HORIZON NUCLEAR POWER

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1 Traffic Model Assessment Results

1.1 Introduction

This report outlines the results from the junction capacity assessments undertaken to support the Wylfa Newydd Power Station DCO. 38 junctions were initially assessed by Jacobs Transport Consultants as they were considered to be potentially impacted by the development.

The junction performance results for the 38 junctions in the Reference Case (baseline data with no proposed development traffic) and the Wylfa Newydd Project scenarios (with the additional proposed development traffic) are presented at appendix 1-0.1.

This report presents junction modelling results for only those 11 junctions observed to operate over 70% Ratio of Flow to Capacity (RFC) in accordance with the DMRB assessment methodology, with the addition of Valley Crossroads as this junction was identified as a critical junction by stakeholders. The MMQ (Mean Maximum Queue) measured in passenger Car Units (PCUs) has also been evaluated in the following sections. The full junction modelling data are attached at appendix 1-0.2.

This report also includes the results for the four proposed site access junctions to demonstrate their performance. The full data for these additional junctions are also included in appendix 1-0.2.

The junctions analysed in this report are detailed in table 1-1.

Table 1-1 Assessed Junctions

No.	Junction reference in Appendix 1-0.1	Junction name	Type
1	71	A5 Mona Road / B5420 Pentraeth Road / Dale Road	Roundabout
2	1	A55 Junction 2	Grade separate dumbbell junction
3	20	A55 Junction 6	Grade separate dumbbell junction
4	46	A55 Junction 8	Priority crossroad junction
5	47	A55 Junction 8a	Grade separate priority junction
6	48/49	A55 Junction 9	Grade separate dumbbell junction
7	73	A5 / A487 roundabout	Roundabout
8	12	Power Station Site access road / A5025 junction	Priority T-junction
9	39	A5025 / B5420 Ffordd Penmynydd / Pentraeth Road (Menai Bridge)	Roundabout
10	74	A487 / B4547 roundabout	Roundabout
11	75	A5114 / Bridge Street junction	Priority T-junction
Proposed junctions as part of Wylfa Newydd development			
12	3	A5025 / A5 / B4545 Valley Crossroads signalised junction	Signalised crossroads junction
13	63	Wylfa Newydd Development Area new Access from A5025	Roundabout
14	64	Proposed MEEG access	Priority T-junction
15	65	Dalir Hir Park & Ride Access, London Road.	Roundabout

Junctions 9 v.9.0.1 was used for the junction assessments, with the ARCADY application used for roundabout junctions and PICADY application used for priority intersection junctions. LinSig version 3 has been used to assess the Valley Crossroads signalised junction.

The following scenarios have been tested:

- 2016 Baseline
- 2020 With Development (year prior to Off-Line Highway works completion)
- 2023 With Development (peak construction traffic)
- 2033 With Development (peak operational traffic)

The following time periods have been assessed for each development scenario:

- Weekday AM peak – 08:00 – 09:00
- Weekday PM peak – 17:00 – 18:00 (unless stated otherwise)
- Weekend peak – 12:00 – 13:00

The busiest hour in each morning and evening peak period has been assessed to provide a robust and conservative assessment of junction performance. This busiest hour varies from junction to junction and hence different hours are modelled at different junctions.

Some time periods and scenarios have not been assessed for some of the 15 junctions discussed below as an initial high level analysis undertaken by Jacobs Transport Consultants identified these scenarios to not reach the RFC threshold for further assessment (0.70). This has been stated clearly where assessments have not been undertaken for certain time periods.

A5 Mona Road / Dale Street / B5420 Pentraeth Road roundabout

Table 1-2 presents the model results in the 2016 Baseline scenario for the A5 Mona Road / Dale Street / B5420 Pentraeth Road roundabout. Following this, table 1-3 presents the results for the 2020 With Development scenario, table 1-4 outlines the 2023 With Development scenario, and table 1-5 presents the 2033 With Development scenario results.

Table 1-2 A5 Mona Road roundabout 2016 Baseline results

Approach	Weekday AM		Weekday PM		Weekend	
	RFC	MMQ	RFC	MMQ	RFC	MMQ
B5420 Pentraeth Road	0.64	1.7	Not assessed			
Dale Street	0.27	0.4				
A5 Mona Road	0.22	0.3				
A5 Rhyd Menai	0.25	0.3				

Table 1-3 A5 Mona Road roundabout 2020 With Development results

Approach	Weekday AM		Weekday PM		Weekend	
	RFC	MMQ	RFC	MMQ	RFC	MMQ
B5420 Pentraeth Road	0.68	2.1	Not assessed			
Dale Street	0.30	0.4				
A5 Mona Road	0.24	0.3				
A5 Rhyd Menai	0.27	0.4				

Table 1-4 A5 Mona Road roundabout 2023 With Development results

Approach	Weekday AM		Weekday PM		Weekend	
	RFC	MMQ	RFC	MMQ	RFC	MMQ
B5420 Pentraeth Road	0.70	2.3	Not assessed			
Dale Street	0.31	0.4				
A5 Mona Road	0.25	0.3				
A5 Rhyd Menai	0.28	0.4				

Table 1-5 A5 Mona Road roundabout 2033 With Development results

Approach	Weekday AM		Weekday PM		Weekend	
	RFC	MMQ	RFC	MMQ	RFC	MMQ
B5420 Pentraeth Road	0.76	3	0.4	0.7	Not assessed	
Dale Street	0.34	0.5	0.3	0.4		
A5 Mona Road	0.27	0.4	0.83	4.7		
A5 Rhyd Menai	0.3	0.4	0.37	0.6		

This shows that the B5420 Pentraeth Road experiences marginal capacity issues in the 2023 and 2033 With Development scenarios in the weekday AM peak, and additionally the A5 Mona Road in the latter scenario during the weekday PM peak. A further comparison with the 2033 Reference Case scenario results, which assesses 2033 with no proposed development traffic, highlights that the values presents in table 1-5 are identical to the Reference Case and subsequently the development has no impact upon the junction's performance.

A55 Junction 2

Table 1-6 presents the model results in the 2016 Baseline scenario for the A55 Junction 2 roundabout and table 1-7 presents the results for the 2020 With Development scenario. Both of these scenarios assess 16:00 – 17:00 as the weekday PM peak instead of 17:00 – 18:00. Following this, table 1-8 outlines the 2023 With Development scenario, and table 1-9 presents the 2033 With Development scenario results.

Table 1-6 A55 Junction 2 roundabout 2016 Baseline results

Junction Part	Approach	Weekday AM		Weekday PM (16:00 – 17:00)		Weekend	
		RFC	MMQ	RFC	MMQ	RFC	MMQ
Junction North	A5153 southbound	0.22	0.3	0.45	0.8	0.48	0.9
	A5153 northbound	0.15	0.2	0.27	0.4	0.23	0.3
	A55 eastbound	0.15	0.2	0.25	0.3	0.28	0.4
Junction South	A5153 southbound	0.08	0.1	0.17	0.2	0.19	0.2
	A55 westbound	0.31	0.5	0.31	0.4	0.42	0.7
	A5153 northbound	0.17	0.2	0.34	0.5	0.27	0.4

Table 1-7 A55 Junction 2 roundabout 2020 With Development results

Junction Part	Approach	Weekday AM		Weekday PM (16:00 – 17:00)		Weekend	
		RFC	MMQ	RFC	MMQ	RFC	MMQ
Junction North	A5153 southbound	0.24	0.3	0.49	1.0	0.51	1.0
	A5153 northbound	0.16	0.2	0.30	0.4	0.25	0.3
	A55 eastbound	0.16	0.2	0.28	0.4	0.30	0.4
Junction South	A5153 southbound	0.08	0.1	0.19	0.2	0.21	0.3
	A55 westbound	0.35	0.5	0.36	0.5	0.44	0.8
	A5153 northbound	0.18	0.2	0.39	0.6	0.29	0.4

Table 1-8 A55 Junction 2 roundabout 2023 With Development results

Junction Part	Approach	Weekday AM		Weekday PM (17:00 – 18:00)		Weekend	
		RFC	MMQ	RFC	MMQ	RFC	MMQ
Junction North	A5153 southbound	0.25	0.3	0.49	1.0	0.53	1.1
	A5153 northbound	0.20	0.2	0.34	0.5	0.25	0.3
	A55 eastbound	0.17	0.2	0.26	0.4	0.31	0.4
Junction South	A5153 southbound	0.09	0.1	0.19	0.2	0.21	0.3
	A55 westbound	0.38	0.6	0.42	0.7	0.45	0.8
	A5153 northbound	0.23	0.3	0.45	0.8	0.29	0.4

Table 1-9 A55 Junction 2 roundabout 2033 With Development results

Junction Part	Approach	Weekday AM		Weekday PM (17:00 – 18:00)		Weekend	
		RFC	MMQ	RFC	MMQ	RFC	MMQ
Junction North	A5153 southbound	0.29	0.4	0.72	2.4	0.56	1.3
	A5153 northbound	0.24	0.3	0.61	1.6	0.27	0.4
	A55 eastbound	0.25	0.3	0.42	0.7	0.34	0.5
Junction South	A5153 southbound	0.13	0.1	0.21	0.3	0.23	0.3
	A55 westbound	0.85	5.3	0.56	1.3	0.48	0.9
	A5153 northbound	0.30	0.4	1.06	44.7	0.31	0.5

The RFC values show that the northern roundabout of the A55 Junction 2 operates well within capacity on all approaches during the weekday and weekend peak hours across all scenarios, and the MMQ values show no queuing issues at the junction. The southern roundabout however shows that the A5153 northbound and the A55 westbound exceeds effective capacity with a maximum RFC of 1.06 and 0.85 respectively, in the 2033 With Development scenario. Commensurate with this, the A5153 northbound is estimated to have a MMQ of approximately 45 vehicles.

A comparison has been undertaken with the 2033 Reference Case scenario, to evaluate the functionality of A55 Junction 2 in the absence of proposed development traffic. The results under this scenario are presented in table 1-10.

Table 1-10 A55 Junction 2 roundabout 2033 Reference Case results

Junction Part	Approach	Weekday AM		Weekday PM (17:00 – 18:00)		Weekend	
		RFC	MMQ	RFC	MMQ	RFC	MMQ
Junction North	A5153 southbound	0.29	0.4	0.72	2.4	0.56	1.3
	A5153 northbound	0.24	0.3	0.61	1.6	0.27	0.4
	A55 eastbound	0.25	0.3	0.42	0.7	0.34	0.5
Junction South	A5153 southbound	0.13	0.1	0.21	0.3	0.23	0.3
	A55 westbound	0.85	5.3	0.56	1.3	0.48	0.9
	A5153 northbound	0.30	0.4	1.06	44.7	0.31	0.5

This highlights that the junction will experience the same RFC and queueing issues in 2033 without the additional proposed development operational traffic. The issues experienced in 2033 can be attributed to the Phase 2 of Parc Cybi Logistics Centre adjacent to Junction 2, which is not part of the Wylfa Newydd Power Station development.

A55 Junction 6

Table 1-11 presents the model results in the 2016 Baseline scenario for the A55 Junction 6 roundabout. Following this, table 1-12 presents the results for the 2020 With Development scenario, table 1-13 outlines the 2023 With Development scenario, and table 1-14 presents the 2033 With Development scenario results. All scenarios assess 16:00 – 17:00 as the weekday PM peak instead of 17:00 – 18:00.

Table 1-11 A55 Junction 6 roundabout 2016 Baseline results

Junction Part	Approach	Weekday AM		Weekday PM (16:00 – 17:00)		Weekend	
		RFC	MMQ	RFC	MMQ	RFC	MMQ
Junction North	A5114	0.26	0.4	0.38	0.6	0.30	0.4
	Overbridge	0.49	1.0	0.50	0.4	0.36	0.5
	A55 Offslip	0.24	0.3	0.17	0.4	0.12	0.1
	A5 southbound	0.38	0.6	0.18	0.0	0.18	0.2
Junction South	Overbridge	0.30	0.4	0.37	0.6	0.33	0.5
	A55 Offslip	0.28	0.4	0.27	0.4	0.16	0.2
	A5 northbound	0.27	0.4	0.31	0.4	0.25	0.3
	Unnamed road	0.00	0.0	0.00	0.0	0.00	0.0

Table 1-12 A55 Junction 6 roundabout 2020 With Development results

Junction Part	Approach	Weekday AM		Weekday PM (16:00 – 17:00)		Weekend	
		RFC	MMQ	RFC	MMQ	RFC	MMQ
Junction North	A5114	0.30	0.4	0.43	0.7	0.32	0.5
	Overbridge	0.52	1.1	0.55	1.2	0.37	0.6
	A55 Offslip	0.26	0.4	0.18	0.2	0.12	0.1
	A5 southbound	0.41	0.7	0.21	0.3	0.19	0.2
Junction South	Overbridge	0.32	0.5	0.42	0.7	0.35	0.5
	A55 Offslip	0.30	0.4	0.30	0.4	0.17	0.2
	A5 northbound	0.29	0.4	0.36	0.6	0.26	0.4
	Unnamed road	0.00	0.0	0.00	0.0	0.00	0.0

Table 1-13 A55 Junction 6 roundabout 2023 With Development results

Junction Part	Approach	Weekday AM		Weekday PM (16:00 – 17:00)		Weekend	
		RFC	MMQ	RFC	MMQ	RFC	MMQ
Junction North	A5114	0.31	0.5	0.44	0.8	0.33	0.5
	Overbridge	0.54	1.1	0.57	1.3	0.38	0.6
	A55 Offslip	0.28	0.4	0.20	0.2	0.13	0.1
	A5 southbound	0.43	0.7	0.22	0.3	0.20	0.2
Junction South	Overbridge	0.33	0.5	0.44	0.8	0.36	0.6
	A55 Offslip	0.31	0.4	0.32	0.5	0.17	0.2
	A5 northbound	0.30	0.4	0.38	0.6	0.27	0.4
	Unnamed road	0.00	0.0	0.00	0.0	0.00	0.0

Table 1-14 A55 Junction 6 roundabout 2033 With Development results

Junction Part	Approach	Weekday AM		Weekday PM (16:00 – 17:00)		Weekend	
		RFC	MMQ	RFC	MMQ	RFC	MMQ
Junction North	A5114	0.41	0.7	0.47	0.9	0.35	0.5
	Overbridge	0.58	1.4	0.62	1.6	0.41	0.7
	A55 Offslip	0.33	0.5	0.31	0.4	0.14	0.2
	A5 southbound	0.49	0.9	0.20	0.3	0.22	0.3
Junction South	Overbridge	0.46	0.9	0.43	0.8	0.38	0.6
	A55 Offslip	0.35	0.5	0.34	0.5	0.19	0.2
	A5 northbound	0.40	0.7	0.42	0.7	0.30	0.4
	Unnamed road	0.00	0.0	0.00	0.0	0.00	0.0

RFC values show that the A55 Junction 6 is operating within capacity on all approaches during weekday and weekend peak hours in all scenarios. The MMQ values show no queuing issues at the northern and southern roundabouts, with the exception of a minor queue on the overbridge approach at the northern roundabout in all future scenarios (2020, 2022 and 2023).

A55 Junction 8

Table 1-15 presents the model results in the 2016 Baseline scenario for the A55 Junction 8 priority intersection. Following this, table 1-16 presents the results for the 2020 With Development scenario, table 1-17 outlines the 2023 With Development scenario, and table 1-18 presents the 2033 With Development scenario results. All scenarios test 16:00 – 17:00 as the weekday PM peak instead of 17:00 – 18:00.

Table 1-15 A55 Junction 8 priority intersection 2016 Baseline results

Junction Part	Approach	Weekday AM		Weekday PM (16:00 – 17:00)		Weekend	
		RFC	MMQ	RFC	MMQ	RFC	MMQ
Junction East	A55 Onslip – Lon Pant and A55 Offslip	0.00	0.0	0.00	0.0	0.00	0.0
	A55 Onslip – A5025 and A55 Offslip	0.00	0.0	0.00	0.0	0.00	0.0
	A5025 – all movements	0.00	0.0	0.00	0.0	0.00	0.0
	A55 Offslip – all movements	0.97	12.1	0.53	1.1	0.39	0.6
	Lon Pant – A55 Onslip	0.09	0.1	0.16	0.2	0.13	0.1
Junction West	A55 Offslip – Lon Pant (N), A55 Onslip	0.07	0.1	0.24	0.3	0.12	0.1
	A55 Offslip – Lon Pant (S), A55 Onslip	0.645	1.8	1.02	18.1	1.18	52.4
	Lon Pant (S) – all movements	0.60	1.8	0.58	1.6	0.59	1.6
	A55 Onslip – all movements	0.00	0.0	0.00	0.0	0.00	0.0
	Lon Pant (N) – A55 Offslip	0.00	0.0	0.00	0.0	0.00	0.0

Table 1-16 A55 Junction 8 priority intersection 2020 With Development results

Junction Part	Approach	Weekday AM		Weekday PM (16:00 – 17:00)		Weekend	
		RFC	MMQ	RFC	MMQ	RFC	MMQ
Junction East	A55 Onslip – Lon Pant and A55 Offslip	0.00	0.0	0.00	0.0	0.00	0.0
	A55 Onslip – A5025 and A55 Offslip	0.00	0.0	0.00	0.0	0.00	0.0
	A5025 – all movements	0.00	0.0	0.00	0.0	0.00	0.0
	A55 Offslip – all movements	1.03	19.4	0.51	1.0	0.41	0.7
	Lon Pant – A55 Onslip	0.10	0.1	0.17	0.2	0.13	0.2
Junction West	A55 Offslip – Lon Pant (N), A55 Onslip	0.08	0.1	0.26	0.3	0.12	0.1
	A55 Offslip – Lon Pant (S), A55 Onslip	0.68	2.1	1.15	42.1	1.26	73.3
	Lon Pant (S) – all movements	0.63	2.0	0.68	2.4	0.62	1.9
	A55 Onslip – all movements	0.00	0.0	0.00	0.0	0.00	0.0
	Lon Pant (N) – A55 Offslip	0.00	0.0	0.00	0.0	0.00	0.0

Table 1-17 A55 Junction 8 priority intersection 2023 With Development results

Junction Part	Approach	Weekday AM		Weekday PM (16:00 – 17:00)		Weekend	
		RFC	MMQ	RFC	MMQ	RFC	MMQ
Junction East	A55 Onslip – Lon Pant and A55 Offslip	0.00	0.0	0.00	0.0	0.00	0.0
	A55 Onslip – A5025 and A55 Offslip	0.00	0.0	0.00	0.0	0.00	0.0
	A5025 – all movements	0.00	0.0	0.00	0.0	0.00	0.0
	A55 Offslip – all movements	1.06	24.5	0.54	1.1	0.42	0.7
	Lon Pant – A55 Onslip	0.10	0.1	0.17	0.2	0.14	0.2
Junction West	A55 Offslip – Lon Pant (N), A55 Onslip	0.08	0.1	0.26	0.4	0.13	0.1
	A55 Offslip – Lon Pant (S), A55 Onslip	0.70	2.3	1.19	52.3	1.23	83.5
	Lon Pant (S) – all movements	0.65	2.2	0.71	2.9	0.64	2.0
	A55 Onslip – all movements	0.00	0.0	0.00	0.0	0.00	0.0
	Lon Pant (N) – A55 Offslip	0.00	0.0	0.00	0.0	0.00	0.0

Table 1-18 A55 Junction 8 priority intersection 2033 With Development results

Junction Part	Approach	Weekday AM		Weekday PM (16:00 – 17:00)		Weekend	
		RFC	MMQ	RFC	MMQ	RFC	MMQ
Junction East	A55 Onslip – Lon Pant and A55 Offslip	0.00	0.0	0.00	0.0	0.00	0.0
	A55 Onslip – A5025 and A55 Offslip	0.00	0.0	0.00	0.0	0.00	0.0
	A5025 – all movements	0.00	0.0	0.00	0.0	0.00	0.0
	A55 Offslip – all movements	1.17	49.1	0.70	2.2	0.45	0.8
	Lon Pant – A55 Onslip	0.12	0.1	0.19	0.2	0.15	0.2
Junction West	A55 Offslip – Lon Pant (N), A55 Onslip	0.10	0.1	0.29	0.4	0.13	0.2
	A55 Offslip – Lon Pant (S), A55 Onslip	0.82	4.1	1.32	83.3	1.41	117.1
	Lon Pant (S) – all movements	0.80	4.5	0.76	3.6	0.69	2.5
	A55 Onslip – all movements	0.00	0.0	0.00	0.0	0.00	0.0
	Lon Pant (N) – A55 Offslip	0.00	0.0	0.00	0.0	0.00	0.0

The results for the eastern junction of A55's junction 8 outline operational issues during the 2016 Baseline scenario for the A55 Offslip arm during the weekday AM peak with an RFC of 0.97 and maximum queues of 12.1. This increases throughout the development scenarios to a maximum RFC of 1.17 and queues of 49 during the 2033 With Development scenario.

The A55 Offslip arm as part of the western junction also experiences capacity issues in the weekday PM and weekend period for movements towards Lon Pant (southbound) and A55 Onslip, with a weekend RFC of 1.256 and queues of 73 in the Baseline 2016 scenario with no additional development traffic applied.

A comparison has been undertaken with the Reference Case scenarios also provided by Jacobs Transport Consultants where there is no additional development traffic. There is no difference in the output results between the Reference Case and With Development scenarios, with the exception of a slight increase in the With Development 2033 weekday PM period for the A55 Offslip arm of the western junction for movements towards Lon Pant (S) and the A55 Onslip.

This suggests operational issues will occur at the A55 Junction 8 priority intersection in the absence of development traffic and they are only slightly exacerbated by the development.

A55 Junction 8a

Table 1-19 presents the model results in the 2016 Baseline scenario for the A55 Junction 8a priority intersection. Following this, table 1-20 presents the results for the 2020 With Development scenario, table 1-21 outlines the 2023 With Development scenario, and table 1-22 presents the 2033 With Development scenario results. All scenarios test 16:00 – 17:00 as the weekday PM peak instead of 17:00 – 18:00.

Table 1-19 A55 Junction 8a priority junction 2016 Baseline results

Approach	Weekday AM		Weekday PM (16:00 – 17:00)		Weekend	
	RFC	MMQ	RFC	MMQ	RFC	MMQ
A55 Offslip to Holyhead Road eastbound	0.45	0.8	0.70	2.2	0.57	1.3
A55 Offslip to Holyhead Road westbound	0.39	0.6	0.40	0.7	0.43	0.7
Holyhead Road eastbound to A55 Offslip	0.00	0.0	0.00	0.0	0.00	0.0

Table 1-20 A55 Junction 8a priority junction 2020 With Development results

Approach	Weekday AM		Weekday PM (16:00 – 17:00)		Weekend	
	RFC	MMQ	RFC	MMQ	RFC	MMQ
A55 Offslip to Holyhead Road eastbound	0.49	0.9	0.77	3.1	0.62	1.6
A55 Offslip to Holyhead Road westbound	0.42	0.7	0.47	0.9	0.47	0.9
Holyhead Road eastbound to A55 Offslip	0.00	0.0	0.00	0.0	0.00	0.0

Table 1-21 A55 Junction 8a priority junction 2023 With Development results

Approach	Weekday AM		Weekday PM (16:00 – 17:00)		Weekend	
	RFC	MMQ	RFC	MMQ	RFC	MMQ
A55 Offslip to Holyhead Road eastbound	0.51	1.0	0.79	3.5	0.64	1.7
A55 Offslip to Holyhead Road westbound	0.44	0.8	0.50	1.0	0.49	0.9
Holyhead Road eastbound to A55 Offslip	0.00	0.0	0.00	0.0	0.00	0.0

Table 1-22 A55 Junction 8a priority junction 2033 With Development results

Approach	Weekday AM		Weekday PM (16:00 – 17:00)		Weekend	
	RFC	MMQ	RFC	MMQ	RFC	MMQ
A55 Offslip to Holyhead Road eastbound	0.58	1.3	0.87	5.6	0.71	2.3
A55 Offslip to Holyhead Road westbound	0.49	1.0	0.66	1.8	0.55	1.2

Approach	Weekday AM		Weekday PM (16:00 – 17:00)		Weekend	
	RFC	MMQ	RFC	MMQ	RFC	MMQ
Holyhead Road eastbound to A55 Offslip	0.00	0.0	0.00	0.0	0.00	0.0

This shows that the minor road (A55 Offslip) already experiences a RFC of 0.70 in the 2016 Baseline scenario weekday PM peak, which increases to 0.87 during the 2033 With Development (peak operational) period. This increase is not considered significant. Commensurate with this is an increase in queuing from 2.2 to 5.6 PCUs. The RFC of the junction's minor arm also reaches 0.71 in the 2033 With Development weekend peak period, however the rest of the junction appears to operate within capacity across all other scenarios and time periods.

A comparison between the results in tables 1-21 and 1-22 with the 2023 and 2033 With Development scenarios highlight that the RFC and MMQ values are identical, indicating that the development does not cause further issues for the junction's capacity.

A55 Junction 9

Table 1-23 presents the model results in the 2016 Baseline scenario for the A55 Junction 9 roundabout. Following this, table 1-24 presents the results for the 2020 With Development scenario, table 1-25 outlines the 2023 With Development scenario, and table 1-26 presents the 2033 With Development scenario results. The weekday PM peak is 17:00 – 18:00 for all scenarios except for 2023 With Development where 16:00 – 17:00 is assessed.

Table 1-23 A55 Junction 9 roundabout 2016 Baseline results

Junction Part	Approach	Weekday AM		Weekday PM (17:00 – 18:00)		Weekend	
		RFC	MMQ	RFC	MMQ	RFC	MMQ
Junction North	A487 southbound	0.31	0.5	0.31	0.4	0.27	0.4
	Penrhos Road	0.60	1.5	0.78	3.4	0.30	0.4
	A487 northbound	0.40	0.7	0.62	1.6	0.48	0.9
	A55 Offslip	0.65	1.9	0.41	0.7	0.25	0.3

Junction Part	Approach	Weekday AM		Weekday PM (17:00 – 18:00)		Weekend	
		RFC	MMQ	RFC	MMQ	RFC	MMQ
Junction South	A487 southbound	0.63	1.7	0.54	1.2	0.33	0.5
	A487 northbound	0.67	2.0	0.69	2.2	0.48	0.9
	Ffordd Y Parc	0.19	0.2	0.87	5.8	0.10	0.1
	A55 Offslip	0.48	0.9	0.35	0.5	0.52	1.1

Table 1-24 A55 Junction 9 roundabout 2020 With Development results

Junction Part	Approach	Weekday AM		Weekday PM (17:00 – 18:00)		Weekend	
		RFC	MMQ	RFC	MMQ	RFC	MMQ
Junction North	A487 southbound	0.34	0.5	0.34	0.5	0.29	0.4
	Penrhos Road	0.67	2.0	0.90	7.5	0.32	0.5
	A487 northbound	0.43	0.7	0.67	2.0	0.50	1.0
	A55 Offslip	0.70	2.3	0.47	0.9	0.26	0.4
Junction South	A487 southbound	0.67	2.0	0.60	1.5	0.34	0.5
	A487 northbound	0.73	2.6	0.77	3.2	0.50	1.0
	Ffordd Y Parc	0.21	0.3	0.99	17.8	0.10	0.1
	A55 Offslip	0.51	0.1	0.39	0.6	0.56	1.2

Table 1-25 A55 Junction 9 roundabout 2023 With Development results

Junction Part	Approach	Weekday AM		Weekday PM (17:00 – 18:00)		Weekend	
		RFC	MMQ	RFC	MMQ	RFC	MMQ
Junction North	A487 southbound	0.36	0.6	0.35	0.5	0.29	0.4
	Penrhos Road	0.71	2.3	0.94	10.7	0.33	0.5
	A487 northbound	0.44	0.8	0.69	2.2	0.51	1.1

Junction Part	Approach	Weekday AM		Weekday PM (17:00 – 18:00)		Weekend	
		RFC	MMQ	RFC	MMQ	RFC	MMQ
	A55 Offslip	0.72	2.6	0.49	1.0	0.27	0.4
Junction South	A487 southbound	0.69	2.2	0.62	1.6	0.35	0.5
	A487 northbound	0.76	3.0	0.79	3.7	0.51	1.0
	Ffordd Y Parc	0.22	0.3	1.03	27.5	0.11	0.1
	A55 Offslip	0.53	1.1	0.40	0.7	0.57	1.3

Table 1-26 A55 Junction 9 roundabout 2033 With Development results

Junction Part	Approach	Weekday AM		Weekday PM (16:00 – 17:00)		Weekend	
		RFC	MMQ	RFC	MMQ	RFC	MMQ
Junction North	A487 southbound	0.42	0.7	0.38	0.6	0.32	0.5
	Penrhos Road	0.84	4.7	1.25	114.7	0.37	0.6
	A487 northbound	0.47	0.9	0.61	1.5	0.56	1.2
	A55 Offslip	0.80	3.8	0.50	1.0	0.30	0.4
Junction South	A487 southbound	0.76	3.1	0.64	1.8	0.38	0.6
	A487 northbound	0.86	5.7	0.80	3.8	0.55	1.2
	Ffordd Y Parc	0.25	0.3	1.01	21.1	0.12	0.1
	A55 Offslip	0.57	1.3	0.36	0.5	0.62	1.6

The results for the northern junction of the A55 junction 9 outline operational issues during the 2016 Baseline scenario for the Penrhos Road arm during the weekday PM peak with an RFC of 0.78 and queues of 3.4. This increases throughout the development scenarios to a maximum RFC of 1.25 and queues of 115 during the 2033 With Development scenario. The A55 Offslip also experiences capacity issues in all three future scenarios, with a maximum RFC of 0.80.

For the southern junction, all arms of the junction except for the A55 Offslip exceed theoretical capacity in the 2023 and 2033 With Development scenarios, with a maximum RFC of 1.01 forecasted in 2033 on the Ffordd Y Parc approach. The 2016

Baseline scenario demonstrates a RFC value of 0.87 however, indicating operational issues already exist on this arm with no proposed development traffic.

A comparison has been undertaken with the Reference Case scenarios also provided by Jacobs Transport Consultants where there is no additional development traffic. For the 2020 Reference Case weekday PM peak, Penrhos Road is anticipated to have an RFC of 0.87 and MMQ of 6.1, indicating that the additional development traffic increases the RFC by only 0.03 and the MMQ by 1.4 PCUs. It is a similar situation for the southern junction, where the RFC only increases by 0.03 with the additional development traffic on Ffordd Y Parc approach. This suggests operational issues will occur at this junction in the absence of development traffic and is only slightly exacerbated by the development.

A5 / A487 Treborth Road / Unnamed Road roundabout

Table 1-27 presents the model results in the 2016 Baseline scenario for the A5 / A487 Treborth Road / unnamed road roundabout immediately south of the Menai Suspension Bridge. Following this, table 1-28 presents the results for the 2020 With Development scenario, table 1-29 outlines the 2023 With Development scenario, and table 1-30 presents the 2033 With Development scenario results.

Table 1-27 A5 / A487 Treborth Road roundabout 2016 Baseline results

Approach	Weekday AM		Weekday PM		Weekend	
	RFC	MMQ	RFC	MMQ	RFC	MMQ
A5 Holyhead Road	0.18	0.2	0.42	0.7	0.18	0.2
A487 Treborth Road	0.31	0.4	0.52	1.1	0.20	0.3
A5 Menai Suspension Bridge	0.52	1.1	0.25	0.3	0.29	0.4
Unnamed road	0.00	0.0	0.00	0.0	0.00	0.0

Table 1-28 A5 / A487 Treborth Road roundabout 2020 With Development results

Approach	Weekday AM		Weekday PM		Weekend	
	RFC	MMQ	RFC	MMQ	RFC	MMQ
A5 Holyhead Road	0.19	0.2	0.45	0.8	0.19	0.2
A487 Treborth Road	0.32	0.5	0.56	1.3	0.21	0.3
A5 Menai Suspension Bridge	0.56	1.2	0.26	0.4	0.30	0.4
Unnamed road	0.00	0.0	0.00	0.0	0.00	0.0

Table 1-29 A5 / A487 Treborth Road roundabout 2023 With Development results

Approach	Weekday AM		Weekday PM		Weekend	
	RFC	MMQ	RFC	MMQ	RFC	MMQ
A5 Holyhead Road	0.20	0.2	0.46	0.9	0.20	0.2
A487 Treborth Road	0.33	0.5	0.58	1.4	0.22	0.3
A5 Menai Suspension Bridge	0.57	1.3	0.27	0.4	0.31	0.4
Unnamed road	0.00	0.0	0.00	0.0	0.00	0.0

Table 1-30 A5 / A487 Treborth Road roundabout 2033 With Development results

Approach	Weekday AM		Weekday PM		Weekend	
	RFC	MMQ	RFC	MMQ	RFC	MMQ
A5 Holyhead Road	0.22	1.0	0.50	1.0	0.21	0.3
A487 Treborth Road	0.36	1.7	0.63	1.7	0.24	0.3
A5 Menai Suspension Bridge	0.62	0.4	0.29	0.4	0.33	0.5
Unnamed road	0.00	0.0	0.00	0.0	0.00	0.0

The results highlight that the junction is operating well within operational capacity during the various time periods and across the four scenarios.

Magnox Access Road / A5025 junction

Table 1-31 presents the model results in the 2016 Baseline scenario for the A5025 / Magnox Access Road with the existing junction layout. Following this, table 1-32 presents the results for the 2020 With Development scenario, table 1-33 outlines the 2023 With Development scenario, and table 1-34 presents the 2033 With Development scenario results. These three scenarios are based on the upgraded junction layout.

Table 1-31 Existing Magnox Access Road / A5025 priority junction 2016 Baseline results

Approach	Weekday AM		Weekday PM (16:00 – 17:00)		Weekend (12:00 – 13:00)	
	RFC	MMQ	RFC	MMQ	RFC	MMQ
Magnox Access Road to A5025 southbound	0.02	0.0	0.31	0.4	0.02	0.0
Magnox Access Road to A5025 northbound	0.03	0.0	0.31	0.4	0.03	0.0
A5025 southbound	0.36	0.6	0.01	0.0	0.02	0.0

Table 1-32 Updated Magnox Access Road / A5025 priority junction 2020 With Development results

Approach	Weekday AM		Weekday PM		Weekend (17:00 – 18:00)	
	RFC	MMQ	RFC	MMQ	RFC	MMQ
Magnox Access Road to A5025 southbound	0.04	0.0	0.71	2.3	0.09	0.1
Magnox Access Road to A5025 northbound	0.05	0.1	0.64	1.7	0.06	0.1
A5025 southbound	0.72	2.6	0.05	0.1	0.01	0.0

Table 1-33 Updated Magnox Access Road / A5025 priority junction 2023 With Development results

Approach	Weekday AM		Weekday PM		Weekend (17:00 – 18:00)	
	RFC	MMQ	RFC	MMQ	RFC	MMQ
Magnox Access Road to A5025 southbound	0.05	0.1	0.82	3.9	0.17	0.2
Magnox Access Road to A5025 northbound	0.06	0.1	0.74	2.5	0.11	0.1
A5025 southbound	0.84	4.9	0.04	0.1	0.28	0.5

Table 1-34 Updated Magnox Access Road / A5025 priority junction 2033 With Development results

Approach	Weekday AM (07:00 – 08:00)		Weekday PM (18:00 – 19:00)		Weekend (07:00 – 08:00)	
	RFC	MMQ	RFC	MMQ	RFC	MMQ
Magnox Access Road to A5025 southbound	0.66	1.9	0.06	0.1	0.55	1.2
Magnox Access Road to A5025 northbound	0.63	1.6	0.23	0.3	0.46	0.9
A5025 southbound	0.33	0.5	0.58	1.6	0.06	0.1

The results show that there are negligible capacity issues in the 2020 With Development scenario on the Magnox Access Road turning right onto the A5025 (southbound) with an RFC of 0.71 in the weekday PM peak. This increases to 0.82 in the 2023 With Development scenario, also resulting in an RFC of 0.74 for the movement onto the A5025 northbound instead of southbound. The A5025 southbound experiences capacity issues in the weekday AM peak with an RFC of 0.84 and MMQ of 4.9. This is due to peak construction traffic turning left into Magnox Access Road.

1.1.2 There are no other capacity issues in the other time periods or scenarios, indicating the operation of the development's access junction will be constrained for short periods of time whilst the peak construction takes place. There are no capacity issues upon completion of the development.

A5025 Pentraeth Road / B5420 Ffordd Penmynydd / B5420 Pentraeth Road (Menai Bridge) roundabout (adj. The Four Crosses Inn)

Table 1-35 presents the model results in the 2016 Baseline scenario for the A5025 / B5420 roundabout adjacent to The Four Crosses Inn north of the Menai Suspension Bridge. Following this, table 1-36 outlines the 2020 With Development scenario, table 1-37 outlines the 2023 With Development scenario, and table 1-38 presents the 2033 With Development scenario results.

Table 1-35 A5025 / B5420 roundabout 2016 Baseline results

Approach	Weekday AM		Weekday PM		Weekend	
	RFC	MMQ	RFC	MMQ	RFC	MMQ
A5025 southbound	Not assessed		0.31	0.5	Not assessed	
B5420 westbound			0.59	1.4		
A5025 northbound			0.60	1.5		
B5420 eastbound			0.13	0.2		

Table 1-36 A5025 / B5420 roundabout 2020 With Development results

Approach	Weekday AM		Weekday PM		Weekend	
	RFC	MMQ	RFC	MMQ	RFC	MMQ
A5025 southbound	Not assessed		0.34	0.5	Not assessed	
B5420 westbound			0.64	1.7		
A5025 northbound			0.66	1.9		
B5420 eastbound			0.15	0.2		

Table 1-37 A5025 / B5420 roundabout 2023 With Development results

Approach	Weekday AM		Weekday PM		Weekend	
	RFC	MMQ	RFC	MMQ	RFC	MMQ
A5025 southbound	Not assessed		0.35	0.5	Not assessed	
B5420 westbound			0.65	1.9		
A5025 northbound			0.68	2.1		
B5420 eastbound			0.16	0.2		

Table 1-38 A5025 / B5420 roundabout 2033 With Development results

Approach	Weekday AM		Weekday PM		Weekend	
	RFC	MMQ	RFC	MMQ	RFC	MMQ
A5025 southbound	Not assessed		0.38	0.6	Not assessed	
B5420 westbound			0.71	2.4		
A5025 northbound			0.75	3.0		
B5420 eastbound			0.19	0.2		

The results show that there are minor capacity issues in the 2033 With Development (peak operational period) scenario in the weekday PM period on the B5420 Pentraeth Road travelling north-westbound and the A5025 Pentraeth Road south-westbound. The RFCs for these approaches are 0.71 and 0.75 respectively, which are the same values as the 2033 Reference Case scenario. This indicates that the additional operational traffic from the development has not caused further issues to the roundabout junction.

A487 Y Felinheli Bypass / B4547 / A4087 Caernarfon Road roundabout

Table 1-39 presents the model results for the 2016 Baseline scenario for the A487 / B4547 / A4087 roundabout, followed by table 1-40 for the 2020 With Development scenario, table 1-41 for the 2023 With Development scenario and table 1-42 for the 2033 With Development scenario.

Table 1-39 A487 / B4547 / A4087 roundabout 2016 Baseline results

Approach	Weekday AM		Weekday PM		Weekend	
	RFC	MMQ	RFC	MMQ	RFC	MMQ
A5025 southbound	Not assessed					
B5420 westbound						
A5025 northbound						
B5420 eastbound						

Table 1-40 A487 / B4547 / A4087 roundabout 2020 With Development results

Approach	Weekday AM		Weekday PM		Weekend	
	RFC	MMQ	RFC	MMQ	RFC	MMQ
A5025 southbound	Not assessed					
B5420 westbound						
A5025 northbound						
B5420 eastbound						

Table 1-41 A487 / B4547 / A4087 roundabout 2023 With Development results

Approach	Weekday AM		Weekday PM		Weekend	
	RFC	MMQ	RFC	MMQ	RFC	MMQ
A5025 southbound	Not assessed					
B5420 westbound						
A5025 northbound						
B5420 eastbound						

Table 1-42 A487 / B4547 / A4087 roundabout 2033 With Development results

Approach	Weekday AM		Weekday PM		Weekend	
	RFC	MMQ	RFC	MMQ	RFC	MMQ
A487 southbound	0.61	1.5	Not assessed			
A4087 westbound	0.34	0.5				

Approach	Weekday AM		Weekday PM		Weekend	
	RFC	MMQ	RFC	MMQ	RFC	MMQ
A487 northbound	0.74	2.8				
B4547 eastbound	0.55	1.2				

The data presented in table 1-42 indicates that the A487 northbound approach experiences slight capacity issues in the weekday AM peak with an RFC of 0.74. However, comparison with the 2033 Reference Case data issued by Jacobs Transport Consultants demonstrates the same results at this junction in the absence of development traffic, illustrating the proposed development does not impact this arm of the roundabout junction.

A5114 Glanhwfa Road / B5109 High Street priority intersection

Table 1-43 presents the model results in the 2016 Baseline scenario for the A5114 Glanhwfa Road / B5109 High Street priority intersection. The B5109 High Street operates to a one-way network in a westbound direction, requiring examination of the A5114 Glanhwfa Road minor arm only. table 1-44 presents the results for the 2020 With Development scenario, table 1-45 outlines the 2023 With Development scenario, and table 1-46 presents the 2033 With Development scenario results.

Table 1-43 A5114 Glanhwfa Road / B5109 High Street priority junction 2016 Baseline results

Approach	Weekday AM		Weekday PM		Weekend	
	RFC	MMQ	RFC	MMQ	RFC	MMQ
A5114 Glanhwfa Road	0.73	2.6	0.92	7.6	0.64	1.7

Table 1-44 A5114 Glanhwfa Road / B5109 High Street priority junction 2020 With Development results

Approach	Weekday AM		Weekday PM		Weekend	
	RFC	MMQ	RFC	MMQ	RFC	MMQ
A5114 Glanhwfa Road	0.79	3.4	1.05	21.3	0.69	2.1

Table 1-45 A5114 Glanhwfa Road / B5109 High Street priority junction 2023 With Development results

Approach	Weekday AM		Weekday PM		Weekend	
	RFC	MMQ	RFC	MMQ	RFC	MMQ
A5114 Glanhwfa Road	0.82	4.1	1.12	32.9	0.72	2.4

Table 1-46 A5114 Glanhwfa Road / B5109 High Street priority junction 2033 With Development results

Approach	Weekday AM		Weekday PM		Weekend	
	RFC	MMQ	RFC	MMQ	RFC	MMQ
A5114 Glanhwfa Road	0.99	13.9	1.45	115.8	0.80	3.7

These results demonstrate that the priority T-junction experiences capacity issues in the 2016 Baseline scenario on the A5114 Glanhwfa Road approach to the junction in Llangefni, with a maximum RFC of 0.92 in the weekday PM peak. This increases throughout the future year scenarios to an RFC of 1.45 and a maximum queue length of 116 PCUs in the same time period in the 2033 With Development scenario, and the junction exceeds theoretical capacity additionally in the AM peak and weekend peak.

From a comparison with the Reference Case scenario data provided by Jacobs Transport Consultants, the RFC values presented in tables 1-44 to 1-46 are very similar to the 2020, 2023 and 2033 Reference Case scenarios, suggesting that the development traffic does not cause further detriment to this junction.

Wylfa Newydd Development Area new access from A5025

Table 1-47 presents the model results for the new roundabout junction off the A5025 proposed as part of the development under the 2020 With Development scenario. table 1-48 presents the results for the 2023 With Development scenario, and table 1-49 for the 2033 With Development scenario.

Table 1-47 Wylfa Newydd Power Station roundabout access from A5025 2020 With Development results

Approach	Weekday AM		Weekday PM		Weekend	
	RFC	MMQ	RFC	MMQ	RFC	MMQ
A5025 southbound	0.14	0.2	0.31	0.4	0.09	0.1
A5025 northbound	0.37	0.6	0.16	0.2	0.12	0.1
Wylfa Newydd Power Station access	0.04	0.0	0.16	0.2	0.10	0.1

Table 1-48 Wylfa Newydd Power Station roundabout access from A5025 2023 With Development results

Approach	Weekday AM		Weekday PM		Weekend	
	RFC	MMQ	RFC	MMQ	RFC	MMQ
A5025 southbound	0.23	0.3	0.42	0.7	0.13	0.2
A5025 northbound	0.63	1.7	0.19	0.2	0.25	0.3
Wylfa Newydd Power Station access	0.09	0.1	0.31	0.4	0.22	0.3

Table 1-49 Wylfa Newydd Power Station roundabout access from A5025 2033 With Development results

Approach	Weekday AM		Weekday PM (16:00 – 17:00)		Weekend (07:00 – 08:00)	
	RFC	MMQ	RFC	MMQ	RFC	MMQ
A5025 southbound	0.33	0.5	0.19	0.2	0.29	0.4
A5025 northbound	0.40	0.7	0.18	0.2	0.30	0.4
Wylfa Newydd Power Station access	0.08	0.1	0.39	0.6	0.07	0.1

The results demonstrate that there are no capacity issues with this proposed roundabout junction as part of the redevelopment proposals in any scenarios or time periods.

Proposed MEEG access

Table 1-50 presents the model results for the new priority 'T' junction for Mobile Emergency Equipment Garage (MEEG) access as part of the proposed development under the 2020 With Development scenario. Table 1-51 presents the results for the 2023 With Development scenario, and table 1-52 for the 2033 With Development scenario.

Table 1-50 Proposed MEEG Access 2020 With Development results

Approach	Weekday AM		Weekday PM		Weekend	
	RFC	MMQ	RFC	MMQ	RFC	MMQ
MEEG Access to A5025 northbound	0.00	0.0	0.00	0.0	0.00	0.0
MEEG Access to A5025 southbound	0.00	0.0	0.00	0.0	0.00	0.0
A5025 northbound	0.00	0.0	0.00	0.0	0.00	0.0

Table 1-51 Proposed MEEG Access 2023 With Development results

Approach	Weekday AM		Weekday PM		Weekend	
	RFC	MMQ	RFC	MMQ	RFC	MMQ
MEEG Access to A5025 northbound	0.00	0.0	0.01	0.0	0.00	0.0
MEEG Access to A5025 southbound	0.00	0.0	0.00	0.0	0.00	0.0
A5025 northbound	0.08	0.1	0.00	0.0	0.00	0.0

Table 1-52 Proposed MEEG Access 2033 With Development results

Approach	Weekday AM		Weekday PM		Weekend	
	RFC	MMQ	RFC	MMQ	RFC	MMQ
MEEG Access to A5025 northbound	0.00	0.0	0.00	0.0	0.00	0.0
MEEG Access to A5025 southbound	0.00	0.0	0.00	0.0	0.00	0.0
A5025 northbound	0.00	0.0	0.00	0.0	0.00	0.0

The results demonstrate that there are no capacity issues with this proposed priority 'T' junction as part of the development proposals in any scenarios or time periods.

Dalir Hir Park & Ride Access, London Road

Table 1-53 presents the model results for the new roundabout junction for the Dalir Hir Park & Ride site off London Road, as part of the proposed development under the 2020 With Development scenario. The junction is split into a new roundabout junction formed from London Road, and the northern dumbbell junction of the A55 Junction 4 which the Park & Ride facility could potentially impact upon.

Table 1-54 subsequently presents the results for the 2023 With Development scenario, and table 1-55 for the 2033 With Development scenario.

Table 1-53 Dalir Hir Park & Ride Access (London Road) 2020 With Development results

Junction	Approach	Weekday AM		Weekday PM		Weekend	
		RFC	MMQ	RFC	MMQ	RFC	MMQ
Dalar	London Road southbound	0.07	0.1	0.04	0.0	0.04	0.0
	Dalar Hir exit	0.00	0.0	0.00	0.0	0.00	0.0
	London Road northbound	0.00	0.0	0.01	0.0	0.00	0.0
A55 Junction 4 northern dumbbell roundabout	A5 Holyhead Road westbound	0.05	0.1	0.13	0.2	0.07	0.1
	Overbridge	0.12	0.1	0.16	0.2	0.09	0.1
	A55 Offslip	0.07	0.1	0.12	0.1	0.08	0.1
	Park & Ride exit	0.06	0.1	0.03	0.0	0.03	0.0

Table 1-54 Dalir Hir Park & Ride Access (London Road) 2023 With Development results

Junction	Approach	Weekday AM		Weekday PM		Weekend	
		RFC	MMQ	RFC	MMQ	RFC	MMQ
Dalar	London Road southbound	0.08	0.1	0.04	0.0	0.05	0.0
	Dalar Hir exit	0.00	0.0	0.00	0.0	0.00	0.0
	London Road northbound	0.00	0.0	0.01	0.0	0.00	0.0
A55 Junction 4 northern dumbbell roundabout	A5 Holyhead Road westbound	0.05	0.1	0.16	0.2	0.07	0.1
	Overbridge	0.13	0.1	0.15	0.2	0.09	0.1
	A55 Offslip	0.08	0.1	0.13	0.2	0.09	0.1
	Park & Ride exit	0.06	0.1	0.03	0.0	0.03	0.0

Table 1-55 Dalir Hir Park & Ride Access (London Road) 2023 With Development results

Junction	Approach	Weekday AM		Weekday PM		Weekend	
		RFC	MMQ	RFC	MMQ	RFC	MMQ
Dalar	London Road southbound	0.08	0.1	0.05	0.1	0.05	0.1
	Dalar Hir exit	0.00	0.0	0.00	0.0	0.00	0.0
	London Road northbound	0.00	0.0	0.00	0.0	0.00	0.0
A55 Junction 4 northern dumbbell roundabout	A5 Holyhead Road westbound	0.06	0.1	0.07	0.1	0.08	0.1
	Overbridge	0.14	0.2	0.21	0.3	0.10	0.1
	A55 Offslip	0.07	0.1	0.10	0.1	0.09	0.1
	Park & Ride exit	0.06	0.1	0.04	0.0	0.04	0.0

The results demonstrate that there are no capacity issues with either roundabout junction adjacent to the Dalir Hir Park & Ride facility as part of the redevelopment proposals in any scenarios or time periods.

Valley Crossroads

Table 1-56 to table 1-59 present the model results for the A5025 / A5 / B4545 signalised crossroad junction. This was assessed by Jacobs Transport Consultants using a full LinSig 3 model, which examines the average delay per PCU (seconds) as opposed to RFC.

Table 1-56 presents the results for the 2016 Baseline scenario, table 1-57 for the 2020 With Development scenario, table 1-58 for the 2023 With Development scenario and table 1-59 for the 2033 With Development scenario.

Table 1-56 Valley Crossroads 2016 Baseline results

Approach	Weekday AM (08:00 – 09:00)		Weekday PM (16:00 – 17:00)		Weekend (Saturday 13:00 – 14:00)	
	Delay per PCU (s)	MMQ	Delay per PCU (s)	MMQ	Delay per PCU (s)	MMQ
A5 London Rd (west)	10.6	2.5	11.5	4.6	13.0	7.4
A5 Holyhead Rd (east)	10.9	2.4	12.4	6.0	11.0	3.6
B4545 (southwest)	36.5	3.8	52.5	6.2	47.8	5.9
A5025 (northeast)	24.4	2.8	39.0	3.9	55.5	5.3

Table 1-57 Valley Crossroads 2020 With Development results

Approach	Weekday AM (08:00 – 09:00)		Weekday PM (16:00 – 17:00)		Weekend (Sunday 13:00 – 14:00)	
	Delay per PCU (s)	MMQ	Delay per PCU (s)	MMQ	Delay per PCU (s)	MMQ
A5 London Rd (west)	10.7	2.8	12.7	6.1	11.6	5.6
A5 Holyhead Rd (east)	10.0	2.5	9.5	4.7	8.7	3.4
B4545 (southwest)	26.5	3.4	42.8	6.7	40.3	5.8
A5025 (northeast)	0.0	0.0	0.0	0.0	0.0	0.0

Table 1-58 Valley Crossroads 2023 With Development results

Approach	Weekday AM (08:00 – 09:00)		Weekday PM (16:00 – 17:00)		Weekend (Sunday 13:00 – 14:00)	
	Delay per PCU (s)	MMQ	Delay per PCU (s)	MMQ	Delay per PCU (s)	MMQ
A5 London Rd (west)	10.8	2.9	13.1	6.3	11.8	5.8
A5 Holyhead Rd (east)	10.0	2.6	9.6	5.1	8.8	3.5
B4545 (southwest)	26.7	3.5	43.4	6.9	40.7	6.0
A5025 (northeast)	0.0	0.0	0.0	0.0	0.0	0.0

Table 1-59 Valley Crossroads 2033 With Development results

Approach	Weekday AM (08:00 – 09:00)		Weekday PM (16:00 – 17:00)		Weekend (Saturday 13:00 – 14:00)	
	Delay per PCU (s)	MMQ	Delay per PCU (s)	MMQ	Delay per PCU (s)	MMQ
A5 London Rd (west)	11.3	3.7	14.8	7.3	12.7	6.4
A5 Holyhead Rd (east)	10.2	2.9	10.0	5.7	8.9	3.8
B4545 (southwest)	27.3	3.8	43.2	6.8	42.4	6.6
A5025 (northeast)	0.0	0.0	0.0	0.0	0.0	0.0

The results demonstrate that there are no capacity issues with the Valley Crossroads signalised junction as part of the redevelopment proposals in any scenarios or time periods. There will be a slight reduction in delay per PCU and mean maximum queue during the weekend period.

Summary

The results and analysis for the 11 junctions modelled to operate at over 70% as part of an initial selection process, and the additional four new proposed junctions, are presented in table 1-60.

Table 1-60 Assessed Junctions – results of detailed assessment

No.	Junction	Summary Result of Assessment
1	A5 Mona Road / B5420 Pentraeth Road / Dale Road	Maximum RFC of 0.83 in 2033 but due to background traffic growth rather than WNP.
2	A55 Junction 2	Implementation of Parc Cybi distribution centre increases traffic flows above capacity of junction in 2033 only but this change is not related to WNP.
3	A55 Junction 6	No modelled capacity issues.
4	A55 Junction 8	Without the WNP, junction operates at or over capacity in 2016, 2020, 2023 and 2033 due to existing and background growth in traffic. Addition of WNP traffic slightly increases queuing and delays at the junction in 2033 only.
5	A55 Junction 8a	No modelled capacity issues
6	A55 Junction 9	Without the WNP, junction operates at or near capacity in 2023 and 2033 due to background growth in traffic. Addition of WNP traffic very slightly increases queuing and delays at the junction.
7	A5 / A487 roundabout	No modelled capacity issues
8	Power Station Site access road / A5025 junction	No modelled capacity issues
9	A5025 / B5420 Ffordd Penmynydd / Pentraeth Road (Menai Bridge)	No modelled capacity issues
10	A487 / B4547 roundabout	No modelled capacity issues
11	A5114 / Bridge Street junction	Without the WNP, junction operates at or near capacity in 2023 and 2033 due to background growth in traffic. Addition of WNP traffic very slightly increases queuing and delays at the junction.
Proposed junctions as part of Wylfa Newydd development		
12	A5025 / A5 / B4545 Valley Crossroads junction	No modelled capacity issues
13	Wylfa Newydd Development Area new Access from A5025	No modelled capacity issues
14	Proposed MEEG access	No modelled capacity issues
15	Dalir Hir Park & Ride Access, London Road	No modelled capacity issues

This analysis shows that although some junctions are modelled to have insufficient capacity to accommodate the predicted demand in the modelled years of 2023 and

2033 this is forecast to happen in the absence of the Wylfa Newydd Project. There are no issues identified with the three new proposed junctions being implemented as part of the scheme.

The implementation of the Wylfa Newydd Project will slightly increase queues and delays at these junctions but the level of change is not considered sufficient to justify junction modifications.

In considering these junction assessment results it should also be noted that the traffic forecasts used are conservative because 60% of construction materials are assumed to use MOLF when the target is 80%. T his means that construction vehicle movements are likely to be over-estimated.

Overall, the detailed junction modelling process shows that no further junction modifications are required to accommodate the additional traffic forecast to be generated by the Wylfa Newydd Project.

1-0.1 Junction Performance Results - DMRB Assessment

Purpose

This spreadsheet has been produced to present a number of key junction assessments on Anglesey and the North Wales mainland. Four assessment years are being studied, 2016, 2020, 2023 and 2033. The junction turning movement outputs from the strategic model have been used for assessment. There are two scenarios for assessment as follows:

Baseline & Reference Case - Without development traffic
WNP - with development traffic

CRA-V

Project Title		**Project Code**		**Client**		
Wylfa Newydd Project		60PO8077		Horizon Nuclear Power		
Originator	Magda Lopez Pedrosa	**Date**	27/09/2017	**Revision**	Rev4	
Checker	Harriet Memery	**Date**	27/09/2017	**Status**	FOR ISSUE	
Reviewer	Stephen Morris	**Date**	27/09/2017			

Assumptions/ Caveats

Reference Case Assessment periods: 2016 AM, PM, Weekend - 2020 AM, PM, Weekend - 2023 AM, PM, Weekend - 2033 AM, PM, Weekend.

The peak quarter of the year is Q3. This has been derived by the volume of traffic crossing Britannia Bridge (calculated via the through movements at A55 Junction 8a and the eastbound onslip and westbound offslip movements).

The peak AM and PM hour for a Thursday were assessed for each scenario based on the peak for that scenario. For weekends, the peak hour throughout the day for Saturday or Sunday has been assessed.

38 junctions have been assessed

All roundabouts and priority junctions have been assessed using the DMRB Methodologies set out in TD42/95 and TD16/07.

All crossroads and mini roundabouts have been assessed using Junctions 9 ARCADY and PICADY.

All junctions shown to operate over 70% in the DMRB assessment have been further investigated in Junctions 9. Furthermore, all Project Access Junctions have been assessed using Junctions 9.

REV2 - Update to some values, there are no material changes to the overall results

REV3 - Now includes tables for worst RFCs, highest demand (on worst RFC arm) and capacity (on worst RFC arm). Also includes the RFCs, highest demand (on worst RFC arm) and capacity (on worst RFC arm) for the dumbbell and staggered junctions.

REV4 - now includes Practical Reserve Capacity (PRC) for signalised junctions (highlighted in light yellow) and an RFC value for all priority junctions and roundabouts. For junctions where only Junctions 9/ LinSig has been used for assessment, the detail regarding demand and capacity is provided in the relevant junction model outputs only. PRC high number indicates spare capacity, RFC high number indicates reduced capacity.

The demand for roundabouts has been taken from the worst RFC arm circulatory flow (Qc), the adjusted capacity for roundabout has been taken from the worst RFC arm (Qe). See DMRB methodology for further information.

