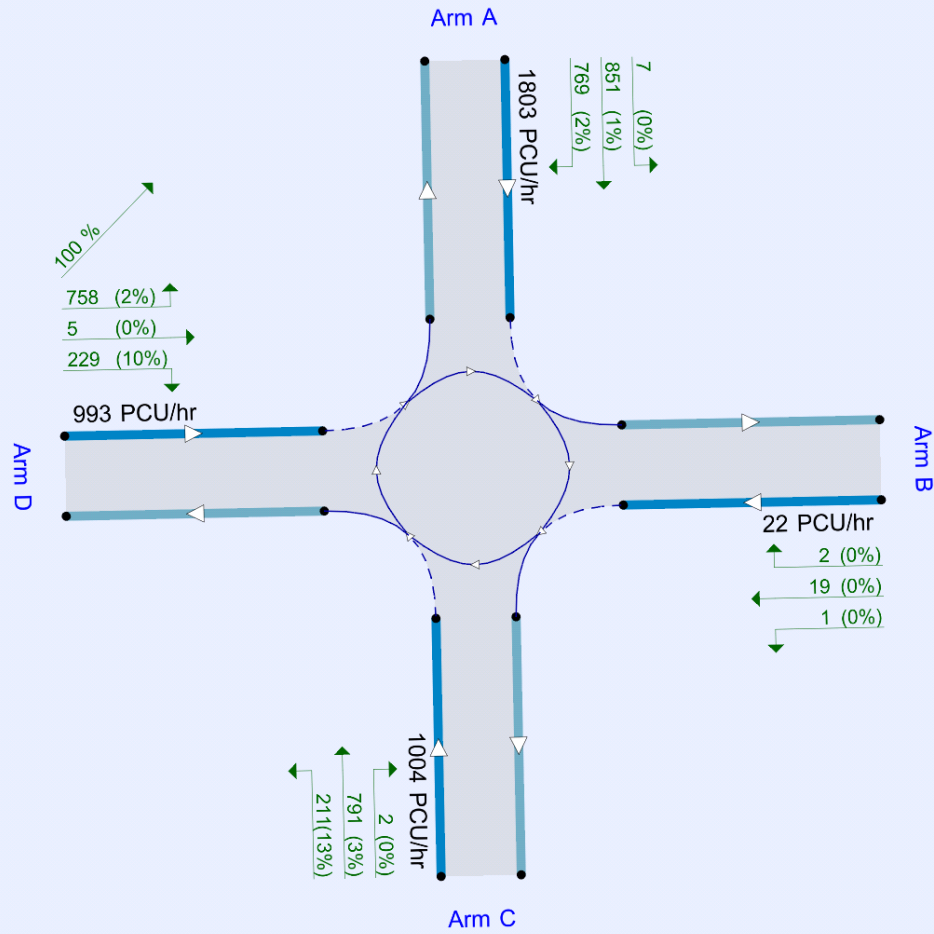
File summary

File Description

Title	(untitled)
Location	
Site number	
Date	13/04/2018
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	CTAS\tony
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



Flows show original traffic demand (PCU/hr).

The junction diagram reflects the last run of Junctions.

Analysis Options

Vehicle length (m)	Calculate Queue Percentiles	Calculate detailed queueing delay	Calculate residual capacity	Residual capacity criteria type	RFC Threshold	Average Delay threshold (s)	Queue threshold (PCU)
5.75			✓	Delay	0.85	36.00	20.00

Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D7	2026 Test	AM	ONE HOUR	07:45	09:15	15	✓
D8	2026 Test	IP	ONE HOUR	12:45	14:15	15	✓
D9	2026 Test	PM	ONE HOUR	16:45	18:15	15	✓

Analysis Set Details

ID	Include in report	Network flow scaling factor (%)	Network capacity scaling factor (%)
A1	✓	100.000	100.000

2026 Test, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	Arm A - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	Arm C - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	Arm D - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		A, B, C, D	7.74	A

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	11	Arm C

Arms

Arms

Arm	Name	Description
A	A38 (North)	
B	Easirent Car Hire	
C	A38 (South)	
D	Bristol Airport	

Roundabout Geometry

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)	Exit only
A	7.30	10.30	32.9	8.0	48.0	48.0	
B	3.00	5.82	7.2	18.4	48.0	39.0	
C	4.08	7.20	92.6	29.3	48.0	44.0	
D	3.67	7.70	36.3	12.8	48.0	54.0	

Bypass

Arm	Arm has bypass	Bypass utilisation (%)
A		
B		
C		
D	✓	100

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Final slope	Final intercept (PCU/hr)
A	0.735	2520
B	0.519	1242
C	0.669	2021
D	0.602	1789

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

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D7	2026 Test	AM	ONE HOUR	07:45	09:15	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		ONE HOUR	✓	1363	100.000
B		ONE HOUR	✓	14	100.000
C		ONE HOUR	✓	1105	100.000
D		ONE HOUR	✓	444	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
		A	B	C	D
From	A	229	5	663	466
	B	2	0	5	7
	C	889	1	0	215
	D	285	6	152	1

Vehicle Mix

Heavy Vehicle Percentages

		To			
		A	B	C	D
From	A	2	0	5	6
	B	0	0	0	0
	C	4	0	0	13
	D	10	0	14	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
A	0.63	4.24	1.8	A	1251	1876
B	0.04	9.89	0.0	A	13	19
C	0.81	13.25	4.3	B	1014	1521
D	0.17	4.68	0.2	A	407	219

Main Results for each time segment

07:45 - 08:00

Arm	Total Demand (PCU/hr)	Junction demand (PCU/hr)	Junction Arrivals (PCU)	Bypass demand (PCU/hr)	Bypass exit flow (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A	1026	1026	257	0	215	120	2431	0.422	1023	839	0.0	0.8	2.673	A
B	11	11	3	0	0	1134	654	0.016	10	9	0.0	0.0	5.592	A
C	832	832	208	0	0	529	1667	0.499	828	615	0.0	1.0	4.510	A
D	334	120	30	215	0	840	1284	0.093	119	517	0.0	0.1	3.500	A

