Appendix 15
TN10: Impacts north of the M1 including the A45 corridor Technical Note

M1J15 NORTHAMPTON GATEWAY
STRATEGIC RAIL FREIGHT INTERCHANGE

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

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project number: ADC1475			report reference: ADC1475 TN10
version	date	author	comments
1	07/12/2017	Mark Higgins	internal draft
2	13/12/2017	Mark Higgins	issue to TWG
3	07/02/2018	Mark Higgins	revised following HE comments
4	02/03/2018	Mark Higgins	DfT Circular 02/2013 requirements added

EXECUTIVE SUMMARY

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 facility adjacent to M1 Junction 15 in Northamptonshire.

The development traffic has been assigned to the highway network using the Northamptonshire Strategic Transport Model (NSTM2). The impact of the proposed development, accounting for the effects of background traffic growth associated with all committed and planned development in the Northamptonshire area, has been assessed using the NSTM2 and extensive highway mitigation proposals have been agreed, including:

- significant enlargement of M1 J15 with provision of additional lanes on all approaches;
- widening of the A45 to the north of M1 J15 and the signalisation of Watering Lane;
- partial signalisation of M1 J15a with additional lanes on the A43 and A5123 approaches;
- dualling of the A508 between the site access and M1 J15;
- provision of a bypass around the village of Roade, and;
- improvement schemes at key junctions along the A508 corridor.

The highway improvements release existing bottlenecks on the A508, M1 and A45 corridors, allowing the highway network to function in a more efficient manner. This draws background traffic back onto the principal and strategic road networks, significantly reducing rat-running through local villages. The improvement schemes at M1 J15 and M1 J15a deliver significant betterment, enabling improved access to and from Northampton via the A45 and the A5123.

This Technical Note therefore considers the residual development traffic impacts with the highway mitigation strategy in place. It focuses on the residual impacts north of the M1, including the A45. Assessment is undertaken using the NSTM2, followed by detailed junction modelling.

The NSTM2 analysis shows that with the development and highway mitigation in place, traffic flows at the southern end of the A45 (between M1 J15 and the Queen Eleanor Interchange), generally increase in line with the development traffic assignment, with the improvement scheme at M1 J15 providing additional capacity. Nevertheless, the highway improvements at M1 J15a, and the proposed change to the A508/Blisworth Road junction to become left-in, left-out (which means traffic that was previously bound for the A43 and rat running through Blisworth village can no longer use that route), combine to draw background traffic that is bound for the A43 and the M1, away from M1 J15 and the southern end of the A45. Instead this traffic uses the A5076 Mere Way/Danes Camp Way southern ring road route from the A45 Queen Eleanor Interchange to access the A43 and M1 via M1 J15a.

North of the A45 Barnes Meadow Interchange there are no significant increases in traffic flows on the A45 in the development case scenarios as compared to the reference case scenarios. However, the analysis shows that development traffic is present on this section of the A45, and therefore local background traffic is reassigning away from this route. This reassignment occurs because north of the Barnes Meadow Interchange the link capacity of the A45 is forecast to be exceeded at several locations in both the DfT Circular 02/2013 compliant reference case and 2031 reference case scenarios. This is due to the forecast growth in background traffic, including that associated with the committed and planned development in Northamptonshire, and is therefore an existing problem with or without the addition of the development traffic. The displaced traffic reassigns across multiple routes and disperses across the road network.

Based on the above analysis, a study area of 12 junctions north of the M1 has been identified, which includes all relevant junction on the A45, the A5076 Mere Way/Danes Camp Way corridor, the key junctions on the inner ring road and junctions north of M1 Junction 15a. Detailed models have been constructed and used to assess the impact of the development traffic and the reassigned traffic on the study area junctions.

The junction modelling shows that there would not be a severe impact at any of the study area junctions. However, the combined impacts of the development and highway mitigation does result in a more notable deterioration in junction performance at the A45 Queen Eleanor Interchange and the A5076 Danes Camp Way/Mere Way/Towcester Road gyratory. The Queen Eleanor Interchange is a key junction for the strategic and local highway networks and therefore an appropriate improvement scheme has been identified to mitigate the development impact. An improvement scheme at the A5076 Danes Camp Way/ Mere Way gyratory is also identified. Elsewhere, traffic flows on the A45 do not alter between the reference case and the development case scenarios and therefore no further mitigation is required on the A45 as a result of the proposed development.

NCC are developing a comprehensive improvement scheme at the A45 Queen Eleanor Interchange and it is recognised that flexibility regarding the timing and scope of the improvement works on the A5076 Danes Camp Way corridor would be beneficial. Therefore, it is proposed that NCC secure a financial contribution equivalent to the cost of implementing the proposed improvement works at these junctions, to be used to deliver the proposed improvements, or as part of a wider package of improvements at the A45 Queen Eleanor Interchange and the A5076 corridor.

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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 evolution of the NSTM2 highway modelling for the proposed development 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). The NSTM2 modelling has incorporated the developing mitigation strategy as schemes began to crystallise so that reassignment effects due to the mitigation could also be taken into consideration.

1.5 Technical Notes 5 (ref. ADC1475 TN5 v5), 6 (ref. ADC1475 TN6 v2) and 8(ref. ADC1475 TN8 v2) consider the highway impacts at M1 Junction 15, M1 Junction 15a and the A508 corridor to the south of the development, respectively. They detailed the proposed highway works required to mitigate the impact for the proposed development traffic and the forecast traffic reassignment resulting from the proposed highway mitigation strategy.

1.6 Technical Note 7 (ref. ADC1475 TN7 v3) considers the impact of the proposed development on the A45 between the Queen Eleanor Interchange and M1 Junction 15. It concluded that the impact at the Queen Eleanor Interchange required mitigation which was proposed in form of carriageway widening on the A5076 Mere Way approach to the junction. The findings of Technical Note 7 were discussed with the TWG. It was agreed that rather than implement the proposed works in isolation as part of the Northampton Gateway SRFI scheme, a financial contribution should be secured and put towards the more comprehensive improvement scheme for the junction that is being developed by NCC.

1.7 The TWG confirmed in principle support for the package of highway mitigation works defined within the above referenced Technical Notes at the TWG meeting held on 19 September 2017. The highway mitigation works were therefore incorporated into the NSTM2 so that the wider impacts of the development and the mitigation proposals to the north of the M1 could be considered in more detail.

1.8 This Technical Note therefore presents the analysis of the highway network north of the M1, including the impacts in Northampton and the A45 corridor between M1 Junction 15 and the A45/A509 gyratory at Wellingborough. The assessment is based on NSTM2 traffic data taken from the 2031 (D1) reference case and 2031 (J1d) development case assessment scenarios. The 2031 scenario is the required assessment year for the County road network and is forward planning year for the strategic road network. Using the 2031 year therefore allows a consistent and robust assessment across the area of interest for both Highways England and NCC. However, part of the analysis of the A45 corridor also considers the opening year DfT Circular 02/2013 compliant assessment scenarios.

2.0 DEVELOPMENT TRAFFIC FLOWS

Traffic generation

2.1 The traffic that could be generated by the proposed development is detailed in Technical Note 2 (ref. ADC1475 TN2 v4). The table below summarises the calculated traffic generation for the proposed development without taking account of the traffic reducing effects of the Travel Plan[1].

Time Window	Predicted Traffic Profiles for M1J15 Northampton Gateway SRFI no Travel Plan								
	Light vehicles			Heavy vehicles			Total vehicles		
	Arrive	Depart	Two-way	Arrive	Depart	Two-way	Arrive	Depart	Two-way
00.00-01.00	59	42	101	38	58	96	97	99	196
01.00-02.00	38	13	50	55	55	110	93	68	160
02.00-03.00	25	96	121	58	58	116	83	155	238
03.00-04.00	42	54	96	42	61	103	83	116	199
04.00-05.00	134	63	197	57	42	99	191	105	296
05.00-06.00	967	452	1420	93	65	158	1060	517	1578
06.00-07.00	448	360	808	113	73	185	561	433	994
07.00-08.00	515	163	679	118	139	258	633	303	936
08.00-09.00	700	75	775	138	131	269	838	206	1044
09.00-10.00	335	105	440	104	98	202	439	203	642
10.00-11.00	260	159	419	125	132	257	385	291	675
11.00-12.00	197	147	344	114	110	224	311	257	568
12.00-13.00	285	318	603	110	105	215	395	423	818
13.00-14.00	494	335	829	91	119	211	585	454	1040
14.00-15.00	226	540	766	88	120	208	315	660	975
15.00-16.00	130	645	775	81	113	194	211	758	970
*16.00-17.00**	168	624	792	124	96	220	292	721	1012
*17.00-18.00**	230	804	1035	138	130	268	369	934	1303
18.00-19.00	515	511	1026	114	101	215	629	613	1242
19.00-20.00	75	193	268	89	70	159	165	262	427
20.00-21.00	88	101	189	81	68	149	169	169	338
21.00-22.00	230	75	306	51	69	120	281	145	426
22.00-23.00	17	171	188	46	54	100	63	226	288
23.00-00.00	13	46	59	51	57	108	63	103	166
Totals	6191	6095	12286	2120	2125	4245	8311	8220	16531

2.2 The predicted SRFI peak hour traffic (lights) has been distributed and assigned to the highway network using the NSTM2. HGVs have been distributed using a bespoke HGV distribution which is detailed in Technical Note 3 (ref. ADC1475 TN3 v2) and assigned using the NSTM2.

Morning peak hour

2.3 **Figure 1** shows an extract from a select link analysis (SLA) for the 2031 development traffic assignment in the morning peak hour, specifically showing the routes used by development traffic arriving and departing the development. The full SLA output can be found at **Appendix A**.

2.4 The proposed development will be accessed from the A508 south of M1 Junction 15 and therefore all arrivals and departures to/from the north and east of the development, including Northampton and the surrounding area, must route through M1 Junction 15. **Figure 1** shows that the majority of these arrivals and departures are using the A45 corridor. There are approximately 424 two-way vehicles on the section of the A45 immediately north of M1 Junction 15 in the morning peak hour, which accounts for approximately 40% of the total development traffic generation in this peak.

2.5 The majority of development trips on the highway network in the morning peak hour are arrivals, with 348 vehicles arriving along the A45 corridor, and therefore arrivals shall be the focus of the morning peak assessment.

[1] The TWG requested that assessment of the development traffic impacts was undertaken without accounting for the effects of the Travel Plan. The trip generations are therefore a worst case as they do not include for the modal shift away from single occupancy vehicle trips that would be targeted by the Travel Plan.

2.6 Considering the northern section of the A45 corridor between the Great Billing Way Interchange and the A45/A509 gyratory south of Wellingborough, there are circa 182 two-way vehicles on the A45 with 157 vehicles heading southwards towards the development.

2.7 A further 15 development bound vehicles join the A45 at the Great Billing Way interchange and circa. 100 vehicles join the A45 via the A43 at the A43 Lumbertubs Interchange further to the south. These two routes effectively cater for the development trips from the northeast side of Northampton.

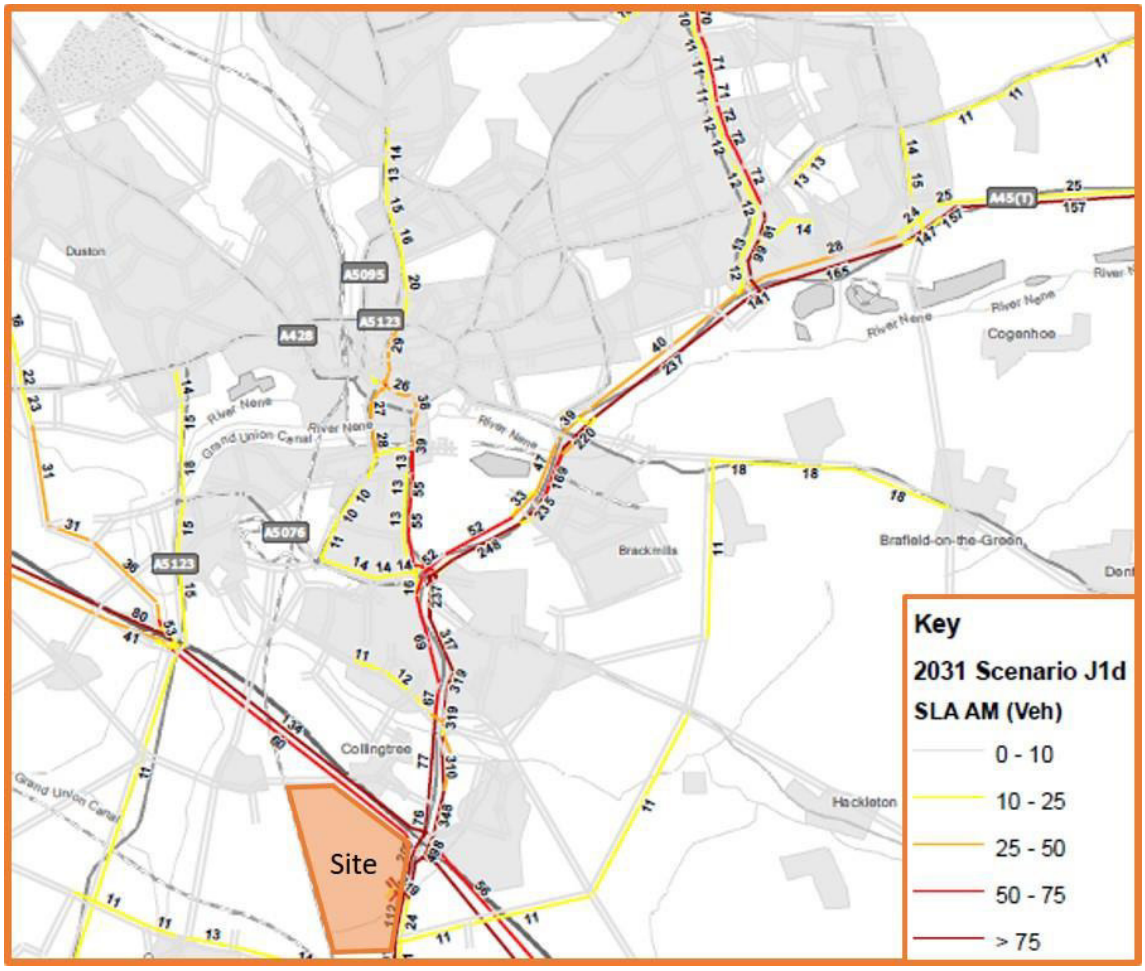


Figure 1: 2031 morning peak hour development traffic assignment

2.8 There are no further significant increases in development traffic on the A45 until the Queen Eleanor Interchange south of the town centre. At this junction development bound traffic arrives from the north of Northampton and from the town centre via London Road (circa 55 vehicles), and from the southwest of the town centre via the A5076 Mere Way (circa 15 vehicles). Further to the south, a small amount of development traffic joins the A45 at the Wootton Interchange.

2.9 **Figure 1** also shows that there are development vehicles arriving from west and northwest of the Northampton area, routing through M1 Junction 15a, via Swan Valley Way (circa 36 vehicles) and the A5123 (circa 15 vehicles).

2.10 Therefore, in the morning peak hour the majority of development traffic from Northampton and the surrounding area north of the M1 arrives at the development via the A45 corridor, with a smaller number of vehicles, predominantly from the west of Northampton, arriving via M1 Junction 15a. Vehicles arriving in the morning peak hour using the A45 are mostly routing via the A45/A509 gyratory at Wellingborough, the A43 at the A45 Lumbertubs Interchange and via the A45 Queen Eleanor Interchange.

Evening peak hour

2.11 **Figure 2** shows an extract from a SLA for the 2031 development traffic assignment in the evening peak hour. The full SLA output can be found at **Appendix A**.

2.12 In the evening peak hour, **Figure 2** shows that the majority of the arrivals and departures to/from Northampton and the surrounding area north of the M1 are using the A45 corridor. There are approximately 603 two-way vehicles on the section of the A45 immediately north of M1 Junction 15 in the evening peak hour which accounts for approximately 45% of the development traffic generation in this peak.

2.13 The majority of development trips on the highway network in the evening peak hour are departures, with 455 vehicles departing the site northwards along the A45 corridor. However, there is also a reasonably high volume of arrivals in the evening peak hour, particularly along the A45 and A43 corridors.

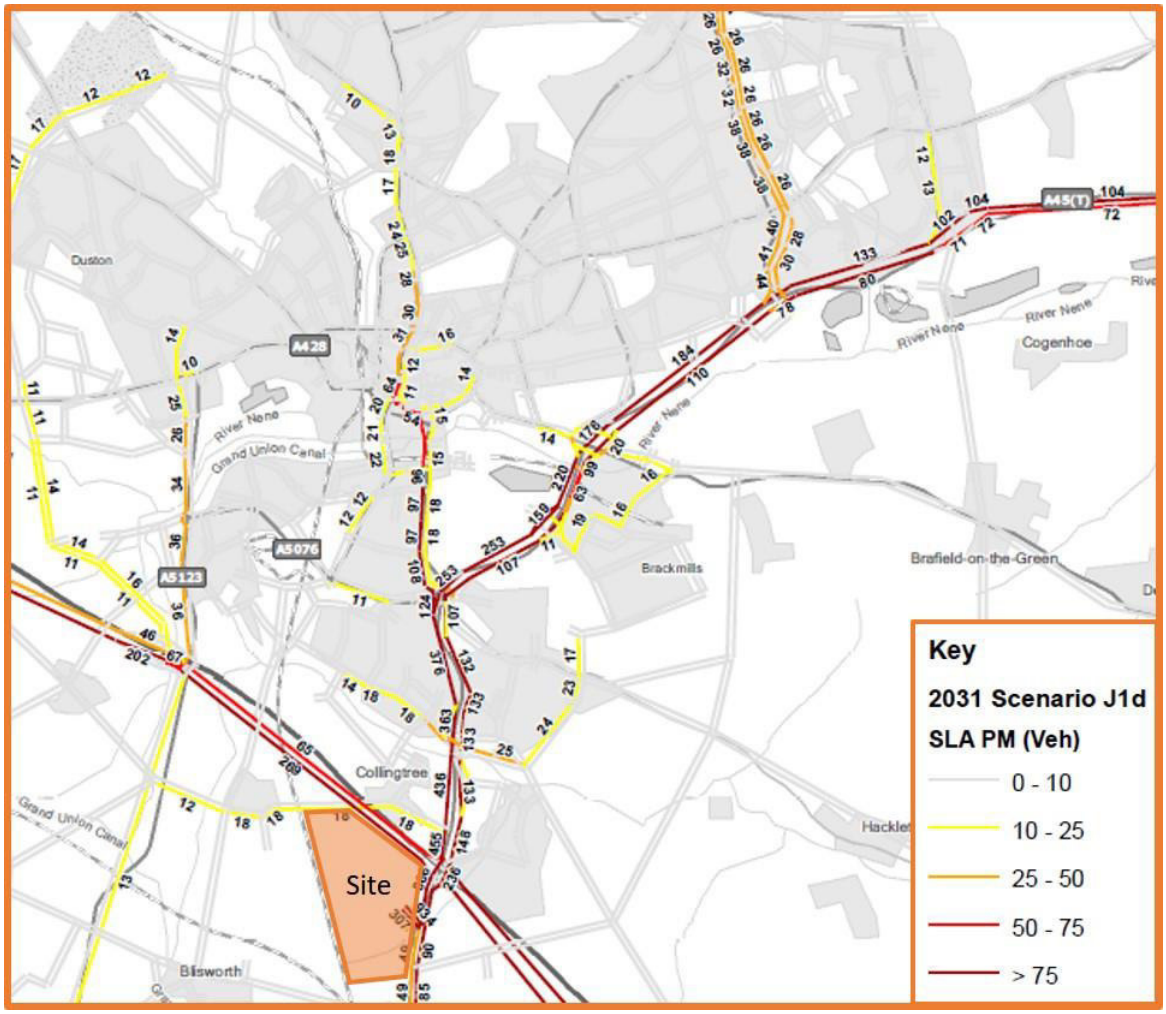


Figure 2: 2031 evening peak hour development traffic assignment

2.14 Between the Great Billing Way Interchange and the A45/A509 gyratory at Wellingborough, there are circa 176 two-way vehicles using the A45, with 104 vehicles departing the site towards Wellingborough.

2.15 A small proportion of the departing vehicles head north on Great Billing Way at the Great Billing Way Interchange and 44 departing vehicles leave the A45 to join the A43 at the A43 Lumbertubs Interchange further to the south. There are also 30 arrivals joining the A45 from the

A43 at this junction, giving a two-way development traffic flow of circa 74 vehicles on the A43 in the evening peak hour.

2.16 Small amounts of departing development traffic leave the A45 at the Barnes Meadow interchange and at the Brackmills Interchange. However, the most significant dispersal occurs at the Queen Eleanor Interchange, with departing development traffic heading towards the north of Northampton and the town centre via London Road (circa 108 vehicles), with a smaller amount of departing traffic heading towards the southwest of the town centre via the A5076 Mere Way. Further to the south, a small amount of development traffic departs the A45 at the Wootton Interchange, returning to the residential areas east and west of the A45.

2.17 **Figure 2** also shows that there are development vehicles departing towards the west and northwest of the Northampton area, routing through M1 Junction 15a onto Swan Valley Way (circa 16 vehicles) and the A5123 (circa 36 vehicles).

2.18 Therefore, similar to the morning peak hour, the majority of development traffic from Northampton and the surrounding area north of the M1 departs the site in the evening peak and routes along the A45 corridor. Again, this development traffic is mainly dispersing via the Queen Eleanor Interchange, the A43 at the A43 Lumbertubs Interchange and via the A45/A509 gyratory at Wellingborough. Additional routes for development departures to the west and northwest of Northampton route through M1 Junction 15a.

3.0 NSTM2 ANALYSIS

Introduction

3.1 To understand the highway impact in Northampton and the surrounding area due to the proposed development traffic and the proposed mitigation strategy (as detailed in Technical Notes 5, 6, 7 and 8), data from the following NSTM2 scenarios has been supplied by WSP:

- 2031 reference case (scenario D1 – no development and no mitigation);
- 2031 development case (scenario J1d – with development and the proposed M1J15, M1J15a, Roade Bypass, A508/Courteenhall left-in left-out, A508/Rookery Road/Ashton Road, A508/Pury Road mitigation schemes);
- 2021 DfT 02/2013 Circular compliant reference case (scenario C1 – no development and no mitigation);
- 2021 DfT 02/2013 Circular complaint development case (scenario I1 – with development and the proposed M1J15, M1J15a, Roade Bypass, A508/Courteenhall left-in left-out, A508/Rookery Road/Ashton Road, A508/Pury Road mitigation schemes).

3.2 Of specific interest to this analysis are the following data plots:

- traffic flows plots showing the actual flows on links throughout the model in the D1 and J1d scenarios;
- flow difference plots showing the change in traffic flows between the D1 and J1d scenarios;
- reassignment plots showing the reassignment of background traffic in the J1d scenario due to the effects of the development scheme (including highway mitigation), and;
- delay plots showing the delays on individual links in scenarios D1 and J1d.

3.3 This data has been interrogated to determine the scale, location and cause of any remaining material impacts due to the combination of the development traffic and/or reassignment effects associated with the highway mitigation schemes.

3.4 To support the following analysis, traffic flow plots, flow difference plots and reassignment plots have also been considered for the 2021 C1 reference case and 2021 I1 development case scenarios. These plots represent the 02/2013 Circular compliant assessment scenarios.

2031 morning peak hour

3.5 WSP have provided flow difference plots showing the change in traffic flow between the 2031 D1 reference case scenario and the 2031 J1d development case scenario. The flow difference plots contain 'modelling noise' in the form of very small changes in flow on minor routes that are unlikely to be due to the development. Therefore, to provide a clearer picture of the impacts of the development and highway mitigation strategy, WSP have provided flow difference plots (**Appendix B**) that have been filtered to remove all changes of less than 30 vehicles.

3.6 An extract of the flow difference plot for the evening peak hour is shown at **Figure 3** below, focusing on the Northampton area north of the M1. **Figure 3** shows that the general trend is for traffic increases on the southern end of the A45 between M1 Junction 15 and the Barnes Meadow Interchange, but virtually no change in traffic volumes further north along the A45. There are traffic flow increases predicted on alternate routes from M1 Junction 15a including the A5076 Mere Way/Danes Camp Way corridor and Swan Valley Way.

3.7 A flow reassignment plot for the 2031 morning peak hour is also provided at **Appendix C**, showing the background traffic reassignment due to the addition of the development traffic and the proposed mitigation strategy associated with the 2031 J1d development case scenario. An extract of the 2031 reassignment plot is provided at **Figure 4**, which complements the trends

shown on the flow difference plot shown below. **Figure 4** illustrate that traffic reassigns away from the A45, whilst traffic reassigns onto the A5076 Mere Way/Danes Camp Way corridor, A5123, Swan Valley Way, and also onto the A508 London Road route into the town centre.

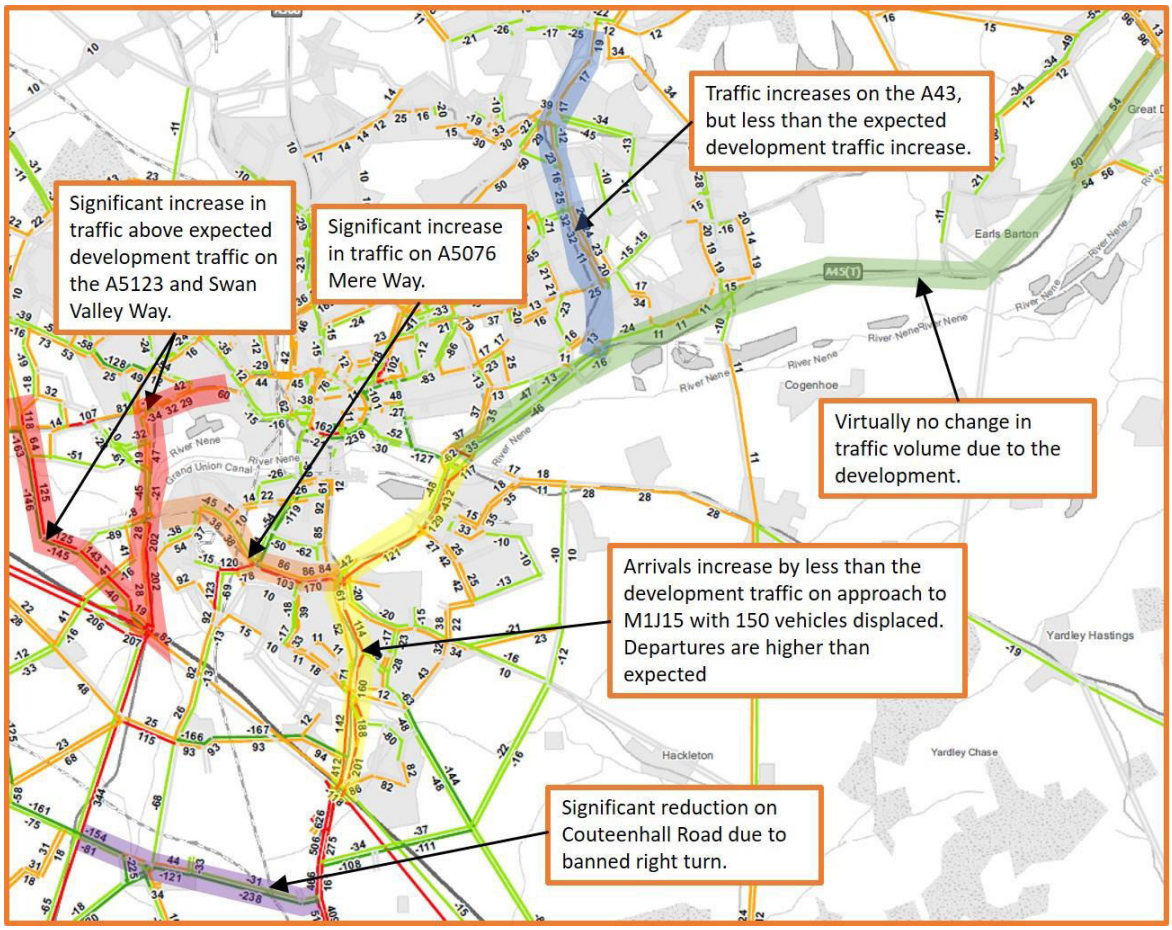


Figure 3: extract of the 2031 morning peak hour flow difference plot (in pcus)

3.8 Considering the flow difference plot at **Figure 3** in more detail, it shows that the section of the A45 highlighted yellow between M1 Junction 15 and the Barnes Meadow Interchange experiences an increase in both the northbound and southbound flow in the 2031 J1d development case when compared to the 2031 D1 development case. The southbound flow increases by 201 vehicles on the approach to M1 Junction 15 which is approximately 150 vehicles lower than the number of development vehicles assigned to this section of the A45 (**Figure 1**). However, the northbound flow increases by approximately double the number of development vehicles travelling north on the A45.

3.9 As detailed in Technical Note 5 (ref. ADC1475 TN5 v5), the existing M1 Junction 15 is forecast to operate significantly over capacity in the 2031 reference case (D1) morning and evening peak hours, with significant queuing on the A45 approach to the junction in both peak periods. The proposed mitigation scheme includes the widening of the A45 approach to five lanes which contributes to a significant improvement in the performance of the junction. The VISSIM modelling of the proposed improvement scheme shows that the queue on the A45 would be significantly reduced. The proposed improvement scheme also provides an additional northbound lane on the A45 up to the junction with Watering Lane and therefore provides additional capacity on the A45 exit.

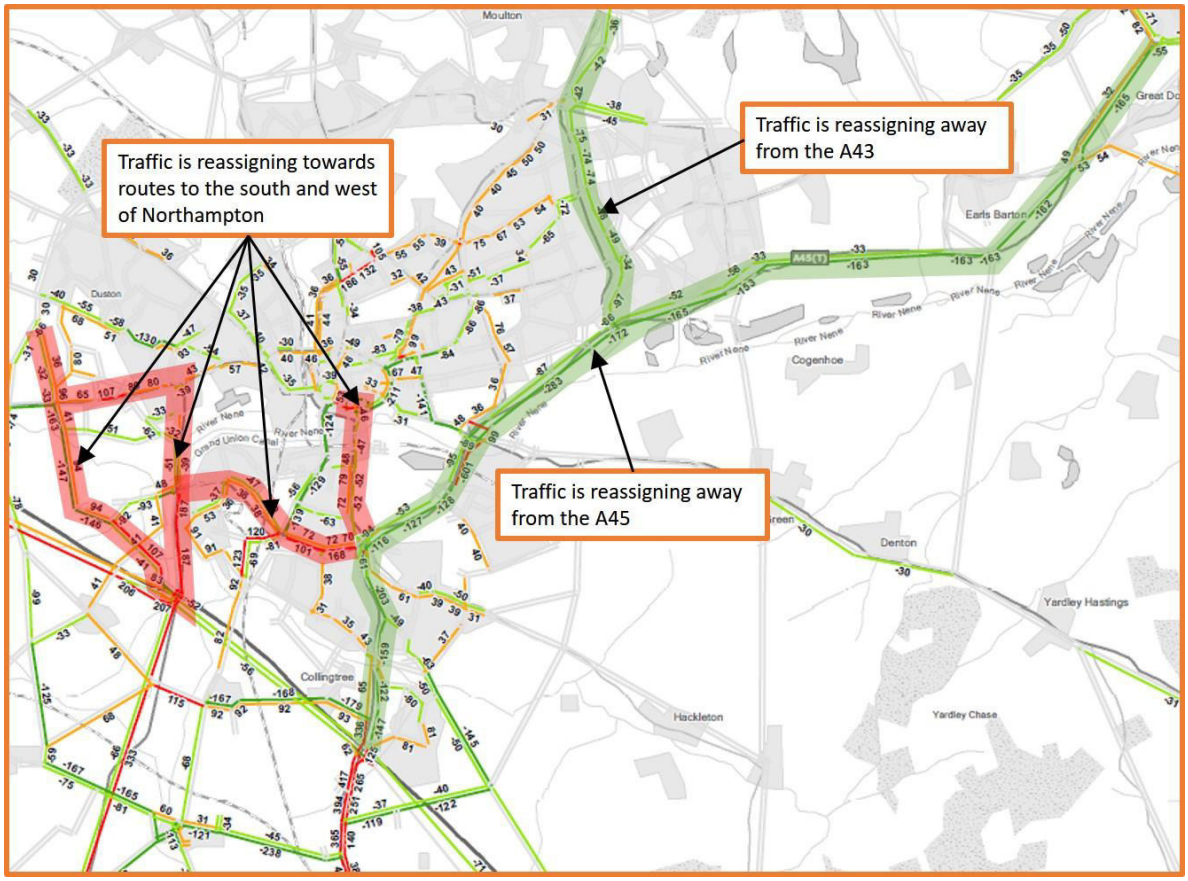


Figure 4: extract from the 2031 morning peak hour traffic reassignment plot (in pcus)

3.10 However, **Figure 3** shows that despite the proposed improvements to M1 Junction 15, the southbound flow on the A45 approach to M1 Junction 15 increases by approximately 150 vehicles less than the development traffic shown on **Figure 1**, indicating that some background traffic reassigns away from this section of the A45 regardless of the reduced delay at M1 Junction 15. This effect can be seen on **Figure 4**.

3.11 To understand this, we must consider the westbound flow on Couteenhall Road, highlighted in purple on **Figure 3**, which is shown to significantly decrease in the 2031 J1d development case scenario. This is because the right-turn from the A508 is prevented as part of the mitigation proposals described in Technical Note 8 (ref. ADC1475 TN8 v2).

3.12 **Figure 3** shows that there is a significant increase in the westbound flow along the A5076 Mere Way from the Queen Eleanor Interchange of 170 vehicles. This increase is likely to be vehicles that are destined for the A43 south of M1 Junction 15a, including some of those vehicles that can no longer use Courteenhall Road. In the 2031 D1 reference case these vehicles continue south on the A45, through M1 Junction 15 and then turn right onto Courteenhall Road towards the A43, and rat run through Blisworth village. However, in 2031 J1d development case scenario this route is no longer available and therefore we see these vehicles reassigning onto the A5076 Mere Way and the A5123, joining the A43 south of M1 Junction 15a, instead of routing through Blisworth.

3.13 This reassignment effect is further encouraged by the proposed improvement scheme at M1 Junction 15a which is detailed in Technical Note 6 (ref. ADC1475 TN6 v2). The improvement scheme is primarily designed to address capacity issues on the M1 northbound and southbound off-slips, but also provides additional capacity at the A5123 and Swan Valley Way approaches, reducing delay and encouraging more traffic to use these routes.

3.14 The section of the A45 highlighted in green on the flow difference plot at **Figure 3** shows that north of the Barnes Meadow Interchange there is virtually no change in traffic flow in the 2031 J1d development case when compared to the 2031 D1 development case. The SLA plot at **Figure 1** shows that there are 182 development vehicles (two-way) on this section of the A45 with 157 vehicles travelling southwards towards the development. The absence of a traffic increases on this section of the A45 therefore indicates that background traffic is being displaced by development traffic.

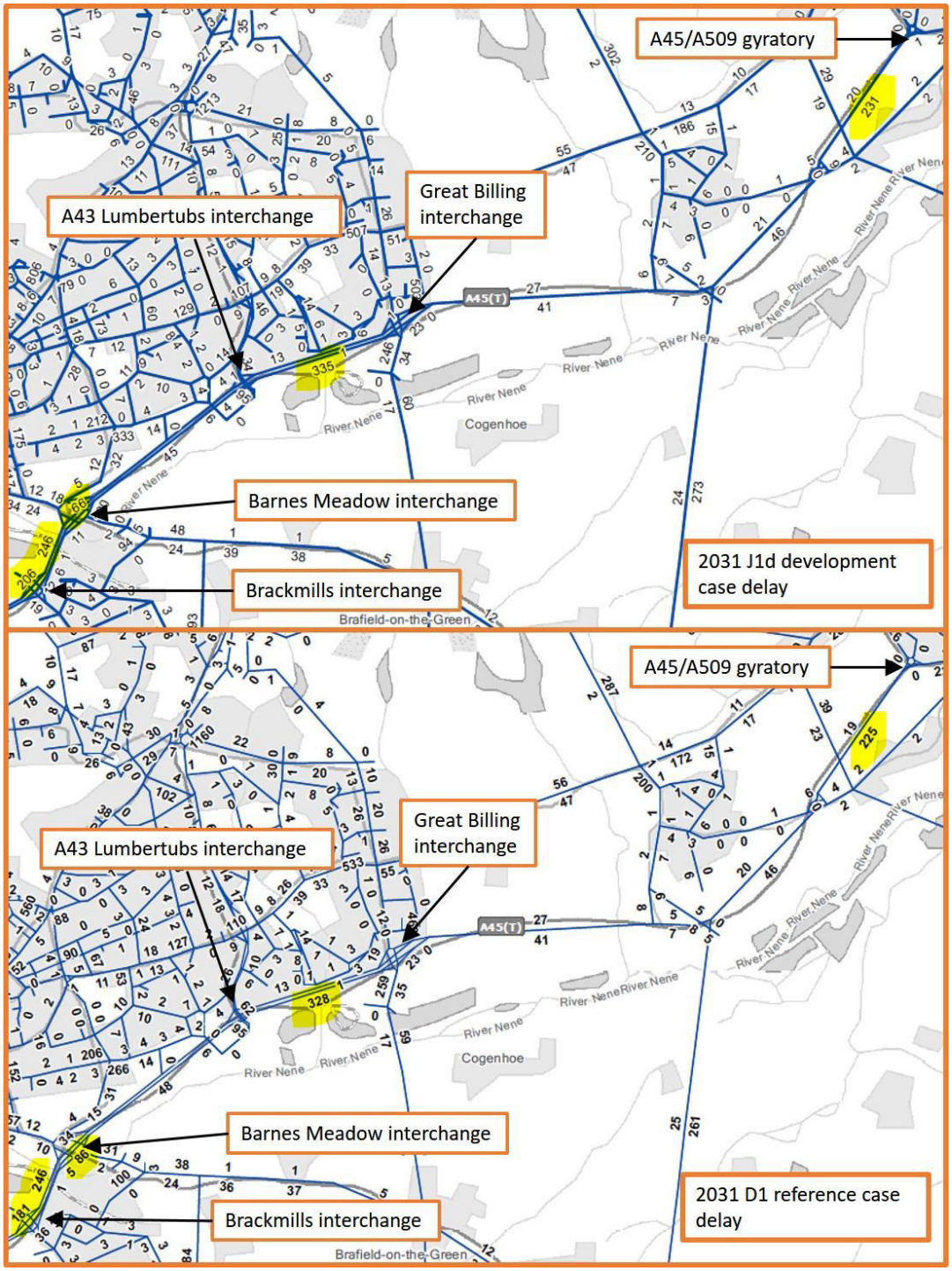


Figure 5: extracts from the 2031 morning peak hour delay plots (in seconds)

3.15 In terms of northbound traffic on the A45, **Figure 3** shows that there is an increase in flow between M1 Junction 15 and the Queen Eleanor Interchange, but then almost no change in flow between the reference case and development case scenarios further north, including the section highlighted green. This is likely to be a result of a significant delay associated with the

merge/diverge arrangement between the Brackmills Interchange and the Barnes Meadow Interchange. **Figure 5** above shows extracts of the delay plots for the 2031 D1 reference case and 2031 J1d development case scenarios (**Appendix D**), identifying a delay of 246 seconds in both scenarios.

3.16 This delay associated with the merge/diverge is therefore an existing problem on the network, most likely associated with the proximity of the junctions to one another. It will be causing a reassignment effect in the reference case which will continue in the development case. Traffic avoids this delay by using the A45 Queen Eleanor Interchange.

3.17 **Figure 5** also shows that there is a delay at the Brackmills Interchange of 181 seconds in the D1 reference case scenario and 208 seconds in the J1d development case scenario, and also a delay at the Barnes Meadow Interchange of 86 seconds in the 2031 D1 reference case scenario and 66 seconds in the 2031 J1d scenario. These delays, associated with junction performance, are also likely to further influence the displacement of background traffic on this section of the northbound A45.

3.18 To understand why southbound background traffic is displaced by development traffic along the section of the A45 highlighted green on **Figure 3**, a review of the A45 link capacity in the 2031 D1 reference case scenario was undertaken. WSP provided the table below detailing the link capacities modelled in NSTM2 along with plots showing the actual flows along the A45 in the morning peak hour (**Appendix E**).

No	A45 section	Direction	Link capacity (pcus)
1	A45/A509 to A45/A43	NB	4200 (2 lane – Dual)
		SB	4200 (2 lane – Dual)
2	A45/A43 to A45/A428	NB	6030 (3 lane – Dual)
		SB	6030 (3 lane – Dual)
3	A45/A428 to A45/Caswell Rd	NB	6030 (3 lane – Dual)
		SB	7600 (4 lane – Dual)
4	A45/ Caswell Rd to A45/A508/Mere Way	NB	6030 (3 lane – Dual)
		SB	6030 (3 lane – Dual)
5	A45/ A508/Mere W to A45/Wooldale Rd	NB	4200 (2 lane – Dual)
		SB	4200 (2 lane – Dual)
6	A45/Wooldale Rd to A45/M1 J15	NB	4200 (2 lane – Dual)
		SB	6030 (3 lane – Dual)

3.19 As shown on **Figure 6** below, there are two locations between the A45/A509 gyratory and the A43 Lumbertubs Interchange on the southbound carriageway were the flow in the 2031 D1 reference case exceeds the link capacity. These areas where link capacity is exceeded correspond to significant delays on the A45, as shown on the delay plots shown at **Figure 5** and provided at **Appendix D**.

3.20 Therefore, it is clear that the link capacity of the southbound A45 carriageway is exceeded in the 2031 D1 reference case scenario and background traffic is displaced by the addition of development traffic in the 2031 J1d development case scenario. Consideration of the flow difference plot at **Figure 3** and the reassignment plot at **Figure 4** does not clearly show where this traffic reassigns to, and WSP concluded that the displaced traffic reassigns across multiple routes and disperses through the model.

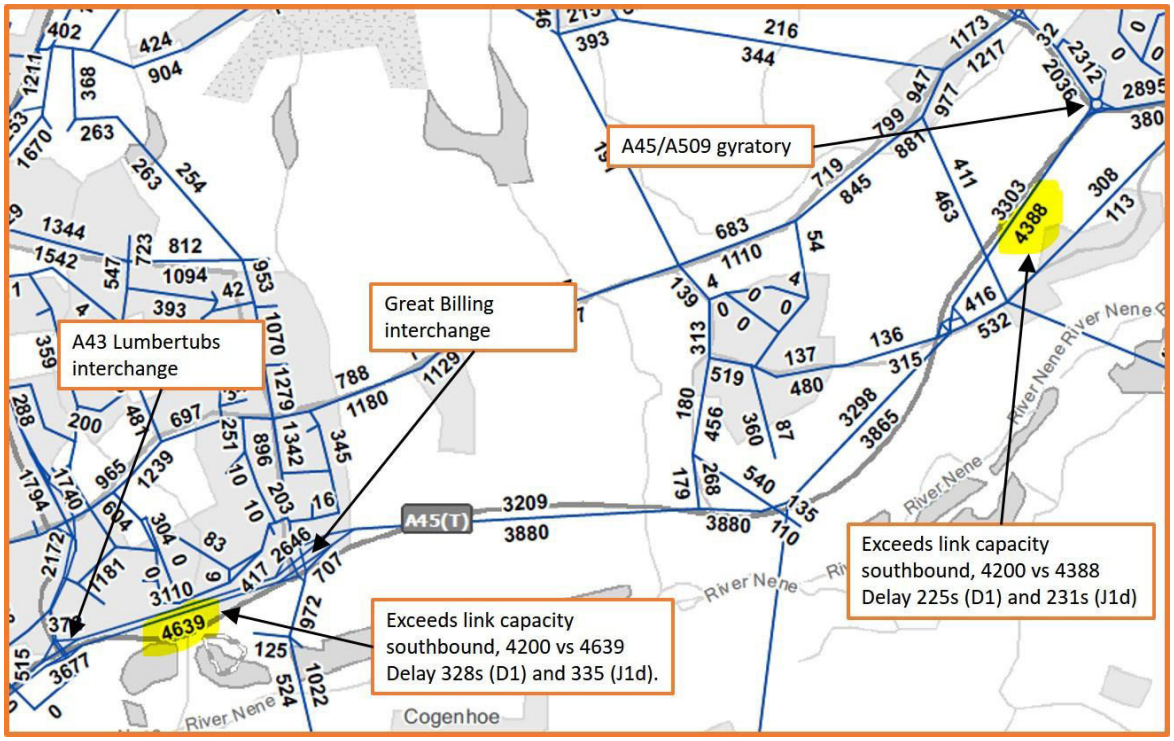


Figure 6: assessment of morning peak 2031 D1 reference case A45 link capacity and delay (pcus)

3.21 Further to the above, **Figure 7** below shows that the in the 2021 C1 reference case for the DfT 02/2013 Circular compliant assessment scenario, the link capacity on the southbound section of the A45 between the A43 Lumbertubs Interchange and the Great Billing Interchange is also exceeded by the background traffic flows (full plots provided at **Appendix E**). The flow difference plots **(Appendix B)** and reassignment plots **(Appendix C)** comparing the 2021 C1 reference case and the 2021 I1 development case scenarios show that, as for the 2031 scenarios, traffic flows do not materially change along this section of the A45, and therefore any additional traffic demand results in traffic reassignment.

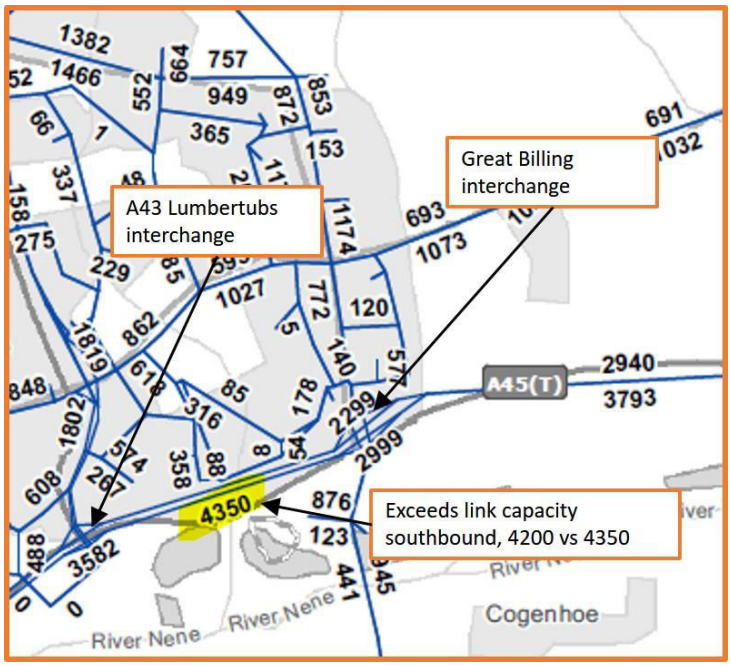


Figure 7: assessment of the morning peak hour 2021 C1 A45 link capacity (pcus)

3.22 Further to the above, and considering **Figure 3** once more, the A5123, Swan Valley Way and A508 London Road routes are highlighted in red and are shown to experience significant

increases in flow above the development traffic assigned to those routes. The traffic increases on the A5123 and Swan Valley Way routes in particular will account for some of this reassigned traffic, which is most likely destined for the M1 northbound and the A43 south. The combination of the proposed mitigation at M1 Junction 15a makes these routes more attractive.

2031 evening peak hour

3.23 NSTM2 plots showing the flow difference between the 2031 D1 reference case scenario and the 2031 J1d development case scenario for the evening peak hour are provided at **Appendix B.** The plots contain 'noise' in the form of very small changes in flow on minor routes that are unlikely to be caused by the development. Therefore, to provide a clearer picture of the impacts of the development, WSP have provided flow difference plots that have been filtered to remove all changes of less than 30 vehicles.

3.24 An extract of the flow difference plot for the evening peak hour is shown at **Figure 8** below, focusing on the Northampton area north of the M1. **Figure 8** shows that the general trend is for traffic increases on the southern end of the A45, but virtually no change in traffic volumes due to the development traffic north of the Barnes Meadow Interchange. There are traffic flow increases predicted on alternate routes from M1 Junction 15, the Wootton Interchange, the Plough Gyratory, the A5076 Mere Way corridor and M1 Junction 15a.

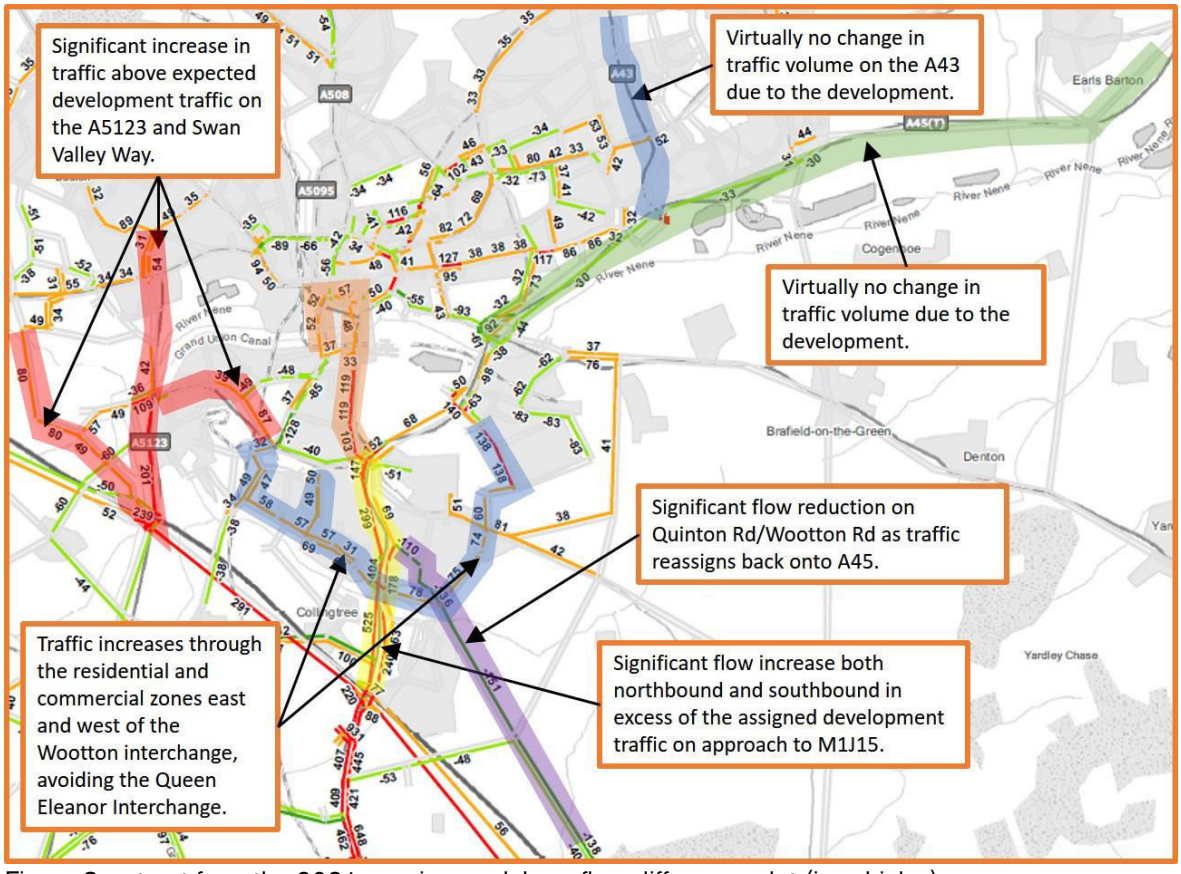


Figure 8: extract from the 2031 evening peak hour flow difference plot (in vehicles)

3.25 A flow reassignment plot for the 2031 evening peak hour is also provided at **Appendix C**, showing the background traffic reassignment due to the addition of the development traffic and the proposed mitigation strategy associated with the 2031 J1d development case scenario. An extract of the 2031 reassignment plot is provided at **Figure 9**, which complements the trends shown on the flow difference plot above. It illustrates that traffic reassigns away from the northern section of the A45, whilst traffic reassigns onto the southern section of the A45, the

A5076 Danes Camp Road, A5123, Swan Valley Way, and also onto routes east and west of the Wootton Interchange.

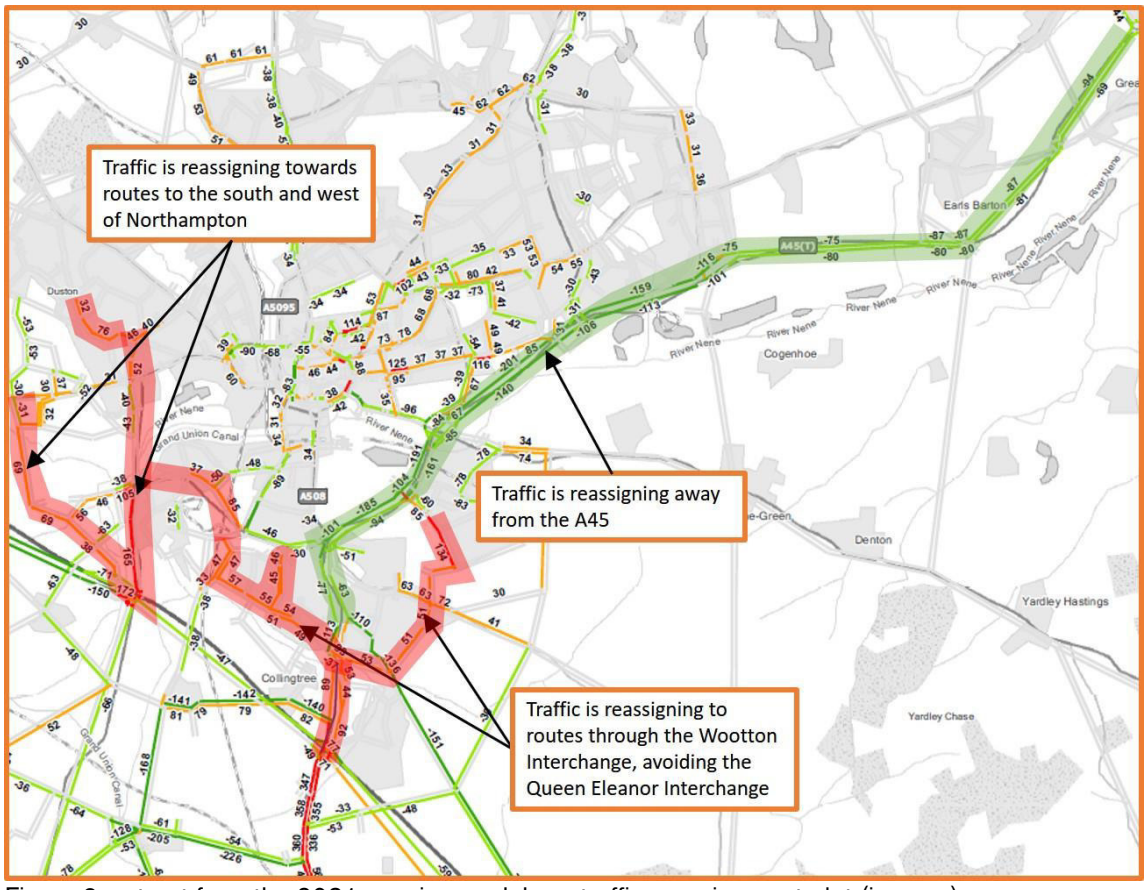


Figure 9: extract from the 2031 evening peak hour traffic reassignment plot (in pcus)

3.26 Considering **Figure 8** in more detail, we see that the section of the A45 highlighted yellow between M1 Junction 15 and the Queen Eleanor interchange experiences an increase in both the northbound and southbound flow in the 2031 J1d development case when compared to the 2031 D1 reference case.

3.27 Between M1 Junction 15 and the Wootton Interchange the southbound traffic flow increases by 240 vehicles which is approximately 92 vehicles higher than the number of development vehicles assigned to this section of the A45 (**Figure 2**). Further, the northbound traffic flow increases by approximately 525 vehicles which is approximately 89 vehicles higher than the number of development vehicles assigned this section of the A45 (**Figure 2**).

3.28 The southbound traffic increase (above that associated with the development traffic assignment), is due to background traffic reassigning onto this section of the A45, predominantly from Quinton Road and Towcester Road as shown on **Figure 10** below. This is a positive consequence of the proposed mitigation scheme at M1 Junction 15 and the various schemes on the A508 corridor, including the Roade Bypass, which in combination significantly improve the performance of this route and draws traffic back onto the principle road network, away from less favourable routes through local villages such as Milton Malsor and Quinton.

3.29 **Figures 8, 9 and 10** also show that there is a larger reduction in traffic on Watering Lane eastbound, with background traffic reassigning onto the A508 south of the M1 Junction 15 and continuing north on the A45. Again, this positive outcome is enabled by the proposed mitigation strategy at M1 Junction 15 and along the A508 corridor.

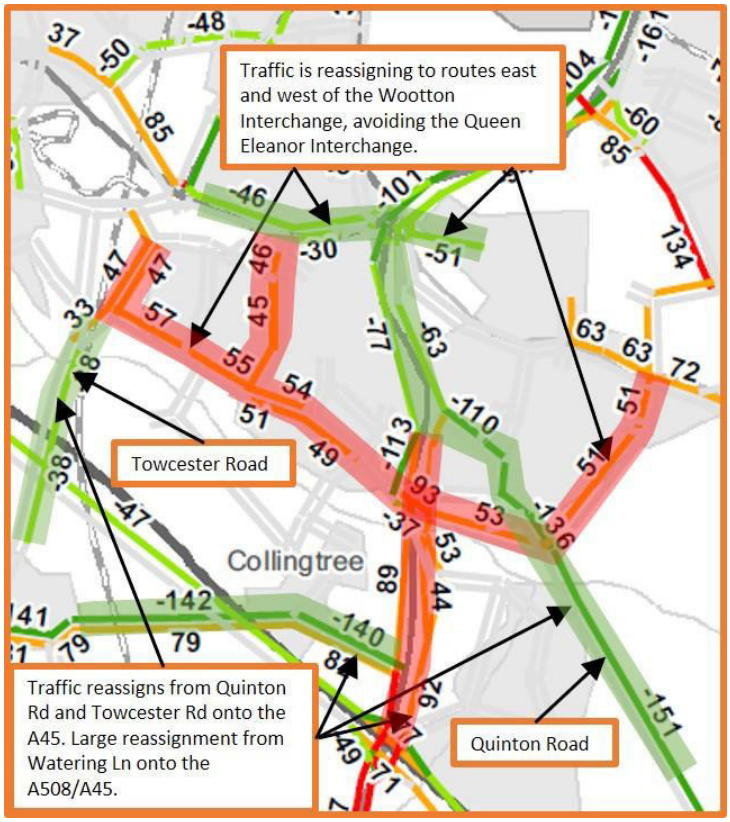


Figure 10: extract from the 2031 evening peak reassignment plot showing southern end of the A45 (pcus)

3.30 Between the Wootton Interchange and the Queen Eleanor Interchange, the northbound flow on the A45 increases by 299 vehicles, with the southbound flow increasing by 69 vehicles, as shown on **Figure 9**. Both the northbound and southbound flow increases on this section of the A45 are slightly below the levels of assigned development traffic, as shown on **Figure 2**. **Figure 10** does show that some background traffic reassigns away from this section of the A45.

3.31 **Figure 10** shows that there are 113 vehicles no longer joining the A45 northbound at the Wootton Interchange, but instead routing north towards the A5076 Mere Way through the residential areas in Wootton. There is also some traffic leaving the A45 at the Wootton Interchange and reassigning onto the local highway network to the east (53 vehicles) and west (51 vehicles) of the Wootton Interchange.

3.32 It is likely that much of this reassigning traffic would ordinarily leave the A45 at the Queen Eleanor Interchange, but instead is seeking to avoid this junction. The Queen Eleanor Interchange acts as a distributor junction, providing access from the A45 onto routes to the town centre and the residential areas to the south and west of Northampton. **Figure 10** shows that traffic has reassigned from the A5076 Mere Way and Newport Pagnell Road approaches to the Queen Eleanor Interchange and is instead using the Wootton Interchange.

3.33 Further, **Figure 2** shows that a large proportion of the evening peak hour development traffic assignment uses the Queen Eleanor Interchange and therefore, since there are significant existing capacity issues at the junction (as illustrated in Technical Note 5), it is clear that development traffic is likely to displace background traffic at the junction, forcing it onto alternate routes from Wootton Interchange, as described above.

3.34 The effect of this reassignment on A5076 Mere Way corridor in the evening peak hour will not necessarily affect the total traffic flows at the junctions along the corridor, but will result in reassigned traffic switching from the main road onto the minor arms as it routes through from the south. This could therefore effect how the junctions operate in the evening peak hour.

3.35 The section highlighted orange on **Figure 8** shows a significant increase in traffic of 119 vehicles north along the A508 London Road towards the inner ring road and the Plough Gyratory. This increase is almost exclusively due to development traffic, although **Figure 2** shows that this increase also includes 20 vehicles that have reassigned from another route, most probably the A428 from the Barnes Meadow Interchange.

3.36 North of the Queen Eleanor Interchange along the A45, **Figure 8** shows that there would be a modest increase of 68 vehicles northbound, approximately 185 vehicles lower than the development traffic assignment on this section of the A45. **Figure 8** also shows that there would be an increase of 138 vehicles on the Caswell Road approach to the Brackmills Interchange. This traffic increase is due to a quirk in the NSTM2 associated with the Brackmills Industrial Estate, with traffic switching from one loading point to another (note the -83 on Salthouse Road) and therefore is not an impact of the SRFI development.

3.37 Further north on the A45, the section highlighted green on **Figure 8** shows that north of the Barnes Meadow Interchange there is virtually no change in traffic flow in the 2031 J1d development case when compared to the 2031 D1 reference case. The SLA plot at **Figure 2** shows that there are 294 development vehicles (two-way) on this section of the A45 with 184 vehicles travelling north. The absence of a traffic increase on this section of the A45 therefore indicates that background traffic is being displaced by development traffic.

3.38 To understand why background traffic is being displaced in the evening peak hour, especially northbound which experiences the largest increase in traffic due to the proposed development, the delay plots for the 2031 D1 reference case scenario and the 2031 D1 development case scenario (provided at **Appendix D**) must be considered. The plots, summarised at **Figure 11** below, show that there is a significant delay (249 seconds in the reference case and 246 seconds in the development case) associated with the merge/diverge arrangement between the Brackmills Interchange and the Barnes Meadow Interchange in both scenarios. This delay is therefore an existing problem and is likely to contribute to the reassignment of background traffic in the 2031 D1 reference case and in the 2031 J1d development case scenarios.

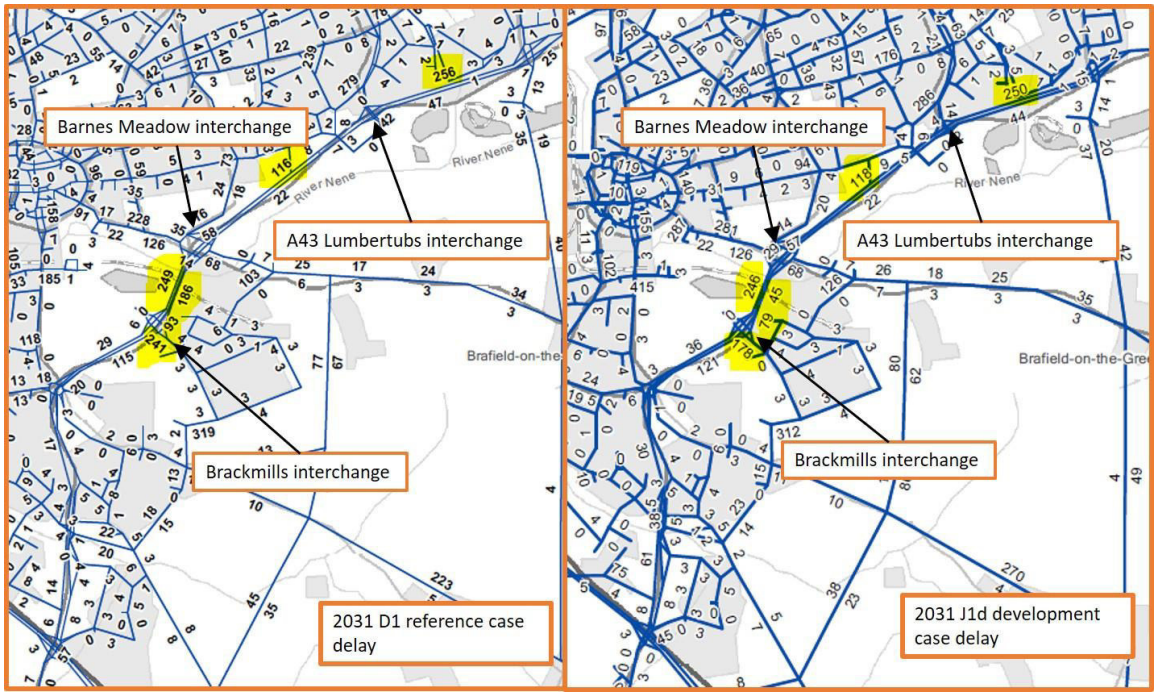


Figure 11: extracts from the 2031 evening peak hour delay plots (in seconds)

3.39 **Figure 11** also shows that the delay on the A45 southbound approach (93 vs 79) and the delay on the Caswell Road approach (241 vs 178) to the Brackmills Interchange both reduce in the

2031 J1d development case scenario, explaining why the flow difference plot at **Figure 8** shows that flows would increase on Carswell Road in the 2031 J1d development case.

3.40 On the northbound carriageway between the Barnes Meadow Interchange and the A43 Lumbertubes Interchange, **Figure 11** shows that there is a significant delay in both the 2031 D1 refence case and 2031 J1d development case scenarios (116 seconds vs 118 seconds, respectively). **Figure 11** also shows a significant delay north of the A43 Lumbertubes Interchange in both 2031 scenarios (256 seconds vs 250 seconds, respectively). To understand why these delays occur, and to determine whether they are responsible for restricting traffic increase due to the proposed development on this section of the A45, a review of the A45 link capacity in the 2031 D1 reference case scenario was undertaken using the table provided by WSP (paragraph 3.18), along with plots showing the actual flows along the A45 in the evening peak hour (**Appendix E**).

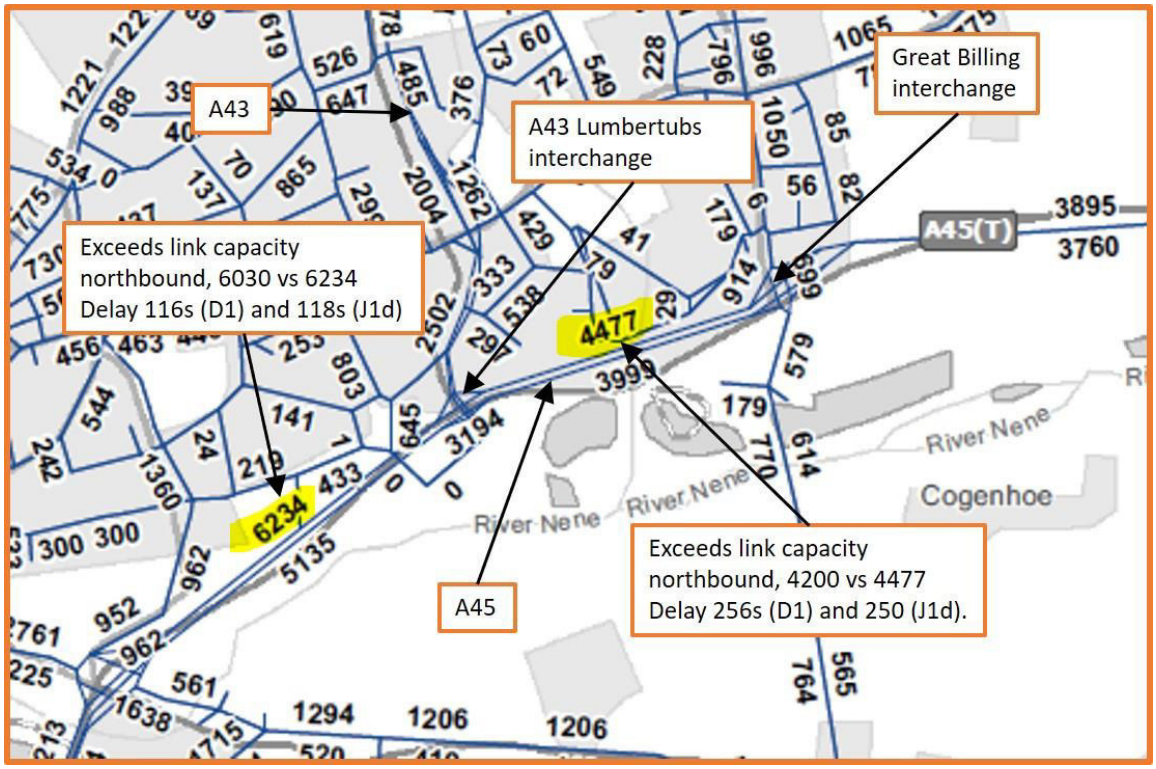


Figure 12: assessment of 2031 D1 A45 link capacity and delay (pcus)

3.41 As shown on **Figure 12** above, where the identified delays on the northbound A45 occur, the traffic flow in the 2031 D1 reference case is shown to exceed the link capacity.

3.42 Therefore, it is clear that since the link capacity of the northbound A45 carriageway is exceeded in the 2031 D1 reference case scenario, background traffic is then displaced in the 2031 J1d development case scenario due to the presence of the development traffic. Consideration of the flow difference plot at **Figure 8** and the reassignment plot at **Figure 9** does not clearly indicate where this traffic reassigns to, and WSP concluded that the displaced traffic reassigns across multiple routes and disperses through the model.

3.43 Further to the above, **Figure 13** below shows that the in the 2021 C1 reference case for the DfT 02/2013 Circular compliant assessment scenario, the link capacities on the northbound section of the A45 are also exceeded by the background traffic flows, provided at **Appendix E**. The flow difference plots **(Appendix B)** and reassignment plots **(Appendix C)** comparing the 2021 C1 reference case and the 2021 I1 development case scenarios show that, as for the 2031 scenarios, traffic flows do not materially change along this section of the A45, and therefore any additional demand results in traffic reassignment.

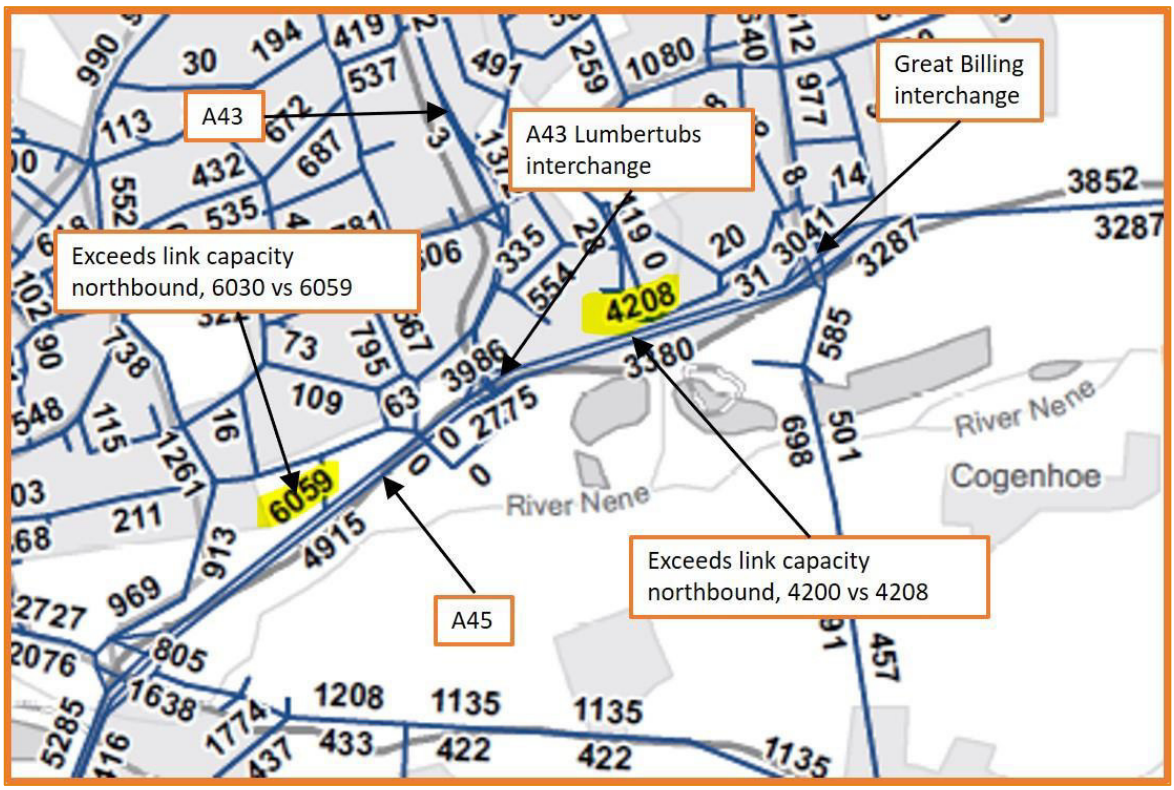


Figure 13: assessment of 2021 C1 A45 link capacity and delay (pcus)

3.44 Further to the above, and considering **Figure 8** and **Figure 9** once more, the A5123, Swan Valley Way, A5076 Danes Camp Way routes are highlighted in red and are shown to experience significant increases in flow above the development traffic assigned to those routes. Some of the traffic increases on these routes in the 2031 J1d development case scenario will be due to traffic reassigning away from the A45 due to the issues described above, with traffic choosing to use M1 Junction 15a rather than M1 Junction 15 to access the town centre and the western side of Northampton. This effect will be more pronounced due to the proposed mitigation scheme at M1 Junction 15a.

Summary and study area

3.45 The development traffic has been assigned to the highway network using the NSTM2. The impact of the proposed development, accounting for the effects of background traffic growth associated with all committed and planned development in the Northamptonshire area, has been assessed using the NSTM2 and extensive highway mitigation proposals have been agreed, including:

- significant enlargement of M1 J15 with provision of additional lanes on all approaches;
- widening of the A45 to the north of M1 J15 and the signalisation of Watering Lane;
- partial signalisation of M1 J15a with additional lanes on the A43 and A5123 approaches;
- dualling of the A508 between the site access and M1 J15;
- provision of a bypass around the village of Roade, and;
- improvement schemes at key junctions along the A508 corridor.

3.46 These highway improvements have been incorporated into the NSTM2 and are shown to release existing bottlenecks on the A508, M1 and A45 corridors, allowing the highway network to function in a more efficient manner. The improvements draw background traffic back onto the principal and strategic road networks, significantly reducing rat-running through local villages. The improvement schemes at M1 Junction 15 and M1 Junction 15a deliver significant betterment, enabling improved access to and from Northampton via the A45 and the A5123.

3.47 On the A45 south of the Barnes Meadow Interchange, traffic flows on the mainline increase broadly in line with the development traffic assignment in both the morning and evening peak hours. However, there is also some reassignment of background traffic away from this section of the A45. Some of this reassignment is due to delays associated with the merge/diverge arrangement between the Brackmills and Barnes Meadows Interchanges which occurs in both peak hours.

3.48 In the morning peak hour, the improvements at M1 Junction 15a and the proposed changes at the A508/Blisworth (Courteenhall Road) junction that would prevent right turns from the A508, combine to draw traffic away from the southern end of the A45. Traffic bound for the A43 south of the M1 that would have turned right onto Courteenhall Road from the A508 and rat run through Blisworth village, instead uses the A5076 Mere Way/Danes Camp Way route from the Queen Eleanor Interchange and access the A43 via M1 Junction 15a.

3.49 In the evening peak hour, capacity issues at the Queen Eleanor Interchange, along with the merge/diverge issues associated with the A45 junctions further north, result in background traffic reassigning away from the A45 at the Wootton Interchange. From here the reassigned traffic generally heads north towards the Brackmills Interchange to the east of the A45, and to the A5076 Danes Camp Way/Mere Way corridor.

3.50 North of the Barnes Meadow Interchange, the link capacity of the A45 is exceeded at several locations (southbound in the morning peak hour and northbound in the evening peak hour). These issues are already prevalent in both the 2031 D1 reference case and 2021 C1 DfT Circular 02/2013 complaint reference case scenarios.

3.51 Select link analysis shows that development traffic does use the northern section of the A45 in both peak hours. However, in both the morning and evening peak hours there is no additional traffic on this section of the A45 in the 2031 J1d development case scenario as the link capacity issue displaces local background traffic that is using the A45 to alternate routes. The flow difference plots do not clearly show where the background traffic has reassigned to, although there are some routes to the west of Northampton that show minor increases in flow in the morning peak hour. WSP concluded that the displaced traffic reassigns across multiple routes and disperses through the model.

3.52 The A5123, Swan Valley Way, A5076 Danes Camp Way routes are shown to experience increases in flow above the development traffic assigned to those routes. Some of the traffic increases on these routes in the 2031 J1d development case scenario will be due to traffic reassigning away from the A45 due to the issues described above, with local background traffic choosing to use M1 Junction 15a rather than M1 Junction 15 to access the town centre and the western side of Northampton. This effect will be more pronounced due to the proposed mitigation scheme at M1 Junction 15a, which will significant improve the operation of the junction.

3.53 Based on the above analysis, a study area has been identified so that all major junctions that are likely to be impacted by the presence of development traffic, or reassigned traffic, can be examined in detail. The study area includes all relevant junction on the A45 corridor, the A5076 Mere Way/Danes Camp Way corridor, the key junctions on the inner ring road and junctions north of M1 Junction 15a. The study area is shown on **Figure 15** below.

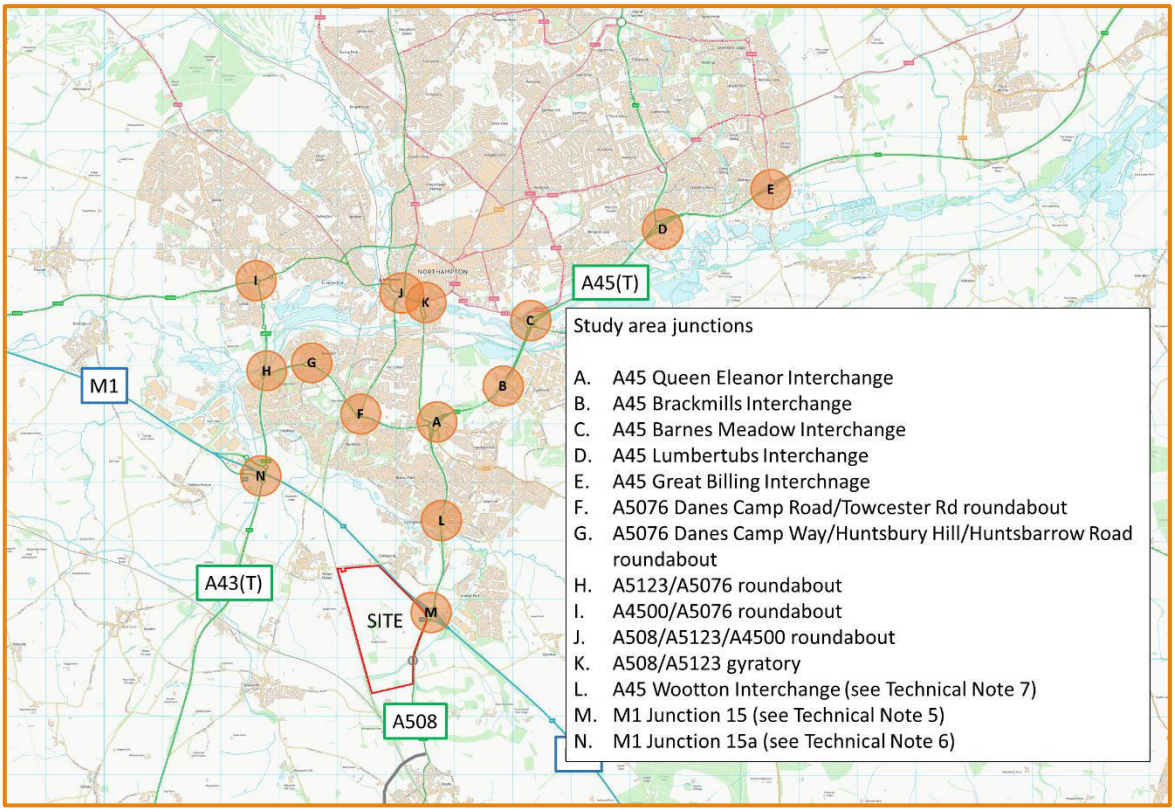


Figure 15: study area junctions

4.0 DETAIL JUNCTION ASSESSMENTS

Queen Eleanor Interchange (A)

4.1 The Queen Eleanor Interchange is a partially signalised grade separated junction on the A45, south of Northampton Town Centre. Both A45 offslip approaches, the Newport Pagnell approach and the A5067 Mere Way approach are subject to traffic signal control, with the A508 London Road and Hardingstone Lane approaches being priority controlled.

4.2 The impact of the proposed development at the Queen Eleanor Interchange was originally assessed as part of Technical Note 7 (ref. ADC1475 TN7 v3) using earlier iterations of the NSTM2 for the 2031 D1 reference case and 2031 J1c development case scenarios. A LinSig model was constructed to be used as the assessment tool and the model incorporated the Northampton Growth Management Scheme (NGMS) for the A45 corridor proposals at the junction. These improvement works include the following:

- Signal control at the A508 London Road approach
- Widening on the Newport Pagnell Road approach to enable three lanes for approximately 70 metres
- The control strategy to be upgraded to MOVA
- Provision of ramp-metering on the A45 northbound exit slip-road.

4.3 The LinSig model has been updated to include the latest NSTM2 flow sets for the 2031 D1 reference case and 2031 J1d development case scenarios provided at **Appendix F**. The model results, provided at **Appendix G**, and summarised below, show that the junction would operate above its maximum capacity in both the reference case and development case 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)	AM Peak	-82.6%	1205.29
	PM Peak	-84.4%	1234.52
2031 Development Case (J1d)	AM Peak	-89.6%	1193.94
	PM Peak	-84.6%	1244.68
2031 Development Case + Mitigation (J1d)	AM Peak	-68.8%	937.49
	PM Peak	-56.5%	1110.29

4.4 The performance of the junction deteriorates by 7.0% in the morning peak hour (-82.6% vs -89.6%) and by 0.2% in the evening peak hour (-84.4% vs -84.6%).

4.5 As discussed in Section 3 of this report, the Queen Eleanor Interchange plays a vital role in helping to distribute A45 traffic across the network. In the 2031 J1d development case morning peak hour, background traffic reassigns through the Queen Eleanor Interchange onto the A5076 Mere Way which provides access to the A43 and the M1 via M1 Junction 15a, which will be improved as part of the development proposals.

4.6 Further, in the evening peak hour the analysis of the NTSM2 data showed that traffic reassigns away from the Queen Eleanor Interchange in the development case and onto less favourable routes through the Wootton Interchange to the south. The arm of the Wootton Interchange which experiences the largest increase in flow in the 2031 development case is Rowtree Road, which is a traffic calmed route leading through a residential area and it would therefore not be desirable to promote an improvement scheme at this junction that could attract further increases in traffic flows.

4.7 Therefore, it is appropriate that the development proposals include measures to mitigate the identified impact in the morning peak hour. Further, any proposals should seek to take traffic away from the Wootton Interchange, not draw more traffic in.

4.8 A scheme of improvements works was identified as part of Technical Note 7 (ref. ADC1475 TN7 v3). The proposed scheme is shown on drawing **ADC1475/SK03 D**.

4.9 The scheme provides widening on the A5067 Mere Way approach to lengthen the existing flared lane, and also reconfigures the lane allocation on the circulating carriageway to improve efficiency at the stoplines. The LinSig modelling results provided at **Appendix G** and summarised in the table above show that the proposed scheme would deliver a significant improvement to junction performance in both the morning and evening peak hours when compared to the 2031 reference case (13.8% in the morning peak and 27.9% in the evening peak hour).

4.10 The proposed scheme would therefore mitigate the impact of the development on the Queen Eleanor Interchange. Further, since a better than nil detriment improvement is provided by the scheme, particularly in the evening peak hour, it is likely that some of the traffic shown to reassign through the Wootton Interchange would be drawn onto the route via Newport Pagnell Road and the A5076 Mere Way at the Queen Eleanor Interchange.

4.11 Notwithstanding the above, the findings of Technical Note 7 (ADC1475 TN7 v3) were discussed with the TWG and NCC who confirmed that a more comprehensive improvement scheme was being developed at the Queen Eleanor Interchange by NCC. Therefore, NCC have requested that a financial contribution, equivalent to the cost of implementing the improvement works, is made towards the more comprehensive improvement scheme be secured as part of the development, rather than implemented the identified works in isolation. Highways England have also confirmed this is acceptable. The larger improvement scheme, when identified, would be expected to significantly improve the performance of the interchange, further assisting in its ability to handle the traffic due to the development. The improved junction would also then be better able to accommodate the traffic which chooses to use the A5076 Mere Way to access the M1 and A43 via the improved M1 Junction 15a.

Brackmills Interchange (B)

4.12 The Brackmills Interchange is a partially signalised grade separated junction on the A45, southeast of Northampton Town Centre, providing an access route into the Brackmills Industrial Estate to the east via Caswell Road, and access to a hotel and golf course to the west via Eagle Drive. Both A45 offslip approaches are subject to traffic signal control, with the Caswell Road and Eagle Drive approaches being priority controlled.

4.13 The impact of the proposed development at the Brackmills Interchange was assessed using a LinSig model which was constructed to be used as the assessment tool. The model incorporates the Northampton Growth Management Scheme (NGMS) for the A45 corridor proposals at the junction. These improvement works include the following:

- Signal control at the Caswell Road approach
- The control strategy to be upgraded to MOVA.

4.14 The LinSig model includes the latest NSTM2 turning flow sets for the 2031 D1 reference case and 2031 J1d development case scenarios, provided at **Appendix F,** and the slope and intercept coefficients for the priority controlled approaches have been calculated appropriately using the approach geometry (**Appendix H**). The model results, provided at **Appendix H** and summarised below, show that the junction would operate above its maximum capacity in the morning peak hour for both the 2031 D1 reference case and 2031 J1d development case scenarios (PRC

values are negative indicating that one or more links are operating above 90% of their capacity). However, the LinSig model shows that the junction would operate acceptably in the evening peak hour in both the reference case and development case scenarios.

Summary Results			
Scenario	Peak	PRC	Total Delay (pcuHr)
2031 Reference Case (D1)	AM Peak	-0.3%	38.10
	PM Peak	8.7%	21.85
2031 Development Case (J1d)	AM Peak	-0.7%	37.13
	PM Peak	13.2%	24.02

4.15 The results summarised above show that there would be no detrimental impact due to the proposed development and therefore no mitigation is proposed at this location.

Barnes Meadow Interchange (C)

4.16 The Barnes Meadow Interchange is a five-arm signalised grade separated junction on the A45, east of Northampton Town Centre, providing an access route into the Brackmills Industrial Estate to the east via A428 Bedford Road east, and access to Northampton Town Centre to the west via A428 Bedford Road west. Rushmere Road also provides access to residential areas to the north of the town centre.

4.17 The impact of the proposed development at the Barnes Meadow Interchange was assessed using the approved LinSig model prepared as part of the Transport Assessment for the committed development on land south of Bedford Road off Liliput Road (planning reference N/2016/0412). The model includes for the committed improvement scheme at the junction that was conditioned as part of the Liliput Road planning consent. The LinSig model is however unable to take account of the Northampton Growth Management Scheme (NGMS) at this junction, though the improvements would improve the junction performance, and the performance of the A45 corridor. Th NGMS improvement works include the following:

- Removal of the short merge and lane gain
- Provision of ramp-metering on the A45 northbound exit slip-road.

4.18 The LinSig model includes the latest NSTM2 turning flow sets for the 2031 D1 reference case and 2031 J1d development case scenarios, provided at **Appendix F**. The model results, provided at **Appendix I** and summarised below, show that the junction would operate above its maximum capacity in the evening peak hour for both the 2031 D1 reference case and 2031 J1d development case scenarios (PRC values are negative indicating that one or more links are operating above 90% of their capacity). However, the LinSig model shows that the junction would operate acceptably in the morning peak hour in both the reference case and development case scenarios.

Summary Results			
Scenario	Peak	PRC	Total Delay (pcuHr)
2031 Reference Case (D1)	AM Peak	13.4%	63.26
	PM Peak	-49.2%	659.99
2031 Development Case (J1d)	AM Peak	9.5%	65.51
	PM Peak	-50.1%	657.27

4.19 The results summarised above show that there would be no detrimental impact due to the proposed development and therefore no mitigation is proposed at this location.

A43 Lumbertubs Interchange (D)

4.20 The A43 Lumbertubs Interchange is a four-arm partially signalised grade separated junction on the A45, northeast of Northampton Town Centre, providing access onto the A43 Lumbertubs Way to the north and access to the Riverside Retail Park to the south via Ferris Row, which is subject to priority control. Both the A43 offslip approaches and the A43 Lumbertubs Way approach are traffic signal controlled.

4.21 The impact of the proposed development at the A43 Lumbertubs Interchange was assessed using a LinSig model which was constructed to be used as the assessment tool. The LinSig model is unable to take account of the Northampton Growth Management Scheme (NGMS) at this junction, though the improvements would improve the junction performance, and the performance of the A45 corridor. The NGMS improvement works include the following:

- The control strategy to be upgraded to MOVA
- Provision of ramp-metering on the A45 southbound exit slip-road
- Provision of ramp-metering on the A45 northbound exit slip-road.

4.22 The LinSig model includes the latest NSTM2 turning flow sets for the 2031 D1 reference case and 2031 J1d development case scenarios, provided at **Appendix F**, and the slope and intercept coefficients for the priority controlled approach have been calculated appropriately using the approach geometry (**Appendix J).** The model results are provided at **Appendix J** and summarised below, show that the junction would operate above its maximum capacity in both the morning peak hour and the evening peak hour for both the 2031 D1 reference case and 2031 J1d development case 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)	AM Peak	-48.0%	558.60
	PM Peak	-25.4%	115.69
2031 Development Case (J1d)	AM Peak	-52.3%	635.47
	PM Peak	-26.9%	138.40

4.23 The results summarised above show that there would be no detrimental impact due to the proposed development and therefore no mitigation is proposed at this location.

Great Billing Interchange (E)

4.24 The Great Billing Interchange is a partially signalised grade separated junction on the A45, northeast of Northampton Town Centre, providing an access route into an industrial estate to the south via Crow Lane, and access to the residential areas of north Northampton via A5076 Great Billing Way. Both A45 offslip approaches are subject to traffic signal control, with the Crow Lane and A5076 Great Billing Way approaches being priority controlled.

4.25 The impact of the proposed development at the Great Billing Way Interchange was assessed using a LinSig model which was constructed to be used as the assessment tool. The LinSig model is unable to take account of the Northampton Growth Management Scheme (NGMS) at this junction, though the improvements would improve the junction performance, and the performance of the A45 corridor. The NGMS improvement works include the following:

- The control strategy to be upgraded to MOVA
- Provision of ramp-metering on the A45 northbound and southbound exit slip-road.

4.26 The LinSig model includes the latest NSTM2 turning flow sets for the 2031 D1 reference case and 2031 J1d development case scenarios, provided at **Appendix F,** and the slope and intercept

coefficients for the priority controlled approaches have been calculated appropriately using the approach geometry (**Appendix K**). The model results, provided at **Appendix K** and summarised below, show that the junction would operate above its maximum capacity in the morning peak hour for both the 2031 D1 reference case and 2031 J1d development case scenarios (PRC values are negative indicating that one or more links are operating above 90% of their capacity). However, the LinSig model shows that the junction would operate acceptably in the evening peak hour in both the reference case and development case scenarios.

Summary Results			
Scenario	Peak	PRC	Total Delay (pcuHr)
2031 Reference Case (D1)	AM Peak	-2.5%	33.36
	PM Peak	23.1%	14.48
2031 Development Case (J1d)	AM Peak	-2.3%	32.46
	PM Peak	15.5%	15.16

4.27 The results summarised above show that there would be no detrimental impact due to the proposed development and therefore no mitigation is proposed at this location.

A5076 Danes Camp Way/A5076 Mere Way/Towcester Road Gyratory (F)

4.28 The A5076 Danes Camp Way/A5076 Mere Way/Towcester Road junction is a five-arm, partially signalised gyratory located east of the A45 Queen Eleanor Interchange and south of Northampton Town Centre. The A5076 Danes Camp Way and the A5076 Mere Way form the southern ring road, linking the A45 with the A5123 to the west, which provides access to M1 Junction 15a and the A43. Towcester Road north provides access through residential areas before meeting the inner ring road at the A4500 St Peters Way/A508 Horseshoe Street/Towcester Road gyratory. Towcester Road south provides access to Milton Malsor to the south and has a bus lane on the approach to the gyratory, terminating approximately 40 metres south of the gyratory. The gyratory also provides access to a supermarket to the south.

4.29 Both the A5076 Danes Camp Way and the A5076 Mere Way approaches are subject to traffic signal control, with the Towcester Road north, Towcester Road south and supermarket access approaches being priority controlled. Pedestrian facilities are provided, though they are at a lower level.

4.30 A LinSig model has been constructed to be used as the assessment tool and includes the latest NSTM2 flow sets for the 2031 D1 reference case and 2031 J1d development case scenarios, provided at **Appendix F**. It should be noted that the NSTM2 turning flows to and from the supermarket for both the 2031 D1 reference case and the 2031 J1d development case scenarios are very low. This was confirmed following a comparison against a 2015 turning count provided by NCC for the Norwood Farm Transport Assessment (planning reference S/2016/1324/EIA). Therefore, the larger observed turning count flows have been used from the Norwood Farm TA for the movements to and from the supermarket.

4.31 The slope and intercept coefficients for the priority controlled approaches have been calculated appropriately using the approach geometry (**Appendix L**).

4.32 The model results, provided at **Appendix L** and summarised below, show that the junction would operate above its maximum capacity in both the reference case and development case 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)	AM Peak	-32.3%	308.94
	PM Peak	-48.0%	536.60
2031 Development Case (J1d)	AM Peak	-37.4%	472.21
	PM Peak	-26.5%	291.27
2031 Development Case + Mitigation (J1d)	AM Peak	-32.3%	389.74
	PM Peak	-26.5%	270.38

4.33 The performance of the junction deteriorates by 5.1% in the morning peak hour (-32.3% vs -37.4%). However, due to the way that traffic reassigns in the evening peak hour, as discussed in Section 3 of this report, the performance of the gyratory improves by 21.7% in the evening peak hour (-48.0% vs -26.5%).

4.34 As discussed in Section 3 of this report, the Queen Eleanor Interchange plays a vital role in helping to distribute A45 traffic across the network. In the 2031 J1d development case morning peak hour, background traffic reassigns through the Queen Eleanor Interchange onto the A5076 Mere Way which provides access to the A43 and the M1 via M1 Junction 15a. This is a desirable outcome as helps to avoid rat-running on inappropriate routes.

4.35 Therefore, it is appropriate that the development proposals include measures to mitigate the identified impact in the morning peak hour, complementing the future scheme at the Queen Eleanor Interchange.

4.36 The tiered nature of the junction, with pedestrian facilities being at a lower level, severely constraints the junction. The gyratory is relatively small and therefore additional signalisation within the existing footprint would not be an option as coordinating the gyratory to prevent internal queueing would require queues to be stored on the approaches, resulting in the performance deteriorating. Further, the bus lane on Towcester Road south prevents the full capacity of the approach from being utilised. Therefore, any potential improvement scheme is confined to the junction approaches, and an improvement scheme has identified, as shown on drawing **ADC1475/SK04 A**.

4.37 The scheme provides widening on the A5067 Mere Way approach to lengthen the existing flared lane to approximately 120 metres. This provides additional capacity on the A5076 Mere Way approach in the morning peak, and also provides additional queue storage.

4.38 The LinSig modelling results provided at **Appendix L** and summarised above show that the proposed scheme would deliver a nil-detriment improvement to junction performance in terms of PRC.

4.39 Further, if the bus lane on Towcester Road south was removed the performance of the gyratory would significantly improve. The model shows that the queue on this approach in the 2031 D1 reference case scenario would be 132 pcus long, which is much longer than the length of the bus lane and will therefore prevent buses from reaching the facility, incurring significant delay. However, if the bus lane was removed, the queue could be significantly reduced so that the delay to buses would be reduced. This would require a strategic decision from NCC and therefore does not form part of the mitigation proposals, but it should be considered as part of the strategy for the junction moving forward.

4.40 Whilst the scheme identified above is in keeping with the scale of the development impact at the gyratory, to accommodate the background traffic growth associated with committed and allocated development schemes, it is likely that a more comprehensive package of

improvements will be required along the A5076 Danes Camp way/A5076 Mere Way corridor, including the Queen Eleanor Interchange. It is recognised that flexibility regarding the timing and scope of the improvement works on this corridor would be beneficial. Therefore, it is proposed that NCC secure a financial contribution equivalent to the cost of implementing the proposed improvement works at this junction, to be used to deliver the improvement, or as part of a wider package of improvements to the corridor.

A5076 Danes Camp Way/Hunsbury Hill Avenue/Hunsbarrow Road/Hunsbury Hill Road roundabout (G)

4.41 The A5076 Danes Camp Way/Hunsbury Hill Avenue/Hunsbarrow Road/Hunsbury Hill Road junction is a five-arm roundabout located southwest of Northampton Town Centre. The A5076 Danes Camp Way is part of the southern ring road, linking the A45 with the A5123 to the west, which provides access to M1 Junction 15a and the A43. Hunsbury Hill Avenue, Hunsbarrow Road and Hunsbury Hill Road provide access to residential areas north and south of the A5076 Danes Camp Way.

4.42 A model of the roundabout was created using Junctions 8 ARCADY software using the latest NSTM2 flow sets for the 2031 D1 reference case and 2031 J1d development case scenarios, provided at **Appendix F**.

4.43 The results are summarised in the table below, and outputs are contained in **Appendix M**.

	AM				PM			
	Queue (PCU)	Delay (s)	RFC	LOS	Queue (PCU)	Delay (s)	RFC	LOS
	A1 - 2031 D1							
Arm 1	9.68	17.04	0.91	C	8.61	17.27	0.90	C
Arm 2	120.13	459.18	1.35	F	4.93	30.76	0.85	D
Arm 3	274.04	399.28	1.21	F	135.86	180.68	1.12	F
Arm 4	1.85	15.28	0.65	C	1.35	10.15	0.58	B
Arm 5	66.18	670.78	1.35	F	258.09	1272.63	1.65	F
	A1 - 2031 J1d							
Arm 1	15.98	27.50	0.95	D	9.03	17.86	0.91	C
Arm 2	115.04	465.00	1.36	F	4.38	27.60	0.83	D
Arm 3	273.15	398.61	1.20	F	145.47	192.71	1.13	F
Arm 4	1.87	15.38	0.66	C	1.35	10.16	0.58	B
Arm 5	70.81	712.49	1.37	F	262.77	1306.10	1.66	F

Arm 1 = A5076 Danes Camp Way east, Arm 2 = Hunsbury Hill Road, Arm 3 = A5076 Danes Camp Way west, Arm 4 = Hunsbury Hill Avenue, Arm 5 = Hunsbarrow Road

4.44 As shown, the existing junction is forecast to be over capacity in all 2031 scenarios, without and with the development in place.

4.45 In the 2031 J1d development case morning peak hour, there is no impact on the ratio of flow to capacity (RFC) on the A5076 Danes Camp Road west (arm 3) and Hunsbury Hill Avenue (arm4) approaches to the roundabout when compared to the 2031 D1 reference case scenario. Whilst the RFC does increases by 4% on the A5076 Danes Camp Road east approach, the queue only increases from 10 pcus to 16 pcus and therefore the impact is not severe. On the Hunsbarrow Road approach the RFC increases by 2% with a corresponding increase in queue of 5 pcus. On the Hunsbury Hill Road approach the RFC increases by 1%, whilst the queue decreases by 5 pcus. Therefore, the impact on the Hunsbarrow Road and Hunsbury Hill Road approaches is not severe.

4.46 In the evening peak hour, three of the five approaches see an increase in RFC of just 1% with no impact on the other two approaches. The impact in the evening peak is therefore not severe.

4.47 Therefore, the addition of the proposed development traffic has a minimal impact on the operation of the junction, and no mitigation measures are required.

A5076 Danes Camp Way/A5123/Upton Valley Way/A5076 Upton Way gyratory (H)

4.48 The A5076 Danes Camp Way/A5123/Upton Valley Way/A5076 Upton Way junction is a four-arm signalised gyratory located to the north of M1 Junction 15a and southwest of Northampton Town Centre. The gyratory links the M1 Junction 15a with the ring road, and provide access to the Swan Valley Industrial Estate to the southwest and further residential and employment areas to the north.

4.49 The impact of the proposed development at the A5076 Danes Camp Way/A5123/Upton Valley Way/A5076 Upton Way gyratory was assessed using a LinSig model which was constructed to be used as an assessment tool.

4.50 The LinSig model includes the latest NSTM2 turning flow sets for the 2031 D1 reference case and 2031 J1d development case scenarios, provided at **Appendix F**. The model results, provided at **Appendix N** and summarised below, show that the junction would operate above its maximum capacity in the morning and evening peak hours for both the 2031 D1 reference case and 2031 J1d development case 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)	AM Peak	-62.8%	669.11
	PM Peak	-2.4%	51.46
2031 Development Case (J1d)	AM Peak	-61.2%	668.52
	PM Peak	-3.2%	48.88

4.51 The results summarised above show that there would be no detrimental impact due to the proposed development, with only a minor impact on performance in the evening peak hour, and therefore no mitigation is proposed at this location.

A4500 Weedon Road/A5076 Upton Way/Tollgate Road gyratory (I)

4.52 The A4500 Weedon Road/A5076 Upton Way/Tollgate Road junction is a four-arm signalised gyratory located to the north of M1 Junction 15a and west of Northampton Town Centre. The A5076 Upton Way links the gyratory with M1 Junction 15a to the south. The Tollgate Road and A4500 Weedon Road east arms provide access to retail and leisure facilities, with the A4500 Weedon Road east providing access to the town centre via the inner ring road.

4.53 The impact of the proposed development at the A4500 Weedon Road/A5076 Upton Way/Tollgate Road gyratory was assessed using a LinSig model which was constructed to be used as an assessment tool.

4.54 The LinSig model includes the latest NSTM2 turning flow sets for the 2031 D1 reference case and 2031 J1d development case scenarios, provided at **Appendix F**. The model results, provided at **Appendix O** and summarised below, show that the junction would operate above its maximum capacity in the morning peak hour for both the 2031 D1 reference case and 2031 J1d development case scenarios (PRC values are negative indicating that one or more links are operating above 90% of their capacity). However, the LinSig model shows that the junction

would operate acceptably in the evening peak hour in both the reference case and development case scenarios.

Summary Results			
Scenario	Peak	PRC	Total Delay (pcuHr)
2031 Reference Case (D1)	AM Peak	-23.8%	147.59
	PM Peak	1.6%	56.18
2031 Development Case (J1d)	AM Peak	-24.1%	145.04
	PM Peak	2.4%	57.08

4.55 The results summarised above show that there would be no detrimental impact due to the proposed development, with only a minor impact on performance in the morning peak hour, and therefore no mitigation is proposed at this location.

A4500 St Peters Way/A508 Horseshoe Street/A5123 St Peters Way/Towcester Road gyratory (J)

4.56 The A4500 St Peters Way/A508 Horseshoe Street/A5123 St Peters Way/Towcester Road junction is a four-arm signalised gyratory and forms part of the inner ring road, located south of the town centre and approximately 300 metres west of the Plough gyratory.

4.57 The impact of the proposed development at the A4500 St Peters Way/A508 Horseshoe Street/A5123 St Peters Way/Towcester Road gyratory was assessed using a LinSig model which was constructed to be used as an assessment tool.

4.58 The LinSig model includes the latest NSTM2 turning flow sets for the 2031 D1 reference case and 2031 J1d development case scenarios, provided at **Appendix F**. The model results, provided at **Appendix P** and summarised below, show that the junction would operate above its maximum capacity in the morning and evening peak hours for both the 2031 D1 reference case and 2031 J1d development case 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)	AM Peak	-43.6%	501.07
	PM Peak	-47.7%	402.30
2031 Development Case (J1d)	AM Peak	-41.3%	413.10
	PM Peak	-46.1%	410.56

4.59 The results summarised above show that there would be no detrimental impact due to the proposed development and therefore no mitigation is proposed at this location.

A5123 St Peters Way/A508 Bridge Street/A5123 Victoria Promenade gyratory (K)

4.60 The A5123 St Peters Way/A508 Bridge Street/A5123 Victoria Promenade signalised gyratory forms part of the inner ring road, located south of the town centre, and is known locally as the Plough Gyratory. The gyratory is effectively formed from two closely located T-junctions, with the A5123 looping round (one-way) to the north to form the gyratory.

4.61 As part of the proposals to improve capacity and connectivity around Northampton Town Centre, there is a committed improvement scheme at the Plough Gyratory. This scheme has been included in the NSTM2 for the reference case and development case scenarios. Details

of the scheme have been provided by WSP so that the proposed arrangement can be adequately modelled.

4.62 The impact of the proposed development at the proposed Plough Gyratory was assessed using a LinSig model which was constructed to be used as an assessment tool, based on the information provided by WSP.

4.63 The LinSig model includes the latest NSTM2 turning flow sets for the 2031 D1 reference case and 2031 J1d development case scenarios, provided at **Appendix F**. It should be noted that in the morning peak hour, the NSTM2 turning flows show that traffic from the A5123 St Peters Way traffic which is destined for town centre turns left onto Commercial Street before the gyratory. However, when these flows were modelled, the Bridge Street/Commercial Street T-junction operated well over its capacity and with significant queueing, whilst the A5123 St Peters Way approach to the gyratory operated within capacity and with minimal queueing. Clearly, such an unbalanced distribution on this approach is unlikely to happen and therefore the morning peak hour flow from A5123 St Peters Way towards the town centre was adjusted for both the reference case and development scenarios, so that a more realistic split of traffic was modelled.

4.64 The model results, provided at **Appendix Q** and summarised below, show that the junction would operate above its maximum capacity in the evening peak hour for both the 2031 D1 reference case and 2031 J1d development case scenarios (PRC values are negative indicating that one or more links are operating above 90% of their capacity). However, the LinSig model shows that the junction would operate acceptably in the morning peak hour in both the reference case and development case scenarios.

Summary Results			
Scenario	Peak	PRC	Total Delay (pcuHr)
2031 Reference Case (D1)	AM Peak	9.2%	33.60
	PM Peak	-1.2%	56.41
2031 Development Case (J1d)	AM Peak	3.9%	36.56
	PM Peak	-3.7%	55.27

4.65 The results summarised above show that there would be no detrimental impact due to the proposed development, with only a 2.5% impact in the evening peak hour, and therefore no mitigation is proposed at this location.

A45 Wootton Interchange (L)

4.66 The operation of the A45 Wootton Interchange is assessed in Technical Note 7 (ref. ADC1475 TN7 v3). The assessment determined that whilst the development has an impact at the junction during the morning peak hour, the junction layout is constrained on most approaches and therefore the opportunities for highway improvements are restricted. Further, improving the capcity of the Wootton Interchange may lead to traffic rat-running through traffic clamed residential areas and therefore it was concluded that it would not be appropriate to promote an improvement scheme at the junction that could attract further increases in traffic flows.

4.67 The assessment presented in Technical Note 7 was based upon an earlier iteration of the 2031 assessment traffic flows. The assessment has been updated to include the final 2031 reference case (D1) and 2031 development case (J1d) traffic flows extracted from the NSTM2. The results, provided at **Appendix R** and summarised below, show that the traffic demand would be significantly higher than capacity for both the northern and southern roundabouts in all modelled 2031 scenarios.

	AM				PM			
	Queue (PCU)	Delay (s)	RFC	LOS	Queue (PCU)	Delay (s)	RFC	LOS
	A1 - 2031 D1							
Junction 1 - Arm 1	4.81	18.13	0.83	C	83.41	259.10	1.08	F
Junction 1 - Arm 2	27.77	93.22	1.02	F	1.11	6.54	0.51	A
Junction 1 - Arm 3	0.00	0.00	0.00	A	0.00	0.00	0.00	A
Junction 1 - Arm 4	30.51	146.64	1.05	F	53.01	179.46	1.09	F
Junction 2 - Arm 1	0.35	6.18	0.25	A	1.88	13.68	0.60	B
Junction 2 - Arm 2	6.86	34.46	0.89	D	23.71	127.92	1.04	F
Junction 2 - Arm 3	97.03	239.02	1.11	F	12.48	38.47	0.94	E
Junction 2 - Arm 4	16.40	138.71	1.02	F	155.05	1073.99	1.58	F
	A1 - 2031 J1d							
Junction 1 - Arm 1	3.32	13.25	0.77	B	93.66	304.84	1.09	F
Junction 1 - Arm 2	22.67	76.76	1.00	F	1.69	8.36	0.62	A
Junction 1 - Arm 3	0.00	0.00	0.00	A	0.00	0.00	0.00	A
Junction 1 - Arm 4	79.47	367.18	1.22	F	140.58	542.23	1.30	F
Junction 2 - Arm 1	0.30	5.82	0.22	A	2.02	14.35	0.60	B
Junction 2 - Arm 2	4.60	23.64	0.83	C	20.93	115.50	1.02	F
Junction 2 - Arm 3	130.11	324.43	1.14	F	17.13	51.00	0.96	F
Junction 2 - Arm 4	16.46	135.56	1.01	F	188.14	1365.62	1.69	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

4.68 In the morning peak hour traffic flows at the three external approaches to the junction 2 roundabout are predicted to remain broadly consistent in the 2031 development case when compared to the 2031reference case, with the flows at the junction 1 roundabout also broadly remaining consistent with the exception of the A45 offslip approach which increases by 80 pcus. Therefore, in the 2031 J1d development case morning peak hour the effect of the development is a worsening in performance on just two of the eight approaches, with the A45 offslip approach being particularly effected. However, since this approach is already significantly over capacity in the reference case, a small increase in flow can lead to significant increases in queuing and delay.

4.69 In the evening peak hour, traffic flows in the 2031 development case are also predicted to remain broadly consistent on all external approaches to the roundabouts, with the exception of the A45 offslip approach which increases by 94 pcus. Therefore, in the 2031 J1d development case evening peak hour the effect of the development is a worsening in performance on just two of the eight approaches, with the A45 offslip and Berry Lane approaches being effected. Again, these approaches are already significantly over capacity in the reference case, and therefore relatively small changes in traffic conditions are leading to significant increases in queuing and delay.

4.70 **Figures 4, 9 and 10** in Section 3 of this report show that in the 2031 J1d development case scenario traffic reassigns away from the A45 northbound at the Wootton Interchange, routing north towards the A5076 Mere Way through the residential areas in Wootton and also reassigning onto the local highway network to the east. It is likely that much of this reassigning traffic would ordinarily leave the A45 at the Queen Eleanor Interchange, but instead is seeking to avoid the Queen Eleanor Interchange junction due to the forecast congestion at the junction, as detailed at paragraphs 4.1 to 4.11 of this technical note.

4.71 Therefore, when considering the development impact at this junction it is important to consider that the actual increases in traffic flow are relatively small and are largely due to reassigning traffic, not development traffic.

4.72 Mitigating the impact of the development on junction performance would not be simple. Most approaches to the junction are geometrically constrained and improving one approach would simply push the problem onto another approach to the junction. In addition, the single carriageway bridge deck connecting the two roundabouts is a major constraint, particularly because most mitigation options would require two exit lanes onto the bridge.

4.73 The Wootton Interchange connects residential areas to the east and west of the A45 and improving the capacity at the junction may simply increase rat-running through these areas which would not be a desirable outcome.

4.74 Therefore, Technical Note 7 concluded that rather than promote an improvement at the Wootton Interchange 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.

4.75 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. As reported at paragraph 4.11, 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 is acceptable.

4.76 Therefore, considering the above factors, no mitigation is proposed at the Wootton Interchange.

M1 Junction 15 and A45 (M)

4.77 The proposed highway mitigation strategy includes a significant improvement scheme at M1 Junction 15 and the A45. The scheme comprises:

- Enlargement of both the northern and southern dumbell 'roundabouts';
- Realignment and widening on the A45 approach to the junction to provide five lanes;
- Signalising and widening of the Saxon Avenue approach to the junction;
- Provision of three full lanes southbound over the M1 bridge;
- Longer section of three lanes on the M1 northbound off-slip, widening to five lanes at the entry;
- Dualling of the A508 approach and exit, with five lanes provided at for the A508 northbound at the entry;
- A cut-through for M1 northbound traffic to the A45/Saxon Avenue;
- Widening on the M1 southbound off-slip to provide six lanes at the entry;
- A45 northbound widened to provide three lanes from J15 to beyond Watering Lane;
- Watering Lane junction with the A45 signalised;
- Change to the speed limit on this section of the A45 to become 50mph;
- Removal of the northbound parking lay-by; and
- Removal of two bus stop lay-bys, with a replacement bus stop provided on Watering Lane.

4.78 The operation of M1 Junction 15 in the 2031 reference case and 2031 development case is described in Technical Note 5 (ref. ADC1475 TN5 v5). The proposed improvements are shown to provide a significant improvement in the performance of the junction, with significant reductions in delay and queuing on the A45, A508, and the M1 southbound offslip approaches to the junction.

M1 Junction 15a (N)

4.79 The proposed highway mitigation strategic includes a significant improvement scheme at M1 Junction 15A. The scheme comprises alterations to both the southern and northern roundabouts:

- Southern roundabout:
  - Provision of an additional lane and signalisation of the A43 northbound approach;
  - Signalisation and provision of a short flare on the A43 eastbound approach; and
  - Circulatory carriageway widening.
- Northern roundabout:
  - Signalisation of the A43 northbound entry;
  - Provision of an additional flared lane on the A5123 approach to the roundabout; and
  - Circulatory carriageway widening

4.80 The operation of M1 Junction 15a in the 2031 reference case and 2031 development case is described in Technical Note 6 (ref. ADC1475 TN6 v2). It is shown that in the 2031 reference case, traffic queuing at the junction would block back to the M1 mainline in each direction, causing mainline flow breakdown and leading to significant delay, particularly in the evening peak hour. In the 2031 development case, with the proposed mitigation in place, there is a significant improvement in the performance of the junction and queuing does not block back to the M1, leading to a significant reduction in congestion.

Summary

4.81 Based on the analysis detailed in Section 3, a study area of 12 junctions north of the M1 has been identified, which includes all relevant junction on the A45, the A5076 Mere Way/Danes Camp Way corridor, the key junctions on the inner ring road and junctions north of M1 Junction 15a. Detailed models have been constructed and used to assess the impact of the development traffic and the reassigned traffic on the study area junctions.

4.82 The junction modelling shows that there would not be a severe impact at any of the study area junctions. However, the combined impacts of the development and highway mitigation does result in a more notable deterioration in junction performance at the Wootton Interchange, A45 Queen Eleanor Interchange and the A5076 Danes Camp Way/Mere Way/Towcester Road gyratory.

4.83 The Queen Eleanor Interchange is a key junction for the strategic and local highway networks and therefore an appropriate improvement scheme has been identified to mitigate the development impact. The improvement scheme would provide widening on the A5067 Mere Way approach to lengthen the existing flared lane, and reconfigures the lane allocation on the circulating carriageway to improve efficiency at the stoplines. The proposed scheme would mitigate the impact of the development on the Queen Eleanor Interchange, providing a significant improvement to junction performance when compared to the 2031 D1 reference case scenario.

4.84 Further, since a better than nil detriment improvement is provided by the scheme, particularly in the evening peak hour, it is likely that some of the traffic shown to reassign through the Wootton Interchange would be drawn onto the route via Newport Pagnell Road and the A5076 Mere Way at the Queen Eleanor Interchange. This would lessen the impact at the Wootton Interchange.

4.85 An improvement scheme at the A5076 Danes Camp Way/ Mere Way gyratory is also identified, providing widening on the A5067 Mere Way approach to lengthen the existing flared lane to

approximately 120 metres. This provides additional capacity on the A5076 Mere Way approach in the morning peak, and also provides additional queue storage.

4.86 Elsewhere, traffic flows on the A45 do not alter between the reference case and the development case scenarios and therefore no further mitigation is required on the A45 as a result of the proposed development.

4.87 NCC are developing a comprehensive improvement scheme at the A45 Queen Eleanor Interchange and it is recognised that flexibility regarding the timing and scope of the improvement works on the A5076 Danes Camp Way corridor would be beneficial. Therefore, it is proposed that NCC secure a financial contribution equivalent to the cost of implementing the proposed improvement works at these junctions, to be used to deliver the proposed improvements, or as part of a wider package of improvements at the A45 Queen Eleanor Interchange and the A5076 corridor.

5.0 2021 DFT 02/2013 CIRCULAR COMPLIANT JUNCTION ASSESSMENTS

5.1 Revision 3 of this report was issued to the Transport Working Group on 7 February 2018 and focused on the residual impact of the proposed development and the identified mitigation strategy in the 2031 assessment year. WSP have subsequently provided turning count traffic flows for the 2021 DfT 02/2013 Circular compliant assessment scenarios for the relevant Trunk Road junctions within the identified study area, provided at **Appendix S**.

5.2 Therefore, the LinSig models for the junctions along A45 corridor have been updated to include the 2021 DfT 02/2013 Circular compliant (C1) reference case and 2021 02/2013 Circular compliant (I1) development case scenarios and the results are discussed below.

Queen Eleanor Interchange (A)

5.3 The LinSig model results, provided at **Appendix G**, and summarised below, show that the Queen Eleanor Interchange would operate above its maximum capacity in both the 2021 DfT Circular reference case and 2021 DfT Circular development case 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)
2021 Reference Case (C1)	AM Peak	-87.4%	1204.17
	PM Peak	-79.0%	1205.64
2021 Development Case (I1)	AM Peak	-92.3%	1199.61
	PM Peak	-80.1%	1198.06
2021 Development Case + Mitigation (I1)	AM Peak	-70.8%	926.96
	PM Peak	-51.3%	988.66

5.4 The performance of the junction deteriorates by 4.9% in the morning peak hour (-87.4% vs -92.3%) and by 1.1% in the evening peak hour (-79.0% vs -80.1%).

5.5 Whilst the impact in the 2021 DfT Circular compliant assessment scenarios does not represent a severe impact on junction performance, the requirement for a mitigation strategy at the Queen Eleanor Interchange was established for the 2031 assessment scenarios in Technical Note 7 (ref. ADC1475 TN7 v3) and the resulting scheme is discussed at paragraph 4.8 of this report.

5.6 The LinSig modelling results provided at **Appendix G** and summarised in the table above show that the proposed scheme would deliver a significant improvement to junction performance in both the 2021 DfT Circular morning and evening peak hours when compared to the 2021 DfT Circular reference case (16.6% in the morning peak and 27.7% in the evening peak hour).

5.7 The proposed scheme would therefore mitigate the impact of the development on the Queen Eleanor Interchange in all assessment scenarios.

5.8 As discussed at paragraph 4.11, NCC have requested that a financial contribution, equivalent to the cost of implementing the improvement works, is made towards a more comprehensive improvement scheme be secured as part of the development, rather than implemented the identified works in isolation. Highways England have also confirmed this is acceptable.

Brackmills Interchange (B)

5.9 The model results, provided at **Appendix H** and summarised below, show that the junction would operate acceptably in the morning and evening peak hours for both the 2021 DfT Circular (C1)

reference case and 2021 DfT Circular (I1) development case scenarios (PRC values are positive indicating that all links are operating below 90% of their capacity).

Summary Results			
Scenario	Peak	PRC	Total Delay (pcuHr)
2021 Reference Case (C1)	AM Peak	25.6%	22.21
	PM Peak	24.9%	23.57
2021 Development Case (I1)	AM Peak	12.1%	28.12
	PM Peak	13.1%	28.29

5.10 Therefore, there would be no detrimental impact due to the proposed development and therefore no mitigation is proposed at this location.

Barnes Meadow Interchange (C)

5.11 The model results, provided at **Appendix I** and summarised below, show that the junction would operate above its maximum capacity in the evening peak hour for both the 2021 DfT Circular (C1) reference case and 2021 DfT Circular (I1) development case scenarios (PRC values are negative indicating that one or more links are operating above 90% of their capacity). However, the LinSig model shows that the junction would operate acceptably in the morning peak hour in both the reference case and development case scenarios.

Summary Results			
Scenario	Peak	PRC	Total Delay (pcuHr)
2021 Reference Case (C1)	AM Peak	19.9%	55.02
	PM Peak	-50.2%	482.73
2021 Development Case (I1)	AM Peak	17.1%	59.48
	PM Peak	-43.9%	463.64

5.12 The results summarised above show that there would not be a severe impact due to the proposed development and therefore no mitigation is proposed at this location.

A43 Lumbertubs Interchange (D)

5.13 The model results are provided at **Appendix J** and summarised below, show that the junction would operate above its maximum capacity in both the morning peak hour and the evening peak hour for both the 2021 DfT Circular (C1) reference case and 2021 DfT Circular (I1) development case 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)
2021 Reference Case (C1)	AM Peak	-42.0%	477.09
	PM Peak	-33.9%	133.63
2021 Development Case (I1)	AM Peak	-46.8%	515.45
	PM Peak	-37.0%	145.38

5.14 The results summarised above show that there would not be a severe impact due to the proposed development and therefore no mitigation is proposed at this location.

Great Billing Interchange (E)

5.15 The model results, provided at **Appendix K** and summarised below, show that the junction would operate above its maximum capacity in the morning peak hour for both the 2021 DfT Circular (C1) reference case and 2021 DfT Circular (I1) development case scenarios (PRC values are negative indicating that one or more links are operating above 90% of their capacity). However, the LinSig model shows that the junction would operate acceptably in the evening peak hour in both the reference case and development case scenarios.

Summary Results			
Scenario	Peak	PRC	Total Delay (pcuHr)
2021 Reference Case (C1)	AM Peak	-0.2%	25.82
	PM Peak	41.6%	15.91
2021 Development Case (I1)	AM Peak	1.1%	25.27
	PM Peak	42.1%	16.01

5.16 The results summarised above show that there would not be a severe impact due to the proposed development and therefore no mitigation is proposed at this location.

A45 Wootton Interchange (L)

5.17 The Junction 8 Arcady assessment has been updated to include the 2021 DfT Circular (C1) reference case and 2021 DfT Circular (I1) development case traffic flows. The results, provided at **Appendix R** and summarised below, show that the traffic demand would be significantly higher than capacity for both the northern and southern roundabouts in all modelled 2021 scenarios.

	AM				PM			
	Queue (PCU)	Delay (s)	RFC	LOS	Queue (PCU)	Delay (s)	RFC	LOS
	A1 - 2021 C1							
Junction 1 - Arm 1	8.60	29.89	0.91	D	145.49	384.52	1.16	F
Junction 1 - Arm 2	10.89	45.70	0.94	E	1.05	6.56	0.50	A
Junction 1 - Arm 3	0.00	0.00	0.00	A	0.00	0.00	0.00	A
Junction 1 - Arm 4	4.61	29.78	0.80	D	6.71	32.20	0.86	D
Junction 2 - Arm 1	0.69	8.15	0.40	A	2.39	16.34	0.65	C
Junction 2 - Arm 2	5.48	30.06	0.86	D	35.48	186.62	1.09	F
Junction 2 - Arm 3	15.95	44.81	0.96	E	5.94	19.39	0.85	C
Junction 2 - Arm 4	83.64	512.11	1.37	F	35.70	214.11	1.13	F
	A1 - 2021 I1							
Junction 1 - Arm 1	6.98	24.60	0.88	C	108.81	324.50	1.12	F
Junction 1 - Arm 2	8.40	35.35	0.91	E	1.02	6.44	0.49	A
Junction 1 - Arm 3	0.00	0.00	0.00	A	0.00	0.00	0.00	A
Junction 1 - Arm 4	5.64	35.30	0.83	E	11.19	50.52	0.92	F
Junction 2 - Arm 1	0.62	7.74	0.39	A	1.94	14.56	0.58	B
Junction 2 - Arm 2	5.90	31.10	0.87	D	20.99	118.08	1.02	F
Junction 2 - Arm 3	22.45	59.33	0.99	F	6.87	22.51	0.86	C
Junction 2 - Arm 4	94.04	614.20	1.43	F	66.53	377.93	1.28	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

5.18 In the 2021 I1 development case morning peak hour, the RFC does not significantly deteriorate on any of the approaches to the junction, with the exception of the Berry Lane approach which

experiences a 6% increase in RFC. However, since this approach is already operating significantly over capacity in the 2021 C1 reference case scenario and the predicted queue would increase by 10 pcus, the impact is not severe.

5.19 In the 2021 I1 development case evening peak hour, the RFC does not significantly deteriorate on any of the approaches to the junction, with the exception of the A45 offslip which experiences a 6% increase in RFC and the Berry Lane approach which experiences a 15% increase in RFC. The queue on the A45 offslip approach is predicted to increase by just 4 pcus and therefore the impact is not severe. The Berry Lane approach is already operating significantly over capacity in the 2021 C1 reference case scenario and the predicted queue would increase by 31 pcus.

5.20 The results from the 2012 02/2013 Circular compliant scenario do not change the conclusions drawn from the 2031 assessment year analysis at paragraphs 4.66 to 4.76 and therefore no mitigation is proposed at this location.

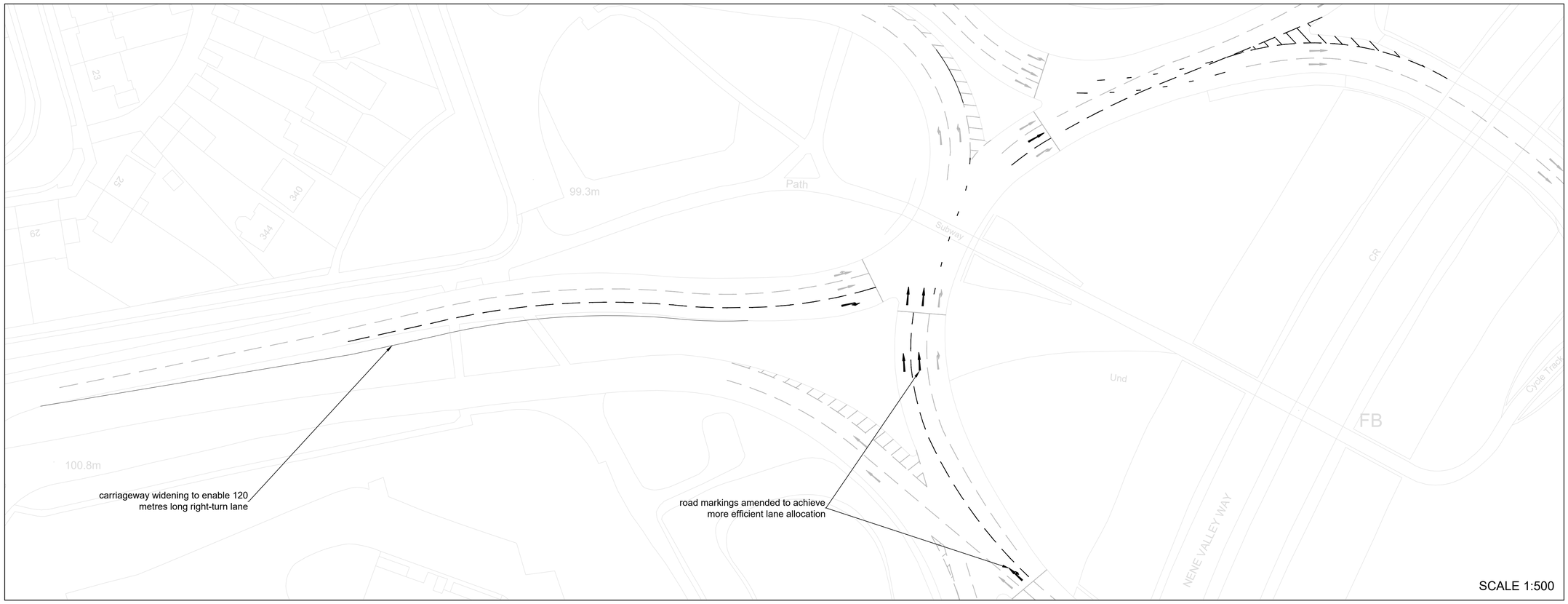
Summary

5.21 The LinSig models for the junctions along A45 corridor have been updated to include the 2021 02/2013 Circular compliant assessment year traffic flows for the C1 reference case and I1 development case scenarios.

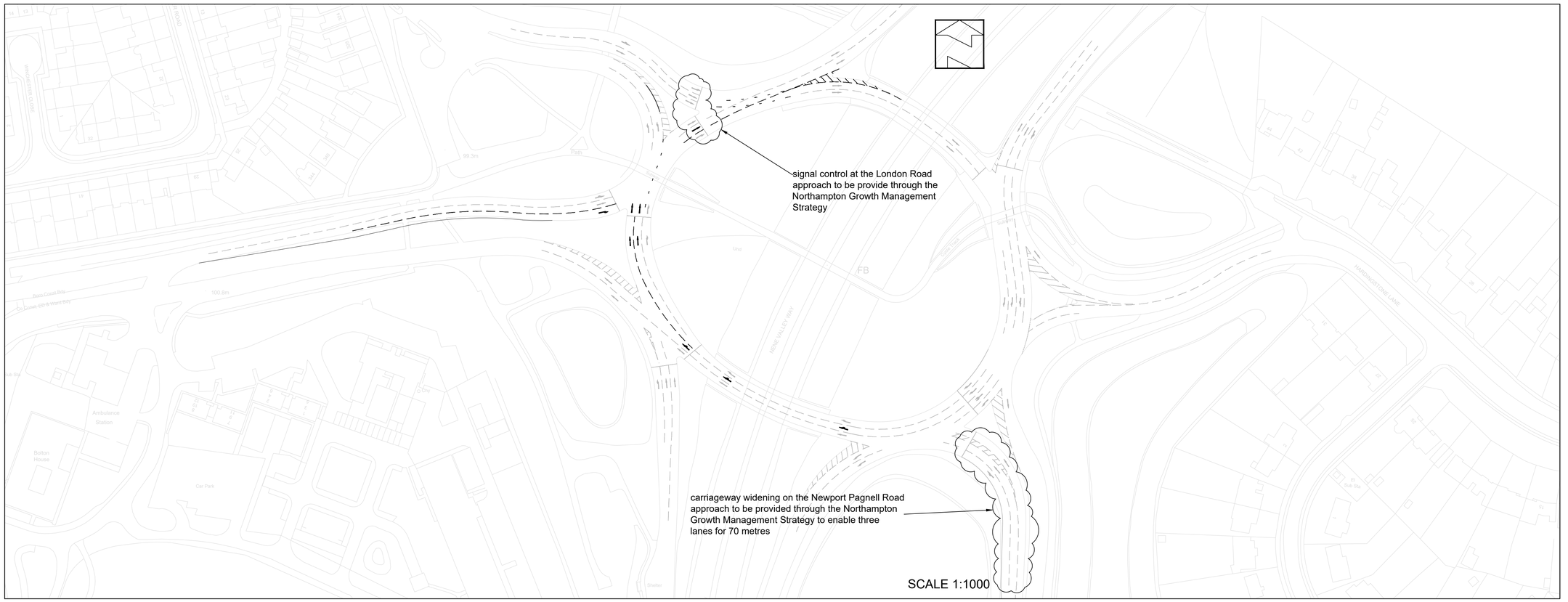
5.22 The junction modelling shows that there would not be a severe impact at any of the study area junctions. However, as for the 2021 assessment year, the combined impacts of the development and highway mitigation does result in a more notable deterioration in junction performance at the Wootton Interchange and the A45 Queen Eleanor Interchange.

5.23 However, the results from the 2012 02/2013 Circular compliant scenario do not change the conclusions drawn from the 2031 assessment year analysis and therefore the mitigation strategy outlined in Section 4 of this report and agreed with the Transport Working Group is appropriate.

DRAWINGS



SCALE 1:500



SCALE 1:1000

Rev	Description	Date
D	Viewport changed	11/12/17
C	Amended following revised modeling	30/08/17
B	Amended roadmarkings	16/08/17

Client:

ROXHILL

Project:

Northampton Gateway Strategic Rail Freight Interchange

Title:

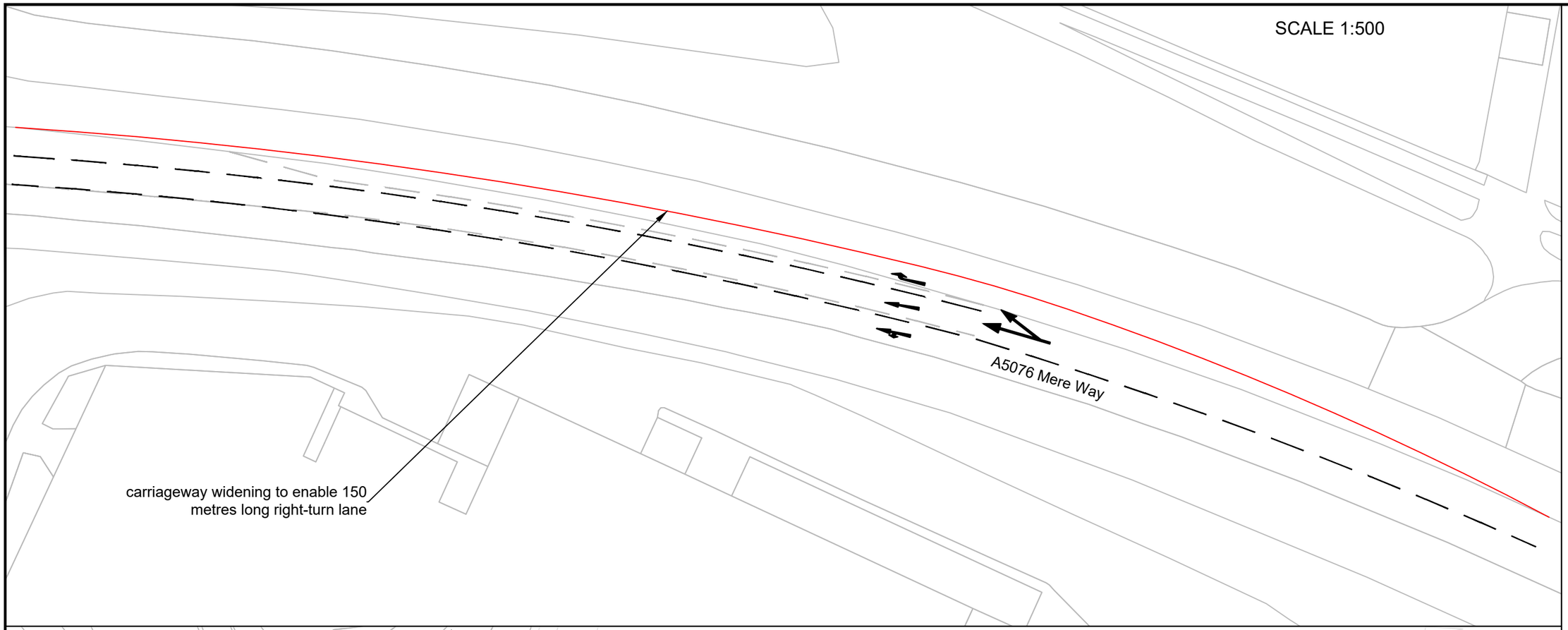
Potential Queen Eleanor Gyratory Improvement Scheme

ADC INFRASTRUCTURE

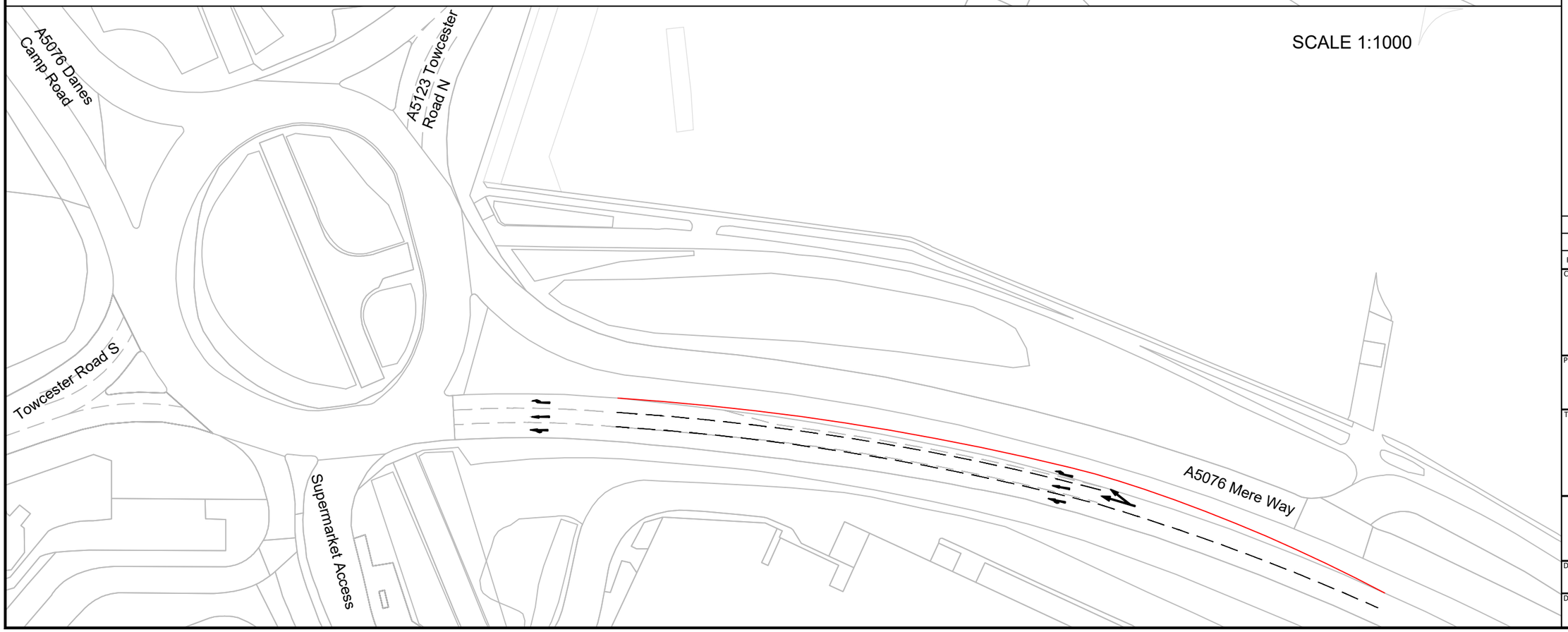
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A1	AS SHOWN	15/08/2017

Drg No:	Rev:
ADC1475/SK03	D

SCALE 1:500



SCALE 1:1000



Rev	Description	Date

Client: ROXHILL

Project: Northampton Gateway Strategic Rail Freight Interchange

Title: Potential Danes Camp Way/Mere Way/Towcester Road Junction Improvement Scheme

ADC INFRASTRUCTURE

Drg Size:	Scale:	Date:
A3	AS SHOWN	24/11/2017

Drg No:	Rev:
ADC1475/SK04	A

APPENDIX A

NSTM2 SELECT LINK ANALYSIS PLOTS

Drawn By: ukrdt001

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Drawn By: ukrdt001

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APPENDIX B

NSTM2 FLOW DIFFERENCE PLOTS

Drawn By: ukrdt001

File: Q:\WSP_UK\WSP_D\Basing\Northants Multi Modal Transport Model\Analysis\Map Documents\Northampton Gateway\Difference Plots\I1_vs_C1\I1_C1_Flow_Diff_Wider_Area_Veh_28112017.mxd

Key

I1 vs C1 (AM Peak)

Actual Flow Difference (Veh)

- < -100
- -100 - -10
- -10 - 10
- 10 - 100
- > 100

Flore
Harpole
Weedon Bec
Nether Heyford
Bugbrooke
Collingtree
Hackleton
Earls Barton
Wollaston
Cogenhoe
Brafield-on-the-Green
Denton
Yardley Hastings
Yardley Chase
Bozeat
Harrold
Lavendon
Turvey
OLNEY
Greens Norton
TOWCESTER
Silverstone
Yardley Gobion
Potterspury
Old Stratford
Hanslope
Castlethorpe
The Wilderness
Sherington
The Green

A45
A4500
A5095
A45(T)
A508
A5(T)
M1
A509
A428

River Nene
Grand Union Canal
River Tove
River Great Ouse
River Glyme

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0 0.5 1 1.5 2 2.5 3 Kilometres

DRAWING STATUS:

wsp

CLIENT:

ARCHITECT:

PROJECT: NORTHAMPTON M1 GATEWAY

TITLE: WIDER AREA

SCALE @ A1:	CHECKED:	APPROVED:
CAD FILE:	DESIGN DRAWN:	DATE: ----
PROJECT No:	DRAWING No:	REV:

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Key

I1 vs C1 (PM Peak)

Actual Flow Difference (Veh)

- < -100
- -100 - -10
- -10 - 10
- 10 - 100
- > 100

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0 0.5 1 1.5 2 2.5 3 Kilometres

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PROJECT:	NORTHAMPTON M1 GATEWAY
TITLE:	WIDER AREA
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Key

J1d vs D1 (AM Peak)

Actual Flow Difference (Veh)

- < -100
- -100 - -30
- -30 - 30
- 30 - 100
- > 100

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0 0.5 1 1.5 2 2.5 3 Kilometres

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PROJECT: NORTHAMPTON M1 GATEWAY

TITLE: WIDER AREA

SCALE @ A1:	CHECKED:	APPROVED:
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PROJECT No:	DRAWING No:	REV:

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Key

J1d vs D1 (PM Peak)

Actual Flow Difference (Veh)

- < -100
- -100 - -30
- -30 - 30
- 30 - 100
- > 100

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0 0.5 1 1.5 2 2.5 3 Kilometres

DRAWING STATUS:

wsp

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ARCHITECT:

PROJECT: NORTHAMPTON M1 GATEWAY

TITLE: WIDER AREA

SCALE @ A1:	CHECKED:	APPROVED:
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PROJECT No:	DRAWING No:	REV:

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APPENDIX C

NSTM2 TRAFFIC REASSIGNMENT PLOTS

Drawn By: ukrdt001

File: Q:\WSP_UK\WSP_D\Basing\Northants Multi Modal Transport Model\Analysis\Map Documents\Northampton Gateway\Difference Plots\I1_vs_C1\I1_C1_Reassign_Local_Area_Veh_28112017.mxd

Key

I1 vs C1 (AM Peak)

Actual Flow Reassign (Veh)

- < -100
- -100 - -10
- -10 - 10
- 10 - 100
- > 100

Harpole
Flore
Weedon Bec
Nether Heyford
Bugbrooke
Collingtree
Hackleton
Brafield-on-the-Green
Cogenhoe
Wollaston
Bozeat
Denton
Yardley Hastings
Yardley Chase
Harrold
Lavendon
Turvey
OLNEY
Greens Norton
TOWCESTER
Silverstone
Yardley Gobion
Potterspury
Old Stratford
Hanslope
Castlethorpe
The Wilderness
Sherington
The Green

A45
A4500
A5095
A45(T)
A508
A5(T)
M1
A43(T)
A509
A428

River Nene
Grand Union Canal
River Tove
River Great Ouse
River Glyme

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0 0.5 1 1.5 2 2.5 3 Kilometres

DRAWING STATUS:

wsp

CLIENT:

ARCHITECT:

PROJECT:

NORTHAMPTON M1 GATEWAY

TITLE:

WIDER AREA

SCALE @ A1:	CHECKED:	APPROVED:
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PROJECT No:	DRAWING No:	REV:

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Drawn By: ukrdt001

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Key

I1 vs C1 (PM Peak)

Actual Flow Reassign (Veh)

- < -100
- -100 - -10
- -10 - 10
- 10 - 100
- > 100

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0 0.5 1 1.5 2 2.5 3 Kilometres

DRAWING STATUS:

wsp

CLIENT:

ARCHITECT:

PROJECT: NORTHAMPTON M1 GATEWAY

TITLE: WIDER AREA

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Key

J1d vs D1 (AM Peak)

Actual Flow Reassign (Veh)

- < -100
- -100 - -30
- -30 - 30
- 30 - 100
- > 100

Brixworth
Spratton
Long Buckby
Sywell
Moulton
WELLINGBOROUGH
Great Doddington
Earls Barton
Wollaston
Irchester
Cogenhoe
Bozeat
Flore
Harpole
Duston
Weedon Bec
Nether Heyford
Brackmills
Brafield-on-the-Green
Denton
Yardley Hastings
Harrold
Collingtree
Hackleton
Yardley Chase
Lavendon
OLNEY
Greens Norton
TOWCESTER
The Wilderness
A43
A508
A509
A5193
A45(T)
A45
A4500
A5(T)
A43(T)
M1
River Nene
Grand Union Canal
River Tove
River Great Ouse
River Ise

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0 0.5 1 1.5 2 2.5 3 Kilometres

DRAWING STATUS:

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CLIENT:

ARCHITECT:

PROJECT: NORTHAMPTON M1 GATEWAY

TITLE: WIDER AREA

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PROJECT No:	DRAWING No:	REV:

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Key

J1d vs D1 (PM Peak)

Actual Flow Reassign (Veh)

- < -100
- -100 - -30
- -30 - 30
- 30 - 100
- > 100

Brixworth
Spratton
Long Buckby
Moulton
Sywell
Duston
Harpole
Flore
Weedon Bec
Kislingbury
Nether Heyford
Bugbrooke
Collingtree
Hackleton
Great Doddington
Earls Barton
Wollaston
Cogenhoe
Bozeat
Brafield-on-the-Green
Denton
Yardley Hastings
Yardley Chase
Harrold
Lavendon
OLNEY
Hartwell
Greens Norton
TOWCESTER
The Wilderness
WELLINGBOROU
Irchest

A43
A508
A509
A5193
A45
A45(T)
A4500
A5095
A5(T)
A43(T)
M1

River Nene
Grand Union Canal
River Tove
River Great Ouse
River Ise

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0 0.5 1 1.5 2 2.5 3 Kilometres

DRAWING STATUS:

wsp

CLIENT:

ARCHITECT:

PROJECT: NORTHAMPTON M1 GATEWAY

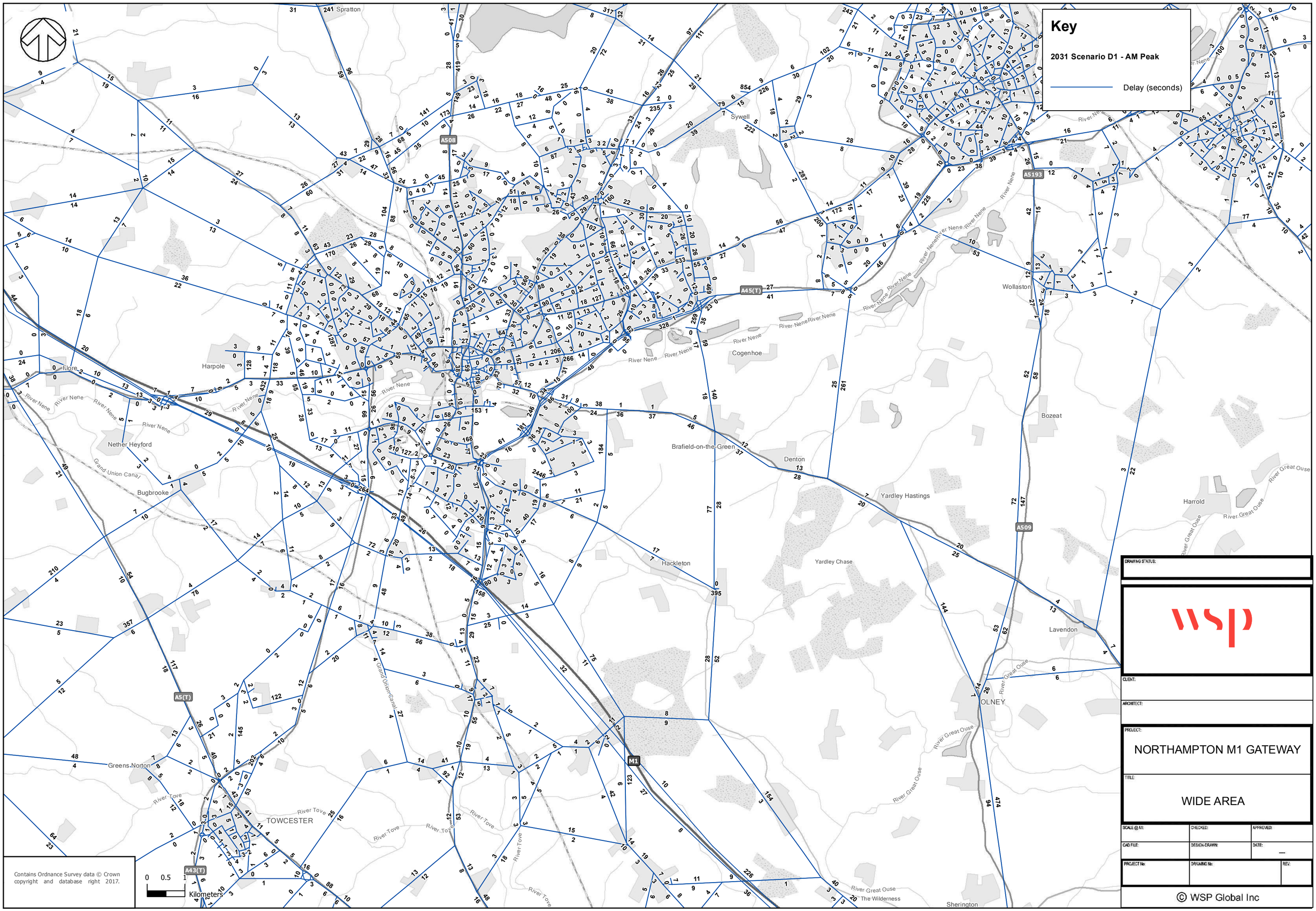
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SCALE @ A1:	CHECKED:	APPROVED:
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PROJECT No:	DRAWING No:	REV:

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APPENDIX D

NSTM2 DELAY PLOTS



DRAWING STATUS:

wsp

CLIENT:

ARCHITECT:

PROJECT:

NORTHAMPTON M1 GATEWAY

TITLE:

WIDE AREA

SCALE @ A1:	CHECKED:	APPROVED:
CAD FILE:	DESIGN DRAWN:	DATE: —
PROJECT No:	DRAWING No:	REV:

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Drawn By: UKWMS001

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Drawn By: UKWMS001

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Key

2031 Scenario D1 - PM Peak

Delay (seconds)

Spratton
Harpole
Flore
Nether Heyford
Bugbrooke
Grand Union Canal
Greens Norton
TOWCESTER
Cogenhoe
Brafield-on-the-Green
Hackleton
Denton
Yardley Hastings
Yardley Chase
Wollaston
Bozeat
Harrold
Lavendon
OLNEY
Sherington
The Wilderness
River Nene
River Tove
River Great Ouse
A508
A45(T)
A5193
A6
A5(T)
A43(T)
M1
A509

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0 0.5 1 Kilometers

DRAWING STATUS:

CLIENT:

ARCHITECT:

PROJECT:

NORTHAMPTON M1 GATEWAY

TITLE:

WIDE AREA

SCALE @ A1:	CHECKED:	APPROVED:
CAD FILE:	DESIGN DRAWN:	DATE: —
PROJECT No:	DRAWING No:	REV:

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Drawn By: UKWMS001

File: Q:\WSP_UK\WSP_D\Basing\Northants Multi Modal Transport Model\Analysis\Map Documents\Northampton Gateway\DS\2031_J1d\v4\A45 Assessment\2031_J1d DS Delay Wide Area.mxd

Key

2031 Scenario J1d - AM Peak

Delay (seconds)

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0 0.5 1 Kilometers

DRAWING STATUS:

wsp

CLIENT:

ARCHITECT:

PROJECT:

NORTHAMPTON M1 GATEWAY

TITLE:

WIDE AREA

SCALE @ A1:	CHECKED:	APPROVED:
CAD FILE:	DESIGN DRAWN:	DATE: —
PROJECT No:	DRAWING No:	REV:

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Key

2031 Scenario J1d - PM Peak

Delay (seconds)

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0 0.5 1 Kilometers

DRAWING STATUS:	
CLIENT:	
ARCHITECT:	
PROJECT:	NORTHAMPTON M1 GATEWAY
TITLE:	WIDE AREA
SCALE @ A1:	CHECKED: / APPROVED:
CAD FILE:	DESIGN DRAWN: / DATE: ----
PROJECT No:	DRAWING No: / REV:

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APPENDIX E

NSTM2 ACTUAL TRAFFIC FLOW PLOTS

Drawn By: UKWMS001

File: Q:\WSP_UK\WSP_D\Basing\Northants Multi Modal Transport Model\Analysis\Map Documents\Northampton Gateway\DM\2021_C1_v4\A45 Assessment\2031_C1_v4 DM Actual Flow All PCU Wide Area.mxd

Key

2021 Scenario C1 - AM Peak

Actual Flow (Total PCU)

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0 0.5 1 Kilometers

DRAWING STATUS:

CLIENT:

ARCHITECT:

PROJECT: NORTHAMPTON M1 GATEWAY

TITLE: WIDE AREA

SCALE @ A1:	CHECKED:	APPROVED:
CAD FILE:	DESIGN DRAWN:	DATE: ----
PROJECT No:	DRAWING No:	REV:

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Drawn By: UKWMS001

File: Q:\WSP_UK\WSP_D\Basing\Northants Multi Modal Transport Model\Analysis\Map Documents\Northampton Gateway\DM\2021_C1_v4\A45 Assessment\2031_C1_v4 DM Actual Flow All PCU Wide Area.mxd

Key

2021 Scenario C1 - PM Peak

Actual Flow (Total PCU)

Harpole
Kislingbury
Nether Heyford
Bugbrooke
Greens Norton
TOWCESTER
Cogenhoe
Brafield-on-the-Green
Hackleton
Yardley Hastings
Yardley Chase
Denton
Bozeat
Wollaston
Harrold
Lavendon
OLNEY
Sherington
The Wilderness
Grand Union Canal
River Nene
River Tove
River Great Ouse

A45
A45(T)
A43
A5
A5(T)
A5193
A509
M1

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0 0.5 1 Kilometers

DRAWING STATUS:

wsp

CLIENT:

ARCHITECT:

PROJECT:

NORTHAMPTON M1 GATEWAY

TITLE:

WIDE AREA

SCALE @ A1:	CHECKED:	APPROVED:
CAD FILE:	DESIGN DRAWN:	DATE: —
PROJECT No:	DRAWING No:	REV:

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File: Q:\WSP_UK\WSP_D\Basing\Northants Multi Modal Transport Model\Analysis\Map Documents\Northampton Gateway\DS\2021_I1_v2\A45 Assessment\2021_I1_v2 Actual Flow All PCU Wide Area.mxd

Key

2021 Scenario I1 - AM Peak

Actual Flow (Total PCU)

Spratton
Sywell
Irchester
Wollaston
Harpole
Cogenhoe
Bozeat
Nether Heyford
Brafield-on-the-Green
Denton
Yardley Hastings
Harrold
Hackleton
Yardley Chase
Lavendon
OLNEY
Greens Norton
TOWCESTER
Sherington
River Nene
Grand Union Canal
River Great Ouse
River Tove
A43
A45(1)
A5123
A5193
A6
A509
A5(T)
A43(T)
M1

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0 0.5 1 Kilometers

DRAWING STATUS:

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CLIENT:

ARCHITECT:

PROJECT:

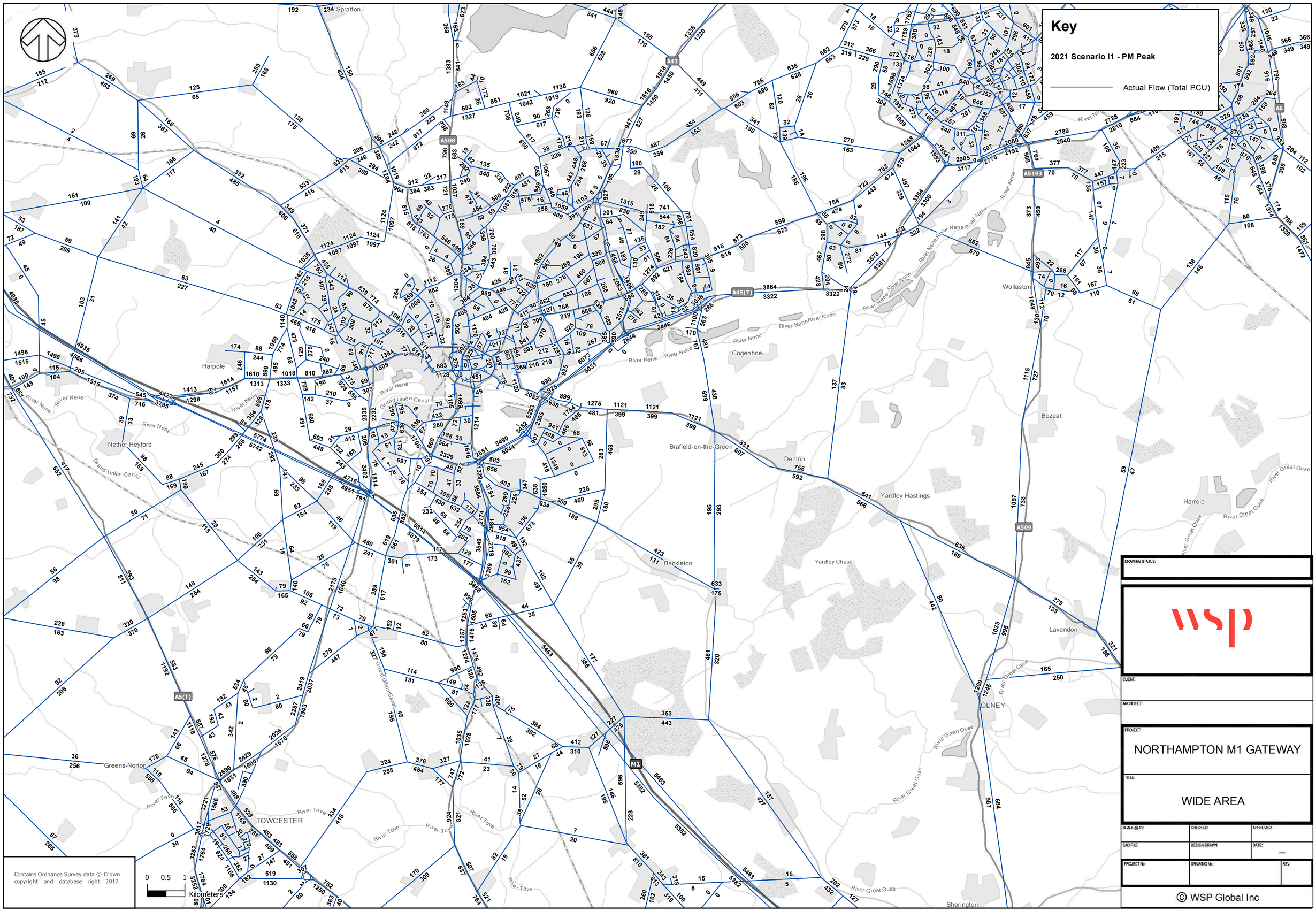
NORTHAMPTON M1 GATEWAY

TITLE:

WIDE AREA

SCALE @ A1:	CHECKED:	APPROVED:
CAD FILE:	DESIGN DRAWN:	DATE: ---
PROJECT No:	DRAWING No:	REV:

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Key
2021 Scenario I1 - PM Peak
Actual Flow (Total PCU)
A43
A508
A45(T)
A5193
A6
A5(T)
M1
A509
Harpole
Nether Heyford
Grand Union Canal
River Nene
Cogenhoe
Wollaston
Bozeat
Brafield-on-the-Green
Denton
Yardley Hastings
Hackleton
Yardley Chase
Lavendon
OLNEY
Harrold
River Great Ouse
Sherington
Greens Norton
TOWCESTER
River Tove
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0 0.5 1 Kilometers
DRAWING STATUS:
CLIENT:
ARCHITECT:
PROJECT:
NORTHAMPTON M1 GATEWAY
TITLE:
WIDE AREA
SCALE @ A1:
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APPROVED:
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DESIGN DRAWN:
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PROJECT No:
DRAWING No:
REV:
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File: Q:\WSP_UK\WSP_D\Basing\Northants Multi Modal Transport Model\Analysis\Map Documents\Northampton Gateway\DS\2021_I1_v2\A45 Assessment\2021_I1_v2 Actual Flow All PCU Wide Area.mxd

Drawn By: UKWMS001

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Key

2031 Scenario D1 - AM Peak

Actual Flow (Total PCU)

Harpole
Nether Heyford
Bugbrooke
Grand Union Canal
Spratton
Greens Norton
TOWCESTER
Cogenhoe
Wollaston
Bozeat
Brafield-on-the-Green
Denton
Yardley Hastings
Yardley Chase
Hackleton
Lavendon
OLNEY
Harrold
Sherington
River Nene
River Tove
River Great Ouse
A43
A508
A45(1)
A5193
A6
A509
A5(T)
A43(T)
M1

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0 0.5 1 Kilometers

DRAWING STATUS:

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CLIENT:

ARCHITECT:

PROJECT:

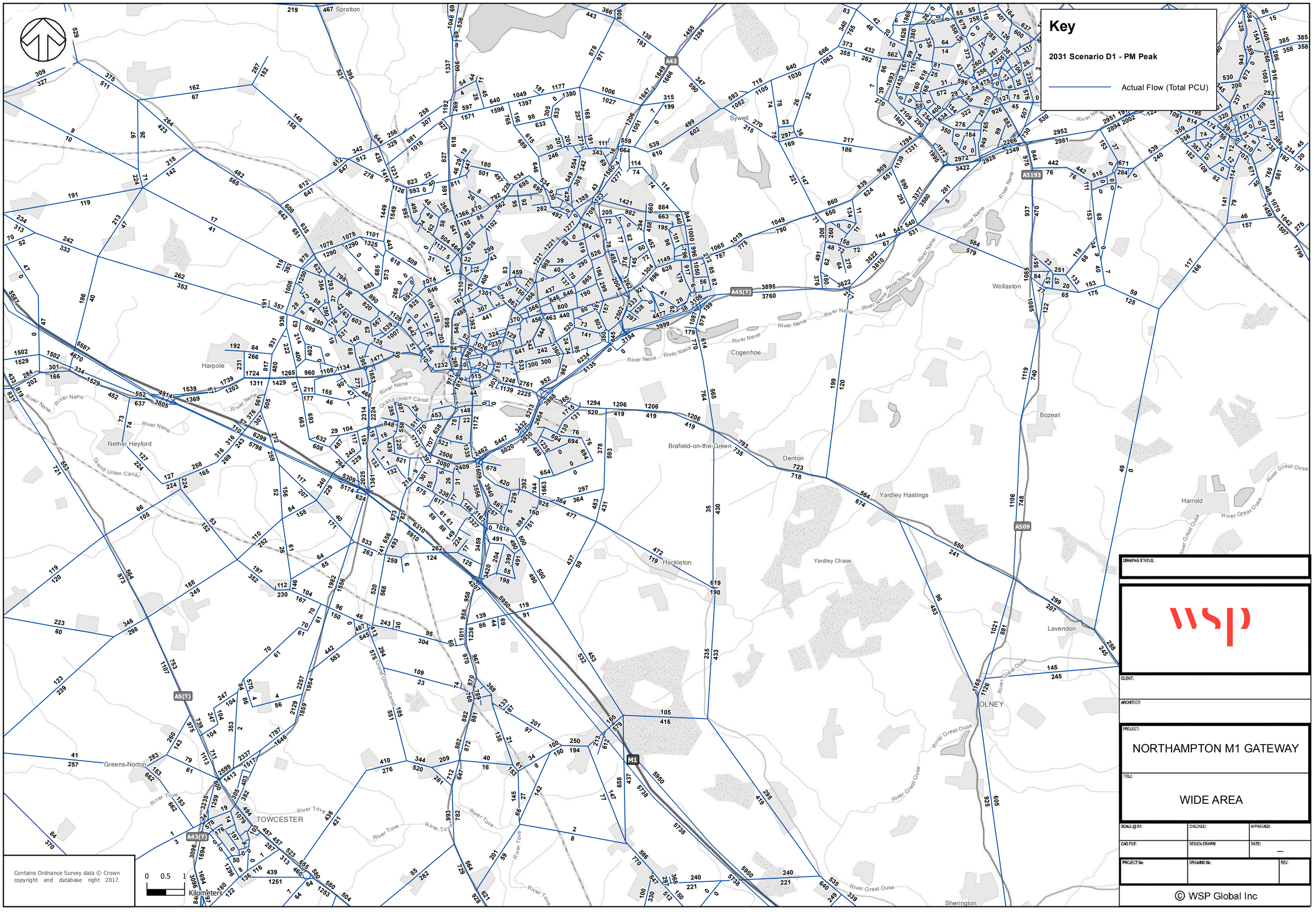
NORTHAMPTON M1 GATEWAY

TITLE:

WIDE AREA

SCALE @ A1:	CHECKED:	APPROVED:
CAD FILE:	DESIGN DRAWN:	DATE: —
PROJECT No:	DRAWING No:	REV:

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File: Q:\WSP_UK\WSP_D\Basing\Northants Multi Modal Transport Model\Analysis\Map Documents\Northampton Gateway\DM\2031_D1_v8\A45 Assessment\2031_D1_v8 DM Actual Flow All PCU Wide Area.mxd

Drawn By: UKWMS001

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Key

2031 Scenario J1d - AM Peak

Actual Flow (All PCU)

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0 0.5 1 Kilometers

DRAWING STATUS:	
CLIENT:	
ARCHITECT:	
PROJECT:	NORTHAMPTON M1 GATEWAY
TITLE:	WIDE AREA
SCALE @ A1:	CHECKED: / APPROVED:
CAD FILE:	DESIGN DRAWN: / DATE: ---
PROJECT No:	DRAWING No: / REV:

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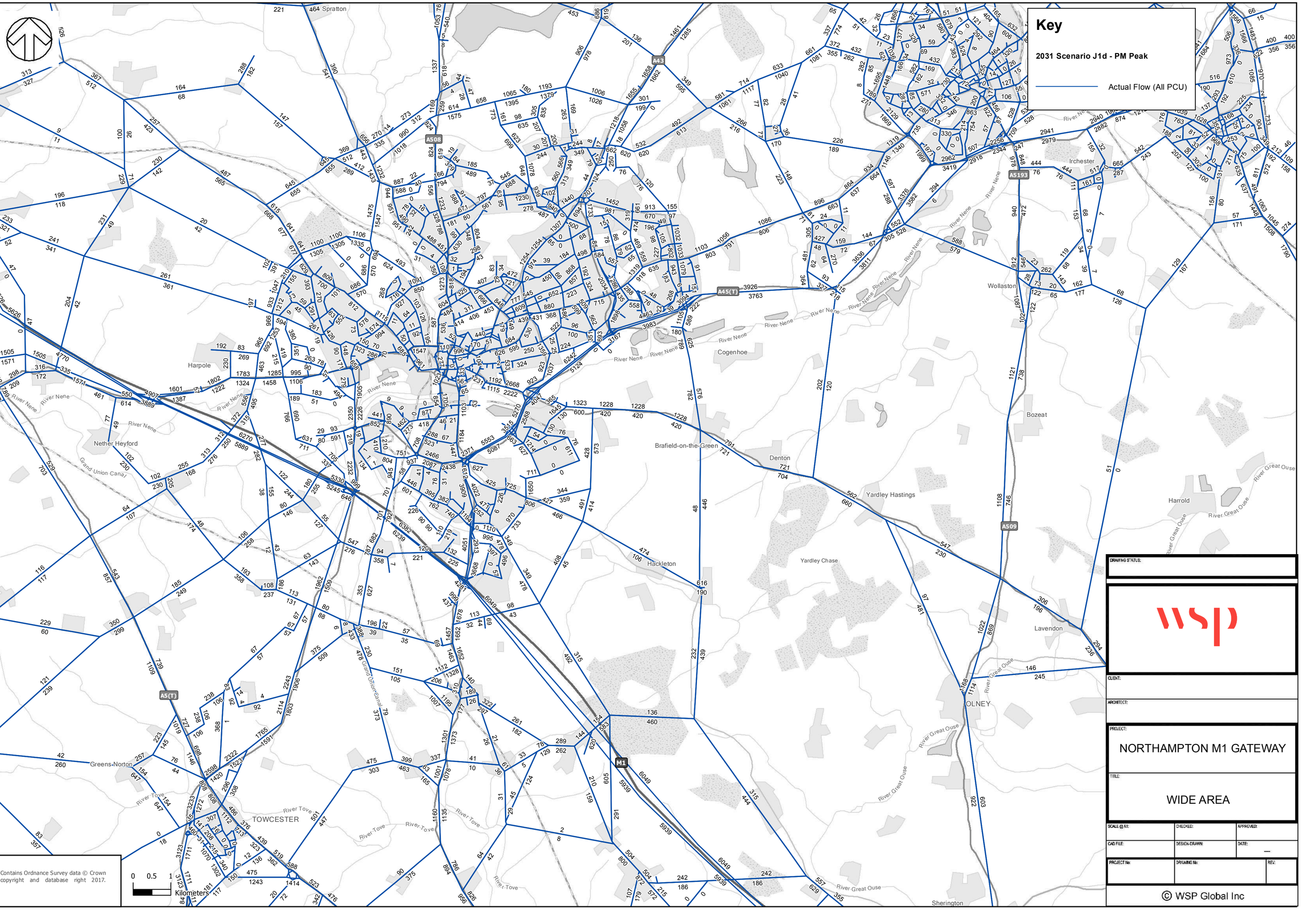
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Key

2031 Scenario J1d - PM Peak

Actual Flow (All PCU)



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0 0.5 1 Kilometers

DRAWING STATUS:

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CLIENT:

ARCHITECT:

PROJECT: NORTHAMPTON M1 GATEWAY

TITLE: WIDE AREA

SCALE @ A1:	CHECKED:	APPROVED:
CAD FILE:	DESIGN DRAWN:	DATE: ---
PROJECT No:	DRAWING No:	REV:

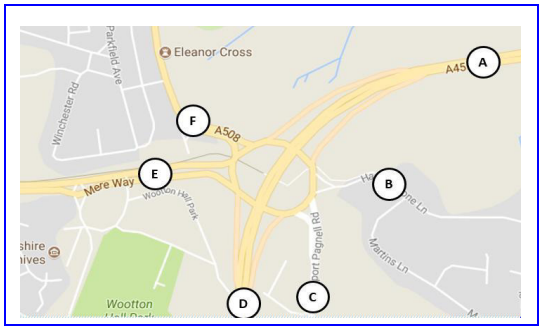
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APPENDIX F

NSTM2 STUDY AREA JUNCTION TURNING FLOWS PLOTS

Junction Turning Flows

Junction: A45 Queen Eleanor Interchange



Arm Description

Arm	Inbound		Outbound		Description
	A-Node	B-Node	A-Node	B-Node	
A	9168	2092	60137	9162	*A45 North*
B	1081	1079	1079	1081	*Hardingstone Lane*
C	24742	3082	3082	24742	*Newport Pagnell Rd*
D	9161	60134	60133	9169	*A45 South*
E	60203	1092	1092	60203	*Mere Way*
F	2088	60136	60136	2088	*A508 - London Road*
G					

Growth Factors

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

AM\NSTM_2_2031_AM_D1_v8.DAT

MODELLED — All Vehicle

From Arm \ To Arm	A	B	C	D	E	F	G	TOTAL
A	0	72	131	0	1485	323		2011
B	205	0	0	42	80	170		497
C	202	0	0	0	280	425		907
D	27	0	0	0	30	782		839
E	1762	19	458	209	0	3		2451
F	190	11	472	470	20	0		1163
G								
TOTAL	2386	102	1061	721	1895	1703		7868

By Vehicle Type:

MODELLED — Car

From Arm \ To Arm	A	B	C	D	E	F	G	TOTAL
A	0	68	120	0	1239	282		1709
B	202	0	0	42	79	167		490
C	200	0	0	0	273	411		884
D	18	0	0	0	27	465		510
E	1352	18	425	188	0	3		1986
F	182	11	429	387	20	0		1029
G								
TOTAL	1954	97	974	617	1638	1328		6608

MODELLED — LGV

From Arm \ To Arm	A	B	C	D	E	F	G	TOTAL
A	0	4	5	0	81	28		118
B	3	0	0	0	1	3		7
C	2	0	0	0	4	8		14
D	2	0	0	0	3	45		50
E	35	1	6	11	0	0		53
F	4	0	3	18	0	0		25
G								
TOTAL	46	5	14	29	89	84		267

MODELLED — HGV (PCU)

From Arm \ To Arm	A	B	C	D	E	F	G	TOTAL
A	0	0	6	0	165	13		184
B	0	0	0	0	0	0		0
C	0	0	0	0	3	6		9
D	7	0	0	0	0	272		279
E	375	0	27	10	0	0		412
F	4	0	40	65	0	0		109
G								
TOTAL	386	0	73	75	168	291		993

PM\NSTM_2_2031_PM_D1_v8.DAT

MODELLED — All Vehicle

From Arm \ To Arm	A	B	C	D	E	F	G	TOTAL
A	0	526	58	0	1191	238		2013
B	460	0	0	31	36	150		677
C	183	2	0	60	831	531		1607
D	0	32	10	0	27	500		569
E	1625	113	371	467	0	5		2581
F	399	80	170	577	86	0		1312
G								
TOTAL	2667	753	609	1135	2171	1424		8759

By Vehicle Type:

MODELLED — Car

From Arm \ To Arm	A	B	C	D	E	F	G	TOTAL
A	0	522	58	0	1031	215		1826
B	437	0	0	31	34	145		647
C	181	2	0	59	810	505		1557
D	0	32	10	0	22	450		514
E	1431	112	368	457	0	5		2373
F	378	76	155	518	81	0		1208
G								
TOTAL	2427	744	591	1065	1978	1320		8125

MODELLED — LGV

From Arm \ To Arm	A	B	C	D	E	F	G	TOTAL
A	0	4	0	0	62	23		89
B	18	0	0	0	2	4		24
C	2	0	0	1	21	26		50
D	0	0	0	0	0	16		16
E	22	1	2	1	0	0		26
F	21	4	7	5	5	0		42
G								
TOTAL	63	9	9	7	90	69		247

MODELLED — HGV (PCU)

From Arm \ To Arm	A	B	C	D	E	F	G	TOTAL
A	0	0	0	0	98	0		98
B	5	0	0	0	0	1		6
C	0	0	0	0	0	0		0
D	0	0	0	0	5	34		39
E	172	0	1	9	0	0		182
F	0	0	8	54	0	0		62
G								
TOTAL	177	0	9	63	103	35		387

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\NSTM_2_2031_AM_D1_v8.DAT

MODELLED

All Vehicle

From Arm \ To Arm	A	B	C	D	E	F	G	TOTAL
A	8	1057	56	10				1131
B	888	0	599	5				1492
C	1341	655	0	14				2010
D	42	12	27	0				81
E								
F								
G								
TOTAL	2279	1724	682	29				4714

By Vehicle Type:

MODELLED

Car

From Arm \ To Arm	A	B	C	D	E	F	G	TOTAL
A	8	900	49	10				967
B	824	0	430	4				1258
C	1188	580	0	9				1777
D	30	6	19	0				55
E								
F								
G								
TOTAL	2050	1486	498	23				4057

MODELLED

LGV

From Arm \ To Arm	A	B	C	D	E	F	G	TOTAL
A	0	5	3	0				8
B	23	0	37	1				61
C	45	8	0	5				58
D	12	6	8	0				26
E								
F								
G								
TOTAL	80	19	48	6				153

MODELLED

HGV (PCU)

From Arm \ To Arm	A	B	C	D	E	F	G	TOTAL
A	0	152	4	0				156
B	41	0	132	0				173
C	108	67	0	0				175
D	0	0	0	0				0
E								
F								
G								
TOTAL	149	219	136	0				504

PM\NSTM_2_2031_PM_D1_v8.DAT

MODELLED

All Vehicle

From Arm \ To Arm	A	B	C	D	E	F	G	TOTAL
A	0	252	462	0				714
B	157	0	361	50				568
C	1336	666	0	9				2011
D	566	82	146	0				794
E								
F								
G								
TOTAL	2059	1000	969	59				4087

By Vehicle Type:

MODELLED

Car

From Arm \ To Arm	A	B	C	D	E	F	G	TOTAL
A	0	245	447	0				692
B	154	0	256	49				459
C	1133	578	0	3				1714
D	541	55	131	0				727
E								
F								
G								
TOTAL	1828	878	834	52				3592

MODELLED

LGV

From Arm \ To Arm	A	B	C	D	E	F	G	TOTAL
A	0	7	13	0				20
B	2	0	19	1				22
C	58	27	0	6				91
D	15	9	15	0				39
E								
F								
G								
TOTAL	75	43	47	7				172

MODELLED

HGV (PCU)

From Arm \ To Arm	A	B	C	D	E	F	G	TOTAL
A	0	0	2	0				2
B	1	0	86	0				87
C	145	61	0	0				206
D	10	18	0	0				28
E								
F								
G								
TOTAL	156	79	88	0				323

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\NSTM_2_2031_AM_D1_v8.DAT

MODELLED

All Vehicle

From Arm \ To Arm	A	B	C	D	E	F	G	TOTAL
A	0	386	512	834	27			1759
B	143	0	96	277	159			675
C	0	118	0	910	189			1217
D	844	719	181	0	150			1894
E	168	753	437	2	0			1360
F								
G								
TOTAL	1155	1976	1226	2023	525			6905

By Vehicle Type:

MODELLED

Car

From Arm \ To Arm	A	B	C	D	E	F	G	TOTAL
A	0	276	422	784	27			1509
B	131	0	79	227	142			579
C	0	115	0	867	185			1167
D	765	640	178	0	131			1714
E	165	751	397	2	0			1315
F								
G								
TOTAL	1061	1782	1076	1880	485			6284

MODELLED

LGV

From Arm \ To Arm	A	B	C	D	E	F	G	TOTAL
A	0	3	19	32	0			54
B	7	0	11	17	6			41
C	0	3	0	42	4			49
D	73	6	3	0	19			101
E	3	1	35	0	0			39
F								
G								
TOTAL	83	13	68	91	29			284

MODELLED

HGV (PCU)

From Arm \ To Arm	A	B	C	D	E	F	G	TOTAL
A	0	107	71	18	0			196
B	5	0	6	33	11			55
C	0	0	0	1	0			1
D	6	73	0	0	0			79
E	0	1	5	0	0			6
F								
G								
TOTAL	11	181	82	52	11			337

PM\NSTM_2_2031_PM_D1_v8.DAT

MODELLED

All Vehicle

From Arm \ To Arm	A	B	C	D	E	F	G	TOTAL
A	0	136	302	699	10			1147
B	397	0	159	422	661			1639
C	0	56	0	907	325			1288
D	1989	308	435	2	26			2760
E	427	308	223	2	0			960
F								
G								
TOTAL	2813	808	1119	2032	1022			7794

By Vehicle Type:

MODELLED

Car

From Arm \ To Arm	A	B	C	D	E	F	G	TOTAL
A	0	134	278	604	10			1026
B	388	0	156	412	650			1606
C	0	55	0	879	303			1237
D	1783	300	424	2	25			2534
E	419	299	217	2	0			937
F								
G								
TOTAL	2590	788	1075	1899	988			7340

MODELLED

LGV

From Arm \ To Arm	A	B	C	D	E	F	G	TOTAL
A	0	2	10	13	0			25
B	6	0	3	7	9			25
C	0	0	0	28	22			50
D	84	5	11	0	1			101
E	8	9	6	0	0			23
F								
G								
TOTAL	98	16	30	48	32			224

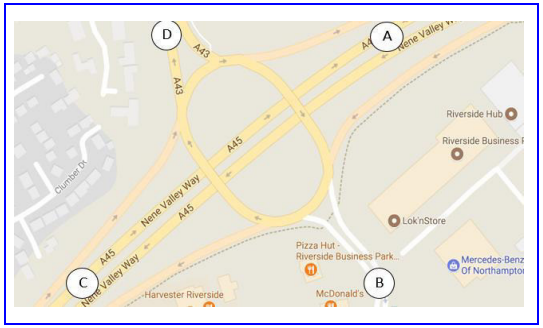
MODELLED

HGV (PCU)

From Arm \ To Arm	A	B	C	D	E	F	G	TOTAL
A	0	0	14	82	0			96
B	3	0	0	3	2			8
C	0	1	0	0	0			1
D	122	3	0	0	0			125
E	0	0	0	0	0			0
F								
G								
TOTAL	125	4	14	85	2			230

Junction Turning Flows

Junction: A45 Lumbertubs Interchange



Arm Description

Arm	Inbound		Outbound		Description
	A-Node	B-Node	A-Node	B-Node	
A	9213	9214	9211	9212	*A45/ Nene Valley Way*
B	4437	9215	9214	4436	*Ferris Row*
C	2075	9217	9215	9216	*A45/ Nene Valley Way*
D	9210	9211	9217	4068	*A43/ Lumbertubs Way*
E					
F					
G					

Growth Factors

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

AM\NSTM_2_2031_AM_D1_v8.DAT

MODELLED

All Vehicle

From Arm \ To Arm	A	B	C	D	E	F	G	TOTAL
A	0	74	0	269				343
B	38	0	1083	304				1425
C	0	129	0	1619				1748
D	503	1274	1280	87				3144
E								
F								
G								
TOTAL	541	1477	2363	2279				6660

By Vehicle Type:

MODELLED

Car

From Arm \ To Arm	A	B	C	D	E	F	G	TOTAL
A	0	66	0	258				324
B	35	0	994	271				1300
C	0	120	0	1143				1263
D	490	1133	1131	85				2839
E								
F								
G								
TOTAL	525	1319	2125	1757				5726

MODELLED

LGV

From Arm \ To Arm	A	B	C	D	E	F	G	TOTAL
A	0	8	0	11				19
B	2	0	37	8				47
C	0	9	0	87				96
D	12	54	52	2				120
E								
F								
G								
TOTAL	14	71	89	108				282

MODELLED

HGV (PCU)

From Arm \ To Arm	A	B	C	D	E	F	G	TOTAL
A	0	0	0	0				0
B	1	0	52	25				78
C	0	0	0	389				389
D	1	87	97	0				185
E								
F								
G								
TOTAL	2	87	149	414				652

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MODELLED

All Vehicle

From Arm \ To Arm	A	B	C	D	E	F	G	TOTAL
A	0	64	0	740				804
B	78	0	868	548				1494
C	0	143	0	1604				1747
D	164	813	985	56				2018
E								
F								
G								
TOTAL	242	1020	1853	2948				6063

By Vehicle Type:

MODELLED

Car

From Arm \ To Arm	A	B	C	D	E	F	G	TOTAL
A	0	39	0	714				753
B	72	0	855	546				1473
C	0	20	0	1367				1387
D	158	711	909	56				1834
E								
F								
G								
TOTAL	230	770	1764	2683				5447

MODELLED

LGV

From Arm \ To Arm	A	B	C	D	E	F	G	TOTAL
A	0	22	0	14				36
B	6	0	12	2				20
C	0	2	0	54				56
D	6	19	22	0				47
E								
F								
G								
TOTAL	12	43	34	70				159

MODELLED

HGV (PCU)

From Arm \ To Arm	A	B	C	D	E	F	G	TOTAL
A	0	3	0	12				15
B	0	0	1	0				1
C	0	121	0	183				304
D	0	83	54	0				137
E								
F								
G								
TOTAL	0	207	55	195				457

Junction Turning Flows

Junction: A45 Great Billing Interchange



Arm Description

Arm	Inbound		Outbound		Description
	A-Node	B-Node	A-Node	B-Node	
A	9259	9258	9253	9254	*A45/ Nene Valley Way*
B	1076	9257	9257	1076	*Crow Lane*
C	9250	9251	9256	9255	*A45/ Nene Valley Way*
D	24694	9252	9252	24694	*Great Billing Way*
E					
F					
G					

Growth Factors

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

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MODELLED

All Vehicle

From Arm \ To Arm	A	B	C	D	E	F	G	TOTAL
A	0	414	0	292				706
B	162	0	633	539				1334
C	0	160	5	299				464
D	372	325	1022	0				1719
E								
F								
G								
TOTAL	534	899	1660	1130				4223

By Vehicle Type:

MODELLED

Car

From Arm \ To Arm	A	B	C	D	E	F	G	TOTAL
A	0	225	0	265				490
B	108	0	340	386				834
C	0	149	5	292				446
D	332	298	988	0				1618
E								
F								
G								
TOTAL	440	672	1333	943				3388

MODELLED

LGV

From Arm \ To Arm	A	B	C	D	E	F	G	TOTAL
A	0	5	0	8				13
B	45	0	55	51				151
C	0	11	0	6				17
D	7	20	24	0				51
E								
F								
G								
TOTAL	52	36	79	65				232

MODELLED

HGV (PCU)

From Arm \ To Arm	A	B	C	D	E	F	G	TOTAL
A	0	184	0	19				203
B	9	0	238	102				349
C	0	0	0	1				1
D	33	7	10	0				50
E								
F								
G								
TOTAL	42	191	248	122				603

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MODELLED

All Vehicle

From Arm \ To Arm	A	B	C	D	E	F	G	TOTAL
A	0	61	0	138				199
B	235	0	225	627				1087
C	161	106	0	646				913
D	374	423	300	0				1097
E								
F								
G								
TOTAL	770	590	525	1411				3296

By Vehicle Type:

MODELLED

Car

From Arm \ To Arm	A	B	C	D	E	F	G	TOTAL
A	0	57	0	133				190
B	197	0	168	542				907
C	127	16	0	514				657
D	354	403	295	0				1052
E								
F								
G								
TOTAL	678	476	463	1189				2806

MODELLED

LGV

From Arm \ To Arm	A	B	C	D	E	F	G	TOTAL
A	0	4	0	5				9
B	37	0	40	71				148
C	5	12	0	18				35
D	20	19	5	0				44
E								
F								
G								
TOTAL	62	35	45	94				236

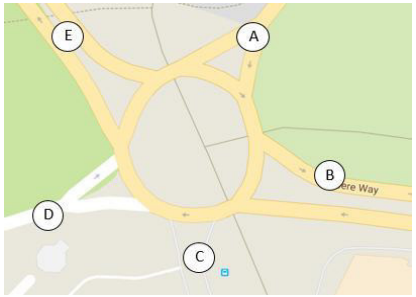
MODELLED

HGV (PCU)

From Arm \ To Arm	A	B	C	D	E	F	G	TOTAL
A	0	0	0	0				0
B	1	0	17	14				32
C	29	78	0	114				221
D	0	1	0	0				1
E								
F								
G								
TOTAL	30	79	17	128				254

Junction Turning Flows

Junction: A5076/Towcester Rd roundabout



Arm Description

Arm	Inbound		Outbound		Description
	A-Node	B-Node	A-Node	B-Node	
A	60104	5298	4298	60104	*Towcester Road*
B	60120	60119	60125	60120	*Mere Way*
C	60123	60121	60122	60123	*Shopping centre*
D	3096	60126	7298	3096	*Towcester Road*
E	60118	60117	21298	60118	*Danes Camp Way*
F					
G					

Growth Factors

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

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MODELLED

All Vehicle

From Arm	To Arm A	B	C	D	E	F	G	TOTAL
A	0	565	11	303	204			1083
B	292	78	19	193	1513			2095
C	8	22	0	26	20			76
D	465	352	17	0	332			1166
E	390	1421	24	121	12			1968
F								
G								
TOTAL	1155	2438	71	643	2081			6388

By Vehicle Type:

MODELLED

Car

From Arm	To Arm A	B	C	D	E	F	G	TOTAL
A	0	546	11	285	195			1037
B	286	77	17	185	1381			1946
C	7	21	0	26	20			74
D	424	344	17	0	308			1093
E	347	1024	24	109	12			1516
F								
G								
TOTAL	1064	2012	69	605	1916			5666

MODELLED

LGV

From Arm	To Arm A	B	C	D	E	F	G	TOTAL
A	0	16	0	16	9			41
B	5	1	2	3	26			37
C	1	1	0	0	0			2
D	40	5	0	0	24			69
E	6	27	0	8	0			41
F								
G								
TOTAL	52	50	2	27	59			190

MODELLED

HGV (PCU)

From Arm	To Arm A	B	C	D	E	F	G	TOTAL
A	0	3	0	2	0			5
B	1	0	0	5	106			112
C	0	0	0	0	0			0
D	1	3	0	0	0			4
E	37	370	0	4	0			411
F								
G								
TOTAL	39	376	0	11	106			532

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MODELLED

All Vehicle

From Arm	To Arm A	B	C	D	E	F	G	TOTAL
A	0	904	13	361	76			1354
B	130	106	24	324	1496			2080
C	10	35	0	35	17			97
D	450	368	24	0	51			893
E	207	1093	23	204	45			1572
F								
G								
TOTAL	797	2506	84	924	1685			5996

By Vehicle Type:

MODELLED

Car

From Arm	To Arm A	B	C	D	E	F	G	TOTAL
A	0	885	12	324	75			1296
B	111	53	20	283	1384			1851
C	10	33	0	34	17			94
D	412	348	23	0	51			834
E	207	1081	23	203	45			1559
F								
G								
TOTAL	740	2400	78	844	1572			5634

MODELLED

LGV

From Arm	To Arm A	B	C	D	E	F	G	TOTAL
A	0	18	1	37	1			57
B	8	7	4	21	48			88
C	0	2	0	1	0			3
D	18	3	1	0	0			22
E	0	10	0	1	0			11
F								
G								
TOTAL	26	40	6	60	49			181

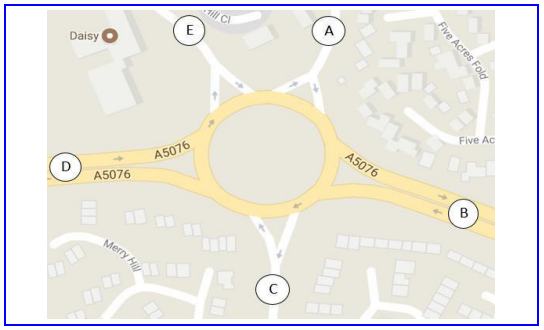
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HGV (PCU)

From Arm	To Arm A	B	C	D	E	F	G	TOTAL
A	0	1	0	0	0			1
B	11	46	0	20	64			141
C	0	0	0	0	0			0
D	20	17	0	0	0			37
E	0	2	0	0	0			2
F								
G								
TOTAL	31	66	0	20	64			181

Junction Turning Flows

Junction: A5076/Huntsbury Hill roundabout



Arm Description

Arm	Inbound		Outbound		Description
	A-Node	B-Node	A-Node	B-Node	
A	1134	9411	9411	1134	*Hunsbarrow Road*
B	1091	9411	9411	1091	*Danes Camp Way*
C	1098	9411	9411	1098	*Hunsbury Hill Road*
D	4100	9411	9411	4100	*Danes Camp Way*
E	9413	9411	9411	9413	*Hunsbury Hill Avenue*
F					
G					

Growth Factors

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

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MODELLED

All Vehicle

From Arm \ To Arm	A	B	C	D	E	F	G	TOTAL
A	0	31	13	340	18			402
B	12	0	73	1696	179			1959
C	0	258	0	555	9			821
D	12	2331	215	0	154			2712
E	1	245	8	151	0			405
F								
G								
TOTAL	25	2865	309	2741	360			6300

By Vehicle Type:

MODELLED

Car

From Arm \ To Arm	A	B	C	D	E	F	G	TOTAL
A	0	31	13	258	18			320
B	11	0	73	1533	179			1796
C	0	250	0	535	9			794
D	7	1885	211	0	153			2255
E	1	189	8	148	0			346
F								
G								
TOTAL	19	2355	305	2474	359			5511

MODELLED

LGV

From Arm \ To Arm	A	B	C	D	E	F	G	TOTAL
A	0	0	0	81	0			82
B	0	0	0	48	0			48
C	0	2	0	20	0			22
D	5	58	3	0	0			66
E	0	1	0	1	0			2
F								
G								
TOTAL	6	61	3	149	0			219

MODELLED

HGV (PCU)

From Arm \ To Arm	A	B	C	D	E	F	G	TOTAL
A	0	0	0	0	0			1
B	0	0	0	116	0			116
C	0	5	0	0	0			6
D	0	389	2	0	0			391
E	0	55	0	1	0			57
F								
G								
TOTAL	0	450	2	118	0			569

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MODELLED

All Vehicle

From Arm \ To Arm	A	B	C	D	E	F	G	TOTAL
A	0	1	72	679	135			886
B	47	0	87	1070	509			1713
C	8	254	0	272	22			556
D	228	1299	413	0	219			2160
E	13	326	12	90	0			441
F								
G								
TOTAL	297	1880	584	2111	884			5756

By Vehicle Type:

MODELLED

Car

From Arm \ To Arm	A	B	C	D	E	F	G	TOTAL
A	0	1	72	661	129			863
B	47	0	87	983	509			1626
C	8	252	0	270	22			552
D	72	1274	403	0	191			1940
E	13	326	12	90	0			441
F								
G								
TOTAL	140	1853	574	2003	851			5421

MODELLED

LGV

From Arm \ To Arm	A	B	C	D	E	F	G	TOTAL
A	0	0	0	18	5			23
B	0	0	0	36	0			36
C	0	1	0	2	0			4
D	1	22	10	0	28			62
E	0	0	0	0	0			0
F								
G								
TOTAL	1	23	10	56	34			125