Junction Reference	Junction Name	Net REF 2016 Q3 THU AM	Net REF 2016 Q3 THU PM	Net REF 2016 Q3 SAT	Net REF 2020 Q3 THU AM	Net REF 2020 Q3 THU PM	Net REF 2020 Q3 SUN	Net REF 2023 Q3 THU AM	Net REF 2023 Q3 THU PM	Net REF 2023 Q3 SUN	Net REF 2033 Q3 THU AM	Net REF 2033 Q3 THU PM	Net REF 2033 Q3 SAT
		2016			2020			2023			2033		
		AM	PM	Weekend	AM	PM	Weekend	AM	PM	Weekend	AM	PM	Weekend
M-1	A55 Junction 2	18%	36%	31%	19%	39%	33%	20%	40%	34%	31%	130%	37%
M-3	Valley Crossroads	68%	25%	15%	58%	16%	8%	54%	12%	5%	45%	2%	41%
M-4	A55 Junction 3	22%	37%	24%	24%	45%	28%	25%	46%	28%	50%	47%	30%
M-5	A55 Junction 4	17%	20%	11%	18%	22%	12%	19%	22%	12%	20%	20%	13%
M-7	A5/ B5112/ A4080 Junction	14%	18%	12%	15%	19%	13%	16%	19%	13%	33%	44%	14%
M-8	A5025/ B5111 roundabout	14%	17%	14%	14%	24%	15%	14%	24%	15%	32%	25%	16%
M-11	A5025/ Queen Street	21%	21%	20%	22%	23%	21%	22%	24%	22%	30%	53%	26%
M-12	Magnox access road/ A5025 junction	42%	27%	3%	58%	37%	3%	55%	35%	3%	35%	20%	4%
M-13	A5025/ Cromlech Terrace/ Cemlyn Road	12%	5%	3%	14%	6%	5%	13%	6%	6%	6%	6%	6%
M-16	Roundabout at Llanerch-y-medd	34%	20%	21%	36%	22%	21%	37%	22%	22%	60%	33%	23%
M-17	B5111/ Minor Road south of Rhos-y-bol	14%	15%	8%	14%	16%	7%	15%	17%	7%	17%	18%	8%
M-18	A5025/ B5109 Llanynghenedl	9%	13%	8%	8%	15%	11%	8%	16%	11%	11%	16%	12%
M-20	A55 Junction 6	102%	109%	75%	112%	135%	82%	119%	143%	85%	166%	179%	97%
M-30	A5205/ Minor Road Tregele	1%	1%	2%	1%	1%	2%	1%	1%	2%	2%	1%	2%
M-34	A5025 Ffordd Caergybi/ High Street/ Ffordd Y Felin (Cemaes)	11%	8%	15%	11%	14%	16%	12%	13%	16%	16%	7%	17%
M-35	A5025/ Road to Rhosgoch	4%	3%	4%	3%	1%	4%	4%	1%	4%	4%	3%	4%
M-39	A5025/ B5420 Ffordd Penmynydd/ Pentraeth Road (Menai Bridge)	34%	92%	56%	36%	102%	60%	37%	106%	62%	42%	125%	68%
M-40	A5025 Pentraeth Road/ B5109 (Pentraeth)	16%	27%	17%	18%	29%	19%	18%	30%	19%	20%	34%	22%
M-41	A5025 Bangor Road/ Beach Road/ B5108 (Benllech)	8%	19%	21%	9%	20%	23%	9%	21%	23%	13%	33%	26%
M-43	A5025/ A5108 (Moelfre)	17%	14%	20%	14%	15%	21%	14%	15%	22%	15%	16%	23%
M-45	A5025/ Minor Road Twrcelyn	6%	5%	6%	5%	6%	6%	5%	6%	7%	6%	7%	7%
M-46	A55 Junction 8	97%	102%	118%	103%	114%	126%	106%	118%	129%	117%	132%	141%
M-47	A55 Junction 8a	41%	65%	51%	44%	71%	54%	46%	72%	55%	51%	78%	60%
M-48	A55 Junction 9	116%	96%	59%	128%	109%	64%	134%	114%	66%	180%	133%	73%
M-49	A55 Junction 9	122%	92%	68%	134%	103%	71%	141%	107%	73%	168%	137%	81%
M-63	Proposed new Power Station access	13%	10%	8%	18%	10%	7%	17%	10%	7%	8%	17%	8%
M-64	Proposed MEEG access	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
M-65	Proposed exit onto A5 from Dalar Hir Park and Ride facility	N.A.	N.A.	N.A.	184%	1402%	1331%	1937%	1384%	1298%	N.A.	N.A.	N.A.
M-66	Proposed access junction off London Road (Dalar Hir Park and Ride facility)	6%	3%	3%	6%	3%	4%	6%	4%	4%	7%	4%	4%
M-71	A5/ Mona Road/ Pentraeth Road Roundabout	78%	61%	47%	84%	66%	50%	88%	68%	52%	98%	76%	57%
M-72	A5 Menai Road Roundabout	57%	24%	28%	61%	25%	30%	63%	26%	31%	70%	28%	33%
M-73	A5/ A487 Roundabout	19%	41%	16%	20%	44%	17%	21%	45%	17%	22%	50%	19%
M-74	A487/ B4547 Roundabout	52%	48%	37%	56%	53%	40%	58%	55%	41%	71%	65%	44%
M-75	A5114/ Bridge Street Junction	72%	89%	62%	78%	98%	67%	80%	102%	70%	97%	139%	77%
M-76	A5/ Llangefni Road	44%	42%	33%	46%	44%	35%	47%	45%	36%	51%	49%	39%
M-77	B5109/ Llangefni Road	21%	19%	12%	22%	20%	13%	23%	21%	13%	25%	22%	14%
M-78	B5111/ Minor Road south of Llangwyllog	8%	9%	7%	8%	10%	7%	8%	10%	7%	9%	11%	8%
M-79	Priority Junction west of Rhosgoch	18%	9%	10%	19%	11%	7%	20%	11%	7%	21%	11%	8%

Indicates a signalised junction assessed using Practical Reserve Capacity, for further information see note on cover sheet

M-XX Junction subject to further examination in App C2-4 - DCO TA Appendix H - Junctions Assessment

Junction Reference	Junction Name	Net WNP 2020 Q3 WBP THU AM	Net WNP 2020 Q3 WBP THU PM	Net WNP 2020 Q3 WBP SUN	Net WNP 2020 Q3 BP THU AM	Net WNP 2020 Q3 BP THU PM	Net WNP 2020 Q3 BP SUN	Net WNP 2023 Q3 THU AM	Net WNP 2023 Q3 THU PM	Net WNP 2023 Q3 SUN	Net WNP 2033 Q3 THU AM	Net WNP 2033 Q3 THU PM	Net WNP 2033 Q3 SAT
		2020 WBP			2020 BP			2023			2033		
		AM	PM	Weekend	AM	PM	Weekend	AM	PM	Weekend	AM	PM	Weekend
M-1	A55 Junction 2	19%	41%	33%	19%	41%	33%	25%	49%	34%	31%	130%	37%
M-3	Valley Crossroads	58%	19%	61%	129%	37%	52%	123%	34%	49%	107%	35%	38%
M-4	A55 Junction 3	27%	47%	28%	27%	47%	28%	29%	59%	29%	53%	61%	31%
M-5	A55 Junction 4	18%	22%	12%	18%	22%	12%	19%	23%	12%	20%	24%	13%
M-7	A5/ B5112/ A4080 Junction	15%	19%	13%	15%	19%	13%	16%	20%	13%	33%	44%	14%
M-8	A5025/ B5111 roundabout	14%	27%	15%	14%	27%	15%	14%	31%	21%	32%	25%	16%
M-11	A5025/ Queen Street	18%	23%	22%	18%	23%	22%	30%	24%	30%	30%	53%	25%
M-12	Magnox access road/ A5025 junction	73%	48%	8%	73%	48%	8%	74%	66%	32%	44%	59%	42%
M-13	A5025/ Cromlech Terrace/ Cemlyn Road	16%	7%	6%	16%	7%	6%	18%	8%	6%	15%	10%	7%
M-16	Roundabout at Llanerch-y-medd	36%	23%	21%	36%	23%	21%	37%	25%	22%	60%	33%	23%
M-17	B5111/ Minor Road south of Rhos-y-bol	14%	17%	7%	14%	17%	7%	15%	17%	7%	17%	18%	8%
M-18	A5025/ B5109 Llanynghenedl	9%	18%	9%	9%	18%	9%	10%	23%	11%	12%	21%	12%
M-20	A55 Junction 6	112%	137%	82%	112%	137%	82%	119%	147%	85%	166%	186%	97%
M-30	A5205/ Minor Road Tregele	1%	1%	2%	1%	1%	2%	1%	1%	1%	1%	2%	1%
M-34	A5025 Ffordd Caergybi/ High Street/ Ffordd Y Felin (Cemaes)	11%	19%	16%	11%	19%	16%	27%	23%	16%	16%	9%	17%
M-35	A5025/ Road to Rhosgoch	3%	1%	4%	3%	1%	4%	1%	1%	4%	2%	1%	4%
M-39	A5025/ B5420 Ffordd Penmynydd/ Pentraeth Road (Menai Bridge)	36%	103%	60%	36%	103%	60%	37%	109%	62%	42%	125%	68%
M-40	A5025 Pentraeth Road/ B5109 (Pentraeth)	18%	29%	19%	18%	29%	19%	18%	31%	19%	20%	34%	22%
M-41	A5025 Bangor Road/ Beach Road/ B5108 (Benllech)	9%	21%	23%	9%	21%	23%	9%	22%	25%	13%	33%	26%
M-43	A5025/ A5108 (Moelfre)	4%	10%	8%	4%	10%	8%	4%	10%	10%	4%	11%	8%
M-45	A5025/ Minor Road Twrcelyn	5%	6%	6%	5%	6%	6%	3%	6%	6%	4%	7%	5%
M-46	A55 Junction 8	103%	115%	126%	103%	115%	126%	106%	119%	129%	117%	132%	141%
M-47	A55 Junction 8a	44%	71%	54%	44%	71%	54%	46%	72%	55%	51%	78%	60%
M-48	A55 Junction 9	130%	110%	64%	130%	110%	64%	136%	114%	66%	182%	184%	73%
M-49		135%	110%	71%	135%	110%	71%	142%	115%	74%	169%	128%	81%
M-63	Proposed new Power Station access	25%	11%	9%	25%	11%	9%	28%	13%	21%	11%	19%	8%
M-64	Proposed MEEG access	0%	0%	0%	0%	0%	0%	4%	1%	0%	0%	0%	0%
M-65	Proposed exit onto A5 from Dalar Hir Park and Ride facility	1973%	573%	966%	1973%	573%	966%	1871%	184%	759%	N.A.	N.A.	N.A.
M-66	Proposed access junction off London Road (Dalar Hir Park and Ride facility)	10%	6%	6%	10%	6%	6%	11%	6%	6%	12%	7%	7%
M-71	A5/ Mona Road/ Pentraeth Road Roundabout	84%	66%	50%	84%	66%	50%	88%	68%	52%	98%	76%	57%
M-72	A5 Menai Road Roundabout	61%	25%	30%	61%	25%	30%	63%	26%	31%	70%	28%	33%
M-73	A5/ A487 Roundabout	20%	44%	17%	20%	44%	17%	21%	45%	17%	22%	50%	19%
M-74	A487/ B4547 Roundabout	57%	55%	40%	57%	55%	40%	58%	57%	41%	72%	69%	44%
M-75	A5114/ Bridge Street Junction	78%	101%	67%	78%	101%	67%	80%	108%	70%	97%	139%	77%
M-76	A5/ Llangefni Road	46%	44%	35%	46%	44%	35%	47%	45%	36%	51%	49%	39%
M-77	B5109/ Llangefni Road	22%	20%	13%	22%	20%	13%	23%	21%	13%	25%	22%	14%
M-78	B5111/ Minor Road south of Llangwyllog	8%	10%	7%	8%	10%	7%	8%	10%	7%	9%	11%	8%
M-79	Priority Junction west of Rhosgoch	19%	12%	7%	19%	12%	7%	20%	14%	8%	21%	14%	9%

Indicates a signalised junction assessed using Practical Reserve Capacity, for further information see note on cover sheet

M-XX Junction subject to further examination in App C2-4 - DCO TA Appendix H - Junctions Assessment

1-0.2 Junctions 9 and LinSig results for selected junctions

A5 Mona Road / Dale Street / B5420 Pentraeth Road roundabout

Junctions 9 - ARCADY

- Baseline 2016
- Reference Case 2020, 2023 and 2033
- With Development Without By-Pass 2020
- With Development With By-Pass 2020
- With Development 2023 and 2033

Junctions 9

ARCADY 9 - Roundabout Module

Version: 9.0.1.4646 []
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Filename: A5 Mona Road Pentraeth Road roundabout assessment rev0a.j9
Path: \\europe.jacobs.com\sale\Projects\Transport\Projects\60PO8008 T&T\4. Project Work\2) DCO Main Site\09 Junction Modelling_2017__2017 Junction Models\71_A5 Mona Road Pentraeth Road Roundabout
Report generation date: 01/06/2017 09:40:11

«WNP 2033 PM, 17-18
»Junction Network
»Arms
»Traffic Demand
»Origin-Destination Data
»Vehicle Mix
»Results

Summary of junction performance

	08-09				17-18			
	Queue (PCU)	Delay (s)	RFC	LOS	Queue (PCU)	Delay (s)	RFC	LOS
Base 2016 AM								
Arm A	1.7	8.13	0.64	A				
Arm B	0.4	6.10	0.27	A				
Arm C	0.3	3.19	0.22	A				
Arm D	0.3	3.13	0.25	A				
REF 2020 AM								
Arm A	2.1	9.20	0.68	A				
Arm B	0.4	6.51	0.30	A				
Arm C	0.3	3.27	0.24	A				
Arm D	0.4	3.22	0.27	A				
REF 2023 AM								
Arm A	2.3	9.84	0.70	A				
Arm B	0.4	6.74	0.31	A				
Arm C	0.3	3.30	0.25	A				
Arm D	0.4	3.28	0.28	A				
REF 2033 AM								
Arm A	3.0	12.31	0.76	B				
Arm B	0.5	7.48	0.34	A				
Arm C	0.4	3.43	0.27	A				
Arm D	0.4	3.43	0.30	A				

	REF 2033 PM							
Arm A					0.7	5.06	0.40	A
Arm B					0.4	5.07	0.30	A
Arm C					4.7	14.89	0.83	B
Arm D					0.6	5.19	0.37	A
	WNP 2020 AM WBP							
Arm A	2.1	9.20	0.68	A				
Arm B	0.4	6.51	0.30	A				
Arm C	0.3	3.27	0.24	A				
Arm D	0.4	3.22	0.27	A				
	WNP 2020 AM BP							
Arm A	2.1	9.20	0.68	A				
Arm B	0.4	6.51	0.30	A				
Arm C	0.3	3.27	0.24	A				
Arm D	0.4	3.22	0.27	A				
	WNP 2023 AM							
Arm A	2.3	9.84	0.70	A				
Arm B	0.4	6.74	0.31	A				
Arm C	0.3	3.30	0.25	A				
Arm D	0.4	3.28	0.28	A				
	WNP 2033 AM							
Arm A	3.0	12.31	0.76	B				
Arm B	0.5	7.48	0.34	A				
Arm C	0.4	3.43	0.27	A				
Arm D	0.4	3.43	0.30	A				
	WNP 2033 PM							
Arm A					0.7	5.06	0.40	A
Arm B					0.4	5.07	0.30	A
Arm C					4.7	14.89	0.83	B
Arm D					0.6	5.19	0.37	A

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

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

File summary

File Description

Title	A5 Dale st mona rd assessment
Location	anglesey
Site number	m71
Date	31/05/2017
Version	rev0a
Status	existing
Identifier	paolo
Client	Horizon Nuclear Power
Jobnumber	60PO8077
Enumerator	JEGINTL\WitherO
Description	REF Case and WNP AM assessment for all years and also 2033 PM assessment

Units

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

Analysis Options

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

Analysis Set Details

ID	Network flow scaling factor (%)
A1	100.000

Demand Set Details

ID	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D_10	WNP 2033 PM	17-18	Q3 weekday	ONE HOUR	16:45	18:15	15

WNP 2033 PM, 17-18

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.

Junction Network

Junctions

Junction	Name	Junction Type	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout	9.99	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Name	Description
A	B5420	
B	DALE ST	
C	MONA RD	
D	A5	

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
A	4.60	4.60	0.0	16.1	37.2	24.0	
B	3.70	6.00	3.7	12.0	37.0	30.0	
C	5.10	5.10	0.0	104.7	38.4	25.0	

D	4.60	8.40	5.9	16.1	36.8	22.0	

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Final slope	Final intercept (PCU/hr)
A	0.591	1406
B	0.560	1310
C	0.649	1633
D	0.673	1798

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

Traffic Demand

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

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		✓	438	100.000
B		✓	276	100.000
C		✓	1076	100.000
D		✓	366	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
		A	**B**	**C**	**D**
From	**A**	2	112	278	46
	B	119	0	31	126
	C	781	33	12	250
	D	84	139	143	0

Vehicle Mix

Heavy Vehicle Percentages

		To			
		A	**B**	**C**	**D**
From	**A**	0	0	0	0
	B	0	0	0	0
	C	0	0	0	0
	D	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max delay (s)	Max Queue (PCU)	Max LOS
A	0.40	5.06	0.7	A
B	0.30	5.07	0.4	A
C	0.83	14.89	4.7	B
D	0.37	5.19	0.6	A

Main Results for each time segment

16:45 - 17:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
A	330	245	1261	0.261	328	0.4	3.853	A
B	208	361	1108	0.187	207	0.2	3.989	A
C	810	220	1491	0.543	805	1.2	5.218	A
D	276	709	1321	0.209	274	0.3	3.437	A

17:00 - 17:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
A	394	294	1233	0.319	393	0.5	4.287	A
B	248	432	1068	0.232	248	0.3	4.386	A
C	967	263	1462	0.661	964	1.9	7.185	A
D	329	849	1227	0.268	329	0.4	4.007	A

17:15 - 17:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
A	482	359	1194	0.404	481	0.7	5.047	A
B	304	529	1014	0.300	303	0.4	5.060	A
C	1185	322	1424	0.832	1174	4.5	13.849	B
D	403	1034	1102	0.366	402	0.6	5.138	A

17:30 - 17:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
A	482	360	1193	0.404	482	0.7	5.061	A
B	304	530	1014	0.300	304	0.4	5.070	A
C	1185	323	1424	0.832	1184	4.7	14.886	B
D	403	1042	1097	0.367	403	0.6	5.189	A

17:45 - 18:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
A	394	295	1232	0.320	395	0.5	4.305	A
B	248	433	1068	0.232	249	0.3	4.399	A
C	967	264	1462	0.662	978	2.0	7.603	A
D	329	860	1219	0.270	330	0.4	4.052	A

18:00 - 18:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS

A	330	247	1260	0.262	330	0.4	3.871	A
B	208	363	1107	0.188	208	0.2	4.006	A
C	810	221	1490	0.544	813	1.2	5.345	A
D	276	716	1316	0.209	276	0.3	3.460	A

A55 Junction 2

Junctions 9 - ARCADY

- Baseline 2016
- Reference Case 2020, 2023 and 2033
- With Development Without By-Pass 2020
- With Development With By-Pass 2020
- With Development 2023 and 2023

Junctions 9

ARCADY 9 - Roundabout Module

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Report generation date: 12/07/2017 10:17:42

»(Default Analysis Set) - BASE 2016 AM, 08-09
»(Default Analysis Set) - BASE 2016 PM, 16-17
»(Default Analysis Set) - BASE 2016 Weekend, 12-13
»(Default Analysis Set) - REF 2020 AM, 08-09
»(Default Analysis Set) - REF 2020 PM, 16-17
»(Default Analysis Set) - REF 2020 Weekend, 12-13
»(Default Analysis Set) - REF 2023 AM, 08-09
»(Default Analysis Set) - REF 2023 PM, 16-17
»(Default Analysis Set) - REF 2023 Weekend, 12-13
»(Default Analysis Set) - REF 2033 AM, 08-09
»(Default Analysis Set) - REF 2033 PM, 17-18
»(Default Analysis Set) - REF 2033 Weekend, 12-13
»(Default Analysis Set) - WNP 2020 AM WBP, 08-09
»(Default Analysis Set) - WNP 2020 PM WBP, 16-17
»(Default Analysis Set) - WNP 2020 Weekend WBP, 12-13
»(Default Analysis Set) - WNP 2020 AM BP, 08-09
»(Default Analysis Set) - WNP 2020 PM BP, 16-17
»(Default Analysis Set) - WNP 2020 Weekend BP, 12-13
»(Default Analysis Set) - WNP 2023 AM, 08-09
»(Default Analysis Set) - WNP 2023 PM, 17-18
»(Default Analysis Set) - WNP 2023 Weekend , 12-13
»(Default Analysis Set) - WNP 2033 AM, 08-09
»(Default Analysis Set) - WNP 2033 PM, 17-18
»(Default Analysis Set) - WNP 2033 Weekend , 12-13

Summary of junction performance

	08-09				16-17				12-13				17-18			
	Queue (PCU)	Delay (s)	RFC	LOS	Queue (PCU)	Delay (s)	RFC	LOS	Queue (PCU)	Delay (s)	RFC	LOS	Queue (PCU)	Delay (s)	RFC	LOS
A1 - BASE 2016 AM																

Junction North - Arm A1	0.3	3.69	0.22	A												
Junction North - Arm C1	0.2	2.16	0.15	A												
Junction North - Arm D1	0.2	3.26	0.15	A												
Junction South - Arm A2	0.1	1.89	0.08	A												
Junction South - Arm B2	0.5	4.47	0.31	A												
Junction South - Arm C2	0.2	3.47	0.17	A												
	A1 - BASE 2016 PM															
Junction North - Arm A1					0.8	5.37	0.45	A								
Junction North - Arm C1					0.4	2.52	0.27	A								
Junction North - Arm D1					0.3	4.17	0.25	A								
Junction South - Arm A2					0.2	2.11	0.17	A								
Junction South - Arm B2					0.4	4.92	0.31	A								
Junction South - Arm C2					0.5	4.76	0.34	A								
	A1 - BASE 2016 Weekend															
Junction North - Arm A1									0.9	5.41	0.48	A				
Junction North - Arm C1									0.3	2.40	0.23	A				
Junction North - Arm D1									0.4	4.19	0.28	A				
Junction South - Arm A2									0.2	2.17	0.19	A				
Junction South - Arm B2									0.7	5.96	0.42	A				
Junction South - Arm C2									0.4	4.40	0.27	A				
	A1 - REF 2020 AM															
Junction North - Arm A1	0.3	3.78	0.24	A												
Junction North - Arm C1	0.2	2.19	0.16	A												
Junction North - Arm D1	0.2	3.34	0.16	A												
Junction South - Arm A2	0.1	1.91	0.08	A												
Junction South - Arm B2	0.5	4.57	0.32	A												
Junction South - Arm C2	0.2	3.53	0.18	A												
	A1 - REF 2020 PM															
Junction North - Arm A1					0.9	5.80	0.49	A								
Junction North - Arm C1					0.4	2.57	0.28	A								
Junction North - Arm D1					0.4	4.38	0.28	A								
Junction South - Arm A2					0.2	2.15	0.19	A								

Junction South - Arm B2					0.5	5.18	0.34	A								
Junction South - Arm C2					0.6	4.98	0.36	A								
	A1 - REF 2020 Weekend															
Junction North - Arm A1									1.0	5.74	0.51	A				
Junction North - Arm C1									0.3	2.44	0.25	A				
Junction North - Arm D1									0.4	4.36	0.30	A				
Junction South - Arm A2									0.3	2.20	0.21	A				
Junction South - Arm B2									0.8	6.26	0.44	A				
Junction South - Arm C2									0.4	4.55	0.29	A				
	A1 - REF 2023 AM															
Junction North - Arm A1	0.3	3.82	0.25	A												
Junction North - Arm C1	0.2	2.20	0.16	A												
Junction North - Arm D1	0.2	3.37	0.16	A												
Junction South - Arm A2	0.1	1.91	0.09	A												
Junction South - Arm B2	0.5	4.62	0.33	A												
Junction South - Arm C2	0.2	3.55	0.18	A												
	A1 - REF 2023 PM															
Junction North - Arm A1					1.0	5.95	0.50	A								
Junction North - Arm C1					0.4	2.59	0.29	A								
Junction North - Arm D1					0.4	4.45	0.28	A								
Junction South - Arm A2					0.2	2.16	0.19	A								
Junction South - Arm B2					0.5	5.28	0.34	A								
Junction South - Arm C2					0.6	5.06	0.36	A								
	A1 - REF 2023 Weekend															
Junction North - Arm A1									1.1	5.91	0.53	A				
Junction North - Arm C1									0.3	2.46	0.25	A				
Junction North - Arm D1									0.4	4.44	0.31	A				
Junction South - Arm A2									0.3	2.22	0.21	A				
Junction South - Arm B2									0.8	6.41	0.45	A				
Junction South - Arm C2									0.4	4.63	0.29	A				
	A1 - REF 2033 AM															
Junction North - Arm A1	0.4	4.50	0.29	A												

Junction North - Arm C1	0.3	2.40	0.24	A												
Junction North - Arm D1	0.3	4.04	0.25	A												
Junction South - Arm A2	0.1	2.01	0.13	A												
Junction South - Arm B2	5.3	21.32	0.85	C												
Junction South - Arm C2	0.4	4.21	0.30	A												
	A1 - REF 2033 PM															
Junction North - Arm A1													2.4	14.94	0.72	B
Junction North - Arm C1													1.6	4.75	0.61	A
Junction North - Arm D1													0.7	8.29	0.42	A
Junction South - Arm A2													0.3	2.21	0.21	A
Junction South - Arm B2													1.3	8.06	0.56	A
Junction South - Arm C2													44.7	128.95	1.06	F
	A1 - REF 2033 Weekend															
Junction North - Arm A1									1.3	6.44	0.56	A				
Junction North - Arm C1									0.4	2.52	0.27	A				
Junction North - Arm D1									0.5	4.73	0.34	A				
Junction South - Arm A2									0.3	2.26	0.23	A				
Junction South - Arm B2									0.9	6.92	0.48	A				
Junction South - Arm C2									0.5	4.86	0.31	A				
	A1 - WNP 2020 AM WBP															
Junction North - Arm A1	0.3	3.78	0.24	A												
Junction North - Arm C1	0.2	2.19	0.16	A												
Junction North - Arm D1	0.2	3.34	0.16	A												
Junction South - Arm A2	0.1	1.91	0.08	A												
Junction South - Arm B2	0.5	4.76	0.35	A												
Junction South - Arm C2	0.2	3.53	0.18	A												
	A1 - WNP 2020 PM WBP															
Junction North - Arm A1					1.0	5.98	0.50	A								
Junction North - Arm C1					0.4	2.63	0.30	A								
Junction North - Arm D1					0.4	4.48	0.28	A								
Junction South - Arm A2					0.2	2.15	0.19	A								
Junction South - Arm B2					0.5	5.34	0.36	A								

Junction South - Arm C2					0.6	5.21	0.38	A								
	A1 - WNP 2020 Weekend WBP															
Junction North - Arm A1									1.0	5.74	0.51	A				
Junction North - Arm C1									0.3	2.44	0.25	A				
Junction North - Arm D1									0.4	4.36	0.30	A				
Junction South - Arm A2									0.3	2.20	0.21	A				
Junction South - Arm B2									0.8	6.26	0.44	A				
Junction South - Arm C2									0.4	4.55	0.29	A				
	A1 - WNP 2020 AM BP															
Junction North - Arm A1	0.3	3.78	0.24	A												
Junction North - Arm C1	0.2	2.19	0.16	A												
Junction North - Arm D1	0.2	3.34	0.16	A												
Junction South - Arm A2	0.1	1.91	0.08	A												
Junction South - Arm B2	0.5	4.76	0.35	A												
Junction South - Arm C2	0.2	3.53	0.18	A												
	A1 - WNP 2020 PM BP															
Junction North - Arm A1					1.0	5.98	0.50	A								
Junction North - Arm C1					0.4	2.63	0.30	A								
Junction North - Arm D1					0.4	4.48	0.28	A								
Junction South - Arm A2					0.2	2.15	0.19	A								
Junction South - Arm B2					0.5	5.34	0.36	A								
Junction South - Arm C2					0.6	5.21	0.38	A								
	A1 - WNP 2020 Weekend BP															
Junction North - Arm A1									1.0	5.74	0.51	A				
Junction North - Arm C1									0.3	2.44	0.25	A				
Junction North - Arm D1									0.4	4.36	0.30	A				
Junction South - Arm A2									0.3	2.20	0.21	A				
Junction South - Arm B2									0.8	6.26	0.44	A				
Junction South - Arm C2									0.4	4.55	0.29	A				
	A1 - WNP 2023 AM															
Junction North - Arm A1	0.3	3.98	0.25	A												
Junction North - Arm C1	0.2	2.29	0.20	A												

Junction North - Arm D1	0.2	3.50	0.17	A												
Junction South - Arm A2	0.1	1.91	0.09	A												
Junction South - Arm B2	0.6	5.04	0.38	A												
Junction South - Arm C2	0.3	3.80	0.23	A												
	A1 - WNP 2023 PM															
Junction North - Arm A1													1.0	6.12	0.49	A
Junction North - Arm C1													0.5	2.79	0.34	A
Junction North - Arm D1													0.4	4.58	0.26	A
Junction South - Arm A2													0.2	2.16	0.19	A
Junction South - Arm B2													0.7	5.96	0.42	A
Junction South - Arm C2													0.8	5.87	0.45	A
	A1 - WNP 2023 Weekend															
Junction North - Arm A1									1.1	5.91	0.53	A				
Junction North - Arm C1									0.3	2.46	0.25	A				
Junction North - Arm D1									0.4	4.44	0.31	A				
Junction South - Arm A2									0.3	2.22	0.21	A				
Junction South - Arm B2									0.8	6.41	0.45	A				
Junction South - Arm C2									0.4	4.63	0.29	A				
	A1 - WNP 2033 AM															
Junction North - Arm A1	0.4	4.50	0.29	A												
Junction North - Arm C1	0.3	2.40	0.24	A												
Junction North - Arm D1	0.3	4.04	0.25	A												
Junction South - Arm A2	0.1	2.01	0.13	A												
Junction South - Arm B2	5.3	21.32	0.85	C												
Junction South - Arm C2	0.4	4.21	0.30	A												
	A1 - WNP 2033 PM															
Junction North - Arm A1													2.4	14.94	0.72	B
Junction North - Arm C1													1.6	4.75	0.61	A
Junction North - Arm D1													0.7	8.29	0.42	A
Junction South - Arm A2													0.3	2.21	0.21	A
Junction South - Arm B2													1.3	8.06	0.56	A
Junction South - Arm C2													44.7	128.95	1.06	F

	A1 - WNP 2033 Weekend															
Junction North - Arm A1									1.3	6.44	0.56	A				
Junction North - Arm C1									0.4	2.52	0.27	A				
Junction North - Arm D1									0.5	4.73	0.34	A				
Junction South - Arm A2									0.3	2.26	0.23	A				
Junction South - Arm B2									0.9	6.92	0.48	A				
Junction South - Arm C2									0.5	4.86	0.31	A				

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

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

File summary

File Description

Title	A55 Junction 2
Location	Anglesey
Site number	M-1
Date	30/05/2017
Version	Rev0n
Status	Existing
Identifier	OW
Client	HORIZON
Jobnumber	60PO8077
Enumerator	Owen Witherow
Description	All scenarios tested. This model follows on from the DMRB calculations found in the Network Diagram Excel Spreadsheet. The WNP scenario takes the 70/30 split

Units

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

Analysis Options

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

Demand Set Summary

ID	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D_01	BASE 2016 AM	08-09	Q3	ONE HOUR	07:45	09:15	15	✓
D_02	BASE 2016 PM	16-17	Q3	ONE HOUR	15:45	17:15	15	✓
D_03	BASE 2016 Weekend	12-13	Q3	ONE HOUR	11:45	13:15	15	✓
D_04	REF 2020 AM	08-09	Q3	ONE HOUR	07:45	09:15	15	✓

D_05	REF 2020 PM	16-17	Q3	ONE HOUR	15:45	17:15	15	✓
D_06	REF 2020 Weekend	12-13	Q3	ONE HOUR	11:45	13:15	15	✓
D_07	REF 2023 AM	08-09	Q3	ONE HOUR	07:45	09:15	15	✓
D_08	REF 2023 PM	16-17	Q3	ONE HOUR	15:45	17:15	15	✓
D_09	REF 2023 Weekend	12-13	Q3	ONE HOUR	11:45	13:15	15	✓
D_10	REF 2033 AM	08-09	Q3	ONE HOUR	07:45	09:15	15	✓
D_11	REF 2033 PM	17-18	Q3	ONE HOUR	16:45	18:15	15	✓
D_12	REF 2033 Weekend	12-13	Q3	ONE HOUR	11:45	13:15	15	✓
D_13	WNP 2020 AM WBP	08-09	Q3	ONE HOUR	07:45	09:15	15	✓
D_14	WNP 2020 PM WBP	16-17	Q3	ONE HOUR	15:45	17:15	15	✓
D_15	WNP 2020 Weekend WBP	12-13	Q3	ONE HOUR	11:45	13:15	15	✓
D_16	WNP 2020 AM BP	08-09	Q3	ONE HOUR	07:45	09:15	15	✓
D_17	WNP 2020 PM BP	16-17	Q3	ONE HOUR	15:45	17:15	15	✓
D_18	WNP 2020 Weekend BP	12-13	Q3	ONE HOUR	11:45	13:15	15	✓
D_19	WNP 2023 AM	08-09	Q3	ONE HOUR	07:45	09:15	15	✓
D_20	WNP 2023 PM	17-18	Q3	ONE HOUR	16:45	18:15	15	✓
D_21	WNP 2023 Weekend	12-13	Q3	ONE HOUR	11:45	13:15	15	✓
D_22	WNP 2033 AM	08-09	Q3	ONE HOUR	07:45	09:15	15	✓
D_23	WNP 2033 PM	17-18	Q3	ONE HOUR	16:45	18:15	15	✓
D_24	WNP 2033 Weekend	12-13	Q3	ONE HOUR	11:45	13:15	15	✓

Analysis Set Details

ID	Name	Include in report	Network flow scaling factor (%)	Network capacity scaling factor (%)
A1	(Default Analysis Set)	✓	100.000	100.000

(Default Analysis Set) - BASE 2016 AM, 08-09

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Linked Roundabout	Junction North - Arm C1	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 South - Arm A2	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	Vehicle Mix	Junction North	HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed

			whether working in PCUs or Vehs.
Warning	Vehicle Mix	Junction South	HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.

Junction Network

Junctions

Junction	Name	Junction Type	Arm order	Junction Delay (s)	Junction LOS
North	North Dumbbell	Standard Roundabout	A1,B1,C1,D1	2.99	A
South	South Dumbbell	Standard Roundabout	A2,B2,C2,D2	3.63	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Arms

Arms

Junction	Arm	Name	Description
North	**A1**	A5153 SouthBound	
	B1	A55 WestBound	
	C1	A5153 NorthBound	
	D1	A55 EastBound	
South	**A2**	A5153 SouthBound	
	B2	A55 WestBound	
	C2	A5153 NorthBound	
	D2	A55 EastBound	

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
North	**A1**	3.70	5.80	2.9	21.4	39.6	27.0	
	B1							✓
	C1	5.60	7.30	2.3	21.8	39.6	14.0	
	D1	4.50	4.90	4.4	20.5	39.6	28.0	
South	**A2**	6.60	7.40	2.2	24.4	39.4	40.0	
	B2	4.10	4.10	0.0	19.3	39.4	26.0	
	C2	3.40	6.20	5.5	26.7	39.4	30.0	
	D2							✓

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Junction	Arm	Final slope	Final intercept (PCU/hr)
North	**A1**	0.573	1331
	B1		
	C1	0.713	1960
	D1	0.599	1469
South	**A2**	0.707	2057
	B2	0.558	1257
	C2	0.581	1369

	D2		

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

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D_01	BASE 2016 AM	08-09	Q3	ONE HOUR	07:45	09:15	15	✓

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

Linked Arm Data

Junction	Arm	Feeding Junction	Feeding Arm	Link Type	Flow source	Uniform flow (PCU/hr)	Flow multiplier (%)	Internal storage space (PCU)
North	C1	South	A2	Simple (vertical queueing)	Normal	0	100.00	
South	A2	North	C1	Simple (vertical queueing)	Normal	0	100.00	

Demand overview (Traffic)

Junction	Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
North	A1		ONE HOUR	✓	254	100.000
	B1					
	C1	✓				
	D1		ONE HOUR	✓	171	100.000
South	A2	✓				
	B2		ONE HOUR	✓	331	100.000
	C2		ONE HOUR	✓	190	100.000
	D2					

Origin-Destination Data

Demand (PCU/hr)

Junction North

		To			
		A1	B1	C1	D1
From	A1	0	136	118	0
	B1	Exit-only	Exit-only	Exit-only	Exit-only
	C1	175	96	0	0
	D1	145	0	26	0

Demand (PCU/hr)

Junction South

		To			
		A2	B2	C2	D2
From	A2	0	0	69	75
	B2	117	0	214	0
	C2	153	0	0	37
	D2	Exit-only	Exit-only	Exit-only	Exit-only

Vehicle Mix

Heavy Vehicle Percentages

Junction North

		To			
		A1	B1	C1	D1
From	A1	0	0	0	0
	B1	Exit-only	Exit-only	Exit-only	Exit-only
	C1	0	0	0	0
	D1	0	0	0	0

Heavy Vehicle Percentages

Junction South

		To			
		A2	B2	C2	D2
From	A2	0	0	0	0
	B2	0	0	0	0
	C2	0	0	0	0
	D2	Exit-only	Exit-only	Exit-only	Exit-only

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)
North	A1	0.22	3.69	0.3	A	233	350
	B1						
	C1	0.15	2.16	0.2	A	248	371
	D1	0.15	3.26	0.2	A	157	235
South	A2	0.08	1.89	0.1	A	132	198
	B2	0.31	4.47	0.5	A	304	456
	C2	0.17	3.47	0.2	A	174	262
	D2						

Main Results for each time segment

07:45 - 08:00

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	191	48	91	1279	0.150	191	239	0.0	0.2	3.307	A
	B1			108				174				
	C1	202	51	0	1960	0.103	202	108	0.0	0.1	2.048	A
	D1	129	32	202	1348	0.095	128	0	0.0	0.1	2.951	A
South	A2	108	27	0	2057	0.053	108	202	0.0	0.1	1.846	A
	B2	249	62	108	1197	0.208	248	0	0.0	0.3	3.790	A
	C2	143	36	144	1286	0.111	143	212	0.0	0.1	3.146	A
	D2			202				84				

08:00 - 08:15

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	228	57	109	1268	0.180	228	287	0.2	0.2	3.461	A
	B1			129				208				
	C1	243	61	0	1960	0.124	242	129	0.1	0.1	2.095	A
	D1	154	38	242	1324	0.116	154	0	0.1	0.1	3.075	A
South	A2	129	32	0	2057	0.063	129	243	0.1	0.1	1.866	A
	B2	298	74	129	1185	0.251	297	0	0.3	0.3	4.054	A
	C2	171	43	172	1269	0.135	171	254	0.1	0.2	3.276	A
	D2			243				101				

08:15 - 08:30

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	280	70	134	1254	0.223	279	351	0.2	0.3	3.693	A
	B1			158				255				
	C1	297	74	0	1960	0.152	297	158	0.1	0.2	2.164	A
	D1	188	47	297	1291	0.146	188	0	0.1	0.2	3.262	A
South	A2	158	40	0	2057	0.077	158	297	0.1	0.1	1.894	A
	B2	364	91	158	1169	0.312	364	0	0.3	0.4	4.469	A
	C2	209	52	211	1247	0.168	209	311	0.2	0.2	3.468	A
	D2			297				123				

08:30 - 08:45

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	280	70	134	1254	0.223	280	352	0.3	0.3	3.693	A
	B1			159				255				
	C1	297	74	0	1960	0.152	297	159	0.2	0.2	2.164	A
	D1	188	47	297	1291	0.146	188	0	0.2	0.2	3.263	A
South	A2	159	40	0	2057	0.077	159	297	0.1	0.1	1.895	A
	B2	364	91	159	1169	0.312	364	0	0.4	0.5	4.475	A
	C2	209	52	211	1247	0.168	209	312	0.2	0.2	3.468	A
	D2			297				123				

08:45 - 09:00

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	228	57	110	1268	0.180	229	288	0.3	0.2	3.466	A
	B1			130				209				
	C1	243	61	0	1960	0.124	243	130	0.2	0.1	2.098	A
	D1	154	38	243	1324	0.116	154	0	0.2	0.1	3.079	A
South	A2	130	32	0	2057	0.063	130	243	0.1	0.1	1.866	A
	B2	298	74	130	1185	0.251	298	0	0.5	0.3	4.062	A
	C2	171	43	173	1269	0.135	171	255	0.2	0.2	3.278	A
	D2			243				101				

09:00 - 09:15

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	191	48	92	1278	0.150	191	241	0.2	0.2	3.312	A

	B1			109				175				
	C1	203	51	0	1960	0.104	204	109	0.1	0.1	2.050	A
	D1	129	32	204	1347	0.096	129	0	0.1	0.1	2.956	A
South	**A2**	109	27	0	2057	0.053	109	203	0.1	0.1	1.846	A
	B2	249	62	109	1197	0.208	249	0	0.3	0.3	3.800	A
	C2	143	36	145	1285	0.111	143	213	0.2	0.1	3.153	A
	D2			203				84				

(Default Analysis Set) - BASE 2016 PM, 16-17

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Linked Roundabout	Junction North - Arm C1	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 South - Arm A2	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	Vehicle Mix	Junction North	HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.
Warning	Vehicle Mix	Junction South	HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.

Junction Network

Junctions

Junction	Name	Junction Type	Arm order	Junction Delay (s)	Junction LOS
North	North Dumbbell	Standard Roundabout	A1,B1,C1,D1	4.01	A
South	South Dumbbell	Standard Roundabout	A2,B2,C2,D2	3.94	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D_02	BASE 2016 PM	16-17	Q3	ONE HOUR	15:45	17:15	15	✓

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

Linked Arm Data

Junction	Arm	Feeding Junction	Feeding Arm	Link Type	Flow source	Uniform flow (PCU/hr)	Flow multiplier (%)	Internal storage space (PCU)
North	**C1**	South	A2	Simple (vertical queueing)	Normal	0	100.00	

South	**A2**	North	C1	Simple (vertical queueing)	Normal	0	100.00	

Demand overview (Traffic)

Junction	Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
North	**A1**		ONE HOUR	✓	497	100.000
	B1					
	C1	✓				
	D1		ONE HOUR	✓	262	100.000
South	**A2**	✓				
	B2		ONE HOUR	✓	300	100.000
	C2		ONE HOUR	✓	351	100.000
	D2					

Origin-Destination Data

Demand (PCU/hr)

Junction North

		To			
		A1	**B1**	**C1**	**D1**
From	**A1**	0	189	308	0
	B1	Exit-only	Exit-only	Exit-only	Exit-only
	C1	312	170	0	0
	D1	252	0	10	0

Demand (PCU/hr)

Junction South

		To			
		A2	**B2**	**C2**	**D2**
From	**A2**	2	0	149	167
	B2	187	0	113	0
	C2	293	0	0	58
	D2	Exit-only	Exit-only	Exit-only	Exit-only

Vehicle Mix

Heavy Vehicle Percentages

Junction North

		To			
		A1	**B1**	**C1**	**D1**
From	**A1**	0	0	0	0
	B1	Exit-only	Exit-only	Exit-only	Exit-only
	C1	0	0	0	0
	D1	0	0	0	0

Heavy Vehicle Percentages

Junction South

		To			
		A2	B2	C2	D2
From	A2	0	0	0	0
	B2	0	0	0	0
	C2	0	0	0	0
	D2	Exit-only	Exit-only	Exit-only	Exit-only

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)
North	A1	0.45	5.37	0.8	A	456	684
	B1						
	C1	0.27	2.52	0.4	A	442	663
	D1	0.25	4.17	0.3	A	240	361
South	A2	0.17	2.11	0.2	A	292	437
	B2	0.31	4.92	0.4	A	275	413
	C2	0.34	4.76	0.5	A	322	483
	D2						

Main Results for each time segment

15:45 - 16:00

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	374	94	135	1254	0.298	372	422	0.0	0.4	4.078	A
	B1			238				269				
	C1	361	90	0	1960	0.184	360	238	0.0	0.2	2.249	A
	D1	197	49	360	1253	0.157	197	0	0.0	0.2	3.405	A
South	A2	238	60	0	2057	0.116	238	361	0.0	0.1	1.979	A
	B2	226	56	238	1125	0.201	225	0	0.0	0.2	3.997	A
	C2	264	66	267	1215	0.218	263	196	0.0	0.3	3.780	A
	D2			361				168				

16:00 - 16:15

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	447	112	162	1238	0.361	446	506	0.4	0.6	4.543	A
	B1			286				322				
	C1	433	108	0	1960	0.221	433	286	0.2	0.3	2.356	A
	D1	236	59	433	1210	0.195	235	0	0.2	0.2	3.693	A
South	A2	286	71	0	2057	0.139	285	433	0.1	0.2	2.031	A
	B2	270	67	285	1098	0.246	269	0	0.2	0.3	4.344	A

	C2	316	79	320	1184	0.267	315	235	0.3	0.4	4.141	A
	D2			433				202				

16:15 - 16:30

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	547	137	198	1217	0.449	546	620	0.6	0.8	5.356	A
	B1			349				394				
	C1	530	132	0	1960	0.270	530	349	0.3	0.4	2.516	A
	D1	288	72	530	1152	0.250	288	0	0.2	0.3	4.165	A
South	A2	349	87	0	2057	0.170	349	530	0.2	0.2	2.107	A
	B2	330	83	349	1062	0.311	330	0	0.3	0.4	4.911	A
	C2	386	97	391	1142	0.338	386	288	0.4	0.5	4.760	A
	D2			530				247				

16:30 - 16:45

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	547	137	198	1217	0.450	547	621	0.8	0.8	5.372	A
	B1			350				395				
	C1	531	133	0	1960	0.271	531	350	0.4	0.4	2.518	A
	D1	288	72	531	1151	0.251	288	0	0.3	0.3	4.172	A
South	A2	350	88	0	2057	0.170	350	531	0.2	0.2	2.108	A
	B2	330	83	350	1062	0.311	330	0	0.4	0.4	4.920	A
	C2	386	97	392	1142	0.338	386	288	0.5	0.5	4.765	A
	D2			531				248				

16:45 - 17:00

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	447	112	162	1238	0.361	448	508	0.8	0.6	4.563	A
	B1			286				324				
	C1	434	109	0	1960	0.221	434	286	0.4	0.3	2.359	A
	D1	236	59	434	1209	0.195	236	0	0.3	0.2	3.700	A
South	A2	286	72	0	2057	0.139	287	434	0.2	0.2	2.034	A
	B2	270	67	287	1097	0.246	270	0	0.4	0.3	4.356	A
	C2	316	79	321	1183	0.267	316	236	0.5	0.4	4.154	A
	D2			434				203				

17:00 - 17:15

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	374	94	136	1253	0.299	375	425	0.6	0.4	4.101	A
	B1			240				271				
	C1	363	91	0	1960	0.185	364	240	0.3	0.2	2.256	A
	D1	197	49	364	1251	0.158	197	0	0.2	0.2	3.418	A
South	A2	240	60	0	2057	0.117	240	363	0.2	0.1	1.980	A
	B2	226	56	240	1123	0.201	226	0	0.3	0.3	4.013	A
	C2	264	66	268	1214	0.218	265	198	0.4	0.3	3.794	A
	D2			363				170				

(Default Analysis Set) - BASE 2016 Weekend, 12-13

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Linked Roundabout	Junction North - Arm C1	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 South - Arm A2	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	Vehicle Mix	Junction North	HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.
Warning	Vehicle Mix	Junction South	HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.

Junction Network

Junctions

Junction	Name	Junction Type	Arm order	Junction Delay (s)	Junction LOS
North	North Dumbbell	Standard Roundabout	A1,B1,C1,D1	4.14	A
South	South Dumbbell	Standard Roundabout	A2,B2,C2,D2	4.21	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D_03	BASE 2016 Weekend	12-13	Q3	ONE HOUR	11:45	13:15	15	✓

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

Linked Arm Data

Junction	Arm	Feeding Junction	Feeding Arm	Link Type	Flow source	Uniform flow (PCU/hr)	Flow multiplier (%)	Internal storage space (PCU)
North	**C1**	South	A2	Simple (vertical queueing)	Normal	0	100.00	
South	**A2**	North	C1	Simple (vertical queueing)	Normal	0	100.00	

Demand overview (Traffic)

Junction	Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
North	**A1**		ONE HOUR	✓	566	100.000
	B1					
	C1	✓				

	D1		ONE HOUR	✓	303	100.000
South	A2	✓				
	B2		ONE HOUR	✓	391	100.000
	C2		ONE HOUR	✓	275	100.000
	D2					

Origin-Destination Data

Demand (PCU/hr)

Junction North

		To			
		A1	B1	C1	D1
From	A1	0	207	359	0
	B1	Exit-only	Exit-only	Exit-only	Exit-only
	C1	356	63	0	0
	D1	299	0	4	0

Demand (PCU/hr)

Junction South

		To			
		A2	B2	C2	D2
From	A2	3	0	180	180
	B2	205	0	186	0
	C2	210	0	0	65
	D2	Exit-only	Exit-only	Exit-only	Exit-only

Vehicle Mix

Heavy Vehicle Percentages

Junction North

		To			
		A1	B1	C1	D1
From	A1	0	0	0	0
	B1	Exit-only	Exit-only	Exit-only	Exit-only
	C1	0	0	0	0
	D1	0	0	0	0

Heavy Vehicle Percentages

Junction South

		To			
		A2	B2	C2	D2
From	A2	0	0	0	0
	B2	0	0	0	0
	C2	0	0	0	0
	D2	Exit-only	Exit-only	Exit-only	Exit-only

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)
North	A1	0.48	5.41	0.9	A	519	779
	B1						
	C1	0.23	2.40	0.3	A	383	575
	D1	0.28	4.19	0.4	A	278	417
South	A2	0.19	2.17	0.2	A	333	499
	B2	0.42	5.96	0.7	A	359	538
	C2	0.27	4.40	0.4	A	252	379
	D2						

Main Results for each time segment

11:45 - 12:00

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	426	107	50	1302	0.327	424	490	0.0	0.5	4.091	A
	B1			272				202				
	C1	313	78	0	1960	0.160	313	272	0.0	0.2	2.184	A
	D1	228	57	313	1282	0.178	227	0	0.0	0.2	3.409	A
South	A2	272	68	0	2057	0.132	271	313	0.0	0.2	2.016	A
	B2	294	74	271	1106	0.266	293	0	0.0	0.4	4.420	A
	C2	207	52	290	1201	0.172	206	274	0.0	0.2	3.616	A
	D2			313				183				

12:00 - 12:15

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	509	127	60	1296	0.392	508	587	0.5	0.6	4.563	A
	B1			326				242				
	C1	375	94	0	1960	0.191	375	326	0.2	0.2	2.271	A
	D1	272	68	375	1244	0.219	272	0	0.2	0.3	3.702	A
South	A2	326	81	0	2057	0.158	326	375	0.2	0.2	2.079	A
	B2	352	88	326	1075	0.327	351	0	0.4	0.5	4.966	A
	C2	247	62	348	1167	0.212	247	329	0.2	0.3	3.911	A
	D2			375				220				

12:15 - 12:30

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	623	156	73	1289	0.484	622	719	0.6	0.9	5.391	A
	B1			399				297				
	C1	459	115	0	1960	0.234	459	399	0.2	0.3	2.398	A
	D1	334	83	459	1194	0.279	333	0	0.3	0.4	4.179	A
South	A2	399	100	0	2057	0.194	399	459	0.2	0.2	2.170	A
	B2	430	108	399	1035	0.416	430	0	0.5	0.7	5.941	A
	C2	303	76	426	1122	0.270	302	402	0.3	0.4	4.391	A
	D2			459				269				

12:30 - 12:45

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	623	156	74	1289	0.484	623	720	0.9	0.9	5.409	A
	B1			400				297				
	C1	460	115	0	1960	0.235	460	400	0.3	0.3	2.399	A
	D1	334	83	460	1194	0.280	334	0	0.4	0.4	4.186	A
South	A2	400	100	0	2057	0.194	400	460	0.2	0.2	2.171	A
	B2	430	108	400	1034	0.416	430	0	0.7	0.7	5.962	A
	C2	303	76	427	1121	0.270	303	403	0.4	0.4	4.397	A
	D2			460				270				

12:45 - 13:00

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	509	127	60	1296	0.393	510	589	0.9	0.7	4.584	A
	B1			327				243				
	C1	377	94	0	1960	0.192	377	327	0.3	0.2	2.273	A
	D1	272	68	377	1243	0.219	273	0	0.4	0.3	3.712	A
South	A2	327	82	0	2057	0.159	327	377	0.2	0.2	2.082	A
	B2	352	88	327	1075	0.327	352	0	0.7	0.5	4.992	A
	C2	247	62	350	1166	0.212	248	330	0.4	0.3	3.919	A
	D2			377				221				

13:00 - 13:15

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	426	107	50	1302	0.327	427	493	0.7	0.5	4.118	A
	B1			274				203				
	C1	315	79	0	1960	0.161	315	274	0.2	0.2	2.190	A
	D1	228	57	315	1280	0.178	228	0	0.3	0.2	3.424	A
South	A2	274	68	0	2057	0.133	274	315	0.2	0.2	2.020	A
	B2	294	74	274	1104	0.267	295	0	0.5	0.4	4.449	A
	C2	207	52	293	1200	0.173	207	276	0.3	0.2	3.631	A
	D2			315				185				

(Default Analysis Set) - REF 2020 AM, 08-09

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Linked Roundabout	Junction North - Arm C1	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 South - Arm A2	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	Vehicle Mix	Junction North	HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.
Warning	Vehicle Mix	Junction South	HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.

Junction Network

Junctions

Junction	Name	Junction Type	Arm order	Junction Delay (s)	Junction LOS
North	North Dumbbell	Standard Roundabout	A1,B1,C1,D1	3.06	A
South	South Dumbbell	Standard Roundabout	A2,B2,C2,D2	3.68	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D_04	REF 2020 AM	08-09	Q3	ONE HOUR	07:45	09:15	15	✓

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

Linked Arm Data

Junction	Arm	Feeding Junction	Feeding Arm	Link Type	Flow source	Uniform flow (PCU/hr)	Flow multiplier (%)	Internal storage space (PCU)
North	**C1**	South	A2	Simple (vertical queueing)	Normal	0	100.00	
South	**A2**	North	C1	Simple (vertical queueing)	Normal	0	100.00	

Demand overview (Traffic)

Junction	Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
North	**A1**		ONE HOUR	✓	272	100.000
	B1					
	C1	✓				
	D1		ONE HOUR	✓	185	100.000
South	**A2**	✓				
	B2		ONE HOUR	✓	340	100.000
	C2		ONE HOUR	✓	198	100.000
	D2					

Origin-Destination Data

Demand (PCU/hr)

Junction North

		To			
		A1	**B1**	**C1**	**D1**
From	**A1**	0	144	128	0
	B1	Exit-only	Exit-only	Exit-only	Exit-only
	C1	186	99	0	0
	D1	158	0	27	0

Demand (PCU/hr)

Junction South

		To			
		A2	B2	C2	D2
From	A2	1	0	73	81
	B2	123	0	217	0
	C2	161	0	0	37
	D2	Exit-only	Exit-only	Exit-only	Exit-only

Vehicle Mix

Heavy Vehicle Percentages

Junction North

		To			
		A1	B1	C1	D1
From	A1	0	0	0	0
	B1	Exit-only	Exit-only	Exit-only	Exit-only
	C1	0	0	0	0
	D1	0	0	0	0

Heavy Vehicle Percentages

Junction South

		To			
		A2	B2	C2	D2
From	A2	0	0	0	0
	B2	0	0	0	0
	C2	0	0	0	0
	D2	Exit-only	Exit-only	Exit-only	Exit-only

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)
North	A1	0.24	3.78	0.3	A	250	374
	B1						
	C1	0.16	2.19	0.2	A	261	392
	D1	0.16	3.34	0.2	A	170	255
South	A2	0.08	1.91	0.1	A	142	213
	B2	0.32	4.57	0.5	A	312	468
	C2	0.18	3.53	0.2	A	182	273
	D2						

Main Results for each time segment

07:45 - 08:00

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	205	51	94	1277	0.160	204	258	0.0	0.2	3.354	A
	B1			116				182				
	C1	214	53	0	1960	0.109	213	116	0.0	0.1	2.061	A
	D1	139	35	213	1341	0.104	139	0	0.0	0.1	2.993	A
South	A2	116	29	0	2057	0.057	116	214	0.0	0.1	1.853	A
	B2	256	64	116	1193	0.215	255	0	0.0	0.3	3.836	A
	C2	149	37	154	1280	0.116	149	217	0.0	0.1	3.179	A
	D2			214				88				

08:00 - 08:15

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	245	61	113	1266	0.193	244	309	0.2	0.2	3.523	A
	B1			139				218				
	C1	256	64	0	1960	0.131	256	139	0.1	0.1	2.112	A
	D1	166	42	256	1316	0.126	166	0	0.1	0.1	3.130	A
South	A2	139	35	0	2057	0.068	139	256	0.1	0.1	1.876	A
	B2	306	76	139	1180	0.259	305	0	0.3	0.3	4.117	A
	C2	178	44	184	1263	0.141	178	260	0.1	0.2	3.318	A
	D2			256				106				

08:15 - 08:30

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	299	75	139	1251	0.239	299	378	0.2	0.3	3.780	A
	B1			170				267				
	C1	313	78	0	1960	0.160	313	170	0.1	0.2	2.185	A
	D1	204	51	313	1282	0.159	204	0	0.1	0.2	3.339	A
South	A2	170	43	0	2057	0.083	170	313	0.1	0.1	1.907	A
	B2	374	94	170	1162	0.322	374	0	0.3	0.5	4.563	A
	C2	218	55	225	1239	0.176	218	319	0.2	0.2	3.526	A
	D2			313				130				

08:30 - 08:45

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	299	75	139	1251	0.239	299	379	0.3	0.3	3.781	A
	B1			171				268				
	C1	314	78	0	1960	0.160	314	171	0.2	0.2	2.186	A
	D1	204	51	314	1281	0.159	204	0	0.2	0.2	3.340	A
South	A2	171	43	0	2057	0.083	171	314	0.1	0.1	1.907	A
	B2	374	94	171	1162	0.322	374	0	0.5	0.5	4.569	A
	C2	218	55	226	1238	0.176	218	319	0.2	0.2	3.527	A
	D2			314				130				

08:45 - 09:00

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	245	61	113	1266	0.193	245	310	0.3	0.2	3.529	A

	B1			140				219				
	C1	257	64	0	1960	0.131	257	140	0.2	0.2	2.113	A
	D1	166	42	257	1315	0.126	166	0	0.2	0.1	3.135	A
South	A2	140	35	0	2057	0.068	140	257	0.1	0.1	1.879	A
	B2	306	76	140	1179	0.259	306	0	0.5	0.4	4.124	A
	C2	178	44	185	1262	0.141	178	261	0.2	0.2	3.323	A
	D2			257				106				

09:00 - 09:15

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	205	51	95	1276	0.160	205	259	0.2	0.2	3.362	A
	B1			117				183				
	C1	215	54	0	1960	0.110	215	117	0.2	0.1	2.064	A
	D1	139	35	215	1340	0.104	139	0	0.1	0.1	2.996	A
South	A2	117	29	0	2057	0.057	117	215	0.1	0.1	1.857	A
	B2	256	64	117	1192	0.215	256	0	0.4	0.3	3.849	A
	C2	149	37	155	1280	0.116	149	219	0.2	0.1	3.183	A
	D2			215				89				

(Default Analysis Set) - REF 2020 PM, 16-17

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Linked Roundabout	Junction North - Arm C1	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 South - Arm A2	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	Vehicle Mix	Junction North	HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.
Warning	Vehicle Mix	Junction South	HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.