08:00 - 08:15

Arm	Total Demand (PCU/hr)	Junction demand (PCU/hr)	Junction Arrivals (PCU)	Bypass demand (PCU/hr)	Bypass exit flow (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A	1225	1225	306	0	256	144	2414	0.508	1224	1005	0.8	1.1	3.168	A
B	13	13	3	0	0	1357	539	0.023	13	11	0.0	0.0	6.844	A
C	993	993	248	0	0	633	1597	0.622	991	736	1.0	1.7	6.244	A
D	399	143	36	256	0	1005	1184	0.121	143	618	0.1	0.2	3.916	A

08:15 - 08:30

Arm	Total Demand (PCU/hr)	Junction demand (PCU/hr)	Junction Arrivals (PCU)	Bypass demand (PCU/hr)	Bypass exit flow (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A	1501	1501	375	0	314	176	2390	0.628	1498	1225	1.1	1.7	4.215	A
B	15	15	4	0	0	1661	381	0.040	15	13	0.0	0.0	9.843	A
C	1217	1217	304	0	0	775	1502	0.810	1207	901	1.7	4.2	12.461	B
D	489	175	44	314	0	1226	1052	0.166	175	756	0.2	0.2	4.650	A

08:30 - 08:45

Arm	Total Demand (PCU/hr)	Junction demand (PCU/hr)	Junction Arrivals (PCU)	Bypass demand (PCU/hr)	Bypass exit flow (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A	1501	1501	375	0	314	176	2390	0.628	1501	1233	1.7	1.8	4.241	A
B	15	15	4	0	0	1664	379	0.041	15	13	0.0	0.0	9.889	A
C	1217	1217	304	0	0	776	1501	0.810	1216	903	4.2	4.3	13.250	B
D	489	175	44	314	0	1234	1047	0.167	175	758	0.2	0.2	4.677	A

08:45 - 09:00

Arm	Total Demand (PCU/hr)	Junction demand (PCU/hr)	Junction Arrivals (PCU)	Bypass demand (PCU/hr)	Bypass exit flow (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A	1225	1225	306	0	256	144	2414	0.508	1228	1016	1.8	1.1	3.188	A
B	13	13	3	0	0	1361	536	0.023	13	11	0.0	0.0	6.878	A
C	993	993	248	0	0	635	1596	0.623	1004	739	4.3	1.8	6.530	A
D	399	143	36	256	0	1017	1178	0.121	143	622	0.2	0.2	3.945	A

09:00 - 09:15

Arm	Total Demand (PCU/hr)	Junction demand (PCU/hr)	Junction Arrivals (PCU)	Bypass demand (PCU/hr)	Bypass exit flow (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A	1026	1026	257	0	215	121	2431	0.422	1027	846	1.1	0.8	2.692	A
B	11	11	3	0	0	1139	652	0.016	11	9	0.0	0.0	5.617	A
C	832	832	208	0	0	531	1665	0.500	835	618	1.8	1.1	4.596	A
D	334	120	30	215	0	846	1280	0.094	120	520	0.2	0.1	3.515	A

2026 Test, IP

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	Arm A - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	Arm C - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	Arm D - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		A, B, C, D	7.51	A

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	1	Arm B

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D8	2026 Test	IP	ONE HOUR	12:45	14:15	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		ONE HOUR	✓	1567	100.000
B		ONE HOUR	✓	17	100.000
C		ONE HOUR	✓	871	100.000
D		ONE HOUR	✓	1271	100.000

Origin-Destination Data

Demand (PCU/hr)

	To				
	A	B	C	D	
From	A	158	12	608	789
	B	5	0	0	12
	C	563	5	0	303
	D	894	3	372	2

Vehicle Mix

Heavy Vehicle Percentages

	To				
		A	B	C	D
	A	0	0	5	5
	B	0	0	0	0
	C	5	0	0	15
	D	4	0	11	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
A	0.78	7.73	3.6	A	1438	2157
B	0.13	29.47	0.1	D	16	23
C	0.73	11.09	2.9	B	799	1199
D	0.32	4.48	0.5	A	1166	519

Main Results for each time segment

12:45 - 13:00

Arm	Total Demand (PCU/hr)	Junction demand (PCU/hr)	Junction Arrivals (PCU)	Bypass demand (PCU/hr)	Bypass exit flow (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A	1180	1180	295	0	673	287	2309	0.511	1175	544	0.0	1.1	3.304	A
B	13	13	3	0	0	1447	492	0.026	13	15	0.0	0.0	7.510	A
C	656	656	164	0	0	725	1536	0.427	653	735	0.0	0.8	4.395	A
D	957	284	71	673	0	548	1460	0.194	283	829	0.0	0.3	3.387	A

13:00 - 13:15

Arm	Total Demand (PCU/hr)	Junction demand (PCU/hr)	Junction Arrivals (PCU)	Bypass demand (PCU/hr)	Bypass exit flow (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A	1409	1409	352	0	804	343	2268	0.621	1406	651	1.1	1.7	4.353	A
B	15	15	4	0	0	1731	344	0.044	15	18	0.0	0.0	10.937	B
C	783	783	196	0	0	867	1441	0.543	781	880	0.8	1.3	5.891	A
D	1143	339	85	804	0	656	1395	0.243	339	992	0.3	0.4	3.777	A

13:15 - 13:30

Arm	Total Demand (PCU/hr)	Junction demand (PCU/hr)	Junction Arrivals (PCU)	Bypass demand (PCU/hr)	Bypass exit flow (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A	1725	1725	431	0	984	420	2211	0.780	1718	794	1.7	3.6	7.507	A
B	19	19	5	0	0	2116	145	0.129	18	22	0.0	0.1	28.369	D
C	959	959	240	0	0	1059	1313	0.731	953	1075	1.3	2.8	10.653	B
D	1399	415	104	984	0	800	1308	0.317	414	1212	0.4	0.5	4.462	A

