Appendix 16
TN10 Addendum: Impacts north of the M1 including the A45 corridor Technical Note

M1J15 NORTHAMPTON GATEWAY
STRATEGIC RAIL FREIGHT INTERCHANGE

TECHNICAL NOTE 10 ADDENDUM: IMPACTS NORTH OF THE M1 INCLUDING THE A45 CORRIDOR

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APPENDICES

1.0 INTRODUCTION

1.1 ADC Infrastructure Ltd is commissioned by Roxhill (Junction 15) Ltd to provide transport advice with regards to their Nationally Significant Infrastructure Project (NSIP) for the development of a Strategic Rail Freight Interchange (SRFI) facility adjacent to M1 Junction 15 in Northamptonshire (known as Northampton Gateway SRFI).

1.2 It was agreed with the Transport Working Group (TWG) that the transport impacts of the Northampton Gateway SRFI development be modelled using the Northamptonshire Strategic Transport Model (NSTM2) which is maintained on Northamptonshire County Council's (NCC's) behalf by WSP.

1.3 The outputs of the NSTM2 have been analysed to identify the impacts of the proposed development and judge the requirements for mitigation across the transport network.

1.4 The subsequent evolution of the highway mitigation strategy has followed an iterative path, firstly considering the area locally to the development were impacts are likely to be greatest (M1 Junction 15) and then moving outwards (the A508 and the village of Roade, M1 Junction 15A, impacts north of the M1 including the A45). Junction turning movement traffic data has been extracted from the NSTM2 and used to test the mitigation proposals. The NSTM2 modelling then incorporated the developing mitigation strategy as schemes began to crystallise so that reassignment effects due to the mitigation could be considered.

1.5 The resulting highway mitigation strategy was agreed in principle with the TWG at a meeting on 19 September and was subject to the Stage 2, statutory, consultation between 9 October 2017 and 20 November 2017. NCC provided comments on the consultation material on 24 November 2017. With regards to the NSTM2, the NCC consultation response states:

"The NSTM has been further validated in the area surrounding the proposed development to ensure that it is fit for purpose as the basis for forecasting future traffic level."

"Both the baseline and forecast NSTM models have been signed off by the County Council as fit for purpose."

1.6 NCC's consultation response goes on to state:

"That the detailed individual junction assessments are yet to be agreed with the LHA. Also, the LHA requires the study area to be extended to include more junctions north of the M1, and in particular the A45 and inner ring road."

1.7 In the time between the start of the Stage 2 consultation and NCC providing their consultation response, the study area was expanded to include 12 junctions to the north of the M1, including the A45 corridor (between M1 Junction 15 and the A45/A509 gyratory at Wellingborough) and the A5076 inner ring road. This work was presented at the TWG meeting on 17 November 2017 and reported in Technical Note 10 (ref. ADC1474 TN10), which was submitted to the TWG on 13 December 2017. NCC confirmed at the TWG meeting on 19 December 2017 that the structure, depth and assessment methodology of TN10 are suitable, and that the identified study area was appropriate.

1.8 After considering the detailed junction modelling, NCC highlighted in an email of 12 March 2018 that there are several turning movements at junctions within the TN10 study area which they consider materially differ from single day observed turning count data. During discussions with NCC, ADC stated that the NSTM2 junction turning movements would be unlikely to correlate to observed turning counts in all instances for the following reasons:

- the NSTM2 has been calibrated/validated with a greater weight applied to the observed two-week ATC link count data and therefore is more representative of actual traffic flow volumes than a single day observed turning count;

- the turning proportions at study area junctions will change in the future assessment years due to committed and allocated site-specific development growth, and changes to route choices associated with this and also committed infrastructure schemes;
- the proposed Northampton Gateway SRFI highway mitigation works releases bottlenecks on the existing highway network that alter the route choices for existing drivers using the network.

1.9 Whilst NCC accept the above, they maintain that the differences between modelled and observed turning movements at the junctions they have highlighted are significant enough to warrant further investigation and manual adjustments where appropriate.

1.10 This Technical Note Addendum therefore considers appropriate manual corrections to the anomalous turning movements highlighted by NCC and presents the findings of sensitivity capacity assessments at the effected junctions.

2.0 TRAFFIC FLOWS CORRECTIONS

Anomalous turning movements

2.1 In their email of 12 March 2018, NCC highlighted the NSTM2 turning movements at junctions within the TN10 study area that they consider require manual corrections for both the 2031 D1 reference case and 2031 J1d development case scenarios, so that the results of the detailed junction modelling can be considered with confidence. The turning movements in question are identified below.

AM Peak

2.2 At the Barnes Meadow Interchange the following NSTM2 turning movements have been identified by NCC for sensitivity testing in the morning peak hour:

- A45 southbound offslip to Bedford Road West (NSTM2 flow lower than anticipated);
- Rushmere Road to Bedford Road East (NSTM2 flow higher than anticipated);
- Rushmere Road to the A45 southbound (NSTM2 flow lower than anticipated);
- Rushmere Road to Bedford Road West (NSTM2 flow lower than anticipated).

2.3 Further, NCC have concerns (although to a lesser extent) regarding movements from Victoria Gardens at the A5123/Bridge Street/St. Peters Way junction (known as the Plough Gyratory). Whilst the NSTM2 turning proportions are reflective of observed data, NCC are concerned that the number of actual movements are lower than expected.

PM Peak

2.4 With regards to the PM peak at the Wootton Interchange, NCC are concerned that the A45 northbound off-slip to Rowtree Road is underrepresented in the 2031 NSTM2 scenarios.

2.5 At the Barnes Meadow Interchange the following NSTM2 turning movements have been identified by NCC for sensitivity testing in the evening peak hour:

- A45 southbound offslip to Bedford Road West (NSTM2 flow lower than anticipated);
- Rushmere Road to A45 northbound (NSTM2 flow higher than anticipated);
- Rushmere Road to the A45 southbound (NSTM2 flow lower than anticipated).

2.6 At the A5076 Danes Camp Way/A5123/Upton Valley Way gyratory the following NSTM2 turning movements have been identified by NCC for sensitivity testing:

- Upton Way to A5076 Danes Camp Way (NSTM2 flow higher than anticipated);
- A5076 Danes Camp Way to Upton Way (NSTM2 flow lower than anticipated);
- A5123 to A5076 Danes Camp Way (NSTMS flow lower than anticipated).

2.7 At the Brackmills Interchange NCC raised concerns regarding the Caswell Road to A45 northbound movement.

2.8 As discussed at paragraph 2.3, NCC also have concerns regarding NSTM2 movements from Victoria Gardens at the Plough Gyratory in the evening peak.

2031 assessment year manual corrections

2.9 For the above highlighted turning movements, a comparison between the 2015 NSTM2 modelled data (**Appendix A**) and the 2015 observed traffic count data (**Appendix B**) was undertaken so that the scale of the issue can be understood. This comparison, together with the turning movements from the 2031 D1 reference case and 2031 J1d development case scenarios, is presented at **Table 1**.

Morning Peak Hour										
Movement	2015 Observed Flow	2015 Modelled Flow	2031 Ref Case Flow	2031 J1d Case Flow	Adjusted 2015	2031 ref vs 2015 model	2031 J1d vs 2031 Ref	Adjusted Ref	Adjusted Dev	Comment
A45 SB offslip to Bedford Road West	1411	857	834	911	1411	-23	77	1388	1465	Use 2015 observed flow as model base flow (1411)
Rushmere Road to Bedford Road East	146	692	753	826	140	61	73	437	444	Assignment appears to have switched between these routes, therefore flows reversed to match 2015 observed assignment
Rushmere Road to A45 SB	855	140	437	444	692	297	7	753	826	
Rushmere Road to Bedford Road West	111	0	2	11	111	2	9	113	122	Use 2015 observed flow as model base flow (111)
Evening Peak Hour										
A45 NB offslip to Rowtree Road	335	75	274	273	335	199	-1	534	533	Use 2015 observed flow as model base flow (335)
A45 SB offslip to Bedford Road West	748	305	699	570	748	394	-129	1142	1013	Use 2015 observed flow as model base flow (748)
Rushmere Road to A45 NB	151	621	427	479	151	N/A	52	151	203	Use 2015 observed flow as 2031 reference case flow
Rushmere Road to A45 SB	562	258	223	202	562	-35	-21	527	506	Use 2015 observed flow as model base flow (562)
Upton Way to Danes Camp Way	1094	1707	1490	1494	NSTM2 flow is higher and has been retained in detailed model for robustness					
Danes Camp Way to Upton Way	1196	795	906	865	1196	111	-41	1307	1266	Use 2015 observed flow as model base flow (1196)
A5123 to Danes Camp Way	637	274	556	645	Adjusted based on Turning Proportions - see below.					
Caswell Road to A45 NB	1588	212	157	224	1588	-55	67	1533	1600	Use 2015 observed flow as model base flow (1588)

A5123 to Danes Camp Way turning proportion adjustments								
Movement	2015 Observed Flow	2015 Observed Turning %	2015 Modelled Turning %	2015 adjusted flows	2031 Ref Case Flow	2031 Ref Case Adjusted	2031 J1d Case Flow	2031 J1d Case Adjusted
A5123 to Upton Way	863	55%	1073	900	1253	1110	1307	1224
A5123 to Danes Camp Way	637	40%	274	664	556	820	645	903
A5123 to Upton Valley Way	74	5%	294	77	216	95	280	105

Table 1: turning movement comparison and 2031 assessment year manual adjustments

Morning Peak Hour										
Movement	2015 Observed Flow	2015 Modelled Flow	2021 Ref Case Flow	2021 I1 Case Flow	Adjusted 2015	2021 ref vs 2015 model	2021 I1 vs 2021 Ref	Adjusted Ref	Adjusted Dev	Comment
A45 SB offslip to Bedford Road West	1411	857	959	941	1411	102	-18	1513	1495	Use 2015 observed flow as model base flow (1411)
Rushmere Road to Bedford Road East	146	692	572	597				157	160	Adjusted based on Turning Proportions on these movements (14% and 86%).
Rushmere Road to A45 SB	855	140	514	503				929	941	
Rushmere Road to Bedford Road West	111	0	1	8	111	1	7	112	119	Use 2015 observed flow as model base flow (111)
Evening Peak Hour										
A45 NB offslip to Rowtree Road	335	75	196	240	335	121	44	456	500	Use 2015 observed flow as model base flow (335)
A45 SB offslip to Bedford Road West	748	305	708	691	748	403	-17	1151	1134	Use 2015 observed flow as model base flow (748)
Rushmere Road to A45 NB	151	621	267	307	151	N/A	40	151	191	Use 2015 observed flow as 2031 reference case flow
Rushmere Road to A45 SB	562	258	364	301	562	106	-63	668	605	Use 2015 observed flow as model base flow (562)
Caswell Road to A45 NB	1588	212	477	504	1588	265	27	1853	1880	Use 2015 observed flow as model base flow (1588)

Table 2: turning movement comparison and 2021 02/2013 Circular compliant assessment manual adjustments

2.10 On the left-hand side, **Table 1** shows the NSTM2 2015 observed, 2015 modelled, 2031 D1 reference case and 2031 J1d turning flows for the movements highlighted by NCC. The right-hand side of **Table 1** details the manual correction undertaken so that a suitable sensitivity assessment can be undertaken.

2.11 For each turning movement highlighted in yellow, the 2015 modelled flow is replaced with the 2015 observed flow. The difference between the 2031 D1 reference case flow and 2015 modelled flow is then applied to the 2015 observed flow to give the adjusted 2031 D1 reference case flow. The difference between the 2031 J1d flow and 2031 D1 reference case flow is applied to the adjusted 2031 D1 reference case flow to give the adjusted 2031 J1d flow.

2.12 The movements from Rushmere Road to Bedford Road East and Rushmere Road to the A45 southbound at the Barnes Meadow Interchange in the morning peak are highlighted green. These routes both provide access to the Brackmills Industrial Estate and if the difference between the 2015 observed and 2015 modelled flows on these routes is considered, it can be seen that whilst the volumes are comparable the assignment has switched so that the larger flow is now shown on the Bedford Road East movement in the 2015 modelled scenario. Therefore, since the link flows in the NSTM2 are agreed to have validated acceptably, for the purpose of the 2031 sensitivity testing, the flows shall be switched so that the assignment matches the 2015 observed data.

2.13 The turning movement from Rushmere Road to the A45 northbound at the Barnes Meadow Interchange is highlighted orange and has a 2015 observed flow of 151, significantly lower than the 2015 modelled flow. Further, the 2031 D1 reference case flow is shown to be significantly lower than the 2015 modelled flow. Therefore, to avoid a negative number, the 2015 observed flow has been taken as the adjusted 2031 D1 reference case flow, and the difference between the 2031 J1d flow and 2031 D1 reference case flow added to give the adjusted 2031 J1d flow.

2.14 The movement highlighted grey is the A5123 to Danes Camp Way movement in the evening peak hour. The total flow across all three movements on the A5123 approach shows good correlation between the 2015 NSTM2 model and the 2015 observed data. Therefore, since it is agreed that the link flows have validated acceptably in the NSTM2, it has been concluded that the turning proportions from the 2015 observed data should be applied to the link flow on the A5123 for the 2031 D1 reference case and 2031 J1d development case scenarios as shown in **Table 1**.

2.15 The left turn from Upton Way to A5076 Danes Camp Way at the A5076 Danes Camp Way/A5123/Upton Valley Way gyratory is highlighted blue. The modelled flow is significantly higher than observed on this movement. However, the left turn is an unopposed movement and will not impact on junction performance and therefore no correction has been made.

2.16 As discussed in TN10, there is a committed improvement scheme at the Plough Gyratory which will significantly alter the layout from its current arrangement, with the number of allowed turning movements to be increased through the gyratory. The new arrangement is included in the 2031 D1 reference case and 2031 J1d development case NSTM2s. Since the turning proportions at this junction are certain to significantly change as a result of the committed proposals, it is not considered appropriate to make any amendments to the flows at this junction.

2021 02/2013 Circular compliant assessment year manual corrections

2.17 Of the four junctions affected by the turning movement concerns raised by NCC, the Wootton Interchange, Brackmills Interchange and Barnes Meadow Interchange junctions are on the A45 corridor and are therefore subject to the 2021 02/2013 Circular compliant

assessment. Therefore, manual adjustments for the turning movements in question at these junctions have also been determined for the 2021 02/2013 Circular compliant assessment scenarios, as shown at **Table 2**.

2.18 As for the 2031 assessment year scenarios, for each turning movement highlighted in yellow in **Table 2**, the 2015 modelled flow is replaced with the 2015 observed flow with the same adjustment methodology applied to the 2021 C1 reference case and 2021 I1 development case scenarios.

2.19 In the 2021 02/2013 Circular compliant assessment scenario, the movements from Rushmere Road to Bedford Road East and Rushmere Road to the A45 southbound at the Barnes Meadow Interchange in the morning peak are highlighted grey. As discussed at paragraph 2.12, both routes provide access to the Brackmills Industrial Estate and the split of vehicle using these routes switches between the 2015 observed and 2015 modelled datasets. However, both the 2021 C1 reference case and 2021 I1 development case scenarios show the flow to be much more evenly split across these routes which suggests that the traffic assignment has found its own equilibrium. Switching these flows as was the case for the 2031 dataset would not therefore impact on the modelling results. Therefore, for the purposes of the sensitivity test the turning proportions for these two routes from the 2015 observed data have be applied to the 2021 C1 reference case and 2021 I1 development case scenario flows as shown in **Table 2**.

2.20 The turning movement from Rushmere Road to the A45 northbound at the Barnes Meadow Interchange is highlighted orange in **Table 2**. As for the 2031 assessment year scenarios, the 2021 C1 reference case flow is replaced with the 2015 observed flow, with the same adjustment methodology applied to the 2021 I1 development case scenario.

3.0 SENSITIVITY JUNCTION ASSESSMENTS

Brackmills Interchange

3.1 The impact of the proposed development at the Brackmills Interchange was assessed in TN10 using a LinSig model. TN10 concluded that there would be no detrimental impact due to the proposed development in either the 2031 assessment year or the 2021 02/2013 Circular compliant assessment year scenarios.

3.2 The LinSig model has been run with the sensitivity traffic flow adjustments detailed in **Table 1** for the 2031 D1 reference case and 2031 J1d development case scenarios, and as detailed in **Table 2** for the 2021 C1 reference case and 2021 I1 development case scenarios. The sensitivity model results, provided at **Appendix C** and summarised at **Table 3** below, show that the junction would operate above its maximum capacity in the evening peak hour in all modelled sensitivity scenarios. (PRC values are negative indicating that one or more links are operating above 90% of their capacity).

Summary Results			
Scenario	**Peak**	**PRC**	**Total Delay (pcuHr)**
2031 Reference Case (D1)	PM Peak	-42.1%	451.66
2031 Development Case (J1d)	PM Peak	-36.5%	454.26
2021 Reference Case (C1)	PM Peak	-41.4%	530.92
2021 Development Case (I1)	PM Peak	-38.5%	525.44

Table 3: evening peak hour sensitivity test model results

3.3 The sensitivity model results in **Table 3** show that there would be no detrimental impact due to the proposed development in either the 2031 assessment year or the 2021 02/2013 Circular compliant assessment year and therefore no mitigation is proposed at this location.

Barnes Meadow Interchange (C)

3.4 The impact of the proposed development at the Barnes Meadow Interchange was assessed in TN10 using a LinSig model. TN10 concluded that there would be no detrimental impact due to the proposed development in either the 2031 assessment year or the 2021 02/2013 Circular compliant assessment year scenarios.

3.5 The LinSig model has been run with the sensitivity traffic flow adjustments as detailed in **Table 1** for the 2031 D1 reference case and 2031 J1d development case scenarios, and as detailed in **Table 2** for the 2021 C1 reference case and 2021 I1 development case scenarios. The sensitivity model results, provided at **Appendix D** and summarised at **Table 4** below, show that the junction would operate above its maximum capacity in the morning and evening peak hours in all modelled sensitivity scenarios, except for the 2021 C1 reference case and 2021 I1 development case scenarios for the morning peak hour.

Summary Results			
Scenario	**Peak**	**PRC**	**Total Delay (pcuHr)**
2031 Reference Case (D1)	AM Peak	-16.8%	122.65
	PM Peak	-58.6%	1006.83
2031 Development Case (J1d)	AM Peak	-18.3%	145.24
	PM Peak	-56.6%	879.80
2021 Reference Case (C1)	AM Peak	0.8%	74.20
	PM Peak	-67.4%	886.58
2021 Development Case (I1)	AM Peak	1.5%	76.87
	PM Peak	-66.4%	853.28

Table 4: morning and evening peak hour sensitivity test model results

3.6 The sensitivity model results in **Table 4** show that there would be no detrimental impact due to the proposed development in either the 2031 assessment year or the 2021 02/2013 Circular compliant assessment year and therefore no mitigation is proposed at this location.

A5076 Danes Camp Way/A5123/Upton Valley Way/A5076 Upton Way gyratory

3.7 The impact of the proposed development at the A5076 Danes Camp Way/A5123/Upton Valley Way/A5076 Upton Way gyratory was assessed in TN10 using a LinSig model. TN10 concluded that there would be no detrimental impact due to the proposed development in the 2031 assessment year scenario.

3.8 The LinSig model has been run with the sensitivity traffic flows adjustments as detailed in **Table 1** for the 2031 D1 reference case and 2031 J1d development case scenarios. The sensitivity model results, provided at **Appendix E** and summarised at **Table 5** below, show that the junction would operate above its maximum capacity in the evening peak hour in all modelled sensitivity scenarios.

Summary Results			
Scenario	**Peak**	**PRC**	**Total Delay (pcuHr)**
2031 Reference Case (D1)	PM Peak	-68.1%	414.90
2031 Development Case (J1d)	PM Peak	-67.6%	423.98

Table 5: evening peak hour sensitivity test model results

3.9 The sensitivity model results summarised above show that there would be no detrimental impact due to the proposed development, with only a minor impact on total delay at the junction in the evening peak hour.

3.10 Further consideration of the results in **Appendix E** shows that whilst the A5076 Danes Camp Way approach is the worst performing arm at the junction and its performance does not deteriorate in the 2031 J1d development case evening peak hour scenario, the performance of the right turn movement from the A5123 to the A5076 Danes Camp Way does deteriorate.

3.11 The sensitivity flow adjustment detailed at **Table 1** significantly increases the number of vehicles undertaking this right turn movement in the 2031 D1 reference case scenario, such that the degree of saturation is shown to be approaching 100%. Traffic on this movement is further increased in the 2031 J1d development case scenario, largely due to the reassignment effect of the proposed mitigation strategy, pushing the degree of saturation above 100% and also materially increasing the queue.

3.12 Therefore, the impact of the development at this junction requires further consideration, which is provided at Technical Note 11.

A45 Wootton Interchange (L)

3.13 The impact of the proposed development at the A45 Wootton Interchange was assessed in Technical Note 7 (ref. ADC1475 TN7 v3) and TN10 using an Arcady model. Both TN7 and TN10 demonstrated that there would be modest impacts at the A45 Wootton Interchange, largely caused by reassigning traffic and not development traffic.

3.14 The Arcady model has been run with the sensitivity traffic flows adjustments as detailed in **Table 1** for the 2031 D1 reference case and 2031 J1d development case scenarios, and as detailed in **Table 2** for the 2021 C1 reference case and 2021 I1 development case scenarios. The sensitivity model results, provided at **Appendix F** and summarised at **Table 6** below, show that the traffic demand would be significantly higher than capacity for both the northern and southern roundabouts in all modelled scenarios.

	PM				PM			
	Queue (PCU)	Delay (s)	RFC	LOS	Queue (PCU)	Delay (s)	RFC	LOS
	A1 - 2031 C1 Sensitivity				A1 - 2031 I1 Sensitivity			
Junction 1 - Arm 1	277.78	959.03	1.32	F	258.06	889.59	1.28	F
Junction 1 - Arm 2	1.00	6.26	0.49	A	0.97	6.11	0.48	A
Junction 1 - Arm 3	0.00	0.00	0.00	A	0.00	0.00	0.00	A
Junction 1 - Arm 4	89.11	288.37	1.17	F	118.82	412.56	1.23	F
Junction 2 - Arm 1	2.44	16.70	0.65	C	1.87	14.12	0.59	B
Junction 2 - Arm 2	42.60	219.26	1.13	F	30.15	160.87	1.07	F
Junction 2 - Arm 3	4.04	13.97	0.78	B	4.00	14.07	0.78	B
Junction 2 - Arm 4	19.57	126.07	1.02	F	40.90	230.23	1.13	F
	A1 - 2031 D1 sensitivity				A1 - 2031 J1d sensitivity			
Junction 1 - Arm 1	253.83	826.05	1.22	F	246.28	808.33	1.21	F
Junction 1 - Arm 2	1.09	6.38	0.51	A	1.62	8.02	0.61	A
Junction 1 - Arm 3	0.00	0.00	0.00	A	0.00	0.00	0.00	A
Junction 1 - Arm 4	231.70	816.85	1.41	F	388.18	1434.56	1.64	F
Junction 2 - Arm 1	1.99	14.49	0.61	B	2.11	15.04	0.61	C
Junction 2 - Arm 2	37.58	193.22	1.09	F	31.02	163.53	1.06	F
Junction 2 - Arm 3	5.18	17.60	0.83	C	7.46	24.40	0.87	C
Junction 2 - Arm 4	98.42	632.44	1.34	F	135.67	870.94	1.47	F

Jn 1 Arm 1 = Wooldale Road East, Jn 1 Arm 2 = Rowtree Road, Jn 1 Arm 3 = London Road, Jn 1 Arm 4 = A45 offslip, Jn 2 Arm 1 = Wooldale Road East, Jn 2 Arm 2 = A45 South, Jn 1 Arm 3 = Wooldale Road W, Jn 1 Arm 4 = Berry Lane

Table 6: evening peak hour sensitivity test model results

3.15 The sensitivity model results in **Table 6** show that in the evening peak hour the effect of the development is a worsening in performance on just two of the eight approaches in the 2021 02/2013 Circular compliant assessment scenario and on just three out of eight approaches in the 2031 assessment year scenario. The A45 offslip and Berry Lane approaches are particularly effected, largely due to traffic reassignment effects as discussed in TN7 and TN10. These approaches are already significantly over capacity in the reference case scenarios, and therefore relatively small changes in traffic conditions are causing dramatic increases in queuing and delay.

3.16 TN7 and TN10 both conclude that rather than promoting an improvement at the junction that risks encouraging additional rat-running, it would be appropriate for the development to promote an improvement at the Queen Eleanor Interchange which could help to draw traffic away from the Wootton Interchange and discourage any additional rat-running through residential areas. The results of the sensitivity tests presented above do not change this conclusion.

3.17 This approach was discussed and agreed with the Transport Working Group, with NCC confirming that they plan to implement a comprehensive improvement scheme at the Queen Eleanor Interchange. This would assist in drawing rat-running traffic away from the Wootton Interchange. It has been agreed with NCC that a financial contribution towards the Queen Eleanor Interchange improvement be secured as part of the development. Highways England have also confirmed this this is acceptable.

3.18 Therefore, considering the above and the assessment presented within TN7 and TN10, no mitigation is proposed at the Wootton Interchange.

Summary

3.19 Appropriate manual corrections to the anomalous turning movements highlighted by NCC have been calculated and sensitivity capacity assessments at the effected junctions have been undertaken.

3.20 The results of the sensitivity capacity assessments at the Brackmills Interchange, Barnes Meadow Interchange and Wootton Interchange junctions do not change the conclusions drawn from assessment results provided in TN10 and no mitigation is proposed at these locations.

3.21 The sensitivity model results for the A5076 Danes Camp Way/A5123/Upton Valley Way gyratory show that whilst there would not be a detrimental impact due to the proposed development in terms of practical reserve capacity and total delay at the junction, the detailed results do show that the performance of the right turn movement from the A5123 to the A5076 Danes Camp Way deteriorates.

3.22 The sensitivity flow adjustment significantly increases the number of vehicles undertaking this right turn movement in the reference case scenario, such that the degree of saturation is shown to be approaching 100%. Traffic on this movement is further increased in the development case scenario, largely due to the reassignment effect of the proposed mitigation strategy, pushing the degree of saturation above 100% which materially increases the queue.

3.23 Therefore, the impact of the development at this junction requires further consideration, which is provided at Technical Note 11.

APPENDIX A

NSTM2 2015 TURNING FLOWS

Junction Turning Flows

Junction: A45 Brackmills Interchange

Arm Description

Arm	Inbound		Outbound		Description
	A-Node	B-Node	A-Node	B-Node	
A	75028	3084	2084	7084	*A45/ Nene Valley Way*
B	2345	4084	3084	2345	*Caswell Road*
C	9163	6084	4084	5084	*A45/ Nene Valley Way*
D	1084	2084	6084	1084	*Eagle Drive*
E					
F					
G					

Growth Factors

Vehicle	Growth
Car	*1*
LGV	*1*
HGV	*1*

AM\Base Scenario

MODELLED

PCU

From Arm \ To Arm	A	B	C	D	E	F	G	TOTAL
A	0	730	45	13				788
B	227	0	444	2				673
C	576	1222	12	11				1821
D	49	5	14	0				68
E								
F								
G								
TOTAL	852	1957	515	26				3350

By Vehicle Type:

MODELLED

Car

From Arm \ To Arm	A	B	C	D	E	F	G	TOTAL
A	0	567	40	13				620
B	188	0	279	1				468
C	516	1128	12	7				1663
D	37	1	11	0				49
E								
F								
G								
TOTAL	741	1696	342	21				2800

MODELLED

LGV

From Arm \ To Arm	A	B	C	D	E	F	G	TOTAL
A	0	1	2	0				3
B	10	0	32	1				43
C	14	8	0	4				26
D	12	4	3	0				19
E								
F								
G								
TOTAL	36	13	37	5				91

MODELLED

HGV (PCU)

From Arm \ To Arm	A	B	C	D	E	F	G	TOTAL
A	0	162	3	0				165
B	29	0	133	0				162
C	46	86	0	0				132
D	0	0	0	0				0
E								
F								
G								
TOTAL	75	248	136	0				459

PM\Base Scenario

MODELLED

PCU

From Arm \ To Arm	A	B	C	D	E	F	G	TOTAL
A	8	136	254	0				398
B	189	0	619	0				808
C	1235	582	0	8				1825
D	744	255	318	0				1317
E								
F								
G								
TOTAL	2176	973	1191	8				4348

By Vehicle Type:

MODELLED

Car

From Arm \ To Arm	A	B	C	D	E	F	G	TOTAL
A	8	136	253	0				397
B	188	0	411	0				599
C	1068	554	0	4				1626
D	719	212	288	0				1219
E								
F								
G								
TOTAL	1983	902	952	4				3841

MODELLED

LGV

From Arm \ To Arm	A	B	C	D	E	F	G	TOTAL
A	0	0	1	0				1
B	1	0	16	0				17
C	41	15	0	4				60
D	12	9	30	0				51
E								
F								
G								
TOTAL	54	24	47	4				129

MODELLED

HGV (PCU)

From Arm \ To Arm	A	B	C	D	E	F	G	TOTAL
A	0	0	0	0				0
B	0	0	192	0				192
C	126	13	0	0				139
D	13	34	0	0				47
E								
F								
G								
TOTAL	139	47	192	0				378

Junction Turning Flows

Junction: A45 Barnes Meadow Interchange

Arm Description

Arm	Inbound		Outbound		Description
	A-Node	B-Node	A-Node	B-Node	
A	9166	9176	9175	9165	*A45/NeneValley Way*
B	24740	2053	2053	24740	*A428/Bedford Road*
C	9164	9173	9177	75027	*A45/NeneValley Way*
D	2051	9174	9174	2051	*A428/Bedford Road*
E	1054	9175	9175	1054	*A5095/ Rushmere Roa*
F					
G					

Growth Factors

Vehicle	Growth
Car	*1*
LGV	*1*
HGV	*1*

AM\Base Scenario

MODELLED

PCU

From Arm \ To Arm	A	B	C	D	E	F	G	TOTAL
A	0	767	133	857	19			1776
B	100	0	78	327	141			646
C	0	113	0	1107	364			1584
D	486	366	20	0	42			914
E	115	692	140	0	0			947
F								
G								
TOTAL	701	1938	371	2291	566			5867

By Vehicle Type:

MODELLED

Car

From Arm \ To Arm	A	B	C	D	E	F	G	TOTAL
A	0	537	112	722	19			1390
B	96	0	60	261	136			553
C	0	111	0	1075	358			1544
D	425	328	20	0	37			810
E	114	691	133	0	0			938
F								
G								
TOTAL	635	1667	325	2058	550			5235

MODELLED

LGV

From Arm \ To Arm	A	B	C	D	E	F	G	TOTAL
A	0	4	6	23	0			33
B	4	0	8	10	2			24
C	0	2	0	32	6			40
D	50	3	0	0	5			58
E	1	1	7	0	0			9
F								
G								
TOTAL	55	10	21	65	13			164

MODELLED

HGV (PCU)

From Arm \ To Arm	A	B	C	D	E	F	G	TOTAL
A	0	226	15	112	0			353
B	0	0	10	56	3			69
C	0	0	0	0	0			0
D	11	35	0	0	0			46
E	0	0	0	0	0			0
F								
G								
TOTAL	11	261	25	168	3			468

PM\Base Scenario

MODELLED

PCU

From Arm \ To Arm	A	B	C	D	E	F	G	TOTAL
A	0	19	569	305	13			906
B	280	0	175	517	609			1581
C	0	59	0	818	366			1243
D	1352	245	579	6	15			2197
E	621	82	258	0	0			961
F								
G								
TOTAL	2253	405	1581	1646	1003			6888

By Vehicle Type:

MODELLED

Car

From Arm \ To Arm	A	B	C	D	E	F	G	TOTAL
A	0	18	517	157	13			705
B	279	0	168	504	604			1555
C	0	59	0	794	351			1204
D	1207	239	565	5	15			2031
E	610	80	253	0	0			943
F								
G								
TOTAL	2096	396	1503	1460	983			6438

MODELLED

LGV

From Arm \ To Arm	A	B	C	D	E	F	G	TOTAL
A	0	1	13	4	0			18
B	1	0	3	10	5			19
C	0	0	0	24	15			39
D	46	3	13	1	0			63
E	11	2	5	0	0			18
F								
G								
TOTAL	58	6	34	39	20			157

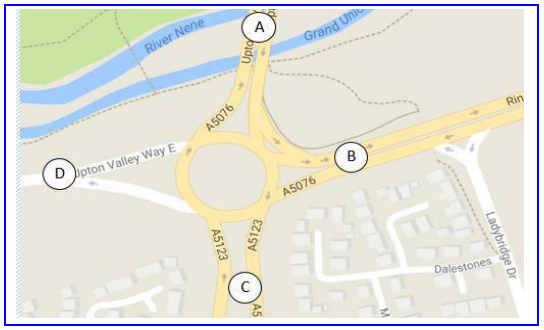
MODELLED

HGV (PCU)

From Arm \ To Arm	A	B	C	D	E	F	G	TOTAL
A	0	0	39	144	0			183
B	0	0	4	3	0			7
C	0	0	0	0	0			0
D	99	3	1	0	0			103
E	0	0	0	0	0			0
F								
G								
TOTAL	99	3	44	147	0			293

Junction Turning Flows

Junction: A5123/A5076 roundabout



Arm Description

Arm	Inbound		Outbound		Description
	A-Node	B-Node	A-Node	B-Node	
A	3258	30008	30008	3258	*Upton Way*
B	3100	30009	30009	3100	*A5076*
C	2102	30007	30007	2102	*A5123*
D	4102	30010	30010	4102	*Upton Valley Way E*
E					
F					
G					

Growth Factors

Vehicle	Growth
Car	*1*
LGV	*1*
HGV	*1*

AM\Base Scenario

MODELLED

PCU

From Arm \ To Arm	A	B	C	D	E	F	G	TOTAL
A	0	1191	572	66				1829
B	1295	0	889	333				2517
C	587	854	0	51				1492
D	269	215	178	0				662
E								
F								
G								
TOTAL	2151	2260	1639	450				6500

By Vehicle Type:

MODELLED

Car

From Arm \ To Arm	A	B	C	D	E	F	G	TOTAL
A	0	1098	520	63				1681
B	1166	0	725	316				2207
C	381	578	0	50				1009
D	263	210	5	0				478
E								
F								
G								
TOTAL	1810	1886	1250	429				5375

MODELLED

LGV

From Arm \ To Arm	A	B	C	D	E	F	G	TOTAL
A	0	21	27	3				51
B	28	0	70	16				114
C	43	16	0	1				60
D	6	5	1	0				12
E								
F								
G								
TOTAL	77	42	98	20				237

MODELLED

HGV (PCU)

From Arm \ To Arm	A	B	C	D	E	F	G	TOTAL
A	0	72	25	0				97
B	101	0	94	1				196
C	163	260	0	0				423
D	0	0	172	0				172
E								
F								
G								
TOTAL	264	332	291	1				888

PM\Base Scenario

MODELLED

PCU

From Arm \ To Arm	A	B	C	D	E	F	G	TOTAL
A	0	1707	421	99				2227
B	795	0	615	310				1720
C	1073	274	0	294				1641
D	265	181	26	0				472
E								
F								
G								
TOTAL	2133	2162	1062	703				6060

By Vehicle Type:

MODELLED

Car

From Arm \ To Arm	A	B	C	D	E	F	G	TOTAL
A	0	1666	279	99				2044
B	785	0	599	297				1681
C	761	147	0	283				1191
D	223	91	13	0				327
E								
F								
G								
TOTAL	1769	1904	891	679				5243

MODELLED

LGV

From Arm \ To Arm	A	B	C	D	E	F	G	TOTAL
A	0	41	10	0				51
B	9	0	16	12				37
C	31	24	0	11				66
D	4	2	13	0				19
E								
F								
G								
TOTAL	44	67	39	23				173

MODELLED

HGV (PCU)

From Arm \ To Arm	A	B	C	D	E	F	G	TOTAL
A	0	0	132	0				132
B	1	0	0	1				2
C	281	103	0	0				384
D	38	88	0	0				126
E								
F								
G								
TOTAL	320	191	132	1				644

Junction Turning Flows

Junction: A45 Wootton Interchange

Arm Description

Arm	Inbound		Outbound		Description
	A-Node	B-Node	A-Node	B-Node	
A	6082	5082			*A45 SB Off-slip*
B	4082	5082	5082	4082	*Berry Lane East*
C	3081	75031	75031	3081	*Wooldale Road*
D	1355	75032	75032	1355	*unnamed road*
E	24752	1093	1093	24752	*Rowtree Road*
F			1093	26031	*London Road*
G	2093	1093			*A45 NB On-slip*

Growth Factors

Vehicle	Growth
Car	*1*
LGV	*1*
HGV	*1*

AM\Base Scenario

MODELLED

PCU		To Arm							
		A	B	C	D	E	F	G	TOTAL
From Arm	A	0	0	0	2	127	110	0	239
	B	0	0	5	55	33	126	0	219
	C	0	0	0	590	97	203	0	890
	D	0	19	169	0	107	305	0	600
	E	0	14	346	293	0	434	0	1087
	F	0	0	0	0	0	0	0	0
	G	0	7	259	6	41	5	0	318
	TOTAL	0	40	779	946	405	1183	0	3353

By Vehicle Type:

MODELLED

Car		To Arm							
		A	B	C	D	E	F	G	TOTAL
From Arm	A	0	0	0	0	114	109	0	223
	B	0	0	5	34	33	125	0	197
	C	0	0	0	245	93	193	0	531
	D	0	19	154	0	107	293	0	573
	E	0	14	335	285	0	281	0	915
	F	0	0	0	0	0	0	0	0
	G	0	7	108	6	40	5	0	166
	TOTAL	0	40	602	570	387	1006	0	2605

MODELLED

LGV		To Arm							
		A	B	C	D	E	F	G	TOTAL
From Arm	A	0	0	0	0	4	1	0	5
	B	0	0	0	2	0	1	0	3
	C	0	0	0	26	4	4	0	34
	D	0	0	2	0	0	12	0	14
	E	0	0	11	0	0	18	0	29
	F	0	0	0	0	0	0	0	0
	G	0	0	2	0	1	0	0	3
	TOTAL	0	0	15	28	9	36	0	88

MODELLED

HGV (PCU)		To Arm							
		A	B	C	D	E	F	G	TOTAL
From Arm	A	0	0	0	2	9	0	0	11
	B	0	0	0	19	0	0	0	19
	C	0	0	0	319	0	6	0	325
	D	0	0	13	0	0	0	0	13
	E	0	0	0	8	0	135	0	143
	F	0	0	0	0	0	0	0	0
	G	0	0	149	0	0	0	0	149
	TOTAL	0	0	162	348	9	141	0	660

PM\Base Scenario

MODELLED

PCU		To Arm							
		A	B	C	D	E	F	G	TOTAL
From Arm	A	0	0	0	0	368	261	0	629
	B	0	0	0	27	11	25	0	63
	C	0	0	0	354	301	51	0	706
	D	0	27	205	0	89	137	0	458
	E	0	8	195	252	0	403	0	858
	F	0	0	0	0	0	0	0	0
	G	0	171	213	9	75	0	0	468
	TOTAL	0	206	613	642	844	877	0	3182

By Vehicle Type:

MODELLED

Car		To Arm							
		A	B	C	D	E	F	G	TOTAL
From Arm	A	0	0	0	0	195	261	0	456
	B	0	0	0	23	10	25	0	58
	C	0	0	0	283	237	50	0	570
	D	0	27	188	0	88	134	0	437
	E	0	7	130	247	0	88	0	472
	F	0	0	0	0	0	0	0	0
	G	0	18	195	8	71	0	0	292
	TOTAL	0	52	513	561	601	558	0	2285

MODELLED

LGV		To Arm							
		A	B	C	D	E	F	G	TOTAL
From Arm	A	0	0	0	0	1	0	0	1
	B	0	0	0	4	1	0	0	5
	C	0	0	0	11	1	1	0	13
	D	0	0	17	0	1	3	0	21
	E	0	1	7	5	0	19	0	32
	F	0	0	0	0	0	0	0	0
	G	0	0	9	1	3	0	0	13
	TOTAL	0	1	33	21	7	23	0	85

MODELLED

HGV (PCU)		To Arm							
		A	B	C	D	E	F	G	TOTAL
From Arm	A	0	0	0	0	172	0	0	172
	B	0	0	0	0	0	0	0	0
	C	0	0	0	60	63	0	0	123
	D	0	0	0	0	0	0	0	0
	E	0	0	58	0	0	296	0	354
	F	0	0	0	0	0	0	0	0
	G	0	153	9	0	1	0	0	163
	TOTAL	0	153	67	60	236	296	0	812

APPENDIX B

2015 OBSERVED TURNING FLOWS

LOCATION *NORTHAMPTON*
SITE NAME *NENE VALLEY WAY/CASWELL ROAD/EAGLE DRIVE*
SURVEY TYPE *CAMERA*
DAY & DATE *WEDNESDAY 9TH OCTOBER 2013*

FROM NENE VALLEY WAY (NORTH)
TURN LEFT TO CASWELL ROAD

TIME	PEDAL CYCLES	MOTOR CYCLES	CARS	LIGHT GOODS	OGV1	OGV2	BUSES & COACHES	TOTAL
0700-0715	0	0	84	7	4	4	0	**99**
0715-0730	0	0	133	10	0	4	1	**148**
0730-0745	0	3	190	11	1	3	0	**208**
0745-0800	0	2	262	10	5	0	0	**279**
0800-0815	0	3	234	16	3	3	2	**261**
0815-0830	0	1	253	7	3	5	1	**270**
0830-0845	0	1	213	8	2	5	1	**230**
0845-0900	0	0	170	10	1	4	0	**185**
0900-0915	0	0	119	11	5	4	6	**145**
0915-0930	0	0	75	7	3	4	3	**92**
0930-0945	0	0	54	2	5	5	4	**70**
0945-1000	0	0	54	9	1	0	0	**64**
TOTAL	**0**	**10**	**1841**	**108**	**33**	**41**	**18**	**2051**
1600-1615	0	0	45	8	4	4	4	**65**
1615-1630	0	0	42	8	4	1	1	**56**
1630-1645	0	1	31	7	3	5	1	**48**
1645-1700	0	0	105	16	3	5	1	**130**
1700-1715	0	2	47	7	4	1	3	**64**
1715-1730	0	1	90	5	3	3	0	**102**
1730-1745	0	0	109	10	2	6	1	**128**
1745-1800	0	1	103	9	2	3	1	**119**
1800-1815	0	0	43	5	2	5	1	**56**
1815-1830	0	0	59	3	3	4	1	**70**
1830-1845	0	1	28	4	1	2	1	**37**
1845-1900	0	0	29	4	3	2	0	**38**
TOTAL	**0**	**6**	**731**	**86**	**34**	**41**	**15**	**913**

LOCATION *NORTHAMPTON*
SITE NAME *NENE VALLEY WAY/CASWELL ROAD/EAGLE DRIVE*
SURVEY TYPE *CAMERA*
DAY & DATE *WEDNESDAY 9TH OCTOBER 2013*

FROM NENE VALLEY WAY NORTH
AHEAD TO NENE VALLEY WAY SOUTH /PAVILION DRIVE

TIME	PEDAL CYCLES	MOTOR CYCLES	CARS	LIGHT GOODS	OGV1	OGV2	BUSES & COACHES	TOTAL
0700-0715	0	0	31	1	0	0	0	**32**
0715-0730	0	0	60	1	0	1	0	**62**
0730-0745	0	2	75	1	0	0	0	**78**
0745-0800	0	0	109	1	0	0	0	**110**
0800-0815	0	0	114	2	0	1	0	**117**
0815-0830	0	0	83	0	0	0	0	**83**
0830-0845	0	1	100	0	0	0	0	**101**
0845-0900	0	2	59	2	0	0	0	**63**
0900-0915	0	0	52	2	0	0	0	**54**
0915-0930	0	0	34	1	0	0	0	**35**
0930-0945	0	0	25	0	0	0	0	**25**
0945-1000	0	0	29	0	0	0	0	**29**
TOTAL	**0**	**5**	**771**	**11**	**0**	**2**	**0**	**789**
1600-1615	0	0	12	1	0	0	0	**13**
1615-1630	0	0	16	1	0	0	0	**17**
1630-1645	0	0	10	1	0	0	0	**11**
1645-1700	0	0	29	3	0	1	0	**33**
1700-1715	0	0	20	1	0	1	0	**22**
1715-1730	0	0	14	3	0	0	0	**17**
1730-1745	0	0	32	1	2	0	0	**35**
1745-1800	0	0	40	2	1	0	0	**43**
1800-1815	0	0	13	0	0	0	0	**13**
1815-1830	0	0	15	1	0	0	0	**16**
1830-1845	0	0	11	1	0	0	0	**12**
1845-1900	0	0	8	0	0	0	0	**8**
TOTAL	**0**	**0**	**220**	**15**	**3**	**2**	**0**	**240**

LOCATION *NORTHAMPTON*
SITE NAME *NENE VALLEY WAY/CASWELL ROAD/EAGLE DRIVE*
SURVEY TYPE *CAMERA*
DAY & DATE *WEDNESDAY 9TH OCTOBER 2013*

FROM NENE VALLEY WAY (NORTH)
TURN RIGHT TO EAGLE DRIVE

TIME	PEDAL CYCLES	MOTOR CYCLES	CARS	LIGHT GOODS	OGV1	OGV2	BUSES & COACHES	TOTAL
0700-0715	0	0	2	0	0	0	0	**2**
0715-0730	0	0	3	1	0	0	0	**4**
0730-0745	0	0	4	1	0	0	0	**5**
0745-0800	0	0	6	0	0	0	0	**6**
0800-0815	0	0	6	0	0	0	0	**6**
0815-0830	0	0	4	0	0	0	0	**4**
0830-0845	0	0	5	0	0	0	0	**5**
0845-0900	0	0	3	1	0	0	0	**4**
0900-0915	0	0	3	0	0	0	0	**3**
0915-0930	0	0	2	0	0	0	0	**2**
0930-0945	0	0	1	0	0	0	0	**1**
0945-1000	0	0	2	0	0	0	0	**2**
TOTAL	**0**	**0**	**41**	**3**	**0**	**0**	**0**	**44**
1600-1615	0	0	1	0	0	0	0	**1**
1615-1630	0	0	1	0	0	0	0	**1**
1630-1645	0	0	1	0	0	0	0	**1**
1645-1700	0	0	2	0	0	0	0	**2**
1700-1715	0	0	1	0	0	0	0	**1**
1715-1730	0	0	1	0	0	0	0	**1**
1730-1745	0	0	2	0	1	0	0	**3**
1745-1800	0	0	2	0	0	0	0	**2**
1800-1815	0	0	1	1	0	0	0	**2**
1815-1830	0	0	1	0	0	0	0	**1**
1830-1845	0	0	1	0	0	0	0	**1**
1845-1900	0	0	1	0	0	0	0	**1**
TOTAL	**0**	**0**	**15**	**1**	**1**	**0**	**0**	**17**

LOCATION *NORTHAMPTON*
SITE NAME *NENE VALLEY WAY/CASWELL ROAD/EAGLE DRIVE*
SURVEY TYPE *CAMERA*
DAY & DATE *WEDNESDAY 9TH OCTOBER 2013*

FROM CASWELL ROAD
TURN LEFT NENE VALLEY WAY (SOUTH)

TIME	PEDAL CYCLES	MOTOR CYCLES	CARS	LIGHT GOODS	OGV1	OGV2	BUSES & COACHES	TOTAL
0700-0715	0	1	14	9	11	14	5	**54**
0715-0730	0	0	13	8	12	12	2	**47**
0730-0745	0	0	15	11	8	19	7	**60**
0745-0800	0	0	21	12	8	19	5	**65**
0800-0815	0	0	16	9	8	14	5	**52**
0815-0830	0	0	25	12	8	14	2	**61**
0830-0845	0	0	21	11	3	17	1	**53**
0845-0900	0	0	23	14	7	13	2	**59**
0900-0915	0	0	15	7	3	11	2	**38**
0915-0930	0	0	20	11	4	17	1	**53**
0930-0945	0	0	21	17	7	9	1	**55**
0945-1000	0	0	21	17	4	9	0	**51**
TOTAL	**0**	**1**	**225**	**138**	**83**	**168**	**33**	**648**
1600-1615	0	1	109	27	4	8	1	**150**
1615-1630	0	1	79	11	5	20	2	**118**
1630-1645	0	2	137	14	7	6	1	**167**
1645-1700	0	0	71	4	3	10	1	**89**
1700-1715	0	1	179	18	3	8	1	**210**
1715-1730	0	0	84	5	2	9	0	**100**
1730-1745	0	0	108	6	2	13	1	**130**
1745-1800	0	1	90	4	3	13	1	**112**
1800-1815	0	0	104	6	2	9	1	**122**
1815-1830	0	0	75	7	2	7	0	**91**
1830-1845	0	0	55	5	5	17	0	**82**
1845-1900	0	0	45	3	0	8	1	**57**
TOTAL	**0**	**6**	**1136**	**110**	**38**	**128**	**10**	**1428**

LOCATION *NORTHAMPTON*
SITE NAME *NENE VALLEY WAY/CASWELL ROAD/EAGLE DRIVE*
SURVEY TYPE *CAMERA*
DAY & DATE *WEDNESDAY 9TH OCTOBER 2013*

FROM CASWELL ROAD
AHEAD TO EAGLE DRIVE

TIME	PEDAL CYCLES	MOTOR CYCLES	CARS	LIGHT GOODS	OGV1	OGV2	BUSES & COACHES	TOTAL
0700-0715	0	0	0	0	0	0	0	**0**
0715-0730	0	0	0	0	0	0	0	**0**
0730-0745	0	0	1	0	0	0	0	**1**
0745-0800	0	0	1	0	0	0	0	**1**
0800-0815	0	0	1	0	0	0	0	**1**
0815-0830	0	0	1	0	0	0	0	**1**
0830-0845	0	0	1	0	0	0	0	**1**
0845-0900	0	0	1	0	0	0	0	**1**
0900-0915	0	0	0	0	0	0	0	**0**
0915-0930	0	0	1	0	0	0	0	**1**
0930-0945	0	0	0	0	0	0	0	**0**
0945-1000	0	0	1	0	0	0	0	**1**
TOTAL	**0**	**0**	**8**	**0**	**0**	**0**	**0**	**8**
1600-1615	0	0	2	0	0	0	0	**2**
1615-1630	0	0	2	0	0	0	0	**2**
1630-1645	0	0	3	0	0	0	0	**3**
1645-1700	0	0	3	0	0	0	0	**3**
1700-1715	0	0	4	0	0	0	0	**4**
1715-1730	0	0	4	0	0	0	0	**4**
1730-1745	0	0	4	0	0	0	0	**4**
1745-1800	0	0	3	0	0	0	0	**3**
1800-1815	0	0	2	0	0	0	0	**2**
1815-1830	0	0	1	0	0	0	0	**1**
1830-1845	0	0	1	0	0	0	0	**1**
1845-1900	0	0	1	0	0	0	0	**1**
TOTAL	**0**	**0**	**30**	**0**	**0**	**0**	**0**	**30**

LOCATION *NORTHAMPTON*
SITE NAME *NENE VALLEY WAY/CASWELL ROAD/EAGLE DRIVE*
SURVEY TYPE *CAMERA*
DAY & DATE *WEDNESDAY 9TH OCTOBER 2013*

FROM CASWELL ROAD
TURN RIGHT TO NENE VALLEY WAY (NORTH)

TIME	PEDAL CYCLES	MOTOR CYCLES	CARS	LIGHT GOODS	OGV1	OGV2	BUSES & COACHES	TOTAL
0700-0715	0	0	31	4	5	2	3	**45**
0715-0730	0	0	33	9	5	9	1	**57**
0730-0745	0	0	42	8	1	11	5	**67**
0745-0800	0	0	62	8	3	5	3	**81**
0800-0815	0	0	86	10	5	2	2	**105**
0815-0830	0	1	75	13	5	8	0	**102**
0830-0845	0	0	71	11	1	7	0	**90**
0845-0900	0	0	49	10	3	3	1	**66**
0900-0915	0	0	48	9	1	8	2	**68**
0915-0930	0	0	33	5	3	4	1	**46**
0930-0945	0	1	39	16	5	5	1	**67**
0945-1000	0	0	30	7	1	5	0	**43**
TOTAL	**0**	**2**	**599**	**110**	**38**	**69**	**19**	**837**
1600-1615	0	1	230	14	3	3	2	**253**
1615-1630	0	0	180	12	4	1	1	**198**
1630-1645	0	5	324	13	1	6	3	**352**
1645-1700	0	2	265	17	9	2	3	**298**
1700-1715	0	2	414	22	4	2	0	**444**
1715-1730	0	0	395	16	3	2	3	**419**
1730-1745	0	4	349	13	2	3	2	**373**
1745-1800	0	1	290	11	3	5	2	**312**
1800-1815	0	1	228	9	2	3	3	**246**
1815-1830	0	2	130	6	2	3	1	**144**
1830-1845	0	2	100	9	0	1	0	**112**
1845-1900	0	1	72	4	2	4	0	**83**
TOTAL	**0**	**21**	**2977**	**146**	**35**	**35**	**20**	**3234**

LOCATION *NORTHAMPTON*
SITE NAME *NENE VALLEY WAY/CASWELL ROAD/EAGLE DRIVE*
SURVEY TYPE *CAMERA*
DAY & DATE *WEDNESDAY 9TH OCTOBER 2013*

FROM NENE VALLEY WAY (SOUTH)
TURN LEFT TO EAGLE DRIVE

TIME	PEDAL CYCLES	MOTOR CYCLES	CARS	LIGHT GOODS	OGV1	OGV2	BUSES & COACHES	TOTAL
0700-0715	0	0	1	0	0	0	0	**1**
0715-0730	0	0	3	0	0	0	0	**3**
0730-0745	0	0	11	0	0	0	0	**11**
0745-0800	0	0	12	0	0	0	0	**12**
0800-0815	0	0	10	0	0	0	0	**10**
0815-0830	0	0	11	0	3	0	0	**14**
0830-0845	0	0	28	0	0	0	0	**28**
0845-0900	0	0	28	0	1	0	0	**29**
0900-0915	0	0	30	1	1	0	0	**32**
0915-0930	0	0	18	2	1	0	0	**21**
0930-0945	0	0	10	0	0	0	0	**10**
0945-1000	0	0	9	0	0	0	0	**9**
TOTAL	**0**	**0**	**171**	**3**	**6**	**0**	**0**	**180**
1600-1615	0	0	10	2	1	0	0	**13**
1615-1630	0	0	9	1	0	0	0	**10**
1630-1645	0	0	1	0	0	0	0	**1**
1645-1700	0	0	5	1	0	0	0	**6**
1700-1715	0	0	3	0	0	0	0	**3**
1715-1730	0	0	4	0	0	0	0	**4**
1730-1745	0	0	10	1	0	0	0	**11**
1745-1800	0	0	15	0	0	0	0	**15**
1800-1815	0	0	8	0	0	0	0	**8**
1815-1830	0	0	7	0	0	0	0	**7**
1830-1845	0	0	3	1	0	0	0	**4**
1845-1900	0	0	8	2	0	0	0	**10**
TOTAL	**0**	**0**	**83**	**8**	**1**	**0**	**0**	**92**

LOCATION *NORTHAMPTON*
SITE NAME *NENE VALLEY WAY/CASWELL ROAD/EAGLE DRIVE*
SURVEY TYPE *CAMERA*
DAY & DATE *WEDNESDAY 9TH OCTOBER 2013*