Junction Network

Junctions

Junction	Name	Junction Type	Arm order	Junction Delay (s)	Junction LOS
North	North Dumbbell	Standard Roundabout	A1,B1,C1,D1	4.26	A
South	South Dumbbell	Standard Roundabout	A2,B2,C2,D2	4.09	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D_05	REF 2020 PM	16-17	Q3	ONE HOUR	15:45	17:15	15	✓

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

Linked Arm Data

Junction	Arm	Feeding Junction	Feeding Arm	Link Type	Flow source	Uniform flow (PCU/hr)	Flow multiplier (%)	Internal storage space (PCU)
North	C1	South	A2	Simple (vertical queueing)	Normal	0	100.00	
South	A2	North	C1	Simple (vertical queueing)	Normal	0	100.00	

Demand overview (Traffic)

Junction	Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
North	A1		ONE HOUR	✓	538	100.000
	B1					
	C1	✓				
	D1		ONE HOUR	✓	284	100.000
South	A2	✓				
	B2		ONE HOUR	✓	318	100.000
	C2		ONE HOUR	✓	363	100.000
	D2					

Origin-Destination Data

Demand (PCU/hr)

Junction North

		To			
		A1	B1	C1	D1
From	A1	0	203	335	0
	B1	Exit-only	Exit-only	Exit-only	Exit-only
	C1	331	175	0	0
	D1	273	0	11	0

Demand (PCU/hr)

Junction South

		To			
		A2	B2	C2	D2
From	A2	2	0	159	185
	B2	200	0	118	0
	C2	305	0	0	58
	D2	Exit-only	Exit-only	Exit-only	Exit-only

Vehicle Mix

Heavy Vehicle Percentages

Junction North

		To			
		A1	B1	C1	D1
From	A1	0	0	0	0
	B1	Exit-only	Exit-only	Exit-only	Exit-only
	C1	0	0	0	0
	D1	0	0	0	0

Heavy Vehicle Percentages

Junction South

		To			
		A2	B2	C2	D2
From	A2	0	0	0	0
	B2	0	0	0	0
	C2	0	0	0	0
	D2	Exit-only	Exit-only	Exit-only	Exit-only

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)
North	A1	0.49	5.80	0.9	A	494	741
	B1						
	C1	0.28	2.57	0.4	A	465	697
	D1	0.28	4.38	0.4	A	261	391
South	A2	0.19	2.15	0.2	A	317	476
	B2	0.34	5.18	0.5	A	292	438
	C2	0.36	4.98	0.6	A	333	500
	D2						

Main Results for each time segment

15:45 - 16:00

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	405	101	139	1251	0.324	403	453	0.0	0.5	4.237	A
	B1			259				283				
	C1	380	95	0	1960	0.194	379	259	0.0	0.2	2.276	A
	D1	214	53	379	1242	0.172	213	0	0.0	0.2	3.494	A
South	A2	259	65	0	2057	0.126	259	380	0.0	0.1	2.002	A
	B2	239	60	259	1113	0.215	238	0	0.0	0.3	4.111	A
	C2	273	68	290	1201	0.228	272	207	0.0	0.3	3.870	A
	D2			380				182				

16:00 - 16:15

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	484	121	167	1235	0.392	483	543	0.5	0.6	4.783	A
	B1			311				340				
	C1	455	114	0	1960	0.232	455	311	0.2	0.3	2.391	A
	D1	255	64	455	1197	0.213	255	0	0.2	0.3	3.823	A
South	A2	311	78	0	2057	0.151	310	455	0.1	0.2	2.060	A
	B2	286	71	310	1084	0.264	286	0	0.3	0.4	4.506	A
	C2	326	82	347	1168	0.279	326	249	0.3	0.4	4.275	A
	D2			455				218				

16:15 - 16:30

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	592	148	205	1213	0.488	591	664	0.6	0.9	5.772	A
	B1			380				416				
	C1	557	139	0	1960	0.284	557	380	0.3	0.4	2.565	A
	D1	313	78	557	1136	0.275	312	0	0.3	0.4	4.371	A
South	A2	380	95	0	2057	0.185	380	557	0.2	0.2	2.146	A
	B2	350	88	380	1045	0.335	350	0	0.4	0.5	5.170	A
	C2	400	100	425	1123	0.356	399	304	0.4	0.5	4.972	A
	D2			557				267				

16:30 - 16:45

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	592	148	205	1213	0.488	592	666	0.9	0.9	5.797	A
	B1			381				417				
	C1	558	140	0	1960	0.285	558	381	0.4	0.4	2.567	A
	D1	313	78	558	1135	0.276	313	0	0.4	0.4	4.378	A
South	A2	381	95	0	2057	0.185	381	558	0.2	0.2	2.147	A
	B2	350	88	381	1045	0.335	350	0	0.5	0.5	5.183	A
	C2	400	100	426	1122	0.356	400	305	0.5	0.6	4.983	A
	D2			558				268				

16:45 - 17:00

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	484	121	168	1235	0.392	485	545	0.9	0.6	4.809	A
	B1			312				341				
	C1	457	114	0	1960	0.233	457	312	0.4	0.3	2.395	A
	D1	255	64	457	1195	0.214	256	0	0.4	0.3	3.831	A
South	A2	312	78	0	2057	0.152	312	457	0.2	0.2	2.064	A
	B2	286	71	312	1083	0.264	286	0	0.5	0.4	4.523	A
	C2	326	82	349	1167	0.280	327	250	0.6	0.4	4.288	A
	D2			457				219				

17:00 - 17:15

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	405	101	141	1250	0.324	406	456	0.6	0.5	4.265	A

	B1			261				285				
	C1	382	96	0	1960	0.195	382	261	0.3	0.2	2.283	A
	D1	214	53	382	1240	0.172	214	0	0.3	0.2	3.511	A
South	**A2**	261	65	0	2057	0.127	261	382	0.2	0.1	2.005	A
	B2	239	60	261	1112	0.215	240	0	0.4	0.3	4.132	A
	C2	273	68	292	1200	0.228	274	209	0.4	0.3	3.887	A
	D2			382				183				

(Default Analysis Set) - REF 2020 Weekend, 12-13

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Linked Roundabout	Junction North - Arm C1	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 South - Arm A2	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	Vehicle Mix	Junction North	HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.
Warning	Vehicle Mix	Junction South	HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.

Junction Network

Junctions

Junction	Name	Junction Type	Arm order	Junction Delay (s)	Junction LOS
North	North Dumbbell	Standard Roundabout	A1,B1,C1,D1	4.35	A
South	South Dumbbell	Standard Roundabout	A2,B2,C2,D2	4.36	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D_06	REF 2020 Weekend	12-13	Q3	ONE HOUR	11:45	13:15	15	✓

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

Linked Arm Data

Junction	Arm	Feeding Junction	Feeding Arm	Link Type	Flow source	Uniform flow (PCU/hr)	Flow multiplier (%)	Internal storage space (PCU)
North	**C1**	South	A2	Simple (vertical queueing)	Normal	0	100.00	

South	**A2**	North	C1	Simple (vertical queueing)	Normal	0	100.00	

Demand overview (Traffic)

Junction	Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
North	**A1**		ONE HOUR	✓	599	100.000
	B1					
	C1	✓				
	D1		ONE HOUR	✓	321	100.000
South	**A2**	✓				
	B2		ONE HOUR	✓	405	100.000
	C2		ONE HOUR	✓	287	100.000
	D2					

Origin-Destination Data

Demand (PCU/hr)

Junction North

		To			
		A1	**B1**	**C1**	**D1**
From	**A1**	0	218	381	0
	B1	Exit-only	Exit-only	Exit-only	Exit-only
	C1	376	66	0	0
	D1	317	0	4	0

Demand (PCU/hr)

Junction South

		To			
		A2	**B2**	**C2**	**D2**
From	**A2**	3	0	190	192
	B2	216	0	189	0
	C2	222	0	0	65
	D2	Exit-only	Exit-only	Exit-only	Exit-only

Vehicle Mix

Heavy Vehicle Percentages

Junction North

		To			
		A1	**B1**	**C1**	**D1**
From	**A1**	0	0	0	0
	B1	Exit-only	Exit-only	Exit-only	Exit-only
	C1	0	0	0	0
	D1	0	0	0	0

Heavy Vehicle Percentages

Junction South

		To			
		A2	B2	C2	D2
From	A2	0	0	0	0
	B2	0	0	0	0
	C2	0	0	0	0
	D2	Exit-only	Exit-only	Exit-only	Exit-only

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)
North	A1	0.51	5.74	1.0	A	550	824
	B1						
	C1	0.25	2.44	0.3	A	404	607
	D1	0.30	4.36	0.4	A	295	442
South	A2	0.21	2.20	0.3	A	353	530
	B2	0.44	6.26	0.8	A	372	557
	C2	0.29	4.55	0.4	A	263	395
	D2						

Main Results for each time segment

11:45 - 12:00

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	451	113	52	1301	0.347	449	518	0.0	0.5	4.215	A
	B1			288				213				
	C1	330	83	0	1960	0.169	330	288	0.0	0.2	2.207	A
	D1	242	60	330	1272	0.190	241	0	0.0	0.2	3.488	A
South	A2	288	72	0	2057	0.140	288	330	0.0	0.2	2.035	A
	B2	305	76	288	1097	0.278	303	0	0.0	0.4	4.530	A
	C2	216	54	308	1191	0.181	215	284	0.0	0.2	3.686	A
	D2			330				192				

12:00 - 12:15

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	538	135	63	1295	0.416	538	621	0.5	0.7	4.751	A
	B1			346				255				
	C1	396	99	0	1960	0.202	396	346	0.2	0.3	2.301	A
	D1	289	72	396	1232	0.234	288	0	0.2	0.3	3.814	A
South	A2	346	86	0	2057	0.168	345	396	0.2	0.2	2.103	A
	B2	364	91	345	1064	0.342	364	0	0.4	0.5	5.133	A

	C2	258	65	369	1155	0.223	258	340	0.2	0.3	4.010	A
	D2			396				231				

12:15 - 12:30

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	660	165	77	1287	0.513	658	761	0.7	1.0	5.715	A
	B1			423				312				
	C1	485	121	0	1960	0.247	484	423	0.3	0.3	2.439	A
	D1	353	88	484	1179	0.300	353	0	0.3	0.4	4.354	A
South	A2	423	106	0	2057	0.206	423	485	0.2	0.3	2.202	A
	B2	446	111	423	1021	0.437	445	0	0.5	0.8	6.236	A
	C2	316	79	451	1107	0.285	316	416	0.3	0.4	4.545	A
	D2			485				282				

12:30 - 12:45

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	660	165	77	1287	0.513	659	762	1.0	1.0	5.739	A
	B1			424				313				
	C1	486	121	0	1960	0.248	486	424	0.3	0.3	2.441	A
	D1	353	88	486	1178	0.300	353	0	0.4	0.4	4.363	A
South	A2	424	106	0	2057	0.206	424	486	0.3	0.3	2.203	A
	B2	446	111	424	1021	0.437	446	0	0.8	0.8	6.262	A
	C2	316	79	452	1107	0.286	316	417	0.4	0.4	4.552	A
	D2			486				283				

12:45 - 13:00

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	538	135	63	1295	0.416	540	624	1.0	0.7	4.776	A
	B1			347				256				
	C1	397	99	0	1960	0.203	398	347	0.3	0.3	2.305	A
	D1	289	72	398	1231	0.234	289	0	0.4	0.3	3.822	A
South	A2	347	87	0	2057	0.169	347	397	0.3	0.2	2.106	A
	B2	364	91	347	1063	0.342	365	0	0.8	0.5	5.163	A
	C2	258	65	371	1154	0.224	258	342	0.4	0.3	4.021	A
	D2			397				232				

13:00 - 13:15

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	451	113	53	1301	0.347	452	522	0.7	0.5	4.244	A
	B1			290				214				
	C1	333	83	0	1960	0.170	333	290	0.3	0.2	2.212	A
	D1	242	60	333	1270	0.190	242	0	0.3	0.2	3.504	A
South	A2	290	73	0	2057	0.141	290	333	0.2	0.2	2.039	A
	B2	305	76	290	1095	0.278	305	0	0.5	0.4	4.561	A
	C2	216	54	310	1189	0.182	216	286	0.3	0.2	3.702	A
	D2			333				194				

(Default Analysis Set) - REF 2023 AM, 08-09

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Linked Roundabout	Junction North - Arm C1	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 South - Arm A2	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	Vehicle Mix	Junction North	HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.
Warning	Vehicle Mix	Junction South	HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.

Junction Network

Junctions

Junction	Name	Junction Type	Arm order	Junction Delay (s)	Junction LOS
North	North Dumbbell	Standard Roundabout	A1,B1,C1,D1	3.08	A
South	South Dumbbell	Standard Roundabout	A2,B2,C2,D2	3.70	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D_07	REF 2023 AM	08-09	Q3	ONE HOUR	07:45	09:15	15	✓

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

Linked Arm Data

Junction	Arm	Feeding Junction	Feeding Arm	Link Type	Flow source	Uniform flow (PCU/hr)	Flow multiplier (%)	Internal storage space (PCU)
North	**C1**	South	A2	Simple (vertical queueing)	Normal	0	100.00	
South	**A2**	North	C1	Simple (vertical queueing)	Normal	0	100.00	

Demand overview (Traffic)

Junction	Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
North	**A1**		ONE HOUR	✓	280	100.000
	B1					
	C1	✓				
	D1		ONE HOUR	✓	189	100.000

South	A2	✓				
	B2		ONE HOUR	✓	345	100.000
	C2		ONE HOUR	✓	201	100.000
	D2					

Origin-Destination Data

Demand (PCU/hr)

Junction North

		To			
		A1	B1	C1	D1
From	A1	0	148	132	0
	B1	Exit-only	Exit-only	Exit-only	Exit-only
	C1	192	100	0	0
	D1	162	0	27	0

Demand (PCU/hr)

Junction South

		To			
		A2	B2	C2	D2
From	A2	1	0	74	83
	B2	127	0	218	0
	C2	164	0	0	37
	D2	Exit-only	Exit-only	Exit-only	Exit-only

Vehicle Mix

Heavy Vehicle Percentages

Junction North

		To			
		A1	B1	C1	D1
From	A1	0	0	0	0
	B1	Exit-only	Exit-only	Exit-only	Exit-only
	C1	0	0	0	0
	D1	0	0	0	0

Heavy Vehicle Percentages

Junction South

		To			
		A2	B2	C2	D2
From	A2	0	0	0	0
	B2	0	0	0	0
	C2	0	0	0	0
	D2	Exit-only	Exit-only	Exit-only	Exit-only

Results

Results Summary for whole modelled period

Junction	Arm	Max RFC	Max delay (s)	Max Queue (PCU)	Max LOS	Average Demand	Total Junction Arrivals (PCU)

						(PCU/hr)	
North	A1	0.25	3.82	0.3	A	257	385
	B1						
	C1	0.16	2.20	0.2	A	268	402
	D1	0.16	3.37	0.2	A	173	260
South	A2	0.09	1.91	0.1	A	146	219
	B2	0.33	4.62	0.5	A	317	475
	C2	0.18	3.55	0.2	A	184	277
	D2						

Main Results for each time segment

07:45 - 08:00

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	211	53	95	1276	0.165	210	265	0.0	0.2	3.375	A
	B1			119				186				
	C1	219	55	0	1960	0.112	218	119	0.0	0.1	2.067	A
	D1	142	36	218	1338	0.106	142	0	0.0	0.1	3.006	A
South	A2	119	30	0	2057	0.058	119	219	0.0	0.1	1.856	A
	B2	260	65	119	1191	0.218	259	0	0.0	0.3	3.856	A
	C2	151	38	158	1277	0.118	151	219	0.0	0.1	3.193	A
	D2			219				90				

08:00 - 08:15

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	252	63	114	1265	0.199	252	318	0.2	0.2	3.550	A
	B1			143				223				
	C1	262	66	0	1960	0.134	262	143	0.1	0.2	2.120	A
	D1	170	42	262	1312	0.129	170	0	0.1	0.1	3.150	A
South	A2	143	36	0	2057	0.069	143	262	0.1	0.1	1.879	A
	B2	310	78	143	1178	0.263	310	0	0.3	0.4	4.148	A
	C2	181	45	190	1259	0.144	181	263	0.1	0.2	3.337	A
	D2			262				108				

08:15 - 08:30

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	308	77	140	1251	0.246	308	389	0.2	0.3	3.818	A
	B1			175				273				
	C1	321	80	0	1960	0.164	321	175	0.2	0.2	2.196	A
	D1	208	52	321	1277	0.163	208	0	0.1	0.2	3.367	A
South	A2	175	44	0	2057	0.085	175	321	0.1	0.1	1.911	A
	B2	380	95	175	1160	0.328	379	0	0.4	0.5	4.610	A
	C2	221	55	233	1234	0.179	221	322	0.2	0.2	3.552	A
	D2			321				133				

08:30 - 08:45

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	308	77	140	1251	0.247	308	390	0.3	0.3	3.819	A
	B1			175				273				
	C1	322	80	0	1960	0.164	321	175	0.2	0.2	2.196	A
	D1	208	52	321	1277	0.163	208	0	0.2	0.2	3.368	A
South	A2	175	44	0	2057	0.085	175	322	0.1	0.1	1.911	A
	B2	380	95	175	1160	0.328	380	0	0.5	0.5	4.616	A
	C2	221	55	233	1234	0.179	221	322	0.2	0.2	3.553	A
	D2			322				133				

08:45 - 09:00

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	252	63	114	1265	0.199	252	319	0.3	0.2	3.556	A
	B1			143				223				
	C1	263	66	0	1960	0.134	263	143	0.2	0.2	2.122	A
	D1	170	42	263	1312	0.130	170	0	0.2	0.1	3.153	A
South	A2	143	36	0	2057	0.070	143	263	0.1	0.1	1.882	A
	B2	310	78	143	1177	0.263	311	0	0.5	0.4	4.155	A
	C2	181	45	190	1259	0.144	181	263	0.2	0.2	3.342	A
	D2			263				109				

09:00 - 09:15

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	211	53	96	1276	0.165	211	267	0.2	0.2	3.380	A
	B1			120				187				
	C1	220	55	0	1960	0.112	220	120	0.2	0.1	2.070	A
	D1	142	36	220	1337	0.106	142	0	0.1	0.1	3.014	A
South	A2	120	30	0	2057	0.058	120	220	0.1	0.1	1.860	A
	B2	260	65	120	1190	0.218	260	0	0.4	0.3	3.870	A
	C2	151	38	159	1277	0.119	151	220	0.2	0.1	3.200	A
	D2			220				91				

(Default Analysis Set) - REF 2023 PM, 16-17

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Linked Roundabout	Junction North - Arm C1	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 South - Arm A2	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	Vehicle Mix	Junction North	HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.
Warning	Vehicle Mix	Junction South	HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.

Junction Network

Junctions

Junction	Name	Junction Type	Arm order	Junction Delay (s)	Junction LOS
North	North Dumbbell	Standard Roundabout	A1,B1,C1,D1	4.35	A
South	South Dumbbell	Standard Roundabout	A2,B2,C2,D2	4.15	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D_08	REF 2023 PM	16-17	Q3	ONE HOUR	15:45	17:15	15	✓

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

Linked Arm Data

Junction	Arm	Feeding Junction	Feeding Arm	Link Type	Flow source	Uniform flow (PCU/hr)	Flow multiplier (%)	Internal storage space (PCU)
North	**C1**	South	A2	Simple (vertical queueing)	Normal	0	100.00	
South	**A2**	North	C1	Simple (vertical queueing)	Normal	0	100.00	

Demand overview (Traffic)

Junction	Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
North	**A1**		ONE HOUR	✓	551	100.000
	B1					
	C1	✓				
	D1		ONE HOUR	✓	290	100.000
South	**A2**	✓				
	B2		ONE HOUR	✓	325	100.000
	C2		ONE HOUR	✓	368	100.000
	D2					

Origin-Destination Data

Demand (PCU/hr)

Junction North

		To			
		A1	**B1**	**C1**	**D1**
From	**A1**	0	208	343	0
	B1	Exit-only	Exit-only	Exit-only	Exit-only
	C1	339	177	0	0
	D1	279	0	11	0

Demand (PCU/hr)

Junction South

		To			
		A2	B2	C2	D2
From	A2	2	0	163	189
	B2	205	0	120	0
	C2	310	0	0	58
	D2	Exit-only	Exit-only	Exit-only	Exit-only

Vehicle Mix

Heavy Vehicle Percentages

Junction North

		To			
		A1	B1	C1	D1
From	A1	0	0	0	0
	B1	Exit-only	Exit-only	Exit-only	Exit-only
	C1	0	0	0	0
	D1	0	0	0	0

Heavy Vehicle Percentages

Junction South

		To			
		A2	B2	C2	D2
From	A2	0	0	0	0
	B2	0	0	0	0
	C2	0	0	0	0
	D2	Exit-only	Exit-only	Exit-only	Exit-only

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)
North	A1	0.50	5.95	1.0	A	506	758
	B1						
	C1	0.29	2.59	0.4	A	474	711
	D1	0.28	4.45	0.4	A	266	399
South	A2	0.19	2.16	0.2	A	325	487
	B2	0.34	5.28	0.5	A	298	447
	C2	0.36	5.06	0.6	A	338	507
	D2						

Main Results for each time segment

15:45 - 16:00

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	415	104	141	1250	0.332	413	463	0.0	0.5	4.291	A
	B1			265				288				
	C1	387	97	0	1960	0.198	387	265	0.0	0.2	2.287	A
	D1	218	55	387	1238	0.176	217	0	0.0	0.2	3.525	A
South	A2	265	66	0	2057	0.129	265	387	0.0	0.1	2.008	A
	B2	245	61	265	1110	0.221	244	0	0.0	0.3	4.152	A
	C2	277	69	296	1197	0.231	276	212	0.0	0.3	3.902	A
	D2			387				185				

16:00 - 16:15

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	495	124	169	1234	0.401	495	555	0.5	0.7	4.866	A
	B1			318				346				
	C1	464	116	0	1960	0.237	464	318	0.2	0.3	2.406	A
	D1	261	65	464	1191	0.219	260	0	0.2	0.3	3.866	A
South	A2	318	79	0	2057	0.154	318	464	0.1	0.2	2.069	A
	B2	292	73	318	1080	0.271	292	0	0.3	0.4	4.565	A
	C2	331	83	355	1163	0.284	330	254	0.3	0.4	4.322	A
	D2			464				222				

16:15 - 16:30

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	607	152	207	1212	0.500	605	680	0.7	1.0	5.918	A
	B1			389				423				
	C1	568	142	0	1960	0.290	568	389	0.3	0.4	2.586	A
	D1	319	80	568	1129	0.283	319	0	0.3	0.4	4.442	A
South	A2	389	97	0	2057	0.189	389	568	0.2	0.2	2.157	A
	B2	358	89	389	1040	0.344	357	0	0.4	0.5	5.266	A
	C2	405	101	435	1117	0.363	404	311	0.4	0.6	5.050	A
	D2			568				271				

16:30 - 16:45

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	607	152	207	1212	0.501	607	681	1.0	1.0	5.947	A
	B1			390				424				
	C1	569	142	0	1960	0.290	569	390	0.4	0.4	2.587	A
	D1	319	80	569	1128	0.283	319	0	0.4	0.4	4.450	A
South	A2	390	97	0	2057	0.189	390	569	0.2	0.2	2.158	A
	B2	358	89	390	1040	0.344	358	0	0.5	0.5	5.278	A
	C2	405	101	436	1116	0.363	405	312	0.6	0.6	5.062	A
	D2			569				272				

16:45 - 17:00

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	495	124	170	1233	0.402	497	557	1.0	0.7	4.895	A

	B1			319				347				
	C1	466	116	0	1960	0.238	466	319	0.4	0.3	2.411	A
	D1	261	65	466	1190	0.219	261	0	0.4	0.3	3.878	A
South	A2	319	80	0	2057	0.155	319	466	0.2	0.2	2.071	A
	B2	292	73	319	1079	0.271	293	0	0.5	0.4	4.581	A
	C2	331	83	357	1162	0.285	331	255	0.6	0.4	4.338	A
	D2			466				223				

17:00 - 17:15

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	415	104	142	1249	0.332	416	467	0.7	0.5	4.320	A
	B1			267				291				
	C1	390	97	0	1960	0.199	390	267	0.3	0.2	2.294	A
	D1	218	55	390	1236	0.177	219	0	0.3	0.2	3.540	A
South	A2	267	67	0	2057	0.130	267	390	0.2	0.1	2.012	A
	B2	245	61	267	1108	0.221	245	0	0.4	0.3	4.173	A
	C2	277	69	299	1196	0.232	277	213	0.4	0.3	3.920	A
	D2			390				186				

(Default Analysis Set) - REF 2023 Weekend, 12-13

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Linked Roundabout	Junction North - Arm C1	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 South - Arm A2	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	Vehicle Mix	Junction North	HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.
Warning	Vehicle Mix	Junction South	HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.

Junction Network

Junctions

Junction	Name	Junction Type	Arm order	Junction Delay (s)	Junction LOS
North	North Dumbbell	Standard Roundabout	A1,B1,C1,D1	4.45	A
South	South Dumbbell	Standard Roundabout	A2,B2,C2,D2	4.43	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D_09	REF 2023 Weekend	12-13	Q3	ONE HOUR	11:45	13:15	15	✓

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

Linked Arm Data

Junction	Arm	Feeding Junction	Feeding Arm	Link Type	Flow source	Uniform flow (PCU/hr)	Flow multiplier (%)	Internal storage space (PCU)
North	C1	South	A2	Simple (vertical queueing)	Normal	0	100.00	
South	A2	North	C1	Simple (vertical queueing)	Normal	0	100.00	

Demand overview (Traffic)

Junction	Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
North	A1		ONE HOUR	✓	614	100.000
	B1					
	C1	✓				
	D1		ONE HOUR	✓	328	100.000
South	A2	✓				
	B2		ONE HOUR	✓	412	100.000
	C2		ONE HOUR	✓	293	100.000
	D2					

Origin-Destination Data

Demand (PCU/hr)

Junction North

		To			
		A1	B1	C1	D1
From	A1	0	224	390	0
	B1	Exit-only	Exit-only	Exit-only	Exit-only
	C1	385	68	0	0
	D1	324	0	4	0

Demand (PCU/hr)

Junction South

		To			
		A2	B2	C2	D2
From	A2	3	0	195	196
	B2	222	0	190	0
	C2	227	0	0	66
	D2	Exit-only	Exit-only	Exit-only	Exit-only

Vehicle Mix

Junction North

Heavy Vehicle Percentages

		To			
		A1	B1	C1	D1
From	A1	0	0	0	0
	B1	Exit-only	Exit-only	Exit-only	Exit-only
	C1	0	0	0	0
	D1	0	0	0	0

Junction South

Heavy Vehicle Percentages

		To			
		A2	B2	C2	D2
From	A2	0	0	0	0
	B2	0	0	0	0
	C2	0	0	0	0
	D2	Exit-only	Exit-only	Exit-only	Exit-only

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)
North	A1	0.53	5.91	1.1	A	563	845
	B1						
	C1	0.25	2.46	0.3	A	414	622
	D1	0.31	4.44	0.4	A	301	451
South	A2	0.21	2.22	0.3	A	361	542
	B2	0.45	6.41	0.8	A	378	567
	C2	0.29	4.63	0.4	A	269	403
	D2						

Main Results for each time segment

11:45 - 12:00

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	462	116	54	1300	0.356	460	530	0.0	0.5	4.275	A
	B1			295				219				
	C1	339	85	0	1960	0.173	338	295	0.0	0.2	2.218	A
	D1	247	62	338	1267	0.195	246	0	0.0	0.2	3.523	A
South	A2	295	74	0	2057	0.144	295	339	0.0	0.2	2.042	A
	B2	310	78	295	1093	0.284	309	0	0.0	0.4	4.581	A
	C2	221	55	315	1186	0.186	220	288	0.0	0.2	3.720	A
	D2			339				196				

12:00 - 12:15

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	552	138	64	1294	0.427	551	636	0.5	0.7	4.842	A
	B1			354				262				
	C1	406	101	0	1960	0.207	406	354	0.2	0.3	2.315	A
	D1	295	74	406	1226	0.240	295	0	0.2	0.3	3.863	A
South	A2	354	88	0	2057	0.172	354	406	0.2	0.2	2.113	A
	B2	370	93	354	1060	0.349	370	0	0.4	0.5	5.212	A
	C2	263	66	378	1150	0.229	263	346	0.2	0.3	4.058	A
	D2			406				235				

12:15 - 12:30

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	676	169	79	1286	0.526	675	778	0.7	1.1	5.877	A
	B1			433				321				
	C1	497	124	0	1960	0.253	496	433	0.3	0.3	2.459	A
	D1	361	90	496	1172	0.308	361	0	0.3	0.4	4.435	A
South	A2	433	108	0	2057	0.210	433	497	0.2	0.3	2.215	A
	B2	454	113	433	1016	0.447	453	0	0.5	0.8	6.380	A
	C2	323	81	462	1101	0.293	322	423	0.3	0.4	4.619	A
	D2			497				288				

12:30 - 12:45

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	676	169	79	1285	0.526	676	780	1.1	1.1	5.906	A
	B1			434				321				
	C1	498	124	0	1960	0.254	498	434	0.3	0.3	2.461	A
	D1	361	90	498	1171	0.308	361	0	0.4	0.4	4.444	A
South	A2	434	108	0	2057	0.211	434	498	0.3	0.3	2.217	A
	B2	454	113	434	1015	0.447	454	0	0.8	0.8	6.410	A
	C2	323	81	464	1100	0.293	323	424	0.4	0.4	4.628	A
	D2			498				288				

12:45 - 13:00

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	552	138	65	1294	0.427	553	638	1.1	0.8	4.873	A
	B1			355				263				
	C1	407	102	0	1960	0.208	408	355	0.3	0.3	2.320	A
	D1	295	74	408	1225	0.241	295	0	0.4	0.3	3.874	A
South	A2	355	89	0	2057	0.173	355	407	0.3	0.2	2.116	A
	B2	370	93	355	1059	0.350	371	0	0.8	0.5	5.245	A
	C2	263	66	380	1149	0.229	264	347	0.4	0.3	4.068	A
	D2			407				236				

13:00 - 13:15

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	462	116	54	1300	0.356	463	534	0.8	0.6	4.308	A

	B1			297				220				
	C1	341	85	0	1960	0.174	341	297	0.3	0.2	2.225	A
	D1	247	62	341	1265	0.195	247	0	0.3	0.2	3.537	A
South	**A2**	297	74	0	2057	0.144	297	341	0.2	0.2	2.047	A
	B2	310	78	297	1091	0.284	311	0	0.5	0.4	4.616	A
	C2	221	55	318	1185	0.186	221	290	0.3	0.2	3.736	A
	D2			341				198				

(Default Analysis Set) - REF 2033 AM, 08-09

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Linked Roundabout	Junction North - Arm C1	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 South - Arm A2	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	Vehicle Mix	Junction North	HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.
Warning	Vehicle Mix	Junction South	HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.

Junction Network

Junctions

Junction	Name	Junction Type	Arm order	Junction Delay (s)	Junction LOS
North	North Dumbbell	Standard Roundabout	A1,B1,C1,D1	3.49	A
South	South Dumbbell	Standard Roundabout	A2,B2,C2,D2	14.08	B

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D_10	REF 2033 AM	08-09	Q3	ONE HOUR	07:45	09:15	15	✓

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

Linked Arm Data

Junction	Arm	Feeding Junction	Feeding Arm	Link Type	Flow source	Uniform flow (PCU/hr)	Flow multiplier (%)	Internal storage space (PCU)
North	**C1**	South	A2	Simple (vertical queueing)	Normal	0	100.00	

South	**A2**	North	C1	Simple (vertical queueing)	Normal	0	100.00	

Demand overview (Traffic)

Junction	Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
North	**A1**		ONE HOUR	✓	304	100.000
	B1					
	C1	✓				
	D1		ONE HOUR	✓	273	100.000
South	**A2**	✓				
	B2		ONE HOUR	✓	858	100.000
	C2		ONE HOUR	✓	335	100.000
	D2					

Origin-Destination Data

Demand (PCU/hr)

Junction North

		To			
		A1	**B1**	**C1**	**D1**
From	**A1**	0	161	143	0
	B1	Exit-only	Exit-only	Exit-only	Exit-only
	C1	208	212	0	0
	D1	175	0	98	0

Demand (PCU/hr)

Junction South

		To			
		A2	**B2**	**C2**	**D2**
From	**A2**	1	0	150	89
	B2	137	0	721	0
	C2	282	0	0	53
	D2	Exit-only	Exit-only	Exit-only	Exit-only

Vehicle Mix

Heavy Vehicle Percentages

Junction North

		To			
		A1	**B1**	**C1**	**D1**
From	**A1**	0	0	0	0
	B1	Exit-only	Exit-only	Exit-only	Exit-only
	C1	0	0	0	0
	D1	0	0	0	0

Heavy Vehicle Percentages

Junction South

		To			
		A2	B2	C2	D2
From	A2	0	0	0	0
	B2	0	0	0	0
	C2	0	0	0	0
	D2	Exit-only	Exit-only	Exit-only	Exit-only

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)
North	A1	0.29	4.50	0.4	A	279	418
	B1						
	C1	0.24	2.40	0.3	A	385	578
	D1	0.25	4.04	0.3	A	251	376
South	A2	0.13	2.01	0.1	A	221	332
	B2	0.85	21.32	5.3	C	787	1181
	C2	0.30	4.21	0.4	A	307	461
	D2						

Main Results for each time segment

07:45 - 08:00

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	229	57	232	1198	0.191	228	287	0.0	0.2	3.708	A
	B1			181				279				
	C1	315	79	0	1960	0.160	314	181	0.0	0.2	2.185	A
	D1	206	51	314	1281	0.160	205	0	0.0	0.2	3.343	A
South	A2	181	45	0	2057	0.088	180	315	0.0	0.1	1.917	A
	B2	646	161	180	1157	0.558	641	0	0.0	1.2	6.916	A
	C2	252	63	170	1271	0.198	251	651	0.0	0.2	3.528	A
	D2			315				107				

08:00 - 08:15

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	273	68	278	1171	0.233	273	344	0.2	0.3	4.006	A
	B1			216				335				
	C1	377	94	0	1960	0.192	377	216	0.2	0.2	2.273	A
	D1	245	61	377	1244	0.197	245	0	0.2	0.2	3.605	A
South	A2	216	54	0	2057	0.105	216	377	0.1	0.1	1.955	A
	B2	771	193	216	1137	0.679	768	0	1.2	2.0	9.685	A

	C2	301	75	204	1251	0.241	301	781	0.2	0.3	3.788	A
	D2			377				128				

08:15 - 08:30

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	335	84	340	1136	0.295	334	420	0.3	0.4	4.488	A
	B1			265				409				
	C1	460	115	0	1960	0.235	460	265	0.2	0.3	2.399	A
	D1	301	75	460	1194	0.252	300	0	0.2	0.3	4.027	A
South	A2	265	66	0	2057	0.129	265	460	0.1	0.1	2.008	A
	B2	945	236	265	1109	0.851	933	0	2.0	5.0	19.182	C
	C2	369	92	248	1225	0.301	368	949	0.3	0.4	4.199	A
	D2			460				157				

08:30 - 08:45

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	335	84	341	1135	0.295	335	422	0.4	0.4	4.496	A
	B1			265				411				
	C1	462	116	0	1960	0.236	462	265	0.3	0.3	2.403	A
	D1	301	75	462	1192	0.252	301	0	0.3	0.3	4.036	A
South	A2	265	66	0	2057	0.129	265	462	0.1	0.1	2.008	A
	B2	945	236	265	1109	0.852	943	0	5.0	5.3	21.321	C
	C2	369	92	250	1224	0.301	369	959	0.4	0.4	4.208	A
	D2			462				157				

08:45 - 09:00

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	273	68	280	1170	0.234	274	346	0.4	0.3	4.018	A
	B1			217				337				
	C1	380	95	0	1960	0.194	380	217	0.3	0.2	2.278	A
	D1	245	61	380	1241	0.198	246	0	0.3	0.2	3.618	A
South	A2	217	54	0	2057	0.105	217	380	0.1	0.1	1.957	A
	B2	771	193	217	1136	0.679	784	0	5.3	2.2	10.566	B
	C2	301	75	207	1249	0.241	302	794	0.4	0.3	3.798	A
	D2			380				128				

09:00 - 09:15

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	229	57	234	1197	0.191	229	289	0.3	0.2	3.723	A
	B1			182				281				
	C1	317	79	0	1960	0.162	317	182	0.2	0.2	2.191	A
	D1	206	51	317	1279	0.161	206	0	0.2	0.2	3.353	A
South	A2	182	45	0	2057	0.088	182	317	0.1	0.1	1.921	A
	B2	646	161	182	1156	0.559	650	0	2.2	1.3	7.158	A
	C2	252	63	172	1270	0.199	252	659	0.3	0.2	3.539	A
	D2			317				107				

(Default Analysis Set) - REF 2033 PM, 17-18

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Linked Roundabout	Junction North - Arm C1	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 South - Arm A2	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	Vehicle Mix	Junction North	HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.
Warning	Vehicle Mix	Junction South	HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.

Junction Network

Junctions

Junction	Name	Junction Type	Arm order	Junction Delay (s)	Junction LOS
North	North Dumbbell	Standard Roundabout	A1,B1,C1,D1	8.08	A
South	South Dumbbell	Standard Roundabout	A2,B2,C2,D2	71.66	F

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D_11	REF 2033 PM	17-18	Q3	ONE HOUR	16:45	18:15	15	✓

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

Linked Arm Data

Junction	Arm	Feeding Junction	Feeding Arm	Link Type	Flow source	Uniform flow (PCU/hr)	Flow multiplier (%)	Internal storage space (PCU)
North	**C1**	South	A2	Simple (vertical queueing)	Normal	0	100.00	
South	**A2**	North	C1	Simple (vertical queueing)	Normal	0	100.00	

Demand overview (Traffic)

Junction	Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
North	**A1**		ONE HOUR	✓	549	100.000
	B1					
	C1	✓				
	D1		ONE HOUR	✓	286	100.000

South	A2	✓				
	B2		ONE HOUR	✓	517	100.000
	C2		ONE HOUR	✓	1050	100.000
	D2					

Origin-Destination Data

Demand (PCU/hr)

Junction North

		To			
		A1	B1	C1	D1
From	A1	0	189	360	0
	B1	Exit-only	Exit-only	Exit-only	Exit-only
	C1	372	776	0	0
	D1	253	0	33	0

Demand (PCU/hr)

Junction South

		To			
		A2	B2	C2	D2
From	A2	2	0	206	185
	B2	246	0	271	0
	C2	900	0	0	150
	D2	Exit-only	Exit-only	Exit-only	Exit-only

Vehicle Mix

Heavy Vehicle Percentages

Junction North

		To			
		A1	B1	C1	D1
From	A1	0	0	0	0
	B1	Exit-only	Exit-only	Exit-only	Exit-only
	C1	0	0	0	0
	D1	0	0	0	0

Heavy Vehicle Percentages

Junction South

		To			
		A2	B2	C2	D2
From	A2	0	0	0	0
	B2	0	0	0	0
	C2	0	0	0	0
	D2	Exit-only	Exit-only	Exit-only	Exit-only

Results

Results Summary for whole modelled period

Junction	Arm	Max RFC	Max delay (s)	Max Queue (PCU)	Max LOS	Average Demand	Total Junction Arrivals (PCU)

						(PCU/hr)	
North	A1	0.72	14.94	2.4	B	504	756
	B1						
	C1	0.61	4.75	1.6	A	1052	1578
	D1	0.42	8.29	0.7	A	262	394
South	A2	0.21	2.21	0.3	A	360	540
	B2	0.56	8.06	1.3	A	474	712
	C2	1.06	128.95	44.7	F	963	1445
	D2						

Main Results for each time segment

16:45 - 17:00

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	413	103	602	986	0.419	410	466	0.0	0.7	6.226	A
	B1			294				718				
	C1	856	214	0	1960	0.437	853	294	0.0	0.8	3.243	A
	D1	215	54	853	958	0.225	214	0	0.0	0.3	4.834	A
South	A2	294	73	0	2057	0.143	293	856	0.0	0.2	2.041	A
	B2	389	97	293	1094	0.356	387	0	0.0	0.5	5.080	A
	C2	790	198	324	1181	0.669	783	357	0.0	2.0	8.861	A
	D2			856				250				

17:00 - 17:15

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	494	123	721	918	0.538	492	558	0.7	1.1	8.418	A
	B1			352				860				
	C1	1024	256	0	1960	0.522	1022	352	0.8	1.1	3.835	A
	D1	257	64	1022	857	0.300	257	0	0.3	0.4	5.994	A
South	A2	352	88	0	2057	0.171	352	1024	0.2	0.2	2.111	A
	B2	465	116	352	1061	0.438	464	0	0.5	0.8	6.022	A
	C2	944	236	388	1144	0.825	935	428	2.0	4.3	16.491	C
	D2			1024				299				

17:15 - 17:30

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	604	151	836	851	0.710	600	661	1.1	2.3	14.040	B
	B1			429				1007				
	C1	1185	296	0	1960	0.605	1184	429	1.1	1.5	4.627	A
	D1	315	79	1184	760	0.414	314	0	0.4	0.7	8.048	A
South	A2	429	107	0	2057	0.209	429	1185	0.2	0.3	2.211	A
	B2	569	142	429	1018	0.559	567	0	0.8	1.2	7.960	A
	C2	1156	289	474	1094	1.057	1066	522	4.3	26.9	65.506	F
	D2			1185				354				

17:30 - 17:45

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	604	151	849	844	0.716	604	668	2.3	2.4	14.938	B
	B1			432				1021				
	C1	1203	301	0	1960	0.614	1203	432	1.5	1.6	4.750	A
	D1	315	79	1203	749	0.421	315	0	0.7	0.7	8.295	A
South	A2	432	108	0	2057	0.210	432	1203	0.3	0.3	2.215	A
	B2	569	142	432	1016	0.560	569	0	1.2	1.3	8.056	A
	C2	1156	289	477	1093	1.058	1085	525	26.9	44.7	128.953	F
	D2			1203				359				

17:45 - 18:00

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	494	123	817	862	0.572	498	606	2.4	1.4	9.987	A
	B1			356				959				
	C1	1165	291	0	1960	0.594	1165	356	1.6	1.5	4.531	A
	D1	257	64	1165	771	0.333	258	0	0.7	0.5	7.028	A
South	A2	356	89	0	2057	0.173	356	1165	0.3	0.2	2.118	A
	B2	465	116	356	1058	0.439	467	0	1.3	0.8	6.105	A
	C2	944	236	392	1142	0.827	1098	431	44.7	6.3	83.169	F
	D2			1165				325				

18:00 - 18:15

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	413	103	621	975	0.424	416	477	1.4	0.7	6.466	A
	B1			298				739				
	C1	879	220	0	1960	0.448	882	298	1.5	0.8	3.345	A
	D1	215	54	882	941	0.229	216	0	0.5	0.3	4.973	A
South	A2	298	74	0	2057	0.145	298	879	0.2	0.2	2.047	A
	B2	389	97	298	1091	0.357	390	0	0.8	0.6	5.144	A
	C2	790	198	327	1179	0.670	807	361	6.3	2.1	10.079	B
	D2			879				255				

(Default Analysis Set) - REF 2033 Weekend, 12-13

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Linked Roundabout	Junction North - Arm C1	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 South - Arm A2	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	Vehicle Mix	Junction North	HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.
Warning	Vehicle Mix	Junction South	HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.

Junction Network

Junctions

Junction	Name	Junction Type	Arm order	Junction Delay (s)	Junction LOS
North	North Dumbbell	Standard Roundabout	A1,B1,C1,D1	4.77	A
South	South Dumbbell	Standard Roundabout	A2,B2,C2,D2	4.69	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D_12	REF 2033 Weekend	12-13	Q3	ONE HOUR	11:45	13:15	15	✓

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

Linked Arm Data

Junction	Arm	Feeding Junction	Feeding Arm	Link Type	Flow source	Uniform flow (PCU/hr)	Flow multiplier (%)	Internal storage space (PCU)
North	**C1**	South	A2	Simple (vertical queueing)	Normal	0	100.00	
South	**A2**	North	C1	Simple (vertical queueing)	Normal	0	100.00	

Demand overview (Traffic)

Junction	Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
North	**A1**		ONE HOUR	✓	657	100.000
	B1					
	C1	✓				
	D1		ONE HOUR	✓	352	100.000
South	**A2**	✓				
	B2		ONE HOUR	✓	434	100.000
	C2		ONE HOUR	✓	309	100.000
	D2					

Origin-Destination Data

Demand (PCU/hr)

Junction North

		To			
		A1	**B1**	**C1**	**D1**
From	**A1**	0	240	417	0
	B1	Exit-only	Exit-only	Exit-only	Exit-only
	C1	413	72	0	0
	D1	347	0	5	0

Demand (PCU/hr)

Junction South

		To			
		A2	B2	C2	D2
From	A2	3	0	209	210
	B2	239	0	195	0
	C2	243	0	0	66
	D2	Exit-only	Exit-only	Exit-only	Exit-only

Vehicle Mix

Heavy Vehicle Percentages

Junction North

		To			
		A1	B1	C1	D1
From	A1	0	0	0	0
	B1	Exit-only	Exit-only	Exit-only	Exit-only
	C1	0	0	0	0
	D1	0	0	0	0

Heavy Vehicle Percentages

Junction South

		To			
		A2	B2	C2	D2
From	A2	0	0	0	0
	B2	0	0	0	0
	C2	0	0	0	0
	D2	Exit-only	Exit-only	Exit-only	Exit-only

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)
North	A1	0.56	6.44	1.3	A	603	904
	B1						
	C1	0.27	2.52	0.4	A	445	667
	D1	0.34	4.73	0.5	A	323	485
South	A2	0.23	2.26	0.3	A	387	580
	B2	0.48	6.92	0.9	A	398	597
	C2	0.31	4.86	0.5	A	284	425
	D2						

Main Results for each time segment

11:45 - 12:00

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	495	124	58	1298	0.381	492	569	0.0	0.6	4.455	A
	B1			316				234				
	C1	363	91	0	1960	0.185	362	316	0.0	0.2	2.252	A
	D1	265	66	362	1252	0.212	264	0	0.0	0.3	3.640	A
South	A2	316	79	0	2057	0.154	315	363	0.0	0.2	2.065	A
	B2	327	82	315	1081	0.302	325	0	0.0	0.4	4.750	A
	C2	233	58	338	1173	0.198	232	302	0.0	0.2	3.821	A
	D2			363				206				

12:00 - 12:15

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	591	148	69	1291	0.457	590	682	0.6	0.8	5.126	A
	B1			379				280				
	C1	435	109	0	1960	0.222	435	379	0.2	0.3	2.360	A
	D1	316	79	435	1209	0.262	316	0	0.3	0.4	4.034	A
South	A2	379	95	0	2057	0.184	379	435	0.2	0.2	2.144	A
	B2	390	98	379	1046	0.373	390	0	0.4	0.6	5.478	A
	C2	278	69	406	1134	0.245	277	363	0.2	0.3	4.203	A
	D2			435				248				

12:15 - 12:30

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	723	181	85	1282	0.564	722	835	0.8	1.3	6.399	A
	B1			464				343				
	C1	533	133	0	1960	0.272	533	464	0.3	0.4	2.521	A
	D1	388	97	533	1150	0.337	387	0	0.4	0.5	4.712	A
South	A2	464	116	0	2057	0.225	463	533	0.2	0.3	2.258	A
	B2	478	119	463	999	0.478	477	0	0.6	0.9	6.878	A
	C2	340	85	496	1081	0.315	340	444	0.3	0.5	4.852	A
	D2			533				303				

12:30 - 12:45

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	723	181	85	1282	0.564	723	837	1.3	1.3	6.441	A
	B1			465				343				
	C1	534	133	0	1960	0.272	534	465	0.4	0.4	2.523	A
	D1	388	97	534	1149	0.337	388	0	0.5	0.5	4.725	A
South	A2	465	116	0	2057	0.226	465	534	0.3	0.3	2.260	A
	B2	478	119	465	998	0.479	478	0	0.9	0.9	6.921	A
	C2	340	85	498	1080	0.315	340	445	0.5	0.5	4.862	A
	D2			534				304				

12:45 - 13:00

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	591	148	69	1291	0.458	592	685	1.3	0.9	5.165	A

	B1			380				281				
	C1	437	109	0	1960	0.223	437	380	0.4	0.3	2.366	A
	D1	316	79	437	1207	0.262	317	0	0.5	0.4	4.046	A
South	A2	380	95	0	2057	0.185	381	437	0.3	0.2	2.149	A
	B2	390	98	381	1045	0.373	391	0	0.9	0.6	5.519	A
	C2	278	69	408	1133	0.245	278	364	0.5	0.3	4.215	A
	D2			437				249				

13:00 - 13:15

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	495	124	58	1297	0.381	496	573	0.9	0.6	4.495	A
	B1			318				235				
	C1	366	91	0	1960	0.187	366	318	0.3	0.2	2.260	A
	D1	265	66	366	1250	0.212	265	0	0.4	0.3	3.659	A
South	A2	318	80	0	2057	0.155	318	366	0.2	0.2	2.072	A
	B2	327	82	318	1080	0.303	327	0	0.6	0.4	4.792	A
	C2	233	58	341	1171	0.199	233	305	0.3	0.2	3.836	A
	D2			366				208				

(Default Analysis Set) - WNP 2020 AM WBP, 08-09

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Linked Roundabout	Junction North - Arm C1	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 South - Arm A2	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	Vehicle Mix	Junction North	HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.
Warning	Vehicle Mix	Junction South	HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.

Junction Network

Junctions

Junction	Name	Junction Type	Arm order	Junction Delay (s)	Junction LOS
North	North Dumbbell	Standard Roundabout	A1,B1,C1,D1	3.06	A
South	South Dumbbell	Standard Roundabout	A2,B2,C2,D2	3.81	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D_13	WNP 2020 AM WBP	08-09	Q3	ONE HOUR	07:45	09:15	15	✓

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

Linked Arm Data

Junction	Arm	Feeding Junction	Feeding Arm	Link Type	Flow source	Uniform flow (PCU/hr)	Flow multiplier (%)	Internal storage space (PCU)
North	C1	South	A2	Simple (vertical queueing)	Normal	0	100.00	
South	A2	North	C1	Simple (vertical queueing)	Normal	0	100.00	

Demand overview (Traffic)

Junction	Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
North	A1		ONE HOUR	✓	272	100.000
	B1					
	C1	✓				
	D1		ONE HOUR	✓	185	100.000
South	A2	✓				
	B2		ONE HOUR	✓	369	100.000
	C2		ONE HOUR	✓	198	100.000
	D2					

Origin-Destination Data

Demand (PCU/hr)

Junction North

		To			
		A1	B1	C1	D1
From	A1	0	144	128	0
	B1	Exit-only	Exit-only	Exit-only	Exit-only
	C1	186	99	0	0
	D1	158	0	27	0

Demand (PCU/hr)

Junction South

		To			
		A2	B2	C2	D2
From	A2	1	0	73	81
	B2	123	0	246	0
	C2	161	0	0	37
	D2	Exit-only	Exit-only	Exit-only	Exit-only

Vehicle Mix

Junction North

Heavy Vehicle Percentages

		To			
		A1	B1	C1	D1
From	A1	0	0	0	0
	B1	Exit-only	Exit-only	Exit-only	Exit-only
	C1	0	0	0	0
	D1	0	0	0	0

Junction South

Heavy Vehicle Percentages

		To			
		A2	B2	C2	D2
From	A2	0	0	0	0
	B2	0	0	0	0
	C2	0	0	0	0
	D2	Exit-only	Exit-only	Exit-only	Exit-only

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)
North	A1	0.24	3.78	0.3	A	250	374
	B1						
	C1	0.16	2.19	0.2	A	261	392
	D1	0.16	3.34	0.2	A	170	255
South	A2	0.08	1.91	0.1	A	142	213
	B2	0.35	4.76	0.5	A	339	508
	C2	0.18	3.53	0.2	A	182	273
	D2						

Main Results for each time segment

07:45 - 08:00

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	205	51	94	1277	0.160	204	258	0.0	0.2	3.354	A
	B1			116				182				
	C1	214	53	0	1960	0.109	213	116	0.0	0.1	2.061	A
	D1	139	35	213	1341	0.104	139	0	0.0	0.1	2.993	A
South	A2	116	29	0	2057	0.057	116	214	0.0	0.1	1.853	A
	B2	278	69	116	1193	0.233	277	0	0.0	0.3	3.926	A
	C2	149	37	154	1280	0.116	149	239	0.0	0.1	3.179	A
	D2			214				88				

08:00 - 08:15

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	245	61	113	1266	0.193	244	309	0.2	0.2	3.523	A
	B1			139				218				
	C1	256	64	0	1960	0.131	256	139	0.1	0.1	2.112	A
	D1	166	42	256	1316	0.126	166	0	0.1	0.1	3.130	A
South	A2	139	35	0	2057	0.068	139	256	0.1	0.1	1.876	A
	B2	332	83	139	1180	0.281	331	0	0.3	0.4	4.242	A
	C2	178	44	184	1263	0.141	178	286	0.1	0.2	3.318	A
	D2			256				106				

08:15 - 08:30

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	299	75	139	1251	0.239	299	378	0.2	0.3	3.780	A
	B1			170				267				
	C1	313	78	0	1960	0.160	313	170	0.1	0.2	2.185	A
	D1	204	51	313	1282	0.159	204	0	0.1	0.2	3.339	A
South	A2	170	43	0	2057	0.083	170	313	0.1	0.1	1.907	A
	B2	406	102	170	1162	0.350	406	0	0.4	0.5	4.756	A
	C2	218	55	225	1239	0.176	218	351	0.2	0.2	3.526	A
	D2			313				130				

08:30 - 08:45

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	299	75	139	1251	0.239	299	379	0.3	0.3	3.781	A
	B1			171				268				
	C1	314	78	0	1960	0.160	314	171	0.2	0.2	2.186	A
	D1	204	51	314	1281	0.159	204	0	0.2	0.2	3.340	A
South	A2	171	43	0	2057	0.083	171	314	0.1	0.1	1.907	A
	B2	406	102	171	1162	0.350	406	0	0.5	0.5	4.762	A
	C2	218	55	226	1238	0.176	218	351	0.2	0.2	3.527	A
	D2			314				130				

08:45 - 09:00

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	245	61	113	1266	0.193	245	310	0.3	0.2	3.526	A
	B1			140				219				
	C1	257	64	0	1960	0.131	257	140	0.2	0.2	2.115	A
	D1	166	42	257	1315	0.126	166	0	0.2	0.1	3.135	A
South	A2	140	35	0	2057	0.068	140	257	0.1	0.1	1.879	A
	B2	332	83	140	1179	0.281	332	0	0.5	0.4	4.252	A
	C2	178	44	185	1262	0.141	178	287	0.2	0.2	3.323	A
	D2			257				106				

09:00 - 09:15

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	205	51	95	1276	0.160	205	259	0.2	0.2	3.359	A

	B1			117				183				
	C1	215	54	0	1960	0.110	215	117	0.2	0.1	2.064	A
	D1	139	35	215	1340	0.104	139	0	0.1	0.1	2.996	A
South	**A2**	117	29	0	2057	0.057	117	215	0.1	0.1	1.857	A
	B2	278	69	117	1192	0.233	278	0	0.4	0.3	3.941	A
	C2	149	37	155	1280	0.116	149	240	0.2	0.1	3.186	A
	D2			215				89				

(Default Analysis Set) - WNP 2020 PM WBP, 16-17

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Linked Roundabout	Junction North - Arm C1	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 South - Arm A2	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	Vehicle Mix	Junction North	HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.
Warning	Vehicle Mix	Junction South	HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.

Junction Network

Junctions

Junction	Name	Junction Type	Arm order	Junction Delay (s)	Junction LOS
North	North Dumbbell	Standard Roundabout	A1,B1,C1,D1	4.34	A
South	South Dumbbell	Standard Roundabout	A2,B2,C2,D2	4.27	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D_14	WNP 2020 PM WBP	16-17	Q3	ONE HOUR	15:45	17:15	15	✓

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

Linked Arm Data

Junction	Arm	Feeding Junction	Feeding Arm	Link Type	Flow source	Uniform flow (PCU/hr)	Flow multiplier (%)	Internal storage space (PCU)
North	**C1**	South	A2	Simple (vertical queueing)	Normal	0	100.00	

South	**A2**	North	C1	Simple (vertical queueing)	Normal	0	100.00	

Demand overview (Traffic)

Junction	Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
North	**A1**		ONE HOUR	✓	538	100.000
	B1					
	C1	✓				
	D1		ONE HOUR	✓	284	100.000
South	**A2**	✓				
	B2		ONE HOUR	✓	337	100.000
	C2		ONE HOUR	✓	392	100.000
	D2					

Origin-Destination Data

Demand (PCU/hr)

Junction North

		To			
		A1	**B1**	**C1**	**D1**
From	**A1**	0	203	335	0
	B1	Exit-only	Exit-only	Exit-only	Exit-only
	C1	331	205	0	0
	D1	273	0	11	0

Demand (PCU/hr)

Junction South

		To			
		A2	**B2**	**C2**	**D2**
From	**A2**	2	0	159	185
	B2	200	0	137	0
	C2	334	0	0	58
	D2	Exit-only	Exit-only	Exit-only	Exit-only

Vehicle Mix

Heavy Vehicle Percentages

Junction North

		To			
		A1	**B1**	**C1**	**D1**
From	**A1**	0	0	0	0
	B1	Exit-only	Exit-only	Exit-only	Exit-only
	C1	0	0	0	0
	D1	0	0	0	0

Heavy Vehicle Percentages

Junction South

		To			
		A2	B2	C2	D2
From	A2	0	0	0	0
	B2	0	0	0	0
	C2	0	0	0	0
	D2	Exit-only	Exit-only	Exit-only	Exit-only

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)
North	A1	0.50	5.98	1.0	A	494	741
	B1						
	C1	0.30	2.63	0.4	A	492	737
	D1	0.28	4.48	0.4	A	261	391
South	A2	0.19	2.15	0.2	A	317	476
	B2	0.36	5.34	0.5	A	309	464
	C2	0.38	5.21	0.6	A	360	540
	D2						

Main Results for each time segment

15:45 - 16:00

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	405	101	161	1238	0.327	403	452	0.0	0.5	4.301	A
	B1			259				305				
	C1	402	100	0	1960	0.205	401	259	0.0	0.3	2.307	A
	D1	214	53	401	1229	0.174	213	0	0.0	0.2	3.539	A
South	A2	259	65	0	2057	0.126	259	402	0.0	0.1	2.002	A
	B2	254	63	259	1113	0.228	253	0	0.0	0.3	4.179	A
	C2	295	74	290	1201	0.246	294	222	0.0	0.3	3.961	A
	D2			402				182				

16:00 - 16:15

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	484	121	194	1220	0.397	483	542	0.5	0.7	4.882	A
	B1			311				366				
	C1	481	120	0	1960	0.246	481	311	0.3	0.3	2.434	A
	D1	255	64	481	1181	0.216	255	0	0.2	0.3	3.887	A
South	A2	311	78	0	2057	0.151	310	481	0.1	0.2	2.060	A
	B2	303	76	310	1084	0.279	303	0	0.3	0.4	4.605	A

	C2	352	88	347	1168	0.302	352	266	0.3	0.4	4.411	A
	D2			481				218				

16:15 - 16:30

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	592	148	237	1195	0.496	591	664	0.7	1.0	5.951	A
	B1			380				448				
	C1	589	147	0	1960	0.301	589	380	0.3	0.4	2.625	A
	D1	313	78	589	1117	0.280	312	0	0.3	0.4	4.474	A
South	A2	380	95	0	2057	0.185	380	589	0.2	0.2	2.146	A
	B2	371	93	380	1045	0.355	370	0	0.4	0.5	5.331	A
	C2	432	108	425	1123	0.384	431	325	0.4	0.6	5.199	A
	D2			589				267				

16:30 - 16:45

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	592	148	238	1194	0.496	592	665	1.0	1.0	5.978	A
	B1			381				449				
	C1	590	148	0	1960	0.301	590	381	0.4	0.4	2.627	A
	D1	313	78	590	1116	0.280	313	0	0.4	0.4	4.482	A
South	A2	381	95	0	2057	0.185	381	590	0.2	0.2	2.147	A
	B2	371	93	381	1045	0.355	371	0	0.5	0.5	5.343	A
	C2	432	108	426	1122	0.385	432	326	0.6	0.6	5.213	A
	D2			590				268				

16:45 - 17:00

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	484	121	195	1219	0.397	485	544	1.0	0.7	4.912	A
	B1			312				368				
	C1	483	121	0	1960	0.246	483	312	0.4	0.3	2.439	A
	D1	255	64	483	1180	0.216	256	0	0.4	0.3	3.897	A
South	A2	312	78	0	2057	0.152	312	483	0.2	0.2	2.062	A
	B2	303	76	312	1083	0.280	304	0	0.5	0.4	4.623	A
	C2	352	88	349	1167	0.302	353	267	0.6	0.4	4.429	A
	D2			483				219				

17:00 - 17:15

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	405	101	163	1237	0.327	406	456	0.7	0.5	4.333	A
	B1			261				308				
	C1	404	101	0	1960	0.206	404	261	0.3	0.3	2.314	A
	D1	214	53	404	1227	0.174	214	0	0.3	0.2	3.554	A
South	A2	261	65	0	2057	0.127	261	404	0.2	0.1	2.004	A
	B2	254	63	261	1112	0.228	254	0	0.4	0.3	4.199	A
	C2	295	74	292	1200	0.246	296	223	0.4	0.3	3.982	A
	D2			404				183				

(Default Analysis Set) - WNP 2020 Weekend WBP, 12-13

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Linked Roundabout	Junction North - Arm C1	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 South - Arm A2	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	Vehicle Mix	Junction North	HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.
Warning	Vehicle Mix	Junction South	HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.