13:30 - 13:45

Arm	Total Demand (PCU/hr)	Junction demand (PCU/hr)	Junction Arrivals (PCU)	Bypass demand (PCU/hr)	Bypass exit flow (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A	1725	1725	431	0	984	421	2211	0.780	1725	799	3.6	3.6	7.731	A
B	19	19	5	0	0	2124	141	0.133	19	22	0.1	0.1	29.471	D
C	959	959	240	0	0	1063	1309	0.732	959	1079	2.8	2.9	11.089	B
D	1399	415	104	984	0	805	1305	0.318	415	1217	0.5	0.5	4.482	A

13:45 - 14:00

Arm	Total Demand (PCU/hr)	Junction demand (PCU/hr)	Junction Arrivals (PCU)	Bypass demand (PCU/hr)	Bypass exit flow (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A	1409	1409	352	0	804	344	2267	0.621	1416	658	3.6	1.7	4.460	A
B	15	15	4	0	0	1742	339	0.045	16	18	0.1	0.0	11.163	B
C	783	783	196	0	0	873	1436	0.545	789	885	2.9	1.3	6.078	A
D	1143	339	85	804	0	662	1391	0.244	340	1001	0.5	0.4	3.799	A

14:00 - 14:15

Arm	Total Demand (PCU/hr)	Junction demand (PCU/hr)	Junction Arrivals (PCU)	Bypass demand (PCU/hr)	Bypass exit flow (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A	1180	1180	295	0	673	288	2308	0.511	1182	548	1.7	1.1	3.348	A
B	13	13	3	0	0	1455	488	0.026	13	15	0.0	0.0	7.587	A
C	656	656	164	0	0	729	1533	0.428	658	739	1.3	0.8	4.463	A
D	957	284	71	673	0	552	1457	0.195	284	835	0.4	0.3	3.404	A

2026 Test, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	Arm A - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	Arm C - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	Arm D - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		A, B, C, D	11.26	B

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	-4	Arm B

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D9	2026 Test	PM	ONE HOUR	16:45	18:15	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		ONE HOUR	✓	1803	100.000
B		ONE HOUR	✓	22	100.000
C		ONE HOUR	✓	1004	100.000
D		ONE HOUR	✓	993	100.000

Origin-Destination Data

Demand (PCU/hr)

	To				
	A	B	C	D	
From	A	176	7	851	769
	B	2	0	1	19
	C	791	2	0	211
	D	758	5	229	1

Vehicle Mix

Heavy Vehicle Percentages

	To				
		A	B	C	D
	A	1	0	1	2
	B	0	0	0	0
	C	3	0	0	13
	D	2	0	10	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
A	0.85	10.58	5.7	B	1654	2482
B	0.28	58.20	0.4	F	20	30
C	0.84	18.17	5.3	C	921	1382
D	0.23	4.45	0.3	A	911	323

Main Results for each time segment

16:45 - 17:00

Arm	Total Demand (PCU/hr)	Junction demand (PCU/hr)	Junction Arrivals (PCU)	Bypass demand (PCU/hr)	Bypass exit flow (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A	1357	1357	339	0	571	178	2389	0.568	1352	726	0.0	1.3	3.510	A
B	17	17	4	0	0	1519	454	0.036	16	10	0.0	0.0	8.219	A
C	756	756	189	0	0	725	1536	0.492	752	811	0.0	1.0	4.797	A
D	748	177	44	571	0	727	1352	0.131	176	750	0.0	0.2	3.358	A

17:00 - 17:15

Arm	Total Demand (PCU/hr)	Junction demand (PCU/hr)	Junction Arrivals (PCU)	Bypass demand (PCU/hr)	Bypass exit flow (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A	1621	1621	405	0	681	213	2363	0.686	1617	868	1.3	2.2	4.880	A
B	20	20	5	0	0	1818	299	0.066	20	13	0.0	0.1	12.859	B
C	903	903	226	0	0	867	1440	0.627	900	970	1.0	1.7	6.949	A
D	893	211	53	681	0	870	1266	0.167	211	897	0.2	0.2	3.745	A

17:15 - 17:30

Arm	Total Demand (PCU/hr)	Junction demand (PCU/hr)	Junction Arrivals (PCU)	Bypass demand (PCU/hr)	Bypass exit flow (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A	1985	1985	496	0	835	261	2328	0.853	1972	1055	2.2	5.5	9.913	A
B	24	24	6	0	0	2217	92	0.263	23	15	0.1	0.3	51.426	F
C	1105	1105	276	0	0	1057	1314	0.841	1092	1184	1.7	5.0	16.188	C
D	1093	259	65	835	0	1057	1153	0.224	258	1092	0.2	0.3	4.412	A

17:30 - 17:45

Arm	Total Demand (PCU/hr)	Junction demand (PCU/hr)	Junction Arrivals (PCU)	Bypass demand (PCU/hr)	Bypass exit flow (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A	1985	1985	496	0	835	261	2328	0.853	1984	1066	5.5	5.7	10.580	B
B	24	24	6	0	0	2230	86	0.283	24	15	0.3	0.4	58.203	F
C	1105	1105	276	0	0	1064	1309	0.845	1104	1190	5.0	5.3	18.175	C
D	1093	259	65	835	0	1068	1147	0.226	259	1100	0.3	0.3	4.447	A

17:45 - 18:00

Arm	Total Demand (PCU/hr)	Junction demand (PCU/hr)	Junction Arrivals (PCU)	Bypass demand (PCU/hr)	Bypass exit flow (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A	1621	1621	405	0	681	213	2363	0.686	1634	884	5.7	2.3	5.110	A
B	20	20	5	0	0	1835	290	0.068	21	13	0.4	0.1	13.420	B
C	903	903	226	0	0	878	1434	0.630	917	979	5.3	1.8	7.498	A
D	893	211	53	681	0	885	1257	0.168	212	909	0.3	0.2	3.783	A