FROM NENE VALLEY WAY (SOUTH)
TURN RIGHT TO CASWELL ROAD

TIME	PEDAL CYCLES	MOTOR CYCLES	CARS	LIGHT GOODS	OGV1	OGV2	BUSES & COACHES	TOTAL
0700-0715	0	0	79	9	4	17	0	**109**
0715-0730	0	1	105	17	9	14	0	**146**
0730-0745	0	1	135	9	5	9	1	**160**
0745-0800	0	0	200	14	4	15	1	**234**
0800-0815	0	2	191	10	5	10	1	**219**
0815-0830	0	1	220	20	2	9	1	**253**
0830-0845	0	1	185	9	6	10	1	**212**
0845-0900	0	0	206	13	7	10	2	**238**
0900-0915	0	0	144	14	4	22	7	**191**
0915-0930	0	0	95	9	10	14	0	**128**
0930-0945	0	0	90	11	10	15	3	**129**
0945-1000	0	0	52	9	5	8	2	**76**
TOTAL	**0**	**6**	**1702**	**144**	**71**	**153**	**19**	**2095**
1600-1615	0	0	8	12	8	18	10	**56**
1615-1630	0	0	14	10	9	9	2	**44**
1630-1645	0	1	23	11	9	12	1	**57**
1645-1700	0	0	63	20	15	11	5	**114**
1700-1715	0	0	77	15	12	16	1	**121**
1715-1730	0	0	118	11	8	16	2	**155**
1730-1745	0	1	85	12	12	20	1	**131**
1745-1800	0	0	99	6	7	13	4	**129**
1800-1815	0	0	35	6	8	12	2	**63**
1815-1830	0	1	15	2	8	11	3	**40**
1830-1845	0	0	12	3	5	24	0	**44**
1845-1900	0	0	22	5	4	4	2	**37**
TOTAL	**0**	**3**	**571**	**113**	**105**	**166**	**33**	**991**

LOCATION *NORTHAMPTON*
SITE NAME *NENE VALLEY WAY/CASWELL ROAD/EAGLE DRIVE*
SURVEY TYPE *CAMERA*
DAY & DATE *WEDNESDAY 9TH OCTOBER 2013*

FROM NENE VALLEY WAY (SOUTH)
U TURN TO NENE VALLEY WAY SOUTH/ PAVILION DRIVE

TIME	PEDAL CYCLES	MOTOR CYCLES	CARS	LIGHT GOODS	OGV1	OGV2	BUSES & COACHES	TOTAL
0700-0715	0	0	38	0	2	0	0	**40**
0715-0730	0	1	78	1	5	0	2	**87**
0730-0745	0	1	148	3	18	1	1	**172**
0745-0800	0	1	196	2	8	3	1	**211**
0800-0815	0	1	147	2	4	2	0	**156**
0815-0830	0	1	204	2	4	0	1	**212**
0830-0845	0	0	199	1	5	1	0	**206**
0845-0900	0	1	131	0	6	4	2	**144**
0900-0915	0	0	80	3	7	3	0	**93**
0915-0930	0	0	23	1	6	0	2	**32**
0930-0945	0	0	8	6	6	4	0	**24**
0945-1000	0	0	33	0	4	2	0	**39**
TOTAL	**0**	**6**	**1285**	**21**	**75**	**20**	**9**	**1416**
1600-1615	0	0	20	0	0	0	0	**20**
1615-1630	0	0	28	0	0	0	0	**28**
1630-1645	0	0	26	2	0	0	0	**28**
1645-1700	0	0	32	4	0	0	0	**36**
1700-1715	0	0	23	0	0	0	0	**23**
1715-1730	0	0	9	1	0	1	0	**11**
1730-1745	0	0	30	1	0	0	0	**31**
1745-1800	0	0	22	1	1	0	0	**24**
1800-1815	0	0	13	1	0	0	0	**14**
1815-1830	0	0	12	0	0	0	0	**12**
1830-1845	0	0	11	1	0	0	0	**12**
1845-1900	0	0	12	0	0	0	0	**12**
TOTAL	**0**	**0**	**238**	**11**	**1**	**1**	**0**	**251**

LOCATION *NORTHAMPTON*
SITE NAME *NENE VALLEY WAY/CASWELL ROAD/EAGLE DRIVE*
SURVEY TYPE *CAMERA*
DAY & DATE *WEDNESDAY 9TH OCTOBER 2013*

FROM EAGLE DRIVE
TURN LEFT TO NENE VALLEY WAY (NORTH)

TIME	PEDAL CYCLES	MOTOR CYCLES	CARS	LIGHT GOODS	OGV1	OGV2	BUSES & COACHES	TOTAL
0700-0715	0	0	2	1	0	0	0	**3**
0715-0730	0	0	2	0	1	0	0	**3**
0730-0745	0	0	2	1	0	0	0	**3**
0745-0800	0	0	3	0	0	0	0	**3**
0800-0815	0	0	8	0	0	0	0	**8**
0815-0830	0	0	4	0	0	0	0	**4**
0830-0845	0	0	7	1	1	0	0	**9**
0845-0900	0	0	5	1	1	0	0	**7**
0900-0915	0	0	6	0	1	0	0	**7**
0915-0930	0	0	6	0	0	0	0	**6**
0930-0945	0	0	4	1	0	0	0	**5**
0945-1000	0	0	5	2	0	0	0	**7**
TOTAL	**0**	**0**	**54**	**7**	**4**	**0**	**0**	**65**
1600-1615	0	0	24	0	0	0	0	**24**
1615-1630	0	0	51	4	0	0	0	**55**
1630-1645	0	0	17	0	0	0	0	**17**
1645-1700	0	0	28	1	0	0	0	**29**
1700-1715	0	0	29	1	0	0	0	**30**
1715-1730	0	0	13	2	0	0	0	**15**
1730-1745	0	0	23	0	0	0	0	**23**
1745-1800	0	0	29	1	0	0	0	**30**
1800-1815	0	0	20	0	0	0	0	**20**
1815-1830	0	0	20	0	0	0	0	**20**
1830-1845	0	0	17	1	0	0	0	**18**
1845-1900	0	0	11	1	1	0	0	**13**
TOTAL	**0**	**0**	**282**	**11**	**1**	**0**	**0**	**294**

LOCATION *NORTHAMPTON*
SITE NAME *NENE VALLEY WAY/CASWELL ROAD/EAGLE DRIVE*
SURVEY TYPE *CAMERA*
DAY & DATE *WEDNESDAY 9TH OCTOBER 2013*

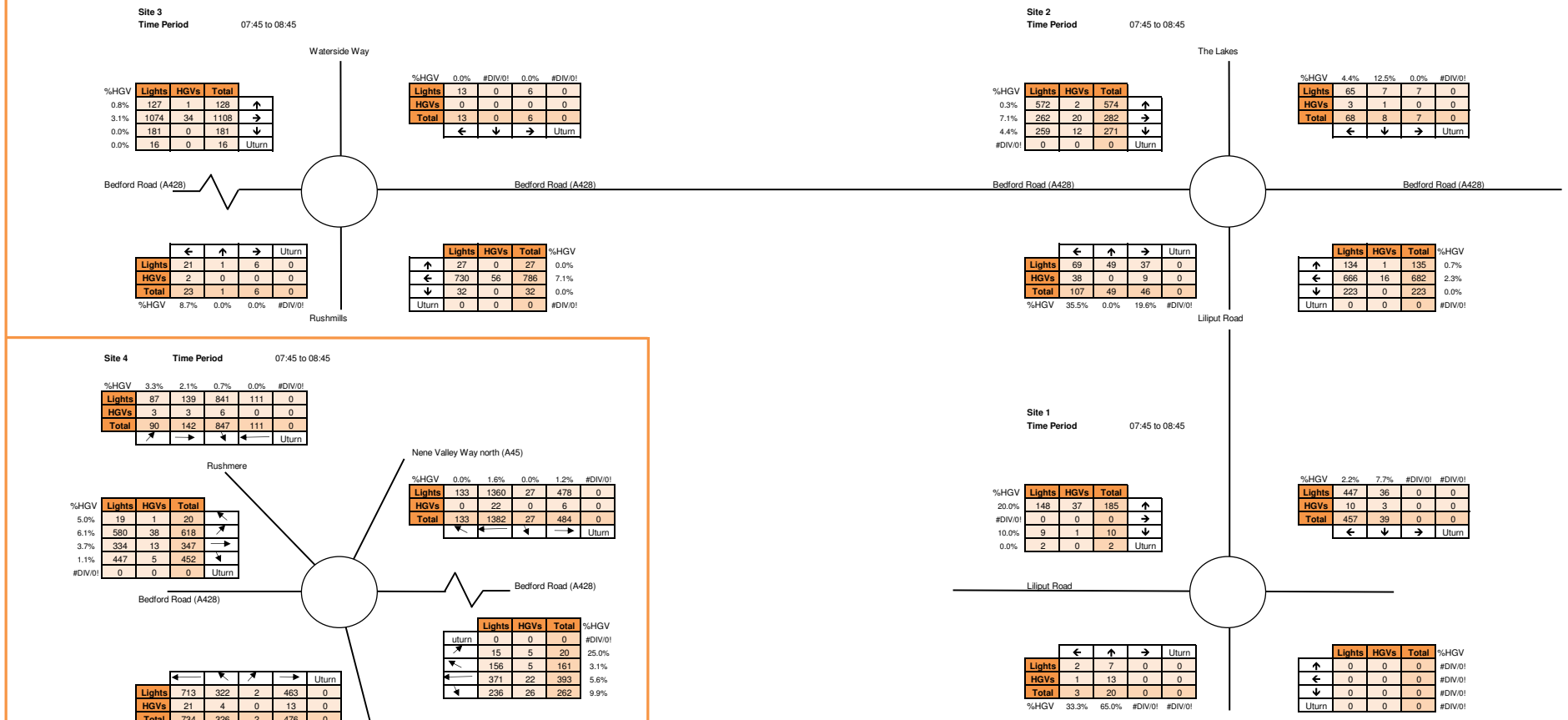
FROM EAGLE DRIVE
AHEAD TO CASWELL ROAD

TIME	PEDAL CYCLES	MOTOR CYCLES	CARS	LIGHT GOODS	OGV1	OGV2	BUSES & COACHES	TOTAL
0700-0715	0	0	0	0	0	0	0	**0**
0715-0730	0	0	0	0	0	0	0	**0**
0730-0745	0	0	0	0	0	0	0	**0**
0745-0800	0	0	0	0	0	0	0	**0**
0800-0815	0	0	2	0	0	0	0	**2**
0815-0830	0	0	2	0	0	0	0	**2**
0830-0845	0	0	0	0	0	0	0	**0**
0845-0900	0	0	0	0	0	0	0	**0**
0900-0915	0	0	0	0	0	0	0	**0**
0915-0930	0	0	1	0	0	0	0	**1**
0930-0945	0	0	0	0	0	0	0	**0**
0945-1000	0	0	0	0	0	0	0	**0**
TOTAL	**0**	**0**	**5**	**0**	**0**	**0**	**0**	**5**
1600-1615	0	0	2	0	0	0	0	**2**
1615-1630	0	0	2	0	0	0	0	**2**
1630-1645	0	0	1	0	0	0	0	**1**
1645-1700	0	0	2	0	0	0	0	**2**
1700-1715	0	0	1	0	0	0	0	**1**
1715-1730	0	0	0	0	0	0	0	**0**
1730-1745	0	0	1	0	0	0	0	**1**
1745-1800	0	0	1	0	0	0	0	**1**
1800-1815	0	0	1	0	0	0	0	**1**
1815-1830	0	0	0	0	0	0	0	**0**
1830-1845	0	0	0	0	0	0	0	**0**
1845-1900	0	0	0	0	0	0	0	**0**
TOTAL	**0**	**0**	**11**	**0**	**0**	**0**	**0**	**11**

LOCATION *NORTHAMPTON*
SITE NAME *NENE VALLEY WAY/CASWELL ROAD/EAGLE DRIVE*
SURVEY TYPE *CAMERA*
DAY & DATE *WEDNESDAY 9TH OCTOBER 2013*

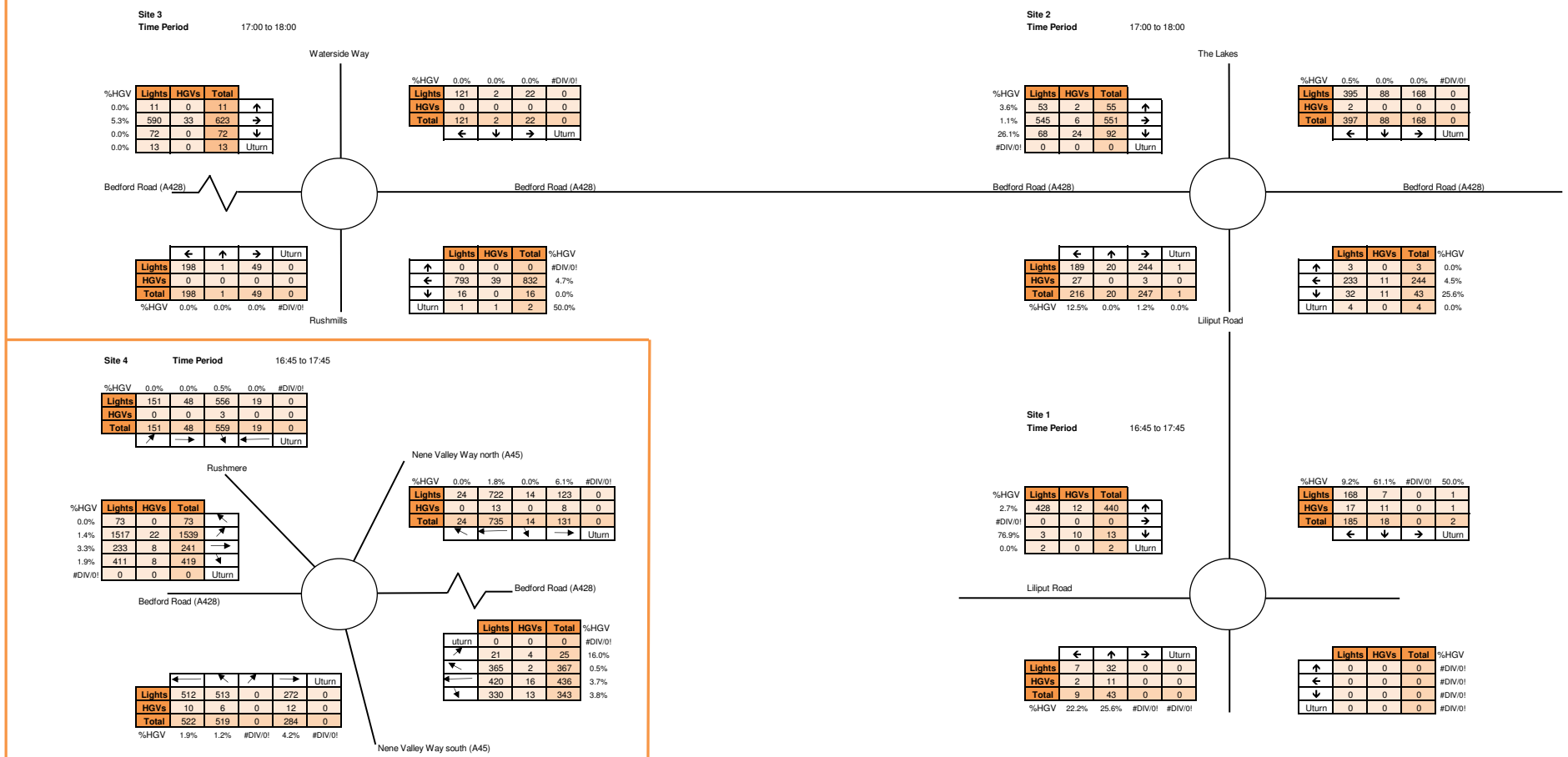
FROM EAGLE DRIVE
TURN RIGHT TO NENE VALLEY WAY (SOUTH)

TIME	PEDAL CYCLES	MOTOR CYCLES	CARS	LIGHT GOODS	OGV1	OGV2	BUSES & COACHES	TOTAL
0700-0715	0	0	4	1	0	0	0	**5**
0715-0730	0	0	4	0	0	0	0	**4**
0730-0745	0	0	7	0	0	0	0	**7**
0745-0800	0	0	8	0	0	0	0	**8**
0800-0815	0	0	8	0	0	0	0	**8**
0815-0830	0	0	11	1	0	0	0	**12**
0830-0845	0	0	7	2	0	0	0	**9**
0845-0900	0	0	5	0	0	0	0	**5**
0900-0915	0	0	4	1	0	0	0	**5**
0915-0930	0	0	5	1	0	0	0	**6**
0930-0945	0	0	3	0	1	0	0	**4**
0945-1000	0	0	1	1	0	0	0	**2**
TOTAL	**0**	**0**	**67**	**7**	**1**	**0**	**0**	**75**
1600-1615	0	0	19	1	0	0	0	**20**
1615-1630	0	0	22	3	0	0	0	**25**
1630-1645	0	0	16	3	0	0	0	**19**
1645-1700	0	0	27	2	0	0	0	**29**
1700-1715	0	0	19	0	0	0	0	**19**
1715-1730	0	0	3	0	0	0	0	**3**
1730-1745	0	0	26	0	0	0	0	**26**
1745-1800	0	0	13	1	0	0	0	**14**
1800-1815	0	0	13	0	0	0	0	**13**
1815-1830	0	0	10	0	0	0	0	**10**
1830-1845	0	0	10	1	0	0	0	**11**
1845-1900	0	0	6	0	0	0	0	**6**
TOTAL	**0**	**0**	**184**	**11**	**0**	**0**	**0**	**195**



Brackmills Development, Northampton

diagram 1: 2015 surveyed traffic flows (AM peak hour)


Site 3
Time Period 17:00 to 18:00
Waterside Way
Bedford Road (A428)
Rushmills
Site 2
Time Period 17:00 to 18:00
The Lakes
Bedford Road (A428)
Lilliput Road
Site 4
Time Period 16:45 to 17:45
Rushmere
Nene Valley Way north (A45)
Bedford Road (A428)
Nene Valley Way south (A45)
Site 1
Time Period 16:45 to 17:45
Lilliput Road

Northampton - Manual Traffic Survey, Wednesday 17th June 2015

Junction: (20) A5123 / Danes Camp Way / Upton Valley Way

Approach: A5123 (North)

	Left to Danes Camp Way			S/B to A5123 (South)			Right to Upton Valley Way		
TIME	LIGHT	HEAVY	**TOTAL**	LIGHT	HEAVY	**TOTAL**	LIGHT	HEAVY	**TOTAL**
0630 - 0645	86	6	**92**	153	9	**162**	6	9	**15**
0645 - 0700	89	9	**98**	174	7	**181**	10	7	**17**
Hourly Total	**175**	**15**	**190**	**327**	**16**	**343**	**16**	**16**	**32**
0700 - 0715	126	9	**135**	205	18	**223**	29	18	**47**
0715 - 0730	176	13	**189**	187	8	**195**	27	8	**35**
0730 - 0745	257	13	**270**	224	13	**237**	18	13	**31**
0745 - 0800	258	12	**270**	202	22	**224**	31	22	**53**
Hourly Total	**817**	**47**	**864**	**818**	**61**	**879**	**105**	**61**	**166**
0800 - 0815	263	17	**280**	207	18	**225**	34	18	**52**
0815 - 0830	245	12	**257**	177	11	**188**	30	11	**41**
0830 - 0845	244	18	**262**	152	6	**158**	30	6	**36**
0845 - 0900	243	11	**254**	132	10	**142**	29	10	**39**
Hourly Total	**995**	**58**	**1053**	**668**	**45**	**713**	**123**	**45**	**168**
0900 - 0915	214	12	**226**	108	7	**115**	19	7	**26**
0915 - 0930	207	16	**223**	98	11	**109**	19	11	**30**
Hourly Total	**421**	**28**	**449**	**206**	**18**	**224**	**38**	**18**	**56**
Session Total	**2408**	**148**	**2556**	**2019**	**140**	**2159**	**282**	**140**	**422**
1530 - 1545	252	17	**269**	81	2	**83**	37	2	**39**
1545 - 1600	240	19	**259**	98	7	**105**	40	7	**47**
Hourly Total	**492**	**36**	**528**	**179**	**9**	**188**	**77**	**9**	**86**
1600 - 1615	261	14	**275**	98	7	**105**	26	7	**33**
1615 - 1630	246	12	**258**	114	7	**121**	30	7	**37**
1630 - 1645	274	10	**284**	108	5	**113**	34	5	**39**
1645 - 1700	263	11	**274**	118	5	**123**	41	5	**46**
Hourly Total	**1044**	**47**	**1091**	**438**	**24**	**462**	**131**	**24**	**155**
1700 - 1715	303	11	**314**	132	4	**136**	45	4	**49**
1715 - 1730	234	8	**242**	124	3	**127**	47	3	**50**
1730 - 1745	246	9	**255**	109	6	**115**	47	6	**53**
1745 - 1800	237	9	**246**	106	1	**107**	55	1	**56**
Hourly Total	**1020**	**37**	**1057**	**471**	**14**	**485**	**194**	**14**	**208**
1800 - 1815	222	9	**231**	105	2	**107**	50	2	**52**
1815 - 1830	210	6	**216**	88	1	**89**	37	1	**38**
1830 - 1845	185	2	**187**	92	0	**92**	32	0	**32**
1845 - 1900	154	4	**158**	55	0	**55**	42	0	**42**
Hourly Total	**771**	**21**	**792**	**340**	**3**	**343**	**161**	**3**	**164**
Session Total	**3327**	**141**	**3468**	**1428**	**50**	**1478**	**563**	**50**	**613**

Northampton - Manual Traffic Survey, Wednesday 17th June 2015

Junction: (20) A5123 / Danes Camp Way / Upton Valley Way

Approach: Danes Camp Way

	Left to A5123 (South)			W/B to Upton Valley Way			Right to A5123 (North)		
TIME	LIGHT	HEAVY	**TOTAL**	LIGHT	HEAVY	**TOTAL**	LIGHT	HEAVY	**TOTAL**
0630 - 0645	171	20	**191**	24	4	**28**	75	4	**79**
0645 - 0700	118	19	**137**	20	2	**22**	87	7	**94**
Hourly Total	**289**	**39**	**328**	**44**	**6**	**50**	**162**	**11**	**173**
0700 - 0715	168	13	**181**	45	7	**52**	104	10	**114**
0715 - 0730	191	13	**204**	72	8	**80**	163	15	**178**
0730 - 0745	198	13	**211**	80	7	**87**	217	8	**225**
0745 - 0800	168	19	**187**	99	6	**105**	215	17	**232**
Hourly Total	**725**	**58**	**783**	**296**	**28**	**324**	**699**	**50**	**749**
0800 - 0815	164	17	**181**	72	8	**80**	262	14	**276**
0815 - 0830	156	11	**167**	54	3	**57**	269	15	**284**
0830 - 0845	124	9	**133**	76	6	**82**	240	13	**253**
0845 - 0900	105	10	**115**	92	4	**96**	204	11	**215**
Hourly Total	**549**	**47**	**596**	**294**	**21**	**315**	**975**	**53**	**1028**
0900 - 0915	106	8	**114**	57	5	**62**	214	10	**224**
0915 - 0930	80	5	**85**	39	6	**45**	176	13	**189**
Hourly Total	**186**	**13**	**199**	**96**	**11**	**107**	**390**	**23**	**413**
Session Total	**1749**	**157**	**1906**	**730**	**66**	**796**	**2226**	**137**	**2363**
1530 - 1545	71	6	**77**	57	4	**61**	234	15	**249**
1545 - 1600	66	7	**73**	44	7	**51**	266	19	**285**
Hourly Total	**137**	**13**	**150**	**101**	**11**	**112**	**500**	**34**	**534**
1600 - 1615	81	6	**87**	40	7	**47**	259	15	**274**
1615 - 1630	72	11	**83**	47	5	**52**	321	11	**332**
1630 - 1645	84	9	**93**	56	6	**62**	310	5	**315**
1645 - 1700	104	3	**107**	81	7	**88**	270	10	**280**
Hourly Total	**341**	**29**	**370**	**224**	**25**	**249**	**1160**	**41**	**1201**
1700 - 1715	95	11	**106**	101	6	**107**	265	6	**271**
1715 - 1730	99	3	**102**	100	0	**100**	312	9	**321**
1730 - 1745	90	7	**97**	96	9	**105**	297	3	**300**
1745 - 1800	84	8	**92**	106	2	**108**	270	8	**278**
Hourly Total	**368**	**29**	**397**	**403**	**17**	**420**	**1144**	**26**	**1170**
1800 - 1815	79	3	**82**	76	3	**79**	256	7	**263**
1815 - 1830	77	8	**85**	70	7	**77**	258	4	**262**
1830 - 1845	55	4	**59**	58	9	**67**	181	6	**187**
1845 - 1900	43	1	**44**	72	6	**78**	222	3	**225**
Hourly Total	**254**	**16**	**270**	**276**	**25**	**301**	**917**	**20**	**937**
Session Total	**1100**	**87**	**1187**	**1004**	**78**	**1082**	**3721**	**121**	**3842**

Northampton - Manual Traffic Survey, Wednesday 17th June 2015

Junction: (20) A5123 / Danes Camp Way / Upton Valley Way

Approach: A5123 (South)

	Left to Upton Valley Way			N/B to A5123 (North)			Right to Danes Camp Way		
TIME	LIGHT	HEAVY	**TOTAL**	LIGHT	HEAVY	**TOTAL**	LIGHT	HEAVY	**TOTAL**
0630 - 0645	0	0	**0**	45	6	**51**	23	8	**31**
0645 - 0700	1	1	**2**	61	11	**72**	43	4	**47**
Hourly Total	**1**	**1**	**2**	**106**	**17**	**123**	**66**	**12**	**78**
0700 - 0715	1	0	**1**	59	12	**71**	51	8	**59**
0715 - 0730	1	0	**1**	92	13	**105**	67	10	**77**
0730 - 0745	4	2	**6**	128	15	**143**	101	11	**112**
0745 - 0800	2	1	**3**	135	10	**145**	132	11	**143**
Hourly Total	**8**	**3**	**11**	**414**	**50**	**464**	**351**	**40**	**391**
0800 - 0815	2	1	**3**	169	11	**180**	88	10	**98**
0815 - 0830	4	0	**4**	125	9	**134**	119	5	**124**
0830 - 0845	1	1	**2**	144	11	**155**	89	12	**101**
0845 - 0900	2	0	**2**	99	8	**107**	101	12	**113**
Hourly Total	**9**	**2**	**11**	**537**	**39**	**576**	**397**	**39**	**436**
0900 - 0915	1	1	**2**	100	15	**115**	97	9	**106**
0915 - 0930	3	1	**4**	94	10	**104**	82	21	**103**
Hourly Total	**4**	**2**	**6**	**194**	**25**	**219**	**179**	**30**	**209**
Session Total	**22**	**8**	**30**	**1251**	**131**	**1382**	**993**	**121**	**1114**
1530 - 1545	13	0	**13**	118	11	**129**	92	11	**103**
1545 - 1600	1	0	**1**	160	16	**176**	107	13	**120**
Hourly Total	**14**	**0**	**14**	**278**	**27**	**305**	**199**	**24**	**223**
1600 - 1615	7	0	**7**	126	10	**136**	112	10	**122**
1615 - 1630	5	1	**6**	170	10	**180**	120	6	**126**
1630 - 1645	5	0	**5**	128	20	**148**	118	9	**127**
1645 - 1700	10	2	**12**	136	11	**147**	145	1	**146**
Hourly Total	**27**	**3**	**30**	**560**	**51**	**611**	**495**	**26**	**521**
1700 - 1715	14	0	**14**	146	12	**158**	136	15	**151**
1715 - 1730	12	0	**12**	210	18	**228**	135	5	**140**
1730 - 1745	26	2	**28**	220	10	**230**	140	10	**150**
1745 - 1800	16	1	**17**	207	0	**207**	154	6	**160**
Hourly Total	**68**	**3**	**71**	**783**	**40**	**823**	**565**	**36**	**601**
1800 - 1815	9	1	**10**	193	6	**199**	133	10	**143**
1815 - 1830	11	0	**11**	147	5	**152**	149	8	**157**
1830 - 1845	12	1	**13**	133	6	**139**	113	11	**124**
1845 - 1900	12	0	**12**	112	5	**117**	95	7	**102**
Hourly Total	**44**	**2**	**46**	**585**	**22**	**607**	**490**	**36**	**526**
Session Total	**153**	**8**	**161**	**2206**	**140**	**2346**	**1749**	**122**	**1871**

Northampton - Manual Traffic Survey, Wednesday 17th June 2015

Junction: (20) A5123 / Danes Camp Way / Upton Valley Way

Approach: Upton Valley Way

	Left to A5123 (North)			E/B to Danes Camp Way			Right to A5123 (South)		
TIME	LIGHT	HEAVY	**TOTAL**	LIGHT	HEAVY	**TOTAL**	LIGHT	HEAVY	**TOTAL**
0630 - 0645	8	4	**12**	27	4	**31**	9	0	**9**
0645 - 0700	15	0	**15**	31	3	**34**	10	0	**10**
Hourly Total	**23**	**4**	**27**	**58**	**7**	**65**	**19**	**0**	**19**
0700 - 0715	20	0	**20**	38	1	**39**	11	0	**11**
0715 - 0730	28	2	**30**	54	11	**65**	16	0	**16**
0730 - 0745	32	0	**32**	66	5	**71**	29	1	**30**
0745 - 0800	45	1	**46**	68	1	**69**	18	0	**18**
Hourly Total	**125**	**3**	**128**	**226**	**18**	**244**	**74**	**1**	**75**
0800 - 0815	49	1	**50**	114	5	**119**	11	0	**11**
0815 - 0830	42	2	**44**	69	10	**79**	9	0	**9**
0830 - 0845	35	1	**36**	71	5	**76**	9	0	**9**
0845 - 0900	35	7	**42**	58	11	**69**	7	1	**8**
Hourly Total	**161**	**11**	**172**	**312**	**31**	**343**	**36**	**1**	**37**
0900 - 0915	43	2	**45**	72	4	**76**	6	0	**6**
0915 - 0930	24	2	**26**	37	2	**39**	3	0	**3**
Hourly Total	**67**	**4**	**71**	**109**	**6**	**115**	**9**	**0**	**9**
Session Total	**376**	**22**	**398**	**705**	**62**	**767**	**138**	**2**	**140**
1530 - 1545	58	1	**59**	54	6	**60**	6	3	**9**
1545 - 1600	41	3	**44**	76	7	**83**	7	0	**7**
Hourly Total	**99**	**4**	**103**	**130**	**13**	**143**	**13**	**3**	**16**
1600 - 1615	37	2	**39**	50	1	**51**	3	1	**4**
1615 - 1630	35	1	**36**	70	5	**75**	6	1	**7**
1630 - 1645	40	2	**42**	67	4	**71**	3	1	**4**
1645 - 1700	40	2	**42**	52	6	**58**	0	0	**0**
Hourly Total	**152**	**7**	**159**	**239**	**16**	**255**	**12**	**3**	**15**
1700 - 1715	35	4	**39**	60	3	**63**	5	0	**5**
1715 - 1730	40	0	**40**	53	9	**62**	3	0	**3**
1730 - 1745	48	2	**50**	61	3	**64**	6	0	**6**
1745 - 1800	32	0	**32**	46	4	**50**	7	1	**8**
Hourly Total	**155**	**6**	**161**	**220**	**19**	**239**	**21**	**1**	**22**
1800 - 1815	32	1	**33**	65	1	**66**	5	0	**5**
1815 - 1830	29	1	**30**	42	4	**46**	6	0	**6**
1830 - 1845	27	1	**28**	29	4	**33**	7	0	**7**
1845 - 1900	34	2	**36**	34	0	**34**	3	0	**3**
Hourly Total	**122**	**5**	**127**	**170**	**9**	**179**	**21**	**0**	**21**
Session Total	**528**	**22**	**550**	**759**	**57**	**816**	**67**	**7**	**74**

APPENDIX C

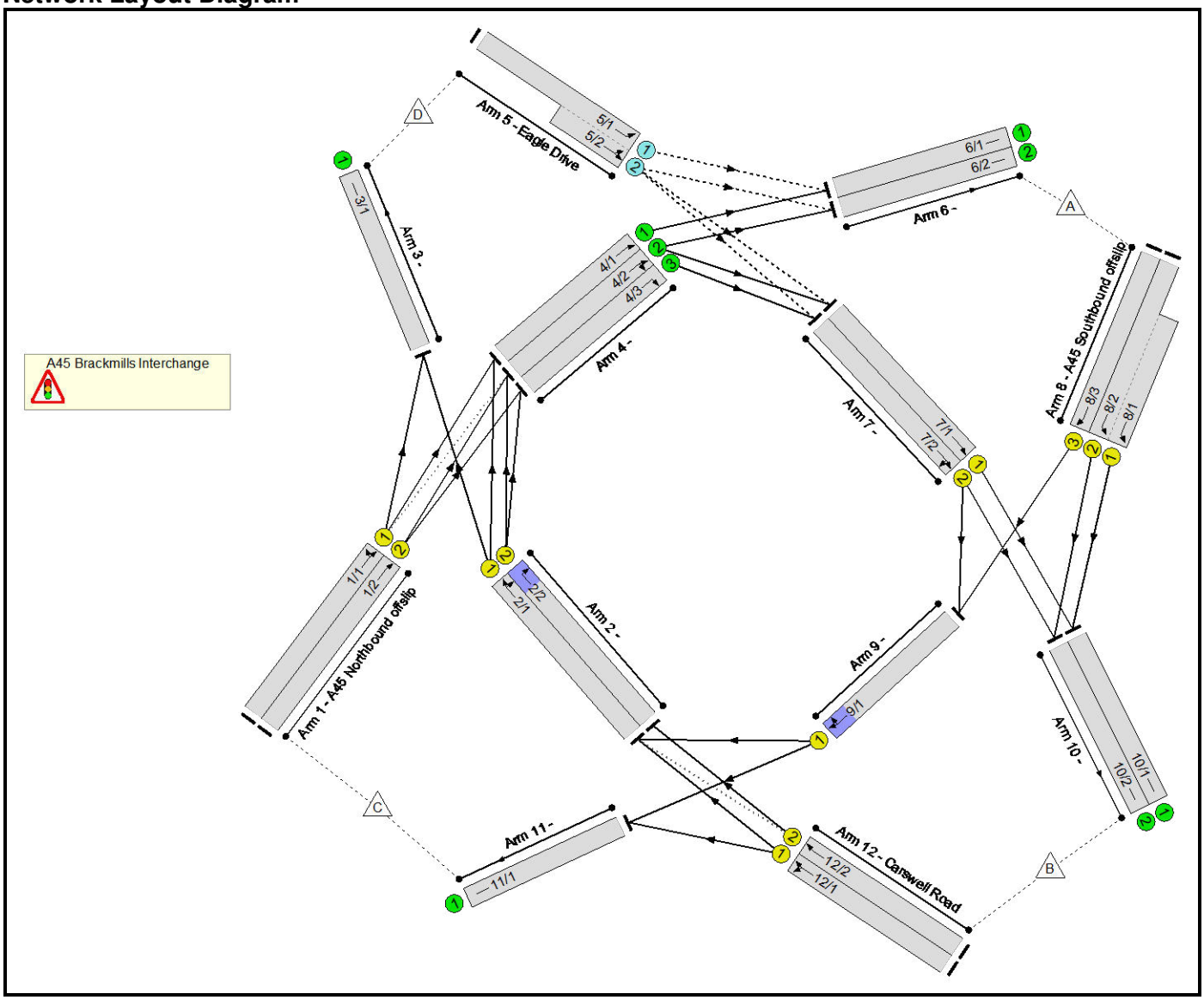
BRACKMILLS INTERCHANGE SENSITIVITY TEST LINSIG MODEL

Full Input Data And Results

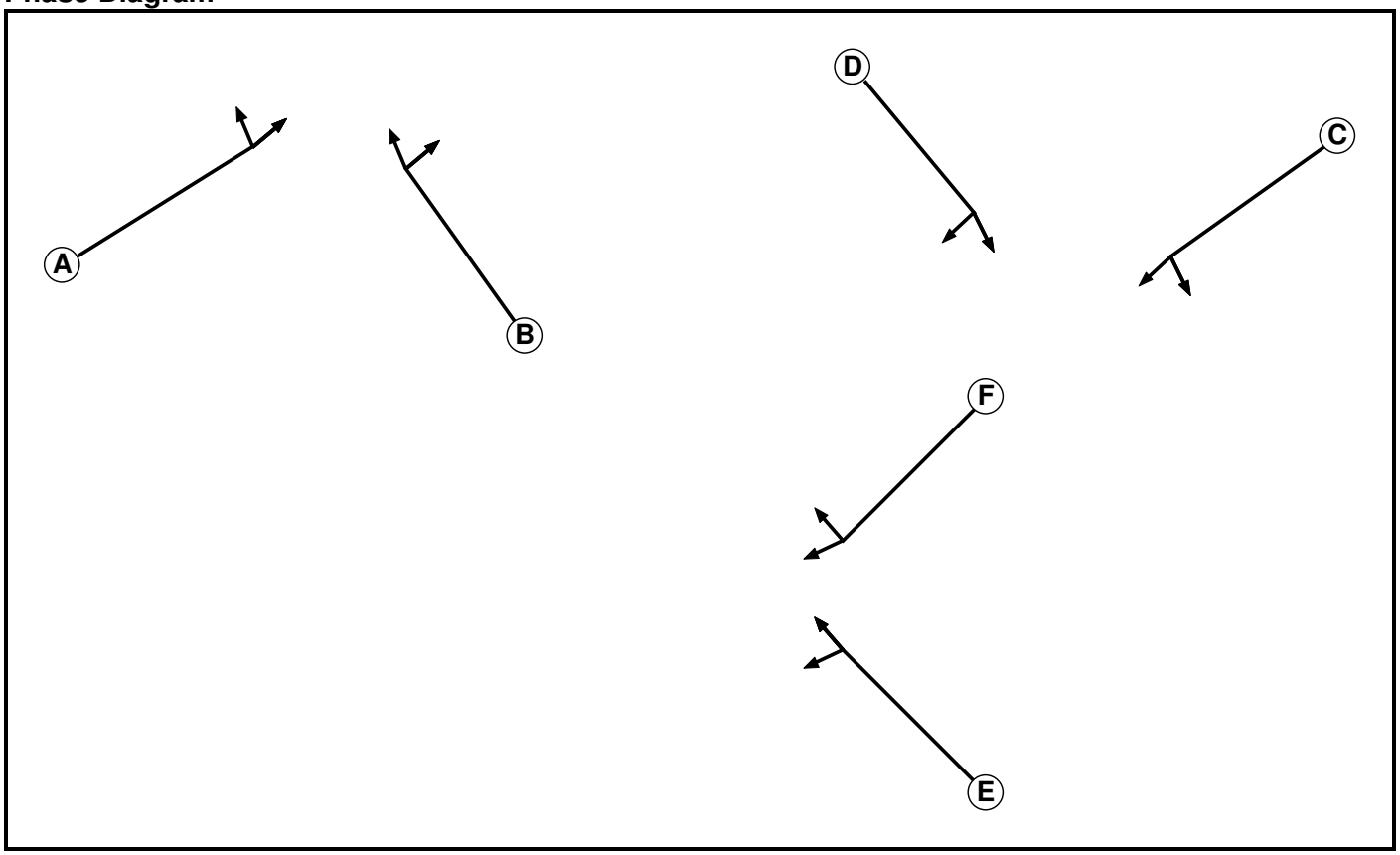
User and Project Details

Project:	**Northampton Gateway SRFI**
Title:	**Brackmills Interchange Sensitivity**
Location:	
File name:	180320 Brackmills Interchange Sensitivity.lsg3x
Author:	Mark Higgins
Company:	ADC Infrastructure
Address:	Western House, Nottingham
Notes:	Sensitivity flow adjustments as per TN10A

Network Layout Diagram



Phase Diagram



Phase Input Data

Phase Name	Phase Type	Stage Stream	Assoc. Phase	Street Min	Cont Min
A	Traffic	1		7	7
B	Traffic	1		7	7
C	Traffic	2		7	7
D	Traffic	2		7	7
E	Traffic	3		7	7
F	Traffic	3		7	7

Phase Intergreens Matrix

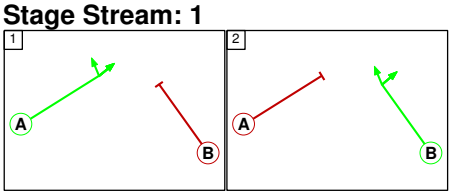
Terminating Phase	Starting Phase					
	A	B	C	D	E	F
A		6	-	-	-	-
B	6		-	-	-	-
C	-	-		6	-	-
D	-	-	6		-	-
E	-	-	-	-		6
F	-	-	-	-	6	

Phases in Stage

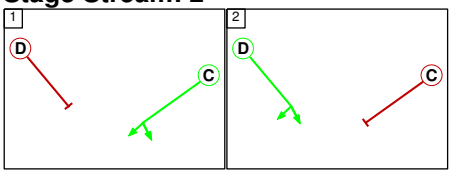
Stream	Stage No.	Phases in Stage
1	1	A
1	2	B
2	1	C
2	2	D
3	1	E
3	2	F

Stage Diagram

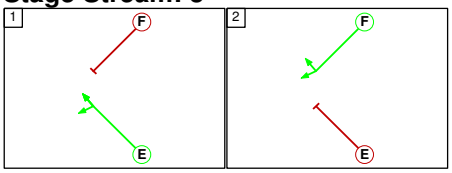
Stage Stream: 1



Stage Stream: 2



Stage Stream: 3



Give-Way Lane Input Data

Junction: A45 Brackmills Interchange											
Lane	**Movement**	**Max Flow when Giving Way (PCU/Hr)**	**Min Flow when Giving Way (PCU/Hr)**	**Opposing Lane**	**Opp. Lane Coeff.**	**Opp. Mvmnts.**	**Right Turn Storage (PCU)**	**Non-Blocking Storage (PCU)**	**RTF**	**Right Turn Move up (s)**	**Max Turns in Intergreen (PCU)**
5/1 (Eagle Drive)	6/1 (Left)	1008	0	4/1	0.24	All	-	-	-	-	-
				4/2	0.24	All					
5/2 (Eagle Drive)	6/2 (Left)	1008	0	4/1	0.24	All	-	-	-	-	-
				4/2	0.24	All					
	7/1 (Ahead)	1008	0	4/1	0.24	All					
				4/2	0.24	All					
				4/3	0.24	All					
	7/2 (Ahead)	1008	0	4/1	0.24	All					
				4/2	0.24	All					
				4/3	0.24	All					

Lane Input Data

Junction: A45 Brackmills Interchange

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 (A45 Northbound offslip)	U	A	2	3	60.0	Geom	-	3.50	0.00	Y	Arm 3 Left Arm 4 Ahead	40.00 Inf
1/2 (A45 Northbound offslip)	U	A	2	3	60.0	Geom	-	3.50	0.00	Y	Arm 4 Ahead	Inf
2/1	U	B	2	3	19.1	User	1900	-	-	-	-	-
2/2	U	B	2	3	19.1	User	1900	-	-	-	-	-
3/1	U		2	3	5.0	Inf	-	-	-	-	-	-
4/1	U		2	3	12.2	Inf	-	-	-	-	-	-
4/2	U		2	3	12.2	Inf	-	-	-	-	-	-
4/3	U		2	3	12.2	Inf	-	-	-	-	-	-
5/1 (Eagle Drive)	O		2	3	60.0	Inf	-	-	-	-	-	-
5/2 (Eagle Drive)	O		2	3	6.0	Inf	-	-	-	-	-	-
6/1	U		2	3	5.0	Inf	-	-	-	-	-	-
6/2	U		2	3	5.0	Inf	-	-	-	-	-	-
7/1	U	D	2	3	20.0	User	1900	-	-	-	-	-
7/2	U	D	2	3	20.0	User	1900	-	-	-	-	-
8/1 (A45 Southbound offslip)	U	C	2	3	10.0	Geom	-	3.65	0.00	Y	Arm 10 Left	60.00
8/2 (A45 Southbound offslip)	U	C	2	3	60.0	Geom	-	3.65	0.00	N	Arm 10 Left	Inf
8/3 (A45 Southbound offslip)	U	C	2	3	60.0	Geom	-	3.65	0.00	Y	Arm 9 Ahead	Inf
9/1	U	F	2	3	13.0	User	1900	-	-	-	-	-
10/1	U		2	3	5.0	Inf	-	-	-	-	-	-
10/2	U		2	3	5.0	Inf	-	-	-	-	-	-
11/1	U		2	3	5.0	Inf	-	-	-	-	-	-
12/1 (Carswell Road)	U	E	2	3	60.0	Geom	-	3.25	0.00	Y	Arm 2 Ahead Arm 11 Left	Inf 40.00
12/2 (Carswell Road)	U	E	2	3	60.0	Geom	-	3.25	0.00	Y	Arm 2 Ahead	Inf

Traffic Flow Groups

Flow Group	Start Time	End Time	Duration	Formula
2: '2031 D1 Ref PM - sensitivity'	17:00	18:00	01:00	
4: '2031 J1d Dev PM - sensitivity'	17:00	18:00	01:00	
6: '2021 C1 Ref PM - sensitivity'	17:00	18:00	01:00	
8: '2021 I1 Dev PM - sensitivity'	17:00	18:00	01:00	

Scenario 1: '2031 D1 Ref PM' (FG2: '2031 D1 Ref PM - sensitivity', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

		Destination				
		A	B	C	D	Tot.
Origin	A	0	252	462	0	714
	B	1533	0	361	50	1944
	C	1336	666	0	9	2011
	D	566	82	146	0	794
	Tot.	3435	1000	969	59	5463

Traffic Lane Flows

Lane	Scenario 1: 2031 D1 Ref PM
Junction: A45 Brackmills Interchange	
1/1	1006
1/2	1005
2/1	792
2/2	791
3/1	59
4/1	1082
4/2	2244
4/3	209
5/1 (with short)	794(In) 419(Out)
5/2 (short)	375
6/1	1501
6/2	1934
7/1	477
7/2	417
8/1 (short)	120
8/2 (with short)	252(In) 132(Out)
8/3	462
9/1	608
10/1	597
10/2	403
11/1	969
12/1	965
12/2	979

Lane Saturation Flows

Junction: A45 Brackmills Interchange

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 (A45 Northbound offslip)	3.50	0.00	Y	Arm 3 Left	40.00	0.9 %	1964	1964
				Arm 4 Ahead	Inf	99.1 %		
1/2 (A45 Northbound offslip)	3.50	0.00	Y	Arm 4 Ahead	Inf	100.0 %	1965	1965
2/1	This lane uses a directly entered Saturation Flow						1900	1900
2/2	This lane uses a directly entered Saturation Flow						1900	1900
3/1	Infinite Saturation Flow						Inf	Inf
4/1	Infinite Saturation Flow						Inf	Inf
4/2	Infinite Saturation Flow						Inf	Inf
4/3	Infinite Saturation Flow						Inf	Inf
5/1 (Eagle Drive Lane 1)	Infinite Saturation Flow						Inf	Inf
5/2 (Eagle Drive Lane 2)	Infinite Saturation Flow						Inf	Inf
6/1	Infinite Saturation Flow						Inf	Inf
6/2	Infinite Saturation Flow						Inf	Inf
7/1	This lane uses a directly entered Saturation Flow						1900	1900
7/2	This lane uses a directly entered Saturation Flow						1900	1900
8/1 (A45 Southbound offslip)	3.65	0.00	Y	Arm 10 Left	60.00	100.0 %	1932	1932
8/2 (A45 Southbound offslip)	3.65	0.00	N	Arm 10 Left	Inf	100.0 %	2120	2120
8/3 (A45 Southbound offslip)	3.65	0.00	Y	Arm 9 Ahead	Inf	100.0 %	1980	1980
9/1	This lane uses a directly entered Saturation Flow						1900	1900
10/1	Infinite Saturation Flow						Inf	Inf
10/2	Infinite Saturation Flow						Inf	Inf
11/1	Infinite Saturation Flow						Inf	Inf
12/1 (Carswell Road)	3.25	0.00	Y	Arm 2 Ahead	Inf	62.6 %	1913	1913
				Arm 11 Left	40.00	37.4 %		
12/2 (Carswell Road)	3.25	0.00	Y	Arm 2 Ahead	Inf	100.0 %	1940	1940

Scenario 2: '2031 J1d Dev PM' (FG4: '2031 J1d Dev PM - sensitivity', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

		Destination				
		A	B	C	D	Tot.
Origin	A	0	160	594	0	754
	B	1600	0	437	2	2039
	C	1445	562	0	8	2015
	D	486	140	95	0	721
	Tot.	3531	862	1126	10	5529

Traffic Lane Flows

Lane	Scenario 2: 2031 J1d Dev PM
Junction: A45 Brackmills Interchange	
1/1	1007
1/2	1008
2/1	801
2/2	801
3/1	10
4/1	1165
4/2	2261
4/3	181
5/1 (with short)	721(In) 380(Out)
5/2 (short)	341
6/1	1545
6/2	1986
7/1	415
7/2	382
8/1 (short)	76
8/2 (with short)	160(In) 84(Out)
8/3	594
9/1	689
10/1	491
10/2	371
11/1	1126
12/1	1011
12/2	1028

Lane Saturation Flows

Junction: A45 Brackmills Interchange								
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 (A45 Northbound offslip)	3.50	0.00	Y	Arm 3 Left	40.00	0.8 %	1964	1964
				Arm 4 Ahead	Inf	99.2 %		
1/2 (A45 Northbound offslip)	3.50	0.00	Y	Arm 4 Ahead	Inf	100.0 %	1965	1965
2/1	This lane uses a directly entered Saturation Flow						1900	1900
2/2	This lane uses a directly entered Saturation Flow						1900	1900
3/1	Infinite Saturation Flow						Inf	Inf
4/1	Infinite Saturation Flow						Inf	Inf
4/2	Infinite Saturation Flow						Inf	Inf
4/3	Infinite Saturation Flow						Inf	Inf
5/1 (Eagle Drive Lane 1)	Infinite Saturation Flow						Inf	Inf
5/2 (Eagle Drive Lane 2)	Infinite Saturation Flow						Inf	Inf
6/1	Infinite Saturation Flow						Inf	Inf
6/2	Infinite Saturation Flow						Inf	Inf
7/1	This lane uses a directly entered Saturation Flow						1900	1900
7/2	This lane uses a directly entered Saturation Flow						1900	1900
8/1 (A45 Southbound offslip)	3.65	0.00	Y	Arm 10 Left	60.00	100.0 %	1932	1932
8/2 (A45 Southbound offslip)	3.65	0.00	N	Arm 10 Left	Inf	100.0 %	2120	2120
8/3 (A45 Southbound offslip)	3.65	0.00	Y	Arm 9 Ahead	Inf	100.0 %	1980	1980
9/1	This lane uses a directly entered Saturation Flow						1900	1900
10/1	Infinite Saturation Flow						Inf	Inf
10/2	Infinite Saturation Flow						Inf	Inf
11/1	Infinite Saturation Flow						Inf	Inf
12/1 (Carswell Road)	3.25	0.00	Y	Arm 2 Ahead	Inf	56.8 %	1909	1909
				Arm 11 Left	40.00	43.2 %		
12/2 (Carswell Road)	3.25	0.00	Y	Arm 2 Ahead	Inf	100.0 %	1940	1940

Scenario 3: '2021 C1 Ref PM' (FG6: '2021 C1 Ref PM - sensitivity', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

		Destination				
		A	B	C	D	Tot.
Origin	A	0	301	422	0	723
	B	1853	0	428	19	2300
	C	1262	729	0	8	1999
	D	345	122	138	0	605
	Tot.	3460	1152	988	27	5627

Traffic Lane Flows

Lane	Scenario 3: 2021 C1 Ref PM
Junction: A45 Brackmills Interchange	
1/1	999
1/2	1000
2/1	936
2/2	936
3/1	27
4/1	1242
4/2	2325
4/3	277
5/1 (with short)	605(In) 345(Out)
5/2 (short)	260
6/1	1587
6/2	1873
7/1	513
7/2	476
8/1 (short)	144
8/2 (with short)	301(In) 157(Out)
8/3	422
9/1	560
10/1	657
10/2	495
11/1	988
12/1	1142
12/2	1158

Lane Saturation Flows

Junction: A45 Brackmills Interchange								
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 (A45 Northbound offslip)	3.50	0.00	Y	Arm 3 Left	40.00	0.8 %	1964	1964
				Arm 4 Ahead	Inf	99.2 %		
1/2 (A45 Northbound offslip)	3.50	0.00	Y	Arm 4 Ahead	Inf	100.0 %	1965	1965
2/1	This lane uses a directly entered Saturation Flow						1900	1900
2/2	This lane uses a directly entered Saturation Flow						1900	1900
3/1	Infinite Saturation Flow						Inf	Inf
4/1	Infinite Saturation Flow						Inf	Inf
4/2	Infinite Saturation Flow						Inf	Inf
4/3	Infinite Saturation Flow						Inf	Inf
5/1 (Eagle Drive Lane 1)	Infinite Saturation Flow						Inf	Inf
5/2 (Eagle Drive Lane 2)	Infinite Saturation Flow						Inf	Inf
6/1	Infinite Saturation Flow						Inf	Inf
6/2	Infinite Saturation Flow						Inf	Inf
7/1	This lane uses a directly entered Saturation Flow						1900	1900
7/2	This lane uses a directly entered Saturation Flow						1900	1900
8/1 (A45 Southbound offslip)	3.65	0.00	Y	Arm 10 Left	60.00	100.0 %	1932	1932
8/2 (A45 Southbound offslip)	3.65	0.00	N	Arm 10 Left	Inf	100.0 %	2120	2120
8/3 (A45 Southbound offslip)	3.65	0.00	Y	Arm 9 Ahead	Inf	100.0 %	1980	1980
9/1	This lane uses a directly entered Saturation Flow						1900	1900
10/1	Infinite Saturation Flow						Inf	Inf
10/2	Infinite Saturation Flow						Inf	Inf
11/1	Infinite Saturation Flow						Inf	Inf
12/1 (Carswell Road)	3.25	0.00	Y	Arm 2 Ahead	Inf	62.5 %	1913	1913
				Arm 11 Left	40.00	37.5 %		
12/2 (Carswell Road)	3.25	0.00	Y	Arm 2 Ahead	Inf	100.0 %	1940	1940

Scenario 4: '2021 I1 Dev PM' (FG8: '2021 I1 Dev PM - sensitivity', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

		Destination				
		A	B	C	D	Tot.
Origin	A	0	375	372	0	747
	B	1880	0	440	1	2321
	C	1382	624	0	6	2012
	D	328	103	161	0	592
	Tot.	3590	1102	973	7	5672

Traffic Lane Flows

Lane	Scenario 4: 2021 I1 Dev PM
Junction: A45 Brackmills Interchange	
1/1	1006
1/2	1006
2/1	940
2/2	941
3/1	7
4/1	1290
4/2	2387
4/3	209
5/1 (with short)	592(In) 328(Out)
5/2 (short)	264
6/1	1618
6/2	1972
7/1	467
7/2	421
8/1 (short)	179
8/2 (with short)	375(In) 196(Out)
8/3	372
9/1	533
10/1	646
10/2	456
11/1	973
12/1	1152
12/2	1169