Junction Network

Junctions

Junction	Name	Junction Type	Arm order	Junction Delay (s)	Junction LOS
North	North Dumbbell	Standard Roundabout	A1,B1,C1,D1	4.35	A
South	South Dumbbell	Standard Roundabout	A2,B2,C2,D2	4.36	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D_15	WNP 2020 Weekend WBP	12-13	Q3	ONE HOUR	11:45	13:15	15	✓

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

Linked Arm Data

Junction	Arm	Feeding Junction	Feeding Arm	Link Type	Flow source	Uniform flow (PCU/hr)	Flow multiplier (%)	Internal storage space (PCU)
North	**C1**	South	A2	Simple (vertical queueing)	Normal	0	100.00	
South	**A2**	North	C1	Simple (vertical queueing)	Normal	0	100.00	

Demand overview (Traffic)

Junction	Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
North	**A1**		ONE HOUR	✓	599	100.000
	B1					
	C1	✓				

	D1		ONE HOUR	✓	321	100.000
South	A2	✓				
	B2		ONE HOUR	✓	405	100.000
	C2		ONE HOUR	✓	287	100.000
	D2					

Origin-Destination Data

Demand (PCU/hr)

Junction North

		To			
		A1	B1	C1	D1
From	A1	0	218	381	0
	B1	Exit-only	Exit-only	Exit-only	Exit-only
	C1	376	66	0	0
	D1	317	0	4	0

Demand (PCU/hr)

Junction South

		To			
		A2	B2	C2	D2
From	A2	3	0	190	192
	B2	216	0	189	0
	C2	222	0	0	65
	D2	Exit-only	Exit-only	Exit-only	Exit-only

Vehicle Mix

Heavy Vehicle Percentages

Junction North

		To			
		A1	B1	C1	D1
From	A1	0	0	0	0
	B1	Exit-only	Exit-only	Exit-only	Exit-only
	C1	0	0	0	0
	D1	0	0	0	0

Heavy Vehicle Percentages

Junction South

		To			
		A2	B2	C2	D2
From	A2	0	0	0	0
	B2	0	0	0	0
	C2	0	0	0	0
	D2	Exit-only	Exit-only	Exit-only	Exit-only

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)
North	A1	0.51	5.74	1.0	A	550	824
	B1						
	C1	0.25	2.44	0.3	A	404	607
	D1	0.30	4.36	0.4	A	295	442
South	A2	0.21	2.20	0.3	A	353	530
	B2	0.44	6.26	0.8	A	372	557
	C2	0.29	4.55	0.4	A	263	395
	D2						

Main Results for each time segment

11:45 - 12:00

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	451	113	52	1301	0.347	449	518	0.0	0.5	4.215	A
	B1			288				213				
	C1	330	83	0	1960	0.169	330	288	0.0	0.2	2.207	A
	D1	242	60	330	1272	0.190	241	0	0.0	0.2	3.488	A
South	A2	288	72	0	2057	0.140	288	330	0.0	0.2	2.035	A
	B2	305	76	288	1097	0.278	303	0	0.0	0.4	4.530	A
	C2	216	54	308	1191	0.181	215	284	0.0	0.2	3.686	A
	D2			330				192				

12:00 - 12:15

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	538	135	63	1295	0.416	538	621	0.5	0.7	4.751	A
	B1			346				255				
	C1	396	99	0	1960	0.202	396	346	0.2	0.3	2.301	A
	D1	289	72	396	1232	0.234	288	0	0.2	0.3	3.814	A
South	A2	346	86	0	2057	0.168	345	396	0.2	0.2	2.103	A
	B2	364	91	345	1064	0.342	364	0	0.4	0.5	5.133	A
	C2	258	65	369	1155	0.223	258	340	0.2	0.3	4.010	A
	D2			396				231				

12:15 - 12:30

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	660	165	77	1287	0.513	658	761	0.7	1.0	5.715	A
	B1			423				312				
	C1	485	121	0	1960	0.247	484	423	0.3	0.3	2.439	A
	D1	353	88	484	1179	0.300	353	0	0.3	0.4	4.354	A
South	A2	423	106	0	2057	0.206	423	485	0.2	0.3	2.202	A
	B2	446	111	423	1021	0.437	445	0	0.5	0.8	6.236	A
	C2	316	79	451	1107	0.285	316	416	0.3	0.4	4.545	A
	D2			485				282				

12:30 - 12:45

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	660	165	77	1287	0.513	659	762	1.0	1.0	5.739	A
	B1			424				313				
	C1	486	121	0	1960	0.248	486	424	0.3	0.3	2.441	A
	D1	353	88	486	1178	0.300	353	0	0.4	0.4	4.363	A
South	A2	424	106	0	2057	0.206	424	486	0.3	0.3	2.203	A
	B2	446	111	424	1021	0.437	446	0	0.8	0.8	6.262	A
	C2	316	79	452	1107	0.286	316	417	0.4	0.4	4.552	A
	D2			486				283				

12:45 - 13:00

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	538	135	63	1295	0.416	540	624	1.0	0.7	4.776	A
	B1			347				256				
	C1	397	99	0	1960	0.203	398	347	0.3	0.3	2.305	A
	D1	289	72	398	1231	0.234	289	0	0.4	0.3	3.822	A
South	A2	347	87	0	2057	0.169	347	397	0.3	0.2	2.106	A
	B2	364	91	347	1063	0.342	365	0	0.8	0.5	5.163	A
	C2	258	65	371	1154	0.224	258	342	0.4	0.3	4.021	A
	D2			397				232				

13:00 - 13:15

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	451	113	53	1301	0.347	452	522	0.7	0.5	4.244	A
	B1			290				214				
	C1	333	83	0	1960	0.170	333	290	0.3	0.2	2.212	A
	D1	242	60	333	1270	0.190	242	0	0.3	0.2	3.504	A
South	A2	290	73	0	2057	0.141	290	333	0.2	0.2	2.039	A
	B2	305	76	290	1095	0.278	305	0	0.5	0.4	4.561	A
	C2	216	54	310	1189	0.182	216	286	0.3	0.2	3.702	A
	D2			333				194				

(Default Analysis Set) - WNP 2020 AM BP, 08-09

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Linked Roundabout	Junction North - Arm C1	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 South - Arm A2	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	Vehicle Mix	Junction North	HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.
Warning	Vehicle Mix	Junction South	HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.

Junction Network

Junctions

Junction	Name	Junction Type	Arm order	Junction Delay (s)	Junction LOS
North	North Dumbbell	Standard Roundabout	A1,B1,C1,D1	3.06	A
South	South Dumbbell	Standard Roundabout	A2,B2,C2,D2	3.81	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D_16	WNP 2020 AM BP	08-09	Q3	ONE HOUR	07:45	09:15	15	✓

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

Linked Arm Data

Junction	Arm	Feeding Junction	Feeding Arm	Link Type	Flow source	Uniform flow (PCU/hr)	Flow multiplier (%)	Internal storage space (PCU)
North	**C1**	South	A2	Simple (vertical queueing)	Normal	0	100.00	
South	**A2**	North	C1	Simple (vertical queueing)	Normal	0	100.00	

Demand overview (Traffic)

Junction	Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
North	**A1**		ONE HOUR	✓	272	100.000
	B1					
	C1	✓				
	D1		ONE HOUR	✓	185	100.000
South	**A2**	✓				
	B2		ONE HOUR	✓	369	100.000
	C2		ONE HOUR	✓	198	100.000
	D2					

Origin-Destination Data

Demand (PCU/hr)

Junction North

		To			
		A1	**B1**	**C1**	**D1**
From	**A1**	0	144	128	0
	B1	Exit-only	Exit-only	Exit-only	Exit-only
	C1	186	99	0	0
	D1	158	0	27	0

Demand (PCU/hr)

Junction South

		To			
		A2	B2	C2	D2
From	A2	1	0	73	81
	B2	123	0	246	0
	C2	161	0	0	37
	D2	Exit-only	Exit-only	Exit-only	Exit-only

Vehicle Mix

Heavy Vehicle Percentages

Junction North

		To			
		A1	B1	C1	D1
From	A1	0	0	0	0
	B1	Exit-only	Exit-only	Exit-only	Exit-only
	C1	0	0	0	0
	D1	0	0	0	0

Heavy Vehicle Percentages

Junction South

		To			
		A2	B2	C2	D2
From	A2	0	0	0	0
	B2	0	0	0	0
	C2	0	0	0	0
	D2	Exit-only	Exit-only	Exit-only	Exit-only

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)
North	A1	0.24	3.78	0.3	A	250	374
	B1						
	C1	0.16	2.19	0.2	A	261	392
	D1	0.16	3.34	0.2	A	170	255
South	A2	0.08	1.91	0.1	A	142	213
	B2	0.35	4.76	0.5	A	339	508
	C2	0.18	3.53	0.2	A	182	273
	D2						

Main Results for each time segment

07:45 - 08:00

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	205	51	94	1277	0.160	204	258	0.0	0.2	3.354	A
	B1			116				182				
	C1	214	53	0	1960	0.109	213	116	0.0	0.1	2.061	A
	D1	139	35	213	1341	0.104	139	0	0.0	0.1	2.993	A
South	A2	116	29	0	2057	0.057	116	214	0.0	0.1	1.853	A
	B2	278	69	116	1193	0.233	277	0	0.0	0.3	3.926	A
	C2	149	37	154	1280	0.116	149	239	0.0	0.1	3.179	A
	D2			214				88				

08:00 - 08:15

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	245	61	113	1266	0.193	244	309	0.2	0.2	3.523	A
	B1			139				218				
	C1	256	64	0	1960	0.131	256	139	0.1	0.1	2.112	A
	D1	166	42	256	1316	0.126	166	0	0.1	0.1	3.130	A
South	A2	139	35	0	2057	0.068	139	256	0.1	0.1	1.876	A
	B2	332	83	139	1180	0.281	331	0	0.3	0.4	4.242	A
	C2	178	44	184	1263	0.141	178	286	0.1	0.2	3.318	A
	D2			256				106				

08:15 - 08:30

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	299	75	139	1251	0.239	299	378	0.2	0.3	3.780	A
	B1			170				267				
	C1	313	78	0	1960	0.160	313	170	0.1	0.2	2.185	A
	D1	204	51	313	1282	0.159	204	0	0.1	0.2	3.339	A
South	A2	170	43	0	2057	0.083	170	313	0.1	0.1	1.907	A
	B2	406	102	170	1162	0.350	406	0	0.4	0.5	4.756	A
	C2	218	55	225	1239	0.176	218	351	0.2	0.2	3.526	A
	D2			313				130				

08:30 - 08:45

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	299	75	139	1251	0.239	299	379	0.3	0.3	3.781	A
	B1			171				268				
	C1	314	78	0	1960	0.160	314	171	0.2	0.2	2.186	A
	D1	204	51	314	1281	0.159	204	0	0.2	0.2	3.340	A
South	A2	171	43	0	2057	0.083	171	314	0.1	0.1	1.907	A
	B2	406	102	171	1162	0.350	406	0	0.5	0.5	4.762	A
	C2	218	55	226	1238	0.176	218	351	0.2	0.2	3.527	A
	D2			314				130				

08:45 - 09:00

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	245	61	113	1266	0.193	245	310	0.3	0.2	3.526	A

	B1			140				219				
	C1	257	64	0	1960	0.131	257	140	0.2	0.2	2.115	A
	D1	166	42	257	1315	0.126	166	0	0.2	0.1	3.135	A
South	A2	140	35	0	2057	0.068	140	257	0.1	0.1	1.879	A
	B2	332	83	140	1179	0.281	332	0	0.5	0.4	4.252	A
	C2	178	44	185	1262	0.141	178	287	0.2	0.2	3.323	A
	D2			257				106				

09:00 - 09:15

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	205	51	95	1276	0.160	205	259	0.2	0.2	3.359	A
	B1			117				183				
	C1	215	54	0	1960	0.110	215	117	0.2	0.1	2.064	A
	D1	139	35	215	1340	0.104	139	0	0.1	0.1	2.996	A
South	A2	117	29	0	2057	0.057	117	215	0.1	0.1	1.857	A
	B2	278	69	117	1192	0.233	278	0	0.4	0.3	3.941	A
	C2	149	37	155	1280	0.116	149	240	0.2	0.1	3.186	A
	D2			215				89				

(Default Analysis Set) - WNP 2020 PM BP, 16-17

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Linked Roundabout	Junction North - Arm C1	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 South - Arm A2	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	Vehicle Mix	Junction North	HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.
Warning	Vehicle Mix	Junction South	HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.

Junction Network

Junctions

Junction	Name	Junction Type	Arm order	Junction Delay (s)	Junction LOS
North	North Dumbbell	Standard Roundabout	A1,B1,C1,D1	4.34	A
South	South Dumbbell	Standard Roundabout	A2,B2,C2,D2	4.27	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D_17	WNP 2020 PM BP	16-17	Q3	ONE HOUR	15:45	17:15	15	✓

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

Linked Arm Data

Junction	Arm	Feeding Junction	Feeding Arm	Link Type	Flow source	Uniform flow (PCU/hr)	Flow multiplier (%)	Internal storage space (PCU)
North	C1	South	A2	Simple (vertical queueing)	Normal	0	100.00	
South	A2	North	C1	Simple (vertical queueing)	Normal	0	100.00	

Demand overview (Traffic)

Junction	Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
North	A1		ONE HOUR	✓	538	100.000
	B1					
	C1	✓				
	D1		ONE HOUR	✓	284	100.000
South	A2	✓				
	B2		ONE HOUR	✓	337	100.000
	C2		ONE HOUR	✓	392	100.000
	D2					

Origin-Destination Data

Demand (PCU/hr)

Junction North

		To			
		A1	B1	C1	D1
From	A1	0	203	335	0
	B1	Exit-only	Exit-only	Exit-only	Exit-only
	C1	331	205	0	0
	D1	273	0	11	0

Demand (PCU/hr)

Junction South

		To			
		A2	B2	C2	D2
From	A2	2	0	159	185
	B2	200	0	137	0
	C2	334	0	0	58
	D2	Exit-only	Exit-only	Exit-only	Exit-only

Vehicle Mix

Junction North

Heavy Vehicle Percentages

		To			
		A1	B1	C1	D1
From	A1	0	0	0	0
	B1	Exit-only	Exit-only	Exit-only	Exit-only
	C1	0	0	0	0
	D1	0	0	0	0

Junction South

Heavy Vehicle Percentages

		To			
		A2	B2	C2	D2
From	A2	0	0	0	0
	B2	0	0	0	0
	C2	0	0	0	0
	D2	Exit-only	Exit-only	Exit-only	Exit-only

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)
North	A1	0.50	5.98	1.0	A	494	741
	B1						
	C1	0.30	2.63	0.4	A	492	737
	D1	0.28	4.48	0.4	A	261	391
South	A2	0.19	2.15	0.2	A	317	476
	B2	0.36	5.34	0.5	A	309	464
	C2	0.38	5.21	0.6	A	360	540
	D2						

Main Results for each time segment

15:45 - 16:00

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	405	101	161	1238	0.327	403	452	0.0	0.5	4.301	A
	B1			259				305				
	C1	402	100	0	1960	0.205	401	259	0.0	0.3	2.307	A
	D1	214	53	401	1229	0.174	213	0	0.0	0.2	3.539	A
South	A2	259	65	0	2057	0.126	259	402	0.0	0.1	2.002	A
	B2	254	63	259	1113	0.228	253	0	0.0	0.3	4.179	A
	C2	295	74	290	1201	0.246	294	222	0.0	0.3	3.961	A
	D2			402				182				

16:00 - 16:15

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	484	121	194	1220	0.397	483	542	0.5	0.7	4.882	A
	B1			311				366				
	C1	481	120	0	1960	0.246	481	311	0.3	0.3	2.434	A
	D1	255	64	481	1181	0.216	255	0	0.2	0.3	3.887	A
South	A2	311	78	0	2057	0.151	310	481	0.1	0.2	2.060	A
	B2	303	76	310	1084	0.279	303	0	0.3	0.4	4.605	A
	C2	352	88	347	1168	0.302	352	266	0.3	0.4	4.411	A
	D2			481				218				

16:15 - 16:30

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	592	148	237	1195	0.496	591	664	0.7	1.0	5.951	A
	B1			380				448				
	C1	589	147	0	1960	0.301	589	380	0.3	0.4	2.625	A
	D1	313	78	589	1117	0.280	312	0	0.3	0.4	4.474	A
South	A2	380	95	0	2057	0.185	380	589	0.2	0.2	2.146	A
	B2	371	93	380	1045	0.355	370	0	0.4	0.5	5.331	A
	C2	432	108	425	1123	0.384	431	325	0.4	0.6	5.199	A
	D2			589				267				

16:30 - 16:45

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	592	148	238	1194	0.496	592	665	1.0	1.0	5.978	A
	B1			381				449				
	C1	590	148	0	1960	0.301	590	381	0.4	0.4	2.627	A
	D1	313	78	590	1116	0.280	313	0	0.4	0.4	4.482	A
South	A2	381	95	0	2057	0.185	381	590	0.2	0.2	2.147	A
	B2	371	93	381	1045	0.355	371	0	0.5	0.5	5.343	A
	C2	432	108	426	1122	0.385	432	326	0.6	0.6	5.213	A
	D2			590				268				

16:45 - 17:00

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	484	121	195	1219	0.397	485	544	1.0	0.7	4.912	A
	B1			312				368				
	C1	483	121	0	1960	0.246	483	312	0.4	0.3	2.439	A
	D1	255	64	483	1180	0.216	256	0	0.4	0.3	3.897	A
South	A2	312	78	0	2057	0.152	312	483	0.2	0.2	2.062	A
	B2	303	76	312	1083	0.280	304	0	0.5	0.4	4.623	A
	C2	352	88	349	1167	0.302	353	267	0.6	0.4	4.429	A
	D2			483				219				

17:00 - 17:15

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	405	101	163	1237	0.327	406	456	0.7	0.5	4.333	A

	B1			261				308				
	C1	404	101	0	1960	0.206	404	261	0.3	0.3	2.314	A
	D1	214	53	404	1227	0.174	214	0	0.3	0.2	3.554	A
South	**A2**	261	65	0	2057	0.127	261	404	0.2	0.1	2.004	A
	B2	254	63	261	1112	0.228	254	0	0.4	0.3	4.199	A
	C2	295	74	292	1200	0.246	296	223	0.4	0.3	3.982	A
	D2			404				183				

(Default Analysis Set) - WNP 2020 Weekend BP, 12-13

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Linked Roundabout	Junction North - Arm C1	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 South - Arm A2	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	Vehicle Mix	Junction North	HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.
Warning	Vehicle Mix	Junction South	HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.

Junction Network

Junctions

Junction	Name	Junction Type	Arm order	Junction Delay (s)	Junction LOS
North	North Dumbbell	Standard Roundabout	A1,B1,C1,D1	4.35	A
South	South Dumbbell	Standard Roundabout	A2,B2,C2,D2	4.36	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D_18	WNP 2020 Weekend BP	12-13	Q3	ONE HOUR	11:45	13:15	15	✓

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

Linked Arm Data

Junction	Arm	Feeding Junction	Feeding Arm	Link Type	Flow source	Uniform flow (PCU/hr)	Flow multiplier (%)	Internal storage space (PCU)
North	**C1**	South	A2	Simple (vertical	Normal	0	100.00	

				queueing)				
South	**A2**	North	C1	Simple (vertical queueing)	Normal	0	100.00	

Demand overview (Traffic)

Junction	Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
North	**A1**		ONE HOUR	✓	599	100.000
	B1					
	C1	✓				
	D1		ONE HOUR	✓	321	100.000
South	**A2**	✓				
	B2		ONE HOUR	✓	405	100.000
	C2		ONE HOUR	✓	287	100.000
	D2					

Origin-Destination Data

Junction North

Demand (PCU/hr)

		To			
		A1	**B1**	**C1**	**D1**
From	**A1**	0	218	381	0
	B1	Exit-only	Exit-only	Exit-only	Exit-only
	C1	376	66	0	0
	D1	317	0	4	0

Junction South

Demand (PCU/hr)

		To			
		A2	**B2**	**C2**	**D2**
From	**A2**	3	0	190	192
	B2	216	0	189	0
	C2	222	0	0	65
	D2	Exit-only	Exit-only	Exit-only	Exit-only

Vehicle Mix

Junction North

Heavy Vehicle Percentages

		To			
		A1	**B1**	**C1**	**D1**
From	**A1**	0	0	0	0
	B1	Exit-only	Exit-only	Exit-only	Exit-only
	C1	0	0	0	0
	D1	0	0	0	0

Heavy Vehicle Percentages

Junction South

		To			
		A2	B2	C2	D2
From	A2	0	0	0	0
	B2	0	0	0	0
	C2	0	0	0	0
	D2	Exit-only	Exit-only	Exit-only	Exit-only

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)
North	A1	0.51	5.74	1.0	A	550	824
	B1						
	C1	0.25	2.44	0.3	A	404	607
	D1	0.30	4.36	0.4	A	295	442
South	A2	0.21	2.20	0.3	A	353	530
	B2	0.44	6.26	0.8	A	372	557
	C2	0.29	4.55	0.4	A	263	395
	D2						

Main Results for each time segment

11:45 - 12:00

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	451	113	52	1301	0.347	449	518	0.0	0.5	4.215	A
	B1			288				213				
	C1	330	83	0	1960	0.169	330	288	0.0	0.2	2.207	A
	D1	242	60	330	1272	0.190	241	0	0.0	0.2	3.488	A
South	A2	288	72	0	2057	0.140	288	330	0.0	0.2	2.035	A
	B2	305	76	288	1097	0.278	303	0	0.0	0.4	4.530	A
	C2	216	54	308	1191	0.181	215	284	0.0	0.2	3.686	A
	D2			330				192				

12:00 - 12:15

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	538	135	63	1295	0.416	538	621	0.5	0.7	4.751	A
	B1			346				255				
	C1	396	99	0	1960	0.202	396	346	0.2	0.3	2.301	A
	D1	289	72	396	1232	0.234	288	0	0.2	0.3	3.814	A
South	A2	346	86	0	2057	0.168	345	396	0.2	0.2	2.103	A
	B2	364	91	345	1064	0.342	364	0	0.4	0.5	5.133	A

	C2	258	65	369	1155	0.223	258	340	0.2	0.3	4.010	A
	D2			396				231				

12:15 - 12:30

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	660	165	77	1287	0.513	658	761	0.7	1.0	5.715	A
	B1			423				312				
	C1	485	121	0	1960	0.247	484	423	0.3	0.3	2.439	A
	D1	353	88	484	1179	0.300	353	0	0.3	0.4	4.354	A
South	A2	423	106	0	2057	0.206	423	485	0.2	0.3	2.202	A
	B2	446	111	423	1021	0.437	445	0	0.5	0.8	6.236	A
	C2	316	79	451	1107	0.285	316	416	0.3	0.4	4.545	A
	D2			485				282				

12:30 - 12:45

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	660	165	77	1287	0.513	659	762	1.0	1.0	5.739	A
	B1			424				313				
	C1	486	121	0	1960	0.248	486	424	0.3	0.3	2.441	A
	D1	353	88	486	1178	0.300	353	0	0.4	0.4	4.363	A
South	A2	424	106	0	2057	0.206	424	486	0.3	0.3	2.203	A
	B2	446	111	424	1021	0.437	446	0	0.8	0.8	6.262	A
	C2	316	79	452	1107	0.286	316	417	0.4	0.4	4.552	A
	D2			486				283				

12:45 - 13:00

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	538	135	63	1295	0.416	540	624	1.0	0.7	4.776	A
	B1			347				256				
	C1	397	99	0	1960	0.203	398	347	0.3	0.3	2.305	A
	D1	289	72	398	1231	0.234	289	0	0.4	0.3	3.822	A
South	A2	347	87	0	2057	0.169	347	397	0.3	0.2	2.106	A
	B2	364	91	347	1063	0.342	365	0	0.8	0.5	5.163	A
	C2	258	65	371	1154	0.224	258	342	0.4	0.3	4.021	A
	D2			397				232				

13:00 - 13:15

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	451	113	53	1301	0.347	452	522	0.7	0.5	4.244	A
	B1			290				214				
	C1	333	83	0	1960	0.170	333	290	0.3	0.2	2.212	A
	D1	242	60	333	1270	0.190	242	0	0.3	0.2	3.504	A
South	A2	290	73	0	2057	0.141	290	333	0.2	0.2	2.039	A
	B2	305	76	290	1095	0.278	305	0	0.5	0.4	4.561	A
	C2	216	54	310	1189	0.182	216	286	0.3	0.2	3.702	A
	D2			333				194				

(Default Analysis Set) - WNP 2023 AM, 08-09

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Linked Roundabout	Junction North - Arm C1	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 South - Arm A2	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	Vehicle Mix	Junction North	HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.
Warning	Vehicle Mix	Junction South	HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.

Junction Network

Junctions

Junction	Name	Junction Type	Arm order	Junction Delay (s)	Junction LOS
North	North Dumbbell	Standard Roundabout	A1,B1,C1,D1	3.14	A
South	South Dumbbell	Standard Roundabout	A2,B2,C2,D2	4.04	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D_19	WNP 2023 AM	08-09	Q3	ONE HOUR	07:45	09:15	15	✓

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

Linked Arm Data

Junction	Arm	Feeding Junction	Feeding Arm	Link Type	Flow source	Uniform flow (PCU/hr)	Flow multiplier (%)	Internal storage space (PCU)
North	**C1**	South	A2	Simple (vertical queueing)	Normal	0	100.00	
South	**A2**	North	C1	Simple (vertical queueing)	Normal	0	100.00	

Demand overview (Traffic)

Junction	Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
North	**A1**		ONE HOUR	✓	280	100.000
	B1					
	C1	✓				
	D1		ONE HOUR	✓	189	100.000

South	A2	✓				
	B2		ONE HOUR	✓	404	100.000
	C2		ONE HOUR	✓	260	100.000
	D2					

Origin-Destination Data

Demand (PCU/hr)

Junction North

		To			
		A1	B1	C1	D1
From	A1	0	148	132	0
	B1	Exit-only	Exit-only	Exit-only	Exit-only
	C1	192	159	0	0
	D1	162	0	27	0

Demand (PCU/hr)

Junction South

		To			
		A2	B2	C2	D2
From	A2	1	0	74	83
	B2	127	0	277	0
	C2	223	0	0	37
	D2	Exit-only	Exit-only	Exit-only	Exit-only

Vehicle Mix

Heavy Vehicle Percentages

Junction North

		To			
		A1	B1	C1	D1
From	A1	0	0	0	0
	B1	Exit-only	Exit-only	Exit-only	Exit-only
	C1	0	0	0	0
	D1	0	0	0	0

Heavy Vehicle Percentages

Junction South

		To			
		A2	B2	C2	D2
From	A2	0	0	0	0
	B2	0	0	0	0
	C2	0	0	0	0
	D2	Exit-only	Exit-only	Exit-only	Exit-only

Results

Results Summary for whole modelled period

Junction	Arm	Max RFC	Max delay (s)	Max Queue (PCU)	Max LOS	Average Demand	Total Junction Arrivals (PCU)

						(PCU/hr)	
North	A1	0.25	3.98	0.3	A	257	385
	B1						
	C1	0.20	2.29	0.2	A	322	483
	D1	0.17	3.50	0.2	A	173	260
South	A2	0.09	1.91	0.1	A	146	219
	B2	0.38	5.04	0.6	A	371	556
	C2	0.23	3.80	0.3	A	239	358
	D2						

Main Results for each time segment

07:45 - 08:00

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	211	53	139	1251	0.169	210	265	0.0	0.2	3.457	A
	B1			119				230				
	C1	263	66	0	1960	0.134	263	119	0.0	0.2	2.121	A
	D1	142	36	263	1312	0.108	142	0	0.0	0.1	3.074	A
South	A2	119	30	0	2057	0.058	119	263	0.0	0.1	1.856	A
	B2	304	76	119	1191	0.255	303	0	0.0	0.3	4.048	A
	C2	196	49	158	1277	0.153	195	263	0.0	0.2	3.324	A
	D2			263				90				

08:00 - 08:15

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	252	63	167	1235	0.204	252	318	0.2	0.3	3.660	A
	B1			143				276				
	C1	315	79	0	1960	0.161	315	143	0.2	0.2	2.188	A
	D1	170	42	315	1280	0.133	170	0	0.1	0.2	3.240	A
South	A2	143	36	0	2057	0.069	143	315	0.1	0.1	1.879	A
	B2	363	91	143	1178	0.308	363	0	0.3	0.4	4.416	A
	C2	234	58	190	1259	0.186	234	316	0.2	0.2	3.509	A
	D2			315				108				

08:15 - 08:30

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	308	77	204	1214	0.254	308	389	0.3	0.3	3.974	A
	B1			175				338				
	C1	386	96	0	1960	0.197	386	175	0.2	0.2	2.286	A
	D1	208	52	386	1238	0.168	208	0	0.2	0.2	3.494	A
South	A2	175	44	0	2057	0.085	175	386	0.1	0.1	1.911	A
	B2	445	111	175	1160	0.384	444	0	0.4	0.6	5.025	A
	C2	286	72	233	1234	0.232	286	386	0.2	0.3	3.795	A
	D2			386				133				

08:30 - 08:45

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	308	77	205	1213	0.254	308	390	0.3	0.3	3.977	A
	B1			175				338				
	C1	386	97	0	1960	0.197	386	175	0.2	0.2	2.287	A
	D1	208	52	386	1238	0.168	208	0	0.2	0.2	3.495	A
South	A2	175	44	0	2057	0.085	175	386	0.1	0.1	1.911	A
	B2	445	111	175	1160	0.384	445	0	0.6	0.6	5.036	A
	C2	286	72	233	1234	0.232	286	387	0.3	0.3	3.796	A
	D2			386				133				

08:45 - 09:00

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	252	63	168	1235	0.204	252	319	0.3	0.3	3.666	A
	B1			143				276				
	C1	316	79	0	1960	0.161	316	143	0.2	0.2	2.191	A
	D1	170	42	316	1280	0.133	170	0	0.2	0.2	3.243	A
South	A2	143	36	0	2057	0.070	143	316	0.1	0.1	1.882	A
	B2	363	91	143	1177	0.308	364	0	0.6	0.4	4.430	A
	C2	234	58	191	1259	0.186	234	317	0.3	0.2	3.512	A
	D2			316				109				

09:00 - 09:15

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	211	53	140	1250	0.169	211	267	0.3	0.2	3.466	A
	B1			120				231				
	C1	265	66	0	1960	0.135	265	120	0.2	0.2	2.124	A
	D1	142	36	265	1311	0.109	142	0	0.2	0.1	3.083	A
South	A2	120	30	0	2057	0.058	120	265	0.1	0.1	1.857	A
	B2	304	76	120	1190	0.256	305	0	0.4	0.3	4.067	A
	C2	196	49	159	1277	0.153	196	265	0.2	0.2	3.332	A
	D2			265				91				

(Default Analysis Set) - WNP 2023 PM, 17-18

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Linked Roundabout	Junction North - Arm C1	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 South - Arm A2	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	Vehicle Mix	Junction North	HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.
Warning	Vehicle Mix	Junction South	HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.

Junction Network

Junctions

Junction	Name	Junction Type	Arm order	Junction Delay (s)	Junction LOS
North	North Dumbbell	Standard Roundabout	A1,B1,C1,D1	4.36	A
South	South Dumbbell	Standard Roundabout	A2,B2,C2,D2	4.80	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D_20	WNP 2023 PM	17-18	Q3	ONE HOUR	16:45	18:15	15	✓

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

Linked Arm Data

Junction	Arm	Feeding Junction	Feeding Arm	Link Type	Flow source	Uniform flow (PCU/hr)	Flow multiplier (%)	Internal storage space (PCU)
North	**C1**	South	A2	Simple (vertical queueing)	Normal	0	100.00	
South	**A2**	North	C1	Simple (vertical queueing)	Normal	0	100.00	

Demand overview (Traffic)

Junction	Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
North	**A1**		ONE HOUR	✓	514	100.000
	B1					
	C1	✓				
	D1		ONE HOUR	✓	256	100.000
South	**A2**	✓				
	B2		ONE HOUR	✓	395	100.000
	C2		ONE HOUR	✓	452	100.000
	D2					

Origin-Destination Data

Demand (PCU/hr)

Junction North

		To			
		A1	**B1**	**C1**	**D1**
From	**A1**	0	176	338	0
	B1	Exit-only	Exit-only	Exit-only	Exit-only
	C1	346	263	0	0
	D1	239	0	17	0

Demand (PCU/hr)

Junction South

		To			
		A2	B2	C2	D2
From	A2	2	0	179	174
	B2	228	0	167	0
	C2	379	0	0	73
	D2	Exit-only	Exit-only	Exit-only	Exit-only

Vehicle Mix

Heavy Vehicle Percentages

Junction North

		To			
		A1	B1	C1	D1
From	A1	0	0	0	0
	B1	Exit-only	Exit-only	Exit-only	Exit-only
	C1	0	0	0	0
	D1	0	0	0	0

Heavy Vehicle Percentages

Junction South

		To			
		A2	B2	C2	D2
From	A2	0	0	0	0
	B2	0	0	0	0
	C2	0	0	0	0
	D2	Exit-only	Exit-only	Exit-only	Exit-only

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)
North	A1	0.49	6.12	1.0	A	472	707
	B1						
	C1	0.34	2.79	0.5	A	558	838
	D1	0.26	4.58	0.4	A	235	352
South	A2	0.19	2.16	0.2	A	326	488
	B2	0.42	5.96	0.7	A	362	544
	C2	0.45	5.87	0.8	A	415	622
	D2						

Main Results for each time segment

16:45 - 17:00

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	387	97	209	1211	0.320	385	438	0.0	0.5	4.350	A
	B1			266				328				
	C1	456	114	0	1960	0.233	455	266	0.0	0.3	2.389	A
	D1	193	48	455	1197	0.161	192	0	0.0	0.2	3.582	A
South	A2	266	66	0	2057	0.129	265	456	0.0	0.1	2.009	A
	B2	297	74	265	1109	0.268	296	0	0.0	0.4	4.418	A
	C2	340	85	302	1194	0.285	339	259	0.0	0.4	4.202	A
	D2			456				185				

17:00 - 17:15

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	462	116	251	1187	0.389	461	525	0.5	0.6	4.959	A
	B1			319				394				
	C1	547	137	0	1960	0.279	546	319	0.3	0.4	2.546	A
	D1	230	58	546	1142	0.202	230	0	0.2	0.3	3.946	A
South	A2	319	80	0	2057	0.155	319	547	0.1	0.2	2.070	A
	B2	355	89	319	1079	0.329	355	0	0.4	0.5	4.963	A
	C2	406	102	363	1159	0.351	406	311	0.4	0.5	4.777	A
	D2			547				222				

17:15 - 17:30

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	566	141	307	1155	0.490	565	643	0.6	0.9	6.088	A
	B1			390				482				
	C1	669	167	0	1960	0.341	669	390	0.4	0.5	2.785	A
	D1	282	70	669	1069	0.264	281	0	0.3	0.4	4.571	A
South	A2	390	98	0	2057	0.190	390	669	0.2	0.2	2.159	A
	B2	435	109	390	1040	0.418	434	0	0.5	0.7	5.935	A
	C2	498	124	444	1112	0.448	497	380	0.5	0.8	5.843	A
	D2			669				271				

17:30 - 17:45

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	566	141	308	1154	0.490	566	644	0.9	1.0	6.119	A
	B1			391				483				
	C1	670	168	0	1960	0.342	670	391	0.5	0.5	2.791	A
	D1	282	70	670	1068	0.264	282	0	0.4	0.4	4.581	A
South	A2	391	98	0	2057	0.190	391	670	0.2	0.2	2.160	A
	B2	435	109	391	1039	0.419	435	0	0.7	0.7	5.957	A
	C2	498	124	445	1111	0.448	498	381	0.8	0.8	5.867	A
	D2			670				272				

17:45 - 18:00

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	462	116	253	1186	0.390	463	527	1.0	0.6	4.989	A

	B1			320				396				
	C1	549	137	0	1960	0.280	549	320	0.5	0.4	2.552	A
	D1	230	58	549	1140	0.202	231	0	0.4	0.3	3.961	A
South	A2	320	80	0	2057	0.156	320	549	0.2	0.2	2.074	A
	B2	355	89	320	1079	0.329	356	0	0.7	0.5	4.989	A
	C2	406	102	364	1158	0.351	407	312	0.8	0.5	4.804	A
	D2			549				223				

18:00 - 18:15

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	387	97	211	1210	0.320	388	441	0.6	0.5	4.382	A
	B1			268				331				
	C1	459	115	0	1960	0.234	460	268	0.4	0.3	2.401	A
	D1	193	48	460	1194	0.161	193	0	0.3	0.2	3.596	A
South	A2	268	67	0	2057	0.130	268	459	0.2	0.1	2.013	A
	B2	297	74	268	1108	0.268	298	0	0.5	0.4	4.447	A
	C2	340	85	305	1192	0.285	341	261	0.5	0.4	4.229	A
	D2			459				186				

(Default Analysis Set) - WNP 2023 Weekend , 12-13

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Linked Roundabout	Junction North - Arm C1	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 South - Arm A2	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	Vehicle Mix	Junction North	HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.
Warning	Vehicle Mix	Junction South	HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.

Junction Network

Junctions

Junction	Name	Junction Type	Arm order	Junction Delay (s)	Junction LOS
North	North Dumbbell	Standard Roundabout	A1,B1,C1,D1	4.45	A
South	South Dumbbell	Standard Roundabout	A2,B2,C2,D2	4.43	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D_21	WNP 2023 Weekend	12-13	Q3	ONE HOUR	11:45	13:15	15	✓

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

Linked Arm Data

Junction	Arm	Feeding Junction	Feeding Arm	Link Type	Flow source	Uniform flow (PCU/hr)	Flow multiplier (%)	Internal storage space (PCU)
North	C1	South	A2	Simple (vertical queueing)	Normal	0	100.00	
South	A2	North	C1	Simple (vertical queueing)	Normal	0	100.00	

Demand overview (Traffic)

Junction	Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
North	A1		ONE HOUR	✓	614	100.000
	B1					
	C1	✓				
	D1		ONE HOUR	✓	328	100.000
South	A2	✓				
	B2		ONE HOUR	✓	412	100.000
	C2		ONE HOUR	✓	293	100.000
	D2					

Origin-Destination Data

Demand (PCU/hr)

Junction North

		To			
		A1	B1	C1	D1
From	A1	0	224	390	0
	B1	Exit-only	Exit-only	Exit-only	Exit-only
	C1	385	68	0	0
	D1	324	0	4	0

Demand (PCU/hr)

Junction South

		To			
		A2	B2	C2	D2
From	A2	3	0	195	196
	B2	222	0	190	0
	C2	227	0	0	66
	D2	Exit-only	Exit-only	Exit-only	Exit-only

Vehicle Mix

Junction North

Heavy Vehicle Percentages

		To			
		A1	B1	C1	D1
From	A1	0	0	0	0
	B1	Exit-only	Exit-only	Exit-only	Exit-only
	C1	0	0	0	0
	D1	0	0	0	0

Junction South

Heavy Vehicle Percentages

		To			
		A2	B2	C2	D2
From	A2	0	0	0	0
	B2	0	0	0	0
	C2	0	0	0	0
	D2	Exit-only	Exit-only	Exit-only	Exit-only

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)
North	A1	0.53	5.91	1.1	A	563	845
	B1						
	C1	0.25	2.46	0.3	A	414	622
	D1	0.31	4.44	0.4	A	301	451
South	A2	0.21	2.22	0.3	A	361	542
	B2	0.45	6.41	0.8	A	378	567
	C2	0.29	4.63	0.4	A	269	403
	D2						

Main Results for each time segment

11:45 - 12:00

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	462	116	54	1300	0.356	460	530	0.0	0.5	4.275	A
	B1			295				219				
	C1	339	85	0	1960	0.173	338	295	0.0	0.2	2.218	A
	D1	247	62	338	1267	0.195	246	0	0.0	0.2	3.523	A
South	A2	295	74	0	2057	0.144	295	339	0.0	0.2	2.042	A
	B2	310	78	295	1093	0.284	309	0	0.0	0.4	4.581	A
	C2	221	55	315	1186	0.186	220	288	0.0	0.2	3.720	A
	D2			339				196				

12:00 - 12:15

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	552	138	64	1294	0.427	551	636	0.5	0.7	4.842	A
	B1			354				262				
	C1	406	101	0	1960	0.207	406	354	0.2	0.3	2.315	A
	D1	295	74	406	1226	0.240	295	0	0.2	0.3	3.863	A
South	A2	354	88	0	2057	0.172	354	406	0.2	0.2	2.113	A
	B2	370	93	354	1060	0.349	370	0	0.4	0.5	5.212	A
	C2	263	66	378	1150	0.229	263	346	0.2	0.3	4.058	A
	D2			406				235				

12:15 - 12:30

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	676	169	79	1286	0.526	675	778	0.7	1.1	5.877	A
	B1			433				321				
	C1	497	124	0	1960	0.253	496	433	0.3	0.3	2.459	A
	D1	361	90	496	1172	0.308	361	0	0.3	0.4	4.435	A
South	A2	433	108	0	2057	0.210	433	497	0.2	0.3	2.215	A
	B2	454	113	433	1016	0.447	453	0	0.5	0.8	6.380	A
	C2	323	81	462	1101	0.293	322	423	0.3	0.4	4.619	A
	D2			497				288				

12:30 - 12:45

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	676	169	79	1285	0.526	676	780	1.1	1.1	5.906	A
	B1			434				321				
	C1	498	124	0	1960	0.254	498	434	0.3	0.3	2.461	A
	D1	361	90	498	1171	0.308	361	0	0.4	0.4	4.444	A
South	A2	434	108	0	2057	0.211	434	498	0.3	0.3	2.217	A
	B2	454	113	434	1015	0.447	454	0	0.8	0.8	6.410	A
	C2	323	81	464	1100	0.293	323	424	0.4	0.4	4.628	A
	D2			498				288				

12:45 - 13:00

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	552	138	65	1294	0.427	553	638	1.1	0.8	4.873	A
	B1			355				263				
	C1	407	102	0	1960	0.208	408	355	0.3	0.3	2.320	A
	D1	295	74	408	1225	0.241	295	0	0.4	0.3	3.874	A
South	A2	355	89	0	2057	0.173	355	407	0.3	0.2	2.116	A
	B2	370	93	355	1059	0.350	371	0	0.8	0.5	5.245	A
	C2	263	66	380	1149	0.229	264	347	0.4	0.3	4.068	A
	D2			407				236				

13:00 - 13:15

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	462	116	54	1300	0.356	463	534	0.8	0.6	4.308	A

	B1			297				220				
	C1	341	85	0	1960	0.174	341	297	0.3	0.2	2.225	A
	D1	247	62	341	1265	0.195	247	0	0.3	0.2	3.537	A
South	**A2**	297	74	0	2057	0.144	297	341	0.2	0.2	2.047	A
	B2	310	78	297	1091	0.284	311	0	0.5	0.4	4.616	A
	C2	221	55	318	1185	0.186	221	290	0.3	0.2	3.736	A
	D2			341				198				

(Default Analysis Set) - WNP 2033 AM, 08-09

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Linked Roundabout	Junction North - Arm C1	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 South - Arm A2	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	Vehicle Mix	Junction North	HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.
Warning	Vehicle Mix	Junction South	HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.

Junction Network

Junctions

Junction	Name	Junction Type	Arm order	Junction Delay (s)	Junction LOS
North	North Dumbbell	Standard Roundabout	A1,B1,C1,D1	3.49	A
South	South Dumbbell	Standard Roundabout	A2,B2,C2,D2	14.08	B

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D_22	WNP 2033 AM	08-09	Q3	ONE HOUR	07:45	09:15	15	✓

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

Linked Arm Data

Junction	Arm	Feeding Junction	Feeding Arm	Link Type	Flow source	Uniform flow (PCU/hr)	Flow multiplier (%)	Internal storage space (PCU)
North	**C1**	South	A2	Simple (vertical queueing)	Normal	0	100.00	

South	**A2**	North	C1	Simple (vertical queueing)	Normal	0	100.00	

Demand overview (Traffic)

Junction	Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
North	**A1**		ONE HOUR	✓	304	100.000
	B1					
	C1	✓				
	D1		ONE HOUR	✓	273	100.000
South	**A2**	✓				
	B2		ONE HOUR	✓	858	100.000
	C2		ONE HOUR	✓	335	100.000
	D2					

Origin-Destination Data

Demand (PCU/hr)

Junction North

		To			
		A1	**B1**	**C1**	**D1**
From	**A1**	0	161	143	0
	B1	Exit-only	Exit-only	Exit-only	Exit-only
	C1	208	212	0	0
	D1	175	0	98	0

Demand (PCU/hr)

Junction South

		To			
		A2	**B2**	**C2**	**D2**
From	**A2**	1	0	150	89
	B2	137	0	721	0
	C2	282	0	0	53
	D2	Exit-only	Exit-only	Exit-only	Exit-only

Vehicle Mix

Heavy Vehicle Percentages

Junction North

		To			
		A1	**B1**	**C1**	**D1**
From	**A1**	0	0	0	0
	B1	Exit-only	Exit-only	Exit-only	Exit-only
	C1	0	0	0	0
	D1	0	0	0	0

Heavy Vehicle Percentages

Junction South

		To			
		A2	B2	C2	D2
From	A2	0	0	0	0
	B2	0	0	0	0
	C2	0	0	0	0
	D2	Exit-only	Exit-only	Exit-only	Exit-only

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)
North	A1	0.29	4.50	0.4	A	279	418
	B1						
	C1	0.24	2.40	0.3	A	385	578
	D1	0.25	4.04	0.3	A	251	376
South	A2	0.13	2.01	0.1	A	221	332
	B2	0.85	21.32	5.3	C	787	1181
	C2	0.30	4.21	0.4	A	307	461
	D2						

Main Results for each time segment

07:45 - 08:00

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	229	57	232	1198	0.191	228	287	0.0	0.2	3.708	A
	B1			181				279				
	C1	315	79	0	1960	0.160	314	181	0.0	0.2	2.185	A
	D1	206	51	314	1281	0.160	205	0	0.0	0.2	3.343	A
South	A2	181	45	0	2057	0.088	180	315	0.0	0.1	1.917	A
	B2	646	161	180	1157	0.558	641	0	0.0	1.2	6.916	A
	C2	252	63	170	1271	0.198	251	651	0.0	0.2	3.528	A
	D2			315				107				

08:00 - 08:15

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	273	68	278	1171	0.233	273	344	0.2	0.3	4.006	A
	B1			216				335				
	C1	377	94	0	1960	0.192	377	216	0.2	0.2	2.273	A
	D1	245	61	377	1244	0.197	245	0	0.2	0.2	3.605	A
South	A2	216	54	0	2057	0.105	216	377	0.1	0.1	1.955	A
	B2	771	193	216	1137	0.679	768	0	1.2	2.0	9.685	A

	C2	301	75	204	1251	0.241	301	781	0.2	0.3	3.788	A
	D2			377				128				

08:15 - 08:30

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	335	84	340	1136	0.295	334	420	0.3	0.4	4.488	A
	B1			265				409				
	C1	460	115	0	1960	0.235	460	265	0.2	0.3	2.399	A
	D1	301	75	460	1194	0.252	300	0	0.2	0.3	4.027	A
South	A2	265	66	0	2057	0.129	265	460	0.1	0.1	2.008	A
	B2	945	236	265	1109	0.851	933	0	2.0	5.0	19.182	C
	C2	369	92	248	1225	0.301	368	949	0.3	0.4	4.199	A
	D2			460				157				

08:30 - 08:45

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	335	84	341	1135	0.295	335	422	0.4	0.4	4.496	A
	B1			265				411				
	C1	462	116	0	1960	0.236	462	265	0.3	0.3	2.403	A
	D1	301	75	462	1192	0.252	301	0	0.3	0.3	4.036	A
South	A2	265	66	0	2057	0.129	265	462	0.1	0.1	2.008	A
	B2	945	236	265	1109	0.852	943	0	5.0	5.3	21.321	C
	C2	369	92	250	1224	0.301	369	959	0.4	0.4	4.208	A
	D2			462				157				

08:45 - 09:00

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	273	68	280	1170	0.234	274	346	0.4	0.3	4.018	A
	B1			217				337				
	C1	380	95	0	1960	0.194	380	217	0.3	0.2	2.278	A
	D1	245	61	380	1241	0.198	246	0	0.3	0.2	3.618	A
South	A2	217	54	0	2057	0.105	217	380	0.1	0.1	1.957	A
	B2	771	193	217	1136	0.679	784	0	5.3	2.2	10.566	B
	C2	301	75	207	1249	0.241	302	794	0.4	0.3	3.798	A
	D2			380				128				

09:00 - 09:15

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	229	57	234	1197	0.191	229	289	0.3	0.2	3.723	A
	B1			182				281				
	C1	317	79	0	1960	0.162	317	182	0.2	0.2	2.191	A
	D1	206	51	317	1279	0.161	206	0	0.2	0.2	3.353	A
South	A2	182	45	0	2057	0.088	182	317	0.1	0.1	1.921	A
	B2	646	161	182	1156	0.559	650	0	2.2	1.3	7.158	A
	C2	252	63	172	1270	0.199	252	659	0.3	0.2	3.539	A
	D2			317				107				

(Default Analysis Set) - WNP 2033 PM, 17-18

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Linked Roundabout	Junction North - Arm C1	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 South - Arm A2	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	Vehicle Mix	Junction North	HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.
Warning	Vehicle Mix	Junction South	HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.

Junction Network

Junctions

Junction	Name	Junction Type	Arm order	Junction Delay (s)	Junction LOS
North	North Dumbbell	Standard Roundabout	A1,B1,C1,D1	8.08	A
South	South Dumbbell	Standard Roundabout	A2,B2,C2,D2	71.66	F

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D_23	WNP 2033 PM	17-18	Q3	ONE HOUR	16:45	18:15	15	✓

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

Linked Arm Data

Junction	Arm	Feeding Junction	Feeding Arm	Link Type	Flow source	Uniform flow (PCU/hr)	Flow multiplier (%)	Internal storage space (PCU)
North	**C1**	South	A2	Simple (vertical queueing)	Normal	0	100.00	
South	**A2**	North	C1	Simple (vertical queueing)	Normal	0	100.00	

Demand overview (Traffic)

Junction	Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
North	**A1**		ONE HOUR	✓	549	100.000
	B1					
	C1	✓				
	D1		ONE HOUR	✓	286	100.000

South	A2	✓				
	B2		ONE HOUR	✓	517	100.000
	C2		ONE HOUR	✓	1050	100.000
	D2					

Origin-Destination Data

Demand (PCU/hr)

Junction North

		To			
		A1	B1	C1	D1
From	A1	0	189	360	0
	B1	Exit-only	Exit-only	Exit-only	Exit-only
	C1	372	776	0	0
	D1	253	0	33	0

Demand (PCU/hr)

Junction South

		To			
		A2	B2	C2	D2
From	A2	2	0	206	185
	B2	246	0	271	0
	C2	900	0	0	150
	D2	Exit-only	Exit-only	Exit-only	Exit-only

Vehicle Mix

Heavy Vehicle Percentages

Junction North

		To			
		A1	B1	C1	D1
From	A1	0	0	0	0
	B1	Exit-only	Exit-only	Exit-only	Exit-only
	C1	0	0	0	0
	D1	0	0	0	0

Heavy Vehicle Percentages

Junction South

		To			
		A2	B2	C2	D2
From	A2	0	0	0	0
	B2	0	0	0	0
	C2	0	0	0	0
	D2	Exit-only	Exit-only	Exit-only	Exit-only

Results

Results Summary for whole modelled period

Junction	Arm	Max RFC	Max delay (s)	Max Queue (PCU)	Max LOS	Average Demand	Total Junction Arrivals (PCU)

						(PCU/hr)	
North	A1	0.72	14.94	2.4	B	504	756
	B1						
	C1	0.61	4.75	1.6	A	1052	1578
	D1	0.42	8.29	0.7	A	262	394
South	A2	0.21	2.21	0.3	A	360	540
	B2	0.56	8.06	1.3	A	474	712
	C2	1.06	128.95	44.7	F	963	1445
	D2						

Main Results for each time segment

16:45 - 17:00

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	413	103	602	986	0.419	410	466	0.0	0.7	6.226	A
	B1			294				718				
	C1	856	214	0	1960	0.437	853	294	0.0	0.8	3.243	A
	D1	215	54	853	958	0.225	214	0	0.0	0.3	4.834	A
South	A2	294	73	0	2057	0.143	293	856	0.0	0.2	2.041	A
	B2	389	97	293	1094	0.356	387	0	0.0	0.5	5.080	A
	C2	790	198	324	1181	0.669	783	357	0.0	2.0	8.861	A
	D2			856				250				

17:00 - 17:15

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	494	123	721	918	0.538	492	558	0.7	1.1	8.418	A
	B1			352				860				
	C1	1024	256	0	1960	0.522	1022	352	0.8	1.1	3.835	A
	D1	257	64	1022	857	0.300	257	0	0.3	0.4	5.994	A
South	A2	352	88	0	2057	0.171	352	1024	0.2	0.2	2.111	A
	B2	465	116	352	1061	0.438	464	0	0.5	0.8	6.022	A
	C2	944	236	388	1144	0.825	935	428	2.0	4.3	16.491	C
	D2			1024				299				

17:15 - 17:30

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	604	151	836	851	0.710	600	661	1.1	2.3	14.040	B
	B1			429				1007				
	C1	1185	296	0	1960	0.605	1184	429	1.1	1.5	4.627	A
	D1	315	79	1184	760	0.414	314	0	0.4	0.7	8.048	A
South	A2	429	107	0	2057	0.209	429	1185	0.2	0.3	2.211	A
	B2	569	142	429	1018	0.559	567	0	0.8	1.2	7.960	A
	C2	1156	289	474	1094	1.057	1066	522	4.3	26.9	65.506	F
	D2			1185				354				

17:30 - 17:45

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	604	151	849	844	0.716	604	668	2.3	2.4	14.938	B
	B1			432				1021				
	C1	1203	301	0	1960	0.614	1203	432	1.5	1.6	4.750	A
	D1	315	79	1203	749	0.421	315	0	0.7	0.7	8.295	A
South	A2	432	108	0	2057	0.210	432	1203	0.3	0.3	2.215	A
	B2	569	142	432	1016	0.560	569	0	1.2	1.3	8.056	A
	C2	1156	289	477	1093	1.058	1085	525	26.9	44.7	128.953	F
	D2			1203				359				

17:45 - 18:00

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	494	123	817	862	0.572	498	606	2.4	1.4	9.987	A
	B1			356				959				
	C1	1165	291	0	1960	0.594	1165	356	1.6	1.5	4.531	A
	D1	257	64	1165	771	0.333	258	0	0.7	0.5	7.028	A
South	A2	356	89	0	2057	0.173	356	1165	0.3	0.2	2.118	A
	B2	465	116	356	1058	0.439	467	0	1.3	0.8	6.105	A
	C2	944	236	392	1142	0.827	1098	431	44.7	6.3	83.169	F
	D2			1165				325				

18:00 - 18:15

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	413	103	621	975	0.424	416	477	1.4	0.7	6.466	A
	B1			298				739				
	C1	879	220	0	1960	0.448	882	298	1.5	0.8	3.345	A
	D1	215	54	882	941	0.229	216	0	0.5	0.3	4.973	A
South	A2	298	74	0	2057	0.145	298	879	0.2	0.2	2.047	A
	B2	389	97	298	1091	0.357	390	0	0.8	0.6	5.144	A
	C2	790	198	327	1179	0.670	807	361	6.3	2.1	10.079	B
	D2			879				255				

(Default Analysis Set) - WNP 2033 Weekend , 12-13

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Linked Roundabout	Junction North - Arm C1	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 South - Arm A2	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	Vehicle Mix	Junction North	HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.
Warning	Vehicle Mix	Junction South	HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.