18:00 - 18:15

Arm	Total Demand (PCU/hr)	Junction demand (PCU/hr)	Junction Arrivals (PCU)	Bypass demand (PCU/hr)	Bypass exit flow (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A	1357	1357	339	0	571	179	2388	0.568	1361	732	2.3	1.3	3.570	A
B	17	17	4	0	0	1529	449	0.037	17	11	0.1	0.0	8.327	A
C	756	756	189	0	0	730	1532	0.493	759	816	1.8	1.0	4.907	A
D	748	177	44	571	0	734	1348	0.131	177	755	0.2	0.2	3.376	A

Junctions 9												
PICADY 9 - Priority Intersection Module												
Version: 9.5.0.6896 © Copyright TRL Limited, 2018												
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Filename: J3_Downside Road_Emergency Access.j9

Path: \\pba.int\BRI\Projects\43321 Bristol Airport\Technical\Transport\Junction Assessments\PICADY

Report generation date: 22/07/2019 17:58:03

- »2018 Baseline, AM
- »2018 Baseline, IP
- »2018 Baseline, PM
- »2026 Reference Case, AM
- »2026 Reference Case, IP
- »2026 Reference Case, PM
- »2026 Test Case, AM
- »2026 Test Case, IP
- »2026 Test Case, PM

Summary of junction performance

	AM				IP				PM			
	Queue (PCU)	Delay (s)	RFC	LOS	Queue (PCU)	Delay (s)	RFC	LOS	Queue (PCU)	Delay (s)	RFC	LOS
2018 Baseline												
Stream B-C	0.1	6.48	0.05	A	0.1	5.98	0.08	A	0.1	6.65	0.12	A
Stream B-A	0.0	10.10	0.03	B	0.1	8.65	0.07	A	0.1	9.52	0.05	A
Stream C-AB	0.2	5.00	0.12	A	0.1	5.13	0.07	A	0.1	5.20	0.08	A
2026 Reference Case												
Stream B-C	0.1	6.70	0.06	A	0.1	6.20	0.09	A	0.2	7.00	0.14	A
Stream B-A	0.0	10.84	0.04	B	0.1	9.13	0.08	A	0.1	10.15	0.06	B
Stream C-AB	0.3	5.01	0.14	A	0.1	5.13	0.08	A	0.2	5.23	0.09	A
2026 Test Case												
Stream B-C	0.1	6.72	0.06	A	0.1	6.25	0.10	A	0.2	7.06	0.14	A
Stream B-A	0.0	10.87	0.04	B	0.1	9.24	0.09	A	0.1	10.29	0.06	B
Stream C-AB	0.3	4.99	0.14	A	0.1	5.12	0.08	A	0.2	5.23	0.09	A

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.

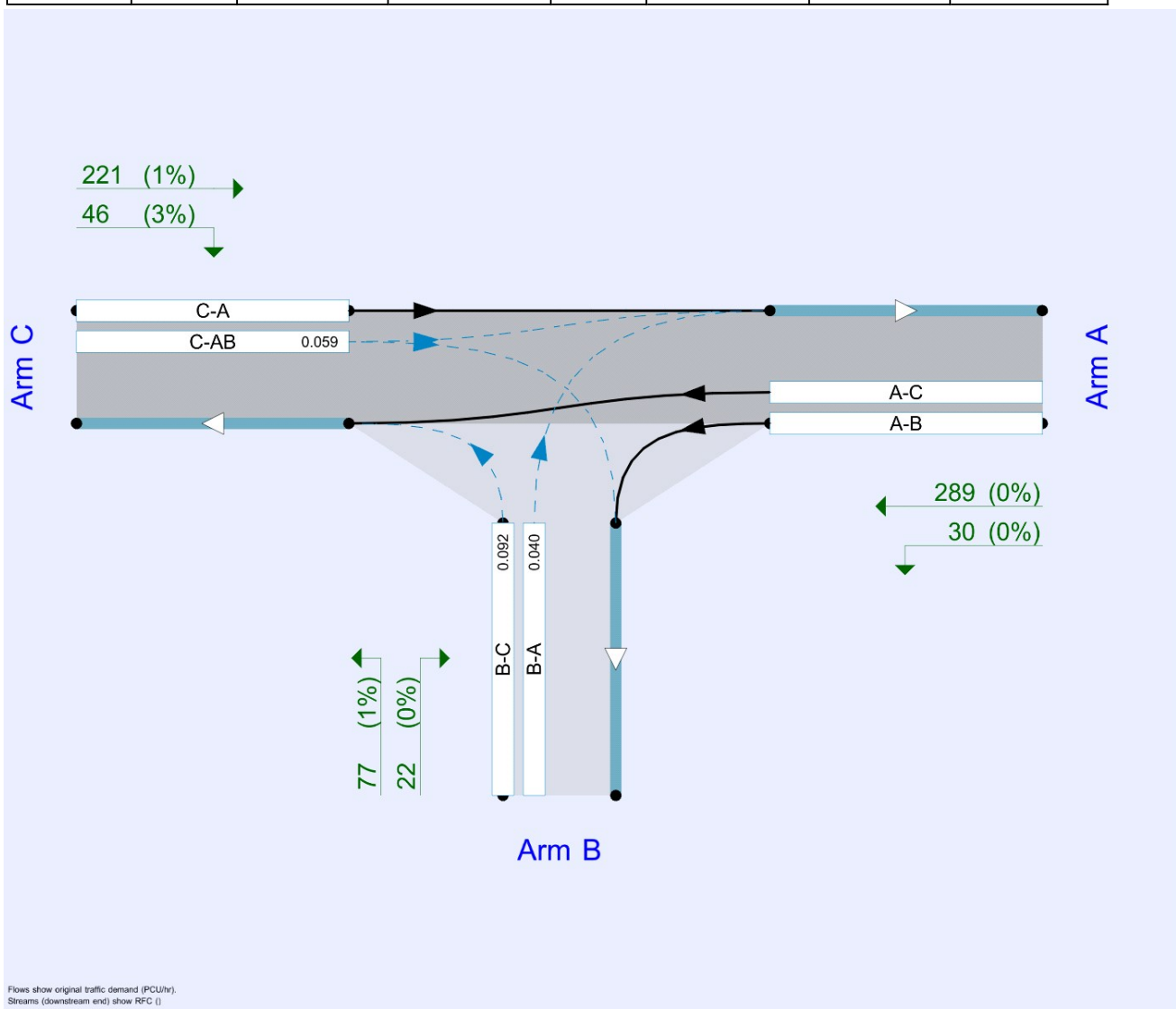
File summary

File Description

Title	Downside Road / Emergency Access
Location	Bristol Airport
Site number	
Date	04/09/2018
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	PBA\jchodorowski
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