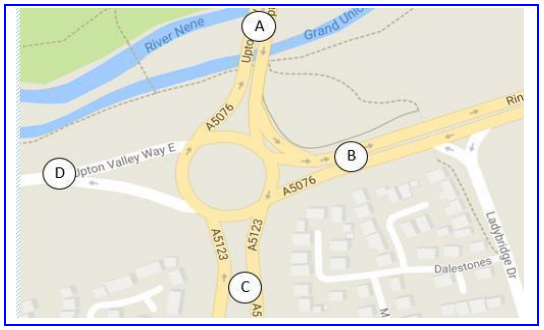
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HGV (PCU)

From Arm \ To Arm	A	B	C	D	E	F	G	TOTAL
A	0	0	0	0	0			0
B	0	0	0	52	0			52
C	0	0	0	0	0			0
D	155	4	0	0	0			158
E	0	0	0	0	0			0
F								
G								
TOTAL	155	4	0	52	0			210

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*

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MODELLED

All Vehicle

From Arm \ To Arm	A	B	C	D	E	F	G	TOTAL
A	0	1214	783	183				2180
B	1187	0	965	616				2768
C	668	1057	0	32				1757
D	327	371	285	5				988
E								
F								
G								
TOTAL	2182	2642	2033	836				7693

By Vehicle Type:

MODELLED

Car

From Arm \ To Arm	A	B	C	D	E	F	G	TOTAL
A	0	1158	693	170				2021
B	1061	0	844	576				2481
C	426	772	0	31				1229
D	305	351	32	5				693
E								
F								
G								
TOTAL	1792	2281	1569	782				6424

MODELLED

LGV

From Arm \ To Arm	A	B	C	D	E	F	G	TOTAL
A	0	28	36	11				75
B	39	0	86	30				155
C	57	41	0	1				99
D	16	11	7	0				34
E								
F								
G								
TOTAL	112	80	129	42				363

MODELLED

HGV (PCU)

From Arm \ To Arm	A	B	C	D	E	F	G	TOTAL
A	0	28	54	2				84
B	87	0	35	10				132
C	185	244	0	0				429
D	6	9	246	0				261
E								
F								
G								
TOTAL	278	281	335	12				906

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MODELLED

All Vehicle

From Arm \ To Arm	A	B	C	D	E	F	G	TOTAL
A	0	1490	619	115				2224
B	906	0	743	373				2022
C	1253	556	0	216				2025
D	130	161	33	6				330
E								
F								
G								
TOTAL	2289	2207	1395	710				6601

By Vehicle Type:

MODELLED

Car

From Arm \ To Arm	A	B	C	D	E	F	G	TOTAL
A	0	1457	444	115				2016
B	860	0	716	340				1916
C	910	368	0	210				1488
D	121	156	12	6				295
E								
F								
G								
TOTAL	1891	1981	1172	671				5715

MODELLED

LGV

From Arm \ To Arm	A	B	C	D	E	F	G	TOTAL
A	0	32	17	0				49
B	19	0	22	14				55
C	37	32	0	6				75
D	8	4	19	0				31
E								
F								
G								
TOTAL	64	68	58	20				210

MODELLED

HGV (PCU)

From Arm \ To Arm	A	B	C	D	E	F	G	TOTAL
A	0	1	158	0				159
B	27	0	5	19				51
C	306	156	0	0				462
D	1	1	2	0				4
E								
F								
G								
TOTAL	334	158	165	19				676

Junction Turning Flows

Junction: A4500/A5123/A508



Arm Description

Arm	Inbound		Outbound		Description
	A-Node	B-Node	A-Node	B-Node	
A	30019	30012	60197	30019	*Horse Market*
B	30018	30013	60198	30018	*St Peter's Way*
C	30017	30014	60199	30017	*Towcester*
D	60194	30015	30014	60194	*St Peter's Way*
E					
F					
G					

Growth Factors

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

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MODELLED

PCU

From Arm \ To Arm	A	B	C	D	E	F	G	TOTAL
A	0	329	461	6				796
B	541	19	130	662				1352
C	1180	146	0	586				1912
D	61	1137	664	13				1875
E								
F								
G								
TOTAL	1782	1631	1255	1267				5935

By Vehicle Type:

MODELLED

Car

From Arm \ To Arm	A	B	C	D	E	F	G	TOTAL
A	0	306	429	6				741
B	394	14	110	389				907
C	1128	141	0	550				1819
D	61	997	605	13				1676
E								
F								
G								
TOTAL	1583	1458	1144	958				5143

MODELLED

LGV

From Arm \ To Arm	A	B	C	D	E	F	G	TOTAL
A	0	8	16	0				24
B	39	1	13	47				100
C	40	4	0	27				71
D	0	60	52	0				112
E								
F								
G								
TOTAL	79	73	81	74				307

MODELLED

HGV

From Arm \ To Arm	A	B	C	D	E	F	G	TOTAL
A	0	15	16	0				31
B	108	4	7	226				345
C	12	1	0	9				22
D	0	80	7	0				87
E								
F								
G								
TOTAL	120	100	30	235				485

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MODELLED

PCU

From Arm \ To Arm	A	B	C	D	E	F	G	TOTAL
A	0	545	908	8				1461
B	557	31	224	944				1756
C	690	46	0	247				983
D	93	520	745	8				1366
E								
F								
G								
TOTAL	1340	1142	1877	1207				5566

By Vehicle Type:

MODELLED

Car

From Arm \ To Arm	A	B	C	D	E	F	G	TOTAL
A	0	521	873	8				1402
B	495	30	209	851				1585
C	642	42	0	225				909
D	93	457	702	8				1260
E								
F								
G								
TOTAL	1230	1050	1784	1092				5156

MODELLED

LGV

From Arm \ To Arm	A	B	C	D	E	F	G	TOTAL
A	0	18	29	0				47
B	21	1	12	31				65
C	22	4	0	21				47
D	0	16	22	0				38
E								
F								
G								
TOTAL	43	39	63	52				197

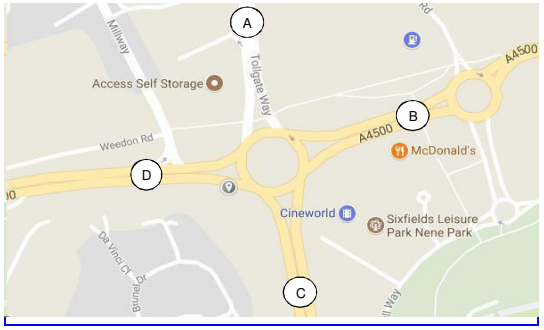
MODELLED

HGV

From Arm \ To Arm	A	B	C	D	E	F	G	TOTAL
A	0	6	6	0				12
B	41	0	3	62				106
C	26	0	0	1				27
D	0	47	21	0				68
E								
F								
G								
TOTAL	67	53	30	63				213

Junction Turning Flows

Junction: A4500/A5076



Arm Description

Arm	Inbound		Outbound		Description
	A-Node	B-Node	A-Node	B-Node	
A	60099	9441	9440	60099	*Tollgate Way*
B	60100	9438	9441	60100	*Weedon Road*
C	60101	9439	9438	60101	*Upton Way*
D	60098	9440	9439	60098	*Weedon Road*
E					
F					
G					

Growth Factors

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

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MODELLED

PCUs		To Arm							
		A	B	C	D	E	F	G	TOTAL
From Arm	A	0	282	903	145				1330
	B	46	0	409	474				929
	C	773	594	0	375				1742
	D	181	915	370	68				1534
	E								
	F								
	G								
	TOTAL	1001	1790	1682	1062				5535

By Vehicle Type:

MODELLED

Car		To Arm							
		A	B	C	D	E	F	G	TOTAL
From Arm	A	0	200	806	131				1137
	B	45	0	376	424				845
	C	574	521	0	341				1436
	D	131	795	350	67				1343
	E								
	F								
	G								
	TOTAL	750	1516	1532	963				4761

MODELLED

LGV		To Arm							
		A	B	C	D	E	F	G	TOTAL
From Arm	A	0	82	67	5				154
	B	1	0	28	20				49
	C	52	20	0	32				104
	D	48	85	18	1				152
	E								
	F								
	G								
	TOTAL	101	187	113	58				459

MODELLED

HGV		To Arm							
		A	B	C	D	E	F	G	TOTAL
From Arm	A	0	0	30	9				39
	B	0	0	5	30				35
	C	147	53	0	2				202
	D	2	35	2	0				39
	E								
	F								
	G								
	TOTAL	150	87	37	41				315

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MODELLED

PCUs		To Arm							
		A	B	C	D	E	F	G	TOTAL
From Arm	A	0	173	504	236				913
	B	51	0	973	739				1763
	C	767	629	0	164				1560
	D	192	828	332	7				1358
	E								
	F								
	G								
	TOTAL	1010	1630	1809	1146				5594

By Vehicle Type:

MODELLED

Car		To Arm							
		A	B	C	D	E	F	G	TOTAL
From Arm	A	0	155	428	223				806
	B	39	0	925	659				1623
	C	659	548	0	128				1335
	D	161	755	324	7				1247
	E								
	F								
	G								
	TOTAL	859	1458	1677	1017				5011

MODELLED

LGV		To Arm							
		A	B	C	D	E	F	G	TOTAL
From Arm	A	0	18	23	6				47
	B	3	0	18	13				34
	C	41	21	0	11				73
	D	26	52	8	0				86
	E								
	F								
	G								
	TOTAL	70	91	49	30				240

MODELLED

HGV		To Arm							
		A	B	C	D	E	F	G	TOTAL
From Arm	A	0	0	53	7				60
	B	9	0	30	67				106
	C	67	60	0	25				152
	D	5	21	0	0				25
	E								
	F								
	G								
	TOTAL	81	81	83	99				343

Junction Turning Flows

Junction: A5123/A508



Arm Description

Arm	Inbound		Outbound		Description
	A-Node	B-Node	A-Node	B-Node	
A	25240	5003	5003	25240	*St John's Street*
B	2003	7003	7003	2003	*123/ Victoria Promeda*
C	9314	1277	1277	9314	*Auctioneers Way*
D	3085	3015	3015	3085	*A508/ Cotton End*
E	2004	6003	6003	2004	*A5123/ St Peter's Way*
F	21204	4003			*Commercial Street*
G	9003	5204	5204	9003	*Bridge Street*

Growth Factors

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

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MODELLED

PCU		To Arm							
		A	B	C	D	E	F	G	TOTAL
From Arm	A	0	0	0	0	0	0	0	0
	B	0	0	0	532	705	0	51	1288
	C	0	0	0	12	16	0	1	29
	D	212	374	0	0	729	0	90	1405
	E	0	322	4	266	3	0	37	632
	F	315	0	0	0	0	0	369	684
	G	105	0	0	1	1	0	0	107
	TOTAL	632	696	4	811	1454	0	548	4145

By Vehicle Type:

MODELLED

Car		To Arm							
		A	B	C	D	E	F	G	TOTAL
From Arm	A	0	0	0	0	0	0	0	0
	B	0	0	0	463	584	0	51	1098
	C	0	0	0	9	9	0	1	19
	D	200	348	0	0	407	0	77	1032
	E	0	217	2	223	3	0	36	481
	F	303	0	0	0	0	0	365	668
	G	100	0	0	1	0	0	0	101
	TOTAL	603	565	2	696	1003	0	530	3399

MODELLED

LGV		To Arm							
		A	B	C	D	E	F	G	TOTAL
From Arm	A	0	0	0	0	0	0	0	0
	B	0	0	0	14	27	0	0	41
	C	0	0	0	3	7	0	0	10
	D	8	15	0	0	47	0	3	73
	E	0	37	2	10	0	0	1	50
	F	10	0	0	0	0	0	3	13
	G	5	0	0	0	1	0	0	6
	TOTAL	23	52	2	27	82	0	7	193

MODELLED

HGV		To Arm							
		A	B	C	D	E	F	G	TOTAL
From Arm	A	0	0	0	0	0	0	0	0
	B	0	0	0	55	94	0	0	149
	C	0	0	0	0	0	0	0	0
	D	4	11	0	0	275	0	10	300
	E	0	68	0	33	0	0	0	101
	F	2	0	0	0	0	0	1	3
	G	0	0	0	0	0	0	0	0
	TOTAL	6	79	0	88	369	0	11	553

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MODELLED

PCU		To Arm							
		A	B	C	D	E	F	G	TOTAL
From Arm	A	0	3	0	40	58	0	0	101
	B	18	0	0	681	983	0	19	1701
	C	0	0	0	24	41	0	0	65
	D	162	418	0	0	425	0	32	1037
	E	0	104	0	400	11	0	0	515
	F	232	0	0	22	41	0	136	431
	G	489	0	0	28	202	0	0	719
	TOTAL	901	525	0	1195	1761	0	187	4569

By Vehicle Type:

MODELLED

Car		To Arm							
		A	B	C	D	E	F	G	TOTAL
From Arm	A	0	3	0	40	58	0	0	101
	B	17	0	0	665	896	0	19	1597
	C	0	0	0	22	37	0	0	59
	D	156	402	0	0	372	0	30	960
	E	0	67	0	347	10	0	0	424
	F	221	0	0	22	39	0	132	414
	G	478	0	0	27	196	0	0	701
	TOTAL	872	472	0	1123	1608	0	181	4256

MODELLED

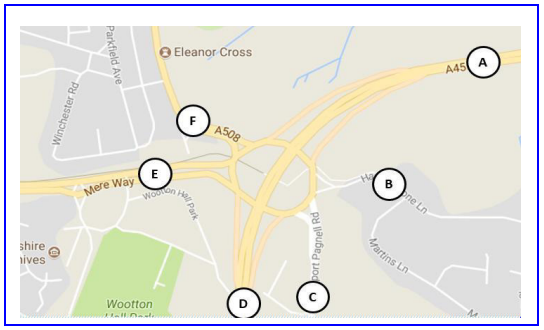
LGV		To Arm							
		A	B	C	D	E	F	G	TOTAL
From Arm	A	0	0	0	0	0	0	0	0
	B	1	0	0	14	24	0	0	39
	C	0	0	0	2	4	0	0	6
	D	5	13	0	0	23	0	2	43
	E	0	7	0	8	1	0	0	16
	F	10	0	0	0	2	0	4	16
	G	11	0	0	1	6	0	0	18
	TOTAL	27	20	0	25	60	0	6	138

MODELLED

HGV		To Arm							
		A	B	C	D	E	F	G	TOTAL
From Arm	A	0	0	0	0	0	0	0	0
	B	0	0	0	2	63	0	0	65
	C	0	0	0	0	0	0	0	0
	D	1	3	0	0	30	0	0	34
	E	0	30	0	45	0	0	0	75
	F	1	0	0	0	0	0	0	1
	G	0	0	0	0	0	0	0	0
	TOTAL	2	33	0	47	93	0	0	175

Junction Turning Flows

Junction: A45 Queen Eleanor Interchange



Arm Description

Arm	Inbound		Outbound		Description
	A-Node	B-Node	A-Node	B-Node	
A	9168	2092	60137	9162	*A45 North*
B	1081	1079	1079	1081	*Hardingstone Lane*
C	24742	3082	3082	24742	*Newport Pagnell Rd*
D	9161	60134	60133	9169	*A45 South*
E	60203	1092	1092	60203	*Mere Way*
F	2088	60136	60136	2088	*A508 - London Road*
G					

Growth Factors

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

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MODELLED

PCU

From Arm \ To Arm	A	B	C	D	E	F	G	TOTAL
A	0	63	133	0	1527	291		2014
B	222	0	0	29	110	150		511
C	221	0	0	0	344	406		971
D	0	0	0	0	46	843		889
E	1833	20	462	200	0	20		2535
F	197	9	404	514	30	0		1154
G								
TOTAL	2473	92	999	743	2057	1710		8074

By Vehicle Type:

MODELLED

Car

From Arm \ To Arm	A	B	C	D	E	F	G	TOTAL
A	0	58	127	0	1282	224		1691
B	218	0	0	29	109	148		504
C	218	0	0	0	336	391		945
D	0	0	0	0	33	503		536
E	1395	18	445	188	0	20		2066
F	190	9	373	426	29	0		1027
G								
TOTAL	2021	85	945	643	1789	1286		6769

MODELLED

LGV

From Arm \ To Arm	A	B	C	D	E	F	G	TOTAL
A	0	5	6	0	106	28		145
B	4	0	0	0	1	2		7
C	2	0	0	0	6	8		16
D	0	0	0	0	1	55		56
E	49	2	5	4	0	0		60
F	4	0	2	17	1	0		24
G								
TOTAL	59	7	13	21	115	93		308

MODELLED

HGV (PCU)

From Arm \ To Arm	A	B	C	D	E	F	G	TOTAL
A	0	0	0	0	139	39		178
B	0	0	0	0	0	0		0
C	1	0	0	0	2	7		10
D	0	0	0	0	12	285		297
E	389	0	12	8	0	0		409
F	3	0	29	71	0	0		103
G								
TOTAL	393	0	41	79	153	331		997

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MODELLED

PCU

From Arm \ To Arm	A	B	C	D	E	F	G	TOTAL
A	0	528	56	0	1217	214		2015
B	401	0	0	28	38	160		627
C	122	3	1	73	839	573		1611
D	0	26	37	0	51	610		724
E	1550	100	422	462	0	5		2539
F	358	88	180	616	79	0		1321
G								
TOTAL	2431	745	696	1179	2224	1562		8837

By Vehicle Type:

MODELLED

Car

From Arm \ To Arm	A	B	C	D	E	F	G	TOTAL
A	0	525	56	0	977	191		1749
B	379	0	0	28	36	154		597
C	121	3	1	72	821	545		1563
D	0	26	36	0	51	535		648
E	1357	99	418	448	0	5		2327
F	338	84	165	546	74	0		1207
G								
TOTAL	2195	737	676	1094	1959	1430		8091

MODELLED

LGV

From Arm \ To Arm	A	B	C	D	E	F	G	TOTAL
A	0	3	0	0	68	23		94
B	17	0	0	0	2	5		24
C	1	0	0	1	18	28		48
D	0	0	1	0	0	20		21
E	27	1	3	1	0	0		32
F	20	4	7	5	5	0		41
G								
TOTAL	65	8	11	7	93	76		260

MODELLED

HGV (PCU)

From Arm \ To Arm	A	B	C	D	E	F	G	TOTAL
A	0	0	0	0	172	0		172
B	5	0	0	0	0	1		6
C	0	0	0	0	0	0		0
D	0	0	0	0	0	55		55
E	166	0	1	13	0	0		180
F	0	0	8	65	0	0		73
G								
TOTAL	171	0	9	78	172	56		486

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*

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MODELLED

PCU

From Arm \ To Arm	A	B	C	D	E	F	G	TOTAL
A	13	1032	82	10				1137
B	866	0	646	8				1520
C	1431	569	0	14				2014
D	50	15	17	0				82
E								
F								
G								
TOTAL	2360	1616	745	32				4753

By Vehicle Type:

MODELLED

Car

From Arm \ To Arm	A	B	C	D	E	F	G	TOTAL
A	13	874	77	10				974
B	817	0	461	6				1284
C	1255	498	0	9				1762
D	35	8	13	0				56
E								
F								
G								
TOTAL	2120	1380	551	25				4076

MODELLED

LGV

From Arm \ To Arm	A	B	C	D	E	F	G	TOTAL
A	0	6	2	0				8
B	19	0	39	2				60
C	48	6	0	5				59
D	15	7	4	0				26
E								
F								
G								
TOTAL	82	19	45	7				153

MODELLED

HGV (PCU)

From Arm \ To Arm	A	B	C	D	E	F	G	TOTAL
A	0	152	3	0				155
B	30	0	146	0				176
C	128	65	0	0				193
D	0	0	0	0				0
E								
F								
G								
TOTAL	158	217	149	0				524

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MODELLED

PCU

From Arm \ To Arm	A	B	C	D	E	F	G	TOTAL
A	0	160	594	0				754
B	224	0	437	2				663
C	1445	562	0	8				2015
D	486	140	95	0				721
E								
F								
G								
TOTAL	2155	862	1126	10				4153

By Vehicle Type:

MODELLED

Car

From Arm \ To Arm	A	B	C	D	E	F	G	TOTAL
A	0	155	574	0				729
B	219	0	315	2				536
C	1212	487	0	3				1702
D	461	116	84	0				661
E								
F								
G								
TOTAL	1892	758	973	5				3628

MODELLED

LGV

From Arm \ To Arm	A	B	C	D	E	F	G	TOTAL
A	0	5	17	0				22
B	3	0	17	0				20
C	63	24	0	5				92
D	14	10	11	0				35
E								
F								
G								
TOTAL	80	39	45	5				169

MODELLED

HGV (PCU)

From Arm \ To Arm	A	B	C	D	E	F	G	TOTAL
A	0	0	3	0				3
B	2	0	105	0				107
C	170	51	0	0				221
D	11	14	0	0				25
E								
F								
G								
TOTAL	183	65	108	0				356

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*

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MODELLED

PCU

From Arm \ To Arm	A	B	C	D	E	F	G	TOTAL
A	0	300	452	911	96			1759
B	124	0	127	294	121			666
C	0	122	0	877	235			1234
D	829	746	212	1	106			1894
E	128	826	444	11	0			1409
F								
G								
TOTAL	1081	1994	1235	2094	558			6962

By Vehicle Type:

MODELLED

Car

From Arm \ To Arm	A	B	C	D	E	F	G	TOTAL
A	0	213	388	851	93			1545
B	110	0	107	237	114			568
C	0	119	0	837	229			1185
D	746	671	205	1	93			1716
E	123	820	387	10	0			1340
F								
G								
TOTAL	979	1823	1087	1936	529			6354

MODELLED

LGV

From Arm \ To Arm	A	B	C	D	E	F	G	TOTAL
A	0	2	13	31	3			49
B	8	0	11	18	6			43
C	0	3	0	39	6			48
D	74	6	6	0	13			99
E	5	3	32	1	0			41
F								
G								
TOTAL	87	14	62	89	28			280

MODELLED

HGV (PCU)

From Arm \ To Arm	A	B	C	D	E	F	G	TOTAL
A	0	85	51	29	0			165
B	6	0	9	39	1			55
C	0	0	0	1	0			1
D	9	69	1	0	0			79
E	0	3	25	0	0			28
F								
G								
TOTAL	15	157	86	69	1			328

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MODELLED

PCU

From Arm \ To Arm	A	B	C	D	E	F	G	TOTAL
A	0	140	359	570	8			1077
B	384	0	130	487	638			1639
C	0	54	0	882	294			1230
D	1930	383	326	19	28			2686
E	479	354	202	0	0			1035
F								
G								
TOTAL	2793	931	1017	1958	968			7667

By Vehicle Type:

MODELLED

Car

From Arm \ To Arm	A	B	C	D	E	F	G	TOTAL
A	0	137	338	520	8			1003
B	371	0	125	474	627			1597
C	0	49	0	852	272			1173
D	1729	374	316	19	27			2465
E	468	344	194	0	0			1006
F								
G								
TOTAL	2568	904	973	1865	934			7244

MODELLED

LGV

From Arm \ To Arm	A	B	C	D	E	F	G	TOTAL
A	0	2	9	11	0			22
B	9	0	2	7	9			27
C	0	0	0	30	20			50
D	80	6	9	0	1			96
E	11	9	5	0	0			25
F								
G								
TOTAL	100	17	25	48	30			220

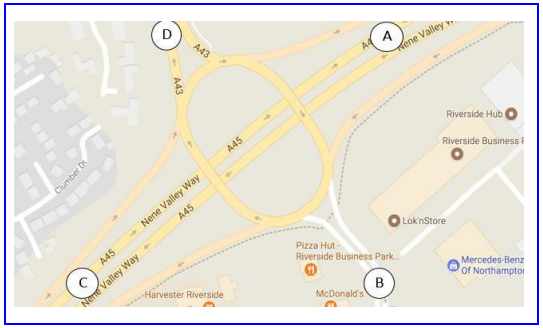
MODELLED

HGV (PCU)

From Arm \ To Arm	A	B	C	D	E	F	G	TOTAL
A	0	1	12	39	0			52
B	4	0	3	6	2			15
C	0	5	0	0	2			7
D	121	3	1	0	0			125
E	0	1	3	0	0			4
F								
G								
TOTAL	125	10	19	45	4			203

Junction Turning Flows

Junction: A45 Lumbertubs Interchange



Arm Description

Arm	Inbound		Outbound		Description
	A-Node	B-Node	A-Node	B-Node	
A	9213	9214	9211	9212	*A45/ Nene Valley Way*
B	4437	9215	9214	4436	*Ferris Row*
C	2075	9217	9215	9216	*A45/ Nene Valley Way*
D	9210	9211	9217	4068	*A43/ Lumbertubs Way*
E					
F					
G					

Growth Factors

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

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MODELLED

PCU

From Arm \ To Arm	A	B	C	D	E	F	G	TOTAL
A	0	94	0	267				361
B	40	0	1116	278				1434
C	0	84	11	1657				1752
D	429	1245	1350	140				3164
E								
F								
G								
TOTAL	469	1423	2477	2342				6711

By Vehicle Type:

MODELLED

Car

From Arm \ To Arm	A	B	C	D	E	F	G	TOTAL
A	0	84	0	257				341
B	37	0	1017	246				1300
C	0	73	11	1163				1247
D	417	1089	1181	135				2822
E								
F								
G								
TOTAL	454	1246	2209	1801				5710

MODELLED

LGV

From Arm \ To Arm	A	B	C	D	E	F	G	TOTAL
A	0	10	0	10				20
B	2	0	44	5				51
C	0	11	0	82				93
D	11	59	51	5				126
E								
F								
G								
TOTAL	13	80	95	102				290

MODELLED

HGV (PCU)

From Arm \ To Arm	A	B	C	D	E	F	G	TOTAL
A	0	0	0	0				0
B	1	0	55	27				83
C	0	0	0	412				412
D	1	97	118	0				216
E								
F								
G								
TOTAL	2	97	173	439				711

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MODELLED

PCU

From Arm \ To Arm	A	B	C	D	E	F	G	TOTAL
A	0	152	0	663				815
B	61	0	883	655				1599
C	0	140	27	1584				1751
D	151	851	985	49				2036
E								
F								
G								
TOTAL	212	1143	1895	2951				6201

By Vehicle Type:

MODELLED

Car

From Arm \ To Arm	A	B	C	D	E	F	G	TOTAL
A	0	114	0	622				736
B	56	0	872	652				1580
C	0	16	27	1327				1370
D	145	754	874	49				1822
E								
F								
G								
TOTAL	201	884	1773	2650				5508

MODELLED

LGV

From Arm \ To Arm	A	B	C	D	E	F	G	TOTAL
A	0	24	0	12				36
B	5	0	11	3				19
C	0	2	0	55				57
D	6	20	20	0				46
E								
F								
G								
TOTAL	11	46	31	70				158

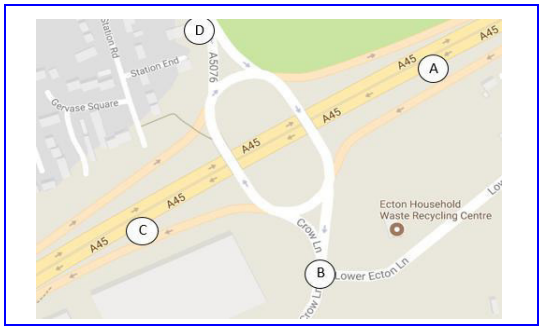
MODELLED

HGV (PCU)

From Arm \ To Arm	A	B	C	D	E	F	G	TOTAL
A	0	14	0	29				43
B	0	0	0	0				0
C	0	122	0	202				324
D	0	77	91	0				168
E								
F								
G								
TOTAL	0	213	91	231				535

Junction Turning Flows

Junction: A45 Great Billing Interchange



Arm Description

Arm	Inbound		Outbound		Description
	A-Node	B-Node	A-Node	B-Node	
A	9259	9258	9253	9254	*A45/ Nene Valley Way*
B	1076	9257	9257	1076	*Crow Lane*
C	9250	9251	9256	9255	*A45/ Nene Valley Way*
D	24694	9252	9252	24694	*Great Billing Way*
E					
F					
G					

Growth Factors

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

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MODELLED

PCU

From Arm \ To Arm	A	B	C	D	E	F	G	TOTAL
A	0	373	0	333				706
B	163	0	665	498				1326
C	0	147	1	325				473
D	371	413	939	0				1723
E								
F								
G								
TOTAL	534	933	1605	1156				4228

By Vehicle Type:

MODELLED

Car

From Arm \ To Arm	A	B	C	D	E	F	G	TOTAL
A	0	184	0	309				493
B	105	0	375	344				824
C	0	137	1	316				454
D	334	376	899	0				1609
E								
F								
G								
TOTAL	439	697	1275	969				3380

MODELLED

LGV

From Arm \ To Arm	A	B	C	D	E	F	G	TOTAL
A	0	6	0	7				13
B	46	0	57	48				151
C	0	10	0	7				17
D	8	18	26	0				52
E								
F								
G								
TOTAL	54	34	83	62				233

MODELLED

HGV (PCU)

From Arm \ To Arm	A	B	C	D	E	F	G	TOTAL
A	0	183	0	17				200
B	12	0	233	106				351
C	0	0	0	2				2
D	29	19	14	0				62
E								
F								
G								
TOTAL	41	202	247	125				615

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MODELLED

PCU

From Arm \ To Arm	A	B	C	D	E	F	G	TOTAL
A	0	75	0	146				221
B	266	0	234	604				1104
C	24	93	8	802				927
D	473	401	254	0				1128
E								
F								
G								
TOTAL	763	569	496	1552				3380

By Vehicle Type:

MODELLED

Car

From Arm \ To Arm	A	B	C	D	E	F	G	TOTAL
A	0	71	0	141				212
B	228	0	176	521				925
C	0	21	1	633				655
D	450	382	241	0				1073
E								
F								
G								
TOTAL	678	474	418	1295				2865

MODELLED

LGV

From Arm \ To Arm	A	B	C	D	E	F	G	TOTAL
A	0	4	0	5				9
B	37	0	40	69				146
C	0	13	0	21				34
D	22	19	2	0				43
E								
F								
G								
TOTAL	59	36	42	95				232

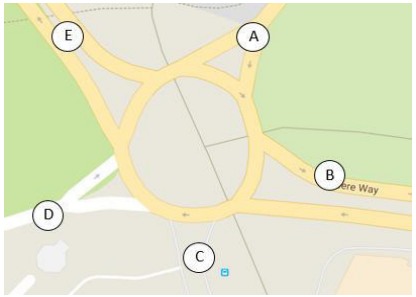
MODELLED

HGV (PCU)

From Arm \ To Arm	A	B	C	D	E	F	G	TOTAL
A	0	0	0	0				0
B	1	0	18	14				33
C	24	59	7	148				238
D	1	0	11	0				12
E								
F								
G								
TOTAL	26	59	36	162				283

Junction Turning Flows

Junction: A5076/Towcester Rd roundabout



Arm Description

Arm	Inbound		Outbound		Description
	A-Node	B-Node	A-Node	B-Node	
A	60104	5298	4298	60104	*Towcester Road*
B	60120	60119	60125	60120	*Mere Way*
C	60123	60121	60122	60123	*Shopping centre*
D	3096	60126	7298	3096	*Towcester Road*
E	60118	60117	21298	60118	*Danes Camp Way*
F					
G					

Growth Factors

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

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MODELLED — PCU

From Arm \ To Arm	A	B	C	D	E	F	G	TOTAL
A	0	481	9	293	173			956
B	372	84	14	181	1572			2223
C	8	24	0	25	20			77
D	492	420	25	0	333			1270
E	249	1550	23	98	0			1920
F								
G								
TOTAL	1121	2559	71	597	2098			6446

By Vehicle Type:

MODELLED — Car

From Arm \ To Arm	A	B	C	D	E	F	G	TOTAL
A	0	473	9	266	155			903
B	351	83	12	172	1415			2033
C	7	22	0	25	20			74
D	457	407	25	0	319			1208
E	216	1140	23	88	0			1467
F								
G								
TOTAL	1031	2125	69	551	1909			5685

MODELLED — LGV

From Arm \ To Arm	A	B	C	D	E	F	G	TOTAL
A	0	6	0	23	18			47
B	6	1	2	4	25			38
C	1	2	0	0	0			3
D	34	9	0	0	14			57
E	3	35	0	7	0			45
F								
G								
TOTAL	44	53	2	34	57			190

MODELLED — HGV (PCU)

From Arm \ To Arm	A	B	C	D	E	F	G	TOTAL
A	0	2	0	4	0			6
B	15	0	0	5	132			152
C	0	0	0	0	0			0
D	1	4	0	0	0			5
E	30	375	0	3	0			408
F								
G								
TOTAL	46	381	0	12	132			571

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MODELLED — PCU

From Arm \ To Arm	A	B	C	D	E	F	G	TOTAL
A	0	679	14	340	193			1226
B	120	120	25	361	1460			2086
C	11	34	0	35	17			97
D	428	424	25	0	48			925
E	206	1213	22	222	0			1663
F								
G								
TOTAL	765	2470	86	958	1718			5997

By Vehicle Type:

MODELLED — Car

From Arm \ To Arm	A	B	C	D	E	F	G	TOTAL
A	0	664	13	306	189			1172
B	102	68	21	312	1337			1840
C	11	32	0	33	17			93
D	387	397	24	0	48			856
E	206	1201	22	220	0			1649
F								
G								
TOTAL	706	2362	80	871	1591			5610

MODELLED — LGV

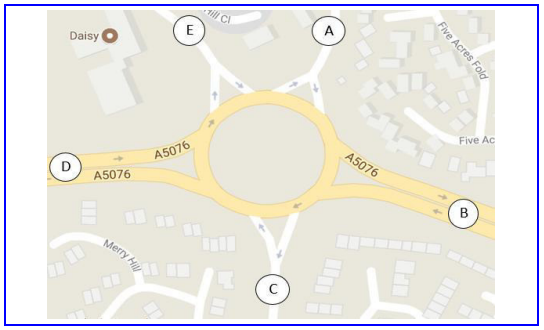
From Arm \ To Arm	A	B	C	D	E	F	G	TOTAL
A	0	14	1	34	4			53
B	7	8	4	29	46			94
C	0	2	0	1	0			3
D	20	8	1	0	0			29
E	0	9	0	2	0			11
F								
G								
TOTAL	27	41	6	66	50			190

MODELLED — HGV (PCU)

From Arm \ To Arm	A	B	C	D	E	F	G	TOTAL
A	0	1	0	0	0			1
B	11	44	0	20	77			152
C	0	0	0	1	0			1
D	21	19	0	0	0			40
E	0	3	0	0	0			3
F								
G								
TOTAL	32	67	0	21	77			197

Junction Turning Flows

Junction: A5076/Huntsbury Hill roundabout



Arm Description

Arm	Inbound		Outbound		Description
	A-Node	B-Node	A-Node	B-Node	
A	1134	9411	9411	1134	*Hunsbarrow Road*
B	1091	9411	9411	1091	*Danes Camp Way*
C	1098	9411	9411	1098	*Hunsbury Hill Road*
D	4100	9411	9411	4100	*Danes Camp Way*
E	9413	9411	9411	9413	*Hunsbury Hill Avenue*
F					
G					

Growth Factors

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

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MODELLED — PCU

From Arm \ To Arm	A	B	C	D	E	F	G	TOTAL
A	0	28	14	344	21			406
B	11	0	65	1779	166			2021
C	0	268	0	502	9			779
D	13	2281	256	0	164			2714
E	1	240	7	158	0			405
F								
G								
TOTAL	24	2816	341	2783	360			6325

By Vehicle Type:

MODELLED — Car

From Arm \ To Arm	A	B	C	D	E	F	G	TOTAL
A	0	27	14	269	21			331
B	10	0	65	1585	166			1826
C	0	260	0	482	9			751
D	7	1839	251	0	164			2262
E	1	184	7	156	0			347
F								
G								
TOTAL	19	2311	337	2491	359			5517

MODELLED — LGV

From Arm \ To Arm	A	B	C	D	E	F	G	TOTAL
A	0	0	0	75	0			75
B	0	0	0	36	0			37
C	0	2	0	20	0			22
D	6	57	3	0	0			66
E	0	1	0	1	0			2
F								
G								
TOTAL	6	60	3	132	0			201

MODELLED — HGV (PCU)

From Arm \ To Arm	A	B	C	D	E	F	G	TOTAL
A	0	0	0	0	0			1
B	0	0	0	158	0			158
C	0	5	0	0	0			6
D	0	385	2	0	0			386
E	0	55	0	1	0			57
F								
G								
TOTAL	0	446	2	160	0			608

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MODELLED — PCU

From Arm \ To Arm	A	B	C	D	E	F	G	TOTAL
A	0	17	77	661	135			890
B	48	0	103	1078	512			1741
C	9	252	0	265	22			547
D	227	1329	400	0	219			2175
E	13	335	12	81	0			441
F								
G								
TOTAL	296	1933	592	2084	888			5794

By Vehicle Type:

MODELLED — Car

From Arm \ To Arm	A	B	C	D	E	F	G	TOTAL
A	0	17	77	642	130			866
B	48	0	103	973	512			1636
C	9	250	0	262	22			543
D	71	1305	389	0	191			1957
E	13	335	12	81	0			441
F								
G								
TOTAL	140	1907	582	1959	854			5442

MODELLED — LGV

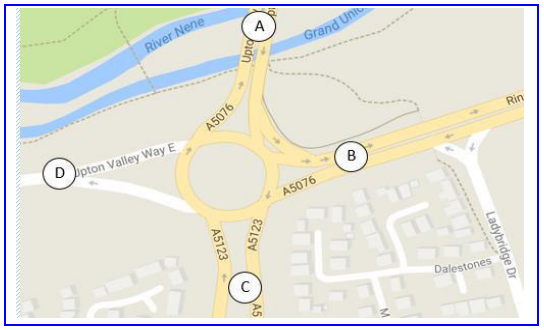
From Arm \ To Arm	A	B	C	D	E	F	G	TOTAL
A	0	0	0	18	5			24
B	0	0	0	41	0			42
C	0	1	0	2	0			4
D	1	21	10	0	28			60
E	0	0	0	0	0			0
F								
G								
TOTAL	1	23	10	62	34			130

MODELLED — HGV (PCU)

From Arm \ To Arm	A	B	C	D	E	F	G	TOTAL
A	0	0	0	0	0			0
B	0	0	0	63	0			63
C	0	0	0	0	0			0
D	155	3	0	0	0			158
E	0	0	0	0	0			0
F								
G								
TOTAL	155	3	0	64	0			222

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*

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MODELLED

PCU

From Arm \ To Arm	A	B	C	D	E	F	G	TOTAL
A	0	1222	730	211				2163
B	1127	0	1121	544				2792
C	680	1083	0	34				1797
D	358	387	288	4				1037
E								
F								
G								
TOTAL	2165	2692	2139	793				7789

By Vehicle Type:

MODELLED

Car

From Arm \ To Arm	A	B	C	D	E	F	G	TOTAL
A	0	1151	651	193				1995
B	1029	0	957	510				2496
C	436	780	0	32				1248
D	323	361	33	4				721
E								
F								
G								
TOTAL	1788	2292	1641	739				6460

MODELLED

LGV

From Arm \ To Arm	A	B	C	D	E	F	G	TOTAL
A	0	28	34	14				76
B	27	0	87	22				136
C	60	39	0	1				100
D	29	16	10	0				55
E								
F								
G								
TOTAL	116	83	131	37				367

MODELLED

HGV (PCU)

From Arm \ To Arm	A	B	C	D	E	F	G	TOTAL
A	0	43	45	4				92
B	71	0	77	12				160
C	184	264	0	1				449
D	6	10	245	0				261
E								
F								
G								
TOTAL	261	317	367	17				962

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MODELLED

PCU

From Arm \ To Arm	A	B	C	D	E	F	G	TOTAL
A	0	1494	608	123				2225
B	865	0	741	394				2000
C	1307	645	0	280				2232
D	151	111	27	4				293
E								
F								
G								
TOTAL	2323	2250	1376	801				6750

By Vehicle Type:

MODELLED

Car

From Arm \ To Arm	A	B	C	D	E	F	G	TOTAL
A	0	1460	428	123				2011
B	833	0	690	353				1876
C	965	447	0	274				1686
D	142	105	7	4				258
E								
F								
G								
TOTAL	1940	2012	1125	754				5831

MODELLED

LGV

From Arm \ To Arm	A	B	C	D	E	F	G	TOTAL
A	0	33	18	0				51
B	19	0	27	16				62
C	35	35	0	5				75
D	8	4	20	0				32
E								
F								
G								
TOTAL	62	72	65	21				220

MODELLED

HGV (PCU)

From Arm \ To Arm	A	B	C	D	E	F	G	TOTAL
A	0	1	162	0				163
B	13	0	24	25				62
C	307	163	0	1				471
D	1	2	0	0				3
E								
F								
G								
TOTAL	321	166	186	26				699

Junction Turning Flows

Junction: A4500/A5123/A508



Arm Description

Arm	Inbound		Outbound		Description
	A-Node	B-Node	A-Node	B-Node	
A	30019	30012	60197	30019	*Horse Market*
B	30018	30013	60198	30018	*St Peter's Way*
C	30017	30014	60199	30017	*Towcester*
D	60194	30015	30014	60194	*St Peter's Way*
E					
F					
G					

Growth Factors

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

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MODELLED

PCU		To Arm							
		A	B	C	D	E	F	G	TOTAL
From Arm	A	0	404	488	20				912
	B	516	21	135	644				1316
	C	1155	211	0	550				1916
	D	58	1083	698	10				1849
	E								
	F								
	G								
	TOTAL	1729	1719	1321	1224				5993

By Vehicle Type:

MODELLED

Car		To Arm							
		A	B	C	D	E	F	G	TOTAL
From Arm	A	0	359	463	19				841
	B	378	16	115	402				911
	C	1107	204	0	512				1823
	D	58	966	619	10				1653
	E								
	F								
	G								
	TOTAL	1543	1545	1197	943				5228

MODELLED

LGV		To Arm							
		A	B	C	D	E	F	G	TOTAL
From Arm	A	0	15	14	1				30
	B	37	2	14	46				99
	C	39	6	0	27				72
	D	0	57	55	0				112
	E								
	F								
	G								
	TOTAL	76	80	83	74				313

MODELLED

HGV		To Arm							
		A	B	C	D	E	F	G	TOTAL
From Arm	A	0	30	11	0				41
	B	101	3	6	196				306
	C	9	1	0	11				21
	D	0	60	24	0				84
	E								
	F								
	G								
	TOTAL	110	94	41	207				452

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MODELLED

PCU		To Arm							
		A	B	C	D	E	F	G	TOTAL
From Arm	A	0	564	897	4				1465
	B	589	42	277	890				1798
	C	699	55	0	267				1021
	D	93	495	726	6				1320
	E								
	F								
	G								
	TOTAL	1381	1156	1900	1167				5604

By Vehicle Type:

MODELLED

Car		To Arm							
		A	B	C	D	E	F	G	TOTAL
From Arm	A	0	538	858	4				1400
	B	524	41	261	817				1643
	C	652	51	0	247				950
	D	93	434	679	6				1212
	E								
	F								
	G								
	TOTAL	1269	1064	1798	1074				5205

MODELLED

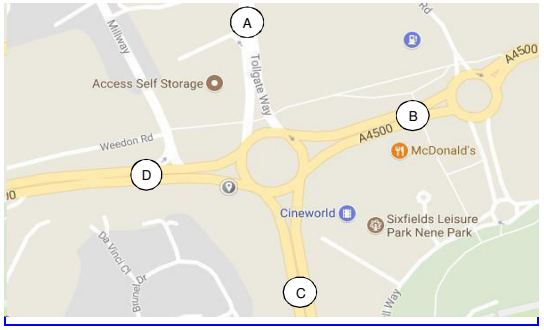
LGV		To Arm							
		A	B	C	D	E	F	G	TOTAL
From Arm	A	0	19	29	0				48
	B	26	1	7	35				69
	C	22	4	0	19				45
	D	0	16	21	0				37
	E								
	F								
	G								
	TOTAL	48	40	57	54				199

MODELLED

HGV		To Arm							
		A	B	C	D	E	F	G	TOTAL
From Arm	A	0	7	10	0				17
	B	39	0	9	38				86
	C	25	0	0	1				26
	D	0	45	26	0				71
	E								
	F								
	G								
	TOTAL	64	52	45	39				200

Junction Turning Flows

Junction: A4500/A5076



Arm Description

Arm	Inbound		Outbound		Description
	A-Node	B-Node	A-Node	B-Node	
A	60099	9441	9440	60099	*Tollgate Way*
B	60100	9438	9441	60100	*Weedon Road*
C	60101	9439	9438	60101	*Upton Way*
D	60098	9440	9439	60098	*Weedon Road*
E					
F					
G					

Growth Factors

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

Scenario_-1_AM\NSTM2_2031_J1d_AM_v4.DAT

MODELLED — PCU

From Arm \ To Arm	A	B	C	D	E	F	G	TOTAL
A	0	257	874	202				1333
B	41	0	400	459				900
C	851	567	0	353				1771
D	199	930	461	23				1613
E								
F								
G								
TOTAL	1091	1754	1735	1037				5617

By Vehicle Type:

MODELLED — Car

From Arm \ To Arm	A	B	C	D	E	F	G	TOTAL
A	0	192	765	183				1140
B	39	0	367	403				809
C	606	473	0	316				1395
D	148	813	440	23				1424
E								
F								
G								
TOTAL	793	1478	1572	925				4768

MODELLED — LGV

From Arm \ To Arm	A	B	C	D	E	F	G	TOTAL
A	0	65	76	9				150
B	2	0	29	20				51
C	56	17	0	33				106
D	47	91	16	0				154
E								
F								
G								
TOTAL	105	173	121	62				461

MODELLED — HGV

From Arm \ To Arm	A	B	C	D	E	F	G	TOTAL
A	0	0	33	10				43
B	0	0	4	36				40
C	189	77	0	4				270
D	4	26	5	0				35
E								
F								
G								
TOTAL	193	103	42	50				388

Scenario_0_PM\NSTM2_2031_J1d_PM.DAT

MODELLED — PCU

From Arm \ To Arm	A	B	C	D	E	F	G	TOTAL
A	0	188	540	239				967
B	55	0	925	780				1760
C	763	598	0	172				1533
D	197	843	322	14				1376
E								
F								
G								
TOTAL	1015	1629	1787	1205				5636

By Vehicle Type:

MODELLED — Car

From Arm \ To Arm	A	B	C	D	E	F	G	TOTAL
A	0	171	467	221				859
B	49	0	868	712				1629
C	649	536	0	144				1329
D	165	768	312	14				1259
E								
F								
G								
TOTAL	863	1475	1647	1091				5076

MODELLED — LGV

From Arm \ To Arm	A	B	C	D	E	F	G	TOTAL
A	0	17	25	7				49
B	5	0	18	14				37
C	42	18	0	11				71
D	30	51	9	0				90
E								
F								
G								
TOTAL	77	86	52	32				247

MODELLED — HGV

From Arm \ To Arm	A	B	C	D	E	F	G	TOTAL
A	0	0	48	11				59
B	1	0	39	54				94
C	72	44	0	17				133
D	2	24	1	0				27
E								
F								
G								
TOTAL	75	68	88	82				313

Junction Turning Flows

Junction: A5123/A508



Arm Description

Arm	Inbound		Outbound		Description
	A-Node	B-Node	A-Node	B-Node	
A	25240	5003	5003	25240	*St John's Street*
B	2003	7003	7003	2003	*A123/ Victoria Promeda*
C	9314	1277	1277	9314	*Auctioneers Way*
D	3085	3015	3015	3085	*A508/ Cotton End*
E	2004	6003	6003	2004	*A5123/ St Peter's Way*
F	21204	4003			*Commercial Street*
G	9003	5204	5204	9003	*Bridge Street*

Growth Factors

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

AM\NSTM2_2031_J1d_AM_forJ8.DAT

MODELLED — All Vehicle

From Arm \ To Arm	A	B	C	D	E	F	G	TOTAL
A	0	0	0	4	0	0	0	4
B	0	0	0	352	639	0	38	1029
C	0	0	0	12	8	0	1	21
D	109	447	6	15	748	0	83	1408
E	0	377	11	380	1	0	12	781
F	257	0	0	3	5	0	423	688
G	66	0	0	5	36	0	0	107
TOTAL	432	824	17	771	1437	0	557	4038

By Vehicle Type:

MODELLED — Car

From Arm \ To Arm	A	B	C	D	E	F	G	TOTAL
A	0	0	0	1	0	0	0	1
B	0	0	0	310	517	0	38	865
C	0	0	0	11	6	0	1	18
D	99	422	4	10	451	0	72	1058
E	0	292	8	305	1	0	12	618
F	244	0	0	3	5	0	419	671
G	63	0	0	5	34	0	0	102
TOTAL	406	714	12	645	1014	0	542	3333

MODELLED — LGV

From Arm \ To Arm	A	B	C	D	E	F	G	TOTAL
A	0	0	0	0	0	0	0	0
B	0	0	0	9	30	0	0	39
C	0	0	0	1	2	0	0	3
D	7	13	2	5	50	0	3	80
E	0	28	3	20	0	0	0	51
F	11	0	0	0	0	0	3	14
G	3	0	0	0	2	0	0	5
TOTAL	21	41	5	35	84	0	6	192

MODELLED — HGV

From Arm \ To Arm	A	B	C	D	E	F	G	TOTAL
A	0	0	0	3	0	0	0	3
B	0	0	0	33	92	0	0	125
C	0	0	0	0	0	0	0	0
D	3	12	0	0	247	0	8	270
E	0	57	0	55	0	0	0	112
F	2	0	0	0	0	0	1	3
G	0	0	0	0	0	0	0	0
TOTAL	5	69	0	91	339	0	9	513

PM\NSTM2_2031_J1d_PM_forJ8.DAT

MODELLED — All Vehicle

From Arm \ To Arm	A	B	C	D	E	F	G	TOTAL
A	0	2	0	39	30	0	0	71
B	18	0	0	722	927	0	29	1696
C	0	0	0	25	39	0	0	64
D	180	393	0	0	471	0	37	1081
E	2	133	0	358	17	0	15	525
F	198	0	0	143	26	0	120	487
G	542	0	0	30	113	0	0	685
TOTAL	940	528	0	1317	1623	0	201	4609

By Vehicle Type:

MODELLED — Car

From Arm \ To Arm	A	B	C	D	E	F	G	TOTAL
A	0	2	0	36	30	0	0	68
B	17	0	0	694	877	0	29	1617
C	0	0	0	23	35	0	0	58
D	173	375	0	0	408	0	35	991
E	2	90	0	306	16	0	15	429
F	189	0	0	138	25	0	116	468
G	529	0	0	30	110	0	0	669
TOTAL	910	467	0	1227	1501	0	195	4300

MODELLED — LGV

From Arm \ To Arm	A	B	C	D	E	F	G	TOTAL
A	0	0	0	1	0	0	0	1
B	1	0	0	16	20	0	0	37
C	0	0	0	2	4	0	0	6
D	6	14	0	0	23	0	2	45
E	0	7	0	6	1	0	0	14
F	9	0	0	4	1	0	4	18
G	13	0	0	0	3	0	0	16
TOTAL	29	21	0	29	52	0	6	137

MODELLED — HGV

From Arm \ To Arm	A	B	C	D	E	F	G	TOTAL
A	0	0	0	2	0	0	0	2
B	0	0	0	12	30	0	0	42
C	0	0	0	0	0	0	0	0
D	1	4	0	0	40	0	0	45
E	0	36	0	46	0	0	0	82
F	0	0	0	1	0	0	0	1
G	0	0	0	0	0	0	0	0
TOTAL	1	40	0	61	70	0	0	172

APPENDIX G

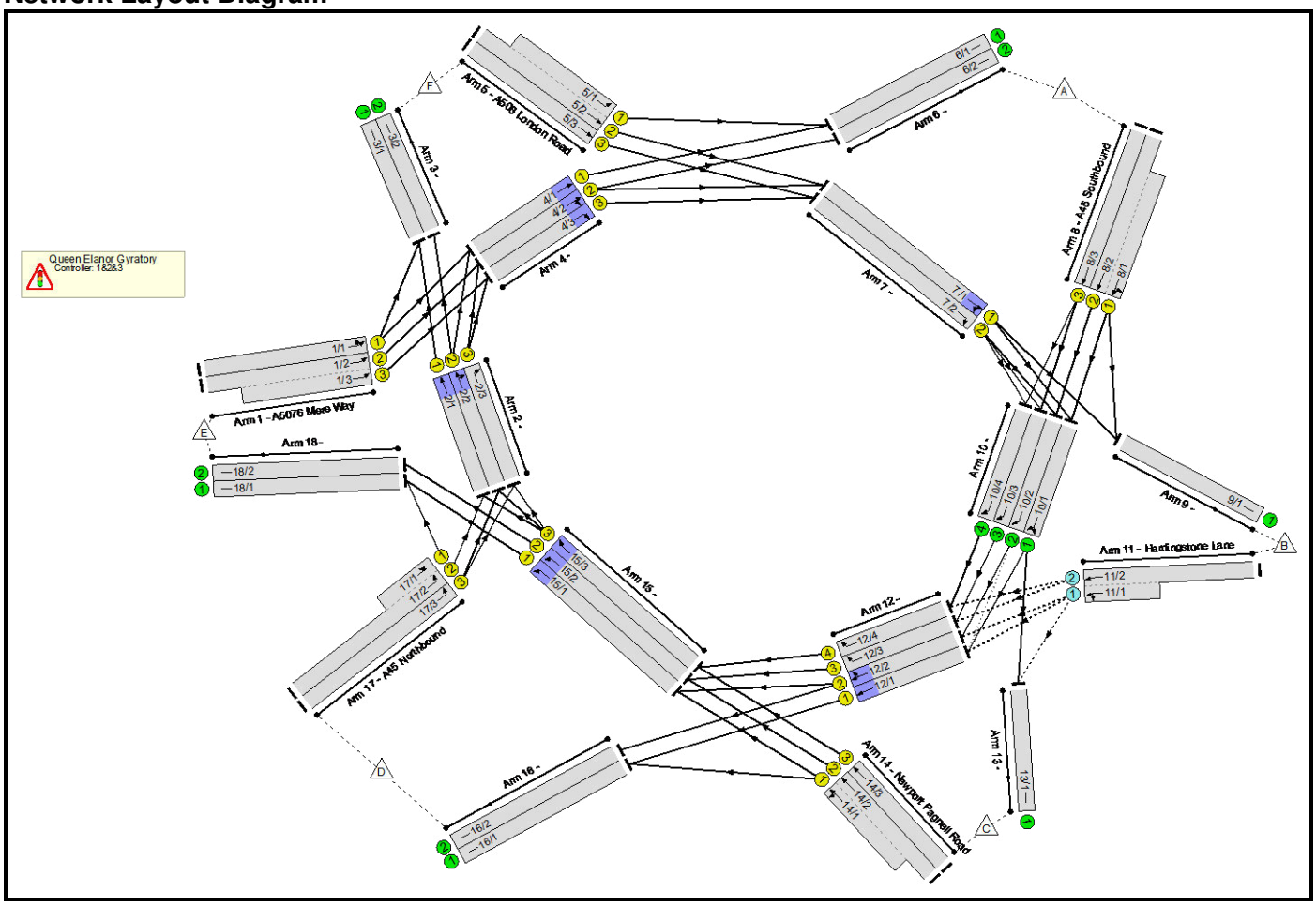
QUEEN ELEANOR INTERCHANGE LINSIG MODEL

Full Input Data And Results

User and Project Details

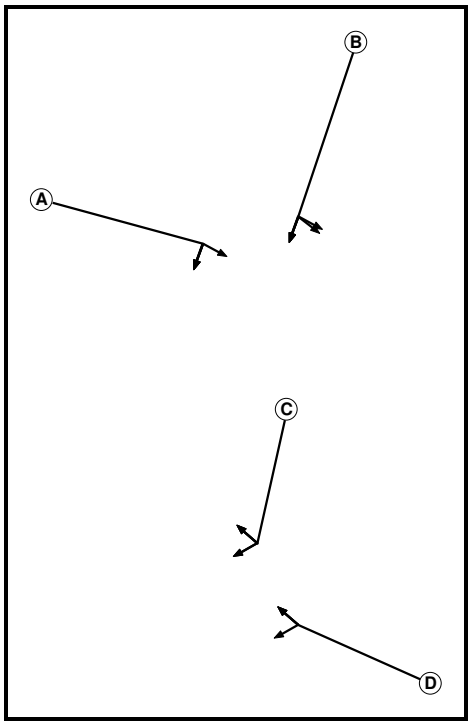
Project:	**Northampton Gateway SRFI**
Title:	**Queen Elanor Gyratory**
Location:	
File name:	180206 Queen Elanor Gyratory.lsg3x
Author:	Mark Higgins
Company:	ADC Infrastructure
Address:	Western Street, Nottingham
Notes:	

Network Layout Diagram



C1 - Queen Elanor A B

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

Phase Intergreens Matrix

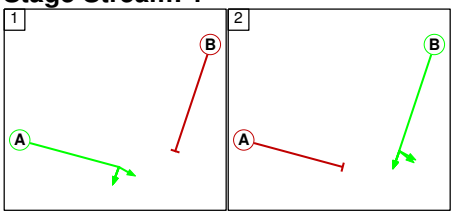
		Starting Phase			
		A	B	C	D
Terminating Phase	A		7	-	-
	B	7		-	-
	C	-	-		5
	D	-	-	5	

Phases in Stage

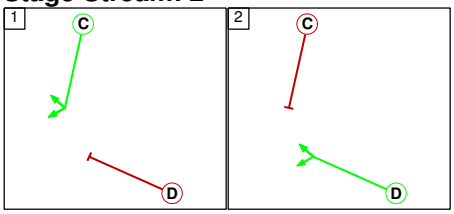
Stream	Stage No.	Phases in Stage
1	1	A
1	2	B
2	1	C
2	2	D

Stage Diagram

Stage Stream: 1

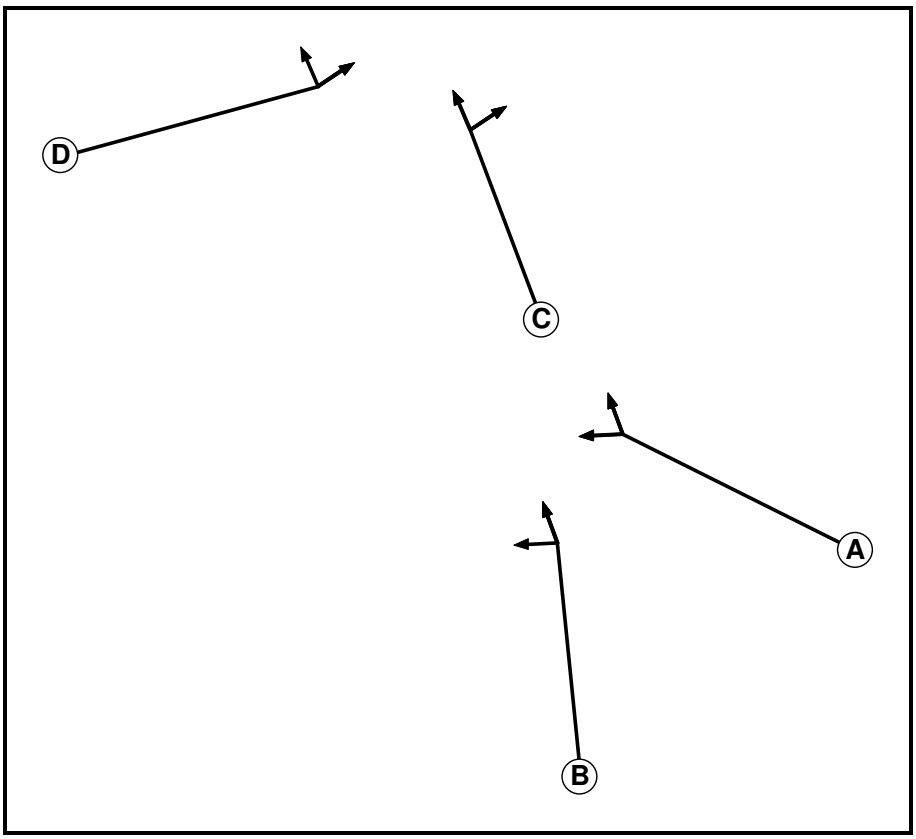


Stage Stream: 2



C2 - Queen Elanor C D

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

Phase Intergreens Matrix

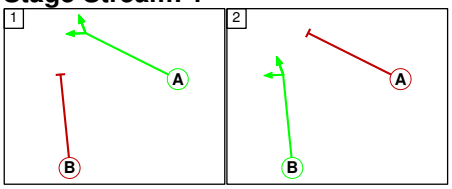
	Starting Phase			
Terminating Phase	A	B	C	D
A		5	-	-
B	5		-	-
C	-	-		6
D	-	-	6	

Phases in Stage

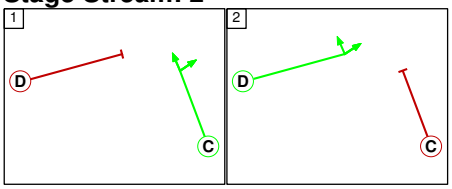
Stream	Stage No.	Phases in Stage
1	1	A
1	2	B
2	1	C
2	2	D

Stage Diagram

Stage Stream: 1

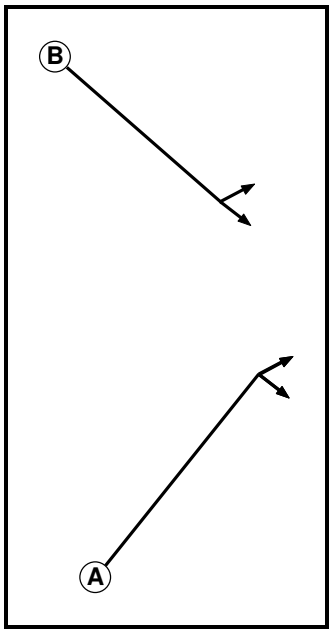


Stage Stream: 2



C3 - London Road

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

Phase Intergreens Matrix

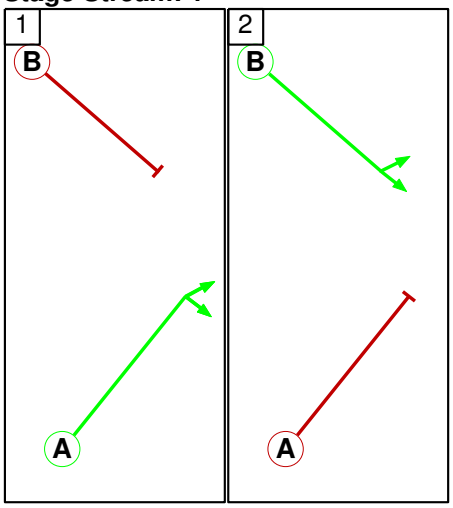
		Starting Phase	
		A	B
Terminating Phase	A		6
	B	6	

Phases in Stage

Stream	Stage No.	Phases in Stage
1	1	A
1	2	B

Stage Diagram

Stage Stream: 1



Give-Way Lane Input Data

Junction: Queen Elanor Gyratory											
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)**
11/1 (Hardingstone Lane)	12/1 (Ahead)	1006	0	10/1	0.25	All	-	-	-	-	-
				10/2	0.25	All					
	12/2 (Ahead)	1006	0	10/1	0.25	All					
				10/2	0.25	All					
	13/1 (Left)	1006	0	10/1	0.25	All					
11/2 (Hardingstone Lane)	12/3 (Ahead)	1006	0	10/1	0.25	All	-	-	-	-	-
				10/2	0.25	All					
				10/3	0.25	All					
				10/4	0.25	All					
	12/4 (Ahead)	1006	0	10/1	0.25	All					
				10/2	0.25	All					
				10/3	0.25	All					
				10/4	0.25	All					

Lane Input Data

Junction: Queen Elanor Gyratory												
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 (A5076 Mere Way)	U	D	2	3	60.0	Geom	-	3.50	0.00	Y	Arm 3 Left	20.00
											Arm 4 Ahead	Inf
1/2 (A5076 Mere Way)	U	D	2	3	60.0	Geom	-	3.50	0.00	N	Arm 4 Ahead	Inf
1/3 (A5076 Mere Way)	U	D	2	3	12.2	Geom	-	3.50	0.00	Y	Arm 4 Ahead	Inf
2/1	U	C	2	3	12.2	User	1900	-	-	-	-	-
2/2	U	C	2	3	12.2	User	1900	-	-	-	-	-
2/3	U	C	2	3	12.2	User	1900	-	-	-	-	-
3/1	U		2	3	3.0	Inf	-	-	-	-	-	-
3/2	U		2	3	3.0	Inf	-	-	-	-	-	-
4/1	U	A	2	3	9.6	User	1900	-	-	-	-	-
4/2	U	A	2	3	9.6	User	1900	-	-	-	-	-
4/3	U	A	2	3	9.6	User	1900	-	-	-	-	-
5/1 (A508 London Road)	U	B	2	3	15.7	Geom	-	3.50	0.00	Y	Arm 6 Left	Inf
5/2 (A508 London Road)	U	B	2	3	60.0	Geom	-	3.50	0.00	N	Arm 7 Ahead	Inf
5/3 (A508 London Road)	U	B	2	3	60.0	Geom	-	3.50	0.00	Y	Arm 7 Ahead	Inf
6/1	U		2	3	3.0	Inf	-	-	-	-	-	-
6/2	U		2	3	3.0	Inf	-	-	-	-	-	-
7/1	U	A	2	3	20.9	User	1900	-	-	-	-	-
7/2	U	A	2	3	20.9	User	1900	-	-	-	-	-
8/1 (A45 Southbound)	U	B	2	3	15.7	Geom	-	3.65	0.00	Y	Arm 9 Left	30.00
											Arm 10 Ahead	Inf
8/2 (A45 Southbound)	U	B	2	3	60.0	Geom	-	3.65	0.00	N	Arm 10 Ahead	Inf
8/3 (A45 Southbound)	U	B	2	3	60.0	Geom	-	3.65	0.00	Y	Arm 10 Ahead	Inf
9/1	U		2	3	3.0	Inf	-	-	-	-	-	-
10/1	U		2	3	12.2	Inf	-	-	-	-	-	-
10/2	U		2	3	12.2	Inf	-	-	-	-	-	-
10/3	U		2	3	12.2	User	3000	-	-	-	-	-

10/4	U		2	3	12.2	User	3000	-	-	-	-	-
11/1 (Hardingstone Lane)	O		2	3	7.0	Inf	-	-	-	-	-	-
11/2 (Hardingstone Lane)	O		2	3	60.0	Inf	-	-	-	-	-	-
12/1	U	C	2	3	7.8	User	1900	-	-	-	-	-
12/2	U	C	2	3	7.8	User	1900	-	-	-	-	-
12/3	U	C	2	3	7.8	User	1900	-	-	-	-	-
12/4	U	C	2	3	7.8	User	1900	-	-	-	-	-
13/1	U		2	3	3.0	Inf	-	-	-	-	-	-
14/1 (Newport Pagnell Road)	U	D	2	3	10.0	Geom	-	3.50	0.00	Y	Arm 15 Ahead Arm 16 Left	Inf 20.00
14/2 (Newport Pagnell Road)	U	D	2	3	60.0	Geom	-	3.50	0.00	N	Arm 15 Ahead	30.00
14/3 (Newport Pagnell Road)	U	D	2	3	60.0	Geom	-	3.50	0.00	Y	Arm 15 Ahead	50.00
15/1	U	A	2	3	22.6	User	1900	-	-	-	-	-
15/2	U	A	2	3	22.6	User	1900	-	-	-	-	-
15/3	U	A	2	3	22.6	User	1900	-	-	-	-	-
16/1	U		2	3	3.0	Inf	-	-	-	-	-	-
16/2	U		2	3	3.0	Inf	-	-	-	-	-	-
17/1 (A45 Northbound)	U	B	2	3	6.0	Geom	-	3.65	0.00	Y	Arm 18 U-Turn	Inf
17/2 (A45 Northbound)	U	B	2	3	60.0	Geom	-	3.65	0.00	N	Arm 2 Left	Inf
17/3 (A45 Northbound)	U	B	2	3	60.0	Geom	-	3.65	0.00	Y	Arm 2 Left	Inf
18/1	U		2	3	3.0	Inf	-	-	-	-	-	-
18/2	U		2	3	3.0	Inf	-	-	-	-	-	-

Traffic Flow Groups

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

Scenario 1: '2031 D1 Ref AM' (FG1: '2031 D1 Ref AM', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

		Destination						
		A	B	C	D	E	F	Tot.
Origin	A	0	72	131	0	1485	323	2011
	B	205	0	0	42	80	170	497
	C	202	0	0	0	280	425	907
	D	27	0	0	0	30	782	839
	E	1762	19	458	209	0	3	2451
	F	190	11	472	470	20	0	1163
	Tot.	2386	102	1061	721	1895	1703	7868

Traffic Lane Flows

Lane	Scenario 1: 2031 D1 Ref AM
Junction: Queen Elanor Gyratory	
1/1	1192
1/2 (with short)	1259(In) 1258(Out)
1/3 (short)	1
2/1	912
2/2	859
2/3	363
3/1	915
3/2	788
4/1	1260
4/2	1621
4/3	1
5/1 (short)	190
5/2 (with short)	673(In) 483(Out)
5/3	490
6/1	1450
6/2	936
7/1	1168
7/2	491
8/1 (short)	203
8/2 (with short)	1138(In) 935(Out)
8/3	873
9/1	102
10/1	1269
10/2	1406
10/3	570
10/4	323
11/1 (short)	122
11/2 (with short)	497(In) 375(Out)
12/1	670
12/2	1066
12/3	570
12/4	698
13/1	1061
14/1 (short)	111
14/2 (with short)	280(In) 169(Out)

14/3	627
15/1	1126
15/2	739
15/3	1325
16/1	670
16/2	51
17/1 (short)	30
17/2 (with short)	445(In) 415(Out)
17/3	394
18/1	1156
18/2	739

Lane Saturation Flows

Junction: Queen Elanor Gyratory

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 (A5076 Mere Way)	3.50	0.00	Y	Arm 3 Left	20.00	0.3 %	1965	1965
				Arm 4 Ahead	Inf	99.7 %		
1/2 (A5076 Mere Way)	3.50	0.00	N	Arm 4 Ahead	Inf	100.0 %	2105	2105
1/3 (A5076 Mere Way)	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
2/3	This lane uses a directly entered Saturation Flow						1900	1900
3/1	Infinite Saturation Flow						Inf	Inf
3/2	Infinite Saturation Flow						Inf	Inf
4/1	This lane uses a directly entered Saturation Flow						1900	1900
4/2	This lane uses a directly entered Saturation Flow						1900	1900
4/3	This lane uses a directly entered Saturation Flow						1900	1900
5/1 (A508 London Road)	3.50	0.00	Y	Arm 6 Left	Inf	100.0 %	1965	1965
5/2 (A508 London Road)	3.50	0.00	N	Arm 7 Ahead	Inf	100.0 %	2105	2105
5/3 (A508 London Road)	3.50	0.00	Y	Arm 7 Ahead	Inf	100.0 %	1965	1965
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)	3.65	0.00	Y	Arm 9 Left	30.00	35.5 %	1945	1945
				Arm 10 Ahead	Inf	64.5 %		
8/2 (A45 Southbound)	3.65	0.00	N	Arm 10 Ahead	Inf	100.0 %	2120	2120
8/3 (A45 Southbound)	3.65	0.00	Y	Arm 10 Ahead	Inf	100.0 %	1980	1980
9/1	Infinite Saturation Flow						Inf	Inf
10/1	Infinite Saturation Flow						Inf	Inf
10/2	Infinite Saturation Flow						Inf	Inf
10/3	This lane uses a directly entered Saturation Flow						3000	3000
10/4	This lane uses a directly entered Saturation Flow						3000	3000
11/1 (Hardingstone Lane Lane 1)	Infinite Saturation Flow						Inf	Inf
11/2 (Hardingstone Lane Lane 2)	Infinite Saturation Flow						Inf	Inf
12/1	This lane uses a directly entered Saturation Flow						1900	1900
12/2	This lane uses a directly entered Saturation Flow						1900	1900

12/3	This lane uses a directly entered Saturation Flow						1900	1900
12/4	This lane uses a directly entered Saturation Flow						1900	1900
13/1	Infinite Saturation Flow						Inf	Inf
14/1 (Newport Pagnell Road)	3.50	0.00	Y	Arm 15 Ahead	Inf	100.0 %	1965	1965
				Arm 16 Left	20.00	0.0 %		
14/2 (Newport Pagnell Road)	3.50	0.00	N	Arm 15 Ahead	30.00	100.0 %	2005	2005
14/3 (Newport Pagnell Road)	3.50	0.00	Y	Arm 15 Ahead	50.00	100.0 %	1908	1908
15/1	This lane uses a directly entered Saturation Flow						1900	1900
15/2	This lane uses a directly entered Saturation Flow						1900	1900
15/3	This lane uses a directly entered Saturation Flow						1900	1900
16/1	Infinite Saturation Flow						Inf	Inf
16/2	Infinite Saturation Flow						Inf	Inf
17/1 (A45 Northbound)	3.65	0.00	Y	Arm 18 U-Turn	Inf	100.0 %	1980	1980
17/2 (A45 Northbound)	3.65	0.00	N	Arm 2 Left	Inf	100.0 %	2120	2120
17/3 (A45 Northbound)	3.65	0.00	Y	Arm 2 Left	Inf	100.0 %	1980	1980
18/1	Infinite Saturation Flow						Inf	Inf
18/2	Infinite Saturation Flow						Inf	Inf

Scenario 2: '2031 J1d Dev AM' (FG3: '2031 J1d Dev AM', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

		Destination						
		A	B	C	D	E	F	Tot.
Origin	A	0	63	133	0	1527	291	2014
	B	222	0	0	29	110	150	511
	C	221	0	0	0	344	406	971
	D	0	0	0	0	46	843	889
	E	1833	20	462	200	0	20	2535
	F	197	9	404	514	30	0	1154
	Tot.	2473	92	999	743	2057	1710	8074

Traffic Lane Flows

Lane	Scenario 2: 2031 J1d Dev AM
Junction: Queen Elanor Gyratory	
1/1	1228
1/2 (with short)	1307(In) 1294(Out)
1/3 (short)	13
2/1	922
2/2	881
2/3	330
3/1	942
3/2	768
4/1	1321
4/2	1624
4/3	13
5/1 (short)	197
5/2 (with short)	610(In) 413(Out)
5/3	544
6/1	1518
6/2	955
7/1	1082
7/2	557
8/1 (short)	196
8/2 (with short)	1135(In) 939(Out)
8/3	879
9/1	92
10/1	1186
10/2	1466
10/3	618
10/4	291
11/1 (short)	139
11/2 (with short)	511(In) 372(Out)
12/1	660
12/2	1132
12/3	618
12/4	663
13/1	999
14/1 (short)	138
14/2 (with short)	344(In) 206(Out)

14/3	627
15/1	1187
15/2	824
15/3	1290
16/1	660
16/2	83
17/1 (short)	46
17/2 (with short)	475(In) 429(Out)
17/3	414
18/1	1233
18/2	824

Lane Saturation Flows

Junction: Queen Elanor Gyratory

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 (A5076 Mere Way)	3.50	0.00	Y	Arm 3 Left	20.00	1.6 %	1963	1963
				Arm 4 Ahead	Inf	98.4 %		
1/2 (A5076 Mere Way)	3.50	0.00	N	Arm 4 Ahead	Inf	100.0 %	2105	2105
1/3 (A5076 Mere Way)	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
2/3	This lane uses a directly entered Saturation Flow						1900	1900
3/1	Infinite Saturation Flow						Inf	Inf
3/2	Infinite Saturation Flow						Inf	Inf
4/1	This lane uses a directly entered Saturation Flow						1900	1900
4/2	This lane uses a directly entered Saturation Flow						1900	1900
4/3	This lane uses a directly entered Saturation Flow						1900	1900
5/1 (A508 London Road)	3.50	0.00	Y	Arm 6 Left	Inf	100.0 %	1965	1965
5/2 (A508 London Road)	3.50	0.00	N	Arm 7 Ahead	Inf	100.0 %	2105	2105
5/3 (A508 London Road)	3.50	0.00	Y	Arm 7 Ahead	Inf	100.0 %	1965	1965
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)	3.65	0.00	Y	Arm 9 Left	30.00	32.1 %	1949	1949
				Arm 10 Ahead	Inf	67.9 %		
8/2 (A45 Southbound)	3.65	0.00	N	Arm 10 Ahead	Inf	100.0 %	2120	2120
8/3 (A45 Southbound)	3.65	0.00	Y	Arm 10 Ahead	Inf	100.0 %	1980	1980
9/1	Infinite Saturation Flow						Inf	Inf
10/1	Infinite Saturation Flow						Inf	Inf
10/2	Infinite Saturation Flow						Inf	Inf
10/3	This lane uses a directly entered Saturation Flow						3000	3000
10/4	This lane uses a directly entered Saturation Flow						3000	3000
11/1 (Hardingstone Lane Lane 1)	Infinite Saturation Flow						Inf	Inf
11/2 (Hardingstone Lane Lane 2)	Infinite Saturation Flow						Inf	Inf
12/1	This lane uses a directly entered Saturation Flow						1900	1900
12/2	This lane uses a directly entered Saturation Flow						1900	1900

12/3	This lane uses a directly entered Saturation Flow						1900	1900
12/4	This lane uses a directly entered Saturation Flow						1900	1900
13/1	Infinite Saturation Flow						Inf	Inf
14/1 (Newport Pagnell Road)	3.50	0.00	Y	Arm 15 Ahead	Inf	100.0 %	1965	1965
				Arm 16 Left	20.00	0.0 %		
14/2 (Newport Pagnell Road)	3.50	0.00	N	Arm 15 Ahead	30.00	100.0 %	2005	2005
14/3 (Newport Pagnell Road)	3.50	0.00	Y	Arm 15 Ahead	50.00	100.0 %	1908	1908
15/1	This lane uses a directly entered Saturation Flow						1900	1900
15/2	This lane uses a directly entered Saturation Flow						1900	1900
15/3	This lane uses a directly entered Saturation Flow						1900	1900
16/1	Infinite Saturation Flow						Inf	Inf
16/2	Infinite Saturation Flow						Inf	Inf
17/1 (A45 Northbound)	3.65	0.00	Y	Arm 18 U-Turn	Inf	100.0 %	1980	1980
17/2 (A45 Northbound)	3.65	0.00	N	Arm 2 Left	Inf	100.0 %	2120	2120
17/3 (A45 Northbound)	3.65	0.00	Y	Arm 2 Left	Inf	100.0 %	1980	1980
18/1	Infinite Saturation Flow						Inf	Inf
18/2	Infinite Saturation Flow						Inf	Inf

Scenario 3: '2031 D1 Ref PM' (FG2: '2031 D1 Ref PM', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

		Destination						
		A	B	C	D	E	F	Tot.
Origin	A	0	526	58	0	1191	238	2013
	B	460	0	0	31	36	150	677
	C	183	2	0	60	831	531	1607
	D	0	32	10	0	27	500	569
	E	1625	113	371	467	0	5	2581
	F	399	80	170	577	86	0	1312
	Tot.	2667	753	609	1135	2171	1424	8759

Traffic Lane Flows

Lane	Scenario 3: 2031 D1 Ref PM
Junction: Queen Elanor Gyratory	
1/1	1249
1/2 (with short)	1332(In) 1331(Out)
1/3 (short)	1
2/1	811
2/2	811
2/3	484
3/1	816
3/2	608
4/1	1447
4/2	1815
4/3	1
5/1 (short)	399
5/2 (with short)	649(In) 250(Out)
5/3	663
6/1	1846
6/2	821
7/1	1244
7/2	664
8/1 (short)	584
8/2 (with short)	1322(In) 738(Out)
8/3	691
9/1	753
10/1	1075
10/2	1326
10/3	529
10/4	238
11/1 (short)	67
11/2 (with short)	677(In) 610(Out)
12/1	854
12/2	1005
12/3	529
12/4	848
13/1	609
14/1 (short)	401
14/2 (with short)	891(In) 490(Out)

14/3	716
15/1	1125
15/2	1019
15/3	1564
16/1	914
16/2	221
17/1 (short)	27
17/2 (with short)	308(In) 281(Out)
17/3	261
18/1	1152
18/2	1019

Lane Saturation Flows

Junction: Queen Elanor Gyratory

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 (A5076 Mere Way)	3.50	0.00	Y	Arm 3 Left	20.00	0.4 %	1964	1964
				Arm 4 Ahead	Inf	99.6 %		
1/2 (A5076 Mere Way)	3.50	0.00	N	Arm 4 Ahead	Inf	100.0 %	2105	2105
1/3 (A5076 Mere Way)	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
2/3	This lane uses a directly entered Saturation Flow						1900	1900
3/1	Infinite Saturation Flow						Inf	Inf
3/2	Infinite Saturation Flow						Inf	Inf
4/1	This lane uses a directly entered Saturation Flow						1900	1900
4/2	This lane uses a directly entered Saturation Flow						1900	1900
4/3	This lane uses a directly entered Saturation Flow						1900	1900
5/1 (A508 London Road)	3.50	0.00	Y	Arm 6 Left	Inf	100.0 %	1965	1965
5/2 (A508 London Road)	3.50	0.00	N	Arm 7 Ahead	Inf	100.0 %	2105	2105
5/3 (A508 London Road)	3.50	0.00	Y	Arm 7 Ahead	Inf	100.0 %	1965	1965
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)	3.65	0.00	Y	Arm 9 Left	30.00	90.1 %	1895	1895
				Arm 10 Ahead	Inf	9.9 %		
8/2 (A45 Southbound)	3.65	0.00	N	Arm 10 Ahead	Inf	100.0 %	2120	2120
8/3 (A45 Southbound)	3.65	0.00	Y	Arm 10 Ahead	Inf	100.0 %	1980	1980
9/1	Infinite Saturation Flow						Inf	Inf
10/1	Infinite Saturation Flow						Inf	Inf
10/2	Infinite Saturation Flow						Inf	Inf
10/3	This lane uses a directly entered Saturation Flow						3000	3000
10/4	This lane uses a directly entered Saturation Flow						3000	3000
11/1 (Hardingstone Lane Lane 1)	Infinite Saturation Flow						Inf	Inf
11/2 (Hardingstone Lane Lane 2)	Infinite Saturation Flow						Inf	Inf
12/1	This lane uses a directly entered Saturation Flow						1900	1900
12/2	This lane uses a directly entered Saturation Flow						1900	1900

12/3	This lane uses a directly entered Saturation Flow						1900	1900
12/4	This lane uses a directly entered Saturation Flow						1900	1900
13/1	Infinite Saturation Flow						Inf	Inf
14/1 (Newport Pagnell Road)	3.50	0.00	Y	Arm 15 Ahead	Inf	85.0 %	1943	1943
				Arm 16 Left	20.00	15.0 %		
14/2 (Newport Pagnell Road)	3.50	0.00	N	Arm 15 Ahead	30.00	100.0 %	2005	2005
14/3 (Newport Pagnell Road)	3.50	0.00	Y	Arm 15 Ahead	50.00	100.0 %	1908	1908
15/1	This lane uses a directly entered Saturation Flow						1900	1900
15/2	This lane uses a directly entered Saturation Flow						1900	1900
15/3	This lane uses a directly entered Saturation Flow						1900	1900
16/1	Infinite Saturation Flow						Inf	Inf
16/2	Infinite Saturation Flow						Inf	Inf
17/1 (A45 Northbound)	3.65	0.00	Y	Arm 18 U-Turn	Inf	100.0 %	1980	1980
17/2 (A45 Northbound)	3.65	0.00	N	Arm 2 Left	Inf	100.0 %	2120	2120
17/3 (A45 Northbound)	3.65	0.00	Y	Arm 2 Left	Inf	100.0 %	1980	1980
18/1	Infinite Saturation Flow						Inf	Inf
18/2	Infinite Saturation Flow						Inf	Inf

Scenario 4: '2031 J1d Dev PM' (FG4: '2031 J1d Dev PM', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

		Destination						
		A	B	C	D	E	F	Tot.
Origin	A	0	528	56	0	1217	214	2015
	B	401	0	0	28	38	160	627
	C	122	3	0	73	839	572	1609
	D	0	26	37	0	51	610	724
	E	1550	100	422	462	0	5	2539
	F	358	88	180	616	79	0	1321
	Tot.	2431	745	695	1179	2224	1561	8835

Traffic Lane Flows

Lane	Scenario 4: 2031 J1d Dev PM
Junction: Queen Elanor Gyratory	
1/1	1233
1/2 (with short)	1306(In) 1306(Out)
1/3 (short)	0
2/1	880
2/2	830
2/3	435
3/1	885
3/2	676
4/1	1382
4/2	1741
4/3	0
5/1 (short)	358
5/2 (with short)	626(In) 268(Out)
5/3	695
6/1	1740
6/2	691
7/1	1318
7/2	695
8/1 (short)	584
8/2 (with short)	1326(In) 742(Out)
8/3	689
9/1	745
10/1	1157
10/2	1406
10/3	506
10/4	214
11/1 (short)	66
11/2 (with short)	627(In) 561(Out)
12/1	941
12/2	993
12/3	506
12/4	775
13/1	695
14/1 (short)	410
14/2 (with short)	912(In) 502(Out)

14/3	697
15/1	1165
15/2	1008
15/3	1472
16/1	1014
16/2	165
17/1 (short)	51
17/2 (with short)	397(In) 346(Out)
17/3	327
18/1	1216
18/2	1008

Lane Saturation Flows

Junction: Queen Elanor Gyratory

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 (A5076 Mere Way)	3.50	0.00	Y	Arm 3 Left	20.00	0.4 %	1964	1964
				Arm 4 Ahead	Inf	99.6 %		
1/2 (A5076 Mere Way)	3.50	0.00	N	Arm 4 Ahead	Inf	100.0 %	2105	2105
1/3 (A5076 Mere Way)	3.50	0.00	Y	Arm 4 Ahead	Inf	0.0 %	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
2/3	This lane uses a directly entered Saturation Flow						1900	1900
3/1	Infinite Saturation Flow						Inf	Inf
3/2	Infinite Saturation Flow						Inf	Inf
4/1	This lane uses a directly entered Saturation Flow						1900	1900
4/2	This lane uses a directly entered Saturation Flow						1900	1900
4/3	This lane uses a directly entered Saturation Flow						1900	1900
5/1 (A508 London Road)	3.50	0.00	Y	Arm 6 Left	Inf	100.0 %	1965	1965
5/2 (A508 London Road)	3.50	0.00	N	Arm 7 Ahead	Inf	100.0 %	2105	2105
5/3 (A508 London Road)	3.50	0.00	Y	Arm 7 Ahead	Inf	100.0 %	1965	1965
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)	3.65	0.00	Y	Arm 9 Left	30.00	90.4 %	1894	1894
				Arm 10 Ahead	Inf	9.6 %		
8/2 (A45 Southbound)	3.65	0.00	N	Arm 10 Ahead	Inf	100.0 %	2120	2120
8/3 (A45 Southbound)	3.65	0.00	Y	Arm 10 Ahead	Inf	100.0 %	1980	1980
9/1	Infinite Saturation Flow						Inf	Inf
10/1	Infinite Saturation Flow						Inf	Inf
10/2	Infinite Saturation Flow						Inf	Inf
10/3	This lane uses a directly entered Saturation Flow						3000	3000
10/4	This lane uses a directly entered Saturation Flow						3000	3000
11/1 (Hardingstone Lane Lane 1)	Infinite Saturation Flow						Inf	Inf
11/2 (Hardingstone Lane Lane 2)	Infinite Saturation Flow						Inf	Inf
12/1	This lane uses a directly entered Saturation Flow						1900	1900
12/2	This lane uses a directly entered Saturation Flow						1900	1900

12/3	This lane uses a directly entered Saturation Flow						1900	1900
12/4	This lane uses a directly entered Saturation Flow						1900	1900
13/1	Infinite Saturation Flow						Inf	Inf
14/1 (Newport Pagnell Road)	3.50	0.00	Y	Arm 15 Ahead	Inf	82.2 %	1939	1939
				Arm 16 Left	20.00	17.8 %		
14/2 (Newport Pagnell Road)	3.50	0.00	N	Arm 15 Ahead	30.00	100.0 %	2005	2005
14/3 (Newport Pagnell Road)	3.50	0.00	Y	Arm 15 Ahead	50.00	100.0 %	1908	1908
15/1	This lane uses a directly entered Saturation Flow						1900	1900
15/2	This lane uses a directly entered Saturation Flow						1900	1900
15/3	This lane uses a directly entered Saturation Flow						1900	1900
16/1	Infinite Saturation Flow						Inf	Inf
16/2	Infinite Saturation Flow						Inf	Inf
17/1 (A45 Northbound)	3.65	0.00	Y	Arm 18 U-Turn	Inf	100.0 %	1980	1980
17/2 (A45 Northbound)	3.65	0.00	N	Arm 2 Left	Inf	100.0 %	2120	2120
17/3 (A45 Northbound)	3.65	0.00	Y	Arm 2 Left	Inf	100.0 %	1980	1980
18/1	Infinite Saturation Flow						Inf	Inf
18/2	Infinite Saturation Flow						Inf	Inf

Scenario 5: '2021 C1 Ref AM' (FG5: '2021 C1 Ref AM', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

		Destination						
		A	B	C	D	E	F	Tot.
Origin	A	0	69	124	0	1339	479	2011
	B	228	0	0	10	90	110	438
	C	208	0	0	0	433	507	1148
	D	0	0	0	0	70	627	697
	E	1825	20	367	248	0	2	2462
	F	406	8	291	576	25	0	1306
	Tot.	2667	97	782	834	1957	1725	8062

Traffic Lane Flows

Lane	Scenario 5: 2021 C1 Ref AM
Junction: Queen Elanor Gyratory	
1/1	1197
1/2 (with short)	1265(In) 1264(Out)
1/3 (short)	1
2/1	919
2/2	867
2/3	373
3/1	921
3/2	804
4/1	1258
4/2	1637
4/3	1
5/1 (short)	406
5/2 (with short)	770(In) 364(Out)
5/3	536
6/1	1664
6/2	1003
7/1	998
7/2	537
8/1 (short)	193
8/2 (with short)	1133(In) 940(Out)
8/3	878
9/1	97
10/1	1094
10/2	1452
10/3	424
10/4	479
11/1 (short)	100
11/2 (with short)	438(In) 338(Out)
12/1	719
12/2	1145
12/3	424
12/4	817
13/1	782
14/1 (short)	183
14/2 (with short)	433(In) 250(Out)

14/3	715
15/1	1213
15/2	674
15/3	1532
16/1	719
16/2	115
17/1 (short)	70
17/2 (with short)	394(In) 324(Out)
17/3	303
18/1	1283
18/2	674

Lane Saturation Flows

Junction: Queen Elanor Gyratory

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 (A5076 Mere Way)	3.50	0.00	Y	Arm 3 Left	20.00	0.2 %	1965	1965
				Arm 4 Ahead	Inf	99.8 %		
1/2 (A5076 Mere Way)	3.50	0.00	N	Arm 4 Ahead	Inf	100.0 %	2105	2105
1/3 (A5076 Mere Way)	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
2/3	This lane uses a directly entered Saturation Flow						1900	1900
3/1	Infinite Saturation Flow						Inf	Inf
3/2	Infinite Saturation Flow						Inf	Inf
4/1	This lane uses a directly entered Saturation Flow						1900	1900
4/2	This lane uses a directly entered Saturation Flow						1900	1900
4/3	This lane uses a directly entered Saturation Flow						1900	1900
5/1 (A508 London Road)	3.50	0.00	Y	Arm 6 Left	Inf	100.0 %	1965	1965
5/2 (A508 London Road)	3.50	0.00	N	Arm 7 Ahead	Inf	100.0 %	2105	2105
5/3 (A508 London Road)	3.50	0.00	Y	Arm 7 Ahead	Inf	100.0 %	1965	1965
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)	3.65	0.00	Y	Arm 9 Left	30.00	35.8 %	1945	1945
				Arm 10 Ahead	Inf	64.2 %		
8/2 (A45 Southbound)	3.65	0.00	N	Arm 10 Ahead	Inf	100.0 %	2120	2120
8/3 (A45 Southbound)	3.65	0.00	Y	Arm 10 Ahead	Inf	100.0 %	1980	1980
9/1	Infinite Saturation Flow						Inf	Inf
10/1	Infinite Saturation Flow						Inf	Inf
10/2	Infinite Saturation Flow						Inf	Inf
10/3	This lane uses a directly entered Saturation Flow						3000	3000
10/4	This lane uses a directly entered Saturation Flow						3000	3000
11/1 (Hardingstone Lane Lane 1)	Infinite Saturation Flow						Inf	Inf
11/2 (Hardingstone Lane Lane 2)	Infinite Saturation Flow						Inf	Inf
12/1	This lane uses a directly entered Saturation Flow						1900	1900
12/2	This lane uses a directly entered Saturation Flow						1900	1900

12/3	This lane uses a directly entered Saturation Flow						1900	1900
12/4	This lane uses a directly entered Saturation Flow						1900	1900
13/1	Infinite Saturation Flow						Inf	Inf
14/1 (Newport Pagnell Road)	3.50	0.00	Y	Arm 15 Ahead	Inf	100.0 %	1965	1965
				Arm 16 Left	20.00	0.0 %		
14/2 (Newport Pagnell Road)	3.50	0.00	N	Arm 15 Ahead	30.00	100.0 %	2005	2005
14/3 (Newport Pagnell Road)	3.50	0.00	Y	Arm 15 Ahead	50.00	100.0 %	1908	1908
15/1	This lane uses a directly entered Saturation Flow						1900	1900
15/2	This lane uses a directly entered Saturation Flow						1900	1900
15/3	This lane uses a directly entered Saturation Flow						1900	1900
16/1	Infinite Saturation Flow						Inf	Inf
16/2	Infinite Saturation Flow						Inf	Inf
17/1 (A45 Northbound)	3.65	0.00	Y	Arm 18 U-Turn	Inf	100.0 %	1980	1980
17/2 (A45 Northbound)	3.65	0.00	N	Arm 2 Left	Inf	100.0 %	2120	2120
17/3 (A45 Northbound)	3.65	0.00	Y	Arm 2 Left	Inf	100.0 %	1980	1980
18/1	Infinite Saturation Flow						Inf	Inf
18/2	Infinite Saturation Flow						Inf	Inf

Scenario 6: '2021 I1 Dev AM' (FG7: '2021 I1 Dev AM', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

		Destination						
		A	B	C	D	E	F	Tot.
Origin	A	0	59	100	0	1403	451	2013
	B	221	0	0	5	110	130	466
	C	176	0	0	0	469	555	1200
	D	0	0	0	0	23	632	655
	E	1814	20	382	268	0	2	2486
	F	350	8	270	649	34	0	1311
	Tot.	2561	87	752	922	2039	1770	8131

Traffic Lane Flows

Lane	Scenario 6: 2021 I1 Dev AM
Junction: Queen Elanor Gyratory	
1/1	1209
1/2 (with short)	1277(In) 1275(Out)
1/3 (short)	2
2/1	948
2/2	911
2/3	306
3/1	950
3/2	820
4/1	1298
4/2	1581
4/3	2
5/1 (short)	350
5/2 (with short)	777(In) 427(Out)
5/3	534
6/1	1648
6/2	913
7/1	1095
7/2	536
8/1 (short)	159
8/2 (with short)	1117(In) 958(Out)
8/3	896
9/1	87
10/1	1167
10/2	1460
10/3	479
10/4	451
11/1 (short)	115
11/2 (with short)	466(In) 351(Out)
12/1	779
12/2	1211
12/3	479
12/4	802
13/1	752
14/1 (short)	182
14/2 (with short)	469(In) 287(Out)

14/3	731
15/1	1250
15/2	766
15/3	1533
16/1	779
16/2	143
17/1 (short)	23
17/2 (with short)	350(In) 327(Out)
17/3	305
18/1	1273
18/2	766

Lane Saturation Flows

Junction: Queen Elanor Gyratory

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 (A5076 Mere Way)	3.50	0.00	Y	Arm 3 Left	20.00	0.2 %	1965	1965
				Arm 4 Ahead	Inf	99.8 %		
1/2 (A5076 Mere Way)	3.50	0.00	N	Arm 4 Ahead	Inf	100.0 %	2105	2105
1/3 (A5076 Mere Way)	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
2/3	This lane uses a directly entered Saturation Flow						1900	1900
3/1	Infinite Saturation Flow						Inf	Inf
3/2	Infinite Saturation Flow						Inf	Inf
4/1	This lane uses a directly entered Saturation Flow						1900	1900
4/2	This lane uses a directly entered Saturation Flow						1900	1900
4/3	This lane uses a directly entered Saturation Flow						1900	1900
5/1 (A508 London Road)	3.50	0.00	Y	Arm 6 Left	Inf	100.0 %	1965	1965
5/2 (A508 London Road)	3.50	0.00	N	Arm 7 Ahead	Inf	100.0 %	2105	2105
5/3 (A508 London Road)	3.50	0.00	Y	Arm 7 Ahead	Inf	100.0 %	1965	1965
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)	3.65	0.00	Y	Arm 9 Left	30.00	37.1 %	1944	1944
				Arm 10 Ahead	Inf	62.9 %		
8/2 (A45 Southbound)	3.65	0.00	N	Arm 10 Ahead	Inf	100.0 %	2120	2120
8/3 (A45 Southbound)	3.65	0.00	Y	Arm 10 Ahead	Inf	100.0 %	1980	1980
9/1	Infinite Saturation Flow						Inf	Inf
10/1	Infinite Saturation Flow						Inf	Inf
10/2	Infinite Saturation Flow						Inf	Inf
10/3	This lane uses a directly entered Saturation Flow						3000	3000
10/4	This lane uses a directly entered Saturation Flow						3000	3000
11/1 (Hardingstone Lane Lane 1)	Infinite Saturation Flow						Inf	Inf
11/2 (Hardingstone Lane Lane 2)	Infinite Saturation Flow						Inf	Inf
12/1	This lane uses a directly entered Saturation Flow						1900	1900
12/2	This lane uses a directly entered Saturation Flow						1900	1900

12/3	This lane uses a directly entered Saturation Flow						1900	1900
12/4	This lane uses a directly entered Saturation Flow						1900	1900
13/1	Infinite Saturation Flow						Inf	Inf
14/1 (Newport Pagnell Road)	3.50	0.00	Y	Arm 15 Ahead	Inf	100.0 %	1965	1965
				Arm 16 Left	20.00	0.0 %		
14/2 (Newport Pagnell Road)	3.50	0.00	N	Arm 15 Ahead	30.00	100.0 %	2005	2005
14/3 (Newport Pagnell Road)	3.50	0.00	Y	Arm 15 Ahead	50.00	100.0 %	1908	1908
15/1	This lane uses a directly entered Saturation Flow						1900	1900
15/2	This lane uses a directly entered Saturation Flow						1900	1900
15/3	This lane uses a directly entered Saturation Flow						1900	1900
16/1	Infinite Saturation Flow						Inf	Inf
16/2	Infinite Saturation Flow						Inf	Inf
17/1 (A45 Northbound)	3.65	0.00	Y	Arm 18 U-Turn	Inf	100.0 %	1980	1980
17/2 (A45 Northbound)	3.65	0.00	N	Arm 2 Left	Inf	100.0 %	2120	2120
17/3 (A45 Northbound)	3.65	0.00	Y	Arm 2 Left	Inf	100.0 %	1980	1980
18/1	Infinite Saturation Flow						Inf	Inf
18/2	Infinite Saturation Flow						Inf	Inf

Scenario 7: '2021 C1 Ref PM' (FG6: '2031 C1 Ref PM', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

		Destination						
		A	B	C	D	E	F	Tot.
Origin	A	0	377	49	0	1243	341	2010
	B	487	0	0	17	45	143	692
	C	214	0	0	0	595	513	1322
	D	0	56	0	0	84	491	631
	E	1696	160	277	255	0	2	2390
	F	308	121	247	593	52	0	1321
	Tot.	2705	714	573	865	2019	1490	8366

Traffic Lane Flows

Lane	Scenario 7: 2021 C1 Ref PM
Junction: Queen Elanor Gyratory	
1/1	1161
1/2 (with short)	1229(In) 1228(Out)
1/3 (short)	1
2/1	913
2/2	835
2/3	497
3/1	915
3/2	575
4/1	1419
4/2	1725
4/3	1
5/1 (short)	308
5/2 (with short)	676(In) 368(Out)
5/3	645
6/1	1727
6/2	978
7/1	1115
7/2	646
8/1 (short)	426
8/2 (with short)	1245(In) 819(Out)
8/3	765
9/1	714
10/1	827
10/2	1418
10/3	471
10/4	341
11/1 (short)	62
11/2 (with short)	692(In) 630(Out)
12/1	776
12/2	958
12/3	471
12/4	971
13/1	573
14/1 (short)	266
14/2 (with short)	595(In) 329(Out)

14/3	727
15/1	1135
15/2	800
15/3	1698
16/1	776
16/2	89
17/1 (short)	84
17/2 (with short)	364(In) 280(Out)
17/3	267
18/1	1219
18/2	800

Lane Saturation Flows

Junction: Queen Elanor Gyratory

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 (A5076 Mere Way)	3.50	0.00	Y	Arm 3 Left	20.00	0.2 %	1965	1965
				Arm 4 Ahead	Inf	99.8 %		
1/2 (A5076 Mere Way)	3.50	0.00	N	Arm 4 Ahead	Inf	100.0 %	2105	2105
1/3 (A5076 Mere Way)	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
2/3	This lane uses a directly entered Saturation Flow						1900	1900
3/1	Infinite Saturation Flow						Inf	Inf
3/2	Infinite Saturation Flow						Inf	Inf
4/1	This lane uses a directly entered Saturation Flow						1900	1900
4/2	This lane uses a directly entered Saturation Flow						1900	1900
4/3	This lane uses a directly entered Saturation Flow						1900	1900
5/1 (A508 London Road)	3.50	0.00	Y	Arm 6 Left	Inf	100.0 %	1965	1965
5/2 (A508 London Road)	3.50	0.00	N	Arm 7 Ahead	Inf	100.0 %	2105	2105
5/3 (A508 London Road)	3.50	0.00	Y	Arm 7 Ahead	Inf	100.0 %	1965	1965
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)	3.65	0.00	Y	Arm 9 Left	30.00	88.5 %	1896	1896
				Arm 10 Ahead	Inf	11.5 %		
8/2 (A45 Southbound)	3.65	0.00	N	Arm 10 Ahead	Inf	100.0 %	2120	2120
8/3 (A45 Southbound)	3.65	0.00	Y	Arm 10 Ahead	Inf	100.0 %	1980	1980
9/1	Infinite Saturation Flow						Inf	Inf
10/1	Infinite Saturation Flow						Inf	Inf
10/2	Infinite Saturation Flow						Inf	Inf
10/3	This lane uses a directly entered Saturation Flow						3000	3000
10/4	This lane uses a directly entered Saturation Flow						3000	3000
11/1 (Hardingstone Lane Lane 1)	Infinite Saturation Flow						Inf	Inf
11/2 (Hardingstone Lane Lane 2)	Infinite Saturation Flow						Inf	Inf
12/1	This lane uses a directly entered Saturation Flow						1900	1900
12/2	This lane uses a directly entered Saturation Flow						1900	1900

12/3	This lane uses a directly entered Saturation Flow						1900	1900
12/4	This lane uses a directly entered Saturation Flow						1900	1900
13/1	Infinite Saturation Flow						Inf	Inf
14/1 (Newport Pagnell Road)	3.50	0.00	Y	Arm 15 Ahead	Inf	100.0 %	1965	1965
				Arm 16 Left	20.00	0.0 %		
14/2 (Newport Pagnell Road)	3.50	0.00	N	Arm 15 Ahead	30.00	100.0 %	2005	2005
14/3 (Newport Pagnell Road)	3.50	0.00	Y	Arm 15 Ahead	50.00	100.0 %	1908	1908
15/1	This lane uses a directly entered Saturation Flow						1900	1900
15/2	This lane uses a directly entered Saturation Flow						1900	1900
15/3	This lane uses a directly entered Saturation Flow						1900	1900
16/1	Infinite Saturation Flow						Inf	Inf
16/2	Infinite Saturation Flow						Inf	Inf
17/1 (A45 Northbound)	3.65	0.00	Y	Arm 18 U-Turn	Inf	100.0 %	1980	1980
17/2 (A45 Northbound)	3.65	0.00	N	Arm 2 Left	Inf	100.0 %	2120	2120
17/3 (A45 Northbound)	3.65	0.00	Y	Arm 2 Left	Inf	100.0 %	1980	1980
18/1	Infinite Saturation Flow						Inf	Inf
18/2	Infinite Saturation Flow						Inf	Inf

Scenario 8: '2021 I1 Dev PM' (FG8: '2021 I1 Dev PM', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

		Destination						
		A	B	C	D	E	F	Tot.
Origin	A	0	335	57	0	1299	323	2014
	B	456	0	0	11	40	148	655
	C	214	3	0	0	618	496	1331
	D	0	21	0	0	61	643	725
	E	1593	181	339	296	0	2	2411
	F	314	109	236	599	44	0	1302
	Tot.	2577	649	632	906	2062	1612	8438

Traffic Lane Flows

Lane	Scenario 8: 2021 I1 Dev PM
Junction: Queen Elanor Gyratory	
1/1	1168
1/2 (with short)	1243(In) 1234(Out)
1/3 (short)	9
2/1	924
2/2	907
2/3	473
3/1	926
3/2	686
4/1	1387
4/2	1707
4/3	9
5/1 (short)	314
5/2 (with short)	659(In) 345(Out)
5/3	643
6/1	1701
6/2	876
7/1	1176
7/2	652
8/1 (short)	392
8/2 (with short)	1230(In) 838(Out)
8/3	784
9/1	649
10/1	919
10/2	1448
10/3	503
10/4	323
11/1 (short)	49
11/2 (with short)	655(In) 606(Out)
12/1	827
12/2	957
12/3	505
12/4	927
13/1	632
14/1 (short)	271
14/2 (with short)	618(In) 347(Out)

14/3	713
15/1	1149
15/2	852
15/3	1640
16/1	827
16/2	79
17/1 (short)	61
17/2 (with short)	396(In) 335(Out)
17/3	329
18/1	1210
18/2	852

Lane Saturation Flows

Junction: Queen Elanor Gyratory

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 (A5076 Mere Way)	3.50	0.00	Y	Arm 3 Left	20.00	0.2 %	1965	1965
				Arm 4 Ahead	Inf	99.8 %		
1/2 (A5076 Mere Way)	3.50	0.00	N	Arm 4 Ahead	Inf	100.0 %	2105	2105
1/3 (A5076 Mere Way)	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
2/3	This lane uses a directly entered Saturation Flow						1900	1900
3/1	Infinite Saturation Flow						Inf	Inf
3/2	Infinite Saturation Flow						Inf	Inf
4/1	This lane uses a directly entered Saturation Flow						1900	1900
4/2	This lane uses a directly entered Saturation Flow						1900	1900
4/3	This lane uses a directly entered Saturation Flow						1900	1900
5/1 (A508 London Road)	3.50	0.00	Y	Arm 6 Left	Inf	100.0 %	1965	1965
5/2 (A508 London Road)	3.50	0.00	N	Arm 7 Ahead	Inf	100.0 %	2105	2105
5/3 (A508 London Road)	3.50	0.00	Y	Arm 7 Ahead	Inf	100.0 %	1965	1965
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)	3.65	0.00	Y	Arm 9 Left	30.00	85.5 %	1899	1899
				Arm 10 Ahead	Inf	14.5 %		
8/2 (A45 Southbound)	3.65	0.00	N	Arm 10 Ahead	Inf	100.0 %	2120	2120
8/3 (A45 Southbound)	3.65	0.00	Y	Arm 10 Ahead	Inf	100.0 %	1980	1980
9/1	Infinite Saturation Flow						Inf	Inf
10/1	Infinite Saturation Flow						Inf	Inf
10/2	Infinite Saturation Flow						Inf	Inf
10/3	This lane uses a directly entered Saturation Flow						3000	3000
10/4	This lane uses a directly entered Saturation Flow						3000	3000
11/1 (Hardingstone Lane Lane 1)	Infinite Saturation Flow						Inf	Inf
11/2 (Hardingstone Lane Lane 2)	Infinite Saturation Flow						Inf	Inf
12/1	This lane uses a directly entered Saturation Flow						1900	1900
12/2	This lane uses a directly entered Saturation Flow						1900	1900

12/3	This lane uses a directly entered Saturation Flow						1900	1900
12/4	This lane uses a directly entered Saturation Flow						1900	1900
13/1	Infinite Saturation Flow						Inf	Inf
14/1 (Newport Pagnell Road)	3.50	0.00	Y	Arm 15 Ahead	Inf	100.0 %	1965	1965
				Arm 16 Left	20.00	0.0 %		
14/2 (Newport Pagnell Road)	3.50	0.00	N	Arm 15 Ahead	30.00	100.0 %	2005	2005
14/3 (Newport Pagnell Road)	3.50	0.00	Y	Arm 15 Ahead	50.00	100.0 %	1908	1908
15/1	This lane uses a directly entered Saturation Flow						1900	1900
15/2	This lane uses a directly entered Saturation Flow						1900	1900
15/3	This lane uses a directly entered Saturation Flow						1900	1900
16/1	Infinite Saturation Flow						Inf	Inf
16/2	Infinite Saturation Flow						Inf	Inf
17/1 (A45 Northbound)	3.65	0.00	Y	Arm 18 U-Turn	Inf	100.0 %	1980	1980
17/2 (A45 Northbound)	3.65	0.00	N	Arm 2 Left	Inf	100.0 %	2120	2120
17/3 (A45 Northbound)	3.65	0.00	Y	Arm 2 Left	Inf	100.0 %	1980	1980
18/1	Infinite Saturation Flow						Inf	Inf
18/2	Infinite Saturation Flow						Inf	Inf

Scenario 1: '2031 D1 Ref AM' (FG1: '2031 D1 Ref AM', Plan 1: 'Network Control Plan 1')
C1 - Queen Elanor A B

Stage Timings

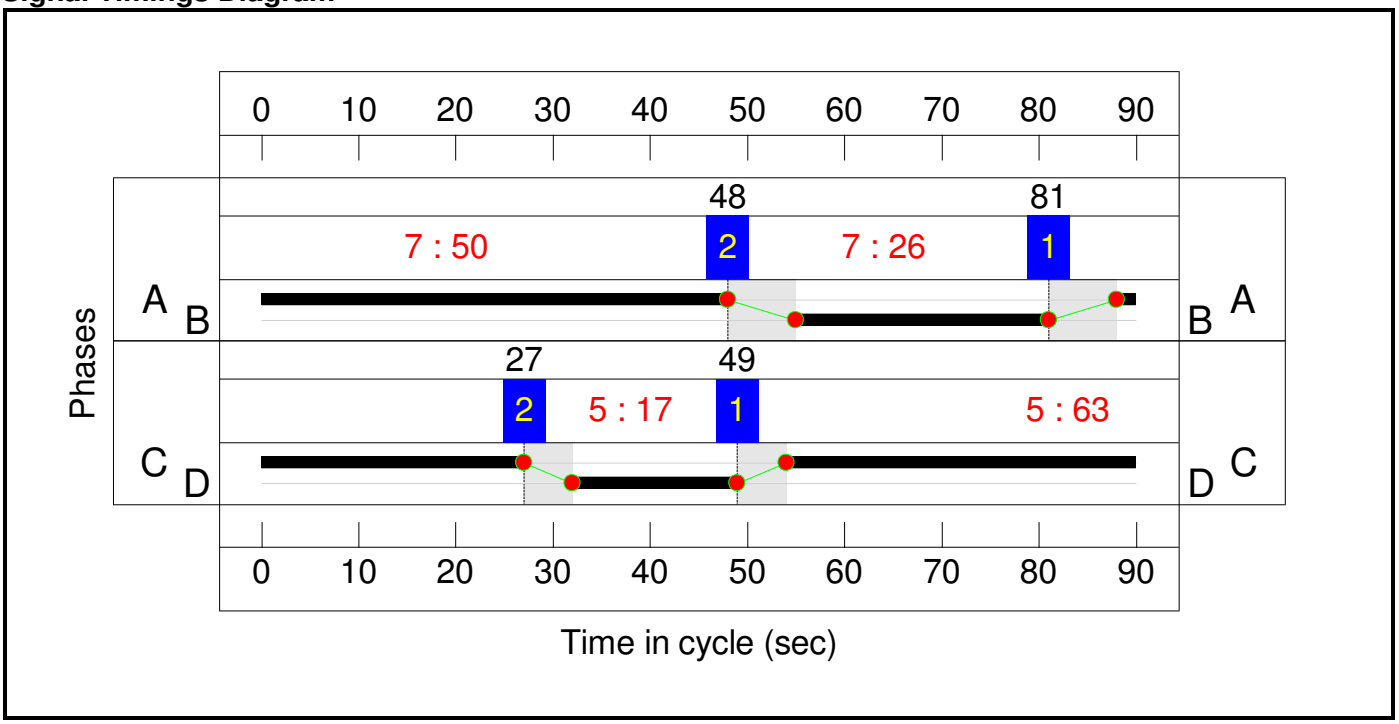
Stage Stream: 1

Stage	1	2
Duration	50	26
Change Point	81	48

Stage Stream: 2

Stage	1	2
Duration	63	17
Change Point	49	27

Signal Timings Diagram



C2 - Queen Elanor C D

Stage Timings

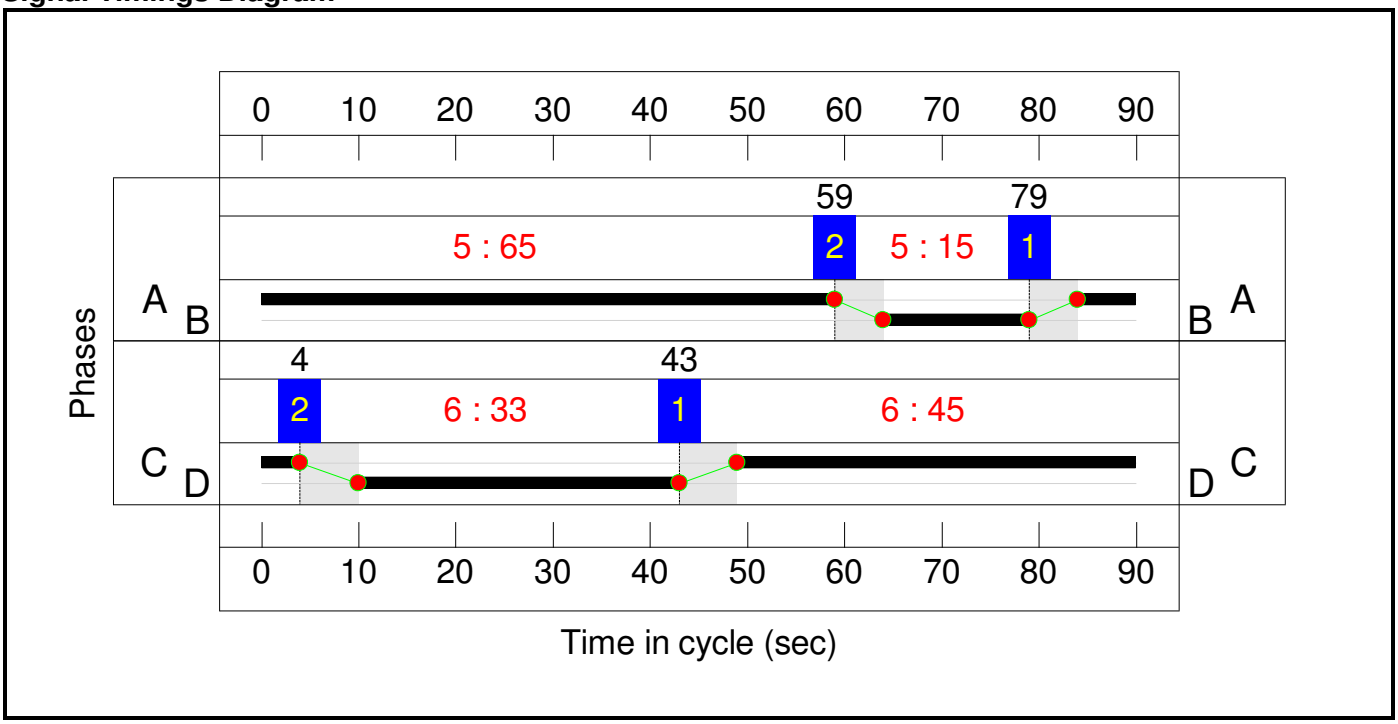
Stage Stream: 1

Stage	1	2
Duration	65	15
Change Point	79	59

Stage Stream: 2

Stage	1	2
Duration	45	33
Change Point	43	4

Signal Timings Diagram



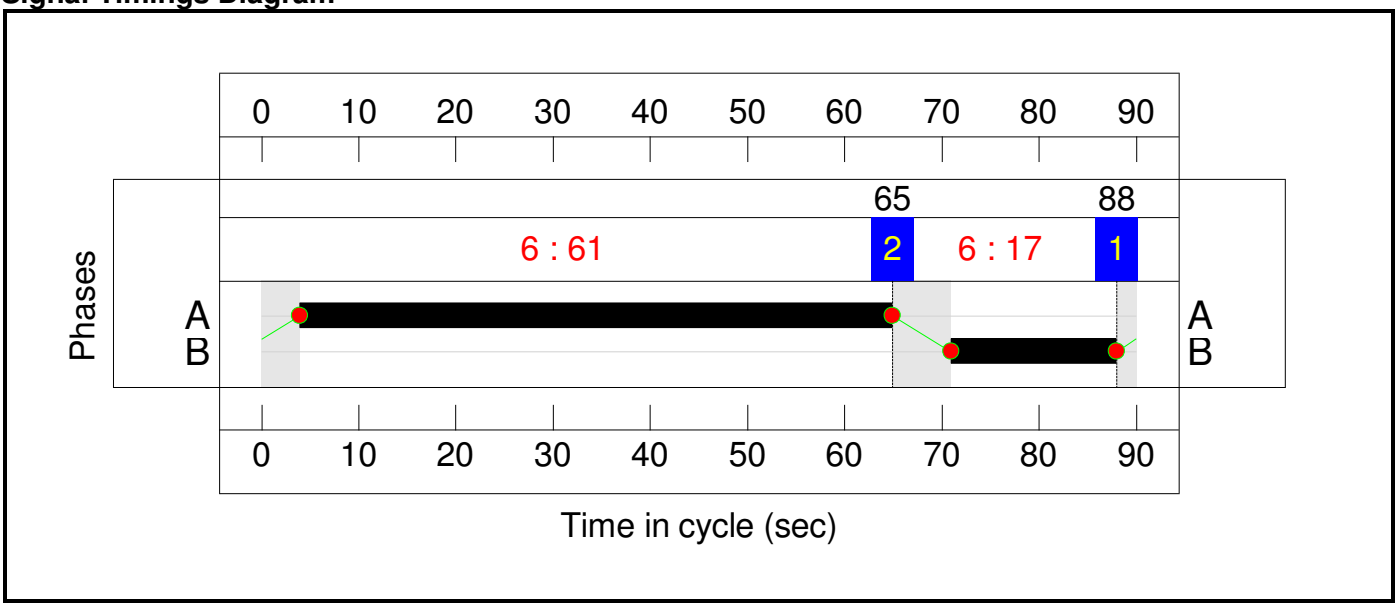
C3 - London Road

Stage Timings

Stage Stream: 1

Stage	1	2
Duration	61	17
Change Point	88	65

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: Queen Elanor Gyratory	-	-	**N/A**	-	-		-	-	-	-	-	-	**164.3%**
Queen Elanor Gyratory	-	-	**N/A**	-	-		-	-	-	-	-	-	**164.3%**
1/1	A5076 Mere Way Left Ahead	U	2:2	N/A	C2:D		1	33	-	1192	1965	742	160.6%
1/2+1/3	A5076 Mere Way Ahead	U	2:2	N/A	C2:D		1	33	-	1259	2105:1965	787+1	159.8 : 159.8%
2/1	Ahead	U	2:2	N/A	C2:C		1	45	-	912	1900	971	73.8%
2/2	Ahead Right	U	2:2	N/A	C2:C		1	45	-	859	1900	971	71.1%
2/3	Right	U	2:2	N/A	C2:C		1	45	-	363	1900	971	30.0%
4/1	Ahead	U	3:1	N/A	C3:A		1	61	-	1260	1900	1309	61.2%
4/2	Ahead Right	U	3:1	N/A	C3:A		1	61	-	1621	1900	1309	82.4%
4/3	Right	U	3:1	N/A	C3:A		1	61	-	1	1900	1309	0.0%
5/2+5/1	A508 London Road Left Ahead	U	3:1	N/A	C3:B		1	17	-	673	2105:1965	421+166	114.7 : 114.7%
5/3	A508 London Road Ahead	U	1:1	N/A	C1:B		1	26	-	490	1965	590	83.1%
7/1	Ahead Right	U	1:1	N/A	C1:A		1	50	-	1168	1900	1077	78.9%
7/2	Right	U	1:1	N/A	C1:A		1	50	-	491	1900	1077	45.6%
8/2+8/1	A45 Southbound Left Ahead	U	1:1	N/A	C1:B		1	26	-	1138	2120:1945	636+138	147.0 : 147.0%
8/3	A45 Southbound Ahead	U	1:1	N/A	C1:B		1	26	-	873	1980	594	147.0%
10/3	Right	U	N/A	N/A	-		-	-	-	570	3000	3000	13.1%
10/4	Right	U	N/A	N/A	-		-	-	-	323	3000	3000	7.3%
11/2+11/1	Hardingstone Lane Ahead Left	O	N/A	N/A	-		-	-	-	497	Inf : Inf	374+122	100.2 : 100.2%
12/1	Ahead	U	1:2	N/A	C1:C		1	63	-	670	1900	1351	43.8%
12/2	Right Ahead	U	1:2	N/A	C1:C		1	63	-	1066	1900	1351	56.7%
12/3	Right	U	1:2	N/A	C1:C		1	63	-	570	1900	1351	29.2%
12/4	Right	U	1:2	N/A	C1:C		1	63	-	698	1900	1351	44.0%

14/2+14/1	Newport Pagnell Road Ahead Left	U	1:2	N/A	C1:D		1	17	-	280	2005:1965	400+263	42.3 : 42.3%
14/3	Newport Pagnell Road Ahead	U	1:2	N/A	C1:D		1	17	-	627	1908	382	164.3%
15/1	Ahead	U	2:1	N/A	C2:A		1	65	-	1126	1900	1393	59.4%
15/2	Ahead	U	2:1	N/A	C2:A		1	65	-	739	1900	1393	40.4%
15/3	Ahead	U	2:1	N/A	C2:A		1	65	-	1325	1900	1393	70.0%
17/2+17/1	A45 Northbound Left U-Turn	U	2:1	N/A	C2:B		1	15	-	445	2120:1980	371+27	111.8 : 111.8%
17/3	A45 Northbound Left	U	2:1	N/A	C2:B		1	15	-	394	1980	352	111.9%

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: Queen Elanor Gyratory	**-**	**-**	**993**	**0**	**0**	**168.2**	**1037.1**	**0.0**	**1205.3**	**-**	**-**	**-**	**-**
Queen Elanor Gyratory	**-**	**-**	**993**	**0**	**0**	**168.2**	**1037.1**	**0.0**	**1205.3**	**-**	**-**	**-**	**-**
1/1	1192	742	-	-	-	28.2	226.2	-	254.3	768.2	41.0	226.2	267.2
1/2+1/3	1259	788	-	-	-	29.6	237.0	-	266.6	762.2	46.4	237.0	283.3
2/1	716	716	-	-	-	2.0	1.4	-	3.4	16.8	7.2	1.4	8.6
2/2	691	691	-	-	-	2.1	1.2	-	3.3	17.3	7.2	1.2	8.5
2/3	292	292	-	-	-	1.3	0.2	-	1.5	18.9	4.4	0.2	4.6
4/1	800	800	-	-	-	0.2	0.8	-	1.0	4.4	0.6	0.8	1.4
4/2	1079	1079	-	-	-	0.6	2.3	-	2.9	9.7	10.7	2.3	13.0
4/3	1	1	-	-	-	0.0	0.0	-	0.0	5.3	0.0	0.0	0.0
5/2+5/1	673	611	-	-	-	8.4	46.8	-	55.2	295.3	13.7	46.8	60.5
5/3	490	490	-	-	-	4.0	2.4	-	6.3	46.7	11.3	2.4	13.6
7/1	850	850	-	-	-	3.1	1.8	-	5.0	21.1	14.1	1.8	15.9
7/2	491	491	-	-	-	3.2	0.4	-	3.6	26.3	12.3	0.4	12.7
8/2+8/1	1138	774	-	-	-	24.6	183.5	-	208.1	658.3	40.1	183.5	223.6
8/3	873	594	-	-	-	21.7	141.0	-	162.7	671.1	34.3	141.0	175.4
10/3	394	394	-	-	-	0.0	0.1	-	0.1	0.7	0.0	0.1	0.1
10/4	220	220	-	-	-	0.0	0.0	-	0.0	0.6	0.0	0.0	0.0
11/2+11/1	497	496	993	0	0	2.1	11.3	-	13.5	97.7	21.4	11.3	32.7
12/1	592	592	-	-	-	0.9	0.4	-	1.3	7.7	4.0	0.4	4.4
12/2	767	767	-	-	-	0.6	0.7	-	1.2	5.8	10.9	0.7	11.6
12/3	394	394	-	-	-	0.0	0.2	-	0.2	2.1	0.1	0.2	0.3
12/4	594	594	-	-	-	0.8	0.4	-	1.2	7.3	8.2	0.4	8.6
14/2+14/1	280	280	-	-	-	2.4	0.4	-	2.8	35.8	3.7	0.4	4.0
14/3	627	382	-	-	-	15.6	124.0	-	139.6	801.6	21.8	124.0	145.8
15/1	827	827	-	-	-	2.2	0.7	-	2.9	12.6	17.7	0.7	18.5

15/2	563	563	-	-	-	0.5	0.3	-	0.8	5.3	8.0	0.3	8.4
15/3	976	976	-	-	-	2.6	1.2	-	3.8	13.8	14.6	1.2	15.7
17/2+17/1	445	398	-	-	-	6.0	27.5	-	33.5	270.9	12.4	27.5	39.9
17/3	394	352	-	-	-	5.5	24.9	-	30.4	277.9	11.1	24.9	36.0

C1 - Queen Elanor A B	Stream: 1 PRC for Signalled Lanes (%):	-63.3	Total Delay for Signalled Lanes (pcuHr):	385.75	Cycle Time (s): 90
C1 - Queen Elanor A B	Stream: 2 PRC for Signalled Lanes (%):	-82.6	Total Delay for Signalled Lanes (pcuHr):	146.33	Cycle Time (s): 90
C2 - Queen Elanor C D	Stream: 1 PRC for Signalled Lanes (%):	-24.4	Total Delay for Signalled Lanes (pcuHr):	71.39	Cycle Time (s): 90
C2 - Queen Elanor C D	Stream: 2 PRC for Signalled Lanes (%):	-78.4	Total Delay for Signalled Lanes (pcuHr):	529.12	Cycle Time (s): 90
C3 - London Road	Stream: 1 PRC for Signalled Lanes (%):	-27.5	Total Delay for Signalled Lanes (pcuHr):	59.08	Cycle Time (s): 90
	PRC Over All Lanes (%):	-82.6	Total Delay Over All Lanes(pcuHr):	1205.29	

Scenario 2: '2031 J1d Dev AM' (FG3: '2031 J1d Dev AM', Plan 1: 'Network Control Plan 1')
C1 - Queen Elanor A B

Stage Timings

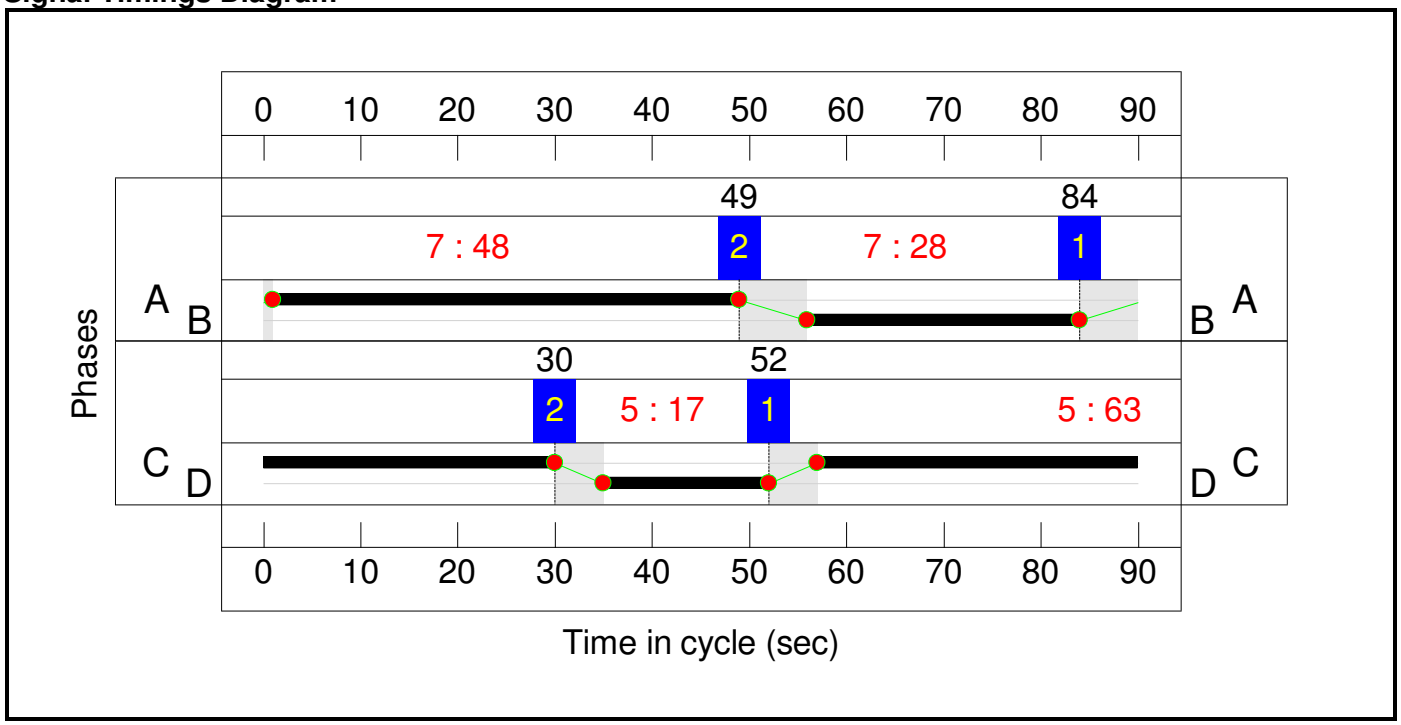
Stage Stream: 1

Stage	1	2
Duration	48	28
Change Point	84	49

Stage Stream: 2

Stage	1	2
Duration	63	17
Change Point	52	30

Signal Timings Diagram



C2 - Queen Elanor C D

Stage Timings

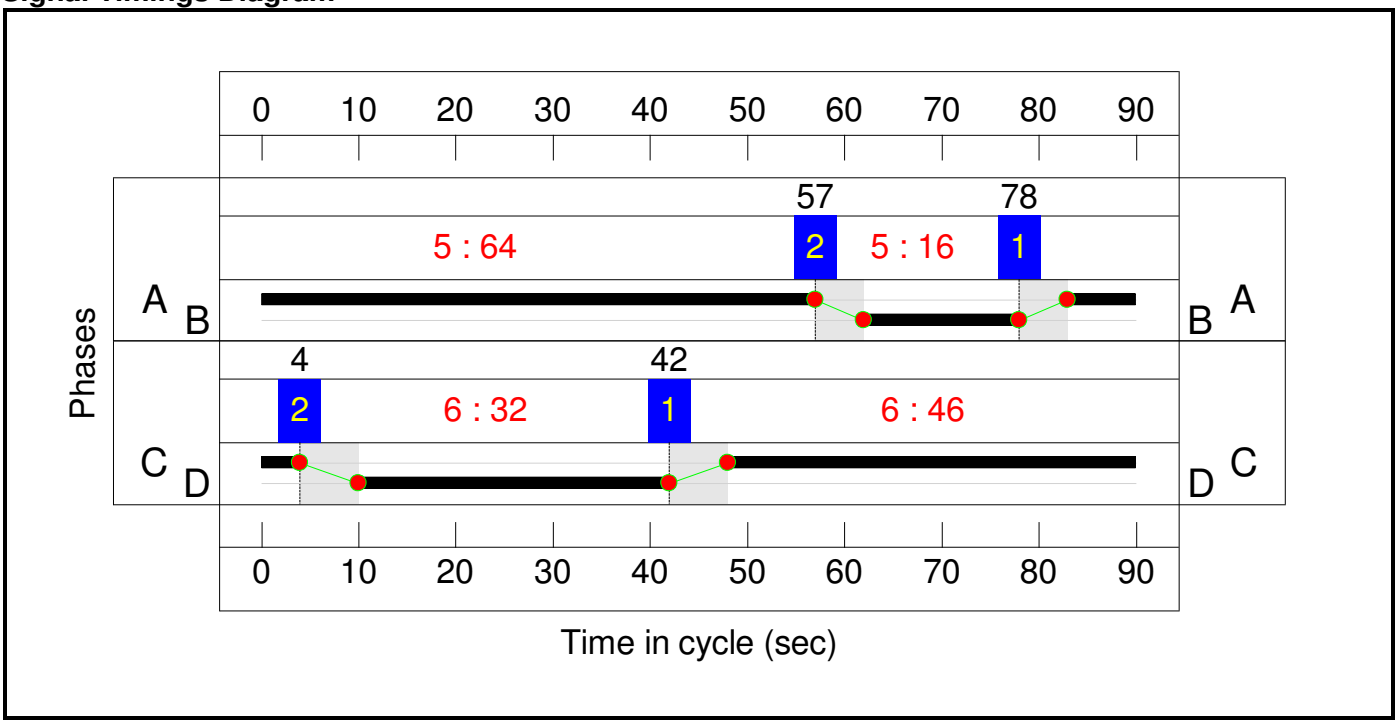
Stage Stream: 1

Stage	1	2
Duration	64	16
Change Point	78	57

Stage Stream: 2

Stage	1	2
Duration	46	32
Change Point	42	4

Signal Timings Diagram



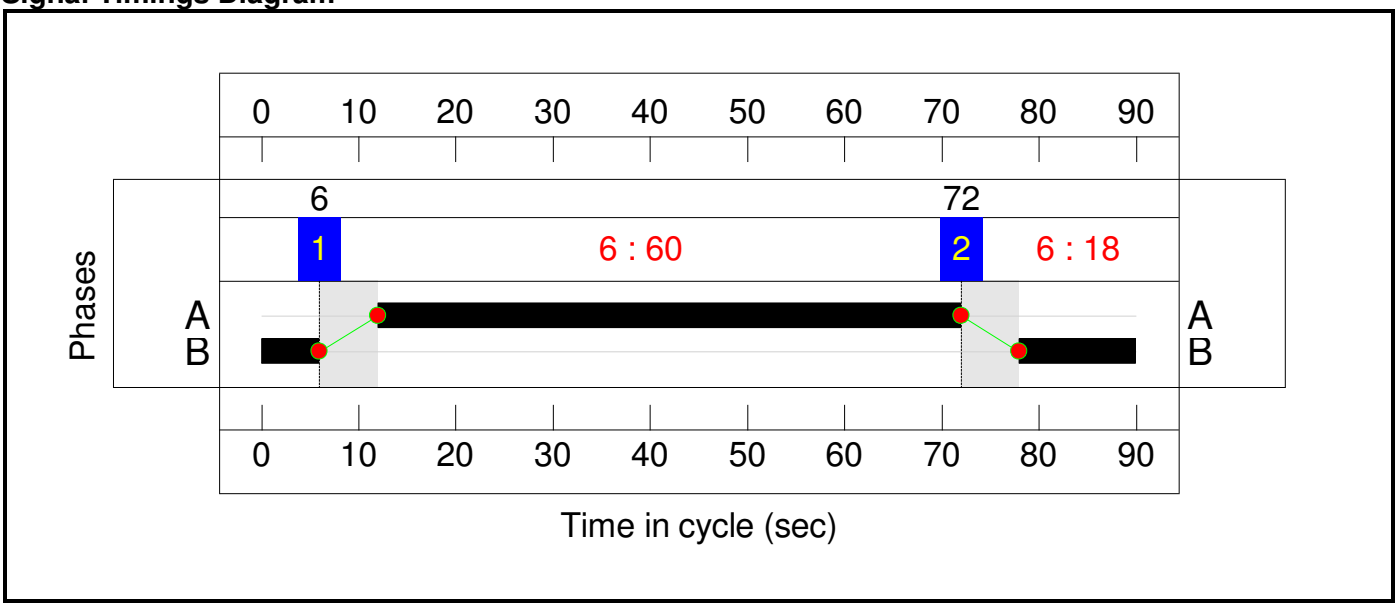
C3 - London Road

Stage Timings

Stage Stream: 1

Stage	1	2
Duration	60	18
Change Point	6	72

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: Queen Elanor Gyratory	-	-	**N/A**	-	-		-	-	-	-	-	-	**170.6%**
Queen Elanor Gyratory	-	-	**N/A**	-	-		-	-	-	-	-	-	**170.6%**
1/1	A5076 Mere Way Left Ahead	U	2:2	N/A	C2:D		1	32	-	1228	1963	720	170.6%
1/2+1/3	A5076 Mere Way Ahead	U	2:2	N/A	C2:D		1	32	-	1307	2105:1965	761+8	170.0 : 170.0%
2/1	Ahead	U	2:2	N/A	C2:C		1	46	-	922	1900	992	73.7%
2/2	Ahead Right	U	2:2	N/A	C2:C		1	46	-	881	1900	992	71.6%
2/3	Right	U	2:2	N/A	C2:C		1	46	-	330	1900	992	26.2%
4/1	Ahead	U	3:1	N/A	C3:A		1	60	-	1321	1900	1288	61.3%
4/2	Ahead Right	U	3:1	N/A	C3:A		1	60	-	1624	1900	1288	79.3%
4/3	Right	U	3:1	N/A	C3:A		1	60	-	13	1900	1288	0.6%
5/2+5/1	A508 London Road Left Ahead	U	3:1	N/A	C3:B		1	18	-	610	2105:1965	444+212	92.9 : 92.9%
5/3	A508 London Road Ahead	U	1:1	N/A	C1:B		1	28	-	544	1965	633	85.9%
7/1	Ahead Right	U	1:1	N/A	C1:A		1	48	-	1082	1900	1034	78.0%
7/2	Right	U	1:1	N/A	C1:A		1	48	-	557	1900	1034	53.3%
8/2+8/1	A45 Southbound Left Ahead	U	1:1	N/A	C1:B		1	28	-	1135	2120:1949	683+143	137.5 : 137.5%
8/3	A45 Southbound Ahead	U	1:1	N/A	C1:B		1	28	-	879	1980	638	137.8%
10/3	Right	U	N/A	N/A	-		-	-	-	618	3000	3000	15.2%
10/4	Right	U	N/A	N/A	-		-	-	-	291	3000	3000	7.0%
11/2+11/1	Hardingstone Lane Ahead Left	O	N/A	N/A	-		-	-	-	511	Inf : Inf	347+130	107.1 : 107.1%
12/1	Ahead	U	1:2	N/A	C1:C		1	63	-	660	1900	1351	43.1%
12/2	Right Ahead	U	1:2	N/A	C1:C		1	63	-	1132	1900	1351	64.4%
12/3	Right	U	1:2	N/A	C1:C		1	63	-	618	1900	1351	33.8%
12/4	Right	U	1:2	N/A	C1:C		1	63	-	663	1900	1351	41.3%

14/2+14/1	Newport Pagnell Road Ahead Left	U	1:2	N/A	C1:D		1	17	-	344	2005:1965	400+268	51.5 : 51.5%
14/3	Newport Pagnell Road Ahead	U	1:2	N/A	C1:D		1	17	-	627	1908	382	164.3%
15/1	Ahead	U	2:1	N/A	C2:A		1	64	-	1187	1900	1372	67.9%
15/2	Ahead	U	2:1	N/A	C2:A		1	64	-	824	1900	1372	48.3%
15/3	Ahead	U	2:1	N/A	C2:A		1	64	-	1290	1900	1372	68.5%
17/2+17/1	A45 Northbound Left U-Turn	U	2:1	N/A	C2:B		1	16	-	475	2120:1980	388+42	110.6 : 110.6%
17/3	A45 Northbound Left	U	2:1	N/A	C2:B		1	16	-	414	1980	374	110.7%

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: Queen Elanor Gyratory	**-**	**-**	**973**	**0**	**0**	**170.4**	**1023.5**	**0.0**	**1193.9**	**-**	**-**	**-**	**-**
Queen Elanor Gyratory	**-**	**-**	**973**	**0**	**0**	**170.4**	**1023.5**	**0.0**	**1193.9**	**-**	**-**	**-**	**-**
1/1	1228	720	-	-	-	31.2	255.3	-	286.5	839.9	43.4	255.3	298.7
1/2+1/3	1307	769	-	-	-	33.0	270.3	-	303.4	835.6	49.3	270.3	319.6
2/1	731	731	-	-	-	1.9	1.4	-	3.2	15.9	6.3	1.4	7.7
2/2	711	711	-	-	-	1.9	1.3	-	3.2	16.2	6.4	1.3	7.6
2/3	260	260	-	-	-	1.6	0.2	-	1.8	25.1	4.8	0.2	4.9
4/1	790	790	-	-	-	0.1	0.8	-	0.9	4.0	0.4	0.8	1.2
4/2	1021	1021	-	-	-	0.4	1.9	-	2.3	8.1	10.1	1.9	11.9
4/3	8	8	-	-	-	0.0	0.0	-	0.0	7.9	0.1	0.0	0.1
5/2+5/1	610	610	-	-	-	5.7	5.3	-	11.0	65.2	10.1	5.3	15.4
5/3	544	544	-	-	-	4.3	2.9	-	7.2	47.6	12.7	2.9	15.6
7/1	806	806	-	-	-	2.2	1.7	-	4.0	17.7	13.3	1.7	15.1
7/2	552	552	-	-	-	3.9	0.6	-	4.5	29.2	13.8	0.6	14.4
8/2+8/1	1135	826	-	-	-	22.2	156.5	-	178.6	566.6	37.4	156.5	193.9
8/3	879	638	-	-	-	20.0	122.3	-	142.3	582.7	33.3	122.3	155.6
10/3	457	457	-	-	-	0.0	0.1	-	0.1	0.7	0.0	0.1	0.1
10/4	211	211	-	-	-	0.0	0.0	-	0.0	0.6	0.0	0.0	0.0
11/2+11/1	511	486	973	0	0	3.2	22.6	-	25.7	181.4	21.1	22.6	43.6
12/1	583	583	-	-	-	1.2	0.4	-	1.6	9.6	4.9	0.4	5.3
12/2	871	871	-	-	-	0.8	0.9	-	1.7	7.0	12.8	0.9	13.7
12/3	457	457	-	-	-	0.0	0.3	-	0.3	2.4	0.2	0.3	0.4
12/4	559	559	-	-	-	0.7	0.4	-	1.1	6.9	7.6	0.4	7.9
14/2+14/1	344	344	-	-	-	3.0	0.5	-	3.6	37.2	4.6	0.5	5.1
14/3	627	382	-	-	-	15.5	124.0	-	139.4	800.6	21.8	124.0	145.8
15/1	931	931	-	-	-	2.2	1.1	-	3.3	12.7	19.8	1.1	20.8

15/2	663	663	-	-	-	0.5	0.5	-	1.0	5.4	8.2	0.5	8.7
15/3	940	940	-	-	-	3.2	1.1	-	4.3	16.5	16.0	1.1	17.1
17/2+17/1	475	430	-	-	-	6.2	27.1	-	33.3	252.3	12.9	27.1	40.0
17/3	414	374	-	-	-	5.4	24.3	-	29.7	257.9	11.4	24.3	35.6

C1 - Queen Elanor A B	Stream: 1 PRC for Signalled Lanes (%):	-53.1	Total Delay for Signalled Lanes (pcuHr):	336.55	Cycle Time (s): 90
C1 - Queen Elanor A B	Stream: 2 PRC for Signalled Lanes (%):	-82.6	Total Delay for Signalled Lanes (pcuHr):	147.62	Cycle Time (s): 90
C2 - Queen Elanor C D	Stream: 1 PRC for Signalled Lanes (%):	-23.0	Total Delay for Signalled Lanes (pcuHr):	71.55	Cycle Time (s): 90
C2 - Queen Elanor C D	Stream: 2 PRC for Signalled Lanes (%):	-89.6	Total Delay for Signalled Lanes (pcuHr):	598.12	Cycle Time (s): 90
C3 - London Road	Stream: 1 PRC for Signalled Lanes (%):	-3.3	Total Delay for Signalled Lanes (pcuHr):	14.23	Cycle Time (s): 90
	PRC Over All Lanes (%):	-89.6	Total Delay Over All Lanes(pcuHr):	1193.94	

Scenario 3: '2031 D1 Ref PM' (FG2: '2031 D1 Ref PM', Plan 1: 'Network Control Plan 1')
C1 - Queen Elanor A B

Stage Timings

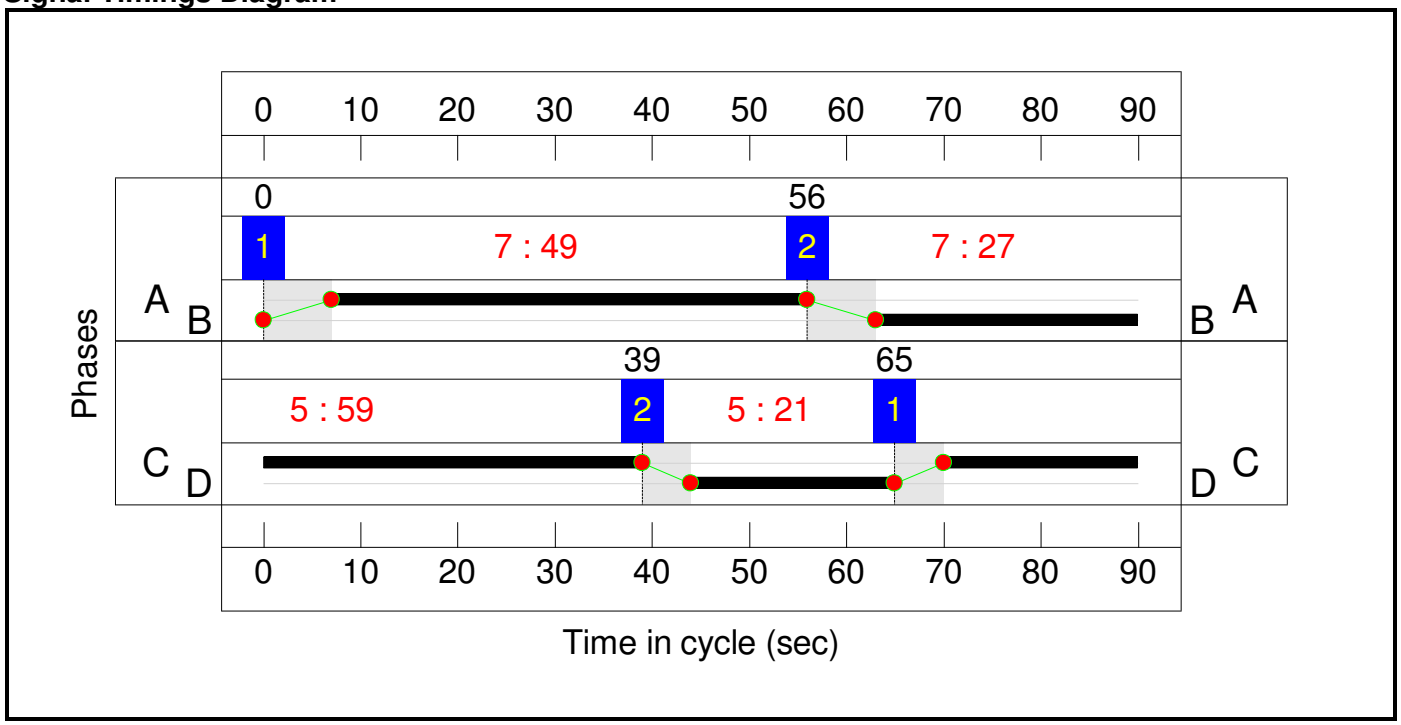
Stage Stream: 1

Stage	1	2
Duration	49	27
Change Point	0	56

Stage Stream: 2

Stage	1	2
Duration	59	21
Change Point	65	39

Signal Timings Diagram



C2 - Queen Elanor C D

Stage Timings

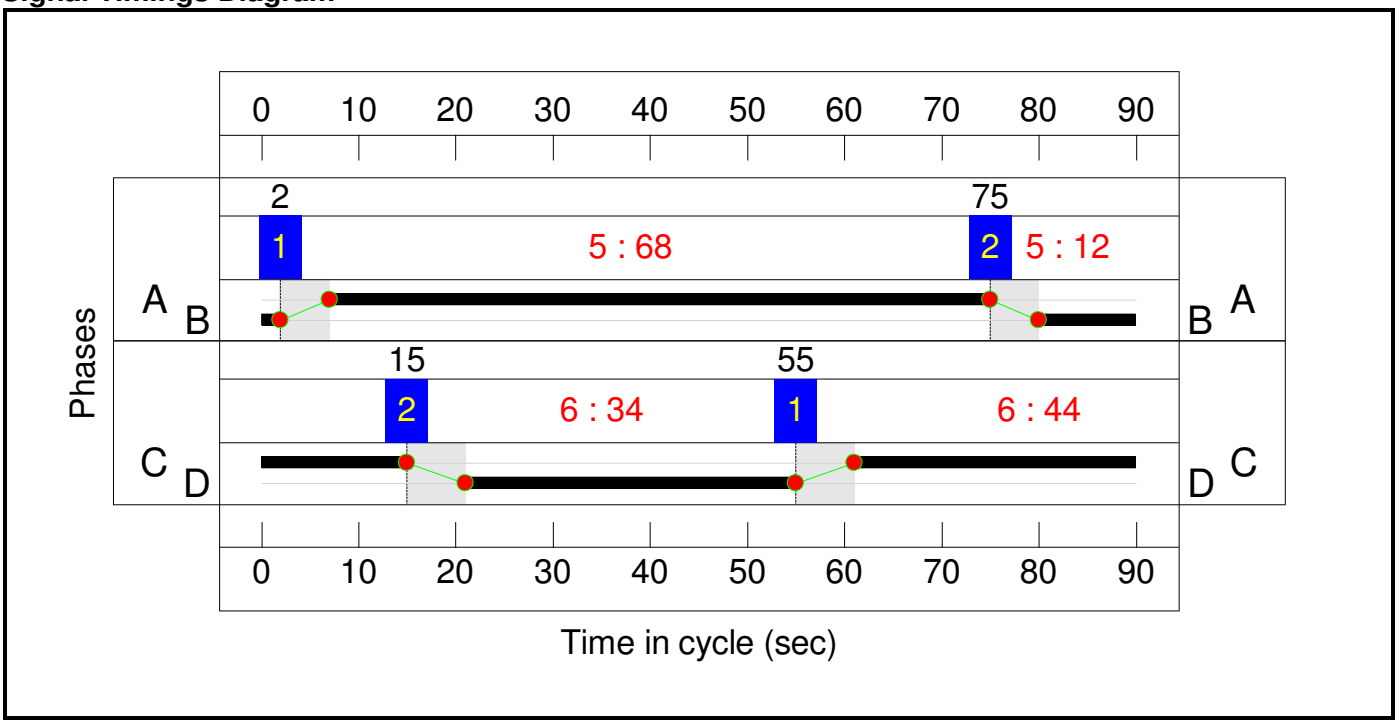
Stage Stream: 1

Stage	1	2
Duration	68	12
Change Point	2	75

Stage Stream: 2

Stage	1	2
Duration	44	34
Change Point	55	15

Signal Timings Diagram



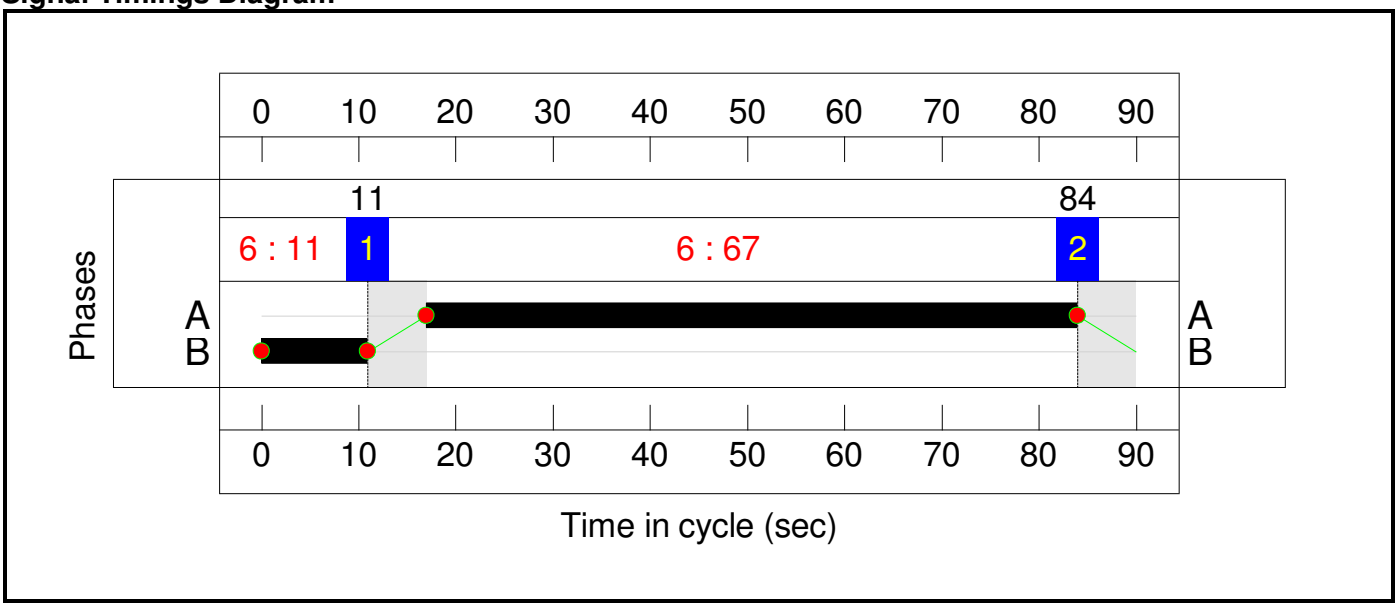
C3 - London Road

Stage Timings

Stage Stream: 1

Stage	1	2
Duration	67	11
Change Point	11	84

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: Queen Elanor Gyratory	-	-	**N/A**	-	-		-	-	-	-	-	-	**166.0%**
Queen Elanor Gyratory	-	-	**N/A**	-	-		-	-	-	-	-	-	**166.0%**
1/1	A5076 Mere Way Left Ahead	U	2:2	N/A	C2:D		1	34	-	1249	1964	764	163.5%
1/2+1/3	A5076 Mere Way Ahead	U	2:2	N/A	C2:D		1	34	-	1332	2105:1965	811+1	164.2 : 164.2%
2/1	Ahead	U	2:2	N/A	C2:C		1	44	-	811	1900	950	68.8%
2/2	Ahead Right	U	2:2	N/A	C2:C		1	44	-	811	1900	950	65.3%
2/3	Right	U	2:2	N/A	C2:C		1	44	-	484	1900	950	33.1%
4/1	Ahead	U	3:1	N/A	C3:A		1	67	-	1447	1900	1436	61.7%
4/2	Ahead Right	U	3:1	N/A	C3:A		1	67	-	1815	1900	1436	78.3%
4/3	Right	U	3:1	N/A	C3:A		1	67	-	1	1900	1436	0.0%
5/2+5/1	A508 London Road Left Ahead	U	3:1	N/A	C3:B		1	11	-	649	2105:1965	268+262	93.2 : 152.3%
5/3	A508 London Road Ahead	U	1:1	N/A	C1:B		1	27	-	663	1965	611	108.5%
7/1	Ahead Right	U	1:1	N/A	C1:A		1	49	-	1244	1900	1056	82.6%
7/2	Right	U	1:1	N/A	C1:A		1	49	-	664	1900	1056	58.0%
8/2+8/1	A45 Southbound Left Ahead	U	1:1	N/A	C1:B		1	27	-	1322	2120:1895	659+521	112.1 : 112.1%
8/3	A45 Southbound Ahead	U	1:1	N/A	C1:B		1	27	-	691	1980	616	112.2%
10/3	Right	U	N/A	N/A	-		-	-	-	529	3000	3000	15.8%
10/4	Right	U	N/A	N/A	-		-	-	-	238	3000	3000	7.1%
11/2+11/1	Hardingstone Lane Ahead Left	O	N/A	N/A	-		-	-	-	677	Inf : Inf	368+40	166.0 : 166.0%
12/1	Ahead	U	1:2	N/A	C1:C		1	59	-	854	1900	1267	49.9%
12/2	Right Ahead	U	1:2	N/A	C1:C		1	59	-	1005	1900	1267	70.4%
12/3	Right	U	1:2	N/A	C1:C		1	59	-	529	1900	1267	37.4%
12/4	Right	U	1:2	N/A	C1:C		1	59	-	848	1900	1267	45.8%

14/2+14/1	Newport Pagnell Road Ahead Left	U	1:2	N/A	C1:D		1	21	-	891	2005:1943	448+367	109.3 : 109.3%
14/3	Newport Pagnell Road Ahead	U	1:2	N/A	C1:D		1	21	-	716	1908	466	153.5%
15/1	Ahead	U	2:1	N/A	C2:A		1	68	-	1125	1900	1457	68.8%
15/2	Ahead	U	2:1	N/A	C2:A		1	68	-	1019	1900	1457	63.3%
15/3	Ahead	U	2:1	N/A	C2:A		1	68	-	1564	1900	1457	71.8%
17/2+17/1	A45 Northbound Left U-Turn	U	2:1	N/A	C2:B		1	12	-	308	2120:1980	304+29	92.4 : 92.4%
17/3	A45 Northbound Left	U	2:1	N/A	C2:B		1	12	-	261	1980	286	91.3%

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: Queen Elanor Gyratory	**-**	**-**	**816**	**0**	**0**	**182.3**	**1052.2**	**0.0**	**1234.5**	**-**	**-**	**-**	**-**
Queen Elanor Gyratory	**-**	**-**	**816**	**0**	**0**	**182.3**	**1052.2**	**0.0**	**1234.5**	**-**	**-**	**-**	**-**
1/1	1249	764	-	-	-	29.4	243.9	-	273.3	787.8	44.4	243.9	288.3
1/2+1/3	1332	811	-	-	-	30.4	261.7	-	292.1	789.6	49.6	261.7	311.4
2/1	654	654	-	-	-	1.6	1.1	-	2.7	15.1	6.9	1.1	8.0
2/2	620	620	-	-	-	2.3	0.9	-	3.3	18.9	8.3	0.9	9.2
2/3	314	314	-	-	-	1.7	0.2	-	2.0	22.6	4.9	0.2	5.2
4/1	886	886	-	-	-	0.1	0.8	-	0.9	3.8	0.5	0.8	1.4
4/2	1125	1125	-	-	-	0.6	1.8	-	2.4	7.5	11.3	1.8	13.1
4/3	1	1	-	-	-	0.0	0.0	-	0.0	6.0	0.0	0.0	0.0
5/2+5/1	649	512	-	-	-	13.6	71.1	-	84.7	469.7	15.3	71.1	86.4
5/3	663	611	-	-	-	8.5	31.2	-	39.6	215.1	18.6	31.2	49.8
7/1	872	872	-	-	-	3.3	2.3	-	5.6	23.1	13.5	2.3	15.8
7/2	612	612	-	-	-	4.2	0.7	-	4.9	28.5	15.3	0.7	16.0
8/2+8/1	1322	1180	-	-	-	16.3	75.5	-	91.8	249.9	25.6	75.5	101.1
8/3	691	616	-	-	-	9.9	41.6	-	51.6	268.8	20.4	41.6	62.1
10/3	474	474	-	-	-	0.0	0.1	-	0.1	0.7	0.0	0.1	0.1
10/4	212	212	-	-	-	0.0	0.0	-	0.0	0.6	0.0	0.0	0.0
11/2+11/1	677	408	816	0	0	16.4	135.8	-	152.1	809.1	39.9	135.8	175.7
12/1	632	632	-	-	-	1.6	0.5	-	2.1	11.9	6.1	0.5	6.6
12/2	892	892	-	-	-	0.7	1.2	-	1.9	7.6	8.6	1.2	9.8
12/3	474	474	-	-	-	0.1	0.3	-	0.4	3.1	0.4	0.3	0.7
12/4	580	580	-	-	-	1.3	0.4	-	1.7	10.8	9.3	0.4	9.7
14/2+14/1	891	815	-	-	-	10.8	43.1	-	53.9	217.8	18.0	43.1	61.0
14/3	716	466	-	-	-	17.2	126.2	-	143.4	721.0	26.0	126.2	152.2
15/1	1001	1001	-	-	-	2.8	1.1	-	3.9	14.0	17.1	1.1	18.2

15/2	922	922	-	-	-	1.3	0.9	-	2.1	8.3	10.5	0.9	11.3
15/3	1046	1046	-	-	-	2.3	1.3	-	3.5	12.1	13.8	1.3	15.0
17/2+17/1	308	308	-	-	-	3.2	4.5	-	7.7	90.2	7.0	4.5	11.4
17/3	261	261	-	-	-	2.8	4.0	-	6.7	92.6	6.4	4.0	10.3

C1 - Queen Elanor A B	Stream: 1 PRC for Signalled Lanes (%):	-24.6	Total Delay for Signalled Lanes (pcuHr):	193.42	Cycle Time (s): 90
C1 - Queen Elanor A B	Stream: 2 PRC for Signalled Lanes (%):	-70.6	Total Delay for Signalled Lanes (pcuHr):	203.44	Cycle Time (s): 90
C2 - Queen Elanor C D	Stream: 1 PRC for Signalled Lanes (%):	-2.7	Total Delay for Signalled Lanes (pcuHr):	23.98	Cycle Time (s): 90
C2 - Queen Elanor C D	Stream: 2 PRC for Signalled Lanes (%):	-82.5	Total Delay for Signalled Lanes (pcuHr):	573.44	Cycle Time (s): 90
C3 - London Road	Stream: 1 PRC for Signalled Lanes (%):	-69.2	Total Delay for Signalled Lanes (pcuHr):	87.95	Cycle Time (s): 90
	PRC Over All Lanes (%):	-84.4	Total Delay Over All Lanes(pcuHr):	1234.52	

Scenario 4: '2031 J1d Dev PM' (FG4: '2031 J1d Dev PM', Plan 1: 'Network Control Plan 1')
C1 - Queen Elanor A B

Stage Timings

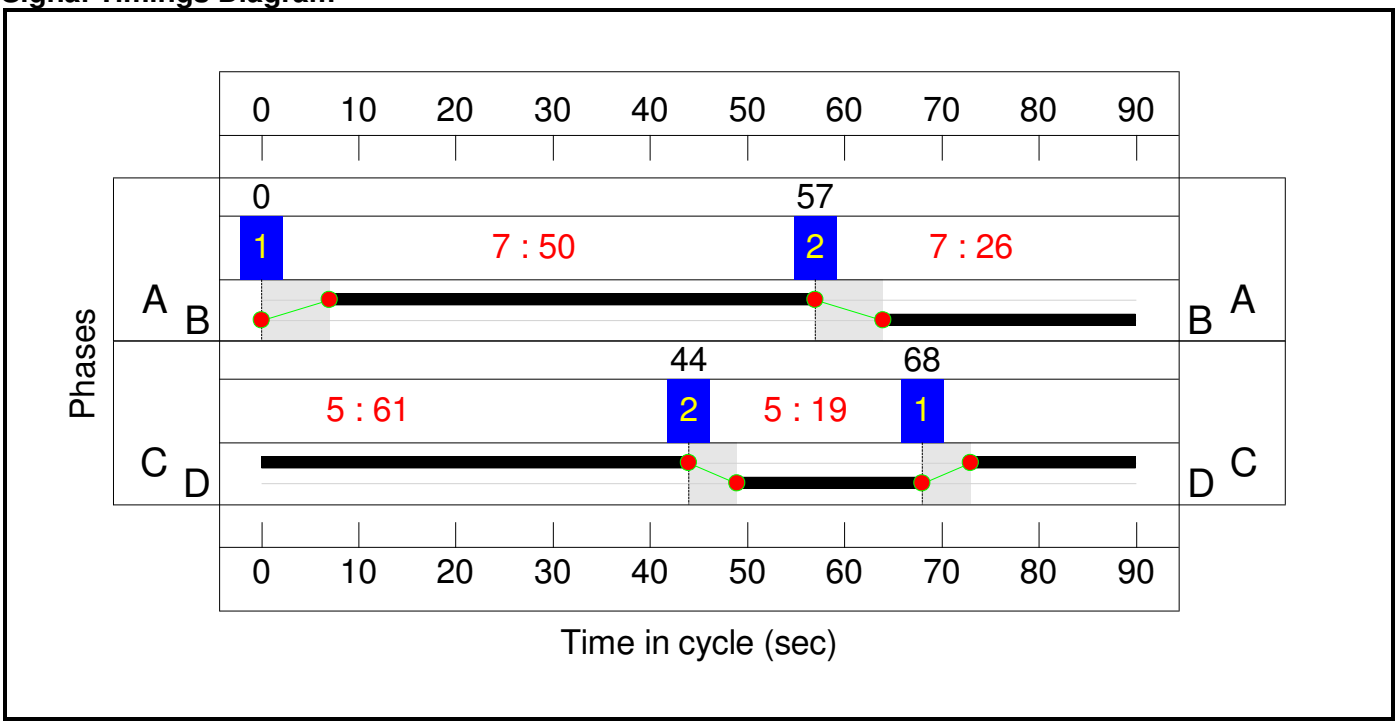
Stage Stream: 1

Stage	1	2
Duration	50	26
Change Point	0	57

Stage Stream: 2

Stage	1	2
Duration	61	19
Change Point	68	44

Signal Timings Diagram



C2 - Queen Elanor C D

Stage Timings

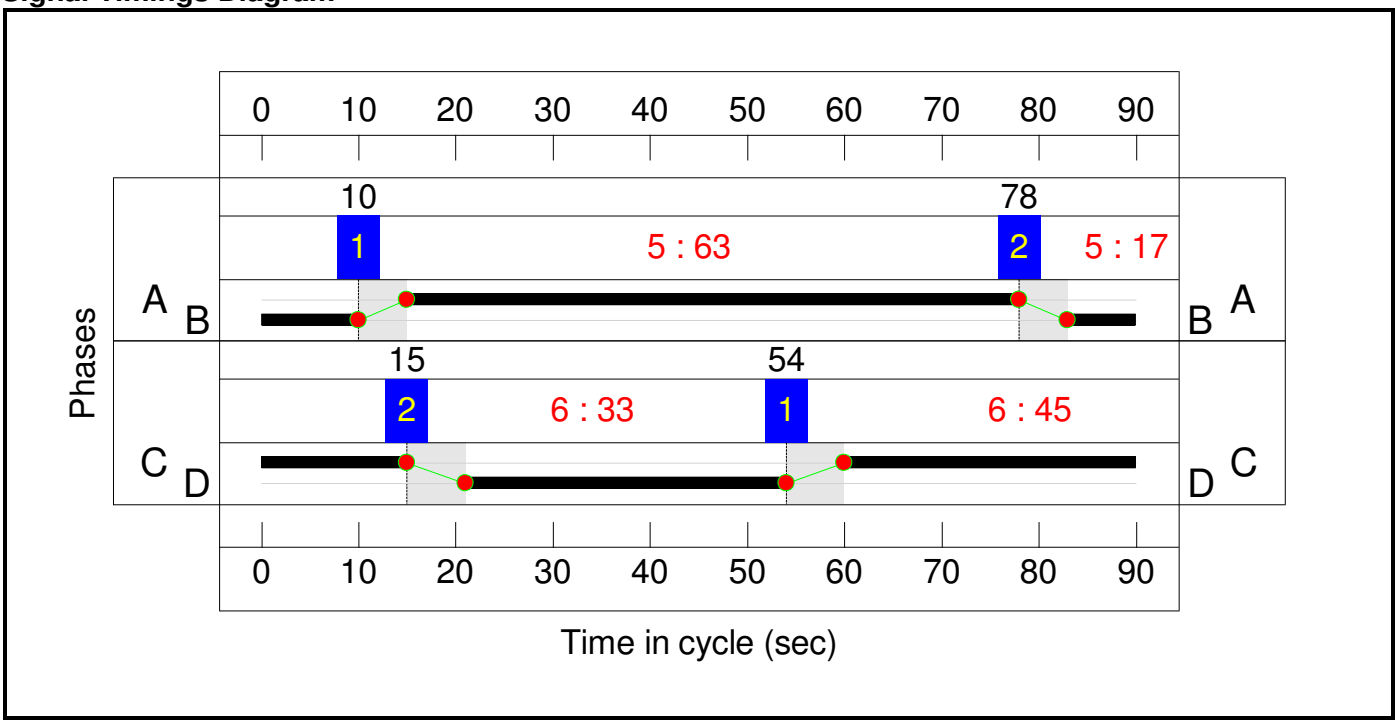
Stage Stream: 1

Stage	1	2
Duration	63	17
Change Point	10	78

Stage Stream: 2

Stage	1	2
Duration	45	33
Change Point	54	15

Signal Timings Diagram



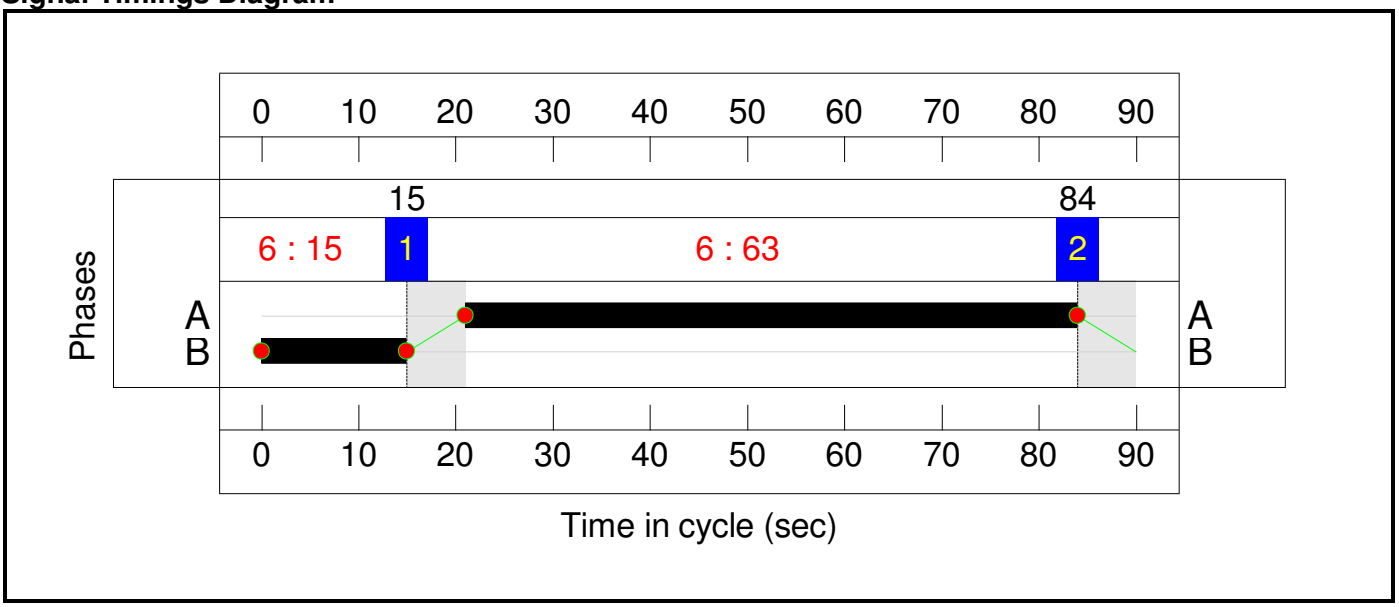
C3 - London Road

Stage Timings

Stage Stream: 1

Stage	1	2
Duration	63	15
Change Point	15	84

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: Queen Elanor Gyratory	-	-	**N/A**	-	-		-	-	-	-	-	-	**166.2%**
Queen Elanor Gyratory	-	-	**N/A**	-	-		-	-	-	-	-	-	**166.2%**
1/1	A5076 Mere Way Left Ahead	U	2:2	N/A	C2:D		1	33	-	1233	1964	742	166.2%
1/2+1/3	A5076 Mere Way Ahead	U	2:2	N/A	C2:D		1	33	-	1306	2105:1965	787+0	165.9 : 0.0%
2/1	Ahead	U	2:2	N/A	C2:C		1	45	-	880	1900	971	72.9%
2/2	Ahead Right	U	2:2	N/A	C2:C		1	45	-	830	1900	971	65.8%
2/3	Right	U	2:2	N/A	C2:C		1	45	-	435	1900	971	31.3%
4/1	Ahead	U	3:1	N/A	C3:A		1	63	-	1382	1900	1351	62.0%
4/2	Ahead Right	U	3:1	N/A	C3:A		1	63	-	1741	1900	1351	80.8%
4/3	Right	U	3:1	N/A	C3:A		1	63	-	0	1900	1351	0.0%
5/2+5/1	A508 London Road Left Ahead	U	3:1	N/A	C3:B		1	15	-	626	2105:1965	348+349	77.1 : 102.5%
5/3	A508 London Road Ahead	U	1:1	N/A	C1:B		1	26	-	695	1965	590	117.9%
7/1	Ahead Right	U	1:1	N/A	C1:A		1	50	-	1318	1900	1077	86.0%
7/2	Right	U	1:1	N/A	C1:A		1	50	-	695	1900	1077	54.8%
8/2+8/1	A45 Southbound Left Ahead	U	1:1	N/A	C1:B		1	26	-	1326	2120:1894	636+501	116.7 : 116.7%
8/3	A45 Southbound Ahead	U	1:1	N/A	C1:B		1	26	-	689	1980	594	116.0%
10/3	Right	U	N/A	N/A	-		-	-	-	506	3000	3000	14.5%
10/4	Right	U	N/A	N/A	-		-	-	-	214	3000	3000	6.1%
11/2+11/1	Hardingstone Lane Ahead Left	O	N/A	N/A	-		-	-	-	627	Inf : Inf	369+43	151.9 : 151.9%
12/1	Ahead	U	1:2	N/A	C1:C		1	61	-	941	1900	1309	52.1%
12/2	Right Ahead	U	1:2	N/A	C1:C		1	61	-	993	1900	1309	64.1%
12/3	Right	U	1:2	N/A	C1:C		1	61	-	506	1900	1309	33.3%
12/4	Right	U	1:2	N/A	C1:C		1	61	-	775	1900	1309	42.3%

14/2+14/1	Newport Pagnell Road Ahead Left	U	1:2	N/A	C1:D		1	19	-	912	2005:1939	424+346	118.4 : 118.4%
14/3	Newport Pagnell Road Ahead	U	1:2	N/A	C1:D		1	19	-	697	1908	424	164.4%
15/1	Ahead	U	2:1	N/A	C2:A		1	63	-	1165	1900	1351	73.0%
15/2	Ahead	U	2:1	N/A	C2:A		1	63	-	1008	1900	1351	63.6%
15/3	Ahead	U	2:1	N/A	C2:A		1	63	-	1472	1900	1351	72.4%
17/2+17/1	A45 Northbound Left U-Turn	U	2:1	N/A	C2:B		1	17	-	397	2120:1980	403+59	85.9 : 85.9%
17/3	A45 Northbound Left	U	2:1	N/A	C2:B		1	17	-	327	1980	396	82.6%

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: Queen Elanor Gyratory	**-**	**-**	**825**	**0**	**0**	**184.4**	**1060.3**	**0.0**	**1244.7**	**-**	**-**	**-**	**-**
Queen Elanor Gyratory	**-**	**-**	**825**	**0**	**0**	**184.4**	**1060.3**	**0.0**	**1244.7**	**-**	**-**	**-**	**-**
1/1	1233	742	-	-	-	29.7	246.8	-	276.5	807.3	44.1	246.8	290.8
1/2+1/3	1306	787	-	-	-	30.4	260.6	-	291.0	802.0	48.9	260.6	309.4
2/1	708	708	-	-	-	1.4	1.3	-	2.8	14.0	5.2	1.3	6.5
2/2	639	639	-	-	-	1.8	1.0	-	2.7	15.3	6.4	1.0	7.4
2/3	304	304	-	-	-	1.7	0.2	-	1.9	22.3	5.0	0.2	5.2
4/1	838	838	-	-	-	0.1	0.8	-	1.0	4.1	0.5	0.8	1.3
4/2	1091	1091	-	-	-	0.7	2.1	-	2.7	9.0	10.7	2.1	12.8
4/3	0	0	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/2+5/1	626	617	-	-	-	6.7	8.3	-	15.0	86.1	9.2	8.3	17.5
5/3	695	589	-	-	-	11.7	55.9	-	67.5	349.8	22.1	55.9	77.9
7/1	926	926	-	-	-	3.0	3.0	-	5.9	23.1	12.4	3.0	15.4
7/2	589	589	-	-	-	3.8	0.6	-	4.4	27.1	14.7	0.6	15.3
8/2+8/1	1326	1137	-	-	-	18.4	98.1	-	116.5	316.2	26.6	98.1	124.7
8/3	689	594	-	-	-	11.1	50.9	-	62.0	323.7	21.4	50.9	72.3
10/3	436	436	-	-	-	0.0	0.1	-	0.1	0.7	0.0	0.1	0.1
10/4	184	184	-	-	-	0.0	0.0	-	0.0	0.6	0.0	0.0	0.0
11/2+11/1	627	413	825	0	0	12.9	108.6	-	121.5	697.9	34.7	108.6	143.3
12/1	683	683	-	-	-	1.1	0.5	-	1.6	8.6	4.4	0.5	5.0
12/2	839	839	-	-	-	0.4	0.9	-	1.3	5.4	8.1	0.9	8.9
12/3	436	436	-	-	-	0.0	0.2	-	0.2	2.1	0.0	0.2	0.2
12/4	554	554	-	-	-	1.3	0.4	-	1.7	11.1	9.0	0.4	9.3
14/2+14/1	912	771	-	-	-	13.5	73.8	-	87.3	344.5	20.2	73.8	94.0
14/3	697	424	-	-	-	19.0	137.8	-	156.7	809.6	27.4	137.8	165.2
15/1	986	986	-	-	-	4.0	1.3	-	5.4	19.6	17.2	1.3	18.6

15/2	860	860	-	-	-	2.0	0.9	-	2.9	12.2	10.5	0.9	11.3
15/3	978	978	-	-	-	2.8	1.3	-	4.1	15.2	12.9	1.3	14.2
17/2+17/1	397	397	-	-	-	3.8	2.8	-	6.6	59.5	8.6	2.8	11.4
17/3	327	327	-	-	-	3.1	2.2	-	5.4	59.0	7.8	2.2	10.0

C1 - Queen Elanor A B	Stream: 1 PRC for Signalled Lanes (%):	-31.0	Total Delay for Signalled Lanes (pcuHr):	256.34	Cycle Time (s): 90
C1 - Queen Elanor A B	Stream: 2 PRC for Signalled Lanes (%):	-82.7	Total Delay for Signalled Lanes (pcuHr):	248.86	Cycle Time (s): 90
C2 - Queen Elanor C D	Stream: 1 PRC for Signalled Lanes (%):	4.8	Total Delay for Signalled Lanes (pcuHr):	24.35	Cycle Time (s): 90
C2 - Queen Elanor C D	Stream: 2 PRC for Signalled Lanes (%):	-84.6	Total Delay for Signalled Lanes (pcuHr):	574.81	Cycle Time (s): 90
C3 - London Road	Stream: 1 PRC for Signalled Lanes (%):	-13.9	Total Delay for Signalled Lanes (pcuHr):	18.65	Cycle Time (s): 90
	PRC Over All Lanes (%):	-84.6	Total Delay Over All Lanes(pcuHr):	1244.68	

Scenario 5: '2021 C1 Ref AM' (FG5: '2021 C1 Ref AM', Plan 1: 'Network Control Plan 1')
C1 - Queen Elanor A B

Stage Timings

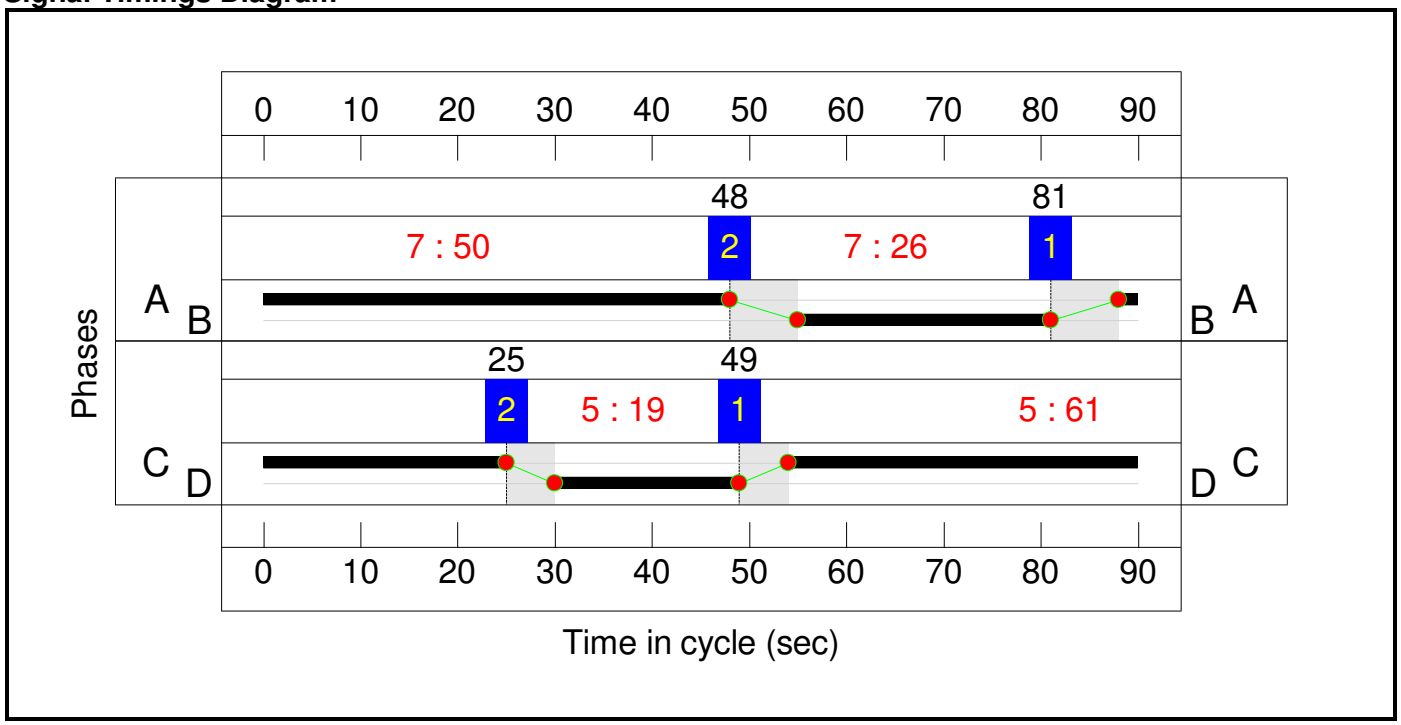
Stage Stream: 1

Stage	1	2
Duration	50	26
Change Point	81	48

Stage Stream: 2

Stage	1	2
Duration	61	19
Change Point	49	25

Signal Timings Diagram



C2 - Queen Elanor C D

Stage Timings

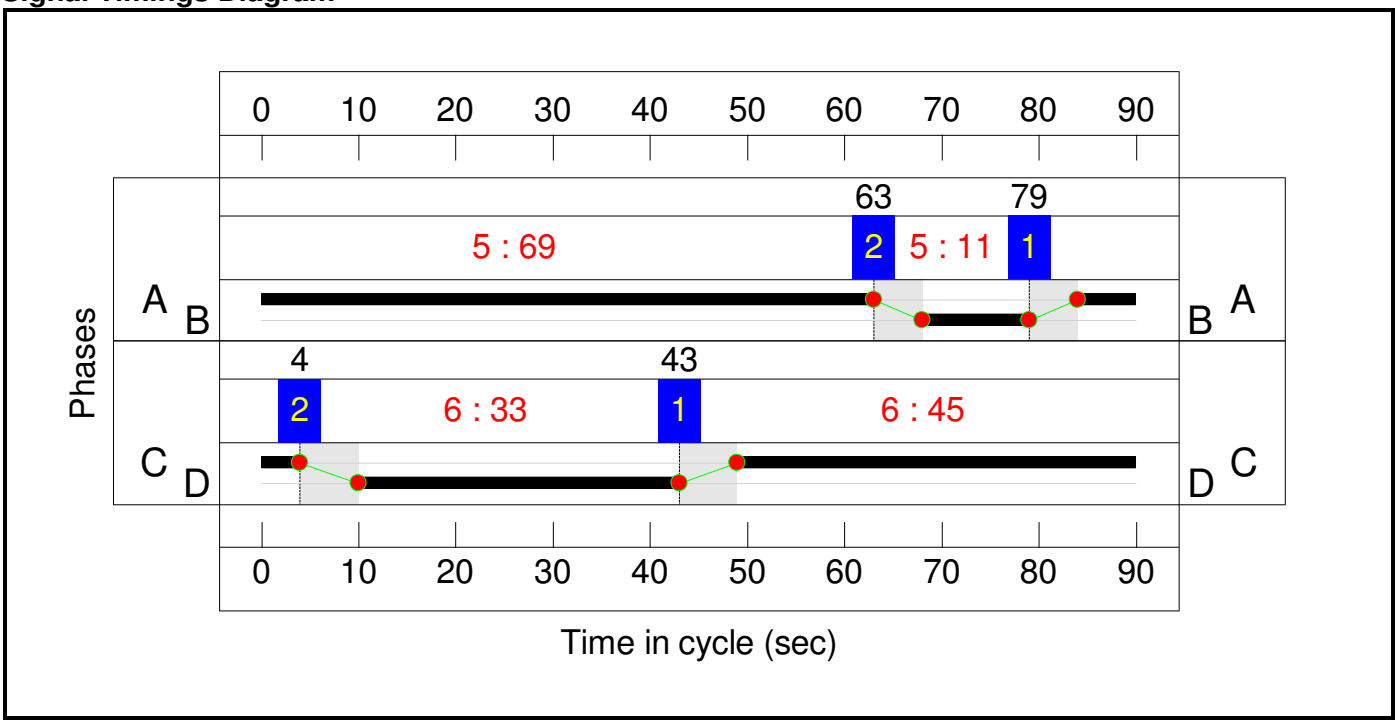
Stage Stream: 1

Stage	1	2
Duration	69	11
Change Point	79	63

Stage Stream: 2

Stage	1	2
Duration	45	33
Change Point	43	4

Signal Timings Diagram



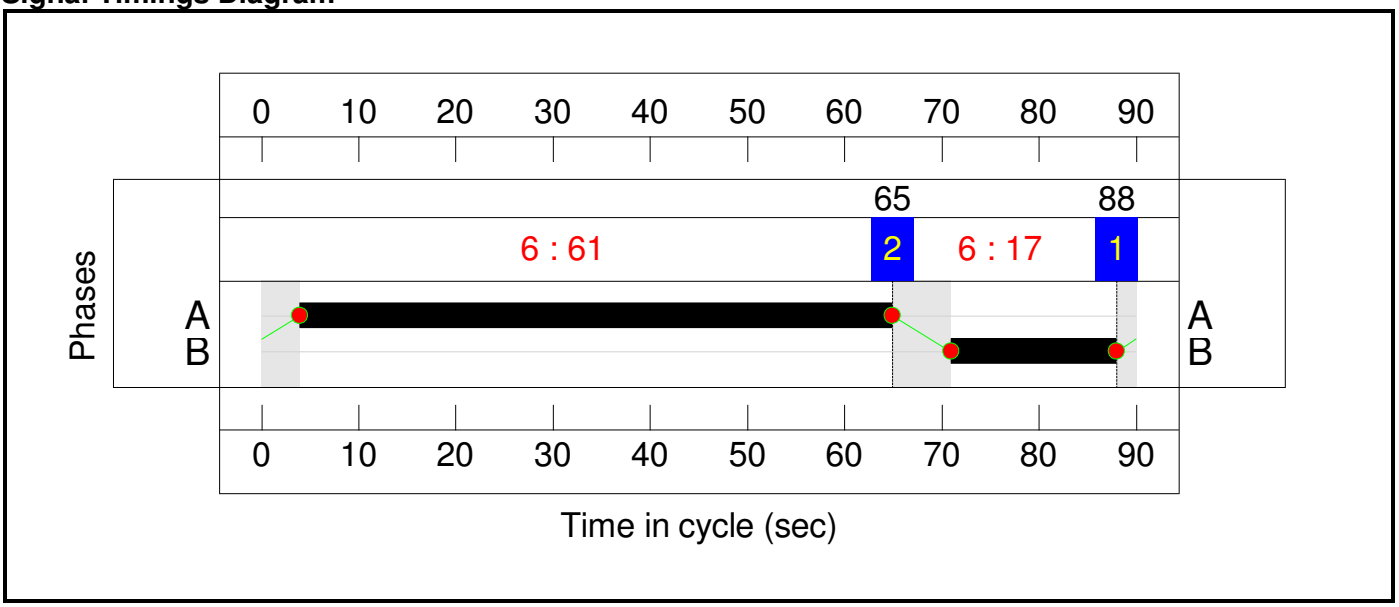
C3 - London Road

Stage Timings

Stage Stream: 1

Stage	1	2
Duration	61	17
Change Point	88	65

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: Queen Elanor Gyratory	-	-	**N/A**	-	-		-	-	-	-	-	-	**168.6%**
Queen Elanor Gyratory	-	-	**N/A**	-	-		-	-	-	-	-	-	**168.6%**
1/1	A5076 Mere Way Left Ahead	U	2:2	N/A	C2:D		1	33	-	1197	1965	742	161.2%
1/2+1/3	A5076 Mere Way Ahead	U	2:2	N/A	C2:D		1	33	-	1265	2105:1965	787+1	160.6 : 160.6%
2/1	Ahead	U	2:2	N/A	C2:C		1	45	-	919	1900	971	69.5%
2/2	Ahead Right	U	2:2	N/A	C2:C		1	45	-	867	1900	971	68.0%
2/3	Right	U	2:2	N/A	C2:C		1	45	-	373	1900	971	30.2%
4/1	Ahead	U	3:1	N/A	C3:A		1	61	-	1258	1900	1309	61.1%
4/2	Ahead Right	U	3:1	N/A	C3:A		1	61	-	1637	1900	1309	82.5%
4/3	Right	U	3:1	N/A	C3:A		1	61	-	1	1900	1309	0.0%
5/2+5/1	A508 London Road Left Ahead	U	3:1	N/A	C3:B		1	17	-	770	2105:1965	421+393	86.5 : 103.3%
5/3	A508 London Road Ahead	U	1:1	N/A	C1:B		1	26	-	536	1965	590	90.9%
7/1	Ahead Right	U	1:1	N/A	C1:A		1	50	-	998	1900	1077	70.5%
7/2	Right	U	1:1	N/A	C1:A		1	50	-	537	1900	1077	49.8%
8/2+8/1	A45 Southbound Left Ahead	U	1:1	N/A	C1:B		1	26	-	1133	2120:1945	636+131	147.8 : 147.8%
8/3	A45 Southbound Ahead	U	1:1	N/A	C1:B		1	26	-	878	1980	594	147.8%
10/3	Right	U	N/A	N/A	-		-	-	-	424	3000	3000	9.8%
10/4	Right	U	N/A	N/A	-		-	-	-	479	3000	3000	10.8%
11/2+11/1	Hardingstone Lane Ahead Left	O	N/A	N/A	-		-	-	-	438	Inf : Inf	385+114	87.7 : 87.7%
12/1	Ahead	U	1:2	N/A	C1:C		1	61	-	719	1900	1309	47.8%
12/2	Right Ahead	U	1:2	N/A	C1:C		1	61	-	1145	1900	1309	64.2%
12/3	Right	U	1:2	N/A	C1:C		1	61	-	424	1900	1309	22.5%
12/4	Right	U	1:2	N/A	C1:C		1	61	-	817	1900	1309	50.6%

14/2+14/1	Newport Pagnell Road Ahead Left	U	1:2	N/A	C1:D		1	19	-	433	2005:1965	426+311	58.8 : 58.8%
14/3	Newport Pagnell Road Ahead	U	1:2	N/A	C1:D		1	19	-	715	1908	424	168.6%
15/1	Ahead	U	2:1	N/A	C2:A		1	69	-	1213	1900	1478	61.5%
15/2	Ahead	U	2:1	N/A	C2:A		1	69	-	674	1900	1478	36.9%
15/3	Ahead	U	2:1	N/A	C2:A		1	69	-	1532	1900	1478	73.5%
17/2+17/1	A45 Northbound Left U-Turn	U	2:1	N/A	C2:B		1	11	-	394	2120:1980	278+60	116.4 : 116.4%
17/3	A45 Northbound Left	U	2:1	N/A	C2:B		1	11	-	303	1980	264	114.8%