Junction Network

Junctions

Junction	Name	Junction Type	Arm order	Junction Delay (s)	Junction LOS
North	North Dumbbell	Standard Roundabout	A1,B1,C1,D1	4.77	A
South	South Dumbbell	Standard Roundabout	A2,B2,C2,D2	4.69	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D_24	WNP 2033 Weekend	12-13	Q3	ONE HOUR	11:45	13:15	15	✓

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

Linked Arm Data

Junction	Arm	Feeding Junction	Feeding Arm	Link Type	Flow source	Uniform flow (PCU/hr)	Flow multiplier (%)	Internal storage space (PCU)
North	**C1**	South	A2	Simple (vertical queueing)	Normal	0	100.00	
South	**A2**	North	C1	Simple (vertical queueing)	Normal	0	100.00	

Demand overview (Traffic)

Junction	Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
North	**A1**		ONE HOUR	✓	657	100.000
	B1					
	C1	✓				
	D1		ONE HOUR	✓	352	100.000
South	**A2**	✓				
	B2		ONE HOUR	✓	434	100.000
	C2		ONE HOUR	✓	309	100.000
	D2					

Origin-Destination Data

Demand (PCU/hr)

Junction North

		To			
		A1	**B1**	**C1**	**D1**
From	**A1**	0	240	417	0
	B1	Exit-only	Exit-only	Exit-only	Exit-only
	C1	413	72	0	0
	D1	347	0	5	0

Demand (PCU/hr)

Junction South

		To			
		A2	B2	C2	D2
From	A2	3	0	209	210
	B2	239	0	195	0
	C2	243	0	0	66
	D2	Exit-only	Exit-only	Exit-only	Exit-only

Vehicle Mix

Heavy Vehicle Percentages

Junction North

		To			
		A1	B1	C1	D1
From	A1	0	0	0	0
	B1	Exit-only	Exit-only	Exit-only	Exit-only
	C1	0	0	0	0
	D1	0	0	0	0

Heavy Vehicle Percentages

Junction South

		To			
		A2	B2	C2	D2
From	A2	0	0	0	0
	B2	0	0	0	0
	C2	0	0	0	0
	D2	Exit-only	Exit-only	Exit-only	Exit-only

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)
North	A1	0.56	6.44	1.3	A	603	904
	B1						
	C1	0.27	2.52	0.4	A	445	667
	D1	0.34	4.73	0.5	A	323	485
South	A2	0.23	2.26	0.3	A	387	580
	B2	0.48	6.92	0.9	A	398	597
	C2	0.31	4.86	0.5	A	284	425
	D2						

Main Results for each time segment

11:45 - 12:00

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	495	124	58	1298	0.381	492	569	0.0	0.6	4.455	A
	B1			316				234				
	C1	363	91	0	1960	0.185	362	316	0.0	0.2	2.252	A
	D1	265	66	362	1252	0.212	264	0	0.0	0.3	3.640	A
South	A2	316	79	0	2057	0.154	315	363	0.0	0.2	2.065	A
	B2	327	82	315	1081	0.302	325	0	0.0	0.4	4.750	A
	C2	233	58	338	1173	0.198	232	302	0.0	0.2	3.821	A
	D2			363				206				

12:00 - 12:15

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	591	148	69	1291	0.457	590	682	0.6	0.8	5.126	A
	B1			379				280				
	C1	435	109	0	1960	0.222	435	379	0.2	0.3	2.360	A
	D1	316	79	435	1209	0.262	316	0	0.3	0.4	4.034	A
South	A2	379	95	0	2057	0.184	379	435	0.2	0.2	2.144	A
	B2	390	98	379	1046	0.373	390	0	0.4	0.6	5.478	A
	C2	278	69	406	1134	0.245	277	363	0.2	0.3	4.203	A
	D2			435				248				

12:15 - 12:30

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	723	181	85	1282	0.564	722	835	0.8	1.3	6.399	A
	B1			464				343				
	C1	533	133	0	1960	0.272	533	464	0.3	0.4	2.521	A
	D1	388	97	533	1150	0.337	387	0	0.4	0.5	4.712	A
South	A2	464	116	0	2057	0.225	463	533	0.2	0.3	2.258	A
	B2	478	119	463	999	0.478	477	0	0.6	0.9	6.878	A
	C2	340	85	496	1081	0.315	340	444	0.3	0.5	4.852	A
	D2			533				303				

12:30 - 12:45

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	723	181	85	1282	0.564	723	837	1.3	1.3	6.441	A
	B1			465				343				
	C1	534	133	0	1960	0.272	534	465	0.4	0.4	2.523	A
	D1	388	97	534	1149	0.337	388	0	0.5	0.5	4.725	A
South	A2	465	116	0	2057	0.226	465	534	0.3	0.3	2.260	A
	B2	478	119	465	998	0.479	478	0	0.9	0.9	6.921	A
	C2	340	85	498	1080	0.315	340	445	0.5	0.5	4.862	A
	D2			534				304				

12:45 - 13:00

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	591	148	69	1291	0.458	592	685	1.3	0.9	5.165	A

	B1			380				281				
	C1	437	109	0	1960	0.223	437	380	0.4	0.3	2.366	A
	D1	316	79	437	1207	0.262	317	0	0.5	0.4	4.046	A
South	**A2**	380	95	0	2057	0.185	381	437	0.3	0.2	2.149	A
	B2	390	98	381	1045	0.373	391	0	0.9	0.6	5.519	A
	C2	278	69	408	1133	0.245	278	364	0.5	0.3	4.215	A
	D2			437				249				

13:00 - 13:15

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	**A1**	495	124	58	1297	0.381	496	573	0.9	0.6	4.495	A
	B1			318				235				
	C1	366	91	0	1960	0.187	366	318	0.3	0.2	2.260	A
	D1	265	66	366	1250	0.212	265	0	0.4	0.3	3.659	A
South	**A2**	318	80	0	2057	0.155	318	366	0.2	0.2	2.072	A
	B2	327	82	318	1080	0.303	327	0	0.6	0.4	4.792	A
	C2	233	58	341	1171	0.199	233	305	0.3	0.2	3.836	A
	D2			366				208				

A55 Junction 6

Junctions 9 – ARCADY

- Baseline 2016
- Reference Case 2020, 2023 and 2033
- With Development Without By-Pass 2020
- With Development With By-Pass 2020
- With Development 2023 and 2033

Junctions 9

ARCADY 9 - Roundabout Module

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»BASE 2016 AM, 08-09
»BASE 2016 PM, 16-17
»BASE 2016 Weekend, 12-13
»REF 2020 AM, 08-09
»REF 2020 PM, 16-17
»REF 2020 Weekend, 12-13
»REF 2023 AM, 08-09
»REF 2023 PM, 16-17
»REF 2023 Weekend, 12-13
»REF 2033 AM, 08-09
»REF 2033 PM, 17-18
»REF 2033 Weekend, 12-13
»WNP 2020 AM WBP, 08-09
»WNP 2020 PM WBP, 16-17
»WNP 2020 Weekend WBP, 12-13
»WNP 2020 AM BP, 08-09
»WNP 2020 PM BP, 16-17
»WNP 2020 Weekend BP, 12-13
»WNP 2023 AM, 08-09
»WNP 2023 PM, 16-17
»WNP 2023 Weekend , 12-13
»WNP 2033 AM, 08-09
»WNP 2033 PM, 16-17
»WNP 2033 Weekend , 12-13

Summary of junction performance

	08-09				16-17				12-13				17-18			
	Queue (PCU)	Delay (s)	RFC	LOS	Queue (PCU)	Delay (s)	RFC	LOS	Queue (PCU)	Delay (s)	RFC	LOS	Queue (PCU)	Delay (s)	RFC	LOS
	BASE 2016 AM															
Junction North - Arm A1	0.4	2.43	0.26	A												
Junction North - Arm	1.0	4.31	0.49	A												

C1																
Junction North - Arm D1	0.3	3.44	0.24	A												
Junction North - Arm E1	0.6	4.38	0.38	A												
Junction South - Arm A2	0.4	4.31	0.30	A												
Junction South - Arm B2	0.4	2.40	0.28	A												
Junction South - Arm C2	0.4	4.59	0.27	A												
Junction South - Arm D2	0.0	0.00	0.00	A												
	BASE 2016 PM															
Junction North - Arm A1					0.6	2.73	0.38	A								
Junction North - Arm C1					1.0	4.52	0.50	A								
Junction North - Arm D1					0.2	3.26	0.17	A								
Junction North - Arm E1					0.2	2.98	0.18	A								
Junction South - Arm A2					0.6	4.77	0.37	A								
Junction South - Arm B2					0.4	2.45	0.27	A								
Junction South - Arm C2					0.4	4.90	0.31	A								
Junction South - Arm D2					0.0	0.00	0.00	A								
	BASE 2016 Weekend															
Junction North - Arm A1									0.4	2.41	0.30	A				
Junction North - Arm C1									0.5	3.46	0.35	A				
Junction North - Arm D1									0.1	2.71	0.12	A				
Junction North - Arm E1									0.2	2.79	0.18	A				
Junction South - Arm A2									0.5	4.50	0.33	A				
Junction South - Arm B2									0.2	2.09	0.16	A				
Junction South - Arm C2									0.3	3.93	0.25	A				
Junction South - Arm D2									0.0	0.00	0.00	A				
	REF 2020 AM															
Junction North - Arm A1	0.4	2.58	0.30	A												
Junction North - Arm C1	1.1	4.58	0.52	A												
Junction North - Arm D1	0.4	3.62	0.26	A												
Junction North - Arm E1	0.7	4.75	0.41	A												
Junction South - Arm A2	0.5	4.38	0.32	A												
Junction South - Arm B2	0.4	2.48	0.30	A												
Junction South - Arm C2	0.4	4.82	0.29	A												
Junction South - Arm D2	0.0	0.00	0.00	A												

	REF 2020 PM															
Junction North - Arm A1					0.7	2.96	0.42	A								
Junction North - Arm C1					1.2	5.08	0.55	A								
Junction North - Arm D1					0.2	3.44	0.18	A								
Junction North - Arm E1					0.3	3.14	0.21	A								
Junction South - Arm A2					0.7	5.10	0.41	A								
Junction South - Arm B2					0.4	2.61	0.30	A								
Junction South - Arm C2					0.5	5.42	0.36	A								
Junction South - Arm D2					0.0	0.00	0.00	A								
	REF 2020 Weekend															
Junction North - Arm A1									0.5	2.48	0.32	A				
Junction North - Arm C1									0.6	3.57	0.37	A				
Junction North - Arm D1									0.1	2.78	0.12	A				
Junction North - Arm E1									0.2	2.87	0.19	A				
Junction South - Arm A2									0.5	4.62	0.35	A				
Junction South - Arm B2									0.2	2.13	0.17	A				
Junction South - Arm C2									0.4	4.06	0.26	A				
Junction South - Arm D2									0.0	0.00	0.00	A				
	REF 2023 AM															
Junction North - Arm A1	0.5	2.63	0.31	A												
Junction North - Arm C1	1.1	4.74	0.54	A												
Junction North - Arm D1	0.4	3.73	0.28	A												
Junction North - Arm E1	0.7	4.96	0.43	A												
Junction South - Arm A2	0.5	4.45	0.33	A												
Junction South - Arm B2	0.4	2.52	0.31	A												
Junction South - Arm C2	0.4	4.97	0.30	A												
Junction South - Arm D2	0.0	0.00	0.00	A												
	REF 2023 PM															
Junction North - Arm A1					0.8	3.03	0.44	A								
Junction North - Arm C1					1.3	5.26	0.57	A								
Junction North - Arm D1					0.2	3.51	0.19	A								
Junction North - Arm E1					0.3	3.20	0.22	A								
Junction South - Arm A2					0.7	5.20	0.42	A								
Junction South - Arm					0.5	2.66	0.31	A								

B2																
Junction South - Arm C2					0.6	5.60	0.37	A								
Junction South - Arm D2					0.0	0.00	0.00	A								
	REF 2023 Weekend															
Junction North - Arm A1									0.5	2.52	0.33	A				
Junction North - Arm C1									0.6	3.63	0.38	A				
Junction North - Arm D1									0.1	2.81	0.13	A				
Junction North - Arm E1									0.2	2.91	0.20	A				
Junction South - Arm A2									0.6	4.67	0.36	A				
Junction South - Arm B2									0.2	2.14	0.17	A				
Junction South - Arm C2									0.4	4.13	0.27	A				
Junction South - Arm D2									0.0	0.00	0.00	A				
	REF 2033 AM															
Junction North - Arm A1	0.7	3.11	0.41	A												
Junction North - Arm C1	1.4	5.30	0.58	A												
Junction North - Arm D1	0.5	4.22	0.33	A												
Junction North - Arm E1	0.9	5.88	0.49	A												
Junction South - Arm A2	0.9	5.59	0.46	A												
Junction South - Arm B2	0.5	2.88	0.35	A												
Junction South - Arm C2	0.7	6.46	0.40	A												
Junction South - Arm D2	0.0	0.00	0.00	A												
	REF 2033 PM															
Junction North - Arm A1													0.9	3.32	0.48	A
Junction North - Arm C1													1.3	5.13	0.56	A
Junction North - Arm D1													0.6	4.61	0.39	A
Junction North - Arm E1													0.4	3.73	0.27	A
Junction South - Arm A2													1.0	6.08	0.51	A
Junction South - Arm B2													0.5	2.85	0.33	A
Junction South - Arm C2													0.6	6.18	0.39	A
Junction South - Arm D2													0.0	0.00	0.00	A
	REF 2033 Weekend															
Junction North - Arm A1									0.5	2.64	0.35	A				
Junction North - Arm C1									0.7	3.84	0.41	A				
Junction North - Arm									0.2	2.92	0.14	A				

D1																
Junction North - Arm E1									0.3	3.04	0.22	A				
Junction South - Arm A2									0.6	4.86	0.38	A				
Junction South - Arm B2									0.2	2.21	0.19	A				
Junction South - Arm C2									0.4	4.37	0.30	A				
Junction South - Arm D2									0.0	0.00	0.00	A				
	WNP 2020 AM WBP															
Junction North - Arm A1	0.4	2.58	0.30	A												
Junction North - Arm C1	1.1	4.58	0.52	A												
Junction North - Arm D1	0.4	3.62	0.26	A												
Junction North - Arm E1	0.7	4.75	0.41	A												
Junction South - Arm A2	0.5	4.38	0.32	A												
Junction South - Arm B2	0.4	2.48	0.30	A												
Junction South - Arm C2	0.4	4.82	0.29	A												
Junction South - Arm D2	0.0	0.00	0.00	A												
	WNP 2020 PM WBP															
Junction North - Arm A1					0.7	2.99	0.43	A								
Junction North - Arm C1					1.2	5.08	0.55	A								
Junction North - Arm D1					0.2	3.45	0.18	A								
Junction North - Arm E1					0.3	3.15	0.21	A								
Junction South - Arm A2					0.7	5.18	0.42	A								
Junction South - Arm B2					0.4	2.63	0.30	A								
Junction South - Arm C2					0.6	5.50	0.36	A								
Junction South - Arm D2					0.0	0.00	0.00	A								
	WNP 2020 Weekend WBP															
Junction North - Arm A1									0.5	2.48	0.32	A				
Junction North - Arm C1									0.6	3.57	0.37	A				
Junction North - Arm D1									0.1	2.78	0.12	A				
Junction North - Arm E1									0.2	2.87	0.19	A				
Junction South - Arm A2									0.5	4.62	0.35	A				
Junction South - Arm B2									0.2	2.13	0.17	A				
Junction South - Arm C2									0.4	4.06	0.26	A				
Junction South - Arm D2									0.0	0.00	0.00	A				
	WNP 2020 AM BP															

Junction North - Arm A1	0.4	2.58	0.30	A												
Junction North - Arm C1	1.1	4.58	0.52	A												
Junction North - Arm D1	0.4	3.62	0.26	A												
Junction North - Arm E1	0.7	4.75	0.41	A												
Junction South - Arm A2	0.5	4.38	0.32	A												
Junction South - Arm B2	0.4	2.48	0.30	A												
Junction South - Arm C2	0.4	4.82	0.29	A												
Junction South - Arm D2	0.0	0.00	0.00	A												
	WNP 2020 PM BP															
Junction North - Arm A1					0.7	2.99	0.43	A								
Junction North - Arm C1					1.2	5.08	0.55	A								
Junction North - Arm D1					0.2	3.45	0.18	A								
Junction North - Arm E1					0.3	3.15	0.21	A								
Junction South - Arm A2					0.7	5.18	0.42	A								
Junction South - Arm B2					0.4	2.63	0.30	A								
Junction South - Arm C2					0.6	5.50	0.36	A								
Junction South - Arm D2					0.0	0.00	0.00	A								
	WNP 2020 Weekend BP															
Junction North - Arm A1									0.5	2.48	0.32	A				
Junction North - Arm C1									0.6	3.57	0.37	A				
Junction North - Arm D1									0.1	2.78	0.12	A				
Junction North - Arm E1									0.2	2.87	0.19	A				
Junction South - Arm A2									0.5	4.62	0.35	A				
Junction South - Arm B2									0.2	2.13	0.17	A				
Junction South - Arm C2									0.4	4.06	0.26	A				
Junction South - Arm D2									0.0	0.00	0.00	A				
	WNP 2023 AM															
Junction North - Arm A1	0.5	2.63	0.31	A												
Junction North - Arm C1	1.1	4.74	0.54	A												
Junction North - Arm D1	0.4	3.73	0.28	A												
Junction North - Arm E1	0.7	4.96	0.43	A												
Junction South - Arm A2	0.5	4.45	0.33	A												
Junction South - Arm B2	0.4	2.52	0.31	A												
Junction South - Arm	0.4	4.97	0.30	A												

C2																
Junction South - Arm D2	0.0	0.00	0.00	A												
	WNP 2023 PM															
Junction North - Arm A1					0.8	3.09	0.44	A								
Junction North - Arm C1					1.3	5.26	0.57	A								
Junction North - Arm D1					0.2	3.57	0.20	A								
Junction North - Arm E1					0.3	3.23	0.22	A								
Junction South - Arm A2					0.8	5.37	0.44	A								
Junction South - Arm B2					0.5	2.69	0.32	A								
Junction South - Arm C2					0.6	5.76	0.38	A								
Junction South - Arm D2					0.0	0.00	0.00	A								
	WNP 2023 Weekend															
Junction North - Arm A1									0.5	2.52	0.33	A				
Junction North - Arm C1									0.6	3.63	0.38	A				
Junction North - Arm D1									0.1	2.81	0.13	A				
Junction North - Arm E1									0.2	2.91	0.20	A				
Junction South - Arm A2									0.6	4.67	0.36	A				
Junction South - Arm B2									0.2	2.14	0.17	A				
Junction South - Arm C2									0.4	4.13	0.27	A				
Junction South - Arm D2									0.0	0.00	0.00	A				
	WNP 2033 AM															
Junction North - Arm A1	0.7	3.11	0.41	A												
Junction North - Arm C1	1.4	5.30	0.58	A												
Junction North - Arm D1	0.5	4.22	0.33	A												
Junction North - Arm E1	0.9	5.88	0.49	A												
Junction South - Arm A2	0.9	5.59	0.46	A												
Junction South - Arm B2	0.5	2.88	0.35	A												
Junction South - Arm C2	0.7	6.46	0.40	A												
Junction South - Arm D2	0.0	0.00	0.00	A												
	WNP 2033 PM															
Junction North - Arm A1					0.9	3.23	0.47	A								
Junction North - Arm C1					1.6	5.94	0.62	A								
Junction North - Arm D1					0.4	4.32	0.31	A								
Junction North - Arm E1					0.3	3.41	0.20	A								

Junction South - Arm A2					0.8	5.26	0.43	A								
Junction South - Arm B2					0.5	2.78	0.34	A								
Junction South - Arm C2					0.7	6.24	0.42	A								
Junction South - Arm D2					0.0	0.00	0.00	A								
	WNP 2033 Weekend															
Junction North - Arm A1									0.5	2.64	0.35	A				
Junction North - Arm C1									0.7	3.84	0.41	A				
Junction North - Arm D1									0.2	2.92	0.14	A				
Junction North - Arm E1									0.3	3.04	0.22	A				
Junction South - Arm A2									0.6	4.86	0.38	A				
Junction South - Arm B2									0.2	2.21	0.19	A				
Junction South - Arm C2									0.4	4.37	0.30	A				
Junction South - Arm D2									0.0	0.00	0.00	A				

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

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

File summary

File Description

Title	A55 Junction 6 Assessment
Location	A55 Jct 6
Site number	M - 20
Date	30/05/2017
Version	R0l
Status	Existing
Identifier	OW
Client	Horizon
Jobnumber	60PO8077
Enumerator	JEGINTL\LopezM3
Description	Revised assessment of A55 Jct 6 (now includes all reference case flows) and all WNP scenarios WBP = without bypass BP = bypass

Units

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

Analysis Options

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

Demand Set Summary

ID	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D_01	BASE 2016 AM	08-09	Q3	ONE HOUR	07:45	09:15	15	✓
D_02	BASE 2016 PM	16-17	Q3	ONE HOUR	15:45	17:15	15	✓
D_03	BASE 2016 Weekend	12-13	Q3	ONE HOUR	11:45	13:15	15	✓
D_04	REF 2020 AM	08-09	Q3	ONE HOUR	07:45	09:15	15	✓
D_05	REF 2020 PM	16-17	Q3	ONE HOUR	15:45	17:15	15	✓
D_06	REF 2020 Weekend	12-13	Q3	ONE HOUR	11:45	13:15	15	✓
D_07	REF 2023 AM	08-09	Q3	ONE HOUR	07:45	09:15	15	✓
D_08	REF 2023 PM	16-17	Q3	ONE HOUR	15:45	17:15	15	✓
D_09	REF 2023 Weekend	12-13	Q3	ONE HOUR	11:45	13:15	15	✓
D_10	REF 2033 AM	08-09	Q3	ONE HOUR	07:45	09:15	15	✓
D_11	REF 2033 PM	17-18	Q3	ONE HOUR	16:45	18:15	15	✓
D_12	REF 2033 Weekend	12-13	Q3	ONE HOUR	11:45	13:15	15	✓
D_13	WNP 2020 AM WBP	08-09	Q3	ONE HOUR	07:45	09:15	15	✓
D_14	WNP 2020 PM WBP	16-17	Q3	ONE HOUR	15:45	17:15	15	✓
D_15	WNP 2020 Weekend WBP	12-13	Q3	ONE HOUR	11:45	13:15	15	✓
D_16	WNP 2020 AM BP	08-09	Q3	ONE HOUR	07:45	09:15	15	✓
D_17	WNP 2020 PM BP	16-17	Q3	ONE HOUR	15:45	17:15	15	✓
D_18	WNP 2020 Weekend BP	12-13	Q3	ONE HOUR	11:45	13:15	15	✓
D_19	WNP 2023 AM	08-09	Q3	ONE HOUR	07:45	09:15	15	✓
D_20	WNP 2023 PM	16-17	Q3	ONE HOUR	15:45	17:15	15	✓
D_21	WNP 2023 Weekend	12-13	Q3	ONE HOUR	11:45	13:15	15	✓
D_22	WNP 2033 AM	08-09	Q3	ONE HOUR	07:45	09:15	15	✓
D_23	WNP 2033 PM	16-17	Q3	ONE HOUR	15:45	17:15	15	✓
D_24	WNP 2033 Weekend	12-13	Q3	ONE HOUR	11:45	13:15	15	✓

Analysis Set Details

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

BASE 2016 AM, 08-09

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	Junction North - Arm A1 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	Junction South - Arm B2 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Linked Roundabout	Junction North - Arm C1	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 South - Arm A2	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	Vehicle Mix	Junction North	HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.
Warning	Vehicle Mix	Junction South	HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.

Junction Network

Junctions

Junction	Name	Junction Type	Arm order	Junction Delay (s)	Junction LOS
North	Junction 4 = M-5	Standard Roundabout	A1,B1,C1,D1,E1	3.73	A
South	Junction 4= M-5	Standard Roundabout	A2,B2,C2,D2,E2	3.48	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Arms

Arms

Junction	Arm	Name	Description
North	**A1**	A5114 Unnamed Road	
	B1	A55 Onslip	
	C1	Overbridge	
	D1	A55 Offslip	
	E1	A5 Holyhead Road SB	
South	**A2**	Overbridge	
	B2	A55 Offslip	
	C2	A5 Holyhead Road NB	
	D2	Unnamed Road	
	E2	A55 Onslip	

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
North	**A1**	4.90	7.90	61.4	24.7	50.0	27.0	
	B1							✓
	C1	4.80	6.40	3.0	20.9	50.0	26.0	
	D1	5.00	7.00	11.4	24.8	50.0	28.0	
	E1	5.20	8.90	5.7	25.4	50.0	35.0	

South	A2	3.00	6.40	4.1	24.0	50.0	30.0	
	B2	5.30	8.10	81.2	25.7	50.0	37.0	
	C2	4.30	5.40	1.9	18.3	50.0	15.0	
	D2	4.50	5.20	2.8	18.5	50.0	24.0	
	E2							✓

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Junction	Arm	Final slope	Final intercept (PCU/hr)
North	A1	0.731	2316
	B1		
	C1	0.605	1660
	D1	0.658	1934
	E1	0.649	1926
South	A2	0.516	1201
	B2	0.725	2338
	C2	0.582	1487
	D2	0.577	1506
	E2		

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

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D_01	BASE 2016 AM	08-09	Q3	ONE HOUR	07:45	09:15	15	✓

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

Linked Arm Data

Junction	Arm	Feeding Junction	Feeding Arm	Link Type	Flow source	Uniform flow (PCU/hr)	Flow multiplier (%)	Internal storage space (PCU)
North	C1	South	A2	Simple (vertical queueing)	Normal	0	100.00	
South	A2	North	C1	Simple (vertical queueing)	Normal	0	100.00	

Demand overview (Traffic)

Junction	Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
North	A1		ONE HOUR	✓	484	100.000
	B1					
	C1	✓				
	D1		ONE HOUR	✓	305	100.000
	E1		ONE HOUR	✓	452	100.000
South	A2	✓				
	B2		ONE HOUR	✓	523	100.000
	C2		ONE HOUR	✓	262	100.000
	D2		ONE HOUR	✓	0	100.000
	E2					

Origin-Destination Data

Demand (PCU/hr)

Junction North

		To				
		A1	B1	C1	D1	E1
From	A1	0	226	223	0	35
	B1	Exit-only	Exit-only	Exit-only	Exit-only	Exit-only
	C1	545	12	0	0	171
	D1	251	0	41	0	13
	E1	131	254	67	0	0

Demand (PCU/hr)

Junction South

		To				
		A2	B2	C2	D2	E2
From	A2	0	0	205	0	126
	B2	522	0	1	0	0
	C2	206	0	1	0	55
	D2	0	0	0	0	0
	E2	Exit-only	Exit-only	Exit-only	Exit-only	Exit-only

Vehicle Mix

Heavy Vehicle Percentages

Junction North

		To				
		A1	B1	C1	D1	E1
From	A1	0	0	0	0	0
	B1	Exit-only	Exit-only	Exit-only	Exit-only	Exit-only
	C1	0	0	0	0	0
	D1	0	0	0	0	0
	E1	0	0	0	0	0

Heavy Vehicle Percentages

Junction South

		To				
		A2	B2	C2	D2	E2
From	A2	0	0	0	0	0
	B2	0	0	0	0	0
	C2	0	0	0	0	0
	D2	0	0	0	0	0
	E2	Exit-only	Exit-only	Exit-only	Exit-only	Exit-only

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)
North	A1	0.26	2.43	0.4	A	444	666

	B1						
	C1	0.49	4.31	1.0	A	668	1002
	D1	0.24	3.44	0.3	A	280	420
	E1	0.38	4.38	0.6	A	415	622
South	**A2**	0.30	4.31	0.4	A	304	455
	B2	0.28	2.40	0.4	A	480	720
	C2	0.27	4.59	0.4	A	240	361
	D2	0.00	0.00	0.0	A	0	0
	E2						

Main Results for each time segment

07:45 - 08:00

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	**A1**	364	91	281	2111	0.173	364	694	0.0	0.2	2.059	A
	B1			275				369				
	C1	547	137	26	1644	0.333	545	249	0.0	0.5	3.270	A
	D1	230	57	571	1559	0.147	229	0	0.0	0.2	2.705	A
	E1	340	85	636	1514	0.225	339	164	0.0	0.3	3.062	A
South	**A2**	249	62	0.75	1200	0.207	248	547	0.0	0.3	3.775	A
	B2	394	98	248	2158	0.182	393	0	0.0	0.2	2.038	A
	C2	197	49	486	1204	0.164	196	155	0.0	0.2	3.571	A
	D2	0	0	683	1113	0.000	0	0	0.0	0.0	0.000	A
	E2			547				135				

08:00 - 08:15

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	**A1**	435	109	336	2070	0.210	435	832	0.2	0.3	2.201	A
	B1			329				442				
	C1	654	164	31	1641	0.399	653	297	0.5	0.7	3.645	A
	D1	274	69	685	1484	0.185	274	0	0.2	0.2	2.975	A
	E1	406	102	762	1431	0.284	406	197	0.3	0.4	3.508	A
South	**A2**	297	74	0.90	1200	0.248	297	654	0.3	0.3	3.985	A
	B2	470	118	298	2122	0.222	470	0	0.2	0.3	2.179	A
	C2	236	59	582	1148	0.205	235	186	0.2	0.3	3.941	A
	D2	0	0	817	1035	0.000	0	0	0.0	0.0	0.000	A
	E2			655				162				

08:15 - 08:30

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	**A1**	533	133	411	2015	0.264	533	1019	0.3	0.4	2.428	A
	B1			403				541				
	C1	801	200	39	1636	0.489	800	364	0.7	0.9	4.296	A
	D1	336	84	838	1383	0.243	335	0	0.2	0.3	3.436	A
	E1	498	124	933	1321	0.377	497	241	0.4	0.6	4.365	A

South	A2	364	91	1	1200	0.303	364	801	0.3	0.4	4.302	A
	B2	576	144	365	2073	0.278	575	0	0.3	0.4	2.403	A
	C2	288	72	713	1072	0.269	288	227	0.3	0.4	4.588	A
	D2	0	0	1001	929	0.000	0	0	0.0	0.0	0.000	A
	E2			802				199				

08:30 - 08:45

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	533	133	412	2015	0.265	533	1021	0.4	0.4	2.429	A
	B1			403				542				
	C1	802	200	39	1636	0.490	802	364	0.9	1.0	4.312	A
	D1	336	84	840	1382	0.243	336	0	0.3	0.3	3.440	A
	E1	498	124	935	1319	0.377	498	241	0.6	0.6	4.380	A
South	A2	364	91	1	1200	0.304	364	802	0.4	0.4	4.307	A
	B2	576	144	366	2073	0.278	576	0	0.4	0.4	2.404	A
	C2	288	72	713	1072	0.269	288	228	0.4	0.4	4.593	A
	D2	0	0	1002	928	0.000	0	0	0.0	0.0	0.000	A
	E2			803				199				

08:45 - 09:00

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	435	109	337	2069	0.210	435	835	0.4	0.3	2.203	A
	B1			329				443				
	C1	655	164	31	1641	0.399	656	298	1.0	0.7	3.661	A
	D1	274	69	688	1482	0.185	275	0	0.3	0.2	2.984	A
	E1	406	102	765	1430	0.284	407	197	0.6	0.4	3.525	A
South	A2	298	74	0.90	1200	0.248	298	655	0.4	0.3	3.994	A
	B2	470	118	299	2121	0.222	471	0	0.4	0.3	2.183	A
	C2	236	59	583	1148	0.205	236	187	0.4	0.3	3.949	A
	D2	0	0	819	1034	0.000	0	0	0.0	0.0	0.000	A
	E2			656				163				

09:00 - 09:15

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	364	91	282	2110	0.173	365	699	0.3	0.2	2.063	A
	B1			276				371				
	C1	549	137	26	1644	0.334	549	249	0.7	0.5	3.293	A
	D1	230	57	576	1556	0.148	230	0	0.2	0.2	2.716	A
	E1	340	85	640	1511	0.225	341	165	0.4	0.3	3.079	A
South	A2	249	62	0.75	1200	0.208	250	549	0.3	0.3	3.790	A
	B2	394	98	250	2156	0.183	394	0	0.3	0.2	2.042	A
	C2	197	49	488	1203	0.164	197	156	0.3	0.2	3.582	A
	D2	0	0	686	1111	0.000	0	0	0.0	0.0	0.000	A
	E2			549				136				

BASE 2016 PM, 16-17

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	Junction North - Arm A1 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	Junction South - Arm B2 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Linked Roundabout	Junction North - Arm C1	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 South - Arm A2	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	Vehicle Mix	Junction North	HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.
Warning	Vehicle Mix	Junction South	HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.

Junction Network

Junctions

Junction	Name	Junction Type	Arm order	Junction Delay (s)	Junction LOS
North	Junction 4 = M-5	Standard Roundabout	A1,B1,C1,D1,E1	3.49	A
South	Junction 4= M-5	Standard Roundabout	A2,B2,C2,D2,E2	3.84	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D_02	BASE 2016 PM	16-17	Q3	ONE HOUR	15:45	17:15	15	✓

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

Linked Arm Data

Junction	Arm	Feeding Junction	Feeding Arm	Link Type	Flow source	Uniform flow (PCU/hr)	Flow multiplier (%)	Internal storage space (PCU)
North	**C1**	South	A2	Simple (vertical queueing)	Normal	0	100.00	
South	**A2**	North	C1	Simple (vertical queueing)	Normal	0	100.00	

Demand overview (Traffic)

Junction	Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
North	**A1**		ONE HOUR	✓	743	100.000
	B1					
	C1	✓				

	D1		ONE HOUR	✓	210	100.000
	E1		ONE HOUR	✓	246	100.000
South	A2	✓				
	B2		ONE HOUR	✓	498	100.000
	C2		ONE HOUR	✓	301	100.000
	D2		ONE HOUR	✓	0	100.000
	E2					

Origin-Destination Data

Demand (PCU/hr)

Junction North

		To				
		A1	B1	C1	D1	E1
From	A1	1	335	303	0	104
	B1	Exit-only	Exit-only	Exit-only	Exit-only	Exit-only
	C1	435	0	0	0	286
	D1	142	0	49	0	19
	E1	71	122	53	0	0

Demand (PCU/hr)

Junction South

		To				
		A2	B2	C2	D2	E2
From	A2	0	0	240	0	165
	B2	493	0	5	0	0
	C2	228	0	0	0	73
	D2	0	0	0	0	0
	E2	Exit-only	Exit-only	Exit-only	Exit-only	Exit-only

Vehicle Mix

Heavy Vehicle Percentages

Junction North

		To				
		A1	B1	C1	D1	E1
From	A1	0	0	0	0	0
	B1	Exit-only	Exit-only	Exit-only	Exit-only	Exit-only
	C1	0	0	0	0	0
	D1	0	0	0	0	0
	E1	0	0	0	0	0

Heavy Vehicle Percentages

Junction South

		To				
		A2	B2	C2	D2	E2
From	A2	0	0	0	0	0
	B2	0	0	0	0	0
	C2	0	0	0	0	0
	D2	0	0	0	0	0
	E2	Exit-only	Exit-only	Exit-only	Exit-only	Exit-only

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)
North	A1	0.38	2.73	0.6	A	682	1023
	B1						
	C1	0.50	4.52	1.0	A	661	992
	D1	0.17	3.26	0.2	A	193	289
	E1	0.18	2.98	0.2	A	226	339
South	A2	0.37	4.77	0.6	A	372	557
	B2	0.27	2.45	0.4	A	457	685
	C2	0.31	4.90	0.4	A	276	414
	D2	0.00	0.00	0.0	A	0	0
	E2						

Main Results for each time segment

15:45 - 16:00

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	559	140	168	2193	0.255	558	486	0.0	0.3	2.200	A
	B1			383				343				
	C1	541	135	79	1612	0.336	539	304	0.0	0.5	3.351	A
	D1	158	40	618	1528	0.103	158	0	0.0	0.1	2.627	A
	E1	185	46	469	1622	0.114	185	306	0.0	0.1	2.505	A
South	A2	304	76	0	1201	0.253	303	541	0.0	0.3	4.004	A
	B2	375	94	303	2118	0.177	374	0	0.0	0.2	2.062	A
	C2	227	57	494	1200	0.189	226	183	0.0	0.2	3.691	A
	D2	0	0	719	1091	0.000	0	0	0.0	0.0	0.000	A
	E2			541				178				

16:00 - 16:15

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	668	167	201	2169	0.308	668	583	0.3	0.4	2.398	A

	B1			458				411				
	C1	648	162	94	1603	0.404	647	364	0.5	0.7	3.766	A
	D1	189	47	741	1447	0.130	189	0	0.1	0.1	2.860	A
	E1	221	55	563	1561	0.142	221	367	0.1	0.2	2.686	A
South	A2	364	91	0	1201	0.303	363	648	0.3	0.4	4.298	A
	B2	448	112	363	2074	0.216	447	0	0.2	0.3	2.212	A
	C2	271	68	591	1143	0.237	270	220	0.2	0.3	4.123	A
	D2	0	0	861	1010	0.000	0	0	0.0	0.0	0.000	A
	E2			648				214				

16:15 - 16:30

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	818	205	246	2136	0.383	817	713	0.4	0.6	2.729	A
	B1			561				503				
	C1	793	198	116	1590	0.499	792	446	0.7	1.0	4.504	A
	D1	231	58	907	1338	0.173	231	0	0.1	0.2	3.252	A
	E1	271	68	689	1479	0.183	271	449	0.2	0.2	2.978	A
South	A2	446	111	0	1201	0.371	445	793	0.4	0.6	4.759	A
	B2	548	137	445	2015	0.272	548	0	0.3	0.4	2.453	A
	C2	331	83	724	1066	0.311	331	269	0.3	0.4	4.893	A
	D2	0	0	1055	898	0.000	0	0	0.0	0.0	0.000	A
	E2			793				261				

16:30 - 16:45

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	818	205	247	2135	0.383	818	715	0.6	0.6	2.732	A
	B1			562				503				
	C1	794	198	116	1590	0.499	794	446	1.0	1.0	4.523	A
	D1	231	58	909	1336	0.173	231	0	0.2	0.2	3.256	A
	E1	271	68	690	1478	0.183	271	450	0.2	0.2	2.981	A
South	A2	446	111	0	1201	0.371	446	794	0.6	0.6	4.769	A
	B2	548	137	446	2015	0.272	548	0	0.4	0.4	2.454	A
	C2	331	83	724	1066	0.311	331	270	0.4	0.4	4.902	A
	D2	0	0	1056	897	0.000	0	0	0.0	0.0	0.000	A
	E2			794				262				

16:45 - 17:00

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	668	167	202	2168	0.308	669	585	0.6	0.4	2.403	A
	B1			459				411				
	C1	649	162	94	1602	0.405	650	364	1.0	0.7	3.784	A
	D1	189	47	745	1445	0.131	189	0	0.2	0.2	2.869	A
	E1	221	55	565	1559	0.142	221	369	0.2	0.2	2.690	A
South	A2	364	91	0	1201	0.304	365	649	0.6	0.4	4.312	A
	B2	448	112	365	2073	0.216	448	0	0.4	0.3	2.217	A
	C2	271	68	592	1143	0.237	271	221	0.4	0.3	4.133	A
	D2	0	0	863	1008	0.000	0	0	0.0	0.0	0.000	A
	E2			649				214				

17:00 - 17:15

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	559	140	169	2192	0.255	560	489	0.4	0.3	2.205	A
	B1			384				344				
	C1	543	136	79	1612	0.337	544	305	0.7	0.5	3.375	A
	D1	158	40	623	1525	0.104	158	0	0.2	0.1	2.634	A
	E1	185	46	473	1619	0.114	185	308	0.2	0.1	2.512	A
South	A2	305	76	0	1201	0.254	306	543	0.4	0.3	4.024	A
	B2	375	94	306	2116	0.177	375	0	0.3	0.2	2.067	A
	C2	227	57	496	1199	0.189	227	185	0.3	0.2	3.704	A
	D2	0	0	723	1089	0.000	0	0	0.0	0.0	0.000	A
	E2			543				180				

BASE 2016 Weekend, 12-13

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	Junction North - Arm A1 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	Junction South - Arm B2 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Linked Roundabout	Junction North - Arm C1	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 South - Arm A2	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	Vehicle Mix	Junction North	HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.
Warning	Vehicle Mix	Junction South	HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.

Junction Network

Junctions

Junction	Name	Junction Type	Arm order	Junction Delay (s)	Junction LOS
North	Junction 4 = M-5	Standard Roundabout	A1,B1,C1,D1,E1	2.86	A
South	Junction 4= M-5	Standard Roundabout	A2,B2,C2,D2,E2	3.57	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically

		name						
D_03	BASE 2016 Weekend	12-13	Q3	ONE HOUR	11:45	13:15	15	✓

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

Linked Arm Data

Junction	Arm	Feeding Junction	Feeding Arm	Link Type	Flow source	Uniform flow (PCU/hr)	Flow multiplier (%)	Internal storage space (PCU)
North	C1	South	A2	Simple (vertical queueing)	Normal	0	100.00	
South	A2	North	C1	Simple (vertical queueing)	Normal	0	100.00	

Demand overview (Traffic)

Junction	Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
North	A1		ONE HOUR	✓	587	100.000
	B1					
	C1	✓				
	D1		ONE HOUR	✓	159	100.000
	E1		ONE HOUR	✓	259	100.000
South	A2	✓				
	B2		ONE HOUR	✓	293	100.000
	C2		ONE HOUR	✓	276	100.000
	D2		ONE HOUR	✓	0	100.000
	E2					

Origin-Destination Data

Junction North

Demand (PCU/hr)

		To				
		A1	B1	C1	D1	E1
From	A1	1	239	269	0	78
	B1	Exit-only	Exit-only	Exit-only	Exit-only	Exit-only
	C1	337	1	0	0	176
	D1	112	0	40	0	7
	E1	78	125	55	0	1

Junction South

Demand (PCU/hr)

		To				
		A2	B2	C2	D2	E2
From	A2	0	0	232	0	132
	B2	284	0	9	0	0
	C2	231	0	0	0	45
	D2	0	0	0	0	0
	E2	Exit-only	Exit-only	Exit-only	Exit-only	Exit-only

Vehicle Mix

Junction North

Heavy Vehicle Percentages

		To				
		A1	B1	C1	D1	E1
From	A1	0	0	0	0	0
	B1	Exit-only	Exit-only	Exit-only	Exit-only	Exit-only
	C1	0	0	0	0	0
	D1	0	0	0	0	0
	E1	0	0	0	0	0

Junction South

Heavy Vehicle Percentages

		To				
		A2	B2	C2	D2	E2
From	A2	0	0	0	0	0
	B2	0	0	0	0	0
	C2	0	0	0	0	0
	D2	0	0	0	0	0
	E2	Exit-only	Exit-only	Exit-only	Exit-only	Exit-only

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)
North	A1	0.30	2.41	0.4	A	539	808
	B1						
	C1	0.35	3.46	0.5	A	472	709
	D1	0.12	2.71	0.1	A	146	219
	E1	0.18	2.79	0.2	A	238	356
South	A2	0.33	4.50	0.5	A	334	501
	B2	0.16	2.09	0.2	A	269	403
	C2	0.25	3.93	0.3	A	253	380
	D2	0.00	0.00	0.0	A	0	0
	E2						

Main Results for each time segment

11:45 - 12:00

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	442	110	167	2194	0.201	441	396	0.0	0.3	2.053	A
	B1			333				274				
	C1	387	97	60	1623	0.238	385	273	0.0	0.3	2.906	A
	D1	120	30	445	1641	0.073	119	0	0.0	0.1	2.365	A
	E1	195	49	368	1687	0.116	194	197	0.0	0.1	2.412	A

South	A2	273	68	0	1201	0.228	272	387	0.0	0.3	3.872	A
	B2	221	55	272	2141	0.103	220	0	0.0	0.1	1.873	A
	C2	208	52	312	1306	0.159	207	180	0.0	0.2	3.275	A
	D2	0	0	519	1207	0.000	0	0	0.0	0.0	0.000	A
	E2			387				132				

12:00 - 12:15

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	528	132	199	2170	0.243	527	475	0.3	0.3	2.191	A
	B1			399				328				
	C1	463	116	72	1616	0.286	462	327	0.3	0.4	3.120	A
	D1	143	36	534	1583	0.090	143	0	0.1	0.1	2.499	A
	E1	233	58	441	1640	0.142	233	236	0.1	0.2	2.558	A
South	A2	327	82	0	1201	0.272	327	463	0.3	0.4	4.118	A
	B2	263	66	327	2101	0.125	263	0	0.1	0.1	1.958	A
	C2	248	62	374	1270	0.195	248	216	0.2	0.2	3.522	A
	D2	0	0	622	1148	0.000	0	0	0.0	0.0	0.000	A
	E2			463				159				

12:15 - 12:30

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	646	162	244	2137	0.302	646	581	0.3	0.4	2.414	A
	B1			489				402				
	C1	567	142	88	1606	0.353	566	400	0.4	0.5	3.458	A
	D1	175	44	654	1504	0.116	175	0	0.1	0.1	2.707	A
	E1	285	71	541	1575	0.181	285	288	0.2	0.2	2.789	A
South	A2	400	100	0	1201	0.334	400	567	0.4	0.5	4.493	A
	B2	323	81	400	2048	0.158	322	0	0.1	0.2	2.086	A
	C2	304	76	458	1221	0.249	304	265	0.2	0.3	3.924	A
	D2	0	0	761	1067	0.000	0	0	0.0	0.0	0.000	A
	E2			567				195				

12:30 - 12:45

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	646	162	244	2137	0.302	646	582	0.4	0.4	2.414	A
	B1			489				402				
	C1	567	142	88	1606	0.353	567	401	0.5	0.5	3.463	A
	D1	175	44	655	1504	0.116	175	0	0.1	0.1	2.709	A
	E1	285	71	541	1575	0.181	285	289	0.2	0.2	2.790	A
South	A2	401	100	0	1201	0.334	401	567	0.5	0.5	4.500	A
	B2	323	81	401	2047	0.158	323	0	0.2	0.2	2.086	A
	C2	304	76	458	1221	0.249	304	265	0.3	0.3	3.926	A
	D2	0	0	762	1067	0.000	0	0	0.0	0.0	0.000	A
	E2			567				195				

12:45 - 13:00

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	528	132	200	2170	0.243	528	476	0.4	0.3	2.193	A

	B1			399				328				
	C1	463	116	72	1616	0.287	464	328	0.5	0.4	3.125	A
	D1	143	36	536	1582	0.090	143	0	0.1	0.1	2.501	A
	E1	233	58	443	1639	0.142	233	236	0.2	0.2	2.560	A
South	A2	328	82	0	1201	0.273	328	463	0.5	0.4	4.127	A
	B2	263	66	328	2100	0.125	264	0	0.2	0.1	1.960	A
	C2	248	62	374	1269	0.195	248	217	0.3	0.2	3.526	A
	D2	0	0	623	1147	0.000	0	0	0.0	0.0	0.000	A
	E2			463				159				

13:00 - 13:15

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	442	110	167	2193	0.201	442	399	0.3	0.3	2.055	A
	B1			334				275				
	C1	388	97	60	1623	0.239	388	274	0.4	0.3	2.918	A
	D1	120	30	449	1639	0.073	120	0	0.1	0.1	2.370	A
	E1	195	49	371	1686	0.116	195	198	0.2	0.1	2.416	A
South	A2	274	69	0	1201	0.228	275	388	0.4	0.3	3.888	A
	B2	221	55	275	2139	0.103	221	0	0.1	0.1	1.878	A
	C2	208	52	313	1305	0.159	208	182	0.2	0.2	3.282	A
	D2	0	0	521	1206	0.000	0	0	0.0	0.0	0.000	A
	E2			388				133				

REF 2020 AM, 08-09

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	Junction North - Arm A1 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	Junction South - Arm B2 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Linked Roundabout	Junction North - Arm C1	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 South - Arm A2	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	Vehicle Mix	Junction North	HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.
Warning	Vehicle Mix	Junction South	HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.

Junction Network

Junctions

Junction	Name	Junction Type	Arm order	Junction Delay (s)	Junction LOS
North	Junction 4 = M-5	Standard Roundabout	A1,B1,C1,D1,E1	3.96	A
South	Junction 4= M-5	Standard Roundabout	A2,B2,C2,D2,E2	3.59	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D_04	REF 2020 AM	08-09	Q3	ONE HOUR	07:45	09:15	15	✓

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

Linked Arm Data

Junction	Arm	Feeding Junction	Feeding Arm	Link Type	Flow source	Uniform flow (PCU/hr)	Flow multiplier (%)	Internal storage space (PCU)
North	C1	South	A2	Simple (vertical queueing)	Normal	0	100.00	
South	A2	North	C1	Simple (vertical queueing)	Normal	0	100.00	

Demand overview (Traffic)

Junction	Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
North	A1		ONE HOUR	✓	548	100.000
	B1					
	C1	✓				
	D1		ONE HOUR	✓	323	100.000
	E1		ONE HOUR	✓	477	100.000
South	A2	✓				
	B2		ONE HOUR	✓	554	100.000
	C2		ONE HOUR	✓	277	100.000
	D2		ONE HOUR	✓	0	100.000
	E2					

Origin-Destination Data

Demand (PCU/hr)

Junction North

		To				
		A1	B1	C1	D1	E1
From	A1	1	281	229	0	37
	B1	Exit-only	Exit-only	Exit-only	Exit-only	Exit-only
	C1	576	13	0	0	182
	D1	265	0	44	0	14
	E1	138	268	71	0	0

Demand (PCU/hr)

Junction South

		To				
		A2	B2	C2	D2	E2
From	A2	0	0	217	0	127
	B2	553	0	1	0	0
	C2	218	0	1	0	58
	D2	0	0	0	0	0
	E2	Exit-only	Exit-only	Exit-only	Exit-only	Exit-only

Vehicle Mix

Heavy Vehicle Percentages

Junction North

		To				
		A1	B1	C1	D1	E1
From	A1	0	0	0	0	0
	B1	Exit-only	Exit-only	Exit-only	Exit-only	Exit-only
	C1	0	0	0	0	0
	D1	0	0	0	0	0
	E1	0	0	0	0	0

Heavy Vehicle Percentages

Junction South

		To				
		A2	B2	C2	D2	E2
From	A2	0	0	0	0	0
	B2	0	0	0	0	0
	C2	0	0	0	0	0
	D2	0	0	0	0	0
	E2	Exit-only	Exit-only	Exit-only	Exit-only	Exit-only

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)
North	A1	0.30	2.58	0.4	A	503	754
	B1						
	C1	0.52	4.58	1.1	A	707	1061
	D1	0.26	3.62	0.4	A	296	445
	E1	0.41	4.75	0.7	A	438	657
South	A2	0.32	4.38	0.5	A	316	473
	B2	0.30	2.48	0.4	A	508	763
	C2	0.29	4.82	0.4	A	254	381
	D2	0.00	0.00	0.0	A	0	0
	E2						

Main Results for each time segment

07:45 - 08:00

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	413	103	297	2098	0.197	412	734	0.0	0.2	2.133	A
	B1			287				422				
	C1	579	145	29	1642	0.352	577	258	0.0	0.5	3.370	A
	D1	243	61	605	1536	0.158	242	0	0.0	0.2	2.781	A
	E1	359	90	673	1489	0.241	358	174	0.0	0.3	3.179	A
South	A2	258	65	0.75	1200	0.215	257	579	0.0	0.3	3.814	A
	B2	417	104	258	2151	0.194	416	0	0.0	0.2	2.074	A
	C2	209	52	510	1190	0.175	208	164	0.0	0.2	3.660	A
	D2	0	0	718	1092	0.000	0	0	0.0	0.0	0.000	A
	E2			580				138				

08:00 - 08:15

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	493	123	356	2056	0.240	492	880	0.2	0.3	2.302	A
	B1			343				505				
	C1	693	173	34	1639	0.423	692	309	0.5	0.7	3.797	A
	D1	290	73	726	1457	0.199	290	0	0.2	0.2	3.085	A
	E1	429	107	807	1402	0.306	428	209	0.3	0.4	3.694	A
South	A2	309	77	0.90	1200	0.257	309	693	0.3	0.3	4.037	A
	B2	498	125	310	2113	0.236	498	0	0.2	0.3	2.228	A
	C2	249	62	611	1132	0.220	249	197	0.2	0.3	4.076	A
	D2	0	0	860	1011	0.000	0	0	0.0	0.0	0.000	A
	E2			694				166				

08:15 - 08:30

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	603	151	435	1998	0.302	603	1077	0.3	0.4	2.581	A
	B1			420				618				
	C1	848	212	42	1634	0.519	847	378	0.7	1.1	4.563	A
	D1	356	89	888	1350	0.263	355	0	0.2	0.4	3.616	A
	E1	525	131	988	1285	0.409	524	256	0.4	0.7	4.726	A
South	A2	378	95	1	1200	0.315	378	848	0.3	0.5	4.377	A
	B2	610	152	379	2063	0.296	610	0	0.3	0.4	2.476	A
	C2	305	76	748	1052	0.290	304	241	0.3	0.4	4.813	A
	D2	0	0	1052	899	0.000	0	0	0.0	0.0	0.000	A
	E2			849				203				

08:30 - 08:45

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	603	151	436	1997	0.302	603	1079	0.4	0.4	2.582	A
	B1			421				619				

	C1	849	212	42	1634	0.519	849	379	1.1	1.1	4.583	A
	D1	356	89	891	1349	0.264	356	0	0.4	0.4	3.624	A
	E1	525	131	990	1284	0.409	525	257	0.7	0.7	4.745	A
South	A2	379	95	1	1200	0.316	379	849	0.5	0.5	4.382	A
	B2	610	152	380	2063	0.296	610	0	0.4	0.4	2.477	A
	C2	305	76	749	1052	0.290	305	241	0.4	0.4	4.821	A
	D2	0	0	1054	899	0.000	0	0	0.0	0.0	0.000	A
	E2			850				204				

08:45 - 09:00

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	493	123	357	2055	0.240	493	883	0.4	0.3	2.307	A
	B1			344				506				
	C1	694	173	34	1639	0.423	695	310	1.1	0.7	3.819	A
	D1	290	73	729	1455	0.200	291	0	0.4	0.3	3.093	A
	E1	429	107	810	1400	0.306	430	210	0.7	0.4	3.715	A
South	A2	310	77	0.90	1200	0.258	310	694	0.5	0.3	4.047	A
	B2	498	125	311	2113	0.236	498	0	0.4	0.3	2.230	A
	C2	249	62	612	1131	0.220	250	197	0.4	0.3	4.085	A
	D2	0	0	862	1009	0.000	0	0	0.0	0.0	0.000	A
	E2			695				167				

09:00 - 09:15

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	413	103	299	2097	0.197	413	739	0.3	0.2	2.138	A
	B1			288				424				
	C1	581	145	29	1642	0.354	582	259	0.7	0.6	3.398	A
	D1	243	61	610	1533	0.159	243	0	0.3	0.2	2.793	A
	E1	359	90	678	1486	0.242	360	176	0.4	0.3	3.196	A
South	A2	259	65	0.75	1200	0.216	259	581	0.3	0.3	3.826	A
	B2	417	104	260	2149	0.194	417	0	0.3	0.2	2.080	A
	C2	209	52	512	1189	0.175	209	165	0.3	0.2	3.675	A
	D2	0	0	721	1090	0.000	0	0	0.0	0.0	0.000	A
	E2			582				140				

REF 2020 PM, 16-17

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	Junction North - Arm A1 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	Junction South - Arm B2 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Linked Roundabout	Junction North - Arm C1	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	Junction South -	If the distance between linked junctions is small, results should be treated with caution. The

	Roundabout	Arm A2	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	Vehicle Mix	Junction North	HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.
Warning	Vehicle Mix	Junction South	HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.

Junction Network

Junctions

Junction	Name	Junction Type	Arm order	Junction Delay (s)	Junction LOS
North	Junction 4 = M-5	Standard Roundabout	A1,B1,C1,D1,E1	3.83	A
South	Junction 4= M-5	Standard Roundabout	A2,B2,C2,D2,E2	4.16	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D_05	REF 2020 PM	16-17	Q3	ONE HOUR	15:45	17:15	15	✓

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

Linked Arm Data

Junction	Arm	Feeding Junction	Feeding Arm	Link Type	Flow source	Uniform flow (PCU/hr)	Flow multiplier (%)	Internal storage space (PCU)
North	**C1**	South	A2	Simple (vertical queueing)	Normal	0	100.00	
South	**A2**	North	C1	Simple (vertical queueing)	Normal	0	100.00	

Demand overview (Traffic)

Junction	Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
North	**A1**		ONE HOUR	✓	811	100.000
	B1					
	C1	✓				
	D1		ONE HOUR	✓	208	100.000
	E1		ONE HOUR	✓	279	100.000
South	**A2**	✓				
	B2		ONE HOUR	✓	545	100.000
	C2		ONE HOUR	✓	332	100.000
	D2		ONE HOUR	✓	0	100.000
	E2					

Origin-Destination Data

Junction North

Demand (PCU/hr)

		To				
		A1	B1	C1	D1	E1
From	A1	1	365	330	0	115
	B1	Exit-only	Exit-only	Exit-only	Exit-only	Exit-only
	C1	476	0	0	0	317
	D1	131	0	55	0	22
	E1	76	139	64	0	0

Junction South

Demand (PCU/hr)

		To				
		A2	B2	C2	D2	E2
From	A2	0	0	275	0	175
	B2	540	0	5	0	0
	C2	253	0	1	0	78
	D2	0	0	0	0	0
	E2	Exit-only	Exit-only	Exit-only	Exit-only	Exit-only

Vehicle Mix

Junction North

Heavy Vehicle Percentages

		To				
		A1	B1	C1	D1	E1
From	A1	0	0	0	0	0
	B1	Exit-only	Exit-only	Exit-only	Exit-only	Exit-only
	C1	0	0	0	0	0
	D1	0	0	0	0	0
	E1	0	0	0	0	0

Junction South

Heavy Vehicle Percentages

		To				
		A2	B2	C2	D2	E2
From	A2	0	0	0	0	0
	B2	0	0	0	0	0
	C2	0	0	0	0	0
	D2	0	0	0	0	0
	E2	Exit-only	Exit-only	Exit-only	Exit-only	Exit-only

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)
North	A1	0.42	2.96	0.7	A	744	1116
	B1						
	C1	0.55	5.08	1.2	A	727	1091

	D1	0.18	3.44	0.2	A	191	286
	E1	0.21	3.14	0.3	A	256	384
South	A2	0.41	5.10	0.7	A	412	618
	B2	0.30	2.61	0.4	A	500	750
	C2	0.36	5.42	0.5	A	305	457
	D2	0.00	0.00	0.0	A	0	0
	E2						

Main Results for each time segment

15:45 - 16:00

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	611	153	194	2174	0.281	609	512	0.0	0.4	2.298	A
	B1			424				378				
	C1	595	149	87	1607	0.370	593	337	0.0	0.6	3.543	A
	D1	157	39	680	1487	0.105	156	0	0.0	0.1	2.705	A
	E1	210	53	496	1604	0.131	209	340	0.0	0.2	2.579	A
South	A2	337	84	0.75	1200	0.281	336	595	0.0	0.4	4.155	A
	B2	410	103	336	2094	0.196	409	0	0.0	0.2	2.135	A
	C2	250	62	536	1175	0.213	249	210	0.0	0.3	3.882	A
	D2	0	0	785	1054	0.000	0	0	0.0	0.0	0.000	A
	E2			596				189				

16:00 - 16:15

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	729	182	232	2146	0.340	729	614	0.4	0.5	2.539	A
	B1			508				453				
	C1	712	178	104	1597	0.446	711	403	0.6	0.8	4.063	A
	D1	187	47	816	1398	0.134	187	0	0.1	0.2	2.972	A
	E1	251	63	595	1540	0.163	251	407	0.2	0.2	2.791	A
South	A2	403	101	0.90	1200	0.336	403	712	0.4	0.5	4.513	A
	B2	490	122	404	2045	0.240	490	0	0.2	0.3	2.314	A
	C2	298	75	642	1114	0.268	298	252	0.3	0.4	4.412	A
	D2	0	0	940	964	0.000	0	0	0.0	0.0	0.000	A
	E2			713				227				

16:15 - 16:30

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	893	223	284	2108	0.424	892	751	0.5	0.7	2.959	A
	B1			621				554				
	C1	872	218	128	1582	0.551	870	494	0.8	1.2	5.049	A
	D1	229	57	998	1278	0.179	229	0	0.2	0.2	3.430	A
	E1	307	77	728	1454	0.211	307	499	0.2	0.3	3.139	A
South	A2	494	123	1	1200	0.412	493	872	0.5	0.7	5.087	A
	B2	600	150	494	1980	0.303	600	0	0.3	0.4	2.609	A

	C2	366	91	786	1030	0.355	365	308	0.4	0.5	5.407	A
	D2	0	0	1151	843	0.000	0	0	0.0	0.0	0.000	A
	E2			873				277				

16:30 - 16:45

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	893	223	284	2108	0.424	893	753	0.7	0.7	2.962	A
	B1			622				555				
	C1	873	218	128	1582	0.552	873	494	1.2	1.2	5.075	A
	D1	229	57	1001	1276	0.179	229	0	0.2	0.2	3.436	A
	E1	307	77	730	1452	0.212	307	500	0.3	0.3	3.142	A
South	A2	494	124	1	1200	0.412	494	873	0.7	0.7	5.100	A
	B2	600	150	495	1979	0.303	600	0	0.4	0.4	2.610	A
	C2	366	91	787	1029	0.355	366	309	0.5	0.5	5.422	A
	D2	0	0	1152	842	0.000	0	0	0.0	0.0	0.000	A
	E2			874				278				

16:45 - 17:00

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	729	182	232	2146	0.340	730	617	0.7	0.5	2.545	A
	B1			509				454				
	C1	714	178	104	1596	0.447	716	404	1.2	0.8	4.094	A
	D1	187	47	820	1395	0.134	187	0	0.2	0.2	2.982	A
	E1	251	63	598	1538	0.163	251	409	0.3	0.2	2.797	A
South	A2	404	101	0.90	1200	0.337	405	714	0.7	0.5	4.532	A
	B2	490	122	406	2044	0.240	490	0	0.4	0.3	2.317	A
	C2	298	75	643	1113	0.268	299	253	0.5	0.4	4.429	A
	D2	0	0	943	963	0.000	0	0	0.0	0.0	0.000	A
	E2			715				228				

17:00 - 17:15

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	611	153	194	2174	0.281	611	516	0.5	0.4	2.306	A
	B1			426				380				
	C1	598	149	87	1607	0.372	598	338	0.8	0.6	3.572	A
	D1	157	39	686	1483	0.106	157	0	0.2	0.1	2.715	A
	E1	210	53	500	1602	0.131	210	342	0.2	0.2	2.587	A
South	A2	338	85	0.75	1200	0.282	339	598	0.5	0.4	4.180	A
	B2	410	103	340	2092	0.196	411	0	0.3	0.2	2.141	A
	C2	250	62	539	1174	0.213	250	212	0.4	0.3	3.901	A
	D2	0	0	789	1051	0.000	0	0	0.0	0.0	0.000	A
	E2			598				191				

REF 2020 Weekend, 12-13

Data Errors and Warnings

Severity	Area	Item	Description

Warning	Geometry	Junction North - Arm A1 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	Junction South - Arm B2 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Linked Roundabout	Junction North - Arm C1	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 South - Arm A2	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	Vehicle Mix	Junction North	HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.
Warning	Vehicle Mix	Junction South	HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.