Calculate Queue Percentiles	Calculate residual capacity	RFC Threshold	Average Delay threshold (s)	Queue threshold (PCU)
		0.85	36.00	20.00

Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D1	2018 Baseline	AM	ONE HOUR	07:45	09:15	15
D2	2018 Baseline	IP	ONE HOUR	12:45	14:15	15
D3	2018 Baseline	PM	ONE HOUR	16:45	18:15	15
D4	2026 Reference Case	AM	ONE HOUR	07:45	09:15	15
D5	2026 Reference Case	IP	ONE HOUR	12:45	14:15	15
D6	2026 Reference Case	PM	ONE HOUR	16:45	18:15	15
D7	2026 Test Case	AM	ONE HOUR	07:45	09:15	15
D8	2026 Test Case	IP	ONE HOUR	12:45	14:15	15
D9	2026 Test Case	PM	ONE HOUR	16:45	18:15	15

Analysis Set Details

ID	Network flow scaling factor (%)
A1	100.000

2018 Baseline, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Major arm width	Arm C - Major arm geometry	For two-way major roads, please interpret results with caution if the total major carriageway width is less than 6m.

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way		1.04	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Name	Description	Arm type
A	Downside Road E		Major
B	Aiport Emergency Access		Minor
C	Downside Road W		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Has right turn bay	Visibility for right turn (m)	Blocks?	Blocking queue (PCU)
C	5.50			250.0	✓	0.00

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

Minor Arm Geometry

Arm	Minor arm type	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate flare length	Flare length (PCU)	Visibility to left (m)	Visibility to right (m)
B	One lane plus flare	10.00	5.40	3.50	3.30	3.30		1.00	26	35

Slope / Intercept / Capacity

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
1	B-A	513	0.095	0.241	0.152	0.345
1	B-C	699	0.110	0.277	-	-
1	C-B	719	0.285	0.285	-	-

The slopes and intercepts shown above do NOT include any corrections or adjustments.

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.

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D1	2018 Baseline	AM	ONE HOUR	07:45	09:15	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		✓	286	100.000
B		✓	39	100.000
C		✓	354	100.000

Origin-Destination Data

Demand (PCU/hr)

	To			
		A	B	C
	A	0	10	276
	B	10	0	29
	C	299	55	0

Vehicle Mix

Heavy Vehicle Percentages

	To			
		A	B	C
	A	0	0	4
	B	0	0	4
	C	5	2	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-C	0.05	6.48	0.1	A
B-A	0.03	10.10	0.0	B
C-AB	0.12	5.00	0.2	A
C-A				
A-B				
A-C				

Main Results for each time segment

07:45 - 08:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	22	638	0.034	22	0.0	6.072	A
B-A	8	414	0.018	7	0.0	8.861	A
C-AB	58	800	0.072	57	0.1	4.979	A
C-A	209			209			
A-B	8			8			
A-C	208			208			

08:00 - 08:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	26	626	0.042	26	0.0	6.240	A
B-A	9	394	0.023	9	0.0	9.342	A
C-AB	74	818	0.090	74	0.2	4.979	A
C-A	244			244			
A-B	9			9			
A-C	248			248			

08:15 - 08:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	32	609	0.052	32	0.1	6.483	A
B-A	11	368	0.030	11	0.0	10.094	B
C-AB	100	843	0.118	99	0.2	4.988	A
C-A	290			290			
A-B	11			11			
A-C	304			304			

08:30 - 08:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	32	609	0.052	32	0.1	6.484	A
B-A	11	368	0.030	11	0.0	10.096	B
C-AB	100	844	0.118	100	0.2	4.998	A
C-A	290			290			
A-B	11			11			
A-C	304			304			

08:45 - 09:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	26	626	0.042	26	0.0	6.243	A
B-A	9	394	0.023	9	0.0	9.344	A
C-AB	74	818	0.090	74	0.2	4.994	A
C-A	244			244			
A-B	9			9			
A-C	248			248			

09:00 - 09:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	22	638	0.034	22	0.0	6.076	A
B-A	8	414	0.018	8	0.0	8.867	A
C-AB	58	800	0.072	58	0.1	4.994	A
C-A	209			209			
A-B	8			8			
A-C	208			208			

2018 Baseline, IP

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Major arm width	Arm C - Major arm geometry	For two-way major roads, please interpret results with caution if the total major carriageway width is less than 6m.

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way		1.79	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D2	2018 Baseline	IP	ONE HOUR	12:45	14:15	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		✓	162	100.000
B		✓	77	100.000
C		✓	194	100.000

Origin-Destination Data

Demand (PCU/hr)

	To			
		A	B	C
	A	0	34	128
	B	28	0	49
	C	156	38	0

Vehicle Mix

Heavy Vehicle Percentages

	To			
		A	B	C
	A	0	0	2
	B	0	0	2
	C	3	3	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-C	0.08	5.98	0.1	A
B-A	0.07	8.65	0.1	A
C-AB	0.07	5.13	0.1	A
C-A				
A-B				
A-C				

Main Results for each time segment

12:45 - 13:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	37	687	0.054	37	0.1	5.649	A
B-A	21	473	0.045	21	0.0	7.966	A
C-AB	34	757	0.045	34	0.1	5.126	A
C-A	112			112			
A-B	26			26			
A-C	96			96			

13:00 - 13:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	44	679	0.065	44	0.1	5.784	A
B-A	25	462	0.055	25	0.1	8.241	A
C-AB	42	765	0.055	42	0.1	5.128	A
C-A	133			133			
A-B	31			31			
A-C	115			115			