Lane Saturation Flows

Junction: A45 Brackmills Interchange								
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 (A45 Northbound offslip)	3.50	0.00	Y	Arm 3 Left	40.00	0.6 %	1965	1965
				Arm 4 Ahead	Inf	99.4 %		
1/2 (A45 Northbound offslip)	3.50	0.00	Y	Arm 4 Ahead	Inf	100.0 %	1965	1965
2/1	This lane uses a directly entered Saturation Flow						1900	1900
2/2	This lane uses a directly entered Saturation Flow						1900	1900
3/1	Infinite Saturation Flow						Inf	Inf
4/1	Infinite Saturation Flow						Inf	Inf
4/2	Infinite Saturation Flow						Inf	Inf
4/3	Infinite Saturation Flow						Inf	Inf
5/1 (Eagle Drive Lane 1)	Infinite Saturation Flow						Inf	Inf
5/2 (Eagle Drive Lane 2)	Infinite Saturation Flow						Inf	Inf
6/1	Infinite Saturation Flow						Inf	Inf
6/2	Infinite Saturation Flow						Inf	Inf
7/1	This lane uses a directly entered Saturation Flow						1900	1900
7/2	This lane uses a directly entered Saturation Flow						1900	1900
8/1 (A45 Southbound offslip)	3.65	0.00	Y	Arm 10 Left	60.00	100.0 %	1932	1932
8/2 (A45 Southbound offslip)	3.65	0.00	N	Arm 10 Left	Inf	100.0 %	2120	2120
8/3 (A45 Southbound offslip)	3.65	0.00	Y	Arm 9 Ahead	Inf	100.0 %	1980	1980
9/1	This lane uses a directly entered Saturation Flow						1900	1900
10/1	Infinite Saturation Flow						Inf	Inf
10/2	Infinite Saturation Flow						Inf	Inf
11/1	Infinite Saturation Flow						Inf	Inf
12/1 (Carswell Road)	3.25	0.00	Y	Arm 2 Ahead	Inf	61.8 %	1913	1913
				Arm 11 Left	40.00	38.2 %		
12/2 (Carswell Road)	3.25	0.00	Y	Arm 2 Ahead	Inf	100.0 %	1940	1940

Scenario 1: '2031 D1 Ref PM' (FG2: '2031 D1 Ref PM - sensitivity', Plan 1: 'Network Control Plan 1')

Stage Timings

Stage Stream: 1

Stage	1	2
Duration	25	23
Change Point	0	31

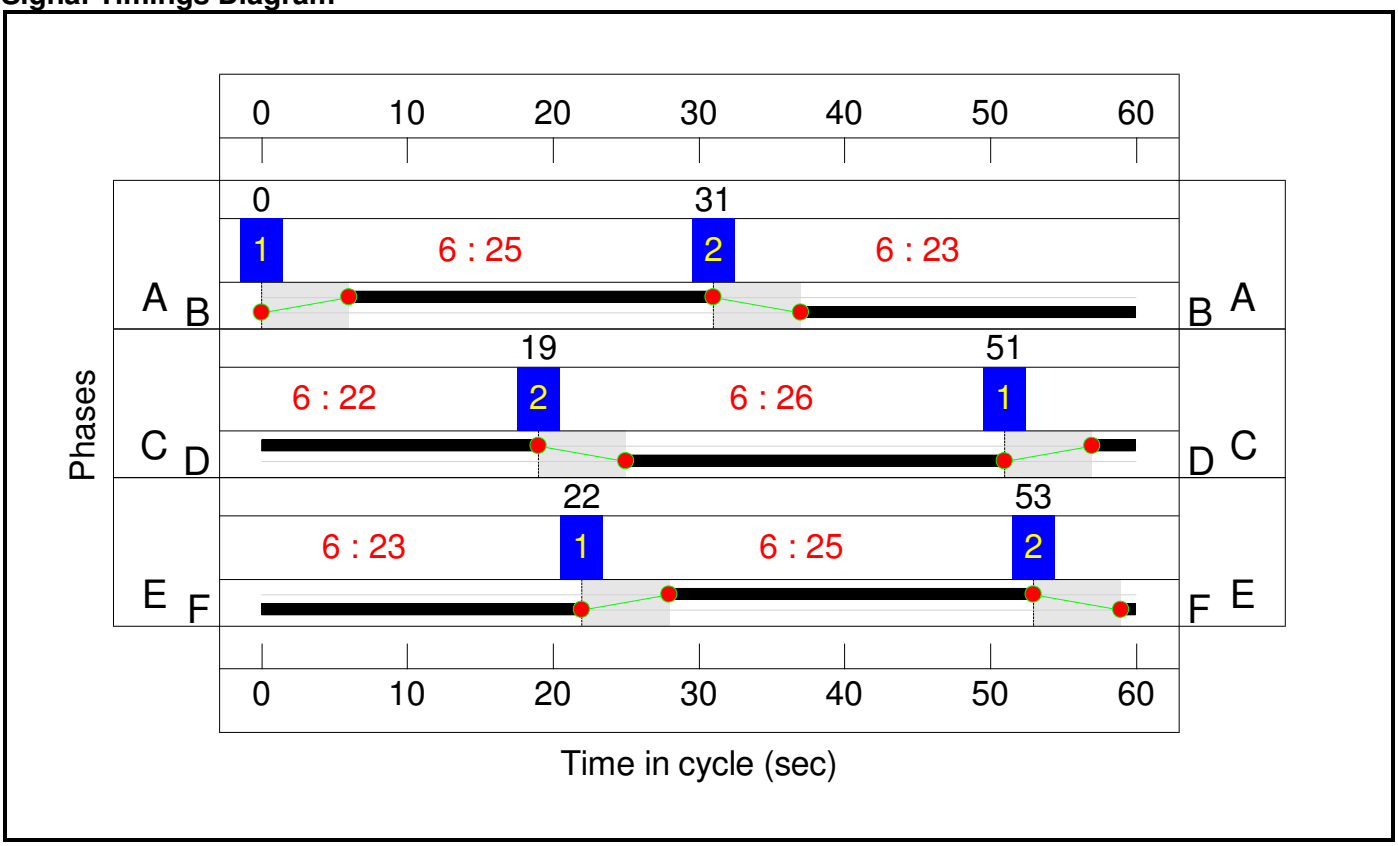
Stage Stream: 2

Stage	1	2
Duration	22	26
Change Point	51	19

Stage Stream: 3

Stage	1	2
Duration	25	23
Change Point	22	53

Signal Timings Diagram



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: Brackmills Interchange Sensitivity	-	-	**N/A**	-	-		-	-	-	-	-	-	**127.8%**
A45 Brackmills Interchange	-	-	**N/A**	-	-		-	-	-	-	-	-	**127.8%**
1/1	A45 Northbound offslip Left Ahead	U	1	N/A	A		1	25	-	1006	1964	851	118.2%
1/2	A45 Northbound offslip Ahead	U	1	N/A	A		1	25	-	1005	1965	852	118.0%
2/1	Ahead Right	U	1	N/A	B		1	23	-	792	1900	760	89.5%
2/2	Right	U	1	N/A	B		1	23	-	791	1900	760	89.4%
3/1		U	N/A	N/A	-		-	-	-	59	Inf	Inf	0.0%
4/1	Ahead	U	N/A	N/A	-		-	-	-	1082	Inf	Inf	0.0%
4/2	Ahead Right	U	N/A	N/A	-		-	-	-	2244	Inf	Inf	0.0%
4/3	Right	U	N/A	N/A	-		-	-	-	209	Inf	Inf	0.0%
5/1+5/2	Eagle Drive Left Ahead	O	N/A	N/A	-		-	-	-	794	Inf : Inf	328+294	127.8 : 127.5%
6/1		U	N/A	N/A	-		-	-	-	1501	Inf	Inf	0.0%
6/2		U	N/A	N/A	-		-	-	-	1934	Inf	Inf	0.0%
7/1	Ahead	U	2	N/A	D		1	26	-	477	1900	855	47.1%
7/2	Right Ahead	U	2	N/A	D		1	26	-	417	1900	855	39.8%
8/2+8/1	A45 Southbound offslip Left	U	2	N/A	C		1	22	-	252	2120:1932	706+642	18.7 : 18.7%
8/3	A45 Southbound offslip Ahead	U	2	N/A	C		1	22	-	462	1980	759	60.9%
9/1	Right Ahead	U	3	N/A	F		1	23	-	608	1900	760	75.9%
10/1		U	N/A	N/A	-		-	-	-	597	Inf	Inf	0.0%
10/2		U	N/A	N/A	-		-	-	-	403	Inf	Inf	0.0%
11/1		U	N/A	N/A	-		-	-	-	969	Inf	Inf	0.0%

12/1	Carswell Road Ahead Left	U	3	N/A	E		1	25	-	965	1913	829	116.4%
12/2	Carswell Road Ahead	U	3	N/A	E		1	25	-	979	1940	841	116.5%

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: Brackmills Interchange Sensitivity	**-**	**-**	**1244**	**0**	**0**	**48.0**	**403.6**	**0.0**	**451.7**	**-**	**-**	**-**	**-**
A45 Brackmills Interchange	**-**	**-**	**1244**	**0**	**0**	**48.0**	**403.6**	**0.0**	**451.7**	**-**	**-**	**-**	**-**
1/1	1006	851	-	-	-	9.0	80.6	-	89.6	320.7	19.3	80.6	99.9
1/2	1005	851	-	-	-	9.0	79.9	-	88.9	318.4	19.3	79.9	99.2
2/1	680	680	-	-	-	0.1	3.9	-	4.0	21.0	4.8	3.9	8.7
2/2	679	679	-	-	-	0.1	3.8	-	3.9	20.8	0.9	3.8	4.7
3/1	51	51	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
4/1	925	925	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
4/2	1909	1909	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
4/3	177	177	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/1+5/2	794	622	1244	0	0	7.8	88.3	-	96.1	435.5	19.3	88.3	107.6
6/1	1253	1253	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/2	1638	1638	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	402	402	-	-	-	0.3	0.4	-	0.7	6.7	3.9	0.4	4.3
7/2	340	340	-	-	-	0.5	0.3	-	0.9	9.0	3.0	0.3	3.4
8/2+8/1	252	252	-	-	-	0.9	0.1	-	1.0	13.8	1.4	0.1	1.5
8/3	462	462	-	-	-	1.9	0.8	-	2.7	20.9	6.2	0.8	6.9
9/1	577	577	-	-	-	1.0	1.5	-	2.5	15.7	2.7	1.5	4.3
10/1	522	522	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
10/2	358	358	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
11/1	887	887	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
12/1	965	829	-	-	-	8.7	71.4	-	80.1	298.7	19.5	71.4	90.9
12/2	979	841	-	-	-	8.8	72.5	-	81.4	299.2	19.8	72.5	92.4

C1	Stream: 1	PRC for Signalled Lanes (%):	-31.3	Total Delay for Signalled Lanes (pcuHr):	186.40	Cycle Time (s):	60
C1	Stream: 2	PRC for Signalled Lanes (%):	47.9	Total Delay for Signalled Lanes (pcuHr):	5.25	Cycle Time (s):	60
C1	Stream: 3	PRC for Signalled Lanes (%):	-29.4	Total Delay for Signalled Lanes (pcuHr):	163.95	Cycle Time (s):	60
		PRC Over All Lanes (%):	-42.1	Total Delay Over All Lanes(pcuHr):	451.66		

Scenario 2: '2031 J1d Dev PM' (FG4: '2031 J1d Dev PM - sensitivity', Plan 1: 'Network Control Plan 1')

Stage Timings

Stage Stream: 1

Stage	1	2
Duration	26	22
Change Point	0	32

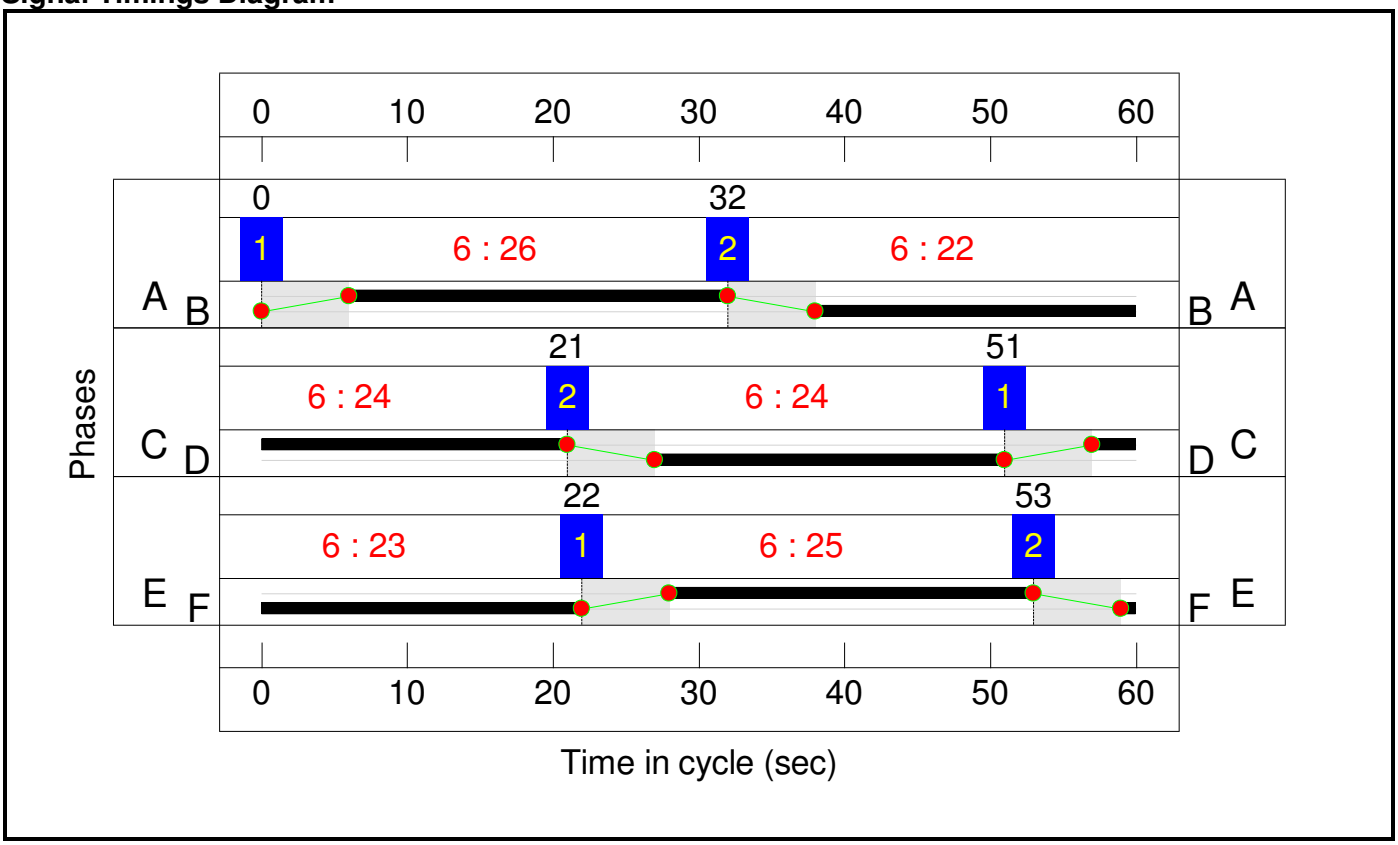
Stage Stream: 2

Stage	1	2
Duration	24	24
Change Point	51	21

Stage Stream: 3

Stage	1	2
Duration	25	23
Change Point	22	53

Signal Timings Diagram



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: Brackmills Interchange Sensitivity	-	-	**N/A**	-	-		-	-	-	-	-	-	**122.8%**
A45 Brackmills Interchange	-	-	**N/A**	-	-		-	-	-	-	-	-	**122.8%**
1/1	A45 Northbound offslip Left Ahead	U	1	N/A	A		1	26	-	1007	1964	884	113.9%
1/2	A45 Northbound offslip Ahead	U	1	N/A	A		1	26	-	1008	1965	884	114.0%
2/1	Ahead Right	U	1	N/A	B		1	22	-	801	1900	728	90.0%
2/2	Right	U	1	N/A	B		1	22	-	801	1900	728	89.9%
3/1		U	N/A	N/A	-		-	-	-	10	Inf	Inf	0.0%
4/1	Ahead	U	N/A	N/A	-		-	-	-	1165	Inf	Inf	0.0%
4/2	Ahead Right	U	N/A	N/A	-		-	-	-	2261	Inf	Inf	0.0%
4/3	Right	U	N/A	N/A	-		-	-	-	181	Inf	Inf	0.0%
5/1+5/2	Eagle Drive Left Ahead	O	N/A	N/A	-		-	-	-	721	Inf : Inf	309+278	122.8 : 122.8%
6/1		U	N/A	N/A	-		-	-	-	1545	Inf	Inf	0.0%
6/2		U	N/A	N/A	-		-	-	-	1986	Inf	Inf	0.0%
7/1	Ahead	U	2	N/A	D		1	24	-	415	1900	792	45.7%
7/2	Right Ahead	U	2	N/A	D		1	24	-	382	1900	792	40.7%
8/2+8/1	A45 Southbound offslip Left	U	2	N/A	C		1	24	-	160	2120:1932	742+671	11.3 : 11.3%
8/3	A45 Southbound offslip Ahead	U	2	N/A	C		1	24	-	594	1980	825	72.0%
9/1	Right Ahead	U	3	N/A	F		1	23	-	689	1900	760	88.3%
10/1		U	N/A	N/A	-		-	-	-	491	Inf	Inf	0.0%
10/2		U	N/A	N/A	-		-	-	-	371	Inf	Inf	0.0%
11/1		U	N/A	N/A	-		-	-	-	1126	Inf	Inf	0.0%

12/1	Carswell Road Ahead Left	U	3	N/A	E		1	25	-	1011	1909	827	122.2%
12/2	Carswell Road Ahead	U	3	N/A	E		1	25	-	1028	1940	841	122.3%

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: Brackmills Interchange Sensitivity	**-**	**-**	**1174**	**0**	**0**	**49.0**	**405.3**	**0.0**	**454.3**	**-**	**-**	**-**	**-**
A45 Brackmills Interchange	**-**	**-**	**1174**	**0**	**0**	**49.0**	**405.3**	**0.0**	**454.3**	**-**	**-**	**-**	**-**
1/1	1007	884	-	-	-	8.0	65.4	-	73.5	262.6	18.8	65.4	84.3
1/2	1008	884	-	-	-	8.0	65.7	-	73.7	263.3	18.9	65.7	84.6
2/1	655	655	-	-	-	0.2	4.0	-	4.2	23.0	5.9	4.0	9.9
2/2	655	655	-	-	-	0.2	4.0	-	4.2	23.0	2.9	4.0	7.0
3/1	9	9	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
4/1	975	975	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
4/2	1936	1936	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
4/3	159	159	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/1+5/2	721	587	1174	0	0	6.3	69.6	-	75.9	379.0	17.5	69.6	87.1
6/1	1284	1284	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/2	1688	1688	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	362	362	-	-	-	0.4	0.4	-	0.8	7.9	3.8	0.4	4.2
7/2	322	322	-	-	-	0.6	0.3	-	0.9	10.1	3.0	0.3	3.4
8/2+8/1	160	160	-	-	-	0.5	0.1	-	0.5	12.1	0.8	0.1	0.9
8/3	594	594	-	-	-	2.4	1.3	-	3.7	22.3	8.1	1.3	9.4
9/1	671	671	-	-	-	0.9	3.5	-	4.5	23.9	1.9	3.5	5.5
10/1	438	438	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
10/2	329	329	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
11/1	1029	1029	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
12/1	1011	827	-	-	-	10.7	94.6	-	105.2	374.7	21.9	94.6	116.4
12/2	1028	841	-	-	-	10.9	96.3	-	107.2	375.4	22.2	96.3	118.6

C1	Stream: 1	PRC for Signalled Lanes (%):	-26.7	Total Delay for Signalled Lanes (pcuHr):	155.56	Cycle Time (s):	60
C1	Stream: 2	PRC for Signalled Lanes (%):	25.0	Total Delay for Signalled Lanes (pcuHr):	5.92	Cycle Time (s):	60
C1	Stream: 3	PRC for Signalled Lanes (%):	-35.9	Total Delay for Signalled Lanes (pcuHr):	216.88	Cycle Time (s):	60
		PRC Over All Lanes (%):	-36.5	Total Delay Over All Lanes(pcuHr):	454.26		

Scenario 3: '2021 C1 Ref PM' (FG6: '2021 C1 Ref PM - sensitivity', Plan 1: 'Network Control Plan 1')

Stage Timings

Stage Stream: 1

Stage	1	2
Duration	23	25
Change Point	0	29

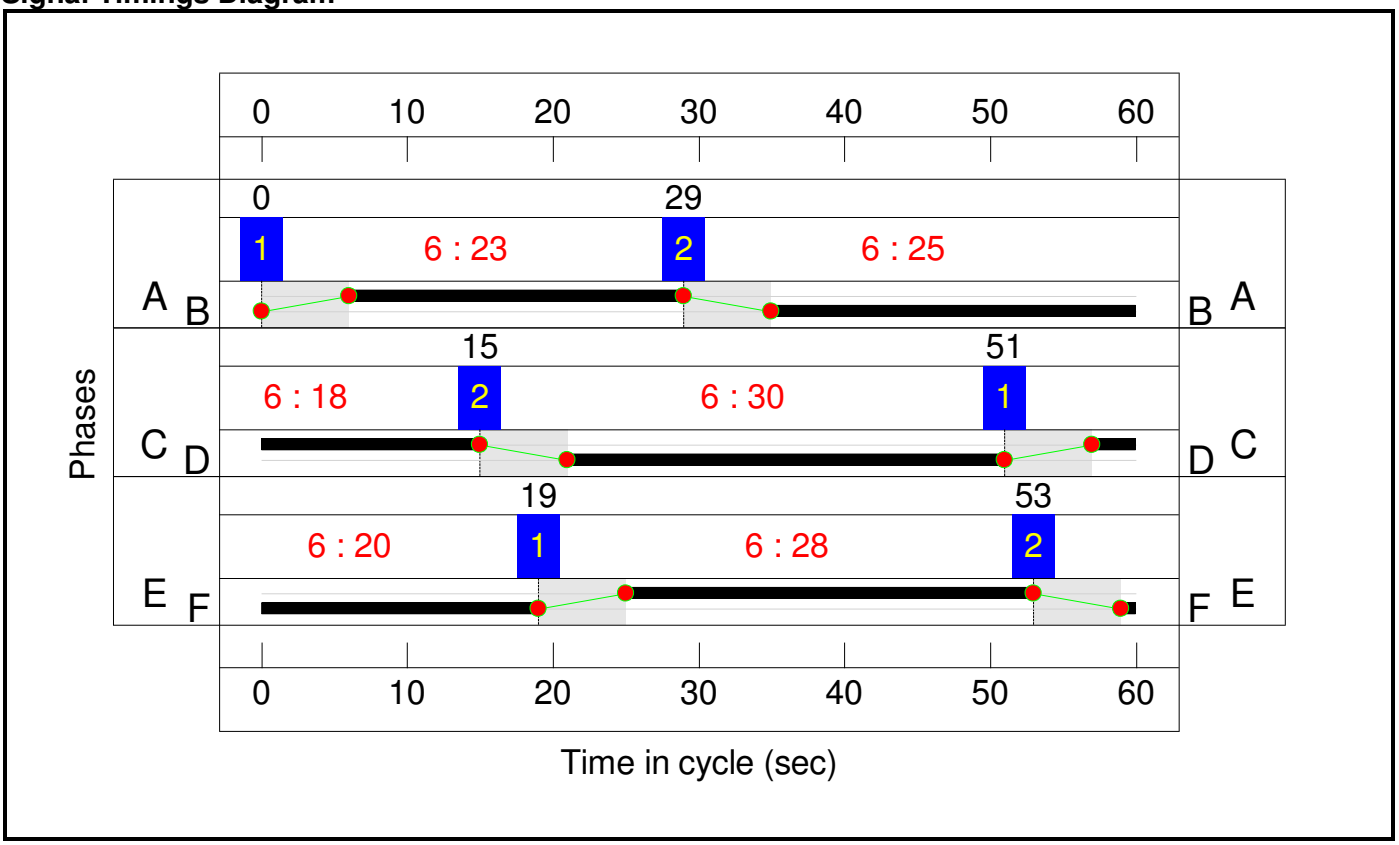
Stage Stream: 2

Stage	1	2
Duration	18	30
Change Point	51	15

Stage Stream: 3

Stage	1	2
Duration	28	20
Change Point	19	53

Signal Timings Diagram



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: Brackmills Interchange Sensitivity	-	-	**N/A**	-	-		-	-	-	-	-	-	**127.2%**
A45 Brackmills Interchange	-	-	**N/A**	-	-		-	-	-	-	-	-	**127.2%**
1/1	A45 Northbound offslip Left Ahead	U	1	N/A	A		1	23	-	999	1964	786	127.2%
1/2	A45 Northbound offslip Ahead	U	1	N/A	A		1	23	-	1000	1965	786	127.2%
2/1	Ahead Right	U	1	N/A	B		1	25	-	936	1900	823	92.0%
2/2	Right	U	1	N/A	B		1	25	-	936	1900	823	92.1%
3/1		U	N/A	N/A	-		-	-	-	27	Inf	Inf	0.0%
4/1	Ahead	U	N/A	N/A	-		-	-	-	1242	Inf	Inf	0.0%
4/2	Ahead Right	U	N/A	N/A	-		-	-	-	2325	Inf	Inf	0.0%
4/3	Right	U	N/A	N/A	-		-	-	-	277	Inf	Inf	0.0%
5/1+5/2	Eagle Drive Left Ahead	O	N/A	N/A	-		-	-	-	605	Inf : Inf	324+272	106.3 : 95.5%
6/1		U	N/A	N/A	-		-	-	-	1587	Inf	Inf	0.0%
6/2		U	N/A	N/A	-		-	-	-	1873	Inf	Inf	0.0%
7/1	Ahead	U	2	N/A	D		1	30	-	513	1900	982	42.4%
7/2	Right Ahead	U	2	N/A	D		1	30	-	476	1900	982	42.5%
8/2+8/1	A45 Southbound offslip Left	U	2	N/A	C		1	18	-	301	2120:1932	635+583	24.7 : 24.7%
8/3	A45 Southbound offslip Ahead	U	2	N/A	C		1	18	-	422	1980	627	67.3%
9/1	Right Ahead	U	3	N/A	F		1	20	-	560	1900	665	84.2%
10/1		U	N/A	N/A	-		-	-	-	657	Inf	Inf	0.0%
10/2		U	N/A	N/A	-		-	-	-	495	Inf	Inf	0.0%
11/1		U	N/A	N/A	-		-	-	-	988	Inf	Inf	0.0%

12/1	Carswell Road Ahead Left	U	3	N/A	E		1	28	-	1142	1913	925	123.5%
12/2	Carswell Road Ahead	U	3	N/A	E		1	28	-	1158	1940	938	123.5%

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: Brackmills Interchange Sensitivity	**-**	**-**	**1169**	**0**	**0**	**53.5**	**477.4**	**0.0**	**530.9**	**-**	**-**	**-**	**-**
A45 Brackmills Interchange	**-**	**-**	**1169**	**0**	**0**	**53.5**	**477.4**	**0.0**	**530.9**	**-**	**-**	**-**	**-**
1/1	999	786	-	-	-	11.0	109.0	-	119.9	432.2	20.2	109.0	129.2
1/2	1000	786	-	-	-	11.0	109.3	-	120.3	432.9	20.2	109.3	129.5
2/1	758	758	-	-	-	0.2	5.0	-	5.2	24.7	7.4	5.0	12.4
2/2	758	758	-	-	-	0.2	5.0	-	5.2	24.7	3.5	5.0	8.5
3/1	22	22	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
4/1	998	998	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
4/2	1850	1850	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
4/3	218	218	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/1+5/2	605	584	1169	0	0	1.8	20.7	-	22.5	133.8	13.0	20.7	33.7
6/1	1323	1323	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/2	1495	1495	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	416	416	-	-	-	0.2	0.4	-	0.6	4.8	2.7	0.4	3.1
7/2	417	417	-	-	-	0.4	0.4	-	0.8	6.8	3.2	0.4	3.6
8/2+8/1	301	301	-	-	-	1.3	0.2	-	1.4	17.1	1.9	0.2	2.1
8/3	422	422	-	-	-	2.1	1.0	-	3.1	26.5	6.1	1.0	7.1
9/1	560	560	-	-	-	1.2	2.5	-	3.7	23.8	3.5	2.5	6.0
10/1	560	560	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
10/2	436	436	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
11/1	907	907	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
12/1	1142	925	-	-	-	12.0	111.3	-	123.3	388.7	25.0	111.3	136.3
12/2	1158	938	-	-	-	12.2	112.7	-	124.9	388.4	25.4	112.7	138.1

C1	Stream: 1	PRC for Signalled Lanes (%):	-41.4	Total Delay for Signalled Lanes (pcuHr):	250.62	Cycle Time (s):	60
C1	Stream: 2	PRC for Signalled Lanes (%):	33.7	Total Delay for Signalled Lanes (pcuHr):	5.88	Cycle Time (s):	60
C1	Stream: 3	PRC for Signalled Lanes (%):	-37.2	Total Delay for Signalled Lanes (pcuHr):	251.94	Cycle Time (s):	60
		PRC Over All Lanes (%):	-41.4	Total Delay Over All Lanes(pcuHr):	530.92		

Scenario 4: '2021 I1 Dev PM' (FG8: '2021 I1 Dev PM - sensitivity', Plan 1: 'Network Control Plan 1')

Stage Timings

Stage Stream: 1

Stage	1	2
Duration	24	24
Change Point	0	30

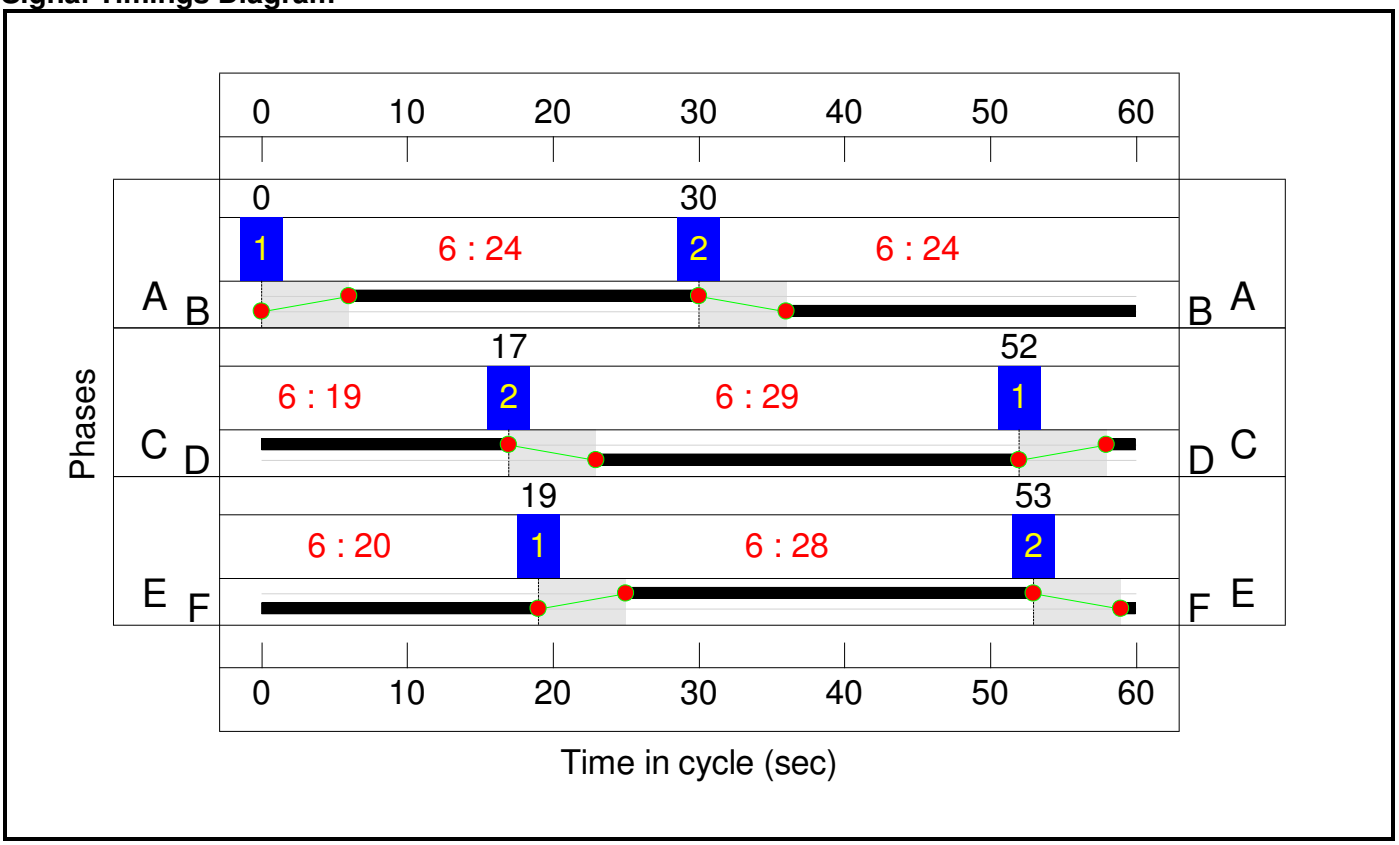
Stage Stream: 2

Stage	1	2
Duration	19	29
Change Point	52	17

Stage Stream: 3

Stage	1	2
Duration	28	20
Change Point	19	53

Signal Timings Diagram



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: Brackmills Interchange Sensitivity	-	-	**N/A**	-	-		-	-	-	-	-	-	**124.7%**
A45 Brackmills Interchange	-	-	**N/A**	-	-		-	-	-	-	-	-	**124.7%**
1/1	A45 Northbound offslip Left Ahead	U	1	N/A	A		1	24	-	1006	1965	819	122.9%
1/2	A45 Northbound offslip Ahead	U	1	N/A	A		1	24	-	1006	1965	819	122.9%
2/1	Ahead Right	U	1	N/A	B		1	24	-	940	1900	792	95.3%
2/2	Right	U	1	N/A	B		1	24	-	941	1900	792	95.3%
3/1		U	N/A	N/A	-		-	-	-	7	Inf	Inf	0.0%
4/1	Ahead	U	N/A	N/A	-		-	-	-	1290	Inf	Inf	0.0%
4/2	Ahead Right	U	N/A	N/A	-		-	-	-	2387	Inf	Inf	0.0%
4/3	Right	U	N/A	N/A	-		-	-	-	209	Inf	Inf	0.0%
5/1+5/2	Eagle Drive Left Ahead	O	N/A	N/A	-		-	-	-	592	Inf : Inf	295+254	111.2 : 103.9%
6/1		U	N/A	N/A	-		-	-	-	1618	Inf	Inf	0.0%
6/2		U	N/A	N/A	-		-	-	-	1972	Inf	Inf	0.0%
7/1	Ahead	U	2	N/A	D		1	29	-	467	1900	950	40.8%
7/2	Right Ahead	U	2	N/A	D		1	29	-	421	1900	950	39.4%
8/2+8/1	A45 Southbound offslip Left	U	2	N/A	C		1	19	-	375	2120:1932	653+596	30.0 : 30.0%
8/3	A45 Southbound offslip Ahead	U	2	N/A	C		1	19	-	372	1980	660	56.4%
9/1	Right Ahead	U	3	N/A	F		1	20	-	533	1900	665	79.2%
10/1		U	N/A	N/A	-		-	-	-	646	Inf	Inf	0.0%
10/2		U	N/A	N/A	-		-	-	-	456	Inf	Inf	0.0%
11/1		U	N/A	N/A	-		-	-	-	973	Inf	Inf	0.0%

12/1	Carswell Road Ahead Left	U	3	N/A	E		1	28	-	1152	1913	925	124.6%
12/2	Carswell Road Ahead	U	3	N/A	E		1	28	-	1169	1940	938	124.7%

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: Brackmills Interchange Sensitivity	**-**	**-**	**1098**	**0**	**0**	**53.8**	**471.7**	**0.0**	**525.4**	**-**	**-**	**-**	**-**
A45 Brackmills Interchange	**-**	**-**	**1098**	**0**	**0**	**53.8**	**471.7**	**0.0**	**525.4**	**-**	**-**	**-**	**-**
1/1	1006	819	-	-	-	10.1	96.2	-	106.3	380.5	19.9	96.2	116.1
1/2	1006	819	-	-	-	10.1	96.2	-	106.3	380.5	19.9	96.2	116.1
2/1	754	754	-	-	-	0.3	7.3	-	7.6	36.3	9.5	7.3	16.8
2/2	755	755	-	-	-	0.3	7.3	-	7.6	36.5	5.6	7.3	13.0
3/1	6	6	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
4/1	1039	1039	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
4/2	1932	1932	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
4/3	170	170	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/1+5/2	592	549	1098	0	0	2.6	26.9	-	29.5	179.6	12.3	26.9	39.2
6/1	1334	1334	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/2	1594	1594	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	388	388	-	-	-	0.2	0.3	-	0.6	5.3	2.9	0.3	3.2
7/2	374	374	-	-	-	0.4	0.3	-	0.8	7.3	3.0	0.3	3.3
8/2+8/1	375	375	-	-	-	1.5	0.2	-	1.7	16.8	2.4	0.2	2.6
8/3	372	372	-	-	-	1.7	0.6	-	2.3	22.6	5.1	0.6	5.7
9/1	527	527	-	-	-	1.3	1.9	-	3.2	21.5	3.4	1.9	5.3
10/1	567	567	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
10/2	415	415	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
11/1	880	880	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
12/1	1152	925	-	-	-	12.5	116.2	-	128.6	402.0	25.5	116.2	141.7
12/2	1169	938	-	-	-	12.7	118.1	-	130.8	402.8	25.9	118.1	144.0

C1	Stream: 1	PRC for Signalled Lanes (%):	-36.5	Total Delay for Signalled Lanes (pcuHr):	227.90	Cycle Time (s):	60
C1	Stream: 2	PRC for Signalled Lanes (%):	59.7	Total Delay for Signalled Lanes (pcuHr):	5.42	Cycle Time (s):	60
C1	Stream: 3	PRC for Signalled Lanes (%):	-38.5	Total Delay for Signalled Lanes (pcuHr):	262.59	Cycle Time (s):	60
		PRC Over All Lanes (%):	-38.5	Total Delay Over All Lanes(pcuHr):	525.44		

APPENDIX D

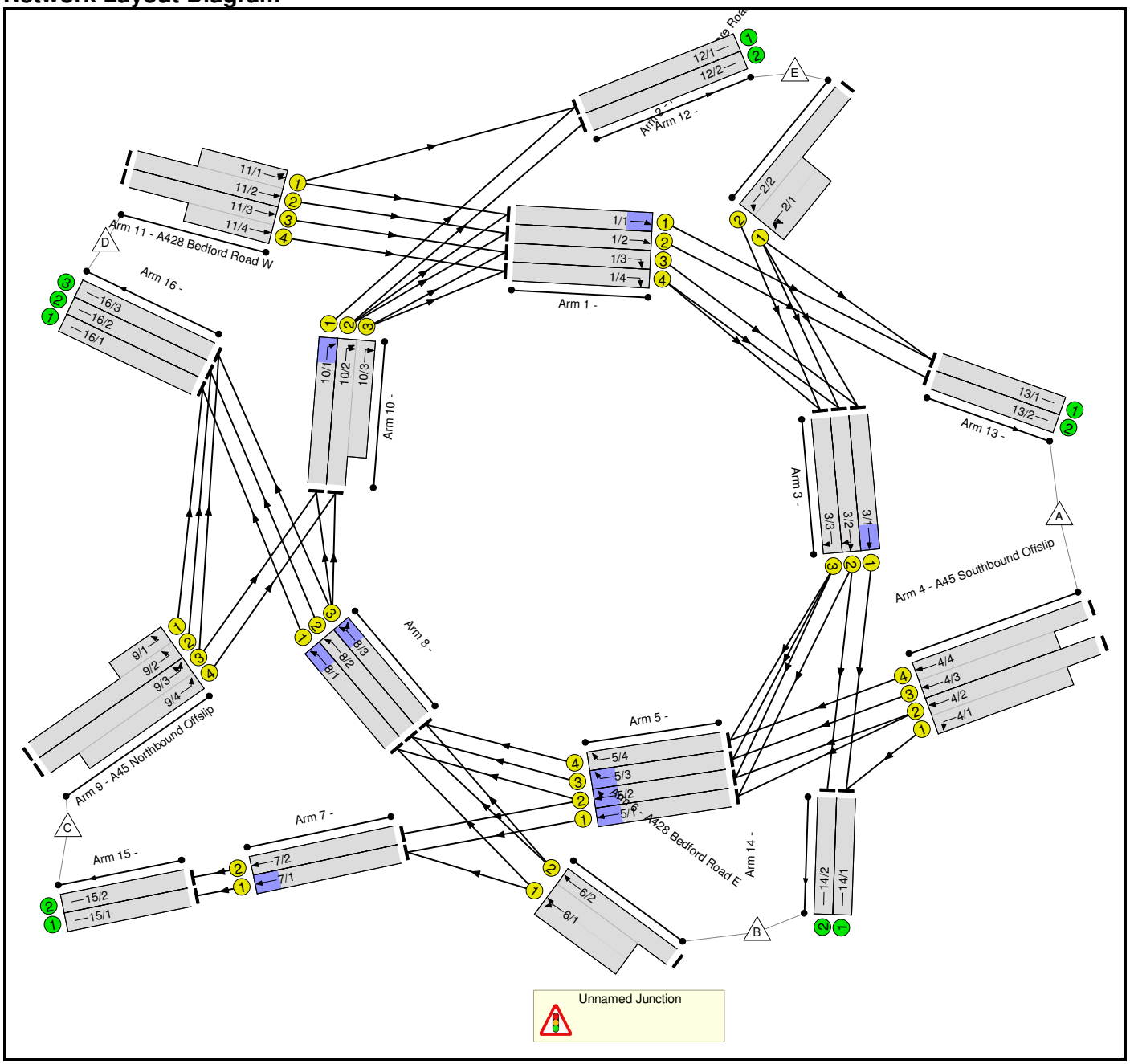
BARNES MEADOW INTERCHANGE SENSITIVITY TEST LINSIG MODEL

Full Input Data And Results

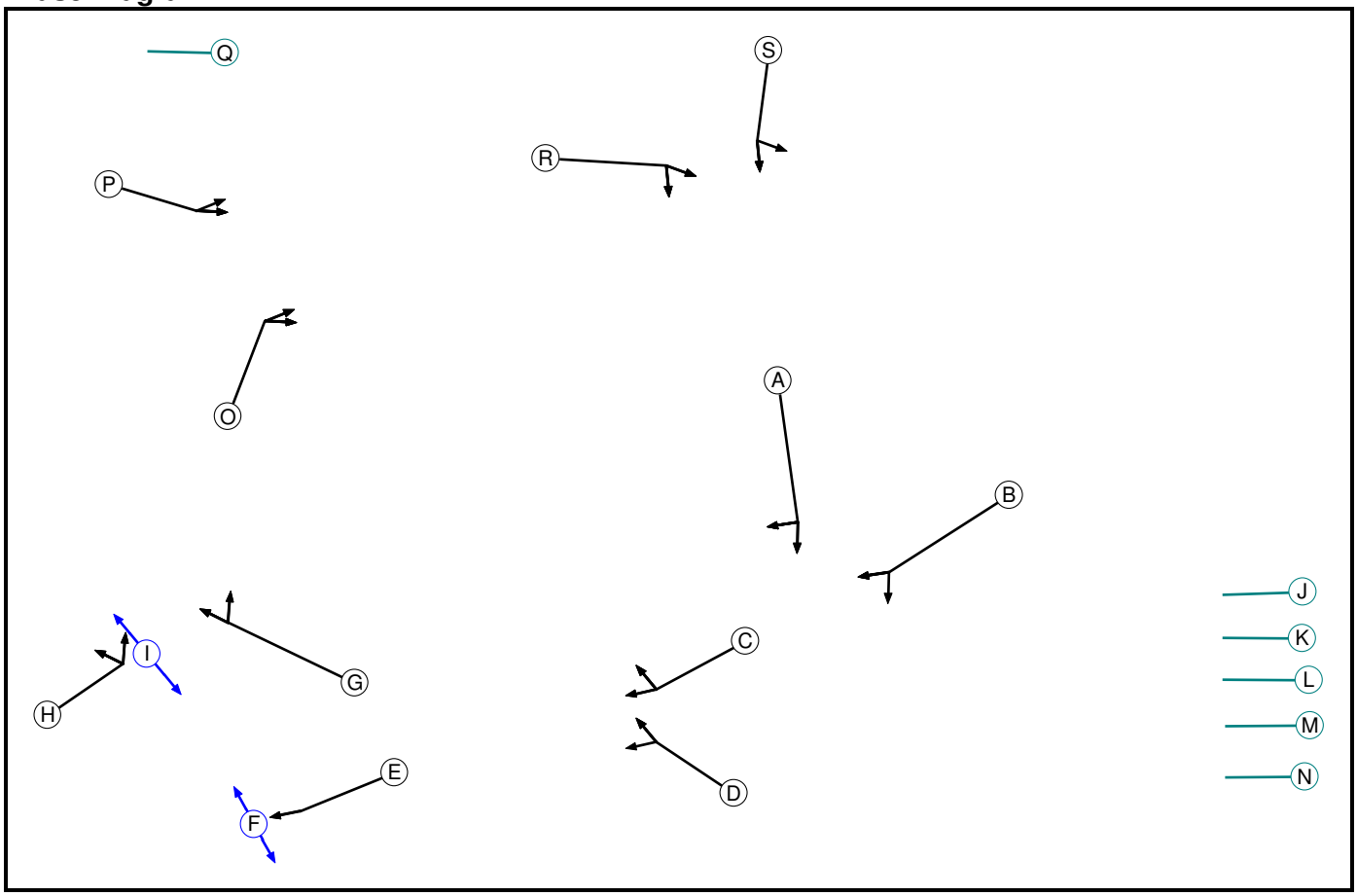
User and Project Details

Project:	**Northampton Gateway SRFI**
Title:	**A45 Barnes Meadow Interchange Sensitivity**
Location:	
File name:	180320 Barnes Meadow Sensitivity.lsg3x
Author:	Mark Higgins
Company:	ADC Infrastructure Ltd
Address:	Western House, Nottingham
Notes:	Sensitivity flow adjustments made as per TN10A

Network Layout Diagram



Phase Diagram



Phase Input Data

Phase Name	Phase Type	Stage Stream	Assoc. Phase	Street Min	Cont Min
A	Traffic	1		7	7
B	Traffic	1		7	7
C	Traffic	2		7	7
D	Traffic	2		7	7
E	Traffic	3		7	7
F	Pedestrian	3		5	5
G	Traffic	4		7	0
H	Traffic	4		7	7
I	Pedestrian	4		6	6
J	Dummy			7	7
K	Dummy			7	7
L	Dummy			7	7
M	Dummy			7	7
N	Dummy			7	7
O	Traffic	5		7	7
P	Traffic	5		7	7
Q	Dummy			7	7
R	Traffic	6		7	7
S	Traffic	6		7	7

Phase Intergreens Matrix

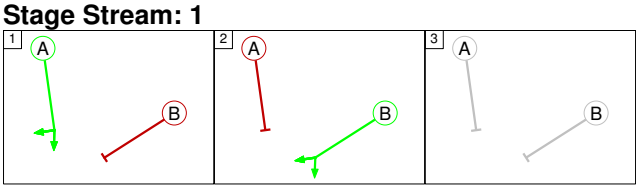
Terminating Phase \ Starting Phase	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S
A		5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
B	5		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C	-	-		5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
D	-	-	5		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
E	-	-	-	-		5	-	-	-	-	-	-	-	-	-	-	-	-	-
F	-	-	-	-	9		-	-	-	-	-	-	-	-	-	-	-	-	-
G	-	-	-	-	-	-		5	-	-	-	-	-	-	-	-	-	-	-
H	-	-	-	-	-	-	5		5	-	-	-	-	-	-	-	-	-	-
I	-	-	-	-	-	-	-	14		-	-	-	-	-	-	-	-	-	-
J	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-
K	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-
L	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-
M	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-
N	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-
O	-	-	-	-	-	-	-	-	-	-	-	-	-	-		5	-	-	-
P	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5		-	-	-
Q	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-
R	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		5
S	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5	

Phases in Stage

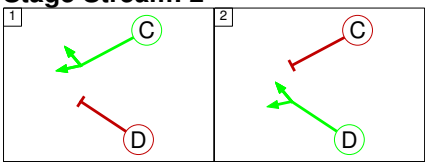
Stream	Stage No.	Phases in Stage
1	1	A
1	2	B
1	3	
2	1	C
2	2	D
3	1	E
3	2	F
4	1	G I
4	2	H
5	1	O
5	2	P
6	1	R
6	2	S

Stage Diagram

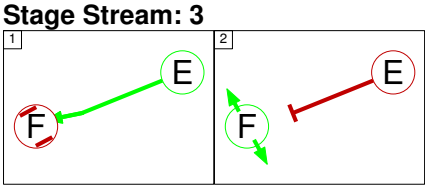
Stage Stream: 1



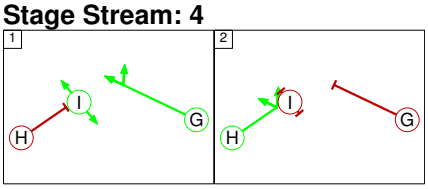
Stage Stream: 2



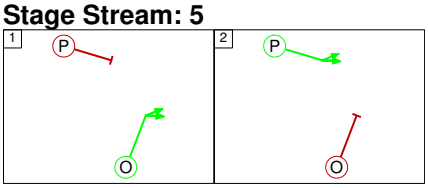
Stage Stream: 3



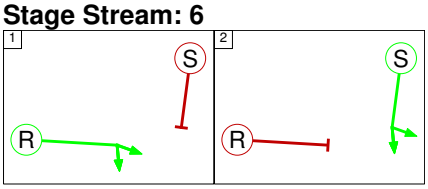
Stage Stream: 4



Stage Stream: 5



Stage Stream: 6



Lane Input Data

Junction: Unnamed Junction

Lane	Lane Type	Phases	Start Disp.	End Disp.	Physical Length (PCU)	Sat Flow Type	Def User Saturation Flow (PCU/Hr)	Lane Width (m)	Gradient	Nearside Lane	Turns	Turning Radius (m)
1/1	U	R	2	3	8.7	Geom	-	3.50	0.00	Y	Arm 13 Ahead	Inf
1/2	U	R	2	3	8.7	Geom	-	3.50	0.00	N	Arm 13 Ahead	Inf
1/3	U	R	2	3	8.7	Geom	-	3.50	0.00	N	Arm 3 Right	Inf
1/4	U	R	2	3	8.7	Geom	-	3.50	0.00	N	Arm 3 Right	Inf
2/1 (A5095 Rushmere Road)	U	S	2	3	6.0	User	3600	-	-	-	-	-
2/2 (A5095 Rushmere Road)	U	S	2	3	60.0	Geom	-	3.65	0.00	N	Arm 3 Ahead	26.00
3/1	U	A	2	3	26.1	Geom	-	3.65	0.00	Y	Arm 14 Ahead	40.00
3/2	U	A	2	3	26.1	Geom	-	3.65	0.00	N	Arm 5 Right	50.00
											Arm 14 Ahead	Inf
3/3	U	A	2	3	26.1	Geom	-	3.65	0.00	N	Arm 5 Right	45.00
4/1 (A45 Southbound Offslip)	U	B	2	3	15.0	Geom	-	3.65	0.00	Y	Arm 14 Left	35.00
4/2 (A45 Southbound Offslip)	U	B	2	3	60.0	Geom	-	3.65	0.00	N	Arm 5 Ahead	Inf
4/3 (A45 Southbound Offslip)	U	B	2	3	22.0	Geom	-	3.65	0.00	N	Arm 5 Ahead	Inf
4/4 (A45 Southbound Offslip)	U	B	2	3	60.0	Geom	-	3.25	0.00	Y	Arm 5 Ahead	Inf
5/1	U	C	2	3	13.0	Geom	-	3.65	0.00	Y	Arm 7 Ahead	30.00
5/2	U	C	2	3	13.0	Geom	-	3.65	0.00	N	Arm 7 Ahead	Inf
											Arm 8 Right	35.00
5/3	U	C	2	3	13.0	Geom	-	3.65	0.00	N	Arm 8 Right	35.00
5/4	U	C	2	3	13.0	Geom	-	3.25	0.00	Y	Arm 8 Right	Inf
6/1 (A428 Bedford Road E)	U	D	2	3	8.0	User	3800	-	-	-	-	-

6/2 (A428 Bedford Road E)	U	D	2	3	60.0	Geom	-	3.65	0.00	N	Arm 8 Ahead	45.00
7/1	U	E	2	3	10.4	Geom	-	3.65	0.00	Y	Arm 15 Ahead	Inf
7/2	U	E	2	3	10.4	Geom	-	3.65	0.00	N	Arm 15 Ahead	Inf
8/1	U	G	2	3	17.4	Geom	-	3.65	0.00	Y	Arm 16 Ahead	35.00
8/2	U	G	2	3	17.4	Geom	-	3.65	0.00	N	Arm 16 Ahead	40.00
8/3	U	G	2	3	17.4	Geom	-	3.65	0.00	N	Arm 10 Ahead Arm 16 Ahead	50.00 Inf
9/1 (A45 Northbound Offslip)	U	H	2	3	5.0	Geom	-	3.65	0.00	Y	Arm 16 Left	25.00
9/2 (A45 Northbound Offslip)	U	H	2	3	60.0	Geom	-	3.65	0.00	N	Arm 16 Left	Inf
9/3 (A45 Northbound Offslip)	U	H	2	3	60.0	Geom	-	3.65	0.00	N	Arm 10 Left Arm 16 Left	Inf Inf
9/4 (A45 Northbound Offslip)	U	H	2	3	15.0	Geom	-	3.65	0.00	N	Arm 10 Left	Inf
10/1	U	O	2	3	31.3	Geom	-	3.65	0.00	Y	Arm 12 Right	40.00
10/2	U	O	2	3	31.3	Geom	-	3.65	0.00	N	Arm 1 Right Arm 12 Right	45.00 45.00
10/3	U	O	2	3	10.4	Geom	-	3.65	0.00	N	Arm 1 Right	50.00
11/1 (A428 Bedford Road W)	U	P	2	3	7.0	Geom	-	3.50	0.00	Y	Arm 1 Ahead Arm 12 Ahead	60.00 60.00
11/2 (A428 Bedford Road W)	U	P	2	3	60.0	Geom	-	3.00	0.00	N	Arm 1 Ahead	Inf
11/3 (A428 Bedford Road W)	U	P	2	3	60.0	Geom	-	3.00	0.00	N	Arm 1 Ahead	60.00
11/4 (A428 Bedford Road W)	U	P	2	3	7.0	Geom	-	3.00	0.00	N	Arm 1 Ahead	60.00
12/1	U		2	3	5.0	Inf	-	-	-	-	-	-
12/2	U		2	3	5.0	Inf	-	-	-	-	-	-
13/1	U		2	3	5.0	Inf	-	-	-	-	-	-
13/2	U		2	3	5.0	Inf	-	-	-	-	-	-
14/1	U		2	3	5.0	Inf	-	-	-	-	-	-
14/2	U		2	3	5.0	Inf	-	-	-	-	-	-

15/1	U		2	3	5.0	Inf	-	-	-	-	-	-
15/2	U		2	3	5.0	Inf	-	-	-	-	-	-
16/1	U		2	3	5.0	Inf	-	-	-	-	-	-
16/2	U		2	3	5.0	Inf	-	-	-	-	-	-
16/3	U		2	3	5.0	Inf	-	-	-	-	-	-