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: Queen Elanor Gyratory	**-**	**-**	**876**	**0**	**0**	**173.6**	**1030.6**	**0.0**	**1204.2**	**-**	**-**	**-**	**-**
Queen Elanor Gyratory	**-**	**-**	**876**	**0**	**0**	**173.6**	**1030.6**	**0.0**	**1204.2**	**-**	**-**	**-**	**-**
1/1	1197	742	-	-	-	28.4	228.6	-	257.1	773.2	41.3	228.6	269.9
1/2+1/3	1265	788	-	-	-	29.9	239.9	-	269.9	768.0	46.7	239.9	286.7
2/1	675	675	-	-	-	2.5	1.1	-	3.6	19.1	9.5	1.1	10.6
2/2	660	660	-	-	-	2.5	1.1	-	3.5	19.2	8.9	1.1	9.9
2/3	293	293	-	-	-	1.3	0.2	-	1.5	18.6	4.8	0.2	5.0
4/1	799	799	-	-	-	0.1	0.8	-	0.9	4.2	0.6	0.8	1.4
4/2	1080	1080	-	-	-	0.5	2.3	-	2.9	9.5	10.7	2.3	13.0
4/3	1	1	-	-	-	0.0	0.0	-	0.0	5.4	0.0	0.0	0.0
5/2+5/1	770	757	-	-	-	7.9	13.2	-	21.1	98.8	10.4	13.2	23.6
5/3	536	536	-	-	-	4.5	4.3	-	8.8	59.3	12.8	4.3	17.1
7/1	759	759	-	-	-	2.7	1.2	-	3.9	18.5	12.4	1.2	13.5
7/2	537	537	-	-	-	3.5	0.5	-	4.0	26.7	13.4	0.5	13.9
8/2+8/1	1133	767	-	-	-	24.7	184.7	-	209.5	665.6	40.3	184.7	225.0
8/3	878	594	-	-	-	22.0	143.5	-	165.5	678.7	34.7	143.5	178.2
10/3	295	295	-	-	-	0.0	0.1	-	0.1	0.7	0.0	0.1	0.1
10/4	324	324	-	-	-	0.0	0.1	-	0.1	0.7	0.0	0.1	0.1
11/2+11/1	438	438	876	0	0	1.6	3.2	-	4.8	39.8	7.8	3.2	11.0
12/1	626	626	-	-	-	1.6	0.5	-	2.1	11.9	6.1	0.5	6.6
12/2	841	841	-	-	-	0.8	0.9	-	1.7	7.2	10.9	0.9	11.8
12/3	295	295	-	-	-	0.1	0.1	-	0.2	2.4	0.2	0.1	0.3
12/4	662	662	-	-	-	0.9	0.5	-	1.4	7.4	7.1	0.5	7.6
14/2+14/1	433	433	-	-	-	3.7	0.7	-	4.4	36.5	5.5	0.7	6.2
14/3	715	424	-	-	-	18.1	146.7	-	164.9	830.1	25.1	146.7	171.9
15/1	909	909	-	-	-	2.2	0.8	-	3.0	12.0	18.0	0.8	18.8

15/2	545	545	-	-	-	0.3	0.3	-	0.6	3.8	4.2	0.3	4.5
15/3	1086	1086	-	-	-	2.9	1.4	-	4.3	14.3	16.3	1.4	17.7
17/2+17/1	394	338	-	-	-	6.0	31.0	-	37.0	337.7	10.5	31.0	41.4
17/3	303	264	-	-	-	4.7	22.8	-	27.5	327.2	8.9	22.8	31.7

C1 - Queen Elanor A B	Stream: 1 PRC for Signalled Lanes (%):	-64.2	Total Delay for Signalled Lanes (pcuHr):	391.71	Cycle Time (s): 90
C1 - Queen Elanor A B	Stream: 2 PRC for Signalled Lanes (%):	-87.4	Total Delay for Signalled Lanes (pcuHr):	174.57	Cycle Time (s): 90
C2 - Queen Elanor C D	Stream: 1 PRC for Signalled Lanes (%):	-29.4	Total Delay for Signalled Lanes (pcuHr):	72.43	Cycle Time (s): 90
C2 - Queen Elanor C D	Stream: 2 PRC for Signalled Lanes (%):	-79.2	Total Delay for Signalled Lanes (pcuHr):	535.56	Cycle Time (s): 90
C3 - London Road	Stream: 1 PRC for Signalled Lanes (%):	-14.8	Total Delay for Signalled Lanes (pcuHr):	24.94	Cycle Time (s): 90
	PRC Over All Lanes (%):	-87.4	Total Delay Over All Lanes(pcuHr):	1204.17	

Scenario 6: '2021 I1 Dev AM' (FG7: '2021 I1 Dev AM', Plan 1: 'Network Control Plan 1')
C1 - Queen Elanor A B

Stage Timings

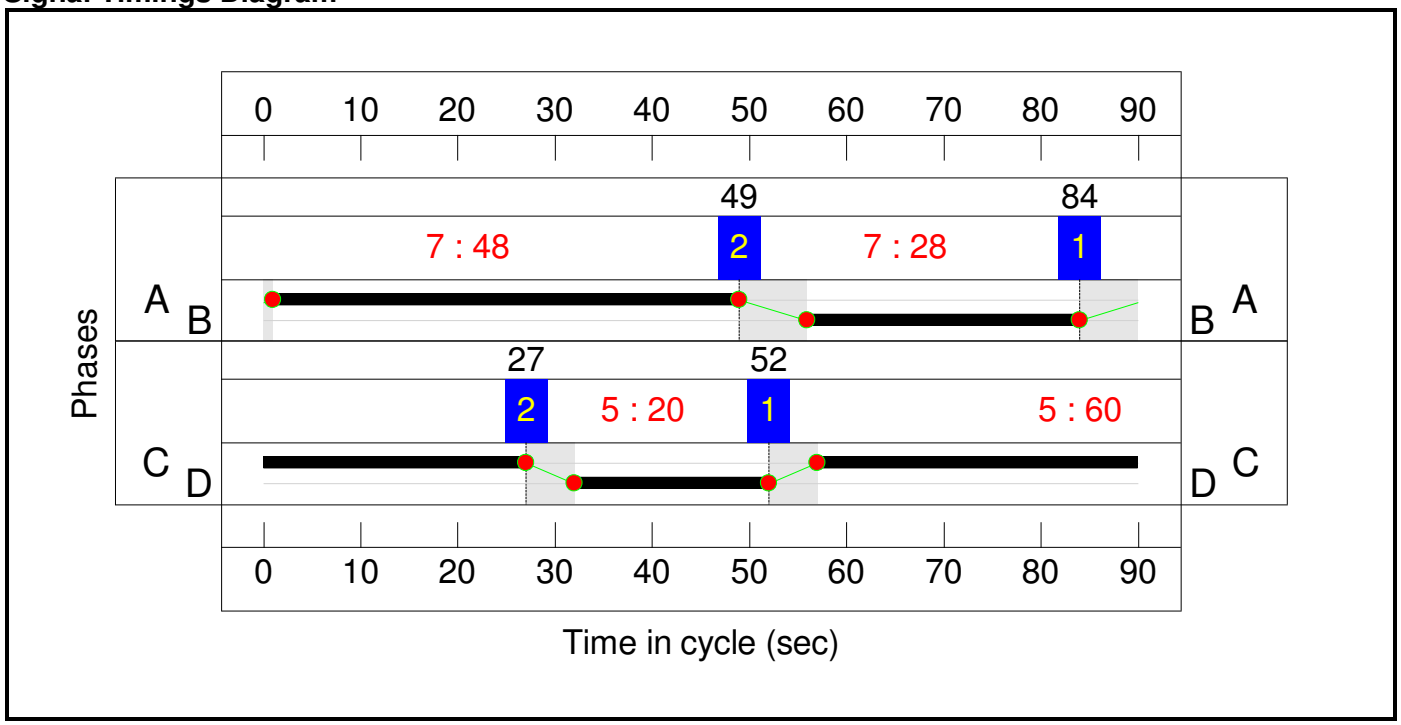
Stage Stream: 1

Stage	1	2
Duration	48	28
Change Point	84	49

Stage Stream: 2

Stage	1	2
Duration	60	20
Change Point	52	27

Signal Timings Diagram



C2 - Queen Elanor C D

Stage Timings

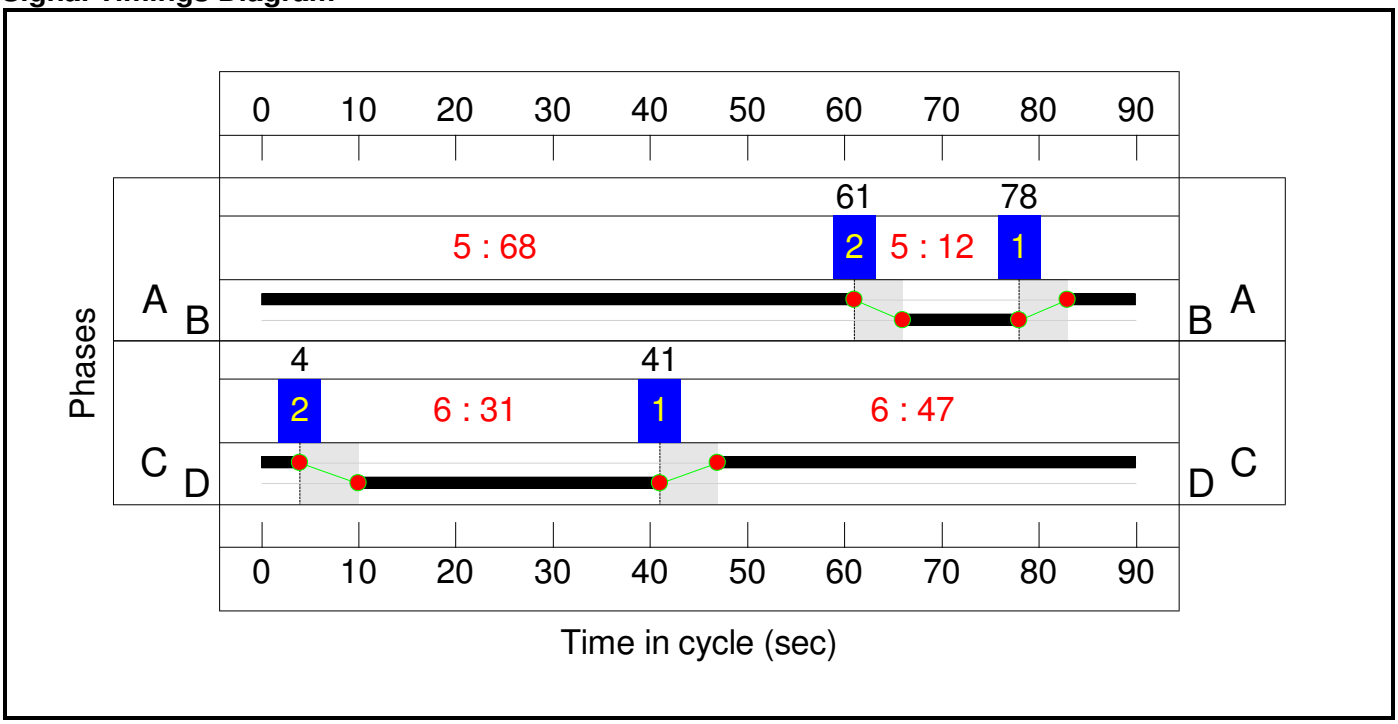
Stage Stream: 1

Stage	1	2
Duration	68	12
Change Point	78	61

Stage Stream: 2

Stage	1	2
Duration	47	31
Change Point	41	4

Signal Timings Diagram



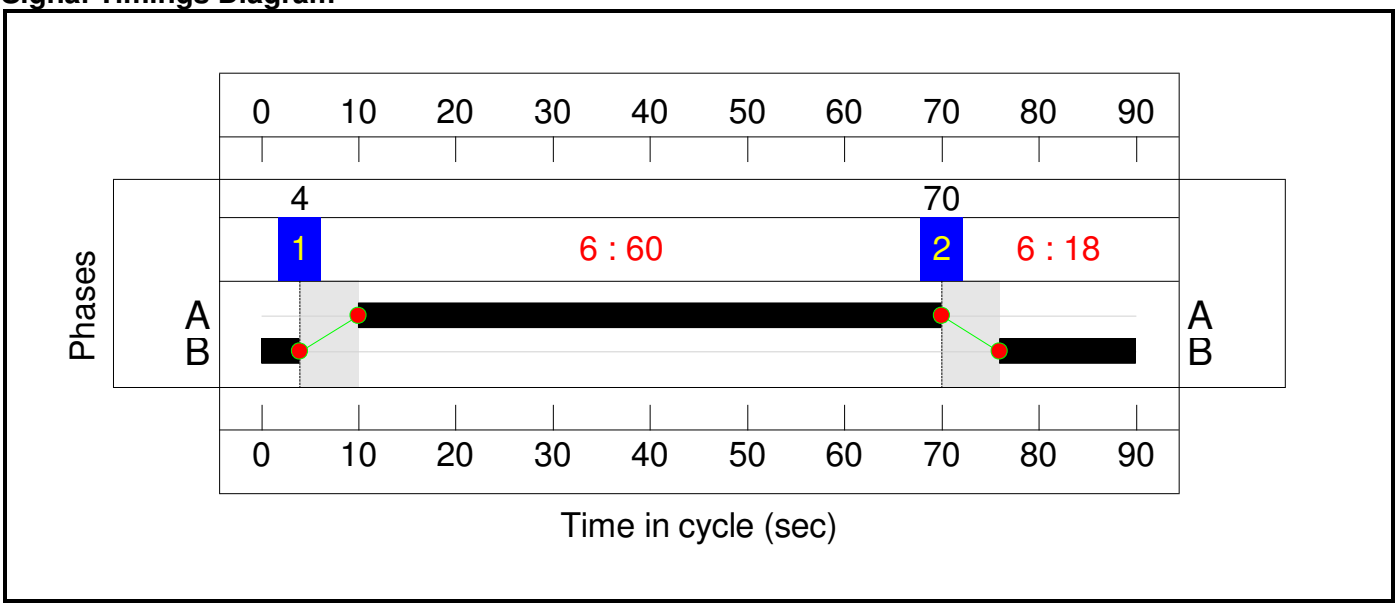
C3 - London Road

Stage Timings

Stage Stream: 1

Stage	1	2
Duration	60	18
Change Point	4	70

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: Queen Elanor Gyratory	-	-	**N/A**	-	-		-	-	-	-	-	-	**173.0%**
Queen Elanor Gyratory	-	-	**N/A**	-	-		-	-	-	-	-	-	**173.0%**
1/1	A5076 Mere Way Left Ahead	U	2:2	N/A	C2:D		1	31	-	1209	1965	699	173.0%
1/2+1/3	A5076 Mere Way Ahead	U	2:2	N/A	C2:D		1	31	-	1277	2105:1965	740+1	172.3 : 172.3%
2/1	Ahead	U	2:2	N/A	C2:C		1	47	-	948	1900	1013	72.4%
2/2	Ahead Right	U	2:2	N/A	C2:C		1	47	-	911	1900	1013	70.8%
2/3	Right	U	2:2	N/A	C2:C		1	47	-	306	1900	1013	25.3%
4/1	Ahead	U	3:1	N/A	C3:A		1	60	-	1298	1900	1288	59.7%
4/2	Ahead Right	U	3:1	N/A	C3:A		1	60	-	1581	1900	1288	77.4%
4/3	Right	U	3:1	N/A	C3:A		1	60	-	2	1900	1288	0.1%
5/2+5/1	A508 London Road Left Ahead	U	3:1	N/A	C3:B		1	18	-	777	2105:1965	444+415	96.1 : 84.4%
5/3	A508 London Road Ahead	U	1:1	N/A	C1:B		1	28	-	534	1965	633	84.3%
7/1	Ahead Right	U	1:1	N/A	C1:A		1	48	-	1095	1900	1034	78.8%
7/2	Right	U	1:1	N/A	C1:A		1	48	-	536	1900	1034	51.7%
8/2+8/1	A45 Southbound Left Ahead	U	1:1	N/A	C1:B		1	28	-	1117	2120:1944	683+113	140.2 : 140.2%
8/3	A45 Southbound Ahead	U	1:1	N/A	C1:B		1	28	-	896	1980	638	140.4%
10/3	Right	U	N/A	N/A	-		-	-	-	479	3000	3000	11.7%
10/4	Right	U	N/A	N/A	-		-	-	-	451	3000	3000	10.7%
11/2+11/1	Hardingstone Lane Ahead Left	O	N/A	N/A	-		-	-	-	466	Inf : Inf	349+114	100.5 : 100.5%
12/1	Ahead	U	1:2	N/A	C1:C		1	60	-	779	1900	1288	51.8%
12/2	Right Ahead	U	1:2	N/A	C1:C		1	60	-	1211	1900	1288	72.6%
12/3	Right	U	1:2	N/A	C1:C		1	60	-	479	1900	1288	27.2%
12/4	Right	U	1:2	N/A	C1:C		1	60	-	802	1900	1288	52.0%

14/2+14/1	Newport Pagnell Road Ahead Left	U	1:2	N/A	C1:D		1	20	-	469	2005:1965	441+279	65.1 : 65.1%
14/3	Newport Pagnell Road Ahead	U	1:2	N/A	C1:D		1	20	-	731	1908	445	164.2%
15/1	Ahead	U	2:1	N/A	C2:A		1	68	-	1250	1900	1457	66.9%
15/2	Ahead	U	2:1	N/A	C2:A		1	68	-	766	1900	1457	43.8%
15/3	Ahead	U	2:1	N/A	C2:A		1	68	-	1533	1900	1457	76.6%
17/2+17/1	A45 Northbound Left U-Turn	U	2:1	N/A	C2:B		1	12	-	350	2120:1980	306+22	107.0 : 107.0%
17/3	A45 Northbound Left	U	2:1	N/A	C2:B		1	12	-	305	1980	286	106.6%

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: Queen Elanor Gyratory	**-**	**-**	**928**	**0**	**0**	**173.7**	**1025.9**	**0.0**	**1199.6**	**-**	**-**	**-**	**-**
Queen Elanor Gyratory	**-**	**-**	**928**	**0**	**0**	**173.7**	**1025.9**	**0.0**	**1199.6**	**-**	**-**	**-**	**-**
1/1	1209	699	-	-	-	31.4	256.3	-	287.7	856.7	43.0	256.3	299.3
1/2+1/3	1277	741	-	-	-	33.0	269.0	-	302.0	851.3	48.5	269.0	317.5
2/1	734	734	-	-	-	2.2	1.3	-	3.5	17.2	8.6	1.3	9.9
2/2	717	717	-	-	-	2.3	1.2	-	3.5	17.5	8.5	1.2	9.7
2/3	256	256	-	-	-	1.2	0.2	-	1.4	19.4	3.7	0.2	3.9
4/1	768	768	-	-	-	0.1	0.7	-	0.9	4.1	0.5	0.7	1.3
4/2	996	996	-	-	-	0.4	1.7	-	2.1	7.7	9.5	1.7	11.2
4/3	1	1	-	-	-	0.0	0.0	-	0.0	7.1	0.0	0.0	0.0
5/2+5/1	777	777	-	-	-	7.5	4.3	-	11.8	54.5	10.6	4.3	14.8
5/3	534	534	-	-	-	4.2	2.6	-	6.8	45.6	12.3	2.6	14.9
7/1	815	815	-	-	-	2.4	1.8	-	4.2	18.5	13.7	1.8	15.6
7/2	535	535	-	-	-	3.8	0.5	-	4.3	28.9	13.4	0.5	13.9
8/2+8/1	1117	796	-	-	-	22.8	162.0	-	184.7	595.4	38.2	162.0	200.2
8/3	896	638	-	-	-	21.0	130.7	-	151.7	609.7	34.6	130.7	165.3
10/3	351	351	-	-	-	0.0	0.1	-	0.1	0.7	0.0	0.1	0.1
10/4	321	321	-	-	-	0.0	0.1	-	0.1	0.7	0.0	0.1	0.1
11/2+11/1	466	464	928	0	0	2.2	11.4	-	13.6	104.9	19.9	11.4	31.3
12/1	667	667	-	-	-	2.3	0.5	-	2.8	15.3	7.7	0.5	8.2
12/2	935	935	-	-	-	1.0	1.3	-	2.4	9.1	12.8	1.3	14.2
12/3	351	351	-	-	-	0.1	0.2	-	0.3	2.7	0.3	0.2	0.5
12/4	670	670	-	-	-	0.8	0.5	-	1.3	7.2	9.0	0.5	9.5
14/2+14/1	469	469	-	-	-	3.9	0.9	-	4.9	37.3	6.4	0.9	7.3
14/3	731	445	-	-	-	17.8	144.2	-	162.0	797.9	25.5	144.2	169.6
15/1	975	975	-	-	-	2.1	1.0	-	3.1	11.6	19.7	1.0	20.7

15/2	638	638	-	-	-	0.3	0.4	-	0.7	3.8	3.9	0.4	4.3
15/3	1115	1115	-	-	-	2.7	1.6	-	4.3	13.9	17.1	1.6	18.7
17/2+17/1	350	327	-	-	-	4.4	16.6	-	21.1	216.7	9.1	16.6	25.7
17/3	305	286	-	-	-	3.8	14.7	-	18.5	218.5	8.1	14.7	22.8

C1 - Queen Elanor A B	Stream: 1 PRC for Signalled Lanes (%):	-56.0	Total Delay for Signalled Lanes (pcuHr):	351.74	Cycle Time (s): 90
C1 - Queen Elanor A B	Stream: 2 PRC for Signalled Lanes (%):	-82.4	Total Delay for Signalled Lanes (pcuHr):	173.66	Cycle Time (s): 90
C2 - Queen Elanor C D	Stream: 1 PRC for Signalled Lanes (%):	-18.8	Total Delay for Signalled Lanes (pcuHr):	47.69	Cycle Time (s): 90
C2 - Queen Elanor C D	Stream: 2 PRC for Signalled Lanes (%):	-92.3	Total Delay for Signalled Lanes (pcuHr):	598.05	Cycle Time (s): 90
C3 - London Road	Stream: 1 PRC for Signalled Lanes (%):	-6.8	Total Delay for Signalled Lanes (pcuHr):	14.76	Cycle Time (s): 90
	PRC Over All Lanes (%):	-92.3	Total Delay Over All Lanes(pcuHr):	1199.61	

Scenario 7: '2021 C1 Ref PM' (FG6: '2031 C1 Ref PM', Plan 1: 'Network Control Plan 1')
C1 - Queen Elanor A B

Stage Timings

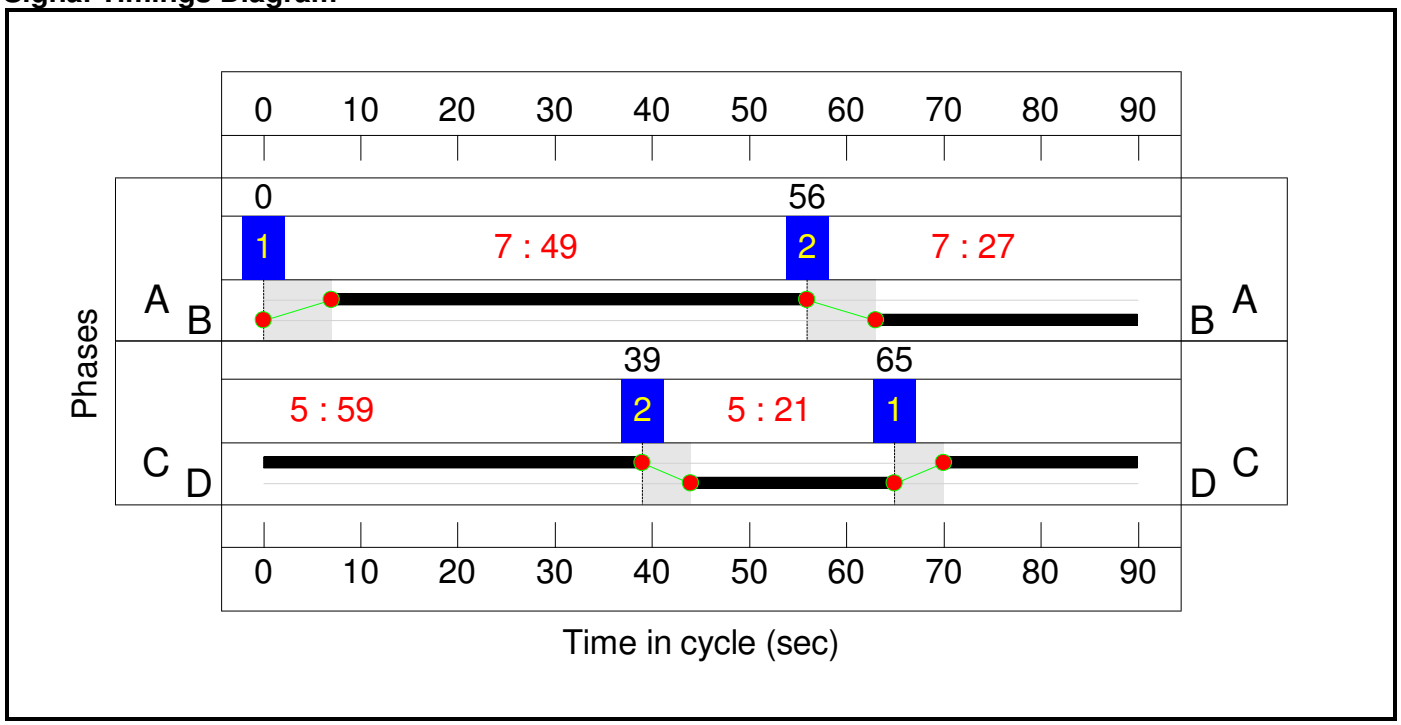
Stage Stream: 1

Stage	1	2
Duration	49	27
Change Point	0	56

Stage Stream: 2

Stage	1	2
Duration	59	21
Change Point	65	39

Signal Timings Diagram



C2 - Queen Elanor C D

Stage Timings

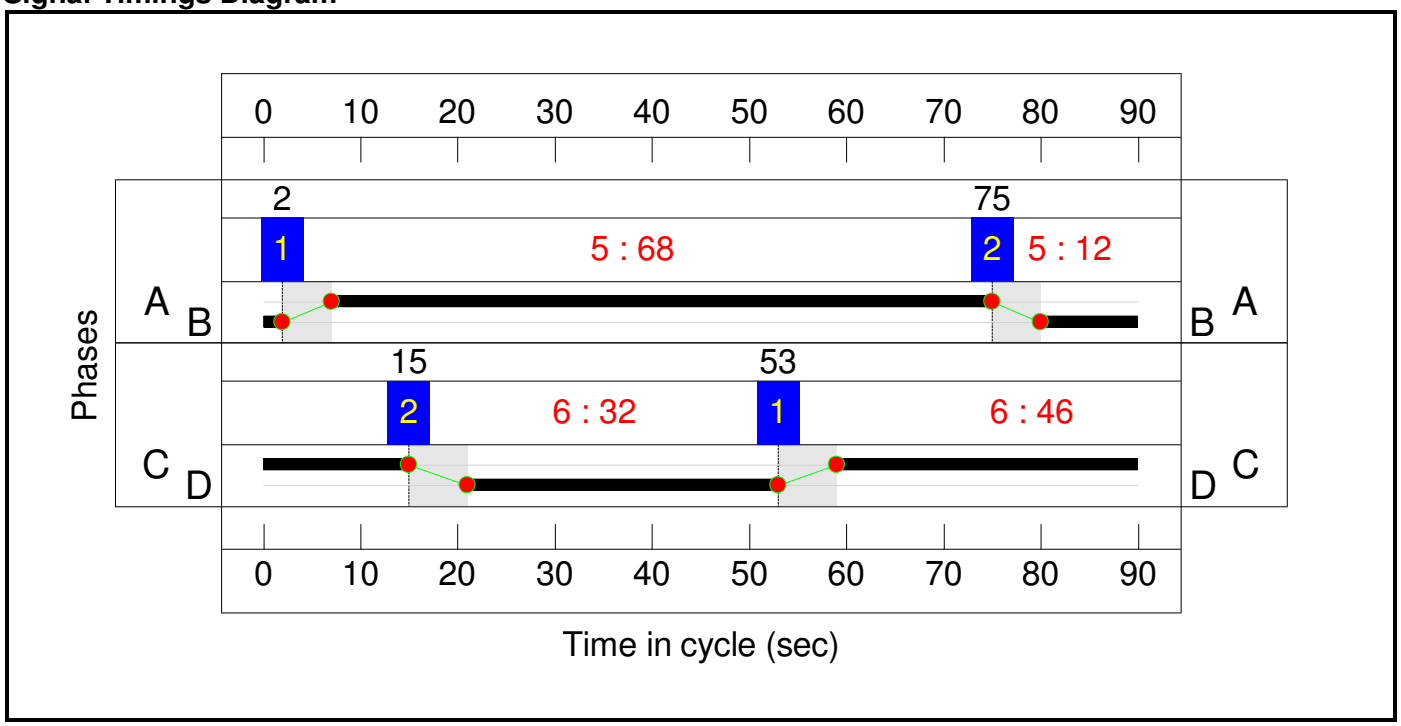
Stage Stream: 1

Stage	1	2
Duration	68	12
Change Point	2	75

Stage Stream: 2

Stage	1	2
Duration	46	32
Change Point	53	15

Signal Timings Diagram



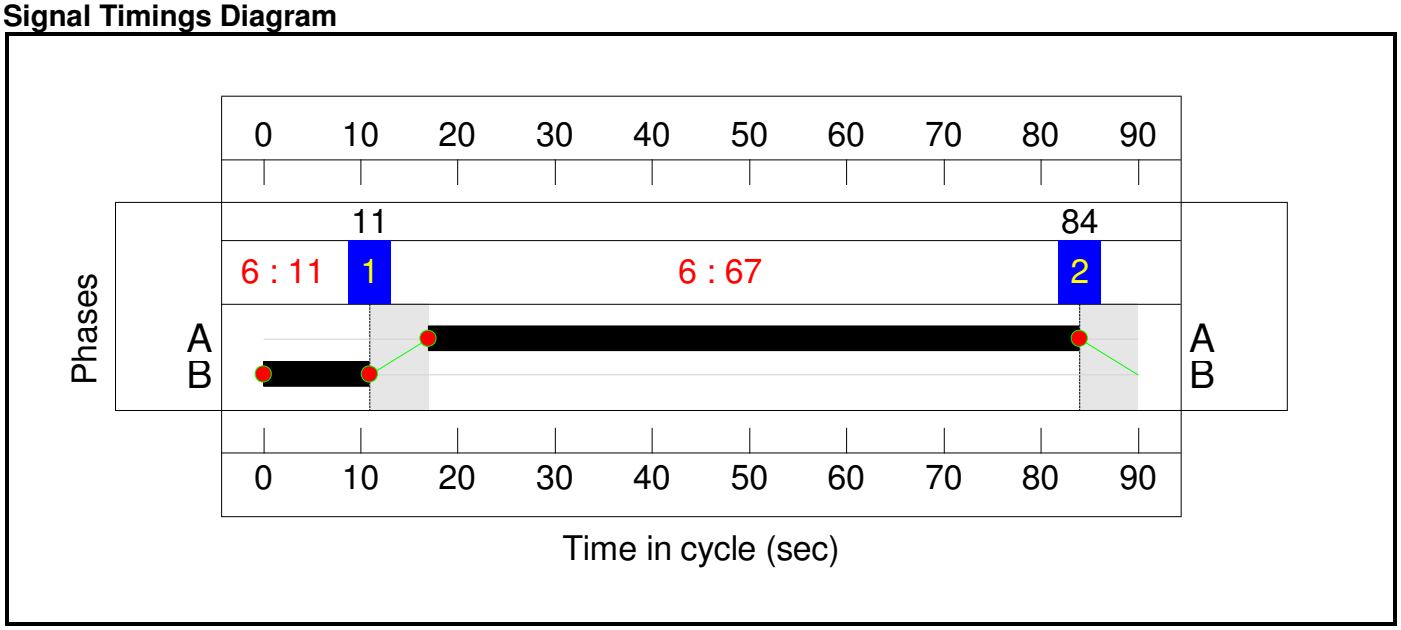
C3 - London Road

Stage Timings

Stage Stream: 1

Stage	1	2
Duration	67	11
Change Point	11	84

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: Queen Elanor Gyratory	-	-	**N/A**	-	-		-	-	-	-	-	-	**161.1%**
Queen Elanor Gyratory	-	-	**N/A**	-	-		-	-	-	-	-	-	**161.1%**
1/1	A5076 Mere Way Left Ahead	U	2:2	N/A	C2:D		1	32	-	1161	1965	721	161.1%
1/2+1/3	A5076 Mere Way Ahead	U	2:2	N/A	C2:D		1	32	-	1229	2105:1965	764+1	160.8 : 160.8%
2/1	Ahead	U	2:2	N/A	C2:C		1	46	-	913	1900	992	72.6%
2/2	Ahead Right	U	2:2	N/A	C2:C		1	46	-	835	1900	992	64.1%
2/3	Right	U	2:2	N/A	C2:C		1	46	-	497	1900	992	34.5%
4/1	Ahead	U	3:1	N/A	C3:A		1	67	-	1419	1900	1436	61.8%
4/2	Ahead Right	U	3:1	N/A	C3:A		1	67	-	1725	1900	1436	77.0%
4/3	Right	U	3:1	N/A	C3:A		1	67	-	1	1900	1436	0.0%
5/2+5/1	A508 London Road Left Ahead	U	3:1	N/A	C3:B		1	11	-	676	2105:1965	281+262	131.1 : 117.6%
5/3	A508 London Road Ahead	U	1:1	N/A	C1:B		1	27	-	645	1965	611	105.5%
7/1	Ahead Right	U	1:1	N/A	C1:A		1	49	-	1115	1900	1056	72.6%
7/2	Right	U	1:1	N/A	C1:A		1	49	-	646	1900	1056	58.0%
8/2+8/1	A45 Southbound Left Ahead	U	1:1	N/A	C1:B		1	27	-	1245	2120:1896	660+343	124.2 : 124.2%
8/3	A45 Southbound Ahead	U	1:1	N/A	C1:B		1	27	-	765	1980	616	124.2%
10/3	Right	U	N/A	N/A	-		-	-	-	471	3000	3000	12.9%
10/4	Right	U	N/A	N/A	-		-	-	-	341	3000	3000	9.2%
11/2+11/1	Hardingstone Lane Ahead Left	O	N/A	N/A	-		-	-	-	692	Inf : Inf	410+40	153.6 : 153.6%
12/1	Ahead	U	1:2	N/A	C1:C		1	59	-	776	1900	1267	51.4%
12/2	Right Ahead	U	1:2	N/A	C1:C		1	59	-	958	1900	1267	61.2%
12/3	Right	U	1:2	N/A	C1:C		1	59	-	471	1900	1267	30.5%
12/4	Right	U	1:2	N/A	C1:C		1	59	-	971	1900	1267	54.1%

14/2+14/1	Newport Pagnell Road Ahead Left	U	1:2	N/A	C1:D		1	21	-	595	2005:1965	449+363	73.3 : 73.3%
14/3	Newport Pagnell Road Ahead	U	1:2	N/A	C1:D		1	21	-	727	1908	466	155.9%
15/1	Ahead	U	2:1	N/A	C2:A		1	68	-	1135	1900	1457	65.9%
15/2	Ahead	U	2:1	N/A	C2:A		1	68	-	800	1900	1457	49.1%
15/3	Ahead	U	2:1	N/A	C2:A		1	68	-	1698	1900	1457	79.0%
17/2+17/1	A45 Northbound Left U-Turn	U	2:1	N/A	C2:B		1	12	-	364	2120:1980	293+88	95.4 : 95.4%
17/3	A45 Northbound Left	U	2:1	N/A	C2:B		1	12	-	267	1980	286	93.4%

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: Queen Elanor Gyratory	**-**	**-**	**901**	**0**	**0**	**178.6**	**1027.1**	**0.0**	**1205.6**	**-**	**-**	**-**	**-**
Queen Elanor Gyratory	**-**	**-**	**901**	**0**	**0**	**178.6**	**1027.1**	**0.0**	**1205.6**	**-**	**-**	**-**	**-**
1/1	1161	720	-	-	-	26.5	221.6	-	248.1	769.2	40.1	221.6	261.6
1/2+1/3	1229	764	-	-	-	27.9	233.6	-	261.5	766.1	45.4	233.6	279.0
2/1	720	720	-	-	-	2.1	1.3	-	3.4	17.2	9.0	1.3	10.4
2/2	636	636	-	-	-	2.4	0.9	-	3.3	18.7	8.8	0.9	9.6
2/3	342	342	-	-	-	1.6	0.3	-	1.9	20.0	5.0	0.3	5.3
4/1	888	888	-	-	-	0.1	0.8	-	0.9	3.8	0.6	0.8	1.4
4/2	1106	1106	-	-	-	0.6	1.7	-	2.2	7.3	10.1	1.7	11.8
4/3	1	1	-	-	-	0.0	0.0	-	0.0	5.8	0.0	0.0	0.0
5/2+5/1	676	543	-	-	-	13.7	69.1	-	82.8	441.1	12.1	69.1	81.2
5/3	645	611	-	-	-	7.3	23.7	-	31.0	173.0	17.3	23.7	40.9
7/1	766	766	-	-	-	2.2	1.3	-	3.5	16.4	11.7	1.3	13.0
7/2	612	612	-	-	-	4.2	0.7	-	4.9	28.5	15.3	0.7	16.0
8/2+8/1	1245	1003	-	-	-	20.7	123.7	-	144.4	417.5	31.6	123.7	155.3
8/3	765	616	-	-	-	14.5	77.0	-	91.5	430.6	25.9	77.0	102.9
10/3	386	386	-	-	-	0.0	0.1	-	0.1	0.7	0.0	0.1	0.1
10/4	275	275	-	-	-	0.0	0.1	-	0.1	0.7	0.0	0.1	0.1
11/2+11/1	692	451	901	0	0	14.7	122.1	-	136.8	711.6	40.1	122.1	162.2
12/1	651	651	-	-	-	1.5	0.5	-	2.0	11.0	5.0	0.5	5.5
12/2	775	775	-	-	-	0.5	0.8	-	1.3	6.1	8.6	0.8	9.4
12/3	386	386	-	-	-	0.1	0.2	-	0.3	2.7	0.2	0.2	0.4
12/4	685	685	-	-	-	1.8	0.6	-	2.4	12.4	12.3	0.6	12.9
14/2+14/1	595	595	-	-	-	5.0	1.4	-	6.4	38.5	7.4	1.4	8.8
14/3	727	466	-	-	-	17.9	131.7	-	149.6	740.6	26.8	131.7	158.4
15/1	960	960	-	-	-	2.9	1.0	-	3.8	14.4	17.2	1.0	18.2

15/2	715	715	-	-	-	0.9	0.5	-	1.4	6.9	8.8	0.5	9.2
15/3	1151	1151	-	-	-	2.9	1.9	-	4.8	14.9	16.5	1.9	18.3
17/2+17/1	364	364	-	-	-	3.8	6.1	-	9.9	97.9	7.2	6.1	13.3
17/3	267	267	-	-	-	2.8	4.7	-	7.5	101.5	6.6	4.7	11.3

C1 - Queen Elanor A B	Stream: 1 PRC for Signalled Lanes (%):	-38.0	Total Delay for Signalled Lanes (pcuHr):	275.24	Cycle Time (s): 90
C1 - Queen Elanor A B	Stream: 2 PRC for Signalled Lanes (%):	-73.2	Total Delay for Signalled Lanes (pcuHr):	161.87	Cycle Time (s): 90
C2 - Queen Elanor C D	Stream: 1 PRC for Signalled Lanes (%):	-6.0	Total Delay for Signalled Lanes (pcuHr):	27.37	Cycle Time (s): 90
C2 - Queen Elanor C D	Stream: 2 PRC for Signalled Lanes (%):	-79.0	Total Delay for Signalled Lanes (pcuHr):	518.25	Cycle Time (s): 90
C3 - London Road	Stream: 1 PRC for Signalled Lanes (%):	-45.7	Total Delay for Signalled Lanes (pcuHr):	86.00	Cycle Time (s): 90
	PRC Over All Lanes (%):	-79.0	Total Delay Over All Lanes(pcuHr):	1205.64	

Scenario 8: '2021 I1 Dev PM' (FG8: '2021 I1 Dev PM', Plan 1: 'Network Control Plan 1')
C1 - Queen Elanor A B

Stage Timings

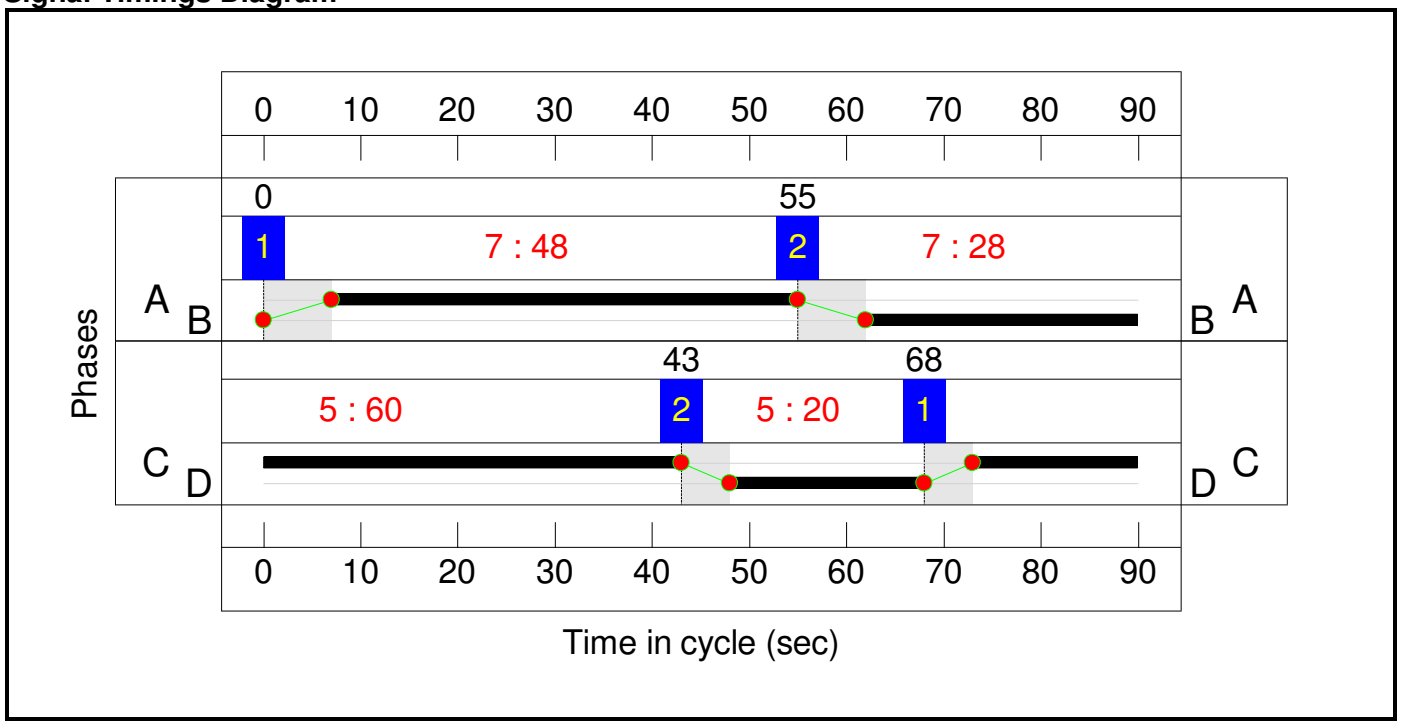
Stage Stream: 1

Stage	1	2
Duration	48	28
Change Point	0	55

Stage Stream: 2

Stage	1	2
Duration	60	20
Change Point	68	43

Signal Timings Diagram



C2 - Queen Elanor C D

Stage Timings

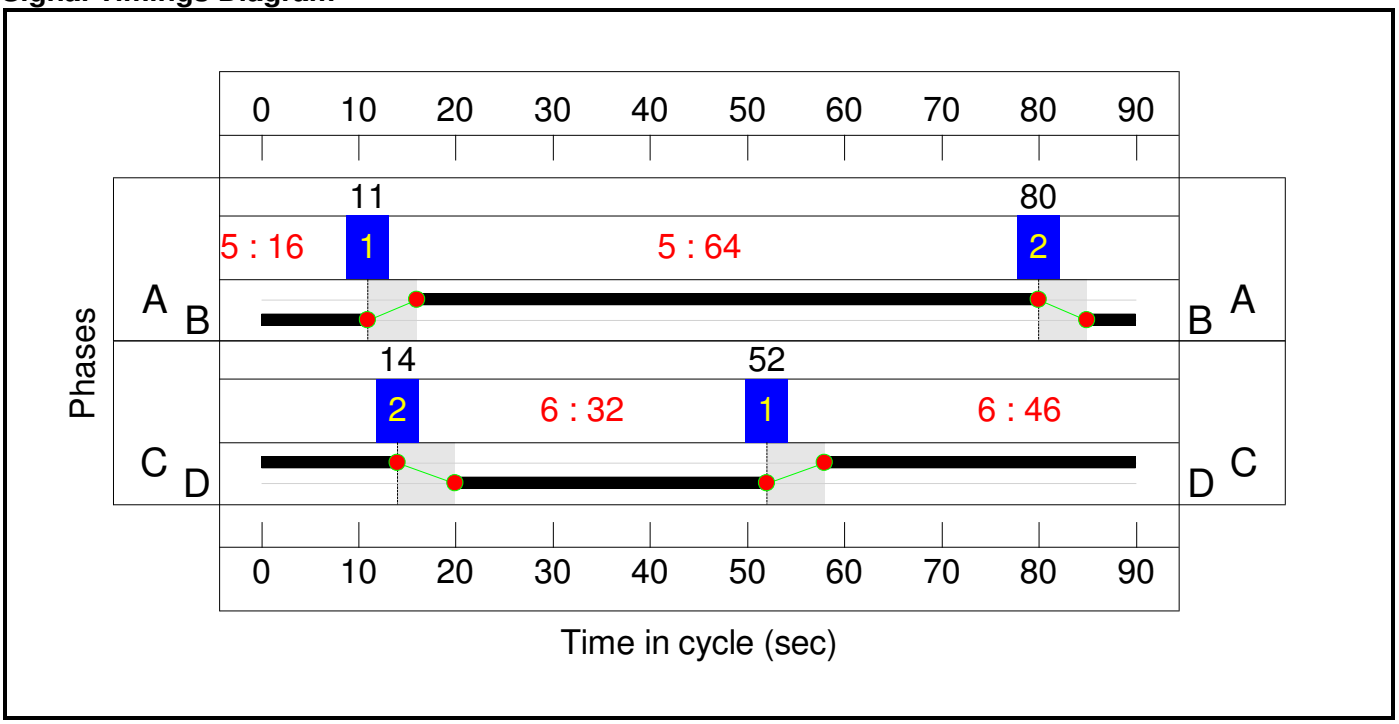
Stage Stream: 1

Stage	1	2
Duration	64	16
Change Point	11	80

Stage Stream: 2

Stage	1	2
Duration	46	32
Change Point	52	14

Signal Timings Diagram



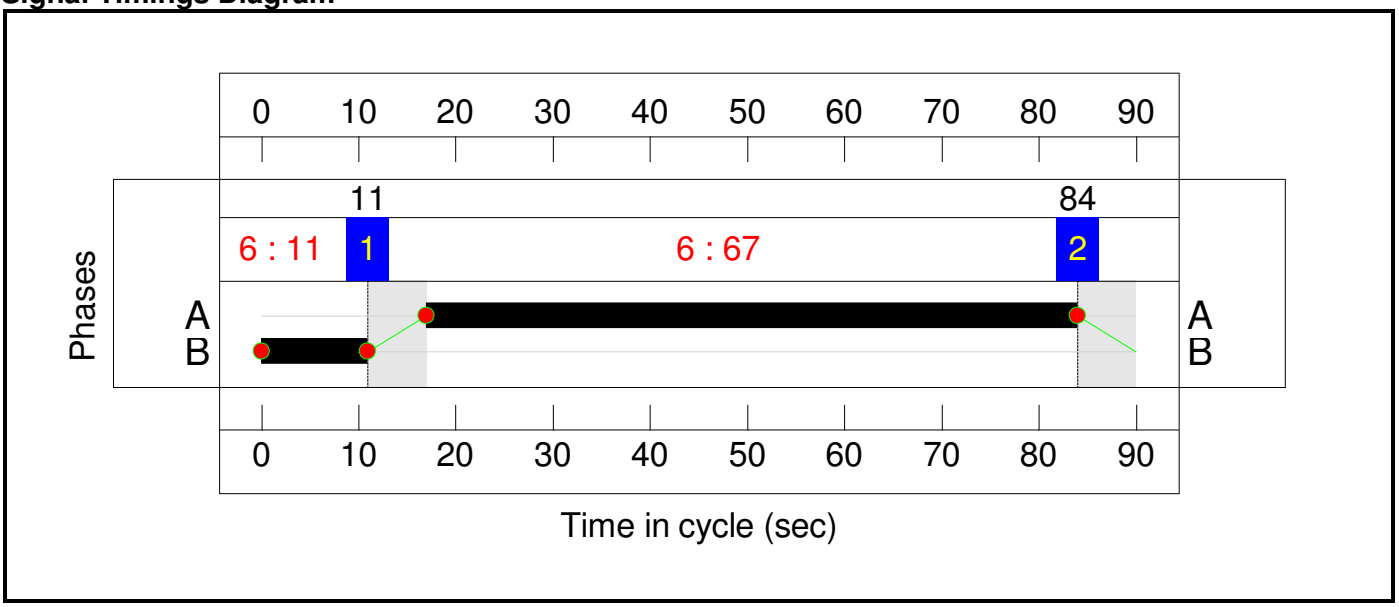
C3 - London Road

Stage Timings

Stage Stream: 1

Stage	1	2
Duration	67	11
Change Point	11	84

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: Queen Elanor Gyratory	-	-	**N/A**	-	-		-	-	-	-	-	-	**162.1%**
Queen Elanor Gyratory	-	-	**N/A**	-	-		-	-	-	-	-	-	**162.1%**
1/1	A5076 Mere Way Left Ahead	U	2:2	N/A	C2:D		1	32	-	1168	1965	721	162.1%
1/2+1/3	A5076 Mere Way Ahead	U	2:2	N/A	C2:D		1	32	-	1243	2105:1965	762+6	162.0 : 162.0%
2/1	Ahead	U	2:2	N/A	C2:C		1	46	-	924	1900	992	74.1%
2/2	Ahead Right	U	2:2	N/A	C2:C		1	46	-	907	1900	992	71.6%
2/3	Right	U	2:2	N/A	C2:C		1	46	-	473	1900	992	30.5%
4/1	Ahead	U	3:1	N/A	C3:A		1	67	-	1387	1900	1436	59.7%
4/2	Ahead Right	U	3:1	N/A	C3:A		1	67	-	1707	1900	1436	74.2%
4/3	Right	U	3:1	N/A	C3:A		1	67	-	9	1900	1436	0.4%
5/2+5/1	A508 London Road Left Ahead	U	3:1	N/A	C3:B		1	11	-	659	2105:1965	281+262	122.9 : 119.8%
5/3	A508 London Road Ahead	U	1:1	N/A	C1:B		1	28	-	643	1965	633	101.6%
7/1	Ahead Right	U	1:1	N/A	C1:A		1	48	-	1176	1900	1034	77.5%
7/2	Right	U	1:1	N/A	C1:A		1	48	-	652	1900	1034	61.7%
8/2+8/1	A45 Southbound Left Ahead	U	1:1	N/A	C1:B		1	28	-	1230	2120:1899	681+318	123.1 : 123.1%
8/3	A45 Southbound Ahead	U	1:1	N/A	C1:B		1	28	-	784	1980	638	122.9%
10/3	Right	U	N/A	N/A	-		-	-	-	503	3000	3000	13.9%
10/4	Right	U	N/A	N/A	-		-	-	-	323	3000	3000	8.8%
11/2+11/1	Hardingstone Lane Ahead Left	O	N/A	N/A	-		-	-	-	655	Inf : Inf	378+31	160.4 : 160.4%
12/1	Ahead	U	1:2	N/A	C1:C		1	60	-	827	1900	1288	54.8%
12/2	Right Ahead	U	1:2	N/A	C1:C		1	60	-	957	1900	1288	60.5%
12/3	Right	U	1:2	N/A	C1:C		1	60	-	505	1900	1288	32.4%
12/4	Right	U	1:2	N/A	C1:C		1	60	-	927	1900	1288	49.6%

14/2+14/1	Newport Pagnell Road Ahead Left	U	1:2	N/A	C1:D		1	20	-	618	2005:1965	437+341	79.4 : 79.4%
14/3	Newport Pagnell Road Ahead	U	1:2	N/A	C1:D		1	20	-	713	1908	445	160.2%
15/1	Ahead	U	2:1	N/A	C2:A		1	64	-	1149	1900	1372	71.2%
15/2	Ahead	U	2:1	N/A	C2:A		1	64	-	852	1900	1372	55.7%
15/3	Ahead	U	2:1	N/A	C2:A		1	64	-	1640	1900	1372	79.0%
17/2+17/1	A45 Northbound Left U-Turn	U	2:1	N/A	C2:B		1	16	-	396	2120:1980	378+69	88.6 : 88.6%
17/3	A45 Northbound Left	U	2:1	N/A	C2:B		1	16	-	329	1980	374	88.0%

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: Queen Elanor Gyratory	**-**	**-**	**817**	**0**	**0**	**182.0**	**1016.0**	**0.0**	**1198.1**	**-**	**-**	**-**	**-**
Queen Elanor Gyratory	**-**	**-**	**817**	**0**	**0**	**182.0**	**1016.0**	**0.0**	**1198.1**	**-**	**-**	**-**	**-**
1/1	1168	720	-	-	-	26.9	225.0	-	251.9	776.5	40.4	225.0	265.4
1/2+1/3	1243	767	-	-	-	28.6	239.1	-	267.7	775.2	46.0	239.1	285.1
2/1	736	736	-	-	-	2.0	1.4	-	3.4	16.9	7.9	1.4	9.3
2/2	710	710	-	-	-	2.2	1.2	-	3.4	17.3	8.3	1.2	9.6
2/3	303	303	-	-	-	1.5	0.2	-	1.7	20.2	5.3	0.2	5.5
4/1	857	857	-	-	-	0.2	0.7	-	0.9	3.8	0.6	0.7	1.3
4/2	1065	1065	-	-	-	0.5	1.4	-	1.9	6.4	10.1	1.4	11.5
4/3	6	6	-	-	-	0.0	0.0	-	0.0	6.2	0.0	0.0	0.0
5/2+5/1	659	543	-	-	-	12.7	60.9	-	73.6	402.0	10.5	60.9	71.4
5/3	643	633	-	-	-	6.0	15.4	-	21.3	119.5	16.3	15.4	31.7
7/1	802	802	-	-	-	2.7	1.7	-	4.4	19.6	12.5	1.7	14.1
7/2	639	639	-	-	-	4.5	0.8	-	5.3	30.1	16.0	0.8	16.8
8/2+8/1	1230	999	-	-	-	20.0	118.2	-	138.1	404.3	31.5	118.2	149.7
8/3	784	638	-	-	-	14.4	75.6	-	90.0	413.4	26.2	75.6	101.8
10/3	417	417	-	-	-	0.0	0.1	-	0.1	0.7	0.0	0.1	0.1
10/4	263	263	-	-	-	0.0	0.0	-	0.0	0.7	0.0	0.0	0.0
11/2+11/1	655	408	817	0	0	15.1	124.7	-	139.7	767.9	38.5	124.7	163.1
12/1	706	706	-	-	-	1.2	0.6	-	1.8	9.4	4.2	0.6	4.8
12/2	780	780	-	-	-	0.9	0.8	-	1.6	7.5	17.7	0.8	18.4
12/3	418	418	-	-	-	0.0	0.2	-	0.3	2.4	1.1	0.2	1.3
12/4	639	639	-	-	-	1.6	0.5	-	2.1	11.8	11.2	0.5	11.7
14/2+14/1	618	618	-	-	-	5.4	1.9	-	7.3	42.4	8.0	1.9	9.9
14/3	713	445	-	-	-	18.7	135.2	-	153.9	777.1	27.5	135.2	162.7
15/1	977	977	-	-	-	4.4	1.2	-	5.6	20.8	17.6	1.2	18.8

15/2	765	765	-	-	-	2.0	0.6	-	2.6	12.4	9.8	0.6	10.4
15/3	1085	1085	-	-	-	3.6	1.9	-	5.5	18.1	15.2	1.9	17.1
17/2+17/1	396	396	-	-	-	3.8	3.4	-	7.3	66.0	8.5	3.4	11.9
17/3	329	329	-	-	-	3.2	3.2	-	6.4	70.5	8.0	3.2	11.2

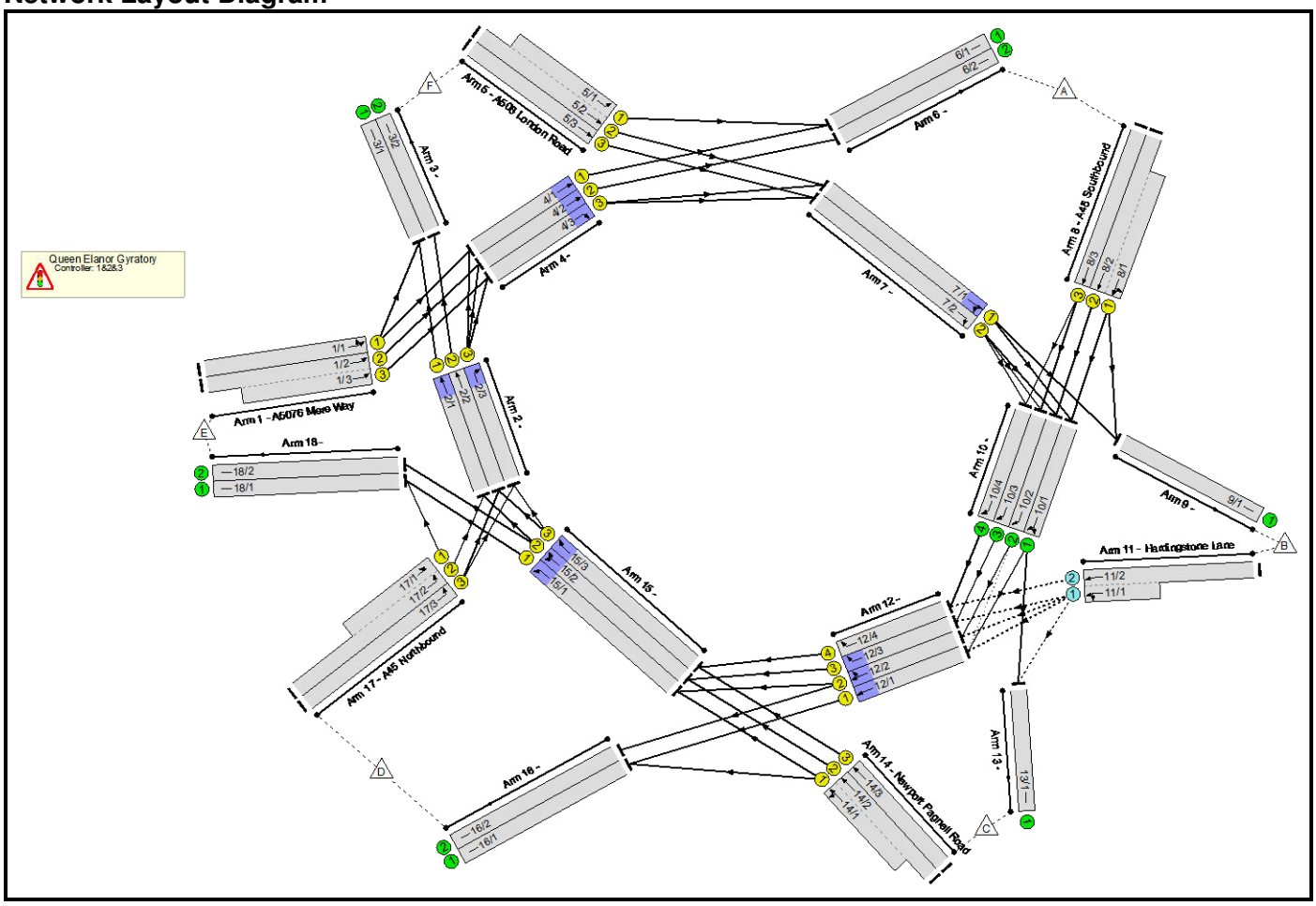
C1 - Queen Elanor A B	Stream: 1 PRC for Signalled Lanes (%):	-36.8	Total Delay for Signalled Lanes (pcuHr):	259.20	Cycle Time (s): 90
C1 - Queen Elanor A B	Stream: 2 PRC for Signalled Lanes (%):	-77.9	Total Delay for Signalled Lanes (pcuHr):	167.03	Cycle Time (s): 90
C2 - Queen Elanor C D	Stream: 1 PRC for Signalled Lanes (%):	1.5	Total Delay for Signalled Lanes (pcuHr):	27.43	Cycle Time (s): 90
C2 - Queen Elanor C D	Stream: 2 PRC for Signalled Lanes (%):	-80.1	Total Delay for Signalled Lanes (pcuHr):	528.16	Cycle Time (s): 90
C3 - London Road	Stream: 1 PRC for Signalled Lanes (%):	-36.6	Total Delay for Signalled Lanes (pcuHr):	76.39	Cycle Time (s): 90
	PRC Over All Lanes (%):	-80.1	Total Delay Over All Lanes(pcuHr):	1198.06	

Full Input Data And Results

User and Project Details

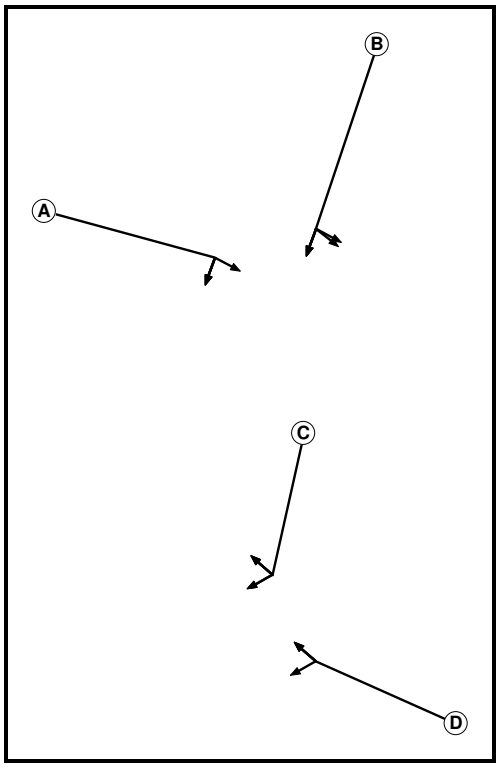
Project:	**Northampton Gateway SRFI**
Title:	**Queen Elanor Gyratory Mitigation**
Location:	
File name:	180206 Queen Elanor Gyratory Mitigation.lsg3x
Author:	Mark Higgins
Company:	ADC Infrastructure
Address:	Western Street, Nottingham
Notes:	

Network Layout Diagram



C1 - Queen Elanor A B

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

Phase Intergreens Matrix

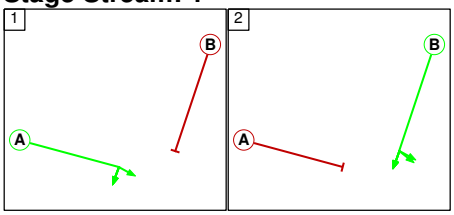
Terminating Phase	Starting Phase				
		A	B	C	D
	A		7	-	-
	B	7		-	-
	C	-	-		5
	D	-	-	5	

Phases in Stage

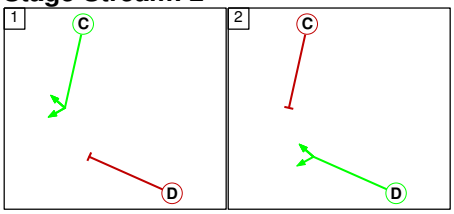
Stream	Stage No.	Phases in Stage
1	1	A
1	2	B
2	1	C
2	2	D

Stage Diagram

Stage Stream: 1

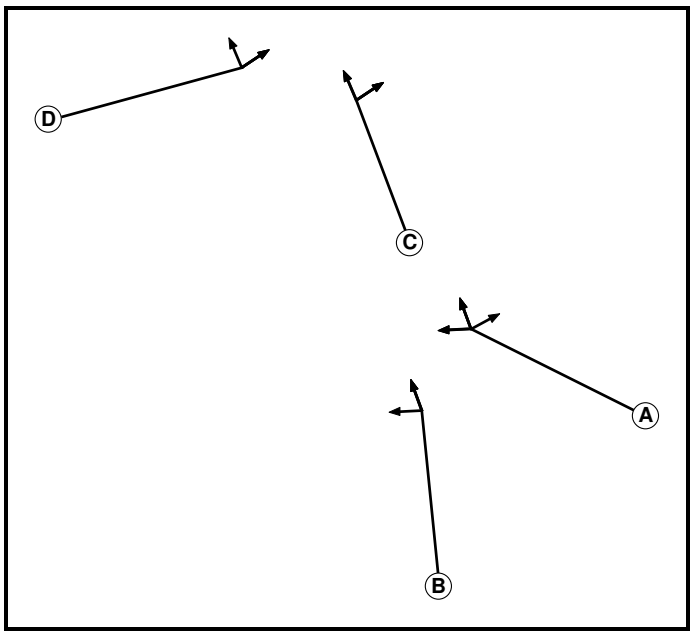


Stage Stream: 2



C2 - Queen Elanor C D

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

Phase Intergreens Matrix

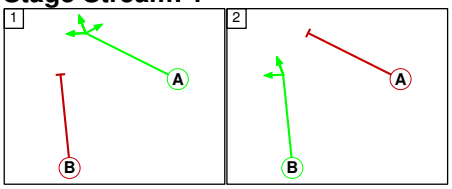
	Starting Phase			
Terminating Phase	A	B	C	D
A		5	-	-
B	5		-	-
C	-	-		6
D	-	-	6	

Phases in Stage

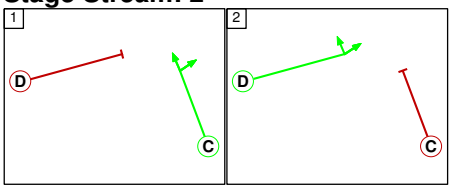
Stream	Stage No.	Phases in Stage
1	1	A
1	2	B
2	1	C
2	2	D

Stage Diagram

Stage Stream: 1

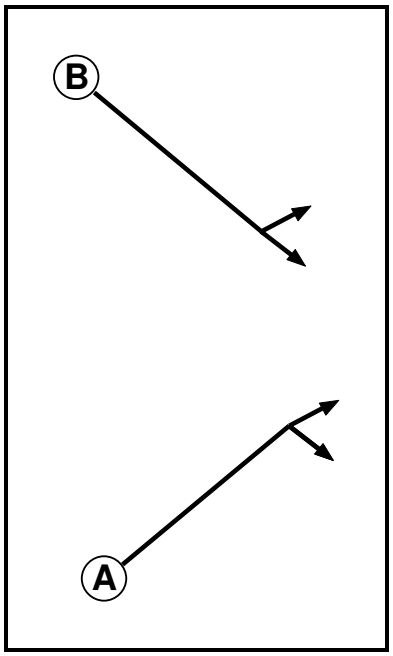


Stage Stream: 2



C3 - London Road

Phase Diagram



Phase Input Data

Phase Name	Phase Type	Assoc. Phase	Street Min	Cont Min
A	Traffic		7	7
B	Traffic		7	7

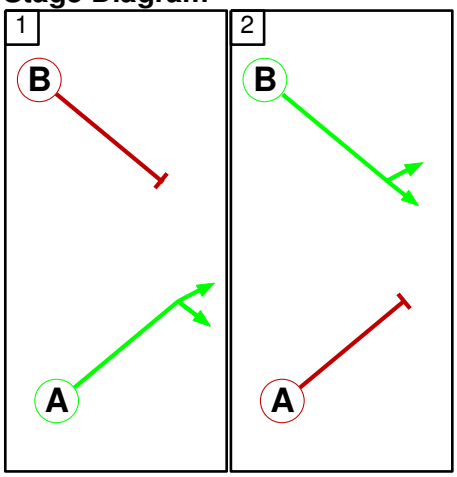
Phase Intergreens Matrix

		Starting Phase	
		A	B
Terminating Phase	A		6
	B	6	

Phases in Stage

Stage No.	Phases in Stage
1	A
2	B

Stage Diagram



Give-Way Lane Input Data

Junction: Queen Elanor Gyratory											
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)**
11/1 (Hardingstone Lane)	12/1 (Ahead)	1006	0	10/1	0.25	All	-	-	-	-	-
				10/2	0.25	All					
	12/2 (Ahead)	1006	0	10/1	0.25	All					
				10/2	0.25	All					
	12/3 (Ahead)	1006	0	10/1	0.25	All					
				10/2	0.25	All					
				10/3	0.25	All					
				10/4	0.25	All					
	13/1 (Left)	1006	0	10/1	0.25	All					
11/2 (Hardingstone Lane)	12/4 (Ahead)	1006	0	10/1	0.25	All	-	-	-	-	-
				10/2	0.25	All					
				10/3	0.25	All					
				10/4	0.25	All					

Lane Input Data

Junction: Queen Elanor Gyratory												
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 (A5076 Mere Way)	U	D	2	3	60.0	Geom	-	3.50	0.00	Y	Arm 3 Left	20.00
											Arm 4 Ahead	Inf
1/2 (A5076 Mere Way)	U	D	2	3	60.0	Geom	-	3.50	0.00	N	Arm 4 Ahead	Inf
1/3 (A5076 Mere Way)	U	D	2	3	20.9	Geom	-	3.50	0.00	Y	Arm 4 Ahead	Inf
2/1	U	C	2	3	12.2	User	1900	-	-	-	-	-
2/2	U	C	2	3	12.2	User	1900	-	-	-	-	-
2/3	U	C	2	3	12.2	User	1900	-	-	-	-	-
3/1	U		2	3	3.0	Inf	-	-	-	-	-	-
3/2	U		2	3	3.0	Inf	-	-	-	-	-	-
4/1	U	A	2	3	9.6	User	1900	-	-	-	-	-
4/2	U	A	2	3	9.6	User	1900	-	-	-	-	-
4/3	U	A	2	3	9.6	User	1900	-	-	-	-	-
5/1 (A508 London Road)	U	B	2	3	15.7	Geom	-	3.50	0.00	Y	Arm 6 Left	Inf
5/2 (A508 London Road)	U	B	2	3	60.0	Geom	-	3.50	0.00	N	Arm 7 Ahead	Inf
5/3 (A508 London Road)	U	B	2	3	60.0	Geom	-	3.50	0.00	Y	Arm 7 Ahead	Inf
6/1	U		2	3	3.0	Inf	-	-	-	-	-	-
6/2	U		2	3	3.0	Inf	-	-	-	-	-	-
7/1	U	A	2	3	20.9	User	1900	-	-	-	-	-
7/2	U	A	2	3	20.9	User	1900	-	-	-	-	-
8/1 (A45 Southbound)	U	B	2	3	15.7	Geom	-	3.65	0.00	Y	Arm 9 Left	30.00
											Arm 10 Ahead	Inf
8/2 (A45 Southbound)	U	B	2	3	60.0	Geom	-	3.65	0.00	N	Arm 10 Ahead	Inf
8/3 (A45 Southbound)	U	B	2	3	60.0	Geom	-	3.65	0.00	Y	Arm 10 Ahead	Inf
9/1	U		2	3	3.0	Inf	-	-	-	-	-	-
10/1	U		2	3	12.2	Inf	-	-	-	-	-	-
10/2	U		2	3	12.2	Inf	-	-	-	-	-	-
10/3	U		2	3	12.2	User	3000	-	-	-	-	-

10/4	U		2	3	12.2	User	3000	-	-	-	-	-
11/1 (Hardingstone Lane)	O		2	3	7.0	Inf	-	-	-	-	-	-
11/2 (Hardingstone Lane)	O		2	3	60.0	Inf	-	-	-	-	-	-
12/1	U	C	2	3	7.8	User	1900	-	-	-	-	-
12/2	U	C	2	3	7.8	User	1900	-	-	-	-	-
12/3	U	C	2	3	7.8	User	1900	-	-	-	-	-
12/4	U	C	2	3	7.8	User	1900	-	-	-	-	-
13/1	U		2	3	3.0	Inf	-	-	-	-	-	-
14/1 (Newport Pagnell Road)	U	D	2	3	10.0	Geom	-	3.50	0.00	Y	Arm 15 Ahead Arm 16 Left	Inf 20.00
14/2 (Newport Pagnell Road)	U	D	2	3	60.0	Geom	-	3.50	0.00	N	Arm 15 Ahead	30.00
14/3 (Newport Pagnell Road)	U	D	2	3	60.0	Geom	-	3.50	0.00	Y	Arm 15 Ahead	50.00
15/1	U	A	2	3	22.6	User	1900	-	-	-	-	-
15/2	U	A	2	3	22.6	User	1900	-	-	-	-	-
15/3	U	A	2	3	22.6	User	1900	-	-	-	-	-
16/1	U		2	3	3.0	Inf	-	-	-	-	-	-
16/2	U		2	3	3.0	Inf	-	-	-	-	-	-
17/1 (A45 Northbound)	U	B	2	3	10.0	Geom	-	3.65	0.00	Y	Arm 18 U-Turn	Inf
17/2 (A45 Northbound)	U	B	2	3	60.0	Geom	-	3.65	0.00	N	Arm 2 Left	Inf
17/3 (A45 Northbound)	U	B	2	3	60.0	Geom	-	3.65	0.00	Y	Arm 2 Left	Inf
18/1	U		2	3	3.0	Inf	-	-	-	-	-	-
18/2	U		2	3	3.0	Inf	-	-	-	-	-	-

Traffic Flow Groups

Flow Group	Start Time	End Time	Duration	Formula
1: '2031 J1d Dev AM'	08:00	09:00	01:00	
2: '2031 J1d Dev PM'	17:00	18:00	01:00	

Scenario 1: '2031 J1d Dev AM' (FG1: '2031 J1d Dev AM', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

		Destination						
		A	B	C	D	E	F	Tot.
Origin	A	0	63	133	0	1527	291	2014
	B	222	0	0	29	110	150	511
	C	221	0	0	0	344	406	971
	D	0	0	0	0	46	843	889
	E	1833	20	462	200	0	20	2535
	F	197	9	404	514	30	0	1154
	Tot.	2473	92	999	743	2057	1710	8074

Traffic Lane Flows

Lane	Scenario 1: 2031 J1d Dev AM
Junction: Queen Elanor Gyratory	
1/1	894
1/2 (with short)	1641(In) 959(Out)
1/3 (short)	682
2/1	881
2/2	809
2/3	443
3/1	901
3/2	809
4/1	1086
4/2	1190
4/3	682
5/1 (short)	197
5/2 (with short)	610(In) 413(Out)
5/3	544
6/1	1283
6/2	1190
7/1	895
7/2	744
8/1 (short)	196
8/2 (with short)	1092(In) 896(Out)
8/3	922
9/1	92
10/1	999
10/2	1629
10/3	653
10/4	280
11/1 (short)	260
11/2 (with short)	511(In) 251(Out)
12/1	666
12/2	1021
12/3	855
12/4	531
13/1	999
14/1 (short)	325
14/2 (with short)	657(In) 332(Out)

14/3	314
15/1	1269
15/2	1187
15/3	845
16/1	666
16/2	77
17/1 (short)	46
17/2 (with short)	482(In) 436(Out)
17/3	407
18/1	1315
18/2	742

Lane Saturation Flows

Junction: Queen Elanor Gyratory

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 (A5076 Mere Way)	3.50	0.00	Y	Arm 3 Left	20.00	2.2 %	1962	1962
				Arm 4 Ahead	Inf	97.8 %		
1/2 (A5076 Mere Way)	3.50	0.00	N	Arm 4 Ahead	Inf	100.0 %	2105	2105
1/3 (A5076 Mere Way)	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
2/3	This lane uses a directly entered Saturation Flow						1900	1900
3/1	Infinite Saturation Flow						Inf	Inf
3/2	Infinite Saturation Flow						Inf	Inf
4/1	This lane uses a directly entered Saturation Flow						1900	1900
4/2	This lane uses a directly entered Saturation Flow						1900	1900
4/3	This lane uses a directly entered Saturation Flow						1900	1900
5/1 (A508 London Road)	3.50	0.00	Y	Arm 6 Left	Inf	100.0 %	1965	1965
5/2 (A508 London Road)	3.50	0.00	N	Arm 7 Ahead	Inf	100.0 %	2105	2105
5/3 (A508 London Road)	3.50	0.00	Y	Arm 7 Ahead	Inf	100.0 %	1965	1965
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)	3.65	0.00	Y	Arm 9 Left	30.00	32.1 %	1949	1949
				Arm 10 Ahead	Inf	67.9 %		
8/2 (A45 Southbound)	3.65	0.00	N	Arm 10 Ahead	Inf	100.0 %	2120	2120
8/3 (A45 Southbound)	3.65	0.00	Y	Arm 10 Ahead	Inf	100.0 %	1980	1980
9/1	Infinite Saturation Flow						Inf	Inf
10/1	Infinite Saturation Flow						Inf	Inf
10/2	Infinite Saturation Flow						Inf	Inf
10/3	This lane uses a directly entered Saturation Flow						3000	3000
10/4	This lane uses a directly entered Saturation Flow						3000	3000
11/1 (Hardingstone Lane Lane 1)	Infinite Saturation Flow						Inf	Inf
11/2 (Hardingstone Lane Lane 2)	Infinite Saturation Flow						Inf	Inf
12/1	This lane uses a directly entered Saturation Flow						1900	1900
12/2	This lane uses a directly entered Saturation Flow						1900	1900

12/3	This lane uses a directly entered Saturation Flow						1900	1900
12/4	This lane uses a directly entered Saturation Flow						1900	1900
13/1	Infinite Saturation Flow						Inf	Inf
14/1 (Newport Pagnell Road)	3.50	0.00	Y	Arm 15 Ahead	Inf	100.0 %	1965	1965
				Arm 16 Left	20.00	0.0 %		
14/2 (Newport Pagnell Road)	3.50	0.00	N	Arm 15 Ahead	30.00	100.0 %	2005	2005
14/3 (Newport Pagnell Road)	3.50	0.00	Y	Arm 15 Ahead	50.00	100.0 %	1908	1908
15/1	This lane uses a directly entered Saturation Flow						1900	1900
15/2	This lane uses a directly entered Saturation Flow						1900	1900
15/3	This lane uses a directly entered Saturation Flow						1900	1900
16/1	Infinite Saturation Flow						Inf	Inf
16/2	Infinite Saturation Flow						Inf	Inf
17/1 (A45 Northbound)	3.65	0.00	Y	Arm 18 U-Turn	Inf	100.0 %	1980	1980
17/2 (A45 Northbound)	3.65	0.00	N	Arm 2 Left	Inf	100.0 %	2120	2120
17/3 (A45 Northbound)	3.65	0.00	Y	Arm 2 Left	Inf	100.0 %	1980	1980
18/1	Infinite Saturation Flow						Inf	Inf
18/2	Infinite Saturation Flow						Inf	Inf

Scenario 2: '2031 J1d Dev PM' (FG2: '2031 J1d Dev PM', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

		Destination						
		A	B	C	D	E	F	Tot.
Origin	A	0	528	56	0	1217	214	2015
	B	401	0	0	28	38	160	627
	C	122	3	0	73	839	572	1609
	D	0	26	37	0	51	610	724
	E	1550	100	422	462	0	5	2539
	F	358	88	180	616	79	0	1321
	Tot.	2431	745	695	1179	2224	1561	8835

Traffic Lane Flows

Lane	Scenario 2: 2031 J1d Dev PM
Junction: Queen Elanor Gyratory	
1/1	950
1/2 (with short)	1589(In) 605(Out)
1/3 (short)	984
2/1	780
2/2	776
2/3	589
3/1	785
3/2	776
4/1	1020
4/2	1053
4/3	1050
5/1 (short)	358
5/2 (with short)	629(In) 271(Out)
5/3	692
6/1	1378
6/2	1053
7/1	1186
7/2	827
8/1 (short)	584
8/2 (with short)	1307(In) 723(Out)
8/3	708
9/1	745
10/1	1025
10/2	1532
10/3	605
10/4	121
11/1 (short)	226
11/2 (with short)	627(In) 401(Out)
12/1	905
12/2	995
12/3	793
12/4	522
13/1	695
14/1 (short)	537
14/2 (with short)	1089(In) 552(Out)

14/3	520
15/1	1258
15/2	1345
15/3	1042
16/1	978
16/2	201
17/1 (short)	51
17/2 (with short)	401(In) 350(Out)
17/3	323
18/1	1309
18/2	915

Lane Saturation Flows

Junction: Queen Elanor Gyratory

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 (A5076 Mere Way)	3.50	0.00	Y	Arm 3 Left	20.00	0.5 %	1964	1964
				Arm 4 Ahead	Inf	99.5 %		
1/2 (A5076 Mere Way)	3.50	0.00	N	Arm 4 Ahead	Inf	100.0 %	2105	2105
1/3 (A5076 Mere Way)	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
2/3	This lane uses a directly entered Saturation Flow						1900	1900
3/1	Infinite Saturation Flow						Inf	Inf
3/2	Infinite Saturation Flow						Inf	Inf
4/1	This lane uses a directly entered Saturation Flow						1900	1900
4/2	This lane uses a directly entered Saturation Flow						1900	1900
4/3	This lane uses a directly entered Saturation Flow						1900	1900
5/1 (A508 London Road)	3.50	0.00	Y	Arm 6 Left	Inf	100.0 %	1965	1965
5/2 (A508 London Road)	3.50	0.00	N	Arm 7 Ahead	Inf	100.0 %	2105	2105
5/3 (A508 London Road)	3.50	0.00	Y	Arm 7 Ahead	Inf	100.0 %	1965	1965
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)	3.65	0.00	Y	Arm 9 Left	30.00	90.4 %	1894	1894
				Arm 10 Ahead	Inf	9.6 %		
8/2 (A45 Southbound)	3.65	0.00	N	Arm 10 Ahead	Inf	100.0 %	2120	2120
8/3 (A45 Southbound)	3.65	0.00	Y	Arm 10 Ahead	Inf	100.0 %	1980	1980
9/1	Infinite Saturation Flow						Inf	Inf
10/1	Infinite Saturation Flow						Inf	Inf
10/2	Infinite Saturation Flow						Inf	Inf
10/3	This lane uses a directly entered Saturation Flow						3000	3000
10/4	This lane uses a directly entered Saturation Flow						3000	3000
11/1 (Hardingstone Lane Lane 1)	Infinite Saturation Flow						Inf	Inf
11/2 (Hardingstone Lane Lane 2)	Infinite Saturation Flow						Inf	Inf
12/1	This lane uses a directly entered Saturation Flow						1900	1900
12/2	This lane uses a directly entered Saturation Flow						1900	1900

12/3	This lane uses a directly entered Saturation Flow						1900	1900
12/4	This lane uses a directly entered Saturation Flow						1900	1900
13/1	Infinite Saturation Flow						Inf	Inf
14/1 (Newport Pagnell Road)	3.50	0.00	Y	Arm 15 Ahead	Inf	86.4 %	1945	1945
				Arm 16 Left	20.00	13.6 %		
14/2 (Newport Pagnell Road)	3.50	0.00	N	Arm 15 Ahead	30.00	100.0 %	2005	2005
14/3 (Newport Pagnell Road)	3.50	0.00	Y	Arm 15 Ahead	50.00	100.0 %	1908	1908
15/1	This lane uses a directly entered Saturation Flow						1900	1900
15/2	This lane uses a directly entered Saturation Flow						1900	1900
15/3	This lane uses a directly entered Saturation Flow						1900	1900
16/1	Infinite Saturation Flow						Inf	Inf
16/2	Infinite Saturation Flow						Inf	Inf
17/1 (A45 Northbound)	3.65	0.00	Y	Arm 18 U-Turn	Inf	100.0 %	1980	1980
17/2 (A45 Northbound)	3.65	0.00	N	Arm 2 Left	Inf	100.0 %	2120	2120
17/3 (A45 Northbound)	3.65	0.00	Y	Arm 2 Left	Inf	100.0 %	1980	1980
18/1	Infinite Saturation Flow						Inf	Inf
18/2	Infinite Saturation Flow						Inf	Inf

Scenario 1: '2031 J1d Dev AM' (FG1: '2031 J1d Dev AM', Plan 1: 'Network Control Plan 1')
C1 - Queen Elanor A B

Stage Timings

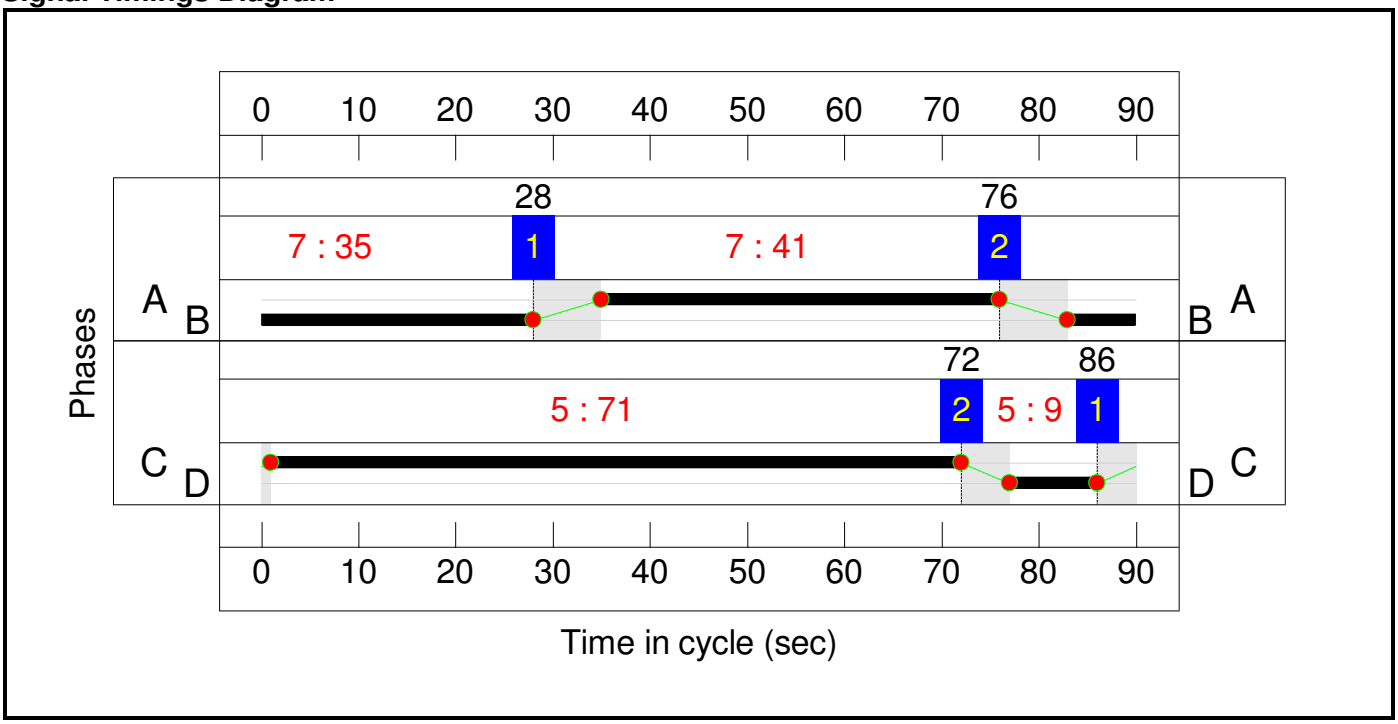
Stage Stream: 1

Stage	1	2
Duration	41	35
Change Point	28	76

Stage Stream: 2

Stage	1	2
Duration	71	9
Change Point	86	72

Signal Timings Diagram



C2 - Queen Elanor C D

Stage Timings

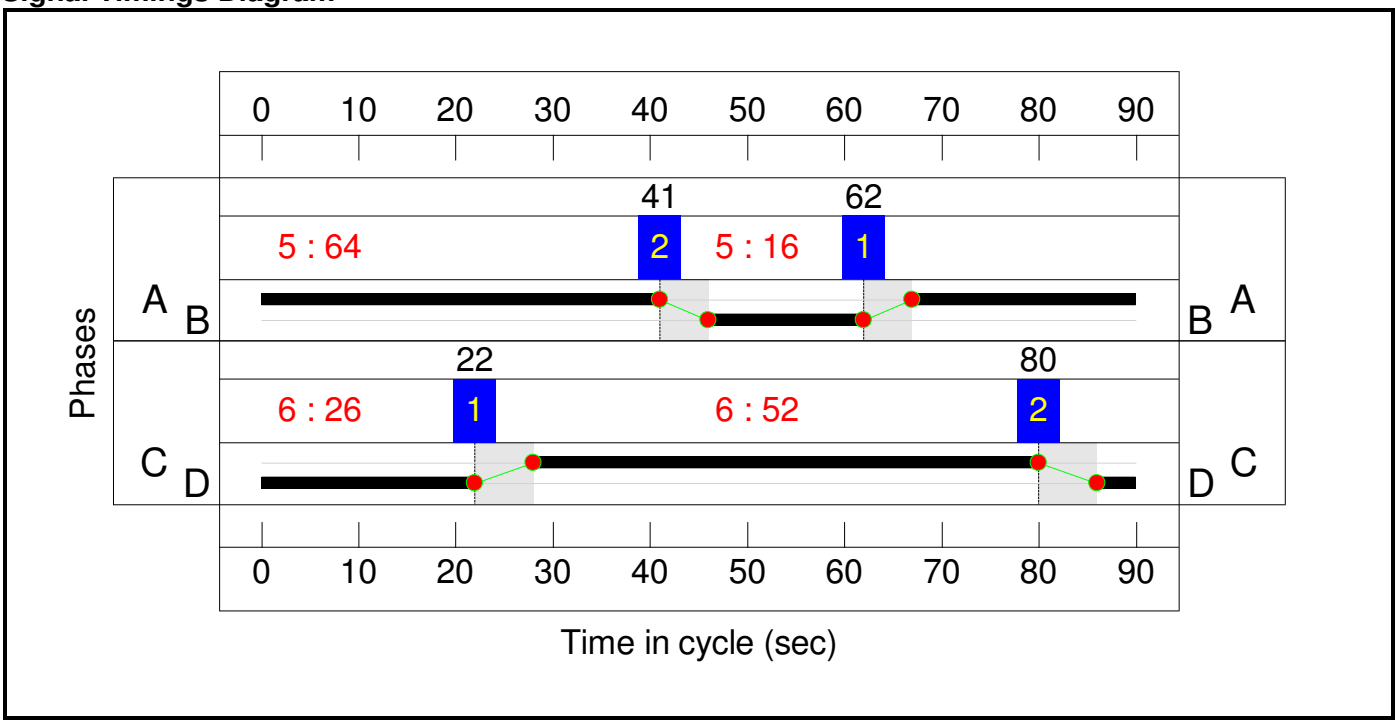
Stage Stream: 1

Stage	1	2
Duration	64	16
Change Point	62	41

Stage Stream: 2

Stage	1	2
Duration	52	26
Change Point	22	80

Signal Timings Diagram

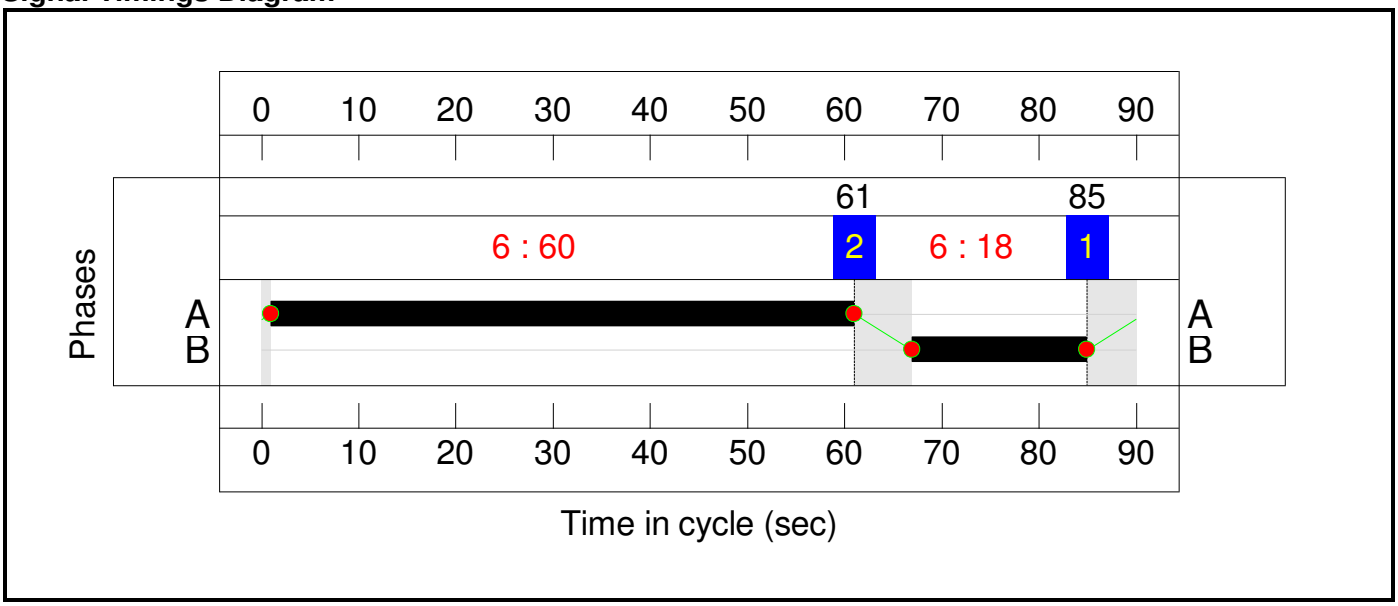


C3 - London Road

Stage Timings

Stage	1	2
Duration	60	18
Change Point	85	61

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: Queen Elanor Gyratory Mitigation	-	-	**N/A**	-	-		-	-	-	-	-	-	**151.9%**
Queen Elanor Gyratory	-	-	**N/A**	-	-		-	-	-	-	-	-	**151.9%**
1/1	A5076 Mere Way Left Ahead	U	2:2	N/A	C2:D		1	26	-	894	1962	589	151.9%
1/2+1/3	A5076 Mere Way Ahead	U	2:2	N/A	C2:D		1	26	-	1641	2105:1965	632+482	151.9 : 141.4%
2/1	Ahead	U	2:2	N/A	C2:C		1	52	-	881	1900	1119	65.9%
2/2	Ahead	U	2:2	N/A	C2:C		1	52	-	809	1900	1119	63.1%
2/3	Right	U	2:2	N/A	C2:C		1	52	-	443	1900	1119	33.2%
4/1	Ahead	U	N/A	N/A	C3:A		1	60	-	1086	1900	1288	56.0%
4/2	Ahead	U	2:1	N/A	C2:A		1	64	-	1190	1900	1372	62.5%
4/3	Right	U	N/A	N/A	C3:A		1	60	-	682	1900	1288	37.0%
5/2+5/1	A508 London Road Left Ahead	U	N/A	N/A	C3:B		1	18	-	610	2105:1965	444+212	92.9 : 92.9%
5/3	A508 London Road Ahead	U	1:1	N/A	C1:B		1	35	-	544	1965	786	69.2%
7/1	Ahead Right	U	1:1	N/A	C1:A		1	41	-	895	1900	887	84.6%
7/2	Right	U	1:1	N/A	C1:A		1	41	-	744	1900	887	77.1%
8/2+8/1	A45 Southbound Left Ahead	U	1:1	N/A	C1:B		1	35	-	1092	2120:1949	825+180	108.6 : 108.6%
8/3	A45 Southbound Ahead	U	1:1	N/A	C1:B		1	35	-	922	1980	792	116.4%
10/3	Right	U	N/A	N/A	-		-	-	-	653	3000	3000	18.7%
10/4	Right	U	N/A	N/A	-		-	-	-	280	3000	3000	8.0%
11/2+11/1	Hardingstone Lane Ahead Left	O	N/A	N/A	-		-	-	-	511	Inf : Inf	252+253	99.7 : 102.9%
12/1	Ahead	U	1:2	N/A	C1:C		1	71	-	666	1900	1520	39.9%
12/2	Right Ahead	U	1:2	N/A	C1:C		1	71	-	1021	1900	1520	62.3%
12/3	Right	U	1:2	N/A	C1:C		1	71	-	855	1900	1520	49.9%

12/4	Right	U	1:2	N/A	C1:C		1	71	-	531	1900	1520	32.3%
14/2+14/1	Newport Pagnell Road Ahead Left	U	1:2	N/A	C1:D		1	9	-	657	2005:1965	223+218	149.0 : 148.9%
14/3	Newport Pagnell Road Ahead	U	1:2	N/A	C1:D		1	9	-	314	1908	212	148.1%
15/1	Ahead	U	2:1	N/A	C2:A		1	64	-	1269	1900	1372	79.5%
15/2	Ahead Ahead2	U	2:1	N/A	C2:A		1	64	-	1187	1900	1372	71.5%
15/3	Ahead	U	2:1	N/A	C2:A		1	64	-	845	1900	1372	51.3%
17/2+17/1	A45 Northbound Left U-Turn	U	2:1	N/A	C2:B		1	16	-	482	2120:1980	400+42	109.0 : 109.0%
17/3	A45 Northbound Left	U	2:1	N/A	C2:B		1	16	-	407	1980	374	108.8%

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: Queen Elanor Gyratory Mitigation	**-**	**-**	**1007**	**0**	**0**	**154.9**	**778.3**	**0.0**	**933.1**	**-**	**-**	**-**	**-**
Queen Elanor Gyratory	**-**	**-**	**1007**	**0**	**0**	**154.9**	**778.3**	**0.0**	**933.1**	**-**	**-**	**-**	**-**
1/1	894	589	-	-	-	22.2	154.1	-	176.3	710.0	31.4	154.1	185.6
1/2+1/3	1641	1108	-	-	-	36.2	265.1	-	301.3	660.9	46.6	265.1	311.6
2/1	737	737	-	-	-	2.1	1.0	-	3.0	14.8	7.5	1.0	8.4
2/2	706	706	-	-	-	0.7	0.9	-	1.5	7.7	9.4	0.9	10.2
2/3	371	371	-	-	-	1.8	0.2	-	2.0	19.4	7.5	0.2	7.7
4/1	721	721	-	-	-	0.2	0.6	-	0.8	4.2	0.7	0.6	1.3
4/2	858	858	-	-	-	0.8	0.8	-	1.7	7.1	6.8	0.8	7.6
4/3	477	477	-	-	-	0.3	0.3	-	0.6	4.6	0.8	0.3	1.1
5/2+5/1	610	610	-	-	-	5.7	5.3	-	11.0	65.2	10.1	5.3	15.4
5/3	544	544	-	-	-	3.4	1.1	-	4.5	29.8	11.2	1.1	12.3
7/1	750	750	-	-	-	6.1	2.6	-	8.7	41.7	15.0	2.6	17.7
7/2	684	684	-	-	-	5.0	1.7	-	6.7	35.2	16.0	1.7	17.7
8/2+8/1	1092	1005	-	-	-	11.8	48.9	-	60.7	200.1	29.1	48.9	78.0
8/3	922	792	-	-	-	13.0	68.4	-	81.3	317.6	26.3	68.4	94.7
10/3	562	562	-	-	-	0.0	0.1	-	0.1	0.7	0.0	0.1	0.1
10/4	241	241	-	-	-	0.0	0.0	-	0.0	0.7	0.0	0.0	0.0
11/2+11/1	511	504	1007	0	0	3.7	13.5	-	17.2	121.0	19.3	13.5	32.7
12/1	607	607	-	-	-	0.5	0.3	-	0.8	4.8	2.7	0.3	3.0
12/2	948	948	-	-	-	0.5	0.8	-	1.3	5.1	12.8	0.8	13.6
12/3	759	759	-	-	-	0.4	0.5	-	0.9	4.1	6.6	0.5	7.1
12/4	492	492	-	-	-	0.4	0.2	-	0.6	4.6	5.4	0.2	5.7
14/2+14/1	657	441	-	-	-	16.8	109.4	-	126.3	692.0	16.0	109.4	125.4
14/3	314	212	-	-	-	8.7	52.5	-	61.2	701.4	12.9	52.5	65.4

15/1	1090	1090	-	-	-	1.6	1.9	-	3.5	11.6	6.0	1.9	7.9
15/2	982	982	-	-	-	1.1	1.2	-	2.3	8.5	4.5	1.2	5.7
15/3	704	704	-	-	-	0.6	0.5	-	1.2	6.0	3.1	0.5	3.7
17/2+17/1	482	442	-	-	-	6.2	24.8	-	30.9	230.9	12.5	24.8	37.3
17/3	407	374	-	-	-	5.3	21.3	-	26.5	234.8	11.0	21.3	32.3

C1 - Queen Elanor A B	Stream: 1	PRC for Signalled Lanes (%):	-29.3	Total Delay for Signalled Lanes (pcuHr):	161.92	Cycle Time (s): 90
C1 - Queen Elanor A B	Stream: 2	PRC for Signalled Lanes (%):	-65.6	Total Delay for Signalled Lanes (pcuHr):	191.10	Cycle Time (s): 90
C2 - Queen Elanor C D	Stream: 1	PRC for Signalled Lanes (%):	-21.1	Total Delay for Signalled Lanes (pcuHr):	66.15	Cycle Time (s): 90
C2 - Queen Elanor C D	Stream: 2	PRC for Signalled Lanes (%):	-68.8	Total Delay for Signalled Lanes (pcuHr):	484.14	Cycle Time (s): 90
C3 - London Road		PRC for Signalled Lanes (%):	-3.3	Total Delay for Signalled Lanes (pcuHr):	12.50	Cycle Time (s): 90
		PRC Over All Lanes (%):	-68.8	Total Delay Over All Lanes(pcuHr):	933.14	

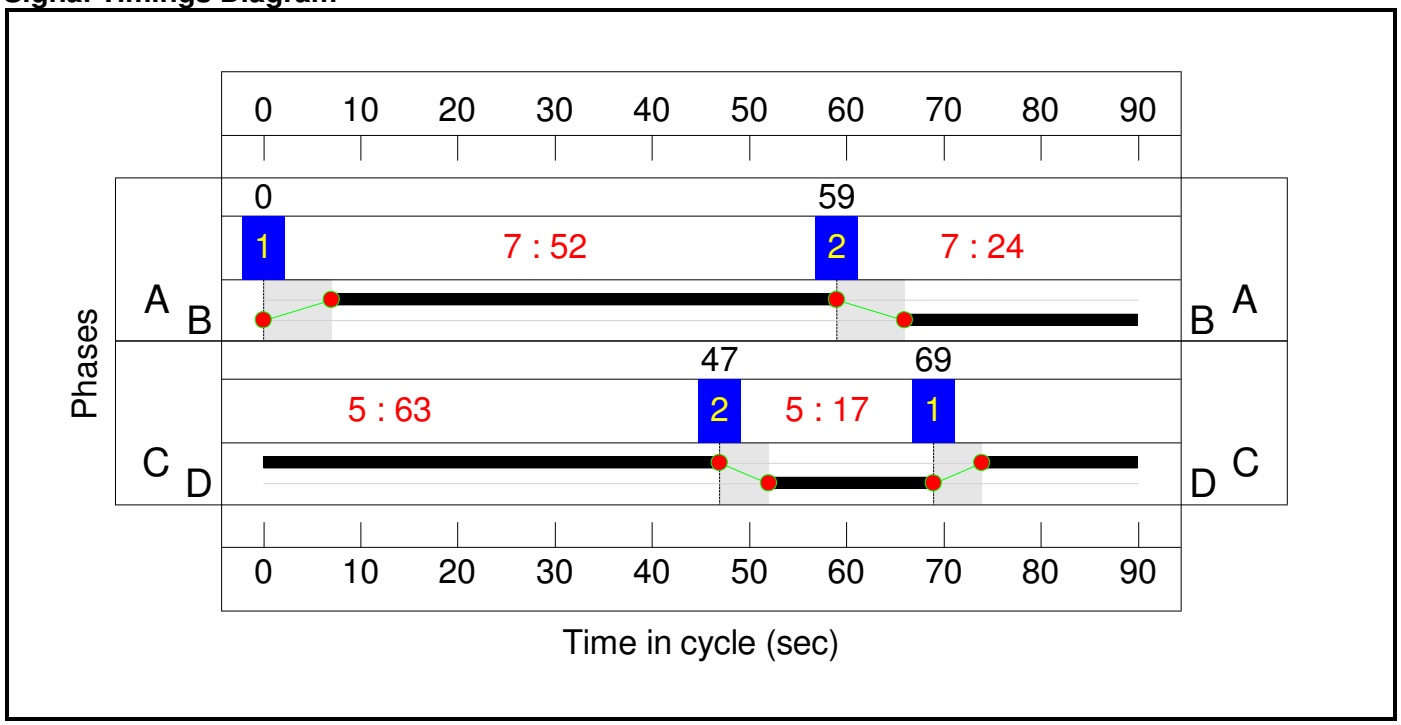
Scenario 2: '2031 J1d Dev PM' (FG2: '2031 J1d Dev PM', Plan 1: 'Network Control Plan 1')
C1 - Queen Elanor A B
Stage Timings
Stage Stream: 1

Stage	1	2
Duration	52	24
Change Point	0	59

Stage Stream: 2

Stage	1	2
Duration	63	17
Change Point	69	47

Signal Timings Diagram



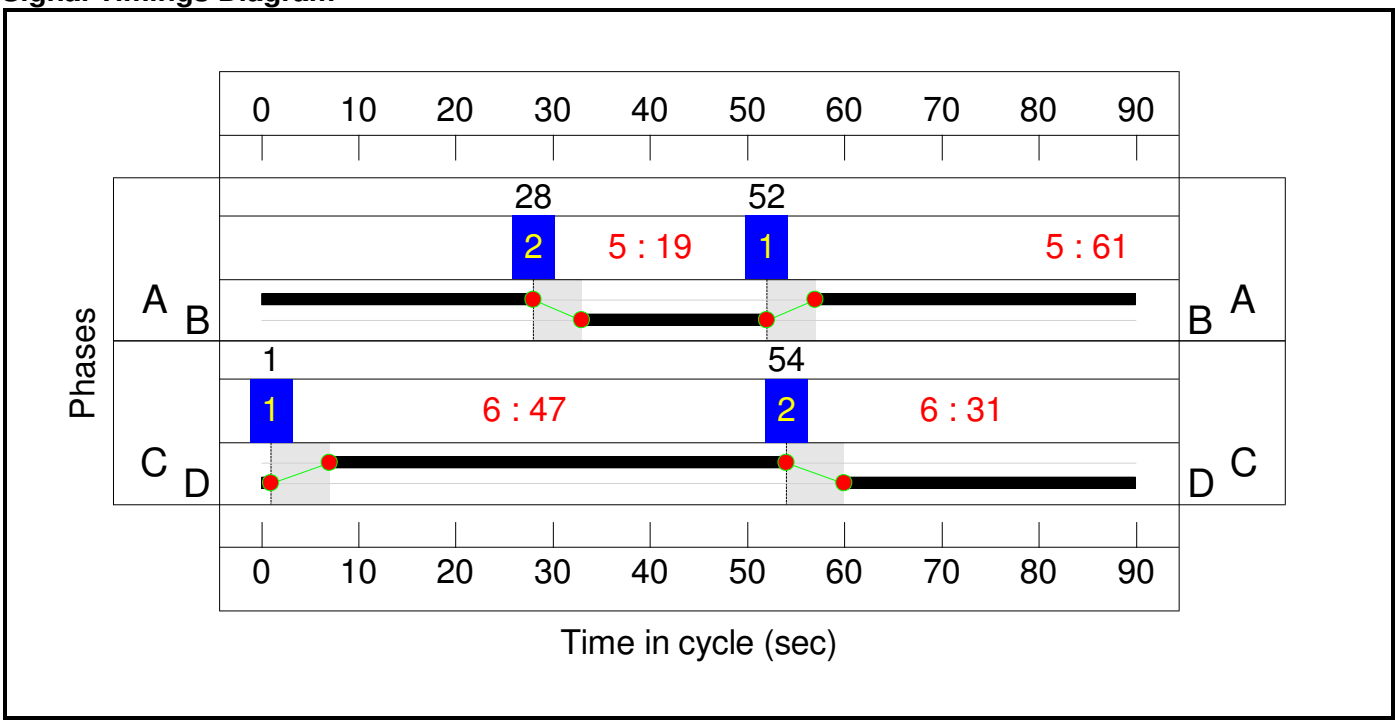
C2 - Queen Elanor C D
Stage Timings
Stage Stream: 1

Stage	1	2
Duration	61	19
Change Point	52	28

Stage Stream: 2

Stage	1	2
Duration	47	31
Change Point	1	54

Signal Timings Diagram

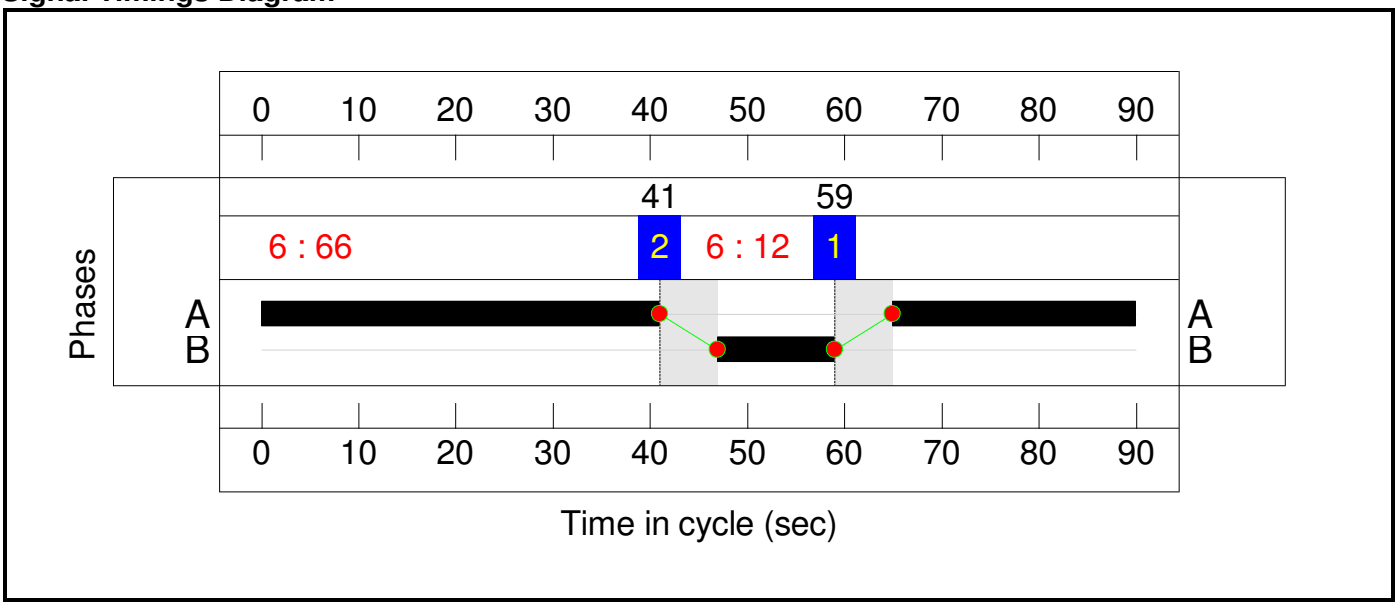


C3 - London Road

Stage Timings

Stage	1	2
Duration	66	12
Change Point	59	41

Signal Timings Diagram



Network Results

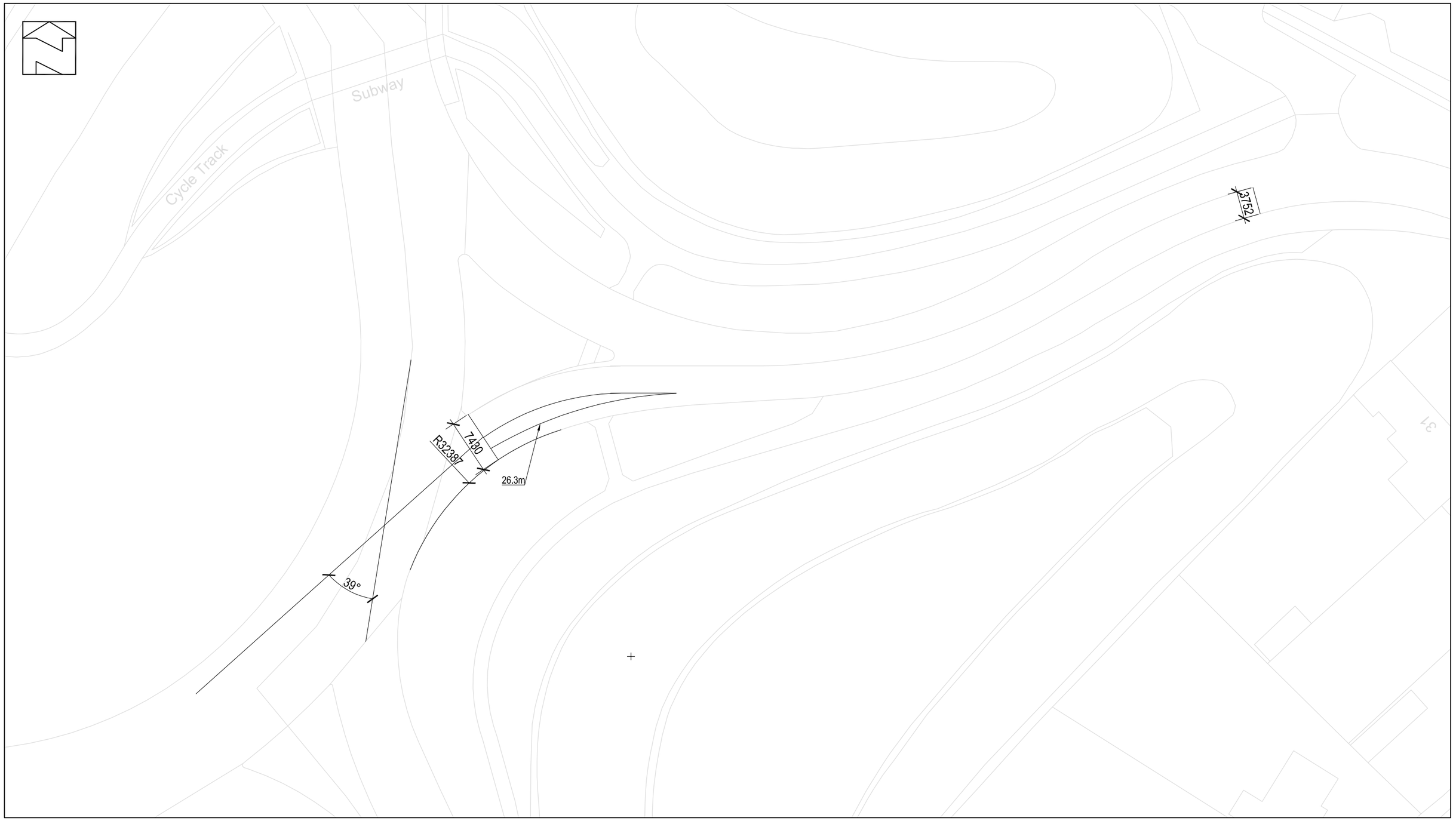
Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network: Queen Elanor Gyratory Mitigation	-	-	**N/A**	-	-		-	-	-	-	-	-	**140.8%**
Queen Elanor Gyratory	-	-	**N/A**	-	-		-	-	-	-	-	-	**140.8%**
1/1	A5076 Mere Way Left Ahead	U	2:2	N/A	C2:D		1	31	-	950	1964	698	136.0%
1/2+1/3	A5076 Mere Way Ahead	U	2:2	N/A	C2:D		1	31	-	1589	2105:1965	430+699	140.8 : 140.8%
2/1	Ahead	U	2:2	N/A	C2:C		1	47	-	780	1900	1013	70.1%
2/2	Ahead	U	2:2	N/A	C2:C		1	47	-	776	1900	1013	63.5%
2/3	Right	U	2:2	N/A	C2:C		1	47	-	589	1900	1013	52.6%
4/1	Ahead	U	N/A	N/A	C3:A		1	66	-	1020	1900	1414	54.1%
4/2	Ahead	U	2:1	N/A	C2:A		1	61	-	1053	1900	1309	63.2%
4/3	Right	U	N/A	N/A	C3:A		1	66	-	1050	1900	1414	54.0%
5/2+5/1	A508 London Road Left Ahead	U	N/A	N/A	C3:B		1	12	-	629	2105:1965	297+284	91.2 : 126.1%
5/3	A508 London Road Ahead	U	1:1	N/A	C1:B		1	24	-	692	1965	546	126.8%
7/1	Ahead Right	U	1:1	N/A	C1:A		1	52	-	1186	1900	1119	83.9%
7/2	Right	U	1:1	N/A	C1:A		1	52	-	827	1900	1119	57.4%
8/2+8/1	A45 Southbound Left Ahead	U	1:1	N/A	C1:B		1	24	-	1307	2120:1894	589+476	122.8 : 122.8%
8/3	A45 Southbound Ahead	U	1:1	N/A	C1:B		1	24	-	708	1980	550	128.7%
10/3	Right	U	N/A	N/A	-		-	-	-	605	3000	3000	15.7%
10/4	Right	U	N/A	N/A	-		-	-	-	121	3000	3000	3.1%
11/2+11/1	Hardingstone Lane Ahead Left	O	N/A	N/A	-		-	-	-	627	Inf : Inf	378+213	106.1 : 106.1%
12/1	Ahead	U	1:2	N/A	C1:C		1	63	-	905	1900	1351	50.6%
12/2	Right Ahead	U	1:2	N/A	C1:C		1	63	-	995	1900	1351	59.6%
12/3	Right	U	1:2	N/A	C1:C		1	63	-	793	1900	1351	48.7%

12/4	Right	U	1:2	N/A	C1:C		1	63	-	522	1900	1351	34.9%
14/2+14/1	Newport Pagnell Road Ahead Left	U	1:2	N/A	C1:D		1	17	-	1089	2005:1945	400+389	138.0 : 138.0%
14/3	Newport Pagnell Road Ahead	U	1:2	N/A	C1:D		1	17	-	520	1908	382	136.3%
15/1	Ahead	U	2:1	N/A	C2:A		1	61	-	1258	1900	1309	75.1%
15/2	Ahead Ahead2	U	2:1	N/A	C2:A		1	61	-	1345	1900	1309	80.8%
15/3	Ahead	U	2:1	N/A	C2:A		1	61	-	1042	1900	1309	65.2%
17/2+17/1	A45 Northbound Left U-Turn	U	2:1	N/A	C2:B		1	19	-	401	2120:1980	461+67	75.9 : 75.9%
17/3	A45 Northbound Left	U	2:1	N/A	C2:B		1	19	-	323	1980	440	73.4%

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: Queen Elanor Gyratory Mitigation	**-**	**-**	**1208**	**0**	**0**	**169.5**	**947.1**	**0.0**	**1116.6**	**-**	**-**	**-**	**-**
Queen Elanor Gyratory	**-**	**-**	**1208**	**0**	**0**	**169.5**	**947.1**	**0.0**	**1116.6**	**-**	**-**	**-**	**-**
1/1	950	698	-	-	-	21.1	127.7	-	148.8	563.9	35.3	127.7	163.0
1/2+1/3	1589	1128	-	-	-	29.3	232.1	-	261.4	592.2	43.7	232.1	275.8
2/1	711	711	-	-	-	2.0	1.2	-	3.2	16.0	7.8	1.2	8.9
2/2	644	644	-	-	-	2.5	0.9	-	3.4	18.9	9.7	0.9	10.6
2/3	533	533	-	-	-	2.3	0.6	-	2.8	19.0	10.1	0.6	10.7
4/1	765	765	-	-	-	0.3	0.6	-	0.9	4.1	1.5	0.6	2.1
4/2	827	827	-	-	-	0.6	0.9	-	1.5	6.5	1.9	0.9	2.8
4/3	764	764	-	-	-	1.3	0.6	-	1.9	9.0	4.8	0.6	5.4
5/2+5/1	629	555	-	-	-	9.3	42.4	-	51.7	295.8	10.8	42.4	53.2
5/3	692	546	-	-	-	14.0	75.4	-	89.3	464.8	24.0	75.4	99.4
7/1	939	939	-	-	-	3.7	2.5	-	6.2	23.9	9.6	2.5	12.1
7/2	642	642	-	-	-	3.5	0.7	-	4.2	23.4	14.8	0.7	15.5
8/2+8/1	1307	1064	-	-	-	20.5	123.9	-	144.3	397.5	28.5	123.9	152.3
8/3	708	550	-	-	-	14.7	81.2	-	95.9	487.7	25.0	81.2	106.2
10/3	470	470	-	-	-	0.0	0.1	-	0.1	0.7	0.0	0.1	0.1
10/4	94	94	-	-	-	0.0	0.0	-	0.0	0.6	0.0	0.0	0.0
11/2+11/1	627	604	1208	0	0	3.3	24.4	-	27.6	158.7	21.6	24.4	46.0
12/1	684	684	-	-	-	0.8	0.5	-	1.3	6.7	3.0	0.5	3.5
12/2	806	806	-	-	-	0.4	0.7	-	1.1	5.1	6.3	0.7	7.1
12/3	658	658	-	-	-	0.4	0.5	-	0.9	4.8	2.4	0.5	2.9
12/4	472	472	-	-	-	1.1	0.3	-	1.4	10.5	7.3	0.3	7.5
14/2+14/1	1089	789	-	-	-	20.7	151.8	-	172.5	570.2	27.4	151.8	179.2
14/3	520	382	-	-	-	10.6	71.0	-	81.6	565.0	17.3	71.0	88.4

15/1	983	983	-	-	-	0.2	1.5	-	1.7	6.3	1.2	1.5	2.7
15/2	1058	1058	-	-	-	0.3	2.1	-	2.4	8.2	1.6	2.1	3.7
15/3	854	854	-	-	-	0.3	0.9	-	1.2	5.0	1.6	0.9	2.5
17/2+17/1	401	401	-	-	-	3.6	1.5	-	5.1	45.8	8.1	1.5	9.6
17/3	323	323	-	-	-	2.9	1.3	-	4.3	47.6	7.4	1.3	8.8

C1 - Queen Elanor A B	Stream: 1 PRC for Signalled Lanes (%):	-43.0	Total Delay for Signalled Lanes (pcuHr):	339.97	Cycle Time (s): 90
C1 - Queen Elanor A B	Stream: 2 PRC for Signalled Lanes (%):	-53.4	Total Delay for Signalled Lanes (pcuHr):	258.75	Cycle Time (s): 90
C2 - Queen Elanor C D	Stream: 1 PRC for Signalled Lanes (%):	11.3	Total Delay for Signalled Lanes (pcuHr):	16.18	Cycle Time (s): 90
C2 - Queen Elanor C D	Stream: 2 PRC for Signalled Lanes (%):	-56.5	Total Delay for Signalled Lanes (pcuHr):	419.54	Cycle Time (s): 90
C3 - London Road	PRC for Signalled Lanes (%):	-40.1	Total Delay for Signalled Lanes (pcuHr):	54.46	Cycle Time (s): 90
	PRC Over All Lanes (%):	-56.5	Total Delay Over All Lanes(pcuHr):	1116.65	



Rev	Description	Date

Project:

Northampton Gateway SRFI

Title:

Queen Eleanor Interchange Arcady Measurements

Client:

ROXHILL

ADC INFRASTRUCTURE

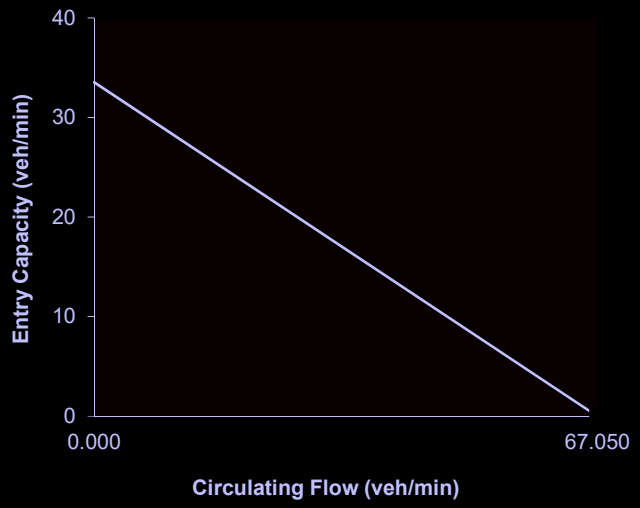
Drg Size:	Scale:	Date:
A3	1:500	11/12/2017

Drg No:	Rev:
-	-

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Arcady Spreadsheet

Geometric Parameters		Enter Values	Acceptable Ranges
Approach road half width (m)	v	3.8	(2.2 - 12m)
Entry width (m)	e	7.4	(3 - 16m)
Effective length over which the flare is developed	l'	26.3	Any but Trl only up to 30
Entry radius (m)	r	32.3	(>= 3m)
Inscribed circle diameter (m)	D	158	(> = 13m)
Entry conflict angle (m)	Phi	20	(0 - 80)



INTERCEPT = 33.53 (Veh / Min)

2012 (Veh / Hr)

SLOPE = 0.500

	Veh/min	Veh/hr
Enter circul	59.81	0
Entry Capa	3.62	2012

APPENDIX H

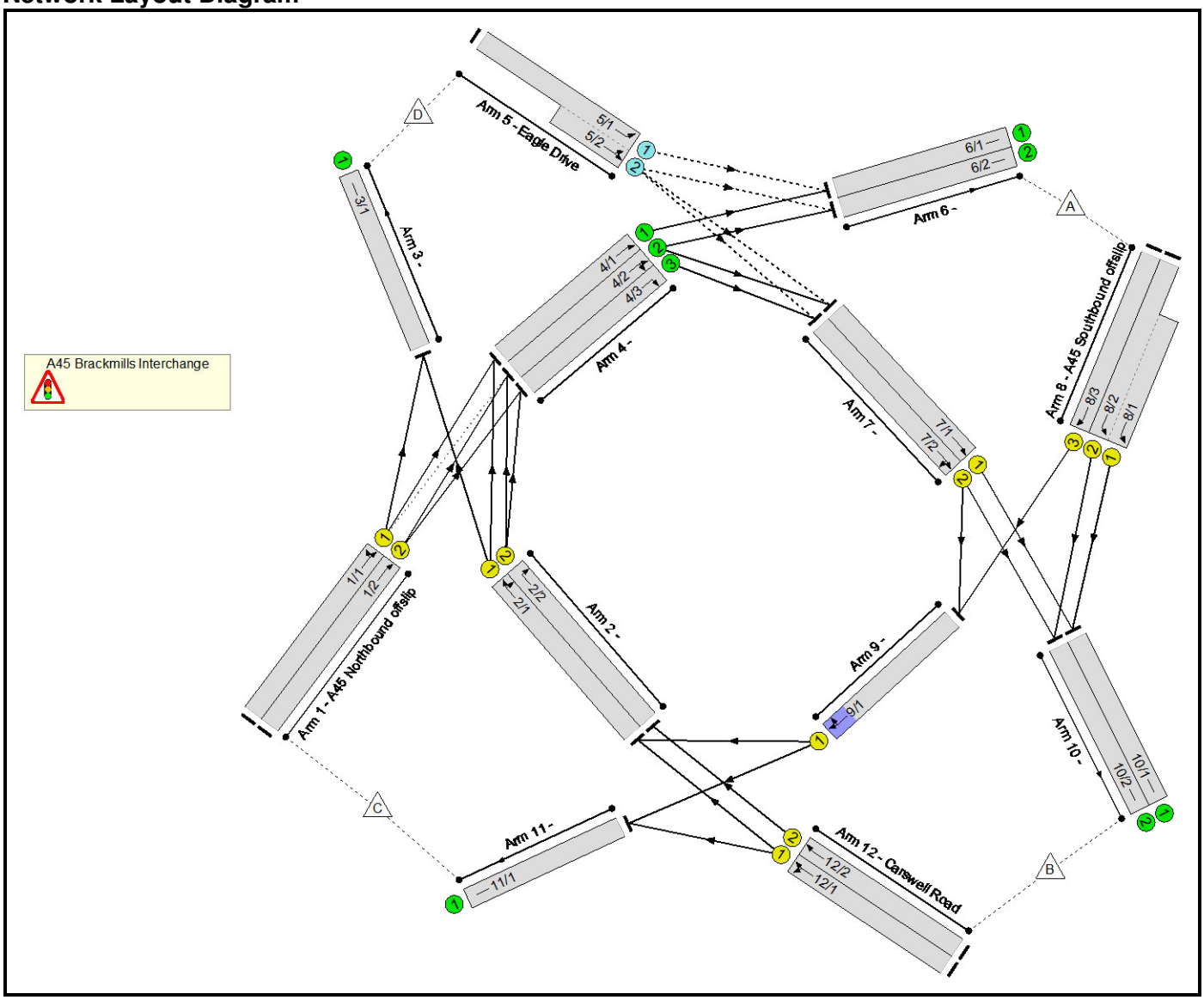
BRACKMILLS INTERCHAGE LINSIG MODEL

Full Input Data And Results

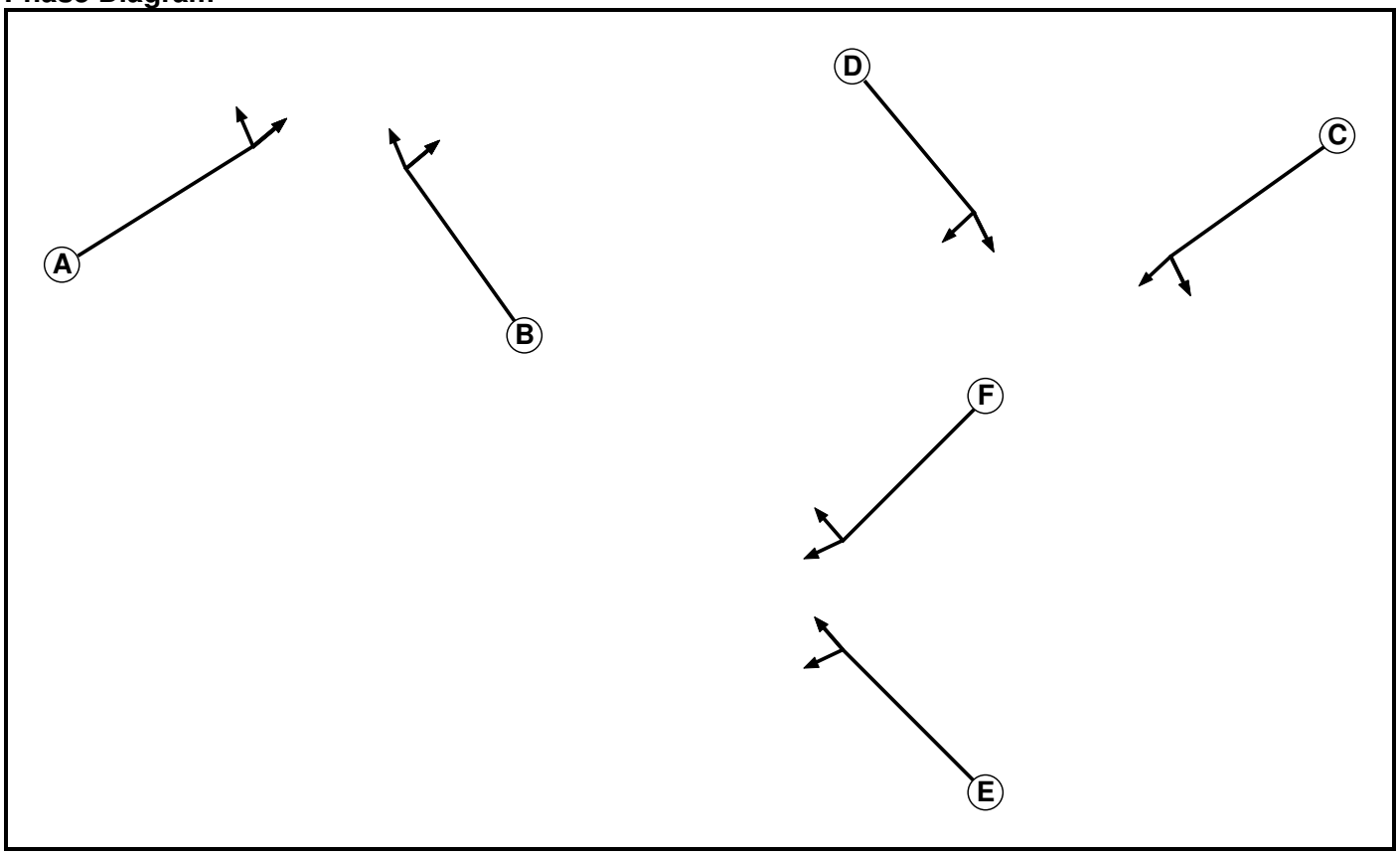
User and Project Details

Project:	**Northampton Gateway SRFI**
Title:	**Brackmills Interchange**
Location:	
File name:	180206 Brackmills Interchange Base Model.lsg3x
Author:	Mark Higgins
Company:	ADC Infrastructure
Address:	Western House, Nottingham
Notes:	

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

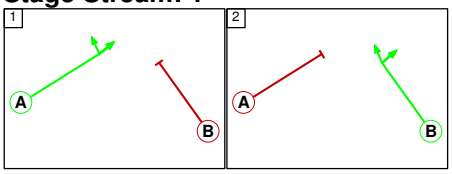
		Starting Phase					
		A	B	C	D	E	F
Terminating Phase	A		6	-	-	-	-
	B	6		-	-	-	-
	C	-	-		6	-	-
	D	-	-	6		-	-
	E	-	-	-	-		6
	F	-	-	-	-	6	

Phases in Stage

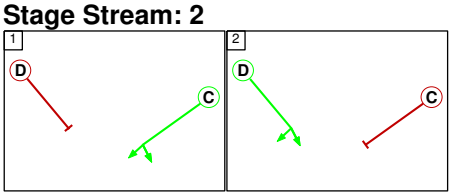
Stream	Stage No.	Phases in Stage
1	1	A
1	2	B
2	1	C
2	2	D
3	1	E
3	2	F

Stage Diagram

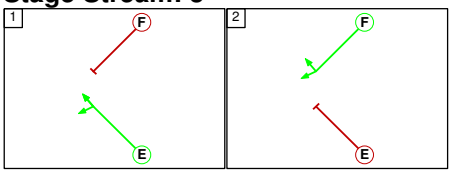
Stage Stream: 1



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	40.00
											Arm 4 Ahead	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	1800	-	-	-	-	-
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	Inf
											Arm 11 Left	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
1: '2031 D1 Ref AM'	08:00	09:00	01:00	
2: '2031 D1 Ref PM'	17:00	18:00	01:00	
3: '2031 J1d Dev AM'	08:00	09:00	01:00	
4: '2031 J1d Dev PM'	17:00	18:00	01:00	
5: '2021 C1 Ref AM'	08:00	09:00	01:00	
6: '2021 C1 Ref PM'	17:00	18:00	01:00	
7: '2021 I1 Dev AM'	08:00	09:00	01:00	
8: '2021 I1 Dev PM'	17:00	18:00	01:00	

Scenario 1: '2031 D1 Ref AM' (FG1: '2031 D1 Ref AM', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

		Destination				
		A	B	C	D	Tot.
Origin	A	0	1057	56	10	1123
	B	888	0	599	5	1492
	C	1341	655	0	14	2010
	D	42	12	27	0	81
	Tot.	2271	1724	682	29	4706

Traffic Lane Flows

Lane	Scenario 1: 2031 D1 Ref AM
Junction: A45 Brackmills Interchange	
1/1	1005
1/2	1005
2/1	447
2/2	456
3/1	29
4/1	767
4/2	1805
4/3	312
5/1 (with short)	81(In) 21(Out)
5/2 (short)	60
6/1	788
6/2	1483
7/1	350
7/2	344
8/1 (short)	504
8/2 (with short)	1057(In) 553(Out)
8/3	66
9/1	93
10/1	854
10/2	870
11/1	682
12/1	1036
12/2	456

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	1.4 %	1964	1964
				Arm 4 Ahead	Inf	98.6 %		
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						1800	1800
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	42.2 %	1899	1899
				Arm 11 Left	40.00	57.8 %		
12/2 (Carswell Road)	3.25	0.00	Y	Arm 2 Ahead	Inf	100.0 %	1940	1940

Scenario 2: '2031 J1d Dev AM' (FG3: '2031 J1d Dev AM', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

		Destination				
		A	B	C	D	Tot.
Origin	A	0	1032	82	10	1124
	B	866	0	646	8	1520
	C	1431	569	0	14	2014
	D	50	15	17	0	82
	Tot.	2347	1616	745	32	4740

Traffic Lane Flows

Lane	Scenario 2: 2031 J1d Dev AM
Junction: A45 Brackmills Interchange	
1/1	1005
1/2	1009
2/1	435
2/2	449
3/1	32
4/1	774
4/2	1820
4/3	272
5/1 (with short)	82(In) 25(Out)
5/2 (short)	57
6/1	799
6/2	1548
7/1	303
7/2	298
8/1 (short)	492
8/2 (with short)	1032(In) 540(Out)
8/3	92
9/1	109
10/1	795
10/2	821
11/1	745
12/1	1071
12/2	449

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	1.4 %	1964	1964
				Arm 4 Ahead	Inf	98.6 %		
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						1800	1800
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	39.7 %	1897	1897
				Arm 11 Left	40.00	60.3 %		
12/2 (Carswell Road)	3.25	0.00	Y	Arm 2 Ahead	Inf	100.0 %	1940	1940

Scenario 3: '2031 D1 Ref PM' (FG2: '2031 D1 Ref PM', 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	157	0	361	50	568
	C	1336	666	0	9	2011
	D	566	82	146	0	794
	Tot.	2059	1000	969	59	4087

Traffic Lane Flows

Lane	Scenario 3: 2031 D1 Ref PM
Junction: A45 Brackmills Interchange	
1/1	1006
1/2	1005
2/1	81
2/2	126
3/1	59
4/1	368
4/2	1532
4/3	259
5/1 (with short)	794(In) 457(Out)
5/2 (short)	337
6/1	825
6/2	1234
7/1	450
7/2	444
8/1 (short)	120
8/2 (with short)	252(In) 132(Out)
8/3	462
9/1	608
10/1	570
10/2	430
11/1	969
12/1	442
12/2	126

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						1800	1800
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	18.3 %	1882	1882
				Arm 11 Left	40.00	81.7 %		
12/2 (Carswell Road)	3.25	0.00	Y	Arm 2 Ahead	Inf	100.0 %	1940	1940

Scenario 4: '2031 J1d Dev PM' (FG4: '2031 J1d Dev PM', 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	224	0	437	2	663
	C	1445	562	0	8	2015
	D	486	140	95	0	721
	Tot.	2155	862	1126	10	4153

Traffic Lane Flows

Lane	Scenario 4: 2031 J1d Dev PM
Junction: A45 Brackmills Interchange	
1/1	1008
1/2	1007
2/1	72
2/2	154
3/1	10
4/1	438
4/2	1560
4/3	233
5/1 (with short)	721(In) 420(Out)
5/2 (short)	301
6/1	858
6/2	1297
7/1	400
7/2	397
8/1 (short)	76
8/2 (with short)	160(In) 84(Out)
8/3	594
9/1	689
10/1	476
10/2	386
11/1	1126
12/1	509
12/2	154

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						1800	1800
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	14.1 %	1879	1879
				Arm 11 Left	40.00	85.9 %		
12/2 (Carswell Road)	3.25	0.00	Y	Arm 2 Ahead	Inf	100.0 %	1940	1940

Scenario 5: '2021 C1 Ref AM' (FG5: '2021 C1 Ref AM', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

		Destination				
		A	B	C	D	Tot.
Origin	A	14	889	30	10	943
	B	505	0	474	1	980
	C	725	1044	0	13	1782
	D	39	8	26	0	73
	Tot.	1283	1941	530	24	3778

Traffic Lane Flows

Lane	Scenario 5: 2021 C1 Ref AM
Junction: A45 Brackmills Interchange	
1/1	891
1/2	891
2/1	262
2/2	268
3/1	24
4/1	473
4/2	1311
4/3	504
5/1 (with short)	73(In) 19(Out)
5/2 (short)	54
6/1	492
6/2	791
7/1	541
7/2	537
8/1 (short)	424
8/2 (with short)	889(In) 465(Out)
8/3	54
9/1	80
10/1	965
10/2	976
11/1	530
12/1	712
12/2	268

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	1.5 %	1964	1964
				Arm 4 Ahead	Inf	98.5 %		
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						1800	1800
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	33.4 %	1893	1893
				Arm 11 Left	40.00	66.6 %		
12/2 (Carswell Road)	3.25	0.00	Y	Arm 2 Ahead	Inf	100.0 %	1940	1940

Scenario 6: '2021 I1 Dev AM' (FG7: '2021 I1 Dev AM', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

		Destination				
		A	B	C	D	Tot.
Origin	A	0	895	94	9	998
	B	510	0	457	2	969
	C	559	1216	0	17	1792
	D	45	13	14	0	72
	Tot.	1114	2124	565	28	3831

Traffic Lane Flows

Lane	Scenario 6: 2021 I1 Dev AM
Junction: A45 Brackmills Interchange	
1/1	895
1/2	897
2/1	260
2/2	261
3/1	28
4/1	438
4/2	1252
4/3	595
5/1 (with short)	72(In) 22(Out)
5/2 (short)	50
6/1	460
6/2	654
7/1	623
7/2	620
8/1 (short)	427
8/2 (with short)	895(In) 468(Out)
8/3	103
9/1	117
10/1	1050
10/2	1074
11/1	565
12/1	708
12/2	261

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	1.9 %	1964	1964
				Arm 4 Ahead	Inf	98.1 %		
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						1800	1800
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	35.5 %	1894	1894
				Arm 11 Left	40.00	64.5 %		
12/2 (Carswell Road)	3.25	0.00	Y	Arm 2 Ahead	Inf	100.0 %	1940	1940

Scenario 7: '2021 C1 Ref PM' (FG6: '2021 C1 Ref PM', 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	477	0	428	19	924
	C	1262	729	0	8	1999
	D	345	122	138	0	605
	Tot.	2084	1152	988	27	4251

Traffic Lane Flows

Lane	Scenario 7: 2021 C1 Ref PM
Junction: A45 Brackmills Interchange	
1/1	999
1/2	1000
2/1	231
2/2	265
3/1	27
4/1	532
4/2	1642
4/3	294
5/1 (with short)	605(In) 345(Out)
5/2 (short)	260
6/1	877
6/2	1207
7/1	507
7/2	482
8/1 (short)	144
8/2 (with short)	301(In) 157(Out)
8/3	422
9/1	560
10/1	651
10/2	501
11/1	988
12/1	659
12/2	265

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						1800	1800
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	35.1 %	1894	1894
				Arm 11 Left	40.00	64.9 %		
12/2 (Carswell Road)	3.25	0.00	Y	Arm 2 Ahead	Inf	100.0 %	1940	1940

Scenario 8: '2021 I1 Dev PM' (FG8: '2021 I1 Dev PM', 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	504	0	440	1	945
	C	1382	624	0	6	2012
	D	328	103	161	0	592
	Tot.	2214	1102	973	7	4296

Traffic Lane Flows

Lane	Scenario 8: 2021 I1 Dev PM
Junction: A45 Brackmills Interchange	
1/1	1005
1/2	1007
2/1	238
2/2	267
3/1	7
4/1	590
4/2	1705
4/3	215
5/1 (with short)	592(In) 328(Out)
5/2 (short)	264
6/1	918
6/2	1296
7/1	468
7/2	420
8/1 (short)	179
8/2 (with short)	375(In) 196(Out)
8/3	372
9/1	533
10/1	647
10/2	455
11/1	973
12/1	678
12/2	267

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						1800	1800
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	35.1 %	1894	1894
				Arm 11 Left	40.00	64.9 %		
12/2 (Carswell Road)	3.25	0.00	Y	Arm 2 Ahead	Inf	100.0 %	1940	1940

Scenario 1: '2031 D1 Ref AM' (FG1: '2031 D1 Ref AM', Plan 1: 'Network Control Plan 1')

Stage Timings

Stage Stream: 1

Stage	1	2
Duration	33	15
Change Point	0	39

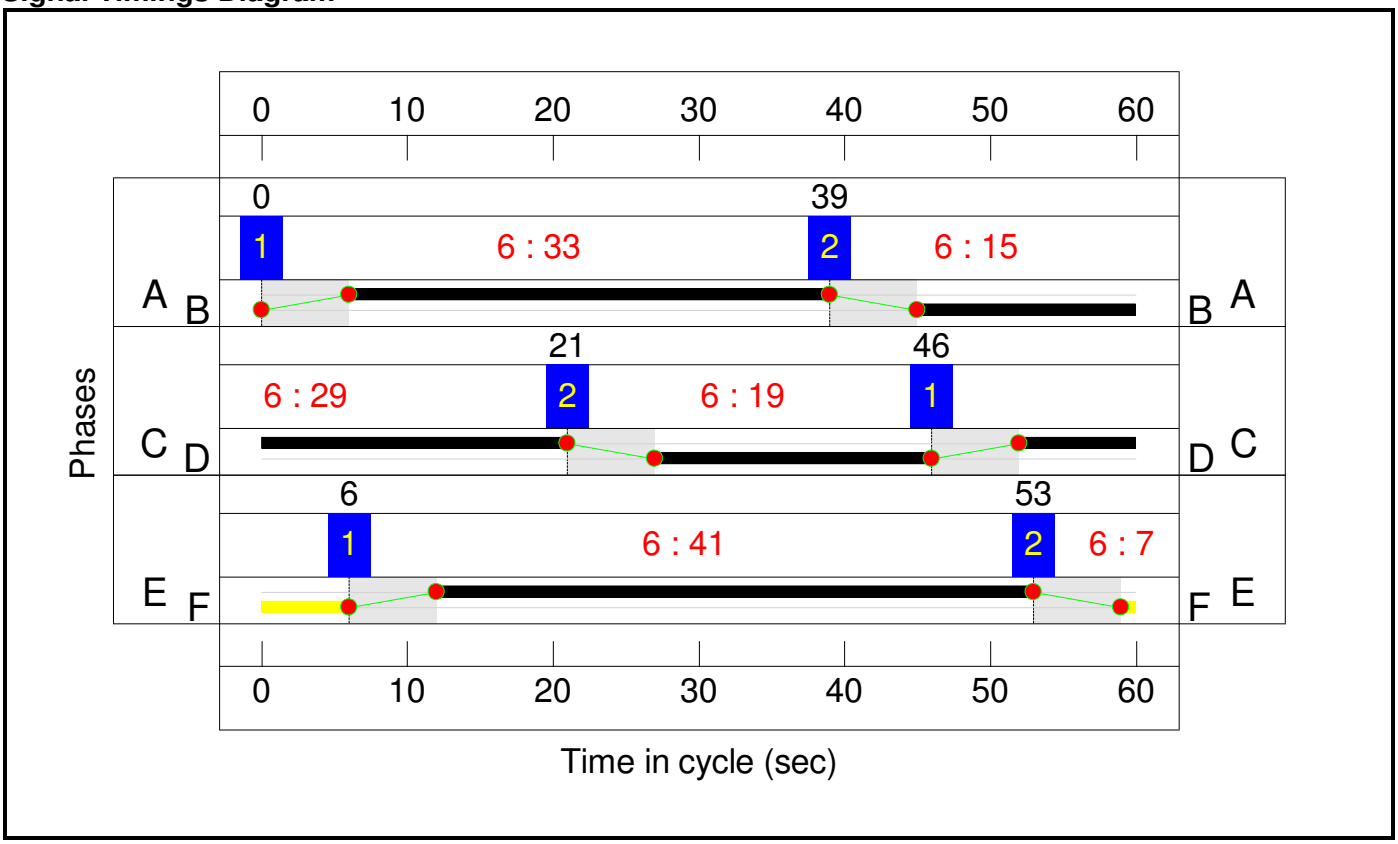
Stage Stream: 2

Stage	1	2
Duration	29	19
Change Point	46	21

Stage Stream: 3

Stage	1	2
Duration	41	7
Change Point	6	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	-	-	**N/A**	-	-		-	-	-	-	-	-	**90.3%**
A45 Brackmills Interchange	-	-	**N/A**	-	-		-	-	-	-	-	-	**90.3%**
1/1	A45 Northbound offslip Left Ahead	U	1	N/A	A		1	33	-	1005	1964	1113	90.3%
1/2	A45 Northbound offslip Ahead	U	1	N/A	A		1	33	-	1005	1965	1113	90.3%
2/1	Ahead Right	U	1	N/A	B		1	15	-	447	1900	507	88.2%
2/2	Right	U	1	N/A	B		1	15	-	456	1900	507	90.0%
3/1		U	N/A	N/A	-		-	-	-	29	Inf	Inf	0.0%
4/1	Ahead	U	N/A	N/A	-		-	-	-	767	Inf	Inf	0.0%
4/2	Ahead Right	U	N/A	N/A	-		-	-	-	1805	Inf	Inf	0.0%
4/3	Right	U	N/A	N/A	-		-	-	-	312	Inf	Inf	0.0%
5/1+5/2	Eagle Drive Left Ahead	O	N/A	N/A	-		-	-	-	81	Inf : Inf	115+329	18.3 : 18.3%
6/1		U	N/A	N/A	-		-	-	-	788	Inf	Inf	0.0%
6/2		U	N/A	N/A	-		-	-	-	1483	Inf	Inf	0.0%
7/1	Ahead	U	2	N/A	D		1	19	-	350	1900	633	55.3%
7/2	Right Ahead	U	2	N/A	D		1	19	-	344	1900	633	54.3%
8/2+8/1	A45 Southbound offslip Left	U	2	N/A	C		1	29	-	1057	2120:1932	830+756	66.7 : 66.7%
8/3	A45 Southbound offslip Ahead	U	2	N/A	C		1	29	-	66	1980	990	6.7%
9/1	Right Ahead	U	3	N/A	F		1	7	-	93	1800	240	38.8%
10/1		U	N/A	N/A	-		-	-	-	854	Inf	Inf	0.0%
10/2		U	N/A	N/A	-		-	-	-	870	Inf	Inf	0.0%
11/1		U	N/A	N/A	-		-	-	-	682	Inf	Inf	0.0%

12/1	Carswell Road Ahead Left	U	3	N/A	E		1	41	-	1036	1899	1329	77.9%
12/2	Carswell Road Ahead	U	3	N/A	E		1	41	-	456	1940	1358	33.6%

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	**-**	**-**	**162**	**0**	**0**	**17.6**	**20.5**	**0.0**	**38.1**	**-**	**-**	**-**	**-**
A45 Brackmills Interchange	**-**	**-**	**162**	**0**	**0**	**17.6**	**20.5**	**0.0**	**38.1**	**-**	**-**	**-**	**-**
1/1	1005	1005	-	-	-	3.2	4.3	-	7.5	27.0	14.8	4.3	19.1
1/2	1005	1005	-	-	-	3.2	4.3	-	7.5	26.9	14.8	4.3	19.1
2/1	447	447	-	-	-	2.0	3.4	-	5.3	42.9	7.1	3.4	10.5
2/2	456	456	-	-	-	2.2	3.9	-	6.1	48.5	7.2	3.9	11.1
3/1	29	29	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
4/1	767	767	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
4/2	1805	1805	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
4/3	312	312	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/1+5/2	81	81	162	0	0	0.0	0.1	-	0.1	5.0	0.0	0.1	0.1
6/1	788	788	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/2	1483	1483	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	350	350	-	-	-	0.6	0.6	-	1.2	12.0	3.4	0.6	4.1
7/2	344	344	-	-	-	0.6	0.6	-	1.2	12.6	3.5	0.6	4.1
8/2+8/1	1057	1057	-	-	-	3.0	1.0	-	4.0	13.5	6.1	1.0	7.1
8/3	66	66	-	-	-	0.1	0.0	-	0.2	9.7	0.6	0.0	0.6
9/1	93	93	-	-	-	0.5	0.3	-	0.8	30.5	1.4	0.3	1.8
10/1	854	854	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
10/2	870	870	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
11/1	682	682	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
12/1	1036	1036	-	-	-	1.7	1.7	-	3.5	12.0	11.2	1.7	13.0
12/2	456	456	-	-	-	0.4	0.3	-	0.7	5.5	2.9	0.3	3.2

C1	Stream: 1	PRC for Signalled Lanes (%):	-0.3	Total Delay for Signalled Lanes (pcuHr):	26.51	Cycle Time (s):	60
C1	Stream: 2	PRC for Signalled Lanes (%):	35.0	Total Delay for Signalled Lanes (pcuHr):	6.53	Cycle Time (s):	60
C1	Stream: 3	PRC for Signalled Lanes (%):	15.5	Total Delay for Signalled Lanes (pcuHr):	4.95	Cycle Time (s):	60
		PRC Over All Lanes (%):	-0.3	Total Delay Over All Lanes(pcuHr):	38.10		

Scenario 2: '2031 J1d Dev AM' (FG3: '2031 J1d Dev AM', Plan 1: 'Network Control Plan 1')

Stage Timings

Stage Stream: 1

Stage	1	2
Duration	33	15
Change Point	0	39

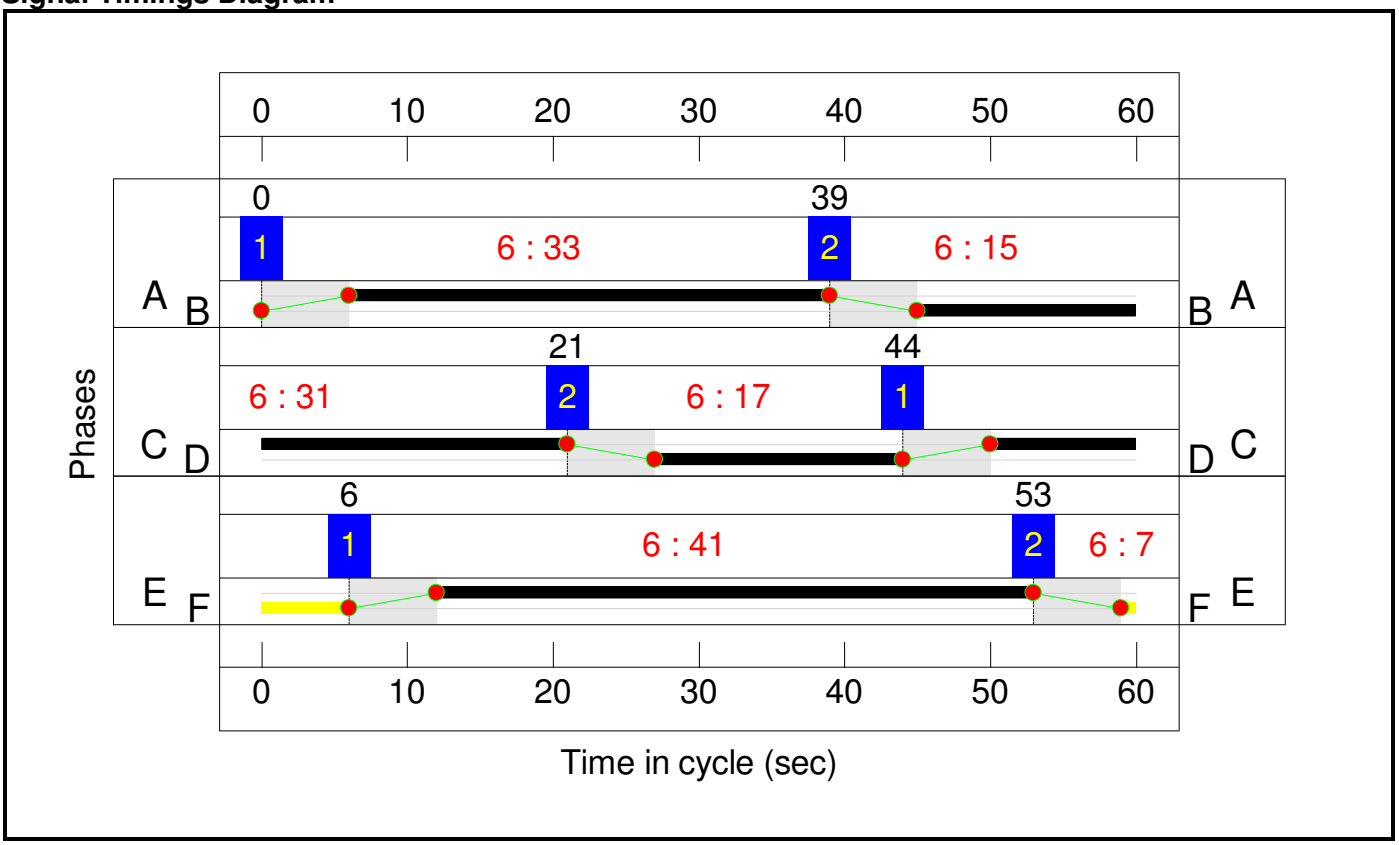
Stage Stream: 2

Stage	1	2
Duration	31	17
Change Point	44	21

Stage Stream: 3

Stage	1	2
Duration	41	7
Change Point	6	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	-	-	**N/A**	-	-		-	-	-	-	-	-	**90.6%**
A45 Brackmills Interchange	-	-	**N/A**	-	-		-	-	-	-	-	-	**90.6%**
1/1	A45 Northbound offslip Left Ahead	U	1	N/A	A		1	33	-	1005	1964	1113	90.3%
1/2	A45 Northbound offslip Ahead	U	1	N/A	A		1	33	-	1009	1965	1113	90.6%
2/1	Ahead Right	U	1	N/A	B		1	15	-	435	1900	507	85.9%
2/2	Right	U	1	N/A	B		1	15	-	449	1900	507	88.6%
3/1		U	N/A	N/A	-		-	-	-	32	Inf	Inf	0.0%
4/1	Ahead	U	N/A	N/A	-		-	-	-	774	Inf	Inf	0.0%
4/2	Ahead Right	U	N/A	N/A	-		-	-	-	1820	Inf	Inf	0.0%
4/3	Right	U	N/A	N/A	-		-	-	-	272	Inf	Inf	0.0%
5/1+5/2	Eagle Drive Left Ahead	O	N/A	N/A	-		-	-	-	82	Inf : Inf	147+336	17.0 : 17.0%
6/1		U	N/A	N/A	-		-	-	-	799	Inf	Inf	0.0%
6/2		U	N/A	N/A	-		-	-	-	1548	Inf	Inf	0.0%
7/1	Ahead	U	2	N/A	D		1	17	-	303	1900	570	53.2%
7/2	Right Ahead	U	2	N/A	D		1	17	-	298	1900	570	52.3%
8/2+8/1	A45 Southbound offslip Left	U	2	N/A	C		1	31	-	1032	2120:1932	865+788	62.4 : 62.4%
8/3	A45 Southbound offslip Ahead	U	2	N/A	C		1	31	-	92	1980	1056	8.7%
9/1	Right Ahead	U	3	N/A	F		1	7	-	109	1800	240	45.4%
10/1		U	N/A	N/A	-		-	-	-	795	Inf	Inf	0.0%
10/2		U	N/A	N/A	-		-	-	-	821	Inf	Inf	0.0%
11/1		U	N/A	N/A	-		-	-	-	745	Inf	Inf	0.0%

12/1	Carswell Road Ahead Left	U	3	N/A	E		1	41	-	1071	1897	1328	80.7%
12/2	Carswell Road Ahead	U	3	N/A	E		1	41	-	449	1940	1358	33.1%

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	**-**	**-**	**164**	**0**	**0**	**17.3**	**19.8**	**0.0**	**37.1**	**-**	**-**	**-**	**-**
A45 Brackmills Interchange	**-**	**-**	**164**	**0**	**0**	**17.3**	**19.8**	**0.0**	**37.1**	**-**	**-**	**-**	**-**
1/1	1005	1005	-	-	-	3.2	4.3	-	7.5	27.0	14.8	4.3	19.1
1/2	1009	1009	-	-	-	3.2	4.4	-	7.7	27.5	14.9	4.4	19.3
2/1	435	435	-	-	-	1.9	2.8	-	4.7	38.7	6.9	2.8	9.7
2/2	449	449	-	-	-	2.2	3.5	-	5.7	45.5	7.1	3.5	10.6
3/1	32	32	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
4/1	774	774	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
4/2	1820	1820	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
4/3	272	272	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/1+5/2	82	82	164	0	0	0.0	0.1	-	0.1	4.5	0.0	0.1	0.1
6/1	799	799	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/2	1548	1548	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	303	303	-	-	-	0.6	0.6	-	1.2	13.7	3.0	0.6	3.6
7/2	298	298	-	-	-	0.6	0.5	-	1.2	14.3	3.0	0.5	3.5
8/2+8/1	1032	1032	-	-	-	2.5	0.8	-	3.3	11.7	5.6	0.8	6.4
8/3	92	92	-	-	-	0.2	0.0	-	0.2	8.8	0.7	0.0	0.8
9/1	109	109	-	-	-	0.6	0.4	-	1.0	32.0	1.7	0.4	2.1
10/1	795	795	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
10/2	821	821	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
11/1	745	745	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
12/1	1071	1071	-	-	-	1.8	2.1	-	3.9	13.1	12.2	2.1	14.2
12/2	449	449	-	-	-	0.4	0.2	-	0.7	5.5	2.9	0.2	3.1

C1	Stream: 1	PRC for Signalled Lanes (%):	-0.7	Total Delay for Signalled Lanes (pcuHr):	25.57	Cycle Time (s):	60
C1	Stream: 2	PRC for Signalled Lanes (%):	44.2	Total Delay for Signalled Lanes (pcuHr):	5.90	Cycle Time (s):	60
C1	Stream: 3	PRC for Signalled Lanes (%):	11.6	Total Delay for Signalled Lanes (pcuHr):	5.55	Cycle Time (s):	60
		PRC Over All Lanes (%):	-0.7	Total Delay Over All Lanes(pcuHr):	37.13		

Scenario 3: '2031 D1 Ref PM' (FG2: '2031 D1 Ref PM', Plan 1: 'Network Control Plan 1')

Stage Timings

Stage Stream: 1

Stage	1	2
Duration	41	7
Change Point	0	47

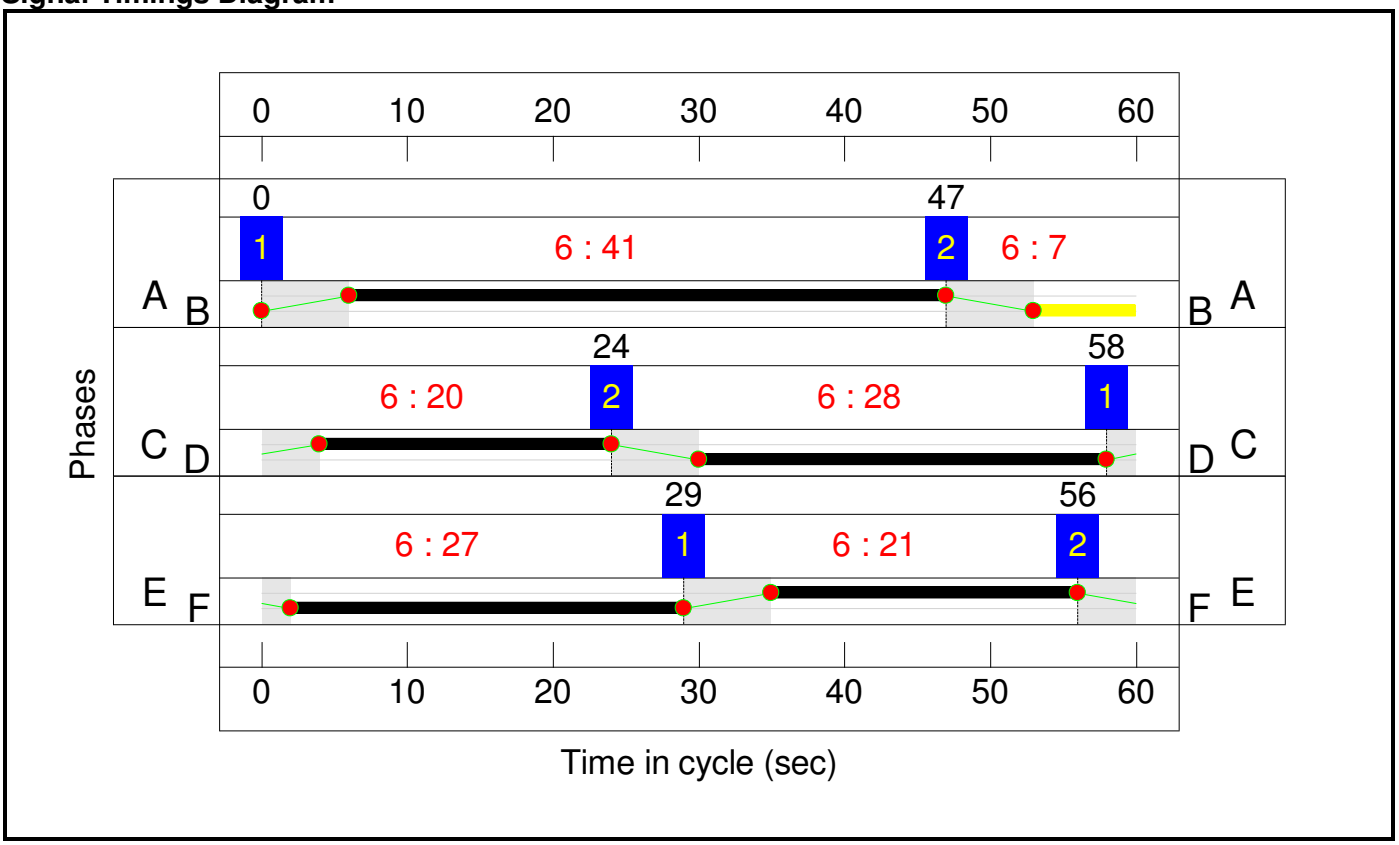
Stage Stream: 2

Stage	1	2
Duration	20	28
Change Point	58	24

Stage Stream: 3

Stage	1	2
Duration	21	27
Change Point	29	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: Brackmills Interchange	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**82.8%**
A45 Brackmills Interchange	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**82.8%**
1/1	A45 Northbound offslip Left Ahead	U	1	N/A	A		1	41	-	1006	1964	1375	73.2%
1/2	A45 Northbound offslip Ahead	U	1	N/A	A		1	41	-	1005	1965	1375	73.1%
2/1	Ahead Right	U	1	N/A	B		1	7	-	81	1900	253	32.0%
2/2	Right	U	1	N/A	B		1	7	-	126	1900	253	49.7%
3/1		U	N/A	N/A	-		-	-	-	59	Inf	Inf	0.0%
4/1	Ahead	U	N/A	N/A	-		-	-	-	368	Inf	Inf	0.0%
4/2	Ahead Right	U	N/A	N/A	-		-	-	-	1532	Inf	Inf	0.0%
4/3	Right	U	N/A	N/A	-		-	-	-	259	Inf	Inf	0.0%
5/1+5/2	Eagle Drive Left Ahead	O	N/A	N/A	-		-	-	-	794	Inf : Inf	552+481	82.8 : 70.1%
6/1		U	N/A	N/A	-		-	-	-	825	Inf	Inf	0.0%
6/2		U	N/A	N/A	-		-	-	-	1234	Inf	Inf	0.0%
7/1	Ahead	U	2	N/A	D		1	28	-	450	1900	918	49.0%
7/2	Right Ahead	U	2	N/A	D		1	28	-	444	1900	918	48.3%
8/2+8/1	A45 Southbound offslip Left	U	2	N/A	C		1	20	-	252	2120:1932	671+610	19.7 : 19.7%
8/3	A45 Southbound offslip Ahead	U	2	N/A	C		1	20	-	462	1980	693	66.7%
9/1	Right Ahead	U	3	N/A	F		1	27	-	608	1800	840	72.4%
10/1		U	N/A	N/A	-		-	-	-	570	Inf	Inf	0.0%
10/2		U	N/A	N/A	-		-	-	-	430	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	21	-	442	1882	690	64.1%
12/2	Carswell Road Ahead	U	3	N/A	E		1	21	-	126	1940	711	17.7%

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	**-**	**-**	**1588**	**0**	**0**	**12.4**	**9.4**	**0.0**	**21.9**	**-**	**-**	**-**	**-**
A45 Brackmills Interchange	**-**	**-**	**1588**	**0**	**0**	**12.4**	**9.4**	**0.0**	**21.9**	**-**	**-**	**-**	**-**
1/1	1006	1006	-	-	-	1.5	1.4	-	2.9	10.4	10.1	1.4	11.4
1/2	1005	1005	-	-	-	1.5	1.3	-	2.9	10.4	10.1	1.3	11.4
2/1	81	81	-	-	-	0.2	0.2	-	0.4	18.3	1.2	0.2	1.4
2/2	126	126	-	-	-	0.4	0.5	-	0.9	25.3	1.9	0.5	2.4
3/1	59	59	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
4/1	368	368	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
4/2	1532	1532	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
4/3	259	259	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/1+5/2	794	794	1588	0	0	1.1	1.6	-	2.7	12.3	5.7	1.6	7.4
6/1	825	825	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/2	1234	1234	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	450	450	-	-	-	0.7	0.5	-	1.1	9.1	4.9	0.5	5.3
7/2	444	444	-	-	-	0.8	0.5	-	1.3	10.3	4.0	0.5	4.5
8/2+8/1	252	252	-	-	-	0.9	0.1	-	1.1	15.3	1.5	0.1	1.6
8/3	462	462	-	-	-	2.1	1.0	-	3.1	24.3	6.4	1.0	7.4
9/1	608	608	-	-	-	0.8	1.3	-	2.1	12.4	2.4	1.3	3.7
10/1	570	570	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
10/2	430	430	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
11/1	969	969	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
12/1	442	442	-	-	-	1.9	0.9	-	2.8	22.9	6.0	0.9	6.9
12/2	126	126	-	-	-	0.5	0.1	-	0.6	16.0	1.4	0.1	1.5

C1	Stream: 1	PRC for Signalled Lanes (%):	23.0	Total Delay for Signalled Lanes (pcuHr):	7.09	Cycle Time (s):	60
C1	Stream: 2	PRC for Signalled Lanes (%):	35.0	Total Delay for Signalled Lanes (pcuHr):	6.59	Cycle Time (s):	60
C1	Stream: 3	PRC for Signalled Lanes (%):	24.3	Total Delay for Signalled Lanes (pcuHr):	5.47	Cycle Time (s):	60
		PRC Over All Lanes (%):	8.7	Total Delay Over All Lanes(pcuHr):	21.85		

Scenario 4: '2031 J1d Dev PM' (FG4: '2031 J1d Dev PM', Plan 1: 'Network Control Plan 1')

Stage Timings

Stage Stream: 1

Stage	1	2
Duration	41	7
Change Point	0	47

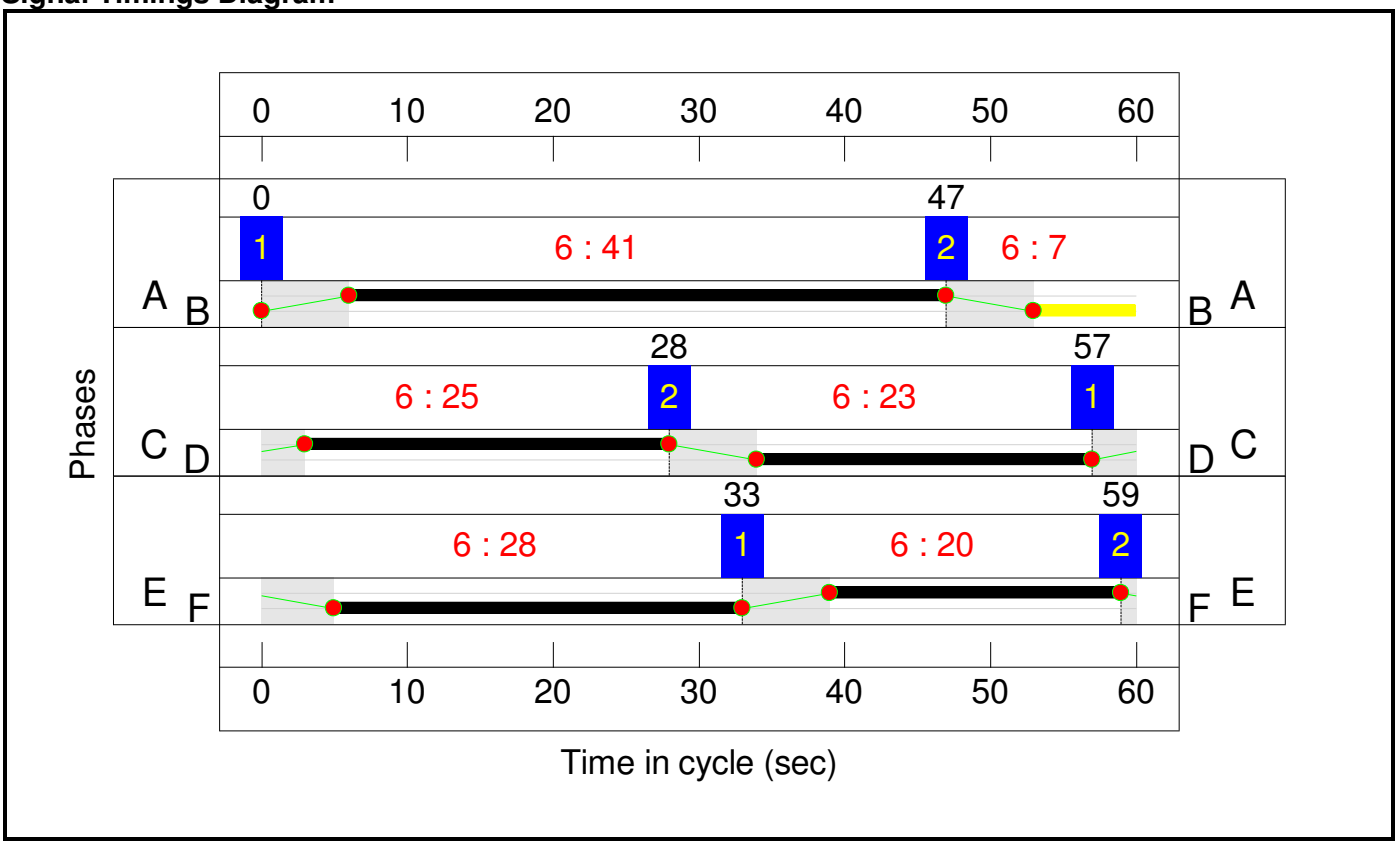
Stage Stream: 2

Stage	1	2
Duration	25	23
Change Point	57	28

Stage Stream: 3

Stage	1	2
Duration	20	28
Change Point	33	59

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	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**79.5%**
A45 Brackmills Interchange	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**79.5%**
1/1	A45 Northbound offslip Left Ahead	U	1	N/A	A		1	41	-	1008	1964	1375	73.3%
1/2	A45 Northbound offslip Ahead	U	1	N/A	A		1	41	-	1007	1965	1375	73.2%
2/1	Ahead Right	U	1	N/A	B		1	7	-	72	1900	253	28.4%
2/2	Right	U	1	N/A	B		1	7	-	154	1900	253	60.8%
3/1		U	N/A	N/A	-		-	-	-	10	Inf	Inf	0.0%
4/1	Ahead	U	N/A	N/A	-		-	-	-	438	Inf	Inf	0.0%
4/2	Ahead Right	U	N/A	N/A	-		-	-	-	1560	Inf	Inf	0.0%
4/3	Right	U	N/A	N/A	-		-	-	-	233	Inf	Inf	0.0%
5/1+5/2	Eagle Drive Left Ahead	O	N/A	N/A	-		-	-	-	721	Inf : Inf	528+433	79.5 : 69.5%
6/1		U	N/A	N/A	-		-	-	-	858	Inf	Inf	0.0%
6/2		U	N/A	N/A	-		-	-	-	1297	Inf	Inf	0.0%
7/1	Ahead	U	2	N/A	D		1	23	-	400	1900	760	52.6%
7/2	Right Ahead	U	2	N/A	D		1	23	-	397	1900	760	52.2%
8/2+8/1	A45 Southbound offslip Left	U	2	N/A	C		1	25	-	160	2120:1932	760+687	11.1 : 11.1%
8/3	A45 Southbound offslip Ahead	U	2	N/A	C		1	25	-	594	1980	858	69.2%
9/1	Right Ahead	U	3	N/A	F		1	28	-	689	1800	870	79.2%
10/1		U	N/A	N/A	-		-	-	-	476	Inf	Inf	0.0%
10/2		U	N/A	N/A	-		-	-	-	386	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	20	-	509	1879	658	77.4%
12/2	Carswell Road Ahead	U	3	N/A	E		1	20	-	154	1940	679	22.7%

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	**-**	**-**	**1442**	**0**	**0**	**12.9**	**11.1**	**0.0**	**24.0**	**-**	**-**	**-**	**-**
A45 Brackmills Interchange	**-**	**-**	**1442**	**0**	**0**	**12.9**	**11.1**	**0.0**	**24.0**	**-**	**-**	**-**	**-**
1/1	1008	1008	-	-	-	1.6	1.4	-	2.9	10.4	10.1	1.4	11.4
1/2	1007	1007	-	-	-	1.5	1.4	-	2.9	10.4	10.1	1.4	11.4
2/1	72	72	-	-	-	0.1	0.2	-	0.3	16.7	0.7	0.2	0.9
2/2	154	154	-	-	-	0.5	0.8	-	1.2	28.6	2.4	0.8	3.2
3/1	10	10	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
4/1	438	438	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
4/2	1560	1560	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
4/3	233	233	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/1+5/2	721	721	1442	0	0	0.9	1.5	-	2.3	11.7	5.0	1.5	6.5
6/1	858	858	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/2	1297	1297	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	400	400	-	-	-	0.9	0.6	-	1.5	13.5	4.8	0.6	5.4
7/2	397	397	-	-	-	1.0	0.5	-	1.5	14.0	4.4	0.5	4.9
8/2+8/1	160	160	-	-	-	0.4	0.1	-	0.5	11.5	0.8	0.1	0.9
8/3	594	594	-	-	-	2.3	1.1	-	3.4	20.5	7.9	1.1	9.0
9/1	689	689	-	-	-	0.6	1.9	-	2.5	13.0	1.6	1.9	3.4
10/1	476	476	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
10/2	386	386	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
11/1	1126	1126	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
12/1	509	509	-	-	-	2.5	1.7	-	4.1	29.2	7.5	1.7	9.2
12/2	154	154	-	-	-	0.6	0.1	-	0.7	17.2	1.8	0.1	1.9

C1	Stream: 1	PRC for Signalled Lanes (%):	22.7	Total Delay for Signalled Lanes (pcuHr):	7.38	Cycle Time (s):	60
C1	Stream: 2	PRC for Signalled Lanes (%):	30.0	Total Delay for Signalled Lanes (pcuHr):	6.95	Cycle Time (s):	60
C1	Stream: 3	PRC for Signalled Lanes (%):	13.6	Total Delay for Signalled Lanes (pcuHr):	7.36	Cycle Time (s):	60
		PRC Over All Lanes (%):	13.2	Total Delay Over All Lanes(pcuHr):	24.02		

Scenario 5: '2021 C1 Ref AM' (FG5: '2021 C1 Ref AM', Plan 1: 'Network Control Plan 1')

Stage Timings

Stage Stream: 1

Stage	1	2
Duration	37	11
Change Point	0	43

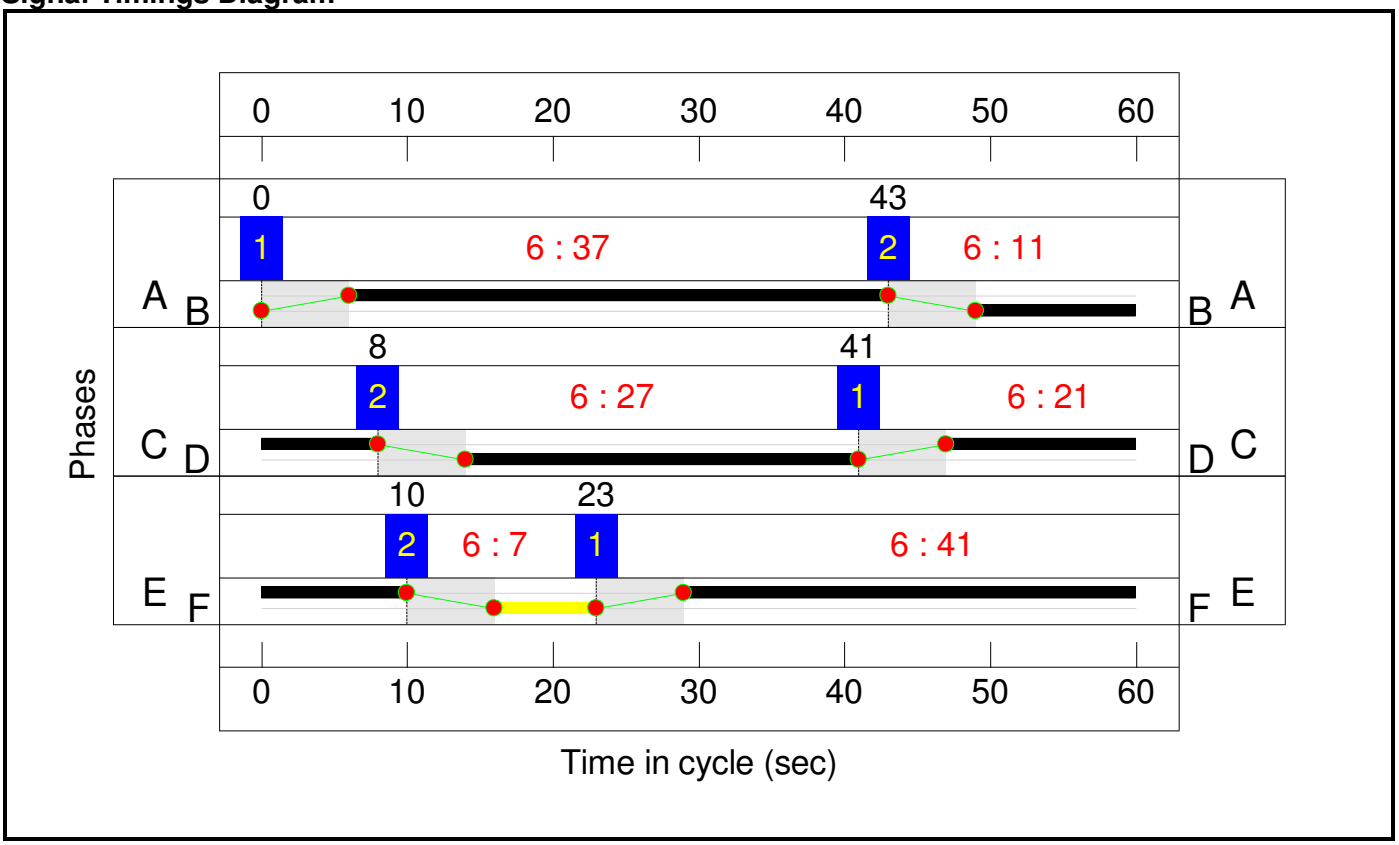
Stage Stream: 2

Stage	1	2
Duration	21	27
Change Point	41	8

Stage Stream: 3

Stage	1	2
Duration	41	7
Change Point	23	10

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	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**71.6%**
A45 Brackmills Interchange	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**71.6%**
1/1	A45 Northbound offslip Left Ahead	U	1	N/A	A		1	37	-	891	1964	1244	71.6%
1/2	A45 Northbound offslip Ahead	U	1	N/A	A		1	37	-	891	1965	1244	71.6%
2/1	Ahead Right	U	1	N/A	B		1	11	-	262	1900	380	68.9%
2/2	Right	U	1	N/A	B		1	11	-	268	1900	380	70.5%
3/1		U	N/A	N/A	-		-	-	-	24	Inf	Inf	0.0%
4/1	Ahead	U	N/A	N/A	-		-	-	-	473	Inf	Inf	0.0%
4/2	Ahead Right	U	N/A	N/A	-		-	-	-	1311	Inf	Inf	0.0%
4/3	Right	U	N/A	N/A	-		-	-	-	504	Inf	Inf	0.0%
5/1+5/2	Eagle Drive Left Ahead	O	N/A	N/A	-		-	-	-	73	Inf : Inf	169+481	11.2 : 11.2%
6/1		U	N/A	N/A	-		-	-	-	492	Inf	Inf	0.0%
6/2		U	N/A	N/A	-		-	-	-	791	Inf	Inf	0.0%
7/1	Ahead	U	2	N/A	D		1	27	-	541	1900	887	61.0%
7/2	Right Ahead	U	2	N/A	D		1	27	-	537	1900	887	60.6%
8/2+8/1	A45 Southbound offslip Left	U	2	N/A	C		1	21	-	889	2120:1932	688+628	67.6 : 67.6%
8/3	A45 Southbound offslip Ahead	U	2	N/A	C		1	21	-	54	1980	726	7.4%
9/1	Right Ahead	U	3	N/A	F		1	7	-	80	1800	240	33.3%
10/1		U	N/A	N/A	-		-	-	-	965	Inf	Inf	0.0%
10/2		U	N/A	N/A	-		-	-	-	976	Inf	Inf	0.0%
11/1		U	N/A	N/A	-		-	-	-	530	Inf	Inf	0.0%

12/1	Carswell Road Ahead Left	U	3	N/A	E		1	41	-	712	1893	1325	53.7%
12/2	Carswell Road Ahead	U	3	N/A	E		1	41	-	268	1940	1358	19.7%

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	**-**	**-**	**146**	**0**	**0**	**13.8**	**8.4**	**0.0**	**22.2**	**-**	**-**	**-**	**-**
A45 Brackmills Interchange	**-**	**-**	**146**	**0**	**0**	**13.8**	**8.4**	**0.0**	**22.2**	**-**	**-**	**-**	**-**
1/1	891	891	-	-	-	1.8	1.3	-	3.1	12.4	9.9	1.3	11.2
1/2	891	891	-	-	-	1.8	1.3	-	3.1	12.4	9.9	1.3	11.2
2/1	262	262	-	-	-	1.4	1.1	-	2.5	33.9	4.0	1.1	5.1
2/2	268	268	-	-	-	1.4	1.2	-	2.6	35.0	4.1	1.2	5.3
3/1	24	24	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
4/1	473	473	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
4/2	1311	1311	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
4/3	504	504	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/1+5/2	73	73	146	0	0	0.0	0.1	-	0.1	3.1	0.0	0.1	0.1
6/1	492	492	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/2	791	791	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	541	541	-	-	-	0.9	0.8	-	1.7	11.1	2.3	0.8	3.1
7/2	537	537	-	-	-	0.9	0.8	-	1.7	11.4	2.8	0.8	3.5
8/2+8/1	889	889	-	-	-	3.8	1.0	-	4.8	19.6	6.2	1.0	7.2
8/3	54	54	-	-	-	0.2	0.0	-	0.2	15.1	0.6	0.0	0.6
9/1	80	80	-	-	-	0.4	0.2	-	0.7	30.5	1.1	0.2	1.3
10/1	965	965	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
10/2	976	976	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
11/1	530	530	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
12/1	712	712	-	-	-	0.9	0.6	-	1.4	7.3	5.5	0.6	6.1
12/2	268	268	-	-	-	0.2	0.1	-	0.4	4.8	1.5	0.1	1.6

C1	Stream: 1	PRC for Signalled Lanes (%):	25.6	Total Delay for Signalled Lanes (pcuHr):	11.23	Cycle Time (s):	60
C1	Stream: 2	PRC for Signalled Lanes (%):	33.2	Total Delay for Signalled Lanes (pcuHr):	8.44	Cycle Time (s):	60
C1	Stream: 3	PRC for Signalled Lanes (%):	67.5	Total Delay for Signalled Lanes (pcuHr):	2.47	Cycle Time (s):	60
		PRC Over All Lanes (%):	25.6	Total Delay Over All Lanes(pcuHr):	22.21		

Scenario 6: '2021 I1 Dev AM' (FG7: '2021 I1 Dev AM', Plan 1: 'Network Control Plan 1')

Stage Timings

Stage Stream: 1

Stage	1	2
Duration	37	11
Change Point	0	43

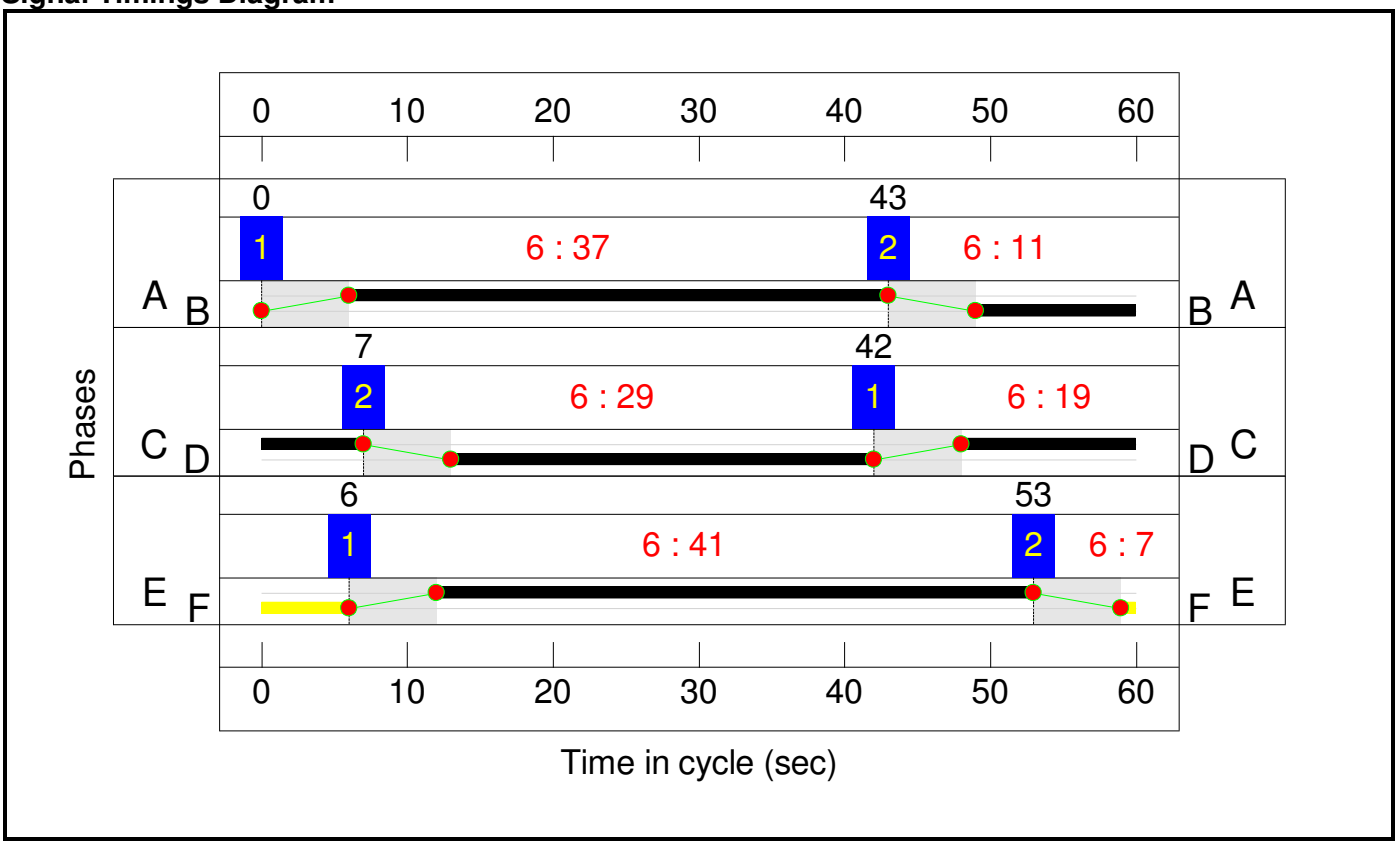
Stage Stream: 2

Stage	1	2
Duration	19	29
Change Point	42	7

Stage Stream: 3

Stage	1	2
Duration	41	7
Change Point	6	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	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**72.1%**
A45 Brackmills Interchange	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**72.1%**
1/1	A45 Northbound offslip Left Ahead	U	1	N/A	A		1	37	-	895	1964	1244	72.0%
1/2	A45 Northbound offslip Ahead	U	1	N/A	A		1	37	-	897	1965	1244	72.1%
2/1	Ahead Right	U	1	N/A	B		1	11	-	260	1900	380	68.4%
2/2	Right	U	1	N/A	B		1	11	-	261	1900	380	68.7%
3/1		U	N/A	N/A	-		-	-	-	28	Inf	Inf	0.0%
4/1	Ahead	U	N/A	N/A	-		-	-	-	438	Inf	Inf	0.0%
4/2	Ahead Right	U	N/A	N/A	-		-	-	-	1252	Inf	Inf	0.0%
4/3	Right	U	N/A	N/A	-		-	-	-	595	Inf	Inf	0.0%
5/1+5/2	Eagle Drive Left Ahead	O	N/A	N/A	-		-	-	-	72	Inf : Inf	217+492	10.2 : 10.2%
6/1		U	N/A	N/A	-		-	-	-	460	Inf	Inf	0.0%
6/2		U	N/A	N/A	-		-	-	-	654	Inf	Inf	0.0%
7/1	Ahead	U	2	N/A	D		1	29	-	623	1900	950	65.6%
7/2	Right Ahead	U	2	N/A	D		1	29	-	620	1900	950	65.3%
8/2+8/1	A45 Southbound offslip Left	U	2	N/A	C		1	19	-	895	2120:1932	653+596	71.7 : 71.7%
8/3	A45 Southbound offslip Ahead	U	2	N/A	C		1	19	-	103	1980	660	15.6%
9/1	Right Ahead	U	3	N/A	F		1	7	-	117	1800	240	48.8%
10/1		U	N/A	N/A	-		-	-	-	1050	Inf	Inf	0.0%
10/2		U	N/A	N/A	-		-	-	-	1074	Inf	Inf	0.0%
11/1		U	N/A	N/A	-		-	-	-	565	Inf	Inf	0.0%