13:15 - 13:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	54	668	0.081	54	0.1	5.979	A
B-A	31	447	0.069	31	0.1	8.648	A
C-AB	54	776	0.069	54	0.1	5.133	A
C-A	160			160			
A-B	37			37			
A-C	141			141			

13:30 - 13:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	54	668	0.081	54	0.1	5.979	A
B-A	31	447	0.069	31	0.1	8.650	A
C-AB	54	776	0.069	54	0.1	5.135	A
C-A	160			160			
A-B	37			37			
A-C	141			141			

13:45 - 14:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	44	679	0.065	44	0.1	5.789	A
B-A	25	462	0.055	25	0.1	8.247	A
C-AB	42	765	0.055	42	0.1	5.133	A
C-A	132			132			
A-B	31			31			
A-C	115			115			

14:00 - 14:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	37	686	0.054	37	0.1	5.656	A
B-A	21	473	0.045	21	0.0	7.974	A
C-AB	34	757	0.045	34	0.1	5.130	A
C-A	112			112			
A-B	26			26			
A-C	96			96			

2018 Baseline, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Major arm width	Arm C - Major arm geometry	For two-way major roads, please interpret results with caution if the total major carriageway width is less than 6m.

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way		1.59	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D3	2018 Baseline	PM	ONE HOUR	16:45	18:15	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		✓	253	100.000
B		✓	86	100.000
C		✓	224	100.000

Origin-Destination Data

Demand (PCU/hr)

	To			
		A	B	C
	A	0	23	230
	B	19	0	67
	C	184	40	0

Vehicle Mix

Heavy Vehicle Percentages

	To			
		A	B	C
	A	0	0	0
	B	0	0	1
	C	1	3	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-C	0.12	6.65	0.1	A
B-A	0.05	9.52	0.1	A
C-AB	0.08	5.20	0.1	A
C-A				
A-B				
A-C				

Main Results for each time segment

16:45 - 17:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	50	646	0.078	50	0.1	6.095	A
B-A	14	434	0.033	14	0.0	8.575	A
C-AB	37	752	0.049	37	0.1	5.164	A
C-A	132			132			
A-B	17			17			
A-C	173			173			

17:00 - 17:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	60	635	0.095	60	0.1	6.320	A
B-A	17	419	0.041	17	0.0	8.950	A
C-AB	46	759	0.061	46	0.1	5.179	A
C-A	155			155			
A-B	21			21			
A-C	207			207			

17:15 - 17:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	74	620	0.119	74	0.1	6.651	A
B-A	21	399	0.052	21	0.1	9.517	A
C-AB	60	770	0.078	60	0.1	5.197	A
C-A	187			187			
A-B	25			25			
A-C	253			253			

17:30 - 17:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	74	620	0.119	74	0.1	6.654	A
B-A	21	399	0.052	21	0.1	9.520	A
C-AB	60	770	0.078	60	0.1	5.196	A
C-A	187			187			
A-B	25			25			
A-C	253			253			

17:45 - 18:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	60	635	0.095	60	0.1	6.326	A
B-A	17	419	0.041	17	0.0	8.954	A
C-AB	46	759	0.061	46	0.1	5.177	A
C-A	155			155			
A-B	21			21			
A-C	207			207			

18:00 - 18:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	50	646	0.078	51	0.1	6.105	A
B-A	14	434	0.033	14	0.0	8.584	A
C-AB	37	752	0.049	37	0.1	5.166	A
C-A	132			132			
A-B	17			17			
A-C	173			173			

2026 Reference Case, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Major arm width	Arm C - Major arm geometry	For two-way major roads, please interpret results with caution if the total major carriageway width is less than 6m.

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way		1.10	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D4	2026 Reference Case	AM	ONE HOUR	07:45	09:15	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		✓	329	100.000
B		✓	45	100.000
C		✓	411	100.000

Origin-Destination Data

Demand (PCU/hr)

	To			
	A	B	C	
From	A	0	12	317
	B	11	0	34
	C	348	63	0

Vehicle Mix

Heavy Vehicle Percentages

	To			
	A	B	C	
From	A	0	0	4
	B	0	0	4
	C	5	2	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-C	0.06	6.70	0.1	A
B-A	0.04	10.84	0.0	B
C-AB	0.14	5.01	0.3	A
C-A				
A-B				
A-C				

Main Results for each time segment

07:45 - 08:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	26	630	0.041	25	0.0	6.194	A
B-A	8	397	0.021	8	0.0	9.253	A
C-AB	70	816	0.086	69	0.1	4.963	A
C-A	240			240			
A-B	9			9			
A-C	239			239			

08:00 - 08:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	31	616	0.050	31	0.1	6.396	A
B-A	10	375	0.026	10	0.0	9.863	A
C-AB	91	837	0.108	90	0.2	4.970	A
C-A	279			279			
A-B	11			11			
A-C	285			285			

08:15 - 08:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	37	597	0.063	37	0.1	6.695	A
B-A	12	344	0.035	12	0.0	10.840	B
C-AB	125	868	0.144	124	0.3	5.001	A
C-A	328			328			
A-B	13			13			
A-C	349			349			

08:30 - 08:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	37	597	0.063	37	0.1	6.695	A
B-A	12	344	0.035	12	0.0	10.844	B
C-AB	125	868	0.144	125	0.3	5.008	A
C-A	328			328			
A-B	13			13			
A-C	349			349			

08:45 - 09:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	31	616	0.050	31	0.1	6.400	A
B-A	10	375	0.026	10	0.0	9.867	A
C-AB	91	837	0.108	91	0.2	4.988	A
C-A	279			279			
A-B	11			11			
A-C	285			285			

09:00 - 09:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	26	630	0.041	26	0.0	6.201	A
B-A	8	397	0.021	8	0.0	9.263	A
C-AB	70	816	0.086	70	0.2	4.980	A
C-A	239			239			
A-B	9			9			
A-C	239			239			

2026 Reference Case, IP

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Major arm width	Arm C - Major arm geometry	For two-way major roads, please interpret results with caution if the total major carriageway width is less than 6m.