Traffic Flow Groups

Flow Group	Start Time	End Time	Duration	Formula
1: '2031 D1 Ref AM - sensitivity'	08:00	09:00	01:00	
2: '2031 D1 Ref PM - sensitivity'	17:00	18:00	01:00	
3: '2031 J1d Dev AM - sensitivity'	08:00	09:00	01:00	
4: '2031 J1d Dev PM - sensitivity'	17:00	18:00	01:00	

Scenario 1: '2031 D1 Ref AM' (FG1: '2031 D1 Ref AM - sensitivity', Plan 1: 'Staging Plan No. 1')

Traffic Flows, Desired

Desired Flow :

		Destination					
		A	B	C	D	E	Tot.
Origin	A	0	386	512	1388	27	2313
	B	143	0	96	277	159	675
	C	0	118	0	910	189	1217
	D	844	719	181	0	150	1894
	E	168	437	753	113	0	1471
	Tot.	1155	1660	1542	2688	525	7570

Traffic Lane Flows

Lane	Scenario 1: 2031 D1 Ref AM
Junction: Unnamed Junction	
1/1	467
1/2	520
1/3	478
1/4	540
2/1 (short)	811
2/2 (with short)	1471(In) 660(Out)
3/1	742
3/2	834
3/3	745
4/1 (short)	386
4/2 (with short)	1054(In) 668(Out)
4/3 (short)	718
4/4 (with short)	1259(In) 541(Out)
5/1	762
5/2	920
5/3	746
5/4	546
6/1 (short)	370
6/2 (with short)	675(In) 305(Out)
7/1	858
7/2	684
8/1	510
8/2	749
8/3	848
9/1 (short)	264
9/2 (with short)	566(In) 302(Out)
9/3 (with short)	651(In) 411(Out)
9/4 (short)	240
10/1	206
10/2 (with short)	430(In) 312(Out)
10/3 (short)	118
11/1 (short)	515
11/2 (with short)	994(In) 479(Out)
11/3 (with short)	900(In) 385(Out)

11/4 (short)	515
12/1	356
12/2	169
13/1	635
13/2	520
14/1	1128
14/2	532
15/1	858
15/2	684
16/1	774
16/2	1051
16/3	863

Lane Saturation Flows

Junction: Unnamed Junction

Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
1/1	3.50	0.00	Y	Arm 13 Ahead	Inf	100.0 %	1965	1965
1/2	3.50	0.00	N	Arm 13 Ahead	Inf	100.0 %	2105	2105
1/3	3.50	0.00	N	Arm 3 Right	Inf	100.0 %	2105	2105
1/4	3.50	0.00	N	Arm 3 Right	Inf	100.0 %	2105	2105
2/1 (A5095 Rushmere Road Lane 1)	This lane uses a directly entered Saturation Flow						3600	3600
2/2 (A5095 Rushmere Road)	3.65	0.00	N	Arm 3 Ahead	26.00	100.0 %	2004	2004
3/1	3.65	0.00	Y	Arm 14 Ahead	40.00	100.0 %	1908	1908
3/2	3.65	0.00	N	Arm 5 Right	50.00	36.2 %	2097	2097
				Arm 14 Ahead	Inf	63.8 %		
3/3	3.65	0.00	N	Arm 5 Right	45.00	100.0 %	2052	2052
4/1 (A45 Southbound Offslip)	3.65	0.00	Y	Arm 14 Left	35.00	100.0 %	1899	1899
4/2 (A45 Southbound Offslip)	3.65	0.00	N	Arm 5 Ahead	Inf	100.0 %	2120	2120
4/3 (A45 Southbound Offslip)	3.65	0.00	N	Arm 5 Ahead	Inf	100.0 %	2120	2120
4/4 (A45 Southbound Offslip)	3.25	0.00	Y	Arm 5 Ahead	Inf	100.0 %	1940	1940
5/1	3.65	0.00	Y	Arm 7 Ahead	30.00	100.0 %	1886	1886
5/2	3.65	0.00	N	Arm 7 Ahead	Inf	74.3 %	2097	2097
				Arm 8 Right	35.00	25.7 %		
5/3	3.65	0.00	N	Arm 8 Right	35.00	100.0 %	2033	2033
5/4	3.25	0.00	Y	Arm 8 Right	Inf	100.0 %	1940	1940
6/1 (A428 Bedford Road E Lane 1)	This lane uses a directly entered Saturation Flow						3800	3800
6/2 (A428 Bedford Road E)	3.65	0.00	N	Arm 8 Ahead	45.00	100.0 %	2052	2052
7/1	3.65	0.00	Y	Arm 15 Ahead	Inf	100.0 %	1980	1980
7/2	3.65	0.00	N	Arm 15 Ahead	Inf	100.0 %	2120	2120
8/1	3.65	0.00	Y	Arm 16 Ahead	35.00	100.0 %	1899	1899
8/2	3.65	0.00	N	Arm 16 Ahead	40.00	100.0 %	2043	2043
8/3	3.65	0.00	N	Arm 10 Ahead	50.00	38.8 %	2096	2096
				Arm 16 Ahead	Inf	61.2 %		
9/1 (A45 Northbound Offslip)	3.65	0.00	Y	Arm 16 Left	25.00	100.0 %	1868	1868
9/2 (A45 Northbound Offslip)	3.65	0.00	N	Arm 16 Left	Inf	100.0 %	2120	2120
9/3 (A45 Northbound Offslip)	3.65	0.00	N	Arm 10 Left	Inf	16.3 %	2120	2120
				Arm 16 Left	Inf	83.7 %		
9/4 (A45 Northbound Offslip)	3.65	0.00	N	Arm 10 Left	Inf	100.0 %	2120	2120
10/1	3.65	0.00	Y	Arm 12 Right	40.00	100.0 %	1908	1908
10/2	3.65	0.00	N	Arm 1 Right	45.00	45.8 %	2052	2052

				Arm 12 Right	45.00	54.2 %		
10/3	3.65	0.00	N	Arm 1 Right	50.00	100.0 %	2058	2058
11/1 (A428 Bedford Road W)	3.50	0.00	Y	Arm 1 Ahead Arm 12 Ahead	60.00 60.00	70.9 % 29.1 %	1917	1917
11/2 (A428 Bedford Road W)	3.00	0.00	N	Arm 1 Ahead	Inf	100.0 %	2055	2055
11/3 (A428 Bedford Road W)	3.00	0.00	N	Arm 1 Ahead	60.00	100.0 %	2005	2005
11/4 (A428 Bedford Road W)	3.00	0.00	N	Arm 1 Ahead	60.00	100.0 %	2005	2005
12/1	Infinite Saturation Flow						Inf	Inf
12/2	Infinite Saturation Flow						Inf	Inf
13/1	Infinite Saturation Flow						Inf	Inf
13/2	Infinite Saturation Flow						Inf	Inf
14/1	Infinite Saturation Flow						Inf	Inf
14/2	Infinite Saturation Flow						Inf	Inf
15/1	Infinite Saturation Flow						Inf	Inf
15/2	Infinite Saturation Flow						Inf	Inf
16/1	Infinite Saturation Flow						Inf	Inf
16/2	Infinite Saturation Flow						Inf	Inf
16/3	Infinite Saturation Flow						Inf	Inf

Scenario 2: '2031 J1d Dev AM' (FG3: '2031 J1d Dev AM - sensitivity', Plan 1: 'Staging Plan No. 1')

Traffic Flows, Desired

Desired Flow :

		Destination					
		A	B	C	D	E	Tot.
Origin	A	0	300	452	1465	96	2313
	B	124	0	127	294	121	666
	C	0	122	0	877	235	1234
	D	829	746	212	1	106	1894
	E	128	444	826	122	0	1520
	Tot.	1081	1612	1617	2759	558	7627

Traffic Lane Flows

Lane	Scenario 2: 2031 J1d Dev AM
Junction: Unnamed Junction	
1/1	452
1/2	501
1/3	536
1/4	545
2/1 (short)	773
2/2 (with short)	1520(In) 747(Out)
3/1	765
3/2	861
3/3	847
4/1 (short)	300
4/2 (with short)	989(In) 689(Out)
4/3 (short)	716
4/4 (with short)	1324(In) 608(Out)
5/1	755
5/2	1004
5/3	791
5/4	624
6/1 (short)	394
6/2 (with short)	666(In) 272(Out)
7/1	882
7/2	735
8/1	536
8/2	817
8/3	870
9/1 (short)	261
9/2 (with short)	557(In) 296(Out)
9/3 (with short)	677(In) 412(Out)
9/4 (short)	265
10/1	226
10/2 (with short)	472(In) 350(Out)
10/3 (short)	122
11/1 (short)	474
11/2 (with short)	935(In) 461(Out)
11/3 (with short)	959(In) 461(Out)

11/4 (short)	498
12/1	332
12/2	226
13/1	580
13/2	501
14/1	1065
14/2	547
15/1	882
15/2	735
16/1	797
16/2	1113
16/3	849

Lane Saturation Flows

Junction: Unnamed Junction

Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
1/1	3.50	0.00	Y	Arm 13 Ahead	Inf	100.0 %	1965	1965
1/2	3.50	0.00	N	Arm 13 Ahead	Inf	100.0 %	2105	2105
1/3	3.50	0.00	N	Arm 3 Right	Inf	100.0 %	2105	2105
1/4	3.50	0.00	N	Arm 3 Right	Inf	100.0 %	2105	2105
2/1 (A5095 Rushmere Road Lane 1)	This lane uses a directly entered Saturation Flow						3600	3600
2/2 (A5095 Rushmere Road)	3.65	0.00	N	Arm 3 Ahead	26.00	100.0 %	2004	2004
3/1	3.65	0.00	Y	Arm 14 Ahead	40.00	100.0 %	1908	1908
3/2	3.65	0.00	N	Arm 5 Right	50.00	36.5 %	2097	2097
				Arm 14 Ahead	Inf	63.5 %		
3/3	3.65	0.00	N	Arm 5 Right	45.00	100.0 %	2052	2052
4/1 (A45 Southbound Offslip)	3.65	0.00	Y	Arm 14 Left	35.00	100.0 %	1899	1899
4/2 (A45 Southbound Offslip)	3.65	0.00	N	Arm 5 Ahead	Inf	100.0 %	2120	2120
4/3 (A45 Southbound Offslip)	3.65	0.00	N	Arm 5 Ahead	Inf	100.0 %	2120	2120
4/4 (A45 Southbound Offslip)	3.25	0.00	Y	Arm 5 Ahead	Inf	100.0 %	1940	1940
5/1	3.65	0.00	Y	Arm 7 Ahead	30.00	100.0 %	1886	1886
5/2	3.65	0.00	N	Arm 7 Ahead	Inf	73.2 %	2096	2096
				Arm 8 Right	35.00	26.8 %		
5/3	3.65	0.00	N	Arm 8 Right	35.00	100.0 %	2033	2033
5/4	3.25	0.00	Y	Arm 8 Right	Inf	100.0 %	1940	1940
6/1 (A428 Bedford Road E Lane 1)	This lane uses a directly entered Saturation Flow						3800	3800
6/2 (A428 Bedford Road E)	3.65	0.00	N	Arm 8 Ahead	45.00	100.0 %	2052	2052
7/1	3.65	0.00	Y	Arm 15 Ahead	Inf	100.0 %	1980	1980
7/2	3.65	0.00	N	Arm 15 Ahead	Inf	100.0 %	2120	2120
8/1	3.65	0.00	Y	Arm 16 Ahead	35.00	100.0 %	1899	1899
8/2	3.65	0.00	N	Arm 16 Ahead	40.00	100.0 %	2043	2043
8/3	3.65	0.00	N	Arm 10 Ahead	50.00	39.2 %	2095	2095
				Arm 16 Ahead	Inf	60.8 %		
9/1 (A45 Northbound Offslip)	3.65	0.00	Y	Arm 16 Left	25.00	100.0 %	1868	1868
9/2 (A45 Northbound Offslip)	3.65	0.00	N	Arm 16 Left	Inf	100.0 %	2120	2120
9/3 (A45 Northbound Offslip)	3.65	0.00	N	Arm 10 Left	Inf	22.3 %	2120	2120
				Arm 16 Left	Inf	77.7 %		
9/4 (A45 Northbound Offslip)	3.65	0.00	N	Arm 10 Left	Inf	100.0 %	2120	2120
10/1	3.65	0.00	Y	Arm 12 Right	40.00	100.0 %	1908	1908
10/2	3.65	0.00	N	Arm 1 Right	45.00	35.4 %	2052	2052

				Arm 12 Right	45.00	64.6 %		
10/3	3.65	0.00	N	Arm 1 Right	50.00	100.0 %	2058	2058
11/1 (A428 Bedford Road W)	3.50	0.00	Y	Arm 1 Ahead Arm 12 Ahead	60.00 60.00	77.6 % 22.4 %	1917	1917
11/2 (A428 Bedford Road W)	3.00	0.00	N	Arm 1 Ahead	Inf	100.0 %	2055	2055
11/3 (A428 Bedford Road W)	3.00	0.00	N	Arm 1 Ahead	60.00	100.0 %	2005	2005
11/4 (A428 Bedford Road W)	3.00	0.00	N	Arm 1 Ahead	60.00	100.0 %	2005	2005
12/1	Infinite Saturation Flow						Inf	Inf
12/2	Infinite Saturation Flow						Inf	Inf
13/1	Infinite Saturation Flow						Inf	Inf
13/2	Infinite Saturation Flow						Inf	Inf
14/1	Infinite Saturation Flow						Inf	Inf
14/2	Infinite Saturation Flow						Inf	Inf
15/1	Infinite Saturation Flow						Inf	Inf
15/2	Infinite Saturation Flow						Inf	Inf
16/1	Infinite Saturation Flow						Inf	Inf
16/2	Infinite Saturation Flow						Inf	Inf
16/3	Infinite Saturation Flow						Inf	Inf

Scenario 3: '2031 D1 Ref PM' (FG2: '2031 D1 Ref PM - sensitivity', Plan 1: 'Staging Plan No. 1')

Traffic Flows, Desired

Desired Flow :

		Destination					
		A	B	C	D	E	Tot.
Origin	A	0	136	302	1142	10	1590
	B	397	0	159	422	661	1639
	C	0	56	0	907	325	1288
	D	1989	308	435	2	26	2760
	E	151	308	527	2	0	988
	Tot.	2537	808	1423	2475	1022	8265

Traffic Lane Flows

Lane	Scenario 3: 2031 D1 Ref PM
Junction: Unnamed Junction	
1/1	1177
1/2	1209
1/3	326
1/4	913
2/1 (short)	627
2/2 (with short)	988(In) 361(Out)
3/1	534
3/2	681
3/3	861
4/1 (short)	136
4/2 (with short)	754(In) 618(Out)
4/3 (short)	622
4/4 (with short)	836(In) 214(Out)
5/1	781
5/2	799
5/3	626
5/4	652
6/1 (short)	542
6/2 (with short)	1639(In) 1097(Out)
7/1	940
7/2	483
8/1	699
8/2	665
8/3	1710
9/1 (short)	40
9/2 (with short)	456(In) 416(Out)
9/3 (with short)	832(In) 502(Out)
9/4 (short)	330
10/1	748
10/2 (with short)	1139(In) 1083(Out)
10/3 (short)	56
11/1 (short)	638
11/2 (with short)	1577(In) 939(Out)
11/3 (with short)	1183(In) 283(Out)

11/4 (short)	900
12/1	748
12/2	274
13/1	1328
13/2	1209
14/1	670
14/2	138
15/1	940
15/2	483
16/1	739
16/2	1081
16/3	655

Lane Saturation Flows

Junction: Unnamed Junction

Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
1/1	3.50	0.00	Y	Arm 13 Ahead	Inf	100.0 %	1965	1965
1/2	3.50	0.00	N	Arm 13 Ahead	Inf	100.0 %	2105	2105
1/3	3.50	0.00	N	Arm 3 Right	Inf	100.0 %	2105	2105
1/4	3.50	0.00	N	Arm 3 Right	Inf	100.0 %	2105	2105
2/1 (A5095 Rushmere Road Lane 1)	This lane uses a directly entered Saturation Flow						3600	3600
2/2 (A5095 Rushmere Road)	3.65	0.00	N	Arm 3 Ahead	26.00	100.0 %	2004	2004
3/1	3.65	0.00	Y	Arm 14 Ahead	40.00	100.0 %	1908	1908
3/2	3.65	0.00	N	Arm 5 Right	50.00	79.7 %	2070	2070
				Arm 14 Ahead	Inf	20.3 %		
3/3	3.65	0.00	N	Arm 5 Right	45.00	100.0 %	2052	2052
4/1 (A45 Southbound Offslip)	3.65	0.00	Y	Arm 14 Left	35.00	100.0 %	1899	1899
4/2 (A45 Southbound Offslip)	3.65	0.00	N	Arm 5 Ahead	Inf	100.0 %	2120	2120
4/3 (A45 Southbound Offslip)	3.65	0.00	N	Arm 5 Ahead	Inf	100.0 %	2120	2120
4/4 (A45 Southbound Offslip)	3.25	0.00	Y	Arm 5 Ahead	Inf	100.0 %	1940	1940
5/1	3.65	0.00	Y	Arm 7 Ahead	30.00	100.0 %	1886	1886
5/2	3.65	0.00	N	Arm 7 Ahead	Inf	60.5 %	2085	2085
				Arm 8 Right	35.00	39.5 %		
5/3	3.65	0.00	N	Arm 8 Right	35.00	100.0 %	2033	2033
5/4	3.25	0.00	Y	Arm 8 Right	Inf	100.0 %	1940	1940
6/1 (A428 Bedford Road E Lane 1)	This lane uses a directly entered Saturation Flow						3800	3800
6/2 (A428 Bedford Road E)	3.65	0.00	N	Arm 8 Ahead	45.00	100.0 %	2052	2052
7/1	3.65	0.00	Y	Arm 15 Ahead	Inf	100.0 %	1980	1980
7/2	3.65	0.00	N	Arm 15 Ahead	Inf	100.0 %	2120	2120
8/1	3.65	0.00	Y	Arm 16 Ahead	35.00	100.0 %	1899	1899
8/2	3.65	0.00	N	Arm 16 Ahead	40.00	100.0 %	2043	2043
8/3	3.65	0.00	N	Arm 10 Ahead	50.00	88.1 %	2065	2065
				Arm 16 Ahead	Inf	11.9 %		
9/1 (A45 Northbound Offslip)	3.65	0.00	Y	Arm 16 Left	25.00	100.0 %	1868	1868
9/2 (A45 Northbound Offslip)	3.65	0.00	N	Arm 16 Left	Inf	100.0 %	2120	2120
9/3 (A45 Northbound Offslip)	3.65	0.00	N	Arm 10 Left	Inf	10.2 %	2120	2120
				Arm 16 Left	Inf	89.8 %		
9/4 (A45 Northbound Offslip)	3.65	0.00	N	Arm 10 Left	Inf	100.0 %	2120	2120
10/1	3.65	0.00	Y	Arm 12 Right	40.00	100.0 %	1908	1908
10/2	3.65	0.00	N	Arm 1 Right	45.00	74.7 %	2052	2052

				Arm 12 Right	45.00	25.3 %		
10/3	3.65	0.00	N	Arm 1 Right	50.00	100.0 %	2058	2058
11/1 (A428 Bedford Road W)	3.50	0.00	Y	Arm 1 Ahead Arm 12 Ahead	60.00 60.00	100.0 % 0.0 %	1917	1917
11/2 (A428 Bedford Road W)	3.00	0.00	N	Arm 1 Ahead	Inf	100.0 %	2055	2055
11/3 (A428 Bedford Road W)	3.00	0.00	N	Arm 1 Ahead	60.00	100.0 %	2005	2005
11/4 (A428 Bedford Road W)	3.00	0.00	N	Arm 1 Ahead	60.00	100.0 %	2005	2005
12/1	Infinite Saturation Flow						Inf	Inf
12/2	Infinite Saturation Flow						Inf	Inf
13/1	Infinite Saturation Flow						Inf	Inf
13/2	Infinite Saturation Flow						Inf	Inf
14/1	Infinite Saturation Flow						Inf	Inf
14/2	Infinite Saturation Flow						Inf	Inf
15/1	Infinite Saturation Flow						Inf	Inf
15/2	Infinite Saturation Flow						Inf	Inf
16/1	Infinite Saturation Flow						Inf	Inf
16/2	Infinite Saturation Flow						Inf	Inf
16/3	Infinite Saturation Flow						Inf	Inf

Scenario 4: '2031 J1d Dev PM' (FG4: '2031 J1d Dev PM - sensitivity', Plan 1: 'Staging Plan No. 1')

Traffic Flows, Desired

Desired Flow :

		Destination					
		A	B	C	D	E	Tot.
Origin	A	0	140	359	1013	8	1520
	B	384	0	130	487	638	1639
	C	0	54	0	882	294	1230
	D	1930	383	326	19	28	2686
	E	203	354	506	0	0	1063
	Tot.	2517	931	1321	2401	968	8138

Traffic Lane Flows

Lane	Scenario 4: 2031 J1d Dev PM
Junction: Unnamed Junction	
1/1	1100
1/2	1214
1/3	364
1/4	865
2/1 (short)	682
2/2 (with short)	1063(In) 381(Out)
3/1	548
3/2	670
3/3	871
4/1 (short)	140
4/2 (with short)	742(In) 602(Out)
4/3 (short)	602
4/4 (with short)	778(In) 176(Out)
5/1	727
5/2	707
5/3	621
5/4	623
6/1 (short)	610
6/2 (with short)	1639(In) 1029(Out)
7/1	857
7/2	464
8/1	723
8/2	628
8/3	1645
9/1 (short)	266
9/2 (with short)	586(In) 320(Out)
9/3 (with short)	644(In) 411(Out)
9/4 (short)	233
10/1	782
10/2 (with short)	1043(In) 989(Out)
10/3 (short)	54
11/1 (short)	612
11/2 (with short)	1511(In) 899(Out)
11/3 (with short)	1175(In) 326(Out)

11/4 (short)	849
12/1	789
12/2	179
13/1	1303
13/2	1214
14/1	688
14/2	243
15/1	857
15/2	464
16/1	989
16/2	948
16/3	464

Lane Saturation Flows

Junction: Unnamed Junction

Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
1/1	3.50	0.00	Y	Arm 13 Ahead	Inf	100.0 %	1965	1965
1/2	3.50	0.00	N	Arm 13 Ahead	Inf	100.0 %	2105	2105
1/3	3.50	0.00	N	Arm 3 Right	Inf	100.0 %	2105	2105
1/4	3.50	0.00	N	Arm 3 Right	Inf	100.0 %	2105	2105
2/1 (A5095 Rushmere Road Lane 1)	This lane uses a directly entered Saturation Flow						3600	3600
2/2 (A5095 Rushmere Road)	3.65	0.00	N	Arm 3 Ahead	26.00	100.0 %	2004	2004
3/1	3.65	0.00	Y	Arm 14 Ahead	40.00	100.0 %	1908	1908
3/2	3.65	0.00	N	Arm 5 Right	50.00	63.7 %	2080	2080
				Arm 14 Ahead	Inf	36.3 %		
3/3	3.65	0.00	N	Arm 5 Right	45.00	100.0 %	2052	2052
4/1 (A45 Southbound Offslip)	3.65	0.00	Y	Arm 14 Left	35.00	100.0 %	1899	1899
4/2 (A45 Southbound Offslip)	3.65	0.00	N	Arm 5 Ahead	Inf	100.0 %	2120	2120
4/3 (A45 Southbound Offslip)	3.65	0.00	N	Arm 5 Ahead	Inf	100.0 %	2120	2120
4/4 (A45 Southbound Offslip)	3.25	0.00	Y	Arm 5 Ahead	Inf	100.0 %	1940	1940
5/1	3.65	0.00	Y	Arm 7 Ahead	30.00	100.0 %	1886	1886
5/2	3.65	0.00	N	Arm 7 Ahead	Inf	65.6 %	2089	2089
				Arm 8 Right	35.00	34.4 %		
5/3	3.65	0.00	N	Arm 8 Right	35.00	100.0 %	2033	2033
5/4	3.25	0.00	Y	Arm 8 Right	Inf	100.0 %	1940	1940
6/1 (A428 Bedford Road E Lane 1)	This lane uses a directly entered Saturation Flow						3800	3800
6/2 (A428 Bedford Road E)	3.65	0.00	N	Arm 8 Ahead	45.00	100.0 %	2052	2052
7/1	3.65	0.00	Y	Arm 15 Ahead	Inf	100.0 %	1980	1980
7/2	3.65	0.00	N	Arm 15 Ahead	Inf	100.0 %	2120	2120
8/1	3.65	0.00	Y	Arm 16 Ahead	35.00	100.0 %	1899	1899
8/2	3.65	0.00	N	Arm 16 Ahead	40.00	100.0 %	2043	2043
8/3	3.65	0.00	N	Arm 10 Ahead	50.00	89.8 %	2064	2064
				Arm 16 Ahead	Inf	10.2 %		
9/1 (A45 Northbound Offslip)	3.65	0.00	Y	Arm 16 Left	25.00	100.0 %	1868	1868
9/2 (A45 Northbound Offslip)	3.65	0.00	N	Arm 16 Left	Inf	100.0 %	2120	2120
9/3 (A45 Northbound Offslip)	3.65	0.00	N	Arm 10 Left	Inf	28.0 %	2120	2120
				Arm 16 Left	Inf	72.0 %		
9/4 (A45 Northbound Offslip)	3.65	0.00	N	Arm 10 Left	Inf	100.0 %	2120	2120
10/1	3.65	0.00	Y	Arm 12 Right	40.00	100.0 %	1908	1908
10/2	3.65	0.00	N	Arm 1 Right	45.00	81.9 %	2052	2052

				Arm 12 Right	45.00	18.1 %		
10/3	3.65	0.00	N	Arm 1 Right	50.00	100.0 %	2058	2058
11/1 (A428 Bedford Road W)	3.50	0.00	Y	Arm 1 Ahead Arm 12 Ahead	60.00 60.00	98.9 % 1.1 %	1917	1917
11/2 (A428 Bedford Road W)	3.00	0.00	N	Arm 1 Ahead	Inf	100.0 %	2055	2055
11/3 (A428 Bedford Road W)	3.00	0.00	N	Arm 1 Ahead	60.00	100.0 %	2005	2005
11/4 (A428 Bedford Road W)	3.00	0.00	N	Arm 1 Ahead	60.00	100.0 %	2005	2005
12/1	Infinite Saturation Flow						Inf	Inf
12/2	Infinite Saturation Flow						Inf	Inf
13/1	Infinite Saturation Flow						Inf	Inf
13/2	Infinite Saturation Flow						Inf	Inf
14/1	Infinite Saturation Flow						Inf	Inf
14/2	Infinite Saturation Flow						Inf	Inf
15/1	Infinite Saturation Flow						Inf	Inf
15/2	Infinite Saturation Flow						Inf	Inf
16/1	Infinite Saturation Flow						Inf	Inf
16/2	Infinite Saturation Flow						Inf	Inf
16/3	Infinite Saturation Flow						Inf	Inf

Scenario 5: '2021 C1 Ref AM' (FG5: '2021 C1 Ref AM - sensitivity', Plan 1: 'Staging Plan No. 1')

Traffic Flows, Desired

Desired Flow :

		Destination					
		A	B	C	D	E	Tot.
Origin	A	0	542	153	1513	7	2215
	B	58	0	147	352	109	666
	C	0	157	0	1033	180	1370
	D	792	625	150	0	97	1664
	E	82	157	929	112	0	1280
	Tot.	932	1481	1379	3010	393	7195

Traffic Lane Flows

Lane	Scenario 5: 2021 C1 Ref AM
Junction: Unnamed Junction	
1/1	400
1/2	450
1/3	519
1/4	413
2/1 (short)	683
2/2 (with short)	1280(In) 597(Out)
3/1	676
3/2	835
3/3	619
4/1 (short)	542
4/2 (with short)	956(In) 414(Out)
4/3 (short)	652
4/4 (with short)	1259(In) 607(Out)
5/1	639
5/2	871
5/3	714
5/4	640
6/1 (short)	446
6/2 (with short)	666(In) 220(Out)
7/1	786
7/2	593
8/1	577
8/2	765
8/3	809
9/1 (short)	294
9/2 (with short)	628(In) 334(Out)
9/3 (with short)	742(In) 461(Out)
9/4 (short)	281
10/1	111
10/2 (with short)	400(In) 243(Out)
10/3 (short)	157
11/1 (short)	452
11/2 (with short)	889(In) 437(Out)
11/3 (with short)	775(In) 401(Out)

11/4 (short)	374
12/1	208
12/2	185
13/1	482
13/2	450
14/1	1218
14/2	263
15/1	786
15/2	593
16/1	871
16/2	1099
16/3	1040

Lane Saturation Flows

Junction: Unnamed Junction

Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
1/1	3.50	0.00	Y	Arm 13 Ahead	Inf	100.0 %	1965	1965
1/2	3.50	0.00	N	Arm 13 Ahead	Inf	100.0 %	2105	2105
1/3	3.50	0.00	N	Arm 3 Right	Inf	100.0 %	2105	2105
1/4	3.50	0.00	N	Arm 3 Right	Inf	100.0 %	2105	2105
2/1 (A5095 Rushmere Road Lane 1)	This lane uses a directly entered Saturation Flow						3600	3600
2/2 (A5095 Rushmere Road)	3.65	0.00	N	Arm 3 Ahead	26.00	100.0 %	2004	2004
3/1	3.65	0.00	Y	Arm 14 Ahead	40.00	100.0 %	1908	1908
3/2	3.65	0.00	N	Arm 5 Right	50.00	68.5 %	2077	2077
				Arm 14 Ahead	Inf	31.5 %		
3/3	3.65	0.00	N	Arm 5 Right	45.00	100.0 %	2052	2052
4/1 (A45 Southbound Offslip)	3.65	0.00	Y	Arm 14 Left	35.00	100.0 %	1899	1899
4/2 (A45 Southbound Offslip)	3.65	0.00	N	Arm 5 Ahead	Inf	100.0 %	2120	2120
4/3 (A45 Southbound Offslip)	3.65	0.00	N	Arm 5 Ahead	Inf	100.0 %	2120	2120
4/4 (A45 Southbound Offslip)	3.25	0.00	Y	Arm 5 Ahead	Inf	100.0 %	1940	1940
5/1	3.65	0.00	Y	Arm 7 Ahead	30.00	100.0 %	1886	1886
5/2	3.65	0.00	N	Arm 7 Ahead	Inf	68.1 %	2091	2091
				Arm 8 Right	35.00	31.9 %		
5/3	3.65	0.00	N	Arm 8 Right	35.00	100.0 %	2033	2033
5/4	3.25	0.00	Y	Arm 8 Right	Inf	100.0 %	1940	1940
6/1 (A428 Bedford Road E Lane 1)	This lane uses a directly entered Saturation Flow						3800	3800
6/2 (A428 Bedford Road E)	3.65	0.00	N	Arm 8 Ahead	45.00	100.0 %	2052	2052
7/1	3.65	0.00	Y	Arm 15 Ahead	Inf	100.0 %	1980	1980
7/2	3.65	0.00	N	Arm 15 Ahead	Inf	100.0 %	2120	2120
8/1	3.65	0.00	Y	Arm 16 Ahead	35.00	100.0 %	1899	1899
8/2	3.65	0.00	N	Arm 16 Ahead	40.00	100.0 %	2043	2043
8/3	3.65	0.00	N	Arm 10 Ahead	50.00	21.5 %	2106	2106
				Arm 16 Ahead	Inf	78.5 %		
9/1 (A45 Northbound Offslip)	3.65	0.00	Y	Arm 16 Left	25.00	100.0 %	1868	1868
9/2 (A45 Northbound Offslip)	3.65	0.00	N	Arm 16 Left	Inf	100.0 %	2120	2120
9/3 (A45 Northbound Offslip)	3.65	0.00	N	Arm 10 Left	Inf	12.1 %	2120	2120
				Arm 16 Left	Inf	87.9 %		
9/4 (A45 Northbound Offslip)	3.65	0.00	N	Arm 10 Left	Inf	100.0 %	2120	2120
10/1	3.65	0.00	Y	Arm 12 Right	40.00	100.0 %	1908	1908
10/2	3.65	0.00	N	Arm 1 Right	45.00	23.9 %	2052	2052

				Arm 12 Right	45.00	76.1 %		
10/3	3.65	0.00	N	Arm 1 Right	50.00	100.0 %	2058	2058
11/1 (A428 Bedford Road W)	3.50	0.00	Y	Arm 1 Ahead Arm 12 Ahead	60.00 60.00	78.5 % 21.5 %	1917	1917
11/2 (A428 Bedford Road W)	3.00	0.00	N	Arm 1 Ahead	Inf	100.0 %	2055	2055
11/3 (A428 Bedford Road W)	3.00	0.00	N	Arm 1 Ahead	60.00	100.0 %	2005	2005
11/4 (A428 Bedford Road W)	3.00	0.00	N	Arm 1 Ahead	60.00	100.0 %	2005	2005
12/1	Infinite Saturation Flow						Inf	Inf
12/2	Infinite Saturation Flow						Inf	Inf
13/1	Infinite Saturation Flow						Inf	Inf
13/2	Infinite Saturation Flow						Inf	Inf
14/1	Infinite Saturation Flow						Inf	Inf
14/2	Infinite Saturation Flow						Inf	Inf
15/1	Infinite Saturation Flow						Inf	Inf
15/2	Infinite Saturation Flow						Inf	Inf
16/1	Infinite Saturation Flow						Inf	Inf
16/2	Infinite Saturation Flow						Inf	Inf
16/3	Infinite Saturation Flow						Inf	Inf

Scenario 6: '2021 I1 Dev AM' (FG7: '2021 I1 Dev AM - sensitivity', Plan 1: 'Staging Plan No. 1')

Traffic Flows, Desired

Desired Flow :

		Destination					
		A	B	C	D	E	Tot.
Origin	A	0	535	240	1495	9	2279
	B	61	0	151	340	123	675
	C	0	149	0	1006	200	1355
	D	771	648	185	0	102	1706
	E	100	160	941	119	0	1320
	Tot.	932	1492	1517	2960	434	7335

Traffic Lane Flows

Lane	Scenario 6: 2021 I1 Dev AM
Junction: Unnamed Junction	
1/1	389
1/2	443
1/3	502
1/4	480
2/1 (short)	769
2/2 (with short)	1320(In) 551(Out)
3/1	662
3/2	804
3/3	736
4/1 (short)	535
4/2 (with short)	1114(In) 579(Out)
4/3 (short)	609
4/4 (with short)	1165(In) 556(Out)
5/1	718
5/2	1011
5/3	680
5/4	580
6/1 (short)	429
6/2 (with short)	675(In) 246(Out)
7/1	869
7/2	648
8/1	641
8/2	738
8/3	768
9/1 (short)	288
9/2 (with short)	614(In) 326(Out)
9/3 (with short)	741(In) 455(Out)
9/4 (short)	286
10/1	144
10/2 (with short)	398(In) 249(Out)
10/3 (short)	149
11/1 (short)	450
11/2 (with short)	873(In) 423(Out)
11/3 (with short)	833(In) 386(Out)

11/4 (short)	447
12/1	246
12/2	188
13/1	489
13/2	443
14/1	1197
14/2	295
15/1	869
15/2	648
16/1	929
16/2	1064
16/3	967

Lane Saturation Flows

Junction: Unnamed Junction

Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
1/1	3.50	0.00	Y	Arm 13 Ahead	Inf	100.0 %	1965	1965
1/2	3.50	0.00	N	Arm 13 Ahead	Inf	100.0 %	2105	2105
1/3	3.50	0.00	N	Arm 3 Right	Inf	100.0 %	2105	2105
1/4	3.50	0.00	N	Arm 3 Right	Inf	100.0 %	2105	2105
2/1 (A5095 Rushmere Road Lane 1)	This lane uses a directly entered Saturation Flow						3600	3600
2/2 (A5095 Rushmere Road)	3.65	0.00	N	Arm 3 Ahead	26.00	100.0 %	2004	2004
3/1	3.65	0.00	Y	Arm 14 Ahead	40.00	100.0 %	1908	1908
3/2	3.65	0.00	N	Arm 5 Right	50.00	63.3 %	2080	2080
				Arm 14 Ahead	Inf	36.7 %		
3/3	3.65	0.00	N	Arm 5 Right	45.00	100.0 %	2052	2052
4/1 (A45 Southbound Offslip)	3.65	0.00	Y	Arm 14 Left	35.00	100.0 %	1899	1899
4/2 (A45 Southbound Offslip)	3.65	0.00	N	Arm 5 Ahead	Inf	100.0 %	2120	2120
4/3 (A45 Southbound Offslip)	3.65	0.00	N	Arm 5 Ahead	Inf	100.0 %	2120	2120
4/4 (A45 Southbound Offslip)	3.25	0.00	Y	Arm 5 Ahead	Inf	100.0 %	1940	1940
5/1	3.65	0.00	Y	Arm 7 Ahead	30.00	100.0 %	1886	1886
5/2	3.65	0.00	N	Arm 7 Ahead	Inf	64.1 %	2088	2088
				Arm 8 Right	35.00	35.9 %		
5/3	3.65	0.00	N	Arm 8 Right	35.00	100.0 %	2033	2033
5/4	3.25	0.00	Y	Arm 8 Right	Inf	100.0 %	1940	1940
6/1 (A428 Bedford Road E Lane 1)	This lane uses a directly entered Saturation Flow						3800	3800
6/2 (A428 Bedford Road E)	3.65	0.00	N	Arm 8 Ahead	45.00	100.0 %	2052	2052
7/1	3.65	0.00	Y	Arm 15 Ahead	Inf	100.0 %	1980	1980
7/2	3.65	0.00	N	Arm 15 Ahead	Inf	100.0 %	2120	2120
8/1	3.65	0.00	Y	Arm 16 Ahead	35.00	100.0 %	1899	1899
8/2	3.65	0.00	N	Arm 16 Ahead	40.00	100.0 %	2043	2043
8/3	3.65	0.00	N	Arm 10 Ahead	50.00	25.1 %	2104	2104
				Arm 16 Ahead	Inf	74.9 %		
9/1 (A45 Northbound Offslip)	3.65	0.00	Y	Arm 16 Left	25.00	100.0 %	1868	1868
9/2 (A45 Northbound Offslip)	3.65	0.00	N	Arm 16 Left	Inf	100.0 %	2120	2120
9/3 (A45 Northbound Offslip)	3.65	0.00	N	Arm 10 Left	Inf	13.8 %	2120	2120
				Arm 16 Left	Inf	86.2 %		
9/4 (A45 Northbound Offslip)	3.65	0.00	N	Arm 10 Left	Inf	100.0 %	2120	2120
10/1	3.65	0.00	Y	Arm 12 Right	40.00	100.0 %	1908	1908
10/2	3.65	0.00	N	Arm 1 Right	45.00	24.5 %	2052	2052

				Arm 12 Right	45.00	75.5 %		
10/3	3.65	0.00	N	Arm 1 Right	50.00	100.0 %	2058	2058
11/1 (A428 Bedford Road W)	3.50	0.00	Y	Arm 1 Ahead Arm 12 Ahead	60.00 60.00	77.3 % 22.7 %	1917	1917
11/2 (A428 Bedford Road W)	3.00	0.00	N	Arm 1 Ahead	Inf	100.0 %	2055	2055
11/3 (A428 Bedford Road W)	3.00	0.00	N	Arm 1 Ahead	60.00	100.0 %	2005	2005
11/4 (A428 Bedford Road W)	3.00	0.00	N	Arm 1 Ahead	60.00	100.0 %	2005	2005
12/1	Infinite Saturation Flow						Inf	Inf
12/2	Infinite Saturation Flow						Inf	Inf
13/1	Infinite Saturation Flow						Inf	Inf
13/2	Infinite Saturation Flow						Inf	Inf
14/1	Infinite Saturation Flow						Inf	Inf
14/2	Infinite Saturation Flow						Inf	Inf
15/1	Infinite Saturation Flow						Inf	Inf
15/2	Infinite Saturation Flow						Inf	Inf
16/1	Infinite Saturation Flow						Inf	Inf
16/2	Infinite Saturation Flow						Inf	Inf
16/3	Infinite Saturation Flow						Inf	Inf

Scenario 7: '2021 C1 Ref PM' (FG6: '2021 C1 Ref PM - sensitvity', Plan 1: 'Staging Plan No. 1')

Traffic Flows, Desired

Desired Flow :

		Destination					
		A	B	C	D	E	Tot.
Origin	A	0	228	176	1151	8	1563
	B	536	0	73	436	593	1638
	C	0	61	0	797	355	1213
	D	1735	401	567	4	23	2730
	E	151	267	668	9	0	1095
	Tot.	2422	957	1484	2397	979	8239

Traffic Lane Flows

Lane	Scenario 7: 2021 C1 Ref PM
Junction: Unnamed Junction	
1/1	1084
1/2	1187
1/3	387
1/4	861
2/1 (short)	708
2/2 (with short)	1095(In) 387(Out)
3/1	574
3/2	805
3/3	813
4/1 (short)	228
4/2 (with short)	696(In) 468(Out)
4/3 (short)	501
4/4 (with short)	867(In) 366(Out)
5/1	803
5/2	900
5/3	514
5/4	581
6/1 (short)	432
6/2 (with short)	1638(In) 1206(Out)
7/1	876
7/2	608
8/1	651
8/2	590
8/3	1711
9/1 (short)	264
9/2 (with short)	564(In) 300(Out)
9/3 (with short)	649(In) 398(Out)
9/4 (short)	251
10/1	787
10/2 (with short)	981(In) 920(Out)
10/3 (short)	61
11/1 (short)	672
11/2 (with short)	1543(In) 871(Out)
11/3 (with short)	1187(In) 331(Out)

11/4 (short)	856
12/1	787
12/2	192
13/1	1235
13/2	1187
14/1	802
14/2	155
15/1	876
15/2	608
16/1	915
16/2	890
16/3	592

Lane Saturation Flows

Junction: Unnamed Junction

Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
1/1	3.50	0.00	Y	Arm 13 Ahead	Inf	100.0 %	1965	1965
1/2	3.50	0.00	N	Arm 13 Ahead	Inf	100.0 %	2105	2105
1/3	3.50	0.00	N	Arm 3 Right	Inf	100.0 %	2105	2105
1/4	3.50	0.00	N	Arm 3 Right	Inf	100.0 %	2105	2105
2/1 (A5095 Rushmere Road Lane 1)	This lane uses a directly entered Saturation Flow						3600	3600
2/2 (A5095 Rushmere Road)	3.65	0.00	N	Arm 3 Ahead	26.00	100.0 %	2004	2004
3/1	3.65	0.00	Y	Arm 14 Ahead	40.00	100.0 %	1908	1908
3/2	3.65	0.00	N	Arm 5 Right	50.00	80.7 %	2070	2070
				Arm 14 Ahead	Inf	19.3 %		
3/3	3.65	0.00	N	Arm 5 Right	45.00	100.0 %	2052	2052
4/1 (A45 Southbound Offslip)	3.65	0.00	Y	Arm 14 Left	35.00	100.0 %	1899	1899
4/2 (A45 Southbound Offslip)	3.65	0.00	N	Arm 5 Ahead	Inf	100.0 %	2120	2120
4/3 (A45 Southbound Offslip)	3.65	0.00	N	Arm 5 Ahead	Inf	100.0 %	2120	2120
4/4 (A45 Southbound Offslip)	3.25	0.00	Y	Arm 5 Ahead	Inf	100.0 %	1940	1940
5/1	3.65	0.00	Y	Arm 7 Ahead	30.00	100.0 %	1886	1886
5/2	3.65	0.00	N	Arm 7 Ahead	Inf	67.6 %	2091	2091
				Arm 8 Right	35.00	32.4 %		
5/3	3.65	0.00	N	Arm 8 Right	35.00	100.0 %	2033	2033
5/4	3.25	0.00	Y	Arm 8 Right	Inf	100.0 %	1940	1940
6/1 (A428 Bedford Road E Lane 1)	This lane uses a directly entered Saturation Flow						3800	3800
6/2 (A428 Bedford Road E)	3.65	0.00	N	Arm 8 Ahead	45.00	100.0 %	2052	2052
7/1	3.65	0.00	Y	Arm 15 Ahead	Inf	100.0 %	1980	1980
7/2	3.65	0.00	N	Arm 15 Ahead	Inf	100.0 %	2120	2120
8/1	3.65	0.00	Y	Arm 16 Ahead	35.00	100.0 %	1899	1899
8/2	3.65	0.00	N	Arm 16 Ahead	40.00	100.0 %	2043	2043
8/3	3.65	0.00	N	Arm 10 Ahead	50.00	79.0 %	2071	2071
				Arm 16 Ahead	Inf	21.0 %		
9/1 (A45 Northbound Offslip)	3.65	0.00	Y	Arm 16 Left	25.00	100.0 %	1868	1868
9/2 (A45 Northbound Offslip)	3.65	0.00	N	Arm 16 Left	Inf	100.0 %	2120	2120
9/3 (A45 Northbound Offslip)	3.65	0.00	N	Arm 10 Left	Inf	41.5 %	2120	2120
				Arm 16 Left	Inf	58.5 %		
9/4 (A45 Northbound Offslip)	3.65	0.00	N	Arm 10 Left	Inf	100.0 %	2120	2120
10/1	3.65	0.00	Y	Arm 12 Right	40.00	100.0 %	1908	1908
10/2	3.65	0.00	N	Arm 1 Right	45.00	79.1 %	2052	2052

				Arm 12 Right	45.00	20.9 %		
10/3	3.65	0.00	N	Arm 1 Right	50.00	100.0 %	2058	2058
11/1 (A428 Bedford Road W)	3.50	0.00	Y	Arm 1 Ahead	60.00	100.0 %	1917	1917
				Arm 12 Ahead	60.00	0.0 %		
11/2 (A428 Bedford Road W)	3.00	0.00	N	Arm 1 Ahead	Inf	100.0 %	2055	2055
11/3 (A428 Bedford Road W)	3.00	0.00	N	Arm 1 Ahead	60.00	100.0 %	2005	2005
11/4 (A428 Bedford Road W)	3.00	0.00	N	Arm 1 Ahead	60.00	100.0 %	2005	2005
12/1	Infinite Saturation Flow						Inf	Inf
12/2	Infinite Saturation Flow						Inf	Inf
13/1	Infinite Saturation Flow						Inf	Inf
13/2	Infinite Saturation Flow						Inf	Inf
14/1	Infinite Saturation Flow						Inf	Inf
14/2	Infinite Saturation Flow						Inf	Inf
15/1	Infinite Saturation Flow						Inf	Inf
15/2	Infinite Saturation Flow						Inf	Inf
16/1	Infinite Saturation Flow						Inf	Inf
16/2	Infinite Saturation Flow						Inf	Inf
16/3	Infinite Saturation Flow						Inf	Inf

Scenario 8: '2021 I1 Ref PM' (FG8: '2021 I1 Dev PM - sensitivity', Plan 1: 'Staging Plan No. 1')

Traffic Flows, Desired

Desired Flow :

		Destination					
		A	B	C	D	E	Tot.
Origin	A	0	209	203	1134	14	1560
	B	477	0	70	442	647	1636
	C	0	69	0	809	328	1206
	D	1725	460	508	9	30	2732
	E	191	307	605	11	0	1114
	Tot.	2393	1045	1386	2405	1019	8248

Traffic Lane Flows

Lane	Scenario 8: 2021 I1 Ref PM
Junction: Unnamed Junction	
1/1	1048
1/2	1154
1/3	413
1/4	860
2/1 (short)	722
2/2 (with short)	1114(In) 392(Out)
3/1	577
3/2	805
3/3	814
4/1 (short)	208
4/2 (with short)	671(In) 463(Out)
4/3 (short)	535
4/4 (with short)	889(In) 354(Out)
5/1	741
5/2	835
5/3	555
5/4	580
6/1 (short)	441
6/2 (with short)	1636(In) 1195(Out)
7/1	811
7/2	575
8/1	631
8/2	624
8/3	1706
9/1 (short)	259
9/2 (with short)	554(In) 295(Out)
9/3 (with short)	652(In) 390(Out)
9/4 (short)	262
10/1	811
10/2 (with short)	951(In) 881(Out)
10/3 (short)	70
11/1 (short)	649
11/2 (with short)	1529(In) 880(Out)
11/3 (with short)	1203(In) 352(Out)

11/4 (short)	851
12/1	816
12/2	203
13/1	1239
13/2	1154
14/1	785
14/2	260
15/1	811
15/2	575
16/1	890
16/2	919
16/3	596

Lane Saturation Flows

Junction: Unnamed Junction

Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
1/1	3.50	0.00	Y	Arm 13 Ahead	Inf	100.0 %	1965	1965
1/2	3.50	0.00	N	Arm 13 Ahead	Inf	100.0 %	2105	2105
1/3	3.50	0.00	N	Arm 3 Right	Inf	100.0 %	2105	2105
1/4	3.50	0.00	N	Arm 3 Right	Inf	100.0 %	2105	2105
2/1 (A5095 Rushmere Road Lane 1)	This lane uses a directly entered Saturation Flow						3600	3600
2/2 (A5095 Rushmere Road)	3.65	0.00	N	Arm 3 Ahead	26.00	100.0 %	2004	2004
3/1	3.65	0.00	Y	Arm 14 Ahead	40.00	100.0 %	1908	1908
3/2	3.65	0.00	N	Arm 5 Right	50.00	67.7 %	2078	2078
				Arm 14 Ahead	Inf	32.3 %		
3/3	3.65	0.00	N	Arm 5 Right	45.00	100.0 %	2052	2052
4/1 (A45 Southbound Offslip)	3.65	0.00	Y	Arm 14 Left	35.00	100.0 %	1899	1899
4/2 (A45 Southbound Offslip)	3.65	0.00	N	Arm 5 Ahead	Inf	100.0 %	2120	2120
4/3 (A45 Southbound Offslip)	3.65	0.00	N	Arm 5 Ahead	Inf	100.0 %	2120	2120
4/4 (A45 Southbound Offslip)	3.25	0.00	Y	Arm 5 Ahead	Inf	100.0 %	1940	1940
5/1	3.65	0.00	Y	Arm 7 Ahead	30.00	100.0 %	1886	1886
5/2	3.65	0.00	N	Arm 7 Ahead	Inf	68.9 %	2092	2092
				Arm 8 Right	35.00	31.1 %		
5/3	3.65	0.00	N	Arm 8 Right	35.00	100.0 %	2033	2033
5/4	3.25	0.00	Y	Arm 8 Right	Inf	100.0 %	1940	1940
6/1 (A428 Bedford Road E Lane 1)	This lane uses a directly entered Saturation Flow						3800	3800
6/2 (A428 Bedford Road E)	3.65	0.00	N	Arm 8 Ahead	45.00	100.0 %	2052	2052
7/1	3.65	0.00	Y	Arm 15 Ahead	Inf	100.0 %	1980	1980
7/2	3.65	0.00	N	Arm 15 Ahead	Inf	100.0 %	2120	2120
8/1	3.65	0.00	Y	Arm 16 Ahead	35.00	100.0 %	1899	1899
8/2	3.65	0.00	N	Arm 16 Ahead	40.00	100.0 %	2043	2043
8/3	3.65	0.00	N	Arm 10 Ahead	50.00	80.0 %	2070	2070
				Arm 16 Ahead	Inf	20.0 %		
9/1 (A45 Northbound Offslip)	3.65	0.00	Y	Arm 16 Left	25.00	100.0 %	1868	1868
9/2 (A45 Northbound Offslip)	3.65	0.00	N	Arm 16 Left	Inf	100.0 %	2120	2120
9/3 (A45 Northbound Offslip)	3.65	0.00	N	Arm 10 Left	Inf	34.6 %	2120	2120
				Arm 16 Left	Inf	65.4 %		
9/4 (A45 Northbound Offslip)	3.65	0.00	N	Arm 10 Left	Inf	100.0 %	2120	2120
10/1	3.65	0.00	Y	Arm 12 Right	40.00	100.0 %	1908	1908
10/2	3.65	0.00	N	Arm 1 Right	45.00	77.0 %	2052	2052

				Arm 12 Right	45.00	23.0 %		
10/3	3.65	0.00	N	Arm 1 Right	50.00	100.0 %	2058	2058
11/1 (A428 Bedford Road W)	3.50	0.00	Y	Arm 1 Ahead Arm 12 Ahead	60.00 60.00	99.2 % 0.8 %	1917	1917
11/2 (A428 Bedford Road W)	3.00	0.00	N	Arm 1 Ahead	Inf	100.0 %	2055	2055
11/3 (A428 Bedford Road W)	3.00	0.00	N	Arm 1 Ahead	60.00	100.0 %	2005	2005
11/4 (A428 Bedford Road W)	3.00	0.00	N	Arm 1 Ahead	60.00	100.0 %	2005	2005
12/1	Infinite Saturation Flow						Inf	Inf
12/2	Infinite Saturation Flow						Inf	Inf
13/1	Infinite Saturation Flow						Inf	Inf
13/2	Infinite Saturation Flow						Inf	Inf
14/1	Infinite Saturation Flow						Inf	Inf
14/2	Infinite Saturation Flow						Inf	Inf
15/1	Infinite Saturation Flow						Inf	Inf
15/2	Infinite Saturation Flow						Inf	Inf
16/1	Infinite Saturation Flow						Inf	Inf
16/2	Infinite Saturation Flow						Inf	Inf
16/3	Infinite Saturation Flow						Inf	Inf

Scenario 1: '2031 D1 Ref AM' (FG1: '2031 D1 Ref AM - sensitivity', Plan 1: 'Staging Plan No. 1')