12/1	Carswell Road Ahead Left	U	3	N/A	E		1	41	-	708	1894	1326	53.4%
12/2	Carswell Road Ahead	U	3	N/A	E		1	41	-	261	1940	1358	19.2%

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	**-**	**-**	**144**	**0**	**0**	**14.4**	**9.1**	**0.0**	**23.6**	**-**	**-**	**-**	**-**
A45 Brackmills Interchange	**-**	**-**	**144**	**0**	**0**	**14.4**	**9.1**	**0.0**	**23.6**	**-**	**-**	**-**	**-**
1/1	895	895	-	-	-	1.8	1.3	-	3.1	12.5	9.9	1.3	11.2
1/2	897	897	-	-	-	1.8	1.3	-	3.1	12.6	10.0	1.3	11.2
2/1	260	260	-	-	-	1.4	1.1	-	2.4	33.6	4.0	1.1	5.0
2/2	261	261	-	-	-	1.4	1.1	-	2.5	34.0	4.0	1.1	5.1
3/1	28	28	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
4/1	438	438	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
4/2	1252	1252	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
4/3	595	595	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/1+5/2	72	72	144	0	0	0.0	0.1	-	0.1	2.8	0.0	0.1	0.1
6/1	460	460	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/2	654	654	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	623	623	-	-	-	0.9	0.9	-	1.8	10.7	2.1	0.9	3.0
7/2	620	620	-	-	-	0.9	0.9	-	1.9	10.8	2.2	0.9	3.2
8/2+8/1	895	895	-	-	-	4.3	1.3	-	5.5	22.2	6.6	1.3	7.9
8/3	103	103	-	-	-	0.4	0.1	-	0.5	17.3	1.2	0.1	1.3
9/1	117	117	-	-	-	0.4	0.5	-	0.9	27.4	1.8	0.5	2.3
10/1	1050	1050	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
10/2	1074	1074	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
11/1	565	565	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
12/1	708	708	-	-	-	0.8	0.6	-	1.4	7.2	5.5	0.6	6.1
12/2	261	261	-	-	-	0.2	0.1	-	0.3	4.8	1.4	0.1	1.6

C1	Stream: 1	PRC for Signalled Lanes (%):	24.9	Total Delay for Signalled Lanes (pcuHr):	11.14	Cycle Time (s):	60
C1	Stream: 2	PRC for Signalled Lanes (%):	25.6	Total Delay for Signalled Lanes (pcuHr):	9.71	Cycle Time (s):	60
C1	Stream: 3	PRC for Signalled Lanes (%):	68.5	Total Delay for Signalled Lanes (pcuHr):	2.66	Cycle Time (s):	60
		PRC Over All Lanes (%):	24.9	Total Delay Over All Lanes(pcuHr):	23.57		

Scenario 7: '2021 C1 Ref PM' (FG6: '2021 C1 Ref PM', Plan 1: 'Network Control Plan 1')

Stage Timings

Stage Stream: 1

Stage	1	2
Duration	38	10
Change Point	0	44

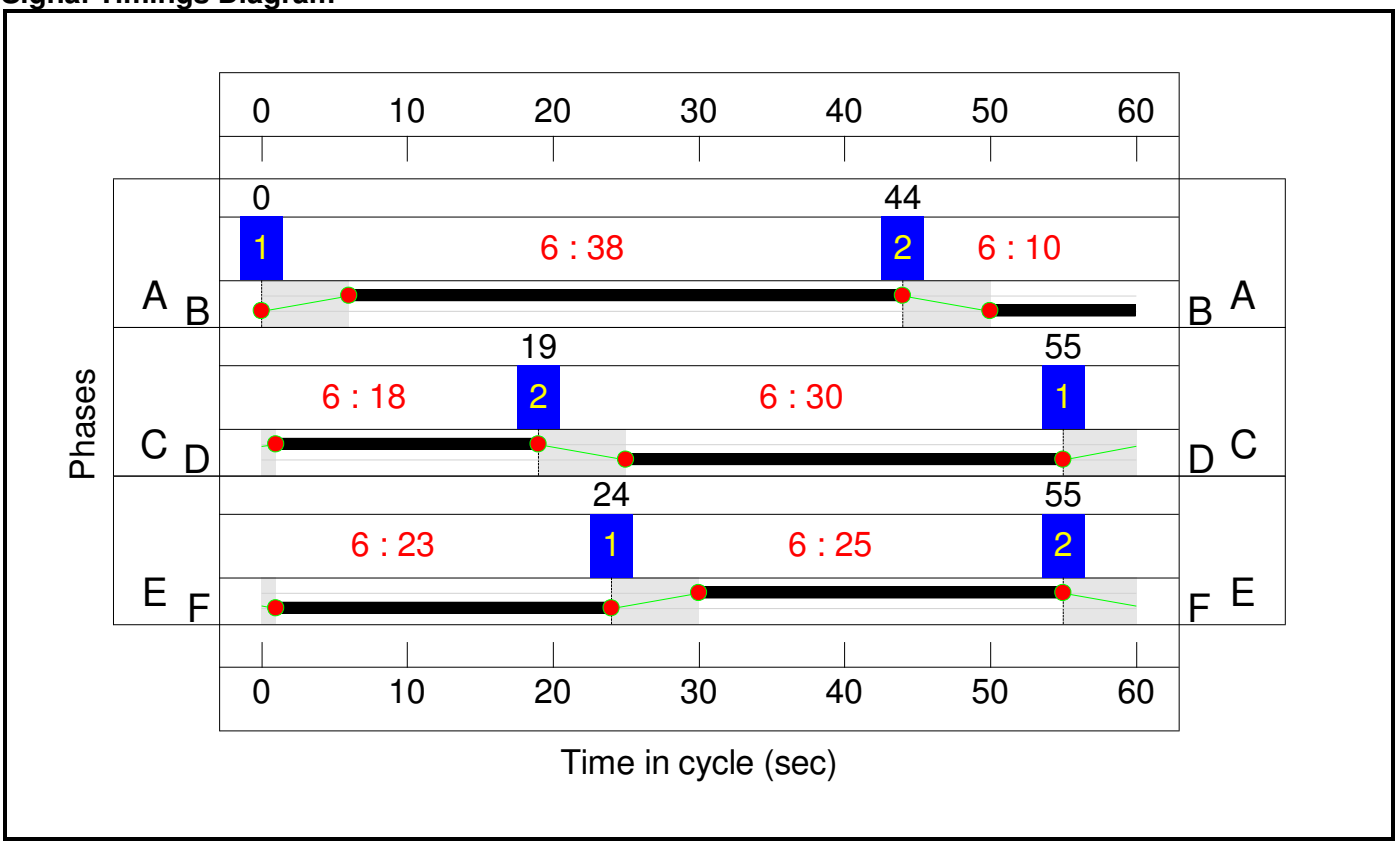
Stage Stream: 2

Stage	1	2
Duration	18	30
Change Point	55	19

Stage Stream: 3

Stage	1	2
Duration	25	23
Change Point	24	55

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	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**80.3%**
A45 Brackmills Interchange	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**80.3%**
1/1	A45 Northbound offslip Left Ahead	U	1	N/A	A		1	38	-	999	1964	1277	78.3%
1/2	A45 Northbound offslip Ahead	U	1	N/A	A		1	38	-	1000	1965	1277	78.3%
2/1	Ahead Right	U	1	N/A	B		1	10	-	231	1900	348	66.3%
2/2	Right	U	1	N/A	B		1	10	-	265	1900	348	76.1%
3/1		U	N/A	N/A	-		-	-	-	27	Inf	Inf	0.0%
4/1	Ahead	U	N/A	N/A	-		-	-	-	532	Inf	Inf	0.0%
4/2	Ahead Right	U	N/A	N/A	-		-	-	-	1642	Inf	Inf	0.0%
4/3	Right	U	N/A	N/A	-		-	-	-	294	Inf	Inf	0.0%
5/1+5/2	Eagle Drive Left Ahead	O	N/A	N/A	-		-	-	-	605	Inf : Inf	486+416	71.0 : 62.5%
6/1		U	N/A	N/A	-		-	-	-	877	Inf	Inf	0.0%
6/2		U	N/A	N/A	-		-	-	-	1207	Inf	Inf	0.0%
7/1	Ahead	U	2	N/A	D		1	30	-	507	1900	982	51.6%
7/2	Right Ahead	U	2	N/A	D		1	30	-	482	1900	982	49.1%
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	23	-	560	1800	720	77.8%
10/1		U	N/A	N/A	-		-	-	-	651	Inf	Inf	0.0%
10/2		U	N/A	N/A	-		-	-	-	501	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	25	-	659	1894	821	80.3%
12/2	Carswell Road Ahead	U	3	N/A	E		1	25	-	265	1940	841	31.5%

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	**-**	**-**	**1210**	**0**	**0**	**14.9**	**13.2**	**0.0**	**28.1**	**-**	**-**	**-**	**-**
A45 Brackmills Interchange	**-**	**-**	**1210**	**0**	**0**	**14.9**	**13.2**	**0.0**	**28.1**	**-**	**-**	**-**	**-**
1/1	999	999	-	-	-	2.1	1.8	-	3.9	13.9	11.7	1.8	13.4
1/2	1000	1000	-	-	-	2.1	1.8	-	3.9	13.9	11.7	1.8	13.4
2/1	231	231	-	-	-	0.5	1.0	-	1.5	23.1	3.5	1.0	4.5
2/2	265	265	-	-	-	0.9	1.5	-	2.4	32.9	4.1	1.5	5.7
3/1	27	27	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
4/1	532	532	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
4/2	1642	1642	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
4/3	294	294	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/1+5/2	605	605	1210	0	0	0.6	1.0	-	1.7	9.9	3.2	1.0	4.2
6/1	877	877	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/2	1207	1207	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	507	507	-	-	-	0.4	0.5	-	1.0	6.8	4.3	0.5	4.9
7/2	482	482	-	-	-	0.6	0.5	-	1.1	8.0	3.8	0.5	4.3
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	-	-	-	0.8	1.7	-	2.5	16.3	2.3	1.7	4.0
10/1	651	651	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
10/2	501	501	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
11/1	988	988	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
12/1	659	659	-	-	-	2.7	2.0	-	4.7	25.6	9.5	2.0	11.5
12/2	265	265	-	-	-	0.8	0.2	-	1.1	14.3	2.9	0.2	3.1

C1	Stream: 1	PRC for Signalled Lanes (%):	15.0	Total Delay for Signalled Lanes (pcuHr):	11.62	Cycle Time (s):	60
C1	Stream: 2	PRC for Signalled Lanes (%):	33.7	Total Delay for Signalled Lanes (pcuHr):	6.57	Cycle Time (s):	60
C1	Stream: 3	PRC for Signalled Lanes (%):	12.1	Total Delay for Signalled Lanes (pcuHr):	8.28	Cycle Time (s):	60
		PRC Over All Lanes (%):	12.1	Total Delay Over All Lanes(pcuHr):	28.12		

Scenario 8: '2021 I1 Dev PM' (FG8: '2021 I1 Dev PM', Plan 1: 'Network Control Plan 1')

Stage Timings

Stage Stream: 1

Stage	1	2
Duration	38	10
Change Point	0	44

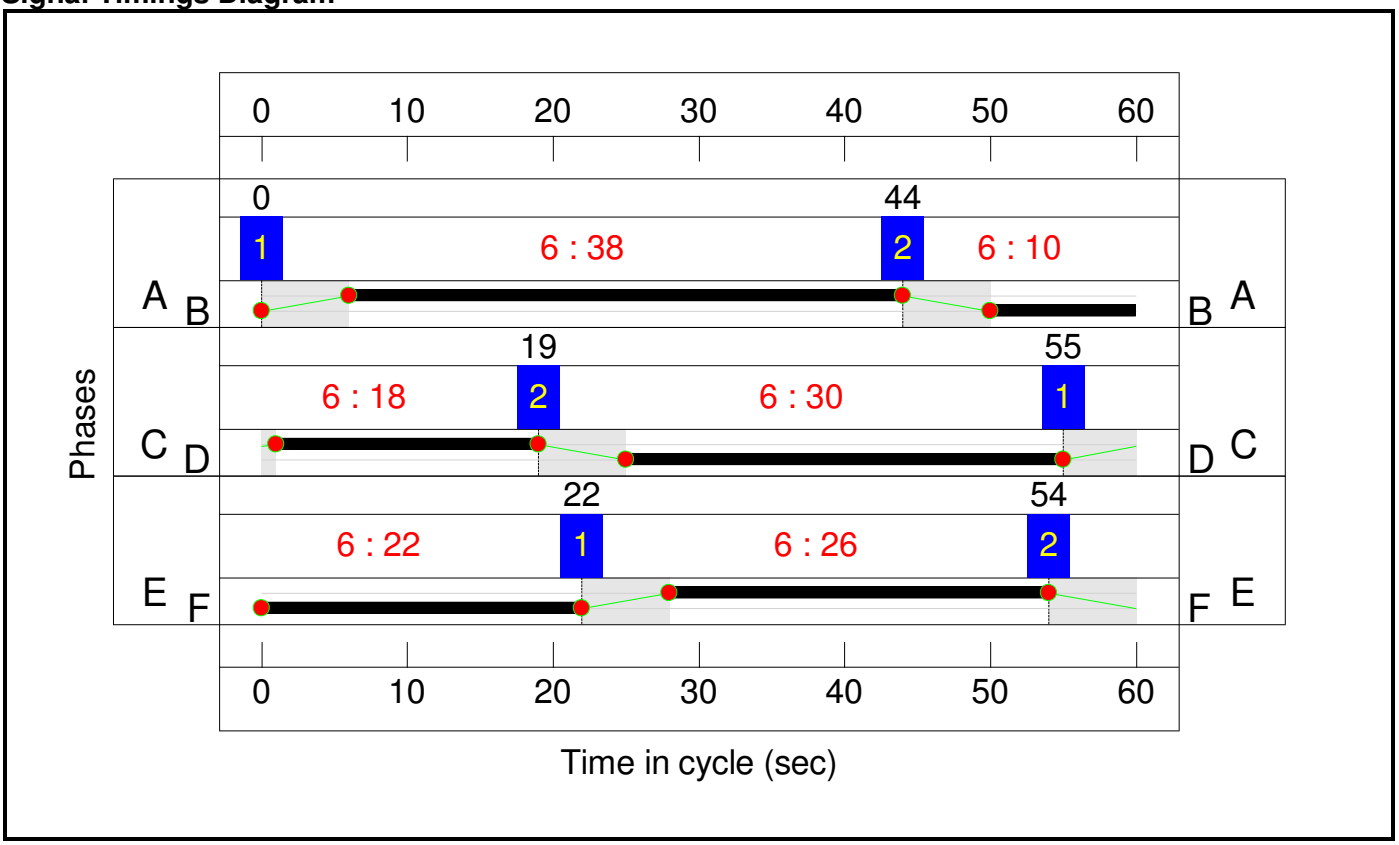
Stage Stream: 2

Stage	1	2
Duration	18	30
Change Point	55	19

Stage Stream: 3

Stage	1	2
Duration	26	22
Change Point	22	54

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	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**79.5%**
A45 Brackmills Interchange	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**79.5%**
1/1	A45 Northbound offslip Left Ahead	U	1	N/A	A		1	38	-	1005	1965	1277	78.7%
1/2	A45 Northbound offslip Ahead	U	1	N/A	A		1	38	-	1007	1965	1277	78.8%
2/1	Ahead Right	U	1	N/A	B		1	10	-	238	1900	348	68.3%
2/2	Right	U	1	N/A	B		1	10	-	267	1900	348	76.7%
3/1		U	N/A	N/A	-		-	-	-	7	Inf	Inf	0.0%
4/1	Ahead	U	N/A	N/A	-		-	-	-	590	Inf	Inf	0.0%
4/2	Ahead Right	U	N/A	N/A	-		-	-	-	1705	Inf	Inf	0.0%
4/3	Right	U	N/A	N/A	-		-	-	-	215	Inf	Inf	0.0%
5/1+5/2	Eagle Drive Left Ahead	O	N/A	N/A	-		-	-	-	592	Inf : Inf	457+406	71.7 : 65.1%
6/1		U	N/A	N/A	-		-	-	-	918	Inf	Inf	0.0%
6/2		U	N/A	N/A	-		-	-	-	1296	Inf	Inf	0.0%
7/1	Ahead	U	2	N/A	D		1	30	-	468	1900	982	47.7%
7/2	Right Ahead	U	2	N/A	D		1	30	-	420	1900	982	42.8%
8/2+8/1	A45 Southbound offslip Left	U	2	N/A	C		1	18	-	375	2120:1932	635+580	30.9 : 30.9%
8/3	A45 Southbound offslip Ahead	U	2	N/A	C		1	18	-	372	1980	627	59.3%
9/1	Right Ahead	U	3	N/A	F		1	22	-	533	1800	690	77.2%
10/1		U	N/A	N/A	-		-	-	-	647	Inf	Inf	0.0%
10/2		U	N/A	N/A	-		-	-	-	455	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	26	-	678	1894	852	79.5%
12/2	Carswell Road Ahead	U	3	N/A	E		1	26	-	267	1940	873	30.6%

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	**-**	**-**	**1184**	**0**	**0**	**15.3**	**12.9**	**0.0**	**28.3**	**-**	**-**	**-**	**-**
A45 Brackmills Interchange	**-**	**-**	**1184**	**0**	**0**	**15.3**	**12.9**	**0.0**	**28.3**	**-**	**-**	**-**	**-**
1/1	1005	1005	-	-	-	2.1	1.8	-	3.9	14.0	11.7	1.8	13.5
1/2	1007	1007	-	-	-	2.1	1.8	-	3.9	14.1	12.0	1.8	13.9
2/1	238	238	-	-	-	0.6	1.1	-	1.6	24.7	3.7	1.1	4.8
2/2	267	267	-	-	-	0.9	1.6	-	2.5	34.1	4.2	1.6	5.8
3/1	7	7	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
4/1	590	590	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
4/2	1705	1705	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
4/3	215	215	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/1+5/2	592	592	1184	0	0	0.7	1.1	-	1.8	11.1	3.3	1.1	4.4
6/1	918	918	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/2	1296	1296	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	468	468	-	-	-	0.4	0.5	-	0.8	6.3	3.8	0.5	4.2
7/2	420	420	-	-	-	0.6	0.4	-	1.0	8.3	3.2	0.4	3.6
8/2+8/1	375	375	-	-	-	1.6	0.2	-	1.8	17.6	2.4	0.2	2.7
8/3	372	372	-	-	-	1.8	0.7	-	2.5	24.3	5.2	0.7	5.9
9/1	533	533	-	-	-	1.1	1.7	-	2.7	18.4	2.9	1.7	4.6
10/1	647	647	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
10/2	455	455	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
11/1	973	973	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
12/1	678	678	-	-	-	2.7	1.9	-	4.6	24.2	9.6	1.9	11.5
12/2	267	267	-	-	-	0.8	0.2	-	1.0	13.5	2.8	0.2	3.0

C1	Stream: 1	PRC for Signalled Lanes (%):	14.2	Total Delay for Signalled Lanes (pcuHr):	12.03	Cycle Time (s):	60
C1	Stream: 2	PRC for Signalled Lanes (%):	51.7	Total Delay for Signalled Lanes (pcuHr):	6.13	Cycle Time (s):	60
C1	Stream: 3	PRC for Signalled Lanes (%):	13.1	Total Delay for Signalled Lanes (pcuHr):	8.30	Cycle Time (s):	60
		PRC Over All Lanes (%):	13.1	Total Delay Over All Lanes(pcuHr):	28.29		



Rev	Description	Date

Project:

Northampton Gateway SRFI

Title:

Brackmills Interchange Arcady Measurements

Client:

ROXHILL

ADC INFRASTRUCTURE

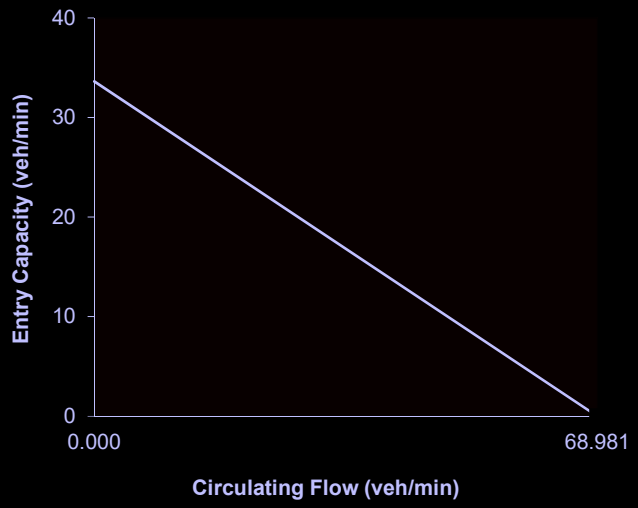
Drg Size:	Scale:	Date:
A3	1:250	11/12/2017

Drg No:	Rev:
-	-

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Arcady Spreadsheet

Geometric Parameters		Enter Values	Acceptable Ranges
Approach road half width (m)	v	4	(2.2 - 12m)
Entry width (m)	e	8.2	(3 - 16m)
Effective length over which the flare is developed	l'	25	Any but Trl only up to 30
Entry radius (m)	r	39	(>= 3m)
Inscribed circle diameter (m)	D	140	(> = 13m)
Entry conflict angle (m)	Phi	40	(0 - 80)



INTERCEPT = 33.62 (Veh / Min)

2017 (Veh / Hr)

SLOPE = 0.487

	Veh/min	Veh/hr
Enter circul	59.81	0
Entry Capa	4.47	2017

APPENDIX I

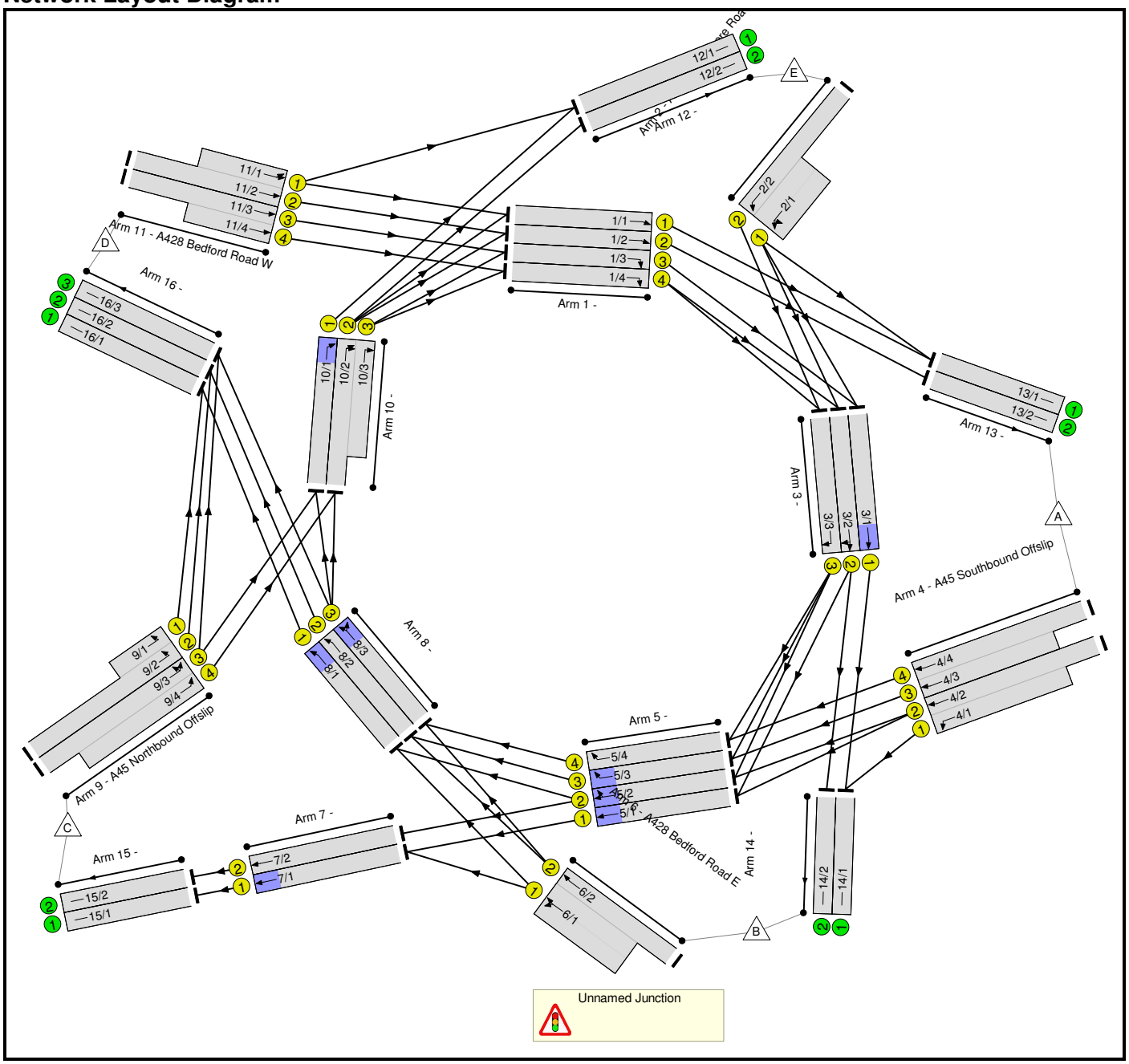
BARNES MEADOW INTERCHAGE LINSIG MODEL

Full Input Data And Results

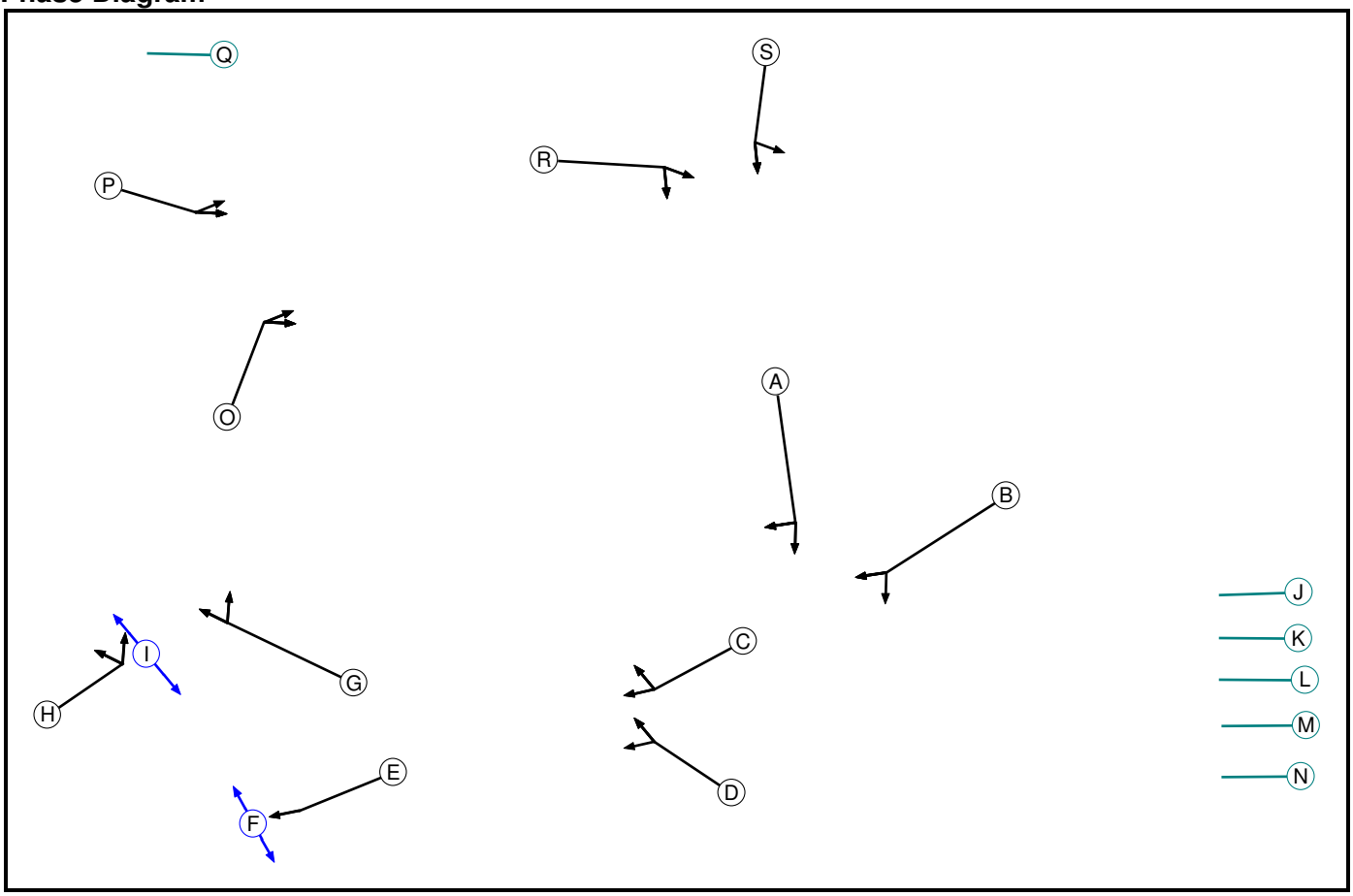
User and Project Details

Project:	**Northampton Gateway SRFI**
Title:	**A45 Barnes Meadow Interchange**
Location:	
File name:	180206 Barnes Meadow Base Model.lsg3x
Author:	Mark Higgins
Company:	ADC Infrastructure Ltd
Address:	Western House, Nottingham
Notes:	

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

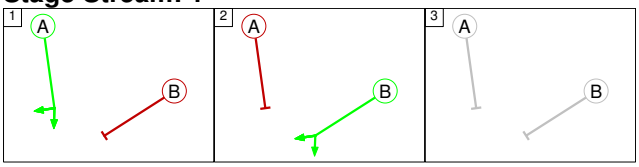
Terminating Phase \ Starting Phase	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S
A		5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
B	5		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C	-	-		5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
D	-	-	5		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
E	-	-	-	-		5	-	-	-	-	-	-	-	-	-	-	-	-	-
F	-	-	-	-	9		-	-	-	-	-	-	-	-	-	-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

Phases in Stage

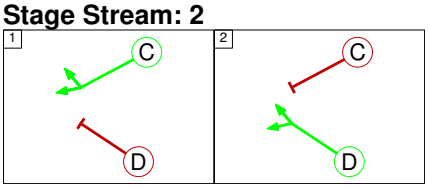
Stream	Stage No.	Phases in Stage
1	1	A
1	2	B
1	3	
2	1	C
2	2	D
3	1	E
3	2	F
4	1	G I
4	2	H
5	1	O
5	2	P
6	1	R
6	2	S

Stage Diagram

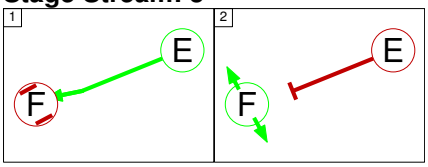
Stage Stream: 1



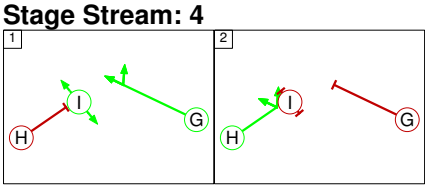
Stage Stream: 2



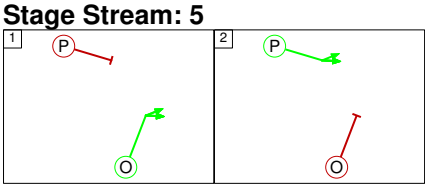
Stage Stream: 3



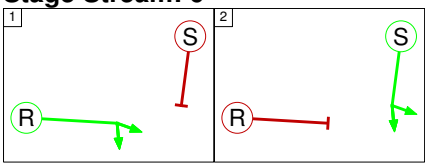
Stage Stream: 4



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	50.00
											Arm 16 Ahead	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	Inf
											Arm 16 Left	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	45.00
											Arm 12 Right	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	60.00
											Arm 12 Ahead	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'	08:00	09:00	01:00	
2: '2031 D1 Ref PM'	17:00	18:00	01:00	
3: '2031 J1d Dev AM'	08:00	09:00	01:00	
4: '2031 J1d Dev PM'	17:00	18:00	01:00	

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

Traffic Flows, Desired

Desired Flow :

		Destination					
		A	B	C	D	E	Tot.
Origin	A	0	386	512	834	27	1759
	B	143	0	96	277	159	675
	C	0	118	0	910	189	1217
	D	844	719	181	0	150	1894
	E	168	753	437	2	0	1360
	Tot.	1155	1976	1226	2023	525	6905

Traffic Lane Flows

Lane	Scenario 1: 2031 D1 Ref AM
Junction: Unnamed Junction	
1/1	470
1/2	517
1/3	497
1/4	521
2/1 (short)	922
2/2 (with short)	1360(In) 438(Out)
3/1	795
3/2	830
3/3	585
4/1 (short)	386
4/2 (with short)	909(In) 523(Out)
4/3 (short)	483
4/4 (with short)	850(In) 367(Out)
5/1	500
5/2	642
5/3	484
5/4	367
6/1 (short)	293
6/2 (with short)	675(In) 382(Out)
7/1	596
7/2	630
8/1	209
8/2	564
8/3	669
9/1 (short)	261
9/2 (with short)	561(In) 300(Out)
9/3 (with short)	656(In) 411(Out)
9/4 (short)	245
10/1	210
10/2 (with short)	426(In) 308(Out)
10/3 (short)	118
11/1 (short)	525

11/2 (with short)	994(In) 469(Out)
11/3 (with short)	900(In) 427(Out)
11/4 (short)	473
12/1	360
12/2	165
13/1	638
13/2	517
14/1	1181
14/2	795
15/1	596
15/2	630
16/1	470
16/2	864
16/3	689

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	4.2 %	2117	2117
				Arm 14 Ahead	Inf	95.8 %		
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	98.1 %	2118	2118
				Arm 8 Right	35.00	1.9 %		
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	49.2 %	2089	2089
				Arm 16 Ahead	Inf	50.8 %		
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	15.1 %	2120	2120
				Arm 16 Left	Inf	84.9 %		

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	46.4 %	2052	2052
				Arm 12 Right	45.00	53.6 %		
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	60.00	71.4 %	1917	1917
				Arm 12 Ahead	60.00	28.6 %		
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', Plan 1: 'Staging Plan No. 1')

Traffic Flows, Desired

Desired Flow :

		Destination					
		A	B	C	D	E	Tot.
Origin	A	0	300	452	911	96	1759
	B	124	0	127	294	121	666
	C	0	122	0	877	235	1234
	D	829	746	212	1	106	1894
	E	128	826	444	11	0	1409
	Tot.	1081	1994	1235	2094	558	6962

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)	954
2/2 (with short)	1409(In) 455(Out)
3/1	840
3/2	947
3/3	575
4/1 (short)	300
4/2 (with short)	802(In) 502(Out)
4/3 (short)	526
4/4 (with short)	957(In) 431(Out)
5/1	487
5/2	673
5/3	535
5/4	432
6/1 (short)	400
6/2 (with short)	666(In) 266(Out)
7/1	614
7/2	621
8/1	325
8/2	556
8/3	677
9/1 (short)	246
9/2 (with short)	524(In) 278(Out)
9/3 (with short)	710(In) 395(Out)
9/4 (short)	315
10/1	215
10/2 (with short)	483(In) 361(Out)
10/3 (short)	122
11/1 (short)	480

11/2 (with short)	935(In) 455(Out)
11/3 (with short)	959(In) 456(Out)
11/4 (short)	503
12/1	321
12/2	237
13/1	580
13/2	501
14/1	1140
14/2	854
15/1	614
15/2	621
16/1	571
16/2	834
16/3	689

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	9.8 %	2114	2114
				Arm 14 Ahead	Inf	90.2 %		
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	92.3 %	2113	2113
				Arm 8 Right	35.00	7.7 %		
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	50.4 %	2088	2088
				Arm 16 Ahead	Inf	49.6 %		
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	10.6 %	2120	2120
				Arm 16 Left	Inf	89.4 %		

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	34.3 %	2052	2052
				Arm 12 Right	45.00	65.7 %		
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	77.9 %	1917	1917
				Arm 12 Ahead	60.00	22.1 %		
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', Plan 1: 'Staging Plan No. 1')

Traffic Flows, Desired

Desired Flow :

		Destination					
		A	B	C	D	E	Tot.
Origin	A	0	136	302	699	10	1147
	B	397	0	159	422	661	1639
	C	0	56	0	907	325	1288
	D	1989	308	435	2	26	2760
	E	427	308	223	2	0	960
	Tot.	2813	808	1119	2032	1022	7794

Traffic Lane Flows

Lane	Scenario 3: 2031 D1 Ref PM
Junction: Unnamed Junction	
1/1	1114
1/2	1272
1/3	363
1/4	863
2/1 (short)	788
2/2 (with short)	960(In) 172(Out)
3/1	598
3/2	523
3/3	638
4/1 (short)	136
4/2 (with short)	639(In) 503(Out)
4/3 (short)	498
4/4 (with short)	508(In) 10(Out)
5/1	577
5/2	584
5/3	502
5/4	435
6/1 (short)	525
6/2 (with short)	1639(In) 1114(Out)
7/1	736
7/2	383
8/1	567
8/2	558
8/3	1493
9/1 (short)	292
9/2 (with short)	623(In) 331(Out)
9/3 (with short)	665(In) 422(Out)
9/4 (short)	243
10/1	835
10/2 (with short)	1039(In) 983(Out)
10/3 (short)	56
11/1 (short)	703

11/2 (with short)	1590(In) 887(Out)
11/3 (with short)	1170(In) 308(Out)
11/4 (short)	862
12/1	835
12/2	187
13/1	1541
13/2	1272
14/1	734
14/2	74
15/1	736
15/2	383
16/1	859
16/2	889
16/3	284

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	85.9 %	2067	2067
				Arm 14 Ahead	Inf	14.1 %		
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	100.0 %	2058	2058
				Arm 16 Ahead	Inf	0.0 %		
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	32.7 %	2120	2120
				Arm 16 Left	Inf	67.3 %		

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	81.0 %	2052	2052
				Arm 12 Right	45.00	19.0 %		
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	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 4: '2031 J1d Dev PM' (FG4: '2031 J1d Dev PM', Plan 1: 'Staging Plan No. 1')

Traffic Flows, Desired

Desired Flow :

		Destination					
		A	B	C	D	E	Tot.
Origin	A	0	140	359	570	8	1077
	B	384	0	130	487	638	1639
	C	0	54	0	882	294	1230
	D	1930	383	326	19	28	2686
	E	479	354	202	0	0	1035
	Tot.	2793	931	1017	1958	968	7667

Traffic Lane Flows

Lane	Scenario 4: 2031 J1d Dev PM
Junction: Unnamed Junction	
1/1	1061
1/2	1253
1/3	431
1/4	814
2/1 (short)	892
2/2 (with short)	1035(In) 143(Out)
3/1	540
3/2	615
3/3	646
4/1 (short)	140
4/2 (with short)	612(In) 472(Out)
4/3 (short)	457
4/4 (with short)	465(In) 8(Out)
5/1	452
5/2	552
5/3	472
5/4	471
6/1 (short)	536
6/2 (with short)	1639(In) 1103(Out)
7/1	582
7/2	435
8/1	523
8/2	553
8/3	1493
9/1 (short)	307
9/2 (with short)	663(In) 356(Out)
9/3 (with short)	567(In) 420(Out)
9/4 (short)	147
10/1	870
10/2 (with short)	971(In) 917(Out)
10/3 (short)	54
11/1 (short)	613

11/2 (with short)	1495(In) 882(Out)
11/3 (with short)	1191(In) 380(Out)
11/4 (short)	811
12/1	872
12/2	96
13/1	1540
13/2	1253
14/1	680
14/2	251
15/1	582
15/2	435
16/1	830
16/2	909
16/3	219

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	59.2 %	2083	2083
				Arm 14 Ahead	Inf	40.8 %		
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	78.8 %	2101	2101
				Arm 8 Right	35.00	21.2 %		
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	100.0 %	2058	2058
				Arm 16 Ahead	Inf	0.0 %		
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	47.9 %	2120	2120
				Arm 16 Left	Inf	52.1 %		

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	89.5 %	2052	2052
				Arm 12 Right	45.00	10.5 %		
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	60.00	99.7 %	1917	1917
				Arm 12 Ahead	60.00	0.3 %		
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', Plan 1: 'Staging Plan No. 1')

Traffic Flows, Desired

Desired Flow :

		Destination					
		A	B	C	D	E	Tot.
Origin	A	0	542	153	959	7	1661
	B	58	0	147	352	109	666
	C	0	157	0	1033	180	1370
	D	792	625	150	0	97	1664
	E	82	572	514	1	0	1169
	Tot.	932	1896	964	2345	393	6530

Traffic Lane Flows

Lane	Scenario 5: 2021 C1 Ref AM
Junction: Unnamed Junction	
1/1	397
1/2	453
1/3	452
1/4	480
2/1 (short)	746
2/2 (with short)	1169(In) 423(Out)
3/1	680
3/2	766
3/3	573
4/1 (short)	542
4/2 (with short)	736(In) 194(Out)
4/3 (short)	474
4/4 (with short)	925(In) 451(Out)
5/1	245
5/2	613
5/3	475
5/4	451
6/1 (short)	381
6/2 (with short)	666(In) 285(Out)
7/1	392
7/2	572
8/1	275
8/2	592
8/3	619
9/1 (short)	278
9/2 (with short)	593(In) 315(Out)
9/3 (with short)	777(In) 445(Out)
9/4 (short)	332
10/1	87
10/2 (with short)	424(In) 267(Out)
10/3 (short)	157
11/1 (short)	458

11/2 (with short)	889(In) 431(Out)
11/3 (with short)	775(In) 359(Out)
11/4 (short)	416
12/1	184
12/2	209
13/1	479
13/2	453
14/1	1222
14/2	674
15/1	392
15/2	572
16/1	553
16/2	907
16/3	885

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	12.0 %	2112	2112
				Arm 14 Ahead	Inf	88.0 %		
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	93.3 %	2114	2114
				Arm 8 Right	35.00	6.7 %		
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	28.1 %	2102	2102
				Arm 16 Ahead	Inf	71.9 %		
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	1.1 %	2120	2120
				Arm 16 Left	Inf	98.9 %		

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	21.7 %	2052	2052
				Arm 12 Right	45.00	78.3 %		
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	60.00	78.8 %	1917	1917
				Arm 12 Ahead	60.00	21.2 %		
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', Plan 1: 'Staging Plan No. 1')

Traffic Flows, Desired

Desired Flow :

		Destination					
		A	B	C	D	E	Tot.
Origin	A	0	535	240	941	9	1725
	B	61	0	151	340	123	675
	C	0	149	0	1006	200	1355
	D	771	648	185	0	102	1706
	E	100	597	503	8	0	1208
	Tot.	932	1929	1079	2295	434	6669

Traffic Lane Flows

Lane	Scenario 6: 2021 I1 Dev AM
Junction: Unnamed Junction	
1/1	385
1/2	447
1/3	483
1/4	499
2/1 (short)	774
2/2 (with short)	1208(In) 434(Out)
3/1	714
3/2	757
3/3	619
4/1 (short)	535
4/2 (with short)	784(In) 249(Out)
4/3 (short)	494
4/4 (with short)	941(In) 447(Out)
5/1	316
5/2	625
5/3	498
5/4	447
6/1 (short)	440
6/2 (with short)	675(In) 235(Out)
7/1	467
7/2	612
8/1	302
8/2	549
8/3	631
9/1 (short)	291
9/2 (with short)	622(In) 331(Out)
9/3 (with short)	733(In) 452(Out)
9/4 (short)	281
10/1	125
10/2 (with short)	417(In) 268(Out)
10/3 (short)	149
11/1 (short)	452

11/2 (with short)	873(In) 421(Out)
11/3 (with short)	833(In) 389(Out)
11/4 (short)	444
12/1	227
12/2	207
13/1	485
13/2	447
14/1	1249
14/2	680
15/1	467
15/2	612
16/1	593
16/2	880
16/3	822

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	10.2 %	2114	2114
				Arm 14 Ahead	Inf	89.8 %		
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	97.9 %	2118	2118
				Arm 8 Right	35.00	2.1 %		
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	30.6 %	2101	2101
				Arm 16 Ahead	Inf	69.4 %		
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	15.0 %	2120	2120
				Arm 16 Left	Inf	85.0 %		

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	22.8 %	2052	2052
				Arm 12 Right	45.00	77.2 %		
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	60.00	77.4 %	1917	1917
				Arm 12 Ahead	60.00	22.6 %		
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', Plan 1: 'Staging Plan No. 1')

Traffic Flows, Desired

Desired Flow :

		Destination					
		A	B	C	D	E	Tot.
Origin	A	0	228	176	708	8	1120
	B	536	0	73	436	593	1638
	C	0	61	0	797	355	1213
	D	1735	401	567	4	23	2730
	E	267	267	364	9	0	907
	Tot.	2538	957	1180	1954	979	7608

Traffic Lane Flows

Lane	Scenario 7: 2021 C1 Ref PM
Junction: Unnamed Junction	
1/1	1024
1/2	1247
1/3	449
1/4	802
2/1 (short)	693
2/2 (with short)	907(In) 214(Out)
3/1	595
3/2	637
3/3	659
4/1 (short)	228
4/2 (with short)	542(In) 314(Out)
4/3 (short)	455
4/4 (with short)	578(In) 123(Out)
5/1	593
5/2	661
5/3	457
5/4	343
6/1 (short)	477
6/2 (with short)	1638(In) 1161(Out)
7/1	666
7/2	514
8/1	551
8/2	489
8/3	1472
9/1 (short)	163
9/2 (with short)	574(In) 411(Out)
9/3 (with short)	639(In) 429(Out)
9/4 (short)	210
10/1	825
10/2 (with short)	946(In) 885(Out)
10/3 (short)	61
11/1 (short)	746

11/2 (with short)	1540(In) 794(Out)
11/3 (with short)	1190(In) 400(Out)
11/4 (short)	790
12/1	825
12/2	154
13/1	1291
13/2	1247
14/1	823
14/2	134
15/1	666
15/2	514
16/1	714
16/2	900
16/3	340

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	79.0 %	2071	2071
				Arm 14 Ahead	Inf	21.0 %		
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	77.8 %	2100	2100
				Arm 8 Right	35.00	22.2 %		
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	92.1 %	2063	2063
				Arm 16 Ahead	Inf	7.9 %		
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	48.0 %	2120	2120
				Arm 16 Left	Inf	52.0 %		

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	82.6 %	2052	2052
				Arm 12 Right	45.00	17.4 %		
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 Dev PM' (FG8: '2021 I1 Dev PM', Plan 1: 'Staging Plan No. 1')

Traffic Flows, Desired

Desired Flow :

		Destination					
		A	B	C	D	E	Tot.
Origin	A	0	209	203	691	14	1117
	B	477	0	70	442	647	1636
	C	0	69	0	809	328	1206
	D	1725	460	508	9	30	2732
	E	307	307	301	11	0	926
	Tot.	2509	1045	1082	1962	1019	7617

Traffic Lane Flows

Lane	Scenario 8: 2021 I1 Dev PM
Junction: Unnamed Junction	
1/1	1002
1/2	1200
1/3	517
1/4	779
2/1 (short)	737
2/2 (with short)	926(In) 189(Out)
3/1	687
3/2	605
3/3	623
4/1 (short)	209
4/2 (with short)	593(In) 384(Out)
4/3 (short)	463
4/4 (with short)	524(In) 61(Out)
5/1	566
5/2	628
5/3	476
5/4	317
6/1 (short)	447
6/2 (with short)	1636(In) 1189(Out)
7/1	636
7/2	446
8/1	559
8/2	541
8/3	1441
9/1 (short)	303
9/2 (with short)	641(In) 338(Out)
9/3 (with short)	565(In) 383(Out)
9/4 (short)	182
10/1	842
10/2 (with short)	943(In) 874(Out)
10/3 (short)	69
11/1 (short)	698

11/2 (with short)	1505(In) 807(Out)
11/3 (with short)	1227(In) 460(Out)
11/4 (short)	767
12/1	856
12/2	163
13/1	1309
13/2	1200
14/1	896
14/2	149
15/1	636
15/2	446
16/1	862
16/2	879
16/3	221

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	75.4 %	2073	2073
				Arm 14 Ahead	Inf	24.6 %		
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	71.0 %	2094	2094
				Arm 8 Right	35.00	29.0 %		
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	96.3 %	2060	2060
				Arm 16 Ahead	Inf	3.7 %		
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	56.1 %	2120	2120
				Arm 16 Left	Inf	43.9 %		

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	81.4 %	2052	2052
				Arm 12 Right	45.00	18.6 %		
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	60.00	98.0 %	1917	1917
				Arm 12 Ahead	60.00	2.0 %		
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 1: '2031 D1 Ref AM' (FG1: '2031 D1 Ref AM', Plan 1: 'Staging Plan No. 1')

Stage Timings

Stage Stream: 1

Stage	1	2
Duration	32	18
Change Point	0	37

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

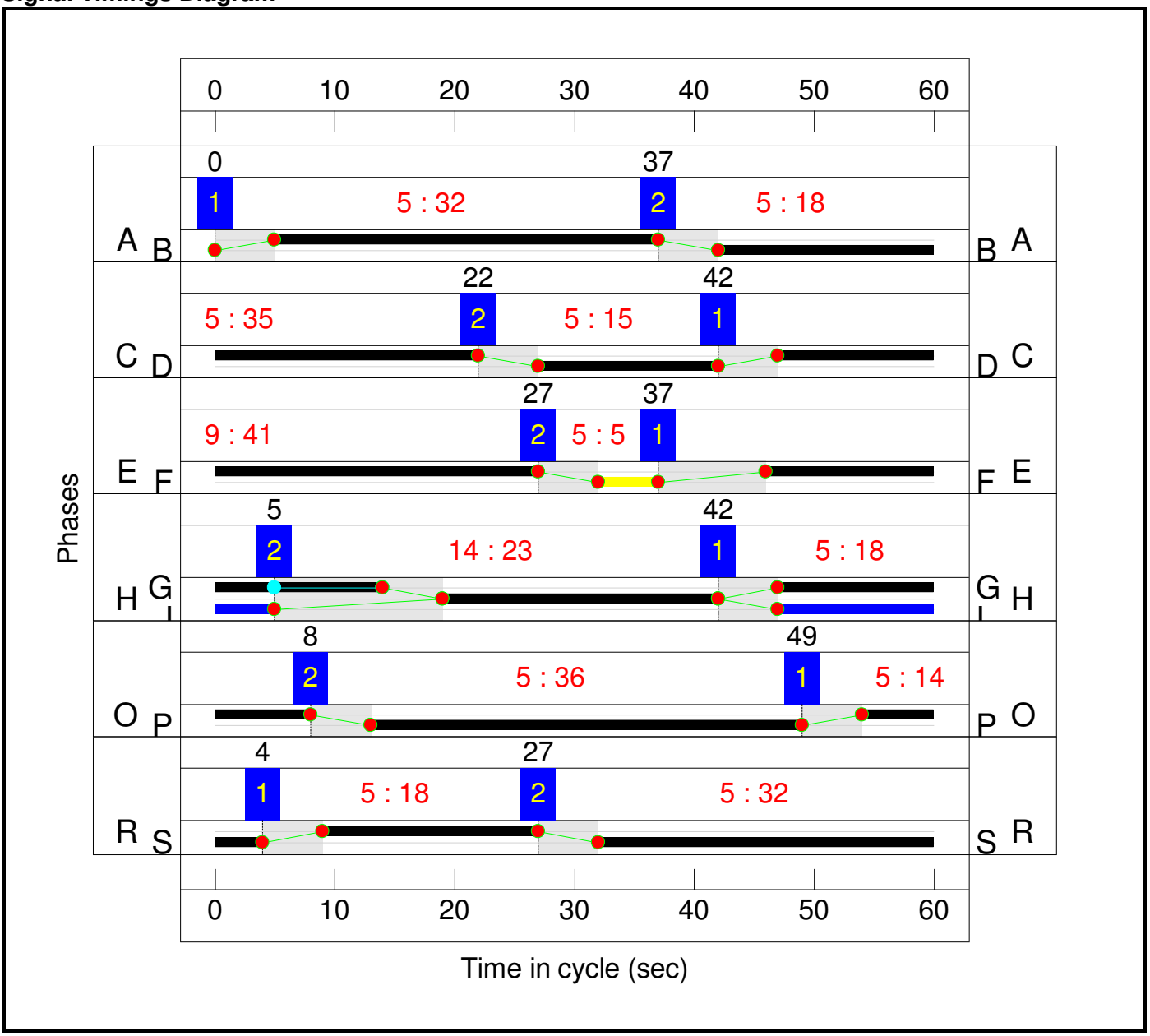
Stage Stream: 5

Stage	1	2
Duration	14	36
Change Point	49	8

Stage Stream: 6

Stage	1	2
Duration	18	32
Change Point	4	27

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	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**79.4%**
Unnamed Junction	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**79.4%**
1/1	Ahead	U	6	N/A	R		1	18	-	470	1965	622	75.5%
1/2	Ahead	U	6	N/A	R		1	18	-	517	2105	667	77.6%
1/3	Right	U	6	N/A	R		1	18	-	497	2105	667	74.6%
1/4	Right	U	6	N/A	R		1	18	-	521	2105	667	78.2%
2/2+2/1	A5095 Rushmere Road Ahead Left	U	6	N/A	S		1	32	-	1360	2004:3600	1713	79.4%
3/1	Ahead	U	1	N/A	A		1	32	-	795	1908	1049	75.8%
3/2	Right Ahead	U	1	N/A	A		1	32	-	830	2117	1164	71.3%
3/3	Right	U	1	N/A	A		1	32	-	585	2052	1129	51.8%
4/2+4/1	A45 Southbound Offslip Ahead Left	U	1	N/A	B		1	18	-	909	2120:1899	1219	74.6%
4/4+4/3	A45 Southbound Offslip Ahead	U	1	N/A	B		1	18	-	850	1940:2120	1286	66.1%
5/1	Ahead	U	2	N/A	C		1	35	-	500	1886	1132	44.2%
5/2	Ahead Right	U	2	N/A	C		1	35	-	642	2118	1271	50.5%
5/3	Right	U	2	N/A	C		1	35	-	484	2033	1220	39.7%
5/4	Right	U	2	N/A	C		1	35	-	367	1940	1164	31.5%
6/2+6/1	A428 Bedford Road E Left Ahead	U	2	N/A	D		1	15	-	675	2052:3800	914	73.8%
7/1	Ahead	U	3	N/A	E		1	41	-	596	1980	1386	43.0%
7/2	Ahead	U	3	N/A	E		1	41	-	630	2120	1484	42.5%
8/1	Ahead	U	4	N/A	G		1	27	-	209	1899	886	23.6%
8/2	Ahead	U	4	N/A	G		1	27	-	564	2043	953	59.2%
8/3	Ahead Ahead2	U	4	N/A	G		1	27	-	669	2089	975	68.6%

9/2+9/1	A45 Northbound Offslip Left	U	4	N/A	H		1	23	-	561	2120:1868	1093	51.3%
9/3+9/4	A45 Northbound Offslip Left Left2	U	4	N/A	H		1	23	-	656	2120:2120	1353	48.5%
10/1	Right	U	5	N/A	O		1	14	-	210	1908	477	44.0%
10/2+10/3	Right Right2	U	5	N/A	O		1	14	-	426	2052:2058	710	60.0%
11/2+11/1	A428 Bedford Road W Ahead Ahead2	U	5	N/A	P		1	36	-	994	2055:1917	1587	62.6%
11/3+11/4	A428 Bedford Road W Ahead	U	5	N/A	P		1	36	-	900	2005:2005	1601	56.2%
12/1		U	N/A	N/A	-		-	-	-	360	Inf	Inf	0.0%
12/2		U	N/A	N/A	-		-	-	-	165	Inf	Inf	0.0%
13/1		U	N/A	N/A	-		-	-	-	638	Inf	Inf	0.0%
13/2		U	N/A	N/A	-		-	-	-	517	Inf	Inf	0.0%
14/1		U	N/A	N/A	-		-	-	-	1181	Inf	Inf	0.0%
14/2		U	N/A	N/A	-		-	-	-	795	Inf	Inf	0.0%
15/1		U	N/A	N/A	-		-	-	-	596	Inf	Inf	0.0%
15/2		U	N/A	N/A	-		-	-	-	630	Inf	Inf	0.0%
16/1		U	N/A	N/A	-		-	-	-	470	Inf	Inf	0.0%
16/2		U	N/A	N/A	-		-	-	-	864	Inf	Inf	0.0%
16/3		U	N/A	N/A	-		-	-	-	689	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	**-**	**-**	**0**	**0**	**0**	**40.0**	**23.2**	**0.0**	**63.3**	**-**	**-**	**-**	**-**
Unnamed Junction	**-**	**-**	**0**	**0**	**0**	**40.0**	**23.2**	**0.0**	**63.3**	**-**	**-**	**-**	**-**
1/1	470	470	-	-	-	1.6	1.5	-	3.1	23.8	4.3	1.5	5.8
1/2	517	517	-	-	-	1.9	1.7	-	3.5	24.7	4.2	1.7	5.9
1/3	497	497	-	-	-	1.9	1.4	-	3.3	24.0	4.3	1.4	5.7
1/4	521	521	-	-	-	2.0	1.7	-	3.7	25.7	4.2	1.7	6.0
2/2+2/1	1360	1360	-	-	-	3.0	1.9	-	4.9	13.1	4.6	1.9	6.5
3/1	795	795	-	-	-	1.2	1.5	-	2.8	12.6	4.7	1.5	6.2
3/2	830	830	-	-	-	2.0	1.2	-	3.2	14.0	7.7	1.2	8.9
3/3	585	585	-	-	-	1.9	0.5	-	2.5	15.2	7.2	0.5	7.8
4/2+4/1	909	909	-	-	-	4.6	1.5	-	6.0	23.9	7.8	1.5	9.3
4/4+4/3	850	850	-	-	-	4.2	1.0	-	5.2	21.9	7.1	1.0	8.1
5/1	500	500	-	-	-	0.1	0.4	-	0.5	3.8	0.6	0.4	1.0
5/2	642	642	-	-	-	0.8	0.5	-	1.4	7.6	3.2	0.5	3.7
5/3	484	484	-	-	-	0.0	0.3	-	0.4	2.7	0.3	0.3	0.6
5/4	367	367	-	-	-	0.0	0.2	-	0.2	2.3	0.0	0.2	0.2
6/2+6/1	675	675	-	-	-	3.5	1.4	-	4.9	26.3	5.7	1.4	7.1
7/1	596	596	-	-	-	0.3	0.4	-	0.7	4.2	1.6	0.4	2.0
7/2	630	630	-	-	-	0.0	0.4	-	0.4	2.1	0.0	0.4	0.4
8/1	209	209	-	-	-	0.6	0.2	-	0.8	13.7	3.3	0.2	3.5
8/2	564	564	-	-	-	0.2	0.7	-	0.9	5.7	1.3	0.7	2.0
8/3	669	669	-	-	-	0.9	1.1	-	2.0	10.6	5.0	1.1	6.1
9/2+9/1	561	561	-	-	-	2.0	0.5	-	2.5	15.9	3.4	0.5	3.9
9/3+9/4	656	656	-	-	-	2.4	0.5	-	2.8	15.5	5.0	0.5	5.5
10/1	210	210	-	-	-	0.5	0.4	-	0.9	15.6	1.4	0.4	1.8
10/2+10/3	426	426	-	-	-	1.3	0.7	-	2.1	17.5	10.5	0.7	11.2

11/2+11/1	994	994	-	-	-	1.6	0.8	-	2.5	8.9	4.5	0.8	5.4
11/3+11/4	900	900	-	-	-	1.4	0.6	-	2.1	8.3	3.9	0.6	4.6
12/1	360	360	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
12/2	165	165	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
13/1	638	638	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
13/2	517	517	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
14/1	1181	1181	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
14/2	795	795	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
15/1	596	596	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
15/2	630	630	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
16/1	470	470	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
16/2	864	864	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
16/3	689	689	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

C1	Stream: 1 PRC for Signalled Lanes (%):	18.8	Total Delay for Signalled Lanes (pcuHr):	19.68	Cycle Time (s): 60
C1	Stream: 2 PRC for Signalled Lanes (%):	21.9	Total Delay for Signalled Lanes (pcuHr):	7.40	Cycle Time (s): 60
C1	Stream: 3 PRC for Signalled Lanes (%):	109.3	Total Delay for Signalled Lanes (pcuHr):	1.06	Cycle Time (s): 60
C1	Stream: 4 PRC for Signalled Lanes (%):	31.1	Total Delay for Signalled Lanes (pcuHr):	8.98	Cycle Time (s): 60
C1	Stream: 5 PRC for Signalled Lanes (%):	43.7	Total Delay for Signalled Lanes (pcuHr):	7.51	Cycle Time (s): 60
C1	Stream: 6 PRC for Signalled Lanes (%):	13.4	Total Delay for Signalled Lanes (pcuHr):	18.63	Cycle Time (s): 60
	PRC Over All Lanes (%):	13.4	Total Delay Over All Lanes(pcuHr):	63.26	

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

Stage Timings

Stage Stream: 1

Stage	1	2
Duration	33	17
Change Point	0	38

Stage Stream: 2

Stage	1	2
Duration	40	10
Change Point	20	5

Stage Stream: 3

Stage	1	2
Duration	41	5
Change Point	17	7

Stage Stream: 4

Stage	1	2
Duration	20	21
Change Point	51	16

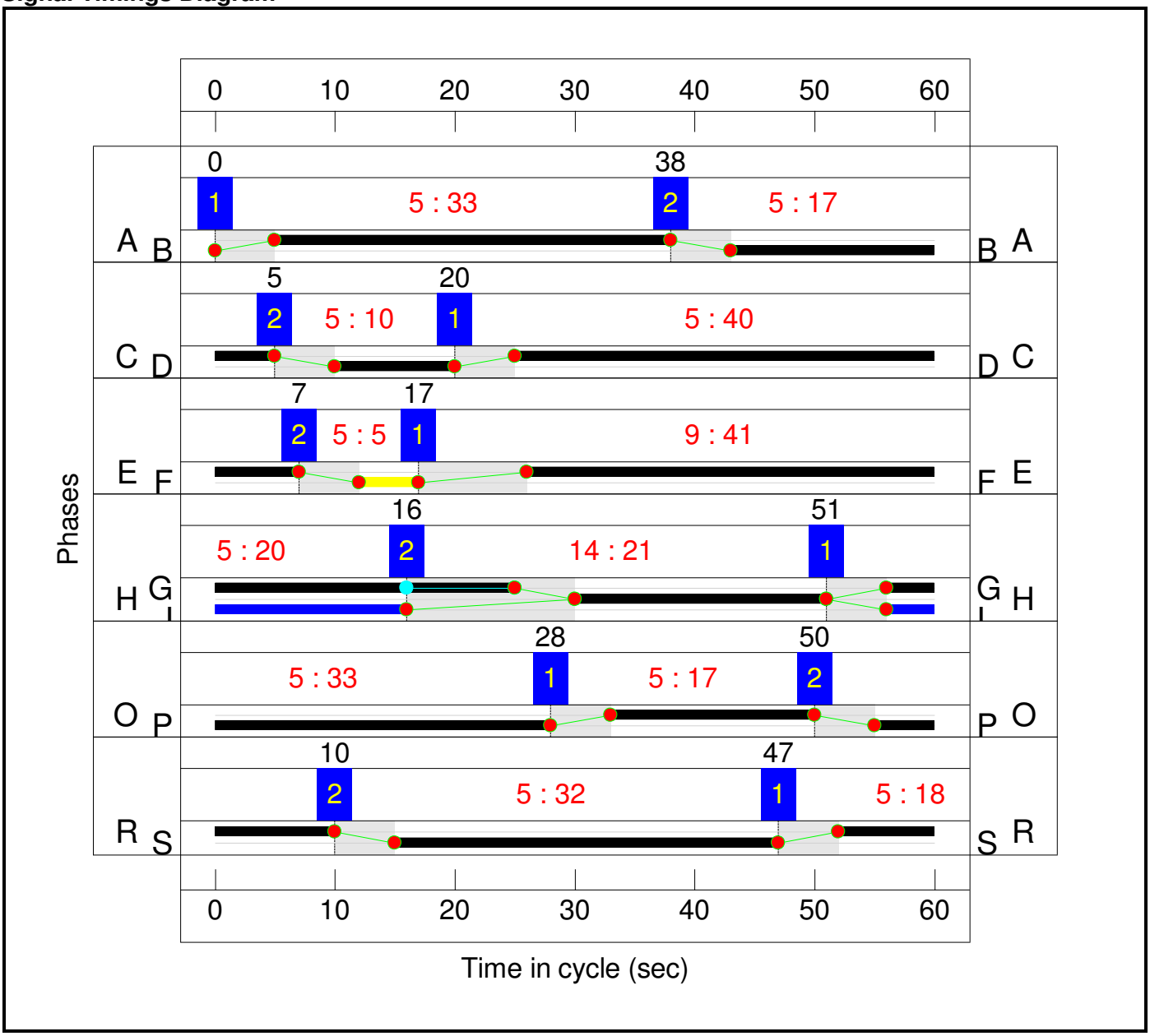
Stage Stream: 5

Stage	1	2
Duration	17	33
Change Point	28	50

Stage Stream: 6

Stage	1	2
Duration	18	32
Change Point	47	10

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	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**82.2%**
Unnamed Junction	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**82.2%**
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	-	1409	2004:3600	1715	82.2%
3/1	Ahead	U	1	N/A	A		1	33	-	840	1908	1081	77.7%
3/2	Right Ahead	U	1	N/A	A		1	33	-	947	2114	1198	79.1%
3/3	Right	U	1	N/A	A		1	33	-	575	2052	1163	49.4%
4/2+4/1	A45 Southbound Offslip Ahead Left	U	1	N/A	B		1	17	-	802	2120:1899	1016	78.9%
4/4+4/3	A45 Southbound Offslip Ahead	U	1	N/A	B		1	17	-	957	1940:2120	1218	78.6%
5/1	Ahead	U	2	N/A	C		1	40	-	487	1886	1289	37.8%
5/2	Ahead Right	U	2	N/A	C		1	40	-	673	2113	1444	46.6%
5/3	Right	U	2	N/A	C		1	40	-	535	2033	1389	38.5%
5/4	Right	U	2	N/A	C		1	40	-	432	1940	1326	32.6%
6/2+6/1	A428 Bedford Road E Left Ahead	U	2	N/A	D		1	10	-	666	2052:3800	987	67.5%
7/1	Ahead	U	3	N/A	E		1	41	-	614	1980	1386	44.3%
7/2	Ahead	U	3	N/A	E		1	41	-	621	2120	1484	41.8%
8/1	Ahead	U	4	N/A	G		1	29	-	325	1899	950	34.2%
8/2	Ahead	U	4	N/A	G		1	29	-	556	2043	1022	54.4%
8/3	Ahead Ahead2	U	4	N/A	G		1	29	-	677	2088	1044	64.8%

9/2+9/1	A45 Northbound Offslip Left	U	4	N/A	H		1	21	-	524	2120:1868	1031	50.8%
9/3+9/4	A45 Northbound Offslip Left Left2	U	4	N/A	H		1	21	-	710	2120:2120	1397	50.8%
10/1	Right	U	5	N/A	O		1	17	-	215	1908	572	37.6%
10/2+10/3	Right Right2	U	5	N/A	O		1	17	-	483	2052:2058	824	58.6%
11/2+11/1	A428 Bedford Road W Ahead Ahead2	U	5	N/A	P		1	33	-	935	2055:1917	1512	61.8%
11/3+11/4	A428 Bedford Road W Ahead	U	5	N/A	P		1	33	-	959	2005:2005	1503	63.8%
12/1		U	N/A	N/A	-		-	-	-	321	Inf	Inf	0.0%
12/2		U	N/A	N/A	-		-	-	-	237	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	-		-	-	-	1140	Inf	Inf	0.0%
14/2		U	N/A	N/A	-		-	-	-	854	Inf	Inf	0.0%
15/1		U	N/A	N/A	-		-	-	-	614	Inf	Inf	0.0%
15/2		U	N/A	N/A	-		-	-	-	621	Inf	Inf	0.0%
16/1		U	N/A	N/A	-		-	-	-	571	Inf	Inf	0.0%
16/2		U	N/A	N/A	-		-	-	-	834	Inf	Inf	0.0%
16/3		U	N/A	N/A	-		-	-	-	689	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	**-**	**-**	**0**	**0**	**0**	**40.0**	**25.5**	**0.0**	**65.5**	**-**	**-**	**-**	**-**
Unnamed Junction	**-**	**-**	**0**	**0**	**0**	**40.0**	**25.5**	**0.0**	**65.5**	**-**	**-**	**-**	**-**
1/1	452	452	-	-	-	1.6	1.3	-	2.9	23.0	3.6	1.3	4.9
1/2	501	501	-	-	-	1.7	1.5	-	3.2	23.0	3.5	1.5	5.0
1/3	536	536	-	-	-	1.7	2.0	-	3.7	25.1	4.1	2.0	6.1
1/4	545	545	-	-	-	1.8	2.2	-	4.0	26.2	3.8	2.2	5.9
2/2+2/1	1409	1409	-	-	-	3.2	2.3	-	5.5	13.9	4.8	2.3	7.0
3/1	840	840	-	-	-	1.4	1.7	-	3.1	13.5	10.8	1.7	12.5
3/2	947	947	-	-	-	1.6	1.9	-	3.4	13.0	10.3	1.9	12.1
3/3	575	575	-	-	-	0.9	0.5	-	1.4	8.5	3.6	0.5	4.1
4/2+4/1	802	802	-	-	-	4.1	1.8	-	6.0	26.9	7.7	1.8	9.5
4/4+4/3	957	957	-	-	-	5.1	1.8	-	6.9	26.1	8.0	1.8	9.8
5/1	487	487	-	-	-	0.1	0.3	-	0.4	3.3	1.4	0.3	1.7
5/2	673	673	-	-	-	1.0	0.4	-	1.5	7.9	4.7	0.4	5.2
5/3	535	535	-	-	-	0.1	0.3	-	0.4	2.8	0.3	0.3	0.6
5/4	432	432	-	-	-	0.0	0.2	-	0.3	2.3	0.1	0.2	0.4
6/2+6/1	666	666	-	-	-	4.2	1.0	-	5.2	28.2	4.1	1.0	5.2
7/1	614	614	-	-	-	0.5	0.4	-	0.9	5.0	2.4	0.4	2.8
7/2	621	621	-	-	-	0.0	0.4	-	0.4	2.2	0.0	0.4	0.4
8/1	325	325	-	-	-	0.3	0.3	-	0.5	5.7	1.7	0.3	1.9
8/2	556	556	-	-	-	0.1	0.6	-	0.7	4.5	0.3	0.6	0.9
8/3	677	677	-	-	-	0.1	0.9	-	1.1	5.7	0.3	0.9	1.3
9/2+9/1	524	524	-	-	-	2.0	0.5	-	2.5	17.4	3.3	0.5	3.8
9/3+9/4	710	710	-	-	-	2.9	0.5	-	3.4	17.1	5.0	0.5	5.6
10/1	215	215	-	-	-	0.6	0.3	-	0.9	15.6	3.0	0.3	3.3
10/2+10/3	483	483	-	-	-	1.0	0.7	-	1.7	12.5	13.3	0.7	14.1

11/2+11/1	935	935	-	-	-	1.9	0.8	-	2.7	10.5	4.5	0.8	5.3
11/3+11/4	959	959	-	-	-	2.0	0.9	-	2.9	10.7	4.8	0.9	5.6
12/1	321	321	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
12/2	237	237	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
13/1	580	580	-	-	-	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	1140	1140	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
14/2	854	854	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
15/1	614	614	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
15/2	621	621	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
16/1	571	571	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
16/2	834	834	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
16/3	689	689	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

C1	Stream: 1 PRC for Signalled Lanes (%):	13.8	Total Delay for Signalled Lanes (pcuHr):	20.83	Cycle Time (s): 60
C1	Stream: 2 PRC for Signalled Lanes (%):	33.3	Total Delay for Signalled Lanes (pcuHr):	7.83	Cycle Time (s): 60
C1	Stream: 3 PRC for Signalled Lanes (%):	103.2	Total Delay for Signalled Lanes (pcuHr):	1.23	Cycle Time (s): 60
C1	Stream: 4 PRC for Signalled Lanes (%):	38.8	Total Delay for Signalled Lanes (pcuHr):	8.19	Cycle Time (s): 60
C1	Stream: 5 PRC for Signalled Lanes (%):	41.0	Total Delay for Signalled Lanes (pcuHr):	8.19	Cycle Time (s): 60
C1	Stream: 6 PRC for Signalled Lanes (%):	9.5	Total Delay for Signalled Lanes (pcuHr):	19.24	Cycle Time (s): 60
	PRC Over All Lanes (%):	9.5	Total Delay Over All Lanes(pcuHr):	65.51	

Scenario 3: '2031 D1 Ref PM' (FG2: '2031 D1 Ref PM', 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	21	29
Change Point	47	13

Stage Stream: 3

Stage	1	2
Duration	41	5
Change Point	36	26

Stage Stream: 4

Stage	1	2
Duration	31	10
Change Point	10	46

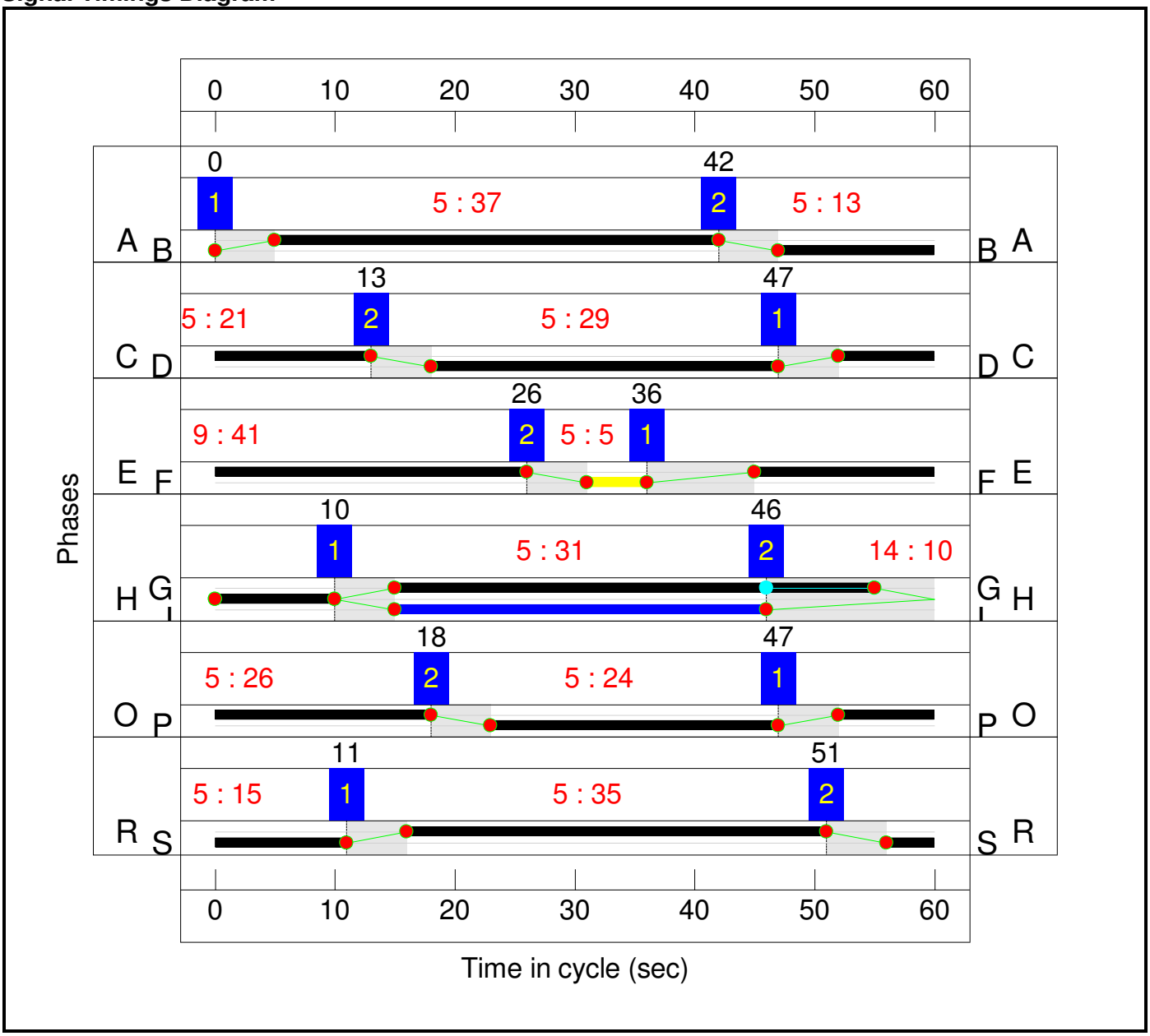
Stage Stream: 5

Stage	1	2
Duration	26	24
Change Point	47	18

Stage Stream: 6

Stage	1	2
Duration	35	15
Change Point	11	51

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	-	-	**N/A**	-	-		-	-	-	-	-	-	**134.2%**
Unnamed Junction	-	-	**N/A**	-	-		-	-	-	-	-	-	**134.2%**
1/1	Ahead	U	6	N/A	R		1	35	-	1114	1965	1179	73.3%
1/2	Ahead	U	6	N/A	R		1	35	-	1272	2105	1263	75.4%
1/3	Right	U	6	N/A	R		1	35	-	363	2105	1263	24.6%
1/4	Right	U	6	N/A	R		1	35	-	863	2105	1263	56.7%
2/2+2/1	A5095 Rushmere Road Ahead Left	U	6	N/A	S		1	15	-	960	2004:3600	999	96.1%
3/1	Ahead	U	1	N/A	A		1	37	-	598	1908	1208	45.2%
3/2	Right Ahead	U	1	N/A	A		1	37	-	523	2067	1309	34.8%
3/3	Right	U	1	N/A	A		1	37	-	638	2052	1300	43.0%
4/2+4/1	A45 Southbound Offslip Ahead Left	U	1	N/A	B		1	13	-	639	2120:1899	628	101.7%
4/4+4/3	A45 Southbound Offslip Ahead	U	1	N/A	B		1	13	-	508	1940:2120	505	100.7%
5/1	Ahead	U	2	N/A	C		1	21	-	577	1886	692	73.4%
5/2	Ahead Right	U	2	N/A	C		1	21	-	584	2089	766	74.6%
5/3	Right	U	2	N/A	C		1	21	-	502	2033	745	66.9%
5/4	Right	U	2	N/A	C		1	21	-	435	1940	711	51.0%
6/2+6/1	A428 Bedford Road E Left Ahead	U	2	N/A	D		1	29	-	1639	2052:3800	1240	132.2%
7/1	Ahead	U	3	N/A	E		1	41	-	736	1980	1386	45.3%
7/2	Ahead	U	3	N/A	E		1	41	-	383	2120	1484	25.2%
8/1	Ahead	U	4	N/A	G		1	40	-	567	1899	1298	36.6%
8/2	Ahead	U	4	N/A	G		1	40	-	558	2043	1396	38.7%
8/3	Ahead Ahead2	U	4	N/A	G		1	40	-	1493	2058	1406	82.7%

9/2+9/1	A45 Northbound Offslip Left	U	4	N/A	H		1	10	-	623	2120:1868	664	93.8%
9/3+9/4	A45 Northbound Offslip Left Left2	U	4	N/A	H		1	10	-	665	2120:2120	742	89.6%
10/1	Right	U	5	N/A	O		1	26	-	835	1908	859	76.7%
10/2+10/3	Right Right2	U	5	N/A	O		1	26	-	1039	2052:2058	954	91.6%
11/2+11/1	A428 Bedford Road W Ahead Ahead2	U	5	N/A	P		1	24	-	1590	2055:1917	1184	134.2%
11/3+11/4	A428 Bedford Road W Ahead	U	5	N/A	P		1	24	-	1170	2005:2005	971	120.5%
12/1		U	N/A	N/A	-		-	-	-	835	Inf	Inf	0.0%
12/2		U	N/A	N/A	-		-	-	-	187	Inf	Inf	0.0%
13/1		U	N/A	N/A	-		-	-	-	1541	Inf	Inf	0.0%
13/2		U	N/A	N/A	-		-	-	-	1272	Inf	Inf	0.0%
14/1		U	N/A	N/A	-		-	-	-	734	Inf	Inf	0.0%
14/2		U	N/A	N/A	-		-	-	-	74	Inf	Inf	0.0%
15/1		U	N/A	N/A	-		-	-	-	736	Inf	Inf	0.0%
15/2		U	N/A	N/A	-		-	-	-	383	Inf	Inf	0.0%
16/1		U	N/A	N/A	-		-	-	-	859	Inf	Inf	0.0%
16/2		U	N/A	N/A	-		-	-	-	889	Inf	Inf	0.0%
16/3		U	N/A	N/A	-		-	-	-	284	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	**-**	**-**	**0**	**0**	**0**	**86.2**	**573.8**	**0.0**	**660.0**	**-**	**-**	**-**	**-**
Unnamed Junction	**-**	**-**	**0**	**0**	**0**	**86.2**	**573.8**	**0.0**	**660.0**	**-**	**-**	**-**	**-**
1/1	864	864	-	-	-	1.9	1.4	-	3.2	13.4	5.7	1.4	7.0
1/2	952	952	-	-	-	0.8	1.5	-	2.3	8.7	4.9	1.5	6.4
1/3	311	311	-	-	-	0.0	0.2	-	0.2	2.1	0.1	0.2	0.2
1/4	716	716	-	-	-	0.0	0.7	-	0.7	3.3	0.0	0.7	0.7
2/2+2/1	960	960	-	-	-	5.4	8.5	-	13.9	52.0	6.8	8.5	15.3
3/1	546	546	-	-	-	0.3	0.4	-	0.7	4.6	1.8	0.4	2.2
3/2	456	456	-	-	-	1.2	0.3	-	1.4	11.3	4.8	0.3	5.1
3/3	559	559	-	-	-	1.6	0.4	-	2.0	12.7	7.5	0.4	7.8
4/2+4/1	639	631	-	-	-	4.1	15.6	-	19.6	110.7	8.4	15.6	23.9
4/4+4/3	508	505	-	-	-	3.3	12.2	-	15.4	109.4	8.3	12.2	20.5
5/1	508	508	-	-	-	2.6	1.4	-	4.0	28.2	6.3	1.4	7.6
5/2	571	571	-	-	-	2.0	1.4	-	3.4	21.7	8.9	1.4	10.4
5/3	498	498	-	-	-	0.1	1.0	-	1.1	7.7	0.3	1.0	1.3
5/4	363	363	-	-	-	2.2	0.5	-	2.7	26.6	4.5	0.5	5.0
6/2+6/1	1639	1240	-	-	-	15.5	201.7	-	217.1	476.9	32.9	201.7	234.6
7/1	628	628	-	-	-	0.0	0.4	-	0.4	2.5	0.4	0.4	0.8
7/2	373	373	-	-	-	0.0	0.2	-	0.2	1.6	0.0	0.2	0.2
8/1	475	475	-	-	-	0.4	0.3	-	0.7	5.5	3.3	0.3	3.6
8/2	541	541	-	-	-	1.9	0.3	-	2.3	15.1	8.4	0.3	8.7
8/3	1163	1163	-	-	-	1.2	2.3	-	3.5	11.0	6.0	2.3	8.4
9/2+9/1	623	623	-	-	-	4.1	5.9	-	10.0	57.8	5.7	5.9	11.6
9/3+9/4	665	632	-	-	-	5.4	3.9	-	9.4	50.7	7.6	3.9	11.5
10/1	659	659	-	-	-	2.1	1.6	-	3.7	20.3	9.6	1.6	11.3

10/2+10/3	874	874	-	-	-	3.7	4.9	-	8.6	35.3	13.3	4.9	18.2
11/2+11/1	1590	1184	-	-	-	16.6	204.7	-	221.3	501.1	30.1	204.7	234.8
11/3+11/4	1170	971	-	-	-	9.8	102.3	-	112.2	345.1	22.3	102.3	124.6
12/1	659	659	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
12/2	187	187	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
13/1	1291	1291	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
13/2	952	952	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
14/1	682	682	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
14/2	74	74	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
15/1	628	628	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
15/2	373	373	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
16/1	767	767	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
16/2	872	872	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
16/3	262	262	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

C1	Stream: 1 PRC for Signalled Lanes (%):	-13.0	Total Delay for Signalled Lanes (pcuHr):	39.18	Cycle Time (s): 60
C1	Stream: 2 PRC for Signalled Lanes (%):	-46.9	Total Delay for Signalled Lanes (pcuHr):	228.28	Cycle Time (s): 60
C1	Stream: 3 PRC for Signalled Lanes (%):	98.7	Total Delay for Signalled Lanes (pcuHr):	0.61	Cycle Time (s): 60
C1	Stream: 4 PRC for Signalled Lanes (%):	-4.2	Total Delay for Signalled Lanes (pcuHr):	25.90	Cycle Time (s): 60
C1	Stream: 5 PRC for Signalled Lanes (%):	-49.2	Total Delay for Signalled Lanes (pcuHr):	345.78	Cycle Time (s): 60
C1	Stream: 6 PRC for Signalled Lanes (%):	-6.7	Total Delay for Signalled Lanes (pcuHr):	20.24	Cycle Time (s): 60
	PRC Over All Lanes (%):	-49.2	Total Delay Over All Lanes(pcuHr):	659.99	

Scenario 4: '2031 J1d Dev PM' (FG4: '2031 J1d Dev PM', 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	22	28
Change Point	46	13

Stage Stream: 3

Stage	1	2
Duration	41	5
Change Point	48	38

Stage Stream: 4

Stage	1	2
Duration	30	11
Change Point	8	43

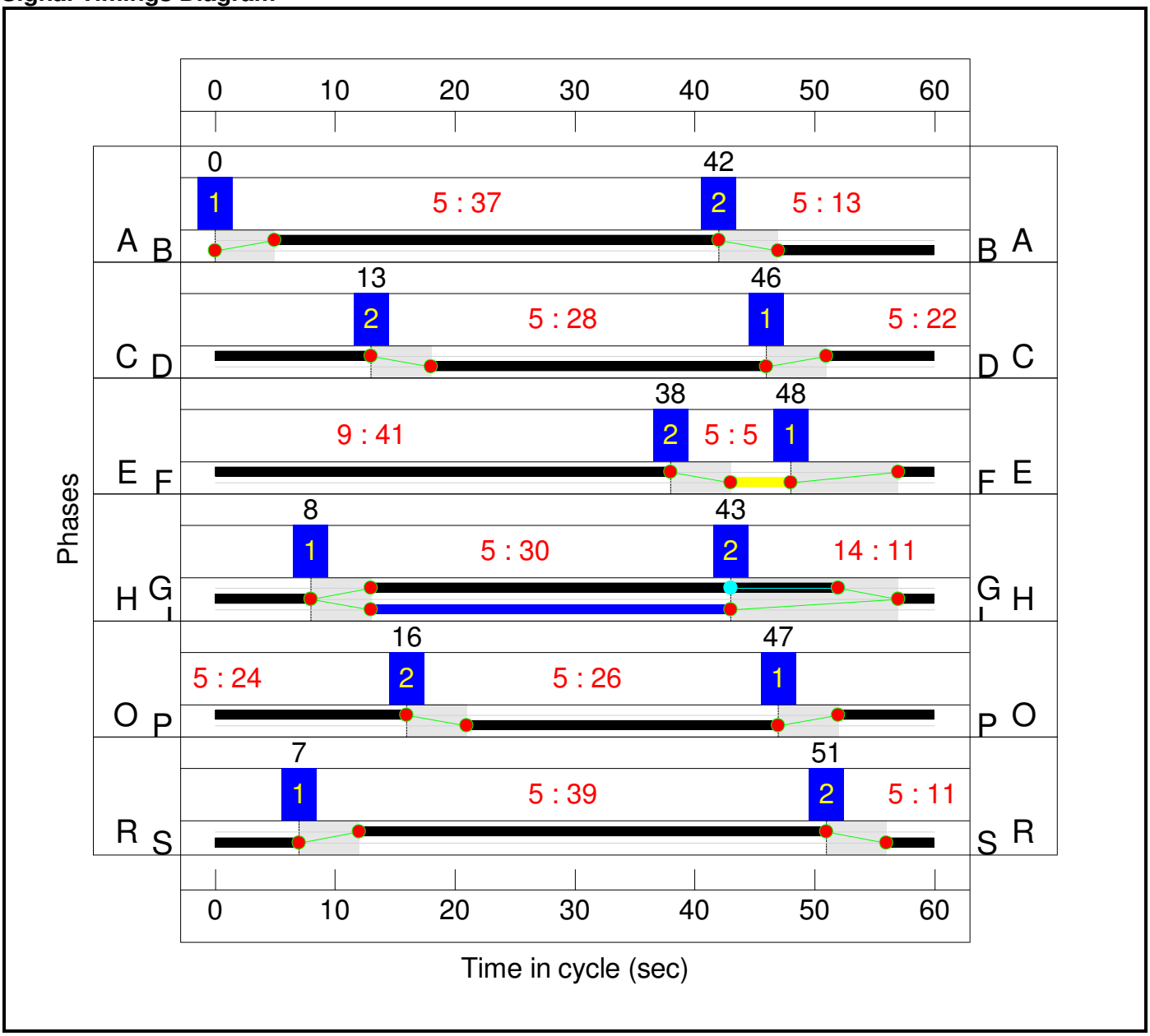
Stage Stream: 5

Stage	1	2
Duration	24	26
Change Point	47	16

Stage Stream: 6

Stage	1	2
Duration	39	11
Change Point	7	51

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	-	-	**N/A**	-	-		-	-	-	-	-	-	**135.1%**
Unnamed Junction	-	-	**N/A**	-	-		-	-	-	-	-	-	**135.1%**
1/1	Ahead	U	6	N/A	R		1	39	-	1061	1965	1310	68.9%
1/2	Ahead	U	6	N/A	R		1	39	-	1253	2105	1403	70.5%
1/3	Right	U	6	N/A	R		1	39	-	431	2105	1403	28.3%
1/4	Right	U	6	N/A	R		1	39	-	814	2105	1403	52.8%
2/2+2/1	A5095 Rushmere Road Ahead Left	U	6	N/A	S		1	11	-	1035	2004:3600	835	123.9%
3/1	Ahead	U	1	N/A	A		1	37	-	540	1908	1208	40.1%
3/2	Right Ahead	U	1	N/A	A		1	37	-	615	2083	1319	40.1%
3/3	Right	U	1	N/A	A		1	37	-	646	2052	1300	44.1%
4/2+4/1	A45 Southbound Offslip Ahead Left	U	1	N/A	B		1	13	-	612	2120:1899	641	95.4%
4/4+4/3	A45 Southbound Offslip Ahead	U	1	N/A	B		1	13	-	465	1940:2120	503	92.4%
5/1	Ahead	U	2	N/A	C		1	22	-	452	1886	723	57.2%
5/2	Ahead Right	U	2	N/A	C		1	22	-	552	2101	805	64.8%
5/3	Right	U	2	N/A	C		1	22	-	472	2033	779	60.4%
5/4	Right	U	2	N/A	C		1	22	-	471	1940	744	57.8%
6/2+6/1	A428 Bedford Road E Left Ahead	U	2	N/A	D		1	28	-	1639	2052:3800	1213	135.1%
7/1	Ahead	U	3	N/A	E		1	41	-	582	1980	1386	36.8%
7/2	Ahead	U	3	N/A	E		1	41	-	435	2120	1484	27.3%
8/1	Ahead	U	4	N/A	G		1	39	-	523	1899	1266	33.0%
8/2	Ahead	U	4	N/A	G		1	39	-	553	2043	1362	39.0%
8/3	Ahead Ahead2	U	4	N/A	G		1	39	-	1493	2058	1372	86.5%

9/2+9/1	A45 Northbound Offslip Left	U	4	N/A	H		1	11	-	663	2120:1868	692	95.8%
9/3+9/4	A45 Northbound Offslip Left Left2	U	4	N/A	H		1	11	-	567	2120:2120	572	99.1%
10/1	Right	U	5	N/A	O		1	24	-	870	1908	795	88.4%
10/2+10/3	Right Right2	U	5	N/A	O		1	24	-	971	2052:2058	887	93.7%
11/2+11/1	A428 Bedford Road W Ahead Ahead2	U	5	N/A	P		1	26	-	1495	2055:1917	1211	123.5%
11/3+11/4	A428 Bedford Road W Ahead	U	5	N/A	P		1	26	-	1191	2005:2005	1085	109.8%
12/1		U	N/A	N/A	-		-	-	-	872	Inf	Inf	0.0%
12/2		U	N/A	N/A	-		-	-	-	96	Inf	Inf	0.0%
13/1		U	N/A	N/A	-		-	-	-	1540	Inf	Inf	0.0%
13/2		U	N/A	N/A	-		-	-	-	1253	Inf	Inf	0.0%
14/1		U	N/A	N/A	-		-	-	-	680	Inf	Inf	0.0%
14/2		U	N/A	N/A	-		-	-	-	251	Inf	Inf	0.0%
15/1		U	N/A	N/A	-		-	-	-	582	Inf	Inf	0.0%
15/2		U	N/A	N/A	-		-	-	-	435	Inf	Inf	0.0%
16/1		U	N/A	N/A	-		-	-	-	830	Inf	Inf	0.0%
16/2		U	N/A	N/A	-		-	-	-	909	Inf	Inf	0.0%
16/3		U	N/A	N/A	-		-	-	-	219	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	**-**	**-**	**0**	**0**	**0**	**86.2**	**571.1**	**0.0**	**657.3**	**-**	**-**	**-**	**-**
Unnamed Junction	**-**	**-**	**0**	**0**	**0**	**86.2**	**571.1**	**0.0**	**657.3**	**-**	**-**	**-**	**-**
1/1	902	902	-	-	-	1.8	1.1	-	2.9	11.4	6.8	1.1	7.9
1/2	989	989	-	-	-	0.3	1.2	-	1.5	5.6	4.6	1.2	5.8
1/3	397	397	-	-	-	0.0	0.2	-	0.2	1.9	0.1	0.2	0.3
1/4	742	742	-	-	-	0.0	0.6	-	0.6	2.7	0.0	0.6	0.6
2/2+2/1	1035	835	-	-	-	13.2	102.3	-	115.5	401.8	14.4	102.3	116.7
3/1	485	485	-	-	-	0.5	0.3	-	0.8	6.0	2.5	0.3	2.8
3/2	529	529	-	-	-	0.8	0.3	-	1.2	8.0	4.2	0.3	4.6
3/3	574	574	-	-	-	1.7	0.4	-	2.1	12.9	7.1	0.4	7.5
4/2+4/1	612	612	-	-	-	3.7	7.0	-	10.8	63.3	7.7	7.0	14.8
4/4+4/3	465	465	-	-	-	2.9	4.8	-	7.7	59.9	7.4	4.8	12.2
5/1	413	413	-	-	-	1.8	0.7	-	2.4	21.0	4.5	0.7	5.2
5/2	522	522	-	-	-	1.2	0.9	-	2.1	14.5	3.2	0.9	4.1
5/3	471	471	-	-	-	0.1	0.8	-	0.9	6.6	0.3	0.8	1.0
5/4	430	430	-	-	-	2.5	0.7	-	3.2	26.7	5.6	0.7	6.3
6/2+6/1	1639	1213	-	-	-	16.4	214.8	-	231.2	507.8	33.3	214.8	248.1
7/1	510	510	-	-	-	0.3	0.3	-	0.5	3.9	3.7	0.3	4.0
7/2	406	406	-	-	-	0.0	0.2	-	0.2	2.1	3.1	0.2	3.3
8/1	417	417	-	-	-	0.4	0.2	-	0.6	5.3	2.2	0.2	2.5
8/2	531	531	-	-	-	1.6	0.3	-	2.0	13.2	7.9	0.3	8.2
8/3	1186	1186	-	-	-	1.8	3.1	-	4.9	14.8	7.9	3.1	10.9
9/2+9/1	663	663	-	-	-	4.4	7.6	-	11.9	64.8	6.4	7.6	13.9
9/3+9/4	567	567	-	-	-	3.6	10.6	-	14.3	90.6	6.9	10.6	17.5
10/1	703	703	-	-	-	2.6	3.5	-	6.1	31.3	9.5	3.5	13.0

10/2+10/3	831	831	-	-	-	4.5	6.1	-	10.7	46.2	13.7	6.1	19.9
11/2+11/1	1495	1211	-	-	-	12.8	144.6	-	157.4	379.0	26.9	144.6	171.5
11/3+11/4	1191	1085	-	-	-	7.4	58.3	-	65.7	198.5	20.3	58.3	78.6
12/1	704	704	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
12/2	95	95	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
13/1	1289	1289	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
13/2	989	989	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
14/1	625	625	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
14/2	203	203	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
15/1	510	510	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
15/2	406	406	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
16/1	724	724	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
16/2	887	887	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
16/3	219	219	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

C1	Stream: 1 PRC for Signalled Lanes (%):	-6.0	Total Delay for Signalled Lanes (pcuHr):	22.54	Cycle Time (s): 60
C1	Stream: 2 PRC for Signalled Lanes (%):	-50.1	Total Delay for Signalled Lanes (pcuHr):	239.76	Cycle Time (s): 60
C1	Stream: 3 PRC for Signalled Lanes (%):	144.8	Total Delay for Signalled Lanes (pcuHr):	0.78	Cycle Time (s): 60
C1	Stream: 4 PRC for Signalled Lanes (%):	-10.1	Total Delay for Signalled Lanes (pcuHr):	33.63	Cycle Time (s): 60
C1	Stream: 5 PRC for Signalled Lanes (%):	-37.2	Total Delay for Signalled Lanes (pcuHr):	239.86	Cycle Time (s): 60
C1	Stream: 6 PRC for Signalled Lanes (%):	-37.7	Total Delay for Signalled Lanes (pcuHr):	120.68	Cycle Time (s): 60
	PRC Over All Lanes (%):	-50.1	Total Delay Over All Lanes(pcuHr):	657.27	

Scenario 5: '2021 C1 Ref AM' (FG5: '2021 C1 Ref AM', 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

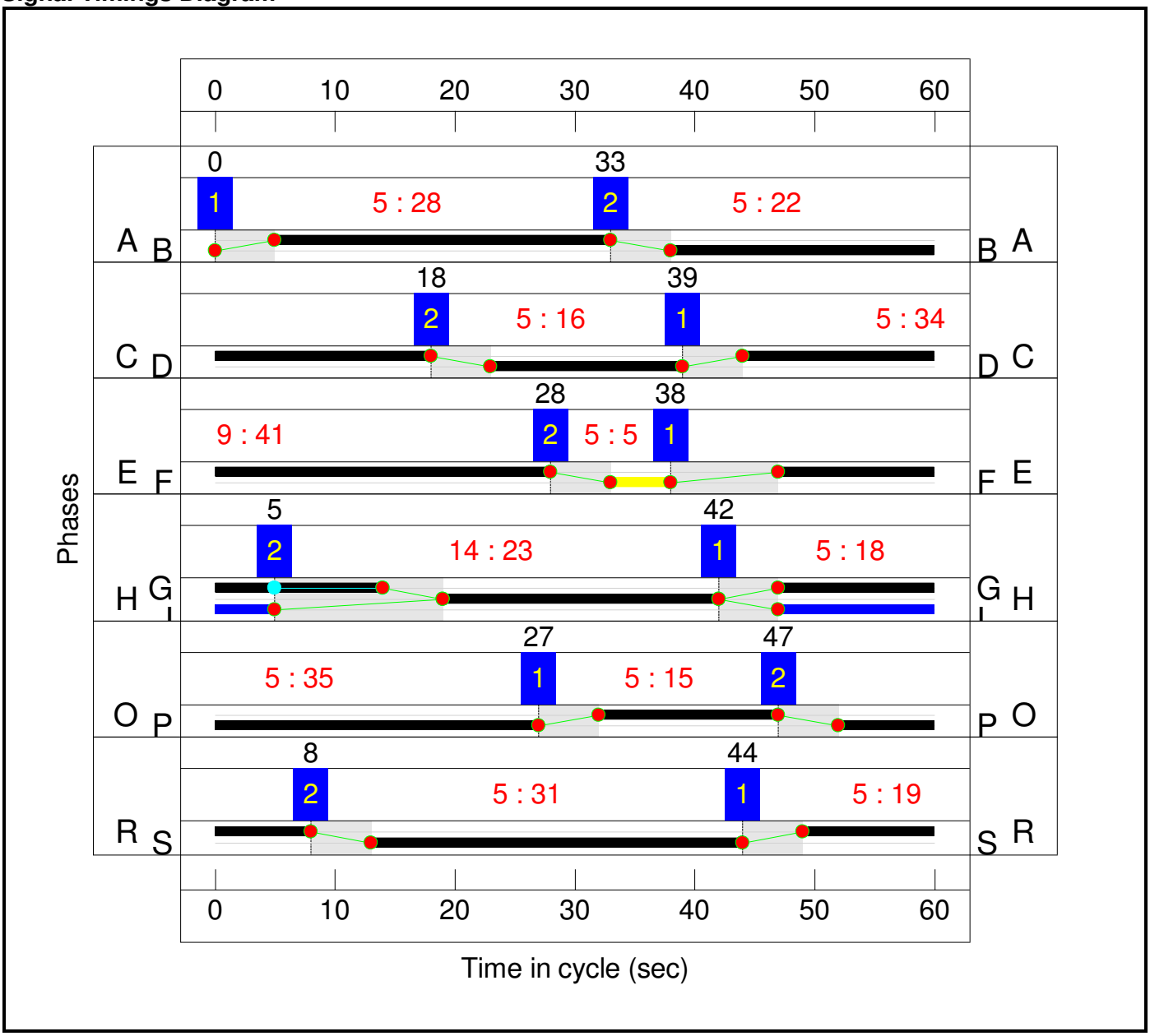
Stage Stream: 5

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	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**75.0%**
Unnamed Junction	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**75.0%**
1/1	Ahead	U	6	N/A	R		1	19	-	397	1965	655	60.6%
1/2	Ahead	U	6	N/A	R		1	19	-	453	2105	702	64.6%
1/3	Right	U	6	N/A	R		1	19	-	452	2105	702	64.4%
1/4	Right	U	6	N/A	R		1	19	-	480	2105	702	68.4%
2/2+2/1	A5095 Rushmere Road Ahead Left	U	6	N/A	S		1	31	-	1169	2004:3600	1649	70.9%
3/1	Ahead	U	1	N/A	A		1	28	-	680	1908	922	73.7%
3/2	Right Ahead	U	1	N/A	A		1	28	-	766	2112	1021	75.0%
3/3	Right	U	1	N/A	A		1	28	-	573	2052	992	57.8%
4/2+4/1	A45 Southbound Offslip Ahead Left	U	1	N/A	B		1	22	-	736	2120:1899	989	74.5%
4/4+4/3	A45 Southbound Offslip Ahead	U	1	N/A	B		1	22	-	925	1940:2120	1556	59.4%
5/1	Ahead	U	2	N/A	C		1	34	-	245	1886	1100	22.3%
5/2	Ahead Right	U	2	N/A	C		1	34	-	613	2114	1233	49.7%
5/3	Right	U	2	N/A	C		1	34	-	475	2033	1186	40.1%
5/4	Right	U	2	N/A	C		1	34	-	451	1940	1132	39.9%
6/2+6/1	A428 Bedford Road E Left Ahead	U	2	N/A	D		1	16	-	666	2052:3800	1220	54.6%
7/1	Ahead	U	3	N/A	E		1	41	-	392	1980	1386	28.3%
7/2	Ahead	U	3	N/A	E		1	41	-	572	2120	1484	38.5%
8/1	Ahead	U	4	N/A	G		1	27	-	275	1899	886	31.0%
8/2	Ahead	U	4	N/A	G		1	27	-	592	2043	953	62.1%
8/3	Ahead Ahead2	U	4	N/A	G		1	27	-	619	2102	981	63.1%

9/2+9/1	A45 Northbound Offslip Left	U	4	N/A	H		1	23	-	593	2120:1868	1096	54.1%
9/3+9/4	A45 Northbound Offslip Left Left2	U	4	N/A	H		1	23	-	777	2120:2120	1481	52.5%
10/1	Right	U	5	N/A	O		1	15	-	87	1908	509	17.1%
10/2+10/3	Right Right2	U	5	N/A	O		1	15	-	424	2052:2058	869	48.8%
11/2+11/1	A428 Bedford Road W Ahead Ahead2	U	5	N/A	P		1	35	-	889	2055:1917	1575	56.5%
11/3+11/4	A428 Bedford Road W Ahead	U	5	N/A	P		1	35	-	775	2005:2005	1551	50.0%
12/1		U	N/A	N/A	-		-	-	-	184	Inf	Inf	0.0%
12/2		U	N/A	N/A	-		-	-	-	209	Inf	Inf	0.0%
13/1		U	N/A	N/A	-		-	-	-	479	Inf	Inf	0.0%
13/2		U	N/A	N/A	-		-	-	-	453	Inf	Inf	0.0%
14/1		U	N/A	N/A	-		-	-	-	1222	Inf	Inf	0.0%
14/2		U	N/A	N/A	-		-	-	-	674	Inf	Inf	0.0%
15/1		U	N/A	N/A	-		-	-	-	392	Inf	Inf	0.0%
15/2		U	N/A	N/A	-		-	-	-	572	Inf	Inf	0.0%
16/1		U	N/A	N/A	-		-	-	-	553	Inf	Inf	0.0%
16/2		U	N/A	N/A	-		-	-	-	907	Inf	Inf	0.0%
16/3		U	N/A	N/A	-		-	-	-	885	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	**-**	**-**	**0**	**0**	**0**	**37.3**	**17.7**	**0.0**	**55.0**	**-**	**-**	**-**	**-**
Unnamed Junction	**-**	**-**	**0**	**0**	**0**	**37.3**	**17.7**	**0.0**	**55.0**	**-**	**-**	**-**	**-**
1/1	397	397	-	-	-	1.3	0.8	-	2.1	19.1	2.9	0.8	3.7
1/2	453	453	-	-	-	1.5	0.9	-	2.4	19.2	3.1	0.9	4.0
1/3	452	452	-	-	-	1.5	0.9	-	2.4	19.4	3.8	0.9	4.7
1/4	480	480	-	-	-	1.6	1.1	-	2.7	20.2	3.7	1.1	4.8
2/2+2/1	1169	1169	-	-	-	2.7	1.2	-	3.9	12.0	4.1	1.2	5.3
3/1	680	680	-	-	-	1.5	1.4	-	2.9	15.3	9.1	1.4	10.4
3/2	766	766	-	-	-	1.7	1.5	-	3.2	15.0	8.3	1.5	9.8
3/3	573	573	-	-	-	1.2	0.7	-	1.9	11.8	5.0	0.7	5.7
4/2+4/1	736	736	-	-	-	3.1	1.4	-	4.5	22.1	7.7	1.4	9.1
4/4+4/3	925	925	-	-	-	3.8	0.7	-	4.5	17.6	6.2	0.7	6.9
5/1	245	245	-	-	-	0.2	0.1	-	0.3	4.8	0.9	0.1	1.1
5/2	613	613	-	-	-	1.3	0.5	-	1.8	10.4	5.5	0.5	6.0
5/3	475	475	-	-	-	0.0	0.3	-	0.4	2.7	0.3	0.3	0.6
5/4	451	451	-	-	-	0.0	0.3	-	0.3	2.6	0.0	0.3	0.3
6/2+6/1	666	666	-	-	-	3.2	0.6	-	3.8	20.7	3.9	0.6	4.5
7/1	392	392	-	-	-	0.6	0.2	-	0.8	7.5	2.6	0.2	2.8
7/2	572	572	-	-	-	0.0	0.3	-	0.3	2.0	0.0	0.3	0.3
8/1	275	275	-	-	-	1.0	0.2	-	1.2	16.2	3.9	0.2	4.1
8/2	592	592	-	-	-	0.4	0.8	-	1.2	7.5	2.0	0.8	2.8
8/3	619	619	-	-	-	0.6	0.9	-	1.5	8.6	2.8	0.9	3.7
9/2+9/1	593	593	-	-	-	2.1	0.6	-	2.7	16.3	3.7	0.6	4.3
9/3+9/4	777	777	-	-	-	2.9	0.6	-	3.4	15.9	5.6	0.6	6.1
10/1	87	87	-	-	-	0.7	0.1	-	0.8	34.3	1.4	0.1	1.5
10/2+10/3	424	424	-	-	-	1.4	0.5	-	1.8	15.6	10.5	0.5	11.0

11/2+11/1	889	889	-	-	-	1.5	0.6	-	2.2	8.8	3.9	0.6	4.6
11/3+11/4	775	775	-	-	-	1.3	0.5	-	1.8	8.3	3.5	0.5	4.0
12/1	184	184	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
12/2	209	209	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
13/1	479	479	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
13/2	453	453	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
14/1	1222	1222	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
14/2	674	674	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
15/1	392	392	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
15/2	572	572	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
16/1	553	553	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
16/2	907	907	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
16/3	885	885	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

C1	Stream: 1 PRC for Signalled Lanes (%):	19.9	Total Delay for Signalled Lanes (pcuHr):	17.02	Cycle Time (s): 60
C1	Stream: 2 PRC for Signalled Lanes (%):	64.8	Total Delay for Signalled Lanes (pcuHr):	6.63	Cycle Time (s): 60
C1	Stream: 3 PRC for Signalled Lanes (%):	133.5	Total Delay for Signalled Lanes (pcuHr):	1.13	Cycle Time (s): 60
C1	Stream: 4 PRC for Signalled Lanes (%):	42.6	Total Delay for Signalled Lanes (pcuHr):	10.06	Cycle Time (s): 60
C1	Stream: 5 PRC for Signalled Lanes (%):	59.4	Total Delay for Signalled Lanes (pcuHr):	6.63	Cycle Time (s): 60
C1	Stream: 6 PRC for Signalled Lanes (%):	27.0	Total Delay for Signalled Lanes (pcuHr):	13.55	Cycle Time (s): 60
	PRC Over All Lanes (%):	19.9	Total Delay Over All Lanes(pcuHr):	55.02	

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

Stage Timings

Stage Stream: 1

Stage	1	2
Duration	29	21
Change Point	0	34

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	14	27
Change Point	36	55

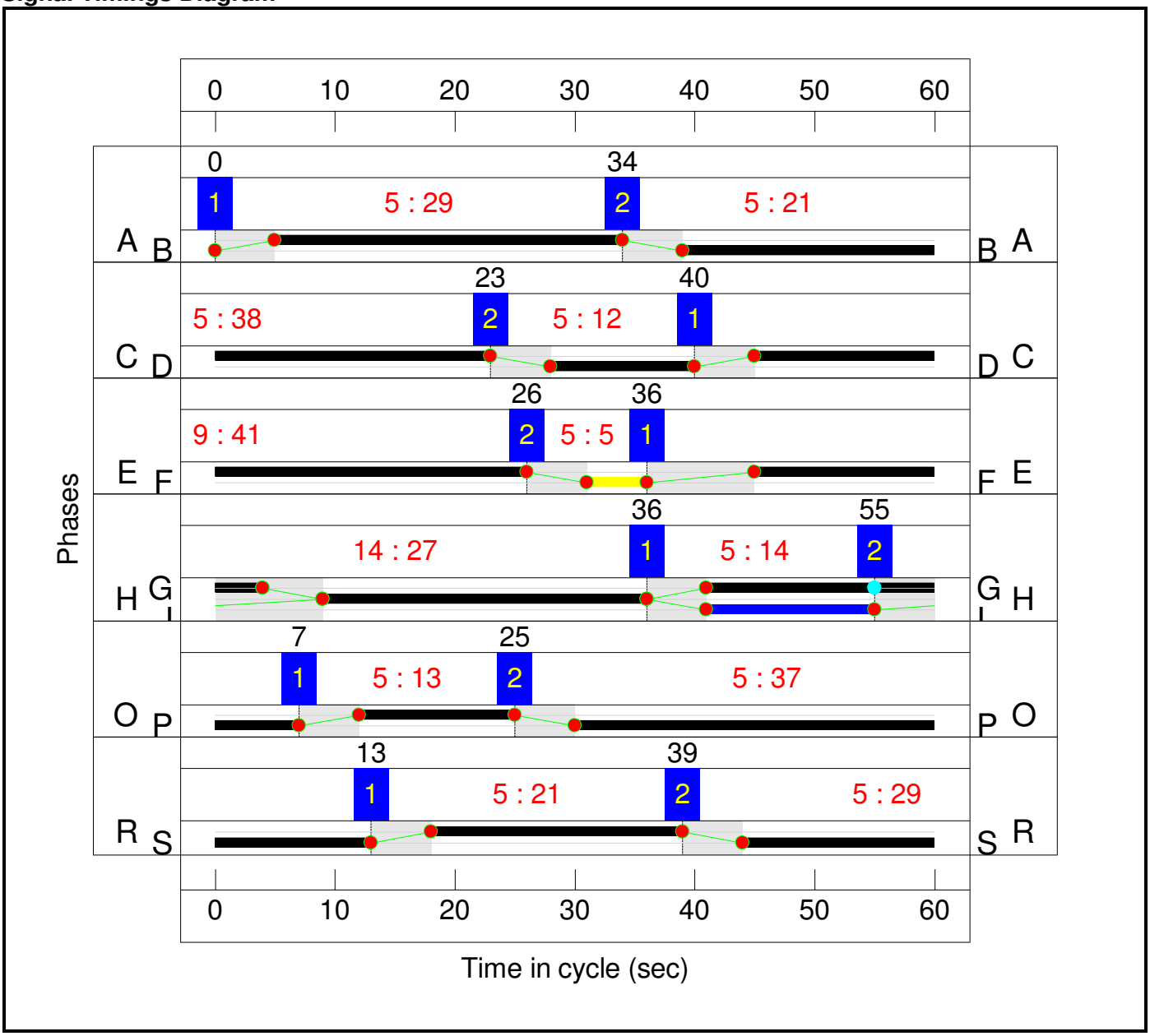
Stage Stream: 5

Stage	1	2
Duration	13	37
Change Point	7	25

Stage Stream: 6

Stage	1	2
Duration	21	29
Change Point	13	39

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	-	-	**N/A**	-	-		-	-	-	-	-	-	**76.8%**
Unnamed Junction	-	-	**N/A**	-	-		-	-	-	-	-	-	**76.8%**
1/1	Ahead	U	6	N/A	R		1	21	-	385	1965	721	53.4%
1/2	Ahead	U	6	N/A	R		1	21	-	447	2105	772	57.9%
1/3	Right	U	6	N/A	R		1	21	-	483	2105	772	62.6%
1/4	Right	U	6	N/A	R		1	21	-	499	2105	772	64.7%
2/2+2/1	A5095 Rushmere Road Ahead Left	U	6	N/A	S		1	29	-	1208	2004:3600	1594	75.8%
3/1	Ahead	U	1	N/A	A		1	29	-	714	1908	954	74.8%
3/2	Right Ahead	U	1	N/A	A		1	29	-	757	2114	1057	71.6%
3/3	Right	U	1	N/A	A		1	29	-	619	2052	1026	60.3%
4/2+4/1	A45 Southbound Offslip Ahead Left	U	1	N/A	B		1	21	-	784	2120:1899	1020	76.8%
4/4+4/3	A45 Southbound Offslip Ahead	U	1	N/A	B		1	21	-	941	1940:2120	1489	63.2%
5/1	Ahead	U	2	N/A	C		1	38	-	316	1886	1226	25.8%
5/2	Ahead Right	U	2	N/A	C		1	38	-	625	2118	1377	45.4%
5/3	Right	U	2	N/A	C		1	38	-	498	2033	1321	37.7%
5/4	Right	U	2	N/A	C		1	38	-	447	1940	1261	35.4%
6/2+6/1	A428 Bedford Road E Left Ahead	U	2	N/A	D		1	12	-	675	2052:3800	1268	53.2%
7/1	Ahead	U	3	N/A	E		1	41	-	467	1980	1386	33.7%
7/2	Ahead	U	3	N/A	E		1	41	-	612	2120	1484	41.2%
8/1	Ahead	U	4	N/A	G		1	23	-	302	1899	760	39.8%
8/2	Ahead	U	4	N/A	G		1	23	-	549	2043	817	67.2%
8/3	Ahead Ahead2	U	4	N/A	G		1	23	-	631	2101	840	75.1%

9/2+9/1	A45 Northbound Offslip Left	U	4	N/A	H		1	27	-	622	2120:1868	1228	50.6%
9/3+9/4	A45 Northbound Offslip Left Left2	U	4	N/A	H		1	27	-	733	2120:2120	1566	46.8%
10/1	Right	U	5	N/A	O		1	13	-	125	1908	445	28.1%
10/2+10/3	Right Right2	U	5	N/A	O		1	13	-	417	2052:2058	745	56.0%
11/2+11/1	A428 Bedford Road W Ahead Ahead2	U	5	N/A	P		1	37	-	873	2055:1917	1637	53.3%
11/3+11/4	A428 Bedford Road W Ahead	U	5	N/A	P		1	37	-	833	2005:2005	1623	51.3%
12/1		U	N/A	N/A	-		-	-	-	227	Inf	Inf	0.0%
12/2		U	N/A	N/A	-		-	-	-	207	Inf	Inf	0.0%
13/1		U	N/A	N/A	-		-	-	-	485	Inf	Inf	0.0%
13/2		U	N/A	N/A	-		-	-	-	447	Inf	Inf	0.0%
14/1		U	N/A	N/A	-		-	-	-	1249	Inf	Inf	0.0%
14/2		U	N/A	N/A	-		-	-	-	680	Inf	Inf	0.0%
15/1		U	N/A	N/A	-		-	-	-	467	Inf	Inf	0.0%
15/2		U	N/A	N/A	-		-	-	-	612	Inf	Inf	0.0%
16/1		U	N/A	N/A	-		-	-	-	593	Inf	Inf	0.0%
16/2		U	N/A	N/A	-		-	-	-	880	Inf	Inf	0.0%
16/3		U	N/A	N/A	-		-	-	-	822	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	**-**	**-**	**0**	**0**	**0**	**40.9**	**18.6**	**0.0**	**59.5**	**-**	**-**	**-**	**-**
Unnamed Junction	**-**	**-**	**0**	**0**	**0**	**40.9**	**18.6**	**0.0**	**59.5**	**-**	**-**	**-**	**-**
1/1	385	385	-	-	-	1.5	0.6	-	2.1	19.6	3.9	0.6	4.5
1/2	447	447	-	-	-	1.6	0.7	-	2.3	18.5	4.2	0.7	4.9
1/3	483	483	-	-	-	1.5	0.8	-	2.3	17.5	4.1	0.8	4.9
1/4	499	499	-	-	-	1.8	0.9	-	2.7	19.6	4.4	0.9	5.3
2/2+2/1	1208	1208	-	-	-	3.2	1.6	-	4.8	14.2	4.6	1.6	6.1
3/1	714	714	-	-	-	2.9	1.5	-	4.3	21.8	8.3	1.5	9.7
3/2	757	757	-	-	-	2.5	1.3	-	3.8	18.0	9.8	1.3	11.1
3/3	619	619	-	-	-	1.5	0.8	-	2.3	13.2	7.8	0.8	8.5
4/2+4/1	784	784	-	-	-	3.4	1.6	-	5.1	23.3	7.7	1.6	9.4
4/4+4/3	941	941	-	-	-	4.1	0.9	-	5.0	18.9	6.7	0.9	7.6
5/1	316	316	-	-	-	0.2	0.2	-	0.4	4.4	0.7	0.2	0.9
5/2	625	625	-	-	-	0.7	0.4	-	1.1	6.5	3.0	0.4	3.4
5/3	498	498	-	-	-	0.0	0.3	-	0.3	2.4	0.3	0.3	0.6
5/4	447	447	-	-	-	0.0	0.3	-	0.3	2.2	0.0	0.3	0.3
6/2+6/1	675	675	-	-	-	3.9	0.6	-	4.5	23.8	3.5	0.6	4.0
7/1	467	467	-	-	-	0.5	0.3	-	0.8	5.9	2.7	0.3	3.0
7/2	612	612	-	-	-	0.3	0.4	-	0.7	4.0	1.1	0.4	1.5
8/1	302	302	-	-	-	0.5	0.3	-	0.8	9.9	4.9	0.3	5.2
8/2	549	549	-	-	-	0.9	1.0	-	1.9	12.4	2.3	1.0	3.3
8/3	631	631	-	-	-	1.0	1.5	-	2.5	14.0	4.3	1.5	5.7
9/2+9/1	622	622	-	-	-	1.7	0.5	-	2.3	13.1	3.4	0.5	3.9
9/3+9/4	733	733	-	-	-	2.1	0.4	-	2.6	12.6	5.0	0.4	5.5
10/1	125	125	-	-	-	0.7	0.2	-	0.9	25.6	1.6	0.2	1.8
10/2+10/3	417	417	-	-	-	1.7	0.6	-	2.4	20.4	12.7	0.6	13.4

11/2+11/1	873	873	-	-	-	1.3	0.6	-	1.8	7.5	3.5	0.6	4.1
11/3+11/4	833	833	-	-	-	1.2	0.5	-	1.7	7.4	3.5	0.5	4.0
12/1	227	227	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
12/2	207	207	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
13/1	485	485	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
13/2	447	447	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
14/1	1249	1249	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
14/2	680	680	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
15/1	467	467	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
15/2	612	612	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
16/1	593	593	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
16/2	880	880	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
16/3	822	822	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

C1	Stream: 1 PRC for Signalled Lanes (%):	17.1	Total Delay for Signalled Lanes (pcuHr):	20.42	Cycle Time (s):	60
C1	Stream: 2 PRC for Signalled Lanes (%):	69.1	Total Delay for Signalled Lanes (pcuHr):	6.60	Cycle Time (s):	60
C1	Stream: 3 PRC for Signalled Lanes (%):	118.2	Total Delay for Signalled Lanes (pcuHr):	1.45	Cycle Time (s):	60
C1	Stream: 4 PRC for Signalled Lanes (%):	19.9	Total Delay for Signalled Lanes (pcuHr):	10.01	Cycle Time (s):	60
C1	Stream: 5 PRC for Signalled Lanes (%):	60.8	Total Delay for Signalled Lanes (pcuHr):	6.79	Cycle Time (s):	60
C1	Stream: 6 PRC for Signalled Lanes (%):	18.7	Total Delay for Signalled Lanes (pcuHr):	14.21	Cycle Time (s):	60
	PRC Over All Lanes (%):	17.1	Total Delay Over All Lanes(pcuHr):	59.48		

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

Stage Timings

Stage Stream: 1

Stage	1	2
Duration	32	18
Change Point	7	44

Stage Stream: 2

Stage	1	2
Duration	21	29
Change Point	9	35

Stage Stream: 3

Stage	1	2
Duration	41	5
Change Point	57	47

Stage Stream: 4

Stage	1	2
Duration	29	12
Change Point	34	8

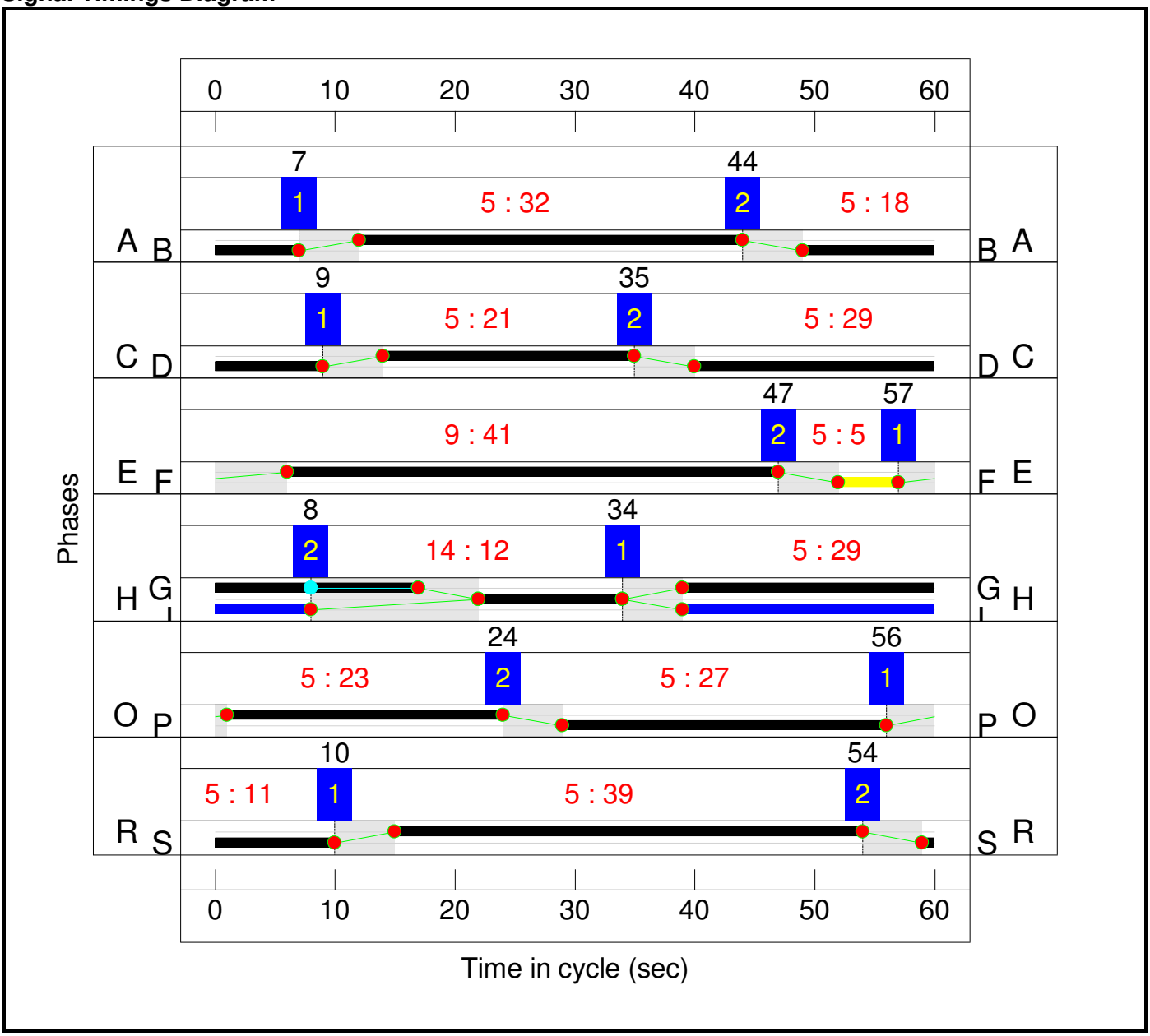
Stage Stream: 5

Stage	1	2
Duration	23	27
Change Point	56	24

Stage Stream: 6

Stage	1	2
Duration	39	11
Change Point	10	54

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	-	-	**N/A**	-	-		-	-	-	-	-	-	**135.2%**
Unnamed Junction	-	-	**N/A**	-	-		-	-	-	-	-	-	**135.2%**
1/1	Ahead	U	6	N/A	R		1	39	-	1024	1965	1310	68.6%
1/2	Ahead	U	6	N/A	R		1	39	-	1247	2105	1403	73.3%
1/3	Right	U	6	N/A	R		1	39	-	449	2105	1403	30.7%
1/4	Right	U	6	N/A	R		1	39	-	802	2105	1403	54.5%
2/2+2/1	A5095 Rushmere Road Ahead Left	U	6	N/A	S		1	11	-	907	2004:3600	942	96.3%
3/1	Ahead	U	1	N/A	A		1	32	-	595	1908	1049	54.9%
3/2	Right Ahead	U	1	N/A	A		1	32	-	637	2071	1139	54.5%
3/3	Right	U	1	N/A	A		1	32	-	659	2052	1129	56.5%
4/2+4/1	A45 Southbound Offslip Ahead Left	U	1	N/A	B		1	18	-	542	2120:1899	1211	44.8%
4/4+4/3	A45 Southbound Offslip Ahead	U	1	N/A	B		1	18	-	578	1940:2120	853	67.8%
5/1	Ahead	U	2	N/A	C		1	21	-	593	1886	692	83.4%
5/2	Ahead Right	U	2	N/A	C		1	21	-	661	2100	770	84.5%
5/3	Right	U	2	N/A	C		1	21	-	457	2033	745	61.3%
5/4	Right	U	2	N/A	C		1	21	-	343	1940	711	46.8%
6/2+6/1	A428 Bedford Road E Left Ahead	U	2	N/A	D		1	29	-	1638	2052:3800	1212	135.2%
7/1	Ahead	U	3	N/A	E		1	41	-	666	1980	1386	45.5%
7/2	Ahead	U	3	N/A	E		1	41	-	514	2120	1484	33.9%
8/1	Ahead	U	4	N/A	G		1	38	-	551	1899	1234	36.1%
8/2	Ahead	U	4	N/A	G		1	38	-	489	2043	1328	36.2%
8/3	Ahead Ahead2	U	4	N/A	G		1	38	-	1472	2063	1341	87.1%

9/2+9/1	A45 Northbound Offslip Left	U	4	N/A	H		1	12	-	574	2120:1868	589	97.4%
9/3+9/4	A45 Northbound Offslip Left Left2	U	4	N/A	H		1	12	-	639	2120:2120	684	93.4%
10/1	Right	U	5	N/A	O		1	23	-	825	1908	763	87.9%
10/2+10/3	Right Right2	U	5	N/A	O		1	23	-	946	2052:2058	859	92.7%
11/2+11/1	A428 Bedford Road W Ahead Ahead2	U	5	N/A	P		1	27	-	1540	2055:1917	1344	114.6%
11/3+11/4	A428 Bedford Road W Ahead	U	5	N/A	P		1	27	-	1190	2005:2005	1134	104.9%
12/1		U	N/A	N/A	-		-	-	-	825	Inf	Inf	0.0%
12/2		U	N/A	N/A	-		-	-	-	154	Inf	Inf	0.0%
13/1		U	N/A	N/A	-		-	-	-	1291	Inf	Inf	0.0%
13/2		U	N/A	N/A	-		-	-	-	1247	Inf	Inf	0.0%
14/1		U	N/A	N/A	-		-	-	-	823	Inf	Inf	0.0%
14/2		U	N/A	N/A	-		-	-	-	134	Inf	Inf	0.0%
15/1		U	N/A	N/A	-		-	-	-	666	Inf	Inf	0.0%
15/2		U	N/A	N/A	-		-	-	-	514	Inf	Inf	0.0%
16/1		U	N/A	N/A	-		-	-	-	714	Inf	Inf	0.0%
16/2		U	N/A	N/A	-		-	-	-	900	Inf	Inf	0.0%
16/3		U	N/A	N/A	-		-	-	-	340	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	**-**	**-**	**0**	**0**	**0**	**80.7**	**402.0**	**0.0**	**482.7**	**-**	**-**	**-**	**-**
Unnamed Junction	**-**	**-**	**0**	**0**	**0**	**80.7**	**402.0**	**0.0**	**482.7**	**-**	**-**	**-**	**-**
1/1	898	898	-	-	-	0.9	1.1	-	2.0	8.2	5.6	1.1	6.7
1/2	1028	1028	-	-	-	0.8	1.4	-	2.2	7.7	6.8	1.4	8.2
1/3	430	430	-	-	-	0.5	0.2	-	0.7	6.0	1.9	0.2	2.2
1/4	765	765	-	-	-	0.7	0.6	-	1.3	6.3	2.4	0.6	3.0
2/2+2/1	907	907	-	-	-	5.9	8.6	-	14.5	57.5	5.7	8.6	14.3
3/1	576	576	-	-	-	2.1	0.6	-	2.7	16.8	7.1	0.6	7.7
3/2	621	621	-	-	-	2.0	0.6	-	2.6	14.9	9.4	0.6	10.0
3/3	638	638	-	-	-	2.6	0.6	-	3.3	18.5	10.3	0.6	11.0
4/2+4/1	542	542	-	-	-	2.4	0.4	-	2.8	18.9	4.2	0.4	4.6
4/4+4/3	578	578	-	-	-	2.8	1.0	-	3.8	23.7	6.6	1.0	7.6
5/1	577	577	-	-	-	0.5	2.4	-	2.9	18.2	1.7	2.4	4.2
5/2	650	650	-	-	-	1.2	2.6	-	3.8	21.0	4.8	2.6	7.4
5/3	457	457	-	-	-	2.4	0.8	-	3.2	25.0	7.6	0.8	8.4
5/4	333	333	-	-	-	0.7	0.4	-	1.1	12.0	2.2	0.4	2.7
6/2+6/1	1638	1212	-	-	-	20.7	214.9	-	235.6	517.8	33.8	214.9	248.8
7/1	631	631	-	-	-	0.0	0.4	-	0.4	2.5	0.2	0.4	0.6
7/2	503	503	-	-	-	0.0	0.3	-	0.3	1.8	0.0	0.3	0.3
8/1	446	446	-	-	-	0.7	0.3	-	1.0	7.7	2.4	0.3	2.7
8/2	481	481	-	-	-	2.2	0.3	-	2.4	18.3	7.7	0.3	8.0
8/3	1168	1168	-	-	-	1.4	3.3	-	4.6	14.3	5.5	3.3	8.8
9/2+9/1	574	574	-	-	-	3.7	8.8	-	12.5	78.4	7.4	8.8	16.2
9/3+9/4	639	639	-	-	-	3.9	5.7	-	9.6	54.1	6.9	5.7	12.6
10/1	671	671	-	-	-	2.7	3.4	-	6.1	32.5	10.0	3.4	13.4

10/2+10/3	796	796	-	-	-	3.3	5.4	-	8.7	39.2	11.8	5.4	17.1
11/2+11/1	1540	1344	-	-	-	10.8	101.7	-	112.5	263.1	23.5	101.7	125.2
11/3+11/4	1190	1134	-	-	-	5.8	36.3	-	42.1	127.3	17.6	36.3	53.9
12/1	671	671	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
12/2	153	153	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
13/1	1165	1165	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
13/2	1028	1028	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
14/1	804	804	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
14/2	134	134	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
15/1	631	631	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
15/2	503	503	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
16/1	609	609	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
16/2	892	892	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
16/3	340	340	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

C1	Stream: 1 PRC for Signalled Lanes (%):	32.8	Total Delay for Signalled Lanes (pcuHr):	15.19	Cycle Time (s):	60
C1	Stream: 2 PRC for Signalled Lanes (%):	-50.2	Total Delay for Signalled Lanes (pcuHr):	246.60	Cycle Time (s):	60
C1	Stream: 3 PRC for Signalled Lanes (%):	97.7	Total Delay for Signalled Lanes (pcuHr):	0.70	Cycle Time (s):	60
C1	Stream: 4 PRC for Signalled Lanes (%):	-8.3	Total Delay for Signalled Lanes (pcuHr):	30.13	Cycle Time (s):	60
C1	Stream: 5 PRC for Signalled Lanes (%):	-27.3	Total Delay for Signalled Lanes (pcuHr):	169.34	Cycle Time (s):	60
C1	Stream: 6 PRC for Signalled Lanes (%):	-6.9	Total Delay for Signalled Lanes (pcuHr):	20.77	Cycle Time (s):	60
	PRC Over All Lanes (%):	-50.2	Total Delay Over All Lanes(pcuHr):	482.73		

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

Stage Timings

Stage Stream: 1

Stage	1	2
Duration	35	15
Change Point	0	40

Stage Stream: 2

Stage	1	2
Duration	19	31
Change Point	1	25

Stage Stream: 3

Stage	1	2
Duration	41	5
Change Point	46	36

Stage Stream: 4

Stage	1	2
Duration	30	11
Change Point	23	58

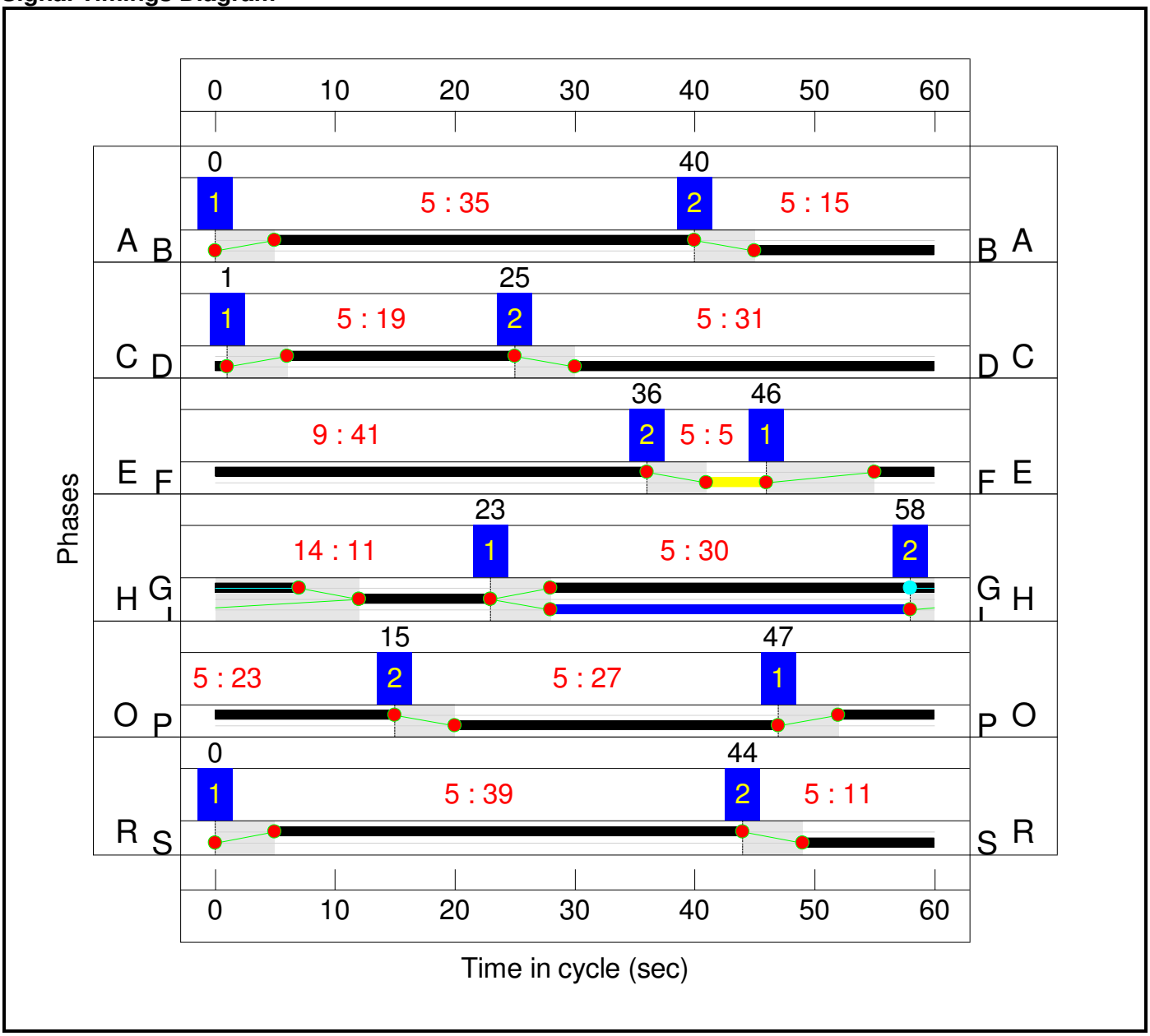
Stage Stream: 5

Stage	1	2
Duration	23	27
Change Point	47	15

Stage Stream: 6

Stage	1	2
Duration	39	11
Change Point	0	44

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	-	-	**N/A**	-	-		-	-	-	-	-	-	**129.5%**
Unnamed Junction	-	-	**N/A**	-	-		-	-	-	-	-	-	**129.5%**
1/1	Ahead	U	6	N/A	R		1	39	-	1002	1965	1310	67.6%
1/2	Ahead	U	6	N/A	R		1	39	-	1200	2105	1403	71.8%
1/3	Right	U	6	N/A	R		1	39	-	517	2105	1403	35.4%
1/4	Right	U	6	N/A	R		1	39	-	779	2105	1403	53.1%
2/2+2/1	A5095 Rushmere Road Ahead Left	U	6	N/A	S		1	11	-	926	2004:3600	905	102.4%
3/1	Ahead	U	1	N/A	A		1	35	-	687	1908	1145	57.9%
3/2	Right Ahead	U	1	N/A	A		1	35	-	605	2073	1244	47.0%
3/3	Right	U	1	N/A	A		1	35	-	623	2052	1231	48.9%
4/2+4/1	A45 Southbound Offslip Ahead Left	U	1	N/A	B		1	15	-	593	2120:1899	873	67.9%
4/4+4/3	A45 Southbound Offslip Ahead	U	1	N/A	B		1	15	-	524	1940:2120	640	81.9%
5/1	Ahead	U	2	N/A	C		1	19	-	566	1886	629	87.3%
5/2	Ahead Right	U	2	N/A	C		1	19	-	628	2094	698	88.5%
5/3	Right	U	2	N/A	C		1	19	-	476	2033	678	70.2%
5/4	Right	U	2	N/A	C		1	19	-	317	1940	647	47.3%
6/2+6/1	A428 Bedford Road E Left Ahead	U	2	N/A	D		1	31	-	1636	2052:3800	1263	129.5%
7/1	Ahead	U	3	N/A	E		1	41	-	636	1980	1386	43.5%
7/2	Ahead	U	3	N/A	E		1	41	-	446	2120	1484	29.4%
8/1	Ahead	U	4	N/A	G		1	39	-	559	1899	1266	37.4%
8/2	Ahead	U	4	N/A	G		1	39	-	541	2043	1362	38.6%
8/3	Ahead Ahead2	U	4	N/A	G		1	39	-	1441	2060	1373	85.5%

9/2+9/1	A45 Northbound Offslip Left	U	4	N/A	H		1	11	-	641	2120:1868	701	91.4%
9/3+9/4	A45 Northbound Offslip Left Left2	U	4	N/A	H		1	11	-	565	2120:2120	629	89.8%
10/1	Right	U	5	N/A	O		1	23	-	842	1908	763	92.3%
10/2+10/3	Right Right2	U	5	N/A	O		1	23	-	943	2052:2058	865	94.0%
11/2+11/1	A428 Bedford Road W Ahead Ahead2	U	5	N/A	P		1	27	-	1505	2055:1917	1314	114.6%
11/3+11/4	A428 Bedford Road W Ahead	U	5	N/A	P		1	27	-	1227	2005:2005	1173	104.6%
12/1		U	N/A	N/A	-		-	-	-	856	Inf	Inf	0.0%
12/2		U	N/A	N/A	-		-	-	-	163	Inf	Inf	0.0%
13/1		U	N/A	N/A	-		-	-	-	1309	Inf	Inf	0.0%
13/2		U	N/A	N/A	-		-	-	-	1200	Inf	Inf	0.0%
14/1		U	N/A	N/A	-		-	-	-	896	Inf	Inf	0.0%
14/2		U	N/A	N/A	-		-	-	-	149	Inf	Inf	0.0%
15/1		U	N/A	N/A	-		-	-	-	636	Inf	Inf	0.0%
15/2		U	N/A	N/A	-		-	-	-	446	Inf	Inf	0.0%
16/1		U	N/A	N/A	-		-	-	-	862	Inf	Inf	0.0%
16/2		U	N/A	N/A	-		-	-	-	879	Inf	Inf	0.0%
16/3		U	N/A	N/A	-		-	-	-	221	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	**-**	**-**	**0**	**0**	**0**	**78.1**	**385.5**	**0.0**	**463.6**	**-**	**-**	**-**	**-**
Unnamed Junction	**-**	**-**	**0**	**0**	**0**	**78.1**	**385.5**	**0.0**	**463.6**	**-**	**-**	**-**	**-**
1/1	886	886	-	-	-	1.1	1.0	-	2.1	8.6	6.4	1.0	7.4
1/2	1008	1008	-	-	-	0.8	1.3	-	2.1	7.5	5.9	1.3	7.1
1/3	497	497	-	-	-	0.6	0.3	-	0.9	6.4	2.4	0.3	2.7
1/4	745	745	-	-	-	0.8	0.6	-	1.4	6.6	2.6	0.6	3.2
2/2+2/1	926	907	-	-	-	6.3	21.5	-	27.8	108.1	6.8	21.5	28.2
3/1	663	663	-	-	-	1.1	0.7	-	1.8	9.7	5.5	0.7	6.1
3/2	584	584	-	-	-	1.3	0.4	-	1.8	10.9	7.5	0.4	8.0
3/3	602	602	-	-	-	1.7	0.5	-	2.2	13.2	7.4	0.5	7.9
4/2+4/1	593	593	-	-	-	3.2	1.1	-	4.2	25.5	5.7	1.1	6.7
4/4+4/3	524	524	-	-	-	2.9	2.2	-	5.1	35.2	7.2	2.2	9.4
5/1	549	549	-	-	-	1.1	3.2	-	4.3	28.1	3.9	3.2	7.1
5/2	618	618	-	-	-	1.5	3.5	-	5.0	29.3	6.7	3.5	10.3
5/3	476	476	-	-	-	2.0	1.2	-	3.1	23.8	7.8	1.2	9.0
5/4	306	306	-	-	-	0.7	0.4	-	1.2	13.5	2.1	0.4	2.6
6/2+6/1	1636	1263	-	-	-	18.4	188.7	-	207.2	455.8	34.0	188.7	222.7
7/1	603	603	-	-	-	0.1	0.4	-	0.4	2.6	0.3	0.4	0.7
7/2	436	436	-	-	-	0.0	0.2	-	0.2	1.7	0.0	0.2	0.2
8/1	473	473	-	-	-	0.7	0.3	-	1.0	7.9	3.3	0.3	3.6
8/2	526	526	-	-	-	1.9	0.3	-	2.2	15.0	8.1	0.3	8.4
8/3	1174	1174	-	-	-	1.3	2.9	-	4.2	12.8	5.9	2.9	8.7
9/2+9/1	641	641	-	-	-	4.1	4.6	-	8.7	48.9	5.7	4.6	10.3
9/3+9/4	565	565	-	-	-	3.6	3.9	-	7.5	47.7	6.2	3.9	10.1
10/1	704	704	-	-	-	3.0	5.1	-	8.1	41.5	10.7	5.1	15.8

10/2+10/3	813	813	-	-	-	3.5	6.3	-	9.7	43.1	11.8	6.3	18.1
11/2+11/1	1505	1314	-	-	-	10.4	99.5	-	109.9	262.8	24.3	99.5	123.8
11/3+11/4	1227	1173	-	-	-	6.0	35.6	-	41.6	122.0	19.2	35.6	54.8
12/1	716	716	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
12/2	153	153	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
13/1	1185	1185	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
13/2	1008	1008	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
14/1	872	872	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
14/2	146	146	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
15/1	603	603	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
15/2	436	436	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
16/1	776	776	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
16/2	864	864	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
16/3	221	221	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

C1	Stream: 1 PRC for Signalled Lanes (%):	9.9	Total Delay for Signalled Lanes (pcuHr):	15.08	Cycle Time (s): 60
C1	Stream: 2 PRC for Signalled Lanes (%):	-43.9	Total Delay for Signalled Lanes (pcuHr):	220.75	Cycle Time (s): 60
C1	Stream: 3 PRC for Signalled Lanes (%):	107.0	Total Delay for Signalled Lanes (pcuHr):	0.65	Cycle Time (s): 60
C1	Stream: 4 PRC for Signalled Lanes (%):	-1.6	Total Delay for Signalled Lanes (pcuHr):	23.59	Cycle Time (s): 60
C1	Stream: 5 PRC for Signalled Lanes (%):	-27.3	Total Delay for Signalled Lanes (pcuHr):	169.31	Cycle Time (s): 60
C1	Stream: 6 PRC for Signalled Lanes (%):	-13.7	Total Delay for Signalled Lanes (pcuHr):	34.28	Cycle Time (s): 60
	PRC Over All Lanes (%):	-43.9	Total Delay Over All Lanes(pcuHr):	463.64	

APPENDIX J

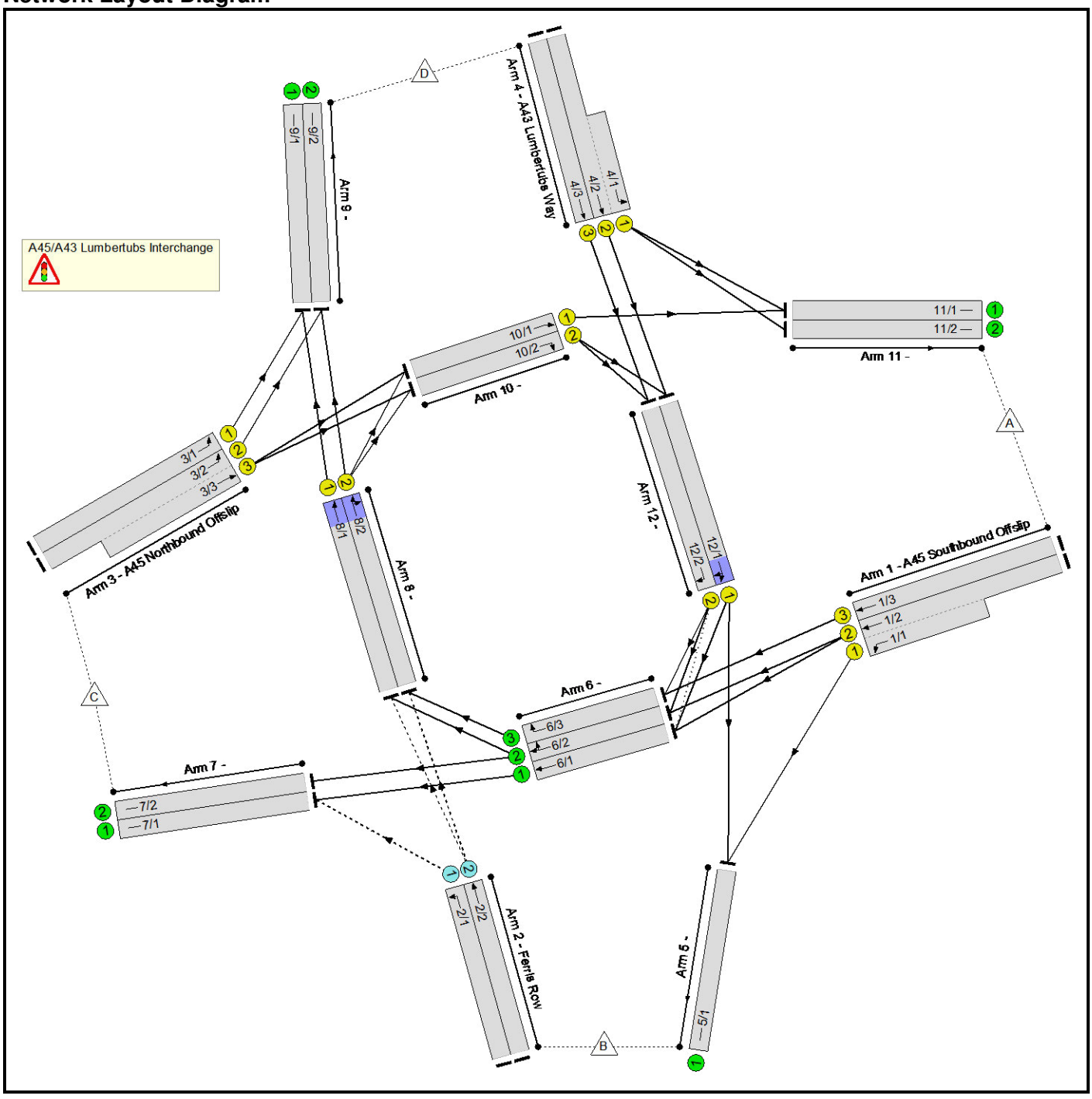
A43 LUMBERTUBS INTERCHAGE LINSIG MODEL

Full Input Data And Results

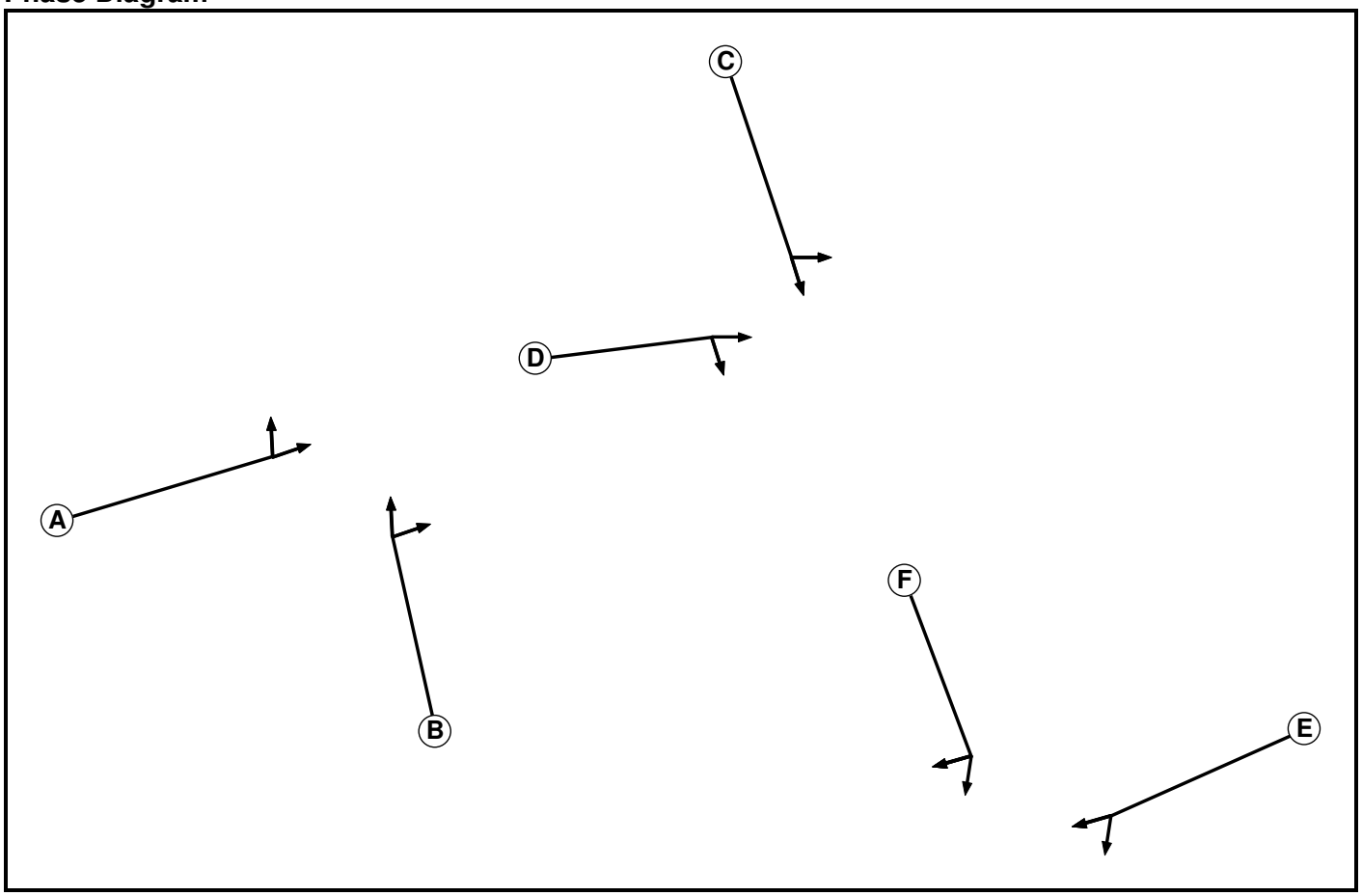
User and Project Details

Project:	**Northampton Gateway SRFI**
Title:	**A45 Lumbertubs Gyratory**
Location:	
File name:	180206 Lumbertubs Interchange Base Model.lsg3x
Author:	Mark Higgins
Company:	ADC Infrastructure
Address:	Nottingham
Notes:	

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

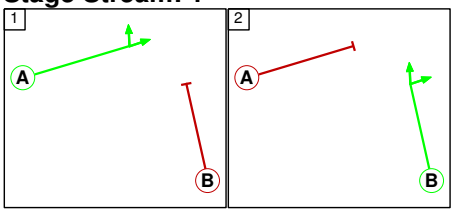
		Starting Phase					
		A	B	C	D	E	F
Terminating Phase	A		6	-	-	-	-
	B	6		-	-	-	-
	C	-	-		6	-	-
	D	-	-	6		-	-
	E	-	-	-	-		6
	F	-	-	-	-	6	

Phases in Stage

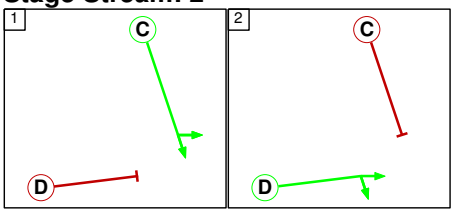
Stream	Stage No.	Phases in Stage
1	1	A
1	2	B
2	1	C
2	2	D
3	1	E
3	2	F

Stage Diagram

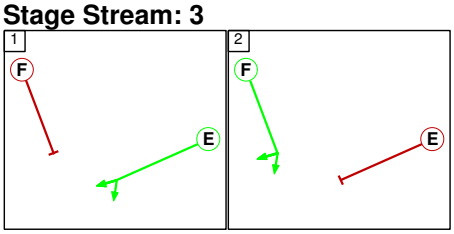
Stage Stream: 1



Stage Stream: 2



Stage Stream: 3



Phase Delays

Stage Stream: 1

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

Stage Stream: 2

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

Stage Stream: 3

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

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	

Give-Way Lane Input Data

Junction: A45/A43 Lumbertubs 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)**
2/1 (Ferris Row)	7/1 (Left)	1133	0	6/1	0.26	All	-	-	-	-	-
				6/2	0.26	All					
2/2 (Ferris Row)	8/1 (Ahead)	1133	0	6/1	0.26	All	-	-	-	-	-
				6/2	0.26	All					
				6/3	0.26	All					
	8/2 (Ahead)	1133	0	6/1	0.26	All					
				6/2	0.26	All					
				6/3	0.26	All					

Lane Input Data

Junction: A45/A43 Lumbertubs 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 Southbound Offslip)	U	E	2	3	10.0	Geom	-	3.65	0.00	Y	Arm 5 Left	Inf
1/2 (A45 Southbound Offslip)	U	E	2	3	60.0	Geom	-	3.65	0.00	N	Arm 6 Ahead	Inf
1/3 (A45 Southbound Offslip)	U	E	2	3	60.0	Geom	-	3.65	0.00	Y	Arm 6 Ahead	Inf
2/1 (Ferris Row)	O		2	3	60.0	Inf	-	-	-	-	-	-
2/2 (Ferris Row)	O		2	3	60.0	Inf	-	-	-	-	-	-
3/1 (A45 Northbound Offslip)	U	A	2	3	60.0	Geom	-	3.65	0.00	Y	Arm 9 Left	Inf
3/2 (A45 Northbound Offslip)	U	A	2	3	60.0	Geom	-	3.65	0.00	N	Arm 9 Left	Inf
3/3 (A45 Northbound Offslip)	U	A	2	3	12.0	Geom	-	3.65	0.00	Y	Arm 10 Ahead	Inf
4/1 (A43 Lumbertubs Way)	U	C	2	3	8.0	Geom	-	3.50	0.00	Y	Arm 11 Left	60.00
4/2 (A43 Lumbertubs Way)	U	C	2	3	60.0	Geom	-	3.50	0.00	N	Arm 12 Ahead	80.00
4/3 (A43 Lumbertubs Way)	U	C	2	3	60.0	Geom	-	3.50	0.00	Y	Arm 12 Ahead	80.00
5/1	U		2	3	5.0	Inf	-	-	-	-	-	-
6/1	U		2	3	13.0	Inf	-	-	-	-	-	-
6/2	U		2	3	13.0	Inf	-	-	-	-	-	-
6/3	U		2	3	13.0	Inf	-	-	-	-	-	-
7/1	U		2	3	5.0	Inf	-	-	-	-	-	-
7/2	U		2	3	5.0	Inf	-	-	-	-	-	-
8/1	U	B	2	3	27.8	User	2000	-	-	-	-	-
8/2	U	B	2	3	27.8	User	2000	-	-	-	-	-
9/1	U		2	3	5.0	Inf	-	-	-	-	-	-
9/2	U		2	3	5.0	Inf	-	-	-	-	-	-

10/1	U	D	2	3	13.0	User	1900	-	-	-	-	-
10/2	U	D	2	3	13.0	User	1900	-	-	-	-	-
11/1	U		2	3	5.0	Inf	-	-	-	-	-	-
11/2	U		2	3	5.0	Inf	-	-	-	-	-	-
12/1	U	F	2	3	26.1	User	2000	-	-	-	-	-
12/2	U	F	2	3	26.1	User	2000	-	-	-	-	-

Traffic Flow Groups

Flow Group	Start Time	End Time	Duration	Formula
1: '2031 D1 Ref AM'	08:00	09:00	01:00	
2: '2031 D1 Ref PM'	17:00	18:00	01:00	
3: '2031 J1d Dev AM'	08:00	09:00	01:00	
4: '2031 J1d Dev PM'	17:00	18:00	01:00	
5: '2021 C1 Ref AM'	08:00	09:00	01:00	
6: '2021 C1 Ref PM'	17:00	18:00	01:00	
7: '2021 I1 Dev AM'	08:00	09:00	01:00	
8: '2021 I1 Dev PM'	17:00	18:00	01:00	

Scenario 1: '2031 D1 AM Peak' (FG1: '2031 D1 Ref AM', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

		Destination				
		A	B	C	D	Tot.
Origin	A	0	74	0	269	343
	B	38	0	1083	304	1425
	C	0	129	0	1619	1748
	D	503	1274	1280	87	3144
	Tot.	541	1477	2363	2279	6660

Traffic Lane Flows

Lane	Scenario 1: 2031 D1 AM Peak
Junction: A45/A43 Lumbertubs Interchange	
1/1 (short)	74
1/2 (with short)	236(In) 162(Out)
1/3	107
2/1	1083
2/2	342
3/1	777
3/2 (with short)	971(In) 842(Out)
3/3 (short)	129
4/1 (short)	503
4/2 (with short)	1777(In) 1274(Out)
4/3	1367
5/1	1477
6/1	640
6/2	859
6/3	137
7/1	1723
7/2	640
8/1	355
8/2	343
9/1	1132
9/2	1147
10/1	38
10/2	129
11/1	289
11/2	252
12/1	1403
12/2	1367

Lane Saturation Flows

Junction: A45/A43 Lumbertubs 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 Southbound Offslip)	3.65	0.00	Y	Arm 5 Left	Inf	100.0 %	1980	1980
1/2 (A45 Southbound Offslip)	3.65	0.00	N	Arm 6 Ahead	Inf	100.0 %	2120	2120
1/3 (A45 Southbound Offslip)	3.65	0.00	Y	Arm 6 Ahead	Inf	100.0 %	1980	1980
2/1 (Ferris Row Lane 1)	Infinite Saturation Flow						Inf	Inf
2/2 (Ferris Row Lane 2)	Infinite Saturation Flow						Inf	Inf
3/1 (A45 Northbound Offslip)	3.65	0.00	Y	Arm 9 Left	Inf	100.0 %	1980	1980
3/2 (A45 Northbound Offslip)	3.65	0.00	N	Arm 9 Left	Inf	100.0 %	2120	2120
3/3 (A45 Northbound Offslip)	3.65	0.00	Y	Arm 10 Ahead	Inf	100.0 %	1980	1980
4/1 (A43 Lumbertubs Way)	3.50	0.00	Y	Arm 11 Left	60.00	100.0 %	1917	1917
4/2 (A43 Lumbertubs Way)	3.50	0.00	N	Arm 12 Ahead	80.00	100.0 %	2066	2066
4/3 (A43 Lumbertubs Way)	3.50	0.00	Y	Arm 12 Ahead	80.00	100.0 %	1929	1929
5/1	Infinite Saturation Flow						Inf	Inf
6/1	Infinite Saturation Flow						Inf	Inf
6/2	Infinite Saturation Flow						Inf	Inf
6/3	Infinite Saturation Flow						Inf	Inf
7/1	Infinite Saturation Flow						Inf	Inf
7/2	Infinite Saturation Flow						Inf	Inf
8/1	This lane uses a directly entered Saturation Flow						2000	2000
8/2	This lane uses a directly entered Saturation Flow						2000	2000
9/1	Infinite Saturation Flow						Inf	Inf
9/2	Infinite Saturation Flow						Inf	Inf
10/1	This lane uses a directly entered Saturation Flow						1900	1900
10/2	This lane uses a directly entered Saturation Flow						1900	1900
11/1	Infinite Saturation Flow						Inf	Inf
11/2	Infinite Saturation Flow						Inf	Inf
12/1	This lane uses a directly entered Saturation Flow						2000	2000
12/2	This lane uses a directly entered Saturation Flow						2000	2000

Scenario 2: '2031 J1d AM Peak' (FG3: '2031 J1d Dev AM', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

		Destination				
		A	B	C	D	Tot.
Origin	A	0	94	0	267	361
	B	40	0	1116	278	1434
	C	0	84	11	1657	1752
	D	429	1245	1350	140	3164
	Tot.	469	1423	2477	2342	6711

Traffic Lane Flows

Lane	Scenario 2: 2031 J1d AM Peak
Junction: A45/A43 Lumbertubs Interchange	
1/1 (short)	94
1/2 (with short)	259(In) 165(Out)
1/3	102
2/1	1116
2/2	318
3/1	794
3/2 (with short)	958(In) 863(Out)
3/3 (short)	95
4/1 (short)	429
4/2 (with short)	1718(In) 1289(Out)
4/3	1446
5/1	1423
6/1	697
6/2	909
6/3	162
7/1	1813
7/2	664
8/1	366
8/2	359
9/1	1160
9/2	1182
10/1	40
10/2	95
11/1	254
11/2	215
12/1	1373
12/2	1457

Lane Saturation Flows

Junction: A45/A43 Lumbertubs 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 Southbound Offslip)	3.65	0.00	Y	Arm 5 Left	Inf	100.0 %	1980	1980
1/2 (A45 Southbound Offslip)	3.65	0.00	N	Arm 6 Ahead	Inf	100.0 %	2120	2120
1/3 (A45 Southbound Offslip)	3.65	0.00	Y	Arm 6 Ahead	Inf	100.0 %	1980	1980
2/1 (Ferris Row Lane 1)	Infinite Saturation Flow						Inf	Inf
2/2 (Ferris Row Lane 2)	Infinite Saturation Flow						Inf	Inf
3/1 (A45 Northbound Offslip)	3.65	0.00	Y	Arm 9 Left	Inf	100.0 %	1980	1980
3/2 (A45 Northbound Offslip)	3.65	0.00	N	Arm 9 Left	Inf	100.0 %	2120	2120
3/3 (A45 Northbound Offslip)	3.65	0.00	Y	Arm 10 Ahead	Inf	100.0 %	1980	1980
4/1 (A43 Lumbertubs Way)	3.50	0.00	Y	Arm 11 Left	60.00	100.0 %	1917	1917
4/2 (A43 Lumbertubs Way)	3.50	0.00	N	Arm 12 Ahead	80.00	100.0 %	2066	2066
4/3 (A43 Lumbertubs Way)	3.50	0.00	Y	Arm 12 Ahead	80.00	100.0 %	1929	1929
5/1	Infinite Saturation Flow						Inf	Inf
6/1	Infinite Saturation Flow						Inf	Inf
6/2	Infinite Saturation Flow						Inf	Inf
6/3	Infinite Saturation Flow						Inf	Inf
7/1	Infinite Saturation Flow						Inf	Inf
7/2	Infinite Saturation Flow						Inf	Inf
8/1	This lane uses a directly entered Saturation Flow						2000	2000
8/2	This lane uses a directly entered Saturation Flow						2000	2000
9/1	Infinite Saturation Flow						Inf	Inf
9/2	Infinite Saturation Flow						Inf	Inf
10/1	This lane uses a directly entered Saturation Flow						1900	1900
10/2	This lane uses a directly entered Saturation Flow						1900	1900
11/1	Infinite Saturation Flow						Inf	Inf
11/2	Infinite Saturation Flow						Inf	Inf
12/1	This lane uses a directly entered Saturation Flow						2000	2000
12/2	This lane uses a directly entered Saturation Flow						2000	2000

Scenario 3: '2031 D1 PM Peak' (FG2: '2031 D1 Ref PM', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

		Destination				
		A	B	C	D	Tot.
Origin	A	0	64	0	740	804
	B	78	0	868	548	1494
	C	0	143	0	1604	1747
	D	164	813	985	56	2018
	Tot.	242	1020	1853	2948	6063

Traffic Lane Flows

Lane	Scenario 3: 2031 D1 PM Peak
Junction: A45/A43 Lumbertubs Interchange	
1/1 (short)	64
1/2 (with short)	448(In) 384(Out)
1/3	356
2/1	868
2/2	626
3/1	774
3/2 (with short)	973(In) 830(Out)
3/3 (short)	143
4/1 (short)	164
4/2 (with short)	1025(In) 861(Out)
4/3	993
5/1	1020
6/1	517
6/2	882
6/3	382
7/1	1385
7/2	468
8/1	714
8/2	708
9/1	1488
9/2	1460
10/1	78
10/2	143
11/1	160
11/2	82
12/1	1004
12/2	993

Lane Saturation Flows

Junction: A45/A43 Lumbertubs 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 Southbound Offslip)	3.65	0.00	Y	Arm 5 Left	Inf	100.0 %	1980	1980
1/2 (A45 Southbound Offslip)	3.65	0.00	N	Arm 6 Ahead	Inf	100.0 %	2120	2120
1/3 (A45 Southbound Offslip)	3.65	0.00	Y	Arm 6 Ahead	Inf	100.0 %	1980	1980
2/1 (Ferris Row Lane 1)	Infinite Saturation Flow						Inf	Inf
2/2 (Ferris Row Lane 2)	Infinite Saturation Flow						Inf	Inf
3/1 (A45 Northbound Offslip)	3.65	0.00	Y	Arm 9 Left	Inf	100.0 %	1980	1980
3/2 (A45 Northbound Offslip)	3.65	0.00	N	Arm 9 Left	Inf	100.0 %	2120	2120
3/3 (A45 Northbound Offslip)	3.65	0.00	Y	Arm 10 Ahead	Inf	100.0 %	1980	1980
4/1 (A43 Lumbertubs Way)	3.50	0.00	Y	Arm 11 Left	60.00	100.0 %	1917	1917
4/2 (A43 Lumbertubs Way)	3.50	0.00	N	Arm 12 Ahead	80.00	100.0 %	2066	2066
4/3 (A43 Lumbertubs Way)	3.50	0.00	Y	Arm 12 Ahead	80.00	100.0 %	1929	1929
5/1	Infinite Saturation Flow						Inf	Inf
6/1	Infinite Saturation Flow						Inf	Inf
6/2	Infinite Saturation Flow						Inf	Inf
6/3	Infinite Saturation Flow						Inf	Inf
7/1	Infinite Saturation Flow						Inf	Inf
7/2	Infinite Saturation Flow						Inf	Inf
8/1	This lane uses a directly entered Saturation Flow						2000	2000
8/2	This lane uses a directly entered Saturation Flow						2000	2000
9/1	Infinite Saturation Flow						Inf	Inf
9/2	Infinite Saturation Flow						Inf	Inf
10/1	This lane uses a directly entered Saturation Flow						1900	1900
10/2	This lane uses a directly entered Saturation Flow						1900	1900
11/1	Infinite Saturation Flow						Inf	Inf
11/2	Infinite Saturation Flow						Inf	Inf
12/1	This lane uses a directly entered Saturation Flow						2000	2000
12/2	This lane uses a directly entered Saturation Flow						2000	2000

Scenario 4: '2031 J1d PM Peak' (FG4: '2031 J1d Dev PM', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

		Destination				
		A	B	C	D	Tot.
Origin	A	0	152	0	663	815
	B	61	0	883	655	1599
	C	0	140	27	1584	1751
	D	151	851	985	49	2036
	Tot.	212	1143	1895	2951	6201

Traffic Lane Flows

Lane	Scenario 4: 2031 J1d PM Peak
Junction: A45/A43 Lumbertubs Interchange	
1/1 (short)	152
1/2 (with short)	500(In) 348(Out)
1/3	315
2/1	883
2/2	716
3/1	765
3/2 (with short)	986(In) 819(Out)
3/3 (short)	167
4/1 (short)	151
4/2 (with short)	1043(In) 892(Out)
4/3	993
5/1	1143
6/1	513
6/2	871
6/3	340
7/1	1396
7/2	499
8/1	714
8/2	714
9/1	1479
9/2	1472
10/1	61
10/2	167
11/1	136
11/2	76
12/1	1032
12/2	1020

Lane Saturation Flows

Junction: A45/A43 Lumbertubs 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 Southbound Offslip)	3.65	0.00	Y	Arm 5 Left	Inf	100.0 %	1980	1980
1/2 (A45 Southbound Offslip)	3.65	0.00	N	Arm 6 Ahead	Inf	100.0 %	2120	2120
1/3 (A45 Southbound Offslip)	3.65	0.00	Y	Arm 6 Ahead	Inf	100.0 %	1980	1980
2/1 (Ferris Row Lane 1)	Infinite Saturation Flow						Inf	Inf
2/2 (Ferris Row Lane 2)	Infinite Saturation Flow						Inf	Inf
3/1 (A45 Northbound Offslip)	3.65	0.00	Y	Arm 9 Left	Inf	100.0 %	1980	1980
3/2 (A45 Northbound Offslip)	3.65	0.00	N	Arm 9 Left	Inf	100.0 %	2120	2120
3/3 (A45 Northbound Offslip)	3.65	0.00	Y	Arm 10 Ahead	Inf	100.0 %	1980	1980
4/1 (A43 Lumbertubs Way)	3.50	0.00	Y	Arm 11 Left	60.00	100.0 %	1917	1917
4/2 (A43 Lumbertubs Way)	3.50	0.00	N	Arm 12 Ahead	80.00	100.0 %	2066	2066
4/3 (A43 Lumbertubs Way)	3.50	0.00	Y	Arm 12 Ahead	80.00	100.0 %	1929	1929
5/1	Infinite Saturation Flow						Inf	Inf
6/1	Infinite Saturation Flow						Inf	Inf
6/2	Infinite Saturation Flow						Inf	Inf
6/3	Infinite Saturation Flow						Inf	Inf
7/1	Infinite Saturation Flow						Inf	Inf
7/2	Infinite Saturation Flow						Inf	Inf
8/1	This lane uses a directly entered Saturation Flow						2000	2000
8/2	This lane uses a directly entered Saturation Flow						2000	2000
9/1	Infinite Saturation Flow						Inf	Inf
9/2	Infinite Saturation Flow						Inf	Inf
10/1	This lane uses a directly entered Saturation Flow						1900	1900
10/2	This lane uses a directly entered Saturation Flow						1900	1900
11/1	Infinite Saturation Flow						Inf	Inf
11/2	Infinite Saturation Flow						Inf	Inf
12/1	This lane uses a directly entered Saturation Flow						2000	2000
12/2	This lane uses a directly entered Saturation Flow						2000	2000

Scenario 5: '2021 C1 AM Peak' (FG5: '2021 C1 Ref AM', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

		Destination				
		A	B	C	D	Tot.
Origin	A	0	118	0	321	439
	B	39	0	1019	241	1299
	C	0	110	0	1480	1590
	D	381	1140	1326	91	2938
	Tot.	420	1368	2345	2133	6266

Traffic Lane Flows

Lane	Scenario 5: 2021 C1 AM Peak
Junction: A45/A43 Lumbertubs Interchange	
1/1 (short)	118
1/2 (with short)	312(In) 194(Out)
1/3	127
2/1	1019
2/2	280
3/1	705
3/2 (with short)	885(In) 775(Out)
3/3 (short)	110
4/1 (short)	381
4/2 (with short)	1600(In) 1219(Out)
4/3	1338
5/1	1368
6/1	702
6/2	874
6/3	162
7/1	1721
7/2	624
8/1	353
8/2	339
9/1	1058
9/2	1075
10/1	39
10/2	110
11/1	229
11/2	191
12/1	1329
12/2	1338

Lane Saturation Flows

Junction: A45/A43 Lumbertubs 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 Southbound Offslip)	3.65	0.00	Y	Arm 5 Left	Inf	100.0 %	1980	1980
1/2 (A45 Southbound Offslip)	3.65	0.00	N	Arm 6 Ahead	Inf	100.0 %	2120	2120
1/3 (A45 Southbound Offslip)	3.65	0.00	Y	Arm 6 Ahead	Inf	100.0 %	1980	1980
2/1 (Ferris Row Lane 1)	Infinite Saturation Flow						Inf	Inf
2/2 (Ferris Row Lane 2)	Infinite Saturation Flow						Inf	Inf
3/1 (A45 Northbound Offslip)	3.65	0.00	Y	Arm 9 Left	Inf	100.0 %	1980	1980
3/2 (A45 Northbound Offslip)	3.65	0.00	N	Arm 9 Left	Inf	100.0 %	2120	2120
3/3 (A45 Northbound Offslip)	3.65	0.00	Y	Arm 10 Ahead	Inf	100.0 %	1980	1980
4/1 (A43 Lumbertubs Way)	3.50	0.00	Y	Arm 11 Left	60.00	100.0 %	1917	1917
4/2 (A43 Lumbertubs Way)	3.50	0.00	N	Arm 12 Ahead	80.00	100.0 %	2066	2066
4/3 (A43 Lumbertubs Way)	3.50	0.00	Y	Arm 12 Ahead	80.00	100.0 %	1929	1929
5/1	Infinite Saturation Flow						Inf	Inf
6/1	Infinite Saturation Flow						Inf	Inf
6/2	Infinite Saturation Flow						Inf	Inf
6/3	Infinite Saturation Flow						Inf	Inf
7/1	Infinite Saturation Flow						Inf	Inf
7/2	Infinite Saturation Flow						Inf	Inf
8/1	This lane uses a directly entered Saturation Flow						2000	2000
8/2	This lane uses a directly entered Saturation Flow						2000	2000
9/1	Infinite Saturation Flow						Inf	Inf
9/2	Infinite Saturation Flow						Inf	Inf
10/1	This lane uses a directly entered Saturation Flow						1900	1900
10/2	This lane uses a directly entered Saturation Flow						1900	1900
11/1	Infinite Saturation Flow						Inf	Inf
11/2	Infinite Saturation Flow						Inf	Inf
12/1	This lane uses a directly entered Saturation Flow						2000	2000
12/2	This lane uses a directly entered Saturation Flow						2000	2000

Scenario 6: '2021 I1 AM Peak' (FG7: '2021 I1 Dev AM', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

		Destination				
		A	B	C	D	Tot.
Origin	A	0	84	0	319	403
	B	48	0	1037	220	1305
	C	0	105	5	1511	1621
	D	383	1085	1385	124	2977
	Tot.	431	1274	2427	2174	6306

Traffic Lane Flows

Lane	Scenario 6: 2021 I1 AM Peak
Junction: A45/A43 Lumbertubs Interchange	
1/1 (short)	84
1/2 (with short)	272(In) 188(Out)
1/3	131
2/1	1037
2/2	268
3/1	721
3/2 (with short)	900(In) 790(Out)
3/3 (short)	110
4/1 (short)	383
4/2 (with short)	1623(In) 1240(Out)
4/3	1354
5/1	1274
6/1	770
6/2	886
6/3	177
7/1	1807
7/2	620
8/1	362
8/2	349
9/1	1083
9/2	1091
10/1	48
10/2	110
11/1	239
11/2	192
12/1	1345
12/2	1359

Lane Saturation Flows

Junction: A45/A43 Lumbertubs 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 Southbound Offslip)	3.65	0.00	Y	Arm 5 Left	Inf	100.0 %	1980	1980
1/2 (A45 Southbound Offslip)	3.65	0.00	N	Arm 6 Ahead	Inf	100.0 %	2120	2120
1/3 (A45 Southbound Offslip)	3.65	0.00	Y	Arm 6 Ahead	Inf	100.0 %	1980	1980
2/1 (Ferris Row Lane 1)	Infinite Saturation Flow						Inf	Inf
2/2 (Ferris Row Lane 2)	Infinite Saturation Flow						Inf	Inf
3/1 (A45 Northbound Offslip)	3.65	0.00	Y	Arm 9 Left	Inf	100.0 %	1980	1980
3/2 (A45 Northbound Offslip)	3.65	0.00	N	Arm 9 Left	Inf	100.0 %	2120	2120
3/3 (A45 Northbound Offslip)	3.65	0.00	Y	Arm 10 Ahead	Inf	100.0 %	1980	1980
4/1 (A43 Lumbertubs Way)	3.50	0.00	Y	Arm 11 Left	60.00	100.0 %	1917	1917
4/2 (A43 Lumbertubs Way)	3.50	0.00	N	Arm 12 Ahead	80.00	100.0 %	2066	2066
4/3 (A43 Lumbertubs Way)	3.50	0.00	Y	Arm 12 Ahead	80.00	100.0 %	1929	1929
5/1	Infinite Saturation Flow						Inf	Inf
6/1	Infinite Saturation Flow						Inf	Inf
6/2	Infinite Saturation Flow						Inf	Inf
6/3	Infinite Saturation Flow						Inf	Inf
7/1	Infinite Saturation Flow						Inf	Inf
7/2	Infinite Saturation Flow						Inf	Inf
8/1	This lane uses a directly entered Saturation Flow						2000	2000
8/2	This lane uses a directly entered Saturation Flow						2000	2000
9/1	Infinite Saturation Flow						Inf	Inf
9/2	Infinite Saturation Flow						Inf	Inf
10/1	This lane uses a directly entered Saturation Flow						1900	1900
10/2	This lane uses a directly entered Saturation Flow						1900	1900
11/1	Infinite Saturation Flow						Inf	Inf
11/2	Infinite Saturation Flow						Inf	Inf
12/1	This lane uses a directly entered Saturation Flow						2000	2000
12/2	This lane uses a directly entered Saturation Flow						2000	2000

Scenario 7: '2021 C1 PM Peak' (FG6: '2021 C1 Ref PM', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

		Destination				
		A	B	C	D	Tot.
Origin	A	0	96	0	504	600
	B	112	0	928	399	1439
	C	0	125	8	1908	2041
	D	185	783	1088	28	2084
	Tot.	297	1004	2024	2839	6164

Traffic Lane Flows

Lane	Scenario 7: 2021 C1 PM Peak
Junction: A45/A43 Lumbertubs Interchange	
1/1 (short)	96
1/2 (with short)	379(In) 283(Out)
1/3	221
2/1	928
2/2	511
3/1	928
3/2 (with short)	1113(In) 980(Out)
3/3 (short)	133
4/1 (short)	185
4/2 (with short)	1081(In) 896(Out)
4/3	1003
5/1	1004
6/1	600
6/2	796
6/3	232
7/1	1528
7/2	496
8/1	523
8/2	520
9/1	1451
9/2	1388
10/1	112
10/2	133
11/1	204
11/2	93
12/1	1021
12/2	1011

Lane Saturation Flows

Junction: A45/A43 Lumbertubs 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 Southbound Offslip)	3.65	0.00	Y	Arm 5 Left	Inf	100.0 %	1980	1980
1/2 (A45 Southbound Offslip)	3.65	0.00	N	Arm 6 Ahead	Inf	100.0 %	2120	2120
1/3 (A45 Southbound Offslip)	3.65	0.00	Y	Arm 6 Ahead	Inf	100.0 %	1980	1980
2/1 (Ferris Row Lane 1)	Infinite Saturation Flow						Inf	Inf
2/2 (Ferris Row Lane 2)	Infinite Saturation Flow						Inf	Inf
3/1 (A45 Northbound Offslip)	3.65	0.00	Y	Arm 9 Left	Inf	100.0 %	1980	1980
3/2 (A45 Northbound Offslip)	3.65	0.00	N	Arm 9 Left	Inf	100.0 %	2120	2120
3/3 (A45 Northbound Offslip)	3.65	0.00	Y	Arm 10 Ahead	Inf	100.0 %	1980	1980
4/1 (A43 Lumbertubs Way)	3.50	0.00	Y	Arm 11 Left	60.00	100.0 %	1917	1917
4/2 (A43 Lumbertubs Way)	3.50	0.00	N	Arm 12 Ahead	80.00	100.0 %	2066	2066
4/3 (A43 Lumbertubs Way)	3.50	0.00	Y	Arm 12 Ahead	80.00	100.0 %	1929	1929
5/1	Infinite Saturation Flow						Inf	Inf
6/1	Infinite Saturation Flow						Inf	Inf
6/2	Infinite Saturation Flow						Inf	Inf
6/3	Infinite Saturation Flow						Inf	Inf
7/1	Infinite Saturation Flow						Inf	Inf
7/2	Infinite Saturation Flow						Inf	Inf
8/1	This lane uses a directly entered Saturation Flow						2000	2000
8/2	This lane uses a directly entered Saturation Flow						2000	2000
9/1	Infinite Saturation Flow						Inf	Inf
9/2	Infinite Saturation Flow						Inf	Inf
10/1	This lane uses a directly entered Saturation Flow						1900	1900
10/2	This lane uses a directly entered Saturation Flow						1900	1900
11/1	Infinite Saturation Flow						Inf	Inf
11/2	Infinite Saturation Flow						Inf	Inf
12/1	This lane uses a directly entered Saturation Flow						2000	2000
12/2	This lane uses a directly entered Saturation Flow						2000	2000

Scenario 8: '2021 I1 PM Peak' (FG8: '2021 I1 Dev PM', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

		Destination				
		A	B	C	D	Tot.
Origin	A	0	98	0	503	601
	B	102	0	944	429	1475
	C	74	128	0	1828	2030
	D	168	791	1128	31	2118
	Tot.	344	1017	2072	2791	6224

Traffic Lane Flows

Lane	Scenario 8: 2021 I1 PM Peak
Junction: A45/A43 Lumbertubs Interchange	
1/1 (short)	98
1/2 (with short)	364(In) 266(Out)
1/3	237
2/1	944
2/2	531
3/1	894
3/2 (with short)	1136(In) 934(Out)
3/3 (short)	202
4/1 (short)	168
4/2 (with short)	1136(In) 968(Out)
4/3	982
5/1	1017
6/1	653
6/2	759
6/3	250
7/1	1597
7/2	475
8/1	533
8/2	532
9/1	1427
9/2	1364
10/1	176
10/2	128
11/1	260
11/2	84
12/1	1096
12/2	982

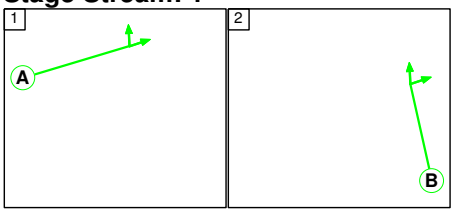
Lane Saturation Flows

Junction: A45/A43 Lumbertubs 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 Southbound Offslip)	3.65	0.00	Y	Arm 5 Left	Inf	100.0 %	1980	1980
1/2 (A45 Southbound Offslip)	3.65	0.00	N	Arm 6 Ahead	Inf	100.0 %	2120	2120
1/3 (A45 Southbound Offslip)	3.65	0.00	Y	Arm 6 Ahead	Inf	100.0 %	1980	1980
2/1 (Ferris Row Lane 1)	Infinite Saturation Flow						Inf	Inf
2/2 (Ferris Row Lane 2)	Infinite Saturation Flow						Inf	Inf
3/1 (A45 Northbound Offslip)	3.65	0.00	Y	Arm 9 Left	Inf	100.0 %	1980	1980
3/2 (A45 Northbound Offslip)	3.65	0.00	N	Arm 9 Left	Inf	100.0 %	2120	2120
3/3 (A45 Northbound Offslip)	3.65	0.00	Y	Arm 10 Ahead	Inf	100.0 %	1980	1980
4/1 (A43 Lumbertubs Way)	3.50	0.00	Y	Arm 11 Left	60.00	100.0 %	1917	1917
4/2 (A43 Lumbertubs Way)	3.50	0.00	N	Arm 12 Ahead	80.00	100.0 %	2066	2066
4/3 (A43 Lumbertubs Way)	3.50	0.00	Y	Arm 12 Ahead	80.00	100.0 %	1929	1929
5/1	Infinite Saturation Flow						Inf	Inf
6/1	Infinite Saturation Flow						Inf	Inf
6/2	Infinite Saturation Flow						Inf	Inf
6/3	Infinite Saturation Flow						Inf	Inf
7/1	Infinite Saturation Flow						Inf	Inf
7/2	Infinite Saturation Flow						Inf	Inf
8/1	This lane uses a directly entered Saturation Flow						2000	2000
8/2	This lane uses a directly entered Saturation Flow						2000	2000
9/1	Infinite Saturation Flow						Inf	Inf
9/2	Infinite Saturation Flow						Inf	Inf
10/1	This lane uses a directly entered Saturation Flow						1900	1900
10/2	This lane uses a directly entered Saturation Flow						1900	1900
11/1	Infinite Saturation Flow						Inf	Inf
11/2	Infinite Saturation Flow						Inf	Inf
12/1	This lane uses a directly entered Saturation Flow						2000	2000
12/2	This lane uses a directly entered Saturation Flow						2000	2000

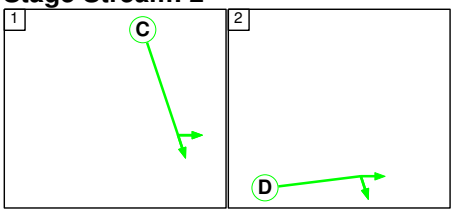
Scenario 1: '2031 D1 AM Peak' (FG1: '2031 D1 Ref AM', Plan 1: 'Network Control Plan 1')