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way		1.81	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D5	2026 Reference Case	IP	ONE HOUR	12:45	14:15	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		✓	199	100.000
B		✓	89	100.000
C		✓	233	100.000

Origin-Destination Data

Demand (PCU/hr)

	To			
	A	B	C	
From	A	0	40	159
	B	33	0	56
	C	189	44	0

Vehicle Mix

Heavy Vehicle Percentages

	To			
	A	B	C	
From	A	0	0	2
	B	0	0	2
	C	3	3	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-C	0.09	6.20	0.1	A
B-A	0.08	9.13	0.1	A
C-AB	0.08	5.13	0.1	A
C-A				
A-B				
A-C				

Main Results for each time segment

12:45 - 13:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	42	677	0.062	42	0.1	5.782	A
B-A	25	462	0.054	25	0.1	8.232	A
C-AB	41	765	0.053	40	0.1	5.117	A
C-A	135			135			
A-B	30			30			
A-C	120			120			

13:00 - 13:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	50	667	0.075	50	0.1	5.954	A
B-A	30	449	0.066	30	0.1	8.590	A
C-AB	51	775	0.065	51	0.1	5.123	A
C-A	159			159			
A-B	36			36			
A-C	143			143			

13:15 - 13:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	62	654	0.094	62	0.1	6.201	A
B-A	36	430	0.084	36	0.1	9.129	A
C-AB	66	789	0.084	66	0.1	5.132	A
C-A	191			191			
A-B	44			44			
A-C	175			175			

13:30 - 13:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	62	654	0.094	62	0.1	6.202	A
B-A	36	430	0.084	36	0.1	9.133	A
C-AB	66	789	0.084	66	0.1	5.134	A
C-A	191			191			
A-B	44			44			
A-C	175			175			

13:45 - 14:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	50	667	0.075	50	0.1	5.957	A
B-A	30	449	0.066	30	0.1	8.596	A
C-AB	51	775	0.066	51	0.1	5.124	A
C-A	159			159			
A-B	36			36			
A-C	143			143			

14:00 - 14:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	42	676	0.062	42	0.1	5.793	A
B-A	25	462	0.054	25	0.1	8.244	A
C-AB	41	765	0.053	41	0.1	5.121	A
C-A	135			135			
A-B	30			30			
A-C	120			120			

2026 Reference Case, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Major arm width	Arm C - Major arm geometry	For two-way major roads, please interpret results with caution if the total major carriageway width is less than 6m.

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way		1.64	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D6	2026 Reference Case	PM	ONE HOUR	16:45	18:15	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		✓	304	100.000
B		✓	99	100.000
C		✓	261	100.000

Origin-Destination Data

Demand (PCU/hr)

	To			
From		A	B	C
	A	0	29	275
	B	22	0	77
	C	215	46	0

Vehicle Mix

Heavy Vehicle Percentages

	To			
From		A	B	C
	A	0	0	0
	B	0	0	1
	C	1	3	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-C	0.14	7.00	0.2	A
B-A	0.06	10.15	0.1	B
C-AB	0.09	5.23	0.2	A
C-A				
A-B				
A-C				

Main Results for each time segment

16:45 - 17:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	58	635	0.091	58	0.1	6.288	A
B-A	17	420	0.039	16	0.0	8.906	A
C-AB	44	757	0.058	44	0.1	5.178	A
C-A	152			152			
A-B	22			22			
A-C	207			207			

17:00 - 17:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	69	622	0.111	69	0.1	6.574	A
B-A	20	403	0.049	20	0.1	9.391	A
C-AB	55	765	0.072	55	0.1	5.197	A
C-A	179			179			
A-B	26			26			
A-C	247			247			

17:15 - 17:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	85	604	0.140	85	0.2	7.000	A
B-A	24	379	0.064	24	0.1	10.146	B
C-AB	73	778	0.094	73	0.2	5.229	A
C-A	214			214			
A-B	32			32			
A-C	303			303			

17:30 - 17:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	85	604	0.140	85	0.2	7.004	A
B-A	24	379	0.064	24	0.1	10.148	B
C-AB	73	778	0.094	73	0.2	5.227	A
C-A	214			214			
A-B	32			32			
A-C	303			303			

17:45 - 18:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	69	622	0.111	69	0.1	6.578	A
B-A	20	403	0.049	20	0.1	9.397	A
C-AB	55	766	0.072	56	0.1	5.198	A
C-A	179			179			
A-B	26			26			
A-C	247			247			

18:00 - 18:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	58	635	0.091	58	0.1	6.299	A
B-A	17	420	0.039	17	0.0	8.919	A
C-AB	44	757	0.058	44	0.1	5.181	A
C-A	152			152			
A-B	22			22			
A-C	207			207			

2026 Test Case, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Major arm width	Arm C - Major arm geometry	For two-way major roads, please interpret results with caution if the total major carriageway width is less than 6m.

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way		1.11	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D7	2026 Test Case	AM	ONE HOUR	07:45	09:15	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		✓	330	100.000
B		✓	46	100.000
C		✓	417	100.000

Origin-Destination Data

Demand (PCU/hr)

	To			
	A	B	C	
From	A	0	12	318
	B	12	0	34
	C	354	63	0

Vehicle Mix

Heavy Vehicle Percentages

	To			
	A	B	C	
From	A	0	0	4
	B	0	0	4
	C	5	2	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-C	0.06	6.72	0.1	A
B-A	0.04	10.87	0.0	B
C-AB	0.14	4.99	0.3	A
C-A				
A-B				
A-C				

Main Results for each time segment

07:45 - 08:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	26	628	0.041	25	0.0	6.210	A
B-A	9	398	0.023	9	0.0	9.250	A
C-AB	70	819	0.086	70	0.1	4.948	A
C-A	244			244			
A-B	9			9			
A-C	239			239			

08:00 - 08:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	31	614	0.050	31	0.1	6.414	A
B-A	11	375	0.029	11	0.0	9.871	A
C-AB	91	841	0.109	91	0.2	4.952	A
C-A	283			283			
A-B	11			11			
A-C	286			286			