Stage Timings

Stage Stream: 1

Stage	1	2
Duration	29	21
Change Point	1	35

Stage Stream: 2

Stage	1	2
Duration	35	15
Change Point	42	22

Stage Stream: 3

Stage	1	2
Duration	41	5
Change Point	37	27

Stage Stream: 4

Stage	1	2
Duration	18	23
Change Point	42	5

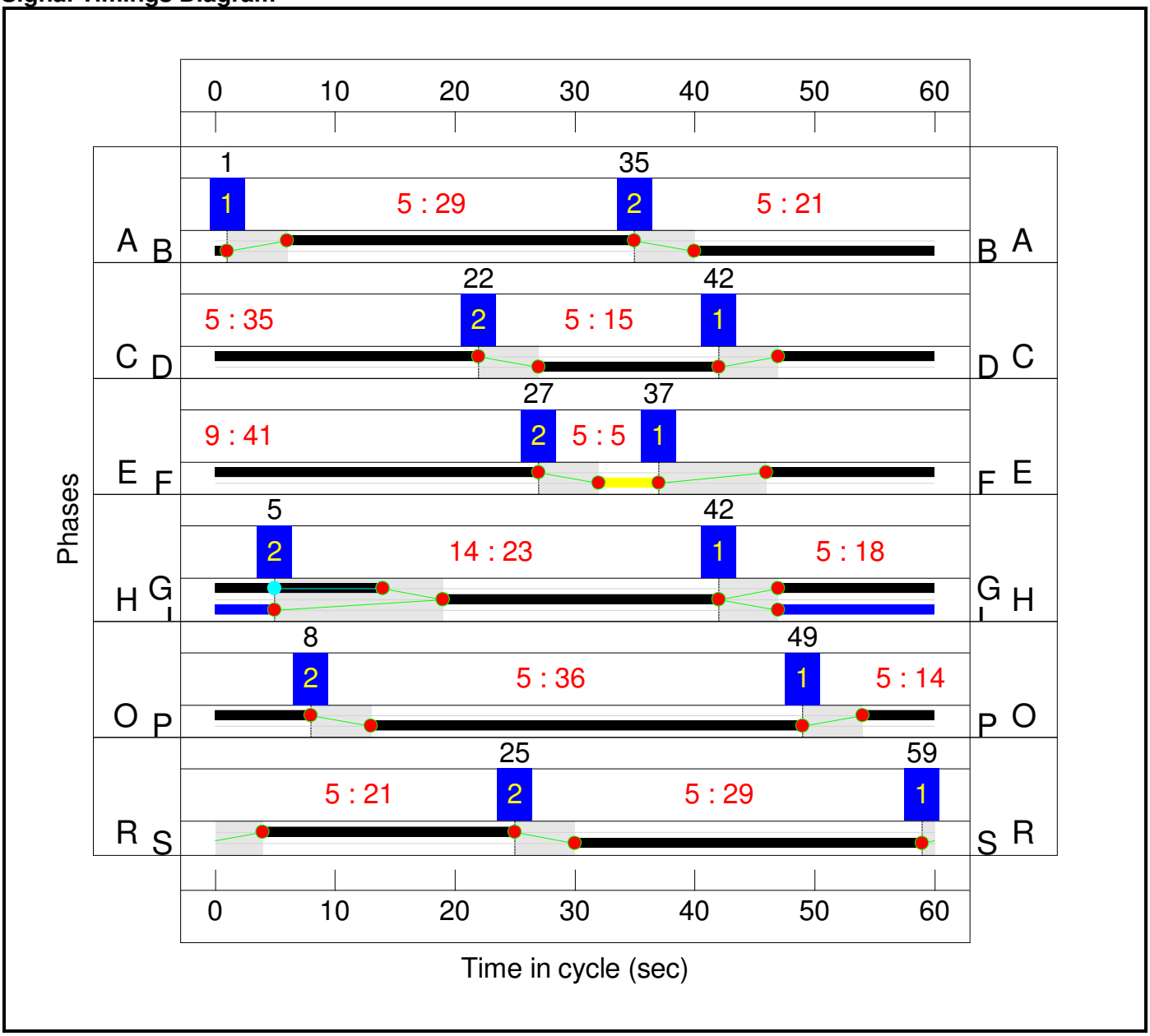
Stage Stream: 5

Stage	1	2
Duration	14	36
Change Point	49	8

Stage Stream: 6

Stage	1	2
Duration	21	29
Change Point	59	25

Signal Timings Diagram



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: A45 Barnes Meadow Interchange Sensitivity	-	-	**N/A**	-	-		-	-	-	-	-	-	**105.1%**
Unnamed Junction	-	-	**N/A**	-	-		-	-	-	-	-	-	**105.1%**
1/1	Ahead	U	6	N/A	R		1	21	-	467	1965	721	64.8%
1/2	Ahead	U	6	N/A	R		1	21	-	520	2105	772	67.4%
1/3	Right	U	6	N/A	R		1	21	-	478	2105	772	61.9%
1/4	Right	U	6	N/A	R		1	21	-	540	2105	772	70.0%
2/2+2/1	A5095 Rushmere Road Ahead Left	U	6	N/A	S		1	29	-	1471	2004:3600	1400	105.1%
3/1	Ahead	U	1	N/A	A		1	29	-	742	1908	954	76.4%
3/2	Right Ahead	U	1	N/A	A		1	29	-	834	2097	1049	77.8%
3/3	Right	U	1	N/A	A		1	29	-	745	2052	1026	69.5%
4/2+4/1	A45 Southbound Offslip Ahead Left	U	1	N/A	B		1	21	-	1054	2120:1899	1227	85.9%
4/4+4/3	A45 Southbound Offslip Ahead	U	1	N/A	B		1	21	-	1259	1940:2120	1489	84.6%
5/1	Ahead	U	2	N/A	C		1	35	-	762	1886	1132	66.5%
5/2	Ahead Right	U	2	N/A	C		1	35	-	920	2097	1258	70.7%
5/3	Right	U	2	N/A	C		1	35	-	746	2033	1220	61.0%
5/4	Right	U	2	N/A	C		1	35	-	546	1940	1164	46.9%
6/2+6/1	A428 Bedford Road E Left Ahead	U	2	N/A	D		1	15	-	675	2052:3800	1128	59.8%
7/1	Ahead	U	3	N/A	E		1	41	-	858	1980	1386	61.2%
7/2	Ahead	U	3	N/A	E		1	41	-	684	2120	1484	44.3%
8/1	Ahead	U	4	N/A	G		1	27	-	510	1899	886	57.1%
8/2	Ahead	U	4	N/A	G		1	27	-	749	2043	953	78.4%
8/3	Ahead Ahead2	U	4	N/A	G		1	27	-	848	2096	978	86.7%
9/2+9/1	A45 Northbound Offslip Left	U	4	N/A	H		1	23	-	566	2120:1868	1094	51.7%
9/3+9/4	A45 Northbound Offslip Left Left2	U	4	N/A	H		1	23	-	651	2120:2120	1343	48.5%

10/1	Right	U	5	N/A	O		1	14	-	206	1908	477	43.2%
10/2+10/3	Right Right2	U	5	N/A	O		1	14	-	430	2052:2058	707	60.8%
11/2+11/1	A428 Bedford Road W Ahead Ahead2	U	5	N/A	P		1	36	-	994	2055:1917	1603	62.0%
11/3+11/4	A428 Bedford Road W Ahead	U	5	N/A	P		1	36	-	900	2005:2005	1536	58.6%
12/1		U	N/A	N/A	-		-	-	-	356	Inf	Inf	0.0%
12/2		U	N/A	N/A	-		-	-	-	169	Inf	Inf	0.0%
13/1		U	N/A	N/A	-		-	-	-	635	Inf	Inf	0.0%
13/2		U	N/A	N/A	-		-	-	-	520	Inf	Inf	0.0%
14/1		U	N/A	N/A	-		-	-	-	1128	Inf	Inf	0.0%
14/2		U	N/A	N/A	-		-	-	-	532	Inf	Inf	0.0%
15/1		U	N/A	N/A	-		-	-	-	858	Inf	Inf	0.0%
15/2		U	N/A	N/A	-		-	-	-	684	Inf	Inf	0.0%
16/1		U	N/A	N/A	-		-	-	-	774	Inf	Inf	0.0%
16/2		U	N/A	N/A	-		-	-	-	1051	Inf	Inf	0.0%
16/3		U	N/A	N/A	-		-	-	-	863	Inf	Inf	0.0%

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network: A45 Barnes Meadow Interchange Sensitivity	**-**	**-**	**0**	**0**	**0**	**50.1**	**72.6**	**0.0**	**122.6**	**-**	**-**	**-**	**-**
Unnamed Junction	**-**	**-**	**0**	**0**	**0**	**50.1**	**72.6**	**0.0**	**122.6**	**-**	**-**	**-**	**-**
1/1	467	467	-	-	-	1.3	0.9	-	2.3	17.4	4.3	0.9	5.3
1/2	520	520	-	-	-	1.7	1.0	-	2.8	19.0	4.3	1.0	5.4
1/3	478	478	-	-	-	1.6	0.8	-	2.4	18.2	4.5	0.8	5.4
1/4	540	540	-	-	-	1.9	1.2	-	3.1	20.4	4.4	1.2	5.6
2/2+2/1	1471	1400	-	-	-	6.2	44.0	-	50.2	122.9	19.2	44.0	63.2
3/1	729	729	-	-	-	1.2	1.6	-	2.8	14.0	4.3	1.6	5.9
3/2	816	816	-	-	-	1.9	1.7	-	3.6	15.9	9.6	1.7	11.3
3/3	713	713	-	-	-	3.6	1.1	-	4.8	24.1	11.2	1.1	12.3
4/2+4/1	1054	1054	-	-	-	4.9	3.0	-	7.8	26.8	10.2	3.0	13.2
4/4+4/3	1259	1259	-	-	-	6.1	2.7	-	8.8	25.2	11.4	2.7	14.0
5/1	752	752	-	-	-	0.6	1.0	-	1.6	7.7	5.6	1.0	6.6
5/2	890	890	-	-	-	2.3	1.2	-	3.5	14.1	8.0	1.2	9.2
5/3	745	745	-	-	-	0.4	0.8	-	1.2	5.7	7.1	0.8	7.8
5/4	546	546	-	-	-	0.2	0.4	-	0.6	3.9	8.1	0.4	8.6
6/2+6/1	675	675	-	-	-	3.4	0.7	-	4.2	22.3	4.3	0.7	5.1
7/1	848	848	-	-	-	0.3	0.8	-	1.1	4.6	1.6	0.8	2.4
7/2	657	657	-	-	-	0.0	0.4	-	0.4	2.2	0.0	0.4	0.4
8/1	506	506	-	-	-	1.4	0.7	-	2.0	14.5	5.5	0.7	6.2
8/2	748	748	-	-	-	0.6	1.8	-	2.3	11.3	1.2	1.8	3.0
8/3	848	848	-	-	-	1.1	3.1	-	4.2	18.0	5.8	3.1	8.9
9/2+9/1	566	566	-	-	-	2.0	0.5	-	2.5	16.0	3.4	0.5	4.0
9/3+9/4	651	651	-	-	-	2.3	0.5	-	2.8	15.6	5.0	0.5	5.5
10/1	206	206	-	-	-	0.5	0.4	-	0.9	16.0	1.5	0.4	1.8
10/2+10/3	430	430	-	-	-	1.3	0.8	-	2.1	17.3	10.5	0.8	11.2
11/2+11/1	994	994	-	-	-	1.6	0.8	-	2.4	8.8	4.4	0.8	5.2
11/3+11/4	900	900	-	-	-	1.4	0.7	-	2.1	8.6	4.3	0.7	5.0

12/1	356	356	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
12/2	169	169	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
13/1	627	627	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
13/2	520	520	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
14/1	1115	1115	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
14/2	524	524	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
15/1	848	848	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
15/2	657	657	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
16/1	770	770	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
16/2	1050	1050	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
16/3	863	863	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

C1	Stream: 1 PRC for Signalled Lanes (%):	4.7	Total Delay for Signalled Lanes (pcuHr):	27.86	Cycle Time (s):	60
C1	Stream: 2 PRC for Signalled Lanes (%):	27.3	Total Delay for Signalled Lanes (pcuHr):	11.07	Cycle Time (s):	60
C1	Stream: 3 PRC for Signalled Lanes (%):	47.1	Total Delay for Signalled Lanes (pcuHr):	1.49	Cycle Time (s):	60
C1	Stream: 4 PRC for Signalled Lanes (%):	3.8	Total Delay for Signalled Lanes (pcuHr):	13.95	Cycle Time (s):	60
C1	Stream: 5 PRC for Signalled Lanes (%):	45.1	Total Delay for Signalled Lanes (pcuHr):	7.56	Cycle Time (s):	60
C1	Stream: 6 PRC for Signalled Lanes (%):	-16.8	Total Delay for Signalled Lanes (pcuHr):	60.71	Cycle Time (s):	60
	PRC Over All Lanes (%):	-16.8	Total Delay Over All Lanes(pcuHr):	122.65		

Scenario 2: '2031 J1d Dev AM' (FG3: '2031 J1d Dev AM - sensitivity', Plan 1: 'Staging Plan No. 1')

Stage Timings

Stage Stream: 1

Stage	1	2
Duration	29	21
Change Point	1	35

Stage Stream: 2

Stage	1	2
Duration	41	9
Change Point	36	22

Stage Stream: 3

Stage	1	2
Duration	41	5
Change Point	17	7

Stage Stream: 4

Stage	1	2
Duration	20	21
Change Point	42	7

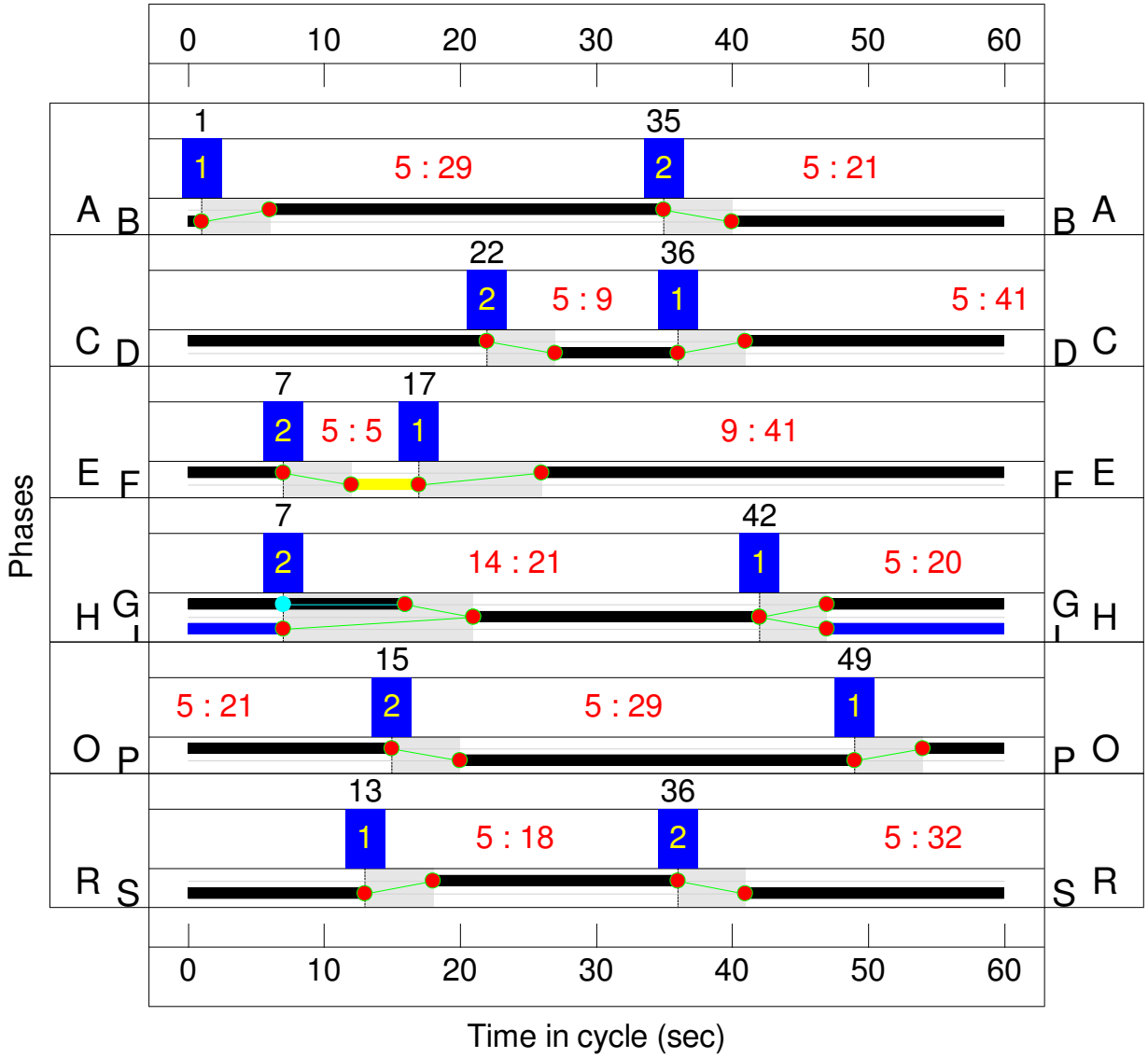
Stage Stream: 5

Stage	1	2
Duration	21	29
Change Point	49	15

Stage Stream: 6

Stage	1	2
Duration	18	32
Change Point	13	36

Signal Timings Diagram



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: A45 Barnes Meadow Interchange Sensitivity	-	-	**N/A**	-	-		-	-	-	-	-	-	**106.5%**
Unnamed Junction	-	-	**N/A**	-	-		-	-	-	-	-	-	**106.5%**
1/1	Ahead	U	6	N/A	R		1	18	-	452	1965	622	72.6%
1/2	Ahead	U	6	N/A	R		1	18	-	501	2105	667	75.2%
1/3	Right	U	6	N/A	R		1	18	-	536	2105	667	80.4%
1/4	Right	U	6	N/A	R		1	18	-	545	2105	667	81.8%
2/2+2/1	A5095 Rushmere Road Ahead Left	U	6	N/A	S		1	32	-	1520	2004:3600	1427	106.5%
3/1	Ahead	U	1	N/A	A		1	29	-	765	1908	954	78.7%
3/2	Right Ahead	U	1	N/A	A		1	29	-	861	2097	1049	79.7%
3/3	Right	U	1	N/A	A		1	29	-	847	2052	1026	78.1%
4/2+4/1	A45 Southbound Offslip Ahead Left	U	1	N/A	B		1	21	-	989	2120:1899	1116	88.6%
4/4+4/3	A45 Southbound Offslip Ahead	U	1	N/A	B		1	21	-	1324	1940:2120	1489	88.9%
5/1	Ahead	U	2	N/A	C		1	41	-	755	1886	1320	56.3%
5/2	Ahead Right	U	2	N/A	C		1	41	-	1004	2096	1467	65.7%
5/3	Right	U	2	N/A	C		1	41	-	791	2033	1423	55.3%
5/4	Right	U	2	N/A	C		1	41	-	624	1940	1358	45.9%
6/2+6/1	A428 Bedford Road E Left Ahead	U	2	N/A	D		1	9	-	666	2052:3800	837	79.5%
7/1	Ahead	U	3	N/A	E		1	41	-	882	1980	1386	62.8%
7/2	Ahead	U	3	N/A	E		1	41	-	735	2120	1484	47.0%
8/1	Ahead	U	4	N/A	G		1	29	-	536	1899	950	56.2%
8/2	Ahead	U	4	N/A	G		1	29	-	817	2043	1022	79.5%
8/3	Ahead Ahead2	U	4	N/A	G		1	29	-	870	2095	1047	83.0%
9/2+9/1	A45 Northbound Offslip Left	U	4	N/A	H		1	21	-	557	2120:1868	1030	54.1%
9/3+9/4	A45 Northbound Offslip Left Left2	U	4	N/A	H		1	21	-	677	2120:2120	1277	53.0%

10/1	Right	U	5	N/A	O		1	21	-	226	1908	700	32.3%
10/2+10/3	Right Right2	U	5	N/A	O		1	21	-	472	2052:2058	967	48.8%
11/2+11/1	A428 Bedford Road W Ahead Ahead2	U	5	N/A	P		1	29	-	935	2055:1917	1390	67.3%
11/3+11/4	A428 Bedford Road W Ahead	U	5	N/A	P		1	29	-	959	2005:2005	1377	69.7%
12/1		U	N/A	N/A	-		-	-	-	332	Inf	Inf	0.0%
12/2		U	N/A	N/A	-		-	-	-	226	Inf	Inf	0.0%
13/1		U	N/A	N/A	-		-	-	-	580	Inf	Inf	0.0%
13/2		U	N/A	N/A	-		-	-	-	501	Inf	Inf	0.0%
14/1		U	N/A	N/A	-		-	-	-	1065	Inf	Inf	0.0%
14/2		U	N/A	N/A	-		-	-	-	547	Inf	Inf	0.0%
15/1		U	N/A	N/A	-		-	-	-	882	Inf	Inf	0.0%
15/2		U	N/A	N/A	-		-	-	-	735	Inf	Inf	0.0%
16/1		U	N/A	N/A	-		-	-	-	797	Inf	Inf	0.0%
16/2		U	N/A	N/A	-		-	-	-	1113	Inf	Inf	0.0%
16/3		U	N/A	N/A	-		-	-	-	849	Inf	Inf	0.0%

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network: A45 Barnes Meadow Interchange Sensitivity	**-**	**-**	**0**	**0**	**0**	**57.0**	**88.2**	**0.0**	**145.2**	**-**	**-**	**-**	**-**
Unnamed Junction	**-**	**-**	**0**	**0**	**0**	**57.0**	**88.2**	**0.0**	**145.2**	**-**	**-**	**-**	**-**
1/1	452	452	-	-	-	1.4	1.3	-	2.7	21.2	3.1	1.3	4.4
1/2	501	501	-	-	-	1.4	1.5	-	2.9	20.9	2.8	1.5	4.3
1/3	536	536	-	-	-	1.7	2.0	-	3.7	25.0	3.4	2.0	5.4
1/4	545	545	-	-	-	1.7	2.2	-	3.8	25.2	3.1	2.2	5.3
2/2+2/1	1520	1427	-	-	-	7.4	53.5	-	60.9	144.2	22.8	53.5	76.2
3/1	751	751	-	-	-	3.5	1.8	-	5.3	25.4	8.3	1.8	10.1
3/2	836	836	-	-	-	3.5	1.9	-	5.4	23.2	10.2	1.9	12.2
3/3	801	801	-	-	-	2.6	1.8	-	4.3	19.3	12.8	1.8	14.5
4/2+4/1	989	989	-	-	-	4.6	3.7	-	8.3	30.2	10.7	3.7	14.4
4/4+4/3	1324	1324	-	-	-	6.6	3.8	-	10.4	28.3	11.3	3.8	15.2
5/1	743	743	-	-	-	0.7	0.6	-	1.3	6.3	2.8	0.6	3.4
5/2	964	964	-	-	-	1.9	1.0	-	2.8	10.5	8.0	1.0	8.9
5/3	786	786	-	-	-	0.2	0.6	-	0.8	3.8	0.6	0.6	1.3
5/4	623	623	-	-	-	0.0	0.4	-	0.5	2.6	0.1	0.4	0.6
6/2+6/1	666	666	-	-	-	4.4	1.9	-	6.3	33.8	4.3	1.9	6.2
7/1	870	870	-	-	-	0.5	0.8	-	1.4	5.6	3.2	0.8	4.0
7/2	697	697	-	-	-	0.8	0.4	-	1.2	6.2	5.4	0.4	5.9
8/1	534	534	-	-	-	1.1	0.6	-	1.7	11.6	4.9	0.6	5.5
8/2	812	812	-	-	-	0.3	1.9	-	2.2	9.6	1.0	1.9	2.9
8/3	869	869	-	-	-	0.9	2.4	-	3.2	13.4	4.4	2.4	6.7
9/2+9/1	557	557	-	-	-	2.2	0.6	-	2.8	17.8	3.6	0.6	4.2
9/3+9/4	677	677	-	-	-	2.7	0.6	-	3.3	17.5	5.4	0.6	5.9
10/1	226	226	-	-	-	0.7	0.2	-	0.9	14.8	2.0	0.2	2.3
10/2+10/3	472	472	-	-	-	1.4	0.5	-	1.9	14.6	10.5	0.5	10.9
11/2+11/1	935	935	-	-	-	2.6	1.0	-	3.6	13.8	5.1	1.0	6.2
11/3+11/4	959	959	-	-	-	2.6	1.1	-	3.8	14.1	5.4	1.1	6.5

12/1	332	332	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
12/2	226	226	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
13/1	572	572	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
13/2	501	501	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
14/1	1051	1051	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
14/2	534	534	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
15/1	870	870	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
15/2	697	697	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
16/1	795	795	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
16/2	1108	1108	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
16/3	848	848	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

C1	Stream: 1	PRC for Signalled Lanes (%):	1.2	Total Delay for Signalled Lanes (pcuHr):	33.70	Cycle Time (s): 60
C1	Stream: 2	PRC for Signalled Lanes (%):	13.2	Total Delay for Signalled Lanes (pcuHr):	11.67	Cycle Time (s): 60
C1	Stream: 3	PRC for Signalled Lanes (%):	43.4	Total Delay for Signalled Lanes (pcuHr):	2.55	Cycle Time (s): 60
C1	Stream: 4	PRC for Signalled Lanes (%):	8.5	Total Delay for Signalled Lanes (pcuHr):	13.16	Cycle Time (s): 60
C1	Stream: 5	PRC for Signalled Lanes (%):	29.2	Total Delay for Signalled Lanes (pcuHr):	10.18	Cycle Time (s): 60
C1	Stream: 6	PRC for Signalled Lanes (%):	-18.3	Total Delay for Signalled Lanes (pcuHr):	73.98	Cycle Time (s): 60
		PRC Over All Lanes (%):	-18.3	Total Delay Over All Lanes(pcuHr):	145.24	

Scenario 3: '2031 D1 Ref PM' (FG2: '2031 D1 Ref PM - sensitivity', Plan 1: 'Staging Plan No. 1')

Stage Timings

Stage Stream: 1

Stage	1	2
Duration	37	13
Change Point	0	42

Stage Stream: 2

Stage	1	2
Duration	24	26
Change Point	48	17

Stage Stream: 3

Stage	1	2
Duration	41	5
Change Point	36	26

Stage Stream: 4

Stage	1	2
Duration	31	10
Change Point	11	47

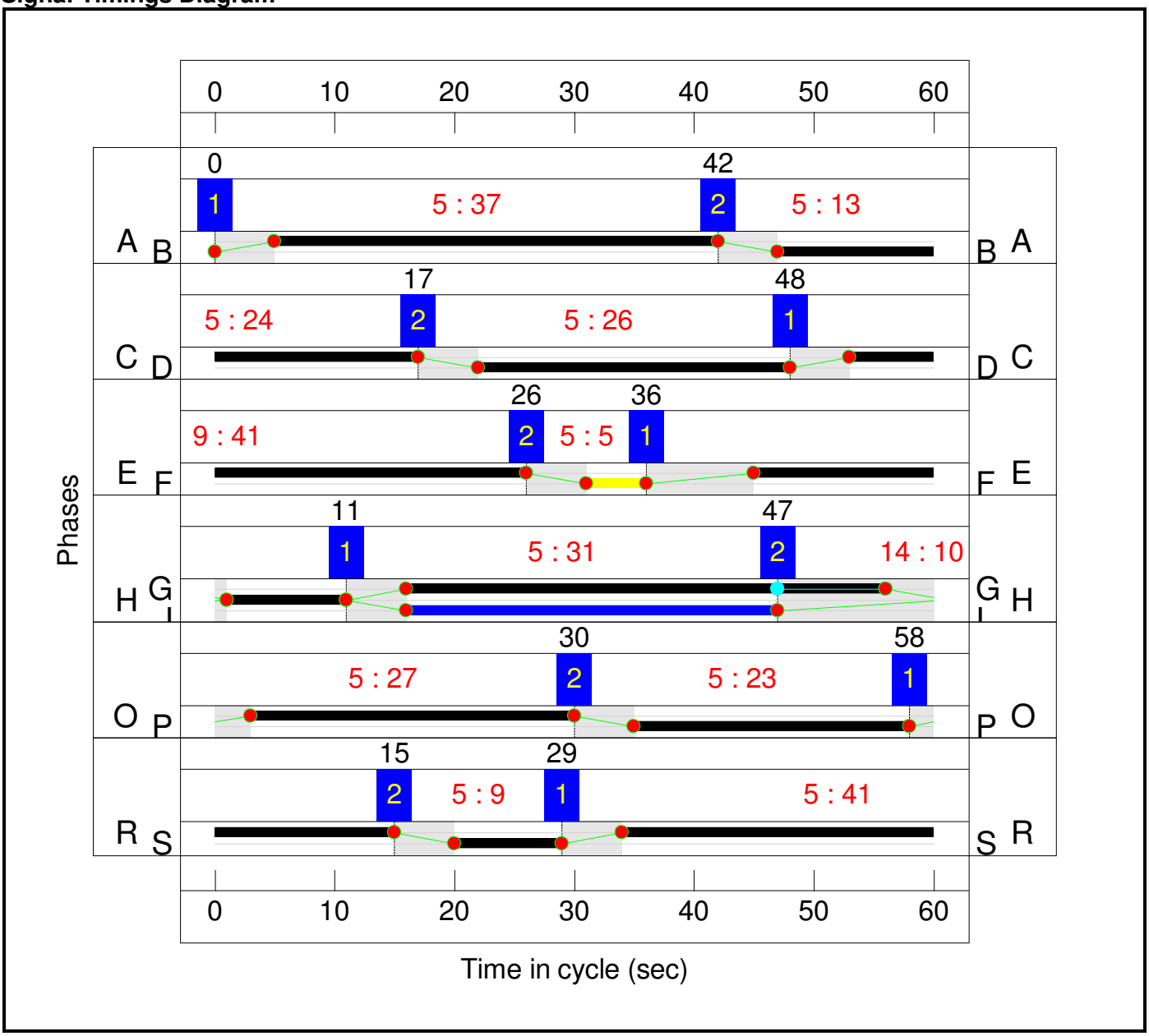
Stage Stream: 5

Stage	1	2
Duration	27	23
Change Point	58	30

Stage Stream: 6

Stage	1	2
Duration	41	9
Change Point	29	15

Signal Timings Diagram



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: A45 Barnes Meadow Interchange Sensitivity	-	-	**N/A**	-	-		-	-	-	-	-	-	**142.7%**
Unnamed Junction	-	-	**N/A**	-	-		-	-	-	-	-	-	**142.7%**
1/1	Ahead	U	6	N/A	R		1	41	-	1177	1965	1375	62.3%
1/2	Ahead	U	6	N/A	R		1	41	-	1209	2105	1473	57.5%
1/3	Right	U	6	N/A	R		1	41	-	326	2105	1473	17.8%
1/4	Right	U	6	N/A	R		1	41	-	913	2105	1473	48.4%
2/2+2/1	A5095 Rushmere Road Ahead Left	U	6	N/A	S		1	9	-	988	2004:3600	934	105.8%
3/1	Ahead	U	1	N/A	A		1	37	-	534	1908	1208	38.2%
3/2	Right Ahead	U	1	N/A	A		1	37	-	681	2070	1311	44.3%
3/3	Right	U	1	N/A	A		1	37	-	861	2052	1300	55.6%
4/2+4/1	A45 Southbound Offslip Ahead Left	U	1	N/A	B		1	13	-	754	2120:1899	604	124.9%
4/4+4/3	A45 Southbound Offslip Ahead	U	1	N/A	B		1	13	-	836	1940:2120	665	125.7%
5/1	Ahead	U	2	N/A	C		1	24	-	781	1886	786	81.8%
5/2	Ahead Right	U	2	N/A	C		1	24	-	799	2085	869	78.6%
5/3	Right	U	2	N/A	C		1	24	-	626	2033	847	58.8%
5/4	Right	U	2	N/A	C		1	24	-	652	1940	808	68.6%
6/2+6/1	A428 Bedford Road E Left Ahead	U	2	N/A	D		1	26	-	1639	2052:3800	1150	142.5%
7/1	Ahead	U	3	N/A	E		1	41	-	940	1980	1386	54.4%
7/2	Ahead	U	3	N/A	E		1	41	-	483	2120	1484	29.0%
8/1	Ahead	U	4	N/A	G		1	40	-	699	1899	1298	40.2%
8/2	Ahead	U	4	N/A	G		1	40	-	665	2043	1396	37.6%
8/3	Ahead Ahead2	U	4	N/A	G		1	40	-	1710	2065	1411	91.9%
9/2+9/1	A45 Northbound Offslip Left	U	4	N/A	H		1	10	-	456	2120:1868	426	107.0%
9/3+9/4	A45 Northbound Offslip Left Left2	U	4	N/A	H		1	10	-	832	2120:2120	777	107.0%

10/1	Right	U	5	N/A	O		1	27	-	748	1908	890	59.9%
10/2+10/3	Right Right2	U	5	N/A	O		1	27	-	1139	2052:2058	985	94.3%
11/2+11/1	A428 Bedford Road W Ahead Ahead2	U	5	N/A	P		1	23	-	1577	2055:1917	1105	142.7%
11/3+11/4	A428 Bedford Road W Ahead	U	5	N/A	P		1	23	-	1183	2005:2005	920	128.6%
12/1		U	N/A	N/A	-		-	-	-	748	Inf	Inf	0.0%
12/2		U	N/A	N/A	-		-	-	-	274	Inf	Inf	0.0%
13/1		U	N/A	N/A	-		-	-	-	1328	Inf	Inf	0.0%
13/2		U	N/A	N/A	-		-	-	-	1209	Inf	Inf	0.0%
14/1		U	N/A	N/A	-		-	-	-	670	Inf	Inf	0.0%
14/2		U	N/A	N/A	-		-	-	-	138	Inf	Inf	0.0%
15/1		U	N/A	N/A	-		-	-	-	940	Inf	Inf	0.0%
15/2		U	N/A	N/A	-		-	-	-	483	Inf	Inf	0.0%
16/1		U	N/A	N/A	-		-	-	-	739	Inf	Inf	0.0%
16/2		U	N/A	N/A	-		-	-	-	1081	Inf	Inf	0.0%
16/3		U	N/A	N/A	-		-	-	-	655	Inf	Inf	0.0%

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network: A45 Barnes Meadow Interchange Sensitivity	**-**	**-**	**0**	**0**	**0**	**112.0**	**894.8**	**0.0**	**1006.8**	**-**	**-**	**-**	**-**
Unnamed Junction	**-**	**-**	**0**	**0**	**0**	**112.0**	**894.8**	**0.0**	**1006.8**	**-**	**-**	**-**	**-**
1/1	856	856	-	-	-	0.4	0.8	-	1.2	5.1	2.7	0.8	3.5
1/2	847	847	-	-	-	0.6	0.7	-	1.3	5.5	2.2	0.7	2.9
1/3	263	263	-	-	-	0.1	0.1	-	0.2	3.2	0.7	0.1	0.8
1/4	713	713	-	-	-	0.0	0.5	-	0.5	2.5	0.2	0.5	0.7
2/2+2/1	988	934	-	-	-	8.3	34.2	-	42.5	154.8	8.8	34.2	43.0
3/1	462	462	-	-	-	0.9	0.3	-	1.2	9.6	4.1	0.3	4.4
3/2	580	580	-	-	-	0.8	0.4	-	1.2	7.6	5.4	0.4	5.8
3/3	723	723	-	-	-	1.0	0.6	-	1.7	8.2	6.5	0.6	7.1
4/2+4/1	754	631	-	-	-	7.7	77.7	-	85.4	407.7	12.7	77.7	90.4
4/4+4/3	836	709	-	-	-	7.5	87.9	-	95.4	410.9	12.0	87.9	100.0
5/1	643	643	-	-	-	1.6	2.2	-	3.8	21.4	6.8	2.2	9.0
5/2	683	683	-	-	-	2.1	1.8	-	3.9	20.6	10.9	1.8	12.7
5/3	498	498	-	-	-	0.1	0.7	-	0.8	5.6	0.4	0.7	1.1
5/4	554	554	-	-	-	1.5	1.1	-	2.6	16.6	5.5	1.1	6.6
6/2+6/1	1639	1150	-	-	-	19.3	246.0	-	265.3	582.7	35.5	246.0	281.6
7/1	754	754	-	-	-	0.4	0.6	-	1.0	4.6	1.5	0.6	2.1
7/2	430	430	-	-	-	0.0	0.2	-	0.2	1.7	0.0	0.2	0.2
8/1	522	522	-	-	-	0.4	0.3	-	0.7	4.8	4.2	0.3	4.6
8/2	525	525	-	-	-	2.1	0.3	-	2.4	16.2	8.3	0.3	8.6
8/3	1297	1297	-	-	-	2.0	5.2	-	7.2	20.1	14.7	5.2	19.9
9/2+9/1	456	426	-	-	-	4.1	20.5	-	24.6	194.2	7.7	20.5	28.3
9/3+9/4	832	719	-	-	-	9.1	33.5	-	42.7	184.5	10.3	33.5	43.8
10/1	534	534	-	-	-	2.2	0.7	-	3.0	20.0	8.4	0.7	9.2
10/2+10/3	929	929	-	-	-	3.4	6.7	-	10.1	39.1	15.4	6.7	22.1
11/2+11/1	1577	1105	-	-	-	22.8	237.8	-	260.6	594.9	35.1	237.8	272.9
11/3+11/4	1183	920	-	-	-	13.5	133.9	-	147.4	448.6	24.3	133.9	158.2

12/1	534	534	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
12/2	274	274	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
13/1	1001	1001	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
13/2	847	847	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
14/1	598	598	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
14/2	128	128	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
15/1	754	754	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
15/2	430	430	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
16/1	559	559	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
16/2	914	914	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
16/3	553	553	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

C1	Stream: 1	PRC for Signalled Lanes (%):	-39.7	Total Delay for Signalled Lanes (pcuHr):	184.94	Cycle Time (s): 60
C1	Stream: 2	PRC for Signalled Lanes (%):	-58.3	Total Delay for Signalled Lanes (pcuHr):	276.39	Cycle Time (s): 60
C1	Stream: 3	PRC for Signalled Lanes (%):	65.4	Total Delay for Signalled Lanes (pcuHr):	1.16	Cycle Time (s): 60
C1	Stream: 4	PRC for Signalled Lanes (%):	-18.9	Total Delay for Signalled Lanes (pcuHr):	77.55	Cycle Time (s): 60
C1	Stream: 5	PRC for Signalled Lanes (%):	-58.6	Total Delay for Signalled Lanes (pcuHr):	421.05	Cycle Time (s): 60
C1	Stream: 6	PRC for Signalled Lanes (%):	-17.5	Total Delay for Signalled Lanes (pcuHr):	45.73	Cycle Time (s): 60
		PRC Over All Lanes (%):	-58.6	Total Delay Over All Lanes(pcuHr):	1006.83	

Scenario 4: '2031 J1d Dev PM' (FG4: '2031 J1d Dev PM - sensitivity', Plan 1: 'Staging Plan No. 1')

Stage Timings

Stage Stream: 1

Stage	1	2
Duration	37	13
Change Point	0	42

Stage Stream: 2

Stage	1	2
Duration	24	26
Change Point	48	17

Stage Stream: 3

Stage	1	2
Duration	41	5
Change Point	48	38

Stage Stream: 4

Stage	1	2
Duration	31	10
Change Point	11	47

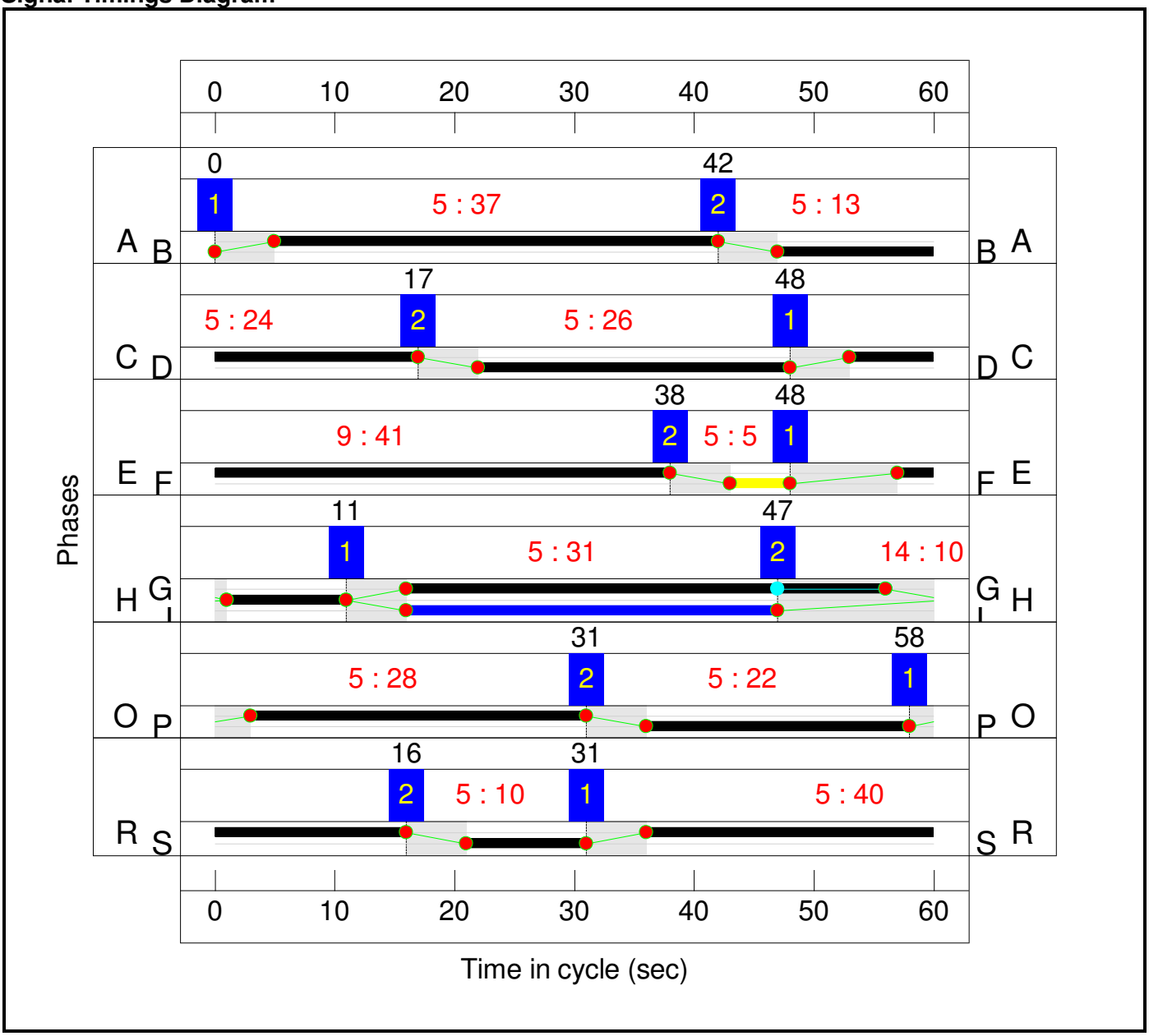
Stage Stream: 5

Stage	1	2
Duration	28	22
Change Point	58	31

Stage Stream: 6

Stage	1	2
Duration	40	10
Change Point	31	16

Signal Timings Diagram



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: A45 Barnes Meadow Interchange Sensitivity	-	-	**N/A**	-	-		-	-	-	-	-	-	**141.0%**
Unnamed Junction	-	-	**N/A**	-	-		-	-	-	-	-	-	**141.0%**
1/1	Ahead	U	6	N/A	R		1	40	-	1100	1965	1343	60.4%
1/2	Ahead	U	6	N/A	R		1	40	-	1214	2105	1438	60.3%
1/3	Right	U	6	N/A	R		1	40	-	364	2105	1438	20.3%
1/4	Right	U	6	N/A	R		1	40	-	865	2105	1438	47.1%
2/2+2/1	A5095 Rushmere Road Ahead Left	U	6	N/A	S		1	10	-	1063	2004:3600	1009	105.4%
3/1	Ahead	U	1	N/A	A		1	37	-	548	1908	1208	38.6%
3/2	Right Ahead	U	1	N/A	A		1	37	-	670	2080	1317	43.6%
3/3	Right	U	1	N/A	A		1	37	-	871	2052	1300	57.1%
4/2+4/1	A45 Southbound Offslip Ahead Left	U	1	N/A	B		1	13	-	742	2120:1899	610	121.7%
4/4+4/3	A45 Southbound Offslip Ahead	U	1	N/A	B		1	13	-	778	1940:2120	639	121.7%
5/1	Ahead	U	2	N/A	C		1	24	-	727	1886	786	76.3%
5/2	Ahead Right	U	2	N/A	C		1	24	-	707	2089	870	72.0%
5/3	Right	U	2	N/A	C		1	24	-	621	2033	847	60.1%
5/4	Right	U	2	N/A	C		1	24	-	623	1940	808	64.9%
6/2+6/1	A428 Bedford Road E Left Ahead	U	2	N/A	D		1	26	-	1639	2052:3800	1196	137.0%
7/1	Ahead	U	3	N/A	E		1	41	-	857	1980	1386	50.1%
7/2	Ahead	U	3	N/A	E		1	41	-	464	2120	1484	28.8%
8/1	Ahead	U	4	N/A	G		1	40	-	723	1899	1298	42.4%
8/2	Ahead	U	4	N/A	G		1	40	-	628	2043	1396	36.9%
8/3	Ahead Ahead2	U	4	N/A	G		1	40	-	1645	2064	1410	90.1%
9/2+9/1	A45 Northbound Offslip Left	U	4	N/A	H		1	10	-	586	2120:1868	649	90.3%
9/3+9/4	A45 Northbound Offslip Left Left2	U	4	N/A	H		1	10	-	644	2120:2120	731	88.2%

10/1	Right	U	5	N/A	O		1	28	-	782	1908	922	64.9%
10/2+10/3	Right Right2	U	5	N/A	O		1	28	-	1043	2052:2058	1021	82.8%
11/2+11/1	A428 Bedford Road W Ahead Ahead2	U	5	N/A	P		1	22	-	1511	2055:1917	1072	141.0%
11/3+11/4	A428 Bedford Road W Ahead	U	5	N/A	P		1	22	-	1175	2005:2005	915	128.4%
12/1		U	N/A	N/A	-		-	-	-	789	Inf	Inf	0.0%
12/2		U	N/A	N/A	-		-	-	-	179	Inf	Inf	0.0%
13/1		U	N/A	N/A	-		-	-	-	1303	Inf	Inf	0.0%
13/2		U	N/A	N/A	-		-	-	-	1214	Inf	Inf	0.0%
14/1		U	N/A	N/A	-		-	-	-	688	Inf	Inf	0.0%
14/2		U	N/A	N/A	-		-	-	-	243	Inf	Inf	0.0%
15/1		U	N/A	N/A	-		-	-	-	857	Inf	Inf	0.0%
15/2		U	N/A	N/A	-		-	-	-	464	Inf	Inf	0.0%
16/1		U	N/A	N/A	-		-	-	-	989	Inf	Inf	0.0%
16/2		U	N/A	N/A	-		-	-	-	948	Inf	Inf	0.0%
16/3		U	N/A	N/A	-		-	-	-	464	Inf	Inf	0.0%

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network: A45 Barnes Meadow Interchange Sensitivity	**-**	**-**	**0**	**0**	**0**	**103.3**	**776.5**	**0.0**	**879.8**	**-**	**-**	**-**	**-**
Unnamed Junction	**-**	**-**	**0**	**0**	**0**	**103.3**	**776.5**	**0.0**	**879.8**	**-**	**-**	**-**	**-**
1/1	811	811	-	-	-	0.3	0.8	-	1.1	4.9	2.6	0.8	3.4
1/2	868	868	-	-	-	0.6	0.8	-	1.3	5.6	1.9	0.8	2.7
1/3	292	292	-	-	-	0.2	0.1	-	0.3	3.6	0.6	0.1	0.8
1/4	677	677	-	-	-	0.1	0.4	-	0.5	2.7	0.3	0.4	0.7
2/2+2/1	1063	1004	-	-	-	8.5	34.7	-	43.3	146.5	9.5	34.7	44.2
3/1	466	466	-	-	-	1.2	0.3	-	1.5	11.8	5.3	0.3	5.6
3/2	574	574	-	-	-	1.1	0.4	-	1.5	9.2	5.7	0.4	6.1
3/3	742	742	-	-	-	1.5	0.7	-	2.2	10.5	7.4	0.7	8.0
4/2+4/1	742	635	-	-	-	7.1	68.8	-	76.0	368.6	11.9	68.8	80.8
4/4+4/3	778	671	-	-	-	6.7	72.1	-	78.8	364.5	11.3	72.1	83.4
5/1	600	600	-	-	-	1.3	1.6	-	2.9	17.5	6.0	1.6	7.5
5/2	627	627	-	-	-	1.6	1.3	-	2.8	16.3	9.3	1.3	10.6
5/3	509	509	-	-	-	0.1	0.8	-	0.9	6.3	0.5	0.8	1.2
5/4	524	524	-	-	-	2.0	0.9	-	2.9	20.3	5.8	0.9	6.7
6/2+6/1	1639	1196	-	-	-	17.4	223.2	-	240.5	528.4	33.2	223.2	256.4
7/1	695	695	-	-	-	0.1	0.5	-	0.6	3.0	0.5	0.5	1.0
7/2	427	427	-	-	-	0.0	0.2	-	0.2	1.7	0.0	0.2	0.2
8/1	550	550	-	-	-	0.4	0.4	-	0.8	5.0	3.3	0.4	3.7
8/2	515	515	-	-	-	2.1	0.3	-	2.4	16.8	8.5	0.3	8.8
8/3	1270	1270	-	-	-	1.9	4.3	-	6.1	17.4	9.3	4.3	13.6
9/2+9/1	586	586	-	-	-	3.8	4.1	-	7.9	48.7	5.2	4.1	9.3
9/3+9/4	644	622	-	-	-	4.9	3.4	-	8.4	46.9	7.2	3.4	10.7
10/1	599	599	-	-	-	2.3	0.9	-	3.2	19.2	9.0	0.9	10.0
10/2+10/3	845	845	-	-	-	3.1	2.3	-	5.4	23.2	13.7	2.3	16.0
11/2+11/1	1511	1072	-	-	-	21.5	221.2	-	242.7	578.3	33.0	221.2	254.2
11/3+11/4	1175	915	-	-	-	13.4	132.0	-	145.4	445.6	23.6	132.0	155.6

12/1	604	604	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
12/2	179	179	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
13/1	1003	1003	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
13/2	868	868	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
14/1	606	606	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
14/2	221	221	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
15/1	695	695	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
15/2	427	427	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
16/1	816	816	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
16/2	835	835	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
16/3	448	448	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

C1	Stream: 1	PRC for Signalled Lanes (%):	-35.2	Total Delay for Signalled Lanes (pcuHr):	159.90	Cycle Time (s): 60
C1	Stream: 2	PRC for Signalled Lanes (%):	-52.2	Total Delay for Signalled Lanes (pcuHr):	250.15	Cycle Time (s): 60
C1	Stream: 3	PRC for Signalled Lanes (%):	79.5	Total Delay for Signalled Lanes (pcuHr):	0.79	Cycle Time (s): 60
C1	Stream: 4	PRC for Signalled Lanes (%):	-0.3	Total Delay for Signalled Lanes (pcuHr):	25.62	Cycle Time (s): 60
C1	Stream: 5	PRC for Signalled Lanes (%):	-56.6	Total Delay for Signalled Lanes (pcuHr):	396.83	Cycle Time (s): 60
C1	Stream: 6	PRC for Signalled Lanes (%):	-17.1	Total Delay for Signalled Lanes (pcuHr):	46.52	Cycle Time (s): 60
		PRC Over All Lanes (%):	-56.6	Total Delay Over All Lanes(pcuHr):	879.80	

Scenario 5: '2021 C1 Ref AM' (FG5: '2021 C1 Ref AM - sensitivity', Plan 1: 'Staging Plan No. 1')

Stage Timings

Stage Stream: 1

Stage	1	2
Duration	28	22
Change Point	0	33

Stage Stream: 2

Stage	1	2
Duration	34	16
Change Point	39	18

Stage Stream: 3

Stage	1	2
Duration	41	5
Change Point	38	28

Stage Stream: 4

Stage	1	2
Duration	18	23
Change Point	42	5

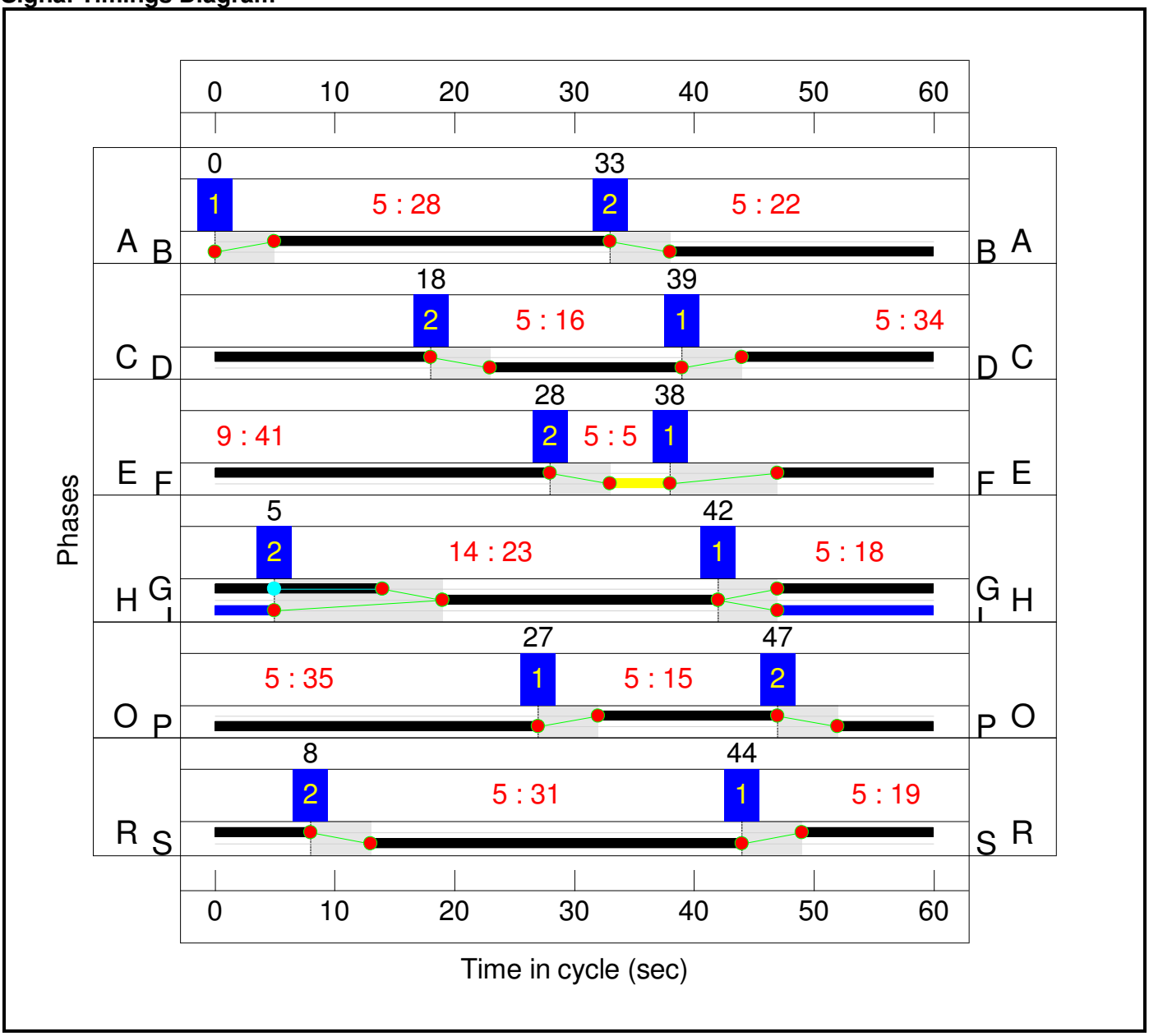
Stage Stream: 5

Stage	1	2
Duration	15	35
Change Point	27	47

Stage Stream: 6

Stage	1	2
Duration	19	31
Change Point	44	8

Signal Timings Diagram



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: A45 Barnes Meadow Interchange Sensitivity	-	-	**N/A**	-	-		-	-	-	-	-	-	**89.3%**
Unnamed Junction	-	-	**N/A**	-	-		-	-	-	-	-	-	**89.3%**
1/1	Ahead	U	6	N/A	R		1	19	-	400	1965	655	61.1%
1/2	Ahead	U	6	N/A	R		1	19	-	450	2105	702	64.1%
1/3	Right	U	6	N/A	R		1	19	-	519	2105	702	74.0%
1/4	Right	U	6	N/A	R		1	19	-	413	2105	702	58.9%
2/2+2/1	A5095 Rushmere Road Ahead Left	U	6	N/A	S		1	31	-	1280	2004:3600	1433	89.3%
3/1	Ahead	U	1	N/A	A		1	28	-	676	1908	922	73.3%
3/2	Right Ahead	U	1	N/A	A		1	28	-	835	2077	1004	83.2%
3/3	Right	U	1	N/A	A		1	28	-	619	2052	992	62.4%
4/2+4/1	A45 Southbound Offslip Ahead Left	U	1	N/A	B		1	22	-	956	2120:1899	1284	74.5%
4/4+4/3	A45 Southbound Offslip Ahead	U	1	N/A	B		1	22	-	1259	1940:2120	1556	80.9%
5/1	Ahead	U	2	N/A	C		1	34	-	639	1886	1100	58.1%
5/2	Ahead Right	U	2	N/A	C		1	34	-	871	2091	1220	71.4%
5/3	Right	U	2	N/A	C		1	34	-	714	2033	1186	60.2%
5/4	Right	U	2	N/A	C		1	34	-	640	1940	1132	56.6%
6/2+6/1	A428 Bedford Road E Left Ahead	U	2	N/A	D		1	16	-	666	2052:3800	1498	44.4%
7/1	Ahead	U	3	N/A	E		1	41	-	786	1980	1386	56.7%
7/2	Ahead	U	3	N/A	E		1	41	-	593	2120	1484	40.0%
8/1	Ahead	U	4	N/A	G		1	27	-	577	1899	886	65.1%
8/2	Ahead	U	4	N/A	G		1	27	-	765	2043	953	80.2%
8/3	Ahead Ahead2	U	4	N/A	G		1	27	-	809	2106	983	82.3%
9/2+9/1	A45 Northbound Offslip Left	U	4	N/A	H		1	23	-	628	2120:1868	1096	57.3%
9/3+9/4	A45 Northbound Offslip Left Left2	U	4	N/A	H		1	23	-	742	2120:2120	1365	54.4%