Stage Sequence Diagram

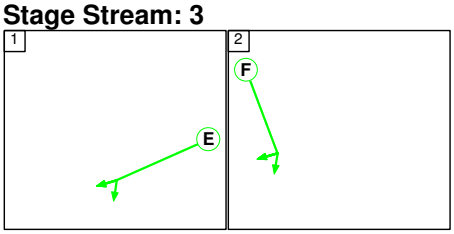
Stage Stream: 1



Stage Stream: 2



Stage Stream: 3



Stage Timings

Stage Stream: 1

Stage	1	2
Duration	34	14
Change Point	0	40

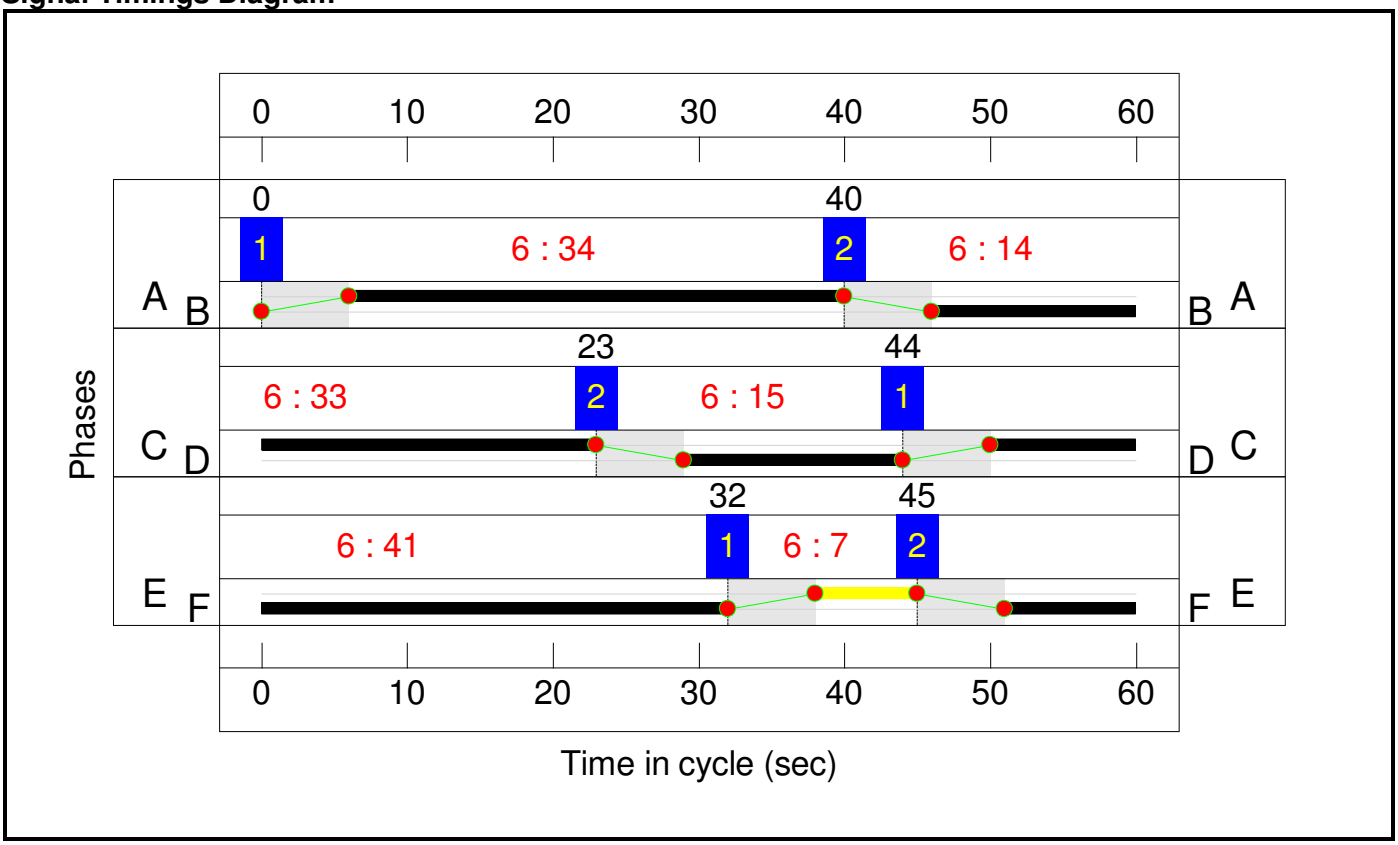
Stage Stream: 2

Stage	1	2
Duration	33	15
Change Point	44	23

Stage Stream: 3

Stage	1	2
Duration	7	41
Change Point	32	45

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 Lumbertubs Gyratory	-	-	**N/A**	-	-		-	-	-	-	-	-	**133.2%**
A45/A43 Lumbertubs Interchange	-	-	**N/A**	-	-		-	-	-	-	-	-	**133.2%**
1/2+1/1	A45 Southbound Offslip Left Ahead	U	3	N/A	E		1	7	-	236	2120:1980	283+129	57.3 : 57.3%
1/3	A45 Southbound Offslip Ahead	U	3	N/A	E		1	7	-	107	1980	264	40.5%
2/1	Ferris Row Left	O	N/A	N/A	-		-	-	-	1083	Inf	813	133.2%
2/2	Ferris Row Ahead	O	N/A	N/A	-		-	-	-	342	Inf	779	43.9%
3/1	A45 Northbound Offslip Left	U	1	N/A	A		1	34	-	777	1980	1155	67.3%
3/2+3/3	A45 Northbound Offslip Left Ahead	U	1	N/A	A		1	34	-	971	2120:1980	1175+180	71.6 : 71.6%
4/2+4/1	A43 Lumbertubs Way Left Ahead	U	2	N/A	C		1	33	-	1777	2066:1917	963+380	132.3 : 132.3%
4/3	A43 Lumbertubs Way Ahead	U	2	N/A	C		1	33	-	1367	1929	1093	125.1%
8/1	Ahead	U	1	N/A	B		1	14	-	355	2000	500	68.7%
8/2	Ahead Right	U	1	N/A	B		1	14	-	343	2000	500	67.4%
10/1	Ahead	U	2	N/A	D		1	15	-	38	1900	507	7.5%
10/2	Right	U	2	N/A	D		1	15	-	129	1900	507	25.5%
12/1	Ahead Right	U	3	N/A	F		1	41	-	1403	2000	1400	78.0%
12/2	Right	U	3	N/A	F		1	41	-	1367	2000	1400	78.1%

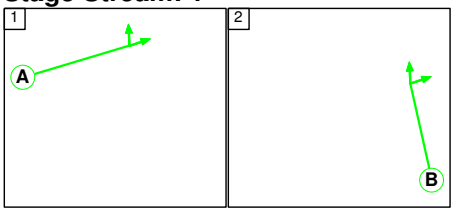
Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network: A45 Lumbertubs Gyratory	**-**	**-**	**1155**	**0**	**0**	**53.8**	**504.8**	**0.0**	**558.6**	**-**	**-**	**-**	**-**
A45/A43 Lumbertubs Interchange	**-**	**-**	**1155**	**0**	**0**	**53.8**	**504.8**	**0.0**	**558.6**	**-**	**-**	**-**	**-**
1/2+1/1	236	236	-	-	-	1.6	0.7	-	2.2	34.3	2.5	0.7	3.2
1/3	107	107	-	-	-	0.7	0.3	-	1.0	35.2	1.6	0.3	1.9
2/1	1083	813	813	0	0	11.6	137.1	-	148.6	494.0	51.7	137.1	188.8
2/2	342	342	342	0	0	0.0	0.4	-	0.4	4.2	0.5	0.4	0.9
3/1	777	777	-	-	-	1.9	1.0	-	2.9	13.3	8.8	1.0	9.9
3/2+3/3	971	971	-	-	-	2.2	1.3	-	3.5	12.9	9.6	1.3	10.8
4/2+4/1	1777	1343	-	-	-	19.1	218.9	-	237.9	482.0	36.6	218.9	255.5
4/3	1367	1093	-	-	-	13.4	139.4	-	152.8	402.5	27.3	139.4	166.7
8/1	344	344	-	-	-	0.9	1.1	-	2.0	21.2	2.6	1.1	3.7
8/2	337	337	-	-	-	1.2	1.0	-	2.2	23.9	3.3	1.0	4.3
10/1	38	38	-	-	-	0.4	0.0	-	0.4	38.3	0.6	0.0	0.7
10/2	129	129	-	-	-	0.4	0.2	-	0.6	16.5	1.7	0.2	1.9
12/1	1092	1092	-	-	-	0.4	1.8	-	2.2	7.1	2.1	1.8	3.9
12/2	1093	1093	-	-	-	0.0	1.8	-	1.8	5.8	0.0	1.8	1.8

C1	Stream: 1 PRC for Signalled Lanes (%):	25.6	Total Delay for Signalled Lanes (pcuHr):	10.61	Cycle Time (s): 60
C1	Stream: 2 PRC for Signalled Lanes (%):	-47.0	Total Delay for Signalled Lanes (pcuHr):	391.75	Cycle Time (s): 60
C1	Stream: 3 PRC for Signalled Lanes (%):	15.3	Total Delay for Signalled Lanes (pcuHr):	7.22	Cycle Time (s): 60
	PRC Over All Lanes (%):	-48.0	Total Delay Over All Lanes(pcuHr):	558.60	

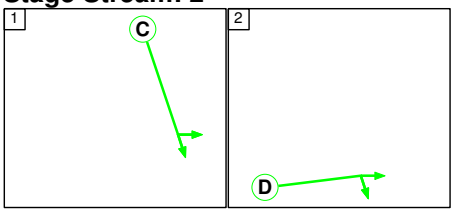
Scenario 2: '2031 J1d AM Peak' (FG3: '2031 J1d Dev AM', Plan 1: 'Network Control Plan 1')

Stage Sequence Diagram

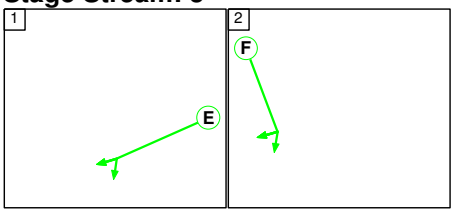
Stage Stream: 1



Stage Stream: 2



Stage Stream: 3



Stage Timings

Stage Stream: 1

Stage	1	2
Duration	34	14
Change Point	0	40

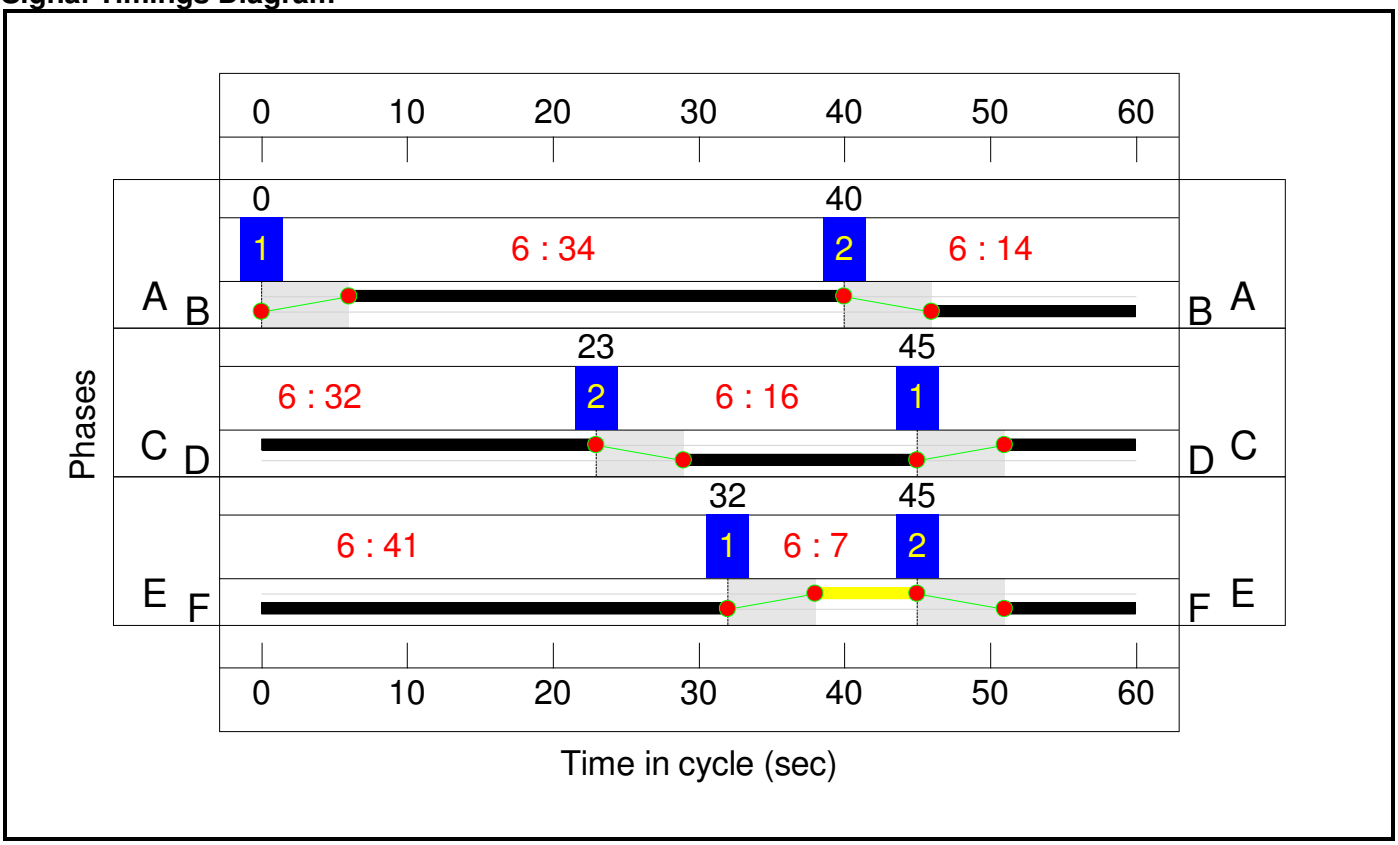
Stage Stream: 2

Stage	1	2
Duration	32	16
Change Point	45	23

Stage Stream: 3

Stage	1	2
Duration	7	41
Change Point	32	45

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 Lumbertubs Gyratory	-	-	**N/A**	-	-		-	-	-	-	-	-	**137.1%**
A45/A43 Lumbertubs Interchange	-	-	**N/A**	-	-		-	-	-	-	-	-	**137.1%**
1/2+1/1	A45 Southbound Offslip Left Ahead	U	3	N/A	E		1	7	-	259	2120:1980	283+161	58.4 : 58.4%
1/3	A45 Southbound Offslip Ahead	U	3	N/A	E		1	7	-	102	1980	264	38.6%
2/1	Ferris Row Left	O	N/A	N/A	-		-	-	-	1116	Inf	814	137.1%
2/2	Ferris Row Ahead	O	N/A	N/A	-		-	-	-	318	Inf	776	41.0%
3/1	A45 Northbound Offslip Left	U	1	N/A	A		1	34	-	794	1980	1155	68.7%
3/2+3/3	A45 Northbound Offslip Left Ahead	U	1	N/A	A		1	34	-	958	2120:1980	1194+131	72.3 : 72.3%
4/2+4/1	A43 Lumbertubs Way Left Ahead	U	2	N/A	C		1	32	-	1718	2066:1917	962+320	134.1 : 134.1%
4/3	A43 Lumbertubs Way Ahead	U	2	N/A	C		1	32	-	1446	1929	1061	136.3%
8/1	Ahead	U	1	N/A	B		1	14	-	366	2000	500	68.9%
8/2	Ahead Right	U	1	N/A	B		1	14	-	359	2000	500	68.6%
10/1	Ahead	U	2	N/A	D		1	16	-	40	1900	538	7.4%
10/2	Right	U	2	N/A	D		1	16	-	95	1900	538	17.6%
12/1	Ahead Right	U	3	N/A	F		1	41	-	1373	2000	1400	74.7%
12/2	Right	U	3	N/A	F		1	41	-	1457	2000	1400	76.6%

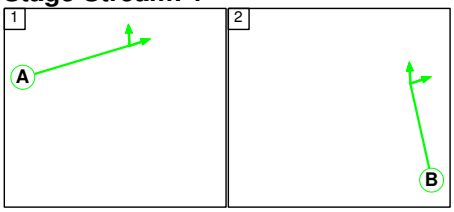
Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network: A45 Lumbertubs Gyratory	**-**	**-**	**1132**	**0**	**0**	**59.0**	**576.4**	**0.0**	**635.5**	**-**	**-**	**-**	**-**
A45/A43 Lumbertubs Interchange	**-**	**-**	**1132**	**0**	**0**	**59.0**	**576.4**	**0.0**	**635.5**	**-**	**-**	**-**	**-**
1/2+1/1	259	259	-	-	-	1.7	0.7	-	2.4	33.9	2.6	0.7	3.3
1/3	102	102	-	-	-	0.7	0.3	-	1.0	34.8	1.5	0.3	1.8
2/1	1116	814	814	0	0	12.8	152.7	-	165.5	533.8	55.8	152.7	208.5
2/2	318	318	318	0	0	0.0	0.3	-	0.4	4.0	0.4	0.3	0.7
3/1	794	794	-	-	-	1.9	1.1	-	3.0	13.7	9.0	1.1	10.1
3/2+3/3	958	958	-	-	-	2.3	1.3	-	3.5	13.3	10.1	1.3	11.4
4/2+4/1	1718	1282	-	-	-	19.3	220.2	-	239.4	501.7	36.1	220.2	256.3
4/3	1446	1061	-	-	-	17.3	194.4	-	211.7	527.0	30.5	194.4	224.9
8/1	345	345	-	-	-	0.9	1.1	-	2.0	21.0	2.6	1.1	3.7
8/2	343	343	-	-	-	1.3	1.1	-	2.4	24.7	3.5	1.1	4.6
10/1	40	40	-	-	-	0.4	0.0	-	0.4	38.0	0.7	0.0	0.7
10/2	95	95	-	-	-	0.3	0.1	-	0.4	14.8	1.2	0.1	1.3
12/1	1046	1046	-	-	-	0.3	1.5	-	1.7	6.0	1.3	1.5	2.8
12/2	1072	1072	-	-	-	0.0	1.6	-	1.6	5.5	0.2	1.6	1.8

C1	Stream: 1 PRC for Signalled Lanes (%):	24.5	Total Delay for Signalled Lanes (pcuHr):	10.92	Cycle Time (s): 60
C1	Stream: 2 PRC for Signalled Lanes (%):	-51.4	Total Delay for Signalled Lanes (pcuHr):	451.94	Cycle Time (s): 60
C1	Stream: 3 PRC for Signalled Lanes (%):	17.5	Total Delay for Signalled Lanes (pcuHr):	6.80	Cycle Time (s): 60
	PRC Over All Lanes (%):	-52.3	Total Delay Over All Lanes(pcuHr):	635.47	

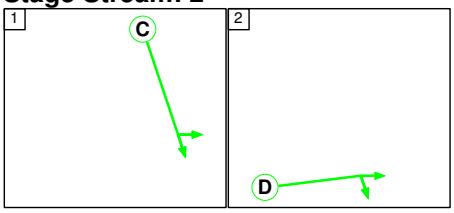
Scenario 3: '2031 D1 PM Peak' (FG2: '2031 D1 Ref PM', Plan 1: 'Network Control Plan 1')

Stage Sequence Diagram

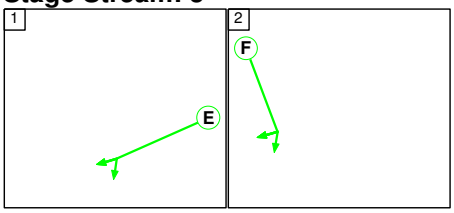
Stage Stream: 1



Stage Stream: 2



Stage Stream: 3



Stage Timings

Stage Stream: 1

Stage	1	2
Duration	25	23
Change Point	0	31

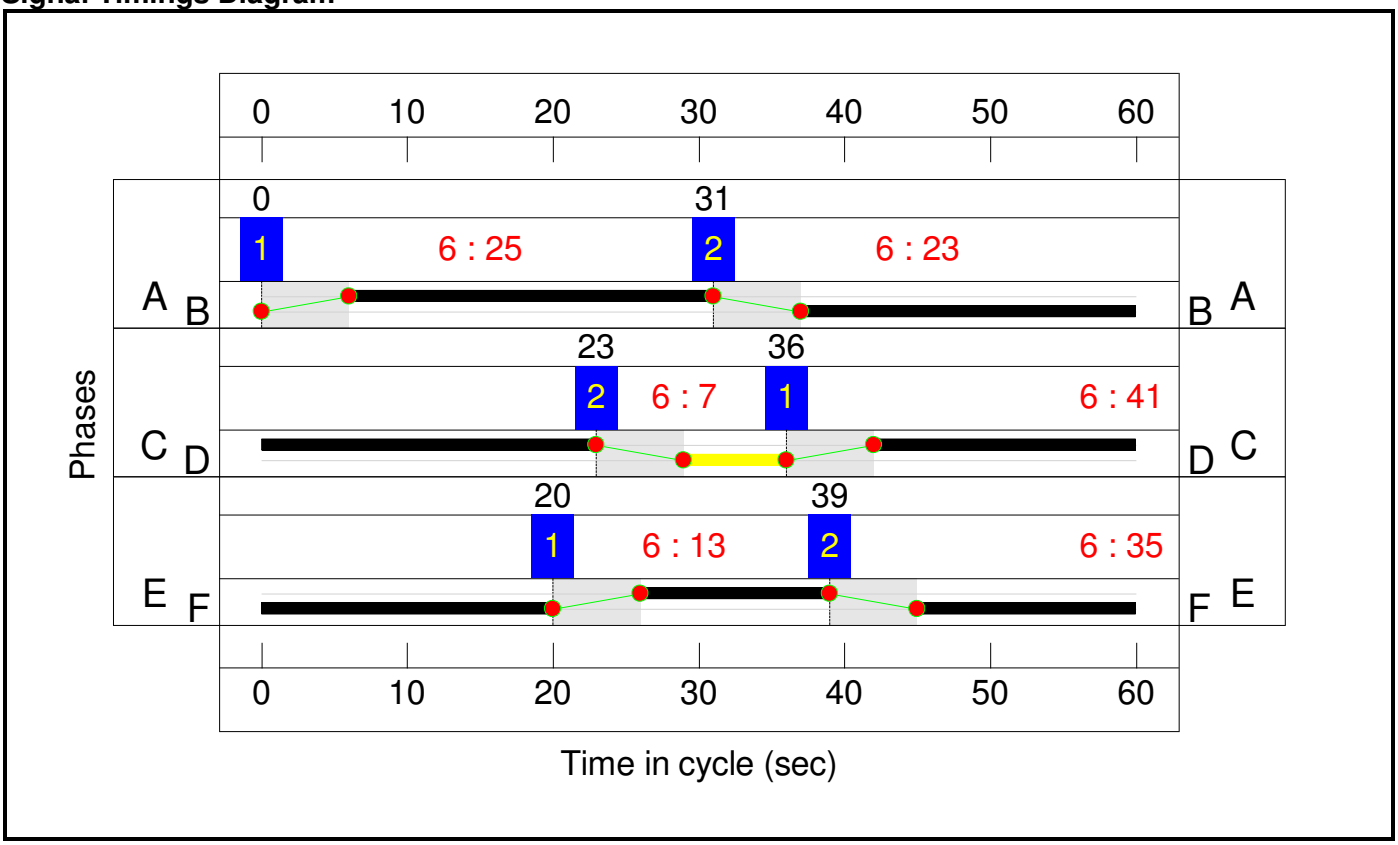
Stage Stream: 2

Stage	1	2
Duration	41	7
Change Point	36	23

Stage Stream: 3

Stage	1	2
Duration	13	35
Change Point	20	39

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 Lumbertubs Gyratory	-	-	**N/A**	-	-		-	-	-	-	-	-	**112.8%**
A45/A43 Lumbertubs Interchange	-	-	**N/A**	-	-		-	-	-	-	-	-	**112.8%**
1/2+1/1	A45 Southbound Offslip Left Ahead	U	3	N/A	E		1	13	-	448	2120:1980	495+82	77.6 : 77.6%
1/3	A45 Southbound Offslip Ahead	U	3	N/A	E		1	13	-	356	1980	462	77.1%
2/1	Ferris Row Left	O	N/A	N/A	-		-	-	-	868	Inf	769	112.8%
2/2	Ferris Row Ahead	O	N/A	N/A	-		-	-	-	626	Inf	670	93.5%
3/1	A45 Northbound Offslip Left	U	1	N/A	A		1	25	-	774	1980	858	90.2%
3/2+3/3	A45 Northbound Offslip Left Ahead	U	1	N/A	A		1	25	-	973	2120:1980	899+155	92.3 : 92.3%
4/2+4/1	A43 Lumbertubs Way Left Ahead	U	2	N/A	C		1	41	-	1025	2066:1917	1280+244	67.3 : 67.3%
4/3	A43 Lumbertubs Way Ahead	U	2	N/A	C		1	41	-	993	1929	1350	73.5%
8/1	Ahead	U	1	N/A	B		1	23	-	714	2000	800	89.3%
8/2	Ahead Right	U	1	N/A	B		1	23	-	708	2000	800	88.5%
10/1	Ahead	U	2	N/A	D		1	7	-	78	1900	253	30.8%
10/2	Right	U	2	N/A	D		1	7	-	143	1900	253	56.4%
12/1	Ahead Right	U	3	N/A	F		1	35	-	1004	2000	1200	83.7%
12/2	Right	U	3	N/A	F		1	35	-	993	2000	1200	82.8%

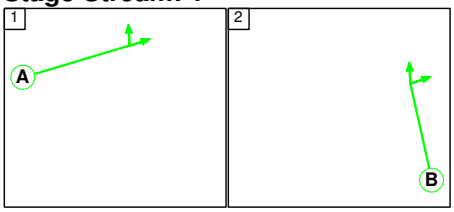
Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network: A45 Lumbertubs Gyratory	**-**	**-**	**1395**	**0**	**0**	**28.2**	**87.5**	**0.0**	**115.7**	**-**	**-**	**-**	**-**
A45/A43 Lumbertubs Interchange	**-**	**-**	**1395**	**0**	**0**	**28.2**	**87.5**	**0.0**	**115.7**	**-**	**-**	**-**	**-**
1/2+1/1	448	448	-	-	-	2.6	1.7	-	4.3	34.7	6.0	1.7	7.7
1/3	356	356	-	-	-	2.1	1.6	-	3.8	38.0	5.5	1.6	7.2
2/1	868	769	769	0	0	4.4	53.5	-	57.9	240.2	43.4	53.5	96.9
2/2	626	626	626	0	0	0.6	5.7	-	6.3	36.1	9.4	5.7	15.1
3/1	774	774	-	-	-	3.4	4.2	-	7.6	35.3	11.8	4.2	16.0
3/2+3/3	973	973	-	-	-	4.1	5.3	-	9.4	34.7	13.1	5.3	18.4
4/2+4/1	1025	1025	-	-	-	1.2	1.0	-	2.3	8.0	7.2	1.0	8.2
4/3	993	993	-	-	-	1.5	1.4	-	2.9	10.6	10.2	1.4	11.6
8/1	714	714	-	-	-	1.8	3.8	-	5.6	28.3	11.3	3.8	15.1
8/2	708	708	-	-	-	1.9	3.6	-	5.4	27.7	11.0	3.6	14.6
10/1	78	78	-	-	-	0.9	0.2	-	1.1	50.4	1.3	0.2	1.5
10/2	143	143	-	-	-	0.6	0.6	-	1.2	30.1	2.1	0.6	2.8
12/1	1004	1004	-	-	-	1.9	2.5	-	4.4	15.8	13.9	2.5	16.4
12/2	993	993	-	-	-	1.2	2.3	-	3.5	12.7	3.3	2.3	5.7

C1	Stream: 1 PRC for Signalled Lanes (%):	-2.6	Total Delay for Signalled Lanes (pcuHr):	28.04	Cycle Time (s): 60
C1	Stream: 2 PRC for Signalled Lanes (%):	22.4	Total Delay for Signalled Lanes (pcuHr):	7.47	Cycle Time (s): 60
C1	Stream: 3 PRC for Signalled Lanes (%):	7.6	Total Delay for Signalled Lanes (pcuHr):	15.99	Cycle Time (s): 60
	PRC Over All Lanes (%):	-25.4	Total Delay Over All Lanes(pcuHr):	115.69	

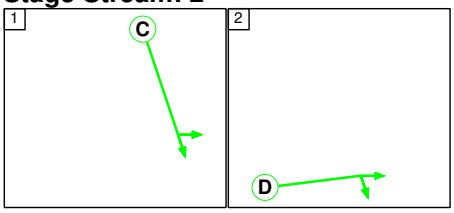
Scenario 4: '2031 J1d PM Peak' (FG4: '2031 J1d Dev PM', Plan 1: 'Network Control Plan 1')

Stage Sequence Diagram

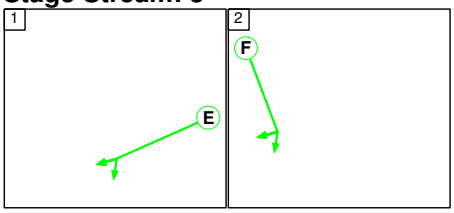
Stage Stream: 1



Stage Stream: 2



Stage Stream: 3



Stage Timings

Stage Stream: 1

Stage	1	2
Duration	25	23
Change Point	0	31

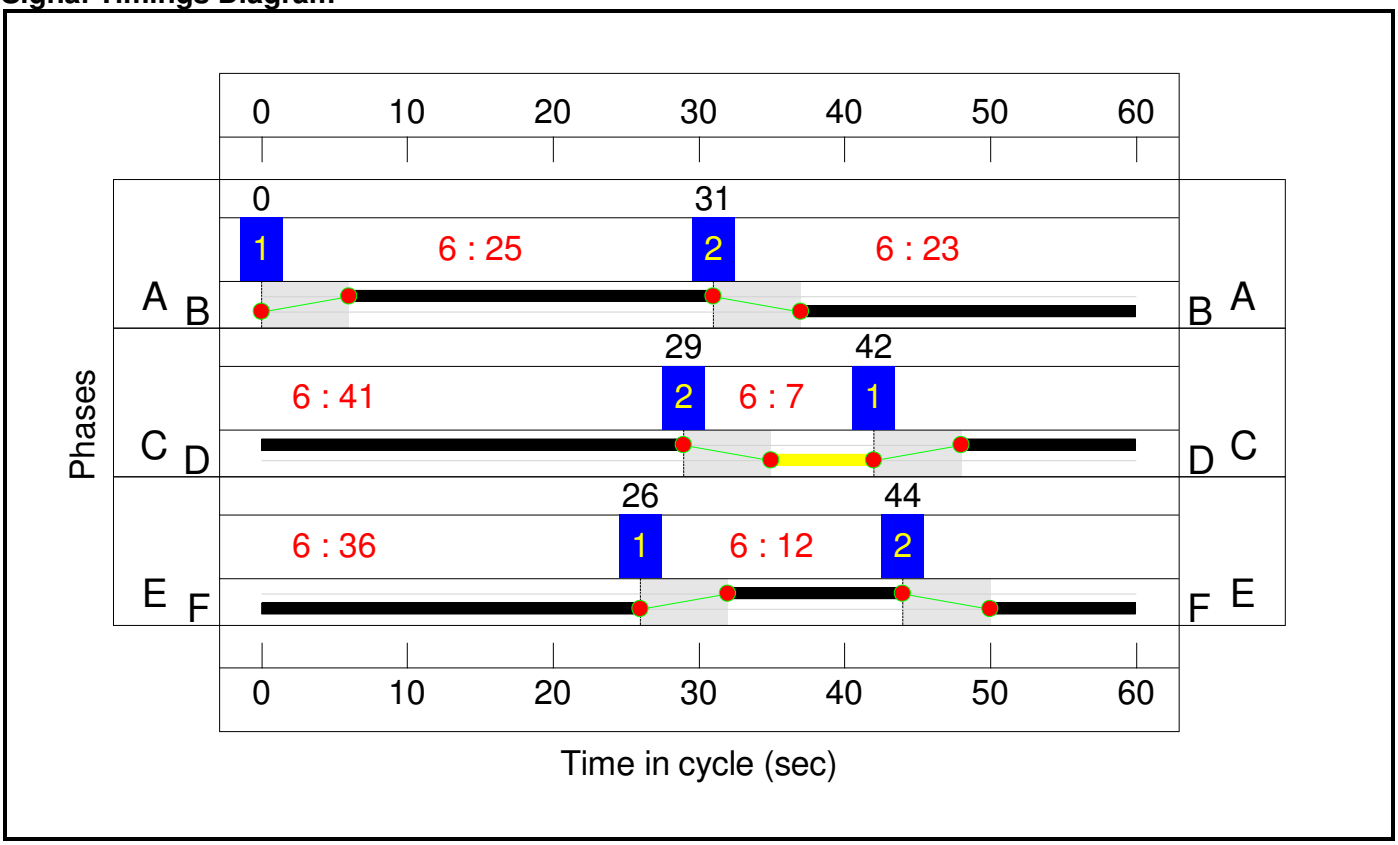
Stage Stream: 2

Stage	1	2
Duration	41	7
Change Point	42	29

Stage Stream: 3

Stage	1	2
Duration	12	36
Change Point	26	44

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 Lumbertubs Gyratory	-	-	**N/A**	-	-		-	-	-	-	-	-	**114.2%**
A45/A43 Lumbertubs Interchange	-	-	**N/A**	-	-		-	-	-	-	-	-	**114.2%**
1/2+1/1	A45 Southbound Offslip Left Ahead	U	3	N/A	E		1	12	-	500	2120:1980	459+201	75.8 : 75.8%
1/3	A45 Southbound Offslip Ahead	U	3	N/A	E		1	12	-	315	1980	429	73.4%
2/1	Ferris Row Left	O	N/A	N/A	-		-	-	-	883	Inf	773	114.2%
2/2	Ferris Row Ahead	O	N/A	N/A	-		-	-	-	716	Inf	685	104.6%
3/1	A45 Northbound Offslip Left	U	1	N/A	A		1	25	-	765	1980	858	89.2%
3/2+3/3	A45 Northbound Offslip Left Ahead	U	1	N/A	A		1	25	-	986	2120:1980	894+182	91.6 : 91.6%
4/2+4/1	A43 Lumbertubs Way Left Ahead	U	2	N/A	C		1	41	-	1043	2066:1917	1295+219	68.9 : 68.9%
4/3	A43 Lumbertubs Way Ahead	U	2	N/A	C		1	41	-	993	1929	1350	73.5%
8/1	Ahead	U	1	N/A	B		1	23	-	714	2000	800	87.4%
8/2	Ahead Right	U	1	N/A	B		1	23	-	714	2000	800	87.2%
10/1	Ahead	U	2	N/A	D		1	7	-	61	1900	253	23.0%
10/2	Right	U	2	N/A	D		1	7	-	167	1900	253	65.9%
12/1	Ahead Right	U	3	N/A	F		1	36	-	1032	2000	1233	83.7%
12/2	Right	U	3	N/A	F		1	36	-	1020	2000	1233	82.7%

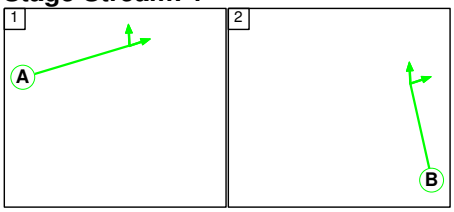
Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network: A45 Lumbertubs Gyratory	**-**	**-**	**1458**	**0**	**0**	**29.9**	**108.5**	**0.0**	**138.4**	**-**	**-**	**-**	**-**
A45/A43 Lumbertubs Interchange	**-**	**-**	**1458**	**0**	**0**	**29.9**	**108.5**	**0.0**	**138.4**	**-**	**-**	**-**	**-**
1/2+1/1	500	500	-	-	-	3.0	1.5	-	4.5	32.4	5.4	1.5	6.9
1/3	315	315	-	-	-	1.9	1.3	-	3.3	37.3	4.8	1.3	6.2
2/1	883	773	773	0	0	5.1	58.7	-	63.9	260.4	44.2	58.7	102.9
2/2	716	685	685	0	0	1.8	23.3	-	25.2	126.5	27.6	23.3	51.0
3/1	765	765	-	-	-	3.3	3.8	-	7.1	33.6	11.7	3.8	15.5
3/2+3/3	986	986	-	-	-	4.1	4.9	-	9.0	32.8	12.8	4.9	17.7
4/2+4/1	1043	1043	-	-	-	1.3	1.1	-	2.4	8.3	7.7	1.1	8.8
4/3	993	993	-	-	-	1.5	1.4	-	2.9	10.6	10.2	1.4	11.6
8/1	699	699	-	-	-	1.6	3.3	-	4.8	24.8	4.8	3.3	8.0
8/2	698	698	-	-	-	1.7	3.2	-	4.9	25.3	5.4	3.2	8.6
10/1	58	58	-	-	-	0.7	0.1	-	0.8	51.4	0.9	0.1	1.0
10/2	167	167	-	-	-	0.9	0.9	-	1.9	40.5	2.8	0.9	3.7
12/1	1032	1032	-	-	-	1.8	2.5	-	4.3	14.8	14.0	2.5	16.5
12/2	1020	1020	-	-	-	1.2	2.3	-	3.5	12.4	3.8	2.3	6.1

C1	Stream: 1 PRC for Signalled Lanes (%):	-1.8	Total Delay for Signalled Lanes (pcuHr):	25.83	Cycle Time (s): 60
C1	Stream: 2 PRC for Signalled Lanes (%):	22.4	Total Delay for Signalled Lanes (pcuHr):	8.03	Cycle Time (s): 60
C1	Stream: 3 PRC for Signalled Lanes (%):	7.6	Total Delay for Signalled Lanes (pcuHr):	15.53	Cycle Time (s): 60
	PRC Over All Lanes (%):	-26.9	Total Delay Over All Lanes(pcuHr):	138.40	

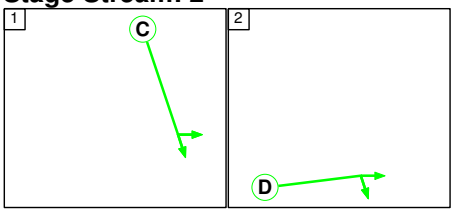
Scenario 5: '2021 C1 AM Peak' (FG5: '2021 C1 Ref AM', Plan 1: 'Network Control Plan 1')

Stage Sequence Diagram

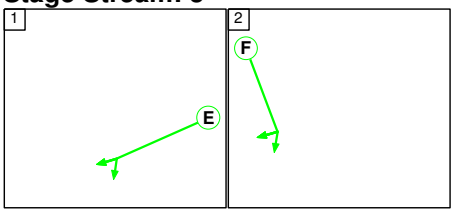
Stage Stream: 1



Stage Stream: 2



Stage Stream: 3



Stage Timings

Stage Stream: 1

Stage	1	2
Duration	34	14
Change Point	0	40

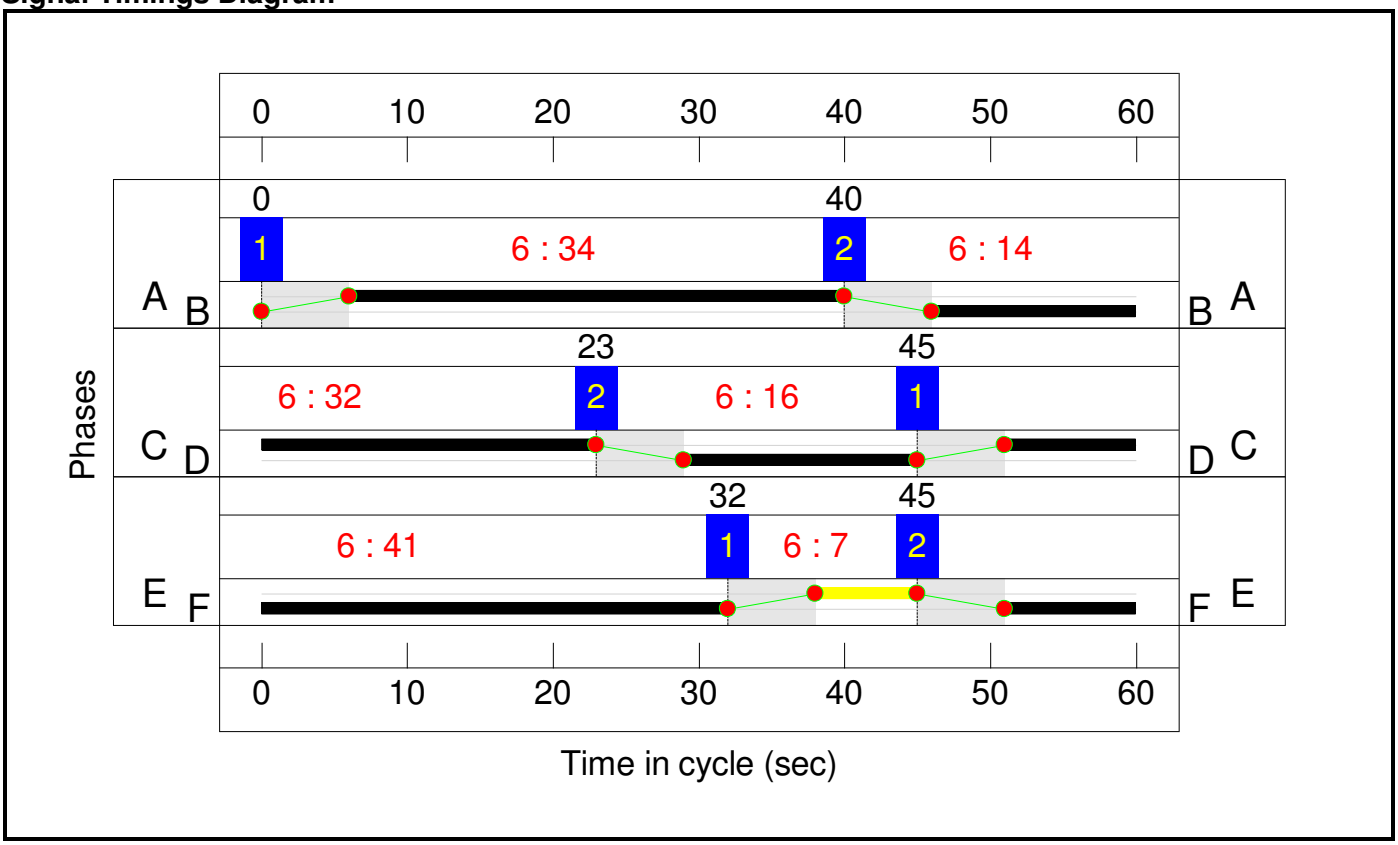
Stage Stream: 2

Stage	1	2
Duration	32	16
Change Point	45	23

Stage Stream: 3

Stage	1	2
Duration	7	41
Change Point	32	45

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 Lumbertubs Gyratory	-	-	**N/A**	-	-		-	-	-	-	-	-	**127.8%**
A45/A43 Lumbertubs Interchange	-	-	**N/A**	-	-		-	-	-	-	-	-	**127.8%**
1/2+1/1	A45 Southbound Offslip Left Ahead	U	3	N/A	E		1	7	-	312	2120:1980	283+181	68.6 : 65.3%
1/3	A45 Southbound Offslip Ahead	U	3	N/A	E		1	7	-	127	1980	264	48.1%
2/1	Ferris Row Left	O	N/A	N/A	-		-	-	-	1019	Inf	798	127.8%
2/2	Ferris Row Ahead	O	N/A	N/A	-		-	-	-	280	Inf	757	37.0%
3/1	A45 Northbound Offslip Left	U	1	N/A	A		1	34	-	705	1980	1155	61.0%
3/2+3/3	A45 Northbound Offslip Left Ahead	U	1	N/A	A		1	34	-	885	2120:1980	1180+167	65.7 : 65.7%
4/2+4/1	A43 Lumbertubs Way Left Ahead	U	2	N/A	C		1	32	-	1600	2066:1917	969+303	125.7 : 125.7%
4/3	A43 Lumbertubs Way Ahead	U	2	N/A	C		1	32	-	1338	1929	1061	126.1%
8/1	Ahead	U	1	N/A	B		1	14	-	353	2000	500	68.3%
8/2	Ahead Right	U	1	N/A	B		1	14	-	339	2000	500	66.4%
10/1	Ahead	U	2	N/A	D		1	16	-	39	1900	538	7.2%
10/2	Right	U	2	N/A	D		1	16	-	110	1900	538	20.4%
12/1	Ahead Right	U	3	N/A	F		1	41	-	1329	2000	1400	77.1%
12/2	Right	U	3	N/A	F		1	41	-	1338	2000	1400	75.8%

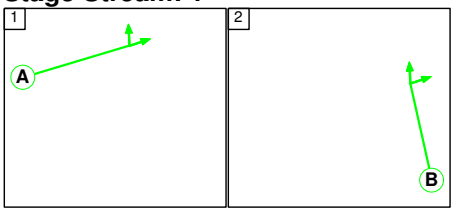
Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network: A45 Lumbertubs Gyratory	**-**	**-**	**1078**	**0**	**0**	**48.1**	**429.0**	**0.0**	**477.1**	**-**	**-**	**-**	**-**
A45/A43 Lumbertubs Interchange	**-**	**-**	**1078**	**0**	**0**	**48.1**	**429.0**	**0.0**	**477.1**	**-**	**-**	**-**	**-**
1/2+1/1	312	312	-	-	-	2.1	1.0	-	3.1	36.2	3.1	1.0	4.1
1/3	127	127	-	-	-	0.9	0.5	-	1.3	37.2	1.9	0.5	2.4
2/1	1019	798	798	0	0	9.6	113.0	-	122.6	433.2	48.4	113.0	161.4
2/2	280	280	280	0	0	0.0	0.3	-	0.3	3.9	0.4	0.3	0.7
3/1	705	705	-	-	-	1.6	0.8	-	2.4	12.1	7.4	0.8	8.2
3/2+3/3	885	885	-	-	-	1.9	1.0	-	2.9	11.8	8.4	1.0	9.3
4/2+4/1	1600	1272	-	-	-	15.5	166.2	-	181.7	408.9	32.3	166.2	198.5
4/3	1338	1061	-	-	-	13.6	140.9	-	154.5	415.6	26.9	140.9	167.8
8/1	341	341	-	-	-	0.7	1.1	-	1.8	19.0	2.1	1.1	3.2
8/2	332	332	-	-	-	1.1	1.0	-	2.0	22.1	2.9	1.0	3.9
10/1	39	39	-	-	-	0.4	0.0	-	0.4	38.3	0.7	0.0	0.7
10/2	110	110	-	-	-	0.3	0.1	-	0.5	15.0	1.4	0.1	1.5
12/1	1079	1079	-	-	-	0.3	1.7	-	2.0	6.7	1.8	1.7	3.4
12/2	1061	1061	-	-	-	0.0	1.6	-	1.6	5.3	0.0	1.6	1.6

C1	Stream: 1 PRC for Signalled Lanes (%):	31.8	Total Delay for Signalled Lanes (pcuHr):	9.10	Cycle Time (s): 60
C1	Stream: 2 PRC for Signalled Lanes (%):	-40.1	Total Delay for Signalled Lanes (pcuHr):	337.05	Cycle Time (s): 60
C1	Stream: 3 PRC for Signalled Lanes (%):	16.7	Total Delay for Signalled Lanes (pcuHr):	8.02	Cycle Time (s): 60
	PRC Over All Lanes (%):	-42.0	Total Delay Over All Lanes(pcuHr):	477.09	

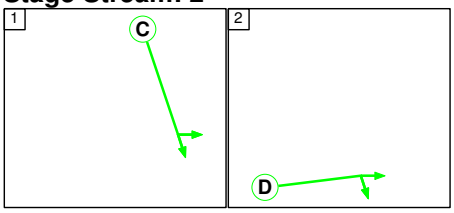
Scenario 6: '2021 I1 AM Peak' (FG7: '2021 I1 Dev AM', Plan 1: 'Network Control Plan 1')

Stage Sequence Diagram

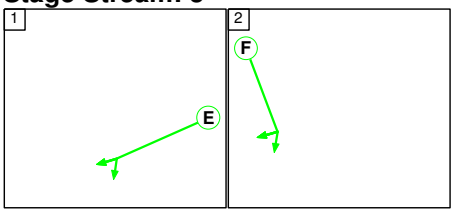
Stage Stream: 1



Stage Stream: 2



Stage Stream: 3



Stage Timings

Stage Stream: 1

Stage	1	2
Duration	34	14
Change Point	0	40

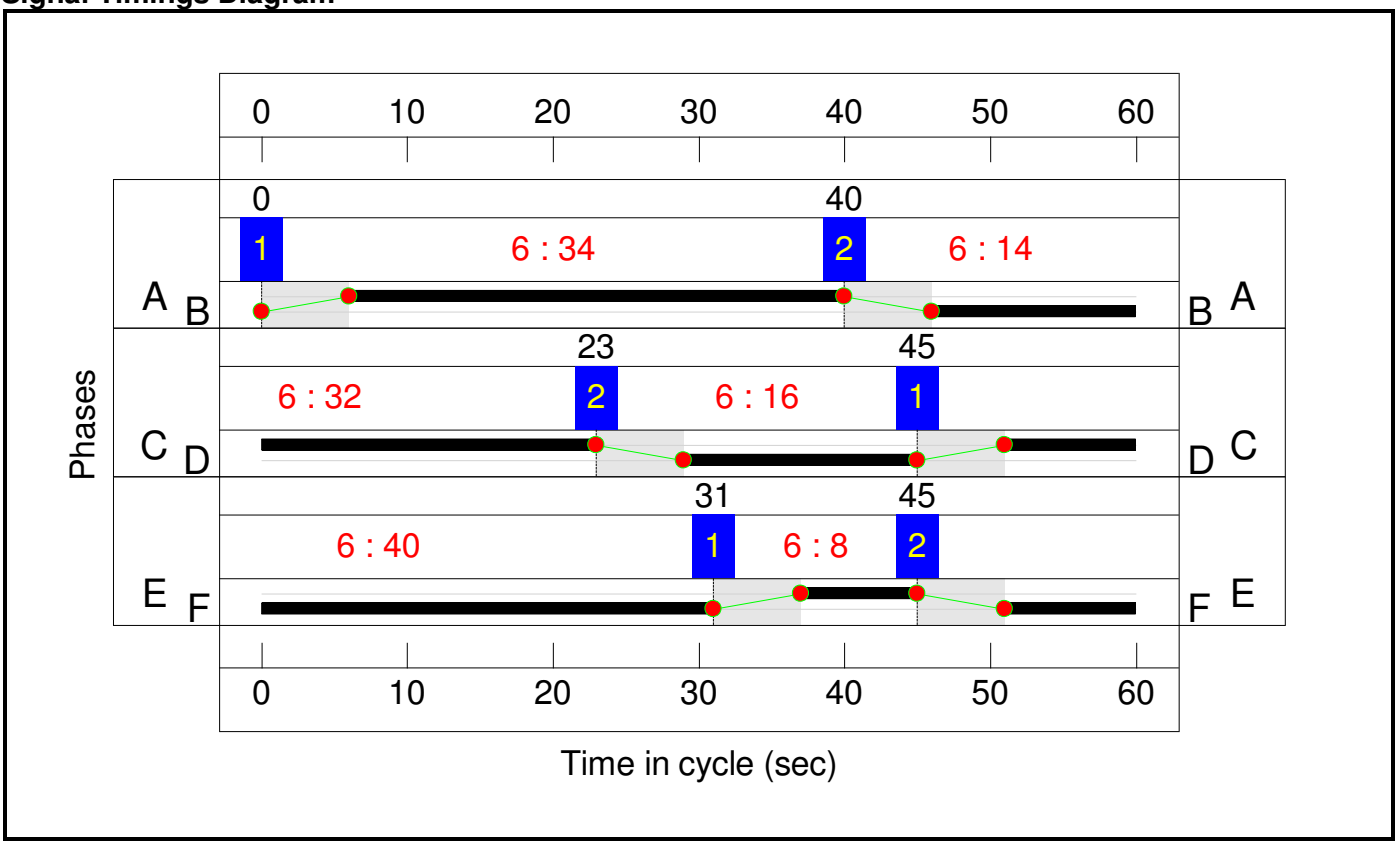
Stage Stream: 2

Stage	1	2
Duration	32	16
Change Point	45	23

Stage Stream: 3

Stage	1	2
Duration	8	40
Change Point	31	45

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 Lumbertubs Gyratory	-	-	**N/A**	-	-		-	-	-	-	-	-	**132.2%**
A45/A43 Lumbertubs Interchange	-	-	**N/A**	-	-		-	-	-	-	-	-	**132.2%**
1/2+1/1	A45 Southbound Offslip Left Ahead	U	3	N/A	E		1	8	-	272	2120:1980	318+142	59.1 : 59.1%
1/3	A45 Southbound Offslip Ahead	U	3	N/A	E		1	8	-	131	1980	297	44.1%
2/1	Ferris Row Left	O	N/A	N/A	-		-	-	-	1037	Inf	785	132.2%
2/2	Ferris Row Ahead	O	N/A	N/A	-		-	-	-	268	Inf	741	36.2%
3/1	A45 Northbound Offslip Left	U	1	N/A	A		1	34	-	721	1980	1155	62.4%
3/2+3/3	A45 Northbound Offslip Left Ahead	U	1	N/A	A		1	34	-	900	2120:1980	1181+164	66.9 : 66.9%
4/2+4/1	A43 Lumbertubs Way Left Ahead	U	2	N/A	C		1	32	-	1623	2066:1917	971+300	127.7 : 127.7%
4/3	A43 Lumbertubs Way Ahead	U	2	N/A	C		1	32	-	1354	1929	1061	127.6%
8/1	Ahead	U	1	N/A	B		1	14	-	362	2000	500	69.0%
8/2	Ahead Right	U	1	N/A	B		1	14	-	349	2000	500	67.8%
10/1	Ahead	U	2	N/A	D		1	16	-	48	1900	538	8.9%
10/2	Right	U	2	N/A	D		1	16	-	110	1900	538	20.4%
12/1	Ahead Right	U	3	N/A	F		1	40	-	1345	2000	1367	78.7%
12/2	Right	U	3	N/A	F		1	40	-	1359	2000	1367	78.0%

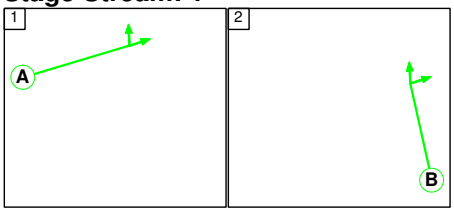
Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network: A45 Lumbertubs Gyratory	**-**	**-**	**1053**	**0**	**0**	**50.9**	**464.5**	**0.0**	**515.5**	**-**	**-**	**-**	**-**
A45/A43 Lumbertubs Interchange	**-**	**-**	**1053**	**0**	**0**	**50.9**	**464.5**	**0.0**	**515.5**	**-**	**-**	**-**	**-**
1/2+1/1	272	272	-	-	-	1.8	0.7	-	2.5	32.9	2.9	0.7	3.6
1/3	131	131	-	-	-	0.8	0.4	-	1.2	34.0	2.0	0.4	2.4
2/1	1037	785	785	0	0	10.9	128.2	-	139.0	482.6	49.3	128.2	177.4
2/2	268	268	268	0	0	0.0	0.3	-	0.3	3.9	0.4	0.3	0.7
3/1	721	721	-	-	-	1.6	0.8	-	2.5	12.3	7.8	0.8	8.6
3/2+3/3	900	900	-	-	-	2.0	1.0	-	3.0	12.0	8.6	1.0	9.6
4/2+4/1	1623	1271	-	-	-	16.3	178.4	-	194.8	432.0	33.2	178.4	211.6
4/3	1354	1061	-	-	-	14.1	148.8	-	162.9	433.2	27.5	148.8	176.3
8/1	345	345	-	-	-	0.8	1.1	-	1.9	19.9	2.3	1.1	3.4
8/2	339	339	-	-	-	1.1	1.0	-	2.1	22.6	3.0	1.0	4.0
10/1	48	48	-	-	-	0.5	0.0	-	0.5	38.5	0.8	0.0	0.8
10/2	110	110	-	-	-	0.3	0.1	-	0.5	15.0	1.4	0.1	1.5
12/1	1076	1076	-	-	-	0.5	1.8	-	2.3	7.7	2.1	1.8	3.9
12/2	1066	1066	-	-	-	0.2	1.8	-	1.9	6.5	0.6	1.8	2.4

C1	Stream: 1 PRC for Signalled Lanes (%):	30.4	Total Delay for Signalled Lanes (pcuHr):	9.50	Cycle Time (s): 60
C1	Stream: 2 PRC for Signalled Lanes (%):	-41.9	Total Delay for Signalled Lanes (pcuHr):	358.66	Cycle Time (s): 60
C1	Stream: 3 PRC for Signalled Lanes (%):	14.3	Total Delay for Signalled Lanes (pcuHr):	7.98	Cycle Time (s): 60
	PRC Over All Lanes (%):	-46.8	Total Delay Over All Lanes(pcuHr):	515.45	

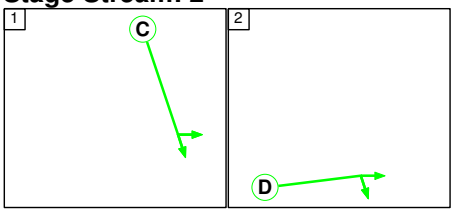
Scenario 7: '2021 C1 PM Peak' (FG6: '2021 C1 Ref PM', Plan 1: 'Network Control Plan 1')

Stage Sequence Diagram

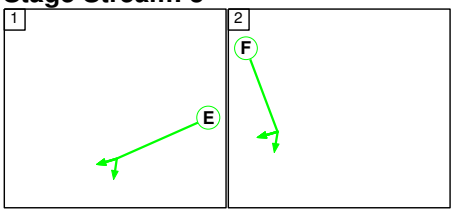
Stage Stream: 1



Stage Stream: 2



Stage Stream: 3



Stage Timings

Stage Stream: 1

Stage	1	2
Duration	31	17
Change Point	0	37

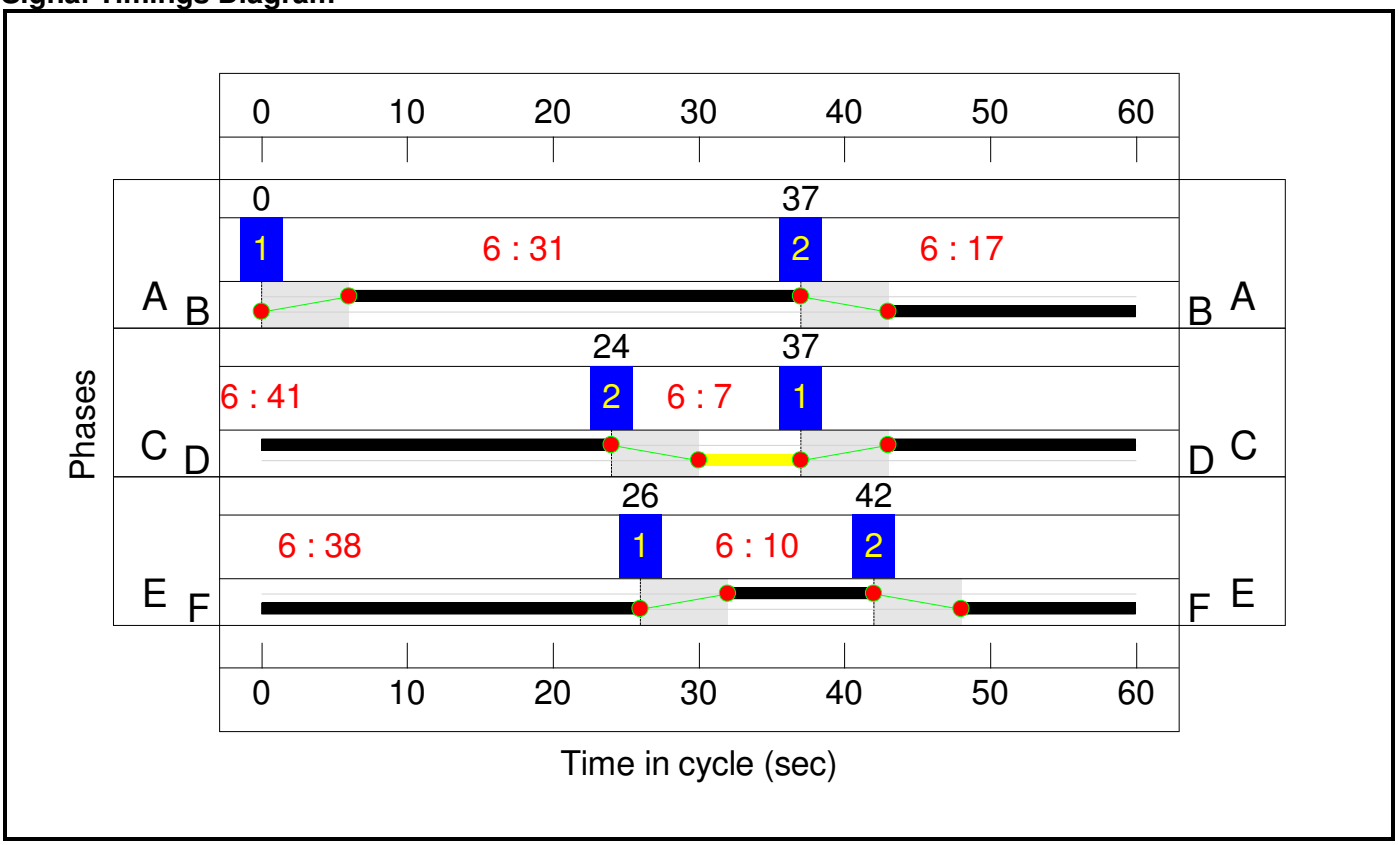
Stage Stream: 2

Stage	1	2
Duration	41	7
Change Point	37	24

Stage Stream: 3

Stage	1	2
Duration	10	38
Change Point	26	42

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 Lumbertubs Gyratory	-	-	**N/A**	-	-		-	-	-	-	-	-	**120.5%**
A45/A43 Lumbertubs Interchange	-	-	**N/A**	-	-		-	-	-	-	-	-	**120.5%**
1/2+1/1	A45 Southbound Offslip Left Ahead	U	3	N/A	E		1	10	-	379	2120:1980	389+132	72.8 : 72.8%
1/3	A45 Southbound Offslip Ahead	U	3	N/A	E		1	10	-	221	1980	363	60.9%
2/1	Ferris Row Left	O	N/A	N/A	-		-	-	-	928	Inf	770	120.5%
2/2	Ferris Row Ahead	O	N/A	N/A	-		-	-	-	511	Inf	710	72.0%
3/1	A45 Northbound Offslip Left	U	1	N/A	A		1	31	-	928	1980	1056	87.9%
3/2+3/3	A45 Northbound Offslip Left Ahead	U	1	N/A	A		1	31	-	1113	2120:1980	1090+148	89.9 : 89.9%
4/2+4/1	A43 Lumbertubs Way Left Ahead	U	2	N/A	C		1	41	-	1081	2066:1917	1269+262	70.6 : 70.6%
4/3	A43 Lumbertubs Way Ahead	U	2	N/A	C		1	41	-	1003	1929	1350	74.3%
8/1	Ahead	U	1	N/A	B		1	17	-	523	2000	600	87.2%
8/2	Ahead Right	U	1	N/A	B		1	17	-	520	2000	600	86.7%
10/1	Ahead	U	2	N/A	D		1	7	-	112	1900	253	44.2%
10/2	Right	U	2	N/A	D		1	7	-	133	1900	253	52.5%
12/1	Ahead Right	U	3	N/A	F		1	38	-	1021	2000	1300	78.5%
12/2	Right	U	3	N/A	F		1	38	-	1011	2000	1300	77.8%

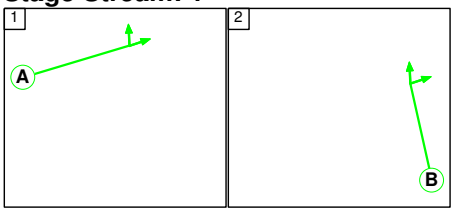
Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network: A45 Lumbertubs Gyratory	**-**	**-**	**1281**	**0**	**0**	**27.5**	**106.1**	**0.0**	**133.6**	**-**	**-**	**-**	**-**
A45/A43 Lumbertubs Interchange	**-**	**-**	**1281**	**0**	**0**	**27.5**	**106.1**	**0.0**	**133.6**	**-**	**-**	**-**	**-**
1/2+1/1	379	379	-	-	-	2.4	1.3	-	3.7	35.1	4.4	1.3	5.7
1/3	221	221	-	-	-	1.4	0.8	-	2.2	35.1	3.4	0.8	4.1
2/1	928	770	770	0	0	7.1	81.9	-	89.0	345.1	46.4	81.9	128.3
2/2	511	511	511	0	0	0.1	1.3	-	1.4	9.6	1.7	1.3	3.0
3/1	928	928	-	-	-	3.2	3.4	-	6.6	25.6	13.4	3.4	16.8
3/2+3/3	1113	1113	-	-	-	3.6	4.2	-	7.7	25.1	14.5	4.2	18.6
4/2+4/1	1081	1081	-	-	-	1.3	1.2	-	2.5	8.4	7.7	1.2	8.9
4/3	1003	1003	-	-	-	1.6	1.4	-	3.0	10.8	10.3	1.4	11.7
8/1	523	523	-	-	-	1.4	3.1	-	4.5	31.1	8.1	3.1	11.3
8/2	520	520	-	-	-	1.7	3.0	-	4.7	32.8	7.8	3.0	10.8
10/1	112	112	-	-	-	1.2	0.4	-	1.6	50.5	1.9	0.4	2.3
10/2	133	133	-	-	-	0.6	0.5	-	1.2	31.9	1.9	0.5	2.4
12/1	1021	1021	-	-	-	1.4	1.8	-	3.2	11.2	12.8	1.8	14.6
12/2	1011	1011	-	-	-	0.6	1.7	-	2.4	8.5	2.1	1.7	3.8

C1	Stream: 1 PRC for Signalled Lanes (%):	0.1	Total Delay for Signalled Lanes (pcuHr):	23.61	Cycle Time (s): 60
C1	Stream: 2 PRC for Signalled Lanes (%):	21.2	Total Delay for Signalled Lanes (pcuHr):	8.29	Cycle Time (s): 60
C1	Stream: 3 PRC for Signalled Lanes (%):	14.6	Total Delay for Signalled Lanes (pcuHr):	11.40	Cycle Time (s): 60
	PRC Over All Lanes (%):	-33.9	Total Delay Over All Lanes(pcuHr):	133.63	

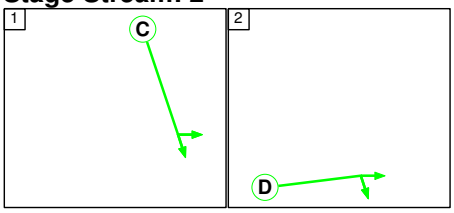
Scenario 8: '2021 I1 PM Peak' (FG8: '2021 I1 Dev PM', Plan 1: 'Network Control Plan 1')

Stage Sequence Diagram

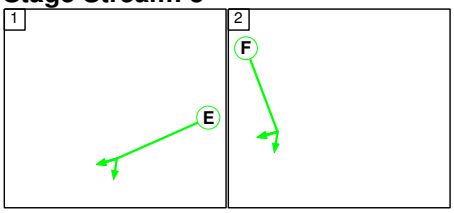
Stage Stream: 1



Stage Stream: 2



Stage Stream: 3



Stage Timings

Stage Stream: 1

Stage	1	2
Duration	30	18
Change Point	0	36

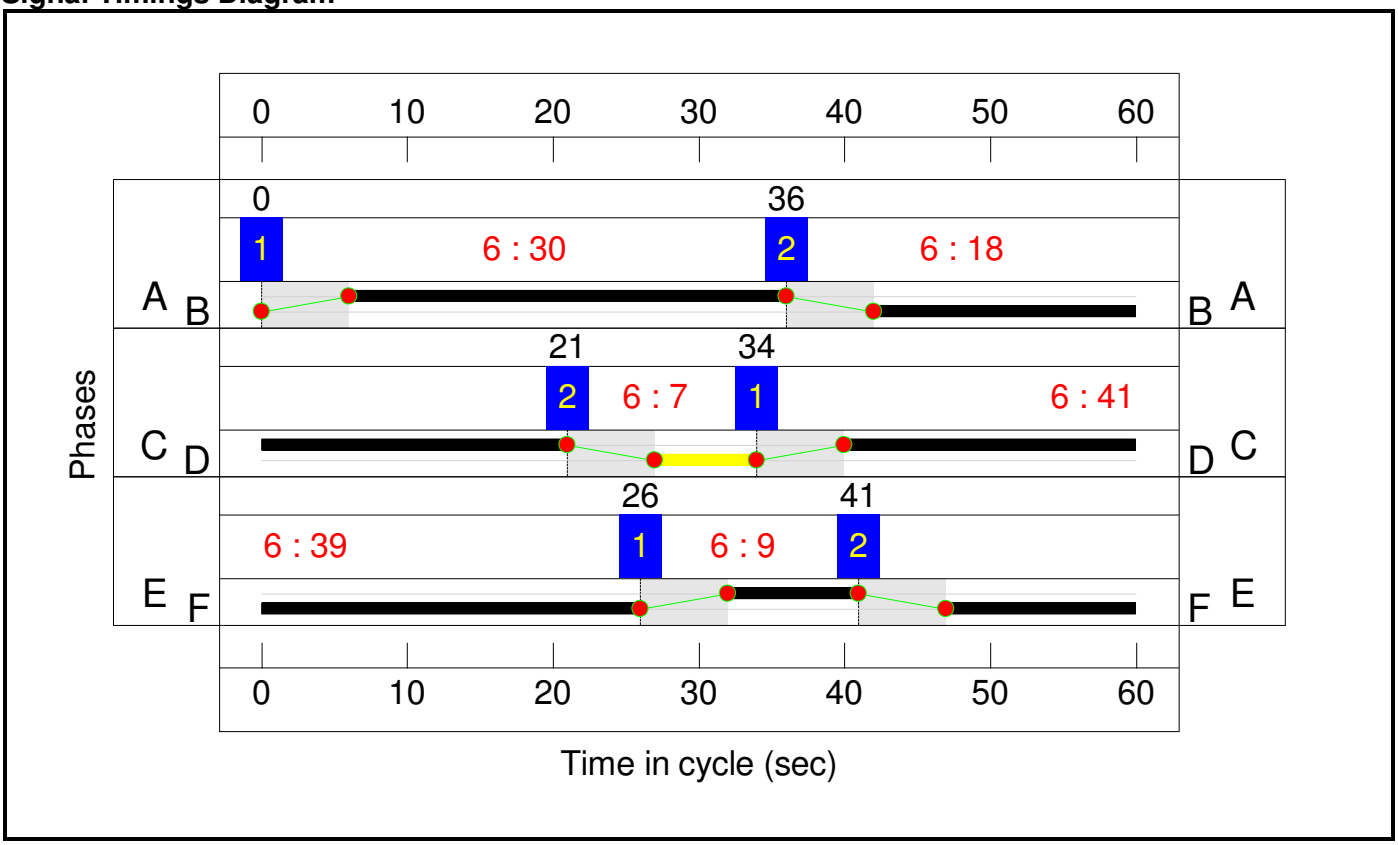
Stage Stream: 2

Stage	1	2
Duration	41	7
Change Point	34	21

Stage Stream: 3

Stage	1	2
Duration	9	39
Change Point	26	41

Signal Timings Diagram

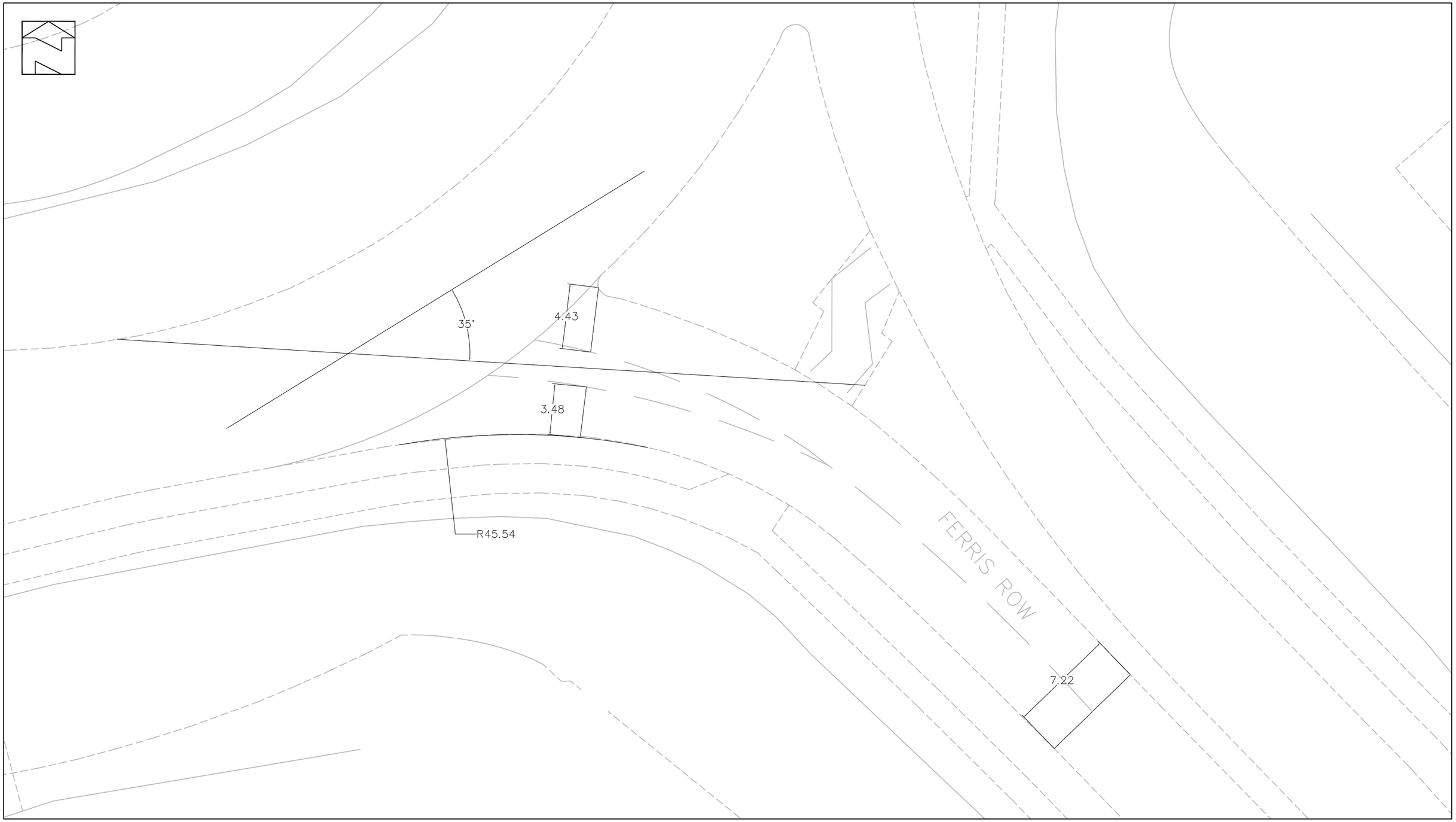


Network Results

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 Lumbertubs Gyratory	-	-	**N/A**	-	-		-	-	-	-	-	-	**123.3%**
A45/A43 Lumbertubs Interchange	-	-	**N/A**	-	-		-	-	-	-	-	-	**123.3%**
1/2+1/1	A45 Southbound Offslip Left Ahead	U	3	N/A	E		1	9	-	364	2120:1980	353+130	75.3 : 75.3%
1/3	A45 Southbound Offslip Ahead	U	3	N/A	E		1	9	-	237	1980	330	71.8%
2/1	Ferris Row Left	O	N/A	N/A	-		-	-	-	944	Inf	766	123.3%
2/2	Ferris Row Ahead	O	N/A	N/A	-		-	-	-	531	Inf	701	75.8%
3/1	A45 Northbound Offslip Left	U	1	N/A	A		1	30	-	894	1980	1023	87.4%
3/2+3/3	A45 Northbound Offslip Left Ahead	U	1	N/A	A		1	30	-	1136	2120:1980	1036+224	90.2 : 90.2%
4/2+4/1	A43 Lumbertubs Way Left Ahead	U	2	N/A	C		1	41	-	1136	2066:1917	1292+224	74.9 : 74.9%
4/3	A43 Lumbertubs Way Ahead	U	2	N/A	C		1	41	-	982	1929	1350	72.7%
8/1	Ahead	U	1	N/A	B		1	18	-	533	2000	633	84.2%
8/2	Ahead Right	U	1	N/A	B		1	18	-	532	2000	633	84.0%
10/1	Ahead	U	2	N/A	D		1	7	-	176	1900	253	69.5%
10/2	Right	U	2	N/A	D		1	7	-	128	1900	253	50.5%
12/1	Ahead Right	U	3	N/A	F		1	39	-	1096	2000	1333	82.2%
12/2	Right	U	3	N/A	F		1	39	-	982	2000	1333	73.7%

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: A45 Lumbertubs Gyratory	**-**	**-**	**1297**	**0**	**0**	**28.7**	**116.6**	**0.0**	**145.4**	**-**	**-**	**-**	**-**
A45/A43 Lumbertubs Interchange	**-**	**-**	**1297**	**0**	**0**	**28.7**	**116.6**	**0.0**	**145.4**	**-**	**-**	**-**	**-**
1/2+1/1	364	364	-	-	-	2.4	1.5	-	3.8	38.0	4.2	1.5	5.7
1/3	237	237	-	-	-	1.6	1.2	-	2.8	42.5	3.7	1.2	4.9
2/1	944	766	766	0	0	8.0	91.7	-	99.6	380.0	47.2	91.7	138.9
2/2	531	531	531	0	0	0.1	1.5	-	1.6	11.1	1.9	1.5	3.5
3/1	894	894	-	-	-	3.2	3.3	-	6.5	26.1	12.9	3.3	16.2
3/2+3/3	1136	1136	-	-	-	3.7	4.3	-	8.0	25.3	13.9	4.3	18.2
4/2+4/1	1136	1136	-	-	-	1.5	1.5	-	3.0	9.5	9.6	1.5	11.1
4/3	982	982	-	-	-	1.5	1.3	-	2.8	10.4	9.8	1.3	11.1
8/1	533	533	-	-	-	1.5	2.5	-	4.0	26.9	4.2	2.5	6.8
8/2	532	532	-	-	-	1.6	2.5	-	4.1	27.8	8.0	2.5	10.5
10/1	176	176	-	-	-	1.4	1.1	-	2.5	51.5	2.9	1.1	4.0
10/2	128	128	-	-	-	0.6	0.5	-	1.1	31.6	2.0	0.5	2.5
12/1	1096	1096	-	-	-	1.4	2.3	-	3.7	12.2	14.0	2.3	16.2
12/2	982	982	-	-	-	0.3	1.4	-	1.7	6.3	1.1	1.4	2.5

C1	Stream: 1 PRC for Signalled Lanes (%):	-0.2	Total Delay for Signalled Lanes (pcuHr):	22.56	Cycle Time (s): 60
C1	Stream: 2 PRC for Signalled Lanes (%):	20.1	Total Delay for Signalled Lanes (pcuHr):	9.46	Cycle Time (s): 60
C1	Stream: 3 PRC for Signalled Lanes (%):	9.5	Total Delay for Signalled Lanes (pcuHr):	12.08	Cycle Time (s): 60
	PRC Over All Lanes (%):	-37.0	Total Delay Over All Lanes(pcuHr):	145.38	



Rev	Description	Date

Project:

Northampton Gateway SRFI

Title:

A43 Lumbertubs Interchange Arcady Measurements

Client:

ROXHILL

ADC INFRASTRUCTURE

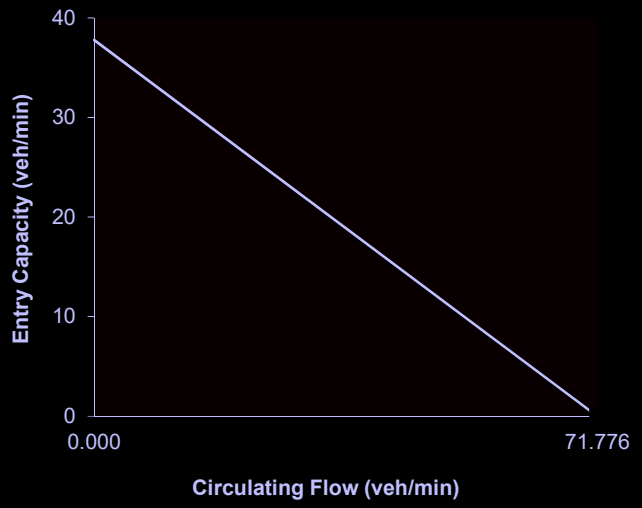
Drg Size:	Scale:	Date:
A3	1:250	11/12/2017

Drg No:	Rev:
-	-

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Arcady Spreadsheet

Geometric Parameters		Enter Values	Acceptable Ranges
Approach road half width (m)	v	7.2	(2.2 - 12m)
Entry width (m)	e	7.8	(3 - 16m)
Effective length over which the flare is developed	l'	1	Any but Trl only up to 30
Entry radius (m)	r	46	(>= 3m)
Inscribed circle diameter (m)	D	180	(> = 13m)
Entry conflict angle (m)	Phi	35	(0 - 80)



INTERCEPT = 37.78 (Veh / Min)

2267 (Veh / Hr)

SLOPE = 0.526

	Veh/min	Veh/hr
Enter circul	59.81	0
Entry Capa	6.30	2267

APPENDIX K

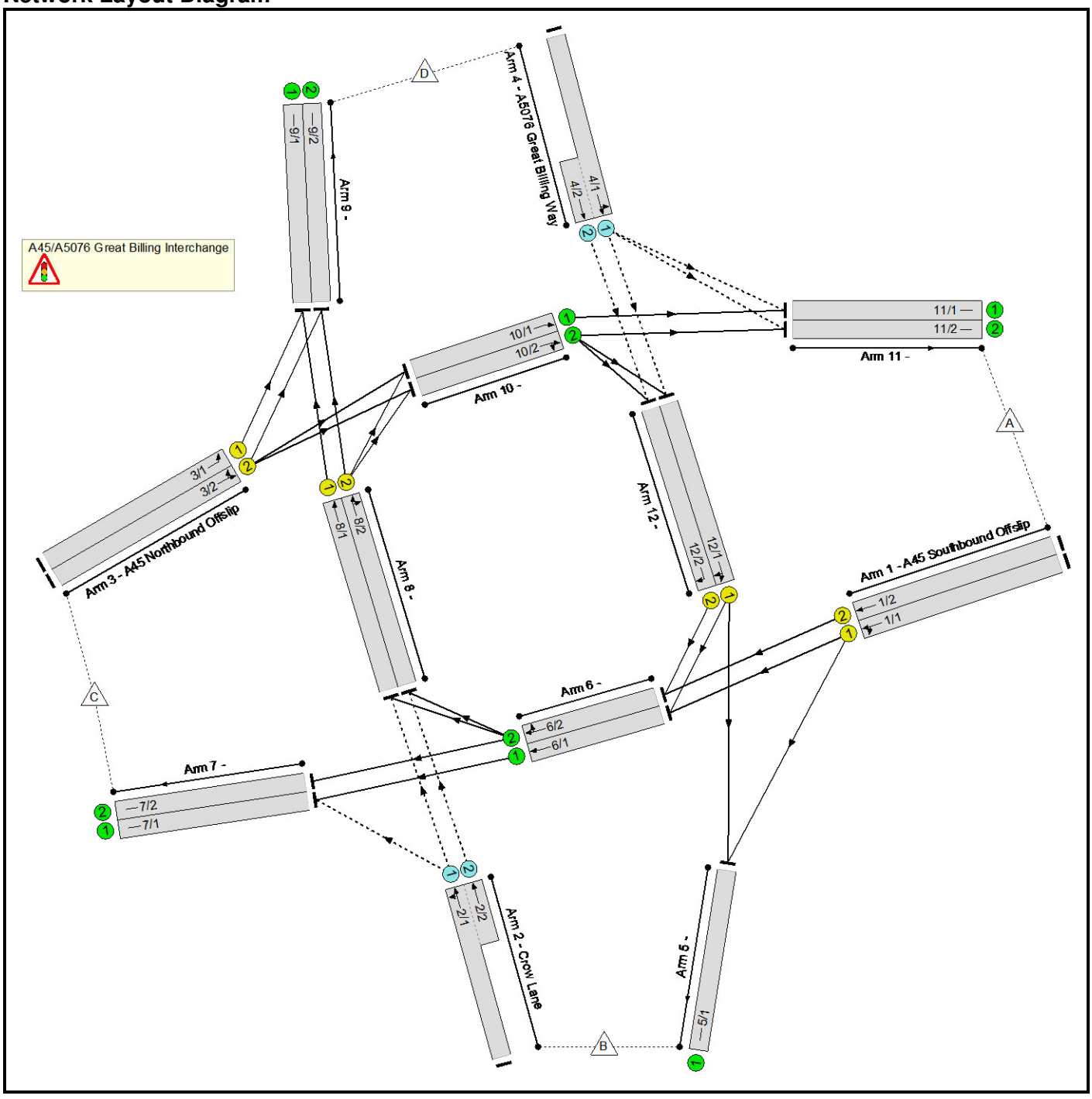
GREAT BILLING WAY INTERCHAGE LINSIG MODEL

Full Input Data And Results

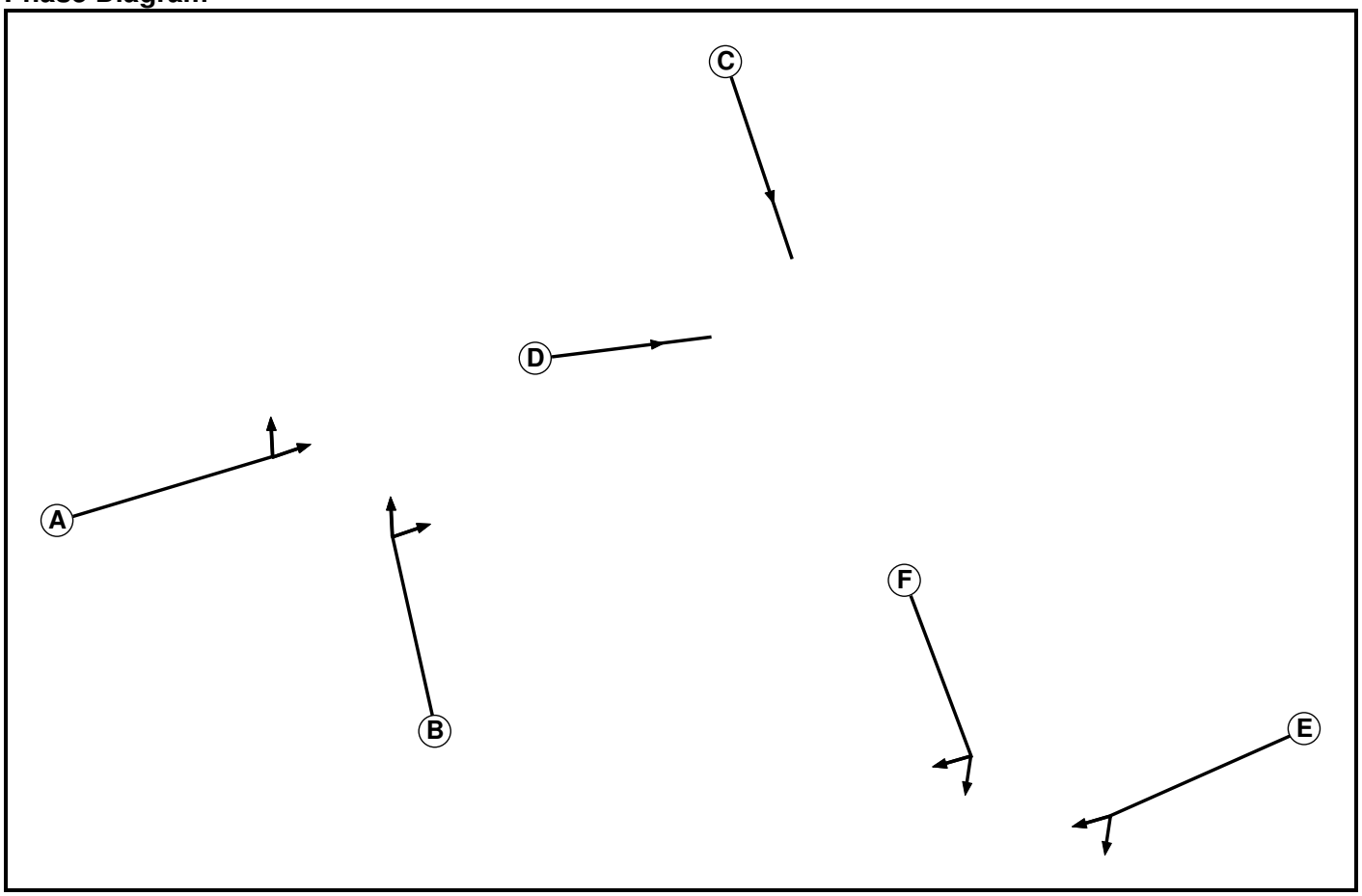
User and Project Details

Project:	**Northampton Gateway SRFI**
Title:	**A45 Great Billing Interchange**
Location:	
File name:	180206 Great Billing Interchange Base Model.lsg3x
Author:	Mark Higgins
Company:	ADC Infrastructure
Address:	Western House, Nottingham
Notes:	

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

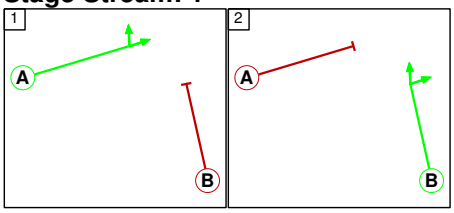
		Starting Phase					
		A	B	C	D	E	F
Terminating Phase	A		6	-	-	-	-
	B	6		-	-	-	-
	C	-	-		6	-	-
	D	-	-	6		-	-
	E	-	-	-	-		6
	F	-	-	-	-	6	

Phases in Stage

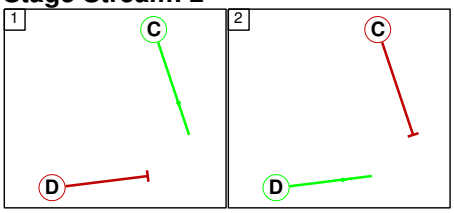
Stream	Stage No.	Phases in Stage
1	1	A
1	2	B
2	1	C
2	2	D
3	1	E
3	2	F

Stage Diagram

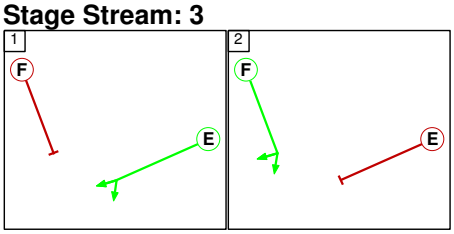
Stage Stream: 1



Stage Stream: 2



Stage Stream: 3



Phase Delays

Stage Stream: 1

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

Stage Stream: 2

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

Stage Stream: 3

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

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	

Give-Way Lane Input Data

Junction: A45/A5076 Great Billing 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)**
2/1 (Crow Lane)	7/1 (Left)	1122	0	6/1	0.27	All	-	-	-	-	-
				6/2	0.27	To 7/2 (Ahead)					
	8/1 (Ahead)	1122	0	6/1	0.27	All					
				6/2	0.27	All					
2/2 (Crow Lane)	8/2 (Ahead)	1122	0	6/1	0.27	All	-	-	-	-	-
				6/2	0.27	All					
4/1 (A5076 Great Billing Way)	11/1 (Left)	1231	0	10/1	0.28	All	-	-	-	-	-
				10/2	0.28	All					
	11/2 (Left)	1231	0	10/1	0.28	All					
				10/2	0.28	All					
	12/1 (Ahead)	1231	0	10/1	0.28	All					
				10/2	0.28	All					
4/2 (A5076 Great Billing Way)	12/2 (Ahead)	1231	0	10/1	0.28	All	-	-	-	-	-
				10/2	0.28	All					

Lane Input Data

Junction: A45/A5076 Great Billing 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 Southbound Offslip)	U	E	2	3	60.0	Geom	-	3.65	0.00	N	Arm 5 Left	Inf
											Arm 6 Ahead	Inf
1/2 (A45 Southbound Offslip)	U	E	2	3	60.0	Geom	-	3.65	0.00	Y	Arm 6 Ahead	Inf
2/1 (Crow Lane)	O		2	3	60.0	Inf	-	-	-	-	-	-
2/2 (Crow Lane)	O		2	3	5.0	Inf	-	-	-	-	-	-
3/1 (A45 Northbound Offslip)	U	A	2	3	60.0	Geom	-	3.65	0.00	Y	Arm 9 Left	Inf
3/2 (A45 Northbound Offslip)	U	A	2	3	60.0	Geom	-	3.65	0.00	N	Arm 9 Left	Inf
											Arm 10 Ahead	Inf
4/1 (A5076 Great Billing Way)	O		2	3	60.0	Inf	-	-	-	-	-	-
4/2 (A5076 Great Billing Way)	O		2	3	5.0	Inf	-	-	-	-	-	-
5/1	U		2	3	5.0	Inf	-	-	-	-	-	-
6/1	U		2	3	13.0	Inf	-	-	-	-	-	-
6/2	U		2	3	13.0	Inf	-	-	-	-	-	-
7/1	U		2	3	5.0	Inf	-	-	-	-	-	-
7/2	U		2	3	5.0	Inf	-	-	-	-	-	-
8/1	U	B	2	3	27.8	User	2000	-	-	-	-	-
8/2	U	B	2	3	27.8	User	2000	-	-	-	-	-
9/1	U		2	3	5.0	Inf	-	-	-	-	-	-
9/2	U		2	3	5.0	Inf	-	-	-	-	-	-
10/1	U		2	3	13.0	Inf	-	-	-	-	-	-
10/2	U		2	3	13.0	Inf	-	-	-	-	-	-
11/1	U		2	3	5.0	Inf	-	-	-	-	-	-
11/2	U		2	3	5.0	Inf	-	-	-	-	-	-
12/1	U	F	2	3	26.1	User	2000	-	-	-	-	-
12/2	U	F	2	3	26.1	User	2000	-	-	-	-	-

Traffic Flow Groups

Flow Group	Start Time	End Time	Duration	Formula
1: '2031 D1 Ref AM'	08:00	09:00	01:00	
2: '2031 D1 Ref PM'	17:00	18:00	01:00	
3: '2031 J1d Dev AM'	08:00	09:00	01:00	
4: '2031 J1d Dev PM'	17:00	18:00	01:00	
5: '2021 C1 Ref AM'	08:00	09:00	01:00	
6: '2021 C1 Ref PM'	17:00	18:00	01:00	
7: '2021 I1 Dev AM'	08:00	09:00	01:00	
8: '2021 I1 Dev PM'	17:00	18:00	01:00	

Scenario 1: '2031 D1 Ref AM' (FG1: '2031 D1 Ref AM', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

		Destination				
		A	B	C	D	Tot.
Origin	A	0	414	0	292	706
	B	162	0	633	539	1334
	C	0	160	5	299	464
	D	372	325	1022	0	1719
	Tot.	534	899	1660	1130	4223

Traffic Lane Flows

Lane	Scenario 1: 2031 D1 Ref AM
Junction: A45/A5076 Great Billing Interchange	
1/1	414
1/2	292
2/1 (with short)	1334(In) 761(Out)
2/2 (short)	573
3/1	217
3/2	247
4/1 (with short)	1719(In) 965(Out)
4/2 (short)	754
5/1	899
6/1	273
6/2	1046
7/1	906
7/2	754
8/1	332
8/2	661
9/1	549
9/2	581
10/1	81
10/2	246
11/1	267
11/2	267
12/1	758
12/2	754

Lane Saturation Flows

Junction: A45/A5076 Great Billing 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 Southbound Offslip)	3.65	0.00	N	Arm 5 Left	Inf	100.0 %	2120	2120
				Arm 6 Ahead	Inf	0.0 %		
1/2 (A45 Southbound Offslip)	3.65	0.00	Y	Arm 6 Ahead	Inf	100.0 %	1980	1980
2/1 (Crow Lane Lane 1)	Infinite Saturation Flow						Inf	Inf
2/2 (Crow Lane Lane 2)	Infinite Saturation Flow						Inf	Inf
3/1 (A45 Northbound Offslip)	3.65	0.00	Y	Arm 9 Left	Inf	100.0 %	1980	1980
3/2 (A45 Northbound Offslip)	3.65	0.00	N	Arm 9 Left	Inf	33.2 %	2120	2120
				Arm 10 Ahead	Inf	66.8 %		
4/1 (A5076 Great Billing Way Lane 1)	Infinite Saturation Flow						Inf	Inf
4/2 (A5076 Great Billing Way Lane 2)	Infinite Saturation Flow						Inf	Inf
5/1	Infinite Saturation Flow						Inf	Inf
6/1	Infinite Saturation Flow						Inf	Inf
6/2	Infinite Saturation Flow						Inf	Inf
7/1	Infinite Saturation Flow						Inf	Inf
7/2	Infinite Saturation Flow						Inf	Inf
8/1	This lane uses a directly entered Saturation Flow						2000	2000
8/2	This lane uses a directly entered Saturation Flow						2000	2000
9/1	Infinite Saturation Flow						Inf	Inf
9/2	Infinite Saturation Flow						Inf	Inf
10/1	Infinite Saturation Flow						Inf	Inf
10/2	Infinite Saturation Flow						Inf	Inf
11/1	Infinite Saturation Flow						Inf	Inf
11/2	Infinite Saturation Flow						Inf	Inf
12/1	This lane uses a directly entered Saturation Flow						2000	2000
12/2	This lane uses a directly entered Saturation Flow						2000	2000

Scenario 2: '2031 J1d Dev AM' (FG3: '2031 J1d Dev AM', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

		Destination				
		A	B	C	D	Tot.
Origin	A	0	373	0	333	706
	B	163	0	665	498	1326
	C	0	147	1	325	473
	D	371	413	939	0	1723
	Tot.	534	933	1605	1156	4228

Traffic Lane Flows

Lane	Scenario 2: 2031 J1d Dev AM
Junction: A45/A5076 Great Billing Interchange	
1/1	373
1/2	333
2/1 (with short)	1326(In) 781(Out)
2/2 (short)	545
3/1	221
3/2	252
4/1 (with short)	1723(In) 974(Out)
4/2 (short)	749
5/1	933
6/1	191
6/2	1082
7/1	856
7/2	749
8/1	351
8/2	643
9/1	572
9/2	584
10/1	81
10/2	230
11/1	266
11/2	268
12/1	751
12/2	749

Lane Saturation Flows

Junction: A45/A5076 Great Billing 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 Southbound Offslip)	3.65	0.00	N	Arm 5 Left	Inf	100.0 %	2120	2120
				Arm 6 Ahead	Inf	0.0 %		
1/2 (A45 Southbound Offslip)	3.65	0.00	Y	Arm 6 Ahead	Inf	100.0 %	1980	1980
2/1 (Crow Lane Lane 1)	Infinite Saturation Flow						Inf	Inf
2/2 (Crow Lane Lane 2)	Infinite Saturation Flow						Inf	Inf
3/1 (A45 Northbound Offslip)	3.65	0.00	Y	Arm 9 Left	Inf	100.0 %	1980	1980
3/2 (A45 Northbound Offslip)	3.65	0.00	N	Arm 9 Left	Inf	41.3 %	2120	2120
				Arm 10 Ahead	Inf	58.7 %		
4/1 (A5076 Great Billing Way Lane 1)	Infinite Saturation Flow						Inf	Inf
4/2 (A5076 Great Billing Way Lane 2)	Infinite Saturation Flow						Inf	Inf
5/1	Infinite Saturation Flow						Inf	Inf
6/1	Infinite Saturation Flow						Inf	Inf
6/2	Infinite Saturation Flow						Inf	Inf
7/1	Infinite Saturation Flow						Inf	Inf
7/2	Infinite Saturation Flow						Inf	Inf
8/1	This lane uses a directly entered Saturation Flow						2000	2000
8/2	This lane uses a directly entered Saturation Flow						2000	2000
9/1	Infinite Saturation Flow						Inf	Inf
9/2	Infinite Saturation Flow						Inf	Inf
10/1	Infinite Saturation Flow						Inf	Inf
10/2	Infinite Saturation Flow						Inf	Inf
11/1	Infinite Saturation Flow						Inf	Inf
11/2	Infinite Saturation Flow						Inf	Inf
12/1	This lane uses a directly entered Saturation Flow						2000	2000
12/2	This lane uses a directly entered Saturation Flow						2000	2000

Scenario 3: '2031 D1 Ref PM' (FG2: '2031 D1 Ref PM', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

		Destination				
		A	B	C	D	Tot.
Origin	A	0	61	0	138	199
	B	235	0	225	627	1087
	C	161	106	0	646	913
	D	374	423	300	0	1097
	Tot.	770	590	525	1411	3296

Traffic Lane Flows

Lane	Scenario 3: 2031 D1 Ref PM
Junction: A45/A5076 Great Billing Interchange	
1/1	61
1/2	138
2/1 (with short)	1087(In) 655(Out)
2/2 (short)	432
3/1	433
3/2	480
4/1 (with short)	1097(In) 797(Out)
4/2 (short)	300
5/1	590
6/1	0
6/2	438
7/1	225
7/2	300
8/1	500
8/2	500
9/1	933
9/2	478
10/1	197
10/2	305
11/1	384
11/2	386
12/1	529
12/2	300

Lane Saturation Flows

Junction: A45/A5076 Great Billing 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 Southbound Offslip)	3.65	0.00	N	Arm 5 Left	Inf	100.0 %	2120	2120
				Arm 6 Ahead	Inf	0.0 %		
1/2 (A45 Southbound Offslip)	3.65	0.00	Y	Arm 6 Ahead	Inf	100.0 %	1980	1980
2/1 (Crow Lane Lane 1)	Infinite Saturation Flow						Inf	Inf
2/2 (Crow Lane Lane 2)	Infinite Saturation Flow						Inf	Inf
3/1 (A45 Northbound Offslip)	3.65	0.00	Y	Arm 9 Left	Inf	100.0 %	1980	1980
3/2 (A45 Northbound Offslip)	3.65	0.00	N	Arm 9 Left	Inf	44.4 %	2120	2120
				Arm 10 Ahead	Inf	55.6 %		
4/1 (A5076 Great Billing Way Lane 1)	Infinite Saturation Flow						Inf	Inf
4/2 (A5076 Great Billing Way Lane 2)	Infinite Saturation Flow						Inf	Inf
5/1	Infinite Saturation Flow						Inf	Inf
6/1	Infinite Saturation Flow						Inf	Inf
6/2	Infinite Saturation Flow						Inf	Inf
7/1	Infinite Saturation Flow						Inf	Inf
7/2	Infinite Saturation Flow						Inf	Inf
8/1	This lane uses a directly entered Saturation Flow						2000	2000
8/2	This lane uses a directly entered Saturation Flow						2000	2000
9/1	Infinite Saturation Flow						Inf	Inf
9/2	Infinite Saturation Flow						Inf	Inf
10/1	Infinite Saturation Flow						Inf	Inf
10/2	Infinite Saturation Flow						Inf	Inf
11/1	Infinite Saturation Flow						Inf	Inf
11/2	Infinite Saturation Flow						Inf	Inf
12/1	This lane uses a directly entered Saturation Flow						2000	2000
12/2	This lane uses a directly entered Saturation Flow						2000	2000

Scenario 4: '2031 J1d Dev PM' (FG4: '2031 J1d Dev PM', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

		Destination				
		A	B	C	D	Tot.
Origin	A	0	75	0	146	221
	B	266	0	234	604	1104
	C	24	93	8	802	927
	D	473	401	254	0	1128
	Tot.	763	569	496	1552	3380

Traffic Lane Flows

Lane	Scenario 4: 2031 J1d Dev PM
Junction: A45/A5076 Great Billing Interchange	
1/1	75
1/2	146
2/1 (with short)	1104(In) 668(Out)
2/2 (short)	436
3/1	440
3/2	487
4/1 (with short)	1128(In) 874(Out)
4/2 (short)	254
5/1	569
6/1	8
6/2	400
7/1	242
7/2	254
8/1	507
8/2	509
9/1	947
9/2	605
10/1	145
10/2	246
11/1	381
11/2	382
12/1	502
12/2	254

Lane Saturation Flows

Junction: A45/A5076 Great Billing 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 Southbound Offslip)	3.65	0.00	N	Arm 5 Left	Inf	100.0 %	2120	2120
				Arm 6 Ahead	Inf	0.0 %		
1/2 (A45 Southbound Offslip)	3.65	0.00	Y	Arm 6 Ahead	Inf	100.0 %	1980	1980
2/1 (Crow Lane Lane 1)	Infinite Saturation Flow						Inf	Inf
2/2 (Crow Lane Lane 2)	Infinite Saturation Flow						Inf	Inf
3/1 (A45 Northbound Offslip)	3.65	0.00	Y	Arm 9 Left	Inf	100.0 %	1980	1980
3/2 (A45 Northbound Offslip)	3.65	0.00	N	Arm 9 Left	Inf	74.3 %	2120	2120
				Arm 10 Ahead	Inf	25.7 %		
4/1 (A5076 Great Billing Way Lane 1)	Infinite Saturation Flow						Inf	Inf
4/2 (A5076 Great Billing Way Lane 2)	Infinite Saturation Flow						Inf	Inf
5/1	Infinite Saturation Flow						Inf	Inf
6/1	Infinite Saturation Flow						Inf	Inf
6/2	Infinite Saturation Flow						Inf	Inf
7/1	Infinite Saturation Flow						Inf	Inf
7/2	Infinite Saturation Flow						Inf	Inf
8/1	This lane uses a directly entered Saturation Flow						2000	2000
8/2	This lane uses a directly entered Saturation Flow						2000	2000
9/1	Infinite Saturation Flow						Inf	Inf
9/2	Infinite Saturation Flow						Inf	Inf
10/1	Infinite Saturation Flow						Inf	Inf
10/2	Infinite Saturation Flow						Inf	Inf
11/1	Infinite Saturation Flow						Inf	Inf
11/2	Infinite Saturation Flow						Inf	Inf
12/1	This lane uses a directly entered Saturation Flow						2000	2000
12/2	This lane uses a directly entered Saturation Flow						2000	2000

Scenario 5: '2021 C1 Ref AM' (FG5: '2021 C1 Ref AM', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

		Destination				
		A	B	C	D	Tot.
Origin	A	0	411	53	330	794
	B	262	0	647	384	1293
	C	0	139	5	327	471
	D	321	451	655	0	1427
	Tot.	583	1001	1360	1041	3985

Traffic Lane Flows

Lane	Scenario 5: 2021 C1 Ref AM
Junction: A45/A5076 Great Billing Interchange	
1/1	420
1/2	374
2/1 (with short)	1293(In) 815(Out)
2/2 (short)	478
3/1	220
3/2	251
4/1 (with short)	1427(In) 811(Out)
4/2 (short)	616
5/1	1001
6/1	53
6/2	990
7/1	700
7/2	660
8/1	439
8/2	537
9/1	659
9/2	382
10/1	131
10/2	275
11/1	291
11/2	292
12/1	634
12/2	616

Lane Saturation Flows

Junction: A45/A5076 Great Billing 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 Southbound Offslip)	3.65	0.00	N	Arm 5 Left	Inf	97.9 %	2120	2120
				Arm 6 Ahead	Inf	2.1 %		
1/2 (A45 Southbound Offslip)	3.65	0.00	Y	Arm 6 Ahead	Inf	100.0 %	1980	1980
2/1 (Crow Lane Lane 1)	Infinite Saturation Flow						Inf	Inf
2/2 (Crow Lane Lane 2)	Infinite Saturation Flow						Inf	Inf
3/1 (A45 Northbound Offslip)	3.65	0.00	Y	Arm 9 Left	Inf	100.0 %	1980	1980
3/2 (A45 Northbound Offslip)	3.65	0.00	N	Arm 9 Left	Inf	42.6 %	2120	2120
				Arm 10 Ahead	Inf	57.4 %		
4/1 (A5076 Great Billing Way Lane 1)	Infinite Saturation Flow						Inf	Inf
4/2 (A5076 Great Billing Way Lane 2)	Infinite Saturation Flow						Inf	Inf
5/1	Infinite Saturation Flow						Inf	Inf
6/1	Infinite Saturation Flow						Inf	Inf
6/2	Infinite Saturation Flow						Inf	Inf
7/1	Infinite Saturation Flow						Inf	Inf
7/2	Infinite Saturation Flow						Inf	Inf
8/1	This lane uses a directly entered Saturation Flow						2000	2000
8/2	This lane uses a directly entered Saturation Flow						2000	2000
9/1	Infinite Saturation Flow						Inf	Inf
9/2	Infinite Saturation Flow						Inf	Inf
10/1	Infinite Saturation Flow						Inf	Inf
10/2	Infinite Saturation Flow						Inf	Inf
11/1	Infinite Saturation Flow						Inf	Inf
11/2	Infinite Saturation Flow						Inf	Inf
12/1	This lane uses a directly entered Saturation Flow						2000	2000
12/2	This lane uses a directly entered Saturation Flow						2000	2000

Scenario 6: '2021 I1 Dev AM' (FG7: '2021 I1 Dev AM', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

		Destination				
		A	B	C	D	Tot.
Origin	A	0	395	42	369	806
	B	262	0	651	378	1291
	C	0	156	6	304	466
	D	324	404	725	0	1453
	Tot.	586	955	1424	1051	4016

Traffic Lane Flows

Lane	Scenario 6: 2021 I1 Dev AM
Junction: A45/A5076 Great Billing Interchange	
1/1	425
1/2	381
2/1 (with short)	1291(In) 790(Out)
2/2 (short)	501
3/1	218
3/2	248
4/1 (with short)	1453(In) 816(Out)
4/2 (short)	637
5/1	955
6/1	124
6/2	1018
7/1	775
7/2	649
8/1	452
8/2	557
9/1	670
9/2	381
10/1	131
10/2	293
11/1	293
11/2	293
12/1	654
12/2	637

Lane Saturation Flows

Junction: A45/A5076 Great Billing 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 Southbound Offslip)	3.65	0.00	N	Arm 5 Left	Inf	92.9 %	2120	2120
				Arm 6 Ahead	Inf	7.1 %		
1/2 (A45 Southbound Offslip)	3.65	0.00	Y	Arm 6 Ahead	Inf	100.0 %	1980	1980
2/1 (Crow Lane Lane 1)	Infinite Saturation Flow						Inf	Inf
2/2 (Crow Lane Lane 2)	Infinite Saturation Flow						Inf	Inf
3/1 (A45 Northbound Offslip)	3.65	0.00	Y	Arm 9 Left	Inf	100.0 %	1980	1980
3/2 (A45 Northbound Offslip)	3.65	0.00	N	Arm 9 Left	Inf	34.7 %	2120	2120
				Arm 10 Ahead	Inf	65.3 %		
4/1 (A5076 Great Billing Way Lane 1)	Infinite Saturation Flow						Inf	Inf
4/2 (A5076 Great Billing Way Lane 2)	Infinite Saturation Flow						Inf	Inf
5/1	Infinite Saturation Flow						Inf	Inf
6/1	Infinite Saturation Flow						Inf	Inf
6/2	Infinite Saturation Flow						Inf	Inf
7/1	Infinite Saturation Flow						Inf	Inf
7/2	Infinite Saturation Flow						Inf	Inf
8/1	This lane uses a directly entered Saturation Flow						2000	2000
8/2	This lane uses a directly entered Saturation Flow						2000	2000
9/1	Infinite Saturation Flow						Inf	Inf
9/2	Infinite Saturation Flow						Inf	Inf
10/1	Infinite Saturation Flow						Inf	Inf
10/2	Infinite Saturation Flow						Inf	Inf
11/1	Infinite Saturation Flow						Inf	Inf
11/2	Infinite Saturation Flow						Inf	Inf
12/1	This lane uses a directly entered Saturation Flow						2000	2000
12/2	This lane uses a directly entered Saturation Flow						2000	2000

Scenario 7: '2021 C1 Ref PM' (FG6: '2021 C1 Ref PM', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

		Destination				
		A	B	C	D	Tot.
Origin	A	0	199	0	108	307
	B	333	0	224	541	1098
	C	117	157	5	700	979
	D	337	247	254	0	838
	Tot.	787	603	483	1349	3222

Traffic Lane Flows

Lane	Scenario 7: 2021 C1 Ref PM
Junction: A45/A5076 Great Billing Interchange	
1/1	199
1/2	108
2/1 (with short)	1098(In) 655(Out)
2/2 (short)	443
3/1	466
3/2	513
4/1 (with short)	838(In) 584(Out)
4/2 (short)	254
5/1	603
6/1	5
6/2	362
7/1	229
7/2	254
8/1	492
8/2	490
9/1	958
9/2	391
10/1	224
10/2	388
11/1	392
11/2	395
12/1	409
12/2	254

Lane Saturation Flows

Junction: A45/A5076 Great Billing 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 Southbound Offslip)	3.65	0.00	N	Arm 5 Left	Inf	100.0 %	2120	2120
				Arm 6 Ahead	Inf	0.0 %		
1/2 (A45 Southbound Offslip)	3.65	0.00	Y	Arm 6 Ahead	Inf	100.0 %	1980	1980
2/1 (Crow Lane Lane 1)	Infinite Saturation Flow						Inf	Inf
2/2 (Crow Lane Lane 2)	Infinite Saturation Flow						Inf	Inf
3/1 (A45 Northbound Offslip)	3.65	0.00	Y	Arm 9 Left	Inf	100.0 %	1980	1980
3/2 (A45 Northbound Offslip)	3.65	0.00	N	Arm 9 Left	Inf	45.6 %	2120	2120
				Arm 10 Ahead	Inf	54.4 %		
4/1 (A5076 Great Billing Way Lane 1)	Infinite Saturation Flow						Inf	Inf
4/2 (A5076 Great Billing Way Lane 2)	Infinite Saturation Flow						Inf	Inf
5/1	Infinite Saturation Flow						Inf	Inf
6/1	Infinite Saturation Flow						Inf	Inf
6/2	Infinite Saturation Flow						Inf	Inf
7/1	Infinite Saturation Flow						Inf	Inf
7/2	Infinite Saturation Flow						Inf	Inf
8/1	This lane uses a directly entered Saturation Flow						2000	2000
8/2	This lane uses a directly entered Saturation Flow						2000	2000
9/1	Infinite Saturation Flow						Inf	Inf
9/2	Infinite Saturation Flow						Inf	Inf
10/1	Infinite Saturation Flow						Inf	Inf
10/2	Infinite Saturation Flow						Inf	Inf
11/1	Infinite Saturation Flow						Inf	Inf
11/2	Infinite Saturation Flow						Inf	Inf
12/1	This lane uses a directly entered Saturation Flow						2000	2000
12/2	This lane uses a directly entered Saturation Flow						2000	2000

Scenario 8: '2021 I1 Dev PM' (FG8: '2021 I1 Dev PM', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

		Destination				
		A	B	C	D	Tot.
Origin	A	0	184	0	101	285
	B	349	0	218	534	1101
	C	44	134	8	788	974
	D	340	257	255	0	852
	Tot.	733	575	481	1423	3212

Traffic Lane Flows

Lane	Scenario 8: 2021 I1 Dev PM
Junction: A45/A5076 Great Billing Interchange	
1/1	184
1/2	101
2/1 (with short)	1101(In) 653(Out)
2/2 (short)	448
3/1	463
3/2	511
4/1 (with short)	852(In) 597(Out)
4/2 (short)	255
5/1	575
6/1	8
6/2	356
7/1	226
7/2	255
8/1	494
8/2	490
9/1	957
9/2	466
10/1	196
10/2	339
11/1	366
11/2	367
12/1	399
12/2	255

Lane Saturation Flows

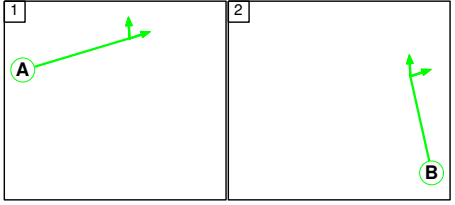
Junction: A45/A5076 Great Billing Interchange

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 Southbound Offslip)	3.65	0.00	N	Arm 5 Left	Inf	100.0 %	2120	2120
				Arm 6 Ahead	Inf	0.0 %		
1/2 (A45 Southbound Offslip)	3.65	0.00	Y	Arm 6 Ahead	Inf	100.0 %	1980	1980
2/1 (Crow Lane Lane 1)	Infinite Saturation Flow						Inf	Inf
2/2 (Crow Lane Lane 2)	Infinite Saturation Flow						Inf	Inf
3/1 (A45 Northbound Offslip)	3.65	0.00	Y	Arm 9 Left	Inf	100.0 %	1980	1980
3/2 (A45 Northbound Offslip)	3.65	0.00	N	Arm 9 Left	Inf	63.6 %	2120	2120
				Arm 10 Ahead	Inf	36.4 %		
4/1 (A5076 Great Billing Way Lane 1)	Infinite Saturation Flow						Inf	Inf
4/2 (A5076 Great Billing Way Lane 2)	Infinite Saturation Flow						Inf	Inf
5/1	Infinite Saturation Flow						Inf	Inf
6/1	Infinite Saturation Flow						Inf	Inf
6/2	Infinite Saturation Flow						Inf	Inf
7/1	Infinite Saturation Flow						Inf	Inf
7/2	Infinite Saturation Flow						Inf	Inf
8/1	This lane uses a directly entered Saturation Flow						2000	2000
8/2	This lane uses a directly entered Saturation Flow						2000	2000
9/1	Infinite Saturation Flow						Inf	Inf
9/2	Infinite Saturation Flow						Inf	Inf
10/1	Infinite Saturation Flow						Inf	Inf
10/2	Infinite Saturation Flow						Inf	Inf
11/1	Infinite Saturation Flow						Inf	Inf
11/2	Infinite Saturation Flow						Inf	Inf
12/1	This lane uses a directly entered Saturation Flow						2000	2000
12/2	This lane uses a directly entered Saturation Flow						2000	2000

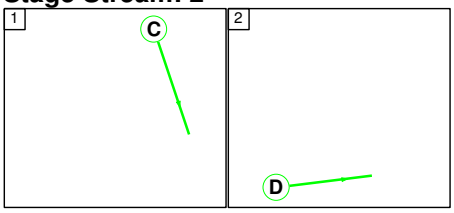
Scenario 1: '2031 D1 Ref AM' (FG1: '2031 D1 Ref AM', Plan 1: 'Network Control Plan 1')

Stage Sequence Diagram

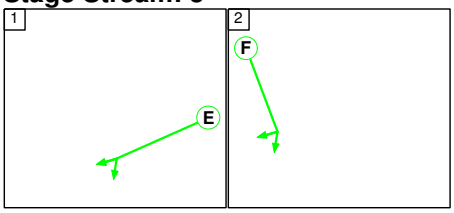
Stage Stream: 1



Stage Stream: 2



Stage Stream: 3



Stage Timings

Stage Stream: 1

Stage	1	2
Duration	15	33
Change Point	0	21

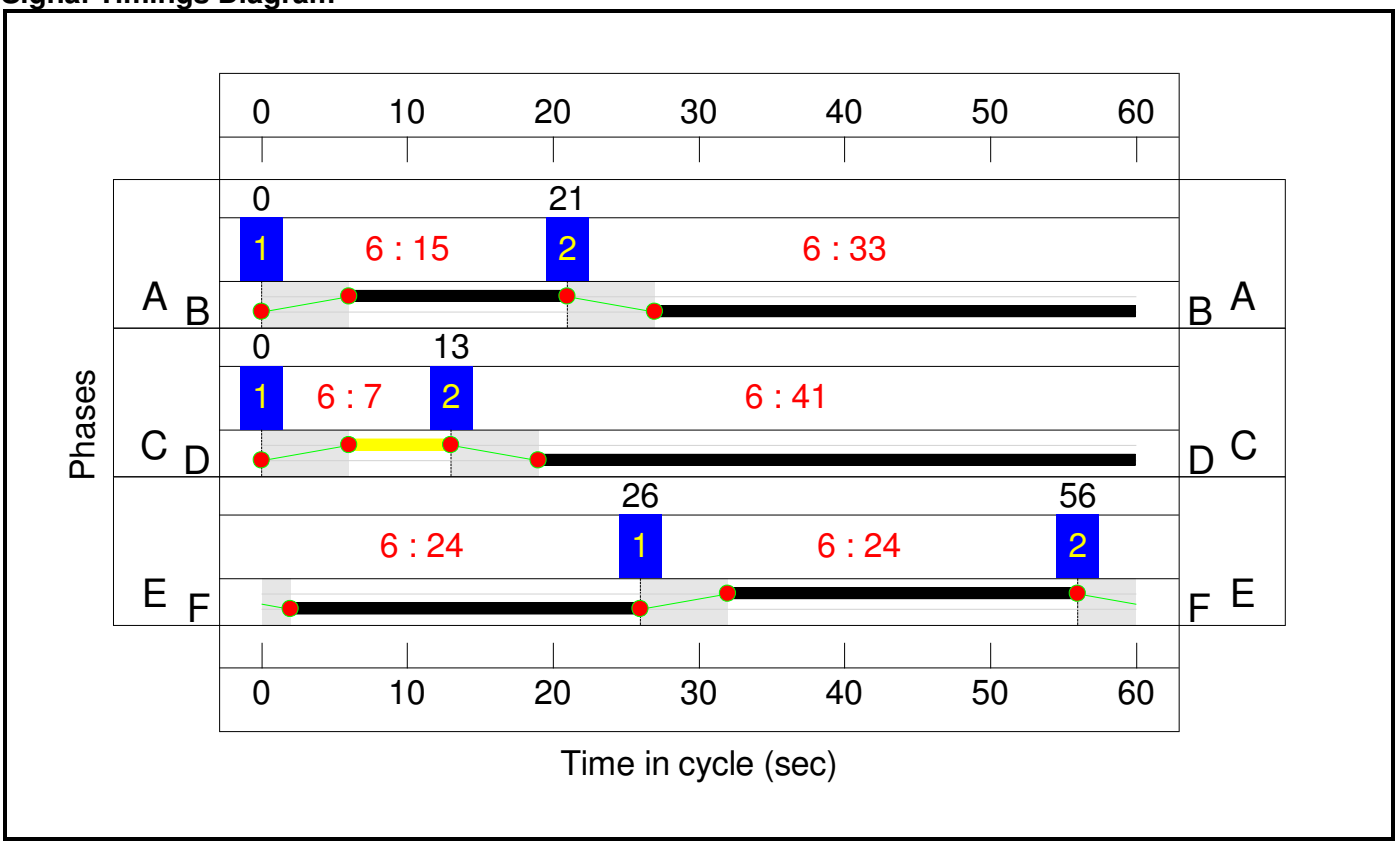
Stage Stream: 2

Stage	1	2
Duration	7	41
Change Point	0	13

Stage Stream: 3

Stage	1	2
Duration	24	24
Change Point	26	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: A45 Great Billing Interchange	-	-	**N/A**	-	-		-	-	-	-	-	-	**92.2%**
A45/A5076 Great Billing Interchange	-	-	**N/A**	-	-		-	-	-	-	-	-	**92.2%**
1/1	A45 Southbound Offslip Left Ahead	U	3	N/A	E		1	24	-	414	2120	883	46.9%
1/2	A45 Southbound Offslip Ahead	U	3	N/A	E		1	24	-	292	1980	825	35.4%
2/1+2/2	Crow Lane Left Ahead	O	N/A	N/A	-		-	-	-	1334	Inf : Inf	825+621	92.2 : 92.2%
3/1	A45 Northbound Offslip Left	U	1	N/A	A		1	15	-	217	1980	528	41.1%
3/2	A45 Northbound Offslip Left Ahead	U	1	N/A	A		1	15	-	247	2120	565	43.7%
4/1+4/2	A5076 Great Billing Way Left Ahead	O	N/A	N/A	-		-	-	-	1719	Inf : Inf	1139+890	84.7 : 84.7%
8/1	Ahead	U	1	N/A	B		1	33	-	332	2000	1133	29.3%
8/2	Ahead Right	U	1	N/A	B		1	33	-	661	2000	1133	58.3%
12/1	Ahead Right	U	3	N/A	F		1	24	-	758	2000	833	91.0%
12/2	Right	U	3	N/A	F		1	24	-	754	2000	833	90.5%

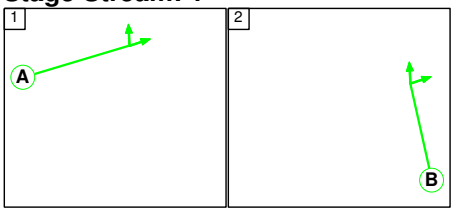
Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network: A45 Great Billing Interchange	**-**	**-**	**6106**	**0**	**0**	**14.1**	**19.3**	**0.0**	**33.4**	**-**	**-**	**-**	**-**
A45/A5076 Great Billing Interchange	**-**	**-**	**6106**	**0**	**0**	**14.1**	**19.3**	**0.0**	**33.4**	**-**	**-**	**-**	**-**
1/1	414	414	-	-	-	1.5	0.4	-	1.9	16.5	4.9	0.4	5.4
1/2	292	292	-	-	-	1.0	0.3	-	1.2	15.4	3.3	0.3	3.6
2/1+2/2	1334	1334	2668	0	0	1.3	5.4	-	6.7	18.1	10.4	5.4	15.8
3/1	217	217	-	-	-	1.1	0.3	-	1.4	23.9	3.0	0.3	3.3
3/2	247	247	-	-	-	1.3	0.4	-	1.6	23.9	3.4	0.4	3.7
4/1+4/2	1719	1719	3438	0	0	0.0	2.7	-	2.7	5.7	2.4	2.7	5.1
8/1	332	332	-	-	-	0.5	0.2	-	0.7	7.5	1.5	0.2	1.8
8/2	661	661	-	-	-	1.2	0.7	-	1.9	10.6	4.7	0.7	5.4
12/1	758	758	-	-	-	2.8	4.5	-	7.3	34.8	9.0	4.5	13.5
12/2	754	754	-	-	-	3.4	4.3	-	7.7	36.9	11.7	4.3	16.0

C1	Stream: 1 PRC for Signalled Lanes (%):	54.3	Total Delay for Signalled Lanes (pcuHr):	5.71	Cycle Time (s): 60
C1	Stream: 2 PRC for Signalled Lanes (%):	0.0	Total Delay for Signalled Lanes (pcuHr):	0.00	Cycle Time (s): 60
C1	Stream: 3 PRC for Signalled Lanes (%):	-1.1	Total Delay for Signalled Lanes (pcuHr):	18.19	Cycle Time (s): 60
	PRC Over All Lanes (%):	-2.5	Total Delay Over All Lanes(pcuHr):	33.36	

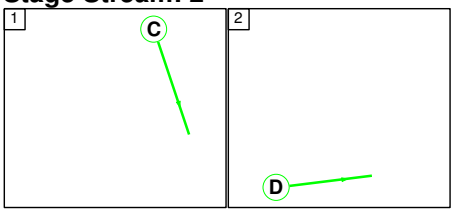
Scenario 2: '2031 J1d Dev AM' (FG3: '2031 J1d Dev AM', Plan 1: 'Network Control Plan 1')

Stage Sequence Diagram

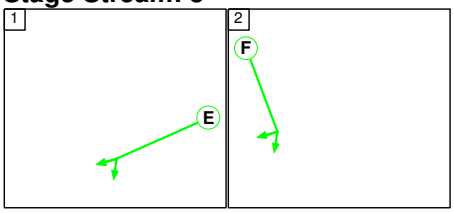
Stage Stream: 1



Stage Stream: 2



Stage Stream: 3



Stage Timings

Stage Stream: 1

Stage	1	2
Duration	15	33
Change Point	0	21

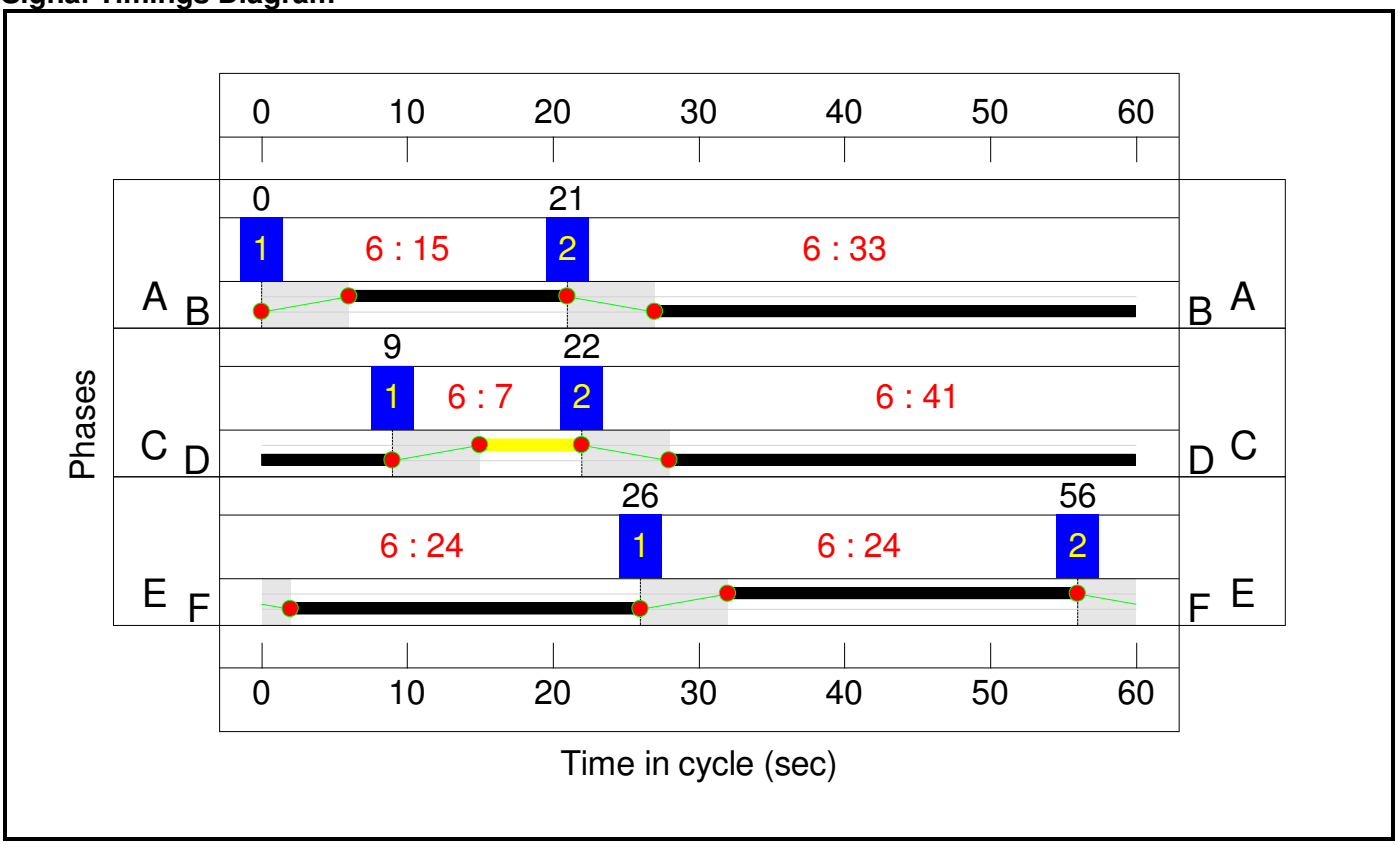
Stage Stream: 2

Stage	1	2
Duration	7	41
Change Point	9	22

Stage Stream: 3

Stage	1	2
Duration	24	24
Change Point	26	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: A45 Great Billing Interchange	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**92.1%**
A45/A5076 Great Billing Interchange	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**92.1%**
1/1	A45 Southbound Offslip Left Ahead	U	3	N/A	E		1	24	-	373	2120	883	42.2%
1/2	A45 Southbound Offslip Ahead	U	3	N/A	E		1	24	-	333	1980	825	40.4%
2/1+2/2	Crow Lane Left Ahead	O	N/A	N/A	-		-	-	-	1326	Inf : Inf	848+592	92.1 : 92.1%
3/1	A45 Northbound Offslip Left	U	1	N/A	A		1	15	-	221	1980	528	41.9%
3/2	A45 Northbound Offslip Left Ahead	U	1	N/A	A		1	15	-	252	2120	565	44.6%
4/1+4/2	A5076 Great Billing Way Left Ahead	O	N/A	N/A	-		-	-	-	1723	Inf : Inf	1144+880	85.2 : 85.2%
8/1	Ahead	U	1	N/A	B		1	33	-	351	2000	1133	31.0%
8/2	Ahead Right	U	1	N/A	B		1	33	-	643	2000	1133	56.7%
12/1	Ahead Right	U	3	N/A	F		1	24	-	751	2000	833	90.1%
12/2	Right	U	3	N/A	F		1	24	-	749	2000	833	89.9%

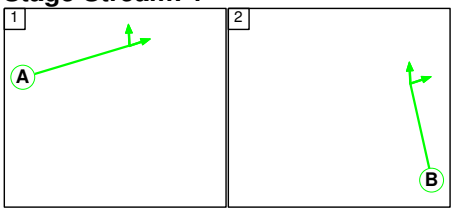
Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network: A45 Great Billing Interchange	**-**	**-**	**6098**	**0**	**0**	**13.8**	**18.7**	**0.0**	**32.5**	**-**	**-**	**-**	**-**
A45/A5076 Great Billing Interchange	**-**	**-**	**6098**	**0**	**0**	**13.8**	**18.7**	**0.0**	**32.5**	**-**	**-**	**-**	**-**
1/1	373	373	-	-	-	1.3	0.4	-	1.6	15.9	4.4	0.4	4.7
1/2	333	333	-	-	-	1.1	0.3	-	1.5	15.9	3.9	0.3	4.2
2/1+2/2	1326	1326	2652	0	0	1.0	5.3	-	6.3	17.2	10.2	5.3	15.5
3/1	221	221	-	-	-	1.1	0.4	-	1.5	24.0	3.0	0.4	3.4
3/2	252	252	-	-	-	1.3	0.4	-	1.7	24.0	3.4	0.4	3.8
4/1+4/2	1723	1723	3446	0	0	0.0	2.8	-	2.8	5.9	2.2	2.8	5.0
8/1	351	351	-	-	-	0.5	0.2	-	0.7	7.3	1.6	0.2	1.8
8/2	643	643	-	-	-	1.2	0.7	-	1.9	10.6	5.0	0.7	5.7
12/1	751	751	-	-	-	2.8	4.1	-	7.0	33.4	9.0	4.1	13.2
12/2	749	749	-	-	-	3.4	4.1	-	7.4	35.8	11.4	4.1	15.5

C1 Stream: 1 PRC for Signalled Lanes (%):	58.6	Total Delay for Signalled Lanes (pcuHr):	5.76	Cycle Time (s):	60
C1 Stream: 2 PRC for Signalled Lanes (%):	0.0	Total Delay for Signalled Lanes (pcuHr):	0.00	Cycle Time (s):	60
C1 Stream: 3 PRC for Signalled Lanes (%):	-0.1	Total Delay for Signalled Lanes (pcuHr):	17.54	Cycle Time (s):	60
PRC Over All Lanes (%):	-2.3	Total Delay Over All Lanes(pcuHr):	32.46		

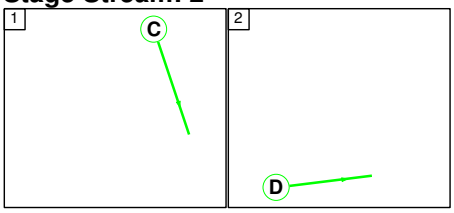
Scenario 3: '2031 D1 Ref PM' (FG2: '2031 D1 Ref PM', Plan 1: 'Network Control Plan 1')

Stage Sequence Diagram

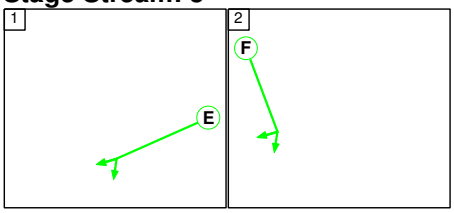
Stage Stream: 1



Stage Stream: 2



Stage Stream: 3



Stage Timings

Stage Stream: 1

Stage	1	2
Duration	23	25
Change Point	0	29

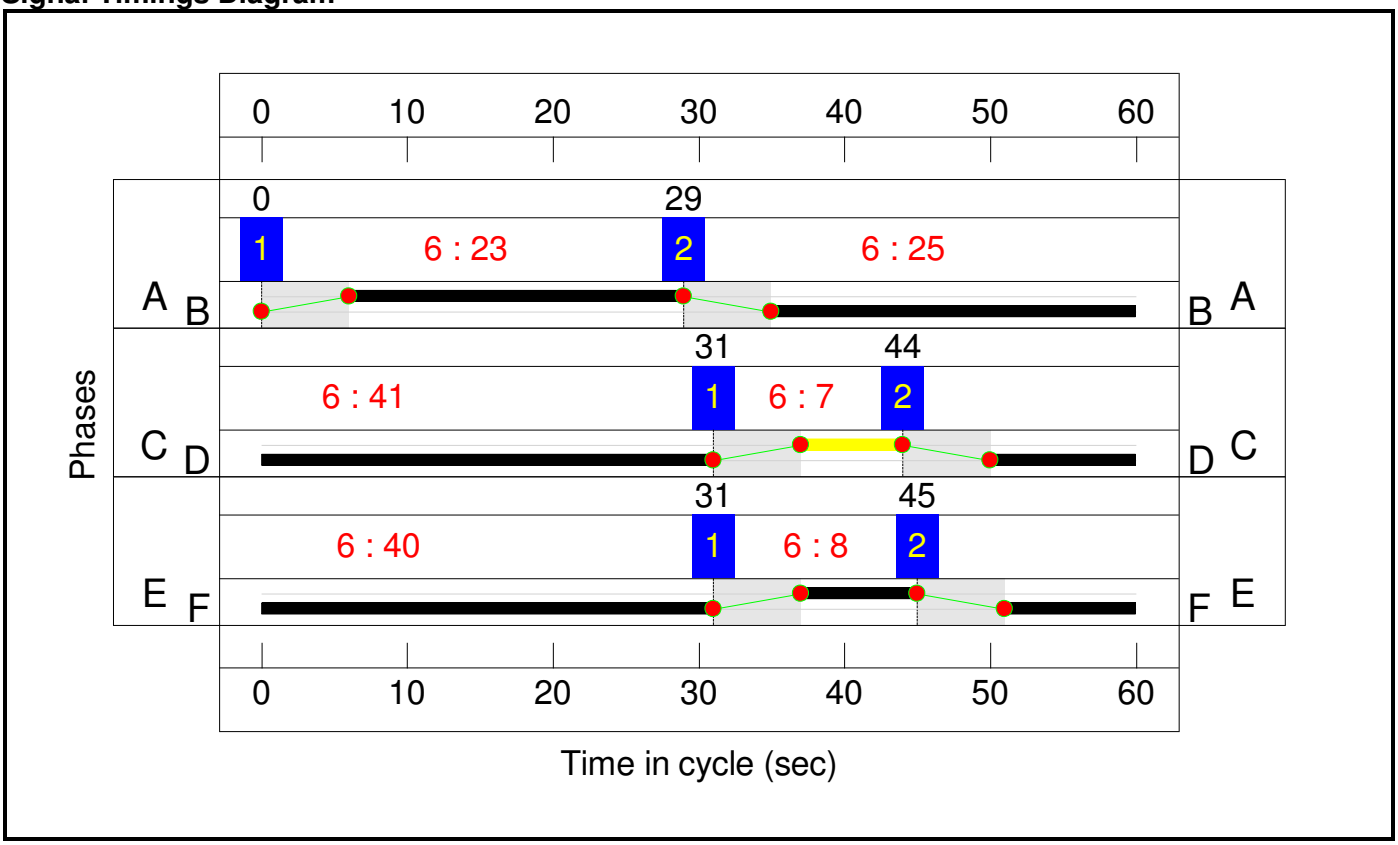
Stage Stream: 2

Stage	1	2
Duration	7	41
Change Point	31	44

Stage Stream: 3

Stage	1	2
Duration	8	40
Change Point	31	45

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 Great Billing Interchange	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**73.1%**
A45/A5076 Great Billing Interchange	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**73.1%**
1/1	A45 Southbound Offslip Left Ahead	U	3	N/A	E		1	8	-	61	2120	318	19.2%
1/2	A45 Southbound Offslip Ahead	U	3	N/A	E		1	8	-	138	1980	297	46.5%
2/1+2/2	Crow Lane Left Ahead	O	N/A	N/A	-		-	-	-	1087	Inf : Inf	1012+668	64.7 : 64.7%
3/1	A45 Northbound Offslip Left	U	1	N/A	A		1	23	-	433	1980	792	54.7%
3/2	A45 Northbound Offslip Left Ahead	U	1	N/A	A		1	23	-	480	2120	848	56.6%
4/1+4/2	A5076 Great Billing Way Left Ahead	O	N/A	N/A	-		-	-	-	1097	Inf : Inf	1090+410	73.1 : 73.1%
8/1	Ahead	U	1	N/A	B		1	25	-	500	2000	867	57.7%
8/2	Ahead Right	U	1	N/A	B		1	25	-	500	2000	867	57.7%
12/1	Ahead Right	U	3	N/A	F		1	40	-	529	2000	1367	38.7%
12/2	Right	U	3	N/A	F		1	40	-	300	2000	1367	22.0%

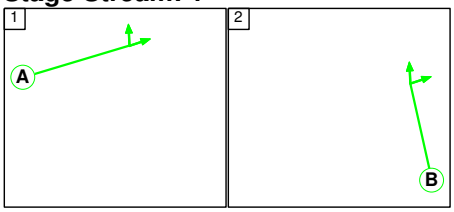
Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network: A45 Great Billing Interchange	**-**	**-**	**4368**	**0**	**0**	**8.6**	**5.9**	**0.0**	**14.5**	**-**	**-**	**-**	**-**
A45/A5076 Great Billing Interchange	**-**	**-**	**4368**	**0**	**0**	**8.6**	**5.9**	**0.0**	**14.5**	**-**	**-**	**-**	**-**
1/1	61	61	-	-	-	0.4	0.1	-	0.5	29.4	0.9	0.1	1.0
1/2	138	138	-	-	-	0.9	0.4	-	1.3	34.6	2.1	0.4	2.5
2/1+2/2	1087	1087	2174	0	0	0.0	0.9	-	0.9	3.0	0.5	0.9	1.5
3/1	433	433	-	-	-	1.7	0.6	-	2.3	18.8	5.5	0.6	6.1
3/2	480	480	-	-	-	1.9	0.6	-	2.5	18.8	6.1	0.6	6.8
4/1+4/2	1097	1097	2194	0	0	0.0	1.3	-	1.3	4.4	0.0	1.3	1.3
8/1	500	500	-	-	-	1.5	0.7	-	2.1	15.4	5.1	0.7	5.8
8/2	500	500	-	-	-	1.5	0.7	-	2.2	15.5	5.2	0.7	5.8
12/1	529	529	-	-	-	0.6	0.3	-	0.9	6.0	3.2	0.3	3.5
12/2	300	300	-	-	-	0.3	0.1	-	0.4	5.2	1.8	0.1	2.0

C1	Stream: 1 PRC for Signalled Lanes (%):	56.0	Total Delay for Signalled Lanes (pcuHr):	9.08	Cycle Time (s): 60
C1	Stream: 2 PRC for Signalled Lanes (%):	0.0	Total Delay for Signalled Lanes (pcuHr):	0.00	Cycle Time (s): 60
C1	Stream: 3 PRC for Signalled Lanes (%):	93.7	Total Delay for Signalled Lanes (pcuHr):	3.14	Cycle Time (s): 60
	PRC Over All Lanes (%):	23.1	Total Delay Over All Lanes(pcuHr):	14.48	

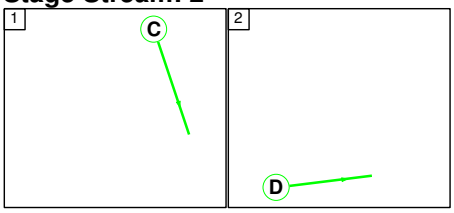
Scenario 4: '2031 J1d Dev PM' (FG4: '2031 J1d Dev PM', Plan 1: 'Network Control Plan 1')

Stage Sequence Diagram

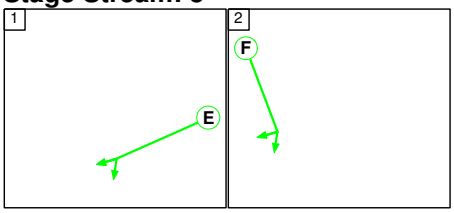
Stage Stream: 1



Stage Stream: 2



Stage Stream: 3



Stage Timings

Stage Stream: 1

Stage	1	2
Duration	23	25
Change Point	0	29

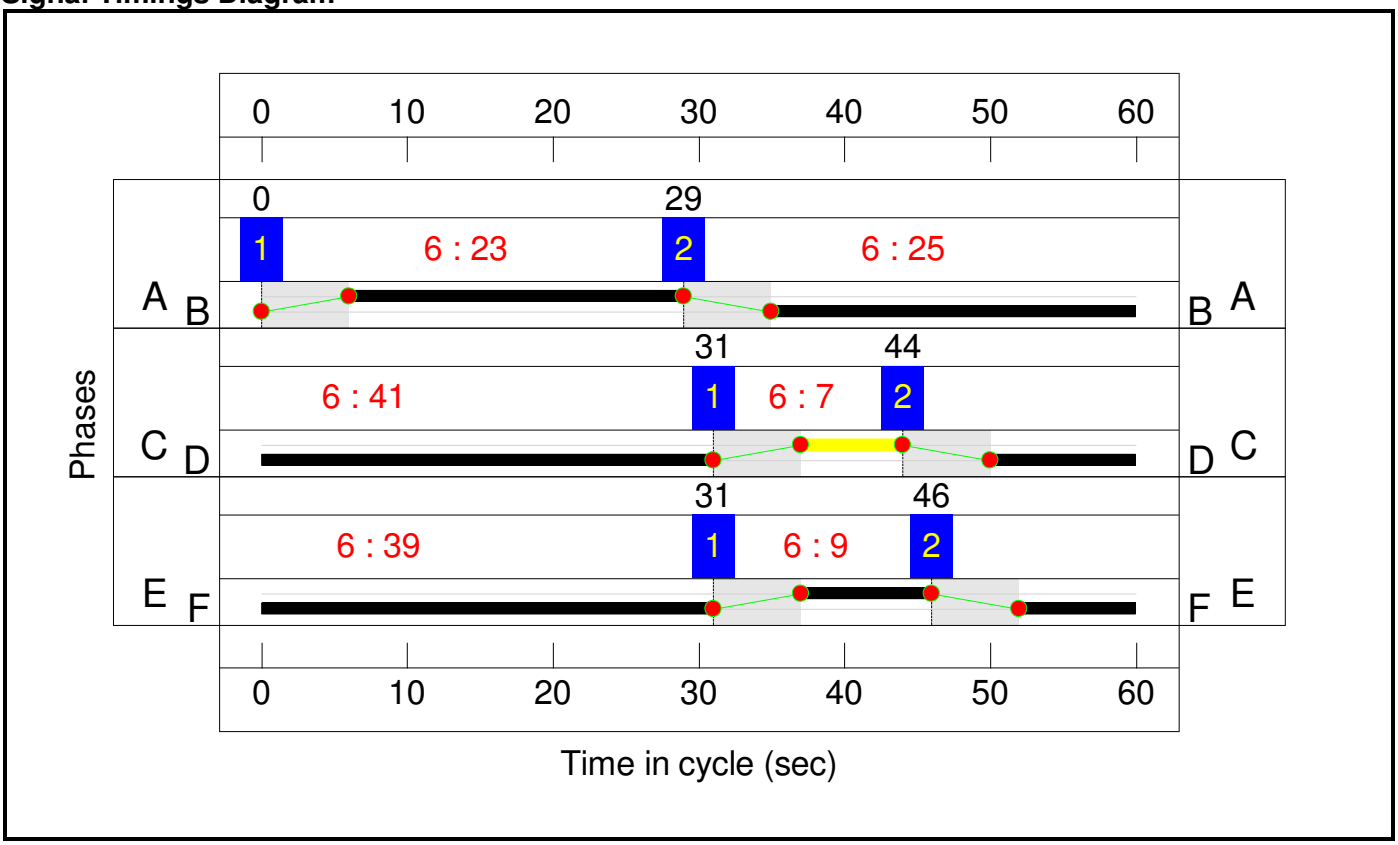
Stage Stream: 2

Stage	1	2
Duration	7	41
Change Point	31	44

Stage Stream: 3

Stage	1	2
Duration	9	39
Change Point	31	46

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 Great Billing Interchange	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**77.9%**
A45/A5076 Great Billing Interchange	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**77.9%**
1/1	A45 Southbound Offslip Left Ahead	U	3	N/A	E		1	9	-	75	2120	353	21.2%
1/2	A45 Southbound Offslip Ahead	U	3	N/A	E		1	9	-	146	1980	330	44.2%
2/1+2/2	Crow Lane Left Ahead	O	N/A	N/A	-		-	-	-	1104	Inf : Inf	1021+666	65.4 : 65.4%
3/1	A45 Northbound Offslip Left	U	1	N/A	A		1	23	-	440	1980	792	55.6%
3/2	A45 Northbound Offslip Left Ahead	U	1	N/A	A		1	23	-	487	2120	848	57.4%
4/1+4/2	A5076 Great Billing Way Left Ahead	O	N/A	N/A	-		-	-	-	1128	Inf : Inf	1121+326	77.9 : 77.9%
8/1	Ahead	U	1	N/A	B		1	25	-	507	2000	867	58.5%
8/2	Ahead Right	U	1	N/A	B		1	25	-	509	2000	867	58.7%
12/1	Ahead Right	U	3	N/A	F		1	39	-	502	2000	1333	37.7%
12/2	Right	U	3	N/A	F		1	39	-	254	2000	1333	19.1%

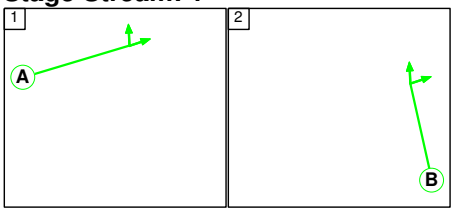
Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network: A45 Great Billing Interchange	**-**	**-**	**4464**	**0**	**0**	**8.8**	**6.3**	**0.0**	**15.2**	**-**	**-**	**-**	**-**
A45/A5076 Great Billing Interchange	**-**	**-**	**4464**	**0**	**0**	**8.8**	**6.3**	**0.0**	**15.2**	**-**	**-**	**-**	**-**
1/1	75	75	-	-	-	0.5	0.1	-	0.6	28.1	1.1	0.1	1.2
1/2	146	146	-	-	-	0.9	0.4	-	1.3	32.2	2.1	0.4	2.5
2/1+2/2	1104	1104	2208	0	0	0.0	0.9	-	0.9	3.1	0.6	0.9	1.5
3/1	440	440	-	-	-	1.7	0.6	-	2.3	19.0	5.6	0.6	6.2
3/2	487	487	-	-	-	1.9	0.7	-	2.6	19.0	6.2	0.7	6.9
4/1+4/2	1128	1128	2256	0	0	0.0	1.7	-	1.7	5.6	0.0	1.7	1.7
8/1	507	507	-	-	-	1.5	0.7	-	2.2	15.6	5.2	0.7	5.9
8/2	509	509	-	-	-	1.5	0.7	-	2.2	15.7	5.2	0.7	5.9
12/1	502	502	-	-	-	0.6	0.3	-	0.9	6.3	3.1	0.3	3.5
12/2	254	254	-	-	-	0.3	0.1	-	0.4	5.5	1.6	0.1	1.7

C1 Stream: 1 PRC for Signalled Lanes (%): 53.2 Total Delay for Signalled Lanes (pcuHr): 9.31 Cycle Time (s): 60
C1 Stream: 2 PRC for Signalled Lanes (%): 0.0 Total Delay for Signalled Lanes (pcuHr): 0.00 Cycle Time (s): 60
C1 Stream: 3 PRC for Signalled Lanes (%): 103.4 Total Delay for Signalled Lanes (pcuHr): 3.16 Cycle Time (s): 60
PRC Over All Lanes (%): 15.5 Total Delay Over All Lanes(pcuHr): 15.16

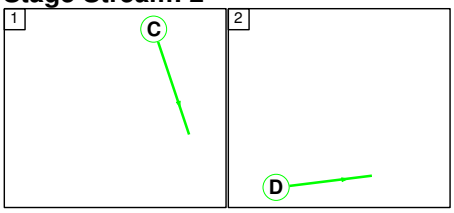
Scenario 5: '2021 C1 Ref AM' (FG5: '2021 C1 Ref AM', Plan 1: 'Network Control Plan 1')

Stage Sequence Diagram

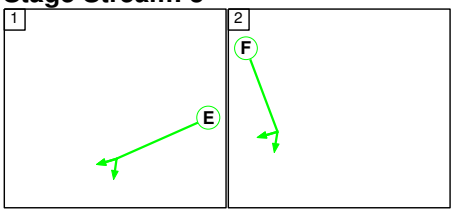
Stage Stream: 1



Stage Stream: 2



Stage Stream: 3



Stage Timings

Stage Stream: 1

Stage	1	2
Duration	14	34
Change Point	0	20

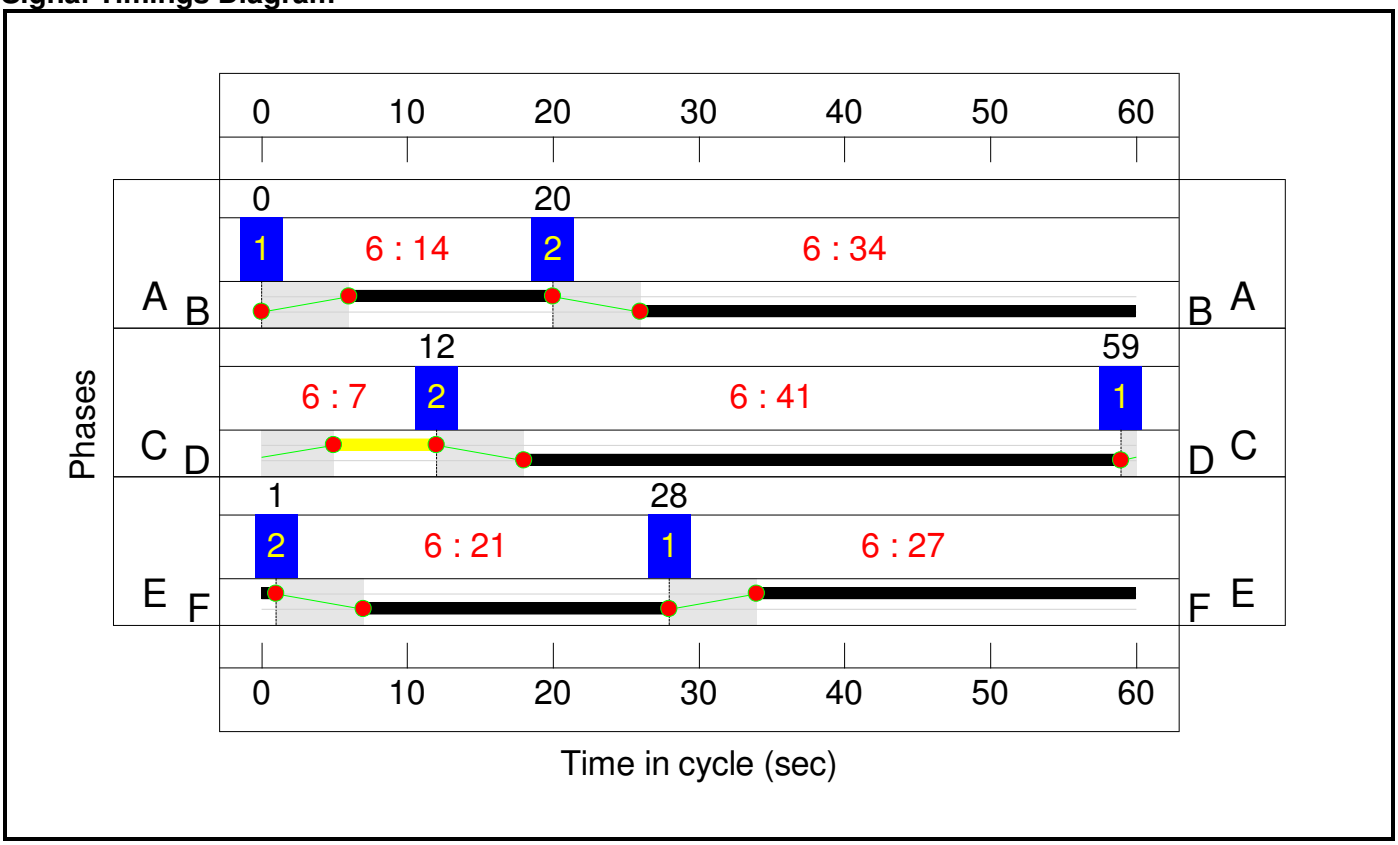
Stage Stream: 2

Stage	1	2
Duration	7	41
Change Point	59	12

Stage Stream: 3

Stage	1	2
Duration	27	21
Change Point	28	1

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 Great Billing Interchange	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**90.2%**
A45/A5076 Great Billing Interchange	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**90.2%**
1/1	A45 Southbound Offslip Left Ahead	U	3	N/A	E		1	27	-	420	2120	989	42.5%
1/2	A45 Southbound Offslip Ahead	U	3	N/A	E		1	27	-	374	1980	924	40.5%
2/1+2/2	Crow Lane Left Ahead	O	N/A	N/A	-		-	-	-	1293	Inf : Inf	904+530	90.2 : 90.2%
3/1	A45 Northbound Offslip Left	U	1	N/A	A		1	14	-	220	1980	495	44.4%
3/2	A45 Northbound Offslip Left Ahead	U	1	N/A	A		1	14	-	251	2120	530	47.4%
4/1+4/2	A5076 Great Billing Way Left Ahead	O	N/A	N/A	-		-	-	-	1427	Inf : Inf	1117+849	72.6 : 72.6%
8/1	Ahead	U	1	N/A	B		1	34	-	439	2000	1167	37.6%
8/2	Ahead Right	U	1	N/A	B		1	34	-	537	2000	1167	46.0%
12/1	Ahead Right	U	3	N/A	F		1	21	-	634	2000	733	86.5%
12/2	Right	U	3	N/A	F		1	21	-	616	2000	733	84.0%

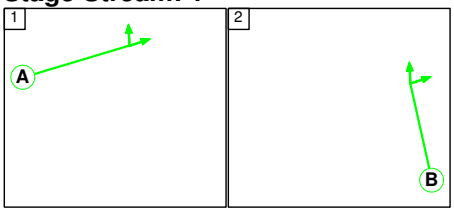
Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network: A45 Great Billing Interchange	**-**	**-**	**5440**	**0**	**0**	**12.4**	**13.4**	**0.0**	**25.8**	**-**	**-**	**-**	**-**
A45/A5076 Great Billing Interchange	**-**	**-**	**5440**	**0**	**0**	**12.4**	**13.4**	**0.0**	**25.8**	**-**	**-**	**-**	**-**
1/1	420	420	-	-	-	1.2	0.4	-	1.6	13.8	4.6	0.4	4.9
1/2	374	374	-	-	-	1.1	0.3	-	1.4	13.8	4.1	0.3	4.4
2/1+2/2	1293	1293	2586	0	0	0.5	4.3	-	4.8	13.3	9.3	4.3	13.6
3/1	220	220	-	-	-	1.2	0.4	-	1.6	25.5	3.1	0.4	3.5
3/2	251	251	-	-	-	1.3	0.4	-	1.8	25.6	3.6	0.4	4.0
4/1+4/2	1427	1427	2854	0	0	0.0	1.3	-	1.3	3.3	0.0	1.3	1.3
8/1	439	439	-	-	-	0.7	0.3	-	1.0	8.2	2.5	0.3	2.8
8/2	537	537	-	-	-	1.0	0.4	-	1.4	9.7	4.6	0.4	5.1
12/1	634	634	-	-	-	2.4	3.0	-	5.4	30.7	7.1	3.0	10.1
12/2	616	616	-	-	-	3.0	2.5	-	5.5	32.1	9.2	2.5	11.8

C1	Stream: 1 PRC for Signalled Lanes (%):	90.0	Total Delay for Signalled Lanes (pcuHr):	5.79	Cycle Time (s): 60
C1	Stream: 2 PRC for Signalled Lanes (%):	0.0	Total Delay for Signalled Lanes (pcuHr):	0.00	Cycle Time (s): 60
C1	Stream: 3 PRC for Signalled Lanes (%):	4.1	Total Delay for Signalled Lanes (pcuHr):	13.93	Cycle Time (s): 60
	PRC Over All Lanes (%):	-0.2	Total Delay Over All Lanes(pcuHr):	25.82	

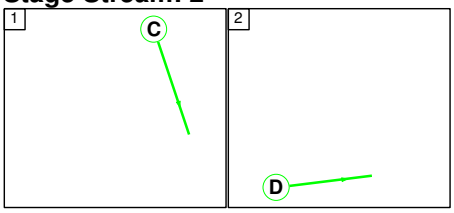
Scenario 6: '2021 I1 Dev AM' (FG7: '2021 I1 Dev AM', Plan 1: 'Network Control Plan 1')

Stage Sequence Diagram

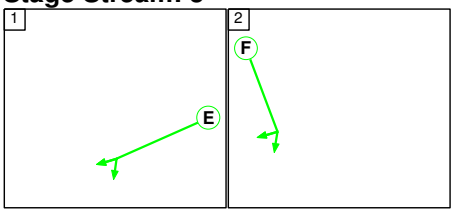
Stage Stream: 1



Stage Stream: 2



Stage Stream: 3



Stage Timings

Stage Stream: 1

Stage	1	2
Duration	14	34
Change Point	0	20

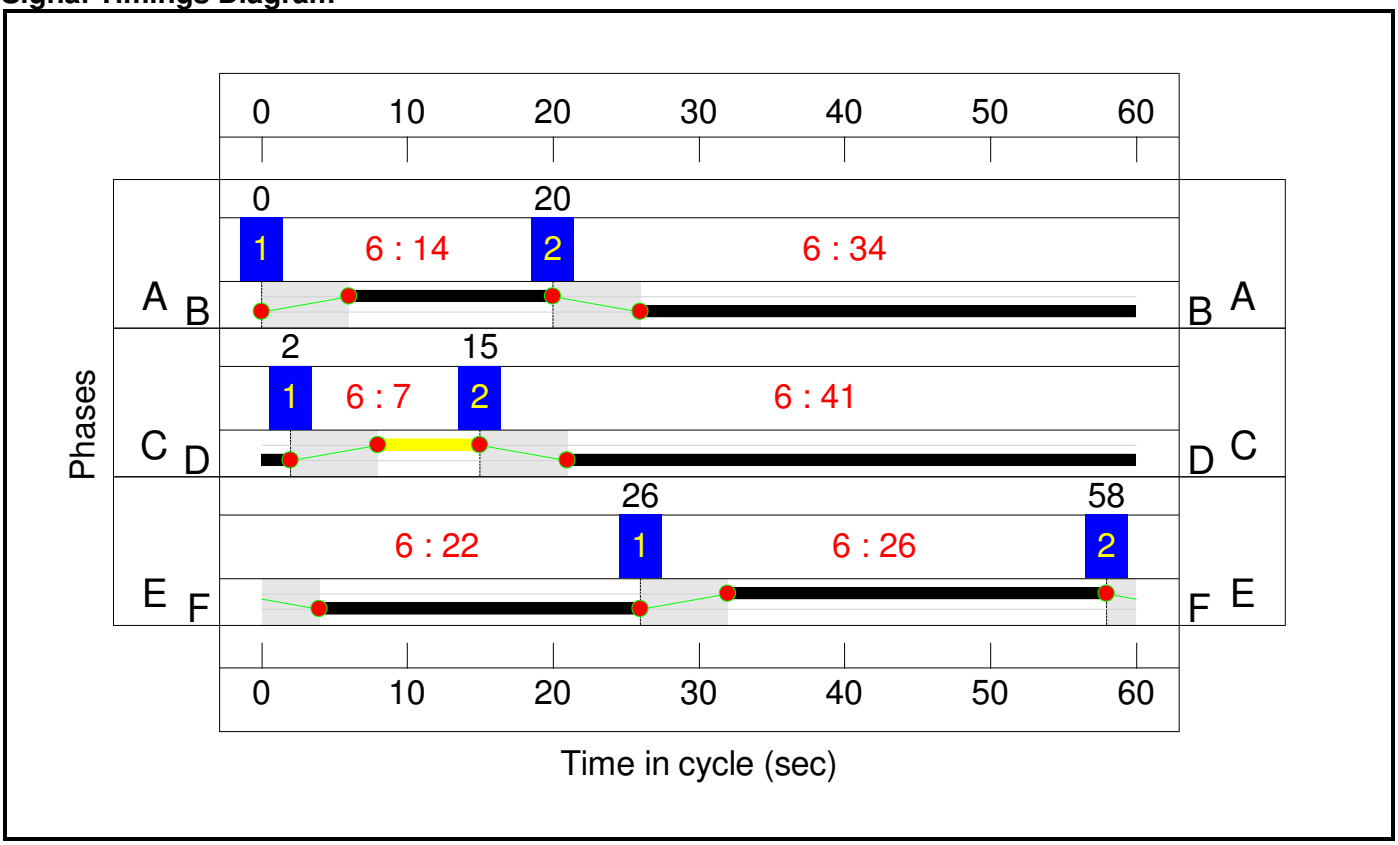
Stage Stream: 2

Stage	1	2
Duration	7	41
Change Point	2	15

Stage Stream: 3

Stage	1	2
Duration	26	22
Change Point	26	58

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 Great Billing Interchange	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**89.0%**
A45/A5076 Great Billing Interchange	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**89.0%**
1/1	A45 Southbound Offslip Left Ahead	U	3	N/A	E		1	26	-	425	2120	954	44.5%
1/2	A45 Southbound Offslip Ahead	U	3	N/A	E		1	26	-	381	1980	891	42.8%
2/1+2/2	Crow Lane Left Ahead	O	N/A	N/A	-		-	-	-	1291	Inf : Inf	887+563	89.0 : 89.0%
3/1	A45 Northbound Offslip Left	U	1	N/A	A		1	14	-	218	1980	495	44.0%
3/2	A45 Northbound Offslip Left Ahead	U	1	N/A	A		1	14	-	248	2120	530	46.8%
4/1+4/2	A5076 Great Billing Way Left Ahead	O	N/A	N/A	-		-	-	-	1453	Inf : Inf	1112+868	73.4 : 73.4%
8/1	Ahead	U	1	N/A	B		1	34	-	452	2000	1167	38.7%
8/2	Ahead Right	U	1	N/A	B		1	34	-	557	2000	1167	47.7%
12/1	Ahead Right	U	3	N/A	F		1	22	-	654	2000	767	85.3%
12/2	Right	U	3	N/A	F		1	22	-	637	2000	767	83.1%

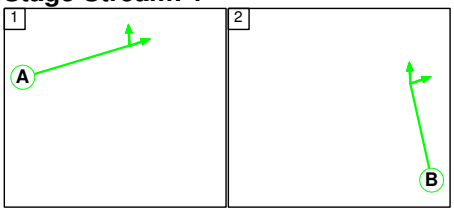
Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network: A45 Great Billing Interchange	**-**	**-**	**5488**	**0**	**0**	**12.5**	**12.8**	**0.0**	**25.3**	**-**	**-**	**-**	**-**
A45/A5076 Great Billing Interchange	**-**	**-**	**5488**	**0**	**0**	**12.5**	**12.8**	**0.0**	**25.3**	**-**	**-**	**-**	**-**
1/1	425	425	-	-	-	1.3	0.4	-	1.7	14.8	4.8	0.4	5.2
1/2	381	381	-	-	-	1.2	0.4	-	1.6	14.8	4.2	0.4	4.6
2/1+2/2	1291	1291	2582	0	0	0.5	3.9	-	4.4	12.2	9.0	3.9	12.9
3/1	218	218	-	-	-	1.1	0.4	-	1.5	25.5	3.0	0.4	3.4
3/2	248	248	-	-	-	1.3	0.4	-	1.8	25.5	3.4	0.4	3.9
4/1+4/2	1453	1453	2906	0	0	0.0	1.4	-	1.4	3.4	0.0	1.4	1.4
8/1	452	452	-	-	-	0.6	0.3	-	0.9	7.4	2.1	0.3	2.4
8/2	557	557	-	-	-	1.1	0.5	-	1.5	9.8	4.8	0.5	5.2
12/1	654	654	-	-	-	2.4	2.8	-	5.1	28.3	7.2	2.8	10.0
12/2	637	637	-	-	-	3.0	2.4	-	5.3	30.1	9.6	2.4	11.9

C1	Stream: 1 PRC for Signalled Lanes (%):	88.5	Total Delay for Signalled Lanes (pcuHr):	5.74	Cycle Time (s): 60
C1	Stream: 2 PRC for Signalled Lanes (%):	0.0	Total Delay for Signalled Lanes (pcuHr):	0.00	Cycle Time (s): 60
C1	Stream: 3 PRC for Signalled Lanes (%):	5.5	Total Delay for Signalled Lanes (pcuHr):	13.78	Cycle Time (s): 60
	PRC Over All Lanes (%):	1.1	Total Delay Over All Lanes(pcuHr):	25.27	

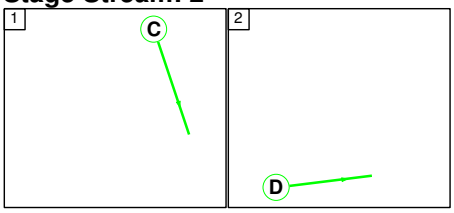
Scenario 7: '2021 C1 Ref PM' (FG6: '2021 C1 Ref PM', Plan 1: 'Network Control Plan 1')

Stage Sequence Diagram

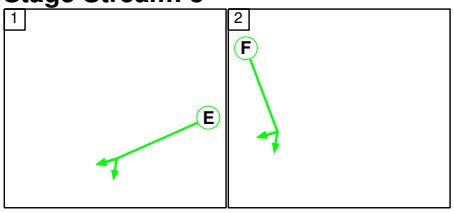
Stage Stream: 1



Stage Stream: 2



Stage Stream: 3



Stage Timings

Stage Stream: 1

Stage	1	2
Duration	24	24
Change Point	0	30

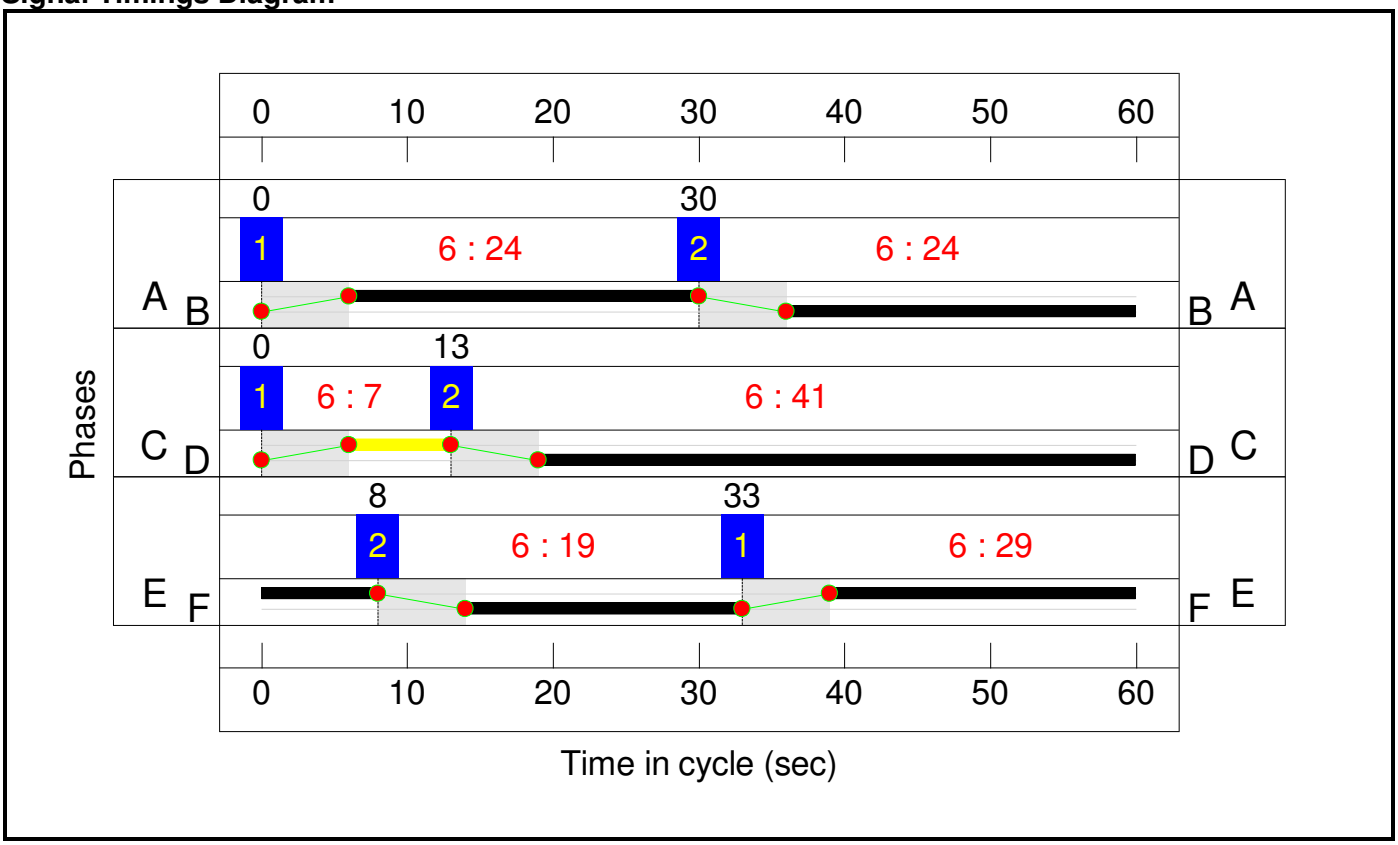
Stage Stream: 2

Stage	1	2
Duration	7	41
Change Point	0	13

Stage Stream: 3

Stage	1	2
Duration	29	19
Change Point	33	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 Great Billing Interchange	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**63.5%**
A45/A5076 Great Billing Interchange	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**63.5%**
1/1	A45 Southbound Offslip Left Ahead	U	3	N/A	E		1	29	-	199	2120	1060	18.8%
1/2	A45 Southbound Offslip Ahead	U	3	N/A	E		1	29	-	108	1980	990	10.9%
2/1+2/2	Crow Lane Left Ahead	O	N/A	N/A	-		-	-	-	1098	Inf : Inf	1031+697	63.5 : 63.5%
3/1	A45 Northbound Offslip Left	U	1	N/A	A		1	24	-	466	1980	825	56.5%
3/2	A45 Northbound Offslip Left Ahead	U	1	N/A	A		1	24	-	513	2120	883	58.1%
4/1+4/2	A5076 Great Billing Way Left Ahead	O	N/A	N/A	-		-	-	-	838	Inf : Inf	1059+461	55.1 : 55.1%
8/1	Ahead	U	1	N/A	B		1	24	-	492	2000	833	59.0%
8/2	Ahead Right	U	1	N/A	B		1	24	-	490	2000	833	58.8%
12/1	Ahead Right	U	3	N/A	F		1	19	-	409	2000	667	61.4%
12/2	Right	U	3	N/A	F		1	19	-	254	2000	667	38.1%

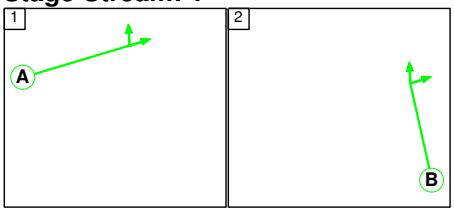
Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network: A45 Great Billing Interchange	**-**	**-**	**3872**	**0**	**0**	**10.4**	**5.5**	**0.0**	**15.9**	**-**	**-**	**-**	**-**
A45/A5076 Great Billing Interchange	**-**	**-**	**3872**	**0**	**0**	**10.4**	**5.5**	**0.0**	**15.9**	**-**	**-**	**-**	**-**
1/1	199	199	-	-	-	0.5	0.1	-	0.6	10.4	1.8	0.1	1.9
1/2	108	108	-	-	-	0.2	0.1	-	0.3	10.0	0.9	0.1	1.0
2/1+2/2	1098	1098	2196	0	0	0.0	0.9	-	0.9	2.9	1.1	0.9	2.0
3/1	466	466	-	-	-	1.7	0.6	-	2.4	18.4	5.8	0.6	6.5
3/2	513	513	-	-	-	1.9	0.7	-	2.6	18.3	6.6	0.7	7.2
4/1+4/2	838	838	1676	0	0	0.0	0.6	-	0.6	2.6	0.0	0.6	0.6
8/1	492	492	-	-	-	1.8	0.7	-	2.5	18.2	5.8	0.7	6.5
8/2	490	490	-	-	-	1.8	0.7	-	2.5	18.3	5.8	0.7	6.5
12/1	409	409	-	-	-	1.4	0.8	-	2.2	19.3	3.7	0.8	4.5
12/2	254	254	-	-	-	1.1	0.3	-	1.4	19.6	3.2	0.3	3.5

C1 Stream: 1 PRC for Signalled Lanes (%):	52.4	Total Delay for Signalled Lanes (pcuHr):	9.97	Cycle Time (s): 60
C1 Stream: 2 PRC for Signalled Lanes (%):	0.0	Total Delay for Signalled Lanes (pcuHr):	0.00	Cycle Time (s): 60
C1 Stream: 3 PRC for Signalled Lanes (%):	46.7	Total Delay for Signalled Lanes (pcuHr):	4.45	Cycle Time (s): 60
PRC Over All Lanes (%):	41.6	Total Delay Over All Lanes(pcuHr):	15.91	

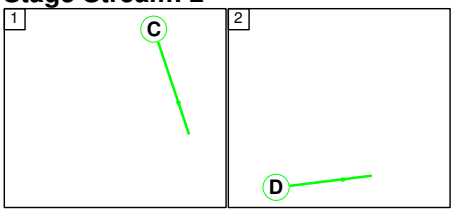
Scenario 8: '2021 I1 Dev PM' (FG8: '2021 I1 Dev PM', Plan 1: 'Network Control Plan 1')

Stage Sequence Diagram

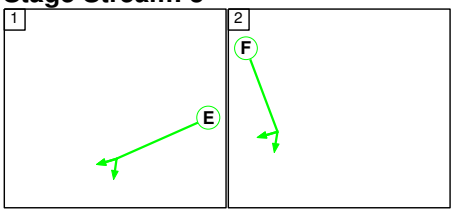
Stage Stream: 1



Stage Stream: 2



Stage Stream: 3



Stage Timings

Stage Stream: 1

Stage	1	2
Duration	23	25
Change Point	0	29

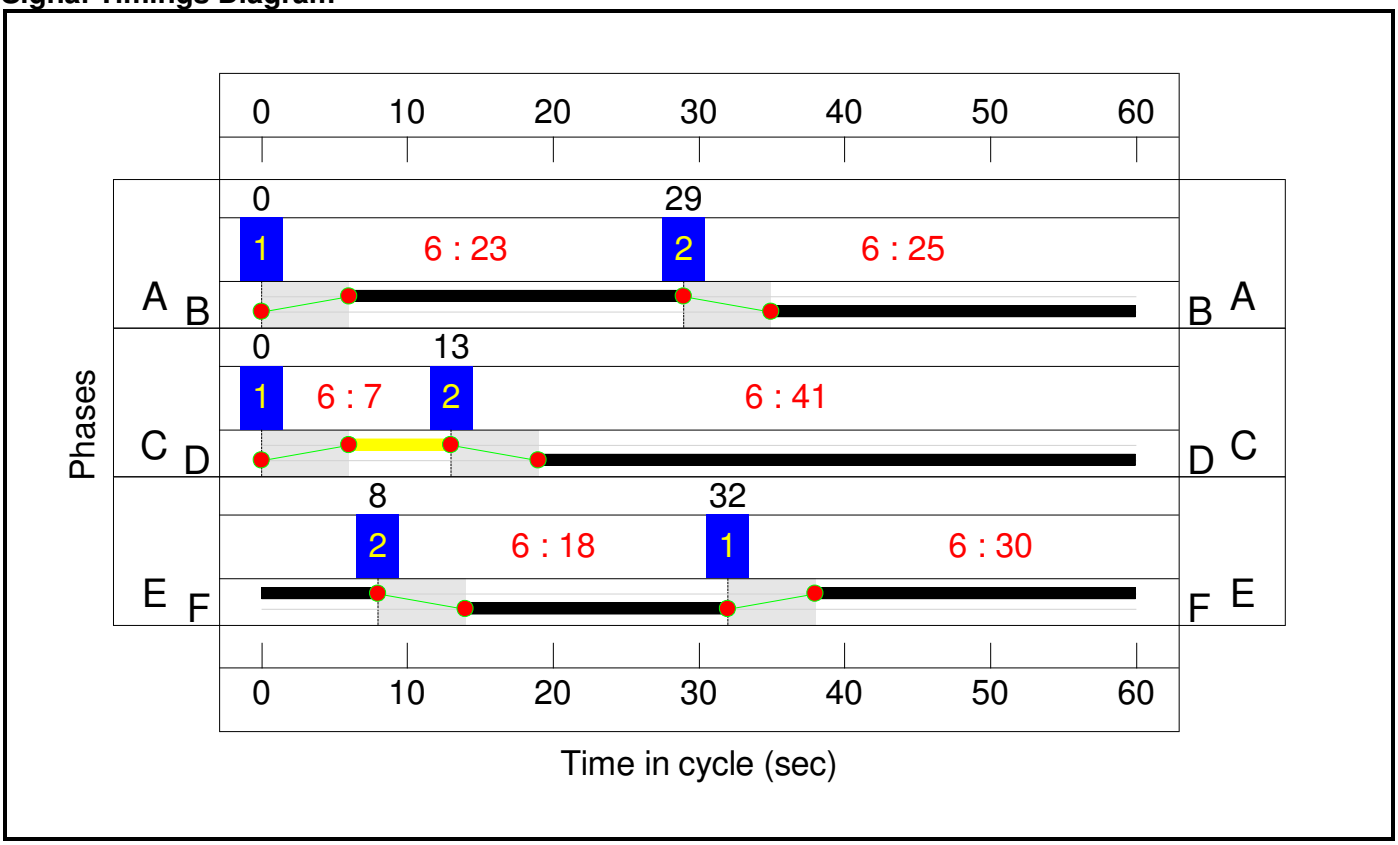
Stage Stream: 2

Stage	1	2
Duration	7	41
Change Point	0	13

Stage Stream: 3

Stage	1	2
Duration	30	18
Change Point	32	8

Signal Timings Diagram



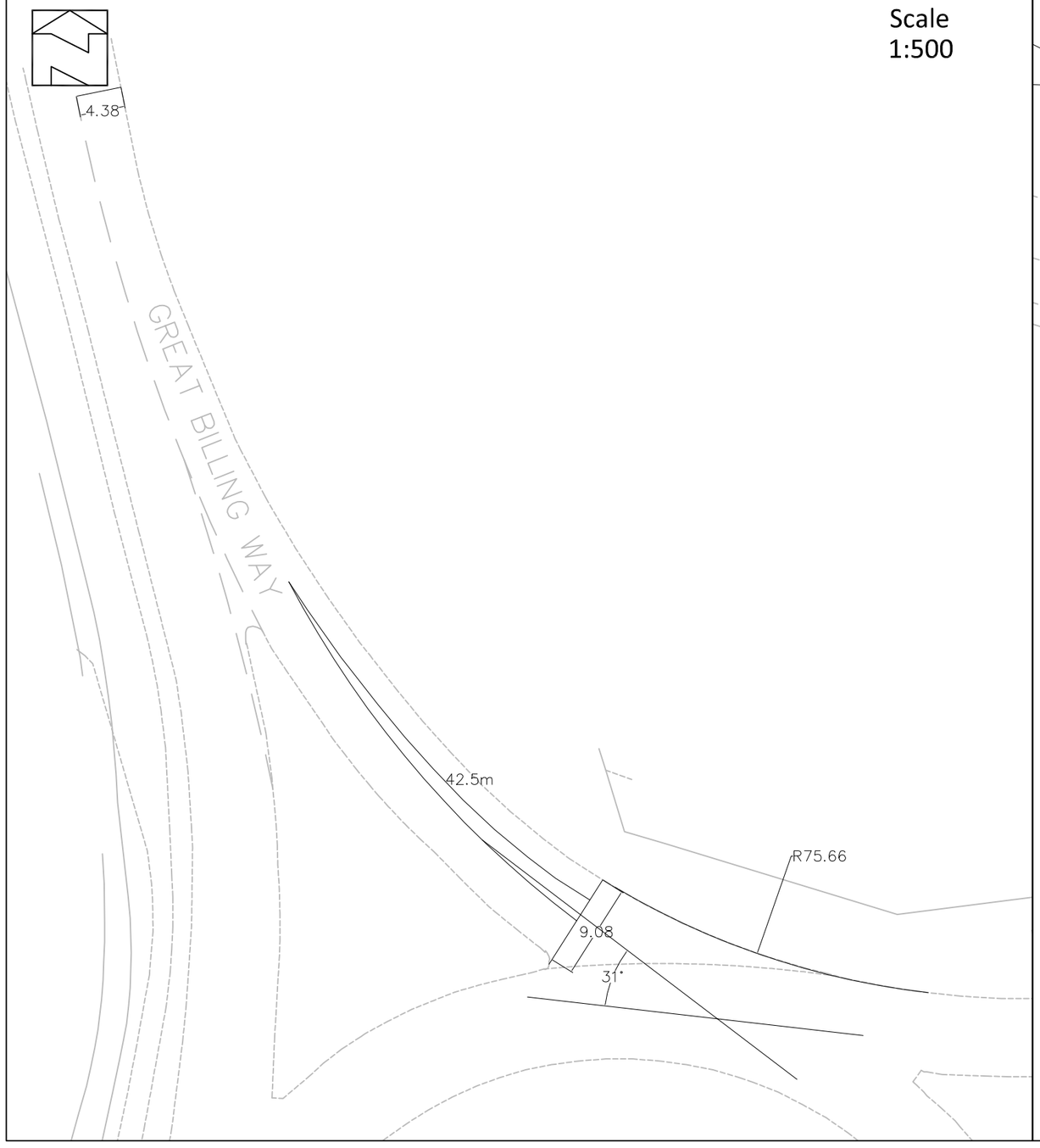
Network Results

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 Great Billing Interchange	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**63.3%**
A45/A5076 Great Billing Interchange	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**63.3%**
1/1	A45 Southbound Offslip Left Ahead	U	3	N/A	E		1	30	-	184	2120	1095	16.8%
1/2	A45 Southbound Offslip Ahead	U	3	N/A	E		1	30	-	101	1980	1023	9.9%
2/1+2/2	Crow Lane Left Ahead	O	N/A	N/A	-		-	-	-	1101	Inf : Inf	1031+707	63.3 : 63.3%
3/1	A45 Northbound Offslip Left	U	1	N/A	A		1	23	-	463	1980	792	58.5%
3/2	A45 Northbound Offslip Left Ahead	U	1	N/A	A		1	23	-	511	2120	848	60.3%
4/1+4/2	A5076 Great Billing Way Left Ahead	O	N/A	N/A	-		-	-	-	852	Inf : Inf	1081+462	55.2 : 55.2%
8/1	Ahead	U	1	N/A	B		1	25	-	494	2000	867	57.0%
8/2	Ahead Right	U	1	N/A	B		1	25	-	490	2000	867	56.5%
12/1	Ahead Right	U	3	N/A	F		1	18	-	399	2000	633	63.0%
12/2	Right	U	3	N/A	F		1	18	-	255	2000	633	40.3%

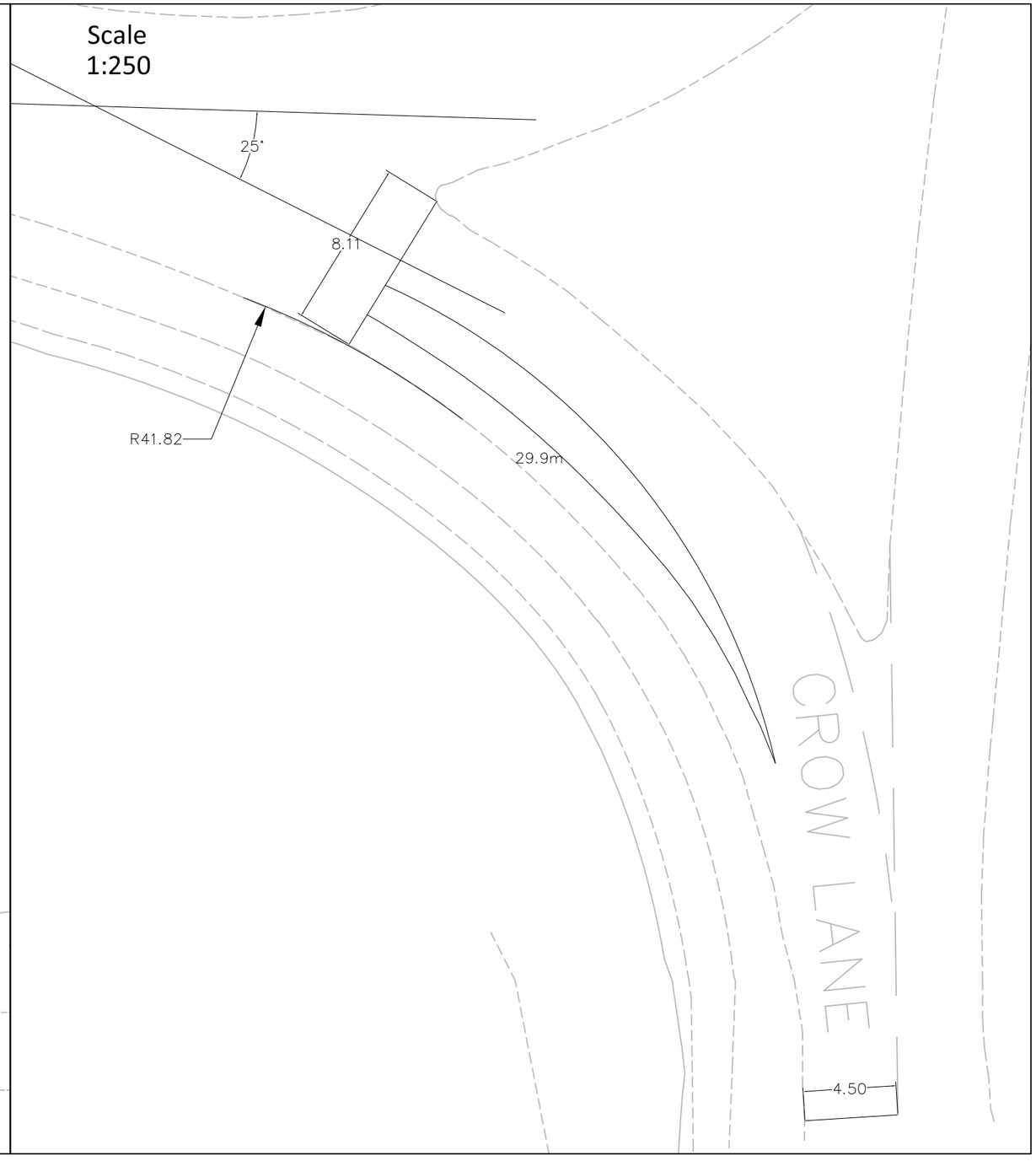
Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network: A45 Great Billing Interchange	**-**	**-**	**3906**	**0**	**0**	**10.4**	**5.6**	**0.0**	**16.0**	**-**	**-**	**-**	**-**
A45/A5076 Great Billing Interchange	**-**	**-**	**3906**	**0**	**0**	**10.4**	**5.6**	**0.0**	**16.0**	**-**	**-**	**-**	**-**
1/1	184	184	-	-	-	0.4	0.1	-	0.5	9.7	1.6	0.1	1.7
1/2	101	101	-	-	-	0.2	0.1	-	0.3	9.4	0.8	0.1	0.9
2/1+2/2	1101	1101	2202	0	0	0.0	0.9	-	0.9	2.8	1.3	0.9	2.1
3/1	463	463	-	-	-	1.8	0.7	-	2.5	19.5	5.9	0.7	6.6
3/2	511	511	-	-	-	2.0	0.8	-	2.8	19.6	6.7	0.8	7.4
4/1+4/2	852	852	1704	0	0	0.0	0.6	-	0.6	2.6	0.0	0.6	0.6
8/1	494	494	-	-	-	1.7	0.7	-	2.3	17.1	5.7	0.7	6.4
8/2	490	490	-	-	-	1.7	0.6	-	2.3	17.2	5.7	0.6	6.4
12/1	399	399	-	-	-	1.5	0.8	-	2.3	20.9	3.9	0.8	4.7
12/2	255	255	-	-	-	1.1	0.3	-	1.5	20.8	3.3	0.3	3.6

C1 Stream: 1 PRC for Signalled Lanes (%): 49.4 Total Delay for Signalled Lanes (pcuHr): 9.98 Cycle Time (s): 60
C1 Stream: 2 PRC for Signalled Lanes (%): 0.0 Total Delay for Signalled Lanes (pcuHr): 0.00 Cycle Time (s): 60
C1 Stream: 3 PRC for Signalled Lanes (%): 42.9 Total Delay for Signalled Lanes (pcuHr): 4.55 Cycle Time (s): 60
PRC Over All Lanes (%): 42.1 Total Delay Over All Lanes(pcuHr): 16.01

Scale
1:500



Scale
1:250



Rev	Description	Date

Project:

Northampton Gateway SRFI

Title:

Great Billing Way Interchange Arcady Measurements

Client:

ROXHILL

ADC INFRASTRUCTURE

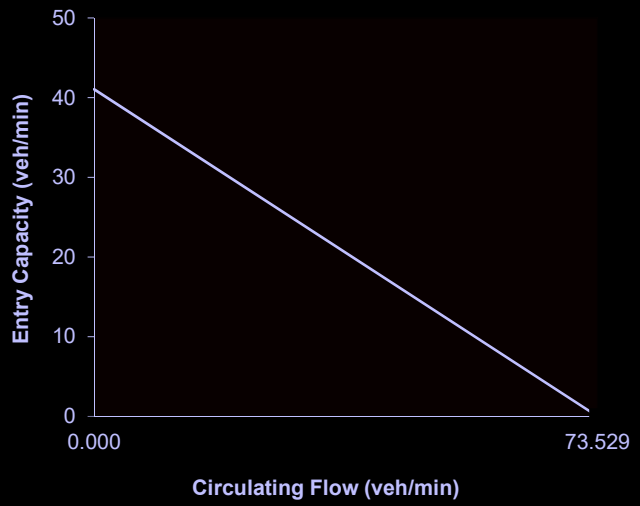
Drg Size:	Scale:	Date:
A3	As Shown	11/12/2017

Drg No:	Rev:
-	-

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Arcady Spreadsheet

Geometric Parameters		Enter Values	Acceptable Ranges
Approach road half width (m)	v	4.4	(2.2 - 12m)
Entry width (m)	e	9.1	(3 - 16m)
Effective length over which the flare is developed	l'	42.5	Any but Trl only up to 30
Entry radius (m)	r	76	(>= 3m)
Inscribed circle diameter (m)	D	160	(> = 13m)
Entry conflict angle (m)	Phi	31	(0 - 80)



INTERCEPT = 41.05 (Veh / Min)
2463 (Veh / Hr)

SLOPE = 0.558

	Veh/min	Veh/hr
Enter circul	59.81	0
Entry Capa	7.66	2463

Arcady Spreadsheet

Geometric Parameters		Enter Values	Acceptable Ranges
Approach road half width (m)	v	4.5	(2.2 - 12m)
Entry width (m)	e	8.1	(3 - 16m)
Effective length over which the flare is developed	l'	29.9	Any but Trl only up to 30
Entry radius (m)	r	42	(>= 3m)
Inscribed circle diameter (m)	D	160	(> = 13m)
Entry conflict angle (m)	Phi	25	(0 - 80)

t_D	1.0000227	0	70.546		
k	1.0429643	37.389	0		
S	0.1926421				
X2	7.0987446				
Qc	70.546				

INTERCEPT = 37.39 (Veh / Min)
2243 (Veh / Hr)

SLOPE = 0.530

	Veh/min	Veh/hr
Enter circul	59.81	0
Entry Capa	5.69	2243

APPENDIX L

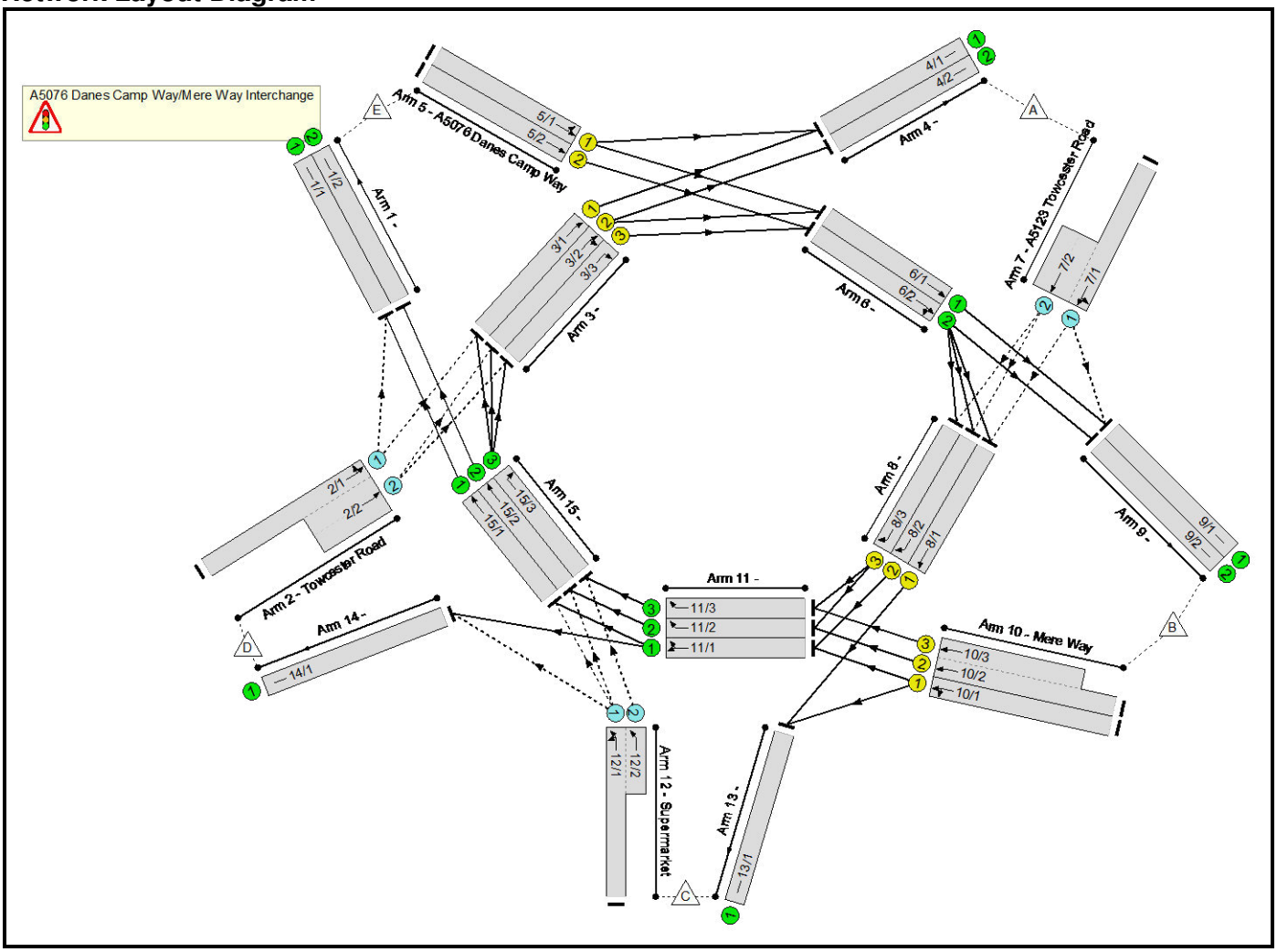
A5076 DANES CAMP WAY/A5076 MERE WAY/ TOWCESTER ROAD GYRATORY LINSIG MODEL

Full Input Data And Results

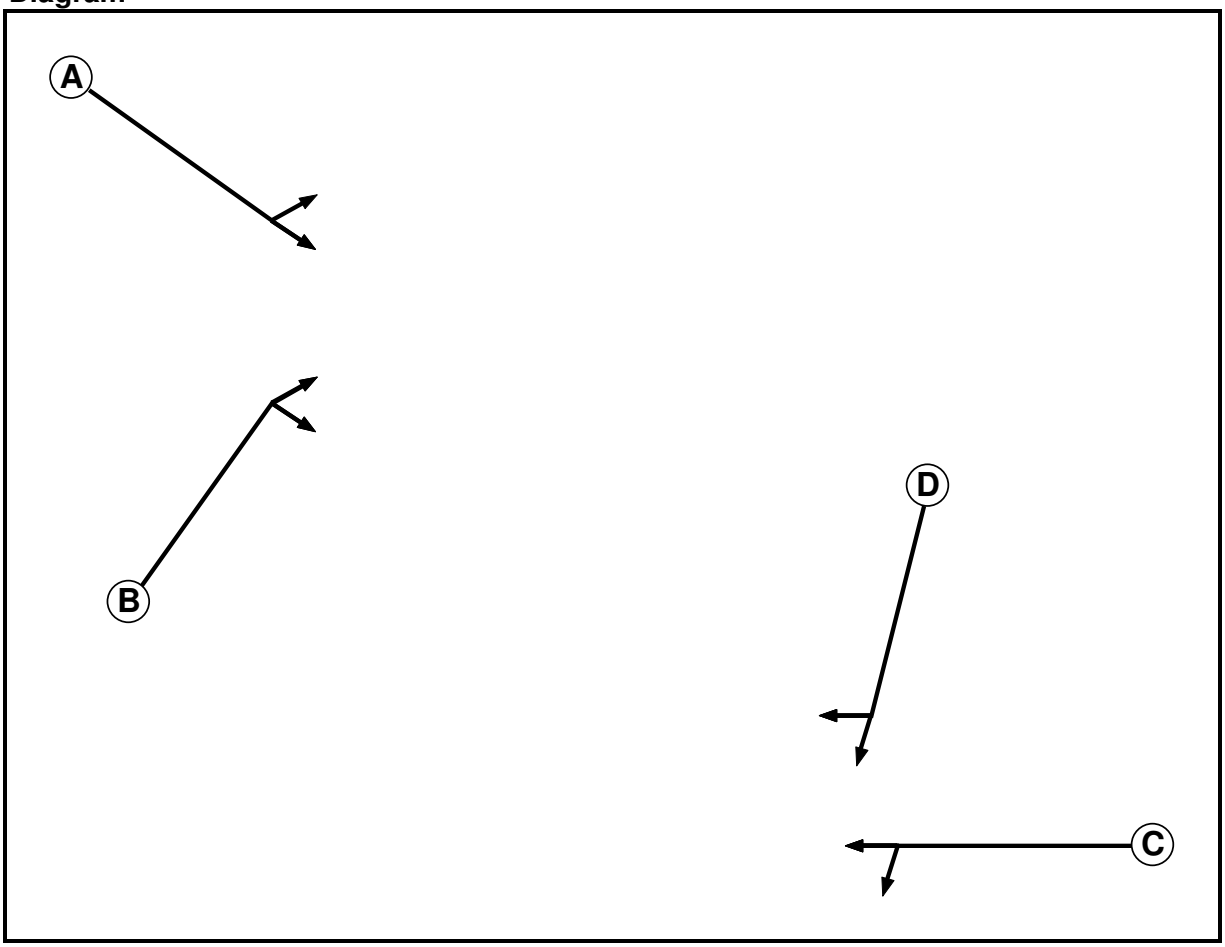
User and Project Details

Project:	**Northampton Gateway SRFI**
Title:	**Danes Camp Way/Mere Way - Existing Layout**
Location:	
File name:	180206 Danes Camp Way_Mere Way Base Model.lsg3x
Author:	Mark Higgins
Company:	ADC Infrastructure
Address:	Nottingham
Notes:	Supermarket flows increased to match count data.