Junction Network

Junctions

Junction	Name	Junction Type	Arm order	Junction Delay (s)	Junction LOS
North	Junction 4 = M-5	Standard Roundabout	A1,B1,C1,D1,E1	2.95	A
South	Junction 4= M-5	Standard Roundabout	A2,B2,C2,D2,E2	3.67	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D_06	REF 2020 Weekend	12-13	Q3	ONE HOUR	11:45	13:15	15	✓

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

Linked Arm Data

Junction	Arm	Feeding Junction	Feeding Arm	Link Type	Flow source	Uniform flow (PCU/hr)	Flow multiplier (%)	Internal storage space (PCU)
North	**C1**	South	A2	Simple (vertical queueing)	Normal	0	100.00	
South	**A2**	North	C1	Simple (vertical queueing)	Normal	0	100.00	

Demand overview (Traffic)

Junction	Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
North	**A1**		ONE HOUR	✓	616	100.000
	B1					
	C1	✓				
	D1		ONE HOUR	✓	168	100.000

	E1		ONE HOUR	✓	274	100.000
South	A2	✓				
	B2		ONE HOUR	✓	308	100.000
	C2		ONE HOUR	✓	290	100.000
	D2		ONE HOUR	✓	0	100.000
	E2					

Origin-Destination Data

Junction North

Demand (PCU/hr)

		To				
		A1	B1	C1	D1	E1
From	A1	1	251	282	0	82
	B1	Exit-only	Exit-only	Exit-only	Exit-only	Exit-only
	C1	355	1	0	0	186
	D1	118	0	43	0	7
	E1	83	132	58	0	1

Junction South

Demand (PCU/hr)

		To				
		A2	B2	C2	D2	E2
From	A2	0	0	243	0	139
	B2	299	0	9	0	0
	C2	243	0	0	0	47
	D2	0	0	0	0	0
	E2	Exit-only	Exit-only	Exit-only	Exit-only	Exit-only

Vehicle Mix

Junction North

Heavy Vehicle Percentages

		To				
		A1	B1	C1	D1	E1
From	A1	0	0	0	0	0
	B1	Exit-only	Exit-only	Exit-only	Exit-only	Exit-only
	C1	0	0	0	0	0
	D1	0	0	0	0	0
	E1	0	0	0	0	0

Junction South

Heavy Vehicle Percentages

		To				
		A2	B2	C2	D2	E2
From	A2	0	0	0	0	0
	B2	0	0	0	0	0
	C2	0	0	0	0	0
	D2	0	0	0	0	0
	E2	Exit-only	Exit-only	Exit-only	Exit-only	Exit-only

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)
North	A1	0.32	2.48	0.5	A	565	848
	B1						
	C1	0.37	3.57	0.6	A	497	746
	D1	0.12	2.78	0.1	A	154	231
	E1	0.19	2.87	0.2	A	251	377
South	A2	0.35	4.62	0.5	A	351	527
	B2	0.17	2.13	0.2	A	283	424
	C2	0.26	4.06	0.4	A	266	399
	D2	0.00	0.00	0.0	A	0	0
	E2						

Main Results for each time segment

11:45 - 12:00

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	464	116	176	2187	0.212	463	417	0.0	0.3	2.087	A
	B1			351				288				
	C1	407	102	63	1621	0.251	406	288	0.0	0.3	2.958	A
	D1	126	32	469	1626	0.078	126	0	0.0	0.1	2.400	A
	E1	206	52	388	1674	0.123	206	207	0.0	0.1	2.451	A
South	A2	288	72	0	1201	0.240	286	407	0.0	0.3	3.933	A
	B2	232	58	286	2130	0.109	231	0	0.0	0.1	1.895	A
	C2	218	55	329	1296	0.168	218	189	0.0	0.2	3.337	A
	D2	0	0	546	1191	0.000	0	0	0.0	0.0	0.000	A
	E2			407				139				

12:00 - 12:15

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	554	138	211	2161	0.256	553	500	0.3	0.3	2.239	A
	B1			420				345				
	C1	487	122	75	1614	0.302	487	344	0.3	0.4	3.193	A
	D1	151	38	562	1565	0.097	151	0	0.1	0.1	2.545	A
	E1	246	62	465	1624	0.152	246	248	0.1	0.2	2.611	A
South	A2	344	86	0	1201	0.287	344	487	0.3	0.4	4.199	A
	B2	277	69	344	2089	0.133	277	0	0.1	0.2	1.986	A
	C2	261	65	394	1258	0.207	260	227	0.2	0.3	3.608	A
	D2	0	0	654	1129	0.000	0	0	0.0	0.0	0.000	A
	E2			487				167				

12:15 - 12:30

Junction	Arm	Total	Junction	Circulating	Capacity	RFC	Throughput	Throughput	Start	End	Delay	LOS

		Demand (PCU/hr)	Arrivals (PCU)	flow (PCU/hr)	(PCU/hr)		(PCU/hr)	(exit side) (PCU/hr)	queue (PCU)	queue (PCU)	(s)	
North	A1	678	170	259	2127	0.319	678	612	0.3	0.5	2.484	A
	B1			514				422				
	C1	596	149	92	1604	0.372	596	421	0.4	0.6	3.569	A
	D1	185	46	688	1482	0.125	185	0	0.1	0.1	2.775	A
	E1	302	75	569	1557	0.194	301	303	0.2	0.2	2.868	A
South	A2	421	105	0	1201	0.351	421	596	0.4	0.5	4.613	A
	B2	339	85	421	2033	0.167	339	0	0.2	0.2	2.125	A
	C2	319	80	482	1207	0.265	319	278	0.3	0.4	4.053	A
	D2	0	0	801	1044	0.000	0	0	0.0	0.0	0.000	A
	E2			596				205				

12:30 - 12:45

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	678	170	259	2126	0.319	678	613	0.5	0.5	2.485	A
	B1			514				423				
	C1	597	149	92	1604	0.372	597	422	0.6	0.6	3.574	A
	D1	185	46	689	1481	0.125	185	0	0.1	0.1	2.776	A
	E1	302	75	570	1556	0.194	302	304	0.2	0.2	2.869	A
South	A2	422	105	0	1201	0.351	422	597	0.5	0.5	4.621	A
	B2	339	85	422	2032	0.167	339	0	0.2	0.2	2.125	A
	C2	319	80	483	1206	0.265	319	278	0.4	0.4	4.058	A
	D2	0	0	802	1044	0.000	0	0	0.0	0.0	0.000	A
	E2			597				205				

12:45 - 13:00

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	554	138	211	2161	0.256	554	502	0.5	0.3	2.240	A
	B1			420				346				
	C1	488	122	76	1614	0.302	488	345	0.6	0.4	3.199	A
	D1	151	38	564	1563	0.097	151	0	0.1	0.1	2.550	A
	E1	246	62	467	1623	0.152	247	249	0.2	0.2	2.616	A
South	A2	345	86	0	1201	0.287	345	488	0.5	0.4	4.210	A
	B2	277	69	345	2088	0.133	277	0	0.2	0.2	1.989	A
	C2	261	65	395	1258	0.207	261	228	0.4	0.3	3.615	A
	D2	0	0	656	1128	0.000	0	0	0.0	0.0	0.000	A
	E2			488				168				

13:00 - 13:15

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	464	116	177	2186	0.212	464	420	0.3	0.3	2.092	A
	B1			352				289				
	C1	408	102	63	1621	0.252	409	289	0.4	0.3	2.971	A
	D1	126	32	472	1624	0.078	127	0	0.1	0.1	2.403	A
	E1	206	52	391	1673	0.123	206	208	0.2	0.1	2.454	A
South	A2	289	72	0	1201	0.240	289	408	0.4	0.3	3.949	A
	B2	232	58	289	2129	0.109	232	0	0.2	0.1	1.897	A
	C2	218	55	330	1295	0.169	219	191	0.3	0.2	3.347	A

	D2	0	0	549	1190	0.000	0	0	0.0	0.0	0.000	A
	E2			408				141				

REF 2023 AM, 08-09

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	Junction North - Arm A1 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	Junction South - Arm B2 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Linked Roundabout	Junction North - Arm C1	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 South - Arm A2	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	Vehicle Mix	Junction North	HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.
Warning	Vehicle Mix	Junction South	HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.

Junction Network

Junctions

Junction	Name	Junction Type	Arm order	Junction Delay (s)	Junction LOS
North	Junction 4 = M-5	Standard Roundabout	A1,B1,C1,D1,E1	4.09	A
South	Junction 4= M-5	Standard Roundabout	A2,B2,C2,D2,E2	3.66	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D_07	REF 2023 AM	08-09	Q3	ONE HOUR	07:45	09:15	15	✓

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

Linked Arm Data

Junction	Arm	Feeding Junction	Feeding Arm	Link Type	Flow source	Uniform flow (PCU/hr)	Flow multiplier (%)	Internal storage space (PCU)
North	**C1**	South	A2	Simple (vertical queueing)	Normal	0	100.00	
South	**A2**	North	C1	Simple (vertical	Normal	0	100.00	

				queueing)				

Demand overview (Traffic)

Junction	Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
North	A1		ONE HOUR	✓	565	100.000
	B1					
	C1	✓				
	D1		ONE HOUR	✓	333	100.000
	E1		ONE HOUR	✓	490	100.000
South	A2	✓				
	B2		ONE HOUR	✓	570	100.000
	C2		ONE HOUR	✓	286	100.000
	D2		ONE HOUR	✓	0	100.000
	E2					

Origin-Destination Data

Junction North

Demand (PCU/hr)

		To				
		A1	B1	C1	D1	E1
From	A1	1	290	236	0	38
	B1	Exit-only	Exit-only	Exit-only	Exit-only	Exit-only
	C1	592	13	0	0	189
	D1	272	0	46	0	15
	E1	142	275	73	0	0

Junction South

Demand (PCU/hr)

		To				
		A2	B2	C2	D2	E2
From	A2	0	0	225	0	130
	B2	569	0	1	0	0
	C2	225	0	1	0	60
	D2	0	0	0	0	0
	E2	Exit-only	Exit-only	Exit-only	Exit-only	Exit-only

Vehicle Mix

Junction North

Heavy Vehicle Percentages

		To				
		A1	B1	C1	D1	E1
From	A1	0	0	0	0	0
	B1	Exit-only	Exit-only	Exit-only	Exit-only	Exit-only
	C1	0	0	0	0	0
	D1	0	0	0	0	0
	E1	0	0	0	0	0

Heavy Vehicle Percentages

Junction South

		To				
		A2	B2	C2	D2	E2
From	A2	0	0	0	0	0
	B2	0	0	0	0	0
	C2	0	0	0	0	0
	D2	0	0	0	0	0
	E2	Exit-only	Exit-only	Exit-only	Exit-only	Exit-only

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)
North	A1	0.31	2.63	0.5	A	518	778
	B1						
	C1	0.54	4.74	1.1	A	728	1092
	D1	0.28	3.73	0.4	A	306	458
	E1	0.43	4.96	0.7	A	450	674
South	A2	0.33	4.45	0.5	A	326	488
	B2	0.31	2.52	0.4	A	523	785
	C2	0.30	4.97	0.4	A	262	394
	D2	0.00	0.00	0.0	A	0	0
	E2						

Main Results for each time segment

07:45 - 08:00

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	425	106	305	2092	0.203	424	754	0.0	0.3	2.157	A
	B1			296				434				
	C1	596	149	29	1642	0.363	594	267	0.0	0.6	3.427	A
	D1	251	63	623	1525	0.164	250	0	0.0	0.2	2.823	A
	E1	369	92	692	1477	0.250	368	181	0.0	0.3	3.240	A
South	A2	267	67	0.75	1200	0.222	265	596	0.0	0.3	3.846	A
	B2	429	107	266	2145	0.200	428	0	0.0	0.2	2.096	A
	C2	215	54	525	1182	0.182	214	170	0.0	0.2	3.717	A
	D2	0	0	739	1080	0.000	0	0	0.0	0.0	0.000	A
	E2			597				142				

08:00 - 08:15

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	508	127	365	2049	0.248	508	904	0.3	0.3	2.336	A

	B1			354				519				
	C1	713	178	35	1638	0.435	712	319	0.6	0.8	3.884	A
	D1	299	75	748	1443	0.207	299	0	0.2	0.3	3.147	A
	E1	440	110	829	1388	0.317	440	217	0.3	0.5	3.796	A
South	A2	319	80	0.90	1200	0.266	319	713	0.3	0.4	4.082	A
	B2	512	128	319	2106	0.243	512	0	0.2	0.3	2.258	A
	C2	257	64	628	1122	0.229	257	204	0.2	0.3	4.161	A
	D2	0	0	885	996	0.000	0	0	0.0	0.0	0.000	A
	E2			714				171				

08:15 - 08:30

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	622	156	447	1989	0.313	622	1106	0.3	0.5	2.633	A
	B1			433				635				
	C1	873	218	43	1634	0.535	872	390	0.8	1.1	4.715	A
	D1	367	92	915	1333	0.275	366	0	0.3	0.4	3.722	A
	E1	540	135	1015	1267	0.426	538	266	0.5	0.7	4.932	A
South	A2	390	98	1	1200	0.325	390	873	0.4	0.5	4.440	A
	B2	628	157	391	2054	0.305	627	0	0.3	0.4	2.522	A
	C2	315	79	769	1040	0.303	314	249	0.3	0.4	4.959	A
	D2	0	0	1083	882	0.000	0	0	0.0	0.0	0.000	A
	E2			874				209				

08:30 - 08:45

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	622	156	448	1988	0.313	622	1109	0.5	0.5	2.634	A
	B1			434				636				
	C1	874	219	43	1634	0.535	874	391	1.1	1.1	4.739	A
	D1	367	92	917	1331	0.275	367	0	0.4	0.4	3.731	A
	E1	540	135	1017	1266	0.426	539	266	0.7	0.7	4.956	A
South	A2	391	98	1	1200	0.326	391	874	0.5	0.5	4.448	A
	B2	628	157	392	2054	0.306	628	0	0.4	0.4	2.523	A
	C2	315	79	770	1039	0.303	315	250	0.4	0.4	4.968	A
	D2	0	0	1084	881	0.000	0	0	0.0	0.0	0.000	A
	E2			875				209				

08:45 - 09:00

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	508	127	367	2048	0.248	508	908	0.5	0.3	2.341	A
	B1			355				521				
	C1	715	179	35	1638	0.436	716	320	1.1	0.8	3.910	A
	D1	299	75	751	1440	0.208	300	0	0.4	0.3	3.157	A
	E1	440	110	833	1386	0.318	442	218	0.7	0.5	3.817	A
South	A2	320	80	0.90	1200	0.266	320	715	0.5	0.4	4.093	A
	B2	512	128	321	2105	0.243	513	0	0.4	0.3	2.262	A
	C2	257	64	629	1121	0.229	258	205	0.4	0.3	4.171	A
	D2	0	0	887	995	0.000	0	0	0.0	0.0	0.000	A
	E2			716				171				

09:00 - 09:15

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	425	106	307	2091	0.203	426	759	0.3	0.3	2.161	A
	B1			297				436				
	C1	598	150	29	1642	0.364	599	268	0.8	0.6	3.457	A
	D1	251	63	628	1521	0.165	251	0	0.3	0.2	2.836	A
	E1	369	92	697	1474	0.250	369	183	0.5	0.3	3.260	A
South	A2	268	67	0.75	1200	0.223	268	598	0.4	0.3	3.863	A
	B2	429	107	269	2143	0.200	429	0	0.3	0.3	2.102	A
	C2	215	54	527	1181	0.182	216	171	0.3	0.2	3.730	A
	D2	0	0	742	1078	0.000	0	0	0.0	0.0	0.000	A
	E2			599				143				

REF 2023 PM, 16-17

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	Junction North - Arm A1 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	Junction South - Arm B2 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Linked Roundabout	Junction North - Arm C1	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 South - Arm A2	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	Vehicle Mix	Junction North	HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.
Warning	Vehicle Mix	Junction South	HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.

Junction Network

Junctions

Junction	Name	Junction Type	Arm order	Junction Delay (s)	Junction LOS
North	Junction 4 = M-5	Standard Roundabout	A1,B1,C1,D1,E1	3.95	A
South	Junction 4= M-5	Standard Roundabout	A2,B2,C2,D2,E2	4.25	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically

D_08	REF 2023 PM	16-17	Q3	ONE HOUR	15:45	17:15	15	✓

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

Linked Arm Data

Junction	Arm	Feeding Junction	Feeding Arm	Link Type	Flow source	Uniform flow (PCU/hr)	Flow multiplier (%)	Internal storage space (PCU)
North	**C1**	South	A2	Simple (vertical queueing)	Normal	0	100.00	
South	**A2**	North	C1	Simple (vertical queueing)	Normal	0	100.00	

Demand overview (Traffic)

Junction	Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
North	**A1**		ONE HOUR	✓	831	100.000
	B1					
	C1	✓				
	D1		ONE HOUR	✓	213	100.000
	E1		ONE HOUR	✓	287	100.000
South	**A2**	✓				
	B2		ONE HOUR	✓	561	100.000
	C2		ONE HOUR	✓	340	100.000
	D2		ONE HOUR	✓	0	100.000
	E2					

Origin-Destination Data

Demand (PCU/hr)

Junction North

		To				
		A1	**B1**	**C1**	**D1**	**E1**
From	**A1**	1	375	338	0	117
	B1	Exit-only	Exit-only	Exit-only	Exit-only	Exit-only
	C1	489	0	0	0	325
	D1	134	0	57	0	22
	E1	78	143	66	0	0

Demand (PCU/hr)

Junction South

		To				
		A2	**B2**	**C2**	**D2**	**E2**
From	**A2**	0	0	283	0	179
	B2	555	0	6	0	0
	C2	259	0	1	0	80
	D2	0	0	0	0	0
	E2	Exit-only	Exit-only	Exit-only	Exit-only	Exit-only

Vehicle Mix

Junction North

Heavy Vehicle Percentages

		To				
		A1	B1	C1	D1	E1
From	A1	0	0	0	0	0
	B1	Exit-only	Exit-only	Exit-only	Exit-only	Exit-only
	C1	0	0	0	0	0
	D1	0	0	0	0	0
	E1	0	0	0	0	0

Junction South

Heavy Vehicle Percentages

		To				
		A2	B2	C2	D2	E2
From	A2	0	0	0	0	0
	B2	0	0	0	0	0
	C2	0	0	0	0	0
	D2	0	0	0	0	0
	E2	Exit-only	Exit-only	Exit-only	Exit-only	Exit-only

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)
North	A1	0.44	3.03	0.8	A	763	1144
	B1						
	C1	0.57	5.26	1.3	A	747	1120
	D1	0.19	3.51	0.2	A	195	293
	E1	0.22	3.20	0.3	A	263	395
South	A2	0.42	5.20	0.7	A	423	634
	B2	0.31	2.66	0.5	A	515	772
	C2	0.37	5.60	0.6	A	312	468
	D2	0.00	0.00	0.0	A	0	0
	E2						

Main Results for each time segment

15:45 - 16:00

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	626	156	200	2170	0.288	624	525	0.0	0.4	2.327	A
	B1			435				389				
	C1	611	153	89	1606	0.380	609	346	0.0	0.6	3.600	A
	D1	160	40	697	1476	0.109	160	0	0.0	0.1	2.735	A
	E1	216	54	510	1595	0.135	215	347	0.0	0.2	2.607	A

South	A2	346	87	0.75	1200	0.288	345	611	0.0	0.4	4.199	A
	B2	422	106	345	2088	0.202	421	0	0.0	0.3	2.159	A
	C2	256	64	550	1167	0.219	255	216	0.0	0.3	3.942	A
	D2	0	0	805	1042	0.000	0	0	0.0	0.0	0.000	A
	E2			612				193				

16:00 - 16:15

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	747	187	239	2141	0.349	747	630	0.4	0.5	2.582	A
	B1			520				465				
	C1	731	183	106	1595	0.458	730	414	0.6	0.8	4.156	A
	D1	191	48	836	1384	0.138	191	0	0.1	0.2	3.017	A
	E1	258	65	611	1530	0.169	258	416	0.2	0.2	2.830	A
South	A2	414	104	0.90	1200	0.345	414	731	0.4	0.5	4.573	A
	B2	504	126	415	2037	0.248	504	0	0.3	0.3	2.347	A
	C2	306	76	659	1104	0.277	305	260	0.3	0.4	4.506	A
	D2	0	0	964	950	0.000	0	0	0.0	0.0	0.000	A
	E2			732				232				

16:15 - 16:30

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	915	229	293	2102	0.435	914	771	0.5	0.8	3.027	A
	B1			637				570				
	C1	895	224	130	1581	0.566	893	507	0.8	1.3	5.221	A
	D1	235	59	1023	1262	0.186	234	0	0.2	0.2	3.504	A
	E1	316	79	748	1441	0.219	316	510	0.2	0.3	3.199	A
South	A2	507	127	1	1200	0.423	506	895	0.5	0.7	5.181	A
	B2	618	154	507	1970	0.314	617	0	0.3	0.5	2.661	A
	C2	374	94	807	1018	0.368	374	318	0.4	0.6	5.581	A
	D2	0	0	1180	826	0.000	0	0	0.0	0.0	0.000	A
	E2			896				284				

16:30 - 16:45

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	915	229	293	2102	0.435	915	773	0.8	0.8	3.033	A
	B1			637				570				
	C1	896	224	130	1581	0.567	896	508	1.3	1.3	5.256	A
	D1	235	59	1026	1260	0.186	235	0	0.2	0.2	3.511	A
	E1	316	79	750	1440	0.220	316	511	0.3	0.3	3.203	A
South	A2	508	127	1	1200	0.423	508	896	0.7	0.7	5.197	A
	B2	618	154	509	1969	0.314	618	0	0.5	0.5	2.663	A
	C2	374	94	808	1017	0.368	374	319	0.6	0.6	5.599	A
	D2	0	0	1182	825	0.000	0	0	0.0	0.0	0.000	A
	E2			897				285				

16:45 - 17:00

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	747	187	239	2141	0.349	748	633	0.8	0.5	2.588	A

	B1			521				466				
	C1	733	183	106	1595	0.459	735	415	1.3	0.9	4.190	A
	D1	191	48	841	1381	0.139	192	0	0.2	0.2	3.026	A
	E1	258	65	614	1528	0.169	258	418	0.3	0.2	2.838	A
South	A2	415	104	0.90	1200	0.346	416	733	0.7	0.5	4.593	A
	B2	504	126	417	2036	0.248	505	0	0.5	0.3	2.351	A
	C2	306	76	661	1103	0.277	306	261	0.6	0.4	4.525	A
	D2	0	0	967	949	0.000	0	0	0.0	0.0	0.000	A
	E2			734				233				

17:00 - 17:15

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	626	156	200	2169	0.288	626	530	0.5	0.4	2.335	A
	B1			436				390				
	C1	613	153	89	1606	0.382	614	347	0.9	0.6	3.633	A
	D1	160	40	703	1472	0.109	161	0	0.2	0.1	2.745	A
	E1	216	54	514	1593	0.136	216	350	0.2	0.2	2.617	A
South	A2	347	87	0.75	1200	0.289	348	613	0.5	0.4	4.227	A
	B2	422	106	349	2085	0.203	423	0	0.3	0.3	2.167	A
	C2	256	64	553	1165	0.220	256	218	0.4	0.3	3.961	A
	D2	0	0	809	1040	0.000	0	0	0.0	0.0	0.000	A
	E2			614				195				

REF 2023 Weekend, 12-13

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	Junction North - Arm A1 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	Junction South - Arm B2 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Linked Roundabout	Junction North - Arm C1	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 South - Arm A2	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	Vehicle Mix	Junction North	HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.
Warning	Vehicle Mix	Junction South	HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.

Junction Network

Junctions

Junction	Name	Junction Type	Arm order	Junction Delay (s)	Junction LOS
North	Junction 4 = M-5	Standard Roundabout	A1,B1,C1,D1,E1	3.00	A
South	Junction 4= M-5	Standard Roundabout	A2,B2,C2,D2,E2	3.72	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D_09	REF 2023 Weekend	12-13	Q3	ONE HOUR	11:45	13:15	15	✓

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

Linked Arm Data

Junction	Arm	Feeding Junction	Feeding Arm	Link Type	Flow source	Uniform flow (PCU/hr)	Flow multiplier (%)	Internal storage space (PCU)
North	C1	South	A2	Simple (vertical queueing)	Normal	0	100.00	
South	A2	North	C1	Simple (vertical queueing)	Normal	0	100.00	

Demand overview (Traffic)

Junction	Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
North	A1		ONE HOUR	✓	630	100.000
	B1					
	C1	✓				
	D1		ONE HOUR	✓	172	100.000
	E1		ONE HOUR	✓	281	100.000
South	A2	✓				
	B2		ONE HOUR	✓	315	100.000
	C2		ONE HOUR	✓	299	100.000
	D2		ONE HOUR	✓	0	100.000
	E2					

Origin-Destination Data

Demand (PCU/hr)

Junction North

		To				
		A1	B1	C1	D1	E1
From	A1	1	257	288	0	84
	B1	Exit-only	Exit-only	Exit-only	Exit-only	Exit-only
	C1	364	1	0	0	191
	D1	121	0	44	0	7
	E1	85	136	59	0	1

Demand (PCU/hr)

Junction South

		To				
		A2	B2	C2	D2	E2
From	A2	0	0	249	0	143
	B2	306	0	9	0	0
	C2	250	0	0	0	49
	D2	0	0	0	0	0
	E2	Exit-only	Exit-only	Exit-only	Exit-only	Exit-only

Vehicle Mix

Heavy Vehicle Percentages

Junction North

		To				
		A1	B1	C1	D1	E1
From	A1	0	0	0	0	0
	B1	Exit-only	Exit-only	Exit-only	Exit-only	Exit-only
	C1	0	0	0	0	0
	D1	0	0	0	0	0
	E1	0	0	0	0	0

Heavy Vehicle Percentages

Junction South

		To				
		A2	B2	C2	D2	E2
From	A2	0	0	0	0	0
	B2	0	0	0	0	0
	C2	0	0	0	0	0
	D2	0	0	0	0	0
	E2	Exit-only	Exit-only	Exit-only	Exit-only	Exit-only

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)
North	A1	0.33	2.52	0.5	A	578	867
	B1						
	C1	0.38	3.63	0.6	A	510	765
	D1	0.13	2.81	0.1	A	158	237
	E1	0.20	2.91	0.2	A	258	387
South	A2	0.36	4.67	0.6	A	359	538
	B2	0.17	2.14	0.2	A	289	434
	C2	0.27	4.13	0.4	A	274	412
	D2	0.00	0.00	0.0	A	0	0
	E2						

Main Results for each time segment

11:45 - 12:00

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	474	119	181	2183	0.217	473	428	0.0	0.3	2.104	A
	B1			358				296				
	C1	417	104	65	1621	0.258	416	294	0.0	0.3	2.986	A
	D1	129	32	481	1618	0.080	129	0	0.0	0.1	2.417	A
	E1	212	53	398	1668	0.127	211	212	0.0	0.1	2.469	A
South	A2	294	73	0	1201	0.245	292	417	0.0	0.3	3.957	A
	B2	237	59	292	2126	0.112	237	0	0.0	0.1	1.904	A
	C2	225	56	337	1291	0.174	224	192	0.0	0.2	3.368	A
	D2	0	0	561	1183	0.000	0	0	0.0	0.0	0.000	A
	E2			417				143				

12:00 - 12:15

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	566	142	217	2157	0.263	566	513	0.3	0.4	2.262	A
	B1			429				354				
	C1	500	125	77	1613	0.310	499	351	0.3	0.4	3.232	A
	D1	155	39	576	1555	0.099	155	0	0.1	0.1	2.569	A
	E1	253	63	477	1617	0.156	252	254	0.1	0.2	2.638	A
South	A2	351	88	0	1201	0.293	351	500	0.3	0.4	4.234	A
	B2	283	71	351	2084	0.136	283	0	0.1	0.2	1.999	A
	C2	269	67	403	1253	0.215	269	231	0.2	0.3	3.657	A
	D2	0	0	672	1119	0.000	0	0	0.0	0.0	0.000	A
	E2			500				172				

12:15 - 12:30

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	694	173	265	2122	0.327	693	628	0.4	0.5	2.520	A
	B1			525				433				
	C1	612	153	95	1602	0.382	611	430	0.4	0.6	3.630	A
	D1	189	47	706	1470	0.129	189	0	0.1	0.1	2.809	A
	E1	309	77	584	1547	0.200	309	311	0.2	0.2	2.907	A
South	A2	430	108	0	1201	0.358	430	612	0.4	0.6	4.666	A
	B2	347	87	430	2026	0.171	347	0	0.2	0.2	2.142	A
	C2	329	82	493	1200	0.274	329	283	0.3	0.4	4.130	A
	D2	0	0	822	1032	0.000	0	0	0.0	0.0	0.000	A
	E2			612				211				

12:30 - 12:45

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	694	173	265	2122	0.327	694	629	0.5	0.5	2.520	A
	B1			525				434				

	C1	612	153	95	1602	0.382	612	430	0.6	0.6	3.634	A
	D1	189	47	707	1470	0.129	189	0	0.1	0.1	2.811	A
	E1	309	77	585	1547	0.200	309	312	0.2	0.2	2.908	A
South	A2	430	108	0	1201	0.359	430	612	0.6	0.6	4.673	A
	B2	347	87	430	2026	0.171	347	0	0.2	0.2	2.143	A
	C2	329	82	494	1200	0.274	329	283	0.4	0.4	4.134	A
	D2	0	0	823	1032	0.000	0	0	0.0	0.0	0.000	A
	E2			612				211				

12:45 - 13:00

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	566	142	217	2157	0.263	567	514	0.5	0.4	2.265	A
	B1			429				355				
	C1	500	125	77	1613	0.310	501	352	0.6	0.5	3.239	A
	D1	155	39	578	1554	0.100	155	0	0.1	0.1	2.574	A
	E1	253	63	478	1616	0.156	253	255	0.2	0.2	2.643	A
South	A2	352	88	0	1201	0.293	352	500	0.6	0.4	4.248	A
	B2	283	71	352	2082	0.136	283	0	0.2	0.2	2.000	A
	C2	269	67	404	1252	0.215	269	232	0.4	0.3	3.665	A
	D2	0	0	673	1118	0.000	0	0	0.0	0.0	0.000	A
	E2			500				173				

13:00 - 13:15

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	474	119	182	2183	0.217	475	430	0.4	0.3	2.109	A
	B1			359				297				
	C1	419	105	65	1620	0.259	419	295	0.5	0.4	3.000	A
	D1	129	32	484	1616	0.080	130	0	0.1	0.1	2.421	A
	E1	212	53	400	1666	0.127	212	213	0.2	0.1	2.476	A
South	A2	295	74	0	1201	0.245	295	419	0.4	0.3	3.977	A
	B2	237	59	295	2124	0.112	237	0	0.2	0.1	1.907	A
	C2	225	56	338	1290	0.174	225	194	0.3	0.2	3.382	A
	D2	0	0	563	1181	0.000	0	0	0.0	0.0	0.000	A
	E2			419				145				

REF 2033 AM, 08-09

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	Junction North - Arm A1 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	Junction South - Arm B2 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Linked Roundabout	Junction North - Arm C1	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	Junction South -	If the distance between linked junctions is small, results should be treated with caution. The

	Roundabout	Arm A2	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	Vehicle Mix	Junction North	HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.
Warning	Vehicle Mix	Junction South	HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.

Junction Network

Junctions

Junction	Name	Junction Type	Arm order	Junction Delay (s)	Junction LOS
North	Junction 4 = M-5	Standard Roundabout	A1,B1,C1,D1,E1	4.62	A
South	Junction 4= M-5	Standard Roundabout	A2,B2,C2,D2,E2	4.64	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D_10	REF 2033 AM	08-09	Q3	ONE HOUR	07:45	09:15	15	✓

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

Linked Arm Data

Junction	Arm	Feeding Junction	Feeding Arm	Link Type	Flow source	Uniform flow (PCU/hr)	Flow multiplier (%)	Internal storage space (PCU)
North	**C1**	South	A2	Simple (vertical queueing)	Normal	0	100.00	
South	**A2**	North	C1	Simple (vertical queueing)	Normal	0	100.00	

Demand overview (Traffic)

Junction	Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
North	**A1**		ONE HOUR	✓	727	100.000
	B1					
	C1	✓				
	D1		ONE HOUR	✓	386	100.000
	E1		ONE HOUR	✓	528	100.000
South	**A2**	✓				
	B2		ONE HOUR	✓	621	100.000
	C2		ONE HOUR	✓	337	100.000
	D2		ONE HOUR	✓	0	100.000
	E2					

Origin-Destination Data

Junction North

Demand (PCU/hr)

		To				
		A1	B1	C1	D1	E1
From	A1	1	315	369	0	42
	B1	Exit-only	Exit-only	Exit-only	Exit-only	Exit-only
	C1	641	14	0	0	211
	D1	314	0	56	0	16
	E1	152	296	80	0	0

Junction South

Demand (PCU/hr)

		To				
		A2	B2	C2	D2	E2
From	A2	0	0	253	0	252
	B2	620	0	1	0	0
	C2	245	0	1	0	91
	D2	0	0	0	0	0
	E2	Exit-only	Exit-only	Exit-only	Exit-only	Exit-only

Vehicle Mix

Junction North

Heavy Vehicle Percentages

		To				
		A1	B1	C1	D1	E1
From	A1	0	0	0	0	0
	B1	Exit-only	Exit-only	Exit-only	Exit-only	Exit-only
	C1	0	0	0	0	0
	D1	0	0	0	0	0
	E1	0	0	0	0	0

Junction South

Heavy Vehicle Percentages

		To				
		A2	B2	C2	D2	E2
From	A2	0	0	0	0	0
	B2	0	0	0	0	0
	C2	0	0	0	0	0
	D2	0	0	0	0	0
	E2	Exit-only	Exit-only	Exit-only	Exit-only	Exit-only

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)
North	A1	0.41	3.11	0.7	A	667	1001
	B1						
	C1	0.58	5.30	1.4	A	793	1190

	D1	0.33	4.22	0.5	A	354	531
	E1	0.49	5.88	0.9	A	485	727
South	A2	0.46	5.59	0.9	A	463	695
	B2	0.35	2.88	0.5	A	570	855
	C2	0.40	6.46	0.7	A	309	464
	D2	0.00	0.00	0.0	A	0	0
	E2						

Main Results for each time segment

07:45 - 08:00

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	547	137	334	2071	0.264	546	829	0.0	0.4	2.358	A
	B1			411				469				
	C1	649	162	32	1640	0.396	647	379	0.0	0.7	3.615	A
	D1	291	73	679	1488	0.195	290	0	0.0	0.2	3.001	A
	E1	398	99	767	1428	0.278	396	201	0.0	0.4	3.484	A
South	A2	379	95	0.75	1200	0.316	377	649	0.0	0.5	4.364	A
	B2	468	117	378	2064	0.227	466	0	0.0	0.3	2.252	A
	C2	254	63	654	1107	0.229	253	191	0.0	0.3	4.208	A
	D2	0	0	906	984	0.000	0	0	0.0	0.0	0.000	A
	E2			650				256				

08:00 - 08:15

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	654	163	400	2023	0.323	653	994	0.4	0.5	2.628	A
	B1			492				561				
	C1	777	194	39	1636	0.475	776	454	0.7	0.9	4.180	A
	D1	347	87	815	1399	0.248	347	0	0.2	0.3	3.422	A
	E1	475	119	920	1329	0.357	474	241	0.4	0.6	4.207	A
South	A2	454	113	0.90	1200	0.378	453	777	0.5	0.6	4.810	A
	B2	558	140	454	2009	0.278	558	0	0.3	0.4	2.481	A
	C2	303	76	783	1032	0.294	302	229	0.3	0.4	4.934	A
	D2	0	0	1086	880	0.000	0	0	0.0	0.0	0.000	A
	E2			778				308				

08:15 - 08:30

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	800	200	490	1958	0.409	800	1216	0.5	0.7	3.107	A
	B1			603				687				
	C1	951	238	47	1631	0.583	949	555	0.9	1.4	5.264	A
	D1	425	106	996	1279	0.332	424	0	0.3	0.5	4.212	A
	E1	581	145	1126	1195	0.486	580	295	0.6	0.9	5.834	A
South	A2	555	139	1	1200	0.463	554	951	0.6	0.9	5.557	A
	B2	684	171	555	1935	0.353	683	0	0.4	0.5	2.873	A

	C2	371	93	959	929	0.399	370	280	0.4	0.7	6.426	A
	D2	0	0	1329	740	0.000	0	0	0.0	0.0	0.000	A
	E2			952				377				

08:30 - 08:45

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	800	200	491	1957	0.409	800	1219	0.7	0.7	3.112	A
	B1			603				688				
	C1	952	238	47	1631	0.584	952	556	1.4	1.4	5.304	A
	D1	425	106	1000	1277	0.333	425	0	0.5	0.5	4.225	A
	E1	581	145	1129	1193	0.487	581	296	0.9	0.9	5.880	A
South	A2	556	139	1	1200	0.463	556	952	0.9	0.9	5.588	A
	B2	684	171	557	1934	0.354	684	0	0.5	0.5	2.878	A
	C2	371	93	960	929	0.400	371	281	0.7	0.7	6.456	A
	D2	0	0	1331	739	0.000	0	0	0.0	0.0	0.000	A
	E2			953				378				

08:45 - 09:00

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	654	163	402	2022	0.323	654	999	0.7	0.5	2.636	A
	B1			493				563				
	C1	779	195	39	1636	0.476	781	455	1.4	0.9	4.219	A
	D1	347	87	820	1395	0.249	348	0	0.5	0.3	3.437	A
	E1	475	119	925	1326	0.358	476	242	0.9	0.6	4.244	A
South	A2	455	114	0.90	1200	0.379	456	779	0.9	0.6	4.843	A
	B2	558	140	457	2007	0.278	559	0	0.5	0.4	2.486	A
	C2	303	76	785	1030	0.294	304	230	0.7	0.4	4.964	A
	D2	0	0	1089	878	0.000	0	0	0.0	0.0	0.000	A
	E2			780				309				

09:00 - 09:15

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	547	137	336	2070	0.264	548	835	0.5	0.4	2.365	A
	B1			413				471				
	C1	652	163	32	1640	0.398	653	381	0.9	0.7	3.650	A
	D1	291	73	685	1484	0.196	291	0	0.3	0.2	3.018	A
	E1	398	99	774	1424	0.279	398	203	0.6	0.4	3.510	A
South	A2	381	95	0.75	1200	0.317	381	652	0.6	0.5	4.399	A
	B2	468	117	382	2061	0.227	468	0	0.4	0.3	2.261	A
	C2	254	63	657	1105	0.230	254	192	0.4	0.3	4.236	A
	D2	0	0	912	981	0.000	0	0	0.0	0.0	0.000	A
	E2			653				259				

REF 2033 PM, 17-18

Data Errors and Warnings

Severity	Area	Item	Description

Warning	Geometry	Junction North - Arm A1 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	Junction South - Arm B2 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Linked Roundabout	Junction North - Arm C1	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 South - Arm A2	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	Vehicle Mix	Junction North	HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.
Warning	Vehicle Mix	Junction South	HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.

Junction Network

Junctions

Junction	Name	Junction Type	Arm order	Junction Delay (s)	Junction LOS
North	Junction 4 = M-5	Standard Roundabout	A1,B1,C1,D1,E1	4.19	A
South	Junction 4= M-5	Standard Roundabout	A2,B2,C2,D2,E2	4.83	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D_11	REF 2033 PM	17-18	Q3	ONE HOUR	16:45	18:15	15	✓

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

Linked Arm Data

Junction	Arm	Feeding Junction	Feeding Arm	Link Type	Flow source	Uniform flow (PCU/hr)	Flow multiplier (%)	Internal storage space (PCU)
North	**C1**	South	A2	Simple (vertical queueing)	Normal	0	100.00	
South	**A2**	North	C1	Simple (vertical queueing)	Normal	0	100.00	

Demand overview (Traffic)

Junction	Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
North	**A1**		ONE HOUR	✓	909	100.000
	B1					
	C1	✓				
	D1		ONE HOUR	✓	447	100.000
	E1		ONE HOUR	✓	323	100.000

South	A2	✓				
	B2		ONE HOUR	✓	575	100.000
	C2		ONE HOUR	✓	338	100.000
	D2		ONE HOUR	✓	0	100.000
	E2					

Origin-Destination Data

Demand (PCU/hr)

Junction North

		To				
		A1	B1	C1	D1	E1
From	A1	1	371	430	0	107
	B1	Exit-only	Exit-only	Exit-only	Exit-only	Exit-only
	C1	420	1	0	0	384
	D1	364	0	61	0	22
	E1	99	163	61	0	0

Demand (PCU/hr)

Junction South

		To				
		A2	B2	C2	D2	E2
From	A2	0	0	277	0	275
	B2	557	0	18	0	0
	C2	248	0	1	0	89
	D2	0	0	0	0	0
	E2	Exit-only	Exit-only	Exit-only	Exit-only	Exit-only

Vehicle Mix

Heavy Vehicle Percentages

Junction North

		To				
		A1	B1	C1	D1	E1
From	A1	0	0	0	0	0
	B1	Exit-only	Exit-only	Exit-only	Exit-only	Exit-only
	C1	0	0	0	0	0
	D1	0	0	0	0	0
	E1	0	0	0	0	0

Heavy Vehicle Percentages

Junction South

		To				
		A2	B2	C2	D2	E2
From	A2	0	0	0	0	0
	B2	0	0	0	0	0
	C2	0	0	0	0	0
	D2	0	0	0	0	0
	E2	Exit-only	Exit-only	Exit-only	Exit-only	Exit-only

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)
North	A1	0.48	3.32	0.9	A	834	1251
	B1						
	C1	0.56	5.13	1.3	A	738	1108
	D1	0.39	4.61	0.6	A	410	615
	E1	0.27	3.73	0.4	A	296	445
South	A2	0.51	6.08	1.0	A	506	759
	B2	0.33	2.85	0.5	A	528	791
	C2	0.39	6.18	0.6	A	310	465
	D2	0.00	0.00	0.0	A	0	0
	E2						

Main Results for each time segment

16:45 - 17:00

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	684	171	215	2159	0.317	682	662	0.0	0.5	2.435	A
	B1			495				402				
	C1	604	151	81	1611	0.375	602	414	0.0	0.6	3.558	A
	D1	337	84	683	1485	0.227	335	0	0.0	0.3	3.128	A
	E1	243	61	634	1515	0.161	242	384	0.0	0.2	2.828	A
South	A2	414	104	0.75	1200	0.345	412	604	0.0	0.5	4.557	A
	B2	433	108	413	2038	0.212	432	0	0.0	0.3	2.240	A
	C2	254	64	624	1124	0.226	253	221	0.0	0.3	4.128	A
	D2	0	0	877	1001	0.000	0	0	0.0	0.0	0.000	A
	E2			605				272				

17:00 - 17:15

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	817	204	257	2128	0.384	817	793	0.5	0.6	2.743	A
	B1			593				481				
	C1	723	181	97	1601	0.452	722	496	0.6	0.8	4.092	A
	D1	402	100	819	1396	0.288	401	0	0.3	0.4	3.618	A
	E1	290	73	760	1433	0.203	290	460	0.2	0.3	3.150	A
South	A2	496	124	0.90	1200	0.413	495	723	0.5	0.7	5.100	A
	B2	517	129	496	1978	0.261	517	0	0.3	0.4	2.463	A
	C2	304	76	747	1052	0.289	303	266	0.3	0.4	4.802	A
	D2	0	0	1050	900	0.000	0	0	0.0	0.0	0.000	A
	E2			724				327				

17:15 - 17:30

Junction	Arm	Total	Junction	Circulating	Capacity	RFC	Throughput	Throughput	Start	End	Delay	LOS

		Demand (PCU/hr)	Arrivals (PCU)	flow (PCU/hr)	(PCU/hr)		(PCU/hr)	(exit side) (PCU/hr)	queue (PCU)	queue (PCU)	(s)	
North	A1	1001	250	314	2086	0.480	1000	971	0.6	0.9	3.312	A
	B1			726				588				
	C1	885	221	119	1588	0.557	883	607	0.8	1.2	5.099	A
	D1	492	123	1002	1275	0.386	491	0	0.4	0.6	4.587	A
	E1	356	89	930	1322	0.269	355	563	0.3	0.4	3.720	A
South	A2	607	152	1	1200	0.506	606	885	0.7	1.0	6.045	A
	B2	633	158	607	1898	0.334	633	0	0.4	0.5	2.843	A
	C2	372	93	914	955	0.390	371	325	0.4	0.6	6.155	A
	D2	0	0	1286	765	0.000	0	0	0.0	0.0	0.000	A
	E2			886				400				

17:30 - 17:45

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	1001	250	315	2085	0.480	1001	973	0.9	0.9	3.318	A
	B1			727				589				
	C1	886	222	119	1588	0.558	886	608	1.2	1.3	5.132	A
	D1	492	123	1005	1273	0.387	492	0	0.6	0.6	4.608	A
	E1	356	89	933	1321	0.269	356	565	0.4	0.4	3.728	A
South	A2	608	152	1	1200	0.506	608	886	1.0	1.0	6.076	A
	B2	633	158	609	1896	0.334	633	0	0.5	0.5	2.848	A
	C2	372	93	916	954	0.390	372	326	0.6	0.6	6.184	A
	D2	0	0	1288	763	0.000	0	0	0.0	0.0	0.000	A
	E2			887				401				

17:45 - 18:00

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	817	204	258	2127	0.384	818	797	0.9	0.6	2.754	A
	B1			594				482				
	C1	725	181	97	1601	0.453	727	497	1.3	0.8	4.125	A
	D1	402	100	824	1393	0.289	403	0	0.6	0.4	3.641	A
	E1	290	73	764	1430	0.203	291	463	0.4	0.3	3.161	A
South	A2	497	124	0.90	1200	0.414	498	725	1.0	0.7	5.136	A
	B2	517	129	499	1976	0.262	517	0	0.5	0.4	2.470	A
	C2	304	76	749	1051	0.289	305	267	0.6	0.4	4.830	A
	D2	0	0	1054	898	0.000	0	0	0.0	0.0	0.000	A
	E2			726				328				

18:00 - 18:15

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	684	171	216	2158	0.317	685	667	0.6	0.5	2.444	A
	B1			497				403				
	C1	607	152	81	1610	0.377	608	416	0.8	0.6	3.595	A
	D1	337	84	689	1481	0.227	337	0	0.4	0.3	3.149	A
	E1	243	61	639	1512	0.161	243	387	0.3	0.2	2.838	A
South	A2	416	104	0.75	1200	0.347	417	607	0.7	0.5	4.599	A
	B2	433	108	417	2035	0.213	433	0	0.4	0.3	2.248	A
	C2	254	64	627	1122	0.227	255	223	0.4	0.3	4.154	A

	D2	0	0	882	998	0.000	0	0	0.0	0.0	0.000	A
	E2			607				275				

REF 2033 Weekend, 12-13

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	Junction North - Arm A1 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	Junction South - Arm B2 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Linked Roundabout	Junction North - Arm C1	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 South - Arm A2	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	Vehicle Mix	Junction North	HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.
Warning	Vehicle Mix	Junction South	HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.

Junction Network

Junctions

Junction	Name	Junction Type	Arm order	Junction Delay (s)	Junction LOS
North	Junction 4 = M-5	Standard Roundabout	A1,B1,C1,D1,E1	3.14	A
South	Junction 4= M-5	Standard Roundabout	A2,B2,C2,D2,E2	3.88	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D_12	REF 2033 Weekend	12-13	Q3	ONE HOUR	11:45	13:15	15	✓

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

Linked Arm Data

Junction	Arm	Feeding Junction	Feeding Arm	Link Type	Flow source	Uniform flow (PCU/hr)	Flow multiplier (%)	Internal storage space (PCU)
North	**C1**	South	A2	Simple (vertical queueing)	Normal	0	100.00	

South	**A2**	North	C1	Simple (vertical queueing)	Normal	0	100.00	

Demand overview (Traffic)

Junction	Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
North	A1		ONE HOUR	✓	673	100.000
	B1					
	C1	✓				
	D1		ONE HOUR	✓	184	100.000
	E1		ONE HOUR	✓	303	100.000
South	A2	✓				
	B2		ONE HOUR	✓	339	100.000
	C2		ONE HOUR	✓	323	100.000
	D2		ONE HOUR	✓	0	100.000
	E2					

Origin-Destination Data

Junction North

Demand (PCU/hr)

		To				
		A1	B1	C1	D1	E1
From	A1	1	274	307	0	91
	B1	Exit-only	Exit-only	Exit-only	Exit-only	Exit-only
	C1	392	1	0	0	206
	D1	129	0	47	0	8
	E1	91	147	64	0	1

Junction South

Demand (PCU/hr)

		To				
		A2	B2	C2	D2	E2
From	A2	0	0	266	0	153
	B2	329	0	10	0	0
	C2	270	0	0	0	53
	D2	0	0	0	0	0
	E2	Exit-only	Exit-only	Exit-only	Exit-only	Exit-only

Vehicle Mix

Junction North

Heavy Vehicle Percentages

		To				
		A1	B1	C1	D1	E1
From	A1	0	0	0	0	0
	B1	Exit-only	Exit-only	Exit-only	Exit-only	Exit-only
	C1	0	0	0	0	0
	D1	0	0	0	0	0
	E1	0	0	0	0	0

Heavy Vehicle Percentages

Junction South

		To				
		A2	B2	C2	D2	E2
From	A2	0	0	0	0	0
	B2	0	0	0	0	0
	C2	0	0	0	0	0
	D2	0	0	0	0	0
	E2	Exit-only	Exit-only	Exit-only	Exit-only	Exit-only

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)
North	A1	0.35	2.64	0.5	A	618	926
	B1						
	C1	0.41	3.84	0.7	A	549	824
	D1	0.14	2.92	0.2	A	169	253
	E1	0.22	3.04	0.3	A	278	417
South	A2	0.38	4.86	0.6	A	383	575
	B2	0.19	2.21	0.2	A	311	467
	C2	0.30	4.37	0.4	A	296	445
	D2	0.00	0.00	0.0	A	0	0
	E2						

Main Results for each time segment

11:45 - 12:00

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	507	127	195	2173	0.233	505	459	0.0	0.3	2.158	A
	B1			384				317				
	C1	450	112	70	1617	0.278	448	314	0.0	0.4	3.075	A
	D1	139	35	518	1594	0.087	138	0	0.0	0.1	2.473	A
	E1	228	57	427	1649	0.138	227	229	0.0	0.2	2.530	A
South	A2	314	78	0	1201	0.261	312	450	0.0	0.4	4.046	A
	B2	255	64	312	2111	0.121	255	0	0.0	0.1	1.939	A
	C2	243	61	361	1277	0.190	242	206	0.0	0.2	3.475	A
	D2	0	0	604	1158	0.000	0	0	0.0	0.0	0.000	A
	E2			450				154				

12:00 - 12:15

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	605	151	234	2145	0.282	605	550	0.3	0.4	2.337	A

	B1			459				379				
	C1	538	135	84	1609	0.334	538	376	0.4	0.5	3.358	A
	D1	165	41	621	1526	0.108	165	0	0.1	0.1	2.645	A
	E1	272	68	512	1594	0.171	272	275	0.2	0.2	2.723	A
	A2	376	94	0	1201	0.313	375	538	0.4	0.5	4.359	A
	B2	305	76	375	2066	0.148	305	0	0.1	0.2	2.043	A
South	C2	290	73	433	1235	0.235	290	247	0.2	0.3	3.808	A
	D2	0	0	723	1090	0.000	0	0	0.0	0.0	0.000	A
	E2			538				185				

12:15 - 12:30

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
	A1	741	185	286	2107	0.352	740	674	0.4	0.5	2.633	A
	B1			562				464				
North	C1	659	165	102	1598	0.412	658	460	0.5	0.7	3.827	A
	D1	203	51	760	1434	0.141	202	0	0.1	0.2	2.922	A
	E1	334	83	626	1520	0.220	333	336	0.2	0.3	3.034	A
	A2	460	115	0	1201	0.383	459	659	0.5	0.6	4.851	A
	B2	373	93	459	2005	0.186	373	0	0.2	0.2	2.205	A
South	C2	356	89	530	1179	0.302	355	303	0.3	0.4	4.366	A
	D2	0	0	885	996	0.000	0	0	0.0	0.0	0.000	A
	E2			659				226				

12:30 - 12:45

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
	A1	741	185	286	2106	0.352	741	675	0.5	0.5	2.636	A
	B1			563				465				
North	C1	660	165	102	1598	0.413	659	460	0.7	0.7	3.836	A
	D1	203	51	762	1433	0.141	203	0	0.2	0.2	2.924	A
	E1	334	83	628	1519	0.220	334	337	0.3	0.3	3.036	A
	A2	460	115	0	1201	0.383	460	660	0.6	0.6	4.861	A
	B2	373	93	460	2004	0.186	373	0	0.2	0.2	2.206	A
South	C2	356	89	530	1179	0.302	356	303	0.4	0.4	4.373	A
	D2	0	0	886	995	0.000	0	0	0.0	0.0	0.000	A
	E2			660				226				

12:45 - 13:00

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
	A1	605	151	234	2145	0.282	606	552	0.5	0.4	2.341	A
	B1			460				380				
North	C1	539	135	84	1609	0.335	540	376	0.7	0.5	3.371	A
	D1	165	41	624	1524	0.109	166	0	0.2	0.1	2.649	A
	E1	272	68	513	1593	0.171	273	276	0.3	0.2	2.726	A
	A2	376	94	0	1201	0.313	377	539	0.6	0.5	4.374	A
	B2	305	76	377	2065	0.148	305	0	0.2	0.2	2.047	A
South	C2	290	73	434	1235	0.235	291	248	0.4	0.3	3.814	A
	D2	0	0	724	1089	0.000	0	0	0.0	0.0	0.000	A
	E2			539				185				

13:00 - 13:15

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	507	127	196	2172	0.233	507	462	0.4	0.3	2.163	A
	B1			385				318				
	C1	451	113	70	1617	0.279	452	315	0.5	0.4	3.092	A
	D1	139	35	522	1591	0.087	139	0	0.1	0.1	2.478	A
	E1	228	57	430	1647	0.138	228	231	0.2	0.2	2.536	A
South	A2	315	79	0	1201	0.262	315	451	0.5	0.4	4.067	A
	B2	255	64	315	2109	0.121	255	0	0.2	0.1	1.941	A
	C2	243	61	363	1276	0.191	243	208	0.3	0.2	3.489	A
	D2	0	0	606	1157	0.000	0	0	0.0	0.0	0.000	A
	E2			451				155				

WNP 2020 AM WBP, 08-09

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	Junction North - Arm A1 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	Junction South - Arm B2 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Linked Roundabout	Junction North - Arm C1	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 South - Arm A2	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	Vehicle Mix	Junction North	HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.
Warning	Vehicle Mix	Junction South	HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.

Junction Network

Junctions

Junction	Name	Junction Type	Arm order	Junction Delay (s)	Junction LOS
North	Junction 4 = M-5	Standard Roundabout	A1,B1,C1,D1,E1	3.96	A
South	Junction 4= M-5	Standard Roundabout	A2,B2,C2,D2,E2	3.59	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically

		name						
D_13	WNP 2020 AM WBP	08-09	Q3	ONE HOUR	07:45	09:15	15	✓

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

Linked Arm Data

Junction	Arm	Feeding Junction	Feeding Arm	Link Type	Flow source	Uniform flow (PCU/hr)	Flow multiplier (%)	Internal storage space (PCU)
North	C1	South	A2	Simple (vertical queueing)	Normal	0	100.00	
South	A2	North	C1	Simple (vertical queueing)	Normal	0	100.00	

Demand overview (Traffic)

Junction	Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
North	A1		ONE HOUR	✓	548	100.000
	B1					
	C1	✓				
	D1		ONE HOUR	✓	323	100.000
	E1		ONE HOUR	✓	477	100.000
South	A2	✓				
	B2		ONE HOUR	✓	554	100.000
	C2		ONE HOUR	✓	277	100.000
	D2		ONE HOUR	✓	0	100.000
	E2					

Origin-Destination Data

Junction North

Demand (PCU/hr)

		To				
		A1	B1	C1	D1	E1
From	A1	1	281	229	0	37
	B1	Exit-only	Exit-only	Exit-only	Exit-only	Exit-only
	C1	576	13	0	0	182
	D1	265	0	44	0	14
	E1	138	268	71	0	0

Junction South

Demand (PCU/hr)

		To				
		A2	B2	C2	D2	E2
From	A2	0	0	217	0	127
	B2	553	0	1	0	0
	C2	218	0	1	0	58
	D2	0	0	0	0	0
	E2	Exit-only	Exit-only	Exit-only	Exit-only	Exit-only

Vehicle Mix

Junction North

Heavy Vehicle Percentages

		To				
		A1	B1	C1	D1	E1
From	A1	0	0	0	0	0
	B1	Exit-only	Exit-only	Exit-only	Exit-only	Exit-only
	C1	0	0	0	0	0
	D1	0	0	0	0	0
	E1	0	0	0	0	0

Junction South

Heavy Vehicle Percentages

		To				
		A2	B2	C2	D2	E2
From	A2	0	0	0	0	0
	B2	0	0	0	0	0
	C2	0	0	0	0	0
	D2	0	0	0	0	0
	E2	Exit-only	Exit-only	Exit-only	Exit-only	Exit-only

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)
North	A1	0.30	2.58	0.4	A	503	754
	B1						
	C1	0.52	4.58	1.1	A	707	1061
	D1	0.26	3.62	0.4	A	296	445
	E1	0.41	4.75	0.7	A	438	657
South	A2	0.32	4.38	0.5	A	316	473
	B2	0.30	2.48	0.4	A	508	763
	C2	0.29	4.82	0.4	A	254	381
	D2	0.00	0.00	0.0	A	0	0
	E2						

Main Results for each time segment

07:45 - 08:00

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	413	103	297	2098	0.197	412	734	0.0	0.2	2.133	A
	B1			287				422				
	C1	579	145	29	1642	0.352	577	258	0.0	0.5	3.370	A
	D1	243	61	605	1536	0.158	242	0	0.0	0.2	2.781	A
	E1	359	90	673	1489	0.241	358	174	0.0	0.3	3.179	A

South	A2	258	65	0.75	1200	0.215	257	579	0.0	0.3	3.814	A
	B2	417	104	258	2151	0.194	416	0	0.0	0.2	2.074	A
	C2	209	52	510	1190	0.175	208	164	0.0	0.2	3.660	A
	D2	0	0	718	1092	0.000	0	0	0.0	0.0	0.000	A
	E2			580				138				

08:00 - 08:15

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	493	123	356	2056	0.240	492	880	0.2	0.3	2.302	A
	B1			343				505				
	C1	693	173	34	1639	0.423	692	309	0.5	0.7	3.797	A
	D1	290	73	726	1457	0.199	290	0	0.2	0.2	3.085	A
	E1	429	107	807	1402	0.306	428	209	0.3	0.4	3.694	A
South	A2	309	77	0.90	1200	0.257	309	693	0.3	0.3	4.037	A
	B2	498	125	310	2113	0.236	498	0	0.2	0.3	2.228	A
	C2	249	62	611	1132	0.220	249	197	0.2	0.3	4.076	A
	D2	0	0	860	1011	0.000	0	0	0.0	0.0	0.000	A
	E2			694				166				

08:15 - 08:30

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	603	151	435	1998	0.302	603	1077	0.3	0.4	2.581	A
	B1			420				618				
	C1	848	212	42	1634	0.519	847	378	0.7	1.1	4.563	A
	D1	356	89	888	1350	0.263	355	0	0.2	0.4	3.616	A
	E1	525	131	988	1285	0.409	524	256	0.4	0.7	4.726	A
South	A2	378	95	1	1200	0.315	378	848	0.3	0.5	4.377	A
	B2	610	152	379	2063	0.296	610	0	0.3	0.4	2.476	A
	C2	305	76	748	1052	0.290	304	241	0.3	0.4	4.813	A
	D2	0	0	1052	899	0.000	0	0	0.0	0.0	0.000	A
	E2			849				203				

08:30 - 08:45

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	603	151	436	1997	0.302	603	1079	0.4	0.4	2.582	A
	B1			421				619				
	C1	849	212	42	1634	0.519	849	379	1.1	1.1	4.583	A
	D1	356	89	891	1349	0.264	356	0	0.4	0.4	3.624	A
	E1	525	131	990	1284	0.409	525	257	0.7	0.7	4.745	A
South	A2	379	95	1	1200	0.316	379	849	0.5	0.5	4.382	A
	B2	610	152	380	2063	0.296	610	0	0.4	0.4	2.477	A
	C2	305	76	749	1052	0.290	305	241	0.4	0.4	4.821	A
	D2	0	0	1054	899	0.000	0	0	0.0	0.0	0.000	A
	E2			850				204				

08:45 - 09:00

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	493	123	357	2055	0.240	493	883	0.4	0.3	2.307	A

	B1			344				506				
	C1	694	173	34	1639	0.423	695	310	1.1	0.7	3.819	A
	D1	290	73	729	1455	0.200	291	0	0.4	0.3	3.093	A
	E1	429	107	810	1400	0.306	430	210	0.7	0.4	3.715	A
South	A2	310	77	0.90	1200	0.258	310	694	0.5	0.3	4.047	A
	B2	498	125	311	2113	0.236	498	0	0.4	0.3	2.230	A
	C2	249	62	612	1131	0.220	250	197	0.4	0.3	4.085	A
	D2	0	0	862	1009	0.000	0	0	0.0	0.0	0.000	A
	E2			695				167				

09:00 - 09:15

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	413	103	299	2097	0.197	413	739	0.3	0.2	2.138	A
	B1			288				424				
	C1	581	145	29	1642	0.354	582	259	0.7	0.6	3.398	A
	D1	243	61	610	1533	0.159	243	0	0.3	0.2	2.793	A
	E1	359	90	678	1486	0.242	360	176	0.4	0.3	3.196	A
South	A2	259	65	0.75	1200	0.216	259	581	0.3	0.3	3.826	A
	B2	417	104	260	2149	0.194	417	0	0.3	0.2	2.080	A
	C2	209	52	512	1189	0.175	209	165	0.3	0.2	3.675	A
	D2	0	0	721	1090	0.000	0	0	0.0	0.0	0.000	A
	E2			582				140				

WNP 2020 PM WBP, 16-17

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	Junction North - Arm A1 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	Junction South - Arm B2 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Linked Roundabout	Junction North - Arm C1	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 South - Arm A2	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	Vehicle Mix	Junction North	HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.
Warning	Vehicle Mix	Junction South	HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.