10/1	Right	U	5	N/A	O		1	15	-	111	1908	509	21.8%
10/2+10/3	Right Right2	U	5	N/A	O		1	15	-	400	2052:2058	901	44.4%
11/2+11/1	A428 Bedford Road W Ahead Ahead2	U	5	N/A	P		1	35	-	889	2055:1917	1586	56.1%
11/3+11/4	A428 Bedford Road W Ahead	U	5	N/A	P		1	35	-	775	2005:2005	1580	49.0%
12/1		U	N/A	N/A	-		-	-	-	208	Inf	Inf	0.0%
12/2		U	N/A	N/A	-		-	-	-	185	Inf	Inf	0.0%
13/1		U	N/A	N/A	-		-	-	-	482	Inf	Inf	0.0%
13/2		U	N/A	N/A	-		-	-	-	450	Inf	Inf	0.0%
14/1		U	N/A	N/A	-		-	-	-	1218	Inf	Inf	0.0%
14/2		U	N/A	N/A	-		-	-	-	263	Inf	Inf	0.0%
15/1		U	N/A	N/A	-		-	-	-	786	Inf	Inf	0.0%
15/2		U	N/A	N/A	-		-	-	-	593	Inf	Inf	0.0%
16/1		U	N/A	N/A	-		-	-	-	871	Inf	Inf	0.0%
16/2		U	N/A	N/A	-		-	-	-	1099	Inf	Inf	0.0%
16/3		U	N/A	N/A	-		-	-	-	1040	Inf	Inf	0.0%

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network: A45 Barnes Meadow Interchange Sensitivity	**-**	**-**	**0**	**0**	**0**	**45.5**	**28.7**	**0.0**	**74.2**	**-**	**-**	**-**	**-**
Unnamed Junction	**-**	**-**	**0**	**0**	**0**	**45.5**	**28.7**	**0.0**	**74.2**	**-**	**-**	**-**	**-**
1/1	400	400	-	-	-	1.4	0.8	-	2.1	19.2	3.0	0.8	3.8
1/2	450	450	-	-	-	1.5	0.9	-	2.4	19.1	3.0	0.9	3.9
1/3	519	519	-	-	-	1.9	1.4	-	3.3	22.6	7.9	1.4	9.3
1/4	413	413	-	-	-	1.4	0.7	-	2.1	18.1	3.0	0.7	3.8
2/2+2/1	1280	1280	-	-	-	3.1	4.0	-	7.1	20.0	9.2	4.0	13.2
3/1	676	676	-	-	-	1.4	1.4	-	2.8	14.8	9.7	1.4	11.1
3/2	835	835	-	-	-	2.0	2.4	-	4.4	18.9	9.5	2.4	11.9
3/3	619	619	-	-	-	2.5	0.8	-	3.3	19.1	5.8	0.8	6.7
4/2+4/1	956	956	-	-	-	4.0	1.4	-	5.5	20.6	7.7	1.4	9.1
4/4+4/3	1259	1259	-	-	-	5.8	2.1	-	7.9	22.5	9.6	2.1	11.7
5/1	639	639	-	-	-	1.8	0.7	-	2.5	14.1	6.9	0.7	7.6
5/2	871	871	-	-	-	1.9	1.2	-	3.2	13.1	10.1	1.2	11.3
5/3	714	714	-	-	-	0.3	0.8	-	1.1	5.5	0.9	0.8	1.7
5/4	640	640	-	-	-	0.1	0.6	-	0.8	4.4	9.4	0.6	10.1
6/2+6/1	666	666	-	-	-	3.2	0.4	-	3.6	19.6	3.0	0.4	3.4
7/1	786	786	-	-	-	0.7	0.7	-	1.4	6.3	3.1	0.7	3.8
7/2	593	593	-	-	-	0.0	0.3	-	0.3	2.0	0.0	0.3	0.3
8/1	577	577	-	-	-	1.4	0.9	-	2.4	14.7	5.2	0.9	6.1
8/2	765	765	-	-	-	0.4	2.0	-	2.4	11.2	1.3	2.0	3.3
8/3	809	809	-	-	-	0.8	2.3	-	3.1	13.6	3.1	2.3	5.3
9/2+9/1	628	628	-	-	-	2.2	0.7	-	2.9	16.7	3.9	0.7	4.6
9/3+9/4	742	742	-	-	-	2.7	0.6	-	3.3	16.2	5.9	0.6	6.5
10/1	111	111	-	-	-	0.5	0.1	-	0.7	21.8	1.2	0.1	1.4
10/2+10/3	400	400	-	-	-	1.5	0.4	-	1.9	17.4	10.5	0.4	10.9
11/2+11/1	889	889	-	-	-	1.5	0.6	-	2.2	8.8	3.9	0.6	4.5
11/3+11/4	775	775	-	-	-	1.3	0.5	-	1.8	8.2	3.3	0.5	3.8

12/1	208	208	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
12/2	185	185	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
13/1	482	482	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
13/2	450	450	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
14/1	1218	1218	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
14/2	263	263	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
15/1	786	786	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
15/2	593	593	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
16/1	871	871	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
16/2	1099	1099	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
16/3	1040	1040	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

C1	Stream: 1 PRC for Signalled Lanes (%):	8.2	Total Delay for Signalled Lanes (pcuHr):	23.82	Cycle Time (s): 60
C1	Stream: 2 PRC for Signalled Lanes (%):	26.0	Total Delay for Signalled Lanes (pcuHr):	11.16	Cycle Time (s): 60
C1	Stream: 3 PRC for Signalled Lanes (%):	58.7	Total Delay for Signalled Lanes (pcuHr):	1.71	Cycle Time (s): 60
C1	Stream: 4 PRC for Signalled Lanes (%):	9.3	Total Delay for Signalled Lanes (pcuHr):	14.02	Cycle Time (s): 60
C1	Stream: 5 PRC for Signalled Lanes (%):	60.6	Total Delay for Signalled Lanes (pcuHr):	6.54	Cycle Time (s): 60
C1	Stream: 6 PRC for Signalled Lanes (%):	0.8	Total Delay for Signalled Lanes (pcuHr):	16.95	Cycle Time (s): 60
	PRC Over All Lanes (%):	0.8	Total Delay Over All Lanes(pcuHr):	74.20	

Scenario 6: '2021 I1 Dev AM' (FG7: '2021 I1 Dev AM - sensitivity', Plan 1: 'Staging Plan No. 1')

Stage Timings

Stage Stream: 1

Stage	1	2
Duration	31	19
Change Point	0	36

Stage Stream: 2

Stage	1	2
Duration	38	12
Change Point	40	23

Stage Stream: 3

Stage	1	2
Duration	41	5
Change Point	36	26

Stage Stream: 4

Stage	1	2
Duration	15	26
Change Point	42	2

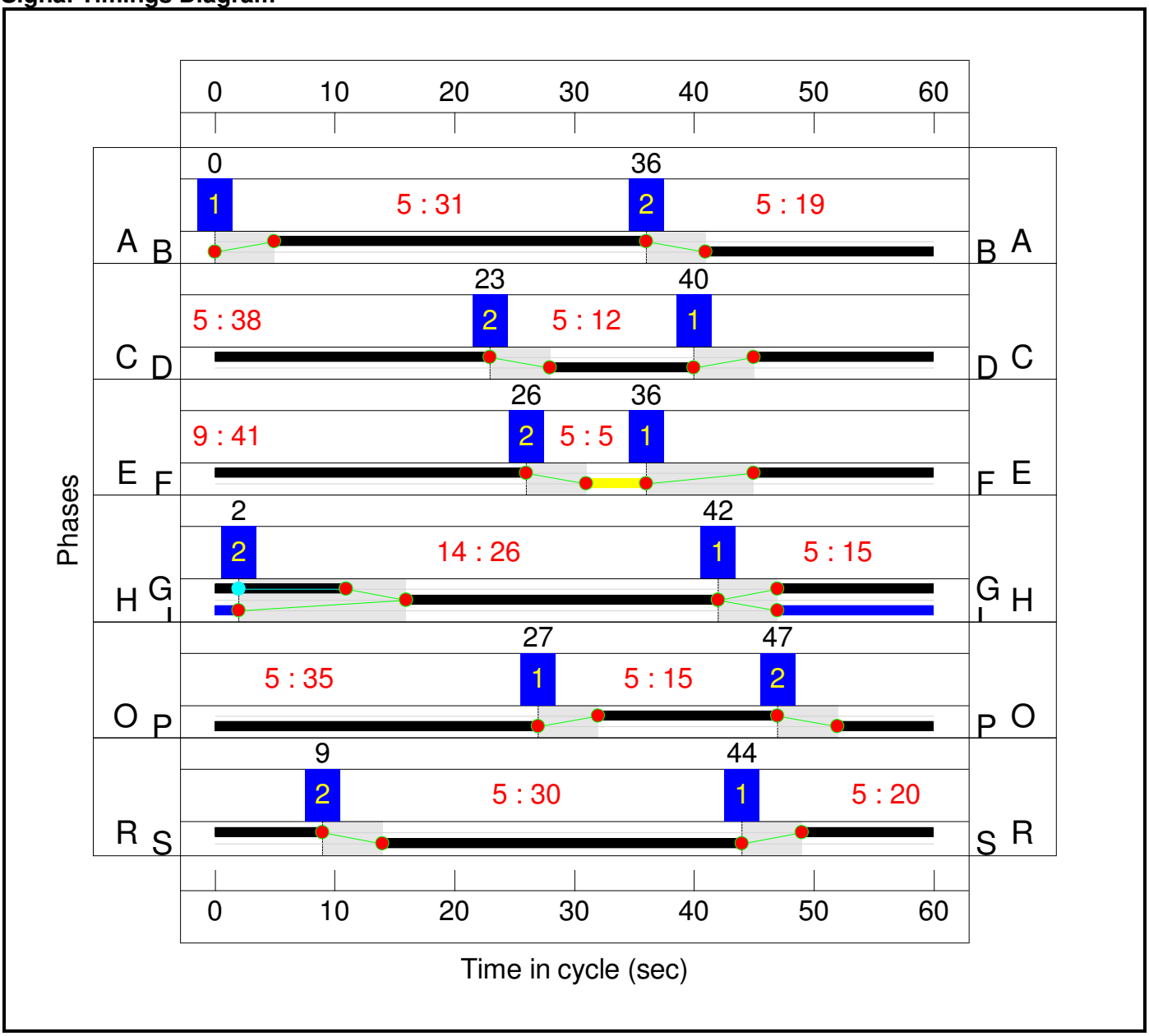
Stage Stream: 5

Stage	1	2
Duration	15	35
Change Point	27	47

Stage Stream: 6

Stage	1	2
Duration	20	30
Change Point	44	9

Signal Timings Diagram



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: A45 Barnes Meadow Interchange Sensitivity	-	-	**N/A**	-	-		-	-	-	-	-	-	**88.6%**
Unnamed Junction	-	-	**N/A**	-	-		-	-	-	-	-	-	**88.6%**
1/1	Ahead	U	6	N/A	R		1	20	-	389	1965	688	56.6%
1/2	Ahead	U	6	N/A	R		1	20	-	443	2105	737	60.1%
1/3	Right	U	6	N/A	R		1	20	-	502	2105	737	68.1%
1/4	Right	U	6	N/A	R		1	20	-	480	2105	737	65.2%
2/2+2/1	A5095 Rushmere Road Ahead Left	U	6	N/A	S		1	30	-	1320	2004:3600	1489	88.6%
3/1	Ahead	U	1	N/A	A		1	31	-	662	1908	1018	65.1%
3/2	Right Ahead	U	1	N/A	A		1	31	-	804	2080	1109	72.5%
3/3	Right	U	1	N/A	A		1	31	-	736	2052	1094	67.3%
4/2+4/1	A45 Southbound Offslip Ahead Left	U	1	N/A	B		1	19	-	1114	2120:1899	1340	83.2%
4/4+4/3	A45 Southbound Offslip Ahead	U	1	N/A	B		1	19	-	1165	1940:2120	1353	86.1%
5/1	Ahead	U	2	N/A	C		1	38	-	718	1886	1226	58.6%
5/2	Ahead Right	U	2	N/A	C		1	38	-	1011	2088	1357	74.5%
5/3	Right	U	2	N/A	C		1	38	-	680	2033	1321	51.5%
5/4	Right	U	2	N/A	C		1	38	-	580	1940	1261	46.0%
6/2+6/1	A428 Bedford Road E Left Ahead	U	2	N/A	D		1	12	-	675	2052:3800	1254	53.8%
7/1	Ahead	U	3	N/A	E		1	41	-	869	1980	1386	62.7%
7/2	Ahead	U	3	N/A	E		1	41	-	648	2120	1484	43.7%
8/1	Ahead	U	4	N/A	G		1	24	-	641	1899	791	81.0%
8/2	Ahead	U	4	N/A	G		1	24	-	738	2043	851	86.7%
8/3	Ahead Ahead2	U	4	N/A	G		1	24	-	768	2104	877	87.6%
9/2+9/1	A45 Northbound Offslip Left	U	4	N/A	H		1	26	-	614	2120:1868	1196	51.3%
9/3+9/4	A45 Northbound Offslip Left Left2	U	4	N/A	H		1	26	-	741	2120:2120	1536	48.2%

10/1	Right	U	5	N/A	O		1	15	-	144	1908	509	28.3%
10/2+10/3	Right Right2	U	5	N/A	O		1	15	-	398	2052:2058	875	45.5%
11/2+11/1	A428 Bedford Road W Ahead Ahead2	U	5	N/A	P		1	35	-	873	2055:1917	1574	55.5%
11/3+11/4	A428 Bedford Road W Ahead	U	5	N/A	P		1	35	-	833	2005:2005	1551	53.7%
12/1		U	N/A	N/A	-		-	-	-	246	Inf	Inf	0.0%
12/2		U	N/A	N/A	-		-	-	-	188	Inf	Inf	0.0%
13/1		U	N/A	N/A	-		-	-	-	489	Inf	Inf	0.0%
13/2		U	N/A	N/A	-		-	-	-	443	Inf	Inf	0.0%
14/1		U	N/A	N/A	-		-	-	-	1197	Inf	Inf	0.0%
14/2		U	N/A	N/A	-		-	-	-	295	Inf	Inf	0.0%
15/1		U	N/A	N/A	-		-	-	-	869	Inf	Inf	0.0%
15/2		U	N/A	N/A	-		-	-	-	648	Inf	Inf	0.0%
16/1		U	N/A	N/A	-		-	-	-	929	Inf	Inf	0.0%
16/2		U	N/A	N/A	-		-	-	-	1064	Inf	Inf	0.0%
16/3		U	N/A	N/A	-		-	-	-	967	Inf	Inf	0.0%

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network: A45 Barnes Meadow Interchange Sensitivity	**-**	**-**	**0**	**0**	**0**	**44.9**	**32.0**	**0.0**	**76.9**	**-**	**-**	**-**	**-**
Unnamed Junction	**-**	**-**	**0**	**0**	**0**	**44.9**	**32.0**	**0.0**	**76.9**	**-**	**-**	**-**	**-**
1/1	389	389	-	-	-	1.2	0.6	-	1.9	17.5	2.8	0.6	3.5
1/2	443	443	-	-	-	1.4	0.8	-	2.1	17.4	2.9	0.8	3.7
1/3	502	502	-	-	-	1.7	1.1	-	2.7	19.7	7.1	1.1	8.1
1/4	480	480	-	-	-	1.5	0.9	-	2.4	18.3	3.3	0.9	4.2
2/2+2/1	1320	1320	-	-	-	3.4	3.7	-	7.1	19.4	7.1	3.7	10.8
3/1	662	662	-	-	-	1.3	0.9	-	2.2	12.0	9.3	0.9	10.2
3/2	804	804	-	-	-	1.6	1.3	-	2.9	12.9	7.7	1.3	9.0
3/3	736	736	-	-	-	1.6	1.0	-	2.6	12.9	6.4	1.0	7.5
4/2+4/1	1114	1114	-	-	-	5.7	2.4	-	8.1	26.3	8.8	2.4	11.3
4/4+4/3	1165	1165	-	-	-	6.1	3.0	-	9.0	28.0	9.5	3.0	12.5
5/1	718	718	-	-	-	1.4	0.7	-	2.1	10.4	8.3	0.7	9.0
5/2	1011	1011	-	-	-	1.3	1.4	-	2.7	9.6	10.0	1.4	11.5
5/3	680	680	-	-	-	0.1	0.5	-	0.7	3.6	0.7	0.5	1.2
5/4	580	580	-	-	-	0.0	0.4	-	0.5	2.8	0.2	0.4	0.7
6/2+6/1	675	675	-	-	-	3.9	0.6	-	4.5	23.9	3.6	0.6	4.2
7/1	869	869	-	-	-	0.4	0.8	-	1.3	5.3	2.5	0.8	3.4
7/2	648	648	-	-	-	0.1	0.4	-	0.5	2.6	0.3	0.4	0.7
8/1	641	641	-	-	-	1.2	2.1	-	3.3	18.4	5.2	2.1	7.2
8/2	738	738	-	-	-	0.7	3.1	-	3.8	18.4	2.0	3.1	5.1
8/3	768	768	-	-	-	0.9	3.3	-	4.2	19.8	3.8	3.3	7.1
9/2+9/1	614	614	-	-	-	1.8	0.5	-	2.4	13.8	3.4	0.5	4.0
9/3+9/4	741	741	-	-	-	2.3	0.5	-	2.8	13.4	5.3	0.5	5.8
10/1	144	144	-	-	-	0.8	0.2	-	1.0	24.7	2.0	0.2	2.2
10/2+10/3	398	398	-	-	-	1.6	0.4	-	2.0	18.2	10.5	0.4	10.9
11/2+11/1	873	873	-	-	-	1.5	0.6	-	2.1	8.7	3.9	0.6	4.5
11/3+11/4	833	833	-	-	-	1.4	0.6	-	2.0	8.6	3.7	0.6	4.3

12/1	246	246	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
12/2	188	188	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
13/1	489	489	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
13/2	443	443	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
14/1	1197	1197	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
14/2	295	295	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
15/1	869	869	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
15/2	648	648	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
16/1	929	929	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
16/2	1064	1064	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
16/3	967	967	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

C1	Stream: 1 PRC for Signalled Lanes (%):	4.5	Total Delay for Signalled Lanes (pcuHr):	24.90	Cycle Time (s): 60
C1	Stream: 2 PRC for Signalled Lanes (%):	20.8	Total Delay for Signalled Lanes (pcuHr):	10.40	Cycle Time (s): 60
C1	Stream: 3 PRC for Signalled Lanes (%):	43.5	Total Delay for Signalled Lanes (pcuHr):	1.75	Cycle Time (s): 60
C1	Stream: 4 PRC for Signalled Lanes (%):	2.7	Total Delay for Signalled Lanes (pcuHr):	16.37	Cycle Time (s): 60
C1	Stream: 5 PRC for Signalled Lanes (%):	62.3	Total Delay for Signalled Lanes (pcuHr):	7.11	Cycle Time (s): 60
C1	Stream: 6 PRC for Signalled Lanes (%):	1.5	Total Delay for Signalled Lanes (pcuHr):	16.34	Cycle Time (s): 60
	PRC Over All Lanes (%):	1.5	Total Delay Over All Lanes(pcuHr):	76.87	

Scenario 7: '2021 C1 Ref PM' (FG6: '2021 C1 Ref PM - sensitvity', Plan 1: 'Staging Plan No. 1')

Stage Timings

Stage Stream: 1

Stage	1	2
Duration	40	10
Change Point	0	45

Stage Stream: 2

Stage	1	2
Duration	24	26
Change Point	49	18

Stage Stream: 3

Stage	1	2
Duration	41	5
Change Point	50	40

Stage Stream: 4

Stage	1	2
Duration	31	10
Change Point	11	47

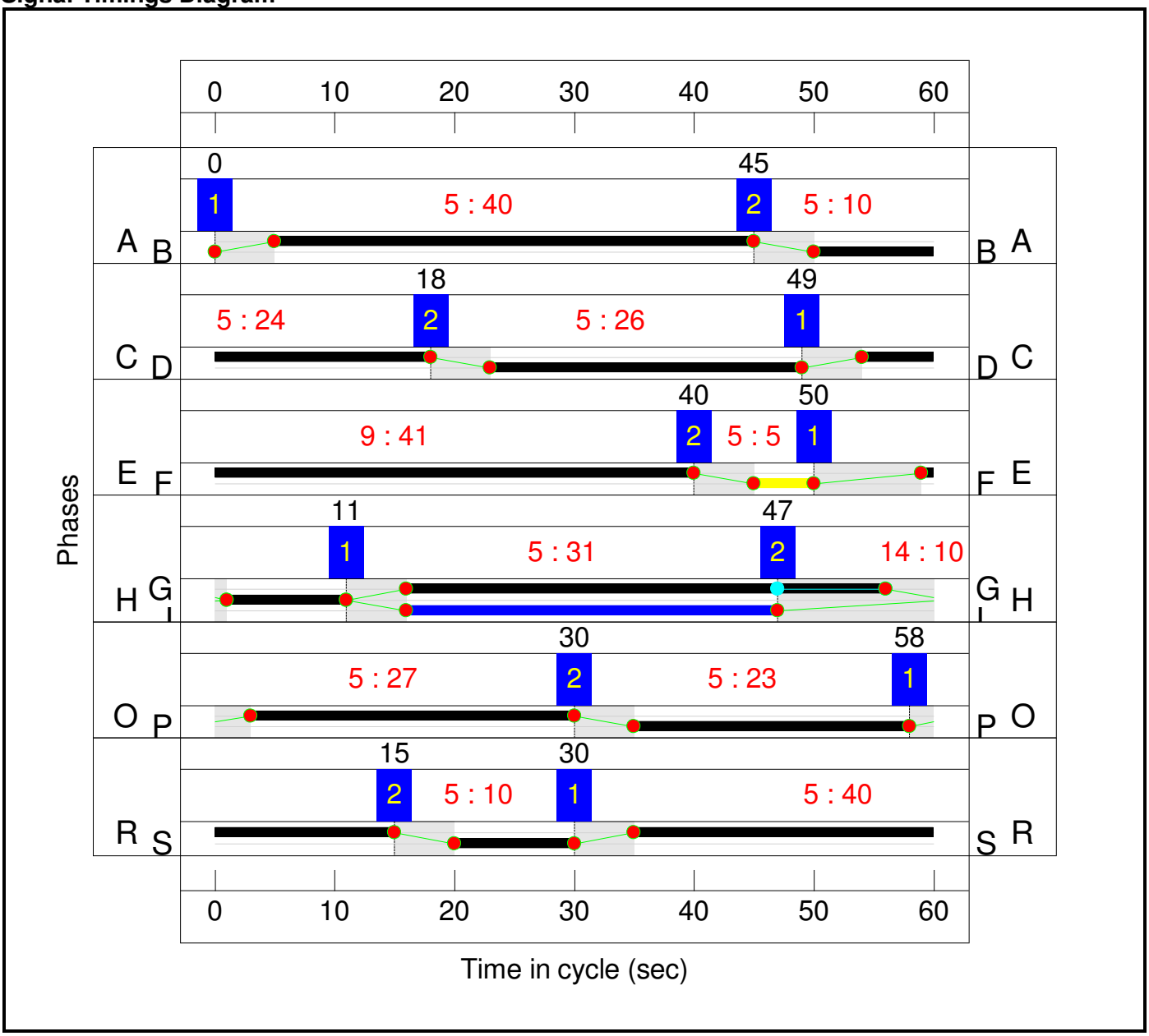
Stage Stream: 5

Stage	1	2
Duration	27	23
Change Point	58	30

Stage Stream: 6

Stage	1	2
Duration	40	10
Change Point	30	15

Signal Timings Diagram



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: A45 Barnes Meadow Interchange Sensitivity	-	-	**N/A**	-	-		-	-	-	-	-	-	**150.6%**
Unnamed Junction	-	-	**N/A**	-	-		-	-	-	-	-	-	**150.6%**
1/1	Ahead	U	6	N/A	R		1	40	-	1084	1965	1343	59.4%
1/2	Ahead	U	6	N/A	R		1	40	-	1187	2105	1438	59.4%
1/3	Right	U	6	N/A	R		1	40	-	387	2105	1438	22.3%
1/4	Right	U	6	N/A	R		1	40	-	861	2105	1438	48.0%
2/2+2/1	A5095 Rushmere Road Ahead Left	U	6	N/A	S		1	10	-	1095	2004:3600	1020	107.4%
3/1	Ahead	U	1	N/A	A		1	40	-	574	1908	1304	38.0%
3/2	Right Ahead	U	1	N/A	A		1	40	-	805	2070	1415	49.1%
3/3	Right	U	1	N/A	A		1	40	-	813	2052	1402	50.0%
4/2+4/1	A45 Southbound Offslip Ahead Left	U	1	N/A	B		1	10	-	696	2120:1899	604	115.1%
4/4+4/3	A45 Southbound Offslip Ahead	U	1	N/A	B		1	10	-	867	1940:2120	744	116.5%
5/1	Ahead	U	2	N/A	C		1	24	-	803	1886	786	87.2%
5/2	Ahead Right	U	2	N/A	C		1	24	-	900	2091	871	89.4%
5/3	Right	U	2	N/A	C		1	24	-	514	2033	847	47.2%
5/4	Right	U	2	N/A	C		1	24	-	581	1940	808	65.3%
6/2+6/1	A428 Bedford Road E Left Ahead	U	2	N/A	D		1	26	-	1638	2052:3800	1087	150.6%
7/1	Ahead	U	3	N/A	E		1	41	-	876	1980	1386	53.0%
7/2	Ahead	U	3	N/A	E		1	41	-	608	2120	1484	36.1%
8/1	Ahead	U	4	N/A	G		1	40	-	651	1899	1298	37.1%
8/2	Ahead	U	4	N/A	G		1	40	-	590	2043	1396	32.3%
8/3	Ahead Ahead2	U	4	N/A	G		1	40	-	1711	2071	1415	90.3%
9/2+9/1	A45 Northbound Offslip Left	U	4	N/A	H		1	10	-	564	2120:1868	664	85.0%
9/3+9/4	A45 Northbound Offslip Left Left2	U	4	N/A	H		1	10	-	649	2120:2120	777	83.5%

10/1	Right	U	5	N/A	O		1	27	-	787	1908	890	65.1%
10/2+10/3	Right Right2	U	5	N/A	O		1	27	-	981	2052:2058	994	76.6%
11/2+11/1	A428 Bedford Road W Ahead Ahead2	U	5	N/A	P		1	23	-	1543	2055:1917	1143	135.0%
11/3+11/4	A428 Bedford Road W Ahead	U	5	N/A	P		1	23	-	1187	2005:2005	950	124.9%
12/1		U	N/A	N/A	-		-	-	-	787	Inf	Inf	0.0%
12/2		U	N/A	N/A	-		-	-	-	192	Inf	Inf	0.0%
13/1		U	N/A	N/A	-		-	-	-	1235	Inf	Inf	0.0%
13/2		U	N/A	N/A	-		-	-	-	1187	Inf	Inf	0.0%
14/1		U	N/A	N/A	-		-	-	-	802	Inf	Inf	0.0%
14/2		U	N/A	N/A	-		-	-	-	155	Inf	Inf	0.0%
15/1		U	N/A	N/A	-		-	-	-	876	Inf	Inf	0.0%
15/2		U	N/A	N/A	-		-	-	-	608	Inf	Inf	0.0%
16/1		U	N/A	N/A	-		-	-	-	915	Inf	Inf	0.0%
16/2		U	N/A	N/A	-		-	-	-	890	Inf	Inf	0.0%
16/3		U	N/A	N/A	-		-	-	-	592	Inf	Inf	0.0%

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network: A45 Barnes Meadow Interchange Sensitivity	**-**	**-**	**0**	**0**	**0**	**103.7**	**782.9**	**0.0**	**886.6**	**-**	**-**	**-**	**-**
Unnamed Junction	**-**	**-**	**0**	**0**	**0**	**103.7**	**782.9**	**0.0**	**886.6**	**-**	**-**	**-**	**-**
1/1	797	797	-	-	-	0.4	0.7	-	1.1	5.0	1.7	0.7	2.4
1/2	855	855	-	-	-	0.5	0.7	-	1.2	5.1	1.7	0.7	2.4
1/3	321	321	-	-	-	0.2	0.1	-	0.4	4.1	0.9	0.1	1.1
1/4	690	690	-	-	-	0.0	0.5	-	0.5	2.5	0.1	0.5	0.5
2/2+2/1	1095	1020	-	-	-	9.4	43.8	-	53.1	174.7	10.1	43.8	53.8
3/1	495	495	-	-	-	1.2	0.3	-	1.5	10.9	5.3	0.3	5.7
3/2	694	694	-	-	-	0.9	0.5	-	1.4	7.2	5.8	0.5	6.3
3/3	701	701	-	-	-	0.8	0.5	-	1.3	6.9	5.7	0.5	6.2
4/2+4/1	696	617	-	-	-	6.4	49.3	-	55.7	288.2	9.1	49.3	58.4
4/4+4/3	867	744	-	-	-	8.2	64.7	-	72.9	302.8	10.0	64.7	74.7
5/1	686	686	-	-	-	2.0	3.2	-	5.2	27.1	7.6	3.2	10.9
5/2	779	779	-	-	-	2.4	3.9	-	6.3	29.0	11.0	3.9	14.9
5/3	400	400	-	-	-	0.1	0.4	-	0.5	4.5	0.3	0.4	0.7
5/4	528	528	-	-	-	0.3	0.9	-	1.3	8.6	0.6	0.9	1.5
6/2+6/1	1638	1087	-	-	-	22.3	276.8	-	299.1	657.3	39.1	276.8	316.0
7/1	734	734	-	-	-	0.1	0.6	-	0.6	3.1	0.3	0.6	0.9
7/2	536	536	-	-	-	0.0	0.3	-	0.3	1.9	0.0	0.3	0.3
8/1	481	481	-	-	-	0.3	0.3	-	0.6	4.4	4.2	0.3	4.5
8/2	451	451	-	-	-	1.4	0.2	-	1.6	12.9	6.7	0.2	6.9
8/3	1278	1278	-	-	-	1.9	4.4	-	6.3	17.7	9.7	4.4	14.1
9/2+9/1	564	564	-	-	-	3.7	2.7	-	6.3	40.4	4.7	2.7	7.4
9/3+9/4	649	640	-	-	-	4.6	2.4	-	7.0	38.9	6.8	2.4	9.2
10/1	580	580	-	-	-	1.7	0.9	-	2.6	16.2	7.4	0.9	8.4
10/2+10/3	762	762	-	-	-	2.5	1.6	-	4.1	19.6	14.0	1.6	15.6
11/2+11/1	1543	1143	-	-	-	20.0	202.1	-	222.2	518.3	31.5	202.1	233.7
11/3+11/4	1187	950	-	-	-	12.5	121.0	-	133.5	404.8	23.0	121.0	144.0

12/1	580	580	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
12/2	191	191	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
13/1	938	938	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
13/2	855	855	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
14/1	723	723	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
14/2	136	136	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
15/1	734	734	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
15/2	536	536	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
16/1	745	745	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
16/2	751	751	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
16/3	576	576	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

C1	Stream: 1	PRC for Signalled Lanes (%):	-29.4	Total Delay for Signalled Lanes (pcuHr):	132.88	Cycle Time (s): 60
C1	Stream: 2	PRC for Signalled Lanes (%):	-67.4	Total Delay for Signalled Lanes (pcuHr):	312.26	Cycle Time (s): 60
C1	Stream: 3	PRC for Signalled Lanes (%):	69.9	Total Delay for Signalled Lanes (pcuHr):	0.92	Cycle Time (s): 60
C1	Stream: 4	PRC for Signalled Lanes (%):	-0.3	Total Delay for Signalled Lanes (pcuHr):	21.83	Cycle Time (s): 60
C1	Stream: 5	PRC for Signalled Lanes (%):	-50.1	Total Delay for Signalled Lanes (pcuHr):	362.39	Cycle Time (s): 60
C1	Stream: 6	PRC for Signalled Lanes (%):	-19.3	Total Delay for Signalled Lanes (pcuHr):	56.30	Cycle Time (s): 60
		PRC Over All Lanes (%):	-67.4	Total Delay Over All Lanes(pcuHr):	886.58	

Scenario 8: '2021 I1 Ref PM' (FG8: '2021 I1 Dev PM - sensitivity', Plan 1: 'Staging Plan No. 1')

Stage Timings

Stage Stream: 1

Stage	1	2
Duration	39	11
Change Point	0	44

Stage Stream: 2

Stage	1	2
Duration	24	26
Change Point	49	18

Stage Stream: 3

Stage	1	2
Duration	41	5
Change Point	50	40

Stage Stream: 4

Stage	1	2
Duration	31	10
Change Point	11	47

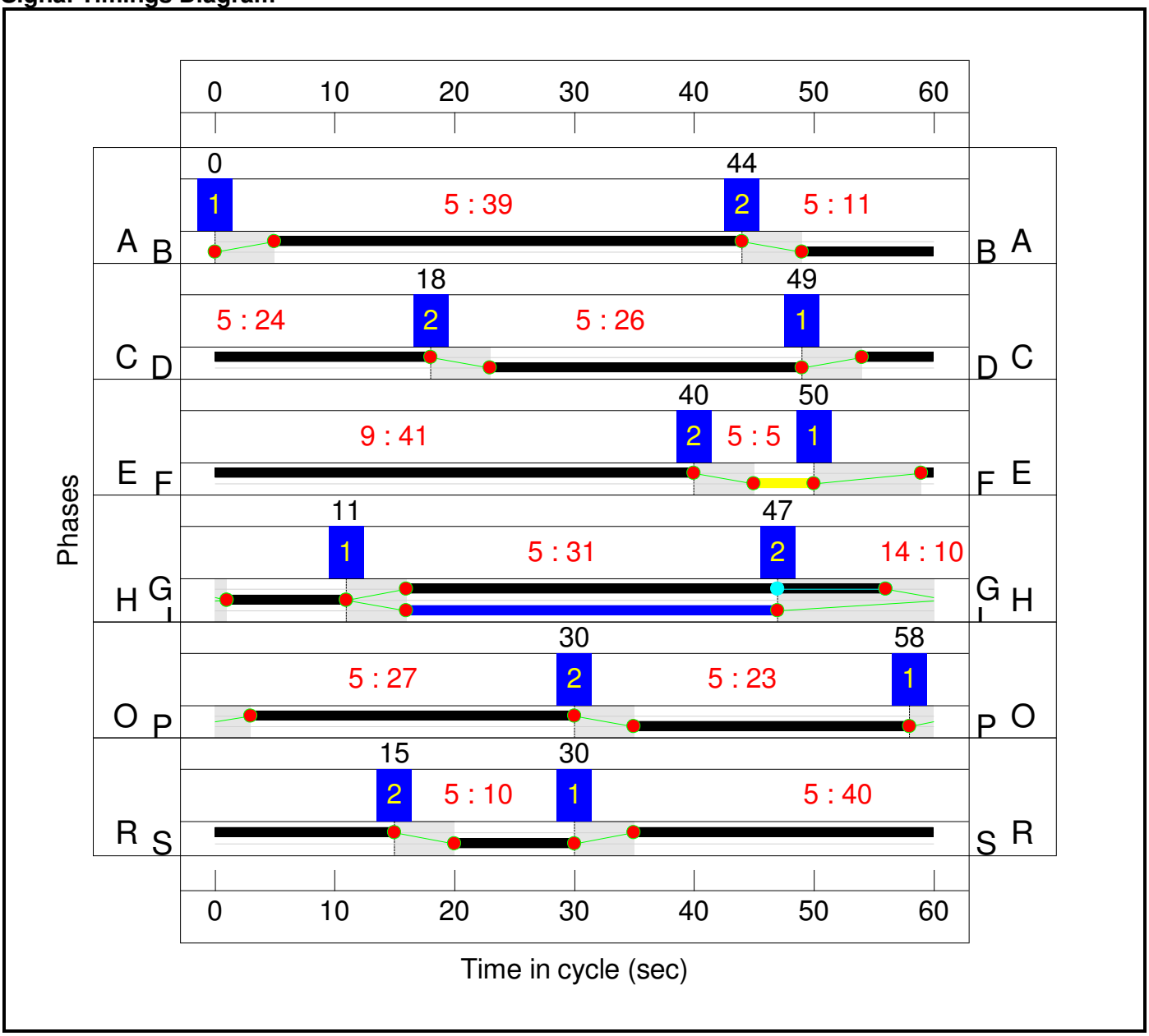
Stage Stream: 5

Stage	1	2
Duration	27	23
Change Point	58	30

Stage Stream: 6

Stage	1	2
Duration	40	10
Change Point	30	15

Signal Timings Diagram



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: A45 Barnes Meadow Interchange Sensitivity	-	-	**N/A**	-	-		-	-	-	-	-	-	**149.8%**
Unnamed Junction	-	-	**N/A**	-	-		-	-	-	-	-	-	**149.8%**
1/1	Ahead	U	6	N/A	R		1	40	-	1048	1965	1343	57.5%
1/2	Ahead	U	6	N/A	R		1	40	-	1154	2105	1438	57.9%
1/3	Right	U	6	N/A	R		1	40	-	413	2105	1438	23.8%
1/4	Right	U	6	N/A	R		1	40	-	860	2105	1438	47.9%
2/2+2/1	A5095 Rushmere Road Ahead Left	U	6	N/A	S		1	10	-	1114	2004:3600	1020	109.2%
3/1	Ahead	U	1	N/A	A		1	39	-	577	1908	1272	38.7%
3/2	Right Ahead	U	1	N/A	A		1	39	-	805	2078	1385	49.6%
3/3	Right	U	1	N/A	A		1	39	-	814	2052	1368	51.0%
4/2+4/1	A45 Southbound Offslip Ahead Left	U	1	N/A	B		1	11	-	671	2120:1899	614	109.2%
4/4+4/3	A45 Southbound Offslip Ahead	U	1	N/A	B		1	11	-	889	1940:2120	812	109.5%
5/1	Ahead	U	2	N/A	C		1	24	-	741	1886	786	81.5%
5/2	Ahead Right	U	2	N/A	C		1	24	-	835	2092	872	85.3%
5/3	Right	U	2	N/A	C		1	24	-	555	2033	847	52.1%
5/4	Right	U	2	N/A	C		1	24	-	580	1940	808	66.1%
6/2+6/1	A428 Bedford Road E Left Ahead	U	2	N/A	D		1	26	-	1636	2052:3800	1092	149.8%
7/1	Ahead	U	3	N/A	E		1	41	-	811	1980	1386	49.6%
7/2	Ahead	U	3	N/A	E		1	41	-	575	2120	1484	34.1%
8/1	Ahead	U	4	N/A	G		1	40	-	631	1899	1298	37.4%
8/2	Ahead	U	4	N/A	G		1	40	-	624	2043	1396	34.9%
8/3	Ahead Ahead2	U	4	N/A	G		1	40	-	1706	2070	1415	90.9%
9/2+9/1	A45 Northbound Offslip Left	U	4	N/A	H		1	10	-	554	2120:1868	663	83.5%
9/3+9/4	A45 Northbound Offslip Left Left2	U	4	N/A	H		1	10	-	652	2120:2120	777	83.9%

10/1	Right	U	5	N/A	O		1	27	-	811	1908	890	66.7%
10/2+10/3	Right Right2	U	5	N/A	O		1	27	-	951	2052:2058	1003	74.7%
11/2+11/1	A428 Bedford Road W Ahead Ahead2	U	5	N/A	P		1	23	-	1529	2055:1917	1129	135.5%
11/3+11/4	A428 Bedford Road W Ahead	U	5	N/A	P		1	23	-	1203	2005:2005	961	125.1%
12/1		U	N/A	N/A	-		-	-	-	816	Inf	Inf	0.0%
12/2		U	N/A	N/A	-		-	-	-	203	Inf	Inf	0.0%
13/1		U	N/A	N/A	-		-	-	-	1239	Inf	Inf	0.0%
13/2		U	N/A	N/A	-		-	-	-	1154	Inf	Inf	0.0%
14/1		U	N/A	N/A	-		-	-	-	785	Inf	Inf	0.0%
14/2		U	N/A	N/A	-		-	-	-	260	Inf	Inf	0.0%
15/1		U	N/A	N/A	-		-	-	-	811	Inf	Inf	0.0%
15/2		U	N/A	N/A	-		-	-	-	575	Inf	Inf	0.0%
16/1		U	N/A	N/A	-		-	-	-	890	Inf	Inf	0.0%
16/2		U	N/A	N/A	-		-	-	-	919	Inf	Inf	0.0%
16/3		U	N/A	N/A	-		-	-	-	596	Inf	Inf	0.0%

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network: A45 Barnes Meadow Interchange Sensitivity	**-**	**-**	**0**	**0**	**0**	**102.2**	**751.1**	**0.0**	**853.3**	**-**	**-**	**-**	**-**
Unnamed Junction	**-**	**-**	**0**	**0**	**0**	**102.2**	**751.1**	**0.0**	**853.3**	**-**	**-**	**-**	**-**
1/1	772	772	-	-	-	0.3	0.7	-	1.0	4.7	1.5	0.7	2.2
1/2	832	832	-	-	-	0.4	0.7	-	1.1	4.7	1.4	0.7	2.1
1/3	342	342	-	-	-	0.2	0.2	-	0.4	4.2	1.0	0.2	1.2
1/4	689	689	-	-	-	0.0	0.5	-	0.5	2.6	0.2	0.5	0.6
2/2+2/1	1114	1020	-	-	-	10.0	52.3	-	62.3	201.4	10.5	52.3	62.9
3/1	492	492	-	-	-	1.3	0.3	-	1.6	11.9	5.7	0.3	6.0
3/2	687	687	-	-	-	0.9	0.5	-	1.4	7.4	5.9	0.5	6.4
3/3	697	697	-	-	-	0.8	0.5	-	1.4	7.0	5.6	0.5	6.1
4/2+4/1	671	632	-	-	-	5.0	33.3	-	38.3	205.6	8.0	33.3	41.3
4/4+4/3	889	778	-	-	-	7.9	43.6	-	51.5	208.5	10.4	43.6	54.0
5/1	641	641	-	-	-	1.6	2.1	-	3.7	20.9	7.3	2.1	9.5
5/2	744	744	-	-	-	2.3	2.8	-	5.1	24.5	10.6	2.8	13.4
5/3	441	441	-	-	-	0.1	0.5	-	0.6	5.0	0.3	0.5	0.8
5/4	535	535	-	-	-	0.3	1.0	-	1.3	8.8	6.0	1.0	6.9
6/2+6/1	1636	1092	-	-	-	22.0	273.3	-	295.3	649.8	38.8	273.3	312.1
7/1	688	688	-	-	-	0.1	0.5	-	0.6	3.0	0.3	0.5	0.8
7/2	506	506	-	-	-	0.0	0.3	-	0.3	1.8	0.0	0.3	0.3
8/1	486	486	-	-	-	0.3	0.3	-	0.6	4.6	4.1	0.3	4.4
8/2	487	487	-	-	-	1.6	0.3	-	1.9	14.0	7.4	0.3	7.6
8/3	1286	1286	-	-	-	2.0	4.7	-	6.7	18.8	9.8	4.7	14.5
9/2+9/1	554	554	-	-	-	3.6	2.4	-	6.0	39.0	4.6	2.4	7.0
9/3+9/4	652	651	-	-	-	4.4	2.5	-	6.9	37.9	6.5	2.5	9.0
10/1	594	594	-	-	-	1.9	1.0	-	2.9	17.8	8.4	1.0	9.4
10/2+10/3	749	749	-	-	-	2.4	1.5	-	3.8	18.3	14.1	1.5	15.6
11/2+11/1	1529	1129	-	-	-	20.0	202.1	-	222.1	522.9	31.5	202.1	233.7
11/3+11/4	1203	961	-	-	-	12.7	123.3	-	136.0	407.0	23.2	123.3	146.5

12/1	598	598	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
12/2	200	200	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
13/1	946	946	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
13/2	832	832	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
14/1	700	700	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
14/2	226	226	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
15/1	688	688	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
15/2	506	506	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
16/1	745	745	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
16/2	782	782	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
16/3	594	594	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

C1	Stream: 1	PRC for Signalled Lanes (%):	-21.6	Total Delay for Signalled Lanes (pcuHr):	94.22	Cycle Time (s): 60
C1	Stream: 2	PRC for Signalled Lanes (%):	-66.4	Total Delay for Signalled Lanes (pcuHr):	305.98	Cycle Time (s): 60
C1	Stream: 3	PRC for Signalled Lanes (%):	81.4	Total Delay for Signalled Lanes (pcuHr):	0.82	Cycle Time (s): 60
C1	Stream: 4	PRC for Signalled Lanes (%):	-1.1	Total Delay for Signalled Lanes (pcuHr):	22.10	Cycle Time (s): 60
C1	Stream: 5	PRC for Signalled Lanes (%):	-50.5	Total Delay for Signalled Lanes (pcuHr):	364.85	Cycle Time (s): 60
C1	Stream: 6	PRC for Signalled Lanes (%):	-21.4	Total Delay for Signalled Lanes (pcuHr):	65.30	Cycle Time (s): 60
		PRC Over All Lanes (%):	-66.4	Total Delay Over All Lanes(pcuHr):	853.28	

APPENDIX E

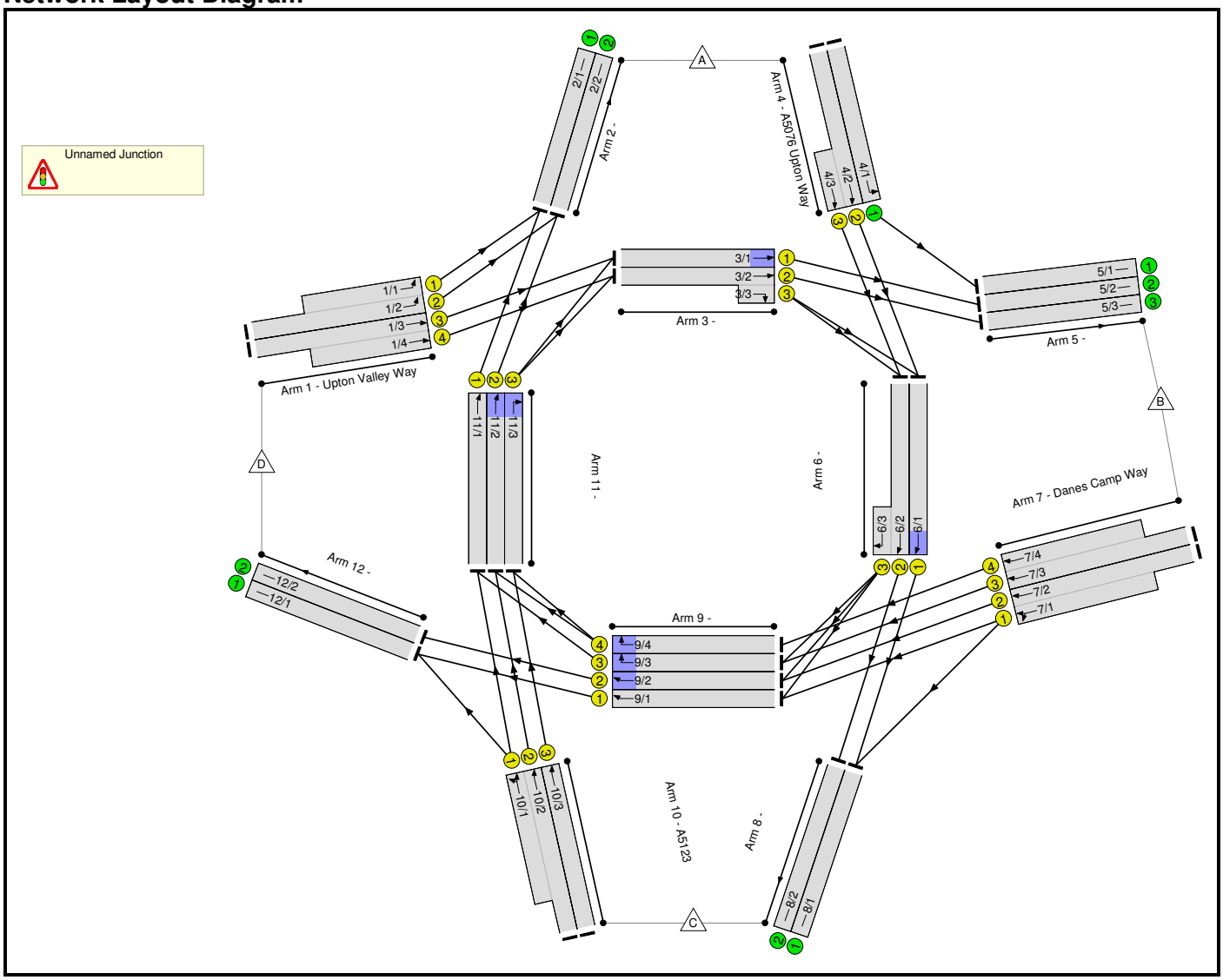
A5076 DANES CAMP WAY/A5123/UPTON VALLEY WAY/ A5076 UPTON WAY GYRATORY SENSITIVITY TEST LINSIG MODEL

Full Input Data And Results

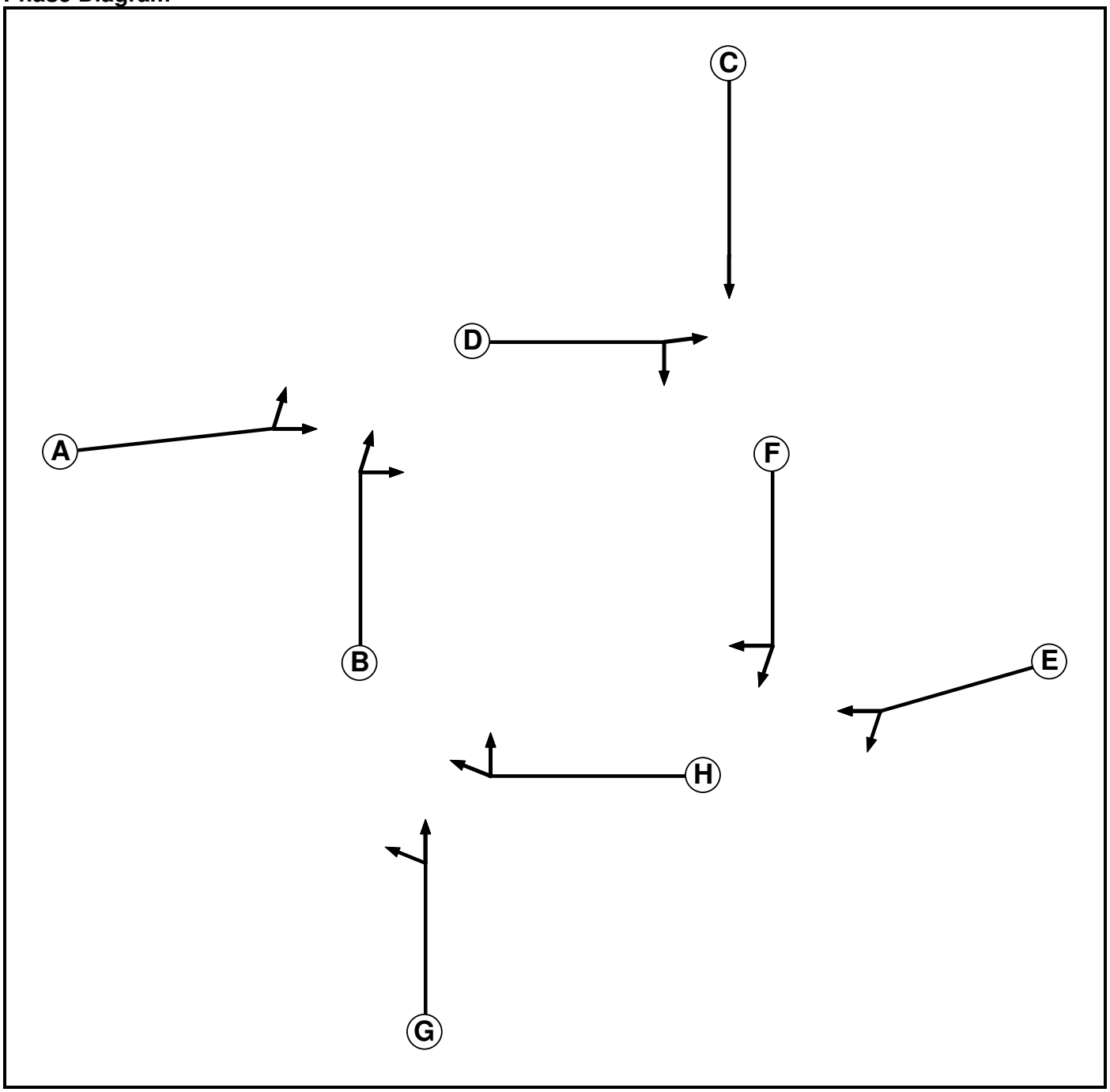
User and Project Details

Project:	**Northampton Gateway SRFI**
Title:	**A5076 Danes Camp Way/A5123 Sensitivity Test**
Location:	
File name:	180320 A5123_A5076 Base Model sensitivity.lsg3x
Author:	Mark Higgins
Company:	ADC Infrastructure
Address:	Western House
Notes:	Evening peak hour senitivity test as per flow adjustmnet in Technical Note 10A

Network Layout Diagram



Phase Diagram



Phase Input Data

Phase Name	Phase Type	Stage Stream	Assoc. Phase	Street Min	Cont Min
A	Traffic	1		7	7
B	Traffic	1		7	7
C	Traffic	2		7	7
D	Traffic	2		7	7
E	Traffic	3		7	7
F	Traffic	3		7	7
G	Traffic	4		7	7
H	Traffic	4		7	7

Phase Intergreens Matrix

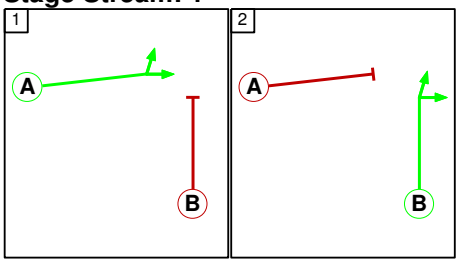
		Starting Phase							
		A	B	C	D	E	F	G	H
Terminating Phase	A		6	-	-	-	-	-	-
	B	6		-	-	-	-	-	-
	C	-	-		6	-	-	-	-
	D	-	-	6		-	-	-	-
	E	-	-	-	-		6	-	-
	F	-	-	-	-	6		-	-
	G	-	-	-	-	-	-		6
	H	-	-	-	-	-	-	6	