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

Phase Intergreens Matrix

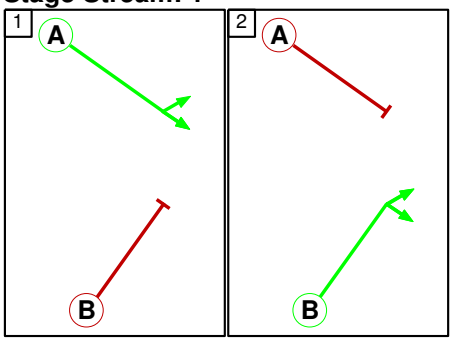
		Starting Phase			
		A	B	C	D
Terminating Phase	A		5	-	-
	B	5		-	-
	C	-	-		5
	D	-	-	5	

Phases in Stage

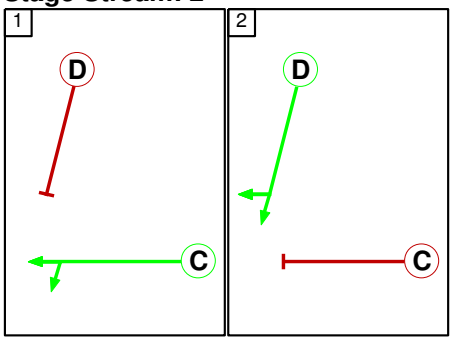
Stream	Stage No.	Phases in Stage
1	1	A
1	2	B
2	1	C
2	2	D

Stage Diagram

Stage Stream: 1



Stage Stream: 2



Give-Way Lane Input Data

Junction: A5076 Danes Camp Way/Mere Way 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)**
2/1 (Towcester Road)	1/1 (Left)	942	0	15/1	0.21	All	-	-	-	-	-
				15/2	0.21	All					
	3/1 (Ahead)	942	0	15/1	0.21	All					
				15/2	0.21	All					
				15/3	0.21	All					
2/2 (Towcester Road)	3/2 (Ahead)	942	0	15/1	0.21	All	-	-	-	-	-
				15/2	0.21	All					
				15/3	0.21	All					
	3/3 (Ahead)	942	0	15/1	0.21	All					
				15/2	0.21	All					
				15/3	0.21	All					
7/1 (A5123 Towcester Road)	8/1 (Ahead)	952	0	6/1	0.22	All	-	-	-	-	-
				6/2	0.22	All					
	9/1 (Left)	952	0	6/1	0.22	All					
7/2 (A5123 Towcester Road)	8/2 (Ahead)	952	0	6/1	0.22	All	-	-	-	-	-
				6/2	0.22	All					
	8/3 (Ahead)	952	0	6/1	0.22	All					
				6/2	0.22	All					
12/1 (Supermarket)	14/1 (Left)	1000	0	11/1	0.33	All	-	-	-	-	-
	15/1 (Ahead)	1000	0	11/1	0.33	All					
	15/2 (Ahead)	1000	0	11/1	0.33	All					
				11/2	0.33	All					
12/2 (Supermarket)	15/3 (Ahead)	1000	0	11/1	0.33	All	-	-	-	-	-
				11/2	0.33	All					

				11/3	0.33	All					

Lane Input Data

Junction: A5076 Danes Camp Way/Mere Way 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	U		2	3	5.0	Inf	-	-	-	-	-	-
1/2	U		2	3	5.0	Inf	-	-	-	-	-	-
2/1 (Towcester Road)	O		2	3	60.0	Inf	-	-	-	-	-	-
2/2 (Towcester Road)	O		2	3	6.0	Inf	-	-	-	-	-	-
3/1	U	B	2	3	7.0	User	1900	-	-	-	-	-
3/2	U	B	2	3	7.0	User	1900	-	-	-	-	-
3/3	U	B	2	3	7.0	User	1900	-	-	-	-	-
4/1	U		2	3	5.0	Inf	-	-	-	-	-	-
4/2	U		2	3	5.0	Inf	-	-	-	-	-	-
5/1 (A5076 Danes Camp Way)	U	A	2	3	60.0	Geom	-	3.80	0.00	Y	Arm 4 Left	Inf
											Arm 6 Ahead	Inf
5/2 (A5076 Danes Camp Way)	U	A	2	3	60.0	Geom	-	3.80	0.00	Y	Arm 6 Ahead	Inf
6/1	U		2	3	9.6	Inf	-	-	-	-	-	-
6/2	U		2	3	9.6	Inf	-	-	-	-	-	-
7/1 (A5123 Towcester Road)	O		2	3	60.0	Inf	-	-	-	-	-	-
7/2 (A5123 Towcester Road)	O		2	3	5.0	Inf	-	-	-	-	-	-
8/1	U	D	2	3	9.6	User	1900	-	-	-	-	-
8/2	U	D	2	3	9.6	User	1900	-	-	-	-	-
8/3	U	D	2	3	9.6	User	1900	-	-	-	-	-
9/1	U		2	3	5.0	Inf	-	-	-	-	-	-
9/2	U		2	3	5.0	Inf	-	-	-	-	-	-
10/1 (Mere Way)	U	C	2	3	60.0	Geom	-	3.60	0.00	Y	Arm 11 Ahead	Inf
											Arm 13 Left	20.00
10/2 (Mere Way)	U	C	2	3	60.0	Geom	-	3.60	0.00	N	Arm 11 Ahead	Inf
10/3 (Mere Way)	U	C	2	3	12.0	Geom	-	3.60	0.00	Y	Arm 11 Ahead	Inf
11/1	U		2	3	7.0	Inf	-	-	-	-	-	-
11/2	U		2	3	7.0	Inf	-	-	-	-	-	-

11/3	U		2	3	7.0	Inf	-	-	-	-	-	-
12/1 (Supermarket)	O		2	3	60.0	Inf	-	-	-	-	-	-
12/2 (Supermarket)	O		2	3	5.0	Inf	-	-	-	-	-	-
13/1	U		2	3	5.0	Inf	-	-	-	-	-	-
14/1	U		2	3	5.0	Inf	-	-	-	-	-	-
15/1	U		2	3	6.1	Inf	-	-	-	-	-	-
15/2	U		2	3	6.1	Inf	-	-	-	-	-	-
15/3	U		2	3	6.1	Inf	-	-	-	-	-	-

Traffic Flow Groups

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

Scenario 1: '2031 D1 AM Peak' (FG1: '2031 D1 AM Peak', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

		Destination					
		A	B	C	D	E	Tot.
Origin	A	0	565	73	303	204	1145
	B	292	78	98	193	1513	2174
	C	86	201	0	44	165	496
	D	465	352	18	0	332	1167
	E	390	1421	101	121	12	2045
	Tot.	1233	2617	290	661	2226	7027

Traffic Lane Flows

Lane	Scenario 1: 2031 D1 AM Peak
Junction: A5076 Danes Camp Way/Mere Way Interchange	
1/1	1004
1/2	1222
2/1 (with short)	1167(In) 602(Out)
2/2 (short)	565
3/1	489
3/2	494
3/3	509
4/1	879
4/2	354
5/1	1022
5/2	1023
6/1	772
6/2	1532
7/1 (with short)	1145(In) 638(Out)
7/2 (short)	507
8/1	192
8/2	424
8/3	216
9/1	1337
9/2	1280
10/1	881
10/2 (with short)	1293(In) 923(Out)
10/3 (short)	370
11/1	1207
11/2	1139
11/3	370
12/1 (with short)	496(In) 209(Out)
12/2 (short)	287
13/1	290
14/1	661
15/1	672
15/2	1222
15/3	657

Lane Saturation Flows

Junction: A5076 Danes Camp Way/Mere Way 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	Infinite Saturation Flow						Inf	Inf
1/2	Infinite Saturation Flow						Inf	Inf
2/1 (Towcester Road Lane 1)	Infinite Saturation Flow						Inf	Inf
2/2 (Towcester Road Lane 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	Infinite Saturation Flow						Inf	Inf
4/2	Infinite Saturation Flow						Inf	Inf
5/1 (A5076 Danes Camp Way)	3.80	0.00	Y	Arm 4 Left	Inf	38.2 %	1995	1995
				Arm 6 Ahead	Inf	61.8 %		
5/2 (A5076 Danes Camp Way)	3.80	0.00	Y	Arm 6 Ahead	Inf	100.0 %	1995	1995
6/1	Infinite Saturation Flow						Inf	Inf
6/2	Infinite Saturation Flow						Inf	Inf
7/1 (A5123 Towcester Road Lane 1)	Infinite Saturation Flow						Inf	Inf
7/2 (A5123 Towcester Road Lane 2)	Infinite Saturation Flow						Inf	Inf
8/1	This lane uses a directly entered Saturation Flow						1900	1900
8/2	This lane uses a directly entered Saturation Flow						1900	1900
8/3	This lane uses a directly entered Saturation Flow						1900	1900
9/1	Infinite Saturation Flow						Inf	Inf
9/2	Infinite Saturation Flow						Inf	Inf
10/1 (Mere Way)	3.60	0.00	Y	Arm 11 Ahead	Inf	88.9 %	1959	1959
				Arm 13 Left	20.00	11.1 %		
10/2 (Mere Way)	3.60	0.00	N	Arm 11 Ahead	Inf	100.0 %	2115	2115
10/3 (Mere Way)	3.60	0.00	Y	Arm 11 Ahead	Inf	100.0 %	1975	1975
11/1	Infinite Saturation Flow						Inf	Inf
11/2	Infinite Saturation Flow						Inf	Inf
11/3	Infinite Saturation Flow						Inf	Inf
12/1 (Supermarket Lane 1)	Infinite Saturation Flow						Inf	Inf
12/2 (Supermarket Lane 2)	Infinite Saturation Flow						Inf	Inf
13/1	Infinite Saturation Flow						Inf	Inf
14/1	Infinite Saturation Flow						Inf	Inf

15/1	Infinite Saturation Flow	Inf	Inf
15/2	Infinite Saturation Flow	Inf	Inf
15/3	Infinite Saturation Flow	Inf	Inf

Scenario 2: '2031 J1d AM Peak' (FG3: '2031 J1d AM Peak', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

		Destination					
		A	B	C	D	E	Tot.
Origin	A	0	481	73	293	173	1020
	B	372	84	98	181	1572	2307
	C	86	201	0	44	165	496
	D	492	420	18	0	333	1263
	E	249	1550	101	98	0	1998
	Tot.	1199	2736	290	616	2243	7084

Traffic Lane Flows

Lane	Scenario 2: 2031 J1d AM Peak
Junction: A5076 Danes Camp Way/Mere Way Interchange	
1/1	1037
1/2	1206
2/1 (with short)	1263(In) 649(Out)
2/2 (short)	614
3/1	563
3/2	551
3/3	559
4/1	812
4/2	387
5/1	999
5/2	999
6/1	914
6/2	1558
7/1 (with short)	1020(In) 554(Out)
7/2 (short)	466
8/1	192
8/2	391
8/3	173
9/1	1395
9/2	1341
10/1	901
10/2 (with short)	1406(In) 950(Out)
10/3 (short)	456
11/1	1194
11/2	1123
11/3	456
12/1 (with short)	496(In) 209(Out)
12/2 (short)	287
13/1	290
14/1	616
15/1	704
15/2	1206
15/3	743

Lane Saturation Flows

Junction: A5076 Danes Camp Way/Mere Way 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	Infinite Saturation Flow						Inf	Inf
1/2	Infinite Saturation Flow						Inf	Inf
2/1 (Towcester Road Lane 1)	Infinite Saturation Flow						Inf	Inf
2/2 (Towcester Road Lane 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	Infinite Saturation Flow						Inf	Inf
4/2	Infinite Saturation Flow						Inf	Inf
5/1 (A5076 Danes Camp Way)	3.80	0.00	Y	Arm 4 Left	Inf	24.9 %	1995	1995
				Arm 6 Ahead	Inf	75.1 %		
5/2 (A5076 Danes Camp Way)	3.80	0.00	Y	Arm 6 Ahead	Inf	100.0 %	1995	1995
6/1	Infinite Saturation Flow						Inf	Inf
6/2	Infinite Saturation Flow						Inf	Inf
7/1 (A5123 Towcester Road Lane 1)	Infinite Saturation Flow						Inf	Inf
7/2 (A5123 Towcester Road Lane 2)	Infinite Saturation Flow						Inf	Inf
8/1	This lane uses a directly entered Saturation Flow						1900	1900
8/2	This lane uses a directly entered Saturation Flow						1900	1900
8/3	This lane uses a directly entered Saturation Flow						1900	1900
9/1	Infinite Saturation Flow						Inf	Inf
9/2	Infinite Saturation Flow						Inf	Inf
10/1 (Mere Way)	3.60	0.00	Y	Arm 11 Ahead	Inf	89.1 %	1959	1959
				Arm 13 Left	20.00	10.9 %		
10/2 (Mere Way)	3.60	0.00	N	Arm 11 Ahead	Inf	100.0 %	2115	2115
10/3 (Mere Way)	3.60	0.00	Y	Arm 11 Ahead	Inf	100.0 %	1975	1975
11/1	Infinite Saturation Flow						Inf	Inf
11/2	Infinite Saturation Flow						Inf	Inf
11/3	Infinite Saturation Flow						Inf	Inf
12/1 (Supermarket Lane 1)	Infinite Saturation Flow						Inf	Inf
12/2 (Supermarket Lane 2)	Infinite Saturation Flow						Inf	Inf
13/1	Infinite Saturation Flow						Inf	Inf
14/1	Infinite Saturation Flow						Inf	Inf

15/1	Infinite Saturation Flow	Inf	Inf
15/2	Infinite Saturation Flow	Inf	Inf
15/3	Infinite Saturation Flow	Inf	Inf

Scenario 3: '2031 D1 PM Peak' (FG2: '2031 D1 PM Peak', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

		Destination					
		A	B	C	D	E	Tot.
Origin	A	0	904	93	361	76	1434
	B	130	106	91	324	1496	2147
	C	86	85	0	87	231	489
	D	450	368	37	0	51	906
	E	207	1093	203	204	45	1752
	Tot.	873	2556	424	976	1899	6728

Traffic Lane Flows

Lane	Scenario 3: 2031 D1 PM Peak
Junction: A5076 Danes Camp Way/Mere Way Interchange	
1/1	689
1/2	1210
2/1 (with short)	906(In) 444(Out)
2/2 (short)	462
3/1	434
3/2	417
3/3	411
4/1	641
4/2	232
5/1	876
5/2	876
6/1	854
6/2	1287
7/1 (with short)	1434(In) 997(Out)
7/2 (short)	437
8/1	333
8/2	565
8/3	121
9/1	1758
9/2	798
10/1	938
10/2 (with short)	1209(In) 973(Out)
10/3 (short)	236
11/1	1412
11/2	1094
11/3	236
12/1 (with short)	489(In) 318(Out)
12/2 (short)	171
13/1	424
14/1	976
15/1	638
15/2	1210
15/3	407

Lane Saturation Flows

Junction: A5076 Danes Camp Way/Mere Way 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	Infinite Saturation Flow						Inf	Inf
1/2	Infinite Saturation Flow						Inf	Inf
2/1 (Towcester Road Lane 1)	Infinite Saturation Flow						Inf	Inf
2/2 (Towcester Road Lane 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	Infinite Saturation Flow						Inf	Inf
4/2	Infinite Saturation Flow						Inf	Inf
5/1 (A5076 Danes Camp Way)	3.80	0.00	Y	Arm 4 Left	Inf	23.6 %	1995	1995
				Arm 6 Ahead	Inf	76.4 %		
5/2 (A5076 Danes Camp Way)	3.80	0.00	Y	Arm 6 Ahead	Inf	100.0 %	1995	1995
6/1	Infinite Saturation Flow						Inf	Inf
6/2	Infinite Saturation Flow						Inf	Inf
7/1 (A5123 Towcester Road Lane 1)	Infinite Saturation Flow						Inf	Inf
7/2 (A5123 Towcester Road Lane 2)	Infinite Saturation Flow						Inf	Inf
8/1	This lane uses a directly entered Saturation Flow						1900	1900
8/2	This lane uses a directly entered Saturation Flow						1900	1900
8/3	This lane uses a directly entered Saturation Flow						1900	1900
9/1	Infinite Saturation Flow						Inf	Inf
9/2	Infinite Saturation Flow						Inf	Inf
10/1 (Mere Way)	3.60	0.00	Y	Arm 11 Ahead	Inf	90.3 %	1961	1961
				Arm 13 Left	20.00	9.7 %		
10/2 (Mere Way)	3.60	0.00	N	Arm 11 Ahead	Inf	100.0 %	2115	2115
10/3 (Mere Way)	3.60	0.00	Y	Arm 11 Ahead	Inf	100.0 %	1975	1975
11/1	Infinite Saturation Flow						Inf	Inf
11/2	Infinite Saturation Flow						Inf	Inf
11/3	Infinite Saturation Flow						Inf	Inf
12/1 (Supermarket Lane 1)	Infinite Saturation Flow						Inf	Inf
12/2 (Supermarket Lane 2)	Infinite Saturation Flow						Inf	Inf
13/1	Infinite Saturation Flow						Inf	Inf
14/1	Infinite Saturation Flow						Inf	Inf

15/1	Infinite Saturation Flow	Inf	Inf
15/2	Infinite Saturation Flow	Inf	Inf
15/3	Infinite Saturation Flow	Inf	Inf

Scenario 4: '2031 J1d PM Peak' (FG4: '2031 J1d PM Peak', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

		Destination					
		A	B	C	D	E	Tot.
Origin	A	0	679	93	340	193	1305
	B	120	120	91	361	1460	2152
	C	86	85	0	87	241	499
	D	428	424	37	0	48	937
	E	206	1213	203	222	0	1844
	Tot.	840	2521	424	1010	1942	6737

Traffic Lane Flows

Lane	Scenario 4: 2031 J1d PM Peak
Junction: A5076 Danes Camp Way/Mere Way Interchange	
1/1	654
1/2	1288
2/1 (with short)	937(In) 468(Out)
2/2 (short)	469
3/1	460
3/2	415
3/3	425
4/1	666
4/2	174
5/1	922
5/2	922
6/1	957
6/2	1347
7/1 (with short)	1305(In) 772(Out)
7/2 (short)	533
8/1	333
8/2	562
8/3	193
9/1	1636
9/2	885
10/1	938
10/2 (with short)	1214(In) 974(Out)
10/3 (short)	240
11/1	1409
11/2	1167
11/3	240
12/1 (with short)	499(In) 328(Out)
12/2 (short)	171
13/1	424
14/1	1010
15/1	606
15/2	1288
15/3	411

Lane Saturation Flows

Junction: A5076 Danes Camp Way/Mere Way 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	Infinite Saturation Flow						Inf	Inf
1/2	Infinite Saturation Flow						Inf	Inf
2/1 (Towcester Road Lane 1)	Infinite Saturation Flow						Inf	Inf
2/2 (Towcester Road Lane 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	Infinite Saturation Flow						Inf	Inf
4/2	Infinite Saturation Flow						Inf	Inf
5/1 (A5076 Danes Camp Way)	3.80	0.00	Y	Arm 4 Left	Inf	22.3 %	1995	1995
				Arm 6 Ahead	Inf	77.7 %		
5/2 (A5076 Danes Camp Way)	3.80	0.00	Y	Arm 6 Ahead	Inf	100.0 %	1995	1995
6/1	Infinite Saturation Flow						Inf	Inf
6/2	Infinite Saturation Flow						Inf	Inf
7/1 (A5123 Towcester Road Lane 1)	Infinite Saturation Flow						Inf	Inf
7/2 (A5123 Towcester Road Lane 2)	Infinite Saturation Flow						Inf	Inf
8/1	This lane uses a directly entered Saturation Flow						1900	1900
8/2	This lane uses a directly entered Saturation Flow						1900	1900
8/3	This lane uses a directly entered Saturation Flow						1900	1900
9/1	Infinite Saturation Flow						Inf	Inf
9/2	Infinite Saturation Flow						Inf	Inf
10/1 (Mere Way)	3.60	0.00	Y	Arm 11 Ahead	Inf	90.3 %	1961	1961
				Arm 13 Left	20.00	9.7 %		
10/2 (Mere Way)	3.60	0.00	N	Arm 11 Ahead	Inf	100.0 %	2115	2115
10/3 (Mere Way)	3.60	0.00	Y	Arm 11 Ahead	Inf	100.0 %	1975	1975
11/1	Infinite Saturation Flow						Inf	Inf
11/2	Infinite Saturation Flow						Inf	Inf
11/3	Infinite Saturation Flow						Inf	Inf
12/1 (Supermarket Lane 1)	Infinite Saturation Flow						Inf	Inf
12/2 (Supermarket Lane 2)	Infinite Saturation Flow						Inf	Inf
13/1	Infinite Saturation Flow						Inf	Inf
14/1	Infinite Saturation Flow						Inf	Inf

15/1	Infinite Saturation Flow	Inf	Inf
15/2	Infinite Saturation Flow	Inf	Inf
15/3	Infinite Saturation Flow	Inf	Inf

Scenario 1: '2031 D1 AM Peak' (FG1: '2031 D1 AM Peak', Plan 1: 'Network Control Plan 1')

Stage Timings

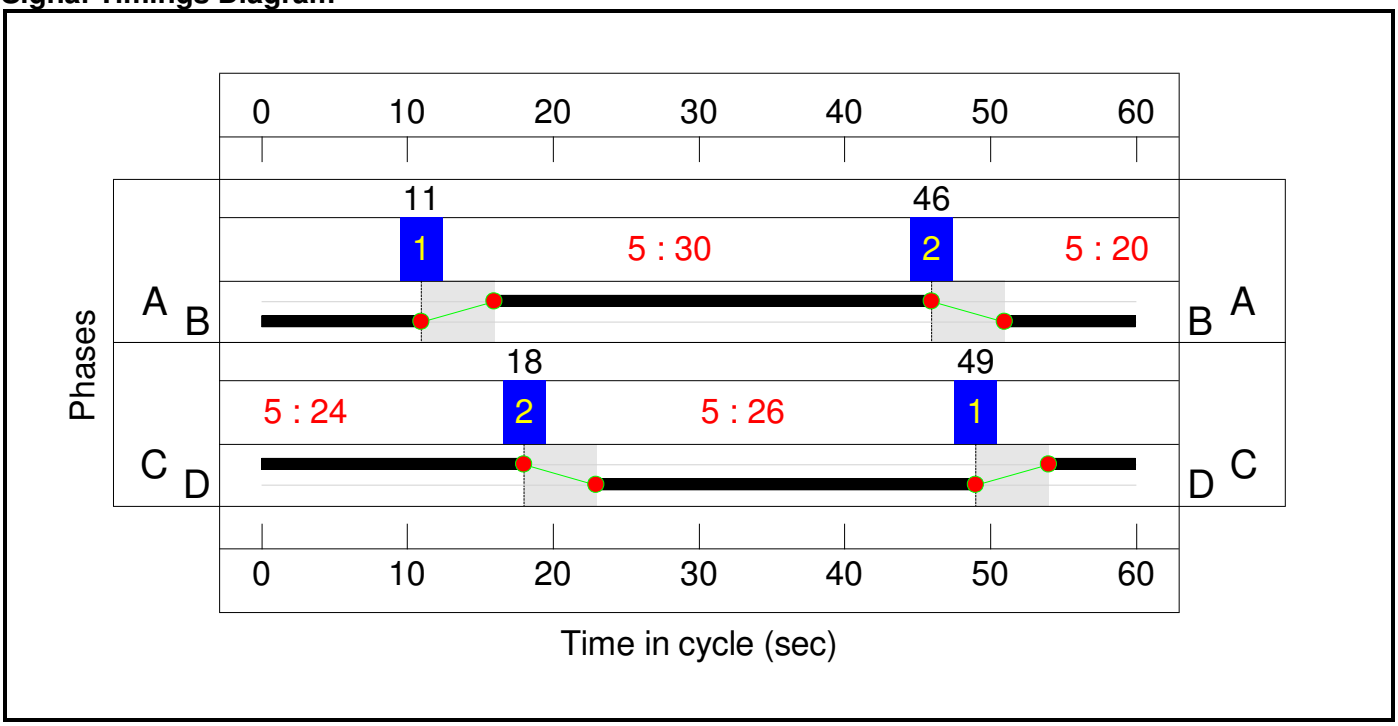
Stage Stream: 1

Stage	1	2
Duration	30	20
Change Point	11	46

Stage Stream: 2

Stage	1	2
Duration	24	26
Change Point	49	18

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: Danes Camp Way/Mere Way - Existing Layout	-	-	**N/A**	-	-		-	-	-	-	-	-	**119.0%**
A5076 Danes Camp Way/Mere Way Interchange	-	-	**N/A**	-	-		-	-	-	-	-	-	**119.0%**
2/1+2/2	Towcester Road Left Ahead	O	N/A	N/A	-		-	-	-	1167	Inf : Inf	506+475	118.9 : 119.0%
3/1	Ahead	U	1	N/A	B		1	20	-	489	1900	665	64.7%
3/2	Ahead Right	U	1	N/A	B		1	20	-	494	1900	665	67.0%
3/3	Right	U	1	N/A	B		1	20	-	509	1900	665	67.8%
5/1	A5076 Danes Camp Way Left Ahead	U	1	N/A	A		1	30	-	1022	1995	1031	99.2%
5/2	A5076 Danes Camp Way Ahead	U	1	N/A	A		1	30	-	1023	1995	1031	99.2%
7/1+7/2	A5123 Towcester Road Ahead Left	O	N/A	N/A	-		-	-	-	1145	Inf : Inf	705+459	90.5 : 110.4%
8/1	Ahead	U	2	N/A	D		1	26	-	192	1900	855	22.1%
8/2	Right	U	2	N/A	D		1	26	-	424	1900	855	46.3%
8/3	Right	U	2	N/A	D		1	26	-	216	1900	855	23.0%
10/1	Mere Way Ahead Left	U	2	N/A	C		1	24	-	881	1959	816	107.9%
10/2+10/3	Mere Way Ahead	U	2	N/A	C		1	24	-	1293	2115:1975	843+338	109.4 : 109.4%
12/1+12/2	Supermarket Left Ahead	O	N/A	N/A	-		-	-	-	496	Inf : Inf	296+407	70.5 : 70.5%

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: Danes Camp Way/Mere Way - Existing Layout	**-**	**-**	**5149**	**0**	**0**	**44.0**	**264.9**	**0.0**	**308.9**	**-**	**-**	**-**	**-**
A5076 Danes Camp Way/Mere Way Interchange	**-**	**-**	**5149**	**0**	**0**	**44.0**	**264.9**	**0.0**	**308.9**	**-**	**-**	**-**	**-**
2/1+2/2	1167	981	1962	0	0	10.4	96.0	-	106.4	328.3	29.4	96.0	125.5
3/1	430	430	-	-	-	1.0	0.9	-	1.9	15.7	3.9	0.9	4.8
3/2	445	445	-	-	-	1.2	1.0	-	2.2	17.7	5.4	1.0	6.4
3/3	451	451	-	-	-	1.3	1.0	-	2.4	18.9	6.0	1.0	7.0
5/1	1022	1022	-	-	-	4.1	13.9	-	18.0	63.5	16.7	13.9	30.7
5/2	1023	1023	-	-	-	4.1	14.2	-	18.3	64.3	16.8	14.2	30.9
7/1+7/2	1145	1097	2195	0	0	2.9	36.7	-	39.6	124.5	11.0	36.7	47.7
8/1	189	189	-	-	-	0.4	0.1	-	0.6	11.0	1.3	0.1	1.5
8/2	396	396	-	-	-	1.2	0.4	-	1.6	14.4	4.6	0.4	5.0
8/3	197	197	-	-	-	0.6	0.1	-	0.7	13.6	2.5	0.1	2.7
10/1	881	816	-	-	-	6.3	38.1	-	44.4	181.6	15.8	38.1	53.9
10/2+10/3	1293	1181	-	-	-	9.2	61.1	-	70.3	195.7	21.5	61.1	82.6
12/1+12/2	496	496	992	0	0	1.4	1.2	-	2.6	18.6	3.8	1.2	5.0

C1	Stream: 1 PRC for Signalled Lanes (%):	-10.3	Total Delay for Signalled Lanes (pcuHr):	42.72	Cycle Time (s): 60
C1	Stream: 2 PRC for Signalled Lanes (%):	-21.6	Total Delay for Signalled Lanes (pcuHr):	117.65	Cycle Time (s): 60
	PRC Over All Lanes (%):	-32.3	Total Delay Over All Lanes(pcuHr):	308.94	

Scenario 2: '2031 J1d AM Peak' (FG3: '2031 J1d AM Peak', Plan 1: 'Network Control Plan 1')

Stage Timings

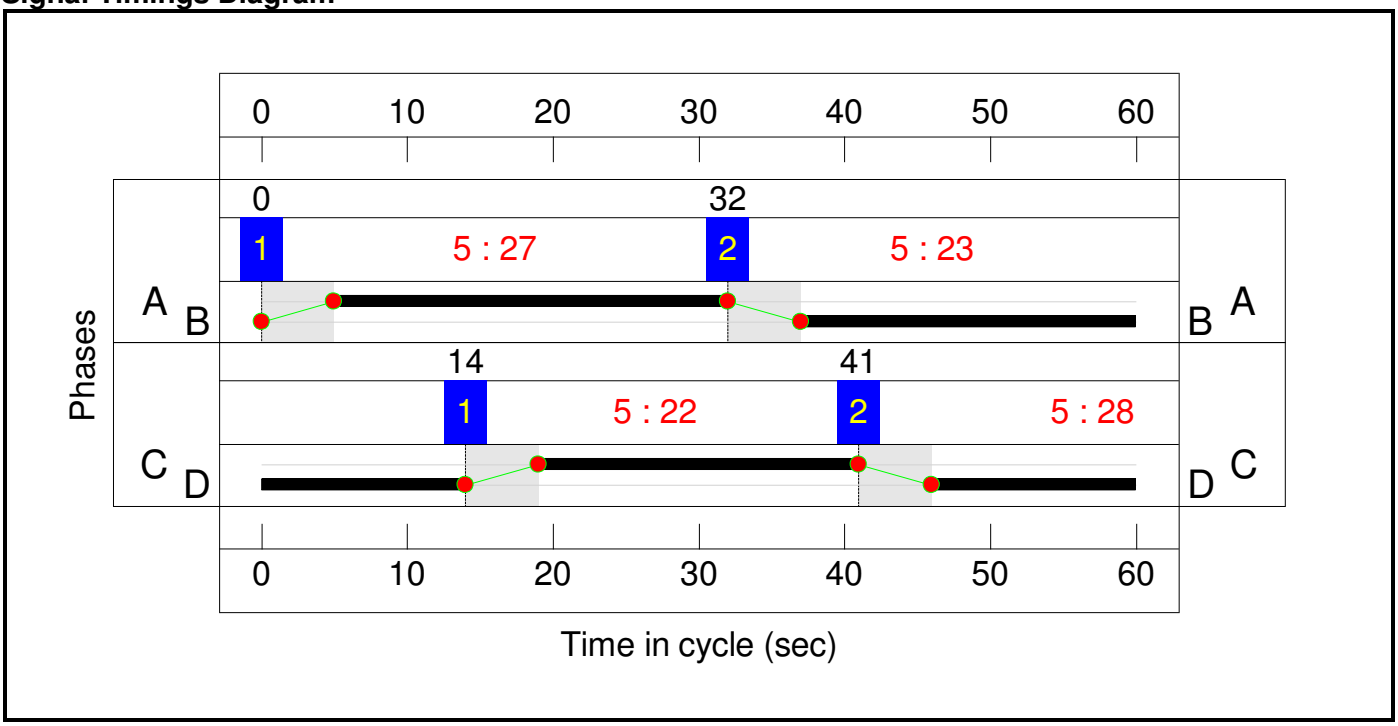
Stage Stream: 1

Stage	1	2
Duration	27	23
Change Point	0	32

Stage Stream: 2

Stage	1	2
Duration	22	28
Change Point	14	41

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: Danes Camp Way/Mere Way - Existing Layout	-	-	**N/A**	-	-		-	-	-	-	-	-	**123.6%**
A5076 Danes Camp Way/Mere Way Interchange	-	-	**N/A**	-	-		-	-	-	-	-	-	**123.6%**
2/1+2/2	Towcester Road Left Ahead	O	N/A	N/A	-		-	-	-	1263	Inf : Inf	525+497	123.6 : 123.5%
3/1	Ahead	U	1	N/A	B		1	23	-	563	1900	760	61.6%
3/2	Ahead Right	U	1	N/A	B		1	23	-	551	1900	760	62.0%
3/3	Right	U	1	N/A	B		1	23	-	559	1900	760	63.1%
5/1	A5076 Danes Camp Way Left Ahead	U	1	N/A	A		1	27	-	999	1995	931	107.3%
5/2	A5076 Danes Camp Way Ahead	U	1	N/A	A		1	27	-	999	1995	931	107.3%
7/1+7/2	A5123 Towcester Road Ahead Left	O	N/A	N/A	-		-	-	-	1020	Inf : Inf	673+456	82.3 : 102.3%
8/1	Ahead	U	2	N/A	D		1	28	-	192	1900	918	19.8%
8/2	Right	U	2	N/A	D		1	28	-	391	1900	918	41.1%
8/3	Right	U	2	N/A	D		1	28	-	173	1900	918	18.4%
10/1	Mere Way Ahead Left	U	2	N/A	C		1	22	-	901	1959	751	120.0%
10/2+10/3	Mere Way Ahead	U	2	N/A	C		1	22	-	1406	2115:1975	790+379	120.3 : 120.3%
12/1+12/2	Supermarket Left Ahead	O	N/A	N/A	-		-	-	-	496	Inf : Inf	322+443	64.8 : 64.8%

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: Danes Camp Way/Mere Way - Existing Layout	**-**	**-**	**5055**	**0**	**0**	**55.8**	**416.4**	**0.0**	**472.2**	**-**	**-**	**-**	**-**
A5076 Danes Camp Way/Mere Way Interchange	**-**	**-**	**5055**	**0**	**0**	**55.8**	**416.4**	**0.0**	**472.2**	**-**	**-**	**-**	**-**
2/1+2/2	1263	1022	2044	0	0	11.0	123.1	-	134.1	382.2	25.8	123.1	148.9
3/1	468	468	-	-	-	2.1	0.8	-	2.9	22.6	6.6	0.8	7.4
3/2	471	471	-	-	-	2.3	0.8	-	3.1	23.6	6.5	0.8	7.3
3/3	480	480	-	-	-	2.5	0.8	-	3.4	25.3	6.4	0.8	7.2
5/1	999	931	-	-	-	6.3	40.2	-	46.5	167.7	17.8	40.2	58.0
5/2	999	931	-	-	-	6.3	40.2	-	46.5	167.7	17.8	40.2	58.0
7/1+7/2	1020	1010	2019	0	0	1.8	9.6	-	11.4	40.1	10.8	9.6	20.4
8/1	182	182	-	-	-	0.7	0.1	-	0.8	15.3	2.2	0.1	2.4
8/2	378	378	-	-	-	0.8	0.3	-	1.2	11.3	3.3	0.3	3.6
8/3	169	169	-	-	-	0.2	0.1	-	0.3	6.0	0.9	0.1	1.0
10/1	901	751	-	-	-	8.3	77.9	-	86.2	344.5	17.5	77.9	95.4
10/2+10/3	1406	1169	-	-	-	12.5	121.4	-	133.9	342.9	24.7	121.4	146.2
12/1+12/2	496	496	992	0	0	1.0	0.9	-	1.9	14.0	3.2	0.9	4.1

C1	Stream: 1 PRC for Signalled Lanes (%):	-19.2	Total Delay for Signalled Lanes (pcuHr):	102.46	Cycle Time (s): 60
C1	Stream: 2 PRC for Signalled Lanes (%):	-33.6	Total Delay for Signalled Lanes (pcuHr):	222.38	Cycle Time (s): 60
	PRC Over All Lanes (%):	-37.4	Total Delay Over All Lanes(pcuHr):	472.21	

Scenario 3: '2031 D1 PM Peak' (FG2: '2031 D1 PM Peak', Plan 1: 'Network Control Plan 1')

Stage Timings

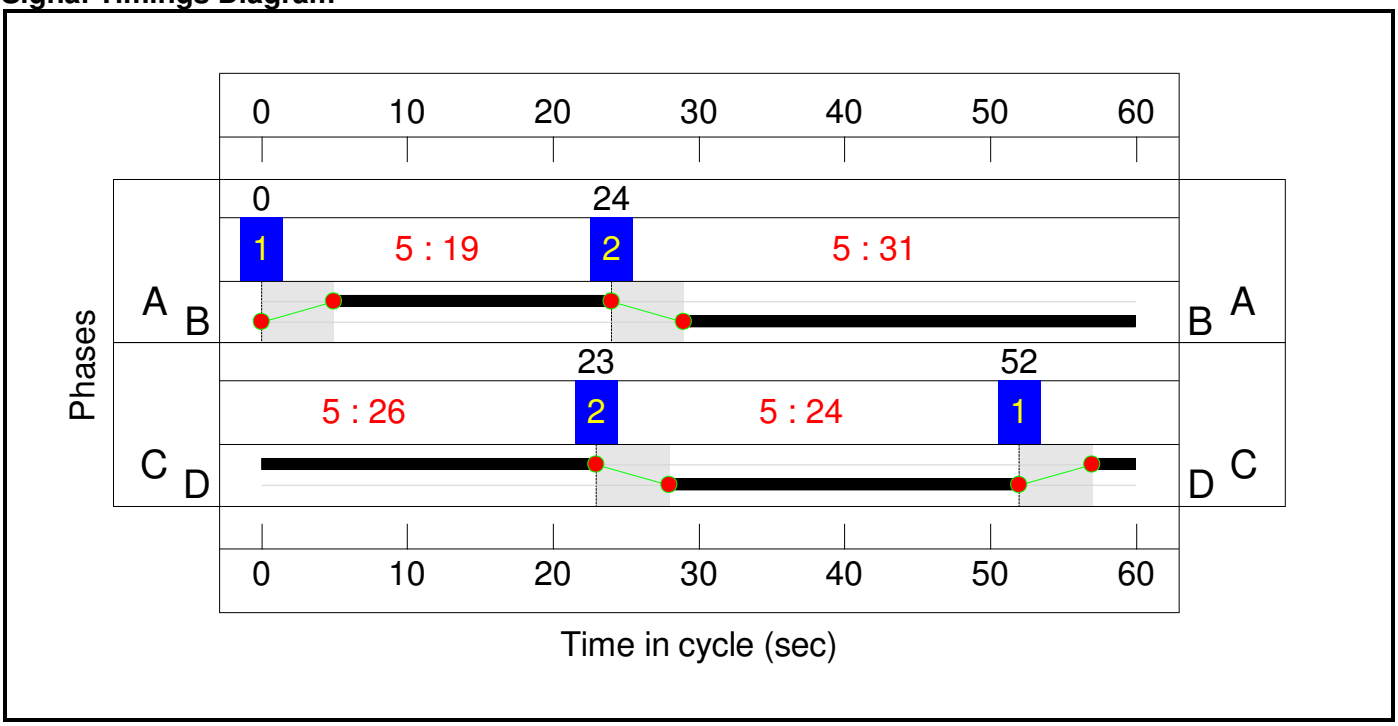
Stage Stream: 1

Stage	1	2
Duration	19	31
Change Point	0	24

Stage Stream: 2

Stage	1	2
Duration	26	24
Change Point	52	23

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: Danes Camp Way/Mere Way - Existing Layout	-	-	**N/A**	-	-		-	-	-	-	-	-	**133.2%**
A5076 Danes Camp Way/Mere Way Interchange	-	-	**N/A**	-	-		-	-	-	-	-	-	**133.2%**
2/1+2/2	Towcester Road Left Ahead	O	N/A	N/A	-		-	-	-	906	Inf : Inf	515+511	86.2 : 90.4%
3/1	Ahead	U	1	N/A	B		1	31	-	434	1900	1013	42.6%
3/2	Ahead Right	U	1	N/A	B		1	31	-	417	1900	1013	40.6%
3/3	Right	U	1	N/A	B		1	31	-	411	1900	1013	39.9%
5/1	A5076 Danes Camp Way Left Ahead	U	1	N/A	A		1	19	-	876	1995	665	131.7%
5/2	A5076 Danes Camp Way Ahead	U	1	N/A	A		1	19	-	876	1995	665	131.7%
7/1+7/2	A5123 Towcester Road Ahead Left	O	N/A	N/A	-		-	-	-	1434	Inf : Inf	749+328	133.2 : 133.2%
8/1	Ahead	U	2	N/A	D		1	24	-	333	1900	792	33.0%
8/2	Right	U	2	N/A	D		1	24	-	565	1900	792	53.8%
8/3	Right	U	2	N/A	D		1	24	-	121	1900	792	11.5%
10/1	Mere Way Ahead Left	U	2	N/A	C		1	26	-	938	1961	882	106.3%
10/2+10/3	Mere Way Ahead	U	2	N/A	C		1	26	-	1209	2115:1975	916+222	106.2 : 106.2%
12/1+12/2	Supermarket Left Ahead	O	N/A	N/A	-		-	-	-	489	Inf : Inf	393+211	80.9 : 80.9%

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: Danes Camp Way/Mere Way - Existing Layout	**-**	**-**	**4944**	**0**	**0**	**56.3**	**480.3**	**0.0**	**536.6**	**-**	**-**	**-**	**-**
A5076 Danes Camp Way/Mere Way Interchange	**-**	**-**	**4944**	**0**	**0**	**56.3**	**480.3**	**0.0**	**536.6**	**-**	**-**	**-**	**-**
2/1+2/2	906	906	1812	0	0	1.7	3.6	-	5.3	21.0	5.9	3.6	9.5
3/1	432	432	-	-	-	0.7	0.4	-	1.1	9.1	2.7	0.4	3.1
3/2	412	412	-	-	-	0.8	0.3	-	1.2	10.1	2.6	0.3	3.0
3/3	405	405	-	-	-	0.9	0.3	-	1.3	11.3	3.2	0.3	3.5
5/1	876	665	-	-	-	10.9	107.5	-	118.5	486.9	18.1	107.5	125.7
5/2	876	665	-	-	-	10.9	107.5	-	118.5	486.9	18.1	107.5	125.7
7/1+7/2	1434	1077	2154	0	0	13.0	180.5	-	193.5	485.9	46.4	180.5	226.9
8/1	261	261	-	-	-	0.8	0.2	-	1.0	13.8	3.6	0.2	3.8
8/2	426	426	-	-	-	1.5	0.6	-	2.1	17.7	5.9	0.6	6.5
8/3	91	91	-	-	-	0.2	0.1	-	0.3	12.3	1.0	0.1	1.1
10/1	938	882	-	-	-	6.0	34.6	-	40.5	155.5	16.6	34.6	51.1
10/2+10/3	1209	1138	-	-	-	7.2	42.6	-	49.8	148.3	21.1	42.6	63.7
12/1+12/2	489	489	978	0	0	1.5	2.0	-	3.6	26.4	4.6	2.0	6.6

C1	Stream: 1 PRC for Signalled Lanes (%):	-46.4	Total Delay for Signalled Lanes (pcuHr):	240.44	Cycle Time (s): 60
C1	Stream: 2 PRC for Signalled Lanes (%):	-18.1	Total Delay for Signalled Lanes (pcuHr):	93.73	Cycle Time (s): 60
	PRC Over All Lanes (%):	-48.0	Total Delay Over All Lanes(pcuHr):	536.60	

Scenario 4: '2031 J1d PM Peak' (FG4: '2031 J1d PM Peak', Plan 1: 'Network Control Plan 1')

Stage Timings

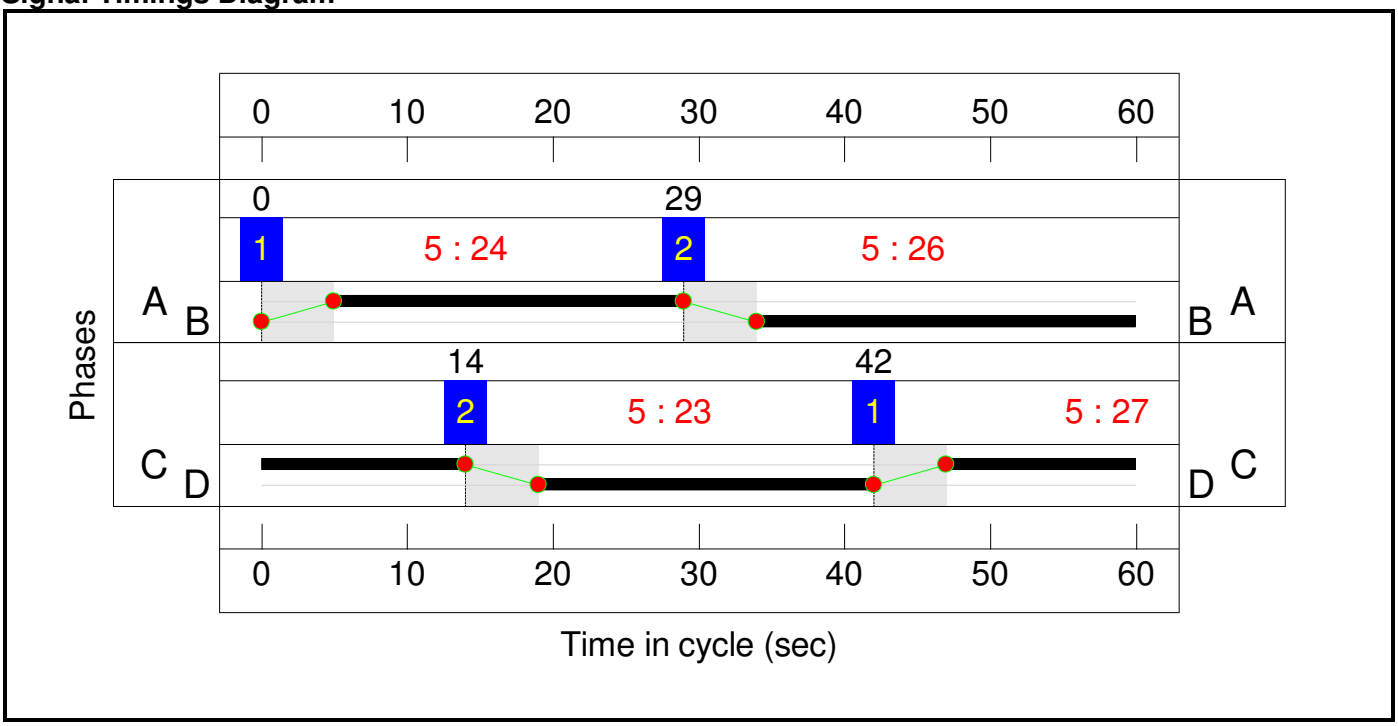
Stage Stream: 1

Stage	1	2
Duration	24	26
Change Point	0	29

Stage Stream: 2

Stage	1	2
Duration	27	23
Change Point	42	14

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: Danes Camp Way/Mere Way - Existing Layout	-	-	**N/A**	-	-		-	-	-	-	-	-	**113.8%**
A5076 Danes Camp Way/Mere Way Interchange	-	-	**N/A**	-	-		-	-	-	-	-	-	**113.8%**
2/1+2/2	Towcester Road Left Ahead	O	N/A	N/A	-		-	-	-	937	Inf : Inf	492+487	95.2 : 96.2%
3/1	Ahead	U	1	N/A	B		1	26	-	460	1900	855	53.8%
3/2	Ahead Right	U	1	N/A	B		1	26	-	415	1900	855	48.5%
3/3	Right	U	1	N/A	B		1	26	-	425	1900	855	49.6%
5/1	A5076 Danes Camp Way Left Ahead	U	1	N/A	A		1	24	-	922	1995	831	110.9%
5/2	A5076 Danes Camp Way Ahead	U	1	N/A	A		1	24	-	922	1995	831	110.9%
7/1+7/2	A5123 Towcester Road Ahead Left	O	N/A	N/A	-		-	-	-	1305	Inf : Inf	678+481	113.8 : 110.9%
8/1	Ahead	U	2	N/A	D		1	23	-	333	1900	760	39.7%
8/2	Right	U	2	N/A	D		1	23	-	562	1900	760	66.7%
8/3	Right	U	2	N/A	D		1	23	-	193	1900	760	22.9%
10/1	Mere Way Ahead Left	U	2	N/A	C		1	27	-	938	1961	915	102.5%
10/2+10/3	Mere Way Ahead	U	2	N/A	C		1	27	-	1214	2115:1975	943+232	103.3 : 103.3%
12/1+12/2	Supermarket Left Ahead	O	N/A	N/A	-		-	-	-	499	Inf : Inf	334+174	98.3 : 98.3%

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: Danes Camp Way/Mere Way - Existing Layout	**-**	**-**	**5190**	**0**	**0**	**42.2**	**249.1**	**0.0**	**291.3**	**-**	**-**	**-**	**-**
A5076 Danes Camp Way/Mere Way Interchange	**-**	**-**	**5190**	**0**	**0**	**42.2**	**249.1**	**0.0**	**291.3**	**-**	**-**	**-**	**-**
2/1+2/2	937	937	1874	0	0	2.0	8.1	-	10.1	38.9	7.2	8.1	15.2
3/1	460	460	-	-	-	0.9	0.6	-	1.4	11.3	4.8	0.6	5.3
3/2	414	414	-	-	-	0.6	0.5	-	1.1	9.6	3.7	0.5	4.2
3/3	424	424	-	-	-	0.8	0.5	-	1.2	10.6	3.4	0.5	3.9
5/1	922	831	-	-	-	7.0	50.0	-	57.0	222.6	16.9	50.0	66.9
5/2	922	831	-	-	-	7.0	50.0	-	57.0	222.6	16.9	50.0	66.9
7/1+7/2	1305	1159	2318	0	0	7.6	77.3	-	84.9	234.2	35.6	77.3	112.9
8/1	302	302	-	-	-	0.7	0.3	-	1.0	12.2	2.9	0.3	3.3
8/2	507	507	-	-	-	1.7	1.0	-	2.7	19.2	6.9	1.0	7.9
8/3	174	174	-	-	-	0.7	0.1	-	0.9	18.3	2.3	0.1	2.5
10/1	938	915	-	-	-	4.9	22.1	-	27.0	103.5	16.0	22.1	38.1
10/2+10/3	1214	1181	-	-	-	6.2	29.5	-	35.7	105.8	19.8	29.5	49.3
12/1+12/2	499	499	998	0	0	1.9	9.2	-	11.1	80.4	5.4	9.2	14.6

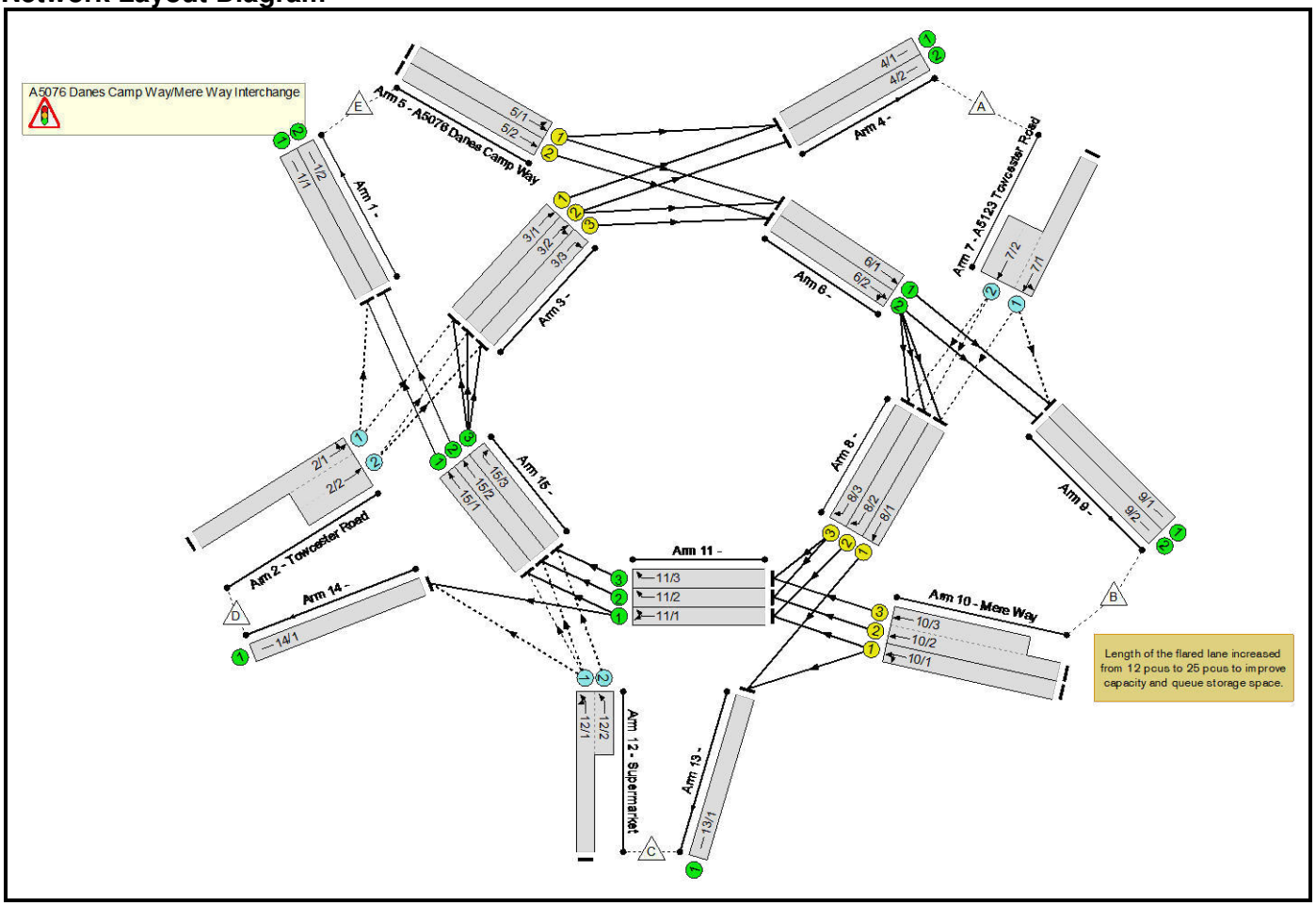
C1 Stream: 1 PRC for Signalled Lanes (%): -23.2 Total Delay for Signalled Lanes (pcuHr): 117.82 Cycle Time (s): 60
C1 Stream: 2 PRC for Signalled Lanes (%): -14.7 Total Delay for Signalled Lanes (pcuHr): 67.28 Cycle Time (s): 60
PRC Over All Lanes (%): -26.5 Total Delay Over All Lanes(pcuHr): 291.27

Full Input Data And Results

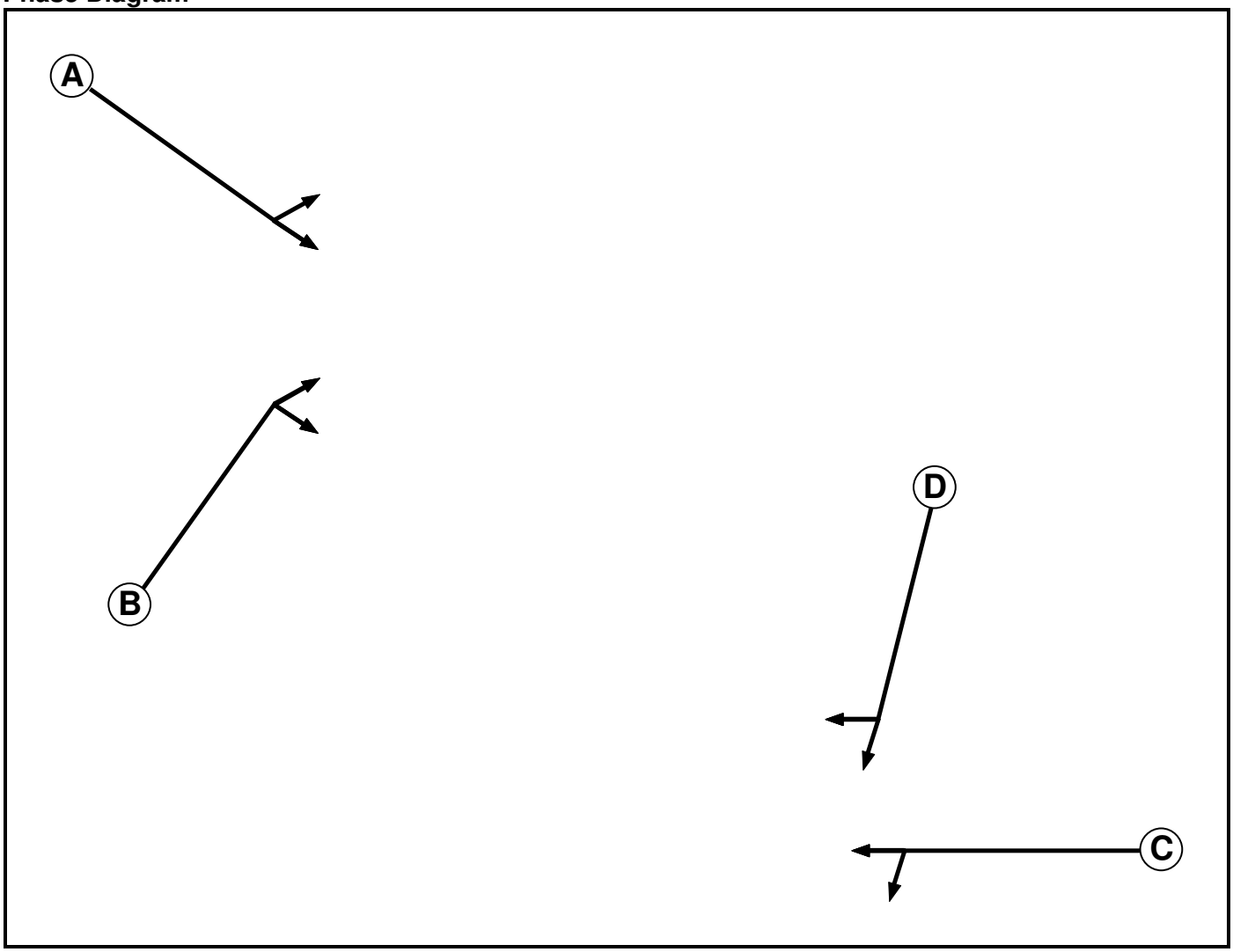
User and Project Details

Project:	**Northampton Gateway SRFI**
Title:	**Danes Camp Way/Mere Way Gyratory - mitigation**
Location:	
File name:	171107 Danes Camp Way_Mere Way Mitigation.lsg3x
Author:	Mark Higgins
Company:	ADC Infrastructure
Address:	Nottingham
Notes:	Supermarket flows increased to match count data.

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

Phase Intergreens Matrix

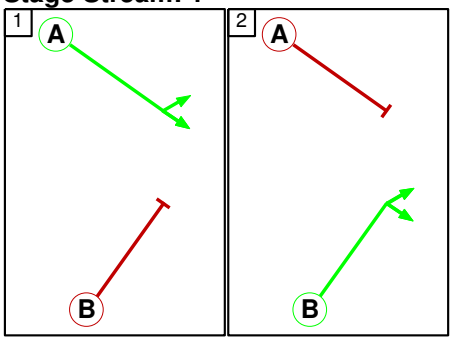
Terminating Phase	Starting Phase			
	A	B	C	D
A		5	-	-
B	5		-	-
C	-	-		5
D	-	-	5	

Phases in Stage

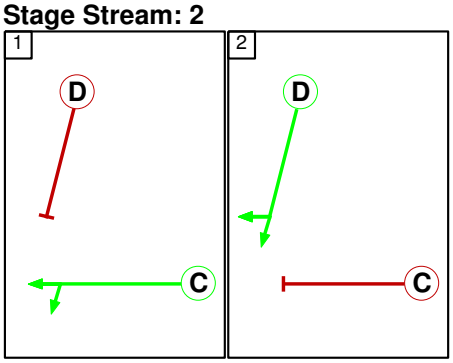
Stream	Stage No.	Phases in Stage
1	1	A
1	2	B
2	1	C
2	2	D

Stage Diagram

Stage Stream: 1



Stage Stream: 2



Give-Way Lane Input Data

Junction: A5076 Danes Camp Way/Mere Way 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)**
2/1 (Towcester Road)	1/1 (Left)	942	0	15/1	0.21	All	-	-	-	-	-
	3/1 (Ahead)			15/1	0.21	All					
				15/2	0.21	All					
				15/3	0.21	To 3/1 (Right)					
2/2 (Towcester Road)	3/2 (Ahead)	942	0	15/1	0.21	All	-	-	-	-	-
				15/2	0.21	All					
				15/3	0.21	All					
	3/3 (Ahead)	942	0	15/1	0.21	All					
				15/2	0.21	All					
				15/3	0.21	All					
7/1 (A5123 Towcester Road)	8/1 (Ahead)	952	0	6/1	0.22	All	-	-	-	-	-
				6/2	0.22	All					
	9/1 (Left)	952	0	6/1	0.22	All					
7/2 (A5123 Towcester Road)	8/2 (Ahead)	952	0	6/1	0.22	All	-	-	-	-	-
				6/2	0.22	All					
	8/3 (Ahead)	952	0	6/1	0.22	All					
				6/2	0.22	All					
12/1 (Supermarket)	14/1 (Left)	1000	0	11/1	0.33	All	-	-	-	-	-
	15/1 (Ahead)	1000	0	11/1	0.33	All					
	15/2 (Ahead)	1000	0	11/1	0.33	All					
				11/2	0.33	All					
12/2 (Supermarket)	15/3 (Ahead)	1000	0	11/1	0.33	All	-	-	-	-	-
				11/2	0.33	All					
				11/3	0.33	All					

Lane Input Data

Junction: A5076 Danes Camp Way/Mere Way 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	U		2	3	5.0	Inf	-	-	-	-	-	-
1/2	U		2	3	5.0	Inf	-	-	-	-	-	-
2/1 (Towcester Road)	O		2	3	60.0	Inf	-	-	-	-	-	-
2/2 (Towcester Road)	O		2	3	6.0	Inf	-	-	-	-	-	-
3/1	U	B	2	3	7.0	User	1900	-	-	-	-	-
3/2	U	B	2	3	7.0	User	1900	-	-	-	-	-
3/3	U	B	2	3	7.0	User	1900	-	-	-	-	-
4/1	U		2	3	5.0	Inf	-	-	-	-	-	-
4/2	U		2	3	5.0	Inf	-	-	-	-	-	-
5/1 (A5076 Danes Camp Way)	U	A	2	3	60.0	Geom	-	3.80	0.00	Y	Arm 4 Left	Inf
											Arm 6 Ahead	Inf
5/2 (A5076 Danes Camp Way)	U	A	2	3	60.0	Geom	-	3.80	0.00	Y	Arm 6 Ahead	Inf
6/1	U		2	3	9.6	Inf	-	-	-	-	-	-
6/2	U		2	3	9.6	Inf	-	-	-	-	-	-
7/1 (A5123 Towcester Road)	O		2	3	60.0	Inf	-	-	-	-	-	-
7/2 (A5123 Towcester Road)	O		2	3	5.0	Inf	-	-	-	-	-	-
8/1	U	D	2	3	9.6	User	1900	-	-	-	-	-
8/2	U	D	2	3	9.6	User	1900	-	-	-	-	-
8/3	U	D	2	3	9.6	User	1900	-	-	-	-	-
9/1	U		2	3	5.0	Inf	-	-	-	-	-	-
9/2	U		2	3	5.0	Inf	-	-	-	-	-	-
10/1 (Mere Way)	U	C	2	3	60.0	Geom	-	3.60	0.00	Y	Arm 11 Ahead	Inf
											Arm 13 Left	20.00
10/2 (Mere Way)	U	C	2	3	60.0	Geom	-	3.60	0.00	N	Arm 11 Ahead	Inf
10/3 (Mere Way)	U	C	2	3	26.0	Geom	-	3.60	0.00	Y	Arm 11 Ahead	Inf
11/1	U		2	3	7.0	Inf	-	-	-	-	-	-
11/2	U		2	3	7.0	Inf	-	-	-	-	-	-
11/3	U		2	3	7.0	Inf	-	-	-	-	-	-

12/1 (Supermarket)	O		2	3	60.0	Inf	-	-	-	-	-	-
12/2 (Supermarket)	O		2	3	5.0	Inf	-	-	-	-	-	-
13/1	U		2	3	5.0	Inf	-	-	-	-	-	-
14/1	U		2	3	5.0	Inf	-	-	-	-	-	-
15/1	U		2	3	6.1	Inf	-	-	-	-	-	-
15/2	U		2	3	6.1	Inf	-	-	-	-	-	-
15/3	U		2	3	6.1	Inf	-	-	-	-	-	-

Traffic Flow Groups

Flow Group	Start Time	End Time	Duration	Formula
3: '2031 J1d AM Peak'	08:00	09:00	01:00	
4: '2031 J1d PM Peak'	17:00	18:00	01:00	

Scenario 1: '2031 J1d AM Peak' (FG3: '2031 J1d AM Peak', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

		Destination					
		A	B	C	D	E	Tot.
Origin	A	0	481	73	293	173	1020
	B	372	84	98	181	1572	2307
	C	86	201	0	44	165	496
	D	492	420	18	0	333	1263
	E	249	1550	101	98	0	1998
	Tot.	1199	2736	290	616	2243	7084

Traffic Lane Flows

Lane	Scenario 1: 2031 J1d AM Peak
Junction: A5076 Danes Camp Way/Mere Way Interchange	
1/1	1022
1/2	1221
2/1 (with short)	1263(In) 701(Out)
2/2 (short)	562
3/1	571
3/2	550
3/3	552
4/1	820
4/2	379
5/1	999
5/2	999
6/1	921
6/2	1551
7/1 (with short)	1020(In) 554(Out)
7/2 (short)	466
8/1	192
8/2	391
8/3	173
9/1	1402
9/2	1334
10/1	886
10/2 (with short)	1421(In) 965(Out)
10/3 (short)	456
11/1	1179
11/2	1138
11/3	456
12/1 (with short)	496(In) 209(Out)
12/2 (short)	287
13/1	290
14/1	616
15/1	689
15/2	1221
15/3	743

Lane Saturation Flows

Junction: A5076 Danes Camp Way/Mere Way 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	Infinite Saturation Flow						Inf	Inf
1/2	Infinite Saturation Flow						Inf	Inf
2/1 (Towcester Road Lane 1)	Infinite Saturation Flow						Inf	Inf
2/2 (Towcester Road Lane 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	Infinite Saturation Flow						Inf	Inf
4/2	Infinite Saturation Flow						Inf	Inf
5/1 (A5076 Danes Camp Way)	3.80	0.00	Y	Arm 4 Left	Inf	24.9 %	1995	1995
				Arm 6 Ahead	Inf	75.1 %		
5/2 (A5076 Danes Camp Way)	3.80	0.00	Y	Arm 6 Ahead	Inf	100.0 %	1995	1995
6/1	Infinite Saturation Flow						Inf	Inf
6/2	Infinite Saturation Flow						Inf	Inf
7/1 (A5123 Towcester Road Lane 1)	Infinite Saturation Flow						Inf	Inf
7/2 (A5123 Towcester Road Lane 2)	Infinite Saturation Flow						Inf	Inf
8/1	This lane uses a directly entered Saturation Flow						1900	1900
8/2	This lane uses a directly entered Saturation Flow						1900	1900
8/3	This lane uses a directly entered Saturation Flow						1900	1900
9/1	Infinite Saturation Flow						Inf	Inf
9/2	Infinite Saturation Flow						Inf	Inf
10/1 (Mere Way)	3.60	0.00	Y	Arm 11 Ahead	Inf	88.9 %	1959	1959
				Arm 13 Left	20.00	11.1 %		
10/2 (Mere Way)	3.60	0.00	N	Arm 11 Ahead	Inf	100.0 %	2115	2115
10/3 (Mere Way)	3.60	0.00	Y	Arm 11 Ahead	Inf	100.0 %	1975	1975
11/1	Infinite Saturation Flow						Inf	Inf
11/2	Infinite Saturation Flow						Inf	Inf
11/3	Infinite Saturation Flow						Inf	Inf
12/1 (Supermarket Lane 1)	Infinite Saturation Flow						Inf	Inf
12/2 (Supermarket Lane 2)	Infinite Saturation Flow						Inf	Inf
13/1	Infinite Saturation Flow						Inf	Inf
14/1	Infinite Saturation Flow						Inf	Inf
15/1	Infinite Saturation Flow						Inf	Inf
15/2	Infinite Saturation Flow						Inf	Inf
15/3	Infinite Saturation Flow						Inf	Inf

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

Traffic Flows, Desired

Desired Flow :

		Destination					
		A	B	C	D	E	Tot.
Origin	A	0	679	93	340	193	1305
	B	120	120	91	361	1460	2152
	C	86	85	0	87	241	499
	D	428	424	37	0	48	937
	E	206	1213	203	222	0	1844
	Tot.	840	2521	424	1010	1942	6737

Traffic Lane Flows

Lane	Scenario 2: 2031 J1d PM Peak
Junction: A5076 Danes Camp Way/Mere Way Interchange	
1/1	633
1/2	1309
2/1 (with short)	937(In) 476(Out)
2/2 (short)	461
3/1	455
3/2	422
3/3	423
4/1	661
4/2	179
5/1	922
5/2	922
6/1	959
6/2	1345
7/1 (with short)	1305(In) 772(Out)
7/2 (short)	533
8/1	333
8/2	562
8/3	193
9/1	1638
9/2	883
10/1	917
10/2 (with short)	1235(In) 995(Out)
10/3 (short)	240
11/1	1388
11/2	1188
11/3	240
12/1 (with short)	499(In) 328(Out)
12/2 (short)	171
13/1	424
14/1	1010
15/1	585
15/2	1309
15/3	411

Lane Saturation Flows

Junction: A5076 Danes Camp Way/Mere Way 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	Infinite Saturation Flow						Inf	Inf
1/2	Infinite Saturation Flow						Inf	Inf
2/1 (Towcester Road Lane 1)	Infinite Saturation Flow						Inf	Inf
2/2 (Towcester Road Lane 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	Infinite Saturation Flow						Inf	Inf
4/2	Infinite Saturation Flow						Inf	Inf
5/1 (A5076 Danes Camp Way)	3.80	0.00	Y	Arm 4 Left	Inf	22.3 %	1995	1995
				Arm 6 Ahead	Inf	77.7 %		
5/2 (A5076 Danes Camp Way)	3.80	0.00	Y	Arm 6 Ahead	Inf	100.0 %	1995	1995
6/1	Infinite Saturation Flow						Inf	Inf
6/2	Infinite Saturation Flow						Inf	Inf
7/1 (A5123 Towcester Road Lane 1)	Infinite Saturation Flow						Inf	Inf
7/2 (A5123 Towcester Road Lane 2)	Infinite Saturation Flow						Inf	Inf
8/1	This lane uses a directly entered Saturation Flow						1900	1900
8/2	This lane uses a directly entered Saturation Flow						1900	1900
8/3	This lane uses a directly entered Saturation Flow						1900	1900
9/1	Infinite Saturation Flow						Inf	Inf
9/2	Infinite Saturation Flow						Inf	Inf
10/1 (Mere Way)	3.60	0.00	Y	Arm 11 Ahead	Inf	90.1 %	1960	1960
				Arm 13 Left	20.00	9.9 %		
10/2 (Mere Way)	3.60	0.00	N	Arm 11 Ahead	Inf	100.0 %	2115	2115
10/3 (Mere Way)	3.60	0.00	Y	Arm 11 Ahead	Inf	100.0 %	1975	1975
11/1	Infinite Saturation Flow						Inf	Inf
11/2	Infinite Saturation Flow						Inf	Inf
11/3	Infinite Saturation Flow						Inf	Inf
12/1 (Supermarket Lane 1)	Infinite Saturation Flow						Inf	Inf
12/2 (Supermarket Lane 2)	Infinite Saturation Flow						Inf	Inf
13/1	Infinite Saturation Flow						Inf	Inf
14/1	Infinite Saturation Flow						Inf	Inf
15/1	Infinite Saturation Flow						Inf	Inf
15/2	Infinite Saturation Flow						Inf	Inf
15/3	Infinite Saturation Flow						Inf	Inf

Scenario 1: '2031 J1d AM Peak' (FG3: '2031 J1d AM Peak', Plan 1: 'Network Control Plan 1')

Stage Timings

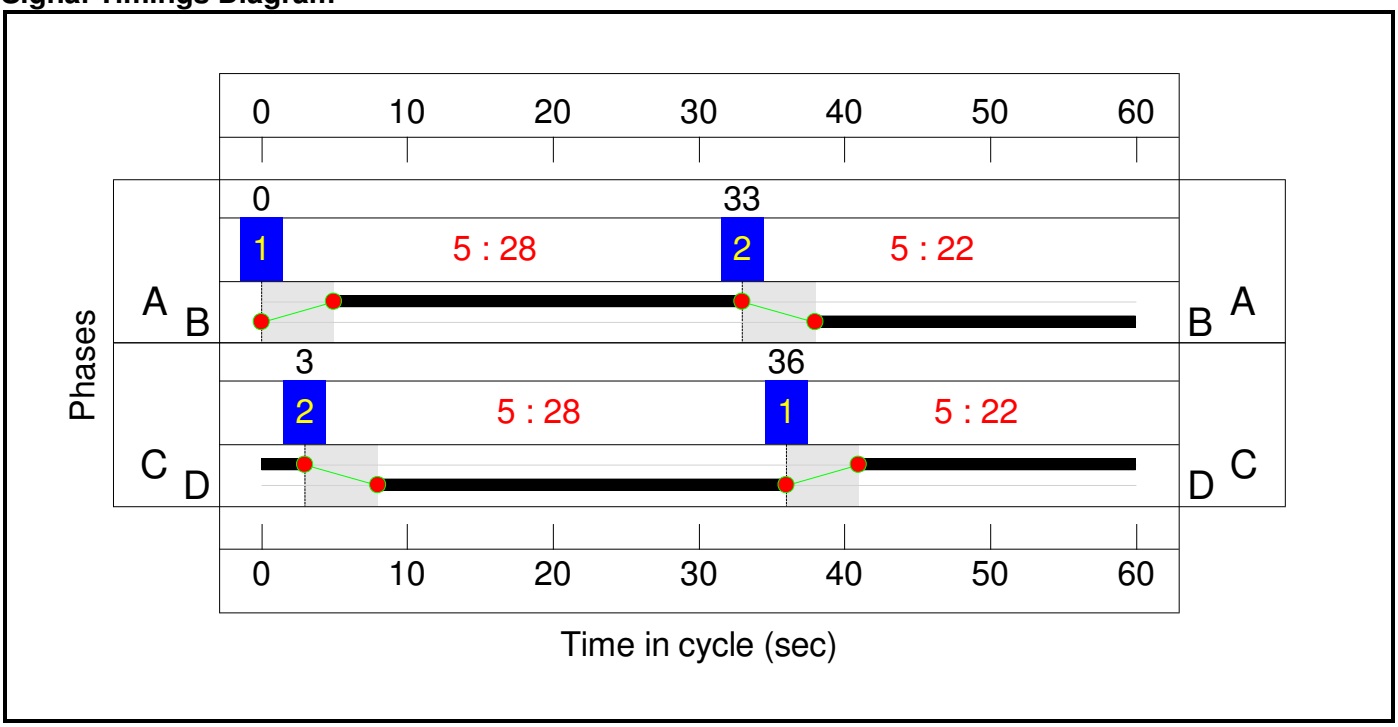
Stage Stream: 1

Stage	1	2
Duration	28	22
Change Point	0	33

Stage Stream: 2

Stage	1	2
Duration	22	28
Change Point	36	3

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: Danes Camp Way/Mere Way Gyratory - mitigation	-	-	**N/A**	-	-		-	-	-	-	-	-	**119.0%**
A5076 Danes Camp Way/Mere Way Interchange	-	-	**N/A**	-	-		-	-	-	-	-	-	**119.0%**
2/1+2/2	Towcester Road Left Ahead	O	N/A	N/A	-		-	-	-	1263	Inf : Inf	597+478	117.4 : 117.5%
3/1	Ahead	U	1	N/A	B		1	22	-	571	1900	728	70.9%
3/2	Ahead Right	U	1	N/A	B		1	22	-	550	1900	728	70.9%
3/3	Right	U	1	N/A	B		1	22	-	552	1900	728	68.9%
5/1	A5076 Danes Camp Way Left Ahead	U	1	N/A	A		1	28	-	999	1995	964	103.6%
5/2	A5076 Danes Camp Way Ahead	U	1	N/A	A		1	28	-	999	1995	964	103.6%
7/1+7/2	A5123 Towcester Road Ahead Left	O	N/A	N/A	-		-	-	-	1020	Inf : Inf	661+436	83.9 : 107.0%
8/1	Ahead	U	2	N/A	D		1	28	-	192	1900	918	20.2%
8/2	Right	U	2	N/A	D		1	28	-	391	1900	918	40.1%
8/3	Right	U	2	N/A	D		1	28	-	173	1900	918	17.6%
10/1	Mere Way Ahead Left	U	2	N/A	C		1	22	-	886	1959	751	118.0%
10/2+10/3	Mere Way Ahead	U	2	N/A	C		1	22	-	1421	2115:1975	811+428	119.0 : 106.6%
12/1+12/2	Supermarket Left Ahead	O	N/A	N/A	-		-	-	-	496	Inf : Inf	332+456	62.9 : 62.9%

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: Danes Camp Way/Mere Way Gyratory - mitigation	**-**	**-**	**5122**	**0**	**0**	**47.7**	**342.0**	**0.0**	**389.7**	**-**	**-**	**-**	**-**
A5076 Danes Camp Way/Mere Way Interchange	**-**	**-**	**5122**	**0**	**0**	**47.7**	**342.0**	**0.0**	**389.7**	**-**	**-**	**-**	**-**
2/1+2/2	1263	1075	2151	0	0	8.3	97.1	-	105.4	300.5	35.0	97.1	132.1
3/1	516	516	-	-	-	1.5	1.2	-	2.7	18.8	5.5	1.2	6.7
3/2	517	517	-	-	-	1.5	1.2	-	2.7	18.6	5.7	1.2	6.9
3/3	502	502	-	-	-	1.6	1.1	-	2.7	19.4	7.5	1.1	8.6
5/1	999	964	-	-	-	5.3	26.7	-	32.0	115.2	17.2	26.7	44.0
5/2	999	964	-	-	-	5.3	26.7	-	32.0	115.2	17.2	26.7	44.0
7/1+7/2	1020	990	1979	0	0	2.5	21.0	-	23.5	83.0	10.8	21.0	31.8
8/1	186	186	-	-	-	0.4	0.1	-	0.5	10.3	1.3	0.1	1.4
8/2	368	368	-	-	-	0.9	0.3	-	1.3	12.4	4.3	0.3	4.7
8/3	162	162	-	-	-	0.4	0.1	-	0.5	11.3	1.9	0.1	2.0
10/1	886	751	-	-	-	9.3	70.7	-	79.9	324.8	17.8	70.7	88.5
10/2+10/3	1421	1267	-	-	-	9.7	94.9	-	104.6	264.9	17.0	94.9	111.9
12/1+12/2	496	496	992	0	0	1.1	0.8	-	2.0	14.3	3.4	0.8	4.3

C1 Stream: 1 PRC for Signalled Lanes (%): -15.1 Total Delay for Signalled Lanes (pcuHr): 72.02 Cycle Time (s): 60
C1 Stream: 2 PRC for Signalled Lanes (%): -32.3 Total Delay for Signalled Lanes (pcuHr): 186.79 Cycle Time (s): 60
PRC Over All Lanes (%): -32.3 Total Delay Over All Lanes(pcuHr): 389.74

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

Stage Timings

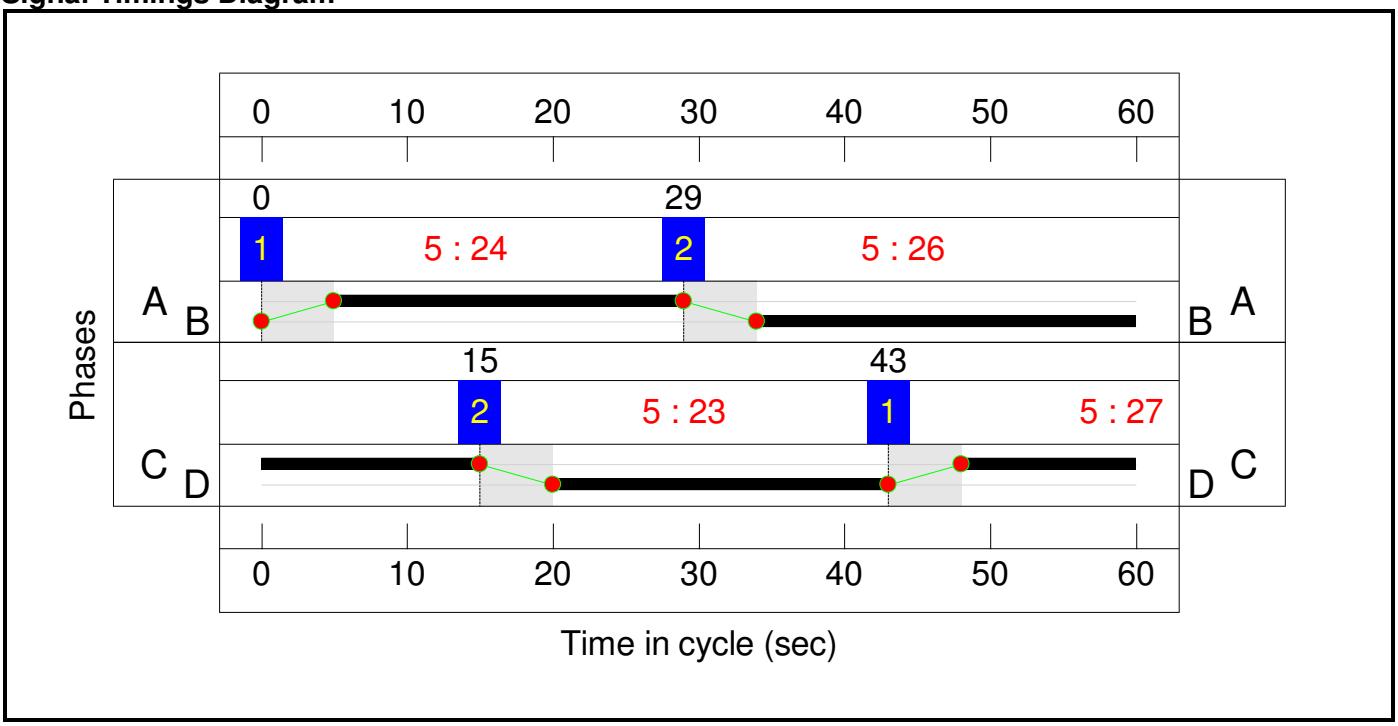
Stage Stream: 1

Stage	1	2
Duration	24	26
Change Point	0	29

Stage Stream: 2

Stage	1	2
Duration	27	23
Change Point	43	15

Signal Timings Diagram

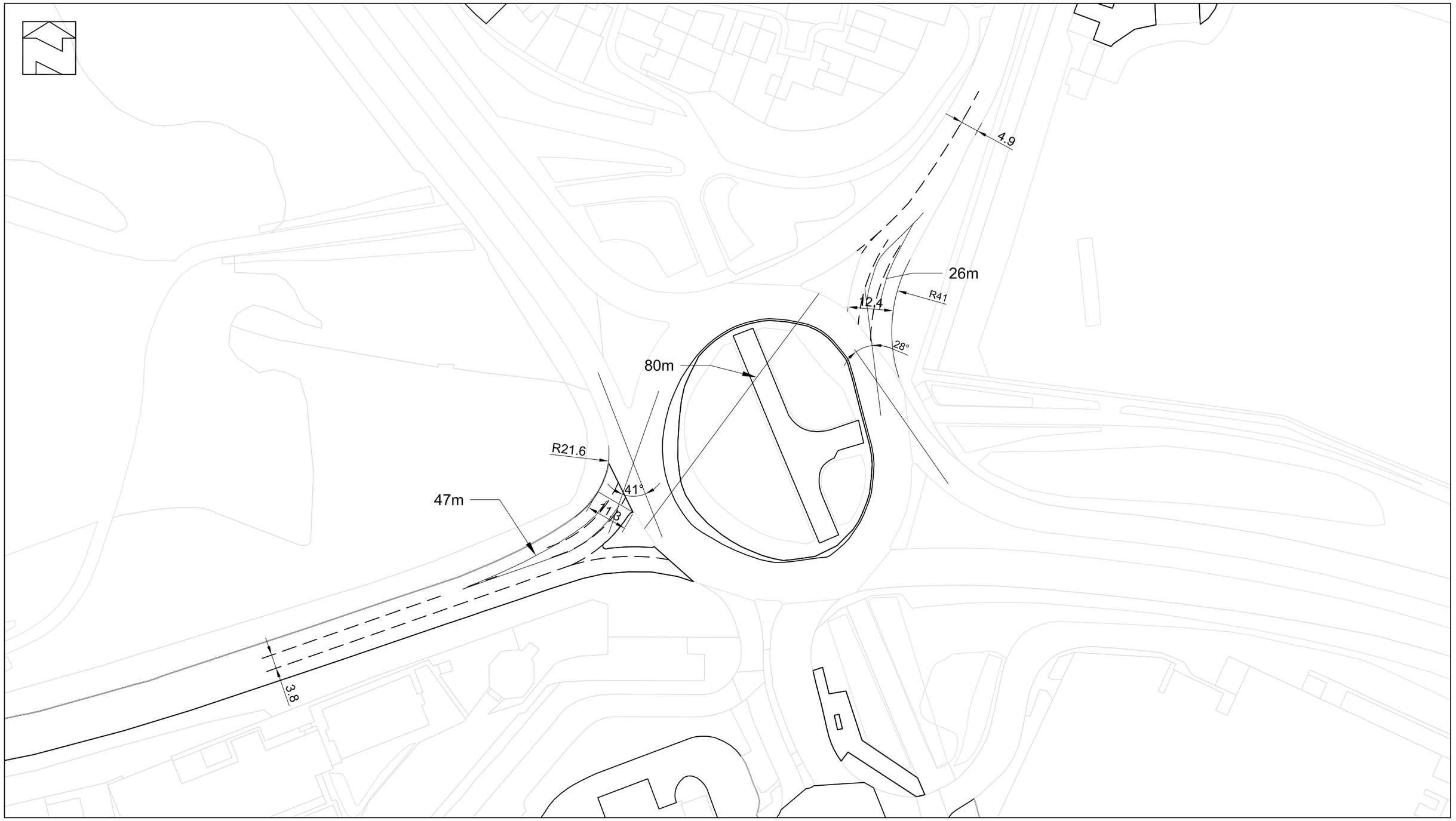


Network Results

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: Danes Camp Way/Mere Way Gyratory - mitigation	-	-	**N/A**	-	-		-	-	-	-	-	-	**113.9%**
A5076 Danes Camp Way/Mere Way Interchange	-	-	**N/A**	-	-		-	-	-	-	-	-	**113.9%**
2/1+2/2	Towcester Road Left Ahead	O	N/A	N/A	-		-	-	-	937	Inf : Inf	557+477	85.4 : 96.6%
3/1	Ahead	U	1	N/A	B		1	26	-	455	1900	855	53.2%
3/2	Ahead Right	U	1	N/A	B		1	26	-	422	1900	855	49.4%
3/3	Right	U	1	N/A	B		1	26	-	423	1900	855	49.5%
5/1	A5076 Danes Camp Way Left Ahead	U	1	N/A	A		1	24	-	922	1995	831	110.9%
5/2	A5076 Danes Camp Way Ahead	U	1	N/A	A		1	24	-	922	1995	831	110.9%
7/1+7/2	A5123 Towcester Road Ahead Left	O	N/A	N/A	-		-	-	-	1305	Inf : Inf	678+480	113.9 : 110.9%
8/1	Ahead	U	2	N/A	D		1	23	-	333	1900	760	39.7%
8/2	Right	U	2	N/A	D		1	23	-	562	1900	760	66.7%
8/3	Right	U	2	N/A	D		1	23	-	193	1900	760	22.9%
10/1	Mere Way Ahead Left	U	2	N/A	C		1	27	-	917	1960	915	100.3%
10/2+10/3	Mere Way Ahead	U	2	N/A	C		1	27	-	1235	2115:1975	987+238	100.8 : 100.8%
12/1+12/2	Supermarket Left Ahead	O	N/A	N/A	-		-	-	-	499	Inf : Inf	335+174	98.0 : 98.0%

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: Danes Camp Way/Mere Way Gyratory - mitigation	**-**	**-**	**5189**	**0**	**0**	**40.5**	**229.9**	**0.0**	**270.4**	**-**	**-**	**-**	**-**
A5076 Danes Camp Way/Mere Way Interchange	**-**	**-**	**5189**	**0**	**0**	**40.5**	**229.9**	**0.0**	**270.4**	**-**	**-**	**-**	**-**
2/1+2/2	937	937	1874	0	0	1.7	4.4	-	6.1	23.4	5.9	4.4	10.4
3/1	455	455	-	-	-	1.1	0.6	-	1.7	13.1	5.5	0.6	6.0
3/2	422	422	-	-	-	0.7	0.5	-	1.2	10.2	3.8	0.5	4.3
3/3	423	423	-	-	-	0.8	0.5	-	1.3	11.3	3.5	0.5	4.0
5/1	922	831	-	-	-	7.0	50.0	-	57.0	222.6	16.9	50.0	66.9
5/2	922	831	-	-	-	7.0	50.0	-	57.0	222.6	16.9	50.0	66.9
7/1+7/2	1305	1158	2317	0	0	7.6	77.6	-	85.2	235.1	35.6	77.6	113.2
8/1	302	302	-	-	-	0.7	0.3	-	1.0	12.3	3.0	0.3	3.3
8/2	507	507	-	-	-	1.7	1.0	-	2.7	19.1	6.9	1.0	7.9
8/3	174	174	-	-	-	0.7	0.1	-	0.9	17.8	2.2	0.1	2.4
10/1	917	915	-	-	-	4.2	15.7	-	19.9	78.1	15.3	15.7	31.1
10/2+10/3	1235	1227	-	-	-	5.3	20.2	-	25.6	74.5	16.7	20.2	36.9
12/1+12/2	499	499	998	0	0	1.9	8.9	-	10.9	78.3	5.4	8.9	14.3

C1 Stream: 1 PRC for Signalled Lanes (%): -23.2 Total Delay for Signalled Lanes (pcuHr): 118.21 Cycle Time (s): 60
C1 Stream: 2 PRC for Signalled Lanes (%): -12.0 Total Delay for Signalled Lanes (pcuHr): 50.02 Cycle Time (s): 60
PRC Over All Lanes (%): -26.5 Total Delay Over All Lanes(pcuHr): 270.38



Rev	Description	Date

Project:

Northampton Gateway SRFI

Title:

A5076 Danes Camp Way/Mere Way/Towcester Road Gyratory Arcady Measurements

Client:

ROXHILL

ADC INFRASTRUCTURE

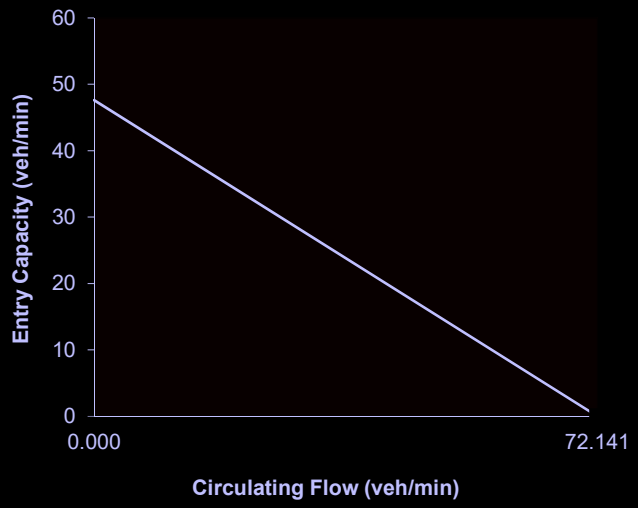
Drg Size:	Scale:	Date:
A3	1:1000	11/12/2017

Drg No:	Rev:
-	-

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Arcady Spreadsheet

Geometric Parameters		Enter Values	Acceptable Ranges
Approach road half width (m)	v	4.9	(2.2 - 12m)
Entry width (m)	e	12.4	(3 - 16m)
Effective length over which the flare is developed	l'	25	Any but Trl only up to 30
Entry radius (m)	r	41	(>= 3m)
Inscribed circle diameter (m)	D	80	(> = 13m)
Entry conflict angle (m)	Phi	14	(0 - 80)



INTERCEPT = 47.62 (Veh / Min)
2857 (Veh / Hr)

SLOPE = 0.660

	Veh/min	Veh/hr
Enter circul	59.81	0
Entry Capa	8.14	2857

Arcady Spreadsheet

Geometric Parameters		Enter Values	Acceptable Ranges
Approach road half width (m)	v	3.8	(2.2 - 12m)
Entry width (m)	e	11.8	(3 - 16m)
Effective length over which the flare is developed	l'	47	Any but Trl only up to 30
Entry radius (m)	r	22	(>= 3m)
Inscribed circle diameter (m)	D	80	(> = 13m)
Entry conflict angle (m)	Phi	20	(0 - 80)

t_D	1.0596015	0	72.887		
k	1.0391455	47.119	0		
S	0.2723404				
X2	8.9790634				
Qc	72.887				

INTERCEPT = 47.12 (Veh / Min)

2827 (Veh / Hr)

SLOPE = 0.646

	Veh/min	Veh/hr
Enter circul	59.81	0
Entry Capa	8.46	2827

APPENDIX M

A5076 DANES CAMP WAY/HUNSBURY HILL AVENUE/ HUNSBARROW ROAD/HUNSBURY HILL ROAD ROUNDABOUT ARCADY MODEL

Junctions 8

ARCADY 8 - Roundabout Module

Version: 8.0.4.487 [15039,24/03/2014]
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Filename: 171108 A5076_Hunsbury Hill Road.arc8
Path: C:\Users\ADCteam\Dropbox\~ JN8 TEMP\ADC1475\A5076_Hunsbury Hill Road
Report generation date: 07/02/2018 12:27:49

» (Default Analysis Set) - 2031 D1, AM
» (Default Analysis Set) - 2031 D1, PM
» (Default Analysis Set) - 2031 J1d, AM
» (Default Analysis Set) - 2031 J1d, PM

Summary of junction performance

	AM				PM			
	Queue (PCU)	Delay (s)	RFC	LOS	Queue (PCU)	Delay (s)	RFC	LOS
	A1 - 2031 D1							
Arm 1	9.68	17.04	0.91	C	8.61	17.27	0.90	C
Arm 2	120.13	459.18	1.35	F	4.93	30.76	0.85	D
Arm 3	274.04	399.28	1.21	F	135.86	180.68	1.12	F
Arm 4	1.85	15.28	0.65	C	1.35	10.15	0.58	B
Arm 5	66.18	670.78	1.35	F	258.09	1272.63	1.65	F
	A1 - 2031 J1d							
Arm 1	15.98	27.50	0.95	D	9.03	17.86	0.91	C
Arm 2	115.04	465.00	1.36	F	4.38	27.60	0.83	D
Arm 3	273.15	398.61	1.20	F	145.47	192.71	1.13	F
Arm 4	1.87	15.38	0.66	C	1.35	10.16	0.58	B
Arm 5	70.81	712.49	1.37	F	262.77	1306.10	1.66	F

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

"D1 - 2031 D1, AM " model duration: 07:45 - 09:15
"D2 - 2031 D1, PM" model duration: 16:45 - 18:15
"D3 - 2031 J1d, AM" model duration: 07:45 - 09:15
"D4 - 2031 J1d, PM" model duration: 16:45 - 18:15

Run using Junctions 8.0.4.487 at 07/02/2018 12:27:42

File summary

Title	A5076/Hunsbury Hill Roundabout
Location	Northampton
Site Number	
Date	08/11/2017
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 D1, AM

Data Errors and Warnings

No errors or warnings

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	Relationship
2031 D1, AM	2031 D1	AM		ONE HOUR	07:45	09:15	90	15				✓		

Junction Network

Junctions

Junction	Name	Junction Type	Arm Order	Grade Separated	Large Roundabout	Do Geometric Delay	Junction Delay (s)	Junction LOS
1	(untitled)	Roundabout	1,2,3,4,5				280.83	F

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Arm	Name	Description
1	1	A5076 Danes Camp Way	
2	2	Hunsbury Hill Road South	
3	3	A5076 Ring Road	
4	4	Hunsbury Hill Road North	
5	5	Hunsbarrow Road	

Capacity Options

Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)	Assume Flat Start Profile	Initial Queue (PCU)
1	0.00	99999.00		0.00
2	0.00	99999.00		0.00
3	0.00	99999.00		0.00
4	0.00	99999.00		0.00
5	0.00	99999.00		0.00

Roundabout Geometry

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	7.20	10.40	7.50	40.00	90.00	16.00	
2	3.60	8.30	15.80	39.00	90.00	14.00	
3	7.40	8.80	17.90	35.00	90.00	17.00	
4	3.80	7.60	21.30	31.00	90.00	21.00	
5	3.70	7.70	9.60	29.00	90.00	13.00	

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Enter slope and intercept directly	Entered slope	Entered intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
1		(calculated)	(calculated)	0.625	2780.780
2		(calculated)	(calculated)	0.511	1964.833
3		(calculated)	(calculated)	0.620	2752.035
4		(calculated)	(calculated)	0.506	1975.905
5		(calculated)	(calculated)	0.481	1762.200

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

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
1	ONE HOUR	✓	1960.00	100.000
2	ONE HOUR	✓	822.00	100.000
3	ONE HOUR	✓	2712.00	100.000
4	ONE HOUR	✓	405.00	100.000
5	ONE HOUR	✓	402.00	100.000

Turning Proportions

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

		To				
		1	2	3	4	5
From	1	0.000	73.000	1696.000	179.000	12.000
	2	258.000	0.000	555.000	9.000	0.000
	3	2331.000	215.000	0.000	154.000	12.000
	4	245.000	8.000	151.000	0.000	1.000
	5	31.000	13.000	340.000	18.000	0.000

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

		To				
		1	2	3	4	5
From	1	0.00	0.04	0.87	0.09	0.01
	2	0.31	0.00	0.68	0.01	0.00
	3	0.86	0.08	0.00	0.06	0.00
	4	0.60	0.02	0.37	0.00	0.00
	5	0.08	0.03	0.85	0.04	0.00

Vehicle Mix

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

		To				
		1	2	3	4	5
From	1	1.000	1.000	1.000	1.000	1.000
	2	1.000	1.000	1.000	1.000	1.000
	3	1.000	1.000	1.000	1.000	1.000
	4	1.000	1.000	1.000	1.000	1.000
	5	1.000	1.000	1.000	1.000	1.000

Heavy Vehicle Percentages - Junction 1 (for whole period)

		To				
		1	2	3	4	5
From	1	0.0	0.0	0.0	0.0	0.0
	2	0.0	0.0	0.0	0.0	0.0
	3	0.0	0.0	0.0	0.0	0.0
	4	0.0	0.0	0.0	0.0	0.0
	5	0.0	0.0	0.0	0.0	0.0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)	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	0.91	17.04	9.68	C	1798.53	2697.80	390.86	8.69	4.34	390.89	8.69
2	1.35	459.18	120.13	F	754.28	1131.42	4204.21	222.95	46.71	4204.32	222.96
3	1.21	399.28	274.04	F	2488.58	3732.87	12036.86	193.47	133.74	12385.24	199.07
4	0.65	15.28	1.85	C	371.64	557.45	108.11	11.64	1.20	108.14	11.64
5	1.35	670.78	66.18	F	368.88	553.32	2962.59	321.25	32.92	3190.96	346.01

Main Results for each time segment

Main results: (07:45-08:00)

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	1475.59	368.90	1469.49	2139.88	555.27	0.00	2433.59	2360.40	0.606	0.00	1.52	3.712	A
2	618.84	154.71	613.21	230.97	1793.79	0.00	1048.47	571.87	0.590	0.00	1.41	8.169	A
3	2041.74	510.43	2025.72	2051.24	355.76	0.00	2531.57	2488.25	0.807	0.00	4.00	6.914	A
4	304.91	76.23	302.90	269.33	2112.15	0.00	907.56	690.69	0.336	0.00	0.50	5.935	A
5	302.65	75.66	298.80	18.71	2396.35	0.00	609.61	220.94	0.496	0.00	0.96	11.447	B

Main results: (08:00-08:15)

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	1762.00	440.50	1756.88	2517.76	648.21	0.00	2375.48	2360.39	0.742	1.52	2.80	5.771	A
2	738.96	184.74	725.94	272.27	2132.82	0.00	875.28	571.87	0.844	1.41	4.66	22.409	C
3	2438.03	609.51	2378.48	2436.35	422.41	0.00	2490.27	2488.25	0.979	4.00	18.89	24.426	C
4	364.09	91.02	362.09	318.86	2482.02	0.00	720.47	690.69	0.505	0.50	1.00	9.990	A
5	361.39	90.35	344.02	22.17	2821.94	0.00	404.90	220.94	0.893	0.96	5.30	49.654	E

Main results: (08:15-08:30)

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	2158.00	539.50	2133.50	2631.98	671.37	0.00	2360.99	2360.39	0.914	2.80	8.93	14.483	B
2	905.04	226.26	677.65	294.89	2509.98	0.00	682.61	571.87	1.326	4.66	61.51	189.875	F
3	2985.97	746.49	2473.85	2744.99	442.65	0.00	2477.73	2488.25	1.205	18.89	146.92	126.381	F
4	445.91	111.48	442.67	357.37	2559.13	0.00	681.47	690.69	0.654	1.00	1.81	14.874	B
5	442.61	110.65	326.65	25.10	2976.70	0.00	330.47	220.94	1.339	5.30	34.29	242.057	F

Main results: (08:30-08:45)

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	2158.00	539.50	2154.99	2634.83	674.04	0.00	2359.32	2360.39	0.915	8.93	9.68	17.043	C
2	905.04	226.26	670.56	296.08	2532.94	0.00	670.88	571.87	1.349	61.51	120.13	459.180	F
3	2985.97	746.49	2477.48	2761.01	442.49	0.00	2477.82	2488.25	1.205	146.92	274.04	309.750	F
4	445.91	111.48	445.74	359.52	2560.46	0.00	680.80	690.69	0.655	1.81	1.85	15.282	C
5	442.61	110.65	327.92	25.26	2980.94	0.00	328.43	220.94	1.348	34.29	62.96	539.630	F

Main results: (08:45-09:00)

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	1762.00	440.50	1788.80	2624.82	660.11	0.00	2368.04	2360.39	0.744	9.68	2.98	6.491	A
2	738.96	184.74	849.62	279.71	2169.20	0.00	856.70	571.87	0.863	120.13	92.47	436.034	F
3	2438.03	609.51	2454.36	2552.93	465.90	0.00	2463.32	2488.25	0.990	274.04	269.96	399.277	F
4	364.09	91.02	366.52	327.64	2592.62	0.00	664.53	690.69	0.548	1.85	1.25	12.179	B
5	361.39	90.35	348.51	22.72	2936.42	0.00	349.84	220.94	1.033	62.96	66.18	670.776	F

Main results: (09:00-09:15)

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	1475.59	368.90	1480.91	2623.24	643.84	0.00	2378.21	2360.40	0.620	2.98	1.65	4.036	A
2	618.84	154.71	981.03	266.68	1858.06	0.00	1015.64	571.87	0.609	92.47	1.92	165.142	F
3	2041.74	510.43	2446.16	2360.12	478.96	0.00	2455.22	2488.25	0.832	269.96	168.85	323.553	F
4	304.91	76.23	306.26	300.89	2624.24	0.00	648.54	690.69	0.470	1.25	0.91	10.562	B
5	302.65	75.66	357.22	20.65	2909.85	0.00	362.62	220.94	0.835	66.18	52.54	600.003	F

Queueing Delay Results for each time segment

Queueing Delay results: (07:45-08:00)

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	22.06	1.47	3.712	A	A
2	19.88	1.33	8.169	A	A
3	55.04	3.67	6.914	A	A
4	7.25	0.48	5.935	A	A
5	13.47	0.90	11.447	B	B

Queueing Delay results: (08:00-08:15)

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	39.93	2.66	5.771	A	A
2	59.17	3.94	22.409	C	C
3	205.70	13.71	24.426	C	C
4	14.25	0.95	9.990	A	A
5	60.22	4.01	49.654	E	D

Queueing Delay results: (08:15-08:30)

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	112.32	7.49	14.483	B	B
2	501.95	33.46	189.875	F	F
3	1247.61	83.17	126.381	F	F
4	25.18	1.68	14.874	B	B
5	300.25	20.02	242.057	F	F

Queueing Delay results: (08:30-08:45)

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	140.63	9.38	17.043	C	B
2	1362.44	90.83	459.180	F	F
3	3157.37	210.49	309.750	F	F
4	27.54	1.84	15.282	C	B
5	729.60	48.64	539.630	F	F

Queueing Delay results: (08:45-09:00)

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	50.24	3.35	6.491	A	A
2	1594.48	106.30	436.034	F	F
3	4080.03	272.00	399.277	F	F
4	19.72	1.31	12.179	B	B
5	968.63	64.58	670.776	F	F

Queueing Delay results: (09:00-09:15)

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	25.69	1.71	4.036	A	A
2	666.30	44.42	165.142	F	F
3	3291.11	219.41	323.553	F	F
4	14.17	0.94	10.562	B	B
5	890.42	59.36	600.003	F	F

(Default Analysis Set) - 2031 D1, PM

Data Errors and Warnings

No errors or warnings

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	Relationship
2031 D1, PM	2031 D1	PM		ONE HOUR	16:45	18:15	90	15				✓		

Junction Network

Junctions

Junction	Name	Junction Type	Arm Order	Grade Separated	Large Roundabout	Do Geometric Delay	Junction Delay (s)	Junction LOS
1	(untitled)	Roundabout	1,2,3,4,5				272.78	F

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Arm	Name	Description
1	1	A5076 Danes Camp Way	
2	2	Hunsbury Hill Road South	
3	3	A5076 Ring Road	
4	4	Hunsbury Hill Road North	
5	5	Hunsbarrow Road	

Capacity Options

Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)	Assume Flat Start Profile	Initial Queue (PCU)
1	0.00	99999.00		0.00
2	0.00	99999.00		0.00
3	0.00	99999.00		0.00
4	0.00	99999.00		0.00
5	0.00	99999.00		0.00

Roundabout Geometry

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	7.20	10.40	7.50	40.00	90.00	16.00	
2	3.60	8.30	15.80	39.00	90.00	14.00	
3	7.40	8.80	17.90	35.00	90.00	17.00	
4	3.80	7.60	21.30	31.00	90.00	21.00	
5	3.70	7.70	9.60	29.00	90.00	13.00	

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Enter slope and intercept directly	Entered slope	Entered intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
1		(calculated)	(calculated)	0.625	2780.780
2		(calculated)	(calculated)	0.511	1964.833
3		(calculated)	(calculated)	0.620	2752.035
4		(calculated)	(calculated)	0.506	1975.905
5		(calculated)	(calculated)	0.481	1762.200

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

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
1	ONE HOUR	✓	1713.00	100.000
2	ONE HOUR	✓	556.00	100.000
3	ONE HOUR	✓	2159.00	100.000
4	ONE HOUR	✓	441.00	100.000
5	ONE HOUR	✓	887.00	100.000

Turning Proportions

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

		To				
		1	2	3	4	5
From	1	0.000	87.000	1070.000	509.000	47.000
	2	254.000	0.000	272.000	22.000	8.000
	3	1299.000	413.000	0.000	219.000	228.000
	4	326.000	12.000	90.000	0.000	13.000
	5	1.000	72.000	679.000	135.000	0.000

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

		To				
		1	2	3	4	5
From	1	0.00	0.05	0.62	0.30	0.03
	2	0.46	0.00	0.49	0.04	0.01
	3	0.60	0.19	0.00	0.10	0.11
	4	0.74	0.03	0.20	0.00	0.03
	5	0.00	0.08	0.77	0.15	0.00

Vehicle Mix

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

		To				
		1	2	3	4	5
From	1	1.000	1.000	1.000	1.000	1.000
	2	1.000	1.000	1.000	1.000	1.000
	3	1.000	1.000	1.000	1.000	1.000
	4	1.000	1.000	1.000	1.000	1.000
	5	1.000	1.000	1.000	1.000	1.000

Heavy Vehicle Percentages - Junction 1 (for whole period)

		To				
		1	2	3	4	5
From	1	0.0	0.0	0.0	0.0	0.0
	2	0.0	0.0	0.0	0.0	0.0
	3	0.0	0.0	0.0	0.0	0.0
	4	0.0	0.0	0.0	0.0	0.0
	5	0.0	0.0	0.0	0.0	0.0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)	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	0.90	17.27	8.61	C	1571.88	2357.82	370.03	9.42	4.11	370.08	9.42
2	0.85	30.76	4.93	D	510.20	765.29	193.02	15.13	2.14	193.04	15.13
3	1.12	180.68	135.86	F	1981.14	2971.70	4100.04	82.78	45.56	4100.12	82.78
4	0.58	10.15	1.35	B	404.67	607.00	77.12	7.62	0.86	77.13	7.62
5	1.65	1272.63	258.09	F	813.93	1220.89	11020.60	541.60	122.45	13003.39	639.04

Main Results for each time segment

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

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	1289.64	322.41	1283.57	1407.14	1041.77	0.00	2129.39	2138.93	0.606	0.00	1.52	4.226	A
2	418.59	104.65	415.74	436.63	1888.70	0.00	999.99	636.23	0.419	0.00	0.71	6.133	A
3	1625.41	406.35	1615.96	1575.48	728.96	0.00	2300.30	2079.61	0.707	0.00	2.36	5.191	A
4	332.01	83.00	330.34	661.76	1683.17	0.00	1124.54	849.39	0.295	0.00	0.42	4.524	A
5	667.78	166.95	656.98	221.59	1791.92	0.00	900.32	432.75	0.742	0.00	2.70	14.229	B

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

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	1539.95	384.99	1534.27	1678.35	1170.81	0.00	2048.71	2138.93	0.752	1.52	2.94	6.923	A
2	499.83	124.96	497.05	514.71	2190.37	0.00	845.88	636.23	0.591	0.71	1.41	10.240	B
3	1940.90	485.22	1925.03	1827.19	860.23	0.00	2218.95	2079.61	0.875	2.36	6.33	11.664	B
4	396.45	99.11	395.34	779.18	2006.08	0.00	961.21	849.39	0.412	0.42	0.69	6.348	A
5	797.39	199.35	711.93	264.19	2137.22	0.00	734.24	432.75	1.086	2.70	24.07	85.149	F

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

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	1886.05	471.51	1865.49	1903.63	1113.60	0.00	2084.48	2138.91	0.905	2.94	8.08	15.176	C
2	612.17	153.04	600.09	560.77	2418.32	0.00	729.44	636.23	0.839	1.41	4.43	25.757	D
3	2377.10	594.28	2113.65	2015.35	1003.06	0.00	2130.44	2079.61	1.116	6.33	72.19	74.695	F
4	485.55	121.39	483.07	883.50	2233.21	0.00	846.32	849.39	0.574	0.69	1.31	9.843	A
5	976.61	244.15	598.22	297.27	2419.02	0.00	598.70	432.75	1.631	24.07	118.66	442.905	F

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

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	1886.05	471.51	1883.93	1915.23	1109.60	0.00	2086.98	2138.91	0.904	8.08	8.61	17.274	C
2	612.17	153.04	610.16	562.95	2430.58	0.00	723.17	636.23	0.847	4.43	4.93	30.760	D
3	2377.10	594.28	2122.43	2027.49	1013.24	0.00	2124.13	2079.61	1.119	72.19	135.86	180.685	F
4	485.55	121.39	485.41	889.32	2246.35	0.00	839.68	849.39	0.578	1.31	1.35	10.153	B
5	976.61	244.15	591.99	298.92	2432.84	0.00	592.05	432.75	1.650	118.66	214.82	983.512	F

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

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	1539.95	384.99	1562.43	1853.51	1136.50	0.00	2070.16	2138.93	0.744	8.61	2.99	7.386	A
2	499.83	124.96	514.05	561.70	2137.23	0.00	873.03	636.23	0.573	4.93	1.37	10.407	B
3	1940.90	485.22	2199.98	1786.57	864.72	0.00	2216.17	2079.61	0.876	135.86	71.09	170.444	F
4	396.45	99.11	398.14	802.77	2261.92	0.00	831.80	849.39	0.477	1.35	0.93	8.335	A
5	797.39	199.35	624.28	294.33	2365.73	0.00	624.33	432.75	1.277	214.82	258.09	1272.634	F

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

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	1289.64	322.41	1294.36	1582.69	1226.11	0.00	2014.13	2138.93	0.640	2.99	1.81	5.035	A
2	418.59	104.65	420.78	502.03	2018.44	0.00	933.71	636.23	0.448	1.37	0.82	7.050	A
3	1625.41	406.35	1899.56	1684.48	754.75	0.00	2284.32	2079.61	0.712	71.09	2.55	19.737	C
4	332.01	83.00	333.69	713.63	1940.67	0.00	994.29	849.39	0.334	0.93	0.51	5.464	A
5	667.78	166.95	786.44	252.01	2022.35	0.00	789.49	432.75	0.846	258.09	228.43	1113.916	F

Queueing Delay Results for each time segment

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

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	21.89	1.46	4.226	A	A
2	10.26	0.68	6.133	A	A
3	33.51	2.23	5.191	A	A
4	6.07	0.40	4.524	A	A
5	36.06	2.40	14.229	B	B

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

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	41.47	2.76	6.923	A	A
2	19.91	1.33	10.240	B	B
3	83.41	5.56	11.664	B	B
4	10.08	0.67	6.348	A	A
5	216.81	14.45	85.149	F	F

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

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	102.71	6.85	15.176	C	B
2	55.81	3.72	25.757	D	C
3	605.73	40.38	74.695	F	E
4	18.66	1.24	9.843	A	A
5	1070.89	71.39	442.905	F	F

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

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	125.83	8.39	17.274	C	B
2	70.93	4.73	30.760	D	C
3	1560.99	104.07	180.685	F	F
4	20.04	1.34	10.153	B	B
5	2501.10	166.74	983.512	F	F

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

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	49.93	3.33	7.386	A	A
2	23.27	1.55	10.407	B	B
3	1552.11	103.47	170.444	F	F
4	14.45	0.96	8.335	A	A
5	3546.82	236.45	1272.634	F	F

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

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	28.21	1.88	5.035	A	A
2	12.84	0.86	7.050	A	A
3	264.29	17.62	19.737	C	B
4	7.82	0.52	5.464	A	A
5	3648.92	243.26	1113.916	F	F

(Default Analysis Set) - 2031 J1d, AM

Data Errors and Warnings

No errors or warnings

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	Relationship
2031 J1d, AM	2031 J1d	AM		ONE HOUR	07:45	09:15	90	15				✓		

Junction Network

Junctions

Junction	Name	Junction Type	Arm Order	Grade Separated	Large Roundabout	Do Geometric Delay	Junction Delay (s)	Junction LOS
1	(untitled)	Roundabout	1,2,3,4,5				283.84	F

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Arm	Name	Description
1	1	A5076 Danes Camp Way	
2	2	Hunsbury Hill Road South	
3	3	A5076 Ring Road	
4	4	Hunsbury Hill Road North	
5	5	Hunsbarrow Road	

Capacity Options

Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)	Assume Flat Start Profile	Initial Queue (PCU)
1	0.00	99999.00		0.00
2	0.00	99999.00		0.00
3	0.00	99999.00		0.00
4	0.00	99999.00		0.00
5	0.00	99999.00		0.00

Roundabout Geometry

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	7.20	10.40	7.50	40.00	90.00	16.00	
2	3.60	8.30	15.80	39.00	90.00	14.00	
3	7.40	8.80	17.90	35.00	90.00	17.00	
4	3.80	7.60	21.30	31.00	90.00	21.00	
5	3.70	7.70	9.60	29.00	90.00	13.00	

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Enter slope and intercept directly	Entered slope	Entered intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
1		(calculated)	(calculated)	0.625	2780.780
2		(calculated)	(calculated)	0.511	1964.833
3		(calculated)	(calculated)	0.620	2752.035
4		(calculated)	(calculated)	0.506	1975.905
5		(calculated)	(calculated)	0.481	1762.200

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

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
1	ONE HOUR	✓	2021.00	100.000
2	ONE HOUR	✓	779.00	100.000
3	ONE HOUR	✓	2714.00	100.000
4	ONE HOUR	✓	406.00	100.000
5	ONE HOUR	✓	407.00	100.000

Turning Proportions

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

		To				
		1	2	3	4	5
From	1	0.000	65.000	1779.000	166.000	11.000
	2	268.000	0.000	502.000	9.000	0.000
	3	2281.000	256.000	0.000	164.000	13.000
	4	240.000	7.000	158.000	0.000	1.000
	5	28.000	14.000	344.000	21.000	0.000

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

		To				
		1	2	3	4	5
From	1	0.00	0.03	0.88	0.08	0.01
	2	0.34	0.00	0.64	0.01	0.00
	3	0.84	0.09	0.00	0.06	0.00
	4	0.59	0.02	0.39	0.00	0.00
	5	0.07	0.03	0.85	0.05	0.00

Vehicle Mix

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

		To				
		1	2	3	4	5
From	1	1.000	1.000	1.000	1.000	1.000
	2	1.000	1.000	1.000	1.000	1.000
	3	1.000	1.000	1.000	1.000	1.000
	4	1.000	1.000	1.000	1.000	1.000
	5	1.000	1.000	1.000	1.000	1.000

Heavy Vehicle Percentages - Junction 1 (for whole period)

		To				
		1	2	3	4	5
From	1	0.0	0.0	0.0	0.0	0.0
	2	0.0	0.0	0.0	0.0	0.0
	3	0.0	0.0	0.0	0.0	0.0
	4	0.0	0.0	0.0	0.0	0.0
	5	0.0	0.0	0.0	0.0	0.0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)	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	0.95	27.50	15.98	D	1854.50	2781.76	550.79	11.88	6.12	550.83	11.88
2	1.36	465.00	115.04	F	714.82	1072.24	4007.89	224.27	44.53	4007.98	224.28
3	1.20	398.61	273.15	F	2490.41	3735.62	12024.69	193.14	133.61	12378.30	198.82
4	0.66	15.38	1.87	C	372.55	558.83	108.89	11.69	1.21	108.92	11.69
5	1.37	712.49	70.81	F	373.47	560.21	3164.76	338.96	35.16	3445.90	369.07

Main Results for each time segment

Main results: (07:45-08:00)

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	1521.51	380.38	1514.73	2103.99	596.27	0.00	2407.95	2332.80	0.632	0.00	1.70	4.000	A
2	586.47	146.62	581.14	255.57	1855.43	0.00	1016.99	575.38	0.577	0.00	1.33	8.164	A
3	2043.24	510.81	2027.18	2081.66	354.91	0.00	2532.10	2491.67	0.807	0.00	4.01	6.925	A
4	305.66	76.41	303.65	269.23	2112.86	0.00	907.20	685.21	0.337	0.00	0.50	5.946	A
5	306.41	76.60	302.46	18.70	2397.80	0.00	608.91	217.95	0.503	0.00	0.99	11.605	B

Main results: (08:00-08:15)

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	1816.84	454.21	1810.32	2475.37	695.22	0.00	2346.08	2332.80	0.774	1.70	3.33	6.639	A
2	700.31	175.08	688.06	300.91	2204.63	0.00	838.60	575.38	0.835	1.33	4.39	22.327	C
3	2439.83	609.96	2379.91	2471.57	421.12	0.00	2491.07	2491.67	0.979	4.01	19.00	24.517	C
4	364.99	91.25	362.98	318.37	2482.66	0.00	720.15	685.21	0.507	0.50	1.01	10.022	B
5	365.88	91.47	347.10	22.15	2823.49	0.00	404.16	217.95	0.905	0.99	5.68	52.068	F

Main results: (08:15-08:30)

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	2225.16	556.29	2184.11	2588.07	717.29	0.00	2332.28	2332.79	0.954	3.33	13.59	20.273	C
2	857.69	214.42	642.43	322.80	2578.60	0.00	647.56	575.38	1.325	4.39	58.21	190.482	F
3	2988.17	747.04	2477.64	2784.50	436.53	0.00	2481.52	2491.67	1.204	19.00	146.63	126.055	F
4	447.01	111.75	443.72	353.34	2560.82	0.00	680.61	685.21	0.657	1.01	1.83	14.986	B
5	448.12	112.03	325.66	24.85	2979.70	0.00	329.03	217.95	1.362	5.68	36.30	255.609	F

Main results: (08:30-08:45)

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	2225.16	556.29	2215.60	2589.60	720.31	0.00	2330.39	2332.79	0.955	13.59	15.98	27.499	D
2	857.69	214.42	630.39	324.34	2611.57	0.00	630.71	575.38	1.360	58.21	115.04	465.000	F
3	2988.17	747.04	2482.07	2806.88	435.08	0.00	2482.42	2491.67	1.204	146.63	273.15	308.479	F
4	447.01	111.75	446.85	356.13	2561.02	0.00	680.51	685.21	0.657	1.83	1.87	15.376	C
5	448.12	112.03	327.09	25.05	2982.82	0.00	327.52	217.95	1.368	36.30	66.55	569.598	F

Main results: (08:45-09:00)

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	1816.84	454.21	1866.37	2579.54	705.66	0.00	2339.55	2332.80	0.777	15.98	3.60	8.364	A
2	700.31	175.08	802.21	309.82	2262.21	0.00	809.19	575.38	0.865	115.04	89.56	441.747	F
3	2439.83	609.96	2453.83	2597.71	466.71	0.00	2462.81	2491.67	0.991	273.15	269.65	398.613	F
4	364.99	91.25	367.46	328.85	2591.70	0.00	665.00	685.21	0.549	1.87	1.25	12.201	B
5	365.88	91.47	348.86	22.82	2936.34	0.00	349.88	217.95	1.046	66.55	70.81	712.486	F

Main results: (09:00-09:15)

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	1521.51	380.38	1528.48	2581.03	687.31	0.00	2351.02	2332.80	0.647	3.60	1.86	4.412	A
2	586.47	146.62	937.80	297.06	1918.72	0.00	984.65	575.38	0.596	89.56	1.73	159.444	F
3	2043.24	510.81	2441.97	2370.78	485.74	0.00	2451.02	2491.67	0.834	269.65	169.97	324.696	F
4	305.66	76.41	307.01	302.35	2625.36	0.00	647.97	685.21	0.472	1.25	0.91	10.602	B
5	306.41	76.60	356.74	20.77	2911.60	0.00	361.78	217.95	0.847	70.81	58.23	652.550	F

Queueing Delay Results for each time segment

Queueing Delay results: (07:45-08:00)

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	24.45	1.63	4.000	A	A
2	18.84	1.26	8.164	A	A
3	55.17	3.68	6.925	A	A
4	7.28	0.49	5.946	A	A
5	13.81	0.92	11.605	B	B

Queueing Delay results: (08:00-08:15)

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	46.85	3.12	6.639	A	A
2	56.00	3.73	22.327	C	C
3	206.59	13.77	24.517	C	C
4	14.33	0.96	10.022	B	B
5	63.63	4.24	52.068	F	D

Queueing Delay results: (08:15-08:30)

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	157.57	10.50	20.273	C	C
2	475.33	31.69	190.482	F	F
3	1246.19	83.08	126.055	F	F
4	25.42	1.69	14.986	B	B
5	317.77	21.18	255.609	F	F

Queueing Delay results: (08:30-08:45)

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	224.26	14.95	27.499	D	C
2	1299.49	86.63	465.000	F	F
3	3148.50	209.90	308.479	F	F
4	27.80	1.85	15.376	C	B
5	771.53	51.44	569.598	F	F

Queueing Delay results: (08:45-09:00)

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	68.65	4.58	8.364	A	A
2	1534.49	102.30	441.747	F	F
3	4071.05	271.40	398.613	F	F
4	19.80	1.32	12.201	B	B
5	1030.25	68.68	712.486	F	F

Queueing Delay results: (09:00-09:15)

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	29.01	1.93	4.412	A	A
2	623.75	41.58	159.444	F	F
3	3297.18	219.81	324.696	F	F
4	14.26	0.95	10.602	B	B
5	967.77	64.52	652.550	F	F

(Default Analysis Set) - 2031 J1d, PM

Data Errors and Warnings

No errors or warnings

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	Relationship
2031 J1d, PM	2031 J1d	PM		ONE HOUR	16:45	18:15	90	15				✓		

Junction Network

Junctions

Junction	Name	Junction Type	Arm Order	Grade Separated	Large Roundabout	Do Geometric Delay	Junction Delay (s)	Junction LOS
1	(untitled)	Roundabout	1,2,3,4,5				281.67	F

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Arm	Name	Description
1	1	A5076 Danes Camp Way	
2	2	Hunsbury Hill Road South	
3	3	A5076 Ring Road	
4	4	Hunsbury Hill Road North	
5	5	Hunsbarrow Road	

Capacity Options

Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)	Assume Flat Start Profile	Initial Queue (PCU)
1	0.00	99999.00		0.00
2	0.00	99999.00		0.00
3	0.00	99999.00		0.00
4	0.00	99999.00		0.00
5	0.00	99999.00		0.00

Roundabout Geometry

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	7.20	10.40	7.50	40.00	90.00	16.00	
2	3.60	8.30	15.80	39.00	90.00	14.00	
3	7.40	8.80	17.90	35.00	90.00	17.00	
4	3.80	7.60	21.30	31.00	90.00	21.00	
5	3.70	7.70	9.60	29.00	90.00	13.00	

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Enter slope and intercept directly	Entered slope	Entered intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
1		(calculated)	(calculated)	0.625	2780.780
2		(calculated)	(calculated)	0.511	1964.833
3		(calculated)	(calculated)	0.620	2752.035
4		(calculated)	(calculated)	0.506	1975.905
5		(calculated)	(calculated)	0.481	1762.200

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

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
1	ONE HOUR	✓	1741.00	100.000
2	ONE HOUR	✓	548.00	100.000
3	ONE HOUR	✓	2175.00	100.000
4	ONE HOUR	✓	441.00	100.000
5	ONE HOUR	✓	890.00	100.000

Turning Proportions

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

		To				
		1	2	3	4	5
From	1	0.000	103.000	1078.000	512.000	48.000
	2	252.000	0.000	265.000	22.000	9.000
	3	1329.000	400.000	0.000	219.000	227.000
	4	335.000	12.000	81.000	0.000	13.000
	5	17.000	77.000	661.000	135.000	0.000

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

		To				
		1	2	3	4	5
From	1	0.00	0.06	0.62	0.29	0.03
	2	0.46	0.00	0.48	0.04	0.02
	3	0.61	0.18	0.00	0.10	0.10
	4	0.76	0.03	0.18	0.00	0.03
	5	0.02	0.09	0.74	0.15	0.00

Vehicle Mix

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

		To				
		1	2	3	4	5
From	1	1.000	1.000	1.000	1.000	1.000
	2	1.000	1.000	1.000	1.000	1.000
	3	1.000	1.000	1.000	1.000	1.000
	4	1.000	1.000	1.000	1.000	1.000
	5	1.000	1.000	1.000	1.000	1.000

Heavy Vehicle Percentages - Junction 1 (for whole period)

		To				
		1	2	3	4	5
From	1	0.0	0.0	0.0	0.0	0.0
	2	0.0	0.0	0.0	0.0	0.0
	3	0.0	0.0	0.0	0.0	0.0
	4	0.0	0.0	0.0	0.0	0.0
	5	0.0	0.0	0.0	0.0	0.0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)	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	0.91	17.86	9.03	C	1597.57	2396.36	382.53	9.58	4.25	382.57	9.58
2	0.83	27.60	4.38	D	502.85	754.28	176.83	14.07	1.96	176.85	14.07
3	1.13	192.71	145.47	F	1995.82	2993.73	4520.01	90.59	50.22	4520.10	90.59
4	0.58	10.16	1.35	B	404.67	607.00	77.76	7.69	0.86	77.77	7.69
5	1.66	1306.10	262.77	F	816.68	1225.02	11305.12	553.71	125.61	13568.81	664.58

Main Results for each time segment

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

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	1310.72	327.68	1304.51	1446.58	1015.31	0.00	2145.94	2166.29	0.611	0.00	1.55	4.247	A
2	412.56	103.14	409.81	442.53	1877.30	0.00	1005.82	647.16	0.410	0.00	0.69	6.013	A
3	1637.45	409.36	1627.75	1555.93	731.18	0.00	2298.92	2072.59	0.712	0.00	2.43	5.290	A
4	332.01	83.00	330.33	663.93	1695.01	0.00	1118.55	847.01	0.297	0.00	0.42	4.558	A
5	670.04	167.51	658.88	222.32	1803.02	0.00	894.98	431.22	0.749	0.00	2.79	14.631	B

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

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	1565.12	391.28	1559.33	1723.52	1134.30	0.00	2071.54	2166.29	0.756	1.55	3.00	6.949	A
2	492.64	123.16	490.08	520.72	2172.91	0.00	854.80	647.16	0.576	0.69	1.33	9.801	A
3	1955.28	488.82	1938.24	1800.94	862.05	0.00	2217.82	2072.59	0.882	2.43	6.68	12.195	B
4	396.45	99.11	395.32	780.80	2019.49	0.00	954.43	847.01	0.415	0.42	0.70	6.425	A
5	800.09	200.02	707.99	264.98	2149.82	0.00	728.18	431.22	1.099	2.79	25.81	90.387	F

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

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	1916.88	479.22	1895.15	1942.36	1076.22	0.00	2107.85	2166.27	0.909	3.00	8.43	15.534	C
2	603.36	150.84	592.77	565.60	2405.77	0.00	735.85	647.16	0.820	1.33	3.97	23.610	C
3	2394.72	598.68	2113.45	1992.27	1006.27	0.00	2128.45	2072.59	1.125	6.68	77.00	78.960	F
4	485.55	121.39	483.09	884.50	2235.22	0.00	845.31	847.01	0.574	0.70	1.32	9.871	A
5	979.91	244.98	597.07	296.80	2421.51	0.00	597.50	431.22	1.640	25.81	121.53	457.375	F

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

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	1916.88	479.22	1914.48	1952.65	1072.66	0.00	2110.08	2166.27	0.908	8.43	9.03	17.863	C
2	603.36	150.84	601.74	567.69	2419.45	0.00	728.86	647.16	0.828	3.97	4.38	27.603	D
3	2394.72	598.68	2120.83	2004.90	1016.28	0.00	2122.25	2072.59	1.128	77.00	145.47	192.710	F
4	485.55	121.39	485.42	890.45	2246.66	0.00	839.52	847.01	0.578	1.32	1.35	10.157	B
5	979.91	244.98	591.56	298.32	2433.76	0.00	591.61	431.22	1.656	121.53	218.61	1003.880	F

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

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	1565.12	391.28	1589.03	1890.81	1100.10	0.00	2092.92	2166.29	0.748	9.03	3.05	7.466	A
2	492.64	123.16	504.94	563.38	2125.75	0.00	878.89	647.16	0.561	4.38	1.31	9.929	A
3	1955.28	488.82	2199.97	1764.24	866.45	0.00	2215.10	2072.59	0.883	145.47	84.30	188.764	F
4	396.45	99.11	398.14	803.66	2262.76	0.00	831.38	847.01	0.477	1.35	0.93	8.343	A
5	800.09	200.02	623.45	293.45	2367.46	0.00	623.50	431.22	1.283	218.61	262.77	1306.097	F

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

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	1310.72	327.68	1315.68	1658.80	1177.91	0.00	2044.27	2166.29	0.641	3.05	1.81	4.975	A
2	412.56	103.14	414.70	513.96	1979.62	0.00	953.54	647.16	0.433	1.31	0.77	6.706	A
3	1637.45	409.36	1964.13	1641.55	752.76	0.00	2285.55	2072.59	0.716	84.30	2.63	30.214	D
4	332.01	83.00	333.60	716.75	2000.15	0.00	964.21	847.01	0.344	0.93	0.53	5.724	A
5	670.04	167.51	760.87	257.91	2075.83	0.00	763.77	431.22	0.877	262.77	240.06	1189.847	F

Queueing Delay Results for each time segment

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

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	22.35	1.49	4.247	A	A
2	9.92	0.66	6.013	A	A
3	34.37	2.29	5.290	A	A
4	6.11	0.41	4.558	A	A
5	37.13	2.48	14.631	B	B

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

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	42.29	2.82	6.949	A	A
2	18.85	1.26	9.801	A	A
3	87.44	5.83	12.195	B	B
4	10.20	0.68	6.425	A	A
5	229.83	15.32	90.387	F	F

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

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	106.54	7.10	15.534	C	B
2	50.93	3.40	23.610	C	C
3	643.02	42.87	78.960	F	E
4	18.71	1.25	9.871	A	A
5	1105.43	73.70	457.375	F	F

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

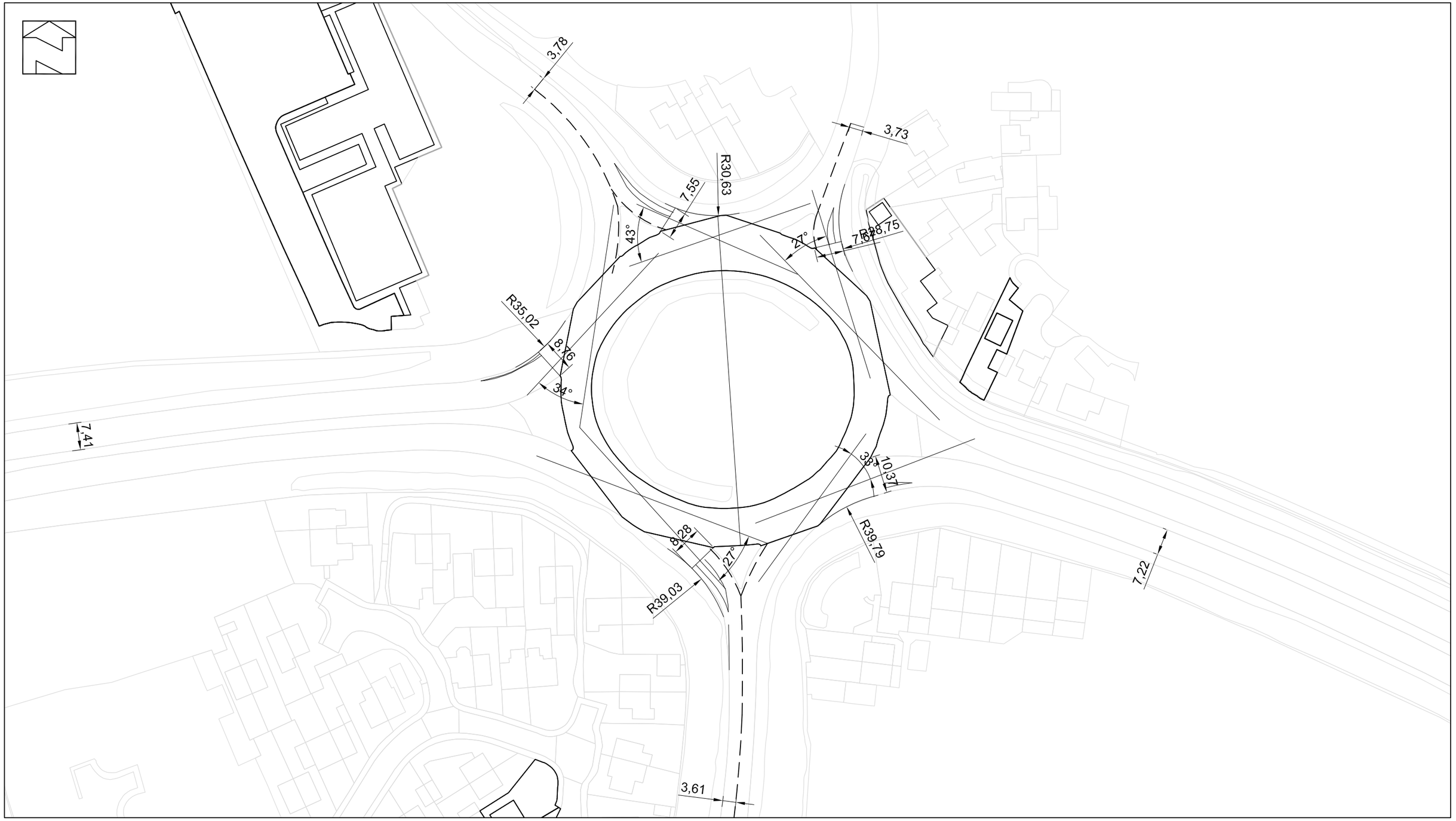
Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	131.72	8.78	17.863	C	B
2	63.33	4.22	27.603	D	C
3	1669.07	111.27	192.710	F	F
4	20.07	1.34	10.157	B	B
5	2551.06	170.07	1003.880	F	F

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

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	51.31	3.42	7.466	A	A
2	21.77	1.45	9.929	A	A
3	1723.30	114.89	188.764	F	F
4	14.46	0.96	8.343	A	A
5	3610.40	240.69	1306.097	F	F

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

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	28.31	1.89	4.975	A	A
2	12.02	0.80	6.706	A	A
3	362.81	24.19	30.214	D	C
4	8.20	0.55	5.724	A	A
5	3771.28	251.42	1189.847	F	F



Rev	Description	Date

Project:

Northampton Gateway SRFI

Title:

A5075 Danes Camp Way/Hunsbury Hill/Hunsbarrow Road roundabout Arcady Measurements

Client:

ROXHILL

ADC INFRASTRUCTURE

Drg Size:	Scale:	Date:
A3	1:1000	11/12/2017

Drg No:	Rev:
-	-

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APPENDIX N

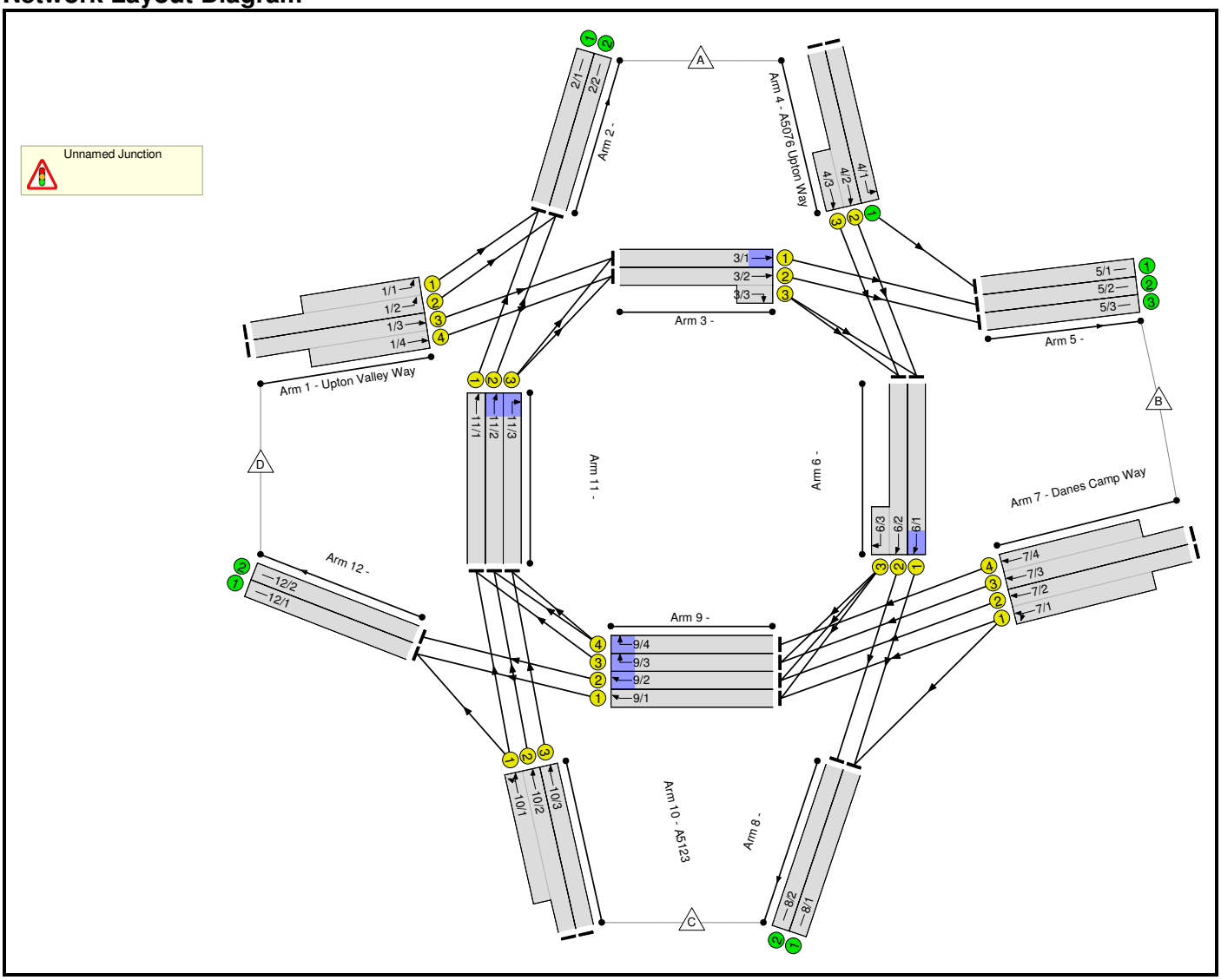
A5076 DANES CAMP WAY/A5123/UPTON VALLEY WAY/ A5076 UPTON WAY GYRATORY LINSIG MODEL

Full Input Data And Results

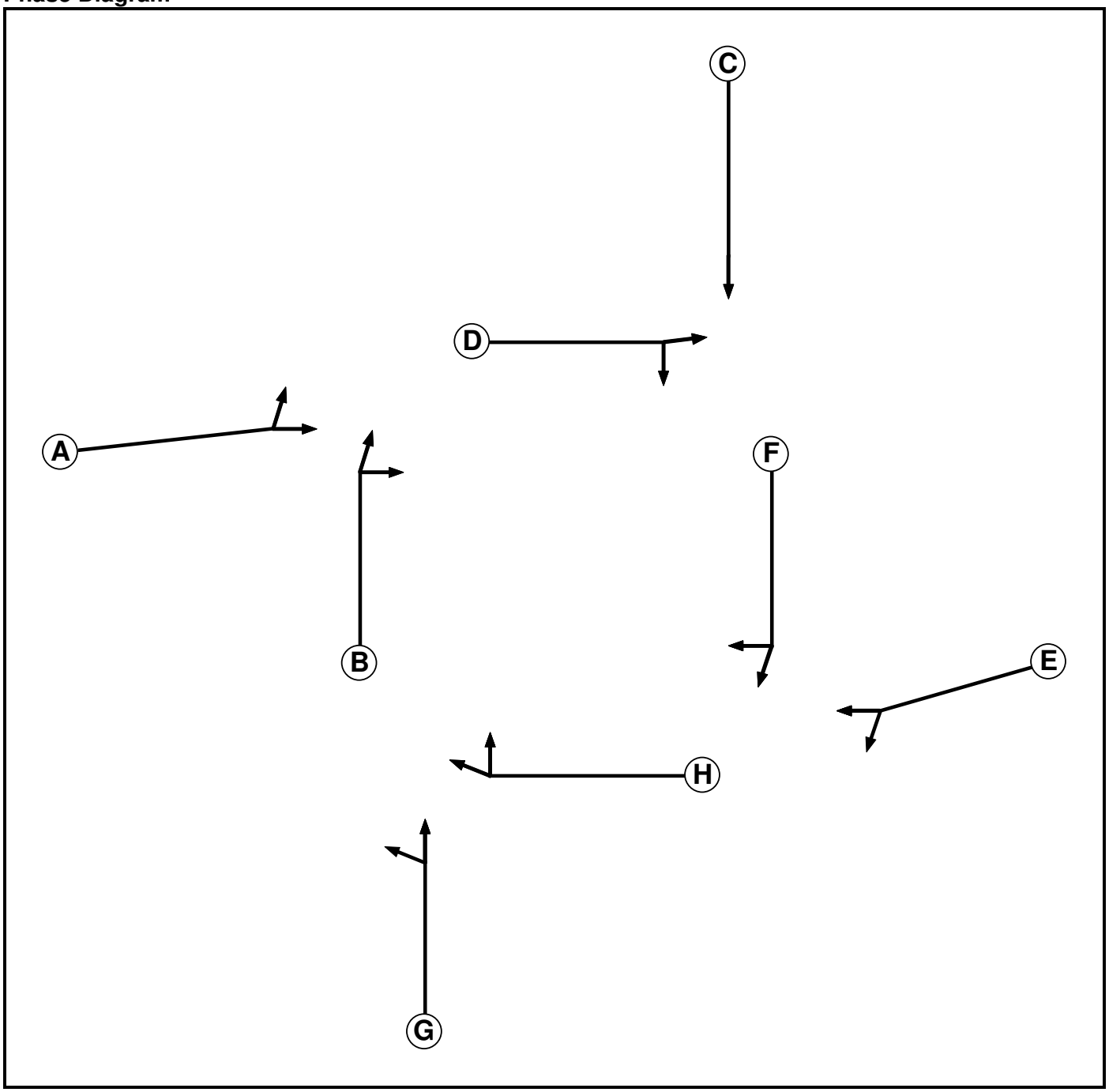
User and Project Details

Project:	**Northampton Gateway SRFI**
Title:	**A5123/Danes Camp Way Junction**
Location:	
File name:	180206 A5123_A5076 Base Model.lsg3x
Author:	Mark Higgins
Company:	ADC Infrastructure
Address:	Western Street, Nottingham
Notes:	

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

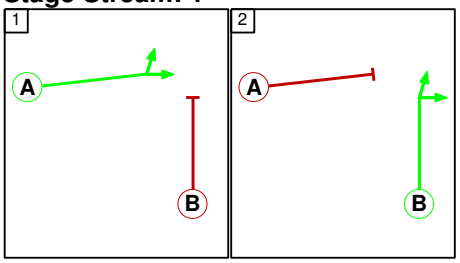
		Starting Phase							
		A	B	C	D	E	F	G	H
Terminating Phase	A		6	-	-	-	-	-	-
	B	6		-	-	-	-	-	-
	C	-	-		6	-	-	-	-
	D	-	-	6		-	-	-	-
	E	-	-	-	-		6	-	-
	F	-	-	-	-	6		-	-
	G	-	-	-	-	-	-		6
	H	-	-	-	-	-	-	6	

Phases in Stage

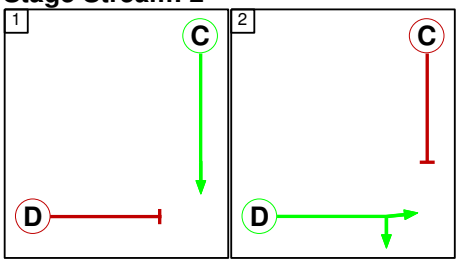
Stream	Stage No.	Phases in Stage
1	1	A
1	2	B
2	1	C
2	2	D
3	1	E
3	2	F
4	1	G
4	2	H

Stage Diagram

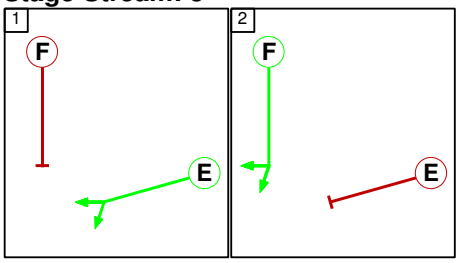
Stage Stream: 1



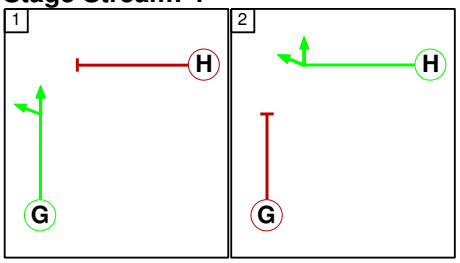
Stage Stream: 2



Stage Stream: 3



Stage Stream: 4



Phase Delays

Stage Stream: 1

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

Stage Stream: 2

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

Stage Stream: 3

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

Stage Stream: 4

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

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		
From Stage		1	2
	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 Arm 9 Ahead	Inf 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	Inf
											Arm 12 Left	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
1: '2031 D1 AM Peak'	08:00	09:00	01:00	
2: '2031 D1 PM Peak'	17:00	18:00	01:00	
3: '2031 J1d AM Peak'	08:00	09:00	01:00	
4: '2031 J1d PM Peak'	17:00	18:00	01:00	

Scenario 1: '2031 D1 AM Peak' (FG1: '2031 D1 AM Peak', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

		Destination				
		A	B	C	D	Tot.
Origin	A	0	1214	783	183	2180
	B	1187	0	965	616	2768
	C	668	1057	0	32	1757
	D	327	371	285	5	988
	Tot.	2182	2642	2033	836	7693

Traffic Lane Flows

Lane	Scenario 1: 2031 D1 AM Peak
Junction: Unnamed Junction	
1/1 (short)	158
1/2 (with short)	327(In) 169(Out)
1/3 (with short)	661(In) 342(Out)
1/4 (short)	319
2/1	1086
2/2	1096
3/1	726
3/2 (with short)	992(In) 702(Out)
3/3 (short)	290
4/1	1214
4/2 (with short)	966(In) 381(Out)
4/3 (short)	585
5/1	1214
5/2	726
5/3	702
6/1	595
6/2 (with short)	661(In) 473(Out)
6/3 (short)	188
7/1 (short)	1191
7/2 (with short)	1581(In) 390(Out)
7/3 (with short)	1187(In) 594(Out)
7/4 (short)	593
8/1	1560
8/2	473
9/1	321
9/2	483
9/3	594
9/4	593
10/1 (short)	366
10/2 (with short)	700(In) 334(Out)
10/3	1057

11/1	928
11/2	927
11/3	1057
12/1	353
12/2	483

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	81.0 %	1965	1965
				Arm 9 Ahead	Inf	19.0 %		
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	91.3 %	1965	1965
				Arm 12 Left	Inf	8.7 %		

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 AM Peak' (FG3: '2031 J1d AM Peak', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

		Destination				
		A	B	C	D	Tot.
Origin	A	0	1222	730	211	2163
	B	1127	0	1121	544	2792
	C	680	1083	0	34	1797
	D	358	387	288	4	1037
	Tot.	2165	2692	2139	793	7789

Traffic Lane Flows

Lane	Scenario 2: 2031 J1d AM Peak
Junction: Unnamed Junction	
1/1 (short)	173
1/2 (with short)	358(In) 185(Out)
1/3 (with short)	679(In) 351(Out)
1/4 (short)	328
2/1	1077
2/2	1088
3/1	789
3/2 (with short)	973(In) 681(Out)
3/3 (short)	292
4/1	1222
4/2 (with short)	941(In) 359(Out)
4/3 (short)	582
5/1	1222
5/2	789
5/3	681
6/1	556
6/2 (with short)	677(In) 462(Out)
6/3 (short)	215
7/1 (short)	1419
7/2 (with short)	1665(In) 246(Out)
7/3 (with short)	1127(In) 564(Out)
7/4 (short)	563
8/1	1677
8/2	462
9/1	405
9/2	354
9/3	564
9/4	563
10/1 (short)	374
10/2 (with short)	714(In) 340(Out)
10/3	1083

11/1	904
11/2	903
11/3	1083
12/1	439
12/2	354

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	79.0 %	1965	1965
				Arm 9 Ahead	Inf	21.0 %		
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	90.9 %	1965	1965
				Arm 12 Left	Inf	9.1 %		

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 3: '2031 D1 PM Peak' (FG2: '2031 D1 PM Peak', 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	906	0	743	373	2022
	C	1253	556	0	216	2025
	D	130	161	33	6	330
	Tot.	2289	2207	1395	710	6601

Traffic Lane Flows

Lane	Scenario 3: 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) 72(Out)
1/4 (short)	128
2/1	1102
2/2	1187
3/1	370
3/2 (with short)	386(In) 347(Out)
3/3 (short)	39
4/1	1490
4/2 (with short)	734(In) 344(Out)
4/3 (short)	390
5/1	1490
5/2	370
5/3	347
6/1	350
6/2 (with short)	423(In) 302(Out)
6/3 (short)	121
7/1 (short)	743
7/2 (with short)	1116(In) 373(Out)
7/3 (with short)	906(In) 470(Out)
7/4 (short)	436
8/1	1093
8/2	302
9/1	121
9/2	373
9/3	470
9/4	436
10/1 (short)	785
10/2 (with short)	1469(In) 684(Out)
10/3	556

11/1	1039
11/2	1120
11/3	556
12/1	337
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	72.5 %	1965	1965
				Arm 12 Left	Inf	27.5 %		

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 4: '2031 J1d PM Peak' (FG4: '2031 J1d PM Peak', 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	865	0	741	394	2000
	C	1307	645	0	280	2232
	D	151	111	27	4	293
	Tot.	2323	2250	1376	801	6750

Traffic Lane Flows

Lane	Scenario 4: 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) 70(Out)
1/4 (short)	72
2/1	1087
2/2	1236
3/1	392
3/2 (with short)	395(In) 364(Out)
3/3 (short)	31
4/1	1494
4/2 (with short)	731(In) 352(Out)
4/3 (short)	379
5/1	1494
5/2	392
5/3	364
6/1	352
6/2 (with short)	410(In) 283(Out)
6/3 (short)	127
7/1 (short)	742
7/2 (with short)	1135(In) 393(Out)
7/3 (with short)	865(In) 473(Out)
7/4 (short)	392
8/1	1093
8/2	283
9/1	121
9/2	400
9/3	473
9/4	392
10/1 (short)	821
10/2 (with short)	1587(In) 766(Out)
10/3	645

11/1	1014
11/2	1158
11/3	645
12/1	401
12/2	400

Lane Saturation Flows

Junction: Unnamed Junction

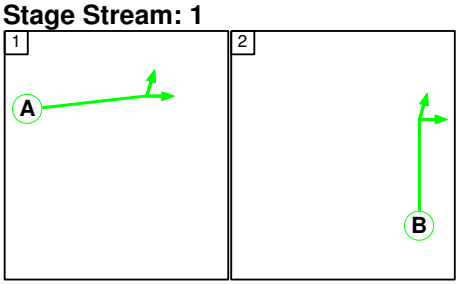
Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
1/1 (Upton Valley Way)	3.55	0.00	Y	Arm 2 Left	Inf	100.0 %	1970	1970
1/2 (Upton Valley Way)	3.50	0.00	N	Arm 2 Left	Inf	100.0 %	2105	2105
1/3 (Upton Valley Way)	3.50	0.00	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	99.9 %	1965	1965
				Arm 9 Ahead	Inf	0.1 %		
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	65.9 %	1965	1965
				Arm 12 Left	Inf	34.1 %		

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

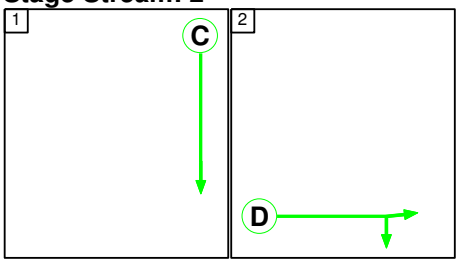
Scenario 1: '2031 D1 AM Peak' (FG1: '2031 D1 AM Peak', Plan 1: 'Network Control Plan 1')

Stage Sequence Diagram

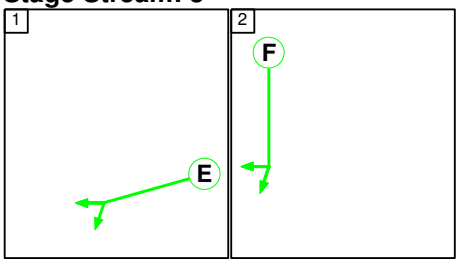
Stage Stream: 1



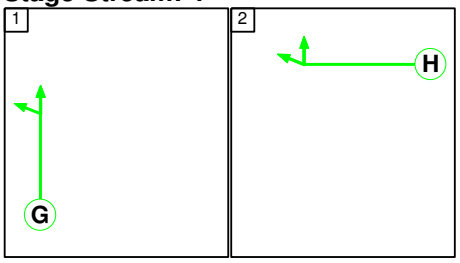
Stage Stream: 2



Stage Stream: 3



Stage Stream: 4



Stage Timings

Stage Stream: 1

Stage	1	2
Duration	7	41
Change Point	51	4

Stage Stream: 2

Stage	1	2
Duration	13	35
Change Point	39	58

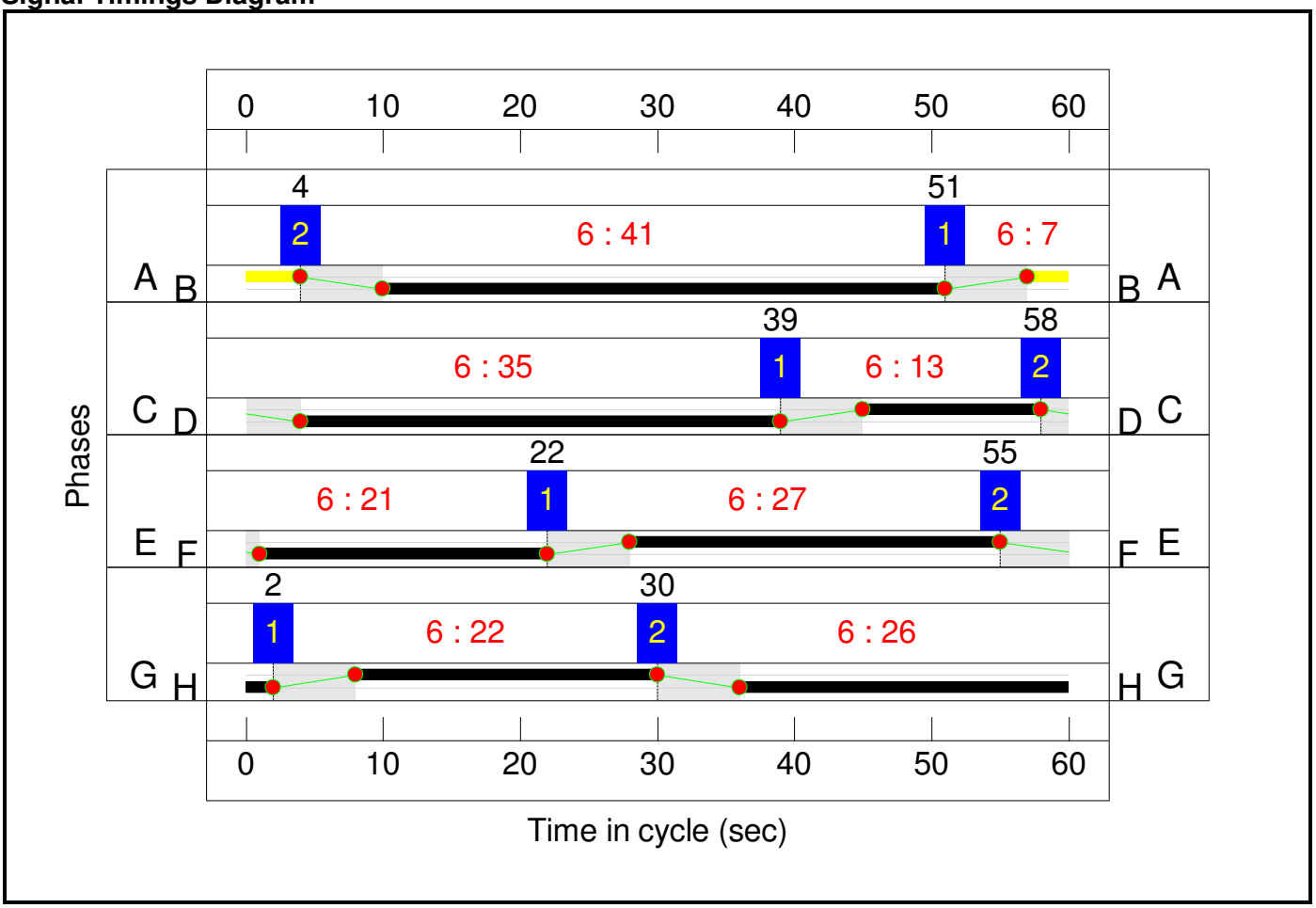
Stage Stream: 3

Stage	1	2
Duration	27	21
Change Point	22	55

Stage Stream: 4

Stage	1	2
Duration	22	26
Change Point	2	30

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	-	-	**N/A**	-	-		-	-	-	-	-	-	**146.6%**
Unnamed Junction	-	-	**N/A**	-	-		-	-	-	-	-	-	**146.6%**
1/2+1/1	Upton Valley Way Left	U	1	N/A	A		1	7	-	327	2105:1970	281+263	60.2 : 60.2%
1/3+1/4	Upton Valley Way Ahead	U	1	N/A	A		1	7	-	661	2105:1965	281+262	121.9 : 121.8%
3/1	Ahead	U	2	N/A	D		1	35	-	726	1900	1140	48.6%
3/2+3/3	Ahead Right	U	2	N/A	D		1	35	-	992	1900:1900	852+352	59.1 : 67.6%
4/2+4/3	A5076 Upton Way Ahead	U	2	N/A	C		1	13	-	966	1965:1965	260+399	146.6 : 146.6%
6/1	Ahead	U	3	N/A	F		1	21	-	595	1900	697	62.5%
6/2+6/3	Ahead Right	U	3	N/A	F		1	21	-	661	1900:1900	557+221	59.7 : 58.2%
7/2+7/1	Danes Camp Way Left Ahead	U	3	N/A	E		1	27	-	1581	2105:1965	285+870	136.8 : 136.8%
7/3+7/4	Danes Camp Way Ahead	U	3	N/A	E		1	27	-	1187	2105:1965	823+822	72.2 : 72.2%
9/1	Ahead	U	4	N/A	H		1	26	-	321	1900	855	26.9%
9/2	Ahead	U	4	N/A	H		1	26	-	483	1900	855	40.8%
9/3	Right	U	4	N/A	H		1	26	-	594	1900	855	69.5%
9/4	Right	U	4	N/A	H		1	26	-	593	1900	855	69.4%
10/2+10/1	A5123 Ahead Left	U	4	N/A	G		1	22	-	700	2105:1965	807+753	41.4 : 48.6%
10/3	A5123 Ahead	U	4	N/A	G		1	22	-	1057	1965	753	140.3%
11/1	Ahead	U	1	N/A	B		1	41	-	928	1900	1330	69.8%
11/2	Ahead	U	1	N/A	B		1	41	-	927	1900	1330	69.7%
11/3	Right	U	1	N/A	B		1	41	-	1057	1900	1330	56.6%

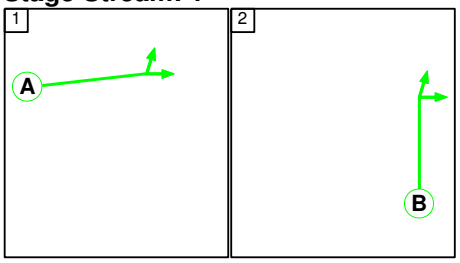
Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network	**-**	**-**	**0**	**0**	**0**	**73.1**	**596.0**	**0.0**	**669.1**	**-**	**-**	**-**	**-**
Unnamed Junction	**-**	**-**	**0**	**0**	**0**	**73.1**	**596.0**	**0.0**	**669.1**	**-**	**-**	**-**	**-**
1/2+1/1	327	327	-	-	-	2.2	0.8	-	3.0	32.8	2.6	0.8	3.4
1/3+1/4	661	543	-	-	-	8.5	61.8	-	70.4	383.3	7.1	61.8	68.9
3/1	554	554	-	-	-	0.5	0.5	-	1.0	6.4	7.4	0.5	7.8
3/2+3/3	742	742	-	-	-	0.4	0.8	-	1.2	6.0	9.9	0.8	10.7
4/2+4/3	966	659	-	-	-	15.9	155.0	-	170.9	637.0	22.0	155.0	177.0
6/1	436	436	-	-	-	0.9	0.8	-	1.8	14.5	5.5	0.8	6.3
6/2+6/3	462	462	-	-	-	1.1	0.7	-	1.8	14.0	5.2	0.7	6.0
7/2+7/1	1581	1156	-	-	-	17.2	214.6	-	231.8	527.8	32.6	214.6	247.2
7/3+7/4	1187	1187	-	-	-	4.0	1.3	-	5.3	16.0	7.4	1.3	8.7
9/1	230	230	-	-	-	0.6	0.2	-	0.8	11.7	1.8	0.2	2.0
9/2	349	349	-	-	-	0.9	0.3	-	1.3	13.0	4.9	0.3	5.2
9/3	594	594	-	-	-	0.6	1.1	-	1.8	10.7	8.4	1.1	9.5
9/4	593	593	-	-	-	0.6	1.1	-	1.7	10.3	8.4	1.1	9.5
10/2+10/1	700	700	-	-	-	2.7	0.4	-	3.1	15.9	4.6	0.4	5.0
10/3	1057	753	-	-	-	13.8	153.6	-	167.4	570.1	22.7	153.6	176.3
11/1	928	928	-	-	-	1.5	1.1	-	2.7	10.3	8.7	1.1	9.9
11/2	927	927	-	-	-	1.5	1.1	-	2.7	10.4	8.7	1.1	9.9
11/3	753	753	-	-	-	0.1	0.7	-	0.7	3.5	0.4	0.7	1.1

C1	Stream: 1 PRC for Signalled Lanes (%):	-35.4	Total Delay for Signalled Lanes (pcuHr):	79.44	Cycle Time (s):	60
C1	Stream: 2 PRC for Signalled Lanes (%):	-62.8	Total Delay for Signalled Lanes (pcuHr):	173.14	Cycle Time (s):	60
C1	Stream: 3 PRC for Signalled Lanes (%):	-52.0	Total Delay for Signalled Lanes (pcuHr):	240.59	Cycle Time (s):	60
C1	Stream: 4 PRC for Signalled Lanes (%):	-55.9	Total Delay for Signalled Lanes (pcuHr):	175.94	Cycle Time (s):	60
	PRC Over All Lanes (%):	-62.8	Total Delay Over All Lanes(pcuHr):	669.11		

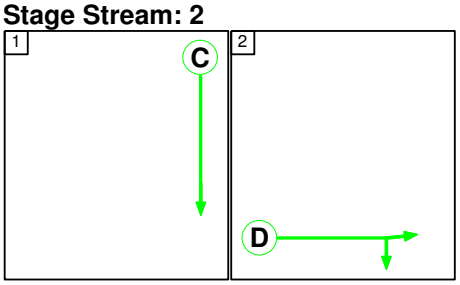
Scenario 2: '2031 J1d AM Peak' (FG3: '2031 J1d AM Peak', Plan 1: 'Network Control Plan 1')

Stage Sequence Diagram

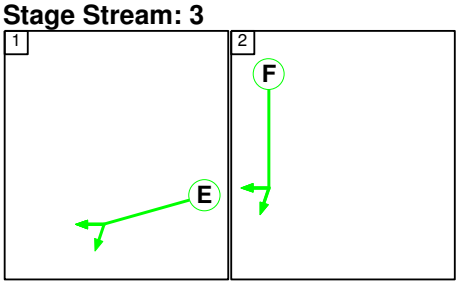
Stage Stream: 1



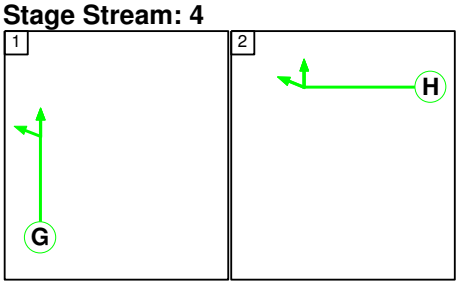
Stage Stream: 2



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	13	35
Change Point	47	6

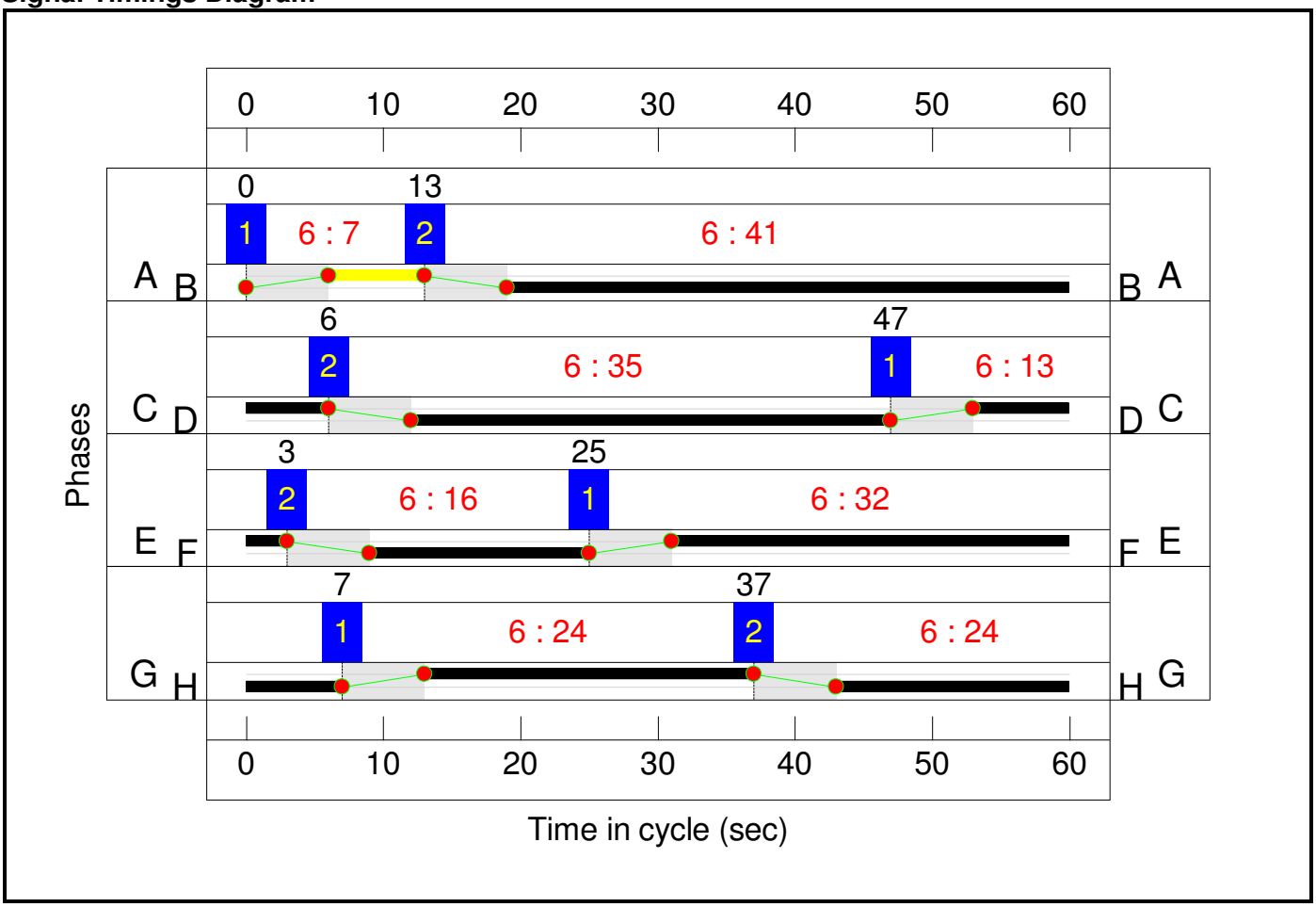
Stage Stream: 3

Stage	1	2
Duration	32	16
Change Point	25	3

Stage Stream: 4

Stage	1	2
Duration	24	24
Change Point	7	37

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	-	-	**N/A**	-	-		-	-	-	-	-	-	**145.0%**
Unnamed Junction	-	-	**N/A**	-	-		-	-	-	-	-	-	**145.0%**
1/2+1/1	Upton Valley Way Left	U	1	N/A	A		1	7	-	358	2105:1970	281+263	65.9 : 65.9%
1/3+1/4	Upton Valley Way Ahead	U	1	N/A	A		1	7	-	679	2105:1965	281+262	125.1 : 125.2%
3/1	Ahead	U	2	N/A	D		1	35	-	789	1900	1140	53.7%
3/2+3/3	Ahead Right	U	2	N/A	D		1	35	-	973	1900:1900	845+362	61.1 : 64.4%
4/2+4/3	A5076 Upton Way Ahead	U	2	N/A	C		1	13	-	941	1965:1965	248+401	145.0 : 145.0%
6/1	Ahead	U	3	N/A	F		1	16	-	556	1900	538	75.2%
6/2+6/3	Ahead Right	U	3	N/A	F		1	16	-	677	1900:1900	434+202	75.6 : 73.5%
7/2+7/1	Danes Camp Way Left Ahead	U	3	N/A	E		1	32	-	1665	2105:1965	179+1030	137.8 : 137.8%
7/3+7/4	Danes Camp Way Ahead	U	3	N/A	E		1	32	-	1127	2105:1965	908+906	62.1 : 62.1%
9/1	Ahead	U	4	N/A	H		1	24	-	405	1900	792	36.7%
9/2	Ahead	U	4	N/A	H		1	24	-	354	1900	792	32.0%
9/3	Right	U	4	N/A	H		1	24	-	564	1900	792	71.2%
9/4	Right	U	4	N/A	H		1	24	-	563	1900	792	71.1%
10/2+10/1	A5123 Ahead Left	U	4	N/A	G		1	24	-	714	2105:1965	817+819	41.6 : 45.7%
10/3	A5123 Ahead	U	4	N/A	G		1	24	-	1083	1965	819	132.3%
11/1	Ahead	U	1	N/A	B		1	41	-	904	1900	1330	68.0%
11/2	Ahead	U	1	N/A	B		1	41	-	903	1900	1330	67.9%
11/3	Right	U	1	N/A	B		1	41	-	1083	1900	1330	61.6%

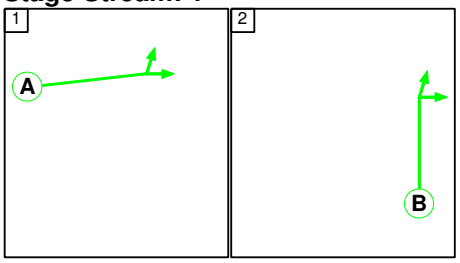
Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network	**-**	**-**	**0**	**0**	**0**	**73.7**	**594.8**	**0.0**	**668.5**	**-**	**-**	**-**	**-**
Unnamed Junction	**-**	**-**	**0**	**0**	**0**	**73.7**	**594.8**	**0.0**	**668.5**	**-**	**-**	**-**	**-**
1/2+1/1	358	358	-	-	-	2.5	1.0	-	3.4	34.3	2.9	1.0	3.9
1/3+1/4	679	543	-	-	-	9.0	70.6	-	79.6	422.0	7.0	70.6	77.6
3/1	612	612	-	-	-	0.6	0.6	-	1.2	7.0	8.5	0.6	9.1
3/2+3/3	750	750	-	-	-	0.5	0.8	-	1.3	6.4	11.0	0.8	11.8
4/2+4/3	941	649	-	-	-	15.4	147.7	-	163.1	624.0	20.0	147.7	167.7
6/1	405	405	-	-	-	0.8	1.5	-	2.3	20.7	4.5	1.5	6.0
6/2+6/3	477	477	-	-	-	1.1	1.5	-	2.6	19.6	4.9	1.5	6.4
7/2+7/1	1665	1209	-	-	-	20.5	230.0	-	250.5	541.6	36.7	230.0	266.7
7/3+7/4	1127	1127	-	-	-	2.6	0.8	-	3.5	11.0	5.8	0.8	6.6
9/1	290	290	-	-	-	0.7	0.3	-	1.0	12.4	2.7	0.3	3.0
9/2	253	253	-	-	-	0.9	0.2	-	1.2	16.7	3.2	0.2	3.5
9/3	564	564	-	-	-	1.0	1.2	-	2.2	14.0	7.7	1.2	8.9
9/4	563	563	-	-	-	0.9	1.2	-	2.2	13.8	7.7	1.2	8.9
10/2+10/1	714	714	-	-	-	2.5	0.4	-	2.8	14.4	4.5	0.4	4.9
10/3	1083	819	-	-	-	12.1	134.1	-	146.2	486.1	22.5	134.1	156.6
11/1	904	904	-	-	-	1.1	1.1	-	2.1	8.5	7.2	1.1	8.2
11/2	903	903	-	-	-	1.1	1.1	-	2.2	8.6	7.1	1.1	8.2
11/3	819	819	-	-	-	0.3	0.8	-	1.1	4.9	1.0	0.8	1.8

C1	Stream: 1 PRC for Signalled Lanes (%):	-39.1	Total Delay for Signalled Lanes (pcuHr):	88.40	Cycle Time (s): 60
C1	Stream: 2 PRC for Signalled Lanes (%):	-61.2	Total Delay for Signalled Lanes (pcuHr):	165.63	Cycle Time (s): 60
C1	Stream: 3 PRC for Signalled Lanes (%):	-53.1	Total Delay for Signalled Lanes (pcuHr):	258.88	Cycle Time (s): 60
C1	Stream: 4 PRC for Signalled Lanes (%):	-47.0	Total Delay for Signalled Lanes (pcuHr):	155.61	Cycle Time (s): 60
	PRC Over All Lanes (%):	-61.2	Total Delay Over All Lanes(pcuHr):	668.52	

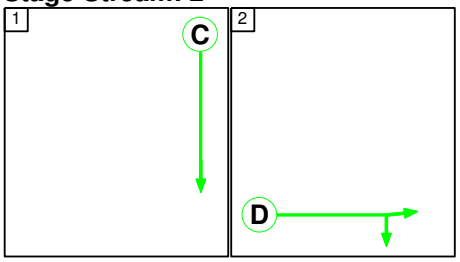
Scenario 3: '2031 D1 PM Peak' (FG2: '2031 D1 PM Peak', Plan 1: 'Network Control Plan 1')

Stage Sequence Diagram

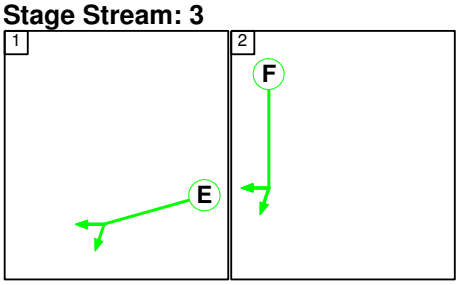
Stage Stream: 1



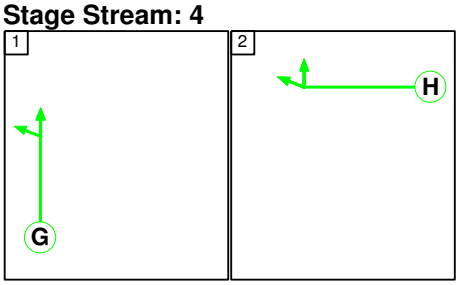
Stage Stream: 2



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	32	16
Change Point	36	14

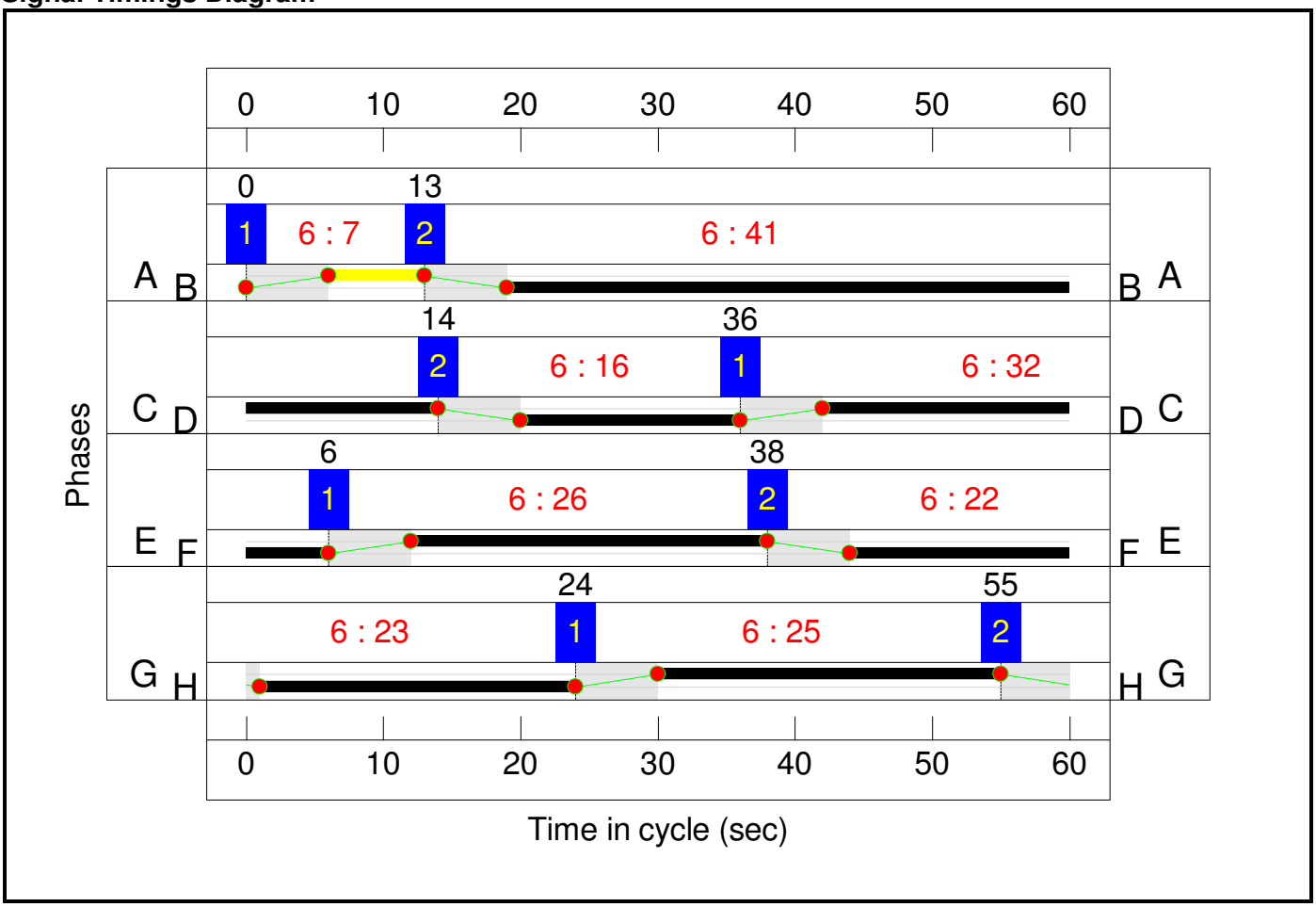
Stage Stream: 3

Stage	1	2
Duration	26	22
Change Point	6	38

Stage Stream: 4

Stage	1	2
Duration	25	23
Change Point	24	55

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	-	-	**N/A**	-	-		-	-	-	-	-	-	**92.2%**
Unnamed Junction	-	-	**N/A**	-	-		-	-	-	-	-	-	**92.2%**
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	192+262	37.5 : 48.9%
3/1	Ahead	U	2	N/A	D		1	16	-	370	1900	538	68.7%
3/2+3/3	Ahead Right	U	2	N/A	D		1	16	-	386	1900:1900	493+55	70.4 : 70.4%
4/2+4/3	A5076 Upton Way Ahead	U	2	N/A	C		1	32	-	734	1965:1965	633+718	54.3 : 54.3%
6/1	Ahead	U	3	N/A	F		1	22	-	350	1900	728	48.1%
6/2+6/3	Ahead Right	U	3	N/A	F		1	22	-	423	1900:1900	579+232	52.1 : 52.1%
7/2+7/1	Danes Camp Way Left Ahead	U	3	N/A	E		1	26	-	1116	2105:1965	417+831	89.4 : 89.4%
7/3+7/4	Danes Camp Way Ahead	U	3	N/A	E		1	26	-	906	2105:1965	826+766	56.9 : 56.9%
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	49.1%
9/3	Right	U	4	N/A	H		1	23	-	470	1900	760	61.8%
9/4	Right	U	4	N/A	H		1	23	-	436	1900	760	57.4%
10/2+10/1	A5123 Ahead Left	U	4	N/A	G		1	25	-	1469	2105:1965	742+852	92.2 : 92.2%
10/3	A5123 Ahead	U	4	N/A	G		1	25	-	556	1965	852	65.3%
11/1	Ahead	U	1	N/A	B		1	41	-	1039	1900	1330	78.1%
11/2	Ahead	U	1	N/A	B		1	41	-	1120	1900	1330	84.2%
11/3	Right	U	1	N/A	B		1	41	-	556	1900	1330	41.8%