Junction Network

Junctions

Junction	Name	Junction Type	Arm order	Junction Delay (s)	Junction LOS
North	Junction 4 = M-5	Standard Roundabout	A1,B1,C1,D1,E1	3.84	A
South	Junction 4= M-5	Standard Roundabout	A2,B2,C2,D2,E2	4.22	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D_14	WNP 2020 PM WBP	16-17	Q3	ONE HOUR	15:45	17:15	15	✓

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

Linked Arm Data

Junction	Arm	Feeding Junction	Feeding Arm	Link Type	Flow source	Uniform flow (PCU/hr)	Flow multiplier (%)	Internal storage space (PCU)
North	C1	South	A2	Simple (vertical queueing)	Normal	0	100.00	
South	A2	North	C1	Simple (vertical queueing)	Normal	0	100.00	

Demand overview (Traffic)

Junction	Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
North	A1		ONE HOUR	✓	819	100.000
	B1					
	C1	✓				
	D1		ONE HOUR	✓	213	100.000
	E1		ONE HOUR	✓	279	100.000
South	A2	✓				
	B2		ONE HOUR	✓	545	100.000
	C2		ONE HOUR	✓	336	100.000
	D2		ONE HOUR	✓	0	100.000
	E2					

Origin-Destination Data

Demand (PCU/hr)

Junction North

		To				
		A1	B1	C1	D1	E1
From	A1	1	365	338	0	115
	B1	Exit-only	Exit-only	Exit-only	Exit-only	Exit-only
	C1	476	0	0	0	317
	D1	134	0	57	0	22
	E1	76	139	64	0	0

Demand (PCU/hr)

Junction South

		To				
		A2	B2	C2	D2	E2
From	A2	0	0	276	0	183
	B2	540	0	5	0	0
	C2	253	0	1	0	82
	D2	0	0	0	0	0
	E2	Exit-only	Exit-only	Exit-only	Exit-only	Exit-only

Vehicle Mix

Heavy Vehicle Percentages

Junction North

		To				
		A1	B1	C1	D1	E1
From	A1	0	0	0	0	0
	B1	Exit-only	Exit-only	Exit-only	Exit-only	Exit-only
	C1	0	0	0	0	0
	D1	0	0	0	0	0
	E1	0	0	0	0	0

Heavy Vehicle Percentages

Junction South

		To				
		A2	B2	C2	D2	E2
From	A2	0	0	0	0	0
	B2	0	0	0	0	0
	C2	0	0	0	0	0
	D2	0	0	0	0	0
	E2	Exit-only	Exit-only	Exit-only	Exit-only	Exit-only

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)
North	A1	0.43	2.99	0.7	A	752	1127
	B1						
	C1	0.55	5.08	1.2	A	727	1091
	D1	0.18	3.45	0.2	A	195	293
	E1	0.21	3.15	0.3	A	256	384
South	A2	0.42	5.18	0.7	A	421	632
	B2	0.30	2.63	0.4	A	500	750
	C2	0.36	5.50	0.6	A	308	462
	D2	0.00	0.00	0.0	A	0	0
	E2						

Main Results for each time segment

15:45 - 16:00

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	617	154	195	2173	0.284	615	514	0.0	0.4	2.309	A
	B1			432				378				
	C1	595	149	87	1607	0.370	593	345	0.0	0.6	3.543	A
	D1	160	40	680	1487	0.108	160	0	0.0	0.1	2.712	A
	E1	210	53	500	1602	0.131	209	340	0.0	0.2	2.584	A
South	A2	345	86	0.75	1200	0.287	343	595	0.0	0.4	4.192	A
	B2	410	103	344	2089	0.196	409	0	0.0	0.2	2.142	A
	C2	253	63	542	1172	0.216	252	211	0.0	0.3	3.909	A
	D2	0	0	794	1048	0.000	0	0	0.0	0.0	0.000	A
	E2			596				198				

16:00 - 16:15

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	736	184	234	2145	0.343	736	617	0.4	0.5	2.555	A
	B1			517				453				
	C1	712	178	104	1597	0.446	711	412	0.6	0.8	4.063	A
	D1	191	48	816	1398	0.137	191	0	0.1	0.2	2.983	A
	E1	251	63	600	1537	0.163	251	407	0.2	0.2	2.798	A
South	A2	412	103	0.90	1200	0.344	412	712	0.4	0.5	4.563	A
	B2	490	122	413	2039	0.240	490	0	0.2	0.3	2.324	A
	C2	302	76	649	1109	0.272	302	253	0.3	0.4	4.455	A
	D2	0	0	951	958	0.000	0	0	0.0	0.0	0.000	A
	E2			713				238				

16:15 - 16:30

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	902	225	286	2107	0.428	901	755	0.5	0.7	2.984	A
	B1			632				554				
	C1	872	218	128	1582	0.551	870	505	0.8	1.2	5.048	A
	D1	235	59	998	1278	0.184	234	0	0.2	0.2	3.448	A
	E1	307	77	734	1450	0.212	307	499	0.2	0.3	3.149	A
South	A2	505	126	1	1200	0.421	504	872	0.5	0.7	5.167	A
	B2	600	150	505	1972	0.304	600	0	0.3	0.4	2.624	A
	C2	370	92	795	1025	0.361	369	310	0.4	0.6	5.488	A
	D2	0	0	1164	835	0.000	0	0	0.0	0.0	0.000	A
	E2			873				291				

16:30 - 16:45

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	902	225	286	2106	0.428	902	756	0.7	0.7	2.987	A
	B1			633				555				

	C1	873	218	128	1582	0.552	873	505	1.2	1.2	5.075	A
	D1	235	59	1001	1276	0.184	235	0	0.2	0.2	3.455	A
	E1	307	77	735	1449	0.212	307	500	0.3	0.3	3.152	A
South	A2	505	126	1	1200	0.421	505	873	0.7	0.7	5.181	A
	B2	600	150	506	1971	0.304	600	0	0.4	0.4	2.625	A
	C2	370	92	796	1024	0.361	370	310	0.6	0.6	5.503	A
	D2	0	0	1166	834	0.000	0	0	0.0	0.0	0.000	A
	E2			874				292				

16:45 - 17:00

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	736	184	234	2145	0.343	737	619	0.7	0.5	2.561	A
	B1			518				454				
	C1	714	178	104	1596	0.447	716	413	1.2	0.8	4.095	A
	D1	191	48	820	1395	0.137	192	0	0.2	0.2	2.991	A
	E1	251	63	602	1535	0.163	251	409	0.3	0.2	2.803	A
South	A2	413	103	0.90	1200	0.344	414	714	0.7	0.5	4.582	A
	B2	490	122	415	2037	0.241	490	0	0.4	0.3	2.327	A
	C2	302	76	651	1108	0.273	303	254	0.6	0.4	4.474	A
	D2	0	0	954	956	0.000	0	0	0.0	0.0	0.000	A
	E2			715				239				

17:00 - 17:15

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	617	154	196	2172	0.284	617	518	0.5	0.4	2.316	A
	B1			433				380				
	C1	598	149	87	1607	0.372	598	346	0.8	0.6	3.575	A
	D1	160	40	686	1483	0.108	161	0	0.2	0.1	2.723	A
	E1	210	53	504	1599	0.131	210	342	0.2	0.2	2.593	A
South	A2	346	86	0.75	1200	0.288	346	598	0.5	0.4	4.217	A
	B2	410	103	347	2086	0.197	411	0	0.3	0.2	2.148	A
	C2	253	63	545	1170	0.216	253	213	0.4	0.3	3.928	A
	D2	0	0	798	1046	0.000	0	0	0.0	0.0	0.000	A
	E2			598				200				

WNP 2020 Weekend WBP, 12-13

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	Junction North - Arm A1 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	Junction South - Arm B2 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Linked Roundabout	Junction North - Arm C1	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	Junction South -	If the distance between linked junctions is small, results should be treated with caution. The

	Roundabout	Arm A2	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	Vehicle Mix	Junction North	HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.
Warning	Vehicle Mix	Junction South	HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.

Junction Network

Junctions

Junction	Name	Junction Type	Arm order	Junction Delay (s)	Junction LOS
North	Junction 4 = M-5	Standard Roundabout	A1,B1,C1,D1,E1	2.95	A
South	Junction 4= M-5	Standard Roundabout	A2,B2,C2,D2,E2	3.67	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D_15	WNP 2020 Weekend WBP	12-13	Q3	ONE HOUR	11:45	13:15	15	✓

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

Linked Arm Data

Junction	Arm	Feeding Junction	Feeding Arm	Link Type	Flow source	Uniform flow (PCU/hr)	Flow multiplier (%)	Internal storage space (PCU)
North	**C1**	South	A2	Simple (vertical queueing)	Normal	0	100.00	
South	**A2**	North	C1	Simple (vertical queueing)	Normal	0	100.00	

Demand overview (Traffic)

Junction	Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
North	**A1**		ONE HOUR	✓	616	100.000
	B1					
	C1	✓				
	D1		ONE HOUR	✓	168	100.000
	E1		ONE HOUR	✓	274	100.000
South	**A2**	✓				
	B2		ONE HOUR	✓	308	100.000
	C2		ONE HOUR	✓	290	100.000
	D2		ONE HOUR	✓	0	100.000
	E2					

Origin-Destination Data

Demand (PCU/hr)

Junction North

		To				
		A1	B1	C1	D1	E1
From	A1	1	251	282	0	82
	B1	Exit-only	Exit-only	Exit-only	Exit-only	Exit-only
	C1	355	1	0	0	186
	D1	118	0	43	0	7
	E1	83	132	58	0	1

Demand (PCU/hr)

Junction South

		To				
		A2	B2	C2	D2	E2
From	A2	0	0	243	0	139
	B2	299	0	9	0	0
	C2	243	0	0	0	47
	D2	0	0	0	0	0
	E2	Exit-only	Exit-only	Exit-only	Exit-only	Exit-only

Vehicle Mix

Heavy Vehicle Percentages

Junction North

		To				
		A1	B1	C1	D1	E1
From	A1	0	0	0	0	0
	B1	Exit-only	Exit-only	Exit-only	Exit-only	Exit-only
	C1	0	0	0	0	0
	D1	0	0	0	0	0
	E1	0	0	0	0	0

Heavy Vehicle Percentages

Junction South

		To				
		A2	B2	C2	D2	E2
From	A2	0	0	0	0	0
	B2	0	0	0	0	0
	C2	0	0	0	0	0
	D2	0	0	0	0	0
	E2	Exit-only	Exit-only	Exit-only	Exit-only	Exit-only

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)
North	A1	0.32	2.48	0.5	A	565	848

	B1						
	C1	0.37	3.57	0.6	A	497	746
	D1	0.12	2.78	0.1	A	154	231
	E1	0.19	2.87	0.2	A	251	377
South	A2	0.35	4.62	0.5	A	351	527
	B2	0.17	2.13	0.2	A	283	424
	C2	0.26	4.06	0.4	A	266	399
	D2	0.00	0.00	0.0	A	0	0
	E2						

Main Results for each time segment

11:45 - 12:00

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	464	116	176	2187	0.212	463	417	0.0	0.3	2.087	A
	B1			351				288				
	C1	407	102	63	1621	0.251	406	288	0.0	0.3	2.958	A
	D1	126	32	469	1626	0.078	126	0	0.0	0.1	2.400	A
	E1	206	52	388	1674	0.123	206	207	0.0	0.1	2.451	A
South	A2	288	72	0	1201	0.240	286	407	0.0	0.3	3.933	A
	B2	232	58	286	2130	0.109	231	0	0.0	0.1	1.895	A
	C2	218	55	329	1296	0.168	218	189	0.0	0.2	3.337	A
	D2	0	0	546	1191	0.000	0	0	0.0	0.0	0.000	A
	E2			407				139				

12:00 - 12:15

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	554	138	211	2161	0.256	553	500	0.3	0.3	2.239	A
	B1			420				345				
	C1	487	122	75	1614	0.302	487	344	0.3	0.4	3.193	A
	D1	151	38	562	1565	0.097	151	0	0.1	0.1	2.545	A
	E1	246	62	465	1624	0.152	246	248	0.1	0.2	2.611	A
South	A2	344	86	0	1201	0.287	344	487	0.3	0.4	4.199	A
	B2	277	69	344	2089	0.133	277	0	0.1	0.2	1.986	A
	C2	261	65	394	1258	0.207	260	227	0.2	0.3	3.608	A
	D2	0	0	654	1129	0.000	0	0	0.0	0.0	0.000	A
	E2			487				167				

12:15 - 12:30

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	678	170	259	2127	0.319	678	612	0.3	0.5	2.484	A
	B1			514				422				
	C1	596	149	92	1604	0.372	596	421	0.4	0.6	3.569	A
	D1	185	46	688	1482	0.125	185	0	0.1	0.1	2.775	A
	E1	302	75	569	1557	0.194	301	303	0.2	0.2	2.868	A

South	A2	421	105	0	1201	0.351	421	596	0.4	0.5	4.613	A
	B2	339	85	421	2033	0.167	339	0	0.2	0.2	2.125	A
	C2	319	80	482	1207	0.265	319	278	0.3	0.4	4.053	A
	D2	0	0	801	1044	0.000	0	0	0.0	0.0	0.000	A
	E2			596				205				

12:30 - 12:45

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	678	170	259	2126	0.319	678	613	0.5	0.5	2.485	A
	B1			514				423				
	C1	597	149	92	1604	0.372	597	422	0.6	0.6	3.574	A
	D1	185	46	689	1481	0.125	185	0	0.1	0.1	2.776	A
	E1	302	75	570	1556	0.194	302	304	0.2	0.2	2.869	A
South	A2	422	105	0	1201	0.351	422	597	0.5	0.5	4.621	A
	B2	339	85	422	2032	0.167	339	0	0.2	0.2	2.125	A
	C2	319	80	483	1206	0.265	319	278	0.4	0.4	4.058	A
	D2	0	0	802	1044	0.000	0	0	0.0	0.0	0.000	A
	E2			597				205				

12:45 - 13:00

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	554	138	211	2161	0.256	554	502	0.5	0.3	2.240	A
	B1			420				346				
	C1	488	122	76	1614	0.302	488	345	0.6	0.4	3.199	A
	D1	151	38	564	1563	0.097	151	0	0.1	0.1	2.550	A
	E1	246	62	467	1623	0.152	247	249	0.2	0.2	2.616	A
South	A2	345	86	0	1201	0.287	345	488	0.5	0.4	4.210	A
	B2	277	69	345	2088	0.133	277	0	0.2	0.2	1.989	A
	C2	261	65	395	1258	0.207	261	228	0.4	0.3	3.615	A
	D2	0	0	656	1128	0.000	0	0	0.0	0.0	0.000	A
	E2			488				168				

13:00 - 13:15

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	464	116	177	2186	0.212	464	420	0.3	0.3	2.092	A
	B1			352				289				
	C1	408	102	63	1621	0.252	409	289	0.4	0.3	2.971	A
	D1	126	32	472	1624	0.078	127	0	0.1	0.1	2.403	A
	E1	206	52	391	1673	0.123	206	208	0.2	0.1	2.454	A
South	A2	289	72	0	1201	0.240	289	408	0.4	0.3	3.949	A
	B2	232	58	289	2129	0.109	232	0	0.2	0.1	1.897	A
	C2	218	55	330	1295	0.169	219	191	0.3	0.2	3.347	A
	D2	0	0	549	1190	0.000	0	0	0.0	0.0	0.000	A
	E2			408				141				

WNP 2020 AM BP, 08-09

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	Junction North - Arm A1 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	Junction South - Arm B2 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Linked Roundabout	Junction North - Arm C1	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 South - Arm A2	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	Vehicle Mix	Junction North	HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.
Warning	Vehicle Mix	Junction South	HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.

Junction Network

Junctions

Junction	Name	Junction Type	Arm order	Junction Delay (s)	Junction LOS
North	Junction 4 = M-5	Standard Roundabout	A1,B1,C1,D1,E1	3.96	A
South	Junction 4= M-5	Standard Roundabout	A2,B2,C2,D2,E2	3.59	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D_16	WNP 2020 AM BP	08-09	Q3	ONE HOUR	07:45	09:15	15	✓

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

Linked Arm Data

Junction	Arm	Feeding Junction	Feeding Arm	Link Type	Flow source	Uniform flow (PCU/hr)	Flow multiplier (%)	Internal storage space (PCU)
North	**C1**	South	A2	Simple (vertical queueing)	Normal	0	100.00	
South	**A2**	North	C1	Simple (vertical queueing)	Normal	0	100.00	

Demand overview (Traffic)

Junction	Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
North	**A1**		ONE HOUR	✓	548	100.000
	B1					

	C1	✓				
	D1		ONE HOUR	✓	323	100.000
	E1		ONE HOUR	✓	477	100.000
South	A2	✓				
	B2		ONE HOUR	✓	554	100.000
	C2		ONE HOUR	✓	277	100.000
	D2		ONE HOUR	✓	0	100.000
	E2					

Origin-Destination Data

Demand (PCU/hr)

Junction North

		To				
		A1	B1	C1	D1	E1
From	A1	1	281	229	0	37
	B1	Exit-only	Exit-only	Exit-only	Exit-only	Exit-only
	C1	576	13	0	0	182
	D1	265	0	44	0	14
	E1	138	268	71	0	0

Demand (PCU/hr)

Junction South

		To				
		A2	B2	C2	D2	E2
From	A2	0	0	217	0	127
	B2	553	0	1	0	0
	C2	218	0	1	0	58
	D2	0	0	0	0	0
	E2	Exit-only	Exit-only	Exit-only	Exit-only	Exit-only

Vehicle Mix

Heavy Vehicle Percentages

Junction North

		To				
		A1	B1	C1	D1	E1
From	A1	0	0	0	0	0
	B1	Exit-only	Exit-only	Exit-only	Exit-only	Exit-only
	C1	0	0	0	0	0
	D1	0	0	0	0	0
	E1	0	0	0	0	0

Heavy Vehicle Percentages

Junction South

		To				
		A2	B2	C2	D2	E2
From	A2	0	0	0	0	0
	B2	0	0	0	0	0
	C2	0	0	0	0	0
	D2	0	0	0	0	0
	E2	Exit-only	Exit-only	Exit-only	Exit-only	Exit-only

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)
North	A1	0.30	2.58	0.4	A	503	754
	B1						
	C1	0.52	4.58	1.1	A	707	1061
	D1	0.26	3.62	0.4	A	296	445
	E1	0.41	4.75	0.7	A	438	657
South	A2	0.32	4.38	0.5	A	316	473
	B2	0.30	2.48	0.4	A	508	763
	C2	0.29	4.82	0.4	A	254	381
	D2	0.00	0.00	0.0	A	0	0
	E2						

Main Results for each time segment

07:45 - 08:00

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	413	103	297	2098	0.197	412	734	0.0	0.2	2.133	A
	B1			287				422				
	C1	579	145	29	1642	0.352	577	258	0.0	0.5	3.370	A
	D1	243	61	605	1536	0.158	242	0	0.0	0.2	2.781	A
	E1	359	90	673	1489	0.241	358	174	0.0	0.3	3.179	A
South	A2	258	65	0.75	1200	0.215	257	579	0.0	0.3	3.814	A
	B2	417	104	258	2151	0.194	416	0	0.0	0.2	2.074	A
	C2	209	52	510	1190	0.175	208	164	0.0	0.2	3.660	A
	D2	0	0	718	1092	0.000	0	0	0.0	0.0	0.000	A
	E2			580				138				

08:00 - 08:15

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	493	123	356	2056	0.240	492	880	0.2	0.3	2.302	A

	B1			343				505				
	C1	693	173	34	1639	0.423	692	309	0.5	0.7	3.797	A
	D1	290	73	726	1457	0.199	290	0	0.2	0.2	3.085	A
	E1	429	107	807	1402	0.306	428	209	0.3	0.4	3.694	A
South	A2	309	77	0.90	1200	0.257	309	693	0.3	0.3	4.037	A
	B2	498	125	310	2113	0.236	498	0	0.2	0.3	2.228	A
	C2	249	62	611	1132	0.220	249	197	0.2	0.3	4.076	A
	D2	0	0	860	1011	0.000	0	0	0.0	0.0	0.000	A
	E2			694				166				

08:15 - 08:30

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	603	151	435	1998	0.302	603	1077	0.3	0.4	2.581	A
	B1			420				618				
	C1	848	212	42	1634	0.519	847	378	0.7	1.1	4.563	A
	D1	356	89	888	1350	0.263	355	0	0.2	0.4	3.616	A
	E1	525	131	988	1285	0.409	524	256	0.4	0.7	4.726	A
South	A2	378	95	1	1200	0.315	378	848	0.3	0.5	4.377	A
	B2	610	152	379	2063	0.296	610	0	0.3	0.4	2.476	A
	C2	305	76	748	1052	0.290	304	241	0.3	0.4	4.813	A
	D2	0	0	1052	899	0.000	0	0	0.0	0.0	0.000	A
	E2			849				203				

08:30 - 08:45

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	603	151	436	1997	0.302	603	1079	0.4	0.4	2.582	A
	B1			421				619				
	C1	849	212	42	1634	0.519	849	379	1.1	1.1	4.583	A
	D1	356	89	891	1349	0.264	356	0	0.4	0.4	3.624	A
	E1	525	131	990	1284	0.409	525	257	0.7	0.7	4.745	A
South	A2	379	95	1	1200	0.316	379	849	0.5	0.5	4.382	A
	B2	610	152	380	2063	0.296	610	0	0.4	0.4	2.477	A
	C2	305	76	749	1052	0.290	305	241	0.4	0.4	4.821	A
	D2	0	0	1054	899	0.000	0	0	0.0	0.0	0.000	A
	E2			850				204				

08:45 - 09:00

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	493	123	357	2055	0.240	493	883	0.4	0.3	2.307	A
	B1			344				506				
	C1	694	173	34	1639	0.423	695	310	1.1	0.7	3.819	A
	D1	290	73	729	1455	0.200	291	0	0.4	0.3	3.093	A
	E1	429	107	810	1400	0.306	430	210	0.7	0.4	3.715	A
South	A2	310	77	0.90	1200	0.258	310	694	0.5	0.3	4.047	A
	B2	498	125	311	2113	0.236	498	0	0.4	0.3	2.230	A
	C2	249	62	612	1131	0.220	250	197	0.4	0.3	4.085	A
	D2	0	0	862	1009	0.000	0	0	0.0	0.0	0.000	A
	E2			695				167				

09:00 - 09:15

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	413	103	299	2097	0.197	413	739	0.3	0.2	2.138	A
	B1			288				424				
	C1	581	145	29	1642	0.354	582	259	0.7	0.6	3.398	A
	D1	243	61	610	1533	0.159	243	0	0.3	0.2	2.793	A
	E1	359	90	678	1486	0.242	360	176	0.4	0.3	3.196	A
South	A2	259	65	0.75	1200	0.216	259	581	0.3	0.3	3.826	A
	B2	417	104	260	2149	0.194	417	0	0.3	0.2	2.080	A
	C2	209	52	512	1189	0.175	209	165	0.3	0.2	3.675	A
	D2	0	0	721	1090	0.000	0	0	0.0	0.0	0.000	A
	E2			582				140				

WNP 2020 PM BP, 16-17

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	Junction North - Arm A1 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	Junction South - Arm B2 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Linked Roundabout	Junction North - Arm C1	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 South - Arm A2	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	Vehicle Mix	Junction North	HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.
Warning	Vehicle Mix	Junction South	HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.

Junction Network

Junctions

Junction	Name	Junction Type	Arm order	Junction Delay (s)	Junction LOS
North	Junction 4 = M-5	Standard Roundabout	A1,B1,C1,D1,E1	3.84	A
South	Junction 4= M-5	Standard Roundabout	A2,B2,C2,D2,E2	4.22	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically

		name						
D_17	WNP 2020 PM BP	16-17	Q3	ONE HOUR	15:45	17:15	15	✓

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

Linked Arm Data

Junction	Arm	Feeding Junction	Feeding Arm	Link Type	Flow source	Uniform flow (PCU/hr)	Flow multiplier (%)	Internal storage space (PCU)
North	C1	South	A2	Simple (vertical queueing)	Normal	0	100.00	
South	A2	North	C1	Simple (vertical queueing)	Normal	0	100.00	

Demand overview (Traffic)

Junction	Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
North	A1		ONE HOUR	✓	819	100.000
	B1					
	C1	✓				
	D1		ONE HOUR	✓	213	100.000
	E1		ONE HOUR	✓	279	100.000
South	A2	✓				
	B2		ONE HOUR	✓	545	100.000
	C2		ONE HOUR	✓	336	100.000
	D2		ONE HOUR	✓	0	100.000
	E2					

Origin-Destination Data

Junction North

Demand (PCU/hr)

		To				
		A1	B1	C1	D1	E1
From	A1	1	365	338	0	115
	B1	Exit-only	Exit-only	Exit-only	Exit-only	Exit-only
	C1	476	0	0	0	317
	D1	134	0	57	0	22
	E1	76	139	64	0	0

Junction South

Demand (PCU/hr)

		To				
		A2	B2	C2	D2	E2
From	A2	0	0	276	0	183
	B2	540	0	5	0	0
	C2	253	0	1	0	82
	D2	0	0	0	0	0
	E2	Exit-only	Exit-only	Exit-only	Exit-only	Exit-only

Vehicle Mix

Junction North

Heavy Vehicle Percentages

		To				
		A1	B1	C1	D1	E1
From	A1	0	0	0	0	0
	B1	Exit-only	Exit-only	Exit-only	Exit-only	Exit-only
	C1	0	0	0	0	0
	D1	0	0	0	0	0
	E1	0	0	0	0	0

Junction South

Heavy Vehicle Percentages

		To				
		A2	B2	C2	D2	E2
From	A2	0	0	0	0	0
	B2	0	0	0	0	0
	C2	0	0	0	0	0
	D2	0	0	0	0	0
	E2	Exit-only	Exit-only	Exit-only	Exit-only	Exit-only

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)
North	A1	0.43	2.99	0.7	A	752	1127
	B1						
	C1	0.55	5.08	1.2	A	727	1091
	D1	0.18	3.45	0.2	A	195	293
	E1	0.21	3.15	0.3	A	256	384
South	A2	0.42	5.18	0.7	A	421	632
	B2	0.30	2.63	0.4	A	500	750
	C2	0.36	5.50	0.6	A	308	462
	D2	0.00	0.00	0.0	A	0	0
	E2						

Main Results for each time segment

15:45 - 16:00

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	617	154	195	2173	0.284	615	514	0.0	0.4	2.309	A
	B1			432				378				
	C1	595	149	87	1607	0.370	593	345	0.0	0.6	3.543	A
	D1	160	40	680	1487	0.108	160	0	0.0	0.1	2.712	A
	E1	210	53	500	1602	0.131	209	340	0.0	0.2	2.584	A

South	A2	345	86	0.75	1200	0.287	343	595	0.0	0.4	4.192	A
	B2	410	103	344	2089	0.196	409	0	0.0	0.2	2.142	A
	C2	253	63	542	1172	0.216	252	211	0.0	0.3	3.909	A
	D2	0	0	794	1048	0.000	0	0	0.0	0.0	0.000	A
	E2			596				198				

16:00 - 16:15

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	736	184	234	2145	0.343	736	617	0.4	0.5	2.555	A
	B1			517				453				
	C1	712	178	104	1597	0.446	711	412	0.6	0.8	4.063	A
	D1	191	48	816	1398	0.137	191	0	0.1	0.2	2.983	A
	E1	251	63	600	1537	0.163	251	407	0.2	0.2	2.798	A
South	A2	412	103	0.90	1200	0.344	412	712	0.4	0.5	4.563	A
	B2	490	122	413	2039	0.240	490	0	0.2	0.3	2.324	A
	C2	302	76	649	1109	0.272	302	253	0.3	0.4	4.455	A
	D2	0	0	951	958	0.000	0	0	0.0	0.0	0.000	A
	E2			713				238				

16:15 - 16:30

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	902	225	286	2107	0.428	901	755	0.5	0.7	2.984	A
	B1			632				554				
	C1	872	218	128	1582	0.551	870	505	0.8	1.2	5.048	A
	D1	235	59	998	1278	0.184	234	0	0.2	0.2	3.448	A
	E1	307	77	734	1450	0.212	307	499	0.2	0.3	3.149	A
South	A2	505	126	1	1200	0.421	504	872	0.5	0.7	5.167	A
	B2	600	150	505	1972	0.304	600	0	0.3	0.4	2.624	A
	C2	370	92	795	1025	0.361	369	310	0.4	0.6	5.488	A
	D2	0	0	1164	835	0.000	0	0	0.0	0.0	0.000	A
	E2			873				291				

16:30 - 16:45

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	902	225	286	2106	0.428	902	756	0.7	0.7	2.987	A
	B1			633				555				
	C1	873	218	128	1582	0.552	873	505	1.2	1.2	5.075	A
	D1	235	59	1001	1276	0.184	235	0	0.2	0.2	3.455	A
	E1	307	77	735	1449	0.212	307	500	0.3	0.3	3.152	A
South	A2	505	126	1	1200	0.421	505	873	0.7	0.7	5.181	A
	B2	600	150	506	1971	0.304	600	0	0.4	0.4	2.625	A
	C2	370	92	796	1024	0.361	370	310	0.6	0.6	5.503	A
	D2	0	0	1166	834	0.000	0	0	0.0	0.0	0.000	A
	E2			874				292				

16:45 - 17:00

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	736	184	234	2145	0.343	737	619	0.7	0.5	2.561	A

	B1			518				454				
	C1	714	178	104	1596	0.447	716	413	1.2	0.8	4.095	A
	D1	191	48	820	1395	0.137	192	0	0.2	0.2	2.991	A
	E1	251	63	602	1535	0.163	251	409	0.3	0.2	2.803	A
South	A2	413	103	0.90	1200	0.344	414	714	0.7	0.5	4.582	A
	B2	490	122	415	2037	0.241	490	0	0.4	0.3	2.327	A
	C2	302	76	651	1108	0.273	303	254	0.6	0.4	4.474	A
	D2	0	0	954	956	0.000	0	0	0.0	0.0	0.000	A
	E2			715				239				

17:00 - 17:15

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	617	154	196	2172	0.284	617	518	0.5	0.4	2.316	A
	B1			433				380				
	C1	598	149	87	1607	0.372	598	346	0.8	0.6	3.575	A
	D1	160	40	686	1483	0.108	161	0	0.2	0.1	2.723	A
	E1	210	53	504	1599	0.131	210	342	0.2	0.2	2.593	A
South	A2	346	86	0.75	1200	0.288	346	598	0.5	0.4	4.217	A
	B2	410	103	347	2086	0.197	411	0	0.3	0.2	2.148	A
	C2	253	63	545	1170	0.216	253	213	0.4	0.3	3.928	A
	D2	0	0	798	1046	0.000	0	0	0.0	0.0	0.000	A
	E2			598				200				

WNP 2020 Weekend BP, 12-13

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	Junction North - Arm A1 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	Junction South - Arm B2 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Linked Roundabout	Junction North - Arm C1	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 South - Arm A2	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	Vehicle Mix	Junction North	HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.
Warning	Vehicle Mix	Junction South	HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.

Junction Network

Junctions

Junction	Name	Junction Type	Arm order	Junction Delay (s)	Junction LOS
North	Junction 4 = M-5	Standard Roundabout	A1,B1,C1,D1,E1	2.95	A
South	Junction 4= M-5	Standard Roundabout	A2,B2,C2,D2,E2	3.67	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D_18	WNP 2020 Weekend BP	12-13	Q3	ONE HOUR	11:45	13:15	15	✓

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

Linked Arm Data

Junction	Arm	Feeding Junction	Feeding Arm	Link Type	Flow source	Uniform flow (PCU/hr)	Flow multiplier (%)	Internal storage space (PCU)
North	C1	South	A2	Simple (vertical queueing)	Normal	0	100.00	
South	A2	North	C1	Simple (vertical queueing)	Normal	0	100.00	

Demand overview (Traffic)

Junction	Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
North	A1		ONE HOUR	✓	616	100.000
	B1					
	C1	✓				
	D1		ONE HOUR	✓	168	100.000
	E1		ONE HOUR	✓	274	100.000
South	A2	✓				
	B2		ONE HOUR	✓	308	100.000
	C2		ONE HOUR	✓	290	100.000
	D2		ONE HOUR	✓	0	100.000
	E2					

Origin-Destination Data

Demand (PCU/hr)

Junction North

		To				
		A1	B1	C1	D1	E1
From	A1	1	251	282	0	82
	B1	Exit-only	Exit-only	Exit-only	Exit-only	Exit-only
	C1	355	1	0	0	186
	D1	118	0	43	0	7
	E1	83	132	58	0	1

Demand (PCU/hr)

Junction South

		To				
		A2	B2	C2	D2	E2
From	A2	0	0	243	0	139
	B2	299	0	9	0	0
	C2	243	0	0	0	47
	D2	0	0	0	0	0
	E2	Exit-only	Exit-only	Exit-only	Exit-only	Exit-only

Vehicle Mix

Heavy Vehicle Percentages

Junction North

		To				
		A1	B1	C1	D1	E1
From	A1	0	0	0	0	0
	B1	Exit-only	Exit-only	Exit-only	Exit-only	Exit-only
	C1	0	0	0	0	0
	D1	0	0	0	0	0
	E1	0	0	0	0	0

Heavy Vehicle Percentages

Junction South

		To				
		A2	B2	C2	D2	E2
From	A2	0	0	0	0	0
	B2	0	0	0	0	0
	C2	0	0	0	0	0
	D2	0	0	0	0	0
	E2	Exit-only	Exit-only	Exit-only	Exit-only	Exit-only

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)
North	A1	0.32	2.48	0.5	A	565	848
	B1						
	C1	0.37	3.57	0.6	A	497	746
	D1	0.12	2.78	0.1	A	154	231
	E1	0.19	2.87	0.2	A	251	377
South	A2	0.35	4.62	0.5	A	351	527
	B2	0.17	2.13	0.2	A	283	424
	C2	0.26	4.06	0.4	A	266	399
	D2	0.00	0.00	0.0	A	0	0
	E2						

Main Results for each time segment

11:45 - 12:00

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	464	116	176	2187	0.212	463	417	0.0	0.3	2.087	A
	B1			351				288				
	C1	407	102	63	1621	0.251	406	288	0.0	0.3	2.958	A
	D1	126	32	469	1626	0.078	126	0	0.0	0.1	2.400	A
	E1	206	52	388	1674	0.123	206	207	0.0	0.1	2.451	A
South	A2	288	72	0	1201	0.240	286	407	0.0	0.3	3.933	A
	B2	232	58	286	2130	0.109	231	0	0.0	0.1	1.895	A
	C2	218	55	329	1296	0.168	218	189	0.0	0.2	3.337	A
	D2	0	0	546	1191	0.000	0	0	0.0	0.0	0.000	A
	E2			407				139				

12:00 - 12:15

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	554	138	211	2161	0.256	553	500	0.3	0.3	2.239	A
	B1			420				345				
	C1	487	122	75	1614	0.302	487	344	0.3	0.4	3.193	A
	D1	151	38	562	1565	0.097	151	0	0.1	0.1	2.545	A
	E1	246	62	465	1624	0.152	246	248	0.1	0.2	2.611	A
South	A2	344	86	0	1201	0.287	344	487	0.3	0.4	4.199	A
	B2	277	69	344	2089	0.133	277	0	0.1	0.2	1.986	A
	C2	261	65	394	1258	0.207	260	227	0.2	0.3	3.608	A
	D2	0	0	654	1129	0.000	0	0	0.0	0.0	0.000	A
	E2			487				167				

12:15 - 12:30

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	678	170	259	2127	0.319	678	612	0.3	0.5	2.484	A
	B1			514				422				
	C1	596	149	92	1604	0.372	596	421	0.4	0.6	3.569	A
	D1	185	46	688	1482	0.125	185	0	0.1	0.1	2.775	A
	E1	302	75	569	1557	0.194	301	303	0.2	0.2	2.868	A
South	A2	421	105	0	1201	0.351	421	596	0.4	0.5	4.613	A
	B2	339	85	421	2033	0.167	339	0	0.2	0.2	2.125	A
	C2	319	80	482	1207	0.265	319	278	0.3	0.4	4.053	A
	D2	0	0	801	1044	0.000	0	0	0.0	0.0	0.000	A
	E2			596				205				

12:30 - 12:45

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	678	170	259	2126	0.319	678	613	0.5	0.5	2.485	A
	B1			514				423				

	C1	597	149	92	1604	0.372	597	422	0.6	0.6	3.574	A
	D1	185	46	689	1481	0.125	185	0	0.1	0.1	2.776	A
	E1	302	75	570	1556	0.194	302	304	0.2	0.2	2.869	A
South	A2	422	105	0	1201	0.351	422	597	0.5	0.5	4.621	A
	B2	339	85	422	2032	0.167	339	0	0.2	0.2	2.125	A
	C2	319	80	483	1206	0.265	319	278	0.4	0.4	4.058	A
	D2	0	0	802	1044	0.000	0	0	0.0	0.0	0.000	A
	E2			597				205				

12:45 - 13:00

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	554	138	211	2161	0.256	554	502	0.5	0.3	2.240	A
	B1			420				346				
	C1	488	122	76	1614	0.302	488	345	0.6	0.4	3.199	A
	D1	151	38	564	1563	0.097	151	0	0.1	0.1	2.550	A
	E1	246	62	467	1623	0.152	247	249	0.2	0.2	2.616	A
South	A2	345	86	0	1201	0.287	345	488	0.5	0.4	4.210	A
	B2	277	69	345	2088	0.133	277	0	0.2	0.2	1.989	A
	C2	261	65	395	1258	0.207	261	228	0.4	0.3	3.615	A
	D2	0	0	656	1128	0.000	0	0	0.0	0.0	0.000	A
	E2			488				168				

13:00 - 13:15

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	464	116	177	2186	0.212	464	420	0.3	0.3	2.092	A
	B1			352				289				
	C1	408	102	63	1621	0.252	409	289	0.4	0.3	2.971	A
	D1	126	32	472	1624	0.078	127	0	0.1	0.1	2.403	A
	E1	206	52	391	1673	0.123	206	208	0.2	0.1	2.454	A
South	A2	289	72	0	1201	0.240	289	408	0.4	0.3	3.949	A
	B2	232	58	289	2129	0.109	232	0	0.2	0.1	1.897	A
	C2	218	55	330	1295	0.169	219	191	0.3	0.2	3.347	A
	D2	0	0	549	1190	0.000	0	0	0.0	0.0	0.000	A
	E2			408				141				

WNP 2023 AM, 08-09

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	Junction North - Arm A1 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	Junction South - Arm B2 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Linked Roundabout	Junction North - Arm C1	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	Junction South -	If the distance between linked junctions is small, results should be treated with caution. The

	Roundabout	Arm A2	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	Vehicle Mix	Junction North	HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.
Warning	Vehicle Mix	Junction South	HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.

Junction Network

Junctions

Junction	Name	Junction Type	Arm order	Junction Delay (s)	Junction LOS
North	Junction 4 = M-5	Standard Roundabout	A1,B1,C1,D1,E1	4.09	A
South	Junction 4= M-5	Standard Roundabout	A2,B2,C2,D2,E2	3.66	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D_19	WNP 2023 AM	08-09	Q3	ONE HOUR	07:45	09:15	15	✓

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

Linked Arm Data

Junction	Arm	Feeding Junction	Feeding Arm	Link Type	Flow source	Uniform flow (PCU/hr)	Flow multiplier (%)	Internal storage space (PCU)
North	**C1**	South	A2	Simple (vertical queueing)	Normal	0	100.00	
South	**A2**	North	C1	Simple (vertical queueing)	Normal	0	100.00	

Demand overview (Traffic)

Junction	Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
North	**A1**		ONE HOUR	✓	565	100.000
	B1					
	C1	✓				
	D1		ONE HOUR	✓	333	100.000
	E1		ONE HOUR	✓	490	100.000
South	**A2**	✓				
	B2		ONE HOUR	✓	570	100.000
	C2		ONE HOUR	✓	286	100.000
	D2		ONE HOUR	✓	0	100.000
	E2					

Origin-Destination Data

Junction North

Demand (PCU/hr)

		To				
		A1	B1	C1	D1	E1
From	A1	1	290	236	0	38
	B1	Exit-only	Exit-only	Exit-only	Exit-only	Exit-only
	C1	592	13	0	0	189
	D1	272	0	46	0	15
	E1	142	275	73	0	0

Junction South

Demand (PCU/hr)

		To				
		A2	B2	C2	D2	E2
From	A2	0	0	225	0	130
	B2	569	0	1	0	0
	C2	225	0	1	0	60
	D2	0	0	0	0	0
	E2	Exit-only	Exit-only	Exit-only	Exit-only	Exit-only

Vehicle Mix

Junction North

Heavy Vehicle Percentages

		To				
		A1	B1	C1	D1	E1
From	A1	0	0	0	0	0
	B1	Exit-only	Exit-only	Exit-only	Exit-only	Exit-only
	C1	0	0	0	0	0
	D1	0	0	0	0	0
	E1	0	0	0	0	0

Junction South

Heavy Vehicle Percentages

		To				
		A2	B2	C2	D2	E2
From	A2	0	0	0	0	0
	B2	0	0	0	0	0
	C2	0	0	0	0	0
	D2	0	0	0	0	0
	E2	Exit-only	Exit-only	Exit-only	Exit-only	Exit-only

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)
North	A1	0.31	2.63	0.5	A	518	778
	B1						
	C1	0.54	4.74	1.1	A	728	1092

	D1	0.28	3.73	0.4	A	306	458
	E1	0.43	4.96	0.7	A	450	674
South	A2	0.33	4.45	0.5	A	326	488
	B2	0.31	2.52	0.4	A	523	785
	C2	0.30	4.97	0.4	A	262	394
	D2	0.00	0.00	0.0	A	0	0
	E2						

Main Results for each time segment

07:45 - 08:00

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	425	106	305	2092	0.203	424	754	0.0	0.3	2.157	A
	B1			296				434				
	C1	596	149	29	1642	0.363	594	267	0.0	0.6	3.427	A
	D1	251	63	623	1525	0.164	250	0	0.0	0.2	2.823	A
	E1	369	92	692	1477	0.250	368	181	0.0	0.3	3.240	A
South	A2	267	67	0.75	1200	0.222	265	596	0.0	0.3	3.846	A
	B2	429	107	266	2145	0.200	428	0	0.0	0.2	2.096	A
	C2	215	54	525	1182	0.182	214	170	0.0	0.2	3.717	A
	D2	0	0	739	1080	0.000	0	0	0.0	0.0	0.000	A
	E2			597				142				

08:00 - 08:15

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	508	127	365	2049	0.248	508	904	0.3	0.3	2.336	A
	B1			354				519				
	C1	713	178	35	1638	0.435	712	319	0.6	0.8	3.884	A
	D1	299	75	748	1443	0.207	299	0	0.2	0.3	3.147	A
	E1	440	110	829	1388	0.317	440	217	0.3	0.5	3.796	A
South	A2	319	80	0.90	1200	0.266	319	713	0.3	0.4	4.082	A
	B2	512	128	319	2106	0.243	512	0	0.2	0.3	2.258	A
	C2	257	64	628	1122	0.229	257	204	0.2	0.3	4.161	A
	D2	0	0	885	996	0.000	0	0	0.0	0.0	0.000	A
	E2			714				171				

08:15 - 08:30

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	622	156	447	1989	0.313	622	1106	0.3	0.5	2.633	A
	B1			433				635				
	C1	873	218	43	1634	0.535	872	390	0.8	1.1	4.715	A
	D1	367	92	915	1333	0.275	366	0	0.3	0.4	3.722	A
	E1	540	135	1015	1267	0.426	538	266	0.5	0.7	4.932	A
South	A2	390	98	1	1200	0.325	390	873	0.4	0.5	4.440	A
	B2	628	157	391	2054	0.305	627	0	0.3	0.4	2.522	A

	C2	315	79	769	1040	0.303	314	249	0.3	0.4	4.959	A
	D2	0	0	1083	882	0.000	0	0	0.0	0.0	0.000	A
	E2			874				209				

08:30 - 08:45

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	622	156	448	1988	0.313	622	1109	0.5	0.5	2.634	A
	B1			434				636				
	C1	874	219	43	1634	0.535	874	391	1.1	1.1	4.739	A
	D1	367	92	917	1331	0.275	367	0	0.4	0.4	3.731	A
	E1	540	135	1017	1266	0.426	539	266	0.7	0.7	4.956	A
South	A2	391	98	1	1200	0.326	391	874	0.5	0.5	4.448	A
	B2	628	157	392	2054	0.306	628	0	0.4	0.4	2.523	A
	C2	315	79	770	1039	0.303	315	250	0.4	0.4	4.968	A
	D2	0	0	1084	881	0.000	0	0	0.0	0.0	0.000	A
	E2			875				209				

08:45 - 09:00

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	508	127	367	2048	0.248	508	908	0.5	0.3	2.341	A
	B1			355				521				
	C1	715	179	35	1638	0.436	716	320	1.1	0.8	3.910	A
	D1	299	75	751	1440	0.208	300	0	0.4	0.3	3.157	A
	E1	440	110	833	1386	0.318	442	218	0.7	0.5	3.817	A
South	A2	320	80	0.90	1200	0.266	320	715	0.5	0.4	4.093	A
	B2	512	128	321	2105	0.243	513	0	0.4	0.3	2.262	A
	C2	257	64	629	1121	0.229	258	205	0.4	0.3	4.171	A
	D2	0	0	887	995	0.000	0	0	0.0	0.0	0.000	A
	E2			716				171				

09:00 - 09:15

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	425	106	307	2091	0.203	426	759	0.3	0.3	2.161	A
	B1			297				436				
	C1	598	150	29	1642	0.364	599	268	0.8	0.6	3.457	A
	D1	251	63	628	1521	0.165	251	0	0.3	0.2	2.836	A
	E1	369	92	697	1474	0.250	369	183	0.5	0.3	3.260	A
South	A2	268	67	0.75	1200	0.223	268	598	0.4	0.3	3.863	A
	B2	429	107	269	2143	0.200	429	0	0.3	0.3	2.102	A
	C2	215	54	527	1181	0.182	216	171	0.3	0.2	3.730	A
	D2	0	0	742	1078	0.000	0	0	0.0	0.0	0.000	A
	E2			599				143				

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Data Errors and Warnings

Severity	Area	Item	Description

Warning	Geometry	Junction North - Arm A1 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	Junction South - Arm B2 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Linked Roundabout	Junction North - Arm C1	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 South - Arm A2	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	Vehicle Mix	Junction North	HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.
Warning	Vehicle Mix	Junction South	HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.

Junction Network

Junctions

Junction	Name	Junction Type	Arm order	Junction Delay (s)	Junction LOS
North	Junction 4 = M-5	Standard Roundabout	A1,B1,C1,D1,E1	3.97	A
South	Junction 4= M-5	Standard Roundabout	A2,B2,C2,D2,E2	4.39	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D_20	WNP 2023 PM	16-17	Q3	ONE HOUR	15:45	17:15	15	✓

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

Linked Arm Data

Junction	Arm	Feeding Junction	Feeding Arm	Link Type	Flow source	Uniform flow (PCU/hr)	Flow multiplier (%)	Internal storage space (PCU)
North	**C1**	South	A2	Simple (vertical queueing)	Normal	0	100.00	
South	**A2**	North	C1	Simple (vertical queueing)	Normal	0	100.00	

Demand overview (Traffic)

Junction	Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
North	**A1**		ONE HOUR	✓	845	100.000
	B1					
	C1	✓				
	D1		ONE HOUR	✓	228	100.000
	E1		ONE HOUR	✓	287	100.000

South	A2	✓				
	B2		ONE HOUR	✓	561	100.000
	C2		ONE HOUR	✓	348	100.000
	D2		ONE HOUR	✓	0	100.000
	E2					

Origin-Destination Data

Demand (PCU/hr)

Junction North

		To				
		A1	B1	C1	D1	E1
From	A1	1	375	352	0	117
	B1	Exit-only	Exit-only	Exit-only	Exit-only	Exit-only
	C1	489	0	0	0	325
	D1	143	0	63	0	22
	E1	78	143	66	0	0

Demand (PCU/hr)

Junction South

		To				
		A2	B2	C2	D2	E2
From	A2	0	0	288	0	194
	B2	555	0	6	0	0
	C2	259	0	1	0	88
	D2	0	0	0	0	0
	E2	Exit-only	Exit-only	Exit-only	Exit-only	Exit-only

Vehicle Mix

Heavy Vehicle Percentages

Junction North

		To				
		A1	B1	C1	D1	E1
From	A1	0	0	0	0	0
	B1	Exit-only	Exit-only	Exit-only	Exit-only	Exit-only
	C1	0	0	0	0	0
	D1	0	0	0	0	0
	E1	0	0	0	0	0

Heavy Vehicle Percentages

Junction South

		To				
		A2	B2	C2	D2	E2
From	A2	0	0	0	0	0
	B2	0	0	0	0	0
	C2	0	0	0	0	0
	D2	0	0	0	0	0
	E2	Exit-only	Exit-only	Exit-only	Exit-only	Exit-only

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)
North	A1	0.44	3.09	0.8	A	775	1163
	B1						
	C1	0.57	5.26	1.3	A	747	1120
	D1	0.20	3.57	0.2	A	209	314
	E1	0.22	3.23	0.3	A	263	395
South	A2	0.44	5.37	0.8	A	441	662
	B2	0.32	2.69	0.5	A	515	772
	C2	0.38	5.76	0.6	A	319	479
	D2	0.00	0.00	0.0	A	0	0
	E2						

Main Results for each time segment

15:45 - 16:00

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	636	159	204	2166	0.294	635	532	0.0	0.4	2.348	A
	B1			450				389				
	C1	611	153	89	1606	0.380	609	361	0.0	0.6	3.600	A
	D1	172	43	697	1476	0.116	171	0	0.0	0.1	2.757	A
	E1	216	54	521	1588	0.136	215	347	0.0	0.2	2.621	A
South	A2	361	90	0.75	1200	0.301	359	611	0.0	0.4	4.273	A
	B2	422	106	360	2077	0.203	421	0	0.0	0.3	2.173	A
	C2	262	65	561	1160	0.226	261	220	0.0	0.3	3.997	A
	D2	0	0	822	1032	0.000	0	0	0.0	0.0	0.000	A
	E2			612				211				

16:00 - 16:15

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	760	190	244	2137	0.355	759	638	0.4	0.5	2.611	A
	B1			538				465				
	C1	731	183	106	1595	0.458	730	432	0.6	0.8	4.156	A
	D1	205	51	836	1384	0.148	205	0	0.1	0.2	3.051	A
	E1	258	65	625	1521	0.170	258	416	0.2	0.2	2.850	A
South	A2	432	108	0.90	1200	0.360	432	731	0.4	0.6	4.680	A
	B2	504	126	432	2024	0.249	504	0	0.3	0.3	2.367	A
	C2	313	78	672	1096	0.285	312	264	0.3	0.4	4.592	A
	D2	0	0	985	938	0.000	0	0	0.0	0.0	0.000	A
	E2			732				253				

16:15 - 16:30

Junction	Arm	Total	Junction	Circulating	Capacity	RFC	Throughput	Throughput	Start	End	Delay	LOS

		Demand (PCU/hr)	Arrivals (PCU)	flow (PCU/hr)	(PCU/hr)		(PCU/hr)	(exit side) (PCU/hr)	queue (PCU)	queue (PCU)	(s)	
North	A1	930	233	299	2097	0.444	929	781	0.5	0.8	3.080	A
	B1			659				570				
	C1	895	224	130	1581	0.566	893	529	0.8	1.3	5.221	A
	D1	251	63	1023	1262	0.199	251	0	0.2	0.2	3.561	A
	E1	316	79	764	1430	0.221	316	510	0.2	0.3	3.230	A
South	A2	529	132	1	1200	0.441	528	895	0.6	0.8	5.351	A
	B2	618	154	529	1954	0.316	617	0	0.3	0.5	2.693	A
	C2	383	96	823	1008	0.380	382	323	0.4	0.6	5.745	A
	D2	0	0	1205	811	0.000	0	0	0.0	0.0	0.000	A
	E2			896				309				

16:30 - 16:45

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	930	233	299	2097	0.444	930	783	0.8	0.8	3.085	A
	B1			660				570				
	C1	896	224	130	1581	0.567	896	530	1.3	1.3	5.256	A
	D1	251	63	1026	1260	0.199	251	0	0.2	0.2	3.568	A
	E1	316	79	766	1429	0.221	316	511	0.3	0.3	3.234	A
South	A2	530	132	1	1200	0.441	530	896	0.8	0.8	5.368	A
	B2	618	154	531	1953	0.316	618	0	0.5	0.5	2.695	A
	C2	383	96	824	1008	0.380	383	324	0.6	0.6	5.764	A
	D2	0	0	1207	810	0.000	0	0	0.0	0.0	0.000	A
	E2			897				310				

16:45 - 17:00

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	760	190	245	2137	0.356	761	641	0.8	0.6	2.619	A
	B1			539				466				
	C1	733	183	106	1595	0.459	735	433	1.3	0.9	4.191	A
	D1	205	51	841	1381	0.148	205	0	0.2	0.2	3.061	A
	E1	258	65	628	1519	0.170	258	418	0.3	0.2	2.856	A
South	A2	433	108	0.90	1200	0.361	434	733	0.8	0.6	4.704	A
	B2	504	126	435	2023	0.249	505	0	0.5	0.3	2.372	A
	C2	313	78	674	1095	0.286	314	266	0.6	0.4	4.614	A
	D2	0	0	988	937	0.000	0	0	0.0	0.0	0.000	A
	E2			734				254				

17:00 - 17:15

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	636	159	205	2166	0.294	637	536	0.6	0.4	2.354	A
	B1			451				390				
	C1	613	153	89	1606	0.382	614	362	0.9	0.6	3.636	A
	D1	172	43	703	1472	0.117	172	0	0.2	0.1	2.768	A
	E1	216	54	525	1585	0.136	216	350	0.2	0.2	2.631	A
South	A2	362	91	0.75	1200	0.302	363	613	0.6	0.4	4.301	A
	B2	422	106	364	2074	0.204	423	0	0.3	0.3	2.179	A
	C2	262	65	564	1159	0.226	262	222	0.4	0.3	4.017	A

	D2	0	0	827	1030	0.000	0	0	0.0	0.0	0.000	A
	E2			614				212				

WNP 2023 Weekend , 12-13

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	Junction North - Arm A1 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	Junction South - Arm B2 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Linked Roundabout	Junction North - Arm C1	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 South - Arm A2	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	Vehicle Mix	Junction North	HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.
Warning	Vehicle Mix	Junction South	HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.

Junction Network

Junctions

Junction	Name	Junction Type	Arm order	Junction Delay (s)	Junction LOS
North	Junction 4 = M-5	Standard Roundabout	A1,B1,C1,D1,E1	3.00	A
South	Junction 4= M-5	Standard Roundabout	A2,B2,C2,D2,E2	3.72	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D_21	WNP 2023 Weekend	12-13	Q3	ONE HOUR	11:45	13:15	15	✓

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

Linked Arm Data

Junction	Arm	Feeding Junction	Feeding Arm	Link Type	Flow source	Uniform flow (PCU/hr)	Flow multiplier (%)	Internal storage space (PCU)
North	**C1**	South	A2	Simple (vertical queueing)	Normal	0	100.00	

South	**A2**	North	C1	Simple (vertical queueing)	Normal	0	100.00	

Demand overview (Traffic)

Junction	Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
North	A1		ONE HOUR	✓	630	100.000
	B1					
	C1	✓				
	D1		ONE HOUR	✓	172	100.000
	E1		ONE HOUR	✓	281	100.000
South	A2	✓				
	B2		ONE HOUR	✓	315	100.000
	C2		ONE HOUR	✓	299	100.000
	D2		ONE HOUR	✓	0	100.000
	E2					

Origin-Destination Data

Junction North

Demand (PCU/hr)

		To				
		A1	B1	C1	D1	E1
From	A1	1	257	288	0	84
	B1	Exit-only	Exit-only	Exit-only	Exit-only	Exit-only
	C1	364	1	0	0	191
	D1	121	0	44	0	7
	E1	85	136	59	0	1

Junction South

Demand (PCU/hr)

		To				
		A2	B2	C2	D2	E2
From	A2	0	0	249	0	143
	B2	306	0	9	0	0
	C2	250	0	0	0	49
	D2	0	0	0	0	0
	E2	Exit-only	Exit-only	Exit-only	Exit-only	Exit-only

Vehicle Mix

Junction North

Heavy Vehicle Percentages

		To				
		A1	B1	C1	D1	E1
From	A1	0	0	0	0	0
	B1	Exit-only	Exit-only	Exit-only	Exit-only	Exit-only
	C1	0	0	0	0	0
	D1	0	0	0	0	0
	E1	0	0	0	0	0

Heavy Vehicle Percentages

Junction South

		To				
		A2	B2	C2	D2	E2
From	A2	0	0	0	0	0
	B2	0	0	0	0	0
	C2	0	0	0	0	0
	D2	0	0	0	0	0
	E2	Exit-only	Exit-only	Exit-only	Exit-only	Exit-only

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)
North	A1	0.33	2.52	0.5	A	578	867
	B1						
	C1	0.38	3.63	0.6	A	510	765
	D1	0.13	2.81	0.1	A	158	237
	E1	0.20	2.91	0.2	A	258	387
South	A2	0.36	4.67	0.6	A	359	538
	B2	0.17	2.14	0.2	A	289	434
	C2	0.27	4.13	0.4	A	274	412
	D2	0.00	0.00	0.0	A	0	0
	E2						

Main Results for each time segment

11:45 - 12:00

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	474	119	181	2183	0.217	473	428	0.0	0.3	2.104	A
	B1			358				296				
	C1	417	104	65	1621	0.258	416	294	0.0	0.3	2.986	A
	D1	129	32	481	1618	0.080	129	0	0.0	0.1	2.417	A
	E1	212	53	398	1668	0.127	211	212	0.0	0.1	2.469	A
South	A2	294	73	0	1201	0.245	292	417	0.0	0.3	3.957	A
	B2	237	59	292	2126	0.112	237	0	0.0	0.1	1.904	A
	C2	225	56	337	1291	0.174	224	192	0.0	0.2	3.368	A
	D2	0	0	561	1183	0.000	0	0	0.0	0.0	0.000	A
	E2			417				143				

12:00 - 12:15

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	566	142	217	2157	0.263	566	513	0.3	0.4	2.262	A

	B1			429				354				
	C1	500	125	77	1613	0.310	499	351	0.3	0.4	3.232	A
	D1	155	39	576	1555	0.099	155	0	0.1	0.1	2.569	A
	E1	253	63	477	1617	0.156	252	254	0.1	0.2	2.638	A
	A2	351	88	0	1201	0.293	351	500	0.3	0.4	4.234	A
	B2	283	71	351	2084	0.136	283	0	0.1	0.2	1.999	A
South	C2	269	67	403	1253	0.215	269	231	0.2	0.3	3.657	A
	D2	0	0	672	1119	0.000	0	0	0.0	0.0	0.000	A
	E2			500				172				

12:15 - 12:30

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
	A1	694	173	265	2122	0.327	693	628	0.4	0.5	2.520	A
	B1			525				433				
North	C1	612	153	95	1602	0.382	611	430	0.4	0.6	3.630	A
	D1	189	47	706	1470	0.129	189	0	0.1	0.1	2.809	A
	E1	309	77	584	1547	0.200	309	311	0.2	0.2	2.907	A
	A2	430	108	0	1201	0.358	430	612	0.4	0.6	4.666	A
	B2	347	87	430	2026	0.171	347	0	0.2	0.2	2.142	A
South	C2	329	82	493	1200	0.274	329	283	0.3	0.4	4.130	A
	D2	0	0	822	1032	0.000	0	0	0.0	0.0	0.000	A
	E2			612				211				

12:30 - 12:45

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
	A1	694	173	265	2122	0.327	694	629	0.5	0.5	2.520	A
	B1			525				434				
North	C1	612	153	95	1602	0.382	612	430	0.6	0.6	3.634	A
	D1	189	47	707	1470	0.129	189	0	0.1	0.1	2.811	A
	E1	309	77	585	1547	0.200	309	312	0.2	0.2	2.908	A
	A2	430	108	0	1201	0.359	430	612	0.6	0.6	4.673	A
	B2	347	87	430	2026	0.171	347	0	0.2	0.2	2.143	A
South	C2	329	82	494	1200	0.274	329	283	0.4	0.4	4.134	A
	D2	0	0	823	1032	0.000	0	0	0.0	0.0	0.000	A
	E2			612				211				

12:45 - 13:00

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
	A1	566	142	217	2157	0.263	567	514	0.5	0.4	2.265	A
	B1			429				355				
North	C1	500	125	77	1613	0.310	501	352	0.6	0.5	3.239	A
	D1	155	39	578	1554	0.100	155	0	0.1	0.1	2.574	A
	E1	253	63	478	1616	0.156	253	255	0.2	0.2	2.643	A
	A2	352	88	0	1201	0.293	352	500	0.6	0.4	4.248	A
	B2	283	71	352	2082	0.136	283	0	0.2	0.2	2.000	A
South	C2	269	67	404	1252	0.215	269	232	0.4	0.3	3.665	A
	D2	0	0	673	1118	0.000	0	0	0.0	0.0	0.000	A
	E2			500				173				

13:00 - 13:15

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	474	119	182	2183	0.217	475	430	0.4	0.3	2.109	A
	B1			359				297				
	C1	419	105	65	1620	0.259	419	295	0.5	0.4	3.000	A
	D1	129	32	484	1616	0.080	130	0	0.1	0.1	2.421	A
	E1	212	53	400	1666	0.127	212	213	0.2	0.1	2.476	A
South	A2	295	74	0	1201	0.245	295	419	0.4	0.3	3.977	A
	B2	237	59	295	2124	0.112	237	0	0.2	0.1	1.907	A
	C2	225	56	338	1290	0.174	225	194	0.3	0.2	3.382	A
	D2	0	0	563	1181	0.000	0	0	0.0	0.0	0.000	A
	E2			419				145				

WNP 2033 AM, 08-09

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	Junction North - Arm A1 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	Junction South - Arm B2 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Linked Roundabout	Junction North - Arm C1	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 South - Arm A2	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	Vehicle Mix	Junction North	HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.
Warning	Vehicle Mix	Junction South	HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.