Phases in Stage

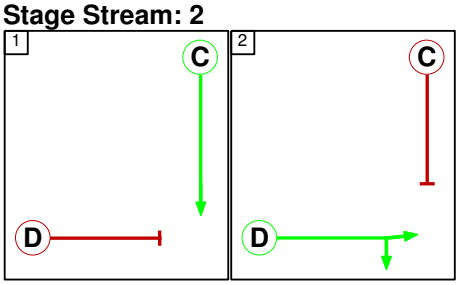
Stream	Stage No.	Phases in Stage
1	1	A
1	2	B
2	1	C
2	2	D
3	1	E
3	2	F
4	1	G
4	2	H

Stage Diagram

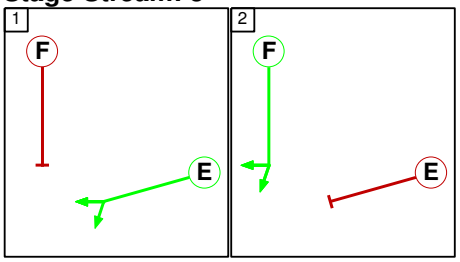
Stage Stream: 1



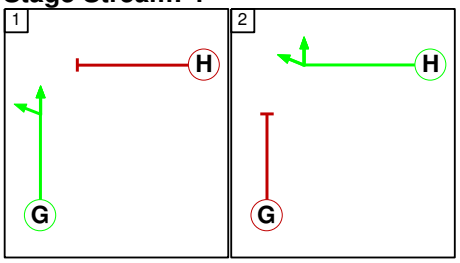
Stage Stream: 2



Stage Stream: 3



Stage Stream: 4



Prohibited Stage Change

Stage Stream: 1

	To Stage		
		1	2
From Stage	1		6
	2	6	

Stage Stream: 2

	To Stage		
		1	2
From Stage	1		6
	2	6	

Stage Stream: 3

	To Stage		
		1	2
From Stage	1		6
	2	6	

Stage Stream: 4

	To Stage		
		1	2
From Stage	1		6
	2	6	

Lane Input Data

Junction: Unnamed Junction												
Lane	**Lane Type**	**Phases**	**Start Disp.**	**End Disp.**	**Physical Length (PCU)**	**Sat Flow Type**	**Def User Saturation Flow (PCU/Hr)**	**Lane Width (m)**	**Gradient**	**Nearside Lane**	**Turns**	**Turning Radius (m)**
1/1 (Upton Valley Way)	U	A	2	3	10.0	Geom	-	3.55	0.00	Y	Arm 2 Left	Inf
1/2 (Upton Valley Way)	U	A	2	3	60.0	Geom	-	3.50	0.00	N	Arm 2 Left	Inf
1/3 (Upton Valley Way)	U	A	2	3	60.0	Geom	-	3.50	0.00	N	Arm 3 Ahead	Inf
1/4 (Upton Valley Way)	U	A	2	3	10.0	Geom	-	3.50	0.00	Y	Arm 3 Ahead	Inf
2/1	U		2	3	5.0	Inf	-	-	-	-	-	-
2/2	U		2	3	5.0	Inf	-	-	-	-	-	-
3/1	U	D	2	3	10.4	User	1900	-	-	-	-	-
3/2	U	D	2	3	10.4	User	1900	-	-	-	-	-
3/3	U	D	2	3	3.0	User	1900	-	-	-	-	-
4/1 (A5076 Upton Way)	U		2	3	60.0	Inf	-	-	-	-	-	-
4/2 (A5076 Upton Way)	U	C	2	3	60.0	Geom	-	3.50	0.00	Y	Arm 6 Ahead	Inf
4/3 (A5076 Upton Way)	U	C	2	3	5.0	Geom	-	3.50	0.00	Y	Arm 6 Ahead	Inf
5/1	U		2	3	5.0	Inf	-	-	-	-	-	-
5/2	U		2	3	5.0	Inf	-	-	-	-	-	-
5/3	U		2	3	5.0	Inf	-	-	-	-	-	-
6/1	U	F	2	3	7.8	User	1900	-	-	-	-	-
6/2	U	F	2	3	7.8	User	1900	-	-	-	-	-
6/3	U	F	2	3	4.0	User	1900	-	-	-	-	-
7/1 (Danes Camp Way)	U	E	2	3	12.0	Geom	-	3.50	0.00	Y	Arm 8 Left	Inf
											Arm 9 Ahead	Inf
7/2 (Danes Camp Way)	U	E	2	3	60.0	Geom	-	3.50	0.00	N	Arm 9 Ahead	Inf
7/3 (Danes Camp Way)	U	E	2	3	60.0	Geom	-	3.50	0.00	N	Arm 9 Ahead	Inf
7/4 (Danes Camp Way)	U	E	2	3	12.0	Geom	-	3.50	0.00	Y	Arm 9 Ahead	Inf
8/1	U		2	3	5.0	Inf	-	-	-	-	-	-
8/2	U		2	3	5.0	Inf	-	-	-	-	-	-

9/1	U	H	2	3	9.6	User	1900	-	-	-	-	-
9/2	U	H	2	3	9.6	User	1900	-	-	-	-	-
9/3	U	H	2	3	9.6	User	1900	-	-	-	-	-
9/4	U	H	2	3	9.6	User	1900	-	-	-	-	-
10/1 (A5123)	U	G	2	3	18.0	Geom	-	3.50	0.00	Y	Arm 11 Ahead Arm 12 Left	Inf Inf
10/2 (A5123)	U	G	2	3	60.0	Geom	-	3.50	0.00	N	Arm 11 Ahead	Inf
10/3 (A5123)	U	G	2	3	60.0	Geom	-	3.50	0.00	Y	Arm 11 Ahead	Inf
11/1	U	B	2	3	12.2	User	1900	-	-	-	-	-
11/2	U	B	2	3	12.2	User	1900	-	-	-	-	-
11/3	U	B	2	3	12.2	User	1900	-	-	-	-	-
12/1	U		2	3	5.0	Inf	-	-	-	-	-	-
12/2	U		2	3	5.0	Inf	-	-	-	-	-	-

Traffic Flow Groups

Flow Group	Start Time	End Time	Duration	Formula
2: '2031 D1 PM Peak - sensitivity'	17:00	18:00	01:00	
4: '2031 J1d PM Peak - sensitivity'	17:00	18:00	01:00	

Scenario 1: '2031 D1 PM Peak' (FG2: '2031 D1 PM Peak - sensitivity', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

		Destination				
		A	B	C	D	Tot.
Origin	A	0	1490	619	115	2224
	B	1307	0	743	373	2423
	C	1110	820	0	95	2025
	D	130	161	33	6	330
	Tot.	2547	2471	1395	589	7002

Traffic Lane Flows

Lane	Scenario 1: 2031 D1 PM Peak
Junction: Unnamed Junction	
1/1 (short)	63
1/2 (with short)	130(In) 67(Out)
1/3 (with short)	200(In) 82(Out)
1/4 (short)	118
2/1	1227
2/2	1320
3/1	507
3/2 (with short)	513(In) 474(Out)
3/3 (short)	39
4/1	1490
4/2 (with short)	734(In) 358(Out)
4/3 (short)	376
5/1	1490
5/2	507
5/3	474
6/1	358
6/2 (with short)	415(In) 294(Out)
6/3 (short)	121
7/1 (short)	743
7/2 (with short)	1116(In) 373(Out)
7/3 (with short)	1307(In) 676(Out)
7/4 (short)	631
8/1	1101
8/2	294
9/1	121
9/2	373
9/3	676
9/4	631
10/1 (short)	583
10/2 (with short)	1205(In) 622(Out)
10/3	820
11/1	1164

11/2	1253
11/3	820
12/1	216
12/2	373

Lane Saturation Flows

Junction: Unnamed Junction								
Lane	**Lane Width (m)**	**Gradient**	**Nearside Lane**	**Allowed Turns**	**Turning Radius (m)**	**Turning Prop.**	**Sat Flow (PCU/Hr)**	**Flared Sat Flow (PCU/Hr)**
1/1 (Upton Valley Way)	3.55	0.00	Y	Arm 2 Left	Inf	100.0 %	1970	1970
1/2 (Upton Valley Way)	3.50	0.00	N	Arm 2 Left	Inf	100.0 %	2105	2105
1/3 (Upton Valley Way)	3.50	0.00	N	Arm 3 Ahead	Inf	100.0 %	2105	2105
1/4 (Upton Valley Way)	3.50	0.00	Y	Arm 3 Ahead	Inf	100.0 %	1965	1965
2/1	Infinite Saturation Flow						Inf	Inf
2/2	Infinite Saturation Flow						Inf	Inf
3/1	This lane uses a directly entered Saturation Flow						1900	1900
3/2	This lane uses a directly entered Saturation Flow						1900	1900
3/3	This lane uses a directly entered Saturation Flow						1900	1900
4/1 (A5076 Upton Way Lane 1)	Infinite Saturation Flow						Inf	Inf
4/2 (A5076 Upton Way)	3.50	0.00	Y	Arm 6 Ahead	Inf	100.0 %	1965	1965
4/3 (A5076 Upton Way)	3.50	0.00	Y	Arm 6 Ahead	Inf	100.0 %	1965	1965
5/1	Infinite Saturation Flow						Inf	Inf
5/2	Infinite Saturation Flow						Inf	Inf
5/3	Infinite Saturation Flow						Inf	Inf
6/1	This lane uses a directly entered Saturation Flow						1900	1900
6/2	This lane uses a directly entered Saturation Flow						1900	1900
6/3	This lane uses a directly entered Saturation Flow						1900	1900
7/1 (Danes Camp Way)	3.50	0.00	Y	Arm 8 Left	Inf	100.0 %	1965	1965
				Arm 9 Ahead	Inf	0.0 %		
7/2 (Danes Camp Way)	3.50	0.00	N	Arm 9 Ahead	Inf	100.0 %	2105	2105
7/3 (Danes Camp Way)	3.50	0.00	N	Arm 9 Ahead	Inf	100.0 %	2105	2105
7/4 (Danes Camp Way)	3.50	0.00	Y	Arm 9 Ahead	Inf	100.0 %	1965	1965
8/1	Infinite Saturation Flow						Inf	Inf
8/2	Infinite Saturation Flow						Inf	Inf
9/1	This lane uses a directly entered Saturation Flow						1900	1900
9/2	This lane uses a directly entered Saturation Flow						1900	1900
9/3	This lane uses a directly entered Saturation Flow						1900	1900
9/4	This lane uses a directly entered Saturation Flow						1900	1900
10/1 (A5123)	3.50	0.00	Y	Arm 11 Ahead	Inf	83.7 %	1965	1965
				Arm 12 Left	Inf	16.3 %		
10/2 (A5123)	3.50	0.00	N	Arm 11 Ahead	Inf	100.0 %	2105	2105

10/3 (A5123)	3.50	0.00	Y	Arm 11 Ahead	Inf	100.0 %	1965	1965
11/1	This lane uses a directly entered Saturation Flow						1900	1900
11/2	This lane uses a directly entered Saturation Flow						1900	1900
11/3	This lane uses a directly entered Saturation Flow						1900	1900
12/1	Infinite Saturation Flow						Inf	Inf
12/2	Infinite Saturation Flow						Inf	Inf

Scenario 2: '2031 J1d PM Peak' (FG4: '2031 J1d PM Peak - sensitivity', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

		Destination				
		A	B	C	D	Tot.
Origin	A	0	1494	608	123	2225
	B	1266	0	741	394	2401
	C	1224	903	0	105	2232
	D	151	111	27	4	293
	Tot.	2641	2508	1376	626	7151

Traffic Lane Flows

Lane	Scenario 2: 2031 J1d PM Peak
Junction: Unnamed Junction	
1/1 (short)	73
1/2 (with short)	151(In) 78(Out)
1/3 (with short)	142(In) 58(Out)
1/4 (short)	84
2/1	1287
2/2	1354
3/1	527
3/2 (with short)	518(In) 487(Out)
3/3 (short)	31
4/1	1494
4/2 (with short)	731(In) 357(Out)
4/3 (short)	374
5/1	1494
5/2	527
5/3	487
6/1	357
6/2 (with short)	405(In) 278(Out)
6/3 (short)	127
7/1 (short)	741
7/2 (with short)	1135(In) 394(Out)
7/3 (with short)	1266(In) 655(Out)
7/4 (short)	611
8/1	1098
8/2	278
9/1	124
9/2	397
9/3	655
9/4	611
10/1 (short)	664
10/2 (with short)	1329(In) 665(Out)
10/3	903
11/1	1214

11/2	1276
11/3	903
12/1	229
12/2	397

Lane Saturation Flows

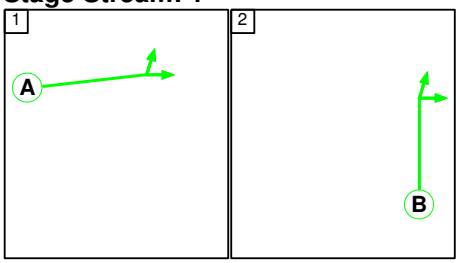
Junction: Unnamed Junction								
Lane	**Lane Width (m)**	**Gradient**	**Nearside Lane**	**Allowed Turns**	**Turning Radius (m)**	**Turning Prop.**	**Sat Flow (PCU/Hr)**	**Flared Sat Flow (PCU/Hr)**
1/1 (Upton Valley Way)	3.55	0.00	Y	Arm 2 Left	Inf	100.0 %	1970	1970
1/2 (Upton Valley Way)	3.50	0.00	N	Arm 2 Left	Inf	100.0 %	2105	2105
1/3 (Upton Valley Way)	3.50	0.00	N	Arm 3 Ahead	Inf	100.0 %	2105	2105
1/4 (Upton Valley Way)	3.50	0.00	Y	Arm 3 Ahead	Inf	100.0 %	1965	1965
2/1	Infinite Saturation Flow						Inf	Inf
2/2	Infinite Saturation Flow						Inf	Inf
3/1	This lane uses a directly entered Saturation Flow						1900	1900
3/2	This lane uses a directly entered Saturation Flow						1900	1900
3/3	This lane uses a directly entered Saturation Flow						1900	1900
4/1 (A5076 Upton Way Lane 1)	Infinite Saturation Flow						Inf	Inf
4/2 (A5076 Upton Way)	3.50	0.00	Y	Arm 6 Ahead	Inf	100.0 %	1965	1965
4/3 (A5076 Upton Way)	3.50	0.00	Y	Arm 6 Ahead	Inf	100.0 %	1965	1965
5/1	Infinite Saturation Flow						Inf	Inf
5/2	Infinite Saturation Flow						Inf	Inf
5/3	Infinite Saturation Flow						Inf	Inf
6/1	This lane uses a directly entered Saturation Flow						1900	1900
6/2	This lane uses a directly entered Saturation Flow						1900	1900
6/3	This lane uses a directly entered Saturation Flow						1900	1900
7/1 (Danes Camp Way)	3.50	0.00	Y	Arm 8 Left	Inf	100.0 %	1965	1965
				Arm 9 Ahead	Inf	0.0 %		
7/2 (Danes Camp Way)	3.50	0.00	N	Arm 9 Ahead	Inf	100.0 %	2105	2105
7/3 (Danes Camp Way)	3.50	0.00	N	Arm 9 Ahead	Inf	100.0 %	2105	2105
7/4 (Danes Camp Way)	3.50	0.00	Y	Arm 9 Ahead	Inf	100.0 %	1965	1965
8/1	Infinite Saturation Flow						Inf	Inf
8/2	Infinite Saturation Flow						Inf	Inf
9/1	This lane uses a directly entered Saturation Flow						1900	1900
9/2	This lane uses a directly entered Saturation Flow						1900	1900
9/3	This lane uses a directly entered Saturation Flow						1900	1900
9/4	This lane uses a directly entered Saturation Flow						1900	1900
10/1 (A5123)	3.50	0.00	Y	Arm 11 Ahead	Inf	84.2 %	1965	1965
				Arm 12 Left	Inf	15.8 %		
10/2 (A5123)	3.50	0.00	N	Arm 11 Ahead	Inf	100.0 %	2105	2105

10/3 (A5123)	3.50	0.00	Y	Arm 11 Ahead	Inf	100.0 %	1965	1965
11/1	This lane uses a directly entered Saturation Flow						1900	1900
11/2	This lane uses a directly entered Saturation Flow						1900	1900
11/3	This lane uses a directly entered Saturation Flow						1900	1900
12/1	Infinite Saturation Flow						Inf	Inf
12/2	Infinite Saturation Flow						Inf	Inf

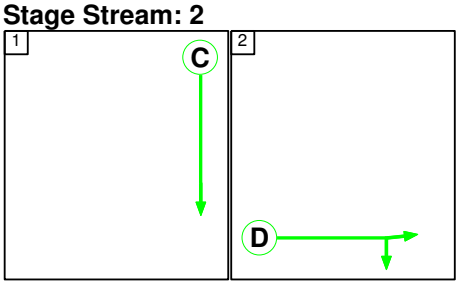
Scenario 1: '2031 D1 PM Peak' (FG2: '2031 D1 PM Peak - sensitivity', Plan 1: 'Network Control Plan 1')

Stage Sequence Diagram

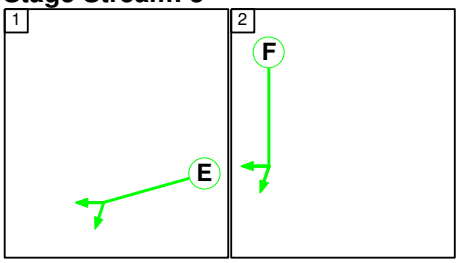
Stage Stream: 1



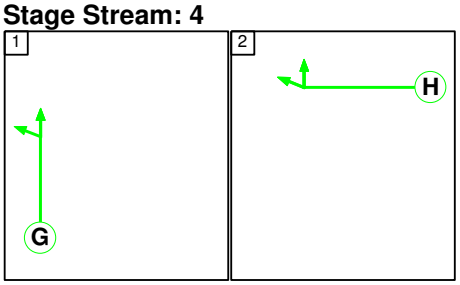
Stage Stream: 2



Stage Stream: 3



Stage Stream: 4



Stage Timings

Stage Stream: 1

Stage	1	2
Duration	7	41
Change Point	0	13

Stage Stream: 2

Stage	1	2
Duration	14	34
Change Point	37	57

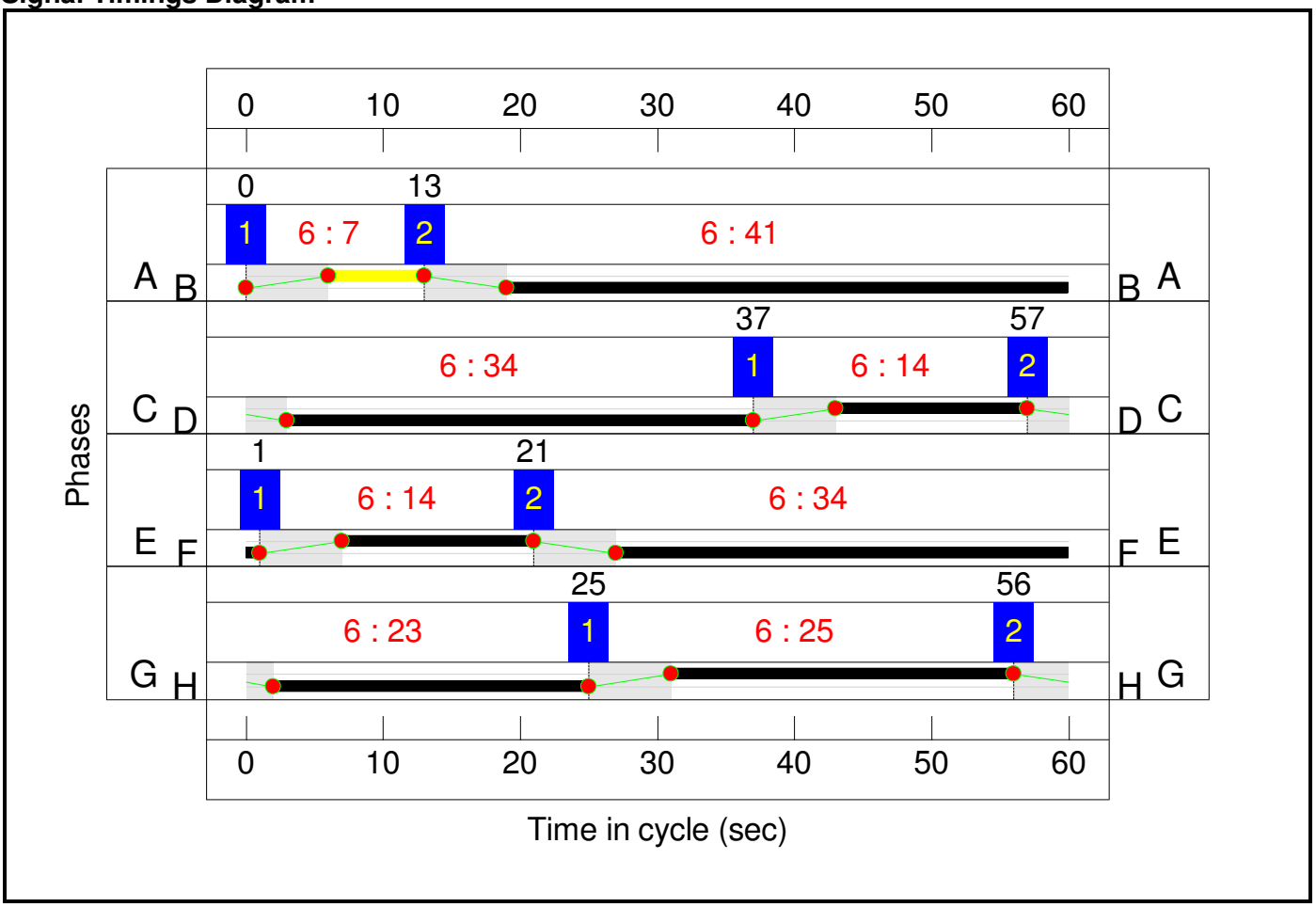
Stage Stream: 3

Stage	1	2
Duration	14	34
Change Point	1	21

Stage Stream: 4

Stage	1	2
Duration	25	23
Change Point	25	56

Signal Timings Diagram



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: A5076 Danes Camp Way/A5123 Sensitivity Test	-	-	**N/A**	-	-		-	-	-	-	-	-	**151.2%**
Unnamed Junction	-	-	**N/A**	-	-		-	-	-	-	-	-	**151.2%**
1/2+1/1	Upton Valley Way Left	U	1	N/A	A		1	7	-	130	2105:1970	281+263	23.9 : 24.0%
1/3+1/4	Upton Valley Way Ahead	U	1	N/A	A		1	7	-	200	2105:1965	281+262	29.2 : 45.0%
3/1	Ahead	U	2	N/A	D		1	34	-	507	1900	1108	45.7%
3/2+3/3	Ahead Right	U	2	N/A	D		1	34	-	513	1900:1900	1029+85	46.1 : 46.1%
4/2+4/3	A5076 Upton Way Ahead	U	2	N/A	C		1	14	-	734	1965:1965	381+401	93.8 : 93.8%
6/1	Ahead	U	3	N/A	F		1	34	-	358	1900	1108	32.3%
6/2+6/3	Ahead Right	U	3	N/A	F		1	34	-	415	1900:1900	846+348	34.8 : 34.8%
7/2+7/1	Danes Camp Way Left Ahead	U	3	N/A	E		1	14	-	1116	2105:1965	247+491	151.2 : 151.2%
7/3+7/4	Danes Camp Way Ahead	U	3	N/A	E		1	14	-	1307	2105:1965	526+491	128.5 : 128.4%
9/1	Ahead	U	4	N/A	H		1	23	-	121	1900	760	15.9%
9/2	Ahead	U	4	N/A	H		1	23	-	373	1900	760	32.4%
9/3	Right	U	4	N/A	H		1	23	-	676	1900	760	69.2%
9/4	Right	U	4	N/A	H		1	23	-	631	1900	760	64.6%
10/2+10/1	A5123 Ahead Left	U	4	N/A	G		1	25	-	1205	2105:1965	912+852	68.2 : 68.5%
10/3	A5123 Ahead	U	4	N/A	G		1	25	-	820	1965	852	96.3%
11/1	Ahead	U	1	N/A	B		1	41	-	1164	1900	1330	76.3%
11/2	Ahead	U	1	N/A	B		1	41	-	1253	1900	1330	83.7%
11/3	Right	U	1	N/A	B		1	41	-	820	1900	1330	61.7%

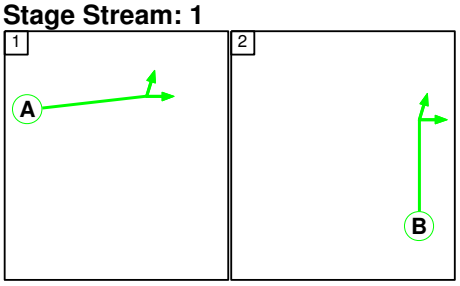
Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network: A5076 Danes Camp Way/A5123 Sensitivity Test	**-**	**-**	**0**	**0**	**0**	**52.7**	**362.2**	**0.0**	**414.9**	**-**	**-**	**-**	**-**
Unnamed Junction	**-**	**-**	**0**	**0**	**0**	**52.7**	**362.2**	**0.0**	**414.9**	**-**	**-**	**-**	**-**
1/2+1/1	130	130	-	-	-	0.8	0.2	-	1.0	27.7	1.0	0.2	1.1
1/3+1/4	200	200	-	-	-	1.3	0.3	-	1.6	29.0	1.8	0.3	2.1
3/1	507	507	-	-	-	1.3	0.4	-	1.7	12.3	3.6	0.4	4.0
3/2+3/3	513	513	-	-	-	1.2	0.4	-	1.6	11.4	5.2	0.4	5.6
4/2+4/3	734	734	-	-	-	4.3	6.1	-	10.3	50.7	6.9	6.1	12.9
6/1	358	358	-	-	-	0.0	0.2	-	0.2	2.5	0.1	0.2	0.4
6/2+6/3	415	415	-	-	-	0.1	0.3	-	0.4	3.5	9.3	0.3	9.5
7/2+7/1	1116	738	-	-	-	15.8	190.5	-	206.3	665.6	22.0	190.5	212.5
7/3+7/4	1307	1017	-	-	-	16.5	147.0	-	163.5	450.4	18.7	147.0	165.6
9/1	121	121	-	-	-	0.3	0.1	-	0.4	10.9	2.0	0.1	2.1
9/2	246	246	-	-	-	0.0	0.2	-	0.3	3.9	0.4	0.2	0.6
9/3	526	526	-	-	-	0.6	1.1	-	1.7	12.0	0.9	1.1	2.0
9/4	491	491	-	-	-	0.2	0.9	-	1.1	8.1	0.3	0.9	1.2
10/2+10/1	1205	1205	-	-	-	4.6	1.1	-	5.7	16.9	8.3	1.1	9.4
10/3	820	820	-	-	-	3.8	8.5	-	12.2	53.7	13.2	8.5	21.7
11/1	1014	1014	-	-	-	0.9	1.6	-	2.4	8.7	8.9	1.6	10.5
11/2	1113	1113	-	-	-	0.7	2.5	-	3.2	10.5	8.4	2.5	10.9
11/3	820	820	-	-	-	0.2	0.8	-	1.0	4.6	0.5	0.8	1.3

C1	Stream: 1 PRC for Signalled Lanes (%):	7.5	Total Delay for Signalled Lanes (pcuHr):	9.33	Cycle Time (s): 60
C1	Stream: 2 PRC for Signalled Lanes (%):	-4.3	Total Delay for Signalled Lanes (pcuHr):	13.69	Cycle Time (s): 60
C1	Stream: 3 PRC for Signalled Lanes (%):	-68.1	Total Delay for Signalled Lanes (pcuHr):	370.50	Cycle Time (s): 60
C1	Stream: 4 PRC for Signalled Lanes (%):	-7.0	Total Delay for Signalled Lanes (pcuHr):	21.37	Cycle Time (s): 60
	PRC Over All Lanes (%):	-68.1	Total Delay Over All Lanes(pcuHr):	414.90	

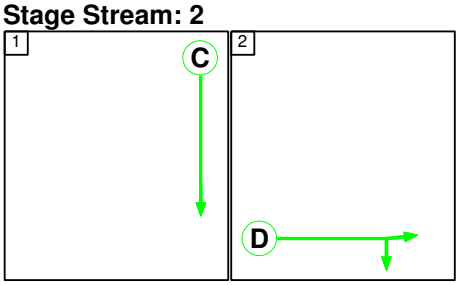
Scenario 2: '2031 J1d PM Peak' (FG4: '2031 J1d PM Peak - sensitivity', Plan 1: 'Network Control Plan 1')

Stage Sequence Diagram

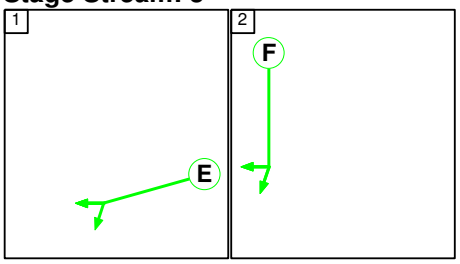
Stage Stream: 1



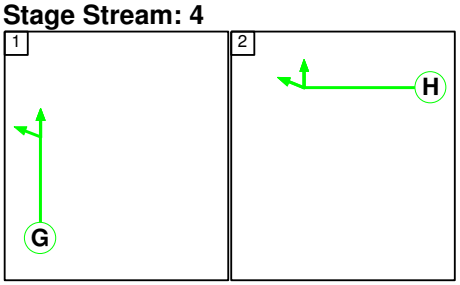
Stage Stream: 2



Stage Stream: 3



Stage Stream: 4



Stage Timings

Stage Stream: 1

Stage	1	2
Duration	7	41
Change Point	0	13

Stage Stream: 2

Stage	1	2
Duration	14	34
Change Point	37	57

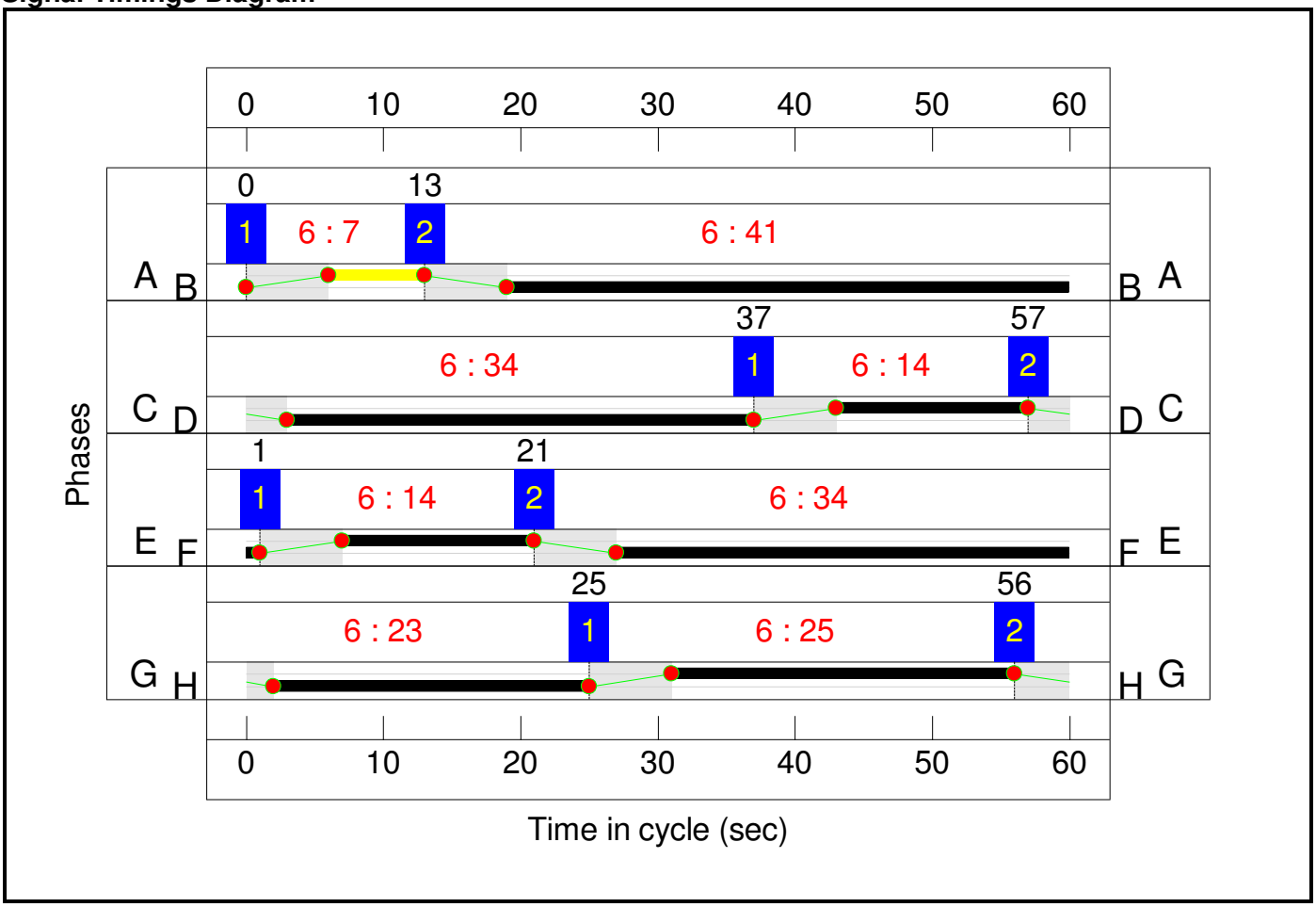
Stage Stream: 3

Stage	1	2
Duration	14	34
Change Point	1	21

Stage Stream: 4

Stage	1	2
Duration	25	23
Change Point	25	56

Signal Timings Diagram



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: A5076 Danes Camp Way/A5123 Sensitivity Test	-	-	**N/A**	-	-		-	-	-	-	-	-	**150.8%**
Unnamed Junction	-	-	**N/A**	-	-		-	-	-	-	-	-	**150.8%**
1/2+1/1	Upton Valley Way Left	U	1	N/A	A		1	7	-	151	2105:1970	281+263	27.8 : 27.8%
1/3+1/4	Upton Valley Way Ahead	U	1	N/A	A		1	7	-	142	2105:1965	281+262	20.7 : 32.1%
3/1	Ahead	U	2	N/A	D		1	34	-	527	1900	1108	45.1%
3/2+3/3	Ahead Right	U	2	N/A	D		1	34	-	518	1900:1900	1043+66	44.3 : 46.7%
4/2+4/3	A5076 Upton Way Ahead	U	2	N/A	C		1	14	-	731	1965:1965	382+401	93.4 : 93.4%
6/1	Ahead	U	3	N/A	F		1	34	-	357	1900	1108	32.2%
6/2+6/3	Ahead Right	U	3	N/A	F		1	34	-	405	1900:1900	827+378	33.6 : 33.6%
7/2+7/1	Danes Camp Way Left Ahead	U	3	N/A	E		1	14	-	1135	2105:1965	261+491	150.8 : 150.8%
7/3+7/4	Danes Camp Way Ahead	U	3	N/A	E		1	14	-	1266	2105:1965	526+491	124.5 : 124.4%
9/1	Ahead	U	4	N/A	H		1	23	-	124	1900	760	16.3%
9/2	Ahead	U	4	N/A	H		1	23	-	397	1900	760	34.8%
9/3	Right	U	4	N/A	H		1	23	-	655	1900	760	69.2%
9/4	Right	U	4	N/A	H		1	23	-	611	1900	760	64.6%
10/2+10/1	A5123 Ahead Left	U	4	N/A	G		1	25	-	1329	2105:1965	912+852	72.9 : 78.0%
10/3	A5123 Ahead	U	4	N/A	G		1	25	-	903	1965	852	106.0%
11/1	Ahead	U	1	N/A	B		1	41	-	1214	1900	1330	81.6%
11/2	Ahead	U	1	N/A	B		1	41	-	1276	1900	1330	86.9%
11/3	Right	U	1	N/A	B		1	41	-	903	1900	1330	64.0%

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network: A5076 Danes Camp Way/A5123 Sensitivity Test	**-**	**-**	**0**	**0**	**0**	**54.2**	**369.8**	**0.0**	**424.0**	**-**	**-**	**-**	**-**
Unnamed Junction	**-**	**-**	**0**	**0**	**0**	**54.2**	**369.8**	**0.0**	**424.0**	**-**	**-**	**-**	**-**
1/2+1/1	151	151	-	-	-	1.0	0.2	-	1.2	28.0	1.2	0.2	1.4
1/3+1/4	142	142	-	-	-	0.9	0.2	-	1.1	27.9	1.3	0.2	1.4
3/1	500	500	-	-	-	1.3	0.4	-	1.7	12.4	3.6	0.4	4.0
3/2+3/3	493	493	-	-	-	1.2	0.4	-	1.6	11.7	4.9	0.4	5.3
4/2+4/3	731	731	-	-	-	4.2	5.8	-	10.0	49.2	6.8	5.8	12.6
6/1	357	357	-	-	-	0.0	0.2	-	0.2	2.5	0.1	0.2	0.4
6/2+6/3	405	405	-	-	-	0.1	0.3	-	0.4	3.3	9.3	0.3	9.5
7/2+7/1	1135	752	-	-	-	16.0	192.7	-	208.7	662.0	22.1	192.7	214.8
7/3+7/4	1266	1017	-	-	-	15.1	126.7	-	141.8	403.3	17.3	126.7	144.1
9/1	124	124	-	-	-	0.2	0.1	-	0.3	9.9	2.0	0.1	2.1
9/2	264	264	-	-	-	0.1	0.3	-	0.3	4.4	0.4	0.3	0.7
9/3	526	526	-	-	-	0.6	1.1	-	1.7	12.0	0.9	1.1	2.0
9/4	491	491	-	-	-	0.2	0.9	-	1.1	8.1	0.3	0.9	1.2
10/2+10/1	1329	1329	-	-	-	5.3	1.5	-	6.8	18.4	9.4	1.5	10.9
10/3	903	851	-	-	-	5.9	32.7	-	38.6	153.9	16.5	32.7	49.2
11/1	1085	1085	-	-	-	0.9	2.2	-	3.0	10.1	8.9	2.2	11.1
11/2	1156	1156	-	-	-	0.8	3.2	-	4.0	12.3	8.4	3.2	11.6
11/3	851	851	-	-	-	0.4	0.9	-	1.3	5.5	1.0	0.9	1.9

C1	Stream: 1 PRC for Signalled Lanes (%):	3.5	Total Delay for Signalled Lanes (pcuHr):	10.58	Cycle Time (s): 60
C1	Stream: 2 PRC for Signalled Lanes (%):	-3.8	Total Delay for Signalled Lanes (pcuHr):	13.33	Cycle Time (s): 60
C1	Stream: 3 PRC for Signalled Lanes (%):	-67.6	Total Delay for Signalled Lanes (pcuHr):	351.15	Cycle Time (s): 60
C1	Stream: 4 PRC for Signalled Lanes (%):	-17.8	Total Delay for Signalled Lanes (pcuHr):	48.92	Cycle Time (s): 60
	PRC Over All Lanes (%):	-67.6	Total Delay Over All Lanes(pcuHr):	423.98	

APPENDIX F

A45 WOOTTON INTERCHANGE SENSITIVITY TEST ARCADY MODEL

Junctions 8

ARCADY 8 - Roundabout Module

Version: 8.0.4.487 [15039,24/03/2014]

For sales and distribution information, program advice and maintenance, contact TRL:
Tel: +44 (0)1344 770758 email: software@trl.co.uk Web: http://www.trlsoftware.co.uk

Filename: 180321 2031 sensitivity Wootton Interchange v3.arc8
Path: C:\Users\ADCteam\Dropbox\~ JN8 TEMP
Report generation date: 29/03/2018 17:27:20

Summary of junction performance

	PM			
	Queue (PCU)	Delay (s)	RFC	LOS
	A1 - 2031 C1 Sensitivity			
Junction 1 - Arm 1	277.78	959.03	1.32	F
Junction 1 - Arm 2	1.00	6.26	0.49	A
Junction 1 - Arm 3	0.00	0.00	0.00	A
Junction 1 - Arm 4	89.11	288.37	1.17	F
Junction 2 - Arm 1	2.44	16.70	0.65	C
Junction 2 - Arm 2	42.60	219.26	1.13	F
Junction 2 - Arm 3	4.04	13.97	0.78	B
Junction 2 - Arm 4	19.57	126.07	1.02	F
	A1 - 2031 D1 sensitivity			
Junction 1 - Arm 1	253.83	826.05	1.22	F
Junction 1 - Arm 2	1.09	6.38	0.51	A
Junction 1 - Arm 3	0.00	0.00	0.00	A
Junction 1 - Arm 4	231.70	816.85	1.41	F
Junction 2 - Arm 1	1.99	14.49	0.61	B
Junction 2 - Arm 2	37.58	193.22	1.09	F
Junction 2 - Arm 3	5.18	17.60	0.83	C
Junction 2 - Arm 4	98.42	632.44	1.34	F
	A1 - 2031 I1 Sensitivity			
Junction 1 - Arm 1	258.06	889.59	1.28	F
Junction 1 - Arm 2	0.97	6.11	0.48	A
Junction 1 - Arm 3	0.00	0.00	0.00	A
Junction 1 - Arm 4	118.82	412.56	1.23	F
Junction 2 - Arm 1	1.87	14.12	0.59	B
Junction 2 - Arm 2	30.15	160.87	1.07	F
Junction 2 - Arm 3	4.00	14.07	0.78	B
Junction 2 - Arm 4	40.90	230.23	1.13	F
	A1 - 2031 J1d sensitivity			
Junction 1 - Arm 1	246.28	808.33	1.21	F
Junction 1 - Arm 2	1.62	8.02	0.61	A
Junction 1 - Arm 3	0.00	0.00	0.00	A
Junction 1 - Arm 4	388.18	1434.56	1.64	F
Junction 2 - Arm 1	2.11	15.04	0.61	C
Junction 2 - Arm 2	31.02	163.53	1.06	F
Junction 2 - Arm 3	7.46	24.40	0.87	C
Junction 2 - Arm 4	135.67	870.94	1.47	F

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

"D1 - 2031 C1 Sensitivity, PM " model duration: 16:45 - 18:15
"D2 - 2031 D1 sensitivity, PM" model duration: 16:45 - 18:15
"D3 - 2031 I1 Sensitivity, PM" model duration: 16:45 - 18:15
"D4 - 2031 J1d sensitivity, PM" model duration: 16:45 - 18:15

Run using Junctions 8.0.4.487 at 29/03/2018 17:27:11

File summary

Title	170817 Wootton Interchange
Location	Northampton
Site Number	
Date	17/08/2017
Version	v1
Status	(new file)
Identifier	MH
Client	Roxhill
Jobnumber	ADC1475
Enumerator	ADCteam
Description	

Analysis Options

Vehicle Length (m)	Do Queue Variations	Calculate Residual Capacity	Residual Capacity Criteria Type	RFC Threshold	Average Delay Threshold (s)	Queue Threshold (PCU)
5.75			N/A	0.85	36.00	20.00

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

(Default Analysis Set) - 2031 C1 Sensitivity, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Linked Roundabout	Junction 1 - Arm 1	If the distance between linked junctions is small, results should be treated with caution. The linked junctions will be modelled as separate junctions, but the real behaviour may be that of a complex system with interactions that cannot be modelled.
Warning	Linked Roundabout	Junction 2 - Arm 3	If the distance between linked junctions is small, results should be treated with caution. The linked junctions will be modelled as separate junctions, but the real behaviour may be that of a complex system with interactions that cannot be modelled.

Analysis Set Details

Name	Roundabout Capacity Model	Description	Include In Report	Use Specific Demand Set(s)	Specific Demand Set (s)	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)	ARCADY		✓				100.000	100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Results For Central Hour Only	Single Time Segment Only	Locked	Run Automatically	Use Relationship	Relati
2031 C1 Sensitivity, PM	2031 C1 Sensitivity	PM		Varies by Arm	16:45	18:15	90	15				✓		

Junction Network

Junctions

Junction	Junction	Name	Junction Type	Arm Order	Grade Separated	Large Roundabout	Do Geometric Delay	Junction Delay (s)	Junction LOS
1	1	(untitled)	Roundabout	1,2,3,4				550.12	F
2	2	(untitled)	Roundabout	1,2,3,4				81.82	F

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Junction	Arm	Arm	Name	Description
1	1	1	Wooldale Rd E	
1	2	2	Rowtree Rd	
1	3	3	London rd	
1	4	4	A45 N	
2	1	1	Wooldale Rd E	
2	2	2	A45 S	
2	3	3	(untitled)	Wooldale Rd W
2	4	4	Berry Lane	

Capacity Options

Junction	Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)	Assume Flat Start Profile	Initial Queue (PCU)
1	1	0.00	99999.00		0.00
1	2	0.00	99999.00		0.00
1	3	0.00	99999.00		0.00
1	4	0.00	99999.00		0.00
2	1	0.00	99999.00		0.00
2	2	0.00	99999.00		0.00
2	3	0.00	99999.00		0.00
2	4	0.00	99999.00		0.00

Roundabout Geometry

Junction	Arm	V - Approach road half-width (m)	E - Entry width (m)	l' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only
1	1	3.70	5.90	1.70	15.00	32.00	12.00	
1	2	3.90	4.80	6.30	20.00	32.00	21.00	
1	3	3.50	6.60	10.00	30.00	32.00	18.00	
1	4	4.00	4.10	1.00	20.00	32.00	25.00	
2	1	3.10	4.80	9.80	20.00	38.00	19.00	
2	2	3.20	3.90	8.00	15.00	38.00	24.00	
2	3	4.20	5.50	6.20	15.00	38.00	24.00	
2	4	3.20	5.00	4.90	20.00	38.00	25.00	

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Junction	Arm	Enter slope and intercept directly	Entered slope	Entered intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
1	1		(calculated)	(calculated)	0.590	1308.494
1	2		(calculated)	(calculated)	0.607	1411.596
1	3		(calculated)	(calculated)	0.657	1620.802
1	4		(calculated)	(calculated)	0.571	1256.381
2	1		(calculated)	(calculated)	0.581	1319.029
2	2		(calculated)	(calculated)	0.535	1140.435
2	3		(calculated)	(calculated)	0.610	1515.149
2	4		(calculated)	(calculated)	0.559	1241.472

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

Traffic Flows

Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

Entry Flows

General Flows Data

Junction	Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
1	1	Linked Arm		N/A	
1	2	ONE HOUR	✓	526.00	100.000
1	3	ONE HOUR	✓	0.00	100.000
1	4	ONE HOUR	✓	984.00	100.000
2	1	ONE HOUR	✓	491.00	100.000
2	2	ONE HOUR	✓	590.00	100.000
2	3	Linked Arm		N/A	
2	4	ONE HOUR	✓	503.00	100.000

Linked Arm Data

Junction	Arm	From Junction ID	From Arm ID	Link Type	Flow Source	Uniform Flow (PCU/hr)	Flow Multiplier (%)	Internal Storage Space (PCU)
1	1	2	3	Simple (vertical queueing)	Normal	0.00	100.00	
2	3	1	1	Simple (vertical queueing)	Normal	0.00	100.00	

Turning Proportions

Turning Counts / Proportions (PCU/hr) - Junction 1 (for whole period)

		To			
		1	2	3	4
From	1	0.000	854.000	478.000	0.000
	2	526.000	0.000	0.000	0.000
	3	0.000	0.000	0.000	0.000
	4	528.000	456.000	0.000	0.000

Turning Proportions (PCU) - Junction 1 (for whole period)

		To			
		1	2	3	4
From	1	0.00	0.64	0.36	0.00
	2	1.00	0.00	0.00	0.00
	3	0.25	0.25	0.25	0.25
	4	0.54	0.46	0.00	0.00

Turning Counts / Proportions (PCU/hr) - Junction 2 (for whole period)

		To			
		1	2	3	4
From	1	0.000	0.000	491.000	0.000
	2	222.000	0.000	350.000	18.000
	3	689.000	329.000	0.000	36.000
	4	12.000	0.000	491.000	0.000

Turning Proportions (PCU) - Junction 2 (for whole period)

		To			
		1	2	3	4
From	1	0.00	0.00	1.00	0.00
	2	0.38	0.00	0.59	0.03
	3	0.65	0.31	0.00	0.03
	4	0.02	0.00	0.98	0.00

Vehicle Mix

Average PCU Per Vehicle - Junction 1 (for whole period)

		To			
		1	2	3	4
From	1	1.000	1.205	1.004	1.000
	2	1.049	1.000	1.000	1.000
	3	1.000	1.000	1.000	1.000
	4	1.305	1.031	1.000	1.000

Heavy Vehicle Percentages - Junction 1 (for whole period)

		To			
		1	2	3	4
From	1	0.0	20.5	0.4	0.0
	2	4.9	0.0	0.0	0.0
	3	0.0	0.0	0.0	0.0
	4	30.5	3.1	0.0	0.0

Average PCU Per Vehicle - Junction 2 (for whole period)

		To			
		1	2	3	4
From	1	1.000	1.000	1.328	1.000
	2	1.000	1.000	1.006	1.000
	3	1.257	1.000	1.000	1.278
	4	1.000	1.000	1.029	1.000

Heavy Vehicle Percentages - Junction 2 (for whole period)

		To			
		1	2	3	4
From	1	0.0	0.0	32.8	0.0
	2	0.0	0.0	0.6	0.0
	3	25.7	0.0	0.0	27.8
	4	0.0	0.0	2.9	0.0

Results

Results Summary for whole modelled period

Junction	Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)	Total Queueing Delay (PCU-min)	Average Queueing Delay (s)	Rate Of Queueing Delay (PCU-min/min)	Inclusive Total Queueing Delay (PCU-min)	Inclusive Average Queueing Delay (s)
1	1	1.32	959.03	277.78	F	1219.99	1829.98	11760.37	385.59	130.67	13992.72	458.78
1	2	0.49	6.26	1.00	A	482.67	724.00	66.02	5.47	0.73	66.03	5.47
1	3	0.00	0.00	0.00	A	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1	4	1.17	288.37	89.11	F	902.94	1354.40	3273.46	145.01	36.37	3273.90	145.03
2	1	0.65	16.70	2.44	C	450.55	675.83	135.51	12.03	1.51	135.53	12.03
2	2	1.13	219.26	42.60	F	541.39	812.09	1308.95	96.71	14.54	1309.05	96.72
2	3	0.78	13.97	4.04	B	965.43	1448.14	257.30	10.66	2.86	257.43	10.67
2	4	1.02	126.07	19.57	F	461.56	692.34	593.86	51.47	6.60	593.99	51.48

Main Results for each time segment

Main results: (16:45-17:00)

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
1	1	991.93	247.98	962.41	785.44	338.10	0.00	1108.98	966.21	0.894	0.00	7.38	24.152	C
1	2	396.00	99.00	393.95	955.14	345.37	0.00	1202.12	1061.35	0.329	0.00	0.51	4.662	A
1	3	0.00	0.00	0.00	345.37	393.95	0.00	1361.80	923.03	0.000	0.00	0.00	0.000	A
1	4	740.81	185.20	729.58	0.00	393.95	0.00	1031.60	255.80	0.718	0.00	2.81	13.397	B
2	1	369.65	92.41	366.40	683.58	608.76	0.00	965.17	847.05	0.383	0.00	0.81	7.943	A
2	2	444.18	111.05	438.51	243.36	731.80	0.00	748.82	485.58	0.593	0.00	1.42	11.446	B
2	3	785.44	196.36	779.64	991.93	178.38	0.00	1406.26	1394.57	0.559	0.00	1.45	6.629	A
2	4	378.68	94.67	374.33	40.01	918.01	0.00	727.98	385.87	0.520	0.00	1.09	10.346	B

Main results: (17:00-17:15)

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
1	1	1185.66	296.42	1055.45	936.53	401.07	0.00	1071.82	966.21	1.106	7.38	39.93	94.510	F
1	2	472.86	118.22	472.14	1077.76	378.76	0.00	1181.87	1061.35	0.400	0.51	0.69	5.315	A
1	3	0.00	0.00	0.00	378.76	472.14	0.00	1310.40	923.03	0.000	0.00	0.00	0.000	A
1	4	884.60	221.15	865.46	0.00	472.14	0.00	986.99	255.80	0.896	2.81	7.59	30.442	D
2	1	441.40	110.35	439.61	817.13	727.23	0.00	896.30	847.05	0.492	0.81	1.26	10.426	B
2	2	530.40	132.60	522.61	291.20	875.64	0.00	671.85	485.58	0.789	1.42	3.36	23.081	C
2	3	936.53	234.13	932.89	1185.66	212.59	0.00	1385.37	1394.57	0.676	1.45	2.36	9.188	A
2	4	452.19	113.05	446.69	47.81	1097.68	0.00	627.49	385.87	0.721	1.09	2.46	19.891	C

Main results: (17:15-17:30)

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
1	1	1374.65	343.66	1056.86	1069.63	424.65	0.00	1057.90	966.19	1.299	39.93	119.38	280.745	F
1	2	579.14	144.78	577.93	1102.25	379.26	0.00	1181.57	1061.34	0.490	0.69	1.00	6.243	A
1	3	0.00	0.00	0.00	379.26	577.93	0.00	1240.85	923.03	0.000	0.00	0.00	0.000	A
1	4	1083.40	270.85	916.35	0.00	577.93	0.00	926.63	255.80	1.169	7.59	49.35	126.245	F
2	1	540.60	135.15	536.33	921.63	832.80	0.00	834.94	847.05	0.647	1.26	2.33	15.784	C
2	2	649.60	162.40	568.96	332.01	1037.13	0.00	585.43	485.58	1.110	3.36	23.52	103.307	F
2	3	1069.63	267.41	1063.64	1374.65	231.44	0.00	1373.86	1394.57	0.779	2.36	3.85	13.242	B
2	4	553.81	138.45	513.03	53.69	1241.40	0.00	547.10	385.87	1.012	2.46	12.66	71.293	F

Main results: (17:30-17:45)

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
1	1	1393.86	348.47	1055.49	1075.13	428.38	0.00	1055.70	966.19	1.320	119.38	203.97	560.818	F
1	2	579.14	144.78	579.11	1105.10	378.77	0.00	1181.86	1061.34	0.490	1.00	1.00	6.264	A
1	3	0.00	0.00	0.00	378.77	579.11	0.00	1240.07	923.03	0.000	0.00	0.00	0.000	A
1	4	1083.40	270.85	924.39	0.00	579.11	0.00	925.95	255.80	1.170	49.35	89.11	276.496	F
2	1	540.60	135.15	540.15	930.59	848.98	0.00	825.53	847.05	0.655	2.33	2.44	16.698	C
2	2	649.60	162.40	573.30	335.36	1053.77	0.00	576.52	485.58	1.127	23.52	42.60	219.262	F
2	3	1075.13	268.78	1074.37	1393.86	233.21	0.00	1372.79	1394.57	0.783	3.85	4.04	13.967	B
2	4	553.81	138.45	526.17	54.19	1253.39	0.00	540.39	385.87	1.025	12.66	19.57	126.074	F

Main results: (17:45-18:00)

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
1	1	1312.44	328.11	1042.25	996.26	451.00	0.00	1042.36	966.20	1.259	203.97	271.52	829.120	F
1	2	472.86	118.22	474.05	1119.22	374.02	0.00	1184.75	1061.34	0.399	1.00	0.70	5.322	A
1	3	0.00	0.00	0.00	374.02	474.05	0.00	1309.14	923.04	0.000	0.00	0.00	0.000	A
1	4	884.60	221.15	973.20	0.00	474.05	0.00	985.89	255.80	0.897	89.11	66.95	288.366	F
2	1	441.40	110.35	445.24	898.83	811.04	0.00	847.59	847.05	0.521	2.44	1.48	11.992	B
2	2	530.40	132.60	620.44	311.90	944.38	0.00	635.06	485.58	0.835	42.60	20.09	185.409	F
2	3	996.26	249.07	999.20	1312.44	252.38	0.00	1361.08	1394.57	0.732	4.04	3.31	11.692	B
2	4	452.19	113.05	511.34	53.06	1198.53	0.00	571.07	385.87	0.792	19.57	4.78	75.030	F

Main results: (18:00-18:15)

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
1	1	1061.37	265.34	1036.36	929.57	460.21	0.00	1036.92	966.21	1.024	271.52	277.78	959.026	F
1	2	396.00	99.00	396.69	1124.67	371.91	0.00	1186.03	1061.34	0.334	0.70	0.53	4.790	A
1	3	0.00	0.00	0.00	371.91	396.69	0.00	1360.00	923.03	0.000	0.00	0.00	0.000	A
1	4	740.81	185.20	993.09	0.00	396.69	0.00	1030.03	255.80	0.719	66.95	3.88	126.193	F
2	1	369.65	92.41	372.00	814.25	673.22	0.00	927.70	847.05	0.398	1.48	0.89	8.638	A
2	2	444.18	111.05	518.18	291.25	753.97	0.00	736.95	485.58	0.603	20.09	1.59	22.466	C
2	3	929.57	232.39	933.06	1061.37	210.79	0.00	1386.47	1394.57	0.670	3.31	2.44	9.318	A
2	4	378.68	94.67	391.31	47.68	1096.17	0.00	628.33	385.87	0.603	4.78	1.62	16.377	C

Queueing Delay Results for each time segment

Queueing Delay results: (16:45-17:00)

Junction	Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	1	87.45	5.83	24.152	C	C
1	2	7.45	0.50	4.662	A	A
1	3	0.00	0.00	0.000	A	A
1	4	37.85	2.52	13.397	B	B
2	1	11.64	0.78	7.943	A	A
2	2	19.69	1.31	11.446	B	B
2	3	20.66	1.38	6.629	A	A
2	4	15.29	1.02	10.346	B	B

Queueing Delay results: (17:00-17:15)

Junction	Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	1	366.15	24.41	94.510	F	F
1	2	10.15	0.68	5.315	A	A
1	3	0.00	0.00	0.000	A	A
1	4	92.77	6.18	30.442	D	C
2	1	18.08	1.21	10.426	B	B
2	2	44.10	2.94	23.081	C	C
2	3	33.45	2.23	9.188	A	A
2	4	33.15	2.21	19.891	C	B

Queueing Delay results: (17:15-17:30)

Junction	Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	1	1195.53	79.70	280.745	F	F
1	2	14.48	0.97	6.243	A	A
1	3	0.00	0.00	0.000	A	A
1	4	435.51	29.03	126.245	F	F
2	1	32.31	2.15	15.784	C	B
2	2	213.15	14.21	103.307	F	F
2	3	53.28	3.55	13.242	B	B
2	4	127.68	8.51	71.293	F	E

Queueing Delay results: (17:30-17:45)

Junction	Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	1	2425.25	161.68	560.818	F	F
1	2	14.98	1.00	6.264	A	A
1	3	0.00	0.00	0.000	A	A
1	4	1038.97	69.26	276.496	F	F
2	1	36.00	2.40	16.698	C	B
2	2	496.91	33.13	219.262	F	F
2	3	59.58	3.97	13.967	B	B
2	4	243.85	16.26	126.074	F	F

Queueing Delay results: (17:45-18:00)

Junction	Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	1	3566.25	237.75	829.120	F	F
1	2	10.84	0.72	5.322	A	A
1	3	0.00	0.00	0.000	A	A
1	4	1170.46	78.03	288.366	F	F
2	1	23.51	1.57	11.992	B	B
2	2	470.18	31.35	185.409	F	F
2	3	51.97	3.46	11.692	B	B
2	4	145.96	9.73	75.030	F	E

Queueing Delay results: (18:00-18:15)

Junction	Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	1	4119.74	274.65	959.026	F	F
1	2	8.12	0.54	4.790	A	A
1	3	0.00	0.00	0.000	A	A
1	4	497.89	33.19	126.193	F	F
2	1	13.97	0.93	8.638	A	A
2	2	64.93	4.33	22.466	C	C
2	3	38.37	2.56	9.318	A	A
2	4	27.93	1.86	16.377	C	B

(Default Analysis Set) - 2031 D1 sensitivity, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Linked Roundabout	Junction 1 - Arm 1	If the distance between linked junctions is small, results should be treated with caution. The linked junctions will be modelled as separate junctions, but the real behaviour may be that of a complex system with interactions that cannot be modelled.
Warning	Linked Roundabout	Junction 2 - Arm 3	If the distance between linked junctions is small, results should be treated with caution. The linked junctions will be modelled as separate junctions, but the real behaviour may be that of a complex system with interactions that cannot be modelled.