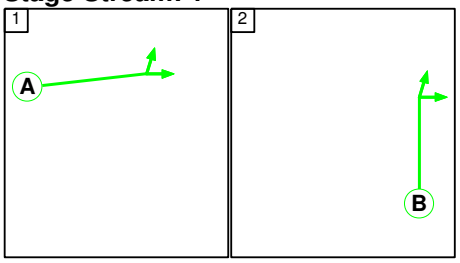
Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network	**-**	**-**	**0**	**0**	**0**	**29.3**	**22.2**	**0.0**	**51.5**	**-**	**-**	**-**	**-**
Unnamed Junction	**-**	**-**	**0**	**0**	**0**	**29.3**	**22.2**	**0.0**	**51.5**	**-**	**-**	**-**	**-**
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	0.4	-	1.7	30.9	2.0	0.4	2.3
3/1	370	370	-	-	-	1.3	1.1	-	2.4	23.0	2.8	1.1	3.9
3/2+3/3	386	386	-	-	-	1.3	1.2	-	2.4	22.7	3.2	1.2	4.4
4/2+4/3	734	734	-	-	-	1.5	0.6	-	2.1	10.4	3.6	0.6	4.2
6/1	350	350	-	-	-	0.7	0.5	-	1.1	11.7	1.7	0.5	2.2
6/2+6/3	423	423	-	-	-	0.9	0.5	-	1.4	12.2	6.2	0.5	6.8
7/2+7/1	1116	1116	-	-	-	4.2	4.0	-	8.1	26.2	10.9	4.0	14.9
7/3+7/4	906	906	-	-	-	2.9	0.7	-	3.6	14.3	5.5	0.7	6.1
9/1	121	121	-	-	-	0.3	0.1	-	0.4	11.5	1.8	0.1	1.9
9/2	373	373	-	-	-	0.9	0.5	-	1.4	13.5	1.9	0.5	2.3
9/3	470	470	-	-	-	1.7	0.8	-	2.5	19.1	3.1	0.8	3.9
9/4	436	436	-	-	-	1.3	0.7	-	2.0	16.2	2.5	0.7	3.2
10/2+10/1	1469	1469	-	-	-	6.2	5.4	-	11.6	28.5	12.2	5.4	17.6
10/3	556	556	-	-	-	2.1	0.9	-	3.0	19.5	7.3	0.9	8.2
11/1	1039	1039	-	-	-	1.0	1.8	-	2.7	9.5	7.8	1.8	9.6
11/2	1120	1120	-	-	-	0.9	2.6	-	3.5	11.3	7.3	2.6	9.9
11/3	556	556	-	-	-	0.0	0.4	-	0.4	2.5	0.2	0.4	0.6

C1	Stream: 1 PRC for Signalled Lanes (%):	6.9	Total Delay for Signalled Lanes (pcuHr):	9.35	Cycle Time (s): 60
C1	Stream: 2 PRC for Signalled Lanes (%):	27.9	Total Delay for Signalled Lanes (pcuHr):	6.92	Cycle Time (s): 60
C1	Stream: 3 PRC for Signalled Lanes (%):	0.7	Total Delay for Signalled Lanes (pcuHr):	14.29	Cycle Time (s): 60
C1	Stream: 4 PRC for Signalled Lanes (%):	-2.4	Total Delay for Signalled Lanes (pcuHr):	20.89	Cycle Time (s): 60
	PRC Over All Lanes (%):	-2.4	Total Delay Over All Lanes(pcuHr):	51.46	

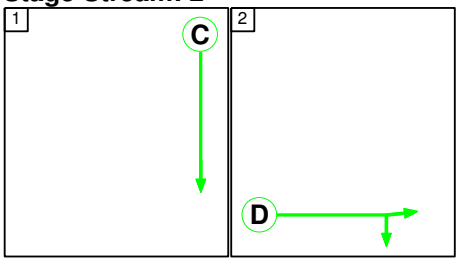
Scenario 4: '2031 J1d PM Peak' (FG4: '2031 J1d PM Peak', Plan 1: 'Network Control Plan 1')

Stage Sequence Diagram

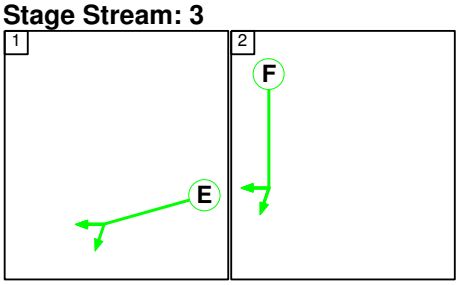
Stage Stream: 1



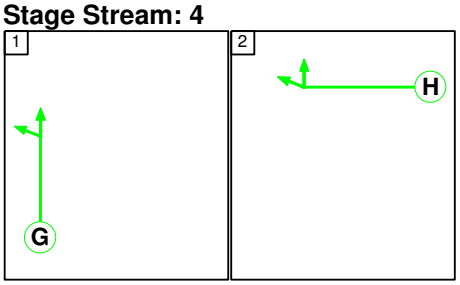
Stage Stream: 2



Stage Stream: 3



Stage Stream: 4



Stage Timings

Stage Stream: 1

Stage	1	2
Duration	7	41
Change Point	45	58

Stage Stream: 2

Stage	1	2
Duration	23	25
Change Point	24	53

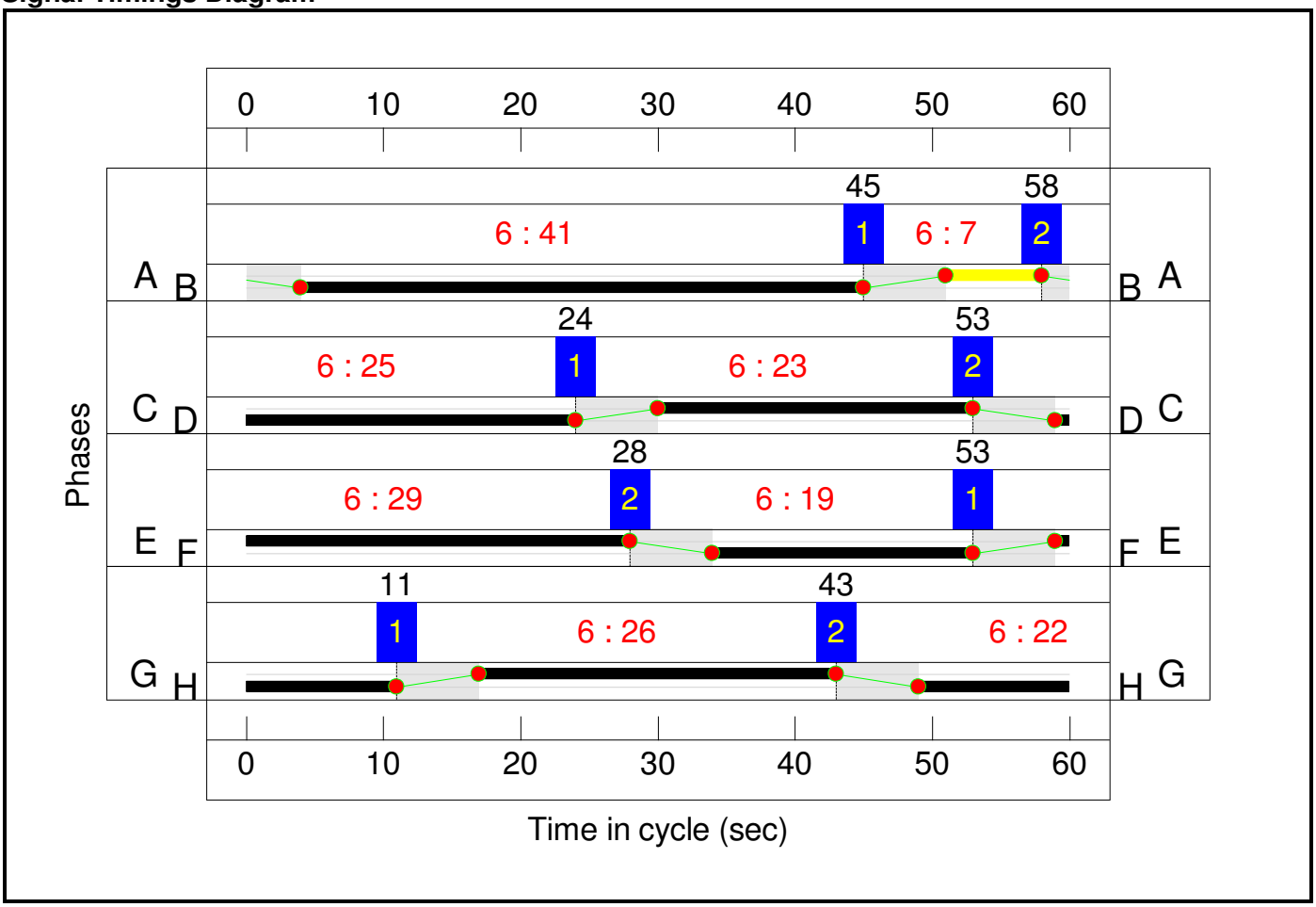
Stage Stream: 3

Stage	1	2
Duration	29	19
Change Point	53	28

Stage Stream: 4

Stage	1	2
Duration	26	22
Change Point	11	43

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	-	-	**N/A**	-	-		-	-	-	-	-	-	**92.8%**
Unnamed Junction	-	-	**N/A**	-	-		-	-	-	-	-	-	**92.8%**
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	24.9 : 27.5%
3/1	Ahead	U	2	N/A	D		1	25	-	392	1900	823	47.6%
3/2+3/3	Ahead Right	U	2	N/A	D		1	25	-	395	1900:1900	764+65	47.7 : 47.7%
4/2+4/3	A5076 Upton Way Ahead	U	2	N/A	C		1	23	-	731	1965:1965	515+555	68.3 : 68.3%
6/1	Ahead	U	3	N/A	F		1	19	-	352	1900	633	55.6%
6/2+6/3	Ahead Right	U	3	N/A	F		1	19	-	410	1900:1900	502+225	56.3 : 56.3%
7/2+7/1	Danes Camp Way Left Ahead	U	3	N/A	E		1	29	-	1135	2105:1965	474+895	82.9 : 82.9%
7/3+7/4	Danes Camp Way Ahead	U	3	N/A	E		1	29	-	865	2105:1965	887+735	53.3 : 53.3%
9/1	Ahead	U	4	N/A	H		1	22	-	121	1900	728	16.6%
9/2	Ahead	U	4	N/A	H		1	22	-	400	1900	728	54.9%
9/3	Right	U	4	N/A	H		1	22	-	473	1900	728	64.9%
9/4	Right	U	4	N/A	H		1	22	-	392	1900	728	53.8%
10/2+10/1	A5123 Ahead Left	U	4	N/A	G		1	26	-	1587	2105:1965	853+884	89.8 : 92.8%
10/3	A5123 Ahead	U	4	N/A	G		1	26	-	645	1965	884	72.9%
11/1	Ahead	U	1	N/A	B		1	41	-	1014	1900	1330	76.2%
11/2	Ahead	U	1	N/A	B		1	41	-	1158	1900	1330	87.1%
11/3	Right	U	1	N/A	B		1	41	-	645	1900	1330	48.5%

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	**-**	**-**	**0**	**0**	**0**	**28.5**	**20.4**	**0.0**	**48.9**	**-**	**-**	**-**	**-**
Unnamed Junction	**-**	**-**	**0**	**0**	**0**	**28.5**	**20.4**	**0.0**	**48.9**	**-**	**-**	**-**	**-**
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	1.1	0.2	1.2
3/1	392	392	-	-	-	1.1	0.5	-	1.5	13.9	3.1	0.5	3.6
3/2+3/3	395	395	-	-	-	1.0	0.5	-	1.5	13.5	3.0	0.5	3.5
4/2+4/3	731	731	-	-	-	2.7	1.1	-	3.8	18.6	4.6	1.1	5.7
6/1	352	352	-	-	-	0.3	0.6	-	0.9	9.6	0.9	0.6	1.6
6/2+6/3	410	410	-	-	-	0.6	0.6	-	1.2	10.6	6.3	0.6	6.9
7/2+7/1	1135	1135	-	-	-	3.5	2.4	-	5.9	18.6	9.9	2.4	12.3
7/3+7/4	865	865	-	-	-	2.3	0.6	-	2.9	11.9	5.0	0.6	5.6
9/1	121	121	-	-	-	0.2	0.1	-	0.3	10.3	1.8	0.1	1.9
9/2	400	400	-	-	-	1.1	0.6	-	1.7	15.7	2.4	0.6	3.0
9/3	473	473	-	-	-	1.6	0.9	-	2.6	19.5	3.1	0.9	4.1
9/4	392	392	-	-	-	1.1	0.6	-	1.7	15.5	2.3	0.6	2.9
10/2+10/1	1587	1587	-	-	-	6.6	5.0	-	11.6	26.2	12.8	5.0	17.7
10/3	645	645	-	-	-	2.4	1.3	-	3.8	21.0	8.8	1.3	10.1
11/1	1014	1014	-	-	-	0.9	1.6	-	2.5	8.9	8.3	1.6	9.9
11/2	1158	1158	-	-	-	0.9	3.2	-	4.2	12.9	3.5	3.2	6.7
11/3	645	645	-	-	-	0.2	0.5	-	0.7	3.7	0.5	0.5	1.0

C1	Stream: 1 PRC for Signalled Lanes (%):	3.4	Total Delay for Signalled Lanes (pcuHr):	9.60	Cycle Time (s): 60
C1	Stream: 2 PRC for Signalled Lanes (%):	31.7	Total Delay for Signalled Lanes (pcuHr):	6.76	Cycle Time (s): 60
C1	Stream: 3 PRC for Signalled Lanes (%):	8.6	Total Delay for Signalled Lanes (pcuHr):	10.87	Cycle Time (s): 60
C1	Stream: 4 PRC for Signalled Lanes (%):	-3.2	Total Delay for Signalled Lanes (pcuHr):	21.65	Cycle Time (s): 60
	PRC Over All Lanes (%):	-3.2	Total Delay Over All Lanes(pcuHr):	48.88	

APPENDIX O

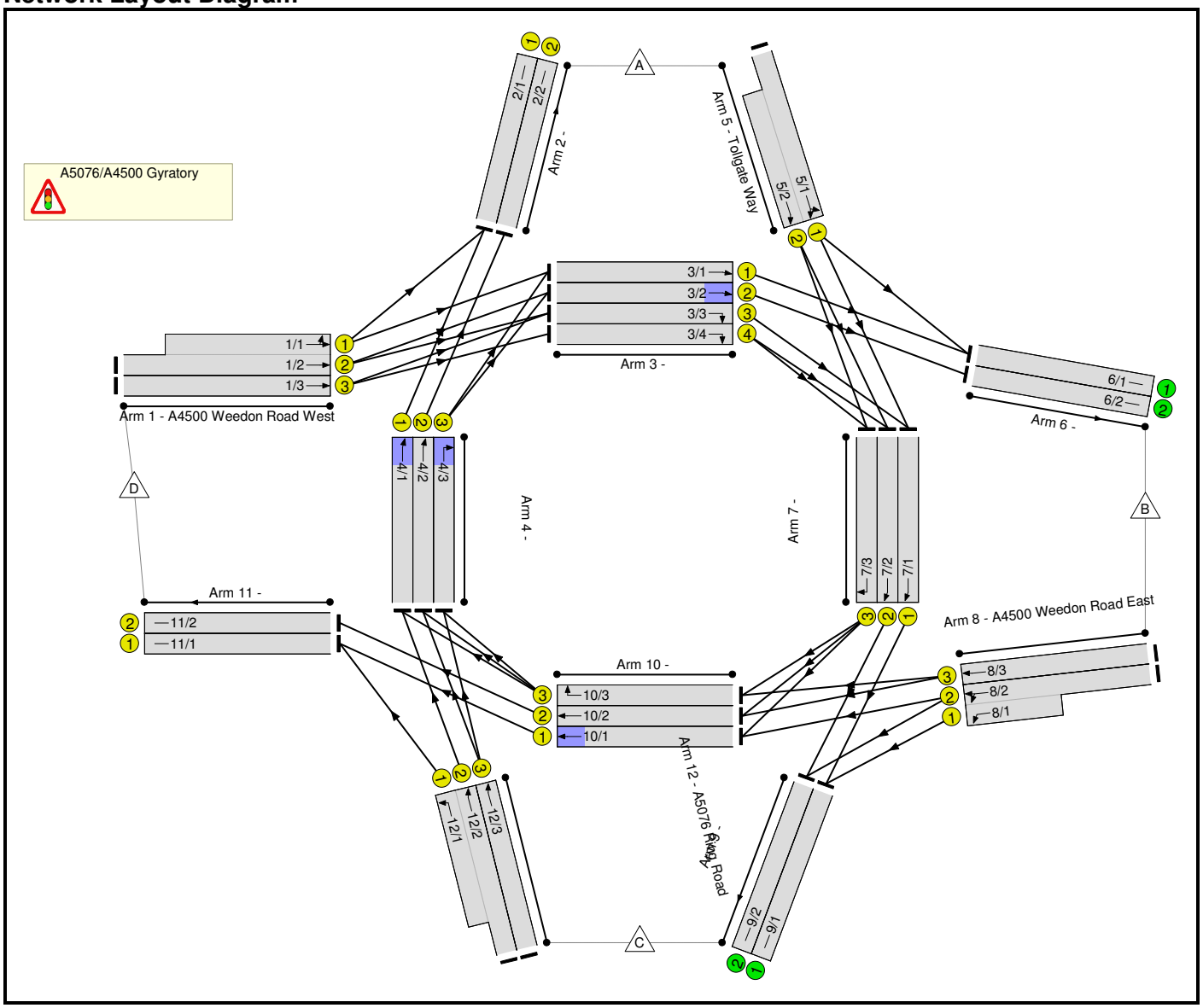
A4500 WEEDON ROAD/A5076 UPTON WAY/TOLLGATE ROAD GYRATORY LINSIG MODEL

Full Input Data And Results

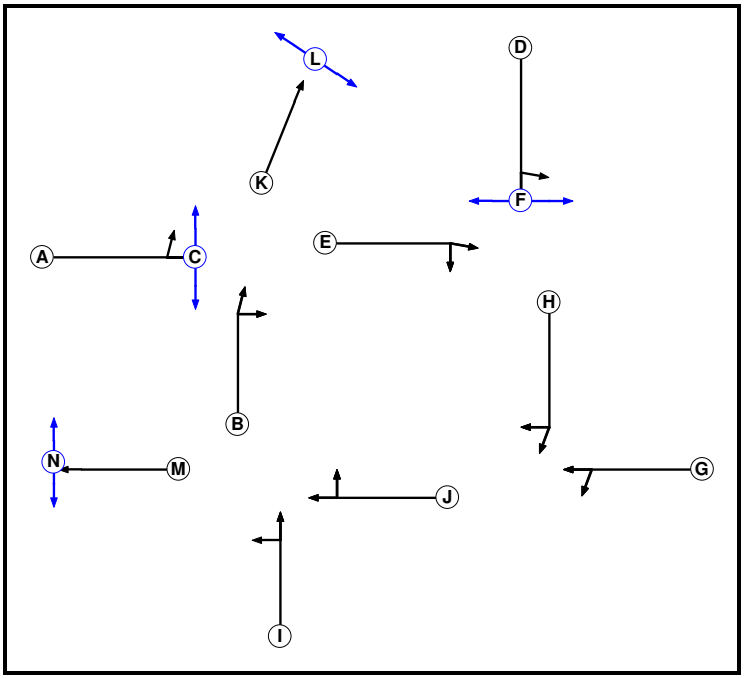
User and Project Details

Project:	**Northampton Gateway**
Title:	**A4500 Weedon Road/A5076 Upton Valley Gyratory**
Location:	
File name:	171109 A5076_A4500_Tollgate Way Gyratory.lsg3x
Author:	Mark Higgins
Company:	ADC Infrastructure
Address:	Nottingham
Notes:	

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	Pedestrian	1		5	5
D	Traffic	2		7	7
E	Traffic	2		7	7
F	Pedestrian	2		5	5
G	Traffic	3		7	7
H	Traffic	3		7	7
I	Traffic	4		7	7
J	Traffic	4		7	7
K	Traffic	5		7	7
L	Pedestrian	5		5	5
M	Traffic	6		7	7
N	Pedestrian	6		5	5

Phase Intergreens Matrix

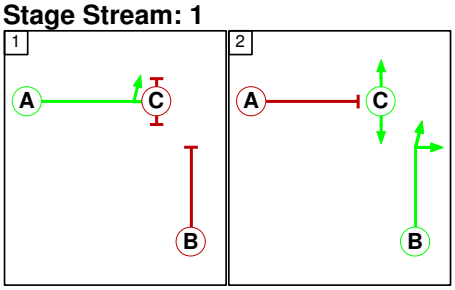
Terminating Phase \ Starting Phase	A	B	C	D	E	F	G	H	I	J	K	L	M	N
A		7	5	-	-	-	-	-	-	-	-	-	-	-
B	5		-	-	-	-	-	-	-	-	-	-	-	-
C	7	-		-	-	-	-	-	-	-	-	-	-	-
D	-	-	-		7	5	-	-	-	-	-	-	-	-
E	-	-	-	5		-	-	-	-	-	-	-	-	-
F	-	-	-	7	-		-	-	-	-	-	-	-	-
G	-	-	-	-	-	-		5	-	-	-	-	-	-
H	-	-	-	-	-	-	5		-	-	-	-	-	-
I	-	-	-	-	-	-	-	-		5	-	-	-	-
J	-	-	-	-	-	-	-	-	5		-	-	-	-
K	-	-	-	-	-	-	-	-	-	-		5	-	-
L	-	-	-	-	-	-	-	-	-	-	7		-	-
M	-	-	-	-	-	-	-	-	-	-	-	-		5
N	-	-	-	-	-	-	-	-	-	-	-	-	7	

Phases in Stage

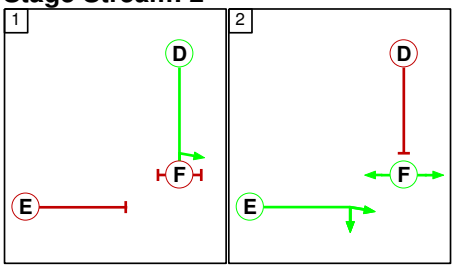
Stream	Stage No.	Phases in Stage
1	1	A
1	2	B C
2	1	D
2	2	E F
3	1	G
3	2	H
4	1	I
4	2	J
5	1	K
5	2	L
6	1	M
6	2	N

Stage Diagram

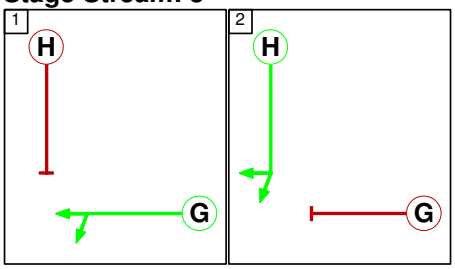
Stage Stream: 1



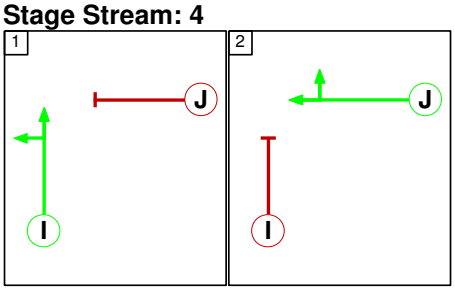
Stage Stream: 2



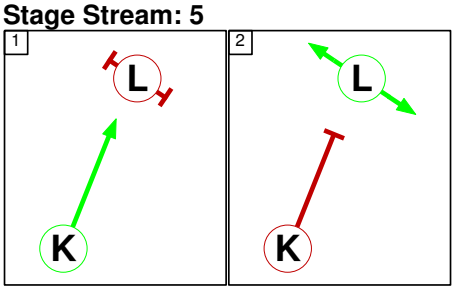
Stage Stream: 3



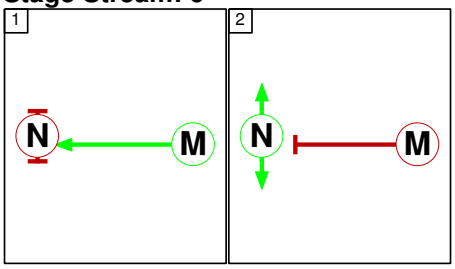
Stage Stream: 4



Stage Stream: 5



Stage Stream: 6



Lane Input Data

Junction: A5076/A4500 Gyratory

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 (A4500 Weedon Road West)	U	A	2	3	29.6	Geom	-	3.50	0.00	Y	Arm 2 Left	Inf
											Arm 3 Ahead	Inf
1/2 (A4500 Weedon Road West)	U	A	2	3	60.0	Geom	-	3.50	0.00	N	Arm 3 Ahead	Inf
1/3 (A4500 Weedon Road West)	U	A	2	3	60.0	Geom	-	3.50	0.00	Y	Arm 3 Ahead	Inf
2/1	U	K	2	3	5.0	User	2000	-	-	-	-	-
2/2	U	K	2	3	5.0	User	2000	-	-	-	-	-
3/1	U	E	2	3	12.2	User	1900	-	-	-	-	-
3/2	U	E	2	3	12.2	User	1900	-	-	-	-	-
3/3	U	E	2	3	12.2	User	1900	-	-	-	-	-
3/4	U	E	2	3	12.2	User	1900	-	-	-	-	-
4/1	U	B	2	3	10.4	User	1900	-	-	-	-	-
4/2	U	B	2	3	10.4	User	1900	-	-	-	-	-
4/3	U	B	2	3	10.4	User	1900	-	-	-	-	-
5/1 (Tollgate Way)	U	D	2	3	60.0	Geom	-	3.75	0.00	Y	Arm 6 Left	Inf
											Arm 7 Ahead	Inf
5/2 (Tollgate Way)	U	D	2	3	13.9	Geom	-	3.75	0.00	Y	Arm 7 Ahead	Inf
6/1	U		2	3	5.0	Inf	-	-	-	-	-	-
6/2	U		2	3	5.0	Inf	-	-	-	-	-	-
7/1	U	H	2	3	12.2	User	1900	-	-	-	-	-
7/2	U	H	2	3	12.2	User	1900	-	-	-	-	-
7/3	U	H	2	3	12.2	User	1900	-	-	-	-	-
8/1 (A4500 Weedon Road East)	U	G	2	3	7.0	Geom	-	3.50	0.00	Y	Arm 9 Left	Inf
8/2 (A4500 Weedon Road East)	U	G	2	3	60.0	Geom	-	3.50	0.00	N	Arm 9 Left	Inf
											Arm 10 Ahead	Inf
8/3 (A4500 Weedon Road East)	U	G	2	3	60.0	Geom	-	3.50	0.00	Y	Arm 10 Ahead	Inf
9/1	U		2	3	5.0	Inf	-	-	-	-	-	-
9/2	U		2	3	5.0	Inf	-	-	-	-	-	-
10/1	U	J	2	3	10.4	User	1900	-	-	-	-	-

10/2	U	J	2	3	10.4	User	1900	-	-	-	-	-
10/3	U	J	2	3	10.4	User	1900	-	-	-	-	-
11/1	U	M	2	3	5.0	User	2000	-	-	-	-	-
11/2	U	M	2	3	5.0	User	2000	-	-	-	-	-
12/1 (A5076 Ring Road)	U	I	2	3	23.5	Geom	-	3.75	0.00	Y	Arm 11 Left	Inf
12/2 (A5076 Ring Road)	U	I	2	3	60.0	Geom	-	3.75	0.00	Y	Arm 4 Ahead	Inf
12/3 (A5076 Ring Road)	U	I	2	3	60.0	Geom	-	3.75	0.00	Y	Arm 4 Ahead	Inf

Traffic Flow Groups

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

Scenario 1: '2031 D1 AM Peak' (FG1: '2031 D1 AM Peak', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

		Destination				
		A	B	C	D	Tot.
Origin	A	0	282	903	145	1330
	B	46	0	409	474	929
	C	773	594	0	375	1742
	D	181	915	370	68	1534
	Tot.	1000	1791	1682	1062	5535

Traffic Lane Flows

Lane	Scenario 1: 2031 D1 AM Peak
Junction: A5076/A4500 Gyratory	
1/1 (short)	530
1/2 (with short)	1096(In) 566(Out)
1/3	438
2/1	867
2/2	133
3/1	729
3/2	780
3/3	217
3/4	221
4/1	686
4/2	133
4/3	594
5/1 (with short)	1330(In) 665(Out)
5/2 (short)	665
6/1	1011
6/2	780
7/1	600
7/2	673
7/3	213
8/1 (short)	312
8/2 (with short)	644(In) 332(Out)
8/3	285
9/1	912
9/2	770
10/1	315
10/2	372
10/3	46
11/1	690
11/2	372
12/1 (short)	375
12/2 (with short)	1061(In) 686(Out)
12/3	681

Lane Saturation Flows

Junction: A5076/A4500 Gyratory

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 (A4500 Weedon Road West)	3.50	0.00	Y	Arm 2 Left	Inf	34.2 %	1965	1965
				Arm 3 Ahead	Inf	65.8 %		
1/2 (A4500 Weedon Road West)	3.50	0.00	N	Arm 3 Ahead	Inf	100.0 %	2105	2105
1/3 (A4500 Weedon Road West)	3.50	0.00	Y	Arm 3 Ahead	Inf	100.0 %	1965	1965
2/1	This lane uses a directly entered Saturation Flow						2000	2000
2/2	This lane uses a directly entered Saturation Flow						2000	2000
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
3/4	This lane uses a directly entered Saturation Flow						1900	1900
4/1	This lane uses a directly entered Saturation Flow						1900	1900
4/2	This lane uses a directly entered Saturation Flow						1900	1900
4/3	This lane uses a directly entered Saturation Flow						1900	1900
5/1 (Tollgate Way)	3.75	0.00	Y	Arm 6 Left	Inf	42.4 %	1990	1990
				Arm 7 Ahead	Inf	57.6 %		
5/2 (Tollgate Way)	3.75	0.00	Y	Arm 7 Ahead	Inf	100.0 %	1990	1990
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
7/3	This lane uses a directly entered Saturation Flow						1900	1900
8/1 (A4500 Weedon Road East)	3.50	0.00	Y	Arm 9 Left	Inf	100.0 %	1965	1965
8/2 (A4500 Weedon Road East)	3.50	0.00	N	Arm 9 Left	Inf	29.2 %	2105	2105
				Arm 10 Ahead	Inf	70.8 %		
8/3 (A4500 Weedon Road East)	3.50	0.00	Y	Arm 10 Ahead	Inf	100.0 %	1965	1965
9/1	Infinite Saturation Flow						Inf	Inf
9/2	Infinite Saturation Flow						Inf	Inf
10/1	This lane uses a directly entered Saturation Flow						1900	1900
10/2	This lane uses a directly entered Saturation Flow						1900	1900
10/3	This lane uses a directly entered Saturation Flow						1900	1900
11/1	This lane uses a directly entered Saturation Flow						2000	2000
11/2	This lane uses a directly entered Saturation Flow						2000	2000
12/1 (A5076 Ring Road)	3.75	0.00	Y	Arm 11 Left	Inf	100.0 %	1990	1990
12/2 (A5076 Ring Road)	3.75	0.00	Y	Arm 4 Ahead	Inf	100.0 %	1990	1990
12/3 (A5076 Ring Road)	3.75	0.00	Y	Arm 4 Ahead	Inf	100.0 %	1990	1990

Scenario 2: '2031 J1d AM Peak' (FG3: '2031 J1d AM Peak', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

		Destination				
		A	B	C	D	Tot.
Origin	A	0	257	874	202	1333
	B	41	0	400	459	900
	C	851	567	0	353	1771
	D	199	930	461	23	1613
	Tot.	1091	1754	1735	1037	5617

Traffic Lane Flows

Lane	Scenario 2: 2031 J1d AM Peak
Junction: A5076/A4500 Gyratory	
1/1 (short)	553
1/2 (with short)	1129(In) 576(Out)
1/3	484
2/1	904
2/2	187
3/1	722
3/2	775
3/3	244
3/4	240
4/1	705
4/2	187
4/3	567
5/1 (with short)	1333(In) 667(Out)
5/2 (short)	666
6/1	979
6/2	775
7/1	654
7/2	681
7/3	225
8/1 (short)	309
8/2 (with short)	640(In) 331(Out)
8/3	260
9/1	963
9/2	772
10/1	291
10/2	393
10/3	41
11/1	644
11/2	393
12/1 (short)	353
12/2 (with short)	1058(In) 705(Out)
12/3	713

Lane Saturation Flows

Junction: A5076/A4500 Gyratory

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 (A4500 Weedon Road West)	3.50	0.00	Y	Arm 2 Left	Inf	36.0 %	1965	1965
				Arm 3 Ahead	Inf	64.0 %		
1/2 (A4500 Weedon Road West)	3.50	0.00	N	Arm 3 Ahead	Inf	100.0 %	2105	2105
1/3 (A4500 Weedon Road West)	3.50	0.00	Y	Arm 3 Ahead	Inf	100.0 %	1965	1965
2/1	This lane uses a directly entered Saturation Flow						2000	2000
2/2	This lane uses a directly entered Saturation Flow						2000	2000
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
3/4	This lane uses a directly entered Saturation Flow						1900	1900
4/1	This lane uses a directly entered Saturation Flow						1900	1900
4/2	This lane uses a directly entered Saturation Flow						1900	1900
4/3	This lane uses a directly entered Saturation Flow						1900	1900
5/1 (Tollgate Way)	3.75	0.00	Y	Arm 6 Left	Inf	38.5 %	1990	1990
				Arm 7 Ahead	Inf	61.5 %		
5/2 (Tollgate Way)	3.75	0.00	Y	Arm 7 Ahead	Inf	100.0 %	1990	1990
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
7/3	This lane uses a directly entered Saturation Flow						1900	1900
8/1 (A4500 Weedon Road East)	3.50	0.00	Y	Arm 9 Left	Inf	100.0 %	1965	1965
8/2 (A4500 Weedon Road East)	3.50	0.00	N	Arm 9 Left	Inf	27.5 %	2105	2105
				Arm 10 Ahead	Inf	72.5 %		
8/3 (A4500 Weedon Road East)	3.50	0.00	Y	Arm 10 Ahead	Inf	100.0 %	1965	1965
9/1	Infinite Saturation Flow						Inf	Inf
9/2	Infinite Saturation Flow						Inf	Inf
10/1	This lane uses a directly entered Saturation Flow						1900	1900
10/2	This lane uses a directly entered Saturation Flow						1900	1900
10/3	This lane uses a directly entered Saturation Flow						1900	1900
11/1	This lane uses a directly entered Saturation Flow						2000	2000
11/2	This lane uses a directly entered Saturation Flow						2000	2000
12/1 (A5076 Ring Road)	3.75	0.00	Y	Arm 11 Left	Inf	100.0 %	1990	1990
12/2 (A5076 Ring Road)	3.75	0.00	Y	Arm 4 Ahead	Inf	100.0 %	1990	1990
12/3 (A5076 Ring Road)	3.75	0.00	Y	Arm 4 Ahead	Inf	100.0 %	1990	1990

Scenario 3: '2031 D1 PM Peak' (FG2: '2031 D1 PM Peak', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

		Destination				
		A	B	C	D	Tot.
Origin	A	0	173	504	236	913
	B	51	0	973	739	1763
	C	767	629	0	164	1560
	D	192	828	332	7	1359
	Tot.	1010	1630	1809	1146	5595

Traffic Lane Flows

Lane	Scenario 3: 2031 D1 PM Peak
Junction: A5076/A4500 Gyratory	
1/1 (short)	548
1/2 (with short)	1020(In) 472(Out)
1/3	339
2/1	864
2/2	146
3/1	698
3/2	759
3/3	154
3/4	185
4/1	672
4/2	146
4/3	629
5/1 (with short)	913(In) 448(Out)
5/2 (short)	465
6/1	871
6/2	759
7/1	429
7/2	407
7/3	243
8/1 (short)	563
8/2 (with short)	1165(In) 602(Out)
8/3	598
9/1	992
9/2	817
10/1	405
10/2	577
10/3	51
11/1	569
11/2	577
12/1 (short)	164
12/2 (with short)	836(In) 672(Out)
12/3	724

Lane Saturation Flows

Junction: A5076/A4500 Gyratory

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 (A4500 Weedon Road West)	3.50	0.00	Y	Arm 2 Left	Inf	35.0 %	1965	1965
				Arm 3 Ahead	Inf	65.0 %		
1/2 (A4500 Weedon Road West)	3.50	0.00	N	Arm 3 Ahead	Inf	100.0 %	2105	2105
1/3 (A4500 Weedon Road West)	3.50	0.00	Y	Arm 3 Ahead	Inf	100.0 %	1965	1965
2/1	This lane uses a directly entered Saturation Flow						2000	2000
2/2	This lane uses a directly entered Saturation Flow						2000	2000
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
3/4	This lane uses a directly entered Saturation Flow						1900	1900
4/1	This lane uses a directly entered Saturation Flow						1900	1900
4/2	This lane uses a directly entered Saturation Flow						1900	1900
4/3	This lane uses a directly entered Saturation Flow						1900	1900
5/1 (Tollgate Way)	3.75	0.00	Y	Arm 6 Left	Inf	38.6 %	1990	1990
				Arm 7 Ahead	Inf	61.4 %		
5/2 (Tollgate Way)	3.75	0.00	Y	Arm 7 Ahead	Inf	100.0 %	1990	1990
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
7/3	This lane uses a directly entered Saturation Flow						1900	1900
8/1 (A4500 Weedon Road East)	3.50	0.00	Y	Arm 9 Left	Inf	100.0 %	1965	1965
8/2 (A4500 Weedon Road East)	3.50	0.00	N	Arm 9 Left	Inf	68.1 %	2105	2105
				Arm 10 Ahead	Inf	31.9 %		
8/3 (A4500 Weedon Road East)	3.50	0.00	Y	Arm 10 Ahead	Inf	100.0 %	1965	1965
9/1	Infinite Saturation Flow						Inf	Inf
9/2	Infinite Saturation Flow						Inf	Inf
10/1	This lane uses a directly entered Saturation Flow						1900	1900
10/2	This lane uses a directly entered Saturation Flow						1900	1900
10/3	This lane uses a directly entered Saturation Flow						1900	1900
11/1	This lane uses a directly entered Saturation Flow						2000	2000
11/2	This lane uses a directly entered Saturation Flow						2000	2000
12/1 (A5076 Ring Road)	3.75	0.00	Y	Arm 11 Left	Inf	100.0 %	1990	1990
12/2 (A5076 Ring Road)	3.75	0.00	Y	Arm 4 Ahead	Inf	100.0 %	1990	1990
12/3 (A5076 Ring Road)	3.75	0.00	Y	Arm 4 Ahead	Inf	100.0 %	1990	1990

Scenario 4: '2031 J1d PM Peak' (FG4: '2031 J1d PM Peak', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

		Destination				
		A	B	C	D	Tot.
Origin	A	0	188	540	239	967
	B	55	0	925	780	1760
	C	753	596	0	172	1521
	D	197	843	322	14	1376
	Tot.	1005	1627	1787	1205	5624

Traffic Lane Flows

Lane	Scenario 4: 2031 J1d PM Peak
Junction: A5076/A4500 Gyratory	
1/1 (short)	545
1/2 (with short)	1042(In) 497(Out)
1/3	334
2/1	845
2/2	160
3/1	691
3/2	748
3/3	157
3/4	179
4/1	648
4/2	160
4/3	596
5/1 (with short)	967(In) 469(Out)
5/2 (short)	498
6/1	879
6/2	748
7/1	438
7/2	424
7/3	253
8/1 (short)	547
8/2 (with short)	1137(In) 590(Out)
8/3	623
9/1	985
9/2	802
10/1	434
10/2	599
10/3	55
11/1	606
11/2	599
12/1 (short)	172
12/2 (with short)	820(In) 648(Out)
12/3	701

Lane Saturation Flows

Junction: A5076/A4500 Gyratory

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 (A4500 Weedon Road West)	3.50	0.00	Y	Arm 2 Left	Inf	36.1 %	1965	1965
				Arm 3 Ahead	Inf	63.9 %		
1/2 (A4500 Weedon Road West)	3.50	0.00	N	Arm 3 Ahead	Inf	100.0 %	2105	2105
1/3 (A4500 Weedon Road West)	3.50	0.00	Y	Arm 3 Ahead	Inf	100.0 %	1965	1965
2/1	This lane uses a directly entered Saturation Flow						2000	2000
2/2	This lane uses a directly entered Saturation Flow						2000	2000
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
3/4	This lane uses a directly entered Saturation Flow						1900	1900
4/1	This lane uses a directly entered Saturation Flow						1900	1900
4/2	This lane uses a directly entered Saturation Flow						1900	1900
4/3	This lane uses a directly entered Saturation Flow						1900	1900
5/1 (Tollgate Way)	3.75	0.00	Y	Arm 6 Left	Inf	40.1 %	1990	1990
				Arm 7 Ahead	Inf	59.9 %		
5/2 (Tollgate Way)	3.75	0.00	Y	Arm 7 Ahead	Inf	100.0 %	1990	1990
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
7/3	This lane uses a directly entered Saturation Flow						1900	1900
8/1 (A4500 Weedon Road East)	3.50	0.00	Y	Arm 9 Left	Inf	100.0 %	1965	1965
8/2 (A4500 Weedon Road East)	3.50	0.00	N	Arm 9 Left	Inf	64.1 %	2105	2105
				Arm 10 Ahead	Inf	35.9 %		
8/3 (A4500 Weedon Road East)	3.50	0.00	Y	Arm 10 Ahead	Inf	100.0 %	1965	1965
9/1	Infinite Saturation Flow						Inf	Inf
9/2	Infinite Saturation Flow						Inf	Inf
10/1	This lane uses a directly entered Saturation Flow						1900	1900
10/2	This lane uses a directly entered Saturation Flow						1900	1900
10/3	This lane uses a directly entered Saturation Flow						1900	1900
11/1	This lane uses a directly entered Saturation Flow						2000	2000
11/2	This lane uses a directly entered Saturation Flow						2000	2000
12/1 (A5076 Ring Road)	3.75	0.00	Y	Arm 11 Left	Inf	100.0 %	1990	1990
12/2 (A5076 Ring Road)	3.75	0.00	Y	Arm 4 Ahead	Inf	100.0 %	1990	1990
12/3 (A5076 Ring Road)	3.75	0.00	Y	Arm 4 Ahead	Inf	100.0 %	1990	1990

Scenario 1: '2031 D1 AM Peak' (FG1: '2031 D1 AM Peak', Plan 1: 'Network Control Plan 1')

Stage Timings

Stage Stream: 1

Stage	1	2
Duration	15	31
Change Point	0	22

Stage Stream: 2

Stage	1	2
Duration	17	29
Change Point	28	52

Stage Stream: 3

Stage	1	2
Duration	22	28
Change Point	1	28

Stage Stream: 4

Stage	1	2
Duration	23	27
Change Point	32	0

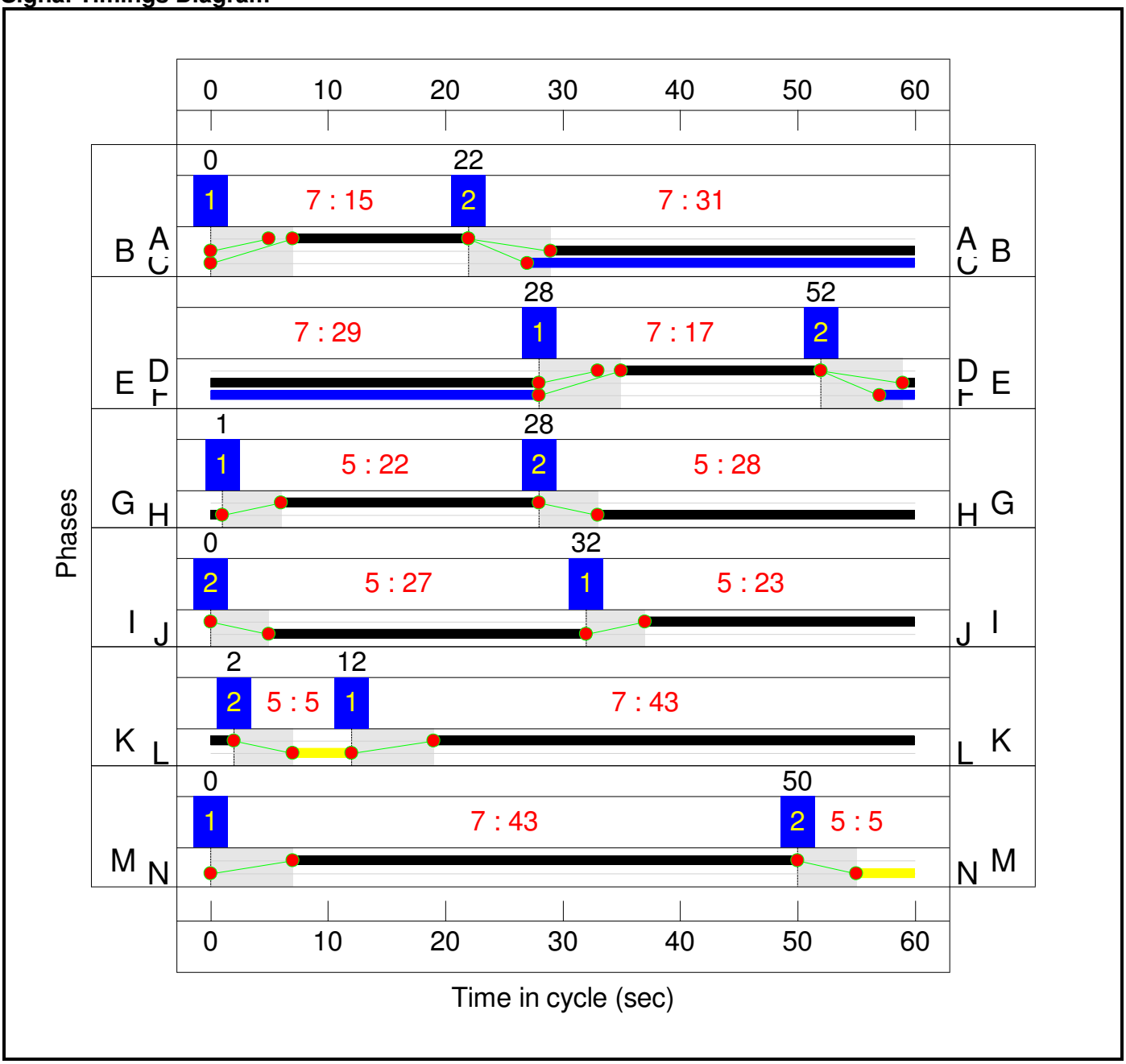
Stage Stream: 5

Stage	1	2
Duration	43	5
Change Point	12	2

Stage Stream: 6

Stage	1	2
Duration	43	5
Change Point	0	50

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: A4500 Weedon Road/A5076 Upton Valley Gyratory	-	-	**N/A**	-	-		-	-	-	-	-	-	**111.4%**
A5076/A4500 Gyratory	-	-	**N/A**	-	-		-	-	-	-	-	-	**111.4%**
1/2+1/1	A4500 Weedon Road West Left Ahead	U	1	N/A	A		1	15	-	1096	2105:1965	561+524	100.8 : 101.1%
1/3	A4500 Weedon Road West Ahead	U	1	N/A	A		1	15	-	438	1965	524	83.6%
2/1		U	5	N/A	K		1	43	-	867	2000	1467	59.0%
2/2		U	5	N/A	K		1	43	-	133	2000	1467	9.1%
3/1	Ahead	U	2	N/A	E		1	29	-	729	1900	950	76.3%
3/2	Ahead	U	2	N/A	E		1	29	-	780	1900	950	81.6%
3/3	Right	U	2	N/A	E		1	29	-	217	1900	950	22.8%
3/4	Right	U	2	N/A	E		1	29	-	221	1900	950	23.3%
4/1	Ahead	U	1	N/A	B		1	31	-	686	1900	1013	67.7%
4/2	Ahead	U	1	N/A	B		1	31	-	133	1900	1013	13.1%
4/3	Right	U	1	N/A	B		1	31	-	594	1900	1013	58.6%
5/1+5/2	Tollgate Way Left Ahead	U	2	N/A	D		1	17	-	1330	1990:1990	597+597	111.4 : 111.4%
7/1	Ahead	U	3	N/A	H		1	28	-	600	1900	918	61.1%
7/2	Ahead	U	3	N/A	H		1	28	-	673	1900	918	67.5%
7/3	Right	U	3	N/A	H		1	28	-	213	1900	918	21.6%
8/2+8/1	A4500 Weedon Road East Left Ahead	U	3	N/A	G		1	22	-	644	2105:1965	612+575	54.2 : 54.2%
8/3	A4500 Weedon Road East Ahead	U	3	N/A	G		1	22	-	285	1965	753	37.8%
10/1	Ahead	U	4	N/A	J		1	27	-	315	1900	887	35.0%
10/2	Ahead	U	4	N/A	J		1	27	-	372	1900	887	40.8%
10/3	Right	U	4	N/A	J		1	27	-	46	1900	887	5.2%
11/1		U	6	N/A	M		1	43	-	690	2000	1467	46.7%
11/2		U	6	N/A	M		1	43	-	372	2000	1467	24.7%
12/2+12/1	A5076 Ring Road Ahead Left	U	4	N/A	I		1	23	-	1061	1990:1990	796+457	86.2 : 82.0%
12/3	A5076 Ring Road Ahead	U	4	N/A	I		1	23	-	681	1990	796	85.6%

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: A4500 Weedon Road/A5076 Upton Valley Gyratory	**-**	**-**	**0**	**0**	**0**	**36.9**	**110.7**	**0.0**	**147.6**	**-**	**-**	**-**	**-**
A5076/A4500 Gyratory	**-**	**-**	**0**	**0**	**0**	**36.9**	**110.7**	**0.0**	**147.6**	**-**	**-**	**-**	**-**
1/2+1/1	1096	1085	-	-	-	7.0	19.4	-	26.4	86.8	9.5	19.4	28.9
1/3	438	438	-	-	-	2.5	2.4	-	4.9	40.6	6.8	2.4	9.2
2/1	865	865	-	-	-	0.2	0.7	-	1.0	4.0	2.8	0.7	3.5
2/2	133	133	-	-	-	0.0	0.0	-	0.0	1.3	0.0	0.0	0.0
3/1	725	725	-	-	-	1.0	1.6	-	2.6	13.0	6.3	1.6	7.9
3/2	775	775	-	-	-	0.8	2.2	-	3.0	13.8	3.7	2.2	5.9
3/3	217	217	-	-	-	0.0	0.1	-	0.1	2.5	0.0	0.1	0.1
3/4	221	221	-	-	-	0.0	0.2	-	0.2	2.5	0.0	0.2	0.2
4/1	686	686	-	-	-	0.5	1.0	-	1.5	8.0	0.9	1.0	1.9
4/2	133	133	-	-	-	0.2	0.1	-	0.2	6.3	0.8	0.1	0.8
4/3	594	594	-	-	-	0.3	0.7	-	1.0	6.1	0.7	0.7	1.4
5/1+5/2	1330	1194	-	-	-	10.6	72.6	-	83.2	225.1	12.2	72.6	84.8
7/1	561	561	-	-	-	0.8	0.8	-	1.5	9.9	3.6	0.8	4.4
7/2	620	620	-	-	-	0.5	1.0	-	1.5	8.9	2.6	1.0	3.6
7/3	198	198	-	-	-	0.2	0.1	-	0.3	6.0	1.1	0.1	1.3
8/2+8/1	644	644	-	-	-	2.4	0.6	-	3.0	16.9	4.0	0.6	4.6
8/3	285	285	-	-	-	1.1	0.3	-	1.4	17.2	3.4	0.3	3.7
10/1	310	310	-	-	-	0.4	0.3	-	0.7	7.6	1.2	0.3	1.5
10/2	362	362	-	-	-	0.6	0.3	-	0.9	9.4	2.1	0.3	2.4
10/3	46	46	-	-	-	0.0	0.0	-	0.0	2.1	0.0	0.0	0.0
11/1	685	685	-	-	-	0.3	0.4	-	0.7	3.8	2.5	0.4	2.9
11/2	362	362	-	-	-	0.0	0.2	-	0.2	1.6	0.0	0.2	0.2
12/2+12/1	1061	1061	-	-	-	4.5	2.7	-	7.2	24.5	10.3	2.7	13.0
12/3	681	681	-	-	-	3.1	2.8	-	5.9	31.3	10.2	2.8	13.0

C1	Stream: 1 PRC for Signalled Lanes (%):	-12.4	Total Delay for Signalled Lanes (pcuHr):	34.13	Cycle Time (s): 60
C1	Stream: 2 PRC for Signalled Lanes (%):	-23.8	Total Delay for Signalled Lanes (pcuHr):	89.04	Cycle Time (s): 60
C1	Stream: 3 PRC for Signalled Lanes (%):	33.3	Total Delay for Signalled Lanes (pcuHr):	7.78	Cycle Time (s): 60
C1	Stream: 4 PRC for Signalled Lanes (%):	4.4	Total Delay for Signalled Lanes (pcuHr):	14.76	Cycle Time (s): 60
C1	Stream: 5 PRC for Signalled Lanes (%):	52.6	Total Delay for Signalled Lanes (pcuHr):	1.00	Cycle Time (s): 60
C1	Stream: 6 PRC for Signalled Lanes (%):	92.7	Total Delay for Signalled Lanes (pcuHr):	0.88	Cycle Time (s): 60
	PRC Over All Lanes (%):	-23.8	Total Delay Over All Lanes(pcuHr):	147.59	

Scenario 2: '2031 J1d AM Peak' (FG3: '2031 J1d AM Peak', Plan 1: 'Network Control Plan 1')

Stage Timings

Stage Stream: 1

Stage	1	2
Duration	16	30
Change Point	0	23

Stage Stream: 2

Stage	1	2
Duration	17	29
Change Point	28	52

Stage Stream: 3

Stage	1	2
Duration	22	28
Change Point	1	28

Stage Stream: 4

Stage	1	2
Duration	23	27
Change Point	32	0

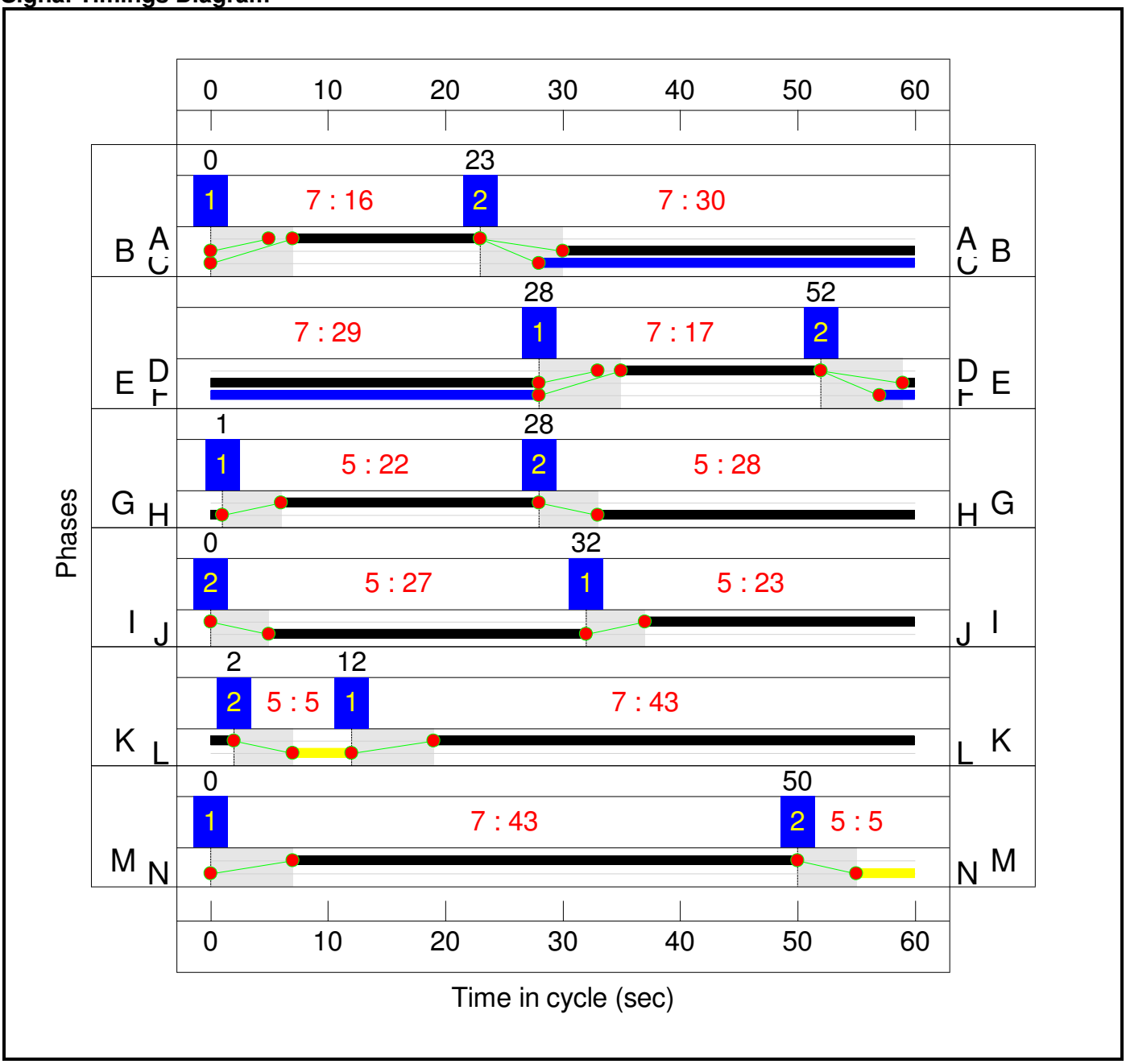
Stage Stream: 5

Stage	1	2
Duration	43	5
Change Point	12	2

Stage Stream: 6

Stage	1	2
Duration	43	5
Change Point	0	50

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: A4500 Weedon Road/A5076 Upton Valley Gyratory	-	-	**N/A**	-	-		-	-	-	-	-	-	**111.7%**
A5076/A4500 Gyratory	-	-	**N/A**	-	-		-	-	-	-	-	-	**111.7%**
1/2+1/1	A4500 Weedon Road West Left Ahead	U	1	N/A	A		1	16	-	1129	2105:1965	596+557	96.6 : 99.3%
1/3	A4500 Weedon Road West Ahead	U	1	N/A	A		1	16	-	484	1965	557	86.9%
2/1		U	5	N/A	K		1	43	-	904	2000	1467	61.6%
2/2		U	5	N/A	K		1	43	-	187	2000	1467	12.8%
3/1	Ahead	U	2	N/A	E		1	29	-	722	1900	950	76.0%
3/2	Ahead	U	2	N/A	E		1	29	-	775	1900	950	81.6%
3/3	Right	U	2	N/A	E		1	29	-	244	1900	950	25.7%
3/4	Right	U	2	N/A	E		1	29	-	240	1900	950	25.3%
4/1	Ahead	U	1	N/A	B		1	30	-	705	1900	982	71.8%
4/2	Ahead	U	1	N/A	B		1	30	-	187	1900	982	19.0%
4/3	Right	U	1	N/A	B		1	30	-	567	1900	982	57.8%
5/1+5/2	Tollgate Way Left Ahead	U	2	N/A	D		1	17	-	1333	1990:1990	597+597	111.7 : 111.6%
7/1	Ahead	U	3	N/A	H		1	28	-	654	1900	918	66.5%
7/2	Ahead	U	3	N/A	H		1	28	-	681	1900	918	68.9%
7/3	Right	U	3	N/A	H		1	28	-	225	1900	918	22.2%
8/2+8/1	A4500 Weedon Road East Left Ahead	U	3	N/A	G		1	22	-	640	2105:1965	613+572	54.0 : 54.0%
8/3	A4500 Weedon Road East Ahead	U	3	N/A	G		1	22	-	260	1965	753	34.5%
10/1	Ahead	U	4	N/A	J		1	27	-	291	1900	887	32.2%
10/2	Ahead	U	4	N/A	J		1	27	-	393	1900	887	42.6%
10/3	Right	U	4	N/A	J		1	27	-	41	1900	887	4.6%
11/1		U	6	N/A	M		1	43	-	644	2000	1467	43.5%
11/2		U	6	N/A	M		1	43	-	393	2000	1467	25.7%
12/2+12/1	A5076 Ring Road Ahead Left	U	4	N/A	I		1	23	-	1058	1990:1990	796+399	88.6 : 88.5%
12/3	A5076 Ring Road Ahead	U	4	N/A	I		1	23	-	713	1990	796	89.6%

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: A4500 Weedon Road/A5076 Upton Valley Gyratory	**-**	**-**	**0**	**0**	**0**	**37.3**	**107.8**	**0.0**	**145.0**	**-**	**-**	**-**	**-**
A5076/A4500 Gyratory	**-**	**-**	**0**	**0**	**0**	**37.3**	**107.8**	**0.0**	**145.0**	**-**	**-**	**-**	**-**
1/2+1/1	1129	1129	-	-	-	6.7	11.8	-	18.5	59.0	9.4	11.8	21.3
1/3	484	484	-	-	-	2.7	3.1	-	5.8	43.3	7.7	3.1	10.7
2/1	904	904	-	-	-	0.3	0.8	-	1.1	4.2	2.9	0.8	3.7
2/2	187	187	-	-	-	0.0	0.1	-	0.1	1.4	0.0	0.1	0.1
3/1	722	722	-	-	-	0.9	1.6	-	2.5	12.5	6.1	1.6	7.7
3/2	775	775	-	-	-	0.9	2.2	-	3.0	14.1	3.6	2.2	5.8
3/3	244	244	-	-	-	0.0	0.2	-	0.2	2.5	0.0	0.2	0.2
3/4	240	240	-	-	-	0.0	0.2	-	0.2	2.5	0.0	0.2	0.2
4/1	705	705	-	-	-	0.7	1.3	-	1.9	9.8	1.2	1.3	2.5
4/2	187	187	-	-	-	0.2	0.1	-	0.3	6.0	0.8	0.1	0.9
4/3	567	567	-	-	-	0.3	0.7	-	1.0	6.3	0.7	0.7	1.3
5/1+5/2	1333	1194	-	-	-	10.7	74.0	-	84.7	228.6	12.3	74.0	86.3
7/1	611	611	-	-	-	0.8	1.0	-	1.8	10.8	4.4	1.0	5.4
7/2	633	633	-	-	-	0.7	1.1	-	1.8	10.4	3.6	1.1	4.7
7/3	204	204	-	-	-	0.1	0.1	-	0.2	3.5	0.4	0.1	0.5
8/2+8/1	640	640	-	-	-	2.4	0.6	-	3.0	16.8	4.0	0.6	4.5
8/3	260	260	-	-	-	1.0	0.3	-	1.2	16.8	3.0	0.3	3.3
10/1	286	286	-	-	-	0.1	0.2	-	0.4	4.9	0.8	0.2	1.0
10/2	377	377	-	-	-	0.7	0.4	-	1.1	10.1	2.6	0.4	3.0
10/3	41	41	-	-	-	0.0	0.0	-	0.0	2.1	0.0	0.0	0.0
11/1	639	639	-	-	-	0.2	0.4	-	0.6	3.5	1.9	0.4	2.3
11/2	377	377	-	-	-	0.0	0.2	-	0.2	1.7	0.0	0.2	0.2
12/2+12/1	1058	1058	-	-	-	4.6	3.7	-	8.2	28.0	10.8	3.7	14.4
12/3	713	713	-	-	-	3.3	3.9	-	7.3	36.6	11.1	3.9	15.0

C1	Stream: 1 PRC for Signalled Lanes (%):	-10.4	Total Delay for Signalled Lanes (pcuHr):	27.53	Cycle Time (s): 60
C1	Stream: 2 PRC for Signalled Lanes (%):	-24.1	Total Delay for Signalled Lanes (pcuHr):	90.55	Cycle Time (s): 60
C1	Stream: 3 PRC for Signalled Lanes (%):	30.6	Total Delay for Signalled Lanes (pcuHr):	8.06	Cycle Time (s): 60
C1	Stream: 4 PRC for Signalled Lanes (%):	0.5	Total Delay for Signalled Lanes (pcuHr):	16.97	Cycle Time (s): 60
C1	Stream: 5 PRC for Signalled Lanes (%):	46.0	Total Delay for Signalled Lanes (pcuHr):	1.13	Cycle Time (s): 60
C1	Stream: 6 PRC for Signalled Lanes (%):	106.7	Total Delay for Signalled Lanes (pcuHr):	0.80	Cycle Time (s): 60
	PRC Over All Lanes (%):	-24.1	Total Delay Over All Lanes(pcuHr):	145.04	

Scenario 3: '2031 D1 PM Peak' (FG2: '2031 D1 PM Peak', Plan 1: 'Network Control Plan 1')

Stage Timings

Stage Stream: 1

Stage	1	2
Duration	18	28
Change Point	0	25

Stage Stream: 2

Stage	1	2
Duration	15	31
Change Point	27	49

Stage Stream: 3

Stage	1	2
Duration	26	24
Change Point	1	32

Stage Stream: 4

Stage	1	2
Duration	24	26
Change Point	32	1

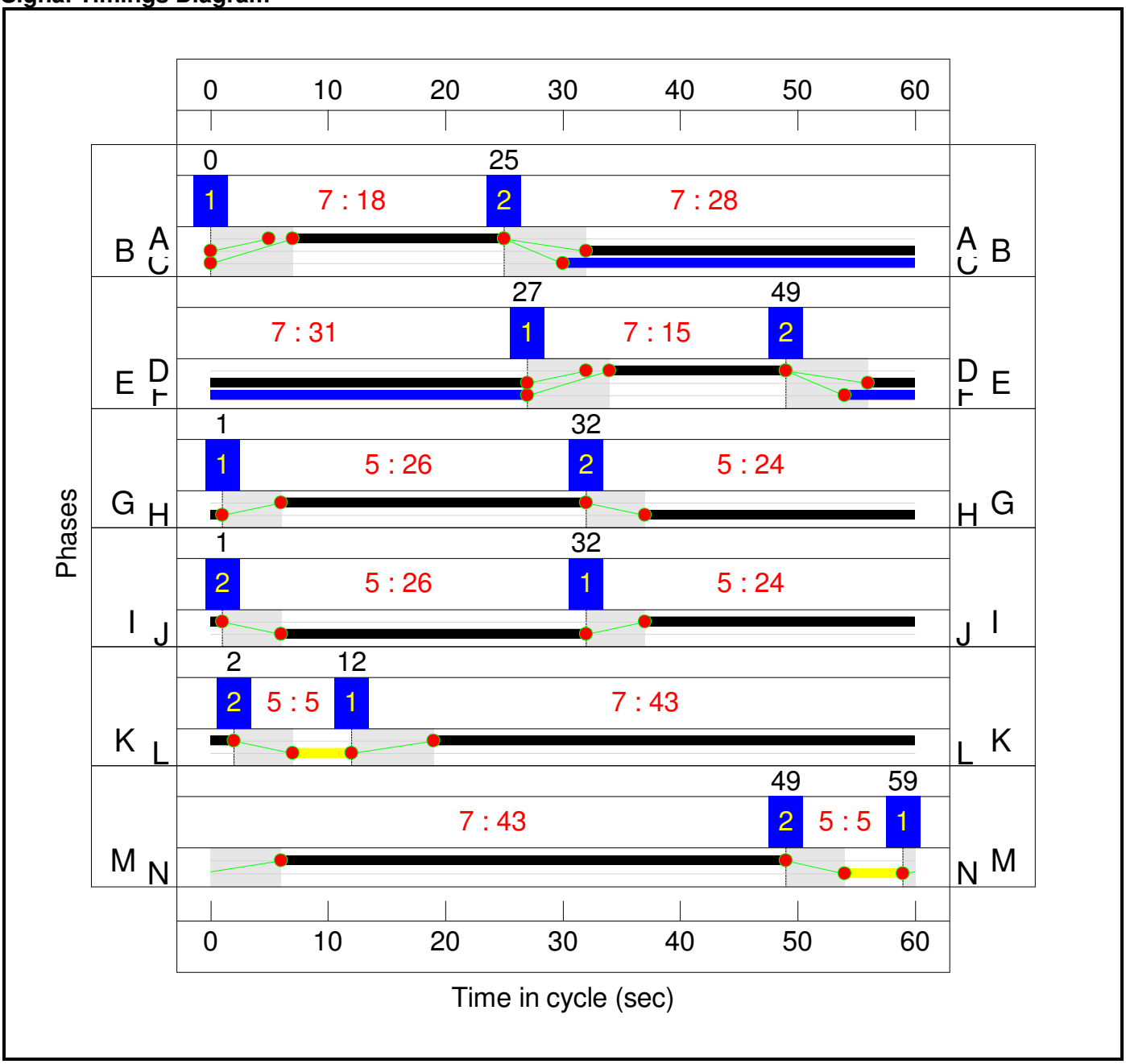
Stage Stream: 5

Stage	1	2
Duration	43	5
Change Point	12	2

Stage Stream: 6

Stage	1	2
Duration	43	5
Change Point	59	49

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: A4500 Weedon Road/A5076 Upton Valley Gyratory	-	-	**N/A**	-	-		-	-	-	-	-	-	**88.2%**
A5076/A4500 Gyratory	-	-	**N/A**	-	-		-	-	-	-	-	-	**88.2%**
1/2+1/1	A4500 Weedon Road West Left Ahead	U	1	N/A	A		1	18	-	1020	2105:1965	667+622	70.8 : 88.1%
1/3	A4500 Weedon Road West Ahead	U	1	N/A	A		1	18	-	339	1965	622	54.5%
2/1		U	5	N/A	K		1	43	-	864	2000	1467	58.9%
2/2		U	5	N/A	K		1	43	-	146	2000	1467	10.0%
3/1	Ahead	U	2	N/A	E		1	31	-	698	1900	1013	68.9%
3/2	Ahead	U	2	N/A	E		1	31	-	759	1900	1013	74.9%
3/3	Right	U	2	N/A	E		1	31	-	154	1900	1013	15.2%
3/4	Right	U	2	N/A	E		1	31	-	185	1900	1013	18.3%
4/1	Ahead	U	1	N/A	B		1	28	-	672	1900	918	73.2%
4/2	Ahead	U	1	N/A	B		1	28	-	146	1900	918	15.9%
4/3	Right	U	1	N/A	B		1	28	-	629	1900	918	68.5%
5/1+5/2	Tollgate Way Left Ahead	U	2	N/A	D		1	15	-	913	1990:1990	531+531	84.4 : 87.6%
7/1	Ahead	U	3	N/A	H		1	24	-	429	1900	792	54.2%
7/2	Ahead	U	3	N/A	H		1	24	-	407	1900	792	51.4%
7/3	Right	U	3	N/A	H		1	24	-	243	1900	792	30.7%
8/2+8/1	A4500 Weedon Road East Left Ahead	U	3	N/A	G		1	26	-	1165	2105:1965	683+639	88.2 : 88.2%
8/3	A4500 Weedon Road East Ahead	U	3	N/A	G		1	26	-	598	1965	884	67.6%
10/1	Ahead	U	4	N/A	J		1	26	-	405	1900	855	47.4%
10/2	Ahead	U	4	N/A	J		1	26	-	577	1900	855	67.5%
10/3	Right	U	4	N/A	J		1	26	-	51	1900	855	6.0%
11/1		U	6	N/A	M		1	43	-	569	2000	1467	38.8%
11/2		U	6	N/A	M		1	43	-	577	2000	1467	39.3%
12/2+12/1	A5076 Ring Road Ahead Left	U	4	N/A	I		1	24	-	836	1990:1990	829+202	81.0 : 81.0%
12/3	A5076 Ring Road Ahead	U	4	N/A	I		1	24	-	724	1990	829	87.3%

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: A4500 Weedon Road/A5076 Upton Valley Gyratory	**-**	**-**	**0**	**0**	**0**	**31.7**	**24.9**	**0.0**	**56.6**	**-**	**-**	**-**	**-**
A5076/A4500 Gyratory	**-**	**-**	**0**	**0**	**0**	**31.7**	**24.9**	**0.0**	**56.6**	**-**	**-**	**-**	**-**
1/2+1/1	1020	1020	-	-	-	5.3	1.9	-	7.2	25.4	8.5	1.9	10.4
1/3	339	339	-	-	-	1.6	0.6	-	2.2	23.3	4.6	0.6	5.2
2/1	864	864	-	-	-	0.2	0.7	-	1.0	4.0	2.9	0.7	3.6
2/2	146	146	-	-	-	0.0	0.1	-	0.1	1.4	0.0	0.1	0.1
3/1	698	698	-	-	-	0.7	1.1	-	1.8	9.5	6.0	1.1	7.1
3/2	759	759	-	-	-	0.7	1.5	-	2.2	10.4	4.3	1.5	5.8
3/3	154	154	-	-	-	0.1	0.1	-	0.1	3.4	0.1	0.1	0.2
3/4	185	185	-	-	-	0.1	0.1	-	0.2	3.5	0.2	0.1	0.3
4/1	672	672	-	-	-	0.5	1.3	-	1.9	10.1	0.9	1.3	2.3
4/2	146	146	-	-	-	0.2	0.1	-	0.3	7.4	0.9	0.1	1.0
4/3	629	629	-	-	-	0.4	1.1	-	1.5	8.6	0.9	1.1	2.0
5/1+5/2	913	913	-	-	-	5.3	3.0	-	8.3	32.6	7.4	3.0	10.3
7/1	429	429	-	-	-	0.7	0.6	-	1.3	11.2	4.8	0.6	5.4
7/2	407	407	-	-	-	0.9	0.5	-	1.4	12.3	4.5	0.5	5.0
7/3	243	243	-	-	-	0.0	0.2	-	0.2	3.7	0.1	0.2	0.3
8/2+8/1	1165	1165	-	-	-	4.1	3.6	-	7.7	23.8	9.6	3.6	13.1
8/3	598	598	-	-	-	2.2	1.0	-	3.2	19.3	7.8	1.0	8.8
10/1	405	405	-	-	-	1.3	0.4	-	1.7	15.2	4.3	0.4	4.8
10/2	577	577	-	-	-	0.5	1.0	-	1.5	9.3	1.1	1.0	2.1
10/3	51	51	-	-	-	0.0	0.0	-	0.1	4.3	0.1	0.0	0.1
11/1	569	569	-	-	-	0.1	0.3	-	0.4	2.7	0.6	0.3	1.0
11/2	577	577	-	-	-	0.0	0.3	-	0.3	2.0	0.0	0.3	0.3
12/2+12/1	836	836	-	-	-	3.4	2.1	-	5.5	23.6	9.7	2.1	11.8
12/3	724	724	-	-	-	3.2	3.2	-	6.5	32.2	11.1	3.2	14.3

C1	Stream: 1 PRC for Signalled Lanes (%):	2.2	Total Delay for Signalled Lanes (pcuHr):	13.08	Cycle Time (s): 60
C1	Stream: 2 PRC for Signalled Lanes (%):	2.7	Total Delay for Signalled Lanes (pcuHr):	12.64	Cycle Time (s): 60
C1	Stream: 3 PRC for Signalled Lanes (%):	2.1	Total Delay for Signalled Lanes (pcuHr):	13.89	Cycle Time (s): 60
C1	Stream: 4 PRC for Signalled Lanes (%):	3.1	Total Delay for Signalled Lanes (pcuHr):	15.20	Cycle Time (s): 60
C1	Stream: 5 PRC for Signalled Lanes (%):	52.8	Total Delay for Signalled Lanes (pcuHr):	1.01	Cycle Time (s): 60
C1	Stream: 6 PRC for Signalled Lanes (%):	128.8	Total Delay for Signalled Lanes (pcuHr):	0.74	Cycle Time (s): 60
	PRC Over All Lanes (%):	2.1	Total Delay Over All Lanes(pcuHr):	56.57	

Scenario 4: '2031 J1d PM Peak' (FG4: '2031 J1d PM Peak', Plan 1: 'Network Control Plan 1')

Stage Timings

Stage Stream: 1

Stage	1	2
Duration	18	28
Change Point	0	25

Stage Stream: 2

Stage	1	2
Duration	16	30
Change Point	26	49

Stage Stream: 3

Stage	1	2
Duration	25	25
Change Point	1	31

Stage Stream: 4

Stage	1	2
Duration	24	26
Change Point	32	1

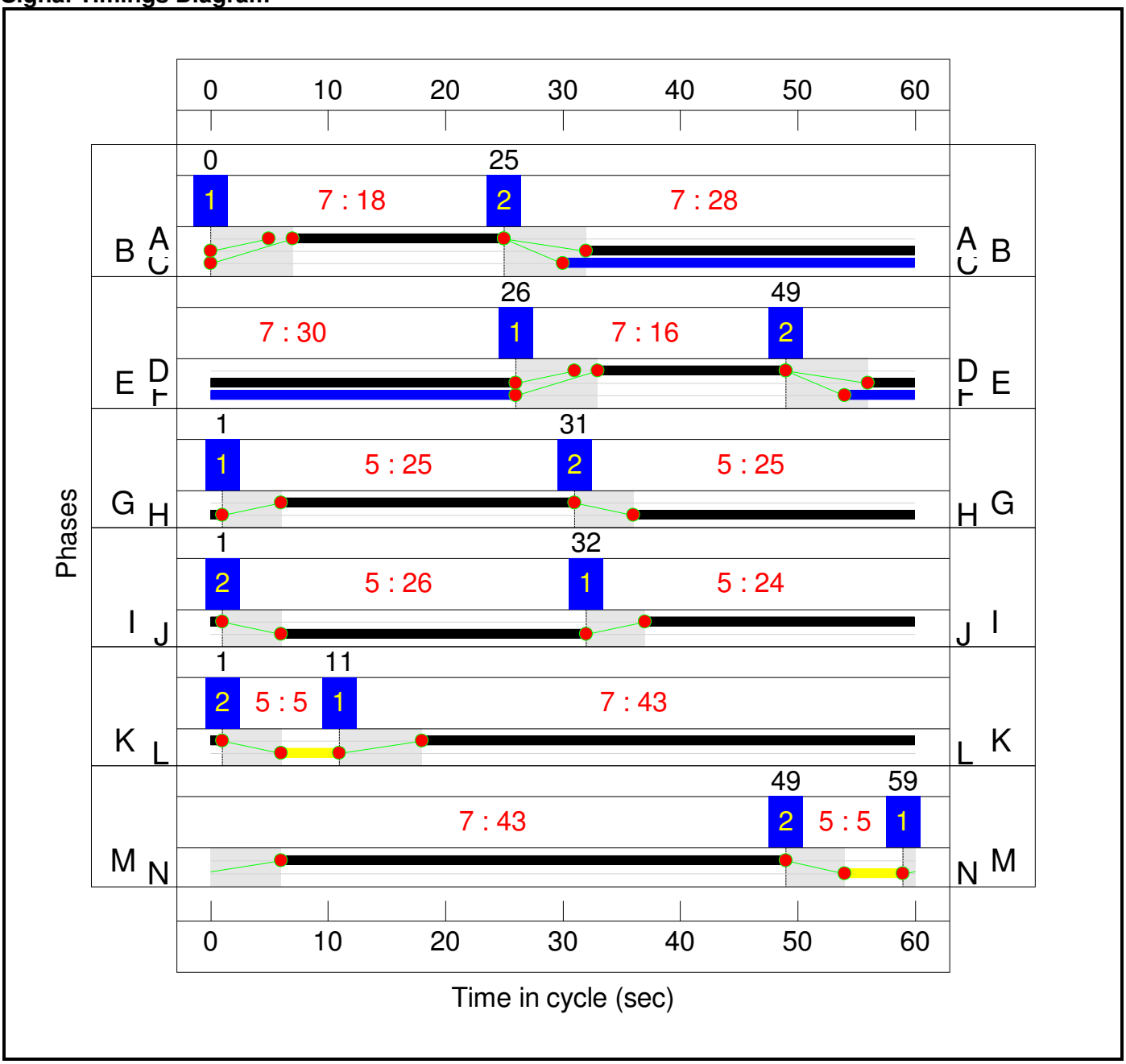
Stage Stream: 5

Stage	1	2
Duration	43	5
Change Point	11	1

Stage Stream: 6

Stage	1	2
Duration	43	5
Change Point	59	49

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: A4500 Weedon Road/A5076 Upton Valley Gyratory	-	-	**N/A**	-	-		-	-	-	-	-	-	**88.5%**
A5076/A4500 Gyratory	-	-	**N/A**	-	-		-	-	-	-	-	-	**88.5%**
1/2+1/1	A4500 Weedon Road West Left Ahead	U	1	N/A	A		1	18	-	1042	2105:1965	667+622	74.6 : 87.6%
1/3	A4500 Weedon Road West Ahead	U	1	N/A	A		1	18	-	334	1965	622	53.7%
2/1		U	5	N/A	K		1	43	-	845	2000	1467	57.6%
2/2		U	5	N/A	K		1	43	-	160	2000	1467	10.9%
3/1	Ahead	U	2	N/A	E		1	30	-	691	1900	982	70.4%
3/2	Ahead	U	2	N/A	E		1	30	-	748	1900	982	76.2%
3/3	Right	U	2	N/A	E		1	30	-	157	1900	982	16.0%
3/4	Right	U	2	N/A	E		1	30	-	179	1900	982	18.2%
4/1	Ahead	U	1	N/A	B		1	28	-	648	1900	918	70.6%
4/2	Ahead	U	1	N/A	B		1	28	-	160	1900	918	17.4%
4/3	Right	U	1	N/A	B		1	28	-	596	1900	918	64.9%
5/1+5/2	Tollgate Way Left Ahead	U	2	N/A	D		1	16	-	967	1990:1990	564+564	83.2 : 88.3%
7/1	Ahead	U	3	N/A	H		1	25	-	438	1900	823	53.2%
7/2	Ahead	U	3	N/A	H		1	25	-	424	1900	823	51.5%
7/3	Right	U	3	N/A	H		1	25	-	253	1900	823	30.7%
8/2+8/1	A4500 Weedon Road East Left Ahead	U	3	N/A	G		1	25	-	1137	2105:1965	666+618	88.5 : 88.5%
8/3	A4500 Weedon Road East Ahead	U	3	N/A	G		1	25	-	623	1965	852	73.2%
10/1	Ahead	U	4	N/A	J		1	26	-	434	1900	855	50.8%
10/2	Ahead	U	4	N/A	J		1	26	-	599	1900	855	70.1%
10/3	Right	U	4	N/A	J		1	26	-	55	1900	855	6.4%
11/1		U	6	N/A	M		1	43	-	606	2000	1467	41.3%
11/2		U	6	N/A	M		1	43	-	599	2000	1467	40.8%
12/2+12/1	A5076 Ring Road Ahead Left	U	4	N/A	I		1	24	-	820	1990:1990	829+220	78.2 : 78.2%
12/3	A5076 Ring Road Ahead	U	4	N/A	I		1	24	-	701	1990	829	84.5%

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: A4500 Weedon Road/A5076 Upton Valley Gyratory	**-**	**-**	**0**	**0**	**0**	**32.2**	**24.6**	**0.0**	**56.8**	**-**	**-**	**-**	**-**
A5076/A4500 Gyratory	**-**	**-**	**0**	**0**	**0**	**32.2**	**24.6**	**0.0**	**56.8**	**-**	**-**	**-**	**-**
1/2+1/1	1042	1042	-	-	-	5.5	2.1	-	7.5	26.1	8.5	2.1	10.6
1/3	334	334	-	-	-	1.6	0.6	-	2.1	23.1	4.5	0.6	5.1
2/1	845	845	-	-	-	0.3	0.7	-	0.9	4.0	2.9	0.7	3.6
2/2	160	160	-	-	-	0.0	0.1	-	0.1	1.6	0.0	0.1	0.1
3/1	691	691	-	-	-	1.0	1.2	-	2.1	11.2	6.3	1.2	7.5
3/2	748	748	-	-	-	0.8	1.6	-	2.3	11.2	4.1	1.6	5.7
3/3	157	157	-	-	-	0.1	0.1	-	0.2	4.0	0.2	0.1	0.3
3/4	179	179	-	-	-	0.1	0.1	-	0.2	4.1	0.2	0.1	0.3
4/1	648	648	-	-	-	0.5	1.2	-	1.7	9.4	0.9	1.2	2.1
4/2	160	160	-	-	-	0.2	0.1	-	0.3	7.2	1.0	0.1	1.1
4/3	596	596	-	-	-	0.4	0.9	-	1.3	8.0	0.8	0.9	1.7
5/1+5/2	967	967	-	-	-	5.5	2.9	-	8.4	31.2	7.9	2.9	10.8
7/1	438	438	-	-	-	0.7	0.6	-	1.3	10.5	4.8	0.6	5.3
7/2	424	424	-	-	-	0.7	0.5	-	1.3	10.8	4.3	0.5	4.8
7/3	253	253	-	-	-	0.1	0.2	-	0.3	3.9	0.2	0.2	0.4
8/2+8/1	1137	1137	-	-	-	4.3	3.7	-	7.9	25.1	9.5	3.7	13.2
8/3	623	623	-	-	-	2.4	1.3	-	3.8	21.9	8.5	1.3	9.8
10/1	434	434	-	-	-	1.3	0.5	-	1.9	15.4	4.7	0.5	5.2
10/2	599	599	-	-	-	0.4	1.2	-	1.6	9.4	1.0	1.2	2.1
10/3	55	55	-	-	-	0.0	0.0	-	0.1	3.8	0.0	0.0	0.1
11/1	606	606	-	-	-	0.1	0.4	-	0.5	2.7	0.7	0.4	1.0
11/2	599	599	-	-	-	0.0	0.3	-	0.3	2.1	0.0	0.3	0.3
12/2+12/1	820	820	-	-	-	3.3	1.8	-	5.0	22.0	9.2	1.8	10.9
12/3	701	701	-	-	-	3.1	2.6	-	5.7	29.3	10.5	2.6	13.1

C1	Stream: 1	PRC for Signalled Lanes (%):	2.8	Total Delay for Signalled Lanes (pcuHr):	13.03	Cycle Time (s): 60
C1	Stream: 2	PRC for Signalled Lanes (%):	1.9	Total Delay for Signalled Lanes (pcuHr):	13.22	Cycle Time (s): 60
C1	Stream: 3	PRC for Signalled Lanes (%):	1.7	Total Delay for Signalled Lanes (pcuHr):	14.55	Cycle Time (s): 60
C1	Stream: 4	PRC for Signalled Lanes (%):	6.5	Total Delay for Signalled Lanes (pcuHr):	14.19	Cycle Time (s): 60
C1	Stream: 5	PRC for Signalled Lanes (%):	56.2	Total Delay for Signalled Lanes (pcuHr):	1.02	Cycle Time (s): 60
C1	Stream: 6	PRC for Signalled Lanes (%):	117.8	Total Delay for Signalled Lanes (pcuHr):	0.80	Cycle Time (s): 60
		PRC Over All Lanes (%):	1.7	Total Delay Over All Lanes(pcuHr):	56.81	

APPENDIX P

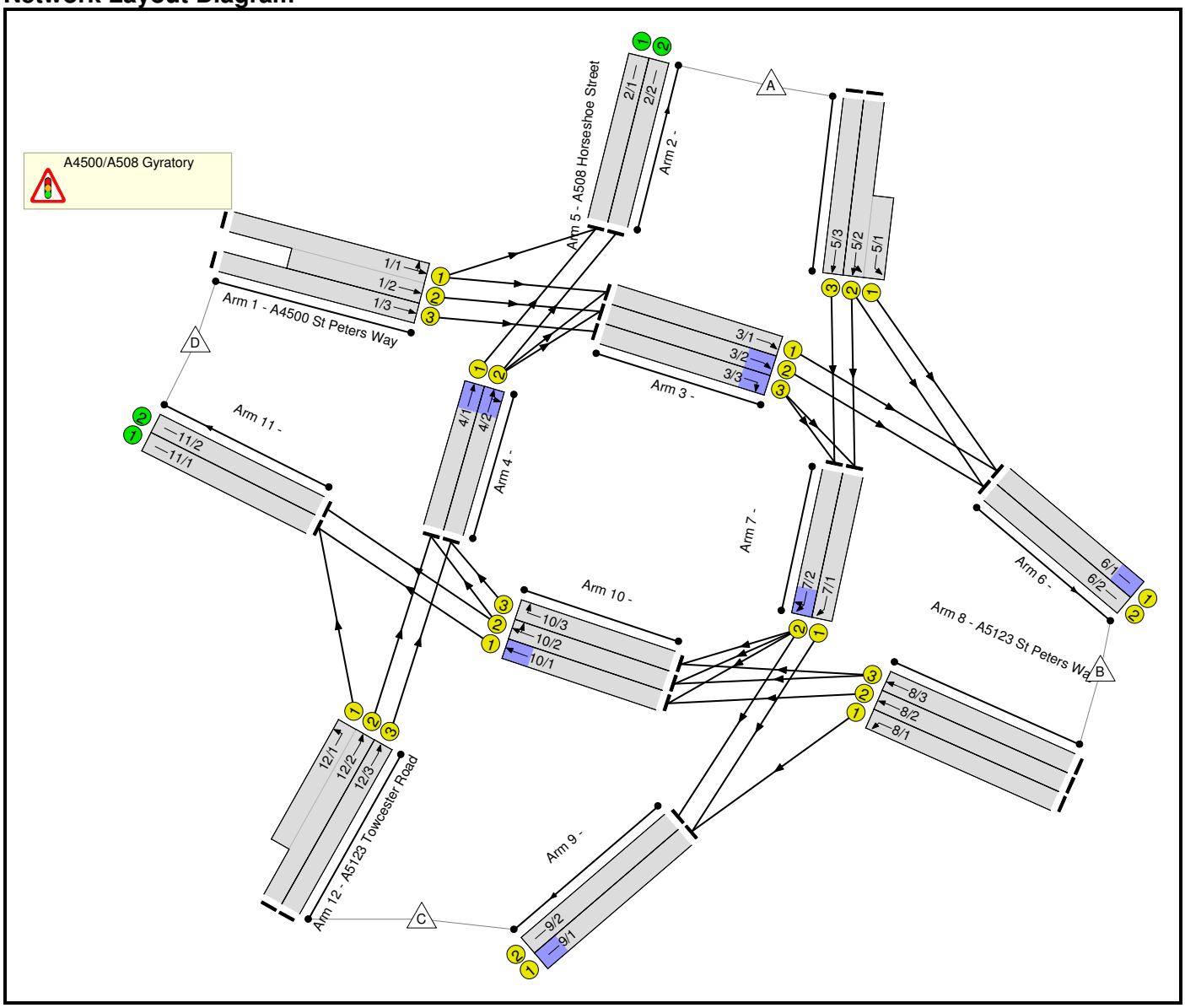
A4500 ST PETERS WAY/A508 HORSESHOE STREET/ A5123 ST PETERS WAY/TOWCESTER ROAD GYRATORY LINSIG MODEL

Full Input Data And Results

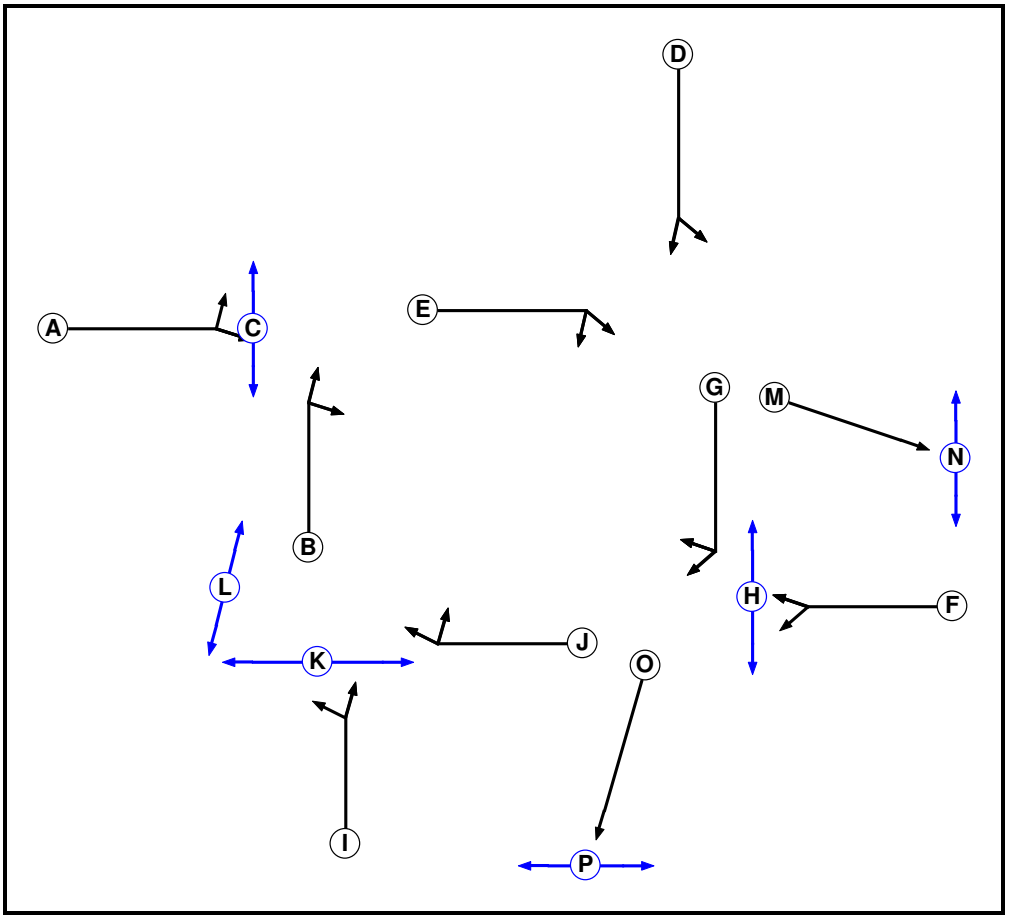
User and Project Details

Project:	**Northampton Gateway**
Title:	**A4500 St Peters Way/A508 Horseshoe Street Gyratory**
Location:	
File name:	171109 A4500_A508_Towcester Road Gyratory.lsg3x
Author:	Mark Higgins
Company:	ADC Infrastructure
Address:	Nottingham
Notes:	

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	6
C	Pedestrian	1		5	5
D	Traffic	2		7	7
E	Traffic	2		7	7
F	Traffic	3		7	7
G	Traffic	3		7	6
H	Pedestrian	3		5	5
I	Traffic	4		7	6
J	Traffic	4		7	7
K	Pedestrian	4		5	5
L	Pedestrian	4		5	5
M	Traffic	5		7	7
N	Pedestrian	5		5	5
O	Traffic	6		7	7
P	Pedestrian	6		5	5

Phase Intergreens Matrix

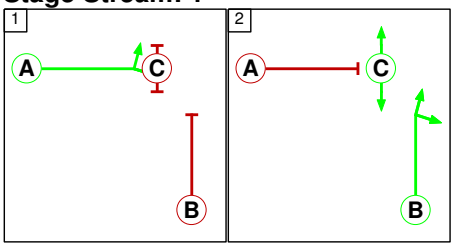
Terminating Phase \ Starting Phase	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
A		6	5	-	-	-	-	-	-	-	-	-	-	-	-	-
B	5		-	-	-	-	-	-	-	-	-	-	-	-	-	-
C	6	-		-	-	-	-	-	-	-	-	-	-	-	-	-
D	-	-	-		5	-	-	-	-	-	-	-	-	-	-	-
E	-	-	-	5		-	-	-	-	-	-	-	-	-	-	-
F	-	-	-	-	-		6	5	-	-	-	-	-	-	-	-
G	-	-	-	-	-	5		-	-	-	-	-	-	-	-	-
H	-	-	-	-	-	6	-		-	-	-	-	-	-	-	-
I	-	-	-	-	-	-	-	-		6	5	-	-	-	-	-
J	-	-	-	-	-	-	-	-	7		-	7	-	-	-	-
K	-	-	-	-	-	-	-	-	7	-		-	-	-	-	-
L	-	-	-	-	-	-	-	-	-	7	-		-	-	-	-
M	-	-	-	-	-	-	-	-	-	-	-	-		5	-	-
N	-	-	-	-	-	-	-	-	-	-	-	-	7		-	-
O	-	-	-	-	-	-	-	-	-	-	-	-	-	-		5
P	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7	

Phases in Stage

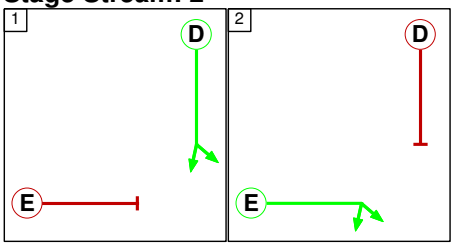
Stream	Stage No.	Phases in Stage
1	1	A
1	2	B C
2	1	D
2	2	E
3	1	F
3	2	G H
4	1	I L
4	2	J K
5	1	M
5	2	N
6	1	O
6	2	P

Stage Diagram

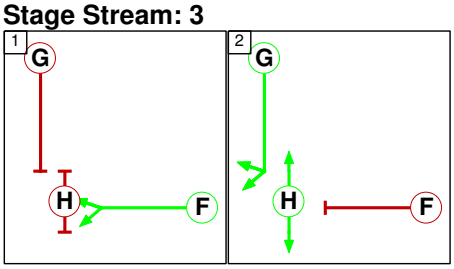
Stage Stream: 1



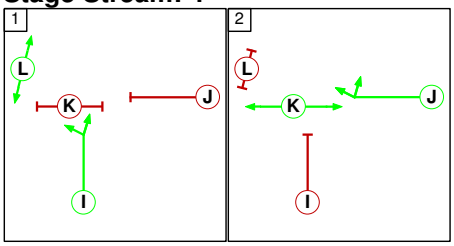
Stage Stream: 2



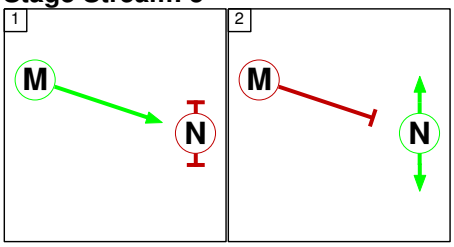
Stage Stream: 3



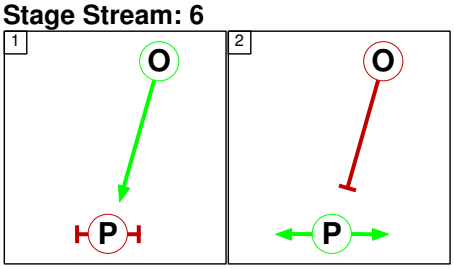
Stage Stream: 4



Stage Stream: 5



Stage Stream: 6



Lane Input Data

Junction: A4500/A508 Gyratory

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 (A4500 St Peters Way)	U	A	2	3	60.0	Geom	-	3.50	0.00	Y	Arm 2 Left	Inf
											Arm 3 Ahead	Inf
1/2 (A4500 St Peters Way)	U	A	2	3	10.0	Geom	-	3.50	0.00	N	Arm 3 Ahead	Inf
1/3 (A4500 St Peters Way)	U	A	2	3	60.0	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	E	2	3	5.2	User	1900	-	-	-	-	-
3/2	U	E	2	3	5.2	User	1900	-	-	-	-	-
3/3	U	E	2	3	5.2	User	1900	-	-	-	-	-
4/1	U	B	2	3	6.1	User	1900	-	-	-	-	-
4/2	U	B	2	3	6.1	User	1900	-	-	-	-	-
5/1 (A508 Horseshoe Street)	U	D	2	3	6.0	Geom	-	3.50	0.00	Y	Arm 6 Left	Inf
5/2 (A508 Horseshoe Street)	U	D	2	3	60.0	Geom	-	3.50	0.00	N	Arm 6 Left	Inf
											Arm 7 Ahead	Inf
5/3 (A508 Horseshoe Street)	U	D	2	3	60.0	Geom	-	3.50	0.00	Y	Arm 7 Ahead	Inf
6/1	U	M	2	3	5.0	User	2000	-	-	-	-	-
6/2	U	M	2	3	5.0	User	2000	-	-	-	-	-
7/1	U	G	2	3	7.0	User	1900	-	-	-	-	-
7/2	U	G	2	3	7.0	User	1900	-	-	-	-	-
8/1 (A5123 St Peters Way)	U	F	2	3	60.0	Geom	-	3.50	0.00	Y	Arm 9 Left	Inf
8/2 (A5123 St Peters Way)	U	F	2	3	60.0	Geom	-	3.50	0.00	N	Arm 10 Ahead	Inf
8/3 (A5123 St Peters Way)	U	F	2	3	60.0	Geom	-	3.50	0.00	Y	Arm 10 Ahead	Inf
9/1	U	O	2	3	5.0	User	2000	-	-	-	-	-
9/2	U	O	2	3	5.0	User	2000	-	-	-	-	-
10/1	U	J	2	3	7.8	User	1900	-	-	-	-	-
10/2	U	J	2	3	7.8	User	1900	-	-	-	-	-
10/3	U	J	2	3	7.8	User	1900	-	-	-	-	-
11/1	U		2	3	5.0	Inf	-	-	-	-	-	-

11/2	U		2	3	5.0	Inf	-	-	-	-	-	-
12/1 (A5123 Towcester Road)	U	I	2	3	10.0	Geom	-	3.75	0.00	Y	Arm 11 Left	Inf
12/2 (A5123 Towcester Road)	U	I	2	3	60.0	Geom	-	3.75	0.00	Y	Arm 4 Ahead	Inf
12/3 (A5123 Towcester Road)	U	I	2	3	60.0	Geom	-	3.75	0.00	Y	Arm 4 Ahead	Inf

Traffic Flow Groups

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

Scenario 1: '2031 D1 AM Peak' (FG1: '2031 D1 AM Peak', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

		Destination				
		A	B	C	D	Tot.
Origin	A	0	329	461	6	796
	B	541	19	130	662	1352
	C	1180	146	0	586	1912
	D	61	1137	664	13	1875
	Tot.	1782	1631	1255	1267	5935

Traffic Lane Flows

Lane	Scenario 1: 2031 D1 AM Peak
Junction: A4500/A508 Gyratory	
1/1 (with short)	1198(In) 578(Out)
1/2 (short)	620
1/3	677
2/1	999
2/2	783
3/1	627
3/2	675
3/3	677
4/1	938
4/2	948
5/1 (short)	247
5/2 (with short)	547(In) 300(Out)
5/3	249
6/1	874
6/2	757
7/1	544
7/2	600
8/1	130
8/2	631
8/3	591
9/1	674
9/2	581
10/1	636
10/2	318
10/3	287
11/1	1222
11/2	45
12/1 (short)	586
12/2 (with short)	1251(In) 665(Out)
12/3	661

Lane Saturation Flows

Junction: A4500/A508 Gyratory

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 (A4500 St Peters Way)	3.50	0.00	Y	Arm 2 Left	Inf	10.6 %	1965	1965
				Arm 3 Ahead	Inf	89.4 %		
1/2 (A4500 St Peters Way)	3.50	0.00	N	Arm 3 Ahead	Inf	100.0 %	2105	2105
1/3 (A4500 St Peters 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	This lane uses a directly entered Saturation Flow						1900	1900
4/2	This lane uses a directly entered Saturation Flow						1900	1900
5/1 (A508 Horseshoe Street)	3.50	0.00	Y	Arm 6 Left	Inf	100.0 %	1965	1965
5/2 (A508 Horseshoe Street)	3.50	0.00	N	Arm 6 Left	Inf	27.3 %	2105	2105
				Arm 7 Ahead	Inf	72.7 %		
5/3 (A508 Horseshoe Street)	3.50	0.00	Y	Arm 7 Ahead	Inf	100.0 %	1965	1965
6/1	This lane uses a directly entered Saturation Flow						2000	2000
6/2	This lane uses a directly entered Saturation Flow						2000	2000
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 (A5123 St Peters Way)	3.50	0.00	Y	Arm 9 Left	Inf	100.0 %	1965	1965
8/2 (A5123 St Peters Way)	3.50	0.00	N	Arm 10 Ahead	Inf	100.0 %	2105	2105
8/3 (A5123 St Peters Way)	3.50	0.00	Y	Arm 10 Ahead	Inf	100.0 %	1965	1965
9/1	This lane uses a directly entered Saturation Flow						2000	2000
9/2	This lane uses a directly entered Saturation Flow						2000	2000
10/1	This lane uses a directly entered Saturation Flow						1900	1900
10/2	This lane uses a directly entered Saturation Flow						1900	1900
10/3	This lane uses a directly entered Saturation Flow						1900	1900
11/1	Infinite Saturation Flow						Inf	Inf
11/2	Infinite Saturation Flow						Inf	Inf
12/1 (A5123 Towcester Road)	3.75	0.00	Y	Arm 11 Left	Inf	100.0 %	1990	1990
12/2 (A5123 Towcester Road)	3.75	0.00	Y	Arm 4 Ahead	Inf	100.0 %	1990	1990
12/3 (A5123 Towcester Road)	3.75	0.00	Y	Arm 4 Ahead	Inf	100.0 %	1990	1990

Scenario 2: '2031 J1d AM Peak' (FG3: '2031 J1d AM Peak', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

		Destination				
		A	B	C	D	Tot.
Origin	A	0	404	488	20	912
	B	516	21	135	644	1316
	C	1155	211	0	550	1916
	D	58	1083	698	10	1849
	Tot.	1729	1719	1321	1224	5993

Traffic Lane Flows

Lane	Scenario 2: 2031 J1d AM Peak
Junction: A4500/A508 Gyratory	
1/1 (with short)	1141(In) 552(Out)
1/2 (short)	589
1/3	708
2/1	1012
2/2	717
3/1	616
3/2	699
3/3	708
4/1	954
4/2	949
5/1 (short)	278
5/2 (with short)	621(In) 343(Out)
5/3	291
6/1	894
6/2	825
7/1	594
7/2	622
8/1	135
8/2	610
8/3	571
9/1	729
9/2	592
10/1	620
10/2	322
10/3	269
11/1	1170
11/2	54
12/1 (short)	550
12/2 (with short)	1236(In) 686(Out)
12/3	680

Lane Saturation Flows

Junction: A4500/A508 Gyratory

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 (A4500 St Peters Way)	3.50	0.00	Y	Arm 2 Left	Inf	10.5 %	1965	1965
				Arm 3 Ahead	Inf	89.5 %		
1/2 (A4500 St Peters Way)	3.50	0.00	N	Arm 3 Ahead	Inf	100.0 %	2105	2105
1/3 (A4500 St Peters 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	This lane uses a directly entered Saturation Flow						1900	1900
4/2	This lane uses a directly entered Saturation Flow						1900	1900
5/1 (A508 Horseshoe Street)	3.50	0.00	Y	Arm 6 Left	Inf	100.0 %	1965	1965
5/2 (A508 Horseshoe Street)	3.50	0.00	N	Arm 6 Left	Inf	36.7 %	2105	2105
				Arm 7 Ahead	Inf	63.3 %		
5/3 (A508 Horseshoe Street)	3.50	0.00	Y	Arm 7 Ahead	Inf	100.0 %	1965	1965
6/1	This lane uses a directly entered Saturation Flow						2000	2000
6/2	This lane uses a directly entered Saturation Flow						2000	2000
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 (A5123 St Peters Way)	3.50	0.00	Y	Arm 9 Left	Inf	100.0 %	1965	1965
8/2 (A5123 St Peters Way)	3.50	0.00	N	Arm 10 Ahead	Inf	100.0 %	2105	2105
8/3 (A5123 St Peters Way)	3.50	0.00	Y	Arm 10 Ahead	Inf	100.0 %	1965	1965
9/1	This lane uses a directly entered Saturation Flow						2000	2000
9/2	This lane uses a directly entered Saturation Flow						2000	2000
10/1	This lane uses a directly entered Saturation Flow						1900	1900
10/2	This lane uses a directly entered Saturation Flow						1900	1900
10/3	This lane uses a directly entered Saturation Flow						1900	1900
11/1	Infinite Saturation Flow						Inf	Inf
11/2	Infinite Saturation Flow						Inf	Inf
12/1 (A5123 Towcester Road)	3.75	0.00	Y	Arm 11 Left	Inf	100.0 %	1990	1990
12/2 (A5123 Towcester Road)	3.75	0.00	Y	Arm 4 Ahead	Inf	100.0 %	1990	1990
12/3 (A5123 Towcester Road)	3.75	0.00	Y	Arm 4 Ahead	Inf	100.0 %	1990	1990

Scenario 3: '2031 D1 PM Peak' (FG2: '2031 D1 PM Peak', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

		Destination				
		A	B	C	D	Tot.
Origin	A	0	545	908	8	1461
	B	557	31	224	944	1756
	C	690	46	0	247	983
	D	93	520	745	8	1366
	Tot.	1340	1142	1877	1207	5566

Traffic Lane Flows

Lane	Scenario 3: 2031 D1 PM Peak
Junction: A4500/A508 Gyratory	
1/1 (with short)	613(In) 319(Out)
1/2 (short)	294
1/3	753
2/1	762
2/2	578
3/1	275
3/2	322
3/3	753
4/1	669
4/2	655
5/1 (short)	279
5/2 (with short)	862(In) 583(Out)
5/3	599
6/1	554
6/2	588
7/1	769
7/2	900
8/1	224
8/2	792
8/3	740
9/1	993
9/2	884
10/1	796
10/2	432
10/3	320
11/1	1043
11/2	164
12/1 (short)	247
12/2 (with short)	648(In) 401(Out)
12/3	335

Lane Saturation Flows

Junction: A4500/A508 Gyratory

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 (A4500 St Peters Way)	3.50	0.00	Y	Arm 2 Left	Inf	29.2 %	1965	1965
				Arm 3 Ahead	Inf	70.8 %		
1/2 (A4500 St Peters Way)	3.50	0.00	N	Arm 3 Ahead	Inf	100.0 %	2105	2105
1/3 (A4500 St Peters 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	This lane uses a directly entered Saturation Flow						1900	1900
4/2	This lane uses a directly entered Saturation Flow						1900	1900
5/1 (A508 Horseshoe Street)	3.50	0.00	Y	Arm 6 Left	Inf	100.0 %	1965	1965
5/2 (A508 Horseshoe Street)	3.50	0.00	N	Arm 6 Left	Inf	45.6 %	2105	2105
				Arm 7 Ahead	Inf	54.4 %		
5/3 (A508 Horseshoe Street)	3.50	0.00	Y	Arm 7 Ahead	Inf	100.0 %	1965	1965
6/1	This lane uses a directly entered Saturation Flow						2000	2000
6/2	This lane uses a directly entered Saturation Flow						2000	2000
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 (A5123 St Peters Way)	3.50	0.00	Y	Arm 9 Left	Inf	100.0 %	1965	1965
8/2 (A5123 St Peters Way)	3.50	0.00	N	Arm 10 Ahead	Inf	100.0 %	2105	2105
8/3 (A5123 St Peters Way)	3.50	0.00	Y	Arm 10 Ahead	Inf	100.0 %	1965	1965
9/1	This lane uses a directly entered Saturation Flow						2000	2000
9/2	This lane uses a directly entered Saturation Flow						2000	2000
10/1	This lane uses a directly entered Saturation Flow						1900	1900
10/2	This lane uses a directly entered Saturation Flow						1900	1900
10/3	This lane uses a directly entered Saturation Flow						1900	1900
11/1	Infinite Saturation Flow						Inf	Inf
11/2	Infinite Saturation Flow						Inf	Inf
12/1 (A5123 Towcester Road)	3.75	0.00	Y	Arm 11 Left	Inf	100.0 %	1990	1990
12/2 (A5123 Towcester Road)	3.75	0.00	Y	Arm 4 Ahead	Inf	100.0 %	1990	1990
12/3 (A5123 Towcester Road)	3.75	0.00	Y	Arm 4 Ahead	Inf	100.0 %	1990	1990

Scenario 4: '2031 J1d PM Peak' (FG4: '2031 J1d PM Peak', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

		Destination				
		A	B	C	D	Tot.
Origin	A	0	564	897	4	1465
	B	589	42	277	890	1798
	C	699	55	0	267	1021
	D	93	495	726	6	1320
	Tot.	1381	1156	1900	1167	5604

Traffic Lane Flows

Lane	Scenario 4: 2031 J1d PM Peak
Junction: A4500/A508 Gyratory	
1/1 (with short)	588(In) 325(Out)
1/2 (short)	263
1/3	732
2/1	778
2/2	603
3/1	282
3/2	310
3/3	732
4/1	685
4/2	700
5/1 (short)	303
5/2 (with short)	868(In) 565(Out)
5/3	597
6/1	585
6/2	571
7/1	776
7/2	857
8/1	277
8/2	786
8/3	735
9/1	1053
9/2	847
10/1	787
10/2	402
10/3	342
11/1	1054
11/2	113
12/1 (short)	267
12/2 (with short)	663(In) 396(Out)
12/3	358

Lane Saturation Flows

Junction: A4500/A508 Gyratory

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 (A4500 St Peters Way)	3.50	0.00	Y	Arm 2 Left	Inf	28.6 %	1965	1965
				Arm 3 Ahead	Inf	71.4 %		
1/2 (A4500 St Peters Way)	3.50	0.00	N	Arm 3 Ahead	Inf	100.0 %	2105	2105
1/3 (A4500 St Peters 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	This lane uses a directly entered Saturation Flow						1900	1900
4/2	This lane uses a directly entered Saturation Flow						1900	1900
5/1 (A508 Horseshoe Street)	3.50	0.00	Y	Arm 6 Left	Inf	100.0 %	1965	1965
5/2 (A508 Horseshoe Street)	3.50	0.00	N	Arm 6 Left	Inf	46.2 %	2105	2105
				Arm 7 Ahead	Inf	53.8 %		
5/3 (A508 Horseshoe Street)	3.50	0.00	Y	Arm 7 Ahead	Inf	100.0 %	1965	1965
6/1	This lane uses a directly entered Saturation Flow						2000	2000
6/2	This lane uses a directly entered Saturation Flow						2000	2000
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 (A5123 St Peters Way)	3.50	0.00	Y	Arm 9 Left	Inf	100.0 %	1965	1965
8/2 (A5123 St Peters Way)	3.50	0.00	N	Arm 10 Ahead	Inf	100.0 %	2105	2105
8/3 (A5123 St Peters Way)	3.50	0.00	Y	Arm 10 Ahead	Inf	100.0 %	1965	1965
9/1	This lane uses a directly entered Saturation Flow						2000	2000
9/2	This lane uses a directly entered Saturation Flow						2000	2000
10/1	This lane uses a directly entered Saturation Flow						1900	1900
10/2	This lane uses a directly entered Saturation Flow						1900	1900
10/3	This lane uses a directly entered Saturation Flow						1900	1900
11/1	Infinite Saturation Flow						Inf	Inf
11/2	Infinite Saturation Flow						Inf	Inf
12/1 (A5123 Towcester Road)	3.75	0.00	Y	Arm 11 Left	Inf	100.0 %	1990	1990
12/2 (A5123 Towcester Road)	3.75	0.00	Y	Arm 4 Ahead	Inf	100.0 %	1990	1990
12/3 (A5123 Towcester Road)	3.75	0.00	Y	Arm 4 Ahead	Inf	100.0 %	1990	1990

Scenario 1: '2031 D1 AM Peak' (FG1: '2031 D1 AM Peak', Plan 1: 'Network Control Plan 1')

Stage Timings

Stage Stream: 1

Stage	1	2
Duration	15	33
Change Point	0	21

Stage Stream: 2

Stage	1	2
Duration	11	39
Change Point	27	43

Stage Stream: 3

Stage	1	2
Duration	13	35
Change Point	2	21

Stage Stream: 4

Stage	1	2
Duration	15	31
Change Point	27	49

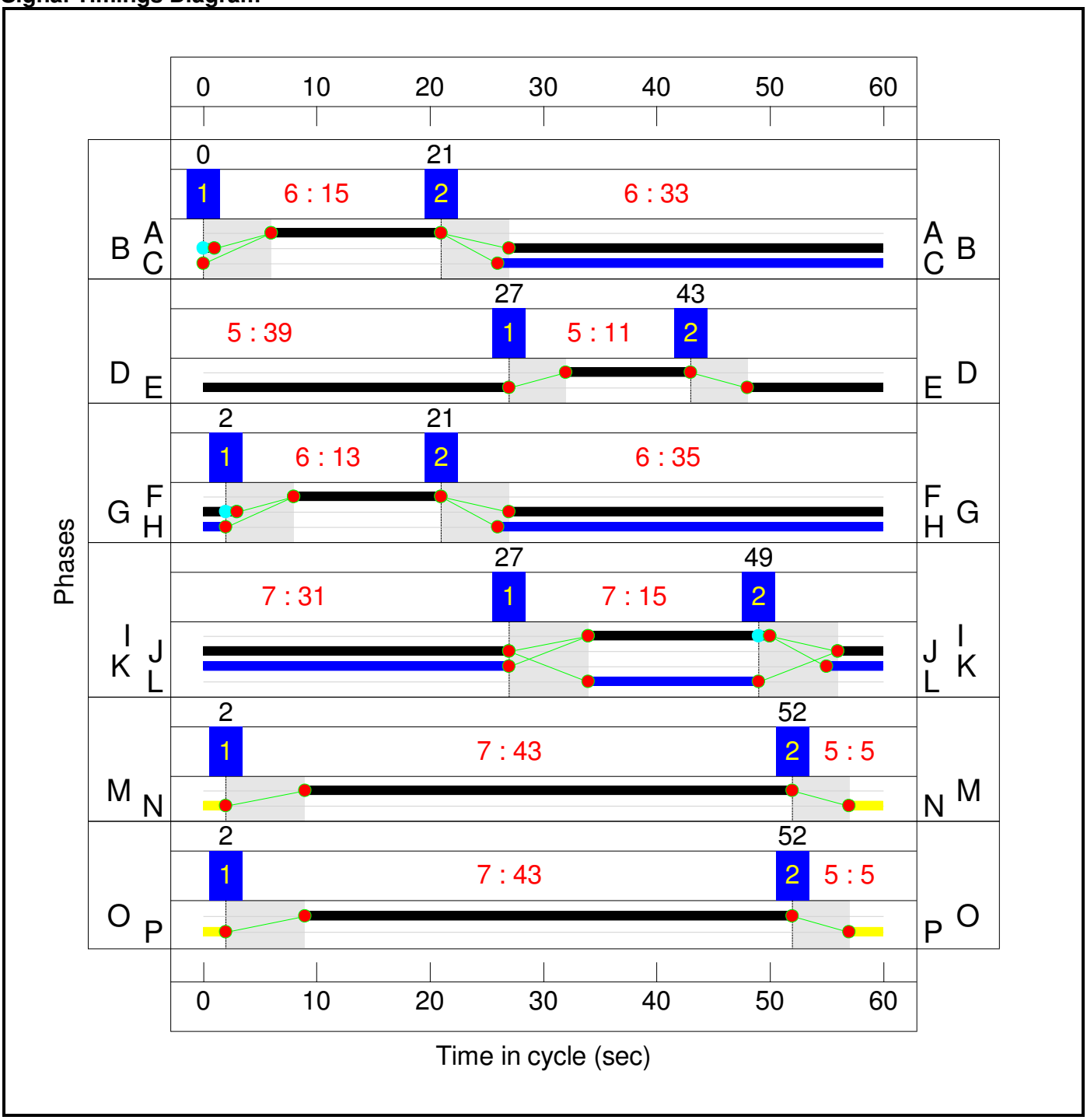
Stage Stream: 5

Stage	1	2
Duration	43	5
Change Point	2	52

Stage Stream: 6

Stage	1	2
Duration	43	5
Change Point	2	52

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: A4500 St Peters Way/A508 Horseshoe Street Gyratory	-	-	**N/A**	-	-		-	-	-	-	-	-	**129.2%**
A4500/A508 Gyratory	-	-	**N/A**	-	-		-	-	-	-	-	-	**129.2%**
1/1+1/2	A4500 St Peters Way Left Ahead	U	1	N/A	A		1	15	-	1198	1965:2105	524+561	110.3 : 110.5%
1/3	A4500 St Peters Way Ahead	U	1	N/A	A		1	15	-	677	1965	524	129.2%
3/1	Ahead	U	2	N/A	E		1	39	-	627	1900	1267	44.3%
3/2	Ahead	U	2	N/A	E		1	39	-	675	1900	1267	48.0%
3/3	Right	U	2	N/A	E		1	39	-	677	1900	1267	41.4%
4/1	Ahead	U	1	N/A	B		1	34	-	938	1900	1108	70.0%
4/2	Ahead Right	U	1	N/A	B		1	34	-	948	1900	1108	71.0%
5/2+5/1	A508 Horseshoe Street Left Ahead	U	2	N/A	D		1	11	-	547	2105:1965	397+327	75.5 : 75.5%
5/3	A508 Horseshoe Street Ahead	U	2	N/A	D		1	11	-	249	1965	393	63.4%
6/1		U	5	N/A	M		1	43	-	874	2000	1467	55.1%
6/2		U	5	N/A	M		1	43	-	757	2000	1467	47.0%
7/1	Ahead	U	3	N/A	G		1	36	-	544	1900	1172	40.1%
7/2	Ahead Right	U	3	N/A	G		1	36	-	600	1900	1172	44.4%
8/1	A5123 St Peters Way Left	U	3	N/A	F		1	13	-	130	1965	458	28.4%
8/2	A5123 St Peters Way Ahead	U	3	N/A	F		1	13	-	631	2105	491	128.5%
8/3	A5123 St Peters Way Ahead	U	3	N/A	F		1	13	-	591	1965	458	128.9%
9/1		U	6	N/A	O		1	43	-	674	2000	1467	40.9%
9/2		U	6	N/A	O		1	43	-	581	2000	1467	34.4%
10/1	Ahead	U	4	N/A	J		1	31	-	636	1900	1013	48.9%
10/2	Right Ahead	U	4	N/A	J		1	31	-	318	1900	1013	24.5%
10/3	Right	U	4	N/A	J		1	31	-	287	1900	1013	22.0%
12/2+12/1	A5123 Towcester Road Ahead Left	U	4	N/A	I		1	16	-	1251	1990:1990	564+497	117.9 : 117.9%
12/3	A5123 Towcester Road Ahead	U	4	N/A	I		1	16	-	661	1990	564	117.2%

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: A4500 St Peters Way/A508 Horseshoe Street Gyratory	**-**	**-**	**0**	**0**	**0**	**61.2**	**439.8**	**0.0**	**501.1**	**-**	**-**	**-**	**-**
A4500/A508 Gyratory	**-**	**-**	**0**	**0**	**0**	**61.2**	**439.8**	**0.0**	**501.1**	**-**	**-**	**-**	**-**
1/1+1/2	1198	1085	-	-	-	10.6	61.2	-	71.8	215.8	15.3	61.2	76.5
1/3	677	524	-	-	-	8.6	78.7	-	87.2	463.9	13.8	78.7	92.5
3/1	562	562	-	-	-	0.1	0.4	-	0.5	3.2	0.9	0.4	1.3
3/2	608	608	-	-	-	0.2	0.5	-	0.7	3.9	0.9	0.5	1.4
3/3	524	524	-	-	-	0.0	0.4	-	0.4	2.7	0.3	0.4	0.6
4/1	776	776	-	-	-	0.6	1.2	-	1.8	8.2	3.5	1.2	4.7
4/2	786	786	-	-	-	0.7	1.2	-	1.9	8.5	3.7	1.2	4.9
5/2+5/1	547	547	-	-	-	3.4	1.5	-	4.9	32.2	4.6	1.5	6.1
5/3	249	249	-	-	-	1.5	0.9	-	2.4	34.3	3.7	0.9	4.6
6/1	809	809	-	-	-	0.1	0.6	-	0.7	3.2	0.5	0.6	1.1
6/2	690	690	-	-	-	0.0	0.4	-	0.5	2.6	0.2	0.4	0.7
7/1	470	470	-	-	-	0.8	0.3	-	1.2	8.8	4.2	0.3	4.5
7/2	521	521	-	-	-	1.0	0.4	-	1.4	9.3	4.5	0.4	4.9
8/1	130	130	-	-	-	0.7	0.2	-	0.9	24.4	1.8	0.2	2.0
8/2	631	491	-	-	-	8.1	72.1	-	80.2	457.3	12.8	72.1	85.0
8/3	591	458	-	-	-	7.6	68.4	-	76.0	462.9	12.1	68.4	80.5
9/1	600	600	-	-	-	0.0	0.3	-	0.3	2.1	0.0	0.3	0.3
9/2	505	505	-	-	-	0.0	0.3	-	0.3	1.9	0.0	0.3	0.3
10/1	495	495	-	-	-	0.1	0.5	-	0.6	4.4	0.8	0.5	1.3
10/2	248	248	-	-	-	0.1	0.2	-	0.2	3.2	0.2	0.2	0.4
10/3	223	223	-	-	-	0.0	0.1	-	0.1	2.3	0.0	0.1	0.1
12/2+12/1	1251	1060	-	-	-	10.8	98.3	-	109.1	314.1	17.6	98.3	116.0
12/3	661	564	-	-	-	6.3	51.8	-	58.1	316.5	13.0	51.8	64.7

C1	Stream: 1	PRC for Signalled Lanes (%):	-43.6	Total Delay for Signalled Lanes (pcuHr):	162.68	Cycle Time (s): 60
C1	Stream: 2	PRC for Signalled Lanes (%):	19.2	Total Delay for Signalled Lanes (pcuHr):	8.81	Cycle Time (s): 60
C1	Stream: 3	PRC for Signalled Lanes (%):	-43.2	Total Delay for Signalled Lanes (pcuHr):	159.54	Cycle Time (s): 60
C1	Stream: 4	PRC for Signalled Lanes (%):	-31.0	Total Delay for Signalled Lanes (pcuHr):	168.21	Cycle Time (s): 60
C1	Stream: 5	PRC for Signalled Lanes (%):	63.2	Total Delay for Signalled Lanes (pcuHr):	1.21	Cycle Time (s): 60
C1	Stream: 6	PRC for Signalled Lanes (%):	119.9	Total Delay for Signalled Lanes (pcuHr):	0.61	Cycle Time (s): 60
		PRC Over All Lanes (%):	-43.6	Total Delay Over All Lanes(pcuHr):	501.07	

Scenario 2: '2031 J1d AM Peak' (FG3: '2031 J1d AM Peak', Plan 1: 'Network Control Plan 1')

Stage Timings

Stage Stream: 1

Stage	1	2
Duration	16	32
Change Point	0	22

Stage Stream: 2

Stage	1	2
Duration	10	40
Change Point	37	52

Stage Stream: 3

Stage	1	2
Duration	13	35
Change Point	11	30

Stage Stream: 4

Stage	1	2
Duration	16	30
Change Point	33	56

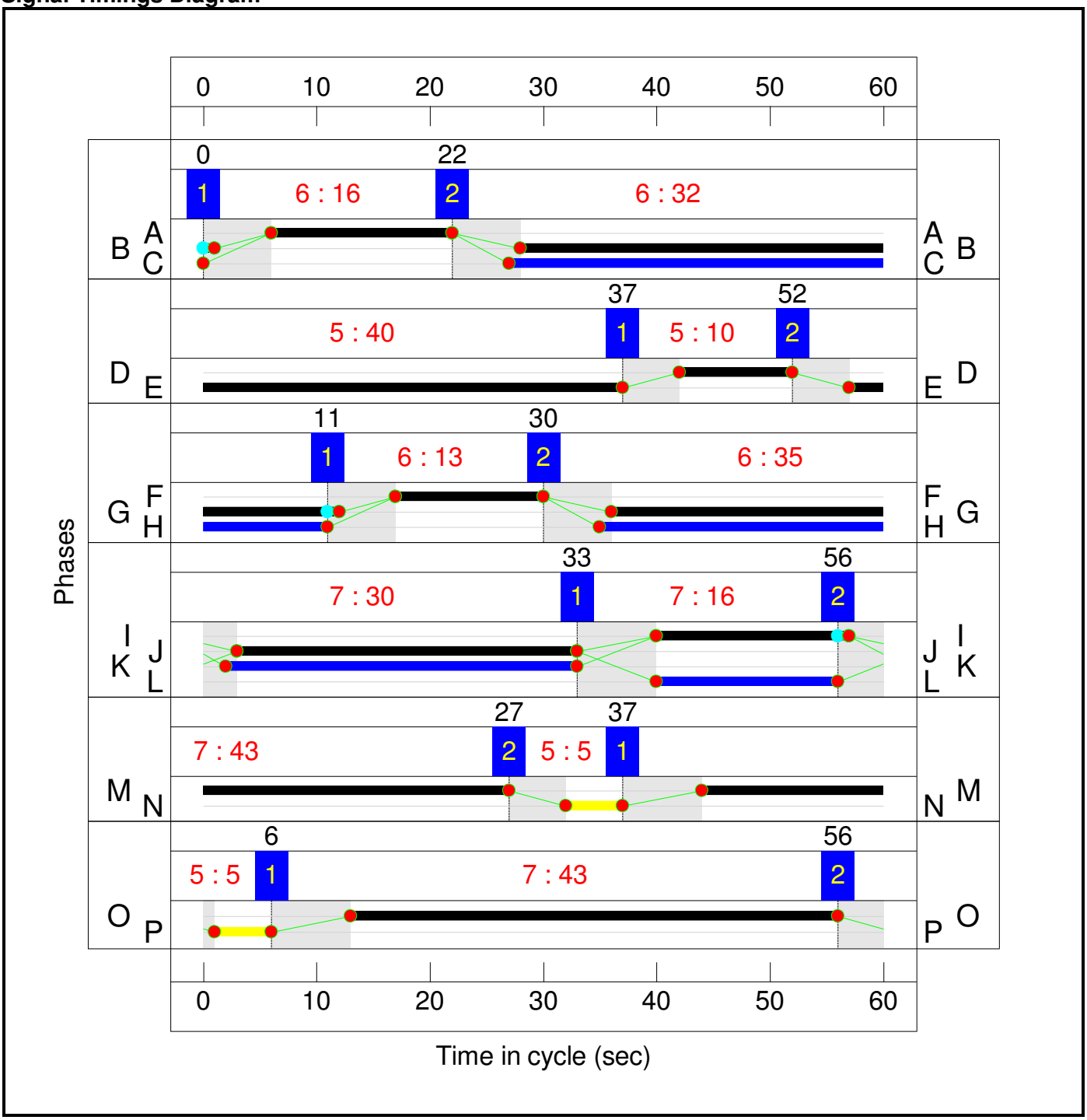
Stage Stream: 5

Stage	1	2
Duration	43	5
Change Point	37	27

Stage Stream: 6

Stage	1	2
Duration	43	5
Change Point	6	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: A4500 St Peters Way/A508 Horseshoe Street Gyratory	-	-	**N/A**	-	-		-	-	-	-	-	-	**127.2%**
A4500/A508 Gyratory	-	-	**N/A**	-	-		-	-	-	-	-	-	**127.2%**
1/1+1/2	A4500 St Peters Way Left Ahead	U	1	N/A	A		1	16	-	1141	1965:2105	557+596	99.1 : 98.8%
1/3	A4500 St Peters Way Ahead	U	1	N/A	A		1	16	-	708	1965	557	127.2%
3/1	Ahead	U	2	N/A	E		1	40	-	616	1900	1298	46.2%
3/2	Ahead	U	2	N/A	E		1	40	-	699	1900	1298	52.7%
3/3	Right	U	2	N/A	E		1	40	-	708	1900	1298	42.9%
4/1	Ahead	U	1	N/A	B		1	33	-	954	1900	1077	75.4%
4/2	Ahead Right	U	1	N/A	B		1	33	-	949	1900	1077	75.5%
5/2+5/1	A508 Horseshoe Street Left Ahead	U	2	N/A	D		1	10	-	621	2105:1965	379+307	90.6 : 90.6%
5/3	A508 Horseshoe Street Ahead	U	2	N/A	D		1	10	-	291	1965	360	80.8%
6/1		U	5	N/A	M		1	43	-	894	2000	1467	59.9%
6/2		U	5	N/A	M		1	43	-	825	2000	1467	55.3%
7/1	Ahead	U	3	N/A	G		1	36	-	594	1900	1172	43.8%
7/2	Ahead Right	U	3	N/A	G		1	36	-	622	1900	1172	47.1%
8/1	A5123 St Peters Way Left	U	3	N/A	F		1	13	-	135	1965	458	29.4%
8/2	A5123 St Peters Way Ahead	U	3	N/A	F		1	13	-	610	2105	491	124.2%
8/3	A5123 St Peters Way Ahead	U	3	N/A	F		1	13	-	571	1965	458	124.5%
9/1		U	6	N/A	O		1	43	-	729	2000	1467	44.2%
9/2		U	6	N/A	O		1	43	-	592	2000	1467	35.7%
10/1	Ahead	U	4	N/A	J		1	30	-	620	1900	982	50.9%
10/2	Right Ahead	U	4	N/A	J		1	30	-	322	1900	982	26.7%
10/3	Right	U	4	N/A	J		1	30	-	269	1900	982	22.0%
12/2+12/1	A5123 Towcester Road Ahead Left	U	4	N/A	I		1	17	-	1236	1990:1990	597+479	114.9 : 114.9%
12/3	A5123 Towcester Road Ahead	U	4	N/A	I		1	17	-	680	1990	597	113.9%

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: A4500 St Peters Way/A508 Horseshoe Street Gyratory	**-**	**-**	**0**	**0**	**0**	**56.9**	**356.2**	**0.0**	**413.1**	**-**	**-**	**-**	**-**
A4500/A508 Gyratory	**-**	**-**	**0**	**0**	**0**	**56.9**	**356.2**	**0.0**	**413.1**	**-**	**-**	**-**	**-**
1/1+1/2	1141	1141	-	-	-	6.8	14.1	-	20.9	66.0	9.7	14.1	23.8
1/3	708	557	-	-	-	8.6	77.9	-	86.5	439.8	14.3	77.9	92.2
3/1	600	600	-	-	-	0.1	0.4	-	0.6	3.3	1.2	0.4	1.6
3/2	685	685	-	-	-	0.3	0.6	-	0.8	4.3	0.9	0.6	1.5
3/3	557	557	-	-	-	0.0	0.4	-	0.4	2.7	0.3	0.4	0.7
4/1	812	812	-	-	-	0.2	1.5	-	1.7	7.5	2.0	1.5	3.6
4/2	813	813	-	-	-	0.2	1.5	-	1.7	7.5	2.1	1.5	3.6
5/2+5/1	621	621	-	-	-	4.1	4.2	-	8.3	48.2	5.5	4.2	9.8
5/3	291	291	-	-	-	1.9	2.0	-	3.9	48.1	4.6	2.0	6.6
6/1	878	878	-	-	-	0.0	0.7	-	0.8	3.2	0.1	0.7	0.9
6/2	811	811	-	-	-	0.1	0.6	-	0.7	3.2	0.7	0.6	1.3
7/1	513	513	-	-	-	1.4	0.4	-	1.8	12.6	4.4	0.4	4.8
7/2	551	551	-	-	-	1.2	0.4	-	1.7	10.9	3.8	0.4	4.3
8/1	135	135	-	-	-	0.7	0.2	-	0.9	24.5	1.8	0.2	2.0
8/2	610	491	-	-	-	7.0	61.9	-	68.9	406.6	12.1	61.9	74.0
8/3	571	458	-	-	-	6.6	58.7	-	65.3	411.6	11.4	58.7	70.1
9/1	648	648	-	-	-	0.0	0.4	-	0.4	2.3	0.1	0.4	0.5
9/2	523	523	-	-	-	0.0	0.3	-	0.3	2.0	0.1	0.3	0.4
10/1	500	500	-	-	-	0.5	0.5	-	1.0	7.5	0.9	0.5	1.4
10/2	262	262	-	-	-	0.1	0.2	-	0.2	3.3	0.3	0.2	0.5
10/3	216	216	-	-	-	0.0	0.1	-	0.1	2.4	0.0	0.1	0.1
12/2+12/1	1236	1076	-	-	-	10.0	83.9	-	93.9	273.5	15.5	83.9	99.4
12/3	680	597	-	-	-	7.0	45.3	-	52.2	276.4	14.1	45.3	59.4

C1	Stream: 1	PRC for Signalled Lanes (%):	-41.3	Total Delay for Signalled Lanes (pcuHr):	110.80	Cycle Time (s):	60
C1	Stream: 2	PRC for Signalled Lanes (%):	-0.6	Total Delay for Signalled Lanes (pcuHr):	14.00	Cycle Time (s):	60
C1	Stream: 3	PRC for Signalled Lanes (%):	-38.4	Total Delay for Signalled Lanes (pcuHr):	138.57	Cycle Time (s):	60
C1	Stream: 4	PRC for Signalled Lanes (%):	-27.7	Total Delay for Signalled Lanes (pcuHr):	147.53	Cycle Time (s):	60
C1	Stream: 5	PRC for Signalled Lanes (%):	50.3	Total Delay for Signalled Lanes (pcuHr):	1.50	Cycle Time (s):	60
C1	Stream: 6	PRC for Signalled Lanes (%):	103.6	Total Delay for Signalled Lanes (pcuHr):	0.71	Cycle Time (s):	60
		PRC Over All Lanes (%):	-41.3	Total Delay Over All Lanes(pcuHr):	413.10		

Scenario 3: '2031 D1 PM Peak' (FG2: '2031 D1 PM Peak', Plan 1: 'Network Control Plan 1')

Stage Timings

Stage Stream: 1

Stage	1	2
Duration	18	30
Change Point	0	24

Stage Stream: 2

Stage	1	2
Duration	16	34
Change Point	28	49

Stage Stream: 3

Stage	1	2
Duration	16	32
Change Point	52	14

Stage Stream: 4

Stage	1	2
Duration	14	32
Change Point	32	53

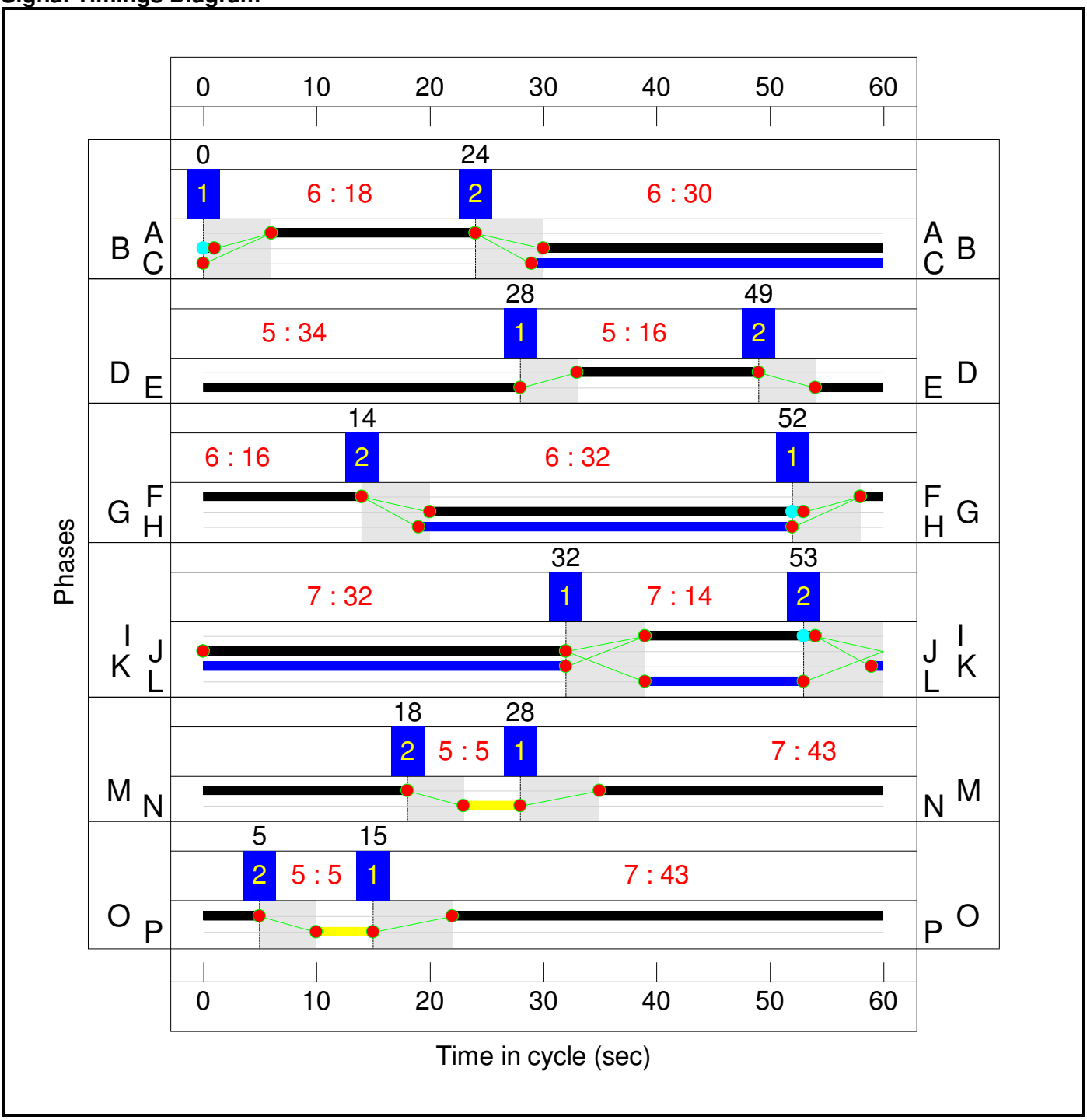
Stage Stream: 5

Stage	1	2
Duration	43	5
Change Point	28	18

Stage Stream: 6

Stage	1	2
Duration	43	5
Change Point	15	5

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: A4500 St Peters Way/A508 Horseshoe Street Gyratory	-	-	**N/A**	-	-		-	-	-	-	-	-	**132.9%**
A4500/A508 Gyratory	-	-	**N/A**	-	-		-	-	-	-	-	-	**132.9%**
1/1+1/2	A4500 St Peters Way Left Ahead	U	1	N/A	A		1	18	-	613	1965:2105	618+569	51.7 : 51.7%
1/3	A4500 St Peters Way Ahead	U	1	N/A	A		1	18	-	753	1965	622	121.0%
3/1	Ahead	U	2	N/A	E		1	34	-	275	1900	1108	24.5%
3/2	Ahead	U	2	N/A	E		1	34	-	322	1900	1108	28.7%
3/3	Right	U	2	N/A	E		1	34	-	753	1900	1108	56.1%
4/1	Ahead	U	1	N/A	B		1	31	-	669	1900	1013	59.5%
4/2	Ahead Right	U	1	N/A	B		1	31	-	655	1900	1013	56.8%
5/2+5/1	A508 Horseshoe Street Left Ahead	U	2	N/A	D		1	16	-	862	2105:1965	522+250	111.6 : 111.6%
5/3	A508 Horseshoe Street Ahead	U	2	N/A	D		1	16	-	599	1965	557	107.6%
6/1		U	5	N/A	M		1	43	-	554	2000	1467	35.5%
6/2		U	5	N/A	M		1	43	-	588	2000	1467	38.0%
7/1	Ahead	U	3	N/A	G		1	33	-	769	1900	1077	61.1%
7/2	Ahead Right	U	3	N/A	G		1	33	-	900	1900	1077	74.8%
8/1	A5123 St Peters Way Left	U	3	N/A	F		1	16	-	224	1965	557	40.2%
8/2	A5123 St Peters Way Ahead	U	3	N/A	F		1	16	-	792	2105	596	132.8%
8/3	A5123 St Peters Way Ahead	U	3	N/A	F		1	16	-	740	1965	557	132.9%
9/1		U	6	N/A	O		1	43	-	993	2000	1467	60.1%
9/2		U	6	N/A	O		1	43	-	884	2000	1467	54.0%
10/1	Ahead	U	4	N/A	J		1	32	-	796	1900	1045	57.4%
10/2	Right Ahead	U	4	N/A	J		1	32	-	432	1900	1045	31.3%
10/3	Right	U	4	N/A	J		1	32	-	320	1900	1045	23.0%
12/2+12/1	A5123 Towcester Road Ahead Left	U	4	N/A	I		1	15	-	648	1990:1990	531+327	75.6 : 75.6%
12/3	A5123 Towcester Road Ahead	U	4	N/A	I		1	15	-	335	1990	531	63.1%

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: A4500 St Peters Way/A508 Horseshoe Street Gyratory	**-**	**-**	**0**	**0**	**0**	**54.0**	**348.3**	**0.0**	**402.3**	**-**	**-**	**-**	**-**
A4500/A508 Gyratory	**-**	**-**	**0**	**0**	**0**	**54.0**	**348.3**	**0.0**	**402.3**	**-**	**-**	**-**	**-**
1/1+1/2	613	613	-	-	-	2.8	0.5	-	3.3	19.6	4.3	0.5	4.8
1/3	753	622	-	-	-	8.0	68.1	-	76.2	364.1	14.7	68.1	82.9
3/1	271	271	-	-	-	0.1	0.2	-	0.3	3.6	0.7	0.2	0.9
3/2	318	318	-	-	-	0.1	0.2	-	0.3	3.4	0.4	0.2	0.6
3/3	622	622	-	-	-	0.1	0.6	-	0.7	4.0	0.3	0.6	1.0
4/1	603	603	-	-	-	1.2	0.7	-	1.9	11.5	3.4	0.7	4.1
4/2	576	576	-	-	-	1.4	0.7	-	2.1	13.1	4.0	0.7	4.7
5/2+5/1	862	772	-	-	-	6.9	49.2	-	56.1	234.2	13.9	49.2	63.2
5/3	599	557	-	-	-	4.5	26.7	-	31.2	187.6	10.7	26.7	37.4
6/1	521	521	-	-	-	0.2	0.3	-	0.5	3.1	0.6	0.3	0.9
6/2	557	557	-	-	-	0.2	0.3	-	0.5	3.1	1.4	0.3	1.7
7/1	658	658	-	-	-	0.5	0.8	-	1.3	7.2	6.2	0.8	7.0
7/2	805	805	-	-	-	0.3	1.5	-	1.8	7.8	2.7	1.5	4.2
8/1	224	224	-	-	-	1.1	0.3	-	1.4	22.8	3.0	0.3	3.3
8/2	792	596	-	-	-	10.8	99.8	-	110.6	502.7	16.5	99.8	116.2
8/3	740	557	-	-	-	10.1	93.6	-	103.7	504.6	15.4	93.6	109.0
9/1	882	882	-	-	-	0.2	0.8	-	1.0	4.0	0.7	0.8	1.4
9/2	791	791	-	-	-	0.0	0.6	-	0.6	2.7	0.0	0.6	0.6
10/1	600	600	-	-	-	0.2	0.7	-	0.8	5.0	1.0	0.7	1.6
10/2	327	327	-	-	-	0.0	0.2	-	0.3	2.8	0.1	0.2	0.3
10/3	241	241	-	-	-	0.0	0.1	-	0.1	2.2	0.0	0.1	0.1
12/2+12/1	648	648	-	-	-	3.5	1.5	-	5.0	28.0	6.1	1.5	7.7
12/3	335	335	-	-	-	1.8	0.8	-	2.7	28.5	4.8	0.8	5.7

C1	Stream: 1 PRC for Signalled Lanes (%):	-34.5	Total Delay for Signalled Lanes (pcuHr):	83.53	Cycle Time (s):	60		
C1	Stream: 2 PRC for Signalled Lanes (%):	-24.0	Total Delay for Signalled Lanes (pcuHr):	88.57	Cycle Time (s):	60		
C1	Stream: 3 PRC for Signalled Lanes (%):	-47.7	Total Delay for Signalled Lanes (pcuHr):	218.79	Cycle Time (s):	60		
C1	Stream: 4 PRC for Signalled Lanes (%):	19.1	Total Delay for Signalled Lanes (pcuHr):	8.92	Cycle Time (s):	60		
C1	Stream: 5 PRC for Signalled Lanes (%):	137.1	Total Delay for Signalled Lanes (pcuHr):	0.93	Cycle Time (s):	60		
C1	Stream: 6 PRC for Signalled Lanes (%):	49.7	Total Delay for Signalled Lanes (pcuHr):	1.56	Cycle Time (s):	60		
	PRC Over All Lanes (%):	-47.7	Total Delay Over All Lanes(pcuHr):	402.30				

Scenario 4: '2031 J1d PM Peak' (FG4: '2031 J1d PM Peak', Plan 1: 'Network Control Plan 1')

Stage Timings

Stage Stream: 1

Stage	1	2
Duration	16	32
Change Point	0	22

Stage Stream: 2

Stage	1	2
Duration	15	35
Change Point	43	3

Stage Stream: 3

Stage	1	2
Duration	17	31
Change Point	18	41

Stage Stream: 4

Stage	1	2
Duration	13	33
Change Point	43	3

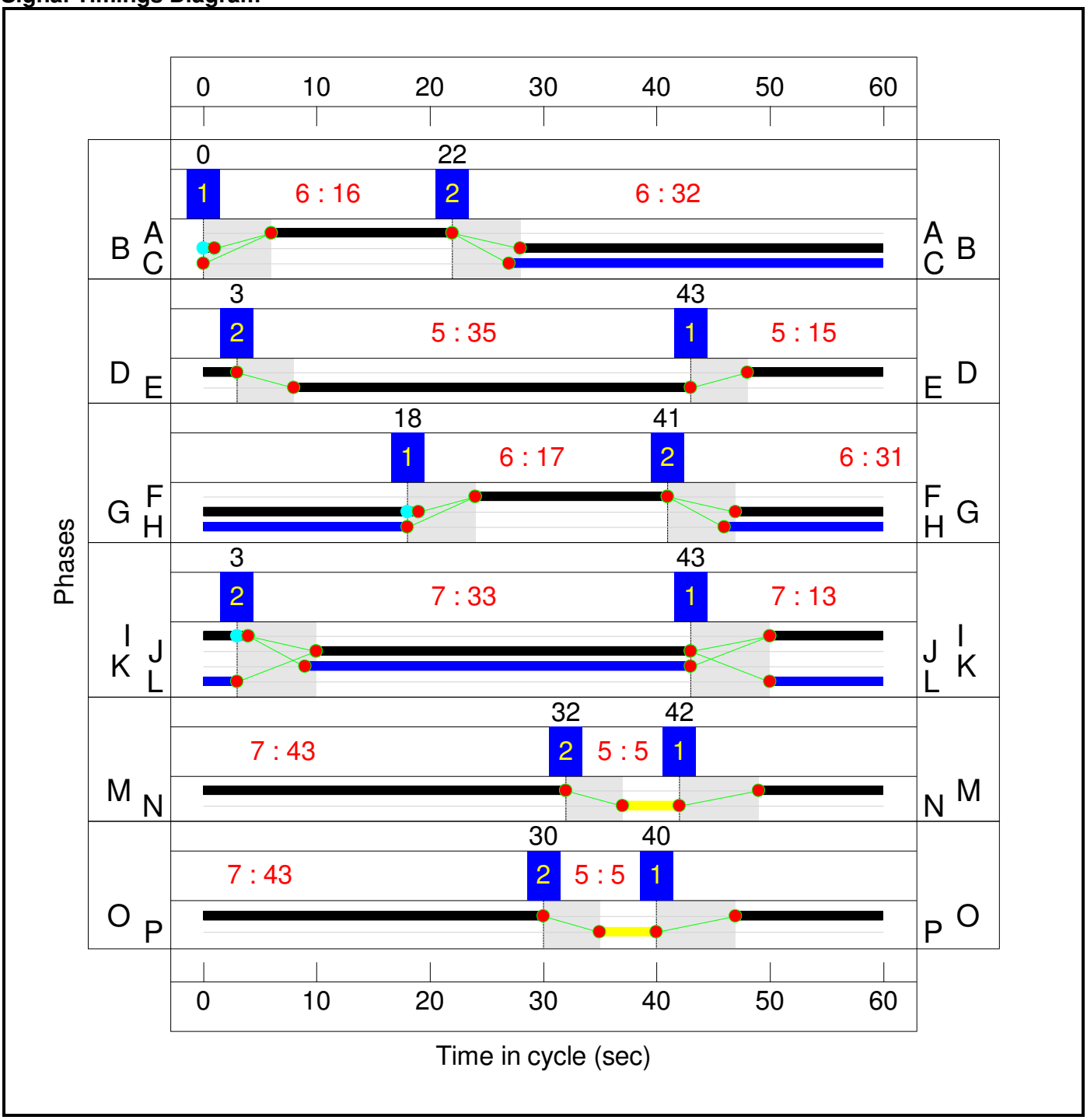
Stage Stream: 5

Stage	1	2
Duration	43	5
Change Point	42	32

Stage Stream: 6

Stage	1	2
Duration	43	5
Change Point	40	30

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: A4500 St Peters Way/A508 Horseshoe Street Gyratory	-	-	**N/A**	-	-		-	-	-	-	-	-	**131.5%**
A4500/A508 Gyratory	-	-	**N/A**	-	-		-	-	-	-	-	-	**131.5%**
1/1+1/2	A4500 St Peters Way Left Ahead	U	1	N/A	A		1	16	-	588	1965:2105	557+451	58.4 : 58.4%
1/3	A4500 St Peters Way Ahead	U	1	N/A	A		1	16	-	732	1965	557	131.5%
3/1	Ahead	U	2	N/A	E		1	35	-	282	1900	1140	24.4%
3/2	Ahead	U	2	N/A	E		1	35	-	310	1900	1140	26.8%
3/3	Right	U	2	N/A	E		1	35	-	732	1900	1140	48.8%
4/1	Ahead	U	1	N/A	B		1	33	-	685	1900	1077	58.3%
4/2	Ahead Right	U	1	N/A	B		1	33	-	700	1900	1077	58.7%
5/2+5/1	A508 Horseshoe Street Left Ahead	U	2	N/A	D		1	15	-	868	2105:1965	494+265	114.4 : 114.4%
5/3	A508 Horseshoe Street Ahead	U	2	N/A	D		1	15	-	597	1965	524	113.9%
6/1		U	5	N/A	M		1	43	-	585	2000	1467	37.0%
6/2		U	5	N/A	M		1	43	-	571	2000	1467	36.4%
7/1	Ahead	U	3	N/A	G		1	32	-	776	1900	1045	59.8%
7/2	Ahead Right	U	3	N/A	G		1	32	-	857	1900	1045	69.1%
8/1	A5123 St Peters Way Left	U	3	N/A	F		1	17	-	277	1965	590	47.0%
8/2	A5123 St Peters Way Ahead	U	3	N/A	F		1	17	-	786	2105	632	124.5%
8/3	A5123 St Peters Way Ahead	U	3	N/A	F		1	17	-	735	1965	590	124.7%
9/1		U	6	N/A	O		1	43	-	1053	2000	1467	61.5%
9/2		U	6	N/A	O		1	43	-	847	2000	1467	48.7%
10/1	Ahead	U	4	N/A	J		1	33	-	787	1900	1077	58.7%
10/2	Right Ahead	U	4	N/A	J		1	33	-	402	1900	1077	30.0%
10/3	Right	U	4	N/A	J		1	33	-	342	1900	1077	25.5%
12/2+12/1	A5123 Towcester Road Ahead Left	U	4	N/A	I		1	14	-	663	1990:1990	498+335	79.6 : 79.6%
12/3	A5123 Towcester Road Ahead	U	4	N/A	I		1	14	-	358	1990	498	72.0%

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: A4500 St Peters Way/A508 Horseshoe Street Gyratory	**-**	**-**	**0**	**0**	**0**	**56.0**	**354.6**	**0.0**	**410.6**	**-**	**-**	**-**	**-**
A4500/A508 Gyratory	**-**	**-**	**0**	**0**	**0**	**56.0**	**354.6**	**0.0**	**410.6**	**-**	**-**	**-**	**-**
1/1+1/2	588	588	-	-	-	3.0	0.7	-	3.7	22.4	4.6	0.7	5.3
1/3	732	557	-	-	-	9.4	89.7	-	99.1	487.4	15.1	89.7	104.8
3/1	278	278	-	-	-	0.1	0.2	-	0.3	3.3	1.6	0.2	1.8
3/2	306	306	-	-	-	0.1	0.2	-	0.3	3.9	0.8	0.2	0.9
3/3	557	557	-	-	-	0.0	0.5	-	0.5	3.4	0.3	0.5	0.8
4/1	628	628	-	-	-	0.9	0.7	-	1.6	9.1	2.5	0.7	3.2
4/2	632	632	-	-	-	0.6	0.7	-	1.3	7.5	1.5	0.7	2.2
5/2+5/1	868	758	-	-	-	8.9	58.5	-	67.3	279.3	14.0	58.5	72.5
5/3	597	524	-	-	-	6.1	40.2	-	46.3	279.5	11.4	40.2	51.6
6/1	543	543	-	-	-	0.0	0.3	-	0.3	2.3	0.3	0.3	0.6
6/2	534	534	-	-	-	0.0	0.3	-	0.3	2.2	0.3	0.3	0.5
7/1	625	625	-	-	-	1.3	0.7	-	2.0	11.5	3.9	0.7	4.6
7/2	722	722	-	-	-	0.7	1.1	-	1.8	9.0	1.6	1.1	2.7
8/1	277	277	-	-	-	1.3	0.4	-	1.8	22.9	3.7	0.4	4.1
8/2	786	631	-	-	-	8.3	79.7	-	88.0	402.9	15.7	79.7	95.4
8/3	735	589	-	-	-	7.7	75.2	-	82.9	406.2	14.7	75.2	89.9
9/1	902	902	-	-	-	0.5	0.8	-	1.3	5.3	2.4	0.8	3.2
9/2	714	714	-	-	-	0.0	0.5	-	0.5	2.4	0.0	0.5	0.5
10/1	632	632	-	-	-	0.8	0.7	-	1.6	8.9	1.6	0.7	2.3
10/2	323	323	-	-	-	0.1	0.2	-	0.4	4.0	0.4	0.2	0.6
10/3	274	274	-	-	-	0.1	0.2	-	0.3	3.7	0.3	0.2	0.4
12/2+12/1	663	663	-	-	-	3.8	1.9	-	5.7	30.8	6.2	1.9	8.1
12/3	358	358	-	-	-	2.0	1.3	-	3.3	33.3	5.4	1.3	6.6

C1	Stream: 1 PRC for Signalled Lanes (%):	-46.1	Total Delay for Signalled Lanes (pcuHr):	105.67	Cycle Time (s):	60
C1	Stream: 2 PRC for Signalled Lanes (%):	-27.2	Total Delay for Signalled Lanes (pcuHr):	114.80	Cycle Time (s):	60
C1	Stream: 3 PRC for Signalled Lanes (%):	-38.5	Total Delay for Signalled Lanes (pcuHr):	176.46	Cycle Time (s):	60
C1	Stream: 4 PRC for Signalled Lanes (%):	13.1	Total Delay for Signalled Lanes (pcuHr):	11.17	Cycle Time (s):	60
C1	Stream: 5 PRC for Signalled Lanes (%):	143.3	Total Delay for Signalled Lanes (pcuHr):	0.67	Cycle Time (s):	60
C1	Stream: 6 PRC for Signalled Lanes (%):	46.4	Total Delay for Signalled Lanes (pcuHr):	1.79	Cycle Time (s):	60
	PRC Over All Lanes (%):	-46.1	Total Delay Over All Lanes(pcuHr):	410.56		

APPENDIX Q

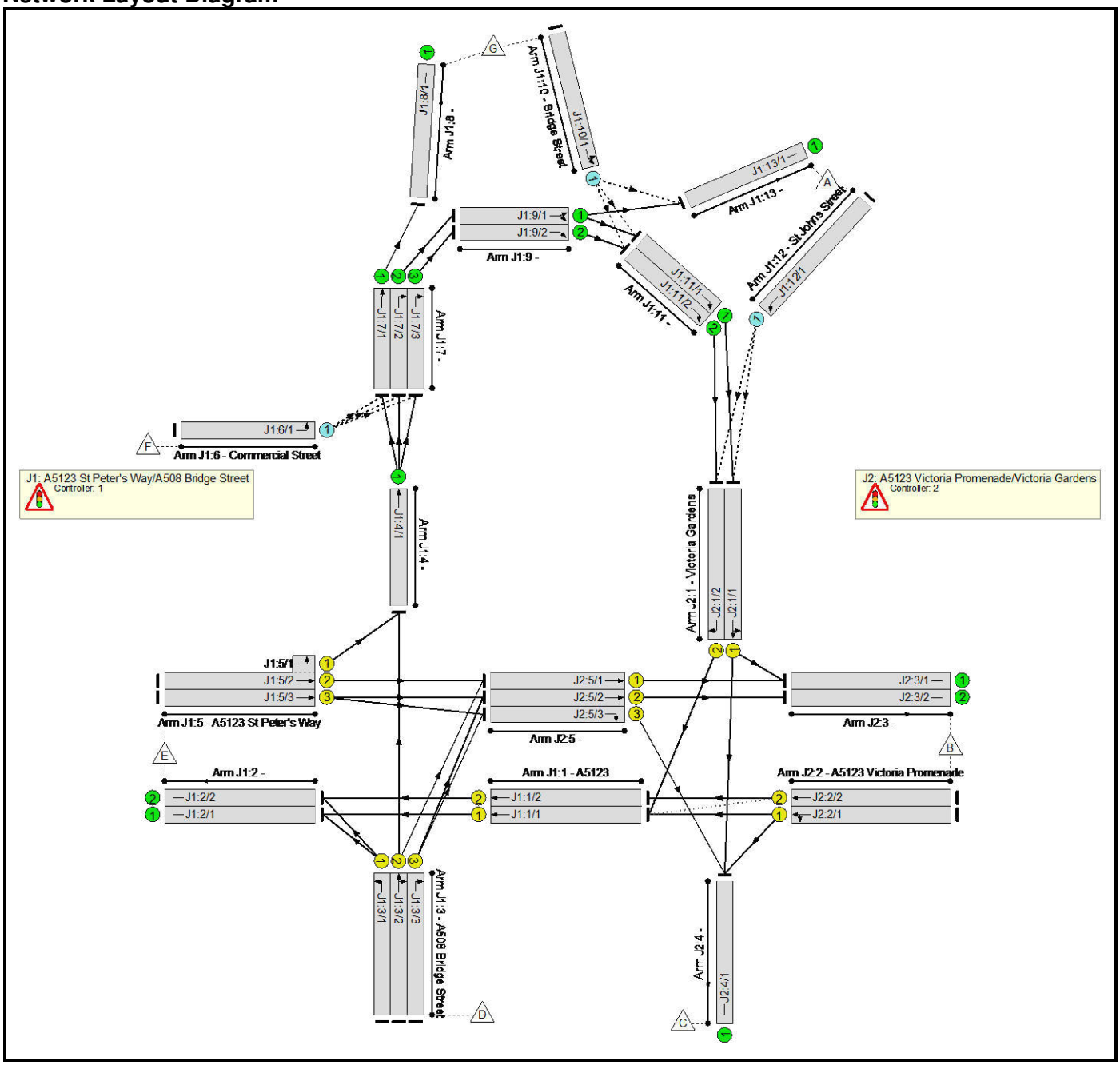
A5123 ST PETERS WAY/A508 BRIDGE STREET/A5123 VICTORIA PROMENADE GYRATORY LINSIG MODEL

Full Input Data And Results

User and Project Details

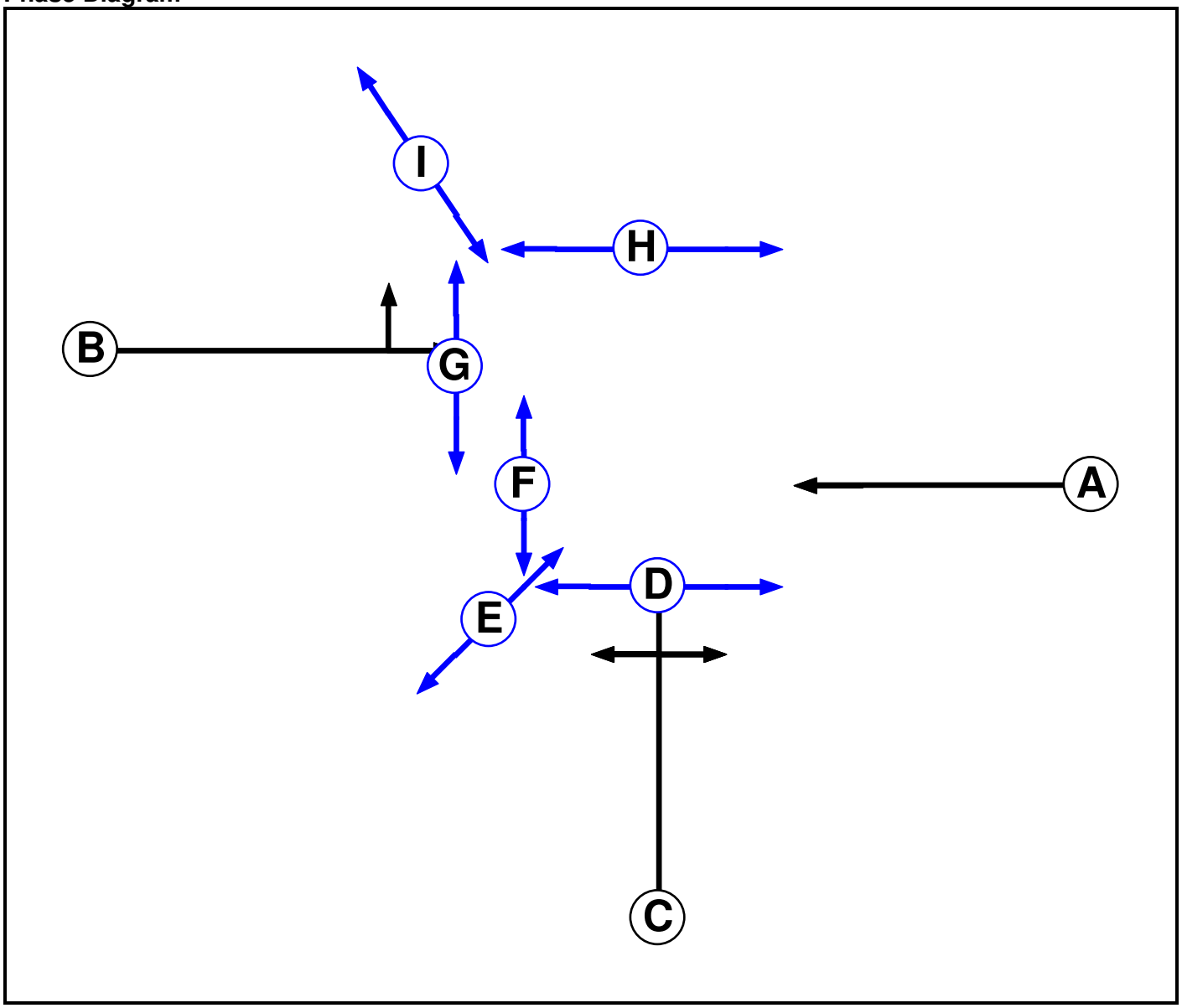
Project:	**Northampton Gateway SRFI**
Title:	**Plough Gyratory**
Location:	
File name:	171127 Proposed Bridge Street Gyratory.lsg3x
Author:	Mark Higgins
Company:	ADC Infrastructure
Address:	Nottingham
Notes:	Modelled as per the arrangement included in the NSTM2.