08:15 - 08:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	37	595	0.063	37	0.1	6.716	A
B-A	13	344	0.038	13	0.0	10.869	B
C-AB	126	872	0.144	125	0.3	4.982	A
C-A	333			333			
A-B	13			13			
A-C	350			350			

08:30 - 08:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	37	595	0.063	37	0.1	6.717	A
B-A	13	344	0.038	13	0.0	10.873	B
C-AB	126	872	0.144	126	0.3	4.990	A
C-A	333			333			
A-B	13			13			
A-C	350			350			

08:45 - 09:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	31	614	0.050	31	0.1	6.416	A
B-A	11	375	0.029	11	0.0	9.876	A
C-AB	92	841	0.109	92	0.2	4.969	A
C-A	283			283			
A-B	11			11			
A-C	286			286			

09:00 - 09:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	26	628	0.041	26	0.0	6.214	A
B-A	9	398	0.023	9	0.0	9.260	A
C-AB	71	819	0.086	71	0.2	4.963	A
C-A	243			243			
A-B	9			9			
A-C	239			239			

2026 Test Case, IP

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Major arm width	Arm C - Major arm geometry	For two-way major roads, please interpret results with caution if the total major carriageway width is less than 6m.

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way		1.78	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D8	2026 Test Case	IP	ONE HOUR	12:45	14:15	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		✓	210	100.000
B		✓	90	100.000
C		✓	241	100.000

Origin-Destination Data

Demand (PCU/hr)

	To			
	A	B	C	
From	A	0	41	169
	B	34	0	56
	C	197	44	0

Vehicle Mix

Heavy Vehicle Percentages

	To			
	A	B	C	
From	A	0	0	2
	B	0	0	2
	C	3	3	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-C	0.10	6.25	0.1	A
B-A	0.09	9.24	0.1	A
C-AB	0.08	5.12	0.1	A
C-A				
A-B				
A-C				

Main Results for each time segment

12:45 - 13:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	42	673	0.063	42	0.1	5.816	A
B-A	26	460	0.056	25	0.1	8.285	A
C-AB	41	767	0.054	41	0.1	5.108	A
C-A	140			140			
A-B	31			31			
A-C	127			127			

13:00 - 13:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	50	663	0.076	50	0.1	5.994	A
B-A	31	446	0.069	31	0.1	8.664	A
C-AB	51	777	0.066	51	0.1	5.111	A
C-A	165			165			
A-B	37			37			
A-C	152			152			

13:15 - 13:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	62	649	0.095	62	0.1	6.253	A
B-A	37	427	0.088	37	0.1	9.236	A
C-AB	67	791	0.085	67	0.1	5.118	A
C-A	198			198			
A-B	45			45			
A-C	186			186			

13:30 - 13:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	62	649	0.095	62	0.1	6.253	A
B-A	37	427	0.088	37	0.1	9.240	A
C-AB	67	791	0.085	67	0.1	5.122	A
C-A	198			198			
A-B	45			45			
A-C	186			186			

13:45 - 14:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	50	663	0.076	50	0.1	5.997	A
B-A	31	446	0.069	31	0.1	8.669	A
C-AB	51	777	0.066	51	0.1	5.116	A
C-A	165			165			
A-B	37			37			
A-C	152			152			

14:00 - 14:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	42	673	0.063	42	0.1	5.824	A
B-A	26	460	0.056	26	0.1	8.296	A
C-AB	41	767	0.054	41	0.1	5.115	A
C-A	140			140			
A-B	31			31			
A-C	127			127			

2026 Test Case, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Major arm width	Arm C - Major arm geometry	For two-way major roads, please interpret results with caution if the total major carriageway width is less than 6m.

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way		1.61	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D9	2026 Test Case	PM	ONE HOUR	16:45	18:15	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		✓	319	100.000
B		✓	99	100.000
C		✓	267	100.000

Origin-Destination Data

Demand (PCU/hr)

	To			
	A	B	C	
From	A	0	30	289
	B	22	0	77
	C	221	46	0

Vehicle Mix

Heavy Vehicle Percentages

	To			
	A	B	C	
From	A	0	0	0
	B	0	0	1
	C	1	3	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-C	0.14	7.06	0.2	A
B-A	0.06	10.29	0.1	B
C-AB	0.09	5.23	0.2	A
C-A				
A-B				
A-C				

Main Results for each time segment

16:45 - 17:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	58	632	0.092	58	0.1	6.321	A
B-A	17	417	0.040	16	0.0	8.981	A
C-AB	44	757	0.059	44	0.1	5.180	A
C-A	157			157			
A-B	23			23			
A-C	218			218			

17:00 - 17:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	69	619	0.112	69	0.1	6.617	A
B-A	20	399	0.050	20	0.1	9.488	A
C-AB	56	766	0.073	56	0.1	5.202	A
C-A	184			184			
A-B	27			27			
A-C	260			260			

17:15 - 17:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	85	599	0.141	85	0.2	7.061	A
B-A	24	374	0.065	24	0.1	10.281	B
C-AB	74	779	0.095	74	0.2	5.233	A
C-A	220			220			
A-B	33			33			
A-C	318			318			

17:30 - 17:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	85	599	0.141	85	0.2	7.064	A
B-A	24	374	0.065	24	0.1	10.287	B
C-AB	74	779	0.095	74	0.2	5.231	A
C-A	220			220			
A-B	33			33			
A-C	318			318			

17:45 - 18:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	69	619	0.112	69	0.1	6.622	A
B-A	20	399	0.050	20	0.1	9.496	A
C-AB	56	766	0.073	56	0.1	5.201	A
C-A	184			184			
A-B	27			27			
A-C	260			260			

18:00 - 18:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	58	632	0.092	58	0.1	6.335	A
B-A	17	417	0.040	17	0.0	8.993	A
C-AB	44	757	0.059	45	0.1	5.183	A
C-A	157			157			
A-B	23			23			
A-C	218			218			