Analysis Set Details

Name	Roundabout Capacity Model	Description	Include In Report	Use Specific Demand Set(s)	Specific Demand Set (s)	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)	ARCADY		✓				100.000	100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Results For Central Hour Only	Single Time Segment Only	Locked	Run Automatically	Use Relationship	Relati
2031 D1 sensitivity, PM	2031 D1 sensitivity	PM		Varies by Arm	16:45	18:15	90	15				✓		

Junction Network

Junctions

Junction	Junction	Name	Junction Type	Arm Order	Grade Separated	Large Roundabout	Do Geometric Delay	Junction Delay (s)	Junction LOS
1	1	(untitled)	Roundabout	1,2,3,4				670.73	F
2	2	(untitled)	Roundabout	1,2,3,4				191.22	F

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Junction	Arm	Arm	Name	Description
1	1	1	Wooldale Rd E	
1	2	2	Rowtree Rd	
1	3	3	London rd	
1	4	4	A45 N	
2	1	1	Wooldale Rd E	
2	2	2	A45 S	
2	3	3	(untitled)	Wooldale Rd W
2	4	4	Berry Lane	

Capacity Options

Junction	Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)	Assume Flat Start Profile	Initial Queue (PCU)
1	1	0.00	99999.00		0.00
1	2	0.00	99999.00		0.00
1	3	0.00	99999.00		0.00
1	4	0.00	99999.00		0.00
2	1	0.00	99999.00		0.00
2	2	0.00	99999.00		0.00
2	3	0.00	99999.00		0.00
2	4	0.00	99999.00		0.00

Roundabout Geometry

Junction	Arm	V - Approach road half-width (m)	E - Entry width (m)	l' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only
1	1	3.70	5.90	1.70	15.00	32.00	12.00	
1	2	3.90	4.80	6.30	20.00	32.00	21.00	
1	3	3.50	6.60	10.00	30.00	32.00	18.00	
1	4	4.00	4.10	1.00	20.00	32.00	25.00	
2	1	3.10	4.80	9.80	20.00	38.00	19.00	
2	2	3.20	3.90	8.00	15.00	38.00	24.00	
2	3	4.20	5.50	6.20	15.00	38.00	24.00	
2	4	3.20	5.00	4.90	20.00	38.00	25.00	

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Junction	Arm	Enter slope and intercept directly	Entered slope	Entered intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
1	1		(calculated)	(calculated)	0.590	1308.494
1	2		(calculated)	(calculated)	0.607	1411.596
1	3		(calculated)	(calculated)	0.657	1620.802
1	4		(calculated)	(calculated)	0.571	1256.381
2	1		(calculated)	(calculated)	0.581	1319.029
2	2		(calculated)	(calculated)	0.535	1140.435
2	3		(calculated)	(calculated)	0.610	1515.149
2	4		(calculated)	(calculated)	0.559	1241.472

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

Traffic Flows

Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

Entry Flows

General Flows Data

Junction	Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
1	1	Linked Arm		N/A	
1	2	ONE HOUR	✓	561.00	100.000
1	3	ONE HOUR	✓	0.00	100.000
1	4	ONE HOUR	✓	1156.00	100.000
2	1	ONE HOUR	✓	456.00	100.000
2	2	ONE HOUR	✓	602.00	100.000
2	3	Linked Arm		N/A	
2	4	ONE HOUR	✓	615.00	100.000

Linked Arm Data

Junction	Arm	From Junction ID	From Arm ID	Link Type	Flow Source	Uniform Flow (PCU/hr)	Flow Multiplier (%)	Internal Storage Space (PCU)
1	1	2	3	Simple (vertical queueing)	Normal	0.00	100.00	
2	3	1	1	Simple (vertical queueing)	Normal	0.00	100.00	

Turning Proportions

Turning Counts / Proportions (PCU/hr) - Junction 1 (for whole period)

		To			
		1	2	3	4
From	1	0.000	946.000	415.000	0.000
	2	561.000	0.000	0.000	0.000
	3	0.000	0.000	0.000	0.000
	4	622.000	534.000	0.000	0.000

Turning Proportions (PCU) - Junction 1 (for whole period)

		To			
		1	2	3	4
From	1	0.00	0.70	0.30	0.00
	2	1.00	0.00	0.00	0.00
	3	0.25	0.25	0.25	0.25
	4	0.54	0.46	0.00	0.00

Turning Counts / Proportions (PCU/hr) - Junction 2 (for whole period)

		To			
		1	2	3	4
From	1	0.000	0.000	456.000	0.000
	2	240.000	0.000	303.000	59.000
	3	773.000	381.000	0.000	29.000
	4	13.000	0.000	602.000	0.000

Turning Proportions (PCU) - Junction 2 (for whole period)

		To			
		1	2	3	4
From	1	0.00	0.00	1.00	0.00
	2	0.40	0.00	0.50	0.10
	3	0.65	0.32	0.00	0.02
	4	0.02	0.00	0.98	0.00

Vehicle Mix

Average PCU Per Vehicle - Junction 1 (for whole period)

		To			
		1	2	3	4
From	1	1.000	1.217	1.010	1.000
	2	1.059	1.000	1.000	1.000
	3	1.000	1.000	1.000	1.000
	4	1.265	1.029	1.000	1.000

Heavy Vehicle Percentages - Junction 1 (for whole period)

		To			
		1	2	3	4
From	1	0.0	21.7	1.0	0.0
	2	5.9	0.0	0.0	0.0
	3	0.0	0.0	0.0	0.0
	4	26.5	2.9	0.0	0.0

Average PCU Per Vehicle - Junction 2 (for whole period)

		To			
		1	2	3	4
From	1	1.000	1.000	1.303	1.000
	2	1.000	1.000	1.010	1.034
	3	1.215	1.010	1.000	1.034
	4	1.000	1.000	1.113	1.000

Heavy Vehicle Percentages - Junction 2 (for whole period)

		To			
		1	2	3	4
From	1	0.0	0.0	30.3	0.0
	2	0.0	0.0	1.0	3.4
	3	21.5	1.0	0.0	3.4
	4	0.0	0.0	11.3	0.0

Results

Results Summary for whole modelled period

Junction	Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)	Total Queueing Delay (PCU-min)	Average Queueing Delay (s)	Rate Of Queueing Delay (PCU-min/min)	Inclusive Total Queueing Delay (PCU-min)	Inclusive Average Queueing Delay (s)
1	1	1.22	826.05	253.83	F	1203.88	1805.82	10110.60	335.93	112.34	11981.48	398.09
1	2	0.51	6.38	1.09	A	514.78	772.18	71.05	5.52	0.79	71.05	5.52
1	3	0.00	0.00	0.00	A	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1	4	1.41	816.85	231.70	F	1060.77	1591.15	10548.97	397.79	117.21	11693.57	440.95
2	1	0.61	14.49	1.99	B	418.43	627.65	122.73	11.73	1.36	122.77	11.74
2	2	1.09	193.22	37.58	F	552.41	828.61	1239.59	89.76	13.77	1239.90	89.78
2	3	0.83	17.60	5.18	C	1014.58	1521.87	326.06	12.85	3.62	326.24	12.86
2	4	1.34	632.44	98.42	F	564.33	846.50	4393.92	311.44	48.82	4616.93	327.25

Main Results for each time segment

Main results: (16:45-17:00)

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
1	1	1008.95	252.24	968.32	876.11	391.44	0.00	1077.50	975.49	0.936	0.00	10.16	30.910	D
1	2	422.35	105.59	420.16	1064.50	295.26	0.00	1232.51	1094.55	0.343	0.00	0.55	4.681	A
1	3	0.00	0.00	0.00	295.26	420.16	0.00	1344.57	901.20	0.000	0.00	0.00	0.000	A
1	4	870.30	217.57	847.39	0.00	420.16	0.00	1016.65	246.20	0.856	0.00	5.73	22.024	C
2	1	343.30	85.83	340.13	755.08	723.70	0.00	898.36	842.96	0.382	0.00	0.79	8.356	A
2	2	453.22	113.30	446.65	279.68	784.15	0.00	720.81	486.75	0.629	0.00	1.64	12.951	B
2	3	876.11	219.03	868.39	1008.95	221.84	0.00	1379.73	1367.57	0.635	0.00	1.93	7.884	A
2	4	463.00	115.75	453.61	65.06	1025.17	0.00	668.04	386.73	0.693	0.00	2.35	17.943	C

Main results: (17:00-17:15)

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
1	1	1187.05	296.76	1039.56	1012.02	436.53	0.00	1050.90	975.47	1.130	10.16	47.03	112.538	F
1	2	504.33	126.08	503.56	1159.10	316.99	0.00	1219.34	1094.54	0.414	0.55	0.74	5.320	A
1	3	0.00	0.00	0.00	316.99	503.56	0.00	1289.74	901.21	0.000	0.00	0.00	0.000	A
1	4	1039.22	259.81	944.99	0.00	503.56	0.00	969.06	246.20	1.072	5.73	29.28	82.065	F
2	1	409.93	102.48	408.17	880.53	836.11	0.00	833.02	842.96	0.492	0.79	1.23	10.995	B
2	2	541.19	135.30	530.59	324.29	919.99	0.00	648.11	486.75	0.835	1.64	4.29	28.600	D
2	3	1012.02	253.01	1006.92	1187.05	263.53	0.00	1354.27	1367.57	0.747	1.93	3.20	11.597	B
2	4	552.87	138.22	522.87	76.69	1193.77	0.00	573.73	386.73	0.964	2.35	9.85	58.727	F

Main results: (17:15-17:30)

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
1	1	1294.08	323.52	1060.83	1102.58	417.47	0.00	1062.14	975.47	1.218	47.03	105.34	268.071	F
1	2	617.67	154.42	616.31	1154.83	323.47	0.00	1215.40	1094.54	0.508	0.74	1.08	6.349	A
1	3	0.00	0.00	0.00	323.47	616.31	0.00	1215.61	901.21	0.000	0.00	0.00	0.000	A
1	4	1272.78	318.19	903.74	0.00	616.31	0.00	904.72	246.20	1.407	29.28	121.54	310.814	F
2	1	502.07	125.52	499.18	961.89	850.96	0.00	824.38	842.96	0.609	1.23	1.95	14.293	B
2	2	662.81	165.70	589.76	352.91	997.23	0.00	606.77	486.75	1.092	4.29	22.55	99.926	F
2	3	1102.58	275.65	1095.79	1294.08	292.92	0.00	1336.33	1367.57	0.825	3.20	4.90	16.488	C
2	4	677.13	169.28	508.81	84.66	1304.05	0.00	512.05	386.73	1.322	9.85	51.93	237.766	F

Main results: (17:30-17:45)

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
1	1	1299.51	324.88	1061.72	1103.95	417.51	0.00	1062.12	975.47	1.224	105.34	164.79	467.679	F
1	2	617.67	154.42	617.64	1155.48	323.74	0.00	1215.24	1094.54	0.508	1.08	1.09	6.379	A
1	3	0.00	0.00	0.00	323.74	617.64	0.00	1214.74	901.21	0.000	0.00	0.00	0.000	A
1	4	1272.78	318.19	903.82	0.00	617.64	0.00	903.97	246.20	1.408	121.54	213.78	656.056	F
2	1	502.07	125.52	501.94	971.56	849.40	0.00	825.29	842.96	0.608	1.95	1.99	14.488	B
2	2	662.81	165.70	602.69	355.18	996.16	0.00	607.35	486.75	1.091	22.55	37.58	193.223	F
2	3	1103.95	275.99	1102.82	1299.51	299.34	0.00	1332.41	1367.57	0.829	4.90	5.18	17.604	C
2	4	677.13	169.28	504.89	86.10	1316.07	0.00	505.33	386.73	1.340	51.93	94.99	524.585	F

Main results: (17:45-18:00)

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
1	1	1252.65	313.16	1044.53	1026.25	446.94	0.00	1044.75	975.49	1.199	164.79	216.82	666.942	F
1	2	504.33	126.08	505.65	1172.97	318.50	0.00	1218.42	1094.55	0.414	1.09	0.76	5.360	A
1	3	0.00	0.00	0.00	318.50	505.65	0.00	1288.37	901.20	0.000	0.00	0.00	0.000	A
1	4	1039.22	259.81	967.54	0.00	505.65	0.00	967.87	246.20	1.074	213.78	231.70	816.847	F
2	1	409.93	102.48	412.53	932.25	859.68	0.00	819.32	842.96	0.500	1.99	1.34	11.606	B
2	2	541.19	135.30	620.60	331.93	940.28	0.00	637.25	486.75	0.849	37.58	17.73	165.541	F
2	3	1026.25	256.56	1030.63	1252.65	308.24	0.00	1326.98	1367.57	0.773	5.18	4.09	14.028	B
2	4	552.87	138.22	539.15	86.09	1252.78	0.00	540.73	386.73	1.022	94.99	98.42	632.442	F

Main results: (18:00-18:15)

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
1	1	1181.06	295.27	1033.00	966.54	466.55	0.00	1033.18	975.48	1.143	216.82	253.83	826.051	F
1	2	422.35	105.59	423.11	1184.56	314.98	0.00	1220.55	1094.54	0.346	0.76	0.56	4.785	A
1	3	0.00	0.00	0.00	314.98	423.11	0.00	1342.63	901.21	0.000	0.00	0.00	0.000	A
1	4	870.30	217.57	1009.98	0.00	423.11	0.00	1014.96	246.20	0.857	231.70	196.78	764.144	F
2	1	343.30	85.83	344.67	852.01	890.59	0.00	801.35	842.96	0.428	1.34	0.99	10.302	B
2	2	453.22	113.30	513.86	312.82	922.43	0.00	646.81	486.75	0.701	17.73	2.57	37.302	E
2	3	966.54	241.64	971.31	1181.06	255.22	0.00	1359.35	1367.57	0.711	4.09	2.90	10.671	B
2	4	463.00	115.75	590.24	74.17	1152.36	0.00	596.90	386.73	0.776	98.42	66.61	505.315	F

Queueing Delay Results for each time segment

Queueing Delay results: (16:45-17:00)

Junction	Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	1	112.48	7.50	30.910	D	C
1	2	7.97	0.53	4.681	A	A
1	3	0.00	0.00	0.000	A	A
1	4	70.40	4.69	22.024	C	C
2	1	11.35	0.76	8.356	A	A
2	2	22.54	1.50	12.951	B	B
2	3	27.13	1.81	7.884	A	A
2	4	31.20	2.08	17.943	C	B

Queueing Delay results: (17:00-17:15)

Junction	Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	1	436.63	29.11	112.538	F	F
1	2	10.83	0.72	5.320	A	A
1	3	0.00	0.00	0.000	A	A
1	4	276.74	18.45	82.065	F	F
2	1	17.67	1.18	10.995	B	B
2	2	54.36	3.62	28.600	D	C
2	3	44.68	2.98	11.597	B	B
2	4	106.28	7.09	58.727	F	E

Queueing Delay results: (17:15-17:30)

Junction	Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	1	1143.40	76.23	268.071	F	F
1	2	15.67	1.04	6.349	A	A
1	3	0.00	0.00	0.000	A	A
1	4	1131.98	75.47	310.814	F	F
2	1	27.53	1.84	14.293	B	B
2	2	211.59	14.11	99.926	F	F
2	3	67.07	4.47	16.488	C	B
2	4	466.02	31.07	237.766	F	F

Queueing Delay results: (17:30-17:45)

Junction	Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	1	2026.10	135.07	467.679	F	F
1	2	16.26	1.08	6.379	A	A
1	3	0.00	0.00	0.000	A	A
1	4	2515.01	167.67	656.056	F	F
2	1	29.60	1.97	14.488	B	B
2	2	452.16	30.14	193.223	F	F
2	3	76.10	5.07	17.604	C	B
2	4	1102.06	73.47	524.585	F	F

Queueing Delay results: (17:45-18:00)

Junction	Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	1	2862.09	190.81	666.942	F	F
1	2	11.65	0.78	5.360	A	A
1	3	0.00	0.00	0.000	A	A
1	4	3341.18	222.75	816.847	F	F
2	1	21.07	1.40	11.606	B	B
2	2	414.84	27.66	165.541	F	F
2	3	65.01	4.33	14.028	B	B
2	4	1450.61	96.71	632.442	F	F

Queueing Delay results: (18:00-18:15)

Junction	Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	1	3529.91	235.33	826.051	F	F
1	2	8.66	0.58	4.785	A	A
1	3	0.00	0.00	0.000	A	A
1	4	3213.66	214.24	764.144	F	F
2	1	15.51	1.03	10.302	B	B
2	2	84.10	5.61	37.302	E	D
2	3	46.06	3.07	10.671	B	B
2	4	1237.75	82.52	505.315	F	F

(Default Analysis Set) - 2031 I1 Sensitivity, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Linked Roundabout	Junction 1 - Arm 1	If the distance between linked junctions is small, results should be treated with caution. The linked junctions will be modelled as separate junctions, but the real behaviour may be that of a complex system with interactions that cannot be modelled.
Warning	Linked Roundabout	Junction 2 - Arm 3	If the distance between linked junctions is small, results should be treated with caution. The linked junctions will be modelled as separate junctions, but the real behaviour may be that of a complex system with interactions that cannot be modelled.

Analysis Set Details

Name	Roundabout Capacity Model	Description	Include In Report	Use Specific Demand Set(s)	Specific Demand Set (s)	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)	ARCADY		✓				100.000	100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Results For Central Hour Only	Single Time Segment Only	Locked	Run Automatically	Use Relationship	Relati
2031 I1 Sensitivity, PM	2031 I1 Sensitivity	PM		Varies by Arm	16:45	18:15	90	15				✓		

Junction Network

Junctions

Junction	Junction	Name	Junction Type	Arm Order	Grade Separated	Large Roundabout	Do Geometric Delay	Junction Delay (s)	Junction LOS
1	1	(untitled)	Roundabout	1,2,3,4				554.93	F
2	2	(untitled)	Roundabout	1,2,3,4				92.11	F

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Junction	Arm	Arm	Name	Description
1	1	1	Wooldale Rd E	
1	2	2	Rowtree Rd	
1	3	3	London rd	
1	4	4	A45 N	
2	1	1	Wooldale Rd E	
2	2	2	A45 S	
2	3	3	(untitled)	Wooldale Rd W
2	4	4	Berry Lane	

Capacity Options

Junction	Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)	Assume Flat Start Profile	Initial Queue (PCU)
1	1	0.00	99999.00		0.00
1	2	0.00	99999.00		0.00
1	3	0.00	99999.00		0.00
1	4	0.00	99999.00		0.00
2	1	0.00	99999.00		0.00
2	2	0.00	99999.00		0.00
2	3	0.00	99999.00		0.00
2	4	0.00	99999.00		0.00

Roundabout Geometry

Junction	Arm	V - Approach road half-width (m)	E - Entry width (m)	l' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only
1	1	3.70	5.90	1.70	15.00	32.00	12.00	
1	2	3.90	4.80	6.30	20.00	32.00	21.00	
1	3	3.50	6.60	10.00	30.00	32.00	18.00	
1	4	4.00	4.10	1.00	20.00	32.00	25.00	
2	1	3.10	4.80	9.80	20.00	38.00	19.00	
2	2	3.20	3.90	8.00	15.00	38.00	24.00	
2	3	4.20	5.50	6.20	15.00	38.00	24.00	
2	4	3.20	5.00	4.90	20.00	38.00	25.00	

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Junction	Arm	Enter slope and intercept directly	Entered slope	Entered intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
1	1		(calculated)	(calculated)	0.590	1308.494
1	2		(calculated)	(calculated)	0.607	1411.596
1	3		(calculated)	(calculated)	0.657	1620.802
1	4		(calculated)	(calculated)	0.571	1256.381
2	1		(calculated)	(calculated)	0.581	1319.029
2	2		(calculated)	(calculated)	0.535	1140.435
2	3		(calculated)	(calculated)	0.610	1515.149
2	4		(calculated)	(calculated)	0.559	1241.472

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

Traffic Flows

Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

Entry Flows

General Flows Data

Junction	Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
1	1	Linked Arm		N/A	
1	2	ONE HOUR	✓	522.00	100.000
1	3	ONE HOUR	✓	0.00	100.000
1	4	ONE HOUR	✓	1037.00	100.000
2	1	ONE HOUR	✓	442.00	100.000
2	2	ONE HOUR	✓	584.00	100.000
2	3	Linked Arm		N/A	
2	4	ONE HOUR	✓	547.00	100.000

Linked Arm Data

Junction	Arm	From Junction ID	From Arm ID	Link Type	Flow Source	Uniform Flow (PCU/hr)	Flow Multiplier (%)	Internal Storage Space (PCU)
1	1	2	3	Simple (vertical queueing)	Normal	0.00	100.00	
2	3	1	1	Simple (vertical queueing)	Normal	0.00	100.00	

Turning Proportions

Turning Counts / Proportions (PCU/hr) - Junction 1 (for whole period)

		To			
		1	2	3	4
From	1	0.000	862.000	438.000	0.000
	2	522.000	0.000	0.000	0.000
	3	0.000	0.000	0.000	0.000
	4	537.000	500.000	0.000	0.000

Turning Proportions (PCU) - Junction 1 (for whole period)

		To			
		1	2	3	4
From	1	0.00	0.66	0.34	0.00
	2	1.00	0.00	0.00	0.00
	3	0.25	0.25	0.25	0.25
	4	0.52	0.48	0.00	0.00

Turning Counts / Proportions (PCU/hr) - Junction 2 (for whole period)

		To			
		1	2	3	4
From	1	0.000	0.000	442.000	0.000
	2	238.000	0.000	323.000	23.000
	3	713.000	338.000	0.000	32.000
	4	12.000	0.000	535.000	0.000

Turning Proportions (PCU) - Junction 2 (for whole period)

		To			
		1	2	3	4
From	1	0.00	0.00	1.00	0.00
	2	0.41	0.00	0.55	0.04
	3	0.66	0.31	0.00	0.03
	4	0.02	0.00	0.98	0.00

Vehicle Mix

Average PCU Per Vehicle - Junction 1 (for whole period)

		To			
		1	2	3	4
From	1	1.000	1.193	1.005	1.000
	2	1.059	1.000	1.000	1.000
	3	1.000	1.000	1.000	1.000
	4	1.320	1.033	1.000	1.000

Heavy Vehicle Percentages - Junction 1 (for whole period)

		To			
		1	2	3	4
From	1	0.0	19.3	0.5	0.0
	2	5.9	0.0	0.0	0.0
	3	0.0	0.0	0.0	0.0
	4	32.0	3.3	0.0	0.0

Average PCU Per Vehicle - Junction 2 (for whole period)

		To			
		1	2	3	4
From	1	1.000	1.000	1.335	1.000
	2	1.000	1.000	1.025	1.000
	3	1.279	1.006	1.000	1.063
	4	1.000	1.000	1.034	1.000

Heavy Vehicle Percentages - Junction 2 (for whole period)

		To			
		1	2	3	4
From	1	0.0	0.0	33.5	0.0
	2	0.0	0.0	2.5	0.0
	3	27.9	0.6	0.0	6.3
	4	0.0	0.0	3.4	0.0

Results

Results Summary for whole modelled period

Junction	Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)	Total Queueing Delay (PCU-min)	Average Queueing Delay (s)	Rate Of Queueing Delay (PCU-min/min)	Inclusive Total Queueing Delay (PCU-min)	Inclusive Average Queueing Delay (s)
1	1	1.28	889.59	258.06	F	1190.32	1785.48	10536.26	354.06	117.07	12498.70	420.01
1	2	0.48	6.11	0.97	A	479.00	718.49	64.18	5.36	0.71	64.19	5.36
1	3	0.00	0.00	0.00	A	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1	4	1.23	412.56	118.82	F	951.57	1427.35	4978.66	209.28	55.32	5043.68	212.02
2	1	0.59	14.12	1.87	B	405.59	608.38	112.61	11.11	1.25	112.63	11.11
2	2	1.07	160.87	30.15	F	535.89	803.83	916.16	68.38	10.18	916.30	68.39
2	3	0.78	14.07	4.00	B	955.09	1432.63	255.70	10.71	2.84	255.83	10.71
2	4	1.13	230.23	40.90	F	501.94	752.91	1360.59	108.43	15.12	1360.79	108.44

Main Results for each time segment

Main results: (16:45-17:00)

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
1	1	967.50	241.88	939.51	788.32	369.95	0.00	1090.18	967.26	0.887	0.00	7.00	23.633	C
1	2	392.99	98.25	390.99	992.92	316.54	0.00	1219.61	1075.39	0.322	0.00	0.50	4.590	A
1	3	0.00	0.00	0.00	316.54	390.99	0.00	1363.75	913.80	0.000	0.00	0.00	0.000	A
1	4	780.71	195.18	767.28	0.00	390.99	0.00	1033.29	251.74	0.756	0.00	3.36	15.080	C
2	1	332.76	83.19	329.90	700.89	641.67	0.00	946.04	852.01	0.352	0.00	0.71	7.765	A
2	2	439.67	109.92	434.11	244.17	727.40	0.00	751.17	485.47	0.585	0.00	1.39	11.322	B
2	3	788.32	197.08	782.34	967.50	194.01	0.00	1396.71	1382.70	0.564	0.00	1.49	6.807	A
2	4	411.81	102.95	406.42	40.21	936.14	0.00	717.84	380.25	0.574	0.00	1.35	11.752	B

Main results: (17:00-17:15)

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
1	1	1154.60	288.65	1033.74	936.08	435.30	0.00	1051.62	967.24	1.098	7.00	37.21	90.940	F
1	2	469.27	117.32	468.57	1120.75	348.29	0.00	1200.35	1075.38	0.391	0.50	0.67	5.206	A
1	3	0.00	0.00	0.00	348.29	468.57	0.00	1312.74	913.80	0.000	0.00	0.00	0.000	A
1	4	932.24	233.06	902.81	0.00	468.57	0.00	989.02	251.74	0.943	3.36	10.72	39.228	E
2	1	397.35	99.34	395.85	835.43	763.33	0.00	875.32	852.01	0.454	0.71	1.09	9.991	A
2	2	525.00	131.25	517.81	290.98	868.21	0.00	675.82	485.47	0.777	1.39	3.19	22.137	C
2	3	936.08	234.02	932.34	1154.60	231.42	0.00	1373.88	1382.70	0.681	1.49	2.43	9.478	A
2	4	491.74	122.94	482.95	47.94	1115.81	0.00	617.34	380.25	0.797	1.35	3.55	26.123	D

Main results: (17:15-17:30)

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
1	1	1319.52	329.88	1044.42	1051.74	445.22	0.00	1045.76	967.26	1.262	37.21	105.99	256.609	F
1	2	574.73	143.68	573.57	1137.75	351.89	0.00	1198.17	1075.39	0.480	0.67	0.96	6.092	A
1	3	0.00	0.00	0.00	351.89	573.57	0.00	1243.71	913.80	0.000	0.00	0.00	0.000	A
1	4	1141.76	285.44	923.39	0.00	573.57	0.00	929.11	251.74	1.229	10.72	65.31	161.603	F
2	1	486.65	121.66	483.71	937.81	839.96	0.00	830.78	852.01	0.586	1.09	1.82	13.727	B
2	2	643.00	160.75	582.84	326.51	997.16	0.00	606.81	485.47	1.060	3.19	18.23	84.030	F
2	3	1051.74	262.94	1046.19	1319.52	260.48	0.00	1356.14	1382.70	0.776	2.43	3.82	13.366	B
2	4	602.26	150.56	524.97	53.87	1252.80	0.00	540.72	380.25	1.114	3.55	22.87	110.066	F

Main results: (17:30-17:45)

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
1	1	1334.23	333.56	1044.24	1055.11	447.30	0.00	1044.54	967.26	1.277	105.99	178.48	499.804	F
1	2	574.73	143.68	574.71	1139.71	351.83	0.00	1198.21	1075.39	0.480	0.96	0.97	6.114	A
1	3	0.00	0.00	0.00	351.83	574.71	0.00	1242.97	913.80	0.000	0.00	0.00	0.000	A
1	4	1141.76	285.44	927.71	0.00	574.71	0.00	928.46	251.74	1.230	65.31	118.82	360.641	F
2	1	486.65	121.66	486.46	948.40	847.59	0.00	826.34	852.01	0.589	1.82	1.87	14.123	B
2	2	643.00	160.75	595.31	329.07	1004.97	0.00	602.63	485.47	1.067	18.23	30.15	160.866	F
2	3	1055.11	263.78	1054.39	1334.23	266.06	0.00	1352.73	1382.70	0.780	3.82	4.00	14.072	B
2	4	602.26	150.56	530.15	54.60	1265.84	0.00	533.42	380.25	1.129	22.87	40.90	230.234	F

Main results: (17:45-18:00)

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
1	1	1283.17	320.79	1029.97	977.06	471.74	0.00	1030.11	967.26	1.246	178.48	241.78	744.416	F
1	2	469.27	117.32	470.41	1154.69	347.02	0.00	1201.12	1075.39	0.391	0.97	0.69	5.225	A
1	3	0.00	0.00	0.00	347.02	470.41	0.00	1311.54	913.80	0.000	0.00	0.00	0.000	A
1	4	932.24	233.06	978.39	0.00	470.41	0.00	987.98	251.74	0.944	118.82	107.28	412.563	F
2	1	397.35	99.34	399.77	908.41	848.77	0.00	825.66	852.01	0.481	1.87	1.27	11.348	B
2	2	525.00	131.25	615.71	305.91	942.63	0.00	636.00	485.47	0.825	30.15	7.47	119.283	F
2	3	977.06	244.26	980.18	1283.17	275.17	0.00	1347.17	1382.70	0.725	4.00	3.22	11.614	B
2	4	491.74	122.94	555.03	53.21	1202.14	0.00	569.05	380.25	0.864	40.90	25.08	215.917	F

Main results: (18:00-18:15)

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
1	1	1082.91	270.73	1017.78	922.22	492.14	0.00	1018.08	967.25	1.064	241.78	258.06	889.588	F
1	2	392.99	98.25	393.66	1167.00	342.91	0.00	1203.61	1075.38	0.327	0.69	0.52	4.710	A
1	3	0.00	0.00	0.00	342.91	393.66	0.00	1361.99	913.81	0.000	0.00	0.00	0.000	A
1	4	780.71	195.18	1020.69	0.00	393.66	0.00	1031.77	251.74	0.757	107.28	47.29	275.518	F
2	1	332.76	83.19	334.43	808.82	781.63	0.00	864.68	852.01	0.385	1.27	0.85	9.093	A
2	2	439.67	109.92	462.34	288.87	827.20	0.00	697.77	485.47	0.630	7.47	1.80	16.864	C
2	3	922.22	230.55	925.57	1082.91	206.63	0.00	1389.01	1382.70	0.664	3.22	2.38	9.178	A
2	4	411.81	102.95	503.81	45.56	1086.64	0.00	633.66	380.25	0.650	25.08	2.07	46.993	E

Queueing Delay Results for each time segment

Queueing Delay results: (16:45-17:00)

Junction	Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	1	83.57	5.57	23.633	C	C
1	2	7.28	0.49	4.590	A	A
1	3	0.00	0.00	0.000	A	A
1	4	44.49	2.97	15.080	C	B
2	1	10.26	0.68	7.765	A	A
2	2	19.29	1.29	11.322	B	B
2	3	21.27	1.42	6.807	A	A
2	4	18.73	1.25	11.752	B	B

Queueing Delay results: (17:00-17:15)

Junction	Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	1	343.46	22.90	90.940	F	F
1	2	9.87	0.66	5.206	A	A
1	3	0.00	0.00	0.000	A	A
1	4	122.89	8.19	39.228	E	D
2	1	15.66	1.04	9.991	A	A
2	2	42.11	2.81	22.137	C	C
2	3	34.42	2.29	9.478	A	A
2	4	45.79	3.05	26.123	D	C

Queueing Delay results: (17:15-17:30)

Junction	Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	1	1074.76	71.65	256.609	F	F
1	2	14.03	0.94	6.092	A	A
1	3	0.00	0.00	0.000	A	A
1	4	575.10	38.34	161.603	F	F
2	1	25.70	1.71	13.727	B	B
2	2	173.84	11.59	84.030	F	F
2	3	52.95	3.53	13.366	B	B
2	4	208.75	13.92	110.066	F	F

Queueing Delay results: (17:30-17:45)

Junction	Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	1	2133.61	142.24	499.804	F	F
1	2	14.52	0.97	6.114	A	A
1	3	0.00	0.00	0.000	A	A
1	4	1381.19	92.08	360.641	F	F
2	1	27.81	1.85	14.123	B	B
2	2	364.42	24.29	160.866	F	F
2	3	58.96	3.93	14.072	B	B
2	4	479.21	31.95	230.234	F	F

Queueing Delay results: (17:45-18:00)

Junction	Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	1	3152.01	210.13	744.416	F	F
1	2	10.55	0.70	5.225	A	A
1	3	0.00	0.00	0.000	A	A
1	4	1695.75	113.05	412.563	F	F
2	1	19.94	1.33	11.348	B	B
2	2	282.33	18.82	119.283	F	F
2	3	50.65	3.38	11.614	B	B
2	4	494.80	32.99	215.917	F	F

Queueing Delay results: (18:00-18:15)

Junction	Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	1	3748.86	249.92	889.588	F	F
1	2	7.93	0.53	4.710	A	A
1	3	0.00	0.00	0.000	A	A
1	4	1159.25	77.28	275.518	F	F
2	1	13.23	0.88	9.093	A	A
2	2	34.16	2.28	16.864	C	B
2	3	37.45	2.50	9.178	A	A
2	4	113.31	7.55	46.993	E	D

(Default Analysis Set) - 2031 J1d sensitivity, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Linked Roundabout	Junction 1 - Arm 1	If the distance between linked junctions is small, results should be treated with caution. The linked junctions will be modelled as separate junctions, but the real behaviour may be that of a complex system with interactions that cannot be modelled.
Warning	Linked Roundabout	Junction 2 - Arm 3	If the distance between linked junctions is small, results should be treated with caution. The linked junctions will be modelled as separate junctions, but the real behaviour may be that of a complex system with interactions that cannot be modelled.

Analysis Set Details

Name	Roundabout Capacity Model	Description	Include In Report	Use Specific Demand Set(s)	Specific Demand Set (s)	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)	ARCADY		✓				100.000	100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Results For Central Hour Only	Single Time Segment Only	Locked	Run Automatically	Use Relationship	Relati
2031 J1d sensitivity, PM	2031 J1d sensitivity	PM		Varies by Arm	16:45	18:15	90	15				✓		

Junction Network

Junctions

Junction	Junction	Name	Junction Type	Arm Order	Grade Separated	Large Roundabout	Do Geometric Delay	Junction Delay (s)	Junction LOS
1	1	(untitled)	Roundabout	1,2,3,4				885.53	F
2	2	(untitled)	Roundabout	1,2,3,4				235.96	F

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Junction	Arm	Arm	Name	Description
1	1	1	Wooldale Rd E	
1	2	2	Rowtree Rd	
1	3	3	London rd	
1	4	4	A45 N	
2	1	1	Wooldale Rd E	
2	2	2	A45 S	
2	3	3	(untitled)	Wooldale Rd W
2	4	4	Berry Lane	

Capacity Options

Junction	Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)	Assume Flat Start Profile	Initial Queue (PCU)
1	1	0.00	99999.00		0.00
1	2	0.00	99999.00		0.00
1	3	0.00	99999.00		0.00
1	4	0.00	99999.00		0.00
2	1	0.00	99999.00		0.00
2	2	0.00	99999.00		0.00
2	3	0.00	99999.00		0.00
2	4	0.00	99999.00		0.00

Roundabout Geometry

Junction	Arm	V - Approach road half-width (m)	E - Entry width (m)	l' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only
1	1	3.70	5.90	1.70	15.00	32.00	12.00	
1	2	3.90	4.80	6.30	20.00	32.00	21.00	
1	3	3.50	6.60	10.00	30.00	32.00	18.00	
1	4	4.00	4.10	1.00	20.00	32.00	25.00	
2	1	3.10	4.80	9.80	20.00	38.00	19.00	
2	2	3.20	3.90	8.00	15.00	38.00	24.00	
2	3	4.20	5.50	6.20	15.00	38.00	24.00	
2	4	3.20	5.00	4.90	20.00	38.00	25.00	

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Junction	Arm	Enter slope and intercept directly	Entered slope	Entered intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
1	1		(calculated)	(calculated)	0.590	1308.494
1	2		(calculated)	(calculated)	0.607	1411.596
1	3		(calculated)	(calculated)	0.657	1620.802
1	4		(calculated)	(calculated)	0.571	1256.381
2	1		(calculated)	(calculated)	0.581	1319.029
2	2		(calculated)	(calculated)	0.535	1140.435
2	3		(calculated)	(calculated)	0.610	1515.149
2	4		(calculated)	(calculated)	0.559	1241.472

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

Traffic Flows

Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.30				✓	✓

Entry Flows

General Flows Data

Junction	Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
1	1	Linked Arm		N/A	
1	2	ONE HOUR	✓	667.00	100.000
1	3	ONE HOUR	✓	0.00	100.000
1	4	ONE HOUR	✓	1250.00	100.000
2	1	ONE HOUR	✓	467.00	100.000
2	2	ONE HOUR	✓	599.00	100.000
2	3	Linked Arm		N/A	
2	4	ONE HOUR	✓	619.00	100.000

Linked Arm Data

Junction	Arm	From Junction ID	From Arm ID	Link Type	Flow Source	Uniform Flow (PCU/hr)	Flow Multiplier (%)	Internal Storage Space (PCU)
1	1	2	3	Simple (vertical queueing)	Normal	0.00	100.00	
2	3	1	1	Simple (vertical queueing)	Normal	0.00	100.00	

Turning Proportions

Turning Counts / Proportions (PCU/hr) - Junction 1 (for whole period)

		To			
		1	2	3	4
From	1	0.000	997.000	390.000	0.000
	2	667.000	0.000	0.000	0.000
	3	0.000	0.000	0.000	0.000
	4	641.000	533.000	76.000	0.000

Turning Proportions (PCU) - Junction 1 (for whole period)

		To			
		1	2	3	4
From	1	0.00	0.72	0.28	0.00
	2	1.00	0.00	0.00	0.00
	3	0.25	0.25	0.25	0.25
	4	0.51	0.43	0.06	0.00

Turning Counts / Proportions (PCU/hr) - Junction 2 (for whole period)

		To			
		1	2	3	4
From	1	0.000	0.000	467.000	0.000
	2	245.000	0.000	313.000	41.000
	3	888.000	397.000	0.000	23.000
	4	12.000	0.000	607.000	0.000

Turning Proportions (PCU) - Junction 2 (for whole period)

		To			
		1	2	3	4
From	1	0.00	0.00	1.00	0.00
	2	0.41	0.00	0.52	0.07
	3	0.68	0.30	0.00	0.02
	4	0.02	0.00	0.98	0.00

Vehicle Mix

Average PCU Per Vehicle - Junction 1 (for whole period)

		To			
		1	2	3	4
From	1	1.000	1.298	1.047	1.000
	2	1.035	1.000	1.000	1.000
	3	1.000	1.000	1.000	1.000
	4	1.337	1.023	1.273	1.000

Heavy Vehicle Percentages - Junction 1 (for whole period)

		To			
		1	2	3	4
From	1	0.0	22.9	3.6	0.0
	2	2.7	0.0	0.0	0.0
	3	0.0	0.0	0.0	0.0
	4	25.9	1.8	21.0	0.0

Average PCU Per Vehicle - Junction 2 (for whole period)

		To			
		1	2	3	4
From	1	1.000	1.000	1.407	1.000
	2	1.112	1.000	1.038	1.127
	3	1.337	1.033	1.000	1.056
	4	1.000	1.000	1.178	1.000

Heavy Vehicle Percentages - Junction 2 (for whole period)

		To			
		1	2	3	4
From	1	0.0	0.0	31.3	0.0
	2	8.6	0.0	2.9	9.8
	3	25.9	2.5	0.0	4.3
	4	0.0	0.0	13.7	0.0

Results

Results Summary for whole modelled period

Junction	Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)	Total Queueing Delay (PCU-min)	Average Queueing Delay (s)	Rate Of Queueing Delay (PCU-min/min)	Inclusive Total Queueing Delay (PCU-min)	Inclusive Average Queueing Delay (s)
1	1	1.21	808.33	246.28	F	1200.19	1800.28	10136.71	337.84	112.63	11902.10	396.67
1	2	0.61	8.02	1.62	A	612.05	918.08	100.32	6.56	1.11	100.34	6.56
1	3	0.00	0.00	0.00	A	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1	4	1.64	1434.56	388.18	F	1147.02	1720.53	17958.01	626.25	199.53	22472.06	783.67
2	1	0.61	15.04	2.11	C	428.53	642.79	132.91	12.41	1.48	132.95	12.41
2	2	1.06	163.53	31.02	F	549.65	824.48	1001.05	72.85	11.12	1001.36	72.87
2	3	0.87	24.40	7.46	C	1069.19	1603.79	433.81	16.23	4.82	434.05	16.24
2	4	1.47	870.94	135.67	F	568.01	852.01	6015.06	423.59	66.83	6623.88	466.47

Main Results for each time segment

Main results: (16:45-17:00)

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
1	1	1024.49	256.12	968.53	955.52	433.48	0.00	1052.69	973.46	0.973	0.00	13.99	39.484	E
1	2	502.15	125.54	499.26	1075.58	326.43	0.00	1213.61	1100.51	0.414	0.00	0.72	5.196	A
1	3	0.00	0.00	0.00	326.43	499.26	0.00	1292.57	897.28	0.000	0.00	0.00	0.000	A
1	4	941.07	235.27	889.74	0.00	499.26	0.00	971.51	244.47	0.969	0.00	12.83	39.742	E
2	1	351.58	87.90	347.99	831.96	731.34	0.00	893.92	862.27	0.393	0.00	0.90	9.220	A
2	2	450.96	112.74	443.96	286.84	792.50	0.00	716.34	481.78	0.630	0.00	1.75	13.849	B
2	3	955.52	238.88	945.04	1024.49	211.98	0.00	1385.75	1374.72	0.690	0.00	2.62	9.763	A
2	4	466.02	116.50	453.29	47.01	1110.01	0.00	620.59	375.82	0.751	0.00	3.18	23.753	C

Main results: (17:00-17:15)

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
1	1	1192.41	298.10	1037.92	1065.03	443.30	0.00	1046.90	973.46	1.139	13.99	52.61	129.026	F
1	2	599.62	149.90	598.44	1134.05	347.17	0.00	1201.03	1100.51	0.499	0.72	1.02	6.171	A
1	3	0.00	0.00	0.00	347.17	598.44	0.00	1227.36	897.28	0.000	0.00	0.00	0.000	A
1	4	1123.72	280.93	909.89	0.00	598.44	0.00	914.92	244.47	1.228	12.83	66.29	173.142	F
2	1	419.82	104.96	417.96	944.80	819.99	0.00	842.39	862.27	0.498	0.90	1.36	11.879	B
2	2	538.49	134.62	528.00	321.44	916.51	0.00	649.98	481.78	0.828	1.75	4.37	29.397	D
2	3	1065.03	266.26	1059.04	1192.41	252.10	0.00	1361.25	1374.72	0.782	2.62	4.12	14.252	B
2	4	556.47	139.12	508.40	54.76	1256.38	0.00	538.72	375.82	1.033	3.18	15.20	86.247	F

Main results: (17:15-17:30)

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
1	1	1285.12	321.28	1066.06	1162.02	408.51	0.00	1067.43	973.45	1.204	52.61	107.38	279.883	F
1	2	734.38	183.60	732.05	1123.83	350.74	0.00	1198.87	1100.51	0.613	1.02	1.60	7.942	A
1	3	0.00	0.00	0.00	350.74	732.05	0.00	1139.52	897.28	0.000	0.00	0.00	0.000	A
1	4	1376.28	344.07	838.48	0.00	732.05	0.00	838.69	244.47	1.641	66.29	200.74	582.354	F
2	1	514.18	128.54	511.29	1035.12	810.85	0.00	847.70	862.27	0.607	1.36	2.09	14.921	B
2	2	659.51	164.88	597.78	349.38	972.75	0.00	619.88	481.78	1.064	4.37	19.80	91.108	F
2	3	1162.02	290.51	1151.12	1285.12	285.42	0.00	1340.91	1374.72	0.867	4.12	6.84	21.850	C
2	4	681.53	170.38	470.59	61.16	1375.38	0.00	472.16	375.82	1.443	15.20	67.93	338.581	F

Main results: (17:30-17:45)

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
1	1	1288.81	322.20	1067.28	1163.71	407.96	0.00	1067.75	973.45	1.207	107.38	162.76	466.221	F
1	2	734.38	183.60	734.31	1124.23	351.01	0.00	1198.70	1100.51	0.613	1.60	1.62	8.020	A
1	3	0.00	0.00	0.00	351.01	734.31	0.00	1138.04	897.28	0.000	0.00	0.00	0.000	A
1	4	1376.28	344.07	837.35	0.00	734.31	0.00	837.40	244.47	1.644	200.74	335.47	1096.988	F
2	1	514.18	128.54	514.07	1048.72	806.00	0.00	850.51	862.27	0.605	2.09	2.11	15.037	C
2	2	659.51	164.88	614.66	352.45	967.62	0.00	622.62	481.78	1.059	19.80	31.02	163.528	F
2	3	1163.71	290.93	1161.22	1288.81	293.48	0.00	1335.99	1374.72	0.871	6.84	7.46	24.403	C
2	4	681.53	170.38	462.52	62.49	1392.21	0.00	462.74	375.82	1.473	67.93	122.69	726.386	F

Main results: (17:45-18:00)

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
1	1	1246.14	311.53	1045.78	1070.04	444.76	0.00	1046.03	973.46	1.191	162.76	212.85	657.079	F
1	2	599.62	149.90	601.90	1140.98	349.56	0.00	1199.58	1100.51	0.500	1.62	1.05	6.257	A
1	3	0.00	0.00	0.00	349.56	601.90	0.00	1225.09	897.28	0.000	0.00	0.00	0.000	A
1	4	1123.72	280.93	912.90	0.00	601.90	0.00	912.95	244.47	1.231	335.47	388.18	1401.961	F
2	1	419.82	104.96	422.53	999.28	822.06	0.00	841.18	862.27	0.499	2.11	1.44	12.177	B
2	2	538.49	134.62	629.33	327.30	917.29	0.00	649.56	481.78	0.829	31.02	8.30	122.700	F
2	3	1070.04	267.51	1078.36	1246.14	300.48	0.00	1331.72	1374.72	0.804	7.46	5.38	17.932	C
2	4	556.47	139.12	504.54	62.04	1316.80	0.00	504.92	375.82	1.102	122.69	135.67	870.939	F

Main results: (18:00-18:15)

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
1	1	1164.18	291.05	1030.46	998.83	470.76	0.00	1030.70	973.46	1.130	212.85	246.28	808.325	F
1	2	502.15	125.54	503.34	1152.72	348.50	0.00	1200.23	1100.51	0.418	1.05	0.75	5.357	A
1	3	0.00	0.00	0.00	348.50	503.34	0.00	1289.89	897.28	0.000	0.00	0.00	0.000	A
1	4	941.07	235.27	966.25	0.00	503.34	0.00	969.19	244.47	0.971	388.18	381.88	1434.560	F
2	1	351.58	87.90	352.96	888.51	869.27	0.00	813.74	862.27	0.432	1.44	1.09	11.027	B
2	2	450.96	112.74	473.77	305.61	916.62	0.00	649.92	481.78	0.694	8.30	2.60	24.288	C
2	3	998.83	249.71	1006.90	1164.18	226.21	0.00	1377.06	1374.72	0.725	5.38	3.37	12.134	B
2	4	466.02	116.50	574.80	50.13	1182.98	0.00	579.77	375.82	0.804	135.67	108.47	765.676	F

Queueing Delay Results for each time segment

Queueing Delay results: (16:45-17:00)

Junction	Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	1	144.50	9.63	39.484	E	D
1	2	10.48	0.70	5.196	A	A
1	3	0.00	0.00	0.000	A	A
1	4	133.38	8.89	39.742	E	D
2	1	12.77	0.85	9.220	A	A
2	2	23.90	1.59	13.849	B	B
2	3	36.20	2.41	9.763	A	A
2	4	40.67	2.71	23.753	C	C

Queueing Delay results: (17:00-17:15)

Junction	Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	1	505.07	33.67	129.026	F	F
1	2	14.82	0.99	6.171	A	A
1	3	0.00	0.00	0.000	A	A
1	4	597.45	39.83	173.142	F	F
2	1	19.49	1.30	11.879	B	B
2	2	55.56	3.70	29.397	D	C
2	3	56.90	3.79	14.252	B	B
2	4	151.28	10.09	86.247	F	F

Queueing Delay results: (17:15-17:30)

Junction	Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	1	1200.47	80.03	279.883	F	F
1	2	22.96	1.53	7.942	A	A
1	3	0.00	0.00	0.000	A	A
1	4	2002.85	133.52	582.354	F	F
2	1	29.42	1.96	14.921	B	B
2	2	192.54	12.84	91.108	F	F
2	3	90.79	6.05	21.850	C	C
2	4	624.71	41.65	338.581	F	F

Queueing Delay results: (17:30-17:45)

Junction	Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	1	2026.12	135.07	466.221	F	F
1	2	24.18	1.61	8.020	A	A
1	3	0.00	0.00	0.000	A	A
1	4	4021.58	268.11	1096.988	F	F
2	1	31.53	2.10	15.037	C	B
2	2	382.67	25.51	163.528	F	F
2	3	108.20	7.21	24.403	C	C
2	4	1429.71	95.31	726.386	F	F

Queueing Delay results: (17:45-18:00)

Junction	Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	1	2817.09	187.81	657.079	F	F
1	2	16.30	1.09	6.257	A	A
1	3	0.00	0.00	0.000	A	A
1	4	5427.34	361.82	1401.961	F	F
2	1	22.67	1.51	12.177	B	B
2	2	297.07	19.80	122.700	F	F
2	3	87.43	5.83	17.932	C	B
2	4	1937.66	129.18	870.939	F	F

Queueing Delay results: (18:00-18:15)

Junction	Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	1	3443.46	229.56	808.325	F	F
1	2	11.59	0.77	5.357	A	A
1	3	0.00	0.00	0.000	A	A
1	4	5775.41	385.03	1434.560	F	F
2	1	17.02	1.13	11.027	B	B
2	2	49.30	3.29	24.288	C	C
2	3	54.27	3.62	12.134	B	B
2	4	1831.03	122.07	765.676	F	F