Network Layout Diagram



C1

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	1		7	7
D	Pedestrian	1		5	5
E	Pedestrian	1		5	5
F	Pedestrian	1		5	5
G	Pedestrian	1		5	5
H	Pedestrian	1		5	5
I	Pedestrian	1		5	5

Phase Intergreens Matrix

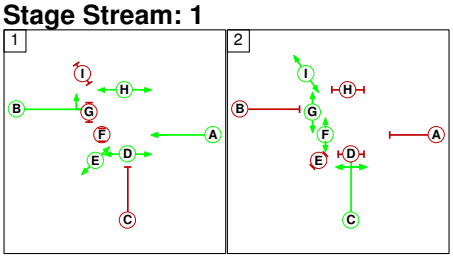
Terminating Phase \ Starting Phase	A	B	C	D	E	F	G	H	I
A		-	7	-	-	7	-	-	-
B	-		5	-	-	-	5	-	5
C	6	6		5	5	-	-	7	-
D	-	-	7		-	-	-	-	-
E	-	-	5	-		-	-	-	-
F	7	-	-	-	-		-	-	-
G	-	7	-	-	-	-		-	-
H	-	-	5	-	-	-	-		-
I	-	5	-	-	-	-	-	-	

Phases in Stage

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

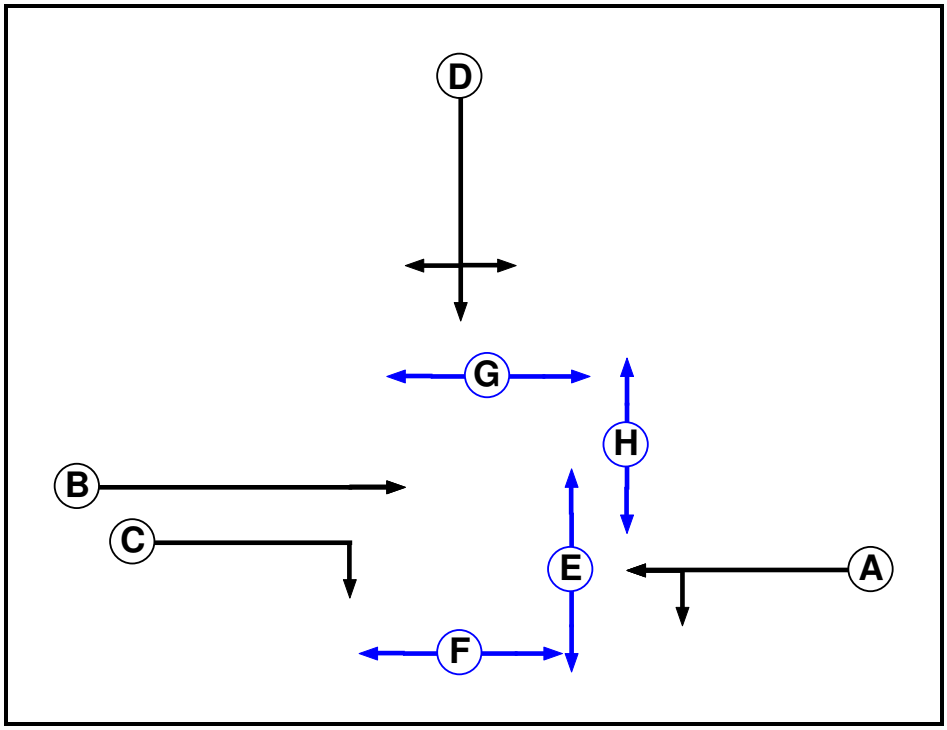
Stage Diagram

Stage Stream: 1



C2

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	1		7	7
D	Traffic	1		7	7
E	Pedestrian	1		5	5
F	Pedestrian	1		5	5
G	Pedestrian	1		5	5
H	Pedestrian	1		5	5

Phase Intergreens Matrix

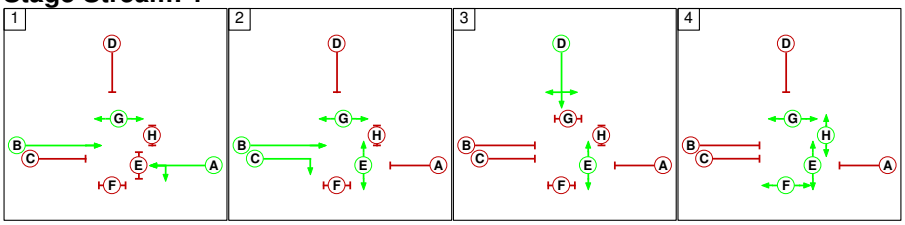
		Starting Phase							
		A	B	C	D	E	F	G	H
Terminating Phase	A		-	6	5	5	5	-	-
	B	-		-	5	-	-	-	6
	C	5	-		5	-	6	-	-
	D	7	5	7		-	8	5	5
	E	7	-	-	-		-	-	-
	F	7	-	7	7	-		-	-
	G	-	-	-	7	-	-		-
	H	-	7	-	7	-	-	-	

Phases in Stage

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

Stage Diagram

Stage Stream: 1



Give-Way Lane Input Data

Junction: J1: A5123 St Peter's Way/A508 Bridge Street											
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)**
J1:6/1 (Commercial Street)	J1:7/1 (Left)	715	0	J1:4/1	0.22	All	-	-	-	-	-
	J1:7/2 (Left)	715	0	J1:4/1	0.22	All					
	J1:7/3 (Left)	715	0	J1:4/1	0.22	All					
J1:10/1 (Bridge Street)	J1:11/1 (Ahead)	1000	0	J1:9/1	0.33	All	-	-	-	-	-
	J1:11/2 (Ahead)	1000	0	J1:9/1	0.33	All					
				J1:9/2	0.33	All					
	J1:13/1 (Left)	1000	0	J1:9/1	0.33	All					
J1:12/1 (St Johns Street)	J2:1/1 (Ahead)	1000	0	J1:11/1	0.33	All	-	-	-	-	-
	J2:1/2 (Ahead)	1000	0	J1:11/1	0.33	All					
				J1:11/2	0.33	All					

Junction: J2: A5123 Victoria Promenade/Victoria Gardens
There are no Opposed Lanes in this Junction

Lane Input Data

Junction: J1: A5123 St Peter's Way/A508 Bridge Street												
Lane	**Lane Type**	**Phases**	**Start Disp.**	**End Disp.**	**Physical Length (PCU)**	**Sat Flow Type**	**Def User Saturation Flow (PCU/Hr)**	**Lane Width (m)**	**Gradient**	**Nearside Lane**	**Turns**	**Turning Radius (m)**
J1:1/1 (A5123)	U	A	2	3	13.9	Geom	-	3.50	0.00	Y	Arm J1:2 Ahead	Inf
J1:1/2 (A5123)	U	A	2	3	13.9	Geom	-	3.50	0.00	Y	Arm J1:2 Ahead	Inf
J1:2/1	U		2	3	60.0	Inf	-	-	-	-	-	-
J1:2/2	U		2	3	60.0	Inf	-	-	-	-	-	-
J1:3/1 (A508 Bridge Street)	U	C	2	3	60.0	Geom	-	3.50	0.00	Y	Arm J1:2 Left	30.00
J1:3/2 (A508 Bridge Street)	U	C	2	3	60.0	Geom	-	3.00	0.00	Y	Arm J1:4 Ahead Arm J2:5 Right	Inf Inf
J1:3/3 (A508 Bridge Street)	U	C	2	3	60.0	Geom	-	3.00	0.00	Y	Arm J2:5 Right	Inf
J1:4/1	U		2	3	13.0	User	3000	-	-	-	-	-
J1:5/1 (A5123 St Peter's Way)	U	B	2	3	2.0	Geom	-	3.50	0.00	Y	Arm J1:4 Left	15.00
J1:5/2 (A5123 St Peter's Way)	U	B	2	3	60.0	Geom	-	3.00	0.00	Y	Arm J2:5 Ahead	Inf
J1:5/3 (A5123 St Peter's Way)	U	B	2	3	60.0	Geom	-	3.00	0.00	Y	Arm J2:5 Ahead	Inf
J1:6/1 (Commercial Street)	O		2	3	60.0	Inf	-	-	-	-	-	-
J1:7/1	U		2	3	3.5	Inf	-	-	-	-	-	-
J1:7/2	U		2	3	3.5	Inf	-	-	-	-	-	-
J1:7/3	U		2	3	3.5	Inf	-	-	-	-	-	-
J1:8/1	U		2	3	60.0	Inf	-	-	-	-	-	-
J1:9/1	U		2	3	3.5	Inf	-	-	-	-	-	-
J1:9/2	U		2	3	3.5	Inf	-	-	-	-	-	-
J1:10/1 (Bridge Street)	O		2	3	60.0	Inf	-	-	-	-	-	-
J1:11/1	U		2	3	8.7	Inf	-	-	-	-	-	-
J1:11/2	U		2	3	8.7	Inf	-	-	-	-	-	-
J1:12/1 (St Johns Street)	O		2	3	60.0	Inf	-	-	-	-	-	-
J1:13/1	U		2	3	60.0	Inf	-	-	-	-	-	-

Junction: J2: A5123 Victoria Promenade/Victoria Gardens												
Lane	**Lane Type**	**Phases**	**Start Disp.**	**End Disp.**	**Physical Length (PCU)**	**Sat Flow Type**	**Def User Saturation Flow (PCU/Hr)**	**Lane Width (m)**	**Gradient**	**Nearside Lane**	**Turns**	**Turning Radius (m)**
J2:1/1 (Victoria Gardens)	U	D	2	3	19.1	Geom	-	3.50	0.00	Y	Arm J2:3 Left	10.00
											Arm J2:4 Ahead	Inf
J2:1/2 (Victoria Gardens)	U	D	2	3	19.1	Geom	-	3.50	0.00	Y	Arm J1:1 Right	18.00
J2:2/1 (A5123 Victoria Promenade)	U	A	2	3	60.0	Geom	-	3.00	0.00	Y	Arm J1:1 Ahead	Inf
											Arm J2:4 Left	Inf
J2:2/2 (A5123 Victoria Promenade)	U	A	2	3	60.0	Geom	-	3.00	0.00	Y	Arm J1:1 Ahead	Inf
J2:3/1	U		2	3	5.0	Inf	-	-	-	-	-	-
J2:3/2	U		2	3	5.0	Inf	-	-	-	-	-	-
J2:4/1	U		2	3	60.0	Inf	-	-	-	-	-	-
J2:5/1	U	B	2	3	80.0	Geom	-	3.50	0.00	Y	Arm J2:3 Ahead	Inf
J2:5/2	U	B	2	3	80.0	Geom	-	3.50	0.00	Y	Arm J2:3 Ahead	Inf
J2:5/3	U	C	2	3	80.0	Geom	-	3.50	0.00	Y	Arm J2:4 Right	15.00

Traffic Flow Groups

Flow Group	Start Time	End Time	Duration	Formula
1: '2031 D1 AM Peak'	08:00	09:00	01:00	
2: '2031 D1 PM Peak'	17:00	18:00	01:00	
3: '2031 J1d AM Peak'	08:00	09:00	01:00	
4: '2031 J1d PM Peak'	17:00	18:00	01:00	
5: 'Adjusted 2031 D1 AM Peak'	08:00	09:00	01:00	
6: 'Adjusted 2031 J1d AM Peak'	08:00	09:00	01:00	

Scenario 1: '2031 D1 AM peak' (FG5: 'Adjusted 2031 D1 AM Peak', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

		Destination							
		A	B	C	D	E	F	G	Tot.
Origin	A	0	0	0	0	0	0	0	0
	B	0	0	583	0	705	0	0	1288
	C	0	0	0	0	0	0	0	0
	D	212	374	0	0	745	0	91	1422
	E	158	322	270	0	0	0	204	954
	F	158	0	0	0	3	0	204	365
	G	105	0	1	0	1	0	0	107
	Tot.	633	696	854	0	1454	0	499	4136

Traffic Lane Flows

Lane	Scenario 1: 2031 D1 AM peak
Junction: J1: A5123 St Peter's Way/A508 Bridge Street	
J1:1/1	353
J1:1/2	356
J1:2/1	725
J1:2/2	729
J1:3/1	745
J1:3/2	410
J1:3/3	267
J1:4/1	672
J1:5/1 (short)	369
J1:5/2 (with short)	478(In) 109(Out)
J1:5/3	476
J1:6/1	365
J1:7/1	499
J1:7/2	535
J1:7/3	3
J1:8/1	499
J1:9/1	535
J1:9/2	3
J1:10/1	107
J1:11/1	8
J1:11/2	4
J1:12/1	0
J1:13/1	633
Junction: J2: A5123 Victoria Promenade/Victoria Gardens	
J2:1/1	8
J2:1/2	4
J2:2/1	644
J2:2/2	644
J2:3/1	216
J2:3/2	480
J2:4/1	854
J2:5/1	216
J2:5/2	480
J2:5/3	263

Lane Saturation Flows

Junction: J1: A5123 St Peter's Way/A508 Bridge Street								
Lane	**Lane Width (m)**	**Gradient**	**Nearside Lane**	**Allowed Turns**	**Turning Radius (m)**	**Turning Prop.**	**Sat Flow (PCU/Hr)**	**Flared Sat Flow (PCU/Hr)**
J1:1/1 (A5123)	3.50	0.00	Y	Arm J1:2 Ahead	Inf	100.0 %	1965	1965
J1:1/2 (A5123)	3.50	0.00	Y	Arm J1:2 Ahead	Inf	100.0 %	1965	1965
J1:2/1	Infinite Saturation Flow						Inf	Inf
J1:2/2	Infinite Saturation Flow						Inf	Inf
J1:3/1 (A508 Bridge Street)	3.50	0.00	Y	Arm J1:2 Left	30.00	100.0 %	1871	1871
J1:3/2 (A508 Bridge Street)	3.00	0.00	Y	Arm J1:4 Ahead Arm J2:5 Right	Inf Inf	73.9 % 26.1 %	1915	1915
J1:3/3 (A508 Bridge Street)	3.00	0.00	Y	Arm J2:5 Right	Inf	100.0 %	1915	1915
J1:4/1	This lane uses a directly entered Saturation Flow						3000	3000
J1:5/1 (A5123 St Peter's Way)	3.50	0.00	Y	Arm J1:4 Left	15.00	100.0 %	1786	1786
J1:5/2 (A5123 St Peter's Way)	3.00	0.00	Y	Arm J2:5 Ahead	Inf	100.0 %	1915	1915
J1:5/3 (A5123 St Peter's Way)	3.00	0.00	Y	Arm J2:5 Ahead	Inf	100.0 %	1915	1915
J1:6/1 (Commercial Street Lane 1)	Infinite Saturation Flow						Inf	Inf
J1:7/1	Infinite Saturation Flow						Inf	Inf
J1:7/2	Infinite Saturation Flow						Inf	Inf
J1:7/3	Infinite Saturation Flow						Inf	Inf
J1:8/1	Infinite Saturation Flow						Inf	Inf
J1:9/1	Infinite Saturation Flow						Inf	Inf
J1:9/2	Infinite Saturation Flow						Inf	Inf
J1:10/1 (Bridge Street Lane 1)	Infinite Saturation Flow						Inf	Inf
J1:11/1	Infinite Saturation Flow						Inf	Inf
J1:11/2	Infinite Saturation Flow						Inf	Inf
J1:12/1 (St Johns Street Lane 1)	Infinite Saturation Flow						Inf	Inf
J1:13/1	Infinite Saturation Flow						Inf	Inf

Junction: J2: A5123 Victoria Promenade/Victoria Gardens								
Lane	**Lane Width (m)**	**Gradient**	**Nearside Lane**	**Allowed Turns**	**Turning Radius (m)**	**Turning Prop.**	**Sat Flow (PCU/Hr)**	**Flared Sat Flow (PCU/Hr)**
J2:1/1 (Victoria Gardens)	3.50	0.00	Y	Arm J2:3 Left	10.00	0.0 %	1965	1965
				Arm J2:4 Ahead	Inf	100.0 %		
J2:1/2 (Victoria Gardens)	3.50	0.00	Y	Arm J1:1 Right	18.00	100.0 %	1814	1814
J2:2/1 (A5123 Victoria Promenade)	3.00	0.00	Y	Arm J1:1 Ahead	Inf	9.5 %	1915	1915
				Arm J2:4 Left	Inf	90.5 %		
J2:2/2 (A5123 Victoria Promenade)	3.00	0.00	Y	Arm J1:1 Ahead	Inf	100.0 %	1915	1915
J2:3/1	Infinite Saturation Flow						Inf	Inf
J2:3/2	Infinite Saturation Flow						Inf	Inf
J2:4/1	Infinite Saturation Flow						Inf	Inf
J2:5/1	3.50	0.00	Y	Arm J2:3 Ahead	Inf	100.0 %	1965	1965
J2:5/2	3.50	0.00	Y	Arm J2:3 Ahead	Inf	100.0 %	1965	1965
J2:5/3	3.50	0.00	Y	Arm J2:4 Right	15.00	100.0 %	1786	1786

Scenario 2: '2031 J1d AM peak' (FG6: 'Adjusted 2031 J1d AM Peak', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

		Destination							
		A	B	C	D	E	F	G	Tot.
Origin	A	0	0	4	0	0	0	0	4
	B	0	0	390	0	639	0	0	1029
	C	0	0	0	0	0	0	0	0
	D	109	447	6	0	756	0	122	1440
	E	129	377	391	0	0	0	212	1109
	F	129	0	3	0	5	0	212	349
	G	66	0	5	0	36	0	0	107
	Tot.	433	824	799	0	1436	0	546	4038

Traffic Lane Flows

Lane	Scenario 2: 2031 J1d AM peak
Junction: J1: A5123 St Peter's Way/A508 Bridge Street	
J1:1/1	328
J1:1/2	352
J1:2/1	706
J1:2/2	730
J1:3/1	756
J1:3/2	413
J1:3/3	271
J1:4/1	642
J1:5/1 (short)	405
J1:5/2 (with short)	557(In) 152(Out)
J1:5/3	552
J1:6/1	349
J1:7/1	546
J1:7/2	440
J1:7/3	5
J1:8/1	546
J1:9/1	440
J1:9/2	5
J1:10/1	107
J1:11/1	78
J1:11/2	41
J1:12/1	4
J1:13/1	433
Junction: J2: A5123 Victoria Promenade/Victoria Gardens	
J2:1/1	82
J2:1/2	41
J2:2/1	514
J2:2/2	515
J2:3/1	328
J2:3/2	496
J2:4/1	799
J2:5/1	328
J2:5/2	496
J2:5/3	327

Lane Saturation Flows

Junction: J1: A5123 St Peter's Way/A508 Bridge Street								
Lane	**Lane Width (m)**	**Gradient**	**Nearside Lane**	**Allowed Turns**	**Turning Radius (m)**	**Turning Prop.**	**Sat Flow (PCU/Hr)**	**Flared Sat Flow (PCU/Hr)**
J1:1/1 (A5123)	3.50	0.00	Y	Arm J1:2 Ahead	Inf	100.0 %	1965	1965
J1:1/2 (A5123)	3.50	0.00	Y	Arm J1:2 Ahead	Inf	100.0 %	1965	1965
J1:2/1	Infinite Saturation Flow						Inf	Inf
J1:2/2	Infinite Saturation Flow						Inf	Inf
J1:3/1 (A508 Bridge Street)	3.50	0.00	Y	Arm J1:2 Left	30.00	100.0 %	1871	1871
J1:3/2 (A508 Bridge Street)	3.00	0.00	Y	Arm J1:4 Ahead Arm J2:5 Right	Inf Inf	57.4 % 42.6 %	1915	1915
J1:3/3 (A508 Bridge Street)	3.00	0.00	Y	Arm J2:5 Right	Inf	100.0 %	1915	1915
J1:4/1	This lane uses a directly entered Saturation Flow						3000	3000
J1:5/1 (A5123 St Peter's Way)	3.50	0.00	Y	Arm J1:4 Left	15.00	100.0 %	1786	1786
J1:5/2 (A5123 St Peter's Way)	3.00	0.00	Y	Arm J2:5 Ahead	Inf	100.0 %	1915	1915
J1:5/3 (A5123 St Peter's Way)	3.00	0.00	Y	Arm J2:5 Ahead	Inf	100.0 %	1915	1915
J1:6/1 (Commercial Street Lane 1)	Infinite Saturation Flow						Inf	Inf
J1:7/1	Infinite Saturation Flow						Inf	Inf
J1:7/2	Infinite Saturation Flow						Inf	Inf
J1:7/3	Infinite Saturation Flow						Inf	Inf
J1:8/1	Infinite Saturation Flow						Inf	Inf
J1:9/1	Infinite Saturation Flow						Inf	Inf
J1:9/2	Infinite Saturation Flow						Inf	Inf
J1:10/1 (Bridge Street Lane 1)	Infinite Saturation Flow						Inf	Inf
J1:11/1	Infinite Saturation Flow						Inf	Inf
J1:11/2	Infinite Saturation Flow						Inf	Inf
J1:12/1 (St Johns Street Lane 1)	Infinite Saturation Flow						Inf	Inf
J1:13/1	Infinite Saturation Flow						Inf	Inf

Junction: J2: A5123 Victoria Promenade/Victoria Gardens								
Lane	**Lane Width (m)**	**Gradient**	**Nearside Lane**	**Allowed Turns**	**Turning Radius (m)**	**Turning Prop.**	**Sat Flow (PCU/Hr)**	**Flared Sat Flow (PCU/Hr)**
J2:1/1 (Victoria Gardens)	3.50	0.00	Y	Arm J2:3 Left	10.00	0.0 %	1965	1965
				Arm J2:4 Ahead	Inf	100.0 %		
J2:1/2 (Victoria Gardens)	3.50	0.00	Y	Arm J1:1 Right	18.00	100.0 %	1814	1814
J2:2/1 (A5123 Victoria Promenade)	3.00	0.00	Y	Arm J1:1 Ahead	Inf	24.1 %	1915	1915
				Arm J2:4 Left	Inf	75.9 %		
J2:2/2 (A5123 Victoria Promenade)	3.00	0.00	Y	Arm J1:1 Ahead	Inf	100.0 %	1915	1915
J2:3/1	Infinite Saturation Flow						Inf	Inf
J2:3/2	Infinite Saturation Flow						Inf	Inf
J2:4/1	Infinite Saturation Flow						Inf	Inf
J2:5/1	3.50	0.00	Y	Arm J2:3 Ahead	Inf	100.0 %	1965	1965
J2:5/2	3.50	0.00	Y	Arm J2:3 Ahead	Inf	100.0 %	1965	1965
J2:5/3	3.50	0.00	Y	Arm J2:4 Right	15.00	100.0 %	1786	1786

Scenario 3: '2031 D1 PM peak' (FG2: '2031 D1 PM Peak', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

		Destination							
		A	B	C	D	E	F	G	Tot.
Origin	A	0	3	40	0	58	0	0	101
	B	0	0	681	0	983	0	0	1664
	C	0	0	0	0	0	0	0	0
	D	173	418	0	0	425	0	51	1067
	E	0	104	400	0	0	0	0	504
	F	232	0	22	0	52	0	136	442
	G	489	0	28	0	202	0	0	719
	Tot.	894	525	1171	0	1720	0	187	4497

Traffic Lane Flows

Lane	Scenario 3: 2031 D1 PM peak
Junction: J1: A5123 St Peter's Way/A508 Bridge Street	
J1:1/1	693
J1:1/2	602
J1:2/1	905
J1:2/2	815
J1:3/1	425
J1:3/2	349
J1:3/3	293
J1:4/1	392
J1:5/1 (short)	168
J1:5/2 (with short)	265(In) 97(Out)
J1:5/3	239
J1:6/1	442
J1:7/1	187
J1:7/2	595
J1:7/3	52
J1:8/1	187
J1:9/1	595
J1:9/2	52
J1:10/1	719
J1:11/1	218
J1:11/2	254
J1:12/1	101
J1:13/1	894
Junction: J2: A5123 Victoria Promenade/Victoria Gardens	
J2:1/1	261
J2:1/2	312
J2:2/1	832
J2:2/2	832
J2:3/1	225
J2:3/2	300
J2:4/1	1171
J2:5/1	222
J2:5/2	300
J2:5/3	232

Lane Saturation Flows

Junction: J1: A5123 St Peter's Way/A508 Bridge Street								
Lane	**Lane Width (m)**	**Gradient**	**Nearside Lane**	**Allowed Turns**	**Turning Radius (m)**	**Turning Prop.**	**Sat Flow (PCU/Hr)**	**Flared Sat Flow (PCU/Hr)**
J1:1/1 (A5123)	3.50	0.00	Y	Arm J1:2 Ahead	Inf	100.0 %	1965	1965
J1:1/2 (A5123)	3.50	0.00	Y	Arm J1:2 Ahead	Inf	100.0 %	1965	1965
J1:2/1	Infinite Saturation Flow						Inf	Inf
J1:2/2	Infinite Saturation Flow						Inf	Inf
J1:3/1 (A508 Bridge Street)	3.50	0.00	Y	Arm J1:2 Left	30.00	100.0 %	1871	1871
J1:3/2 (A508 Bridge Street)	3.00	0.00	Y	Arm J1:4 Ahead Arm J2:5 Right	Inf Inf	64.2 % 35.8 %	1915	1915
J1:3/3 (A508 Bridge Street)	3.00	0.00	Y	Arm J2:5 Right	Inf	100.0 %	1915	1915
J1:4/1	This lane uses a directly entered Saturation Flow						3000	3000
J1:5/1 (A5123 St Peter's Way)	3.50	0.00	Y	Arm J1:4 Left	15.00	100.0 %	1786	1786
J1:5/2 (A5123 St Peter's Way)	3.00	0.00	Y	Arm J2:5 Ahead	Inf	100.0 %	1915	1915
J1:5/3 (A5123 St Peter's Way)	3.00	0.00	Y	Arm J2:5 Ahead	Inf	100.0 %	1915	1915
J1:6/1 (Commercial Street Lane 1)	Infinite Saturation Flow						Inf	Inf
J1:7/1	Infinite Saturation Flow						Inf	Inf
J1:7/2	Infinite Saturation Flow						Inf	Inf
J1:7/3	Infinite Saturation Flow						Inf	Inf
J1:8/1	Infinite Saturation Flow						Inf	Inf
J1:9/1	Infinite Saturation Flow						Inf	Inf
J1:9/2	Infinite Saturation Flow						Inf	Inf
J1:10/1 (Bridge Street Lane 1)	Infinite Saturation Flow						Inf	Inf
J1:11/1	Infinite Saturation Flow						Inf	Inf
J1:11/2	Infinite Saturation Flow						Inf	Inf
J1:12/1 (St Johns Street Lane 1)	Infinite Saturation Flow						Inf	Inf
J1:13/1	Infinite Saturation Flow						Inf	Inf

Junction: J2: A5123 Victoria Promenade/Victoria Gardens								
Lane	**Lane Width (m)**	**Gradient**	**Nearside Lane**	**Allowed Turns**	**Turning Radius (m)**	**Turning Prop.**	**Sat Flow (PCU/Hr)**	**Flared Sat Flow (PCU/Hr)**
J2:1/1 (Victoria Gardens)	3.50	0.00	Y	Arm J2:3 Left	10.00	1.1 %	1962	1962
				Arm J2:4 Ahead	Inf	98.9 %		
J2:1/2 (Victoria Gardens)	3.50	0.00	Y	Arm J1:1 Right	18.00	100.0 %	1814	1814
J2:2/1 (A5123 Victoria Promenade)	3.00	0.00	Y	Arm J1:1 Ahead	Inf	18.1 %	1915	1915
				Arm J2:4 Left	Inf	81.9 %		
J2:2/2 (A5123 Victoria Promenade)	3.00	0.00	Y	Arm J1:1 Ahead	Inf	100.0 %	1915	1915
J2:3/1	Infinite Saturation Flow						Inf	Inf
J2:3/2	Infinite Saturation Flow						Inf	Inf
J2:4/1	Infinite Saturation Flow						Inf	Inf
J2:5/1	3.50	0.00	Y	Arm J2:3 Ahead	Inf	100.0 %	1965	1965
J2:5/2	3.50	0.00	Y	Arm J2:3 Ahead	Inf	100.0 %	1965	1965
J2:5/3	3.50	0.00	Y	Arm J2:4 Right	15.00	100.0 %	1786	1786

Scenario 4: '2031 J1d PM peak' (FG4: '2031 J1d PM Peak', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

		Destination							
		A	B	C	D	E	F	G	Tot.
Origin	A	0	2	39	0	30	0	0	71
	B	0	0	740	0	927	0	0	1667
	C	0	0	0	0	0	0	0	0
	D	198	393	0	0	471	0	37	1099
	E	2	133	358	0	0	0	15	508
	F	198	0	143	0	43	0	120	504
	G	542	0	30	0	113	0	0	685
	Tot.	940	528	1310	0	1584	0	172	4534

Traffic Lane Flows

Lane	Scenario 4: 2031 J1d PM peak
Junction: J1: A5123 St Peter's Way/A508 Bridge Street	
J1:1/1	524
J1:1/2	589
J1:2/1	759
J1:2/2	825
J1:3/1	471
J1:3/2	317
J1:3/3	311
J1:4/1	252
J1:5/1 (short)	17
J1:5/2 (with short)	150(In) 133(Out)
J1:5/3	358
J1:6/1	504
J1:7/1	172
J1:7/2	541
J1:7/3	43
J1:8/1	172
J1:9/1	541
J1:9/2	43
J1:10/1	685
J1:11/1	173
J1:11/2	156
J1:12/1	71
J1:13/1	940
Junction: J2: A5123 Victoria Promenade/Victoria Gardens	
J2:1/1	214
J2:1/2	186
J2:2/1	834
J2:2/2	833
J2:3/1	217
J2:3/2	311
J2:4/1	1310
J2:5/1	215
J2:5/2	311
J2:5/3	358

Lane Saturation Flows

Junction: J1: A5123 St Peter's Way/A508 Bridge Street								
Lane	**Lane Width (m)**	**Gradient**	**Nearside Lane**	**Allowed Turns**	**Turning Radius (m)**	**Turning Prop.**	**Sat Flow (PCU/Hr)**	**Flared Sat Flow (PCU/Hr)**
J1:1/1 (A5123)	3.50	0.00	Y	Arm J1:2 Ahead	Inf	100.0 %	1965	1965
J1:1/2 (A5123)	3.50	0.00	Y	Arm J1:2 Ahead	Inf	100.0 %	1965	1965
J1:2/1	Infinite Saturation Flow						Inf	Inf
J1:2/2	Infinite Saturation Flow						Inf	Inf
J1:3/1 (A508 Bridge Street)	3.50	0.00	Y	Arm J1:2 Left	30.00	100.0 %	1871	1871
J1:3/2 (A508 Bridge Street)	3.00	0.00	Y	Arm J1:4 Ahead Arm J2:5 Right	Inf Inf	74.1 % 25.9 %	1915	1915
J1:3/3 (A508 Bridge Street)	3.00	0.00	Y	Arm J2:5 Right	Inf	100.0 %	1915	1915
J1:4/1	This lane uses a directly entered Saturation Flow						3000	3000
J1:5/1 (A5123 St Peter's Way)	3.50	0.00	Y	Arm J1:4 Left	15.00	100.0 %	1786	1786
J1:5/2 (A5123 St Peter's Way)	3.00	0.00	Y	Arm J2:5 Ahead	Inf	100.0 %	1915	1915
J1:5/3 (A5123 St Peter's Way)	3.00	0.00	Y	Arm J2:5 Ahead	Inf	100.0 %	1915	1915
J1:6/1 (Commercial Street Lane 1)	Infinite Saturation Flow						Inf	Inf
J1:7/1	Infinite Saturation Flow						Inf	Inf
J1:7/2	Infinite Saturation Flow						Inf	Inf
J1:7/3	Infinite Saturation Flow						Inf	Inf
J1:8/1	Infinite Saturation Flow						Inf	Inf
J1:9/1	Infinite Saturation Flow						Inf	Inf
J1:9/2	Infinite Saturation Flow						Inf	Inf
J1:10/1 (Bridge Street Lane 1)	Infinite Saturation Flow						Inf	Inf
J1:11/1	Infinite Saturation Flow						Inf	Inf
J1:11/2	Infinite Saturation Flow						Inf	Inf
J1:12/1 (St Johns Street Lane 1)	Infinite Saturation Flow						Inf	Inf
J1:13/1	Infinite Saturation Flow						Inf	Inf

Junction: J2: A5123 Victoria Promenade/Victoria Gardens								
Lane	**Lane Width (m)**	**Gradient**	**Nearside Lane**	**Allowed Turns**	**Turning Radius (m)**	**Turning Prop.**	**Sat Flow (PCU/Hr)**	**Flared Sat Flow (PCU/Hr)**
J2:1/1 (Victoria Gardens)	3.50	0.00	Y	Arm J2:3 Left	10.00	0.9 %	1962	1962
				Arm J2:4 Ahead	Inf	99.1 %		
J2:1/2 (Victoria Gardens)	3.50	0.00	Y	Arm J1:1 Right	18.00	100.0 %	1814	1814
J2:2/1 (A5123 Victoria Promenade)	3.00	0.00	Y	Arm J1:1 Ahead	Inf	11.3 %	1915	1915
				Arm J2:4 Left	Inf	88.7 %		
J2:2/2 (A5123 Victoria Promenade)	3.00	0.00	Y	Arm J1:1 Ahead	Inf	100.0 %	1915	1915
J2:3/1	Infinite Saturation Flow						Inf	Inf
J2:3/2	Infinite Saturation Flow						Inf	Inf
J2:4/1	Infinite Saturation Flow						Inf	Inf
J2:5/1	3.50	0.00	Y	Arm J2:3 Ahead	Inf	100.0 %	1965	1965
J2:5/2	3.50	0.00	Y	Arm J2:3 Ahead	Inf	100.0 %	1965	1965
J2:5/3	3.50	0.00	Y	Arm J2:4 Right	15.00	100.0 %	1786	1786

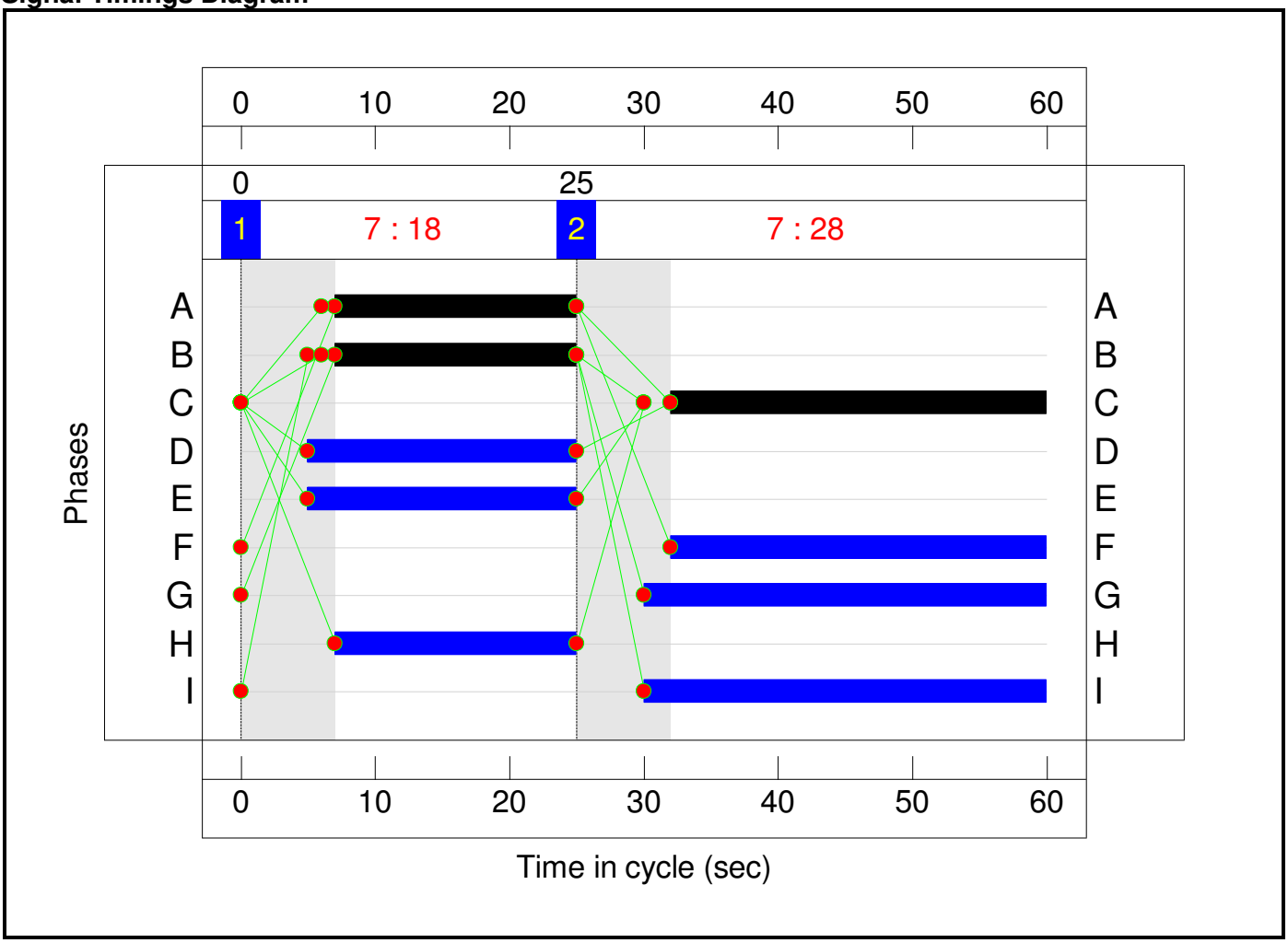
Scenario 1: '2031 D1 AM peak' (FG5: 'Adjusted 2031 D1 AM Peak', Plan 1: 'Network Control Plan 1')
C1

Stage Timings

Stage Stream: 1

Stage	1	2
Duration	18	28
Change Point	0	25

Signal Timings Diagram



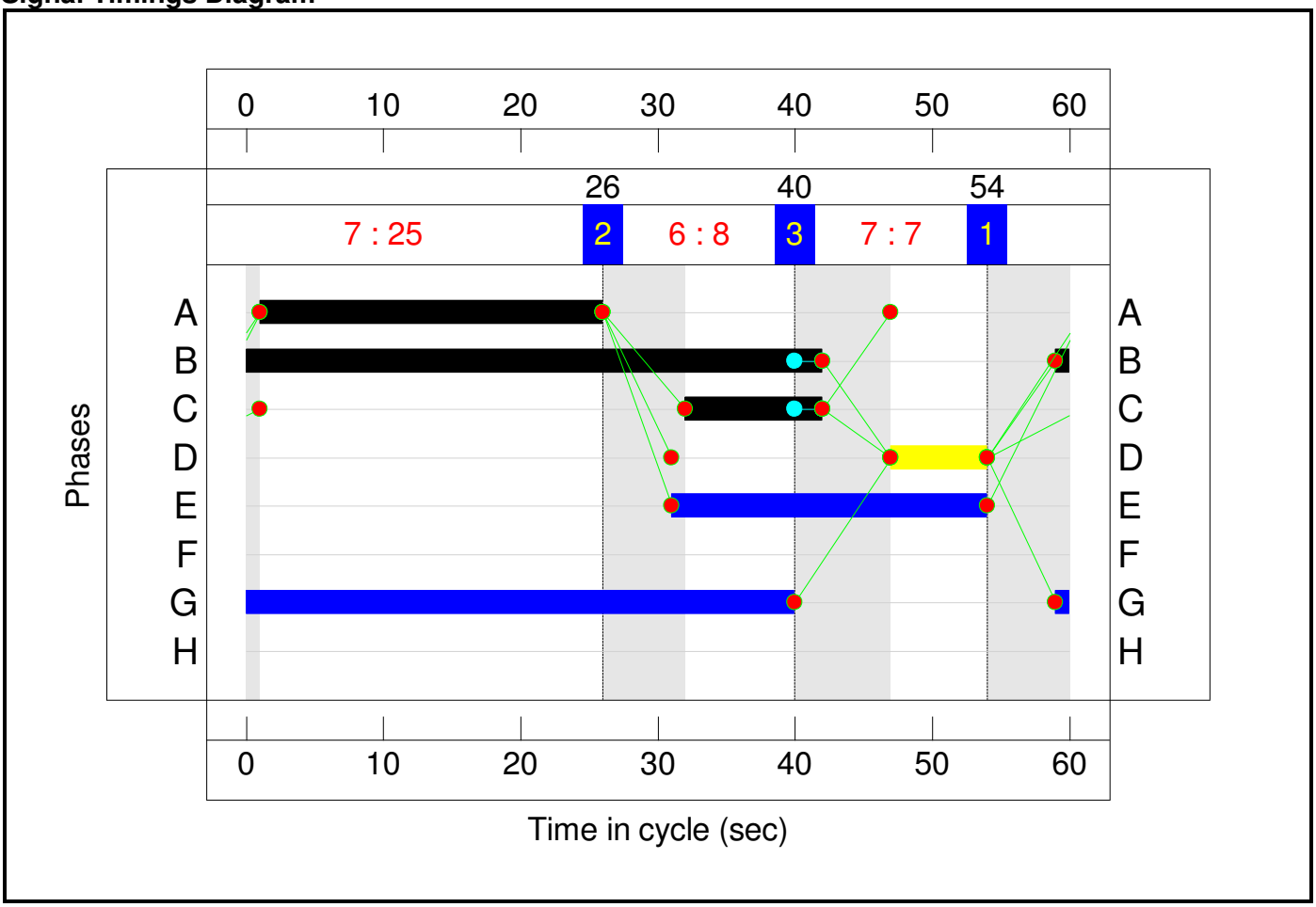
C2

Stage Timings

Stage Stream: 1

Stage	1	2	3
Duration	25	8	7
Change Point	54	26	40

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: Plough Gyratory	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**82.4%**
J1: A5123 St Peter's Way/A508 Bridge Street	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**82.4%**
1/1	A5123 Ahead	U	1:1	N/A	C1:A		1	18	-	353	1965	622	56.7%
1/2	A5123 Ahead	U	1:1	N/A	C1:A		1	18	-	356	1965	622	57.2%
3/1	A508 Bridge Street Left	U	1:1	N/A	C1:C		1	28	-	745	1871	904	82.4%
3/2	A508 Bridge Street Ahead Right	U	1:1	N/A	C1:C		1	28	-	410	1915	926	44.3%
3/3	A508 Bridge Street Right	U	1:1	N/A	C1:C		1	28	-	267	1915	926	28.8%
4/1	Ahead	U	N/A	N/A	-		-	-	-	672	3000	3000	22.4%
5/2+5/1	A5123 St Peter's Way Left Ahead	U	1:1	N/A	C1:B		1	18	-	478	1915:1786	139+470	78.5 : 78.5%
5/3	A5123 St Peter's Way Ahead	U	1:1	N/A	C1:B		1	18	-	476	1915	606	78.5%
6/1	Commercial Street Left	O	N/A	N/A	-		-	-	-	365	Inf	567	64.4%
10/1	Bridge Street Ahead Left	O	N/A	N/A	-		-	-	-	107	Inf	823	13.0%
12/1	St Johns Street Ahead	O	N/A	N/A	-		-	-	-	0	Inf	997	0.0%
J2: A5123 Victoria Promenade/Victoria Gardens	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**80.3%**
1/1	Victoria Gardens Left Ahead	U	2:1	N/A	C2:D		1	7	-	8	1965	262	3.1%
1/2	Victoria Gardens Right	U	2:1	N/A	C2:D		1	7	-	4	1814	242	1.7%
2/1	A5123 Victoria Promenade Ahead Left	U	2:1	N/A	C2:A		1	25	-	644	1915	830	77.6%
2/2	A5123 Victoria Promenade Ahead	U	2:1	N/A	C2:A		1	25	-	644	1915	830	77.6%
5/1	Ahead	U	2:1	N/A	C2:B		1	43	-	216	1965	1441	15.0%

5/2	Ahead	U	2:1	N/A	C2:B		1	43	-	480	1965	1441	33.3%
5/3	Right	U	2:1	N/A	C2:C		1	10	-	263	1786	327	80.3%

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: Plough Gyratory	**-**	**-**	**472**	**0**	**0**	**19.1**	**14.5**	**0.0**	**33.6**	**-**	**-**	**-**	**-**
J1: A5123 St Peter's Way/A508 Bridge Street	**-**	**-**	**472**	**0**	**0**	**10.6**	**8.9**	**0.0**	**19.4**	**-**	**-**	**-**	**-**
1/1	353	353	-	-	-	0.6	0.7	-	1.2	12.4	1.6	0.7	2.3
1/2	356	356	-	-	-	0.6	0.7	-	1.2	12.4	1.4	0.7	2.0
3/1	745	745	-	-	-	2.8	2.3	-	5.0	24.3	10.6	2.3	12.8
3/2	410	410	-	-	-	1.2	0.4	-	1.6	13.7	4.4	0.4	4.8
3/3	267	267	-	-	-	0.7	0.2	-	0.9	12.0	2.7	0.2	2.9
4/1	672	672	-	-	-	0.0	0.1	-	0.1	0.8	0.0	0.1	0.1
5/2+5/1	478	478	-	-	-	2.4	1.8	-	4.2	31.5	6.6	1.8	8.4
5/3	476	476	-	-	-	2.5	1.8	-	4.2	32.1	7.1	1.8	8.9
6/1	365	365	365	0	0	0.0	0.9	-	0.9	8.8	0.0	0.9	0.9
10/1	107	107	107	0	0	0.0	0.1	-	0.1	2.5	0.0	0.1	0.1
12/1	0	0	0	0	0	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
J2: A5123 Victoria Promenade/Victoria Gardens	**-**	**-**	**0**	**0**	**0**	**8.5**	**5.7**	**0.0**	**14.1**	**-**	**-**	**-**	**-**
1/1	8	8	-	-	-	0.0	0.0	-	0.0	17.7	0.1	0.0	0.1
1/2	4	4	-	-	-	0.0	0.0	-	0.0	30.5	0.1	0.0	0.1
2/1	644	644	-	-	-	2.6	1.7	-	4.3	24.0	9.1	1.7	10.8
2/2	644	644	-	-	-	2.6	1.7	-	4.3	24.0	9.1	1.7	10.8
5/1	216	216	-	-	-	0.2	0.1	-	0.3	4.6	1.3	0.1	1.3
5/2	480	480	-	-	-	0.4	0.2	-	0.7	5.2	2.9	0.2	3.2
5/3	263	263	-	-	-	2.6	1.9	-	4.5	61.7	4.1	1.9	6.0

C1	Stream: 1 PRC for Signalled Lanes (%):	9.2	Total Delay for Signalled Lanes (pcuHr):	18.34	Cycle Time (s): 60
C2	Stream: 1 PRC for Signalled Lanes (%):	12.0	Total Delay for Signalled Lanes (pcuHr):	14.15	Cycle Time (s): 60
	PRC Over All Lanes (%):	9.2	Total Delay Over All Lanes(pcuHr):	33.60	

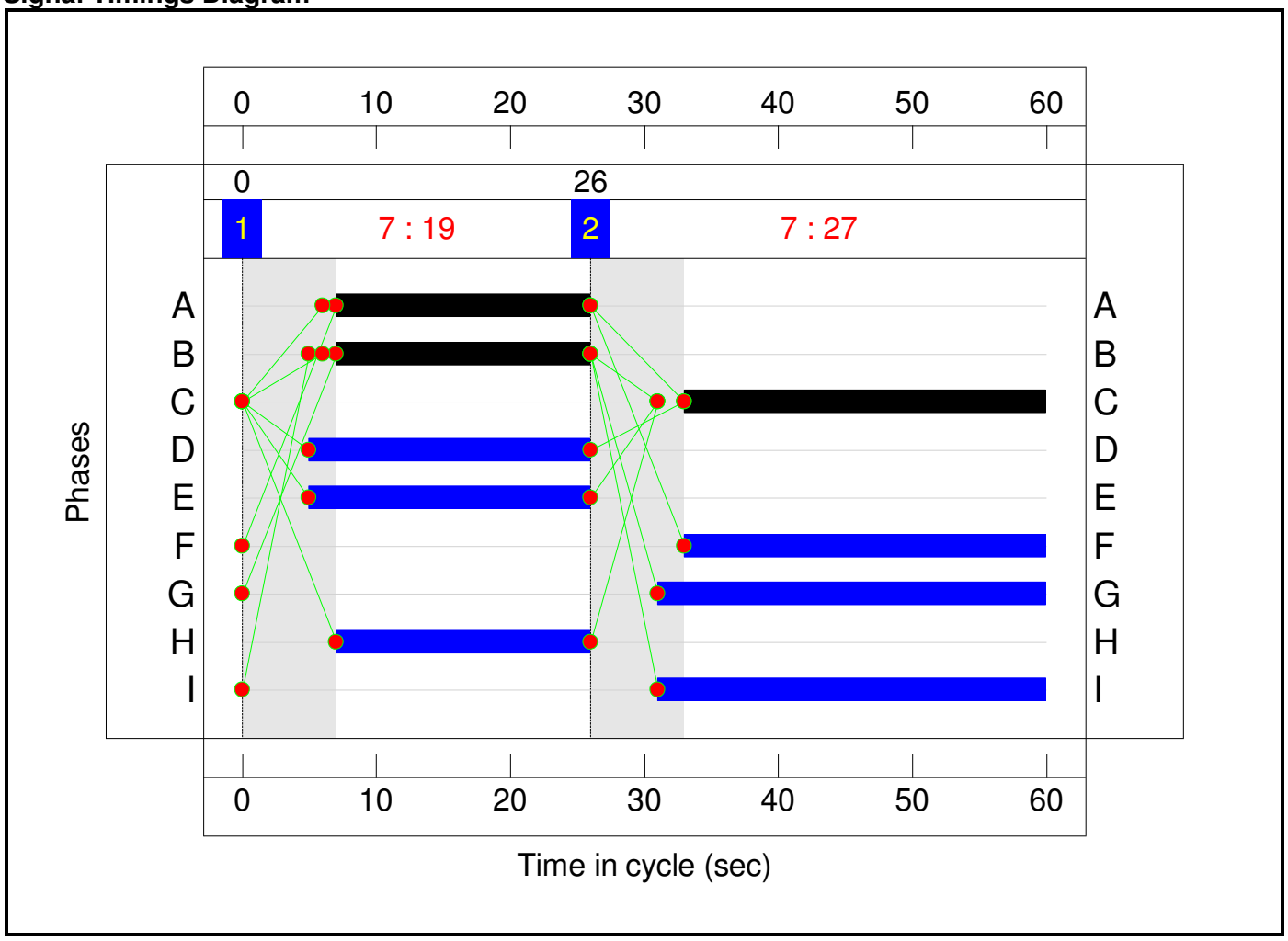
Scenario 2: '2031 J1d AM peak' (FG6: 'Adjusted 2031 J1d AM Peak', Plan 1: 'Network Control Plan 1')
C1

Stage Timings

Stage Stream: 1

Stage	1	2
Duration	19	27
Change Point	0	26

Signal Timings Diagram



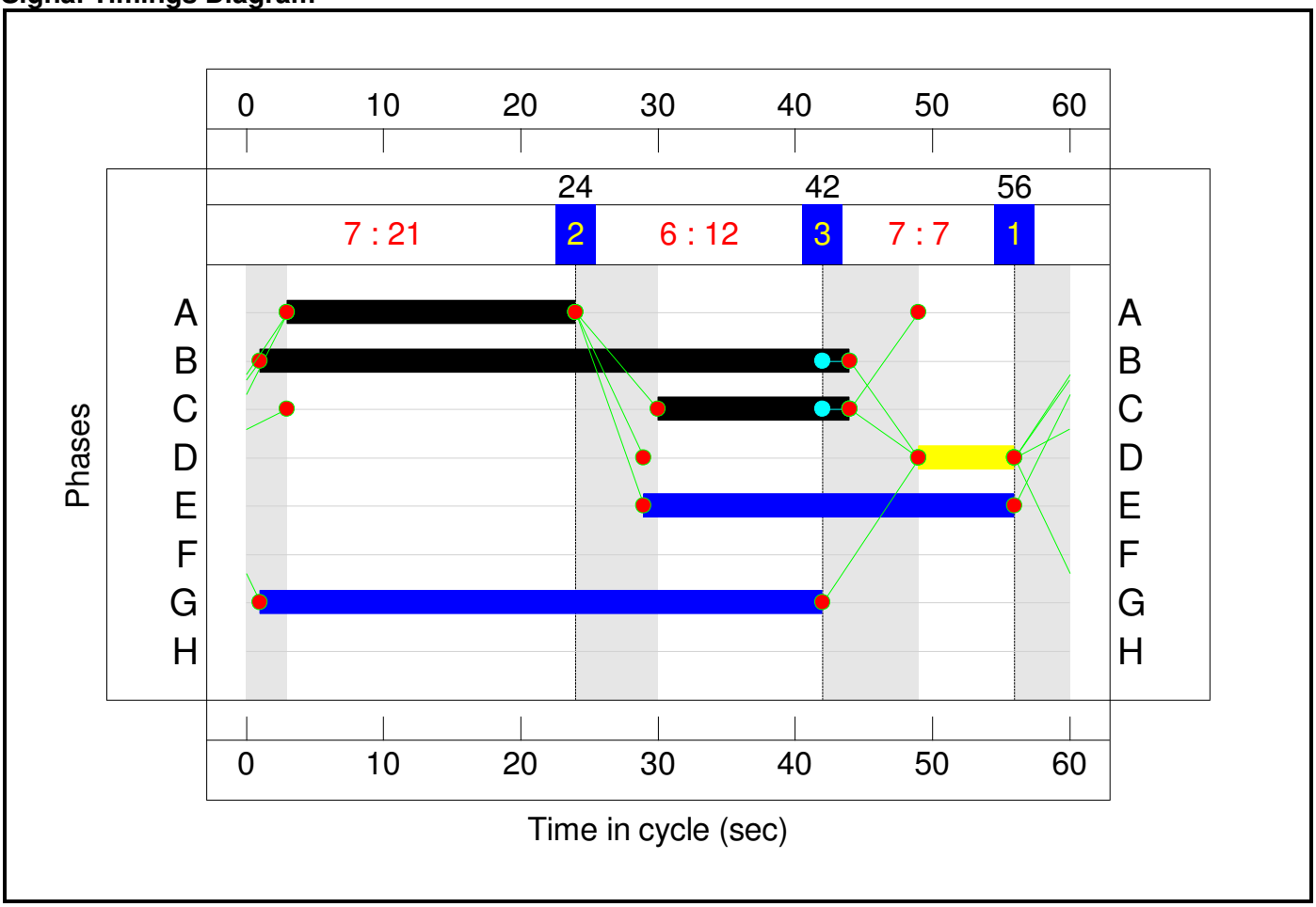
C2

Stage Timings

Stage Stream: 1

Stage	1	2	3
Duration	21	12	7
Change Point	56	24	42

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: Plough Gyratory	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**86.6%**
J1: A5123 St Peter's Way/A508 Bridge Street	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**86.6%**
1/1	A5123 Ahead	U	1:1	N/A	C1:A		1	19	-	328	1965	655	50.1%
1/2	A5123 Ahead	U	1:1	N/A	C1:A		1	19	-	352	1965	655	53.7%
3/1	A508 Bridge Street Left	U	1:1	N/A	C1:C		1	27	-	756	1871	873	86.6%
3/2	A508 Bridge Street Ahead Right	U	1:1	N/A	C1:C		1	27	-	413	1915	894	46.2%
3/3	A508 Bridge Street Right	U	1:1	N/A	C1:C		1	27	-	271	1915	894	30.3%
4/1	Ahead	U	N/A	N/A	-		-	-	-	642	3000	3000	21.4%
5/2+5/1	A5123 St Peter's Way Left Ahead	U	1:1	N/A	C1:B		1	19	-	557	1915:1786	177+473	85.7 : 85.7%
5/3	A5123 St Peter's Way Ahead	U	1:1	N/A	C1:B		1	19	-	552	1915	638	86.5%
6/1	Commercial Street Left	O	N/A	N/A	-		-	-	-	349	Inf	574	60.8%
10/1	Bridge Street Ahead Left	O	N/A	N/A	-		-	-	-	107	Inf	854	12.5%
12/1	St Johns Street Ahead	O	N/A	N/A	-		-	-	-	4	Inf	974	0.4%
J2: A5123 Victoria Promenade/Victoria Gardens	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**73.3%**
1/1	Victoria Gardens Left Ahead	U	2:1	N/A	C2:D		1	7	-	82	1965	262	31.3%
1/2	Victoria Gardens Right	U	2:1	N/A	C2:D		1	7	-	41	1814	242	17.0%
2/1	A5123 Victoria Promenade Ahead Left	U	2:1	N/A	C2:A		1	21	-	514	1915	702	73.2%
2/2	A5123 Victoria Promenade Ahead	U	2:1	N/A	C2:A		1	21	-	515	1915	702	73.3%
5/1	Ahead	U	2:1	N/A	C2:B		1	43	-	328	1965	1441	22.8%

5/2	Ahead	U	2:1	N/A	C2:B		1	43	-	496	1965	1441	34.4%
5/3	Right	U	2:1	N/A	C2:C		1	14	-	327	1786	447	73.2%

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: Plough Gyratory	**-**	**-**	**460**	**0**	**0**	**20.2**	**16.4**	**0.0**	**36.6**	**-**	**-**	**-**	**-**
J1: A5123 St Peter's Way/A508 Bridge Street	**-**	**-**	**460**	**0**	**0**	**11.4**	**11.6**	**0.0**	**23.0**	**-**	**-**	**-**	**-**
1/1	328	328	-	-	-	0.4	0.5	-	0.9	9.8	1.2	0.5	1.7
1/2	352	352	-	-	-	0.3	0.6	-	0.9	9.2	0.5	0.6	1.1
3/1	756	756	-	-	-	3.0	3.1	-	6.1	28.9	11.1	3.1	14.2
3/2	413	413	-	-	-	1.2	0.4	-	1.7	14.6	4.6	0.4	5.0
3/3	271	271	-	-	-	0.7	0.2	-	1.0	12.8	2.8	0.2	3.0
4/1	642	642	-	-	-	0.0	0.1	-	0.1	0.8	0.0	0.1	0.1
5/2+5/1	557	557	-	-	-	2.8	2.8	-	5.6	36.2	7.8	2.8	10.6
5/3	552	552	-	-	-	2.9	3.0	-	5.9	38.2	8.6	3.0	11.6
6/1	349	349	349	0	0	0.0	0.8	-	0.8	8.0	0.0	0.8	0.8
10/1	107	107	107	0	0	0.0	0.1	-	0.1	2.4	0.0	0.1	0.1
12/1	4	4	4	0	0	0.0	0.0	-	0.0	1.9	0.0	0.0	0.0
J2: A5123 Victoria Promenade/Victoria Gardens	**-**	**-**	**0**	**0**	**0**	**8.8**	**4.8**	**0.0**	**13.6**	**-**	**-**	**-**	**-**
1/1	82	82	-	-	-	0.3	0.2	-	0.6	24.4	1.3	0.2	1.5
1/2	41	41	-	-	-	0.3	0.1	-	0.4	32.1	0.6	0.1	0.7
2/1	514	514	-	-	-	2.3	1.3	-	3.7	25.9	7.3	1.3	8.6
2/2	515	515	-	-	-	2.4	1.4	-	3.7	25.9	7.3	1.4	8.7
5/1	328	328	-	-	-	0.3	0.1	-	0.4	4.5	1.7	0.1	1.9
5/2	496	496	-	-	-	0.5	0.3	-	0.7	5.2	3.3	0.3	3.6
5/3	327	327	-	-	-	2.8	1.3	-	4.1	45.7	4.7	1.3	6.0

C1 Stream: 1 PRC for Signalled Lanes (%): 3.9 Total Delay for Signalled Lanes (pcuHr): 21.98 Cycle Time (s): 60

C2 Stream: 1 PRC for Signalled Lanes (%): 22.7 Total Delay for Signalled Lanes (pcuHr): 13.61 Cycle Time (s): 60

PRC Over All Lanes (%): 3.9 Total Delay Over All Lanes(pcuHr): 36.56

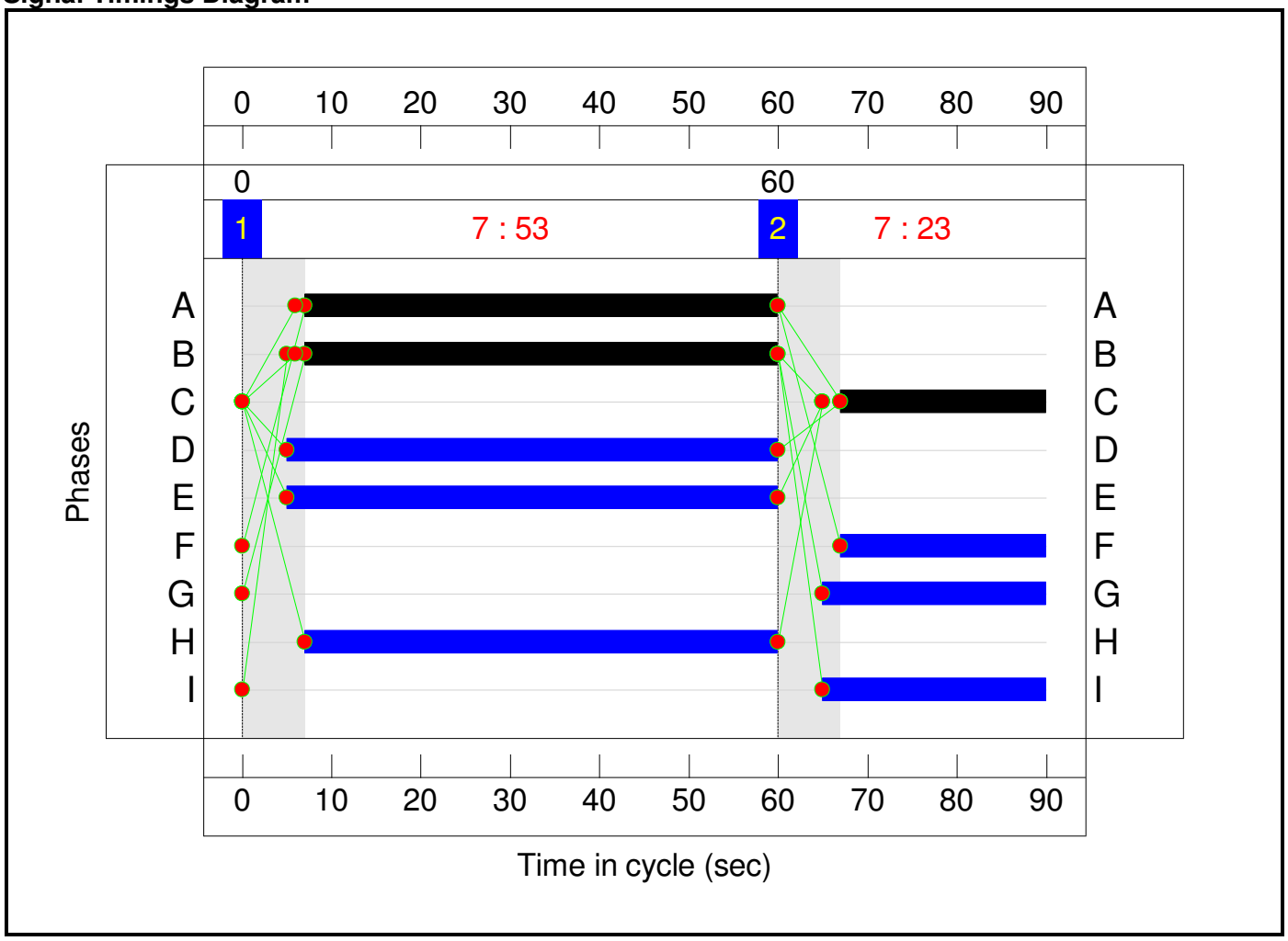
Scenario 3: '2031 D1 PM peak' (FG2: '2031 D1 PM Peak', Plan 1: 'Network Control Plan 1')
C1

Stage Timings

Stage Stream: 1

Stage	1	2
Duration	53	23
Change Point	0	60

Signal Timings Diagram



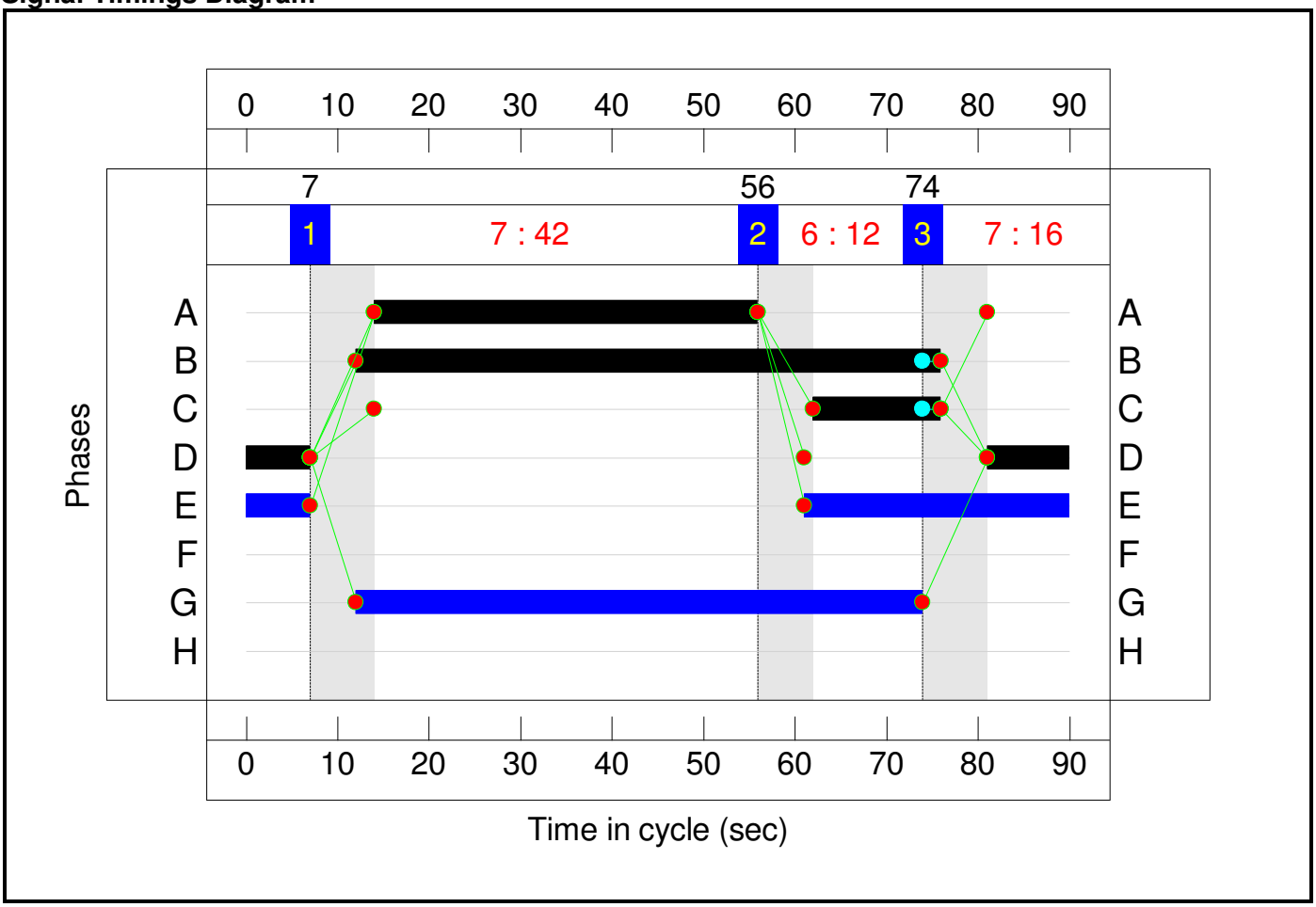
C2

Stage Timings

Stage Stream: 1

Stage	1	2	3
Duration	42	12	16
Change Point	7	56	74

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: Plough Gyratory	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**91.1%**
J1: A5123 St Peter's Way/A508 Bridge Street	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**90.0%**
1/1	A5123 Ahead	U	1:1	N/A	C1:A		1	53	-	693	1965	1179	58.8%
1/2	A5123 Ahead	U	1:1	N/A	C1:A		1	53	-	602	1965	1179	51.1%
3/1	A508 Bridge Street Left	U	1:1	N/A	C1:C		1	23	-	425	1871	499	85.2%
3/2	A508 Bridge Street Ahead Right	U	1:1	N/A	C1:C		1	23	-	349	1915	511	68.3%
3/3	A508 Bridge Street Right	U	1:1	N/A	C1:C		1	23	-	293	1915	511	57.4%
4/1	Ahead	U	N/A	N/A	-		-	-	-	392	3000	3000	13.1%
5/2+5/1	A5123 St Peter's Way Left Ahead	U	1:1	N/A	C1:B		1	53	-	265	1915:1786	419+725	23.2 : 23.2%
5/3	A5123 St Peter's Way Ahead	U	1:1	N/A	C1:B		1	53	-	239	1915	1149	20.8%
6/1	Commercial Street Left	O	N/A	N/A	-		-	-	-	442	Inf	629	70.3%
10/1	Bridge Street Ahead Left	O	N/A	N/A	-		-	-	-	719	Inf	798	90.0%
12/1	St Johns Street Ahead	O	N/A	N/A	-		-	-	-	101	Inf	878	11.5%
J2: A5123 Victoria Promenade/Victoria Gardens	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**91.1%**
1/1	Victoria Gardens Left Ahead	U	2:1	N/A	C2:D		1	16	-	261	1962	371	70.4%
1/2	Victoria Gardens Right	U	2:1	N/A	C2:D		1	16	-	312	1814	343	91.1%
2/1	A5123 Victoria Promenade Ahead Left	U	2:1	N/A	C2:A		1	42	-	832	1915	915	90.9%
2/2	A5123 Victoria Promenade Ahead	U	2:1	N/A	C2:A		1	42	-	832	1915	915	90.9%
5/1	Ahead	U	2:1	N/A	C2:B		1	64	-	222	1965	1419	15.6%

5/2	Ahead	U	2:1	N/A	C2:B		1	64	-	300	1965	1419	21.1%
5/3	Right	U	2:1	N/A	C2:C		1	14	-	232	1786	298	77.9%

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: Plough Gyratory	**-**	**-**	**1262**	**0**	**0**	**28.9**	**27.5**	**0.0**	**56.4**	**-**	**-**	**-**	**-**
J1: A5123 St Peter's Way/A508 Bridge Street	**-**	**-**	**1262**	**0**	**0**	**11.2**	**11.3**	**0.0**	**22.5**	**-**	**-**	**-**	**-**
1/1	693	693	-	-	-	0.9	0.7	-	1.6	8.5	8.5	0.7	9.2
1/2	602	602	-	-	-	0.2	0.5	-	0.7	4.2	0.5	0.5	1.0
3/1	425	425	-	-	-	3.7	2.7	-	6.4	54.0	10.0	2.7	12.7
3/2	349	349	-	-	-	2.9	1.1	-	3.9	40.6	7.8	1.1	8.8
3/3	293	293	-	-	-	2.3	0.7	-	3.0	36.8	6.3	0.7	6.9
4/1	392	392	-	-	-	0.0	0.1	-	0.1	0.7	0.0	0.1	0.1
5/2+5/1	265	265	-	-	-	0.6	0.2	-	0.7	9.9	1.8	0.2	2.0
5/3	239	239	-	-	-	0.5	0.1	-	0.7	10.2	2.7	0.1	2.9
6/1	442	442	442	0	0	0.0	1.2	-	1.2	9.5	0.2	1.2	1.4
10/1	719	719	719	0	0	0.1	4.1	-	4.2	20.8	5.0	4.1	9.1
12/1	101	101	101	0	0	0.0	0.1	-	0.1	2.3	0.0	0.1	0.1
J2: A5123 Victoria Promenade/Victoria Gardens	**-**	**-**	**0**	**0**	**0**	**17.7**	**16.1**	**0.0**	**33.9**	**-**	**-**	**-**	**-**
1/1	261	261	-	-	-	2.6	1.2	-	3.8	52.4	6.4	1.2	7.5
1/2	312	312	-	-	-	3.1	4.0	-	7.1	82.3	7.6	4.0	11.7
2/1	832	832	-	-	-	5.0	4.5	-	9.5	41.3	19.2	4.5	23.7
2/2	832	832	-	-	-	5.0	4.5	-	9.5	41.3	19.2	4.5	23.7
5/1	222	222	-	-	-	0.1	0.1	-	0.2	3.2	0.9	0.1	1.0
5/2	300	300	-	-	-	0.0	0.1	-	0.2	2.0	1.2	0.1	1.3
5/3	232	232	-	-	-	1.8	1.7	-	3.5	54.7	5.5	1.7	7.2

C1	Stream: 1 PRC for Signalled Lanes (%):	5.7	Total Delay for Signalled Lanes (pcuHr):	17.05	Cycle Time (s): 90
C2	Stream: 1 PRC for Signalled Lanes (%):	-1.2	Total Delay for Signalled Lanes (pcuHr):	33.89	Cycle Time (s): 90
	PRC Over All Lanes (%):	-1.2	Total Delay Over All Lanes(pcuHr):	56.41	

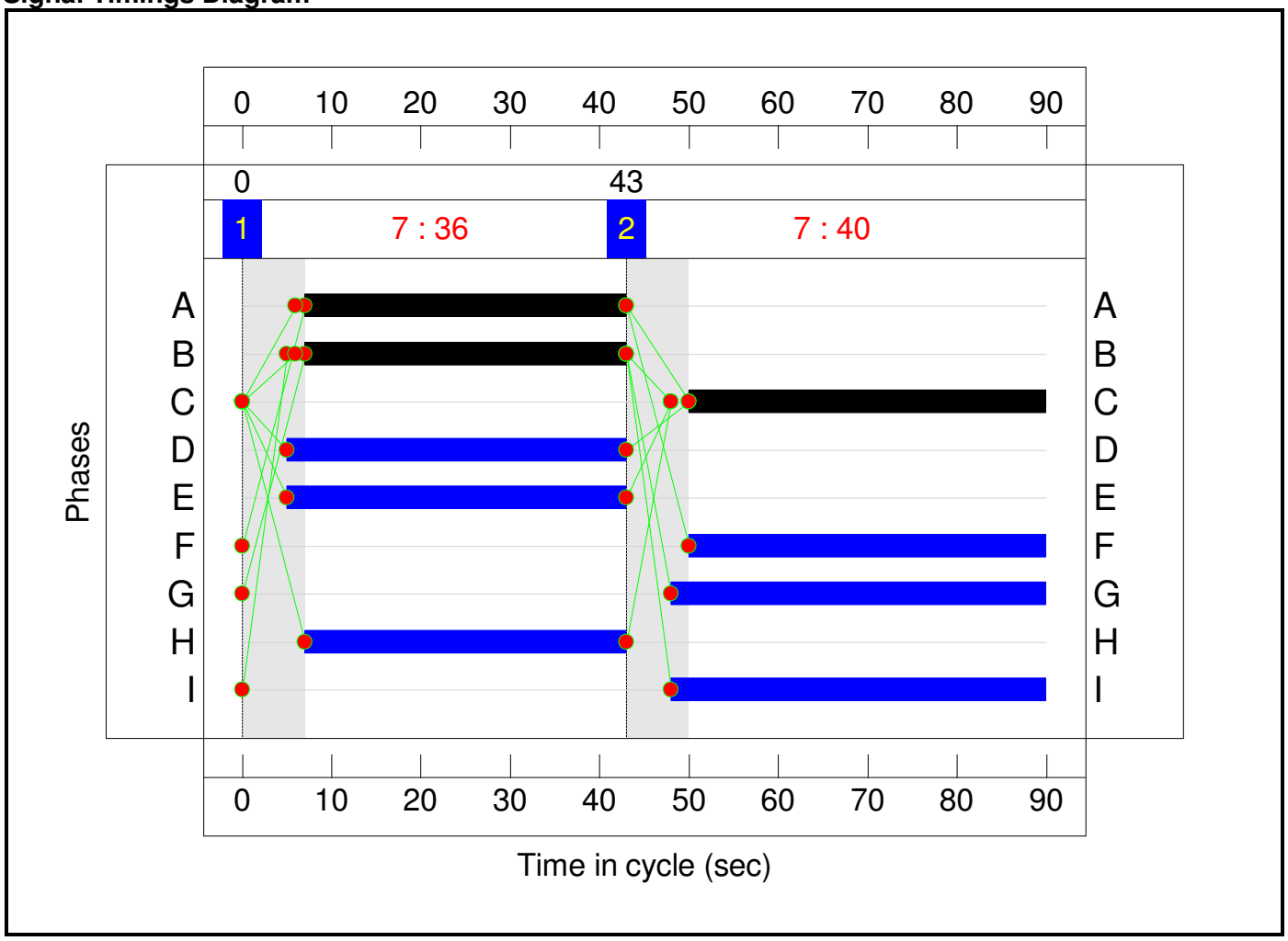
Scenario 4: '2031 J1d PM peak' (FG4: '2031 J1d PM Peak', Plan 1: 'Network Control Plan 1')
C1

Stage Timings

Stage Stream: 1

Stage	1	2
Duration	36	40
Change Point	0	43

Signal Timings Diagram



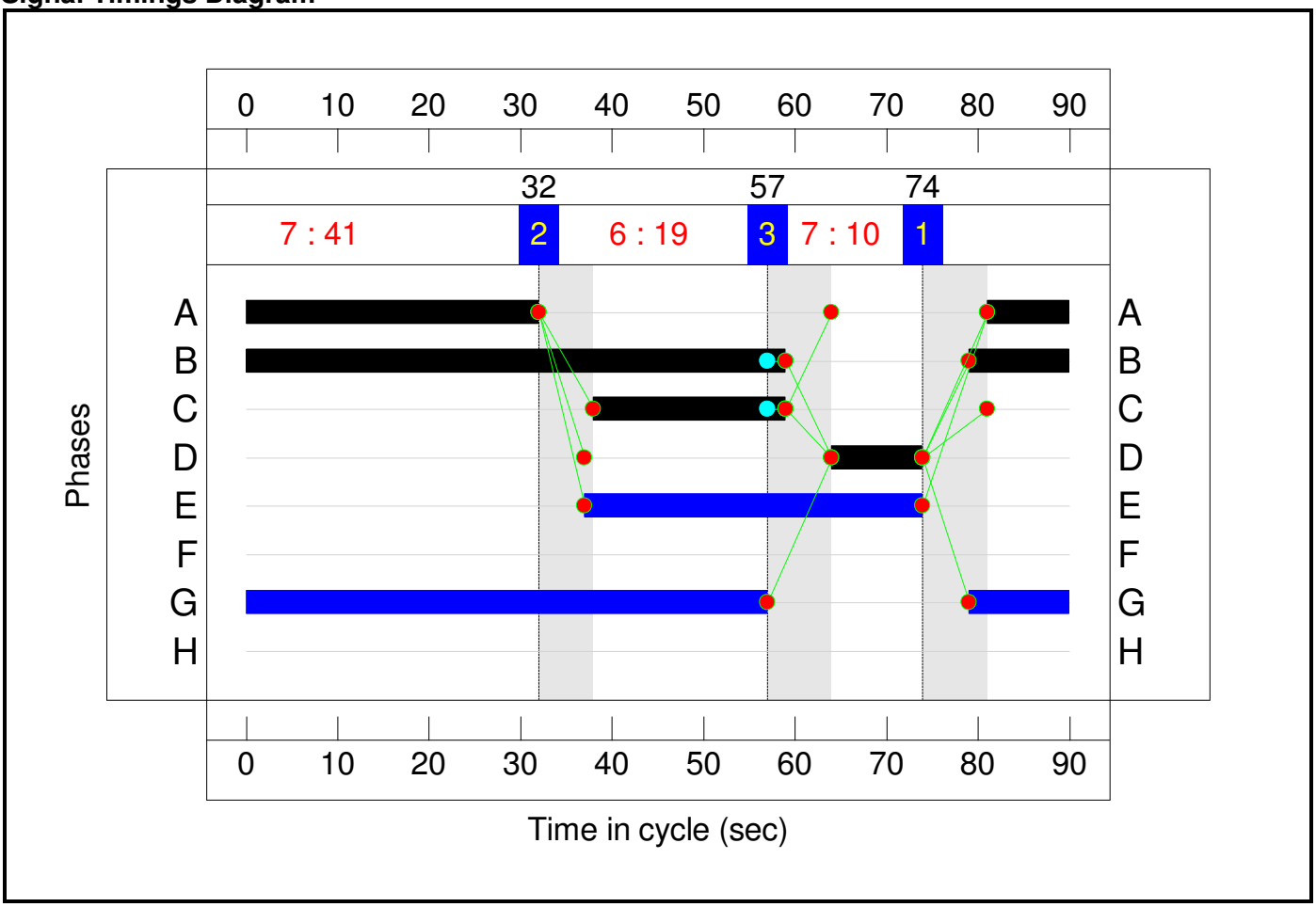
C2

Stage Timings

Stage Stream: 1

Stage	1	2	3
Duration	41	19	10
Change Point	74	32	57

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: Plough Gyratory	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**93.3%**
J1: A5123 St Peter's Way/A508 Bridge Street	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**83.7%**
1/1	A5123 Ahead	U	1:1	N/A	C1:A		1	36	-	524	1965	808	64.9%
1/2	A5123 Ahead	U	1:1	N/A	C1:A		1	36	-	589	1965	808	72.9%
3/1	A508 Bridge Street Left	U	1:1	N/A	C1:C		1	40	-	471	1871	852	55.3%
3/2	A508 Bridge Street Ahead Right	U	1:1	N/A	C1:C		1	40	-	317	1915	872	36.3%
3/3	A508 Bridge Street Right	U	1:1	N/A	C1:C		1	40	-	311	1915	872	35.6%
4/1	Ahead	U	N/A	N/A	-		-	-	-	252	3000	3000	8.4%
5/2+5/1	A5123 St Peter's Way Left Ahead	U	1:1	N/A	C1:B		1	36	-	150	1915:1786	698+89	19.1 : 19.1%
5/3	A5123 St Peter's Way Ahead	U	1:1	N/A	C1:B		1	36	-	358	1915	787	45.5%
6/1	Commercial Street Left	O	N/A	N/A	-		-	-	-	504	Inf	660	76.4%
10/1	Bridge Street Ahead Left	O	N/A	N/A	-		-	-	-	685	Inf	819	83.7%
12/1	St Johns Street Ahead	O	N/A	N/A	-		-	-	-	71	Inf	920	7.7%
J2: A5123 Victoria Promenade/Victoria Gardens	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**93.3%**
1/1	Victoria Gardens Left Ahead	U	2:1	N/A	C2:D		1	10	-	214	1962	240	89.2%
1/2	Victoria Gardens Right	U	2:1	N/A	C2:D		1	10	-	186	1814	222	83.9%
2/1	A5123 Victoria Promenade Ahead Left	U	2:1	N/A	C2:A		1	41	-	834	1915	894	93.3%
2/2	A5123 Victoria Promenade Ahead	U	2:1	N/A	C2:A		1	41	-	833	1915	894	93.2%
5/1	Ahead	U	2:1	N/A	C2:B		1	70	-	215	1965	1550	13.9%

5/2	Ahead	U	2:1	N/A	C2:B		1	70	-	311	1965	1550	20.1%
5/3	Right	U	2:1	N/A	C2:C		1	21	-	358	1786	437	82.0%

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: Plough Gyratory	**-**	**-**	**1260**	**0**	**0**	**27.6**	**27.7**	**0.0**	**55.3**	**-**	**-**	**-**	**-**
J1: A5123 St Peter's Way/A508 Bridge Street	**-**	**-**	**1260**	**0**	**0**	**10.4**	**8.1**	**0.0**	**18.5**	**-**	**-**	**-**	**-**
1/1	524	524	-	-	-	2.0	0.9	-	2.9	19.9	11.0	0.9	11.9
1/2	589	589	-	-	-	0.6	1.3	-	1.9	11.8	11.0	1.3	12.4
3/1	471	471	-	-	-	2.3	0.6	-	2.9	22.5	8.5	0.6	9.1
3/2	317	317	-	-	-	1.4	0.3	-	1.7	19.2	5.1	0.3	5.4
3/3	311	311	-	-	-	1.4	0.3	-	1.7	19.1	5.0	0.3	5.3
4/1	252	252	-	-	-	0.0	0.0	-	0.0	0.7	0.0	0.0	0.0
5/2+5/1	150	150	-	-	-	0.7	0.1	-	0.8	19.5	2.1	0.1	2.2
5/3	358	358	-	-	-	1.9	0.4	-	2.3	23.4	6.5	0.4	6.9
6/1	504	504	504	0	0	0.0	1.6	-	1.6	11.4	1.8	1.6	3.4
10/1	685	685	685	0	0	0.0	2.5	-	2.5	13.2	3.8	2.5	6.3
12/1	71	71	71	0	0	0.0	0.0	-	0.0	2.1	0.0	0.0	0.0
J2: A5123 Victoria Promenade/Victoria Gardens	**-**	**-**	**0**	**0**	**0**	**17.2**	**19.6**	**0.0**	**36.8**	**-**	**-**	**-**	**-**
1/1	214	214	-	-	-	2.3	3.3	-	5.6	94.4	5.2	3.3	8.5
1/2	186	186	-	-	-	2.0	2.3	-	4.3	83.1	4.5	2.3	6.9
2/1	834	834	-	-	-	5.3	5.8	-	11.1	47.9	19.7	5.8	25.5
2/2	833	833	-	-	-	5.2	5.8	-	11.0	47.6	19.4	5.8	25.2
5/1	215	215	-	-	-	0.1	0.1	-	0.2	3.2	0.9	0.1	1.0
5/2	311	311	-	-	-	0.0	0.1	-	0.1	1.6	0.1	0.1	0.2
5/3	358	358	-	-	-	2.3	2.2	-	4.5	45.0	7.1	2.2	9.2

C1 Stream: 1 PRC for Signalled Lanes (%): 23.4 Total Delay for Signalled Lanes (pcuHr): 14.26 Cycle Time (s): 90

C2 Stream: 1 PRC for Signalled Lanes (%): -3.7 Total Delay for Signalled Lanes (pcuHr): 36.82 Cycle Time (s): 90

PRC Over All Lanes (%): -3.7 Total Delay Over All Lanes(pcuHr): 55.27

APPENDIX R

A45 WOOTTON INTERCHANGE ARCADY MODEL

Junctions 8

ARCADY 8 - Roundabout Module

Version: 8.0.4.487 [15039,24/03/2014]
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Filename: 180228 2031 Wootton Interchange v2.arc8
Path: C:\Users\ADCteam\Dropbox\~ JN8 TEMP
Report generation date: 28/02/2018 17:16:32

» (Default Analysis Set) - 2031 D1, AM
» (Default Analysis Set) - 2031 D1, PM
» (Default Analysis Set) - 2031 J1d, AM
» (Default Analysis Set) - 2031 J1d, PM

Summary of junction performance

	AM				PM			
	Queue (PCU)	Delay (s)	RFC	LOS	Queue (PCU)	Delay (s)	RFC	LOS
	A1 - 2031 D1							
Junction 1 - Arm 1	4.81	18.13	0.83	C	83.41	259.10	1.08	F
Junction 1 - Arm 2	27.77	93.22	1.02	F	1.11	6.54	0.51	A
Junction 1 - Arm 3	0.00	0.00	0.00	A	0.00	0.00	0.00	A
Junction 1 - Arm 4	30.51	146.64	1.05	F	53.01	179.46	1.09	F
Junction 2 - Arm 1	0.35	6.18	0.25	A	1.88	13.68	0.60	B
Junction 2 - Arm 2	6.86	34.46	0.89	D	23.71	127.92	1.04	F
Junction 2 - Arm 3	97.03	239.02	1.11	F	12.48	38.47	0.94	E
Junction 2 - Arm 4	16.40	138.71	1.02	F	155.05	1073.99	1.58	F
	A1 - 2031 J1d							
Junction 1 - Arm 1	3.32	13.25	0.77	B	93.66	304.84	1.09	F
Junction 1 - Arm 2	22.67	76.76	1.00	F	1.69	8.36	0.62	A
Junction 1 - Arm 3	0.00	0.00	0.00	A	0.00	0.00	0.00	A
Junction 1 - Arm 4	79.47	367.18	1.22	F	140.58	542.23	1.30	F
Junction 2 - Arm 1	0.30	5.82	0.22	A	2.02	14.35	0.60	B
Junction 2 - Arm 2	4.60	23.64	0.83	C	20.93	115.50	1.02	F
Junction 2 - Arm 3	130.11	324.43	1.14	F	17.13	51.00	0.96	F
Junction 2 - Arm 4	16.46	135.56	1.01	F	188.14	1365.62	1.69	F

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

"D1 - 2031 D1, AM " model duration: 07:45 - 09:15
"D2 - 2031 D1, PM" model duration: 16:45 - 18:15
"D3 - 2031 J1d, AM" model duration: 07:45 - 09:15
"D4 - 2031 J1d, PM" model duration: 16:45 - 18:15

Run using Junctions 8.0.4.487 at 28/02/2018 17:16:23

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 D1, AM

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	Relationship
2031 D1, AM	2031 D1	AM		Varies by Arm	07:45	09:15	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				79.59	F
2	2	(untitled)	Roundabout	1,2,3,4				155.35	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	✓	944.00	100.000
1	3	ONE HOUR	✓	0.00	100.000
1	4	ONE HOUR	✓	656.00	100.000
2	1	ONE HOUR	✓	189.00	100.000
2	2	ONE HOUR	✓	695.00	100.000
2	3	Linked Arm		N/A	
2	4	ONE HOUR	✓	391.00	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	357.000	560.000	0.000
	2	944.000	0.000	0.000	0.000
	3	0.000	0.000	0.000	0.000
	4	477.000	141.000	38.000	0.000

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

		To			
		1	2	3	4
From	1	0.00	0.39	0.61	0.00
	2	1.00	0.00	0.00	0.00
	3	0.25	0.25	0.25	0.25
	4	0.73	0.21	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	189.000	0.000
	2	172.000	0.000	440.000	83.000
	3	889.000	464.000	0.000	68.000
	4	0.000	93.000	298.000	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	0.25	0.00	0.63	0.12
	3	0.63	0.33	0.00	0.05
	4	0.00	0.24	0.76	0.00

Vehicle Mix

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

		To			
		1	2	3	4
From	1	1.000	1.028	1.032	1.000
	2	1.012	1.000	1.000	1.000
	3	1.000	1.000	1.000	1.000
	4	1.287	1.134	1.050	1.000

Heavy Vehicle Percentages - Junction 1 (for whole period)

		To			
		1	2	3	4
From	1	0.0	2.8	3.2	0.0
	2	1.2	0.0	0.0	0.0
	3	0.0	0.0	0.0	0.0
	4	28.7	13.4	5.0	0.0

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

		To			
		1	2	3	4
From	1	1.000	1.445	1.063	1.000
	2	1.064	1.000	1.005	1.048
	3	1.164	1.002	1.000	1.029
	4	1.000	1.172	1.036	1.000

Heavy Vehicle Percentages - Junction 2 (for whole period)

		To			
		1	2	3	4
From	1	0.0	44.5	6.3	0.0
	2	6.4	0.0	0.5	4.8
	3	16.4	0.2	0.0	2.9
	4	0.0	17.2	3.6	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	0.83	18.13	4.81	C	848.68	1273.01	245.24	11.56	2.72	245.29	11.56
1	2	1.02	93.22	27.77	F	866.23	1299.35	785.58	36.28	8.73	785.67	36.28
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	1.05	146.64	30.51	F	601.96	902.94	924.49	61.43	10.27	924.60	61.44
2	1	0.25	6.18	0.35	A	173.43	260.14	24.22	5.59	0.27	24.22	5.59
2	2	0.89	34.46	6.86	D	637.74	956.62	285.57	17.91	3.17	285.63	17.91
2	3	1.11	239.02	97.03	F	1301.88	1952.82	3732.07	114.67	41.47	3746.93	115.12
2	4	1.02	138.71	16.40	F	358.79	538.18	567.43	63.26	6.30	567.85	63.31

Main Results for each time segment

Main results: (07:45-08:00)

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	691.08	172.77	685.89	1058.50	132.97	0.00	1230.03	953.88	0.562	0.00	1.30	6.755	A
1	2	710.69	177.67	704.16	371.77	447.09	0.00	1140.43	890.58	0.623	0.00	1.63	8.234	A
1	3	0.00	0.00	0.00	447.09	704.16	0.00	1157.86	1035.30	0.000	0.00	0.00	0.000	A
1	4	493.87	123.47	487.32	0.00	704.16	0.00	854.60	305.19	0.578	0.00	1.64	11.905	B
2	1	142.29	35.57	141.55	782.35	631.91	0.00	951.71	807.57	0.150	0.00	0.19	4.720	A
2	2	523.23	130.81	518.27	410.49	362.97	0.00	946.20	535.22	0.553	0.00	1.24	8.520	A
2	3	1058.50	264.63	1045.50	691.08	190.16	0.00	1399.07	1395.27	0.757	0.00	3.25	10.827	B
2	4	294.37	73.59	290.52	111.93	1123.74	0.00	612.91	424.29	0.480	0.00	0.96	11.764	B

Main results: (08:00-08:15)

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	826.39	206.60	823.08	1264.91	158.82	0.00	1214.77	953.88	0.680	1.30	2.13	9.390	A
1	2	848.64	212.16	841.68	445.54	536.36	0.00	1086.28	890.58	0.781	1.63	3.37	14.488	B
1	3	0.00	0.00	0.00	536.36	841.68	0.00	1067.45	1035.30	0.000	0.00	0.00	0.000	A
1	4	589.73	147.43	582.06	0.00	841.68	0.00	776.14	305.19	0.760	1.64	3.56	22.070	C
2	1	169.91	42.48	169.64	930.05	750.97	0.00	882.51	807.57	0.193	0.19	0.25	5.367	A
2	2	624.79	156.20	621.11	487.44	433.17	0.00	908.63	535.22	0.688	1.24	2.16	12.658	B
2	3	1264.91	316.23	1240.92	826.39	227.89	0.00	1376.03	1395.27	0.919	3.25	9.25	25.595	D
2	4	351.50	87.88	345.77	133.56	1335.25	0.00	494.60	424.29	0.711	0.96	2.39	24.870	C

Main results: (08:15-08:30)

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	985.18	246.29	976.54	1463.02	180.73	0.00	1201.84	953.88	0.820	2.13	4.28	15.866	C
1	2	1039.36	259.84	981.41	522.54	634.73	0.00	1026.62	890.58	1.012	3.37	17.86	51.818	F
1	3	0.00	0.00	0.00	634.73	981.41	0.00	975.59	1035.30	0.000	0.00	0.00	0.000	A
1	4	722.27	180.57	662.34	0.00	981.41	0.00	696.41	305.19	1.037	3.56	18.54	78.303	F
2	1	208.09	52.02	207.70	1017.01	831.47	0.00	835.71	807.57	0.249	0.25	0.35	6.089	A
2	2	765.21	191.30	749.56	528.53	510.64	0.00	867.17	535.22	0.882	2.16	6.07	28.187	D
2	3	1463.02	365.75	1329.10	985.18	275.02	0.00	1347.26	1395.27	1.086	9.25	42.73	82.372	F
2	4	430.50	107.62	397.48	153.12	1451.00	0.00	429.86	424.29	1.001	2.39	10.65	79.993	F

Main results: (08:30-08:45)

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	1001.09	250.27	998.98	1490.12	184.02	0.00	1199.90	953.88	0.834	4.28	4.81	18.128	C
1	2	1039.36	259.84	999.74	533.87	649.13	0.00	1017.89	890.58	1.021	17.86	27.77	93.219	F
1	3	0.00	0.00	0.00	649.13	999.74	0.00	963.53	1035.30	0.000	0.00	0.00	0.000	A
1	4	722.27	180.57	674.39	0.00	999.74	0.00	685.95	305.19	1.053	18.54	30.51	146.644	F
2	1	208.09	52.02	208.07	1027.55	845.37	0.00	827.63	807.57	0.251	0.35	0.35	6.176	A
2	2	765.21	191.30	762.06	534.80	518.64	0.00	862.89	535.22	0.887	6.07	6.86	34.460	D
2	3	1490.12	372.53	1341.01	1001.09	279.61	0.00	1344.46	1395.27	1.108	42.73	80.00	173.233	F
2	4	430.50	107.62	407.49	155.18	1465.43	0.00	421.78	424.29	1.021	10.65	16.40	138.706	F

Main results: (08:45-09:00)

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	873.49	218.37	881.21	1436.41	185.76	0.00	1198.87	953.88	0.729	4.81	2.89	11.950	B
1	2	848.64	212.16	941.40	489.39	577.58	0.00	1061.28	890.58	0.800	27.77	4.58	43.211	E
1	3	0.00	0.00	0.00	577.58	941.40	0.00	1001.89	1035.30	0.000	0.00	0.00	0.000	A
1	4	589.73	147.43	680.78	0.00	941.40	0.00	719.24	305.19	0.820	30.51	7.75	104.483	F
2	1	169.91	42.48	170.23	1014.94	836.15	0.00	832.99	807.57	0.204	0.35	0.27	5.776	A
2	2	624.79	156.20	642.12	539.40	466.97	0.00	890.54	535.22	0.702	6.86	2.53	15.764	C
2	3	1436.41	359.10	1368.30	873.49	235.60	0.00	1371.33	1395.27	1.047	80.00	97.03	239.020	F
2	4	351.50	87.88	389.35	142.16	1461.74	0.00	423.85	424.29	0.829	16.40	6.94	108.928	F

Main results: (09:00-09:15)

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	714.81	178.70	720.47	1098.32	141.25	0.00	1225.14	953.88	0.583	2.89	1.47	7.429	A
1	2	710.69	177.67	721.91	391.75	469.97	0.00	1126.55	890.58	0.631	4.58	1.77	9.241	A
1	3	0.00	0.00	0.00	469.97	721.91	0.00	1146.19	1035.30	0.000	0.00	0.00	0.000	A
1	4	493.87	123.47	517.66	0.00	721.91	0.00	844.47	305.19	0.585	7.75	1.80	14.528	B
2	1	142.29	35.57	142.56	994.80	763.23	0.00	875.38	807.57	0.163	0.27	0.21	5.223	A
2	2	523.23	130.81	528.05	525.27	380.51	0.00	936.81	535.22	0.559	2.53	1.32	9.123	A
2	3	1098.32	274.58	1381.23	714.81	193.75	0.00	1396.88	1395.27	0.786	97.03	26.30	164.470	F
2	4	294.37	73.59	312.21	129.16	1445.82	0.00	432.75	424.29	0.680	6.94	2.48	35.386	E

Queueing Delay Results for each time segment

Queueing Delay results: (07:45-08:00)

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	18.51	1.23	6.755	A	A
1	2	22.96	1.53	8.234	A	A
1	3	0.00	0.00	0.000	A	A
1	4	22.74	1.52	11.905	B	B
2	1	2.72	0.18	4.720	A	A
2	2	17.53	1.17	8.520	A	A
2	3	44.05	2.94	10.827	B	B
2	4	13.45	0.90	11.764	B	B

Queueing Delay results: (08:00-08:15)

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	30.12	2.01	9.390	A	A
1	2	45.79	3.05	14.488	B	B
1	3	0.00	0.00	0.000	A	A
1	4	47.33	3.16	22.070	C	C
2	1	3.70	0.25	5.367	A	A
2	2	30.19	2.01	12.658	B	B
2	3	112.07	7.47	25.595	D	C
2	4	31.73	2.12	24.870	C	C

Queueing Delay results: (08:15-08:30)

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	57.42	3.83	15.866	C	B
1	2	179.29	11.95	51.818	F	D
1	3	0.00	0.00	0.000	A	A
1	4	182.05	12.14	78.303	F	E
2	1	5.12	0.34	6.089	A	A
2	2	74.98	5.00	28.187	D	C
2	3	401.25	26.75	82.372	F	F
2	4	109.74	7.32	79.993	F	E

Queueing Delay results: (08:30-08:45)

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	69.38	4.63	18.128	C	B
1	2	345.12	23.01	93.219	F	F
1	3	0.00	0.00	0.000	A	A
1	4	370.19	24.68	146.644	F	F
2	1	5.30	0.35	6.176	A	A
2	2	98.04	6.54	34.460	D	C
2	3	921.63	61.44	173.233	F	F
2	4	204.93	13.66	138.706	F	F

Queueing Delay results: (08:45-09:00)

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	46.62	3.11	11.950	B	B
1	2	163.47	10.90	43.211	E	D
1	3	0.00	0.00	0.000	A	A
1	4	269.13	17.94	104.483	F	F
2	1	4.21	0.28	5.776	A	A
2	2	43.85	2.92	15.764	C	B
2	3	1328.07	88.54	239.020	F	F
2	4	160.70	10.71	108.928	F	F

Queueing Delay results: (09:00-09:15)

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	23.20	1.55	7.429	A	A
1	2	28.95	1.93	9.241	A	A
1	3	0.00	0.00	0.000	A	A
1	4	33.05	2.20	14.528	B	B
2	1	3.18	0.21	5.223	A	A
2	2	20.97	1.40	9.123	A	A
2	3	925.01	61.67	164.470	F	F
2	4	46.87	3.12	35.386	E	D

(Default Analysis Set) - 2031 D1, 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	Relationship
2031 D1, PM	2031 D1	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				181.12	F
2	2	(untitled)	Roundabout	1,2,3,4				276.49	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	✓	896.00	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	274.000	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	0.69	0.31	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	1.08	259.10	83.41	F	1170.10	1755.15	4065.75	138.99	45.18	4243.27	145.06
1	2	0.51	6.54	1.11	A	514.78	772.18	72.63	5.64	0.81	72.64	5.64
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	1.09	179.46	53.01	F	822.19	1233.28	1608.50	78.25	17.87	1608.67	78.26
2	1	0.60	13.68	1.88	B	418.43	627.65	119.73	11.45	1.33	119.77	11.45
2	2	1.04	127.92	23.71	F	552.41	828.61	763.60	55.29	8.48	763.93	55.32
2	3	0.94	38.47	12.48	E	1084.02	1626.03	564.44	20.83	6.27	564.57	20.83
2	4	1.58	1073.99	155.05	F	564.33	846.50	6501.70	460.84	72.24	7185.31	509.29

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	1008.82	252.20	986.44	882.20	203.54	0.00	1188.38	997.06	0.849	0.00	5.59	18.751	C
1	2	422.35	105.59	420.15	889.19	300.79	0.00	1229.16	1090.11	0.344	0.00	0.55	4.700	A
1	3	0.00	0.00	0.00	300.79	420.15	0.00	1344.58	904.12	0.000	0.00	0.00	0.000	A
1	4	674.56	168.64	665.59	0.00	420.15	0.00	1016.65	247.48	0.664	0.00	2.24	11.841	B
2	1	343.30	85.83	340.12	758.97	725.48	0.00	897.32	842.96	0.383	0.00	0.80	8.372	A
2	2	453.22	113.30	446.65	281.59	784.01	0.00	720.88	486.75	0.629	0.00	1.64	12.948	B
2	3	882.20	220.55	874.34	1008.82	221.84	0.00	1379.72	1367.57	0.639	0.00	1.97	7.973	A
2	4	463.00	115.75	453.47	65.21	1030.97	0.00	664.80	386.73	0.696	0.00	2.38	18.186	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	1177.64	294.41	1118.02	1054.79	242.85	0.00	1165.19	997.06	1.011	5.59	20.50	54.767	F
1	2	504.33	126.08	503.51	1019.96	340.91	0.00	1204.83	1090.11	0.419	0.55	0.75	5.429	A
1	3	0.00	0.00	0.00	340.91	503.51	0.00	1289.78	904.12	0.000	0.00	0.00	0.000	A
1	4	805.49	201.37	794.13	0.00	503.51	0.00	969.09	247.48	0.831	2.24	5.08	22.929	C
2	1	409.93	102.48	408.16	907.13	839.51	0.00	831.04	842.96	0.493	0.80	1.24	11.045	B
2	2	541.19	135.30	531.19	337.39	910.28	0.00	653.31	486.75	0.828	1.64	4.14	27.684	D
2	3	1054.79	263.70	1047.59	1177.64	263.83	0.00	1354.09	1367.57	0.779	1.97	3.77	13.034	B
2	4	552.87	138.22	512.96	77.74	1233.68	0.00	551.42	386.73	1.003	2.38	12.36	71.321	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	1244.67	311.17	1139.30	1229.00	269.91	0.00	1149.21	997.06	1.083	20.50	46.84	118.808	F
1	2	617.67	154.42	616.27	1061.82	347.40	0.00	1200.89	1090.11	0.514	0.75	1.11	6.505	A
1	3	0.00	0.00	0.00	347.40	616.27	0.00	1215.64	904.12	0.000	0.00	0.00	0.000	A
1	4	986.51	246.63	882.64	0.00	616.27	0.00	904.75	247.48	1.090	5.08	31.05	89.299	F
2	1	502.07	125.52	499.54	1040.83	824.65	0.00	839.67	842.96	0.598	1.24	1.87	13.684	B
2	2	662.81	165.70	612.78	387.95	936.24	0.00	639.41	486.75	1.037	4.14	16.65	78.077	F
2	3	1229.00	307.25	1204.57	1244.67	304.36	0.00	1329.35	1367.57	0.925	3.77	9.87	28.269	D
2	4	677.13	169.28	446.14	89.59	1419.34	0.00	447.56	386.73	1.513	12.36	70.11	356.167	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	1240.46	310.12	1142.47	1241.49	274.82	0.00	1146.32	997.06	1.082	46.84	71.34	196.135	F
1	2	617.67	154.42	617.64	1068.92	348.36	0.00	1200.31	1090.11	0.515	1.11	1.11	6.542	A
1	3	0.00	0.00	0.00	348.36	617.64	0.00	1214.74	904.12	0.000	0.00	0.00	0.000	A
1	4	986.51	246.63	898.67	0.00	617.64	0.00	903.97	247.48	1.091	31.05	53.01	179.457	F
2	1	502.07	125.52	502.02	1066.44	815.53	0.00	844.98	842.96	0.594	1.87	1.88	13.667	B
2	2	662.81	165.70	634.58	396.48	921.07	0.00	647.53	486.75	1.024	16.65	23.71	127.916	F
2	3	1241.49	310.37	1231.07	1240.46	315.18	0.00	1322.74	1367.57	0.939	9.87	12.48	38.475	E
2	4	677.13	169.28	428.10	92.37	1453.88	0.00	428.25	386.73	1.581	70.11	132.36	830.301	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	1174.99	293.75	1133.52	1162.91	289.51	0.00	1137.65	997.06	1.033	71.34	81.71	249.415	F
1	2	504.33	126.08	505.69	1077.40	345.64	0.00	1201.96	1090.11	0.420	1.11	0.77	5.487	A
1	3	0.00	0.00	0.00	345.64	505.69	0.00	1288.34	904.12	0.000	0.00	0.00	0.000	A
1	4	805.49	201.37	946.73	0.00	505.69	0.00	967.84	247.48	0.832	53.01	17.70	140.028	F
2	1	409.93	102.48	412.34	1024.01	831.14	0.00	835.91	842.96	0.490	1.88	1.28	11.139	B
2	2	541.19	135.30	616.48	378.77	864.71	0.00	677.70	486.75	0.799	23.71	4.88	73.459	F
2	3	1162.91	290.73	1176.07	1174.99	306.19	0.00	1328.23	1367.57	0.876	12.48	9.19	28.874	D
2	4	552.87	138.22	462.14	89.25	1393.01	0.00	462.29	386.73	1.196	132.36	155.05	1073.991	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	1174.01	293.50	1167.20	933.72	224.93	0.00	1175.76	997.07	0.999	81.71	83.41	259.104	F
1	2	422.35	105.59	423.11	1036.23	355.91	0.00	1195.73	1090.11	0.353	0.77	0.58	4.938	A
1	3	0.00	0.00	0.00	355.91	423.11	0.00	1342.63	904.12	0.000	0.00	0.00	0.000	A
1	4	674.56	168.64	735.54	0.00	423.11	0.00	1014.96	247.48	0.665	17.70	2.45	18.427	C
2	1	343.30	85.83	344.37	824.77	906.41	0.00	792.15	842.96	0.433	1.28	1.02	10.501	B
2	2	453.22	113.30	462.12	309.36	941.42	0.00	636.64	486.75	0.712	4.88	2.66	21.733	C
2	3	933.72	233.43	960.55	1174.01	229.52	0.00	1375.03	1367.57	0.679	9.19	2.48	10.467	B
2	4	463.00	115.75	609.94	68.84	1121.23	0.00	614.31	386.73	0.754	155.05	118.31	807.915	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	70.14	4.68	18.751	C	B
1	2	8.01	0.53	4.700	A	A
1	3	0.00	0.00	0.000	A	A
1	4	30.76	2.05	11.841	B	B
2	1	11.37	0.76	8.372	A	A
2	2	22.54	1.50	12.948	B	B
2	3	27.61	1.84	7.973	A	A
2	4	31.59	2.11	18.186	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	213.04	14.20	54.767	F	D
1	2	11.04	0.74	5.429	A	A
1	3	0.00	0.00	0.000	A	A
1	4	65.98	4.40	22.929	C	C
2	1	17.74	1.18	11.045	B	B
2	2	52.82	3.52	27.684	D	C
2	3	51.59	3.44	13.034	B	B
2	4	125.89	8.39	71.321	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	508.82	33.92	118.808	F	F
1	2	16.04	1.07	6.505	A	A
1	3	0.00	0.00	0.000	A	A
1	4	285.57	19.04	89.299	F	F
2	1	26.49	1.77	13.684	B	B
2	2	167.40	11.16	78.077	F	E
2	3	119.29	7.95	28.269	D	C
2	4	619.79	41.32	356.167	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	887.20	59.15	196.135	F	F
1	2	16.66	1.11	6.542	A	A
1	3	0.00	0.00	0.000	A	A
1	4	631.83	42.12	179.457	F	F
2	1	28.17	1.88	13.667	B	B
2	2	304.32	20.29	127.916	F	F
2	3	170.76	11.38	38.475	E	D
2	4	1518.60	101.24	830.301	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	1148.12	76.54	249.415	F	F
1	2	11.93	0.80	5.487	A	A
1	3	0.00	0.00	0.000	A	A
1	4	530.31	35.35	140.028	F	F
2	1	20.18	1.35	11.139	B	B
2	2	172.51	11.50	73.459	F	E
2	3	151.41	10.09	28.874	D	C
2	4	2155.61	143.71	1073.991	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	1238.43	82.56	259.104	F	F
1	2	8.95	0.60	4.938	A	A
1	3	0.00	0.00	0.000	A	A
1	4	64.06	4.27	18.427	C	B
2	1	15.77	1.05	10.501	B	B
2	2	44.00	2.93	21.733	C	C
2	3	43.79	2.92	10.467	B	B
2	4	2050.22	136.68	807.915	F	F

(Default Analysis Set) - 2031 J1d, AM

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	Relationship
2031 J1d, AM	2031 J1d	AM		Varies by Arm	07:45	09:15	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				139.09	F
2	2	(untitled)	Roundabout	1,2,3,4				204.43	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	✓	966.00	100.000
1	3	ONE HOUR	✓	0.00	100.000
1	4	ONE HOUR	✓	738.00	100.000
2	1	ONE HOUR	✓	167.00	100.000
2	2	ONE HOUR	✓	668.00	100.000
2	3	Linked Arm		N/A	
2	4	ONE HOUR	✓	404.00	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	355.000	506.000	0.000
	2	966.000	0.000	0.000	0.000
	3	0.000	0.000	0.000	0.000
	4	552.000	155.000	31.000	0.000

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

		To			
		1	2	3	4
From	1	0.00	0.41	0.59	0.00
	2	1.00	0.00	0.00	0.00
	3	0.25	0.25	0.25	0.25
	4	0.75	0.21	0.04	0.00

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

		To			
		1	2	3	4
From	1	0.000	0.000	167.000	0.000
	2	172.000	0.000	418.000	78.000
	3	932.000	474.000	0.000	112.000
	4	0.000	128.000	276.000	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	0.26	0.00	0.63	0.12
	3	0.61	0.31	0.00	0.07
	4	0.00	0.32	0.68	0.00

Vehicle Mix

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

		To			
		1	2	3	4
From	1	1.000	1.031	1.028	1.000
	2	1.011	1.000	1.000	1.000
	3	1.000	1.000	1.000	1.000
	4	1.295	1.077	1.000	1.000

Heavy Vehicle Percentages - Junction 1 (for whole period)

		To			
		1	2	3	4
From	1	0.0	3.1	2.8	0.0
	2	1.1	0.0	0.0	0.0
	3	0.0	0.0	0.0	0.0
	4	29.5	7.7	0.0	0.0

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

		To			
		1	2	3	4
From	1	1.000	1.000	1.042	1.000
	2	1.047	1.000	1.017	1.013
	3	1.174	1.006	1.000	1.080
	4	1.000	1.133	1.033	1.000

Heavy Vehicle Percentages - Junction 2 (for whole period)

		To			
		1	2	3	4
From	1	0.0	0.0	4.2	0.0
	2	4.7	0.0	1.7	1.3
	3	17.4	0.6	0.0	8.0
	4	0.0	13.3	3.3	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	0.77	13.25	3.32	B	788.37	1182.56	187.21	9.50	2.08	187.26	9.50
1	2	1.00	76.76	22.67	F	886.42	1329.63	667.96	30.14	7.42	668.04	30.15
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	1.22	367.18	79.47	F	677.20	1015.80	3032.93	179.14	33.70	3033.38	179.17
2	1	0.22	5.82	0.30	A	153.24	229.86	20.36	5.31	0.23	20.36	5.31
2	2	0.83	23.64	4.60	C	612.97	919.45	215.60	14.07	2.40	215.64	14.07
2	3	1.14	324.43	130.11	F	1390.00	2085.00	5671.45	163.21	63.02	5979.03	172.06
2	4	1.01	135.56	16.46	F	370.72	556.08	576.95	62.25	6.41	577.34	62.29

Main Results for each time segment

Main results: (07:45-08:00)

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	641.86	160.46	637.41	1129.62	137.76	0.00	1227.20	961.25	0.523	0.00	1.11	6.237	A
1	2	727.26	181.81	720.77	377.61	397.56	0.00	1170.47	905.84	0.621	0.00	1.62	7.983	A
1	3	0.00	0.00	0.00	397.56	720.77	0.00	1146.94	1025.27	0.000	0.00	0.00	0.000	A
1	4	555.61	138.90	546.61	0.00	720.77	0.00	845.12	300.78	0.657	0.00	2.25	14.407	B
2	1	125.73	31.43	125.09	811.42	647.20	0.00	942.82	809.42	0.133	0.00	0.16	4.587	A
2	2	502.91	125.73	498.52	442.38	329.91	0.00	963.89	545.51	0.522	0.00	1.10	7.849	A
2	3	1129.62	282.41	1112.53	641.86	186.57	0.00	1401.26	1390.52	0.806	0.00	4.27	13.147	B
2	4	304.15	76.04	299.81	140.29	1158.81	0.00	593.29	442.51	0.513	0.00	1.09	12.856	B

Main results: (08:00-08:15)

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	767.10	191.78	764.62	1346.09	163.14	0.00	1212.22	961.25	0.633	1.11	1.73	8.231	A
1	2	868.41	217.10	861.92	451.22	476.55	0.00	1122.56	905.84	0.774	1.62	3.24	13.626	B
1	3	0.00	0.00	0.00	476.55	861.92	0.00	1054.14	1025.27	0.000	0.00	0.00	0.000	A
1	4	663.45	165.86	647.31	0.00	861.92	0.00	764.59	300.78	0.868	2.25	6.28	33.796	D
2	1	150.13	37.53	149.91	952.38	762.08	0.00	876.05	809.42	0.171	0.16	0.21	5.164	A
2	2	600.52	150.13	597.68	518.88	393.11	0.00	930.07	545.51	0.646	1.10	1.81	10.996	B
2	3	1346.09	336.52	1300.54	767.10	223.68	0.00	1378.60	1390.52	0.976	4.27	15.66	37.863	E
2	4	363.19	90.80	355.98	165.74	1358.47	0.00	481.61	442.51	0.754	1.09	2.89	28.938	D

Main results: (08:15-08:30)

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	918.91	229.73	913.47	1513.72	168.39	0.00	1209.12	961.25	0.760	1.73	3.09	12.302	B
1	2	1063.59	265.90	1013.97	516.96	564.90	0.00	1068.97	905.84	0.995	3.24	15.65	45.649	E
1	3	0.00	0.00	0.00	564.90	1013.97	0.00	954.18	1025.27	0.000	0.00	0.00	0.000	A
1	4	812.55	203.14	668.14	0.00	1013.97	0.00	677.83	300.78	1.199	6.28	42.39	149.496	F
2	1	183.87	45.97	183.56	1009.78	830.26	0.00	836.41	809.42	0.220	0.21	0.29	5.743	A
2	2	735.48	183.87	725.64	548.98	464.84	0.00	891.68	545.51	0.825	1.81	4.27	21.039	C
2	3	1513.72	378.43	1340.36	918.91	271.57	0.00	1349.37	1390.52	1.122	15.66	59.00	111.512	F
2	4	444.81	111.20	411.73	183.62	1428.31	0.00	442.55	442.51	1.005	2.89	11.16	81.972	F

Main results: (08:30-08:45)

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	932.64	233.16	931.71	1532.31	167.41	0.00	1209.70	961.25	0.771	3.09	3.32	13.247	B
1	2	1063.59	265.90	1035.49	523.66	575.46	0.00	1062.57	905.84	1.001	15.65	22.67	76.763	F
1	3	0.00	0.00	0.00	575.46	1035.49	0.00	940.03	1025.27	0.000	0.00	0.00	0.000	A
1	4	812.55	203.14	664.23	0.00	1035.49	0.00	665.55	300.78	1.221	42.39	79.47	337.401	F
2	1	183.87	45.97	183.85	1015.22	843.78	0.00	828.56	809.42	0.222	0.29	0.30	5.818	A
2	2	735.48	183.87	734.16	554.39	473.24	0.00	887.18	545.51	0.829	4.27	4.60	23.636	C
2	3	1532.31	383.08	1345.65	932.64	274.76	0.00	1347.42	1390.52	1.137	59.00	105.67	227.343	F
2	4	444.81	111.20	423.60	185.01	1435.40	0.00	438.58	442.51	1.014	11.16	16.46	135.556	F

Main results: (08:45-09:00)

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	807.95	201.99	812.58	1471.95	178.33	0.00	1203.26	961.25	0.671	3.32	2.17	9.595	A
1	2	868.41	217.10	942.72	483.64	507.27	0.00	1103.93	905.84	0.787	22.67	4.10	30.258	D
1	3	0.00	0.00	0.00	507.27	942.72	0.00	1001.02	1025.27	0.000	0.00	0.00	0.000	A
1	4	663.45	165.86	707.55	0.00	942.72	0.00	718.48	300.78	0.923	79.47	68.44	367.176	F
2	1	150.13	37.53	150.39	1000.94	832.19	0.00	835.29	809.42	0.180	0.30	0.23	5.478	A
2	2	600.52	150.13	610.74	556.80	425.78	0.00	912.58	545.51	0.658	4.60	2.04	12.599	B
2	3	1471.95	367.99	1374.16	807.95	228.57	0.00	1375.62	1390.52	1.070	105.67	130.11	314.022	F
2	4	363.19	90.80	403.11	172.70	1430.03	0.00	441.58	442.51	0.822	16.46	6.48	101.417	F

Main results: (09:00-09:15)

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	661.76	165.44	665.15	1346.31	205.45	0.00	1187.25	961.25	0.557	2.17	1.32	7.144	A
1	2	727.26	181.81	736.57	445.46	425.15	0.00	1153.74	905.84	0.630	4.10	1.77	8.911	A
1	3	0.00	0.00	0.00	425.15	736.57	0.00	1136.55	1025.27	0.000	0.00	0.00	0.000	A
1	4	555.61	138.90	815.19	0.00	736.57	0.00	836.11	300.78	0.665	68.44	3.54	163.537	F
2	1	125.73	31.43	125.95	982.35	753.72	0.00	880.91	809.42	0.143	0.23	0.17	4.971	A
2	2	502.91	125.73	506.45	534.81	344.85	0.00	955.89	545.51	0.526	2.04	1.16	8.267	A
2	3	1346.31	336.58	1387.62	661.76	189.54	0.00	1399.44	1390.52	0.962	130.11	119.78	324.429	F
2	4	304.15	76.04	320.43	161.52	1415.64	0.00	449.63	442.51	0.676	6.48	2.41	32.527	D

Queueing Delay Results for each time segment

Queueing Delay results: (07:45-08:00)

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	15.94	1.06	6.237	A	A
1	2	22.81	1.52	7.983	A	A
1	3	0.00	0.00	0.000	A	A
1	4	30.52	2.03	14.407	B	B
2	1	2.33	0.16	4.587	A	A
2	2	15.59	1.04	7.849	A	A
2	3	56.30	3.75	13.147	B	B
2	4	15.10	1.01	12.856	B	B

Queueing Delay results: (08:00-08:15)

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	24.78	1.65	8.231	A	A
1	2	44.31	2.95	13.626	B	B
1	3	0.00	0.00	0.000	A	A
1	4	77.23	5.15	33.796	D	C
2	1	3.15	0.21	5.164	A	A
2	2	25.54	1.70	10.996	B	B
2	3	171.27	11.42	37.863	E	D
2	4	37.45	2.50	28.938	D	C

Queueing Delay results: (08:15-08:30)

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	42.75	2.85	12.302	B	B
1	2	162.35	10.82	45.649	E	D
1	3	0.00	0.00	0.000	A	A
1	4	372.95	24.86	149.496	F	F
2	1	4.28	0.29	5.743	A	A
2	2	55.68	3.71	21.039	C	C
2	3	565.61	37.71	111.512	F	F
2	4	116.12	7.74	81.972	F	F

Queueing Delay results: (08:30-08:45)

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	48.67	3.24	13.247	B	B
1	2	290.46	19.36	76.763	F	E
1	3	0.00	0.00	0.000	A	A
1	4	914.35	60.96	337.401	F	F
2	1	4.41	0.29	5.818	A	A
2	2	67.01	4.47	23.636	C	C
2	3	1235.56	82.37	227.343	F	F
2	4	209.03	13.94	135.556	F	F

Queueing Delay results: (08:45-09:00)

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	34.41	2.29	9.595	A	A
1	2	119.52	7.97	30.258	D	C
1	3	0.00	0.00	0.000	A	A
1	4	1109.28	73.95	367.176	F	F
2	1	3.52	0.23	5.478	A	A
2	2	33.56	2.24	12.599	B	B
2	3	1768.50	117.90	314.022	F	F
2	4	154.73	10.32	101.417	F	F

Queueing Delay results: (09:00-09:15)

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	20.66	1.38	7.144	A	A
1	2	28.50	1.90	8.911	A	A
1	3	0.00	0.00	0.000	A	A
1	4	528.61	35.24	163.537	F	F
2	1	2.67	0.18	4.971	A	A
2	2	18.22	1.21	8.267	A	A
2	3	1874.22	124.95	324.429	F	F
2	4	44.52	2.97	32.527	D	C

(Default Analysis Set) - 2031 J1d, 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	Relationship
2031 J1d, PM	2031 J1d	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				317.63	F
2	2	(untitled)	Roundabout	1,2,3,4				333.82	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	2.30				✓	✓

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	✓	990.00	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	273.000	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	0.65	0.28	0.08	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	1.09	304.84	93.66	F	1154.22	1731.33	4643.53	160.92	51.59	4868.59	168.72
1	2	0.62	8.36	1.69	A	612.05	918.08	103.60	6.77	1.15	103.61	6.77
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	1.30	542.23	140.58	F	908.44	1362.66	6245.73	275.01	69.40	6459.14	284.41
2	1	0.60	14.35	2.02	B	428.53	642.79	129.07	12.05	1.43	129.11	12.05
2	2	1.02	115.50	20.93	F	549.65	824.48	681.73	49.61	7.57	681.93	49.63
2	3	0.96	51.00	17.13	F	1163.89	1745.83	799.85	27.49	8.89	800.59	27.51
2	4	1.69	1365.62	188.14	F	568.01	852.01	8294.40	584.11	92.16	10197.77	718.15

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	1023.85	255.96	994.09	972.18	257.50	0.00	1156.54	991.34	0.885	0.00	7.44	23.778	C
1	2	502.15	125.54	499.24	915.99	335.60	0.00	1208.05	1094.40	0.416	0.00	0.73	5.237	A
1	3	0.00	0.00	0.00	335.60	499.24	0.00	1292.58	901.30	0.000	0.00	0.00	0.000	A
1	4	745.32	186.33	730.44	0.00	499.24	0.00	971.53	246.24	0.767	0.00	3.72	17.411	C
2	1	351.58	87.90	347.98	842.87	735.59	0.00	891.44	862.27	0.394	0.00	0.90	9.260	A
2	2	450.96	112.74	443.97	291.71	791.86	0.00	716.68	481.78	0.629	0.00	1.75	13.834	B
2	3	972.18	243.04	961.12	1023.85	211.98	0.00	1385.74	1374.72	0.702	0.00	2.77	10.113	B
2	4	466.02	116.50	452.65	47.29	1125.81	0.00	611.75	375.82	0.762	0.00	3.34	24.845	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	1164.30	291.08	1095.06	1148.97	299.79	0.00	1131.58	991.33	1.029	7.44	24.75	66.647	F
1	2	599.62	149.90	598.35	1021.65	373.19	0.00	1185.25	1094.40	0.506	0.73	1.05	6.334	A
1	3	0.00	0.00	0.00	373.19	598.35	0.00	1227.42	901.30	0.000	0.00	0.00	0.000	A
1	4	889.99	222.50	850.41	0.00	598.35	0.00	914.97	246.24	0.973	3.72	13.62	50.366	F
2	1	419.82	104.96	418.01	997.50	814.48	0.00	845.59	862.27	0.496	0.90	1.35	11.792	B
2	2	538.49	134.62	529.65	344.95	887.54	0.00	665.48	481.78	0.809	1.75	3.96	26.806	D
2	3	1148.97	287.24	1136.52	1164.30	252.89	0.00	1360.77	1374.72	0.844	2.77	5.88	18.620	C
2	4	556.47	139.12	478.81	56.24	1333.17	0.00	495.76	375.82	1.122	3.34	22.75	122.776	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	1242.33	310.58	1126.82	1272.68	294.43	0.00	1134.75	991.33	1.095	24.75	53.63	137.662	F
1	2	734.38	183.60	731.90	1040.30	380.96	0.00	1180.54	1094.40	0.622	1.05	1.66	8.258	A
1	3	0.00	0.00	0.00	380.96	731.90	0.00	1139.62	901.30	0.000	0.00	0.00	0.000	A
1	4	1090.01	272.50	835.22	0.00	731.90	0.00	838.77	246.24	1.300	13.62	77.31	209.891	F
2	1	514.18	128.54	511.56	1102.80	786.55	0.00	861.82	862.27	0.597	1.35	2.01	14.346	B
2	2	659.51	164.88	614.74	377.00	921.11	0.00	647.51	481.78	1.019	3.96	15.15	72.995	F
2	3	1272.68	318.17	1242.11	1242.33	293.51	0.00	1335.97	1374.72	0.953	5.88	13.52	37.415	E
2	4	681.53	170.38	417.64	63.92	1471.70	0.00	418.28	375.82	1.629	22.75	88.73	506.393	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	1241.27	310.32	1131.28	1276.20	295.05	0.00	1134.38	991.33	1.094	53.63	81.13	224.657	F
1	2	734.38	183.60	734.30	1043.98	382.35	0.00	1179.70	1094.40	0.623	1.66	1.69	8.362	A
1	3	0.00	0.00	0.00	382.35	734.30	0.00	1138.05	901.30	0.000	0.00	0.00	0.000	A
1	4	1090.01	272.50	836.95	0.00	734.30	0.00	837.41	246.24	1.302	77.31	140.58	465.088	F
2	1	514.18	128.54	514.12	1124.72	777.59	0.00	867.03	862.27	0.593	2.01	2.02	14.341	B
2	2	659.51	164.88	636.40	382.97	908.73	0.00	654.14	481.78	1.008	15.15	20.93	115.501	F
2	3	1276.20	319.05	1261.78	1241.27	303.86	0.00	1329.66	1374.72	0.960	13.52	17.13	51.003	F
2	4	681.53	170.38	402.42	65.75	1499.89	0.00	402.51	375.82	1.693	88.73	158.51	1057.525	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	1167.16	291.79	1117.05	1187.97	319.03	0.00	1120.23	991.33	1.042	81.13	93.66	290.075	F
1	2	599.62	149.90	602.02	1052.51	383.57	0.00	1178.96	1094.40	0.509	1.69	1.09	6.487	A
1	3	0.00	0.00	0.00	383.57	602.02	0.00	1225.01	901.30	0.000	0.00	0.00	0.000	A
1	4	889.99	222.50	904.98	0.00	602.02	0.00	912.88	246.24	0.975	140.58	136.83	542.233	F
2	1	419.82	104.96	422.36	1077.40	796.94	0.00	855.78	862.27	0.491	2.02	1.39	11.756	B
2	2	538.49	134.62	603.54	367.52	851.79	0.00	684.61	481.78	0.787	20.93	4.67	61.155	F
2	3	1187.97	296.99	1210.86	1167.16	288.17	0.00	1339.23	1374.72	0.887	17.13	11.41	37.702	E
2	4	556.47	139.12	437.92	62.60	1436.43	0.00	438.01	375.82	1.270	158.51	188.14	1365.623	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	1086.39	271.60	1096.23	1125.32	338.61	0.00	1108.68	991.34	0.980	93.66	91.20	304.845	F
1	2	502.15	125.54	503.40	1052.86	381.98	0.00	1179.92	1094.40	0.426	1.09	0.77	5.517	A
1	3	0.00	0.00	0.00	381.98	503.40	0.00	1289.85	901.30	0.000	0.00	0.00	0.000	A
1	4	745.32	186.33	960.53	0.00	503.40	0.00	969.15	246.24	0.769	136.83	83.03	413.873	F
2	1	351.58	87.90	352.92	977.34	840.84	0.00	830.27	862.27	0.423	1.39	1.05	10.640	B
2	2	450.96	112.74	461.05	348.28	845.48	0.00	687.99	481.78	0.655	4.67	2.14	17.702	C
2	3	1125.32	281.33	1147.49	1086.39	220.14	0.00	1380.77	1374.72	0.815	11.41	5.86	20.295	C
2	4	466.02	116.50	502.29	51.74	1315.89	0.00	505.43	375.82	0.922	188.14	179.07	1316.209	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	88.95	5.93	23.778	C	C
1	2	10.56	0.70	5.237	A	A
1	3	0.00	0.00	0.000	A	A
1	4	48.60	3.24	17.411	C	B
2	1	12.82	0.85	9.260	A	A
2	2	23.88	1.59	13.834	B	B
2	3	38.06	2.54	10.113	B	B
2	4	42.38	2.83	24.845	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	255.59	17.04	66.647	F	E
1	2	15.19	1.01	6.334	A	A
1	3	0.00	0.00	0.000	A	A
1	4	148.13	9.88	50.366	F	D
2	1	19.37	1.29	11.792	B	B
2	2	51.26	3.42	26.806	D	C
2	3	77.26	5.15	18.620	C	B
2	4	207.16	13.81	122.776	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	590.78	39.39	137.662	F	F
1	2	23.81	1.59	8.258	A	A
1	3	0.00	0.00	0.000	A	A
1	4	685.08	45.67	209.891	F	F
2	1	28.40	1.89	14.346	B	B
2	2	155.79	10.39	72.995	F	E
2	3	160.30	10.69	37.415	E	D
2	4	836.59	55.77	506.393	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	1011.36	67.42	224.657	F	F
1	2	25.17	1.68	8.362	A	A
1	3	0.00	0.00	0.000	A	A
1	4	1634.36	108.96	465.088	F	F
2	1	30.23	2.02	14.341	B	B
2	2	272.42	18.16	115.501	F	F
2	3	232.89	15.53	51.003	F	D
2	4	1854.27	123.62	1057.525	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	1311.11	87.41	290.075	F	F
1	2	16.92	1.13	6.487	A	A
1	3	0.00	0.00	0.000	A	A
1	4	2080.59	138.71	542.233	F	F
2	1	21.85	1.46	11.756	B	B
2	2	142.70	9.51	61.155	F	E
2	3	192.00	12.80	37.702	E	D
2	4	2599.87	173.32	1365.623	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	1385.75	92.38	304.845	F	F
1	2	11.95	0.80	5.517	A	A
1	3	0.00	0.00	0.000	A	A
1	4	1648.98	109.93	413.873	F	F
2	1	16.40	1.09	10.640	B	B
2	2	35.68	2.38	17.702	C	B
2	3	99.33	6.62	20.295	C	C
2	4	2754.12	183.61	1316.209	F	F

Junctions 8

ARCADY 8 - Roundabout Module

Version: 8.0.4.487 [15039,24/03/2014]
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Filename: 180228 2021 Wootton Interchange v2.arc8
Path: C:\Users\ADCteam\Dropbox\~ JN8 TEMP
Report generation date: 28/02/2018 17:11:02

» (Default Analysis Set) - 2021 C1, AM
» (Default Analysis Set) - 2021 C1, PM
» (Default Analysis Set) - 2021 I1, AM
» (Default Analysis Set) - 2021 I1, PM

Summary of junction performance

	AM				PM			
	Queue (PCU)	Delay (s)	RFC	LOS	Queue (PCU)	Delay (s)	RFC	LOS
	A1 - 2021 C1							
Junction 1 - Arm 1	8.60	29.89	0.91	D	145.49	384.52	1.16	F
Junction 1 - Arm 2	10.89	45.70	0.94	E	1.05	6.56	0.50	A
Junction 1 - Arm 3	0.00	0.00	0.00	A	0.00	0.00	0.00	A
Junction 1 - Arm 4	4.61	29.78	0.80	D	6.71	32.20	0.86	D
Junction 2 - Arm 1	0.69	8.15	0.40	A	2.39	16.34	0.65	C
Junction 2 - Arm 2	5.48	30.06	0.86	D	35.48	186.62	1.09	F
Junction 2 - Arm 3	15.95	44.81	0.96	E	5.94	19.39	0.85	C
Junction 2 - Arm 4	83.64	512.11	1.37	F	35.70	214.11	1.13	F
	A1 - 2021 I1							
Junction 1 - Arm 1	6.98	24.60	0.88	C	108.81	324.50	1.12	F
Junction 1 - Arm 2	8.40	35.35	0.91	E	1.02	6.44	0.49	A
Junction 1 - Arm 3	0.00	0.00	0.00	A	0.00	0.00	0.00	A
Junction 1 - Arm 4	5.64	35.30	0.83	E	11.19	50.52	0.92	F
Junction 2 - Arm 1	0.62	7.74	0.39	A	1.94	14.56	0.58	B
Junction 2 - Arm 2	5.90	31.10	0.87	D	20.99	118.08	1.02	F
Junction 2 - Arm 3	22.45	59.33	0.99	F	6.87	22.51	0.86	C
Junction 2 - Arm 4	94.04	614.20	1.43	F	66.53	377.93	1.28	F

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

"D1 - 2021 C1, AM " model duration: 07:45 - 09:15
"D2 - 2021 C1, PM" model duration: 16:45 - 18:15
"D3 - 2021 I1, AM" model duration: 07:45 - 09:15
"D4 - 2021 I1, PM" model duration: 16:45 - 18:15

Run using Junctions 8.0.4.487 at 28/02/2018 17:10:53

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) - 2021 C1, AM

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	Relationship
2021 C1, AM	2021 C1	AM		Varies by Arm	07:45	09:15	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				35.20	E
2	2	(untitled)	Roundabout	1,2,3,4				134.39	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	✓	832.00	100.000
1	3	ONE HOUR	✓	0.00	100.000
1	4	ONE HOUR	✓	534.00	100.000
2	1	ONE HOUR	✓	278.00	100.000
2	2	ONE HOUR	✓	628.00	100.000
2	3	Linked Arm		N/A	
2	4	ONE HOUR	✓	556.00	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	390.000	735.000	0.000
	2	832.000	0.000	0.000	0.000
	3	0.000	0.000	0.000	0.000
	4	391.000	143.000	0.000	0.000

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

		To			
		1	2	3	4
From	1	0.00	0.35	0.65	0.00
	2	1.00	0.00	0.00	0.00
	3	0.25	0.25	0.25	0.25
	4	0.73	0.27	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	278.000	0.000
	2	163.000	0.000	441.000	24.000
	3	676.000	475.000	0.000	72.000
	4	0.000	167.000	389.000	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	0.26	0.00	0.70	0.04
	3	0.55	0.39	0.00	0.06
	4	0.00	0.30	0.70	0.00

Vehicle Mix

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

		To			
		1	2	3	4
From	1	1.000	1.028	1.015	1.000
	2	1.001	1.000	1.000	1.000
	3	1.000	1.000	1.000	1.000
	4	1.355	1.126	1.050	1.000

Heavy Vehicle Percentages - Junction 1 (for whole period)

		To			
		1	2	3	4
From	1	0.0	2.8	1.5	0.0
	2	0.1	0.0	0.0	0.0
	3	0.0	0.0	0.0	0.0
	4	35.5	12.6	5.0	0.0

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

		To			
		1	2	3	4
From	1	1.000	1.000	1.032	1.000
	2	1.080	1.000	1.005	1.000
	3	1.189	1.006	1.000	1.153
	4	1.000	1.108	1.028	1.000

Heavy Vehicle Percentages - Junction 2 (for whole period)

		To			
		1	2	3	4
From	1	0.0	0.0	3.2	0.0
	2	8.0	0.0	0.5	0.0
	3	18.9	0.6	0.0	15.3
	4	0.0	10.8	2.8	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	0.91	29.89	8.60	D	1009.12	1513.68	468.23	18.56	5.20	468.77	18.58
1	2	0.94	45.70	10.89	E	763.46	1145.19	397.27	20.81	4.41	397.35	20.82
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	0.80	29.78	4.61	D	490.01	735.01	207.80	16.96	2.31	207.84	16.97
2	1	0.40	8.15	0.69	A	255.10	382.65	46.53	7.30	0.52	46.54	7.30
2	2	0.86	30.06	5.48	D	576.26	864.40	260.16	18.06	2.89	260.26	18.07
2	3	0.96	44.81	15.95	E	1120.61	1680.91	554.72	19.80	6.16	554.81	19.80
2	4	1.37	512.11	83.64	F	510.20	765.29	3256.70	255.33	36.19	3265.44	256.01

Main Results for each time segment

Main results: (07:45-08:00)

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	825.30	206.33	817.52	912.44	106.57	0.00	1245.61	951.35	0.663	0.00	1.95	8.428	A
1	2	626.37	156.59	621.04	389.98	534.11	0.00	1087.65	876.20	0.576	0.00	1.33	7.639	A
1	3	0.00	0.00	0.00	534.11	621.04	0.00	1212.50	1044.75	0.000	0.00	0.00	0.000	A
1	4	402.02	100.51	397.97	0.00	621.04	0.00	902.03	309.35	0.446	0.00	1.01	9.107	A
2	1	209.29	52.32	208.01	621.61	763.91	0.00	874.98	759.34	0.239	0.00	0.32	5.560	A
2	2	472.79	118.20	468.08	475.31	496.60	0.00	874.68	578.61	0.541	0.00	1.18	8.961	A
2	3	912.44	228.11	904.80	825.30	139.38	0.00	1430.06	1409.97	0.638	0.00	1.91	7.494	A
2	4	418.59	104.65	412.50	71.16	973.02	0.00	697.21	415.23	0.600	0.00	1.52	13.027	B

Main results: (08:00-08:15)

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	983.82	245.96	976.61	1092.48	127.83	0.00	1233.06	951.35	0.798	1.95	3.75	13.921	B
1	2	747.95	186.99	742.97	466.38	638.05	0.00	1024.60	876.20	0.730	1.33	2.58	12.574	B
1	3	0.00	0.00	0.00	638.05	742.97	0.00	1132.34	1044.75	0.000	0.00	0.00	0.000	A
1	4	480.06	120.01	477.33	0.00	742.97	0.00	832.46	309.35	0.577	1.01	1.70	12.926	B
2	1	249.92	62.48	249.32	745.73	908.70	0.00	790.82	759.34	0.316	0.32	0.47	6.854	A
2	2	564.56	141.14	560.78	567.99	590.02	0.00	824.69	578.61	0.685	1.18	2.12	13.759	B
2	3	1092.48	273.12	1085.82	983.82	166.98	0.00	1413.21	1409.97	0.773	1.91	3.58	11.947	B
2	4	499.83	124.96	486.98	85.36	1167.45	0.00	588.46	415.23	0.849	1.52	4.74	33.730	D

Main results: (08:15-08:30)

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	1105.94	276.49	1089.51	1313.64	154.80	0.00	1217.15	951.35	0.909	3.75	7.86	25.729	D
1	2	916.05	229.01	890.38	532.49	711.81	0.00	979.87	876.20	0.935	2.58	9.00	33.395	D
1	3	0.00	0.00	0.00	711.81	890.38	0.00	1035.43	1044.75	0.000	0.00	0.00	0.000	A
1	4	587.94	146.99	578.06	0.00	890.38	0.00	748.35	309.35	0.786	1.70	4.17	25.780	D
2	1	306.08	76.52	305.23	884.71	960.64	0.00	760.63	759.34	0.402	0.47	0.68	8.142	A
2	2	691.44	172.86	679.11	636.82	629.05	0.00	803.80	578.61	0.860	2.12	5.20	27.147	D
2	3	1313.64	328.41	1281.71	1105.94	202.22	0.00	1391.70	1409.97	0.944	3.58	11.56	29.955	D
2	4	612.17	153.04	462.84	101.41	1382.52	0.00	468.16	415.23	1.308	4.74	42.07	203.375	F

Main results: (08:30-08:45)

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	1102.79	275.70	1099.81	1337.66	156.97	0.00	1215.86	951.35	0.907	7.86	8.60	29.887	D
1	2	916.05	229.01	908.45	538.24	718.54	0.00	975.78	876.20	0.939	9.00	10.89	45.699	E
1	3	0.00	0.00	0.00	718.54	908.45	0.00	1023.55	1044.75	0.000	0.00	0.00	0.000	A
1	4	587.94	146.99	586.18	0.00	908.45	0.00	738.04	309.35	0.797	4.17	4.61	29.783	D
2	1	306.08	76.52	306.07	908.85	958.58	0.00	761.83	759.34	0.402	0.68	0.69	8.151	A
2	2	691.44	172.86	690.33	646.63	618.01	0.00	809.71	578.61	0.854	5.20	5.48	30.061	D
2	3	1337.66	334.41	1320.11	1102.79	205.56	0.00	1389.66	1409.97	0.963	11.56	15.95	44.814	E
2	4	612.17	153.04	445.86	104.10	1421.57	0.00	446.32	415.23	1.372	42.07	83.64	490.334	F

Main results: (08:45-09:00)

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	1025.47	256.37	1037.56	1138.27	131.43	0.00	1230.94	951.35	0.833	8.60	5.58	20.026	C
1	2	747.95	186.99	778.91	491.11	677.87	0.00	1000.45	876.20	0.748	10.89	3.15	18.214	C
1	3	0.00	0.00	0.00	677.87	778.91	0.00	1108.71	1044.75	0.000	0.00	0.00	0.000	A
1	4	480.06	120.01	490.78	0.00	778.91	0.00	811.95	309.35	0.591	4.61	1.93	14.847	B
2	1	249.92	62.48	250.56	802.94	987.99	0.00	744.73	759.34	0.336	0.69	0.53	7.530	A
2	2	564.56	141.14	576.51	617.92	620.63	0.00	808.31	578.61	0.698	5.48	2.49	16.624	C
2	3	1138.27	284.57	1181.93	1025.47	171.67	0.00	1410.35	1409.97	0.807	15.95	5.03	20.093	C
2	4	499.83	124.96	528.94	91.61	1261.98	0.00	535.58	415.23	0.933	83.64	76.37	512.106	F

Main results: (09:00-09:15)

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	1011.38	252.85	1014.80	929.15	108.58	0.00	1244.42	951.35	0.813	5.58	4.73	16.291	C
1	2	626.37	156.59	632.27	460.38	663.00	0.00	1009.47	876.20	0.621	3.15	1.68	9.698	A
1	3	0.00	0.00	0.00	663.00	632.27	0.00	1205.12	1044.75	0.000	0.00	0.00	0.000	A
1	4	402.02	100.51	405.47	0.00	632.27	0.00	895.62	309.35	0.449	1.93	1.07	9.504	A
2	1	209.29	52.32	209.69	643.64	1033.28	0.00	718.40	759.34	0.291	0.53	0.43	7.308	A
2	2	472.79	118.20	476.23	566.01	676.96	0.00	778.17	578.61	0.608	2.49	1.63	12.339	B
2	3	929.15	232.29	940.82	1011.38	141.81	0.00	1428.58	1409.97	0.650	5.03	2.11	8.368	A
2	4	418.59	104.65	667.88	73.59	1009.04	0.00	677.07	415.23	0.618	76.37	14.05	249.908	F

Queueing Delay Results for each time segment

Queueing Delay results: (07:45-08:00)

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	27.21	1.81	8.428	A	A
1	2	18.87	1.26	7.639	A	A
1	3	0.00	0.00	0.000	A	A
1	4	14.41	0.96	9.107	A	A
2	1	4.68	0.31	5.560	A	A
2	2	16.63	1.11	8.961	A	A
2	3	26.91	1.79	7.494	A	A
2	4	20.97	1.40	13.027	B	B

Queueing Delay results: (08:00-08:15)

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	50.99	3.40	13.921	B	B
1	2	35.65	2.38	12.574	B	B
1	3	0.00	0.00	0.000	A	A
1	4	23.96	1.60	12.926	B	B
2	1	6.88	0.46	6.854	A	A
2	2	29.52	1.97	13.759	B	B
2	3	49.28	3.29	11.947	B	B
2	4	58.34	3.89	33.730	D	C

Queueing Delay results: (08:15-08:30)

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	98.80	6.59	25.729	D	C
1	2	104.12	6.94	33.395	D	C
1	3	0.00	0.00	0.000	A	A
1	4	54.20	3.61	25.780	D	C
2	1	9.94	0.66	8.142	A	A
2	2	65.78	4.39	27.147	D	C
2	3	134.30	8.95	29.955	D	C
2	4	356.18	23.75	203.375	F	F

Queueing Delay results: (08:30-08:45)

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	124.29	8.29	29.887	D	C
1	2	151.07	10.07	45.699	E	D
1	3	0.00	0.00	0.000	A	A
1	4	66.58	4.44	29.783	D	C
2	1	10.31	0.69	8.151	A	A
2	2	80.46	5.36	30.061	D	C
2	3	210.66	14.04	44.814	E	D
2	4	943.02	62.87	490.334	F	F

Queueing Delay results: (08:45-09:00)

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	92.40	6.16	20.026	C	C
1	2	60.78	4.05	18.214	C	B
1	3	0.00	0.00	0.000	A	A
1	4	31.86	2.12	14.847	B	B
2	1	8.14	0.54	7.530	A	A
2	2	41.75	2.78	16.624	C	B
2	3	99.42	6.63	20.093	C	C
2	4	1200.09	80.01	512.106	F	F

Queueing Delay results: (09:00-09:15)

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	74.54	4.97	16.291	C	B
1	2	26.78	1.79	9.698	A	A
1	3	0.00	0.00	0.000	A	A
1	4	16.79	1.12	9.504	A	A
2	1	6.59	0.44	7.308	A	A
2	2	26.03	1.74	12.339	B	B
2	3	34.16	2.28	8.368	A	A
2	4	678.10	45.21	249.908	F	F

(Default Analysis Set) - 2021 C1, 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	Relationship
2021 C1, PM	2021 C1	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				208.58	F
2	2	(untitled)	Roundabout	1,2,3,4				93.38	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	✓	724.00	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	196.000	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	0.73	0.27	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	1.16	384.52	145.49	F	1220.24	1830.37	5884.63	192.90	65.38	6180.72	202.61
1	2	0.50	6.56	1.05	A	482.67	724.00	68.59	5.68	0.76	68.60	5.68
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	0.86	32.20	6.71	D	664.36	996.53	289.08	17.41	3.21	289.14	17.41
2	1	0.65	16.34	2.39	C	450.55	675.83	136.31	12.10	1.51	136.33	12.10
2	2	1.09	186.62	35.48	F	541.39	812.09	1181.12	87.26	13.12	1181.22	87.27
2	3	0.85	19.39	5.94	C	966.12	1449.18	283.45	11.74	3.15	283.51	11.74
2	4	1.13	214.11	35.70	F	461.56	692.34	965.86	83.70	10.73	965.92	83.71

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	991.92	247.98	974.25	787.56	146.11	0.00	1222.27	993.68	0.812	0.00	4.42	15.381	C
1	2	396.00	99.00	393.95	770.75	349.62	0.00	1199.54	1054.69	0.330	0.00	0.51	4.677	A
1	3	0.00	0.00	0.00	349.62	393.95	0.00	1361.80	927.40	0.000	0.00	0.00	0.000	A
1	4	545.07	136.27	539.72	0.00	393.95	0.00	1031.60	257.73	0.528	0.00	1.34	8.819	A
2	1	369.65	92.41	366.40	684.94	609.40	0.00	964.80	847.05	0.383	0.00	0.81	7.947	A
2	2	444.18	111.05	438.51	244.01	731.79	0.00	748.83	485.58	0.593	0.00	1.42	11.446	B
2	3	787.56	196.89	781.73	991.92	178.38	0.00	1406.26	1394.57	0.560	0.00	1.46	6.651	A
2	4	378.68	94.67	374.32	40.08	920.03	0.00	726.85	385.87	0.521	0.00	1.09	10.378	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	1185.48	296.37	1139.07	944.02	175.19	0.00	1205.11	993.68	0.984	4.42	16.02	43.783	E
1	2	472.86	118.22	472.07	905.50	408.77	0.00	1163.67	1054.69	0.406	0.51	0.71	5.455	A
1	3	0.00	0.00	0.00	408.77	472.07	0.00	1310.44	927.40	0.000	0.00	0.00	0.000	A
1	4	650.86	162.72	647.14	0.00	472.07	0.00	987.03	257.73	0.659	1.34	2.27	12.751	B
2	1	441.40	110.35	439.60	821.90	729.33	0.00	895.09	847.05	0.493	0.81	1.26	10.452	B
2	2	530.40	132.60	522.62	293.47	875.45	0.00	671.95	485.58	0.789	1.42	3.36	23.067	C
2	3	944.02	236.00	940.19	1185.48	212.59	0.00	1385.37	1394.57	0.681	1.46	2.41	9.332	A
2	4	452.19	113.05	446.50	48.06	1104.72	0.00	623.55	385.87	0.725	1.09	2.51	20.283	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	1355.14	338.79	1176.52	1147.82	211.59	0.00	1183.63	993.68	1.145	16.02	60.67	129.280	F
1	2	579.14	144.78	577.82	965.91	422.21	0.00	1155.52	1054.69	0.501	0.71	1.04	6.522	A
1	3	0.00	0.00	0.00	422.21	577.82	0.00	1240.92	927.41	0.000	0.00	0.00	0.000	A
1	4	797.14	199.28	781.59	0.00	577.82	0.00	926.69	257.73	0.860	2.27	6.15	27.634	D
2	1	540.60	135.15	536.40	972.28	829.48	0.00	836.87	847.05	0.646	1.26	2.31	15.690	C
2	2	649.60	162.40	579.62	354.59	1011.30	0.00	599.25	485.58	1.084	3.36	20.86	93.210	F
2	3	1147.82	286.96	1135.97	1355.14	235.78	0.00	1371.22	1394.57	0.837	2.41	5.38	16.999	C
2	4	553.81	138.45	486.50	56.48	1315.26	0.00	505.78	385.87	1.095	2.51	19.34	100.966	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	1367.67	341.92	1180.12	1158.80	215.19	0.00	1181.51	993.68	1.158	60.67	107.56	264.092	F
1	2	579.14	144.78	579.10	971.82	423.50	0.00	1154.74	1054.69	0.502	1.04	1.05	6.560	A
1	3	0.00	0.00	0.00	423.50	579.10	0.00	1240.08	927.41	0.000	0.00	0.00	0.000	A
1	4	797.14	199.28	794.89	0.00	579.10	0.00	925.96	257.73	0.861	6.15	6.71	32.199	D
2	1	540.60	135.15	540.28	990.10	837.73	0.00	832.07	847.05	0.650	2.31	2.39	16.342	C
2	2	649.60	162.40	591.12	361.01	1017.00	0.00	596.20	485.58	1.090	20.86	35.48	186.620	F
2	3	1158.80	289.70	1156.54	1367.67	240.46	0.00	1368.36	1394.57	0.847	5.38	5.94	19.389	C
2	4	553.81	138.45	488.37	57.54	1339.46	0.00	492.24	385.87	1.125	19.34	35.70	214.111	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	1352.79	338.20	1201.05	961.16	180.80	0.00	1201.80	993.69	1.126	107.56	145.49	384.521	F
1	2	472.86	118.22	474.09	950.85	431.01	0.00	1150.18	1054.69	0.411	1.05	0.74	5.597	A
1	3	0.00	0.00	0.00	431.01	474.09	0.00	1309.11	927.40	0.000	0.00	0.00	0.000	A
1	4	650.86	162.72	667.87	0.00	474.09	0.00	985.87	257.73	0.660	6.71	2.46	14.452	B
2	1	441.40	110.35	444.54	870.60	864.56	0.00	816.48	847.05	0.541	2.39	1.61	12.961	B
2	2	530.40	132.60	585.93	303.90	1005.20	0.00	602.51	485.58	0.880	35.48	21.59	177.171	F
2	3	961.16	240.29	973.58	1352.79	238.35	0.00	1369.65	1394.57	0.702	5.94	2.84	10.892	B
2	4	452.19	113.05	574.36	51.13	1160.80	0.00	592.18	385.87	0.764	35.70	5.16	137.138	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	1068.46	267.12	1211.38	797.35	148.71	0.00	1220.74	993.68	0.875	145.49	109.76	380.172	F
1	2	396.00	99.00	396.73	925.38	434.71	0.00	1147.93	1054.69	0.345	0.74	0.56	5.031	A
1	3	0.00	0.00	0.00	434.71	396.73	0.00	1359.98	927.40	0.000	0.00	0.00	0.000	A
1	4	545.07	136.27	549.33	0.00	396.73	0.00	1030.01	257.73	0.529	2.46	1.40	9.198	A
2	1	369.65	92.41	372.65	731.07	635.31	0.00	949.74	847.05	0.389	1.61	0.86	8.326	A
2	2	444.18	111.05	524.14	250.42	757.53	0.00	735.05	485.58	0.604	21.59	1.60	24.155	C
2	3	797.35	199.34	802.27	1068.46	213.21	0.00	1384.99	1394.57	0.576	2.84	1.61	7.254	A
2	4	378.68	94.67	394.29	43.39	972.09	0.00	697.73	385.87	0.543	5.16	1.26	12.792	B

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	57.34	3.82	15.381	C	B
1	2	7.47	0.50	4.677	A	A
1	3	0.00	0.00	0.000	A	A
1	4	18.89	1.26	8.819	A	A
2	1	11.64	0.78	7.947	A	A
2	2	19.69	1.31	11.446	B	B
2	3	20.78	1.39	6.651	A	A
2	4	15.34	1.02	10.378	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	172.92	11.53	43.783	E	D
1	2	10.40	0.69	5.455	A	A
1	3	0.00	0.00	0.000	A	A
1	4	31.80	2.12	12.751	B	B
2	1	18.12	1.21	10.452	B	B
2	2	44.08	2.94	23.067	C	C
2	3	34.19	2.28	9.332	A	A
2	4	33.73	2.25	20.283	C	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	579.76	38.65	129.280	F	F
1	2	15.09	1.01	6.522	A	A
1	3	0.00	0.00	0.000	A	A
1	4	77.11	5.14	27.634	D	C
2	1	32.14	2.14	15.690	C	B
2	2	193.86	12.92	93.210	F	F
2	3	71.00	4.73	16.999	C	B
2	4	176.73	11.78	100.966	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	1262.17	84.14	264.092	F	F
1	2	15.67	1.04	6.560	A	A
1	3	0.00	0.00	0.000	A	A
1	4	97.25	6.48	32.199	D	C
2	1	35.46	2.36	16.342	C	B
2	2	423.77	28.25	186.620	F	F
2	3	85.99	5.73	19.389	C	B
2	4	413.96	27.60	214.111	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	1898.01	126.53	384.521	F	F
1	2	11.41	0.76	5.597	A	A
1	3	0.00	0.00	0.000	A	A
1	4	41.98	2.80	14.452	B	B
2	1	25.49	1.70	12.961	B	B
2	2	428.02	28.53	177.171	F	F
2	3	46.20	3.08	10.892	B	B
2	4	304.02	20.27	137.138	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	1914.43	127.63	380.172	F	F
1	2	8.55	0.57	5.031	A	A
1	3	0.00	0.00	0.000	A	A
1	4	22.05	1.47	9.198	A	A
2	1	13.45	0.90	8.326	A	A
2	2	71.70	4.78	24.155	C	C
2	3	25.29	1.69	7.254	A	A
2	4	22.07	1.47	12.792	B	B

(Default Analysis Set) - 2021 I1, AM

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	Relationship
2021 I1, AM	2021 I1	AM		Varies by Arm	07:45	09:15	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				30.65	D
2	2	(untitled)	Roundabout	1,2,3,4				161.36	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	✓	831.00	100.000
1	3	ONE HOUR	✓	0.00	100.000
1	4	ONE HOUR	✓	556.00	100.000
2	1	ONE HOUR	✓	265.00	100.000
2	2	ONE HOUR	✓	655.00	100.000
2	3	Linked Arm		N/A	
2	4	ONE HOUR	✓	560.00	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	412.000	679.000	0.000
	2	831.000	0.000	0.000	0.000
	3	0.000	0.000	0.000	0.000
	4	421.000	135.000	0.000	0.000

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

		To			
		1	2	3	4
From	1	0.00	0.38	0.62	0.00
	2	1.00	0.00	0.00	0.00
	3	0.25	0.25	0.25	0.25
	4	0.76	0.24	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	263.000	2.000
	2	166.000	0.000	464.000	25.000
	3	681.000	500.000	0.000	71.000
	4	0.000	196.000	364.000	0.000

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

		To			
		1	2	3	4
From	1	0.00	0.00	0.99	0.01
	2	0.25	0.00	0.71	0.04
	3	0.54	0.40	0.00	0.06
	4	0.00	0.35	0.65	0.00

Vehicle Mix

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

		To			
		1	2	3	4
From	1	1.000	1.027	1.004	1.000
	2	1.002	1.000	1.000	1.000
	3	1.000	1.000	1.000	1.000
	4	1.368	1.104	1.000	1.000

Heavy Vehicle Percentages - Junction 1 (for whole period)

		To			
		1	2	3	4
From	1	0.0	2.7	0.4	0.0
	2	0.2	0.0	0.0	0.0
	3	0.0	0.0	0.0	0.0
	4	36.8	10.4	0.0	0.0

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

		To			
		1	2	3	4
From	1	1.000	1.000	1.000	1.000
	2	1.078	1.000	1.004	1.000
	3	1.201	1.004	1.000	1.080
	4	1.000	1.092	1.030	1.000

Heavy Vehicle Percentages - Junction 2 (for whole period)

		To			
		1	2	3	4
From	1	0.0	0.0	0.0	0.0
	2	7.8	0.0	0.4	0.0
	3	20.1	0.4	0.0	8.0
	4	0.0	9.2	3.0	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	0.88	24.60	6.98	C	984.61	1476.92	390.95	15.88	4.34	391.30	15.90
1	2	0.91	35.35	8.40	E	762.54	1143.81	332.61	17.45	3.70	332.68	17.45
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	0.83	35.30	5.64	E	510.20	765.29	240.58	18.86	2.67	240.63	18.87
2	1	0.39	7.74	0.62	A	243.17	364.75	42.47	6.99	0.47	42.48	6.99
2	2	0.87	31.10	5.90	D	601.04	901.56	274.42	18.26	3.05	274.53	18.27
2	3	0.99	59.33	22.45	F	1147.25	1720.87	707.42	24.67	7.86	707.53	24.67
2	4	1.43	614.20	94.04	F	513.87	770.80	3937.36	306.49	43.75	3995.03	310.98

Main Results for each time segment

Main results: (07:45-08:00)

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	812.44	203.11	805.09	934.14	100.57	0.00	1249.15	959.75	0.650	0.00	1.84	8.082	A
1	2	625.62	156.41	620.52	404.60	501.06	0.00	1107.69	892.52	0.565	0.00	1.28	7.329	A
1	3	0.00	0.00	0.00	501.06	620.52	0.00	1212.85	1034.02	0.000	0.00	0.00	0.000	A
1	4	418.59	104.65	414.20	0.00	620.52	0.00	902.33	304.63	0.464	0.00	1.10	9.454	A
2	1	199.51	49.88	198.31	627.37	784.90	0.00	862.78	751.16	0.231	0.00	0.30	5.407	A
2	2	493.12	123.28	488.15	515.08	468.13	0.00	889.92	593.95	0.554	0.00	1.24	9.047	A
2	3	934.14	233.54	925.96	812.44	143.84	0.00	1427.34	1405.96	0.654	0.00	2.04	7.829	A
2	4	421.60	105.40	415.10	72.64	997.17	0.00	683.71	415.45	0.617	0.00	1.62	13.775	B

Main results: (08:00-08:15)

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	967.04	241.76	960.75	1118.77	120.61	0.00	1237.32	959.75	0.782	1.84	3.41	12.885	B
1	2	747.05	186.76	742.65	483.42	597.94	0.00	1048.94	892.52	0.712	1.28	2.38	11.609	B
1	3	0.00	0.00	0.00	597.94	742.65	0.00	1132.55	1034.02	0.000	0.00	0.00	0.000	A
1	4	499.83	124.96	496.73	0.00	742.65	0.00	832.64	304.63	0.600	1.10	1.87	13.728	B
2	1	238.23	59.56	237.68	752.52	931.22	0.00	777.73	751.16	0.306	0.30	0.44	6.659	A
2	2	588.83	147.21	584.80	614.33	554.57	0.00	843.66	593.95	0.698	1.24	2.25	13.986	B
2	3	1118.77	279.69	1111.01	967.04	172.32	0.00	1409.95	1405.96	0.793	2.04	3.99	12.998	B
2	4	503.43	125.86	487.53	87.12	1196.21	0.00	572.37	415.45	0.880	1.62	5.60	38.962	E

Main results: (08:15-08:30)

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	1081.94	270.49	1069.51	1349.08	145.58	0.00	1222.58	959.75	0.885	3.41	6.52	22.065	C
1	2	914.95	228.74	895.08	549.47	665.62	0.00	1007.88	892.52	0.908	2.38	7.34	28.033	D
1	3	0.00	0.00	0.00	665.62	895.08	0.00	1032.34	1034.02	0.000	0.00	0.00	0.000	A
1	4	612.17	153.04	599.58	0.00	895.08	0.00	745.67	304.63	0.821	1.87	5.02	29.604	D
2	1	291.77	72.94	291.03	889.22	969.82	0.00	755.29	751.16	0.386	0.44	0.62	7.742	A
2	2	721.17	180.29	707.90	678.19	582.67	0.00	828.63	593.95	0.870	2.25	5.57	27.773	D
2	3	1349.08	337.27	1304.98	1081.94	208.62	0.00	1387.79	1405.96	0.972	3.99	15.01	36.281	E
2	4	616.57	154.14	448.67	103.22	1410.38	0.00	452.58	415.45	1.362	5.60	47.58	235.303	F

Main results: (08:30-08:45)

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	1079.46	269.87	1077.60	1372.36	148.03	0.00	1221.14	959.75	0.884	6.52	6.98	24.600	C
1	2	914.95	228.74	910.72	554.97	670.66	0.00	1004.83	892.52	0.911	7.34	8.40	35.349	E
1	3	0.00	0.00	0.00	670.66	910.72	0.00	1022.06	1034.02	0.000	0.00	0.00	0.000	A
1	4	612.17	153.04	609.68	0.00	910.72	0.00	736.74	304.63	0.831	5.02	5.64	35.297	E
2	1	291.77	72.94	291.76	912.71	966.90	0.00	756.99	751.16	0.385	0.62	0.62	7.738	A
2	2	721.17	180.29	719.85	686.93	571.73	0.00	834.48	593.95	0.864	5.57	5.90	31.096	D
2	3	1372.36	343.09	1342.59	1079.46	212.11	0.00	1385.66	1405.96	0.990	15.01	22.45	59.329	F
2	4	616.57	154.14	430.72	105.81	1448.89	0.00	431.03	415.45	1.430	47.58	94.04	568.239	F

Main results: (08:45-09:00)

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	990.88	247.72	1001.18	1158.83	124.78	0.00	1234.86	959.75	0.802	6.98	4.41	16.234	C
1	2	747.05	186.76	769.69	502.86	623.10	0.00	1033.68	892.52	0.723	8.40	2.74	14.710	B
1	3	0.00	0.00	0.00	623.10	769.69	0.00	1114.78	1034.02	0.000	0.00	0.00	0.000	A
1	4	499.83	124.96	513.92	0.00	769.69	0.00	817.21	304.63	0.612	5.64	2.12	15.998	C
2	1	238.23	59.56	238.81	819.29	992.93	0.00	741.86	751.16	0.321	0.62	0.48	7.166	A
2	2	588.83	147.21	602.24	665.68	566.05	0.00	837.52	593.95	0.703	5.90	2.55	16.427	C
2	3	1158.83	289.71	1225.64	990.88	177.42	0.00	1406.84	1405.96	0.824	22.45	5.75	27.432	D
2	4	503.43	125.86	503.45	94.29	1308.77	0.00	509.41	415.45	0.988	94.04	94.03	614.202	F

Main results: (09:00-09:15)

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	975.92	243.98	978.28	950.30	102.57	0.00	1247.97	959.75	0.782	4.41	3.82	13.675	B
1	2	625.62	156.41	630.43	472.01	608.85	0.00	1042.32	892.52	0.600	2.74	1.54	8.856	A
1	3	0.00	0.00	0.00	608.85	630.43	0.00	1206.33	1034.02	0.000	0.00	0.00	0.000	A
1	4	418.59	104.65	422.45	0.00	630.43	0.00	896.67	304.63	0.467	2.12	1.15	9.894	A
2	1	199.51	49.88	199.85	650.33	1040.07	0.00	714.46	751.16	0.279	0.48	0.39	7.002	A
2	2	493.12	123.28	496.65	614.32	625.60	0.00	805.65	593.95	0.612	2.55	1.66	12.038	B
2	3	950.30	237.58	964.21	975.92	146.33	0.00	1425.82	1405.96	0.667	5.75	2.27	8.882	A
2	4	421.60	105.40	655.00	75.14	1035.40	0.00	662.32	415.45	0.637	94.03	35.68	360.402	F

Queueing Delay Results for each time segment

Queueing Delay results: (07:45-08:00)

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	25.75	1.72	8.082	A	A
1	2	18.13	1.21	7.329	A	A
1	3	0.00	0.00	0.000	A	A
1	4	15.54	1.04	9.454	A	A
2	1	4.34	0.29	5.407	A	A
2	2	17.49	1.17	9.047	A	A
2	3	28.71	1.91	7.829	A	A
2	4	22.25	1.48	13.775	B	B

Queueing Delay results: (08:00-08:15)

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	46.78	3.12	12.885	B	B
1	2	33.12	2.21	11.609	B	B
1	3	0.00	0.00	0.000	A	A
1	4	26.35	1.76	13.728	B	B
2	1	6.38	0.43	6.659	A	A
2	2	31.21	2.08	13.986	B	B
2	3	54.40	3.63	12.998	B	B
2	4	66.79	4.45	38.962	E	D

Queueing Delay results: (08:15-08:30)

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	84.41	5.63	22.065	C	C
1	2	88.68	5.91	28.033	D	C
1	3	0.00	0.00	0.000	A	A
1	4	63.67	4.24	29.604	D	C
2	1	9.03	0.60	7.742	A	A
2	2	69.89	4.66	27.773	D	C
2	3	165.00	11.00	36.281	E	D
2	4	402.67	26.84	235.303	F	F

Queueing Delay results: (08:30-08:45)

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	101.84	6.79	24.600	C	C
1	2	119.36	7.96	35.349	E	D
1	3	0.00	0.00	0.000	A	A
1	4	80.93	5.40	35.297	E	D
2	1	9.34	0.62	7.738	A	A
2	2	86.35	5.76	31.096	D	C
2	3	285.69	19.05	59.329	F	E
2	4	1062.24	70.82	568.239	F	F

Queueing Delay results: (08:45-09:00)

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	72.44	4.83	16.234	C	B
1	2	48.93	3.26	14.710	B	B
1	3	0.00	0.00	0.000	A	A
1	4	35.86	2.39	15.998	C	B
2	1	7.37	0.49	7.166	A	A
2	2	43.01	2.87	16.427	C	B
2	3	136.49	9.10	27.432	D	C
2	4	1410.55	94.04	614.202	F	F

Queueing Delay results: (09:00-09:15)

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	59.73	3.98	13.675	B	B
1	2	24.39	1.63	8.856	A	A
1	3	0.00	0.00	0.000	A	A
1	4	18.23	1.22	9.894	A	A
2	1	6.01	0.40	7.002	A	A
2	2	26.47	1.76	12.038	B	B
2	3	37.15	2.48	8.882	A	A
2	4	972.87	64.86	360.402	F	F

(Default Analysis Set) - 2021 I1, 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	Relationship
2021 I1, PM	2021 I1	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				178.56	F
2	2	(untitled)	Roundabout	1,2,3,4				116.29	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	✓	522.00	100.000
1	3	ONE HOUR	✓	0.00	100.000
1	4	ONE HOUR	✓	777.00	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	240.000	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	0.69	0.31	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	1.251	1.007	1.000
	2	1.077	1.000	1.000	1.000
	3	1.000	1.000	1.000	1.000
	4	1.416	1.043	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	1.436	1.000
	2	1.000	1.000	1.033	1.000
	3	1.363	1.008	1.000	1.082
	4	1.000	1.000	1.044	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	1.12	324.50	108.81	F	1190.34	1785.51	4769.71	160.28	53.00	5046.75	169.59
1	2	0.49	6.44	1.02	A	479.00	718.49	67.29	5.62	0.75	67.30	5.62
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	0.92	50.52	11.19	F	712.99	1069.48	420.16	23.57	4.67	420.24	23.58
2	1	0.58	14.56	1.94	B	405.59	608.38	120.70	11.90	1.34	120.73	11.91
2	2	1.02	118.08	20.99	F	535.89	803.83	697.72	52.08	7.75	697.96	52.10
2	3	0.86	22.51	6.87	C	970.60	1455.90	315.76	13.01	3.51	315.82	13.02
2	4	1.28	377.93	66.53	F	501.94	752.91	2244.37	178.86	24.94	2244.48	178.87

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	967.21	241.80	949.86	790.75	178.68	0.00	1203.05	991.62	0.804	0.00	4.34	15.526	C
1	2	392.99	98.25	390.95	808.51	320.03	0.00	1217.49	1069.85	0.323	0.00	0.51	4.678	A
1	3	0.00	0.00	0.00	320.03	390.95	0.00	1363.77	917.44	0.000	0.00	0.00	0.000	A
1	4	584.97	146.24	578.48	0.00	390.95	0.00	1033.31	253.34	0.566	0.00	1.62	9.957	A
2	1	332.76	83.19	329.69	702.30	642.27	0.00	945.69	852.01	0.352	0.00	0.77	8.348	A
2	2	439.67	109.92	434.10	244.84	727.12	0.00	751.32	485.47	0.585	0.00	1.39	11.362	B
2	3	790.75	197.69	784.50	967.21	194.00	0.00	1396.72	1382.70	0.566	0.00	1.56	7.101	A
2	4	411.81	102.95	406.35	40.28	938.23	0.00	716.67	380.25	0.575	0.00	1.37	11.904	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	1153.87	288.47	1110.89	947.71	214.17	0.00	1182.11	991.62	0.976	4.34	15.08	42.909	E
1	2	469.27	117.32	468.51	950.77	374.28	0.00	1184.59	1069.85	0.396	0.51	0.70	5.407	A
1	3	0.00	0.00	0.00	374.28	468.51	0.00	1312.79	917.44	0.000	0.00	0.00	0.000	A
1	4	698.51	174.63	693.37	0.00	468.51	0.00	989.06	253.34	0.706	1.62	2.91	15.255	C
2	1	397.35	99.34	395.73	842.75	766.20	0.00	873.65	852.01	0.455	0.77	1.17	10.775	B
2	2	525.00	131.25	517.81	294.46	867.48	0.00	676.21	485.47	0.776	1.39	3.19	22.173	C
2	3	947.71	236.93	943.48	1153.87	231.42	0.00	1373.88	1382.70	0.690	1.56	2.62	10.098	B
2	4	491.74	122.94	482.33	48.27	1126.62	0.00	611.29	380.25	0.804	1.37	3.72	27.330	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	1285.33	321.33	1147.11	1146.44	256.07	0.00	1157.38	991.62	1.111	15.08	49.64	114.448	F
1	2	574.73	143.68	573.48	1016.70	386.49	0.00	1177.18	1069.85	0.488	0.70	1.01	6.408	A
1	3	0.00	0.00	0.00	386.49	573.48	0.00	1243.78	917.44	0.000	0.00	0.00	0.000	A
1	4	855.49	213.87	829.04	0.00	573.48	0.00	929.17	253.34	0.921	2.91	9.52	38.404	E
2	1	486.65	121.66	483.70	999.79	824.99	0.00	839.48	852.01	0.580	1.17	1.91	14.402	B
2	2	643.00	160.75	597.07	353.59	955.10	0.00	629.32	485.47	1.022	3.19	14.67	70.813	F
2	3	1146.44	286.61	1132.96	1285.33	266.84	0.00	1352.25	1382.70	0.848	2.62	5.99	18.924	C
2	4	602.26	150.56	481.98	56.99	1342.81	0.00	490.37	380.25	1.228	3.72	33.79	160.464	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	1289.18	322.29	1151.19	1161.32	262.18	0.00	1153.78	991.62	1.117	49.64	84.13	218.038	F
1	2	574.73	143.68	574.70	1025.50	387.86	0.00	1176.35	1069.85	0.489	1.01	1.02	6.442	A
1	3	0.00	0.00	0.00	387.86	574.70	0.00	1242.97	917.44	0.000	0.00	0.00	0.000	A
1	4	855.49	213.87	848.80	0.00	574.70	0.00	928.47	253.34	0.921	9.52	11.19	50.523	F
2	1	486.65	121.66	486.54	1024.32	822.32	0.00	841.03	852.01	0.579	1.91	1.94	14.564	B
2	2	643.00	160.75	617.74	361.34	947.52	0.00	633.38	485.47	1.015	14.67	20.99	118.080	F
2	3	1161.32	290.33	1157.79	1289.18	276.08	0.00	1346.62	1382.70	0.862	5.99	6.87	22.514	C
2	4	602.26	150.56	471.32	58.54	1375.32	0.00	472.18	380.25	1.275	33.79	66.53	377.930	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	1272.37	318.09	1173.69	975.12	225.55	0.00	1175.39	991.62	1.083	84.13	108.81	302.347	F
1	2	469.27	117.32	470.45	1003.80	395.44	0.00	1171.75	1069.85	0.400	1.02	0.73	5.535	A
1	3	0.00	0.00	0.00	395.44	470.45	0.00	1311.51	917.44	0.000	0.00	0.00	0.000	A
1	4	698.51	174.63	730.23	0.00	470.45	0.00	987.95	253.34	0.707	11.19	3.26	19.704	C
2	1	397.35	99.34	399.56	901.59	859.00	0.00	819.71	852.01	0.485	1.94	1.38	12.365	B
2	2	525.00	131.25	583.38	308.85	949.72	0.00	632.20	485.47	0.830	20.99	6.39	81.143	F
2	3	975.12	243.78	989.60	1272.37	260.72	0.00	1355.99	1382.70	0.719	6.87	3.26	12.418	B
2	4	491.74	122.94	562.49	52.22	1198.10	0.00	571.31	380.25	0.861	66.53	48.84	359.757	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	1174.09	293.52	1188.11	802.27	182.60	0.00	1200.74	991.62	0.978	108.81	105.30	324.503	F
1	2	392.99	98.25	393.70	970.41	400.30	0.00	1168.80	1069.85	0.336	0.73	0.55	5.004	A
1	3	0.00	0.00	0.00	400.30	393.70	0.00	1361.97	917.44	0.000	0.00	0.00	0.000	A
1	4	584.97	146.24	591.17	0.00	393.70	0.00	1031.75	253.34	0.567	3.26	1.71	10.561	B
2	1	332.76	83.19	334.39	731.34	839.77	0.00	830.89	852.01	0.400	1.38	0.98	10.442	B
2	2	439.67	109.92	456.10	252.33	921.83	0.00	647.13	485.47	0.679	6.39	2.28	20.605	C
2	3	802.27	200.57	808.51	1174.09	203.84	0.00	1390.71	1382.70	0.577	3.26	1.69	7.617	A
2	4	411.81	102.95	600.61	41.85	970.50	0.00	698.62	380.25	0.589	48.84	1.64	97.186	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	56.45	3.76	15.526	C	B
1	2	7.42	0.49	4.678	A	A
1	3	0.00	0.00	0.000	A	A
1	4	22.73	1.52	9.957	A	A
2	1	11.00	0.73	8.348	A	A
2	2	19.36	1.29	11.362	B	B
2	3	22.21	1.48	7.101	A	A
2	4	18.96	1.26	11.904	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	165.13	11.01	42.909	E	D
1	2	10.24	0.68	5.407	A	A
1	3	0.00	0.00	0.000	A	A
1	4	40.15	2.68	15.255	C	B
2	1	16.84	1.12	10.775	B	B
2	2	42.17	2.81	22.173	C	C
2	3	36.96	2.46	10.098	B	B
2	4	47.67	3.18	27.330	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	491.02	32.73	114.448	F	F
1	2	14.73	0.98	6.408	A	A
1	3	0.00	0.00	0.000	A	A
1	4	111.03	7.40	38.404	E	D
2	1	26.93	1.80	14.402	B	B
2	2	147.70	9.85	70.813	F	E
2	3	78.16	5.21	18.924	C	B
2	4	288.92	19.26	160.464	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	1004.03	66.94	218.038	F	F
1	2	15.27	1.02	6.442	A	A
1	3	0.00	0.00	0.000	A	A
1	4	157.03	10.47	50.523	F	D
2	1	28.90	1.93	14.564	B	B
2	2	269.34	17.96	118.080	F	F
2	3	98.18	6.55	22.514	C	C
2	4	752.70	50.18	377.930	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	1447.29	96.49	302.347	F	F
1	2	11.20	0.75	5.535	A	A
1	3	0.00	0.00	0.000	A	A
1	4	61.95	4.13	19.704	C	B
2	1	21.76	1.45	12.365	B	B
2	2	178.51	11.90	81.143	F	F
2	3	53.52	3.57	12.418	B	B
2	4	865.23	57.68	359.757	F	F

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

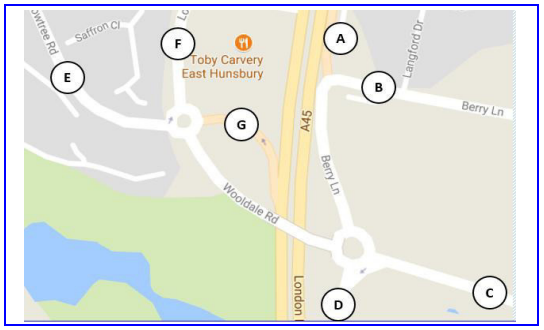
Junction	Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	1	1605.79	107.05	324.503	F	F
1	2	8.43	0.56	5.004	A	A
1	3	0.00	0.00	0.000	A	A
1	4	27.27	1.82	10.561	B	B
2	1	15.25	1.02	10.442	B	B
2	2	40.64	2.71	20.605	C	C
2	3	26.72	1.78	7.617	A	A
2	4	270.88	18.06	97.186	F	F

APPENDIX S

NSTM2 2021 DFT 02/2013 CIRCULAR COMPLIANT SCENARIO JUNCTION TURNING FLOWS

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\NSTM_2_2021_AM_C1_v4.DAT

MODELLED

PCU

From Arm \ To Arm	A	B	C	D	E	F	G	TOTAL
A	0	0	0	0	155	37	0	192
B	0	0	0	167	52	145	0	364
C	0	0	0	661	108	170	0	939
D	0	24	178	0	75	383	0	660
E	0	35	339	458	0	623	0	1455
F	0	0	0	0	0	0	0	0
G	0	37	337	17	143	0	0	534
TOTAL	0	96	854	1303	533	1358	0	4144

By Vehicle Type:

MODELLED

Car

From Arm \ To Arm	A	B	C	D	E	F	G	TOTAL
A	0	0	0	0	138	36	0	174
B	0	0	0	146	52	142	0	340
C	0	0	0	343	103	161	0	607
D	0	24	163	0	75	366	0	628
E	0	34	328	456	0	456	0	1274
F	0	0	0	0	0	0	0	0
G	0	25	195	16	119	0	0	355
TOTAL	0	83	686	961	487	1161	0	3378

MODELLED

LGV

From Arm \ To Arm	A	B	C	D	E	F	G	TOTAL
A	0	0	0	0	7	1	0	8
B	0	0	0	3	0	2	0	5
C	0	0	0	26	4	1	0	31
D	0	0	2	0	0	15	0	17
E	0	1	11	1	0	21	0	34
F	0	0	0	0	0	0	0	0
G	0	1	14	1	6	0	0	22
TOTAL	0	2	27	31	17	40	0	117

MODELLED

HGV (PCU)

From Arm \ To Arm	A	B	C	D	E	F	G	TOTAL
A	0	0	0	0	10	0	0	10
B	0	0	0	18	0	1	0	19
C	0	0	0	292	1	8	0	301
D	0	0	13	0	0	2	0	15
E	0	0	0	1	0	146	0	147
F	0	0	0	0	0	0	0	0
G	0	11	128	0	18	0	0	157
TOTAL	0	11	141	311	29	157	0	649

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MODELLED

PCU

From Arm \ To Arm	A	B	C	D	E	F	G	TOTAL
A	0	0	12	0	441	50	0	503
B	0	0	0	0	0	0	0	0
C	0	0	0	512	341	150	0	1003
D	0	18	222	0	72	278	0	590
E	0	7	206	313	0	569	0	1095
F	0	0	0	0	0	0	0	0
G	0	29	483	16	196	0	0	724
TOTAL	0	54	923	841	1050	1047	0	3915

By Vehicle Type:

MODELLED

Car

From Arm \ To Arm	A	B	C	D	E	F	G	TOTAL
A	0	0	12	0	417	49	0	478
B	0	0	0	0	0	0	0	0
C	0	0	0	358	178	148	0	684
D	0	18	205	0	71	269	0	563
E	0	6	173	307	0	204	0	690
F	0	0	0	0	0	0	0	0
G	0	19	316	12	179	0	0	526
TOTAL	0	43	706	677	845	670	0	2941

MODELLED

LGV

From Arm \ To Arm	A	B	C	D	E	F	G	TOTAL
A	0	0	0	0	10	1	0	11
B	0	0	0	0	0	0	0	0
C	0	0	0	18	2	2	0	22
D	0	0	17	0	1	7	0	25
E	0	1	7	6	0	23	0	37
F	0	0	0	0	0	0	0	0
G	0	0	16	4	11	0	0	31
TOTAL	0	1	40	28	24	33	0	126

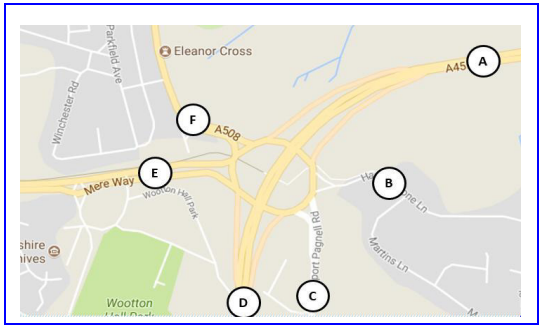
MODELLED

HGV (PCU)

From Arm \ To Arm	A	B	C	D	E	F	G	TOTAL
A	0	0	0	0	14	0	0	14
B	0	0	0	0	0	0	0	0
C	0	0	0	136	161	0	0	297
D	0	0	0	0	0	2	0	2
E	0	0	26	0	0	342	0	368
F	0	0	0	0	0	0	0	0
G	0	10	151	0	6	0	0	167
TOTAL	0	10	177	136	181	344	0	848

Junction Turning Flows

Junction: A45 Queen Eleanor Interchange



Arm Description

Arm	Inbound		Outbound		Description
	A-Node	B-Node	A-Node	B-Node	
A	9168	2092	60137	9162	*A45 North*
B	1081	1079	1079	1081	*Hardingstone Lane*
C	24742	3082	3082	24742	*Newport Pagnell Rd*
D	9161	60134	60133	9169	*A45 South*
E	60203	1092	1092	60203	*Mere Way*
F	2088	60136	60136	2088	*A508 - London Road*
G					

Growth Factors

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

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MODELLED

PCU

From Arm \ To Arm	A	B	C	D	E	F	G	TOTAL
A	0	69	124	0	1339	479		2011
B	228	0	0	10	90	110		438
C	208	0	0	0	433	507		1148
D	0	0	0	0	72	627		699
E	1825	20	367	248	0	2		2462
F	406	8	291	576	25	0		1306
G								
TOTAL	2667	97	782	834	1959	1725		8064

By Vehicle Type:

MODELLED

Car

From Arm \ To Arm	A	B	C	D	E	F	G	TOTAL
A	0	64	119	0	1136	375		1694
B	225	0	0	10	89	108		432
C	207	0	0	0	430	499		1136
D	0	0	0	0	62	302		364
E	1414	19	336	238	0	2		2009
F	397	8	280	523	24	0		1232
G								
TOTAL	2243	91	735	771	1741	1286		6867

MODELLED

LGV

From Arm \ To Arm	A	B	C	D	E	F	G	TOTAL
A	0	5	5	0	72	34		116
B	3	0	0	0	1	2		6
C	1	0	0	0	2	6		9
D	0	0	0	0	9	26		35
E	35	1	5	10	0	0		51
F	8	0	4	28	1	0		41
G								
TOTAL	47	6	14	38	85	68		258

MODELLED

HGV (PCU)

From Arm \ To Arm	A	B	C	D	E	F	G	TOTAL
A	0	0	0	0	131	70		201
B	0	0	0	0	0	0		0
C	0	0	0	0	1	2		3
D	0	0	0	0	1	299		300
E	376	0	26	0	0	0		402
F	1	0	7	25	0	0		33
G								
TOTAL	377	0	33	25	133	371		939

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MODELLED

PCU

From Arm \ To Arm	A	B	C	D	E	F	G	TOTAL
A	0	377	49	0	1243	341		2010
B	487	0	0	17	45	143		692
C	214	0	0	0	595	513		1322
D	0	56	0	0	84	491		631
E	1696	160	277	255	0	2		2390
F	308	121	247	593	52	0		1321
G								
TOTAL	2705	714	573	865	2019	1490		8366

By Vehicle Type:

MODELLED

Car

From Arm \ To Arm	A	B	C	D	E	F	G	TOTAL
A	0	374	49	0	1059	322		1804
B	466	0	0	17	44	140		667
C	212	0	0	0	577	488		1277
D	0	56	0	0	76	475		607
E	1497	159	274	248	0	2		2180
F	291	117	233	527	48	0		1216
G								
TOTAL	2466	706	556	792	1804	1427		7751

MODELLED

LGV

From Arm \ To Arm	A	B	C	D	E	F	G	TOTAL
A	0	3	0	0	62	19		84
B	15	0	0	0	1	3		19
C	2	0	0	0	18	25		45
D	0	0	0	0	1	6		7
E	25	1	2	1	0	0		29
F	17	4	9	4	4	0		38
G								
TOTAL	59	8	11	5	86	53		222

MODELLED

HGV (PCU)

From Arm \ To Arm	A	B	C	D	E	F	G	TOTAL
A	0	0	0	0	122	0		122
B	6	0	0	0	0	0		6
C	0	0	0	0	0	0		0
D	0	0	0	0	7	10		17
E	174	0	1	6	0	0		181
F	0	0	5	62	0	0		67
G								
TOTAL	180	0	6	68	129	10		393

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*

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MODELLED

PCU

From Arm \ To Arm	A	B	C	D	E	F	G	TOTAL
A	14	889	30	10				943
B	505	0	474	1				980
C	725	1044	0	13				1782
D	39	8	26	0				73
E								
F								
G								
TOTAL	1283	1941	530	24				3778

By Vehicle Type:

MODELLED

Car

From Arm \ To Arm	A	B	C	D	E	F	G	TOTAL
A	14	716	26	10				766
B	469	0	301	1				771
C	663	983	0	9				1655
D	25	4	23	0				52
E								
F								
G								
TOTAL	1171	1703	350	20				3244

MODELLED

LGV

From Arm \ To Arm	A	B	C	D	E	F	G	TOTAL
A	0	7	2	0				9
B	17	0	28	0				45
C	20	10	0	4				34
D	14	4	3	0				21
E								
F								
G								
TOTAL	51	21	33	4				109

MODELLED

HGV (PCU)

From Arm \ To Arm	A	B	C	D	E	F	G	TOTAL
A	0	166	2	0				168
B	19	0	145	0				164
C	42	51	0	0				93
D	0	0	0	0				0
E								
F								
G								
TOTAL	61	217	147	0				425

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MODELLED

PCU

From Arm \ To Arm	A	B	C	D	E	F	G	TOTAL
A	0	301	422	0				723
B	477	0	428	19				924
C	1262	729	0	8				1999
D	345	122	138	0				605
E								
F								
G								
TOTAL	2084	1152	988	27				4251

By Vehicle Type:

MODELLED

Car

From Arm \ To Arm	A	B	C	D	E	F	G	TOTAL
A	0	295	409	0				704
B	475	0	395	19				889
C	1053	670	0	4				1727
D	328	101	128	0				557
E								
F								
G								
TOTAL	1856	1066	932	23				3877

MODELLED

LGV

From Arm \ To Arm	A	B	C	D	E	F	G	TOTAL
A	0	6	9	0				15
B	2	0	16	0				18
C	48	16	0	4				68
D	8	9	10	0				27
E								
F								
G								
TOTAL	58	31	35	4				128

MODELLED

HGV (PCU)

From Arm \ To Arm	A	B	C	D	E	F	G	TOTAL
A	0	0	4	0				4
B	0	0	17	0				17
C	161	43	0	0				204
D	9	12	0	0				21
E								
F								
G								
TOTAL	170	55	21	0				246

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 Road*
F					
G					

Growth Factors

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

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MODELLED — PCU

From Arm \ To Arm	A	B	C	D	E	F	G	TOTAL
A	0	542	153	959	7			1661
B	58	0	147	352	109			666
C	0	157	0	1033	180			1370
D	792	625	150	0	97			1664
E	82	572	514	1	0			1169
F								
G								
TOTAL	932	1896	964	2345	393			6530

By Vehicle Type:

MODELLED — Car

From Arm \ To Arm	A	B	C	D	E	F	G	TOTAL
A	0	454	123	919	7			1503
B	52	0	127	300	104			583
C	0	154	0	981	177			1312
D	714	545	148	0	87			1494
E	81	571	490	1	0			1143
F								
G								
TOTAL	847	1724	888	2201	375			6035

MODELLED — LGV

From Arm \ To Arm	A	B	C	D	E	F	G	TOTAL
A	0	4	8	30	0			42
B	3	0	14	11	3			31
C	0	3	0	52	3			58
D	70	6	2	0	10			88
E	1	1	22	0	0			24
F								
G								
TOTAL	74	14	46	93	16			243

MODELLED — HGV (PCU)

From Arm \ To Arm	A	B	C	D	E	F	G	TOTAL
A	0	84	22	10	0			116
B	3	0	6	41	2			52
C	0	0	0	0	0			0
D	8	74	0	0	0			82
E	0	0	2	0	0			2
F								
G								
TOTAL	11	158	30	51	2			252

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MODELLED — PCU

From Arm \ To Arm	A	B	C	D	E	F	G	TOTAL
A	0	228	176	708	8			1120
B	536	0	73	436	593			1638
C	0	61	0	797	355			1213
D	1735	401	567	4	23			2730
E	267	267	364	9	0			907
F								
G								
TOTAL	2538	957	1180	1954	979			7608

By Vehicle Type:

MODELLED — Car

From Arm \ To Arm	A	B	C	D	E	F	G	TOTAL
A	0	221	163	647	8			1039
B	528	0	72	428	587			1615
C	0	61	0	767	341			1169
D	1514	395	557	4	23			2493
E	260	262	357	9	0			888
F								
G								
TOTAL	2302	939	1149	1855	959			7204

MODELLED — LGV

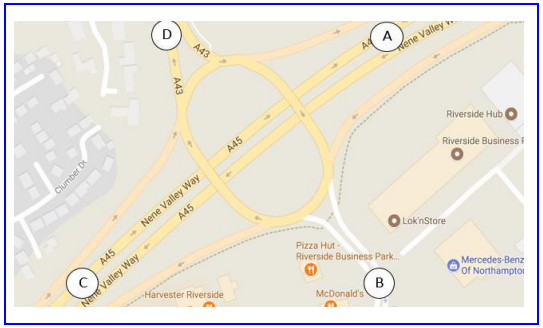
From Arm \ To Arm	A	B	C	D	E	F	G	TOTAL
A	0	3	5	10	0			18
B	5	0	1	4	5			15
C	0	0	0	30	14			44
D	87	3	10	0	0			100
E	7	5	7	0	0			19
F								
G								
TOTAL	99	11	23	44	19			196

MODELLED — HGV (PCU)

From Arm \ To Arm	A	B	C	D	E	F	G	TOTAL
A	0	4	8	51	0			63
B	3	0	0	4	1			8
C	0	0	0	0	0			0
D	134	3	0	0	0			137
E	0	0	0	0	0			0
F								
G								
TOTAL	137	7	8	55	1			208

Junction Turning Flows

Junction: A45 Lumbertubs Interchange



Arm Description

Arm	Inbound		Outbound		Description
	A-Node	B-Node	A-Node	B-Node	
A	9213	9214	9211	9212	*A45/ Nene Valley Way*
B	4437	9215	9214	4436	*Ferris Row*
C	2075	9217	9215	9216	*A45/ Nene Valley Way*
D	9210	9211	9217	4068	*A43/ Lumbertubs Way*
E					
F					
G					

Growth Factors

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

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MODELLED

PCU

From Arm \ To Arm	A	B	C	D	E	F	G	TOTAL
A	0	118	0	321				439
B	39	0	1019	241				1299
C	0	110	0	1480				1590
D	381	1140	1326	91				2938
E								
F								
G								
TOTAL	420	1368	2345	2133				6266

By Vehicle Type:

MODELLED

Car

From Arm \ To Arm	A	B	C	D	E	F	G	TOTAL
A	0	108	0	309				417
B	36	0	938	205				1179
C	0	100	0	1011				1111
D	370	1012	1059	89				2530
E								
F								
G								
TOTAL	406	1220	1997	1614				5237

MODELLED

LGV

From Arm \ To Arm	A	B	C	D	E	F	G	TOTAL
A	0	10	0	12				22
B	2	0	40	5				47
C	0	10	0	74				84
D	10	47	61	2				120
E								
F								
G								
TOTAL	12	67	101	93				273

MODELLED

HGV (PCU)

From Arm \ To Arm	A	B	C	D	E	F	G	TOTAL
A	0	0	0	0				0
B	1	0	41	31				73
C	0	0	0	395				395
D	1	81	206	0				288
E								
F								
G								
TOTAL	2	81	247	426				756

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MODELLED

PCU

From Arm \ To Arm	A	B	C	D	E	F	G	TOTAL
A	0	96	0	504				600
B	112	0	928	399				1439
C	0	125	8	1908				2041
D	185	783	1088	28				2084
E								
F								
G								
TOTAL	297	1004	2024	2839				6164

By Vehicle Type:

MODELLED

Car

From Arm \ To Arm	A	B	C	D	E	F	G	TOTAL
A	0	74	0	496				570
B	107	0	918	395				1420
C	0	14	8	1645				1667
D	179	711	983	28				1901
E								
F								
G								
TOTAL	286	799	1909	2564				5558

MODELLED

LGV

From Arm \ To Arm	A	B	C	D	E	F	G	TOTAL
A	0	21	0	8				29
B	5	0	8	4				17
C	0	2	0	50				52
D	6	13	27	0				46
E								
F								
G								
TOTAL	11	36	35	62				144

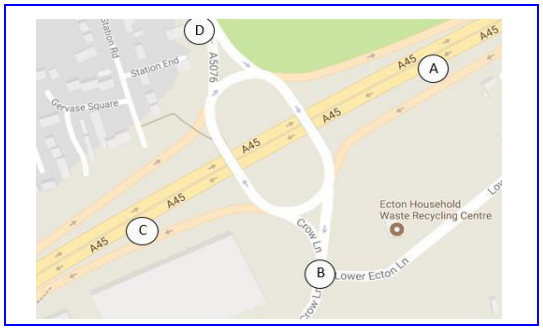
MODELLED

HGV (PCU)

From Arm \ To Arm	A	B	C	D	E	F	G	TOTAL
A	0	1	0	0				1
B	0	0	2	0				2
C	0	109	0	213				322
D	0	59	78	0				137
E								
F								
G								
TOTAL	0	169	80	213				462

Junction Turning Flows

Junction: A45 Great Billing Interchange



Arm Description

Arm	Inbound		Outbound		Description
	A-Node	B-Node	A-Node	B-Node	
A	9259	9258	9253	9254	*A45/ Nene Valley Way*
B	1076	9257	9257	1076	*Crow Lane*
C	9250	9251	9256	9255	*A45/ Nene Valley Way*
D	24694	9252	9252	24694	*Great Billing Way*
E					
F					
G					

Growth Factors

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

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MODELLED

PCU		To Arm A	B	C	D	E	F	G	TOTAL
From Arm	A	0	411	53	330				794
	B	262	0	647	384				1293
	C	0	139	5	327				471
	D	321	451	655	0				1427
	E								
	F								
	G								
	TOTAL	583	1001	1360	1041				3985

By Vehicle Type:

MODELLED

Car		To Arm A	B	C	D	E	F	G	TOTAL
From Arm	A	0	209	0	317				526
	B	218	0	369	264				851
	C	0	128	5	323				456
	D	316	379	610	0				1305
	E								
	F								
	G								
	TOTAL	534	716	984	904				3138

MODELLED

LGV		To Arm A	B	C	D	E	F	G	TOTAL
From Arm	A	0	2	0	6				8
	B	38	0	46	38				122
	C	0	11	0	4				15
	D	5	17	15	0				37
	E								
	F								
	G								
	TOTAL	43	30	61	48				182

MODELLED

HGV (PCU)		To Arm A	B	C	D	E	F	G	TOTAL
From Arm	A	0	200	53	7				260
	B	6	0	232	82				320
	C	0	0	0	0				0
	D	0	55	30	0				85
	E								
	F								
	G								
	TOTAL	6	255	315	89				665

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MODELLED

PCU		To Arm A	B	C	D	E	F	G	TOTAL
From Arm	A	0	199	0	108				307
	B	333	0	224	541				1098
	C	117	157	5	700				979
	D	337	247	254	0				838
	E								
	F								
	G								
	TOTAL	787	603	483	1349				3222

By Vehicle Type:

MODELLED

Car		To Arm A	B	C	D	E	F	G	TOTAL
From Arm	A	0	197	0	108				305
	B	301	0	168	483				952
	C	100	23	5	503				631
	D	324	228	249	0				801
	E								
	F								
	G								
	TOTAL	725	448	422	1094				2689

MODELLED

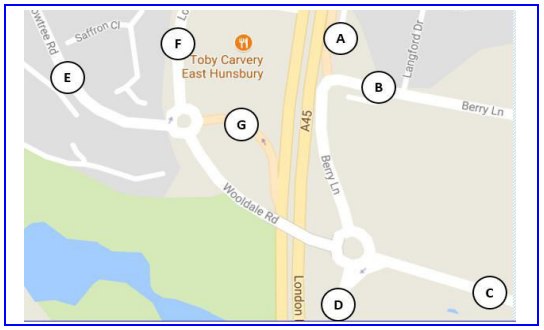
LGV		To Arm A	B	C	D	E	F	G	TOTAL
From Arm	A	0	2	0	0				2
	B	31	0	35	51				117
	C	7	17	0	26				50
	D	13	19	4	0				36
	E								
	F								
	G								
	TOTAL	51	38	39	77				205

MODELLED

HGV (PCU)		To Arm A	B	C	D	E	F	G	TOTAL
From Arm	A	0	0	0	0				0
	B	1	0	21	7				29
	C	10	117	0	171				298
	D	0	0	1	0				1
	E								
	F								
	G								
	TOTAL	11	117	22	178				328

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*

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MODELLED

PCU

From Arm \ To Arm	A	B	C	D	E	F	G	TOTAL
A	0	2	0	0	161	32	0	195
B	0	0	0	196	52	119	0	367
C	0	0	0	675	119	144	0	938
D	0	25	166	0	80	384	0	655
E	0	31	316	484	0	671	0	1502
F	0	0	0	0	0	0	0	0
G	0	40	365	16	155	0	0	576
TOTAL	0	98	847	1371	567	1350	0	4233

By Vehicle Type:

MODELLED

Car

From Arm \ To Arm	A	B	C	D	E	F	G	TOTAL
A	0	2	0	0	144	31	0	177
B	0	0	0	175	52	116	0	343
C	0	0	0	345	115	143	0	603
D	0	25	151	0	80	368	0	624
E	0	30	305	480	0	505	0	1320
F	0	0	0	0	0	0	0	0
G	0	27	207	15	135	0	0	384
TOTAL	0	84	663	1015	526	1163	0	3451

MODELLED

LGV

From Arm \ To Arm	A	B	C	D	E	F	G	TOTAL
A	0	0	0	0	7	1	0	8
B	0	0	0	3	0	2	0	5
C	0	0	0	25	4	1	0	30
D	0	0	2	0	0	14	0	16
E	0	1	11	2	0	21	0	35
F	0	0	0	0	0	0	0	0
G	0	1	15	1	6	0	0	23
TOTAL	0	2	28	31	17	39	0	117

MODELLED

HGV (PCU)

From Arm \ To Arm	A	B	C	D	E	F	G	TOTAL
A	0	0	0	0	10	0	0	10
B	0	0	0	18	0	1	0	19
C	0	0	0	305	0	0	0	305
D	0	0	13	0	0	2	0	15
E	0	0	0	2	0	145	0	147
F	0	0	0	0	0	0	0	0
G	0	12	143	0	14	0	0	169
TOTAL	0	12	156	325	24	148	0	665

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MODELLED

PCU

From Arm \ To Arm	A	B	C	D	E	F	G	TOTAL
A	0	0	12	0	473	62	0	547
B	0	0	0	0	0	0	0	0
C	0	0	0	476	318	124	0	918
D	0	23	238	0	71	252	0	584
E	0	10	210	329	0	570	0	1119
F	0	0	0	0	0	0	0	0
G	0	25	503	9	240	0	0	777
TOTAL	0	58	963	814	1102	1008	0	3945

By Vehicle Type:

MODELLED

Car

From Arm \ To Arm	A	B	C	D	E	F	G	TOTAL
A	0	0	12	0	446	60	0	518
B	0	0	0	0	0	0	0	0
C	0	0	0	306	167	120	0	593
D	0	23	221	0	70	243	0	557
E	0	9	174	322	0	208	0	713
F	0	0	0	0	0	0	0	0
G	0	23	315	4	220	0	0	562
TOTAL	0	55	722	632	903	631	0	2943

MODELLED

LGV

From Arm \ To Arm	A	B	C	D	E	F	G	TOTAL
A	0	0	0	0	9	2	0	11
B	0	0	0	0	0	0	0	0
C	0	0	0	19	3	4	0	26
D	0	0	17	0	1	7	0	25
E	0	1	7	5	0	23	0	36
F	0	0	0	0	0	0	0	0
G	0	0	18	5	12	0	0	35
TOTAL	0	1	42	29	25	36	0	133

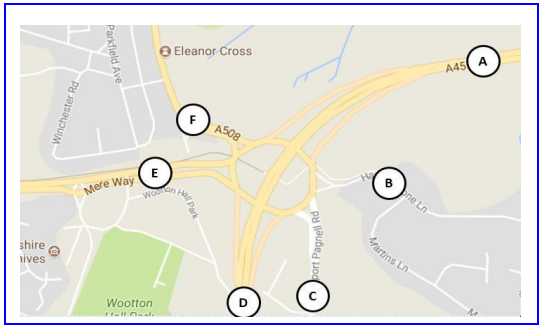
MODELLED

HGV (PCU)

From Arm \ To Arm	A	B	C	D	E	F	G	TOTAL
A	0	0	0	0	18	0	0	18
B	0	0	0	0	0	0	0	0
C	0	0	0	151	148	0	0	299
D	0	0	0	0	0	2	0	2
E	0	0	29	2	0	339	0	370
F	0	0	0	0	0	0	0	0
G	0	2	170	0	8	0	0	180
TOTAL	0	2	199	153	174	341	0	869

Junction Turning Flows

Junction: A45 Queen Eleanor Interchange



Arm Description

Arm	Inbound		Outbound		Description
	A-Node	B-Node	A-Node	B-Node	
A	9168	2092	60137	9162	*A45 North*
B	1081	1079	1079	1081	*Hardingstone Lane*
C	24742	3082	3082	24742	*Newport Pagnell Rd*
D	9161	60134	60133	9169	*A45 South*
E	60203	1092	1092	60203	*Mere Way*
F	2088	60136	60136	2088	*A508 - London Road*
G					

Growth Factors

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

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MODELLED

PCU

From Arm \ To Arm	A	B	C	D	E	F	G	TOTAL
A	0	59	100	0	1403	451		2013
B	221	0	0	5	110	130		466
C	176	0	0	0	469	555		1200
D	0	0	0	0	23	632		655
E	1814	20	382	268	0	2		2486
F	350	8	270	649	34	0		1311
G								
TOTAL	2561	87	752	922	2039	1770		8131

By Vehicle Type:

MODELLED

Car

From Arm \ To Arm	A	B	C	D	E	F	G	TOTAL
A	0	54	96	0	1102	343		1595
B	218	0	0	5	109	128		460
C	175	0	0	0	465	545		1185
D	0	0	0	0	22	278		300
E	1400	19	361	255	0	2		2037
F	340	8	259	578	32	0		1217
G								
TOTAL	2133	81	716	838	1730	1296		6794

MODELLED

LGV

From Arm \ To Arm	A	B	C	D	E	F	G	TOTAL
A	0	5	4	0	89	33		131
B	3	0	0	0	1	2		6
C	1	0	0	0	3	7		11
D	0	0	0	0	0	37		37
E	42	1	4	11	0	0		58
F	7	0	4	24	1	0		36
G								
TOTAL	53	6	12	35	94	79		279

MODELLED

HGV (PCU)

From Arm \ To Arm	A	B	C	D	E	F	G	TOTAL
A	0	0	0	0	212	75		287
B	0	0	0	0	0	0		0
C	0	0	0	0	1	3		4
D	0	0	0	0	1	317		318
E	372	0	17	2	0	0		391
F	3	0	7	47	1	0		58
G								
TOTAL	375	0	24	49	215	395		1058

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MODELLED

PCU

From Arm \ To Arm	A	B	C	D	E	F	G	TOTAL
A	0	335	57	0	1299	323		2014
B	456	0	0	11	40	148		655
C	214	0	0	0	618	496		1328
D	0	21	0	0	61	643		725
E	1593	181	339	296	0	2		2411
F	314	109	236	599	44	0		1302
G								
TOTAL	2577	646	632	906	2062	1612		8435

By Vehicle Type:

MODELLED

Car

From Arm \ To Arm	A	B	C	D	E	F	G	TOTAL
A	0	333	57	0	1063	303		1756
B	436	0	0	11	39	144		630
C	213	0	0	0	598	474		1285
D	0	21	0	0	61	590		672
E	1398	180	336	286	0	2		2202
F	298	105	220	500	41	0		1164
G								
TOTAL	2345	639	613	797	1802	1513		7709

MODELLED

LGV

From Arm \ To Arm	A	B	C	D	E	F	G	TOTAL
A	0	2	0	0	69	20		91
B	15	0	0	0	1	3		19
C	1	0	0	0	20	22		43
D	0	0	0	0	0	13		13
E	24	1	2	1	0	0		28
F	16	4	9	6	3	0		38
G								
TOTAL	56	7	11	7	93	58		232

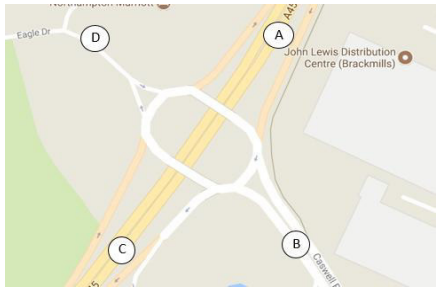
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HGV (PCU)

From Arm \ To Arm	A	B	C	D	E	F	G	TOTAL
A	0	0	0	0	167	0		167
B	5	0	0	0	0	1		6
C	0	0	0	0	0	0		0
D	0	0	0	0	0	40		40
E	171	0	1	9	0	0		181
F	0	0	7	93	0	0		100
G								
TOTAL	176	0	8	102	167	41		494

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*

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MODELLED — PCU

From Arm \ To Arm	A	B	C	D	E	F	G	TOTAL
A	0	895	94	9				998
B	510	0	457	2				969
C	559	1216	0	17				1792
D	45	13	14	0				72
E								
F								
G								
TOTAL	1114	2124	565	28				3831

By Vehicle Type:

MODELLED — Car

From Arm \ To Arm	A	B	C	D	E	F	G	TOTAL
A	0	725	87	9				821
B	445	0	309	1				755
C	498	1146	0	12				1656
D	30	8	12	0				50
E								
F								
G								
TOTAL	973	1879	408	22				3282

MODELLED — LGV

From Arm \ To Arm	A	B	C	D	E	F	G	TOTAL
A	0	6	4	0				10
B	17	0	28	1				46
C	19	13	0	5				37
D	15	5	2	0				22
E								
F								
G								
TOTAL	51	24	34	6				115

MODELLED — HGV (PCU)

From Arm \ To Arm	A	B	C	D	E	F	G	TOTAL
A	0	164	3	0				167
B	48	0	120	0				168
C	42	57	0	0				99
D	0	0	0	0				0
E								
F								
G								
TOTAL	90	221	123	0				434

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MODELLED — PCU

From Arm \ To Arm	A	B	C	D	E	F	G	TOTAL
A	0	375	372	0				747
B	504	0	440	1				945
C	1382	624	0	6				2012
D	328	103	161	0				592
E								
F								
G								
TOTAL	2214	1102	973	7				4296

By Vehicle Type:

MODELLED — Car

From Arm \ To Arm	A	B	C	D	E	F	G	TOTAL
A	0	368	361	0				729
B	502	0	403	1				906
C	1176	567	0	3				1746
D	311	83	151	0				545
E								
F								
G								
TOTAL	1989	1018	915	4				3926

MODELLED — LGV

From Arm \ To Arm	A	B	C	D	E	F	G	TOTAL
A	0	7	8	0				15
B	2	0	16	0				18
C	50	13	0	3				66
D	8	8	10	0				26
E								
F								
G								
TOTAL	60	28	34	3				125

MODELLED — HGV (PCU)

From Arm \ To Arm	A	B	C	D	E	F	G	TOTAL
A	0	0	3	0				3
B	0	0	21	0				21
C	156	44	0	0				200
D	9	12	0	0				21
E								
F								
G								
TOTAL	165	56	24	0				245

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*

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MODELLED

PCU

From Arm \ To Arm	A	B	C	D	E	F	G	TOTAL
A	0	535	240	941	9			1725
B	61	0	151	340	123			675
C	0	149	0	1006	200			1355
D	771	648	185	0	102			1706
E	100	597	503	8	0			1208
F								
G								
TOTAL	932	1929	1079	2295	434			6669

By Vehicle Type:

MODELLED

Car

From Arm \ To Arm	A	B	C	D	E	F	G	TOTAL
A	0	431	202	847	9			1489
B	55	0	123	291	119			588
C	0	145	0	955	196			1296
D	696	569	181	0	89			1535
E	97	594	469	8	0			1168
F								
G								
TOTAL	848	1739	975	2101	413			6076

MODELLED

LGV

From Arm \ To Arm	A	B	C	D	E	F	G	TOTAL
A	0	4	7	31	0			42
B	3	0	15	10	4			32
C	0	3	0	49	4			56
D	66	6	4	0	13			89
E	3	2	31	0	0			36
F								
G								
TOTAL	72	15	57	90	21			255

MODELLED

HGV (PCU)

From Arm \ To Arm	A	B	C	D	E	F	G	TOTAL
A	0	100	31	63	0			194
B	3	0	13	39	0			55
C	0	1	0	2	0			3
D	9	73	0	0	0			82
E	0	1	3	0	0			4
F								
G								
TOTAL	12	175	47	104	0			338

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MODELLED

PCU

From Arm \ To Arm	A	B	C	D	E	F	G	TOTAL
A	0	209	203	691	14			1117
B	477	0	70	442	647			1636
C	0	69	0	809	328			1206
D	1725	460	508	9	30			2732
E	307	307	301	11	0			926
F								
G								
TOTAL	2509	1045	1082	1962	1019			7617

By Vehicle Type:

MODELLED

Car

From Arm \ To Arm	A	B	C	D	E	F	G	TOTAL
A	0	205	189	632	14			1040
B	469	0	69	435	640			1613
C	0	69	0	778	316			1163
D	1502	453	500	8	30			2493
E	300	299	293	11	0			903
F								
G								
TOTAL	2271	1026	1051	1864	1000			7212

MODELLED

LGV

From Arm \ To Arm	A	B	C	D	E	F	G	TOTAL
A	0	2	4	8	0			14
B	5	0	1	5	6			17
C	0	0	0	31	12			43
D	90	4	8	1	0			103
E	7	7	5	0	0			19
F								
G								
TOTAL	102	13	18	45	18			196

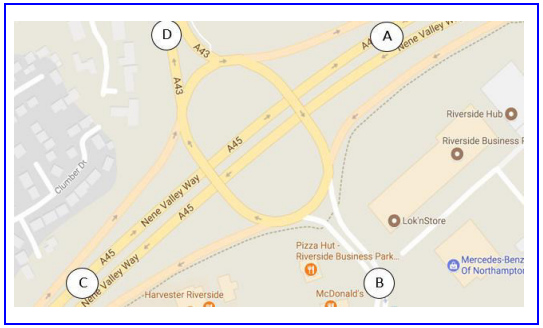
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HGV (PCU)

From Arm \ To Arm	A	B	C	D	E	F	G	TOTAL
A	0	2	10	51	0			63
B	3	0	0	2	1			6
C	0	0	0	0	0			0
D	133	3	0	0	0			136
E	0	1	3	0	0			4
F								
G								
TOTAL	136	6	13	53	1			209

Junction Turning Flows

Junction: A45 Lumbertubs Interchange



Arm Description

Arm	Inbound		Outbound		Description
	A-Node	B-Node	A-Node	B-Node	
A	9213	9214	9211	9212	*A45/ Nene Valley Way*
B	4437	9215	9214	4436	*Ferris Row*
C	2075	9217	9215	9216	*A45/ Nene Valley Way*
D	9210	9211	9217	4068	*A43/ Lumbertubs Way*
E					
F					
G					

Growth Factors

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

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MODELLED

PCU

From Arm \ To Arm	A	B	C	D	E	F	G	TOTAL
A	0	84	0	319				403
B	48	0	1037	220				1305
C	0	105	5	1511				1621
D	383	1085	1385	124				2977
E								
F								
G								
TOTAL	431	1274	2427	2174				6306

By Vehicle Type:

MODELLED

Car

From Arm \ To Arm	A	B	C	D	E	F	G	TOTAL
A	0	75	0	308				383
B	46	0	946	189				1181
C	0	95	5	1017				1117
D	371	918	1133	121				2543
E								
F								
G								
TOTAL	417	1088	2084	1635				5224

MODELLED

LGV

From Arm \ To Arm	A	B	C	D	E	F	G	TOTAL
A	0	9	0	11				20
B	2	0	40	3				45
C	0	10	0	75				85
D	11	43	61	3				118
E								
F								
G								
TOTAL	13	62	101	92				268

MODELLED

HGV (PCU)

From Arm \ To Arm	A	B	C	D	E	F	G	TOTAL
A	0	0	0	0				0
B	0	0	51	28				79
C	0	0	0	419				419
D	1	124	191	0				316
E								
F								
G								
TOTAL	1	124	242	447				814

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MODELLED

PCU

From Arm \ To Arm	A	B	C	D	E	F	G	TOTAL
A	0	98	0	503				601
B	102	0	944	429				1475
C	74	128	0	1828				2030
D	168	791	1128	31				2118
E								
F								
G								
TOTAL	344	1017	2072	2791				6224

By Vehicle Type:

MODELLED

Car

From Arm \ To Arm	A	B	C	D	E	F	G	TOTAL
A	0	75	0	496				571
B	97	0	934	426				1457
C	53	14	0	1567				1634
D	163	684	1023	31				1901
E								
F								
G								
TOTAL	313	773	1957	2520				5563

MODELLED

LGV

From Arm \ To Arm	A	B	C	D	E	F	G	TOTAL
A	0	22	0	7				29
B	5	0	9	3				17
C	5	2	0	45				52
D	5	19	24	0				48
E								
F								
G								
TOTAL	15	43	33	55				146

MODELLED

HGV (PCU)

From Arm \ To Arm	A	B	C	D	E	F	G	TOTAL
A	0	1	0	0				1
B	0	0	1	0				1
C	16	112	0	216				344
D	0	88	81	0				169
E								
F								
G								
TOTAL	16	201	82	216				515

Junction Turning Flows

Junction: A45 Great Billing Interchange



Arm Description

Arm	Inbound		Outbound		Description
	A-Node	B-Node	A-Node	B-Node	
A	9259	9258	9253	9254	*A45/ Nene Valley Way*
B	1076	9257	9257	1076	*Crow Lane*
C	9250	9251	9256	9255	*A45/ Nene Valley Way*
D	24694	9252	9252	24694	*Great Billing Way*
E					
F					
G					

Growth Factors

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

AM\NSTM_2_2021_AM_I1.DAT

MODELLED

PCU

From Arm \ To Arm	A	B	C	D	E	F	G	TOTAL
A	0	395	42	369				806
B	262	0	651	378				1291
C	0	156	6	304				466
D	324	404	725	0				1453
E								
F								
G								
TOTAL	586	955	1424	1051				4016

By Vehicle Type:

MODELLED

Car

From Arm \ To Arm	A	B	C	D	E	F	G	TOTAL
A	0	228	0	360				588
B	216	0	371	259				846
C	0	147	6	298				451
D	319	329	666	0				1314
E								
F								
G								
TOTAL	535	704	1043	917				3199

MODELLED

LGV

From Arm \ To Arm	A	B	C	D	E	F	G	TOTAL
A	0	2	0	6				8
B	39	0	46	39				124
C	0	9	0	4				13
D	5	18	22	0				45
E								
F								
G								
TOTAL	44	29	68	49				190

MODELLED

HGV (PCU)

From Arm \ To Arm	A	B	C	D	E	F	G	TOTAL
A	0	165	42	3				210
B	7	0	234	80				321
C	0	0	0	2				2
D	0	57	37	0				94
E								
F								
G								
TOTAL	7	222	313	85				627

PM\NSTM_2_2021_PM_I1.DAT

MODELLED

PCU

From Arm \ To Arm	A	B	C	D	E	F	G	TOTAL
A	0	184	0	101				285
B	349	0	218	534				1101
C	44	134	8	788				974
D	340	257	255	0				852
E								
F								
G								
TOTAL	733	575	481	1423				3212

By Vehicle Type:

MODELLED

Car

From Arm \ To Arm	A	B	C	D	E	F	G	TOTAL
A	0	182	0	100				282
B	316	0	160	480				956
C	38	23	8	548				617
D	327	238	238	0				803
E								
F								
G								
TOTAL	681	443	406	1128				2658

MODELLED

LGV

From Arm \ To Arm	A	B	C	D	E	F	G	TOTAL
A	0	2	0	1				3
B	32	0	34	50				116
C	4	17	0	28				49
D	13	19	4	0				36
E								
F								
G								
TOTAL	49	38	38	79				204

MODELLED

HGV (PCU)

From Arm \ To Arm	A	B	C	D	E	F	G	TOTAL
A	0	0	0	0				0
B	1	0	24	4				29
C	2	94	0	212				308
D	0	0	13	0				13
E								
F								
G								
TOTAL	3	94	37	216				350