Junction Network

Junctions

Junction	Name	Junction Type	Arm order	Junction Delay (s)	Junction LOS
North	Junction 4 = M-5	Standard Roundabout	A1,B1,C1,D1,E1	4.62	A
South	Junction 4= M-5	Standard Roundabout	A2,B2,C2,D2,E2	4.64	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically

D_22	WNP 2033 AM	08-09	Q3	ONE HOUR	07:45	09:15	15	✓

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

Linked Arm Data

Junction	Arm	Feeding Junction	Feeding Arm	Link Type	Flow source	Uniform flow (PCU/hr)	Flow multiplier (%)	Internal storage space (PCU)
North	**C1**	South	A2	Simple (vertical queueing)	Normal	0	100.00	
South	**A2**	North	C1	Simple (vertical queueing)	Normal	0	100.00	

Demand overview (Traffic)

Junction	Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
North	**A1**		ONE HOUR	✓	727	100.000
	B1					
	C1	✓				
	D1		ONE HOUR	✓	386	100.000
	E1		ONE HOUR	✓	528	100.000
South	**A2**	✓				
	B2		ONE HOUR	✓	621	100.000
	C2		ONE HOUR	✓	337	100.000
	D2		ONE HOUR	✓	0	100.000
	E2					

Origin-Destination Data

Demand (PCU/hr)

Junction North

		To				
		A1	**B1**	**C1**	**D1**	**E1**
From	**A1**	1	315	369	0	42
	B1	Exit-only	Exit-only	Exit-only	Exit-only	Exit-only
	C1	641	14	0	0	211
	D1	314	0	56	0	16
	E1	152	296	80	0	0

Demand (PCU/hr)

Junction South

		To				
		A2	**B2**	**C2**	**D2**	**E2**
From	**A2**	0	0	253	0	252
	B2	620	0	1	0	0
	C2	245	0	1	0	91
	D2	0	0	0	0	0
	E2	Exit-only	Exit-only	Exit-only	Exit-only	Exit-only

Vehicle Mix

Junction North

Heavy Vehicle Percentages

		To				
		A1	B1	C1	D1	E1
From	A1	0	0	0	0	0
	B1	Exit-only	Exit-only	Exit-only	Exit-only	Exit-only
	C1	0	0	0	0	0
	D1	0	0	0	0	0
	E1	0	0	0	0	0

Junction South

Heavy Vehicle Percentages

		To				
		A2	B2	C2	D2	E2
From	A2	0	0	0	0	0
	B2	0	0	0	0	0
	C2	0	0	0	0	0
	D2	0	0	0	0	0
	E2	Exit-only	Exit-only	Exit-only	Exit-only	Exit-only

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)
North	A1	0.41	3.11	0.7	A	667	1001
	B1						
	C1	0.58	5.30	1.4	A	793	1190
	D1	0.33	4.22	0.5	A	354	531
	E1	0.49	5.88	0.9	A	485	727
South	A2	0.46	5.59	0.9	A	463	695
	B2	0.35	2.88	0.5	A	570	855
	C2	0.40	6.46	0.7	A	309	464
	D2	0.00	0.00	0.0	A	0	0
	E2						

Main Results for each time segment

07:45 - 08:00

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	547	137	334	2071	0.264	546	829	0.0	0.4	2.358	A
	B1			411				469				
	C1	649	162	32	1640	0.396	647	379	0.0	0.7	3.615	A
	D1	291	73	679	1488	0.195	290	0	0.0	0.2	3.001	A
	E1	398	99	767	1428	0.278	396	201	0.0	0.4	3.484	A

South	A2	379	95	0.75	1200	0.316	377	649	0.0	0.5	4.364	A
	B2	468	117	378	2064	0.227	466	0	0.0	0.3	2.252	A
	C2	254	63	654	1107	0.229	253	191	0.0	0.3	4.208	A
	D2	0	0	906	984	0.000	0	0	0.0	0.0	0.000	A
	E2			650				256				

08:00 - 08:15

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	654	163	400	2023	0.323	653	994	0.4	0.5	2.628	A
	B1			492				561				
	C1	777	194	39	1636	0.475	776	454	0.7	0.9	4.180	A
	D1	347	87	815	1399	0.248	347	0	0.2	0.3	3.422	A
	E1	475	119	920	1329	0.357	474	241	0.4	0.6	4.207	A
South	A2	454	113	0.90	1200	0.378	453	777	0.5	0.6	4.810	A
	B2	558	140	454	2009	0.278	558	0	0.3	0.4	2.481	A
	C2	303	76	783	1032	0.294	302	229	0.3	0.4	4.934	A
	D2	0	0	1086	880	0.000	0	0	0.0	0.0	0.000	A
	E2			778				308				

08:15 - 08:30

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	800	200	490	1958	0.409	800	1216	0.5	0.7	3.107	A
	B1			603				687				
	C1	951	238	47	1631	0.583	949	555	0.9	1.4	5.264	A
	D1	425	106	996	1279	0.332	424	0	0.3	0.5	4.212	A
	E1	581	145	1126	1195	0.486	580	295	0.6	0.9	5.834	A
South	A2	555	139	1	1200	0.463	554	951	0.6	0.9	5.557	A
	B2	684	171	555	1935	0.353	683	0	0.4	0.5	2.873	A
	C2	371	93	959	929	0.399	370	280	0.4	0.7	6.426	A
	D2	0	0	1329	740	0.000	0	0	0.0	0.0	0.000	A
	E2			952				377				

08:30 - 08:45

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	800	200	491	1957	0.409	800	1219	0.7	0.7	3.112	A
	B1			603				688				
	C1	952	238	47	1631	0.584	952	556	1.4	1.4	5.304	A
	D1	425	106	1000	1277	0.333	425	0	0.5	0.5	4.225	A
	E1	581	145	1129	1193	0.487	581	296	0.9	0.9	5.880	A
South	A2	556	139	1	1200	0.463	556	952	0.9	0.9	5.588	A
	B2	684	171	557	1934	0.354	684	0	0.5	0.5	2.878	A
	C2	371	93	960	929	0.400	371	281	0.7	0.7	6.456	A
	D2	0	0	1331	739	0.000	0	0	0.0	0.0	0.000	A
	E2			953				378				

08:45 - 09:00

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	654	163	402	2022	0.323	654	999	0.7	0.5	2.636	A

	B1			493				563				
	C1	779	195	39	1636	0.476	781	455	1.4	0.9	4.219	A
	D1	347	87	820	1395	0.249	348	0	0.5	0.3	3.437	A
	E1	475	119	925	1326	0.358	476	242	0.9	0.6	4.244	A
South	A2	455	114	0.90	1200	0.379	456	779	0.9	0.6	4.843	A
	B2	558	140	457	2007	0.278	559	0	0.5	0.4	2.486	A
	C2	303	76	785	1030	0.294	304	230	0.7	0.4	4.964	A
	D2	0	0	1089	878	0.000	0	0	0.0	0.0	0.000	A
	E2			780				309				

09:00 - 09:15

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	547	137	336	2070	0.264	548	835	0.5	0.4	2.365	A
	B1			413				471				
	C1	652	163	32	1640	0.398	653	381	0.9	0.7	3.650	A
	D1	291	73	685	1484	0.196	291	0	0.3	0.2	3.018	A
	E1	398	99	774	1424	0.279	398	203	0.6	0.4	3.510	A
South	A2	381	95	0.75	1200	0.317	381	652	0.6	0.5	4.399	A
	B2	468	117	382	2061	0.227	468	0	0.4	0.3	2.261	A
	C2	254	63	657	1105	0.230	254	192	0.4	0.3	4.236	A
	D2	0	0	912	981	0.000	0	0	0.0	0.0	0.000	A
	E2			653				259				

WNP 2033 PM, 16-17

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	Junction North - Arm A1 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	Junction South - Arm B2 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Linked Roundabout	Junction North - Arm C1	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 South - Arm A2	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	Vehicle Mix	Junction North	HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.
Warning	Vehicle Mix	Junction South	HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.

Junction Network

Junctions

Junction	Name	Junction Type	Arm order	Junction Delay (s)	Junction LOS
North	Junction 4 = M-5	Standard Roundabout	A1,B1,C1,D1,E1	4.41	A
South	Junction 4= M-5	Standard Roundabout	A2,B2,C2,D2,E2	4.48	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D_23	WNP 2033 PM	16-17	Q3	ONE HOUR	15:45	17:15	15	✓

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

Linked Arm Data

Junction	Arm	Feeding Junction	Feeding Arm	Link Type	Flow source	Uniform flow (PCU/hr)	Flow multiplier (%)	Internal storage space (PCU)
North	C1	South	A2	Simple (vertical queueing)	Normal	0	100.00	
South	A2	North	C1	Simple (vertical queueing)	Normal	0	100.00	

Demand overview (Traffic)

Junction	Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
North	A1		ONE HOUR	✓	913	100.000
	B1					
	C1	✓				
	D1		ONE HOUR	✓	338	100.000
	E1		ONE HOUR	✓	244	100.000
South	A2	✓				
	B2		ONE HOUR	✓	605	100.000
	C2		ONE HOUR	✓	373	100.000
	D2		ONE HOUR	✓	0	100.000
	E2					

Origin-Destination Data

Demand (PCU/hr)

Junction North

		To				
		A1	B1	C1	D1	E1
From	A1	1	406	380	0	126
	B1	Exit-only	Exit-only	Exit-only	Exit-only	Exit-only
	C1	529	0	0	0	350
	D1	228	0	86	0	24
	E1	85	156	3	0	0

Demand (PCU/hr)

Junction South

		To				
		A2	B2	C2	D2	E2
From	A2	0	0	330	0	208
	B2	599	0	6	0	0
	C2	281	0	1	0	91
	D2	0	0	0	0	0
	E2	Exit-only	Exit-only	Exit-only	Exit-only	Exit-only

Vehicle Mix

Heavy Vehicle Percentages

Junction North

		To				
		A1	B1	C1	D1	E1
From	A1	0	0	0	0	0
	B1	Exit-only	Exit-only	Exit-only	Exit-only	Exit-only
	C1	0	0	0	0	0
	D1	0	0	0	0	0
	E1	0	0	0	0	0

Heavy Vehicle Percentages

Junction South

		To				
		A2	B2	C2	D2	E2
From	A2	0	0	0	0	0
	B2	0	0	0	0	0
	C2	0	0	0	0	0
	D2	0	0	0	0	0
	E2	Exit-only	Exit-only	Exit-only	Exit-only	Exit-only

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)
North	A1	0.47	3.23	0.9	A	838	1257
	B1						
	C1	0.62	5.94	1.6	A	807	1211
	D1	0.31	4.32	0.4	A	310	465
	E1	0.20	3.41	0.3	A	224	336
South	A2	0.43	5.26	0.8	A	430	645
	B2	0.34	2.78	0.5	A	555	833
	C2	0.42	6.24	0.7	A	342	513
	D2	0.00	0.00	0.0	A	0	0
	E2						

Main Results for each time segment

15:45 - 16:00

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	687	172	184	2181	0.315	686	631	0.0	0.5	2.403	A
	B1			447				422				
	C1	660	165	95	1602	0.412	658	352	0.0	0.7	3.801	A
	D1	254	64	753	1439	0.177	254	0	0.0	0.2	3.035	A
	E1	184	46	632	1516	0.121	183	374	0.0	0.1	2.699	A
South	A2	352	88	0.75	1200	0.293	350	660	0.0	0.4	4.229	A
	B2	455	114	351	2083	0.219	454	0	0.0	0.3	2.209	A
	C2	281	70	585	1147	0.245	280	220	0.0	0.3	4.146	A
	D2	0	0	865	1008	0.000	0	0	0.0	0.0	0.000	A
	E2			661				204				

16:00 - 16:15

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	821	205	220	2155	0.381	820	757	0.5	0.6	2.696	A
	B1			535				505				
	C1	790	198	114	1591	0.497	789	421	0.7	1.0	4.486	A
	D1	304	76	903	1340	0.227	304	0	0.2	0.3	3.472	A
	E1	219	55	758	1434	0.153	219	449	0.1	0.2	2.962	A
South	A2	421	105	0.90	1200	0.351	421	790	0.4	0.5	4.615	A
	B2	544	136	422	2032	0.268	544	0	0.3	0.4	2.418	A
	C2	335	84	701	1079	0.311	335	264	0.3	0.4	4.832	A
	D2	0	0	1036	909	0.000	0	0	0.0	0.0	0.000	A
	E2			791				244				

16:15 - 16:30

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	1005	251	269	2119	0.474	1004	926	0.6	0.9	3.227	A
	B1			655				618				
	C1	968	242	140	1575	0.614	965	516	1.0	1.6	5.881	A
	D1	372	93	1105	1208	0.308	372	0	0.3	0.4	4.302	A
	E1	269	67	927	1324	0.203	268	549	0.2	0.3	3.409	A
South	A2	516	129	1	1200	0.430	515	968	0.5	0.7	5.247	A
	B2	666	167	516	1964	0.339	666	0	0.4	0.5	2.771	A
	C2	411	103	858	988	0.416	410	324	0.4	0.7	6.213	A
	D2	0	0	1268	775	0.000	0	0	0.0	0.0	0.000	A
	E2			969				299				

16:30 - 16:45

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	1005	251	270	2118	0.475	1005	929	0.9	0.9	3.233	A
	B1			656				619				

	C1	969	242	140	1575	0.615	969	516	1.6	1.6	5.936	A
	D1	372	93	1109	1205	0.309	372	0	0.4	0.4	4.320	A
	E1	269	67	930	1323	0.203	269	551	0.3	0.3	3.414	A
South	A2	516	129	1	1200	0.430	516	969	0.7	0.8	5.264	A
	B2	666	167	517	1963	0.339	666	0	0.5	0.5	2.775	A
	C2	411	103	859	987	0.416	411	324	0.7	0.7	6.242	A
	D2	0	0	1270	774	0.000	0	0	0.0	0.0	0.000	A
	E2			970				300				

16:45 - 17:00

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	821	205	221	2154	0.381	822	761	0.9	0.6	2.703	A
	B1			537				506				
	C1	792	198	114	1590	0.498	795	422	1.6	1.0	4.537	A
	D1	304	76	909	1337	0.227	304	0	0.4	0.3	3.492	A
	E1	219	55	762	1432	0.153	220	452	0.3	0.2	2.970	A
South	A2	422	106	0.90	1200	0.352	423	792	0.8	0.5	4.636	A
	B2	544	136	424	2031	0.268	544	0	0.5	0.4	2.424	A
	C2	335	84	703	1078	0.311	336	266	0.7	0.5	4.857	A
	D2	0	0	1039	907	0.000	0	0	0.0	0.0	0.000	A
	E2			793				246				

17:00 - 17:15

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	687	172	185	2181	0.315	688	637	0.6	0.5	2.414	A
	B1			449				423				
	C1	663	166	96	1602	0.414	664	353	1.0	0.7	3.845	A
	D1	254	64	760	1434	0.177	255	0	0.3	0.2	3.054	A
	E1	184	46	637	1513	0.121	184	378	0.2	0.1	2.709	A
South	A2	353	88	0.75	1200	0.294	354	663	0.5	0.4	4.255	A
	B2	455	114	355	2081	0.219	456	0	0.4	0.3	2.215	A
	C2	281	70	588	1145	0.245	281	222	0.5	0.3	4.172	A
	D2	0	0	869	1005	0.000	0	0	0.0	0.0	0.000	A
	E2			664				205				

WNP 2033 Weekend , 12-13

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	Junction North - Arm A1 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	Junction South - Arm B2 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Linked Roundabout	Junction North - Arm C1	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	Junction South -	If the distance between linked junctions is small, results should be treated with caution. The

	Roundabout	Arm A2	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	Vehicle Mix	Junction North	HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.
Warning	Vehicle Mix	Junction South	HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.

Junction Network

Junctions

Junction	Name	Junction Type	Arm order	Junction Delay (s)	Junction LOS
North	Junction 4 = M-5	Standard Roundabout	A1,B1,C1,D1,E1	3.14	A
South	Junction 4= M-5	Standard Roundabout	A2,B2,C2,D2,E2	3.88	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D_24	WNP 2033 Weekend	12-13	Q3	ONE HOUR	11:45	13:15	15	✓

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

Linked Arm Data

Junction	Arm	Feeding Junction	Feeding Arm	Link Type	Flow source	Uniform flow (PCU/hr)	Flow multiplier (%)	Internal storage space (PCU)
North	**C1**	South	A2	Simple (vertical queueing)	Normal	0	100.00	
South	**A2**	North	C1	Simple (vertical queueing)	Normal	0	100.00	

Demand overview (Traffic)

Junction	Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
North	**A1**		ONE HOUR	✓	673	100.000
	B1					
	C1	✓				
	D1		ONE HOUR	✓	184	100.000
	E1		ONE HOUR	✓	303	100.000
South	**A2**	✓				
	B2		ONE HOUR	✓	339	100.000
	C2		ONE HOUR	✓	323	100.000
	D2		ONE HOUR	✓	0	100.000
	E2					

Origin-Destination Data

Junction North

Demand (PCU/hr)

		To				
		A1	B1	C1	D1	E1
From	A1	1	274	307	0	91
	B1	Exit-only	Exit-only	Exit-only	Exit-only	Exit-only
	C1	392	1	0	0	206
	D1	129	0	47	0	8
	E1	91	147	64	0	1

Junction South

Demand (PCU/hr)

		To				
		A2	B2	C2	D2	E2
From	A2	0	0	266	0	153
	B2	329	0	10	0	0
	C2	270	0	0	0	53
	D2	0	0	0	0	0
	E2	Exit-only	Exit-only	Exit-only	Exit-only	Exit-only

Vehicle Mix

Junction North

Heavy Vehicle Percentages

		To				
		A1	B1	C1	D1	E1
From	A1	0	0	0	0	0
	B1	Exit-only	Exit-only	Exit-only	Exit-only	Exit-only
	C1	0	0	0	0	0
	D1	0	0	0	0	0
	E1	0	0	0	0	0

Junction South

Heavy Vehicle Percentages

		To				
		A2	B2	C2	D2	E2
From	A2	0	0	0	0	0
	B2	0	0	0	0	0
	C2	0	0	0	0	0
	D2	0	0	0	0	0
	E2	Exit-only	Exit-only	Exit-only	Exit-only	Exit-only

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)
North	A1	0.35	2.64	0.5	A	618	926
	B1						
	C1	0.41	3.84	0.7	A	549	824

A55 Junction 8

Junctions 9 – PICADY

- Baseline 2016
- Reference Case 2020, 2023 and 2033
- With Development Without By-Pass 2020
- With Development With By-Pass 2020
- With Development 2023 and 2033

Junctions 9

PICADY 9 - Priority Intersection Module

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Report generation date: 22/06/2017 09:33:54

»BASE 2016 AM, 08-09
»BASE 2016 PM, 16-17
»BASE 2016 Weekend, 12-13
»REF 2020 AM, 08-09
»REF 2020 PM, 16-17
»REF 2020 Weekend, 12-13
»REF 2023 AM, 08-09
»REF 2023 PM, 16-17
»REF 2023 Weekend, 12-13
»REF 2033 AM, 08-09
»REF 2033 PM, 16-17
»REF 2033 Weekend, 12-13
»WNP 2020 AM WBP, 08-09
»WNP 2020 PM WBP, 16-17
»WNP 2020 Weekend WBP, 12-13
»WNP 2020 AM BP, 08-09
»WNP 2020 PM BP, 16-17
»WNP 2020 Weekend BP, 12-13
»WNP 2023 AM, 08-09
»WNP 2023 PM, 16-17
»WNP 2023 Weekend , 12-13
»WNP 2033 AM, 08-09
»WNP 2033 PM, 16-17
»WNP 2033 Weekend , 12-13

Summary of junction performance

	08-09				16-17				12-13			
	Queue (PCU)	Delay (s)	RFC	LOS	Queue (PCU)	Delay (s)	RFC	LOS	Queue (PCU)	Delay (s)	RFC	LOS
	BASE 2016 AM											
Junction East - Stream B-CD	0.0	0.00	0.00	A								
Junction East - Stream B-AD	0.0	0.00	0.00	A								

Junction East - Stream A-BCD	0.0	0.00	0.00	A								
Junction East - Stream D-ABC	12.1	97.90	0.97	F								
Junction East - Stream C-B	0.1	6.80	0.09	A								
Junction West - Stream B-CD	0.1	6.15	0.07	A								
Junction West - Stream B-AD	1.8	21.12	0.65	C								
Junction West - Stream A-BCD	1.8	13.82	0.60	B								
Junction West - Stream D-ABC	0.0	0.00	0.00	A								
Junction West - Stream C-B	0.0	0.00	0.00	A								
	BASE 2016 PM											
Junction East - Stream B-CD					0.0	0.00	0.00	A				
Junction East - Stream B-AD					0.0	0.00	0.00	A				
Junction East - Stream A-BCD					0.0	0.00	0.00	A				
Junction East - Stream D-ABC					1.1	15.55	0.53	C				
Junction East - Stream C-B					0.2	7.00	0.16	A				
Junction West - Stream B-CD					0.3	8.26	0.24	A				
Junction West - Stream B-AD					18.1	131.83	1.02	F				
Junction West - Stream A-BCD					1.6	13.55	0.58	B				
Junction West - Stream D-ABC					0.0	0.00	0.00	A				
Junction West - Stream C-B					0.0	0.00	0.00	A				
	BASE 2016 Weekend											
Junction East - Stream B-CD									0.0	0.00	0.00	A
Junction East - Stream B-AD									0.0	0.00	0.00	A
Junction East - Stream A-BCD									0.0	0.00	0.00	A
Junction East - Stream D-ABC									0.6	11.39	0.39	B
Junction East - Stream C-B									0.1	6.50	0.13	A
Junction West - Stream B-CD									0.1	7.02	0.12	A
Junction West - Stream B-AD									52.4	334.22	1.18	F
Junction West - Stream A-BCD									1.6	13.91	0.59	B
Junction West - Stream D-ABC									0.0	0.00	0.00	A
Junction West - Stream C-B									0.0	0.00	0.00	A
	REF 2020 AM											
Junction East - Stream B-CD	0.0	0.00	0.00	A								
Junction East - Stream B-AD	0.0	0.00	0.00	A								
Junction East - Stream A-BCD	0.0	0.00	0.00	A								
Junction East - Stream D-ABC	19.4	142.29	1.03	F								
Junction East - Stream C-B	0.1	6.94	0.10	A								
Junction West - Stream B-CD	0.1	6.28	0.08	A								
Junction West - Stream B-AD	2.0	23.57	0.68	C								
Junction West - Stream A-BCD	2.0	14.72	0.63	B								
Junction West - Stream D-ABC	0.0	0.00	0.00	A								
Junction West - Stream C-B	0.0	0.00	0.00	A								
	REF 2020 PM											
Junction East - Stream B-CD					0.0	0.00	0.00	A				
Junction East - Stream B-AD					0.0	0.00	0.00	A				
Junction East - Stream A-BCD					0.0	0.00	0.00	A				
Junction East - Stream D-ABC					1.0	14.53	0.50	B				
Junction East - Stream C-B					0.2	7.20	0.17	A				
Junction West - Stream B-CD					0.3	8.47	0.26	A				
Junction West - Stream B-AD					41.0	262.75	1.14	F				
Junction West - Stream A-BCD					2.3	16.64	0.66	C				
Junction West - Stream D-ABC					0.0	0.00	0.00	A				
Junction West - Stream C-B					0.0	0.00	0.00	A				

	REF 2020 Weekend											
Junction East - Stream B-CD									0.0	0.00	0.00	A
Junction East - Stream B-AD									0.0	0.00	0.00	A
Junction East - Stream A-BCD									0.0	0.00	0.00	A
Junction East - Stream D-ABC									0.7	11.89	0.41	B
Junction East - Stream C-B									0.2	6.59	0.13	A
Junction West - Stream B-CD									0.1	7.09	0.12	A
Junction West - Stream B-AD									73.3	503.23	1.26	F
Junction West - Stream A-BCD									1.9	15.19	0.62	C
Junction West - Stream D-ABC									0.0	0.00	0.00	A
Junction West - Stream C-B									0.0	0.00	0.00	A
	REF 2023 AM											
Junction East - Stream B-CD	0.0	0.00	0.00	A								
Junction East - Stream B-AD	0.0	0.00	0.00	A								
Junction East - Stream A-BCD	0.0	0.00	0.00	A								
Junction East - Stream D-ABC	24.5	171.87	1.06	F								
Junction East - Stream C-B	0.1	7.00	0.10	A								
Junction West - Stream B-CD	0.1	6.37	0.08	A								
Junction West - Stream B-AD	2.3	25.98	0.71	D								
Junction West - Stream A-BCD	2.2	15.54	0.65	C								
Junction West - Stream D-ABC	0.0	0.00	0.00	A								
Junction West - Stream C-B	0.0	0.00	0.00	A								
	REF 2023 PM											
Junction East - Stream B-CD					0.0	0.00	0.00	A				
Junction East - Stream B-AD					0.0	0.00	0.00	A				
Junction East - Stream A-BCD					0.0	0.00	0.00	A				
Junction East - Stream D-ABC					1.0	15.00	0.51	B				
Junction East - Stream C-B					0.2	7.30	0.17	A				
Junction West - Stream B-CD					0.4	8.56	0.26	A				
Junction West - Stream B-AD					50.3	334.32	1.18	F				
Junction West - Stream A-BCD					2.5	17.78	0.68	C				
Junction West - Stream D-ABC					0.0	0.00	0.00	A				
Junction West - Stream C-B					0.0	0.00	0.00	A				
	REF 2023 Weekend											
Junction East - Stream B-CD									0.0	0.00	0.00	A
Junction East - Stream B-AD									0.0	0.00	0.00	A
Junction East - Stream A-BCD									0.0	0.00	0.00	A
Junction East - Stream D-ABC									0.7	12.06	0.42	B
Junction East - Stream C-B									0.2	6.64	0.14	A
Junction West - Stream B-CD									0.1	7.11	0.13	A
Junction West - Stream B-AD									84.2	586.45	1.29	F
Junction West - Stream A-BCD									2.0	15.80	0.64	C
Junction West - Stream D-ABC									0.0	0.00	0.00	A
Junction West - Stream C-B									0.0	0.00	0.00	A
	REF 2033 AM											
Junction East - Stream B-CD	0.0	0.00	0.00	A								
Junction East - Stream B-AD	0.0	0.00	0.00	A								
Junction East - Stream A-BCD	0.0	0.00	0.00	A								
Junction East - Stream D-ABC	49.1	351.52	1.17	F								
Junction East - Stream C-B	0.1	7.24	0.12	A								
Junction West - Stream B-CD	0.1	6.77	0.10	A								
Junction West - Stream B-AD	4.1	42.85	0.82	E								

Junction West - Stream A-BCD	4.5	27.29	0.80	D								
Junction West - Stream D-ABC	0.0	0.00	0.00	A								
Junction West - Stream C-B	0.0	0.00	0.00	A								
	REF 2033 PM											
Junction East - Stream B-CD					0.0	0.00	0.00	A				
Junction East - Stream B-AD					0.0	0.00	0.00	A				
Junction East - Stream A-BCD					0.0	0.00	0.00	A				
Junction East - Stream D-ABC					1.9	21.75	0.66	C				
Junction East - Stream C-B					0.2	7.58	0.19	A				
Junction West - Stream B-CD					0.4	8.85	0.28	A				
Junction West - Stream B-AD					84.2	619.97	1.32	F				
Junction West - Stream A-BCD					3.6	23.44	0.76	C				
Junction West - Stream D-ABC					0.0	0.00	0.00	A				
Junction West - Stream C-B					0.0	0.00	0.00	A				
	REF 2033 Weekend											
Junction East - Stream B-CD									0.0	0.00	0.00	A
Junction East - Stream B-AD									0.0	0.00	0.00	A
Junction East - Stream A-BCD									0.0	0.00	0.00	A
Junction East - Stream D-ABC									0.8	12.96	0.45	B
Junction East - Stream C-B									0.2	6.79	0.15	A
Junction West - Stream B-CD									0.2	7.20	0.13	A
Junction West - Stream B-AD									127.9	861.15	1.41	F
Junction West - Stream A-BCD									2.5	18.53	0.69	C
Junction West - Stream D-ABC									0.0	0.00	0.00	A
Junction West - Stream C-B									0.0	0.00	0.00	A
	WNP 2020 AM WBP											
Junction East - Stream B-CD	0.0	0.00	0.00	A								
Junction East - Stream B-AD	0.0	0.00	0.00	A								
Junction East - Stream A-BCD	0.0	0.00	0.00	A								
Junction East - Stream D-ABC	19.4	142.29	1.03	F								
Junction East - Stream C-B	0.1	6.94	0.10	A								
Junction West - Stream B-CD	0.1	6.28	0.08	A								
Junction West - Stream B-AD	2.1	23.74	0.68	C								
Junction West - Stream A-BCD	2.0	14.72	0.63	B								
Junction West - Stream D-ABC	0.0	0.00	0.00	A								
Junction West - Stream C-B	0.0	0.00	0.00	A								
	WNP 2020 PM WBP											
Junction East - Stream B-CD					0.0	0.00	0.00	A				
Junction East - Stream B-AD					0.0	0.00	0.00	A				
Junction East - Stream A-BCD					0.0	0.00	0.00	A				
Junction East - Stream D-ABC					1.0	14.75	0.51	B				
Junction East - Stream C-B					0.2	7.20	0.17	A				
Junction West - Stream B-CD					0.3	8.47	0.26	A				
Junction West - Stream B-AD					42.1	269.68	1.15	F				
Junction West - Stream A-BCD					2.4	17.56	0.68	C				
Junction West - Stream D-ABC					0.0	0.00	0.00	A				
Junction West - Stream C-B					0.0	0.00	0.00	A				
	WNP 2020 Weekend WBP											
Junction East - Stream B-CD									0.0	0.00	0.00	A
Junction East - Stream B-AD									0.0	0.00	0.00	A
Junction East - Stream A-BCD									0.0	0.00	0.00	A
Junction East - Stream D-ABC									0.7	11.89	0.41	B

Junction East - Stream C-B									0.2	6.59	0.13	A
Junction West - Stream B-CD									0.1	7.09	0.12	A
Junction West - Stream B-AD									73.3	503.23	1.26	F
Junction West - Stream A-BCD									1.9	15.19	0.62	C
Junction West - Stream D-ABC									0.0	0.00	0.00	A
Junction West - Stream C-B									0.0	0.00	0.00	A
	WNP 2020 AM BP											
Junction East - Stream B-CD	0.0	0.00	0.00	A								
Junction East - Stream B-AD	0.0	0.00	0.00	A								
Junction East - Stream A-BCD	0.0	0.00	0.00	A								
Junction East - Stream D-ABC	19.4	142.29	1.03	F								
Junction East - Stream C-B	0.1	6.94	0.10	A								
Junction West - Stream B-CD	0.1	6.28	0.08	A								
Junction West - Stream B-AD	2.1	23.74	0.68	C								
Junction West - Stream A-BCD	2.0	14.72	0.63	B								
Junction West - Stream D-ABC	0.0	0.00	0.00	A								
Junction West - Stream C-B	0.0	0.00	0.00	A								
	WNP 2020 PM BP											
Junction East - Stream B-CD					0.0	0.00	0.00	A				
Junction East - Stream B-AD					0.0	0.00	0.00	A				
Junction East - Stream A-BCD					0.0	0.00	0.00	A				
Junction East - Stream D-ABC					1.0	14.75	0.51	B				
Junction East - Stream C-B					0.2	7.20	0.17	A				
Junction West - Stream B-CD					0.3	8.47	0.26	A				
Junction West - Stream B-AD					42.1	269.68	1.15	F				
Junction West - Stream A-BCD					2.4	17.56	0.68	C				
Junction West - Stream D-ABC					0.0	0.00	0.00	A				
Junction West - Stream C-B					0.0	0.00	0.00	A				
	WNP 2020 Weekend BP											
Junction East - Stream B-CD									0.0	0.00	0.00	A
Junction East - Stream B-AD									0.0	0.00	0.00	A
Junction East - Stream A-BCD									0.0	0.00	0.00	A
Junction East - Stream D-ABC									0.7	11.89	0.41	B
Junction East - Stream C-B									0.2	6.59	0.13	A
Junction West - Stream B-CD									0.1	7.09	0.12	A
Junction West - Stream B-AD									73.3	503.23	1.26	F
Junction West - Stream A-BCD									1.9	15.19	0.62	C
Junction West - Stream D-ABC									0.0	0.00	0.00	A
Junction West - Stream C-B									0.0	0.00	0.00	A
	WNP 2023 AM											
Junction East - Stream B-CD	0.0	0.00	0.00	A								
Junction East - Stream B-AD	0.0	0.00	0.00	A								
Junction East - Stream A-BCD	0.0	0.00	0.00	A								
Junction East - Stream D-ABC	24.5	171.87	1.06	F								
Junction East - Stream C-B	0.1	7.00	0.10	A								
Junction West - Stream B-CD	0.1	6.37	0.08	A								
Junction West - Stream B-AD	2.3	25.98	0.71	D								
Junction West - Stream A-BCD	2.2	15.54	0.65	C								
Junction West - Stream D-ABC	0.0	0.00	0.00	A								
Junction West - Stream C-B	0.0	0.00	0.00	A								
	WNP 2023 PM											
Junction East - Stream B-CD					0.0	0.00	0.00	A				

Junction East - Stream B-AD					0.0	0.00	0.00	A				
Junction East - Stream A-BCD					0.0	0.00	0.00	A				
Junction East - Stream D-ABC					1.1	15.79	0.54	C				
Junction East - Stream C-B					0.2	7.30	0.17	A				
Junction West - Stream B-CD					0.4	8.56	0.26	A				
Junction West - Stream B-AD					52.3	352.86	1.19	F				
Junction West - Stream A-BCD					2.9	19.71	0.71	C				
Junction West - Stream D-ABC					0.0	0.00	0.00	A				
Junction West - Stream C-B					0.0	0.00	0.00	A				
	WNP 2023 Weekend											
Junction East - Stream B-CD									0.0	0.00	0.00	A
Junction East - Stream B-AD									0.0	0.00	0.00	A
Junction East - Stream A-BCD									0.0	0.00	0.00	A
Junction East - Stream D-ABC									0.7	12.06	0.42	B
Junction East - Stream C-B									0.2	6.64	0.14	A
Junction West - Stream B-CD									0.1	7.11	0.13	A
Junction West - Stream B-AD									84.2	586.45	1.29	F
Junction West - Stream A-BCD									2.0	15.80	0.64	C
Junction West - Stream D-ABC									0.0	0.00	0.00	A
Junction West - Stream C-B									0.0	0.00	0.00	A
	WNP 2033 AM											
Junction East - Stream B-CD	0.0	0.00	0.00	A								
Junction East - Stream B-AD	0.0	0.00	0.00	A								
Junction East - Stream A-BCD	0.0	0.00	0.00	A								
Junction East - Stream D-ABC	49.1	351.52	1.17	F								
Junction East - Stream C-B	0.1	7.24	0.12	A								
Junction West - Stream B-CD	0.1	6.77	0.10	A								
Junction West - Stream B-AD	4.1	42.85	0.82	E								
Junction West - Stream A-BCD	4.5	27.29	0.80	D								
Junction West - Stream D-ABC	0.0	0.00	0.00	A								
Junction West - Stream C-B	0.0	0.00	0.00	A								
	WNP 2033 PM											
Junction East - Stream B-CD					0.0	0.00	0.00	A				
Junction East - Stream B-AD					0.0	0.00	0.00	A				
Junction East - Stream A-BCD					0.0	0.00	0.00	A				
Junction East - Stream D-ABC					2.2	24.74	0.70	C				
Junction East - Stream C-B					0.2	7.58	0.19	A				
Junction West - Stream B-CD					0.4	8.85	0.28	A				
Junction West - Stream B-AD					84.2	619.97	1.32	F				
Junction West - Stream A-BCD					3.6	23.44	0.76	C				
Junction West - Stream D-ABC					0.0	0.00	0.00	A				
Junction West - Stream C-B					0.0	0.00	0.00	A				
	WNP 2033 Weekend											
Junction East - Stream B-CD									0.0	0.00	0.00	A
Junction East - Stream B-AD									0.0	0.00	0.00	A
Junction East - Stream A-BCD									0.0	0.00	0.00	A
Junction East - Stream D-ABC									0.8	12.96	0.45	B
Junction East - Stream C-B									0.2	6.79	0.15	A
Junction West - Stream B-CD									0.2	7.20	0.13	A
Junction West - Stream B-AD									127.9	861.15	1.41	F
Junction West - Stream A-BCD									2.5	18.53	0.69	C
Junction West - Stream D-ABC									0.0	0.00	0.00	A

Junction West - Stream C-B									0.0	0.00	0.00	A

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

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

File summary

File Description

Title	A55 Junction 8 Assessments
Location	A55 Junction 8
Site number	M-46
Date	22/06/2017
Version	Rev0o
Status	Existing
Identifier	OW
Client	Horizon Nuclear Power
Jobnumber	60PO8077
Enumerator	JEGINTL\WitherO
Description	Assessment of baseline and all reference cases and all WNP scenarios. WBP = without bypasses, BP = with bypasses

Units

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

Analysis Options

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

Demand Set Summary

ID	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D_01	BASE 2016 AM	08-09	Q3	ONE HOUR	07:45	09:15	15
D_02	BASE 2016 PM	16-17	Q3	ONE HOUR	15:45	17:15	15
D_03	BASE 2016 Weekend	12-13	Q3	ONE HOUR	11:45	13:15	15
D_04	REF 2020 AM	08-09	Q3	ONE HOUR	07:45	09:15	15
D_05	REF 2020 PM	16-17	Q3	ONE HOUR	15:45	17:15	15
D_06	REF 2020 Weekend	12-13	Q3	ONE HOUR	11:45	13:15	15
D_07	REF 2023 AM	08-09	Q3	ONE HOUR	07:45	09:15	15
D_08	REF 2023 PM	16-17	Q3	ONE HOUR	15:45	17:15	15
D_09	REF 2023 Weekend	12-13	Q3	ONE HOUR	11:45	13:15	15
D_10	REF 2033 AM	08-09	Q3	ONE HOUR	07:45	09:15	15
D_11	REF 2033 PM	16-17	Q3	ONE HOUR	15:45	17:15	15
D_12	REF 2033 Weekend	12-13	Q3	ONE HOUR	11:45	13:15	15
D_13	WNP 2020 AM WBP	08-09	Q3	ONE HOUR	07:45	09:15	15
D_14	WNP 2020 PM WBP	16-17	Q3	ONE HOUR	15:45	17:15	15
D_15	WNP 2020 Weekend WBP	12-13	Q3	ONE HOUR	11:45	13:15	15
D_16	WNP 2020 AM BP	08-09	Q3	ONE HOUR	07:45	09:15	15
D_17	WNP 2020 PM BP	16-17	Q3	ONE HOUR	15:45	17:15	15
D_18	WNP 2020 Weekend BP	12-13	Q3	ONE HOUR	11:45	13:15	15
D_19	WNP 2023 AM	08-09	Q3	ONE HOUR	07:45	09:15	15

D_20	WNP 2023 PM	16-17	Q3	ONE HOUR	15:45	17:15	15
D_21	WNP 2023 Weekend	12-13	Q3	ONE HOUR	11:45	13:15	15
D_22	WNP 2033 AM	08-09	Q3	ONE HOUR	07:45	09:15	15
D_23	WNP 2033 PM	16-17	Q3	ONE HOUR	15:45	17:15	15
D_24	WNP 2033 Weekend	12-13	Q3	ONE HOUR	11:45	13:15	15

Analysis Set Details

ID	Network flow scaling factor (%)
A1	100.000

BASE 2016 AM, 08-09

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix	Junction East	HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.
Warning	Vehicle Mix	Junction West	HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.

Junction Network

Junctions

Junction	Name	Junction Type	Major road direction	Junction Delay (s)	Junction LOS
East	untitled	Crossroads	Two-way	35.55	E
West		Crossroads	Two-way	10.85	B

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Arms

Arms

Junction	Arm	Name	Description	Arm type
East	**A**	A5025 Pentraeth Road		Major
	B	A55 Onslip		Minor
	C	Lon Pant		Major
	D	A55 offslip		Minor
West	**A**	Lon Pant Southbound		Major
	B	A55 Offslip		Minor
	C	Lon Pant Northbound		Major
	D	A55 onslip		Minor

Major Arm Geometry

Junction	Arm	Width of carriageway (m)	Has kerbed central reserve	Has right turn bay	Visibility for right turn (m)	Blocks?	Blocking queue (PCU)
East	**A**	10.00			0.0	✓	0.00
	C	10.00			250.0		-
West	**A**	7.70			0.0	✓	0.00
	C	7.70			250.0		-

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

Minor Arm Geometry

Junction	Arm	Minor arm type	Lane width (m)	Lane Width (Left) (m)	Lane Width (Right) (m)	Visibility to left (m)	Visibility to right (m)
East	B	Two lanes		5.00	5.00	44	86
	D	One lane	2.20			0	0
West	B	Two lanes		5.00	5.00	48	85
	D	One lane	2.20			0	0

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for A-D	Slope for B-A	Slope for B-C	Slope for B-D	Slope for C-A	Slope for C-B	Slope for C-D	Slope for D-A	Slope for D-B	Slope for D-C
East	A-D	574	-	-	-	-	-	-	0.184	0.262	0.184	-	-	-
East	B-A	641	0.097	0.244	0.244	-	-	-	0.153	0.348	-	0.244	0.244	0.122
East	B-C	814	0.103	0.261	-	-	-	-	-	-	-	-	-	-
East	B-D, nearside lane	641	0.097	0.244	0.244	-	-	-	0.153	0.348	0.153	-	-	-
East	B-D, offside lane	641	0.097	0.244	0.244	-	-	-	0.153	0.348	0.153	-	-	-
East	C-B	719	0.230	0.230	0.329	-	-	-	-	-	-	-	-	-
East	D-A	574	-	-	-	-	-	-	0.184	-	0.073	-	-	-
East	D-B, nearside lane	440	0.105	0.105	0.239	-	-	-	0.167	0.167	0.066	-	-	-
East	D-B, offside lane	440	0.105	0.105	0.239	-	-	-	0.167	0.167	0.066	-	-	-
East	D-C	440	-	0.105	0.239	0.084	0.167	0.167	0.167	0.167	0.066	-	-	-

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for A-D	Slope for B-A	Slope for B-C	Slope for B-D	Slope for C-A	Slope for C-B	Slope for C-D	Slope for D-A	Slope for D-B	Slope for D-C
West	A-D	574	-	-	-	-	-	-	0.206	0.294	0.206	-	-	-
West	B-A	642	0.108	0.274	0.274	-	-	-	0.172	0.391	-	0.274	0.274	0.137
West	B-C	813	0.115	0.292	-	-	-	-	-	-	-	-	-	-
West	B-D, nearside lane	642	0.108	0.274	0.274	-	-	-	0.172	0.391	0.172	-	-	-
West	B-D, offside lane	642	0.108	0.274	0.274	-	-	-	0.172	0.391	0.172	-	-	-
West	C-B	719	0.258	0.258	0.368	-	-	-	-	-	-	-	-	-
West	D-A	574	-	-	-	-	-	-	0.206	-	0.081	-	-	-
West	D-B, nearside lane	440	0.118	0.118	0.268	-	-	-	0.187	0.187	0.074	-	-	-
West	D-B, offside lane	440	0.118	0.118	0.268	-	-	-	0.187	0.187	0.074	-	-	-
West	D-C	440	-	0.118	0.268	0.094	0.187	0.187	0.187	0.187	0.074	-	-	-

The slopes and intercepts shown above do NOT include any corrections or adjustments.
Streams may be combined, in which case capacity will be adjusted.
Values are shown for the first time segment only; they may differ for subsequent time segments.

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D_01	BASE 2016 AM	08-09	Q3	ONE HOUR	07:45	09:15	15

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

Demand overview (Traffic)

Junction	Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
East	A		✓	530	100.000
	B		✓	0	100.000
	C		✓	223	100.000
	D		✓	424	100.000
West	A		✓	423	100.000
	B		✓	324	100.000
	C		✓	255	100.000
	D		✓	0	100.000

Origin-Destination Data

Demand (PCU/hr)

Junction East

		To			
		A	B	C	D
From	A	0	357	173	0
	B	0	0	0	0
	C	173	50	0	0
	D	303	0	121	0

Demand (PCU/hr)

Junction West

		To			
		A	B	C	D
From	A	0	0	173	250
	B	282	0	42	0
	C	173	0	0	82
	D	0	0	0	0

Vehicle Mix

Heavy Vehicle Percentages

Junction East

		To			
		A	B	C	D
From	A	0	0	0	0
	B	0	0	0	0
	C	0	0	0	0
	D	0	0	0	0

Heavy Vehicle Percentages

Junction West

		To			
		A	B	C	D
From	A	0	0	0	0
	B	0	0	0	0
	C	0	0	0	0
	D	0	0	0	0

Results

Results Summary for whole modelled period

Junction	Stream	Max RFC	Max delay (s)	Max Queue (PCU)	Max LOS
East	B-CD	0.00	0.00	0.0	A
	B-AD	0.00	0.00	0.0	A
	A-BCD	0.00	0.00	0.0	A
	A-B				
	A-C				
	D-ABC	0.97	97.90	12.1	F
	C-D				
	C-A				
	C-B	0.09	6.80	0.1	A
West	B-CD	0.07	6.15	0.1	A
	B-AD	0.65	21.12	1.8	C
	A-BCD	0.60	13.82	1.8	B
	A-B				
	A-C				
	D-ABC	0.00	0.00	0.0	A
	C-D				
	C-A				
	C-B	0.00	0.00	0.0	A

Main Results for each time segment

07:45 - 08:00

Junction	Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
East	B-CD	0	636	0.000	0	0.0	0.000	A
	B-AD	0	515	0.000	0	0.0	0.000	A
	A-BCD	0	540	0.000	0	0.0	0.000	A
	A-B	269			269			
	A-C	130			130			
	D-ABC	319	496	0.644	312	1.7	18.989	C
	C-D	0			0			
	C-A	130			130			
	C-B	38	627	0.060	37	0.1	6.103	A
West	B-CD	32	698	0.045	31	0.0	5.400	A
	B-AD	212	533	0.398	210	0.6	11.039	B
	A-BCD	238	626	0.380	235	0.7	9.159	A
	A-B	0			0			
	A-C	81			81			
	D-ABC	0	371	0.000	0	0.0	0.000	A
	C-D	62			62			
	C-A	130			130			
	C-B	0	616	0.000	0	0.0	0.000	A

08:00 - 08:15

Junction	Stream	Total Demand	Capacity	RFC	Throughput	End queue	Delay (s)	LOS

		(PCU/hr)	(PCU/hr)		(PCU/hr)	(PCU)		
East	B-CD	0	620	0.000	0	0.0	0.000	A
	B-AD	0	489	0.000	0	0.0	0.000	A
	A-BCD	0	534	0.000	0	0.0	0.000	A
	A-B	321			321			
	A-C	156			156			
	D-ABC	381	490	0.779	376	3.1	30.115	D
	C-D	0			0			
	C-A	156			156			
	C-B	45	609	0.074	45	0.1	6.379	A
West	B-CD	38	671	0.056	38	0.1	5.680	A
	B-AD	254	511	0.496	252	1.0	13.860	B
	A-BCD	298	637	0.468	297	1.0	10.580	B
	A-B	0			0			
	A-C	82			82			
	D-ABC	0	351	0.000	0	0.0	0.000	A
	C-D	74			74			
	C-A	156			156			
	C-B	0	595	0.000	0	0.0	0.000	A

08:15 - 08:30

Junction	Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
East	B-CD	0	597	0.000	0	0.0	0.000	A
	B-AD	0	453	0.000	0	0.0	0.000	A
	A-BCD	0	524	0.000	0	0.0	0.000	A
	A-B	393			393			
	A-C	190			190			
	D-ABC	467	481	0.971	442	9.2	67.494	F
	C-D	0			0			
	C-A	190			190			
	C-B	55	585	0.094	55	0.1	6.798	A
West	B-CD	46	634	0.073	46	0.1	6.128	A
	B-AD	310	481	0.646	307	1.7	20.383	C
	A-BCD	390	653	0.598	387	1.7	13.539	B
	A-B	0			0			
	A-C	76			76			
	D-ABC	0	323	0.000	0	0.0	0.000	A
	C-D	90			90			
	C-A	190			190			
	C-B	0	567	0.000	0	0.0	0.000	A

08:30 - 08:45

Junction	Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
East	B-CD	0	597	0.000	0	0.0	0.000	A
	B-AD	0	450	0.000	0	0.0	0.000	A
	A-BCD	0	524	0.000	0	0.0	0.000	A
	A-B	393			393			
	A-C	190			190			
	D-ABC	467	481	0.971	455	12.1	97.896	F
	C-D	0			0			
	C-A	190			190			
	C-B	55	585	0.094	55	0.1	6.798	A

West	B-CD	46	632	0.073	46	0.1	6.146	A
	B-AD	310	480	0.647	310	1.8	21.115	C
	A-BCD	391	653	0.598	391	1.8	13.816	B
	A-B	0			0			
	A-C	75			75			
	D-ABC	0	322	0.000	0	0.0	0.000	A
	C-D	90			90			
	C-A	190			190			
	C-B	0	566	0.000	0	0.0	0.000	A

08:45 - 09:00

Junction	Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
East	B-CD	0	620	0.000	0	0.0	0.000	A
	B-AD	0	484	0.000	0	0.0	0.000	A
	A-BCD	0	533	0.000	0	0.0	0.000	A
	A-B	321			321			
	A-C	156			156			
	D-ABC	381	490	0.779	413	4.1	55.838	F
	C-D	0			0			
	C-A	156			156			
	C-B	45	609	0.074	45	0.1	6.384	A
West	B-CD	38	669	0.056	38	0.1	5.702	A
	B-AD	254	510	0.498	257	1.0	14.391	B
	A-BCD	299	638	0.469	302	1.1	10.836	B
	A-B	0			0			
	A-C	81			81			
	D-ABC	0	350	0.000	0	0.0	0.000	A
	C-D	74			74			
	C-A	156			156			
	C-B	0	593	0.000	0	0.0	0.000	A

09:00 - 09:15

Junction	Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
East	B-CD	0	636	0.000	0	0.0	0.000	A
	B-AD	0	513	0.000	0	0.0	0.000	A
	A-BCD	0	540	0.000	0	0.0	0.000	A
	A-B	269			269			
	A-C	130			130			
	D-ABC	319	496	0.644	328	1.9	22.429	C
	C-D	0			0			
	C-A	130			130			
	C-B	38	627	0.060	38	0.1	6.111	A
West	B-CD	32	696	0.045	32	0.0	5.418	A
	B-AD	212	532	0.399	214	0.7	11.370	B
	A-BCD	239	627	0.381	240	0.7	9.362	A
	A-B	0			0			
	A-C	80			80			
	D-ABC	0	370	0.000	0	0.0	0.000	A
	C-D	62			62			
	C-A	130			130			
	C-B	0	614	0.000	0	0.0	0.000	A

BASE 2016 PM, 16-17

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix	Junction East	HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.
Warning	Vehicle Mix	Junction West	HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.

Junction Network

Junctions

Junction	Name	Junction Type	Major road direction	Junction Delay (s)	Junction LOS
East	untitled	Crossroads	Two-way	4.59	A
West		Crossroads	Two-way	53.91	F

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D_02	BASE 2016 PM	16-17	Q3	ONE HOUR	15:45	17:15	15

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

Demand overview (Traffic)

Junction	Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
East	**A**		✓	435	100.000
	B		✓	0	100.000
	C		✓	265	100.000
	D		✓	238	100.000
West	**A**		✓	396	100.000
	B		✓	577	100.000
	C		✓	230	100.000
	D		✓	0	100.000

Origin-Destination Data

Demand (PCU/hr)

Junction East

		To			
		A	B	C	D
From	A	0	289	146	0
	B	0	0	0	0
	C	179	86	0	0
	D	189	0	49	0

Demand (PCU/hr)

Junction West

		To			
		A	B	C	D
From	A	0	0	146	250
	B	451	0	126	0
	C	179	0	0	51
	D	0	0	0	0

Vehicle Mix

Heavy Vehicle Percentages

Junction East

		To			
		A	B	C	D
From	A	0	0	0	0
	B	0	0	0	0
	C	0	0	0	0
	D	0	0	0	0

Heavy Vehicle Percentages

Junction West

		To			
		A	B	C	D
From	A	0	0	0	0
	B	0	0	0	0
	C	0	0	0	0
	D	0	0	0	0

Results

Results Summary for whole modelled period

Junction	Stream	Max RFC	Max delay (s)	Max Queue (PCU)	Max LOS
East	B-CD	0.00	0.00	0.0	A
	B-AD	0.00	0.00	0.0	A
	A-BCD	0.00	0.00	0.0	A
	A-B				
	A-C				
	D-ABC	0.53	15.55	1.1	C
	C-D				

	C-A				
	C-B	0.16	7.00	0.2	A
West	B-CD	0.24	8.26	0.3	A
	B-AD	1.02	131.83	18.1	F
	A-BCD	0.58	13.55	1.6	B
	A-B				
	A-C				
	D-ABC	0.00	0.00	0.0	A
	C-D				
	C-A				
	C-B	0.00	0.00	0.0	A

Main Results for each time segment

15:45 - 16:00

Junction	Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
East	B-CD	0	640	0.000	0	0.0	0.000	A
	B-AD	0	530	0.000	0	0.0	0.000	A
	A-BCD	0	532	0.000	0	0.0	0.000	A
	A-B	218			218			
	A-C	110			110			
	D-ABC	179	508	0.353	177	0.5	10.802	B
	C-D	0			0			
	C-A	135			135			
	C-B	65	643	0.101	64	0.1	6.213	A
West	B-CD	95	658	0.144	94	0.2	6.378	A
	B-AD	340	538	0.632	333	1.6	17.102	C
	A-BCD	229	615	0.372	226	0.7	9.211	A
	A-B	0			0			
	A-C	69			69			
	D-ABC	0	366	0.000	0	0.0	0.000	A
	C-D	38			38			
	C-A	135			135			
	C-B	0	621	0.000	0	0.0	0.000	A

16:00 - 16:15

Junction	Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
East	B-CD	0	624	0.000	0	0.0	0.000	A
	B-AD	0	508	0.000	0	0.0	0.000	A
	A-BCD	0	524	0.000	0	0.0	0.000	A
	A-B	260			260			
	A-C	131			131			
	D-ABC	214	502	0.426	213	0.7	12.431	B
	C-D	0			0			
	C-A	161			161			
	C-B	77	629	0.123	77	0.1	6.524	A
West	B-CD	113	620	0.183	113	0.2	7.094	A
	B-AD	405	517	0.785	399	3.2	29.147	D

	A-BCD	285	624	0.457	284	1.0	10.574	B
	A-B	0			0			
	A-C	71			71			
	D-ABC	0	344	0.000	0	0.0	0.000	A
	C-D	46			46			
	C-A	161			161			
	C-B	0	601	0.000	0	0.0	0.000	A

16:15 - 16:30

Junction	Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
East	B-CD	0	602	0.000	0	0.0	0.000	A
	B-AD	0	477	0.000	0	0.0	0.000	A
	A-BCD	0	513	0.000	0	0.0	0.000	A
	A-B	318			318			
	A-C	161			161			
	D-ABC	262	493	0.531	261	1.1	15.371	C
	C-D	0			0			
	C-A	197			197			
	C-B	95	609	0.156	95	0.2	7.001	A
West	B-CD	139	575	0.241	138	0.3	8.247	A
	B-AD	497	488	1.017	460	12.4	80.214	F
	A-BCD	369	637	0.580	367	1.6	13.319	B
	A-B	0			0			
	A-C	67			67			
	D-ABC	0	313	0.000	0	0.0	0.000	A
	C-D	56			56			
	C-A	197			197			
	C-B	0	575	0.000	0	0.0	0.000	A

16:30 - 16:45

Junction	Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
East	B-CD	0	602	0.000	0	0.0	0.000	A
	B-AD	0	477	0.000	0	0.0	0.000	A
	A-BCD	0	513	0.000	0	0.0	0.000	A
	A-B	318			318			
	A-C	161			161			
	D-ABC	262	493	0.531	262	1.1	15.554	C
	C-D	0			0			
	C-A	197			197			
	C-B	95	609	0.156	95	0.2	7.004	A
West	B-CD	139	574	0.242	139	0.3	8.263	A
	B-AD	497	487	1.019	474	18.1	131.832	F
	A-BCD	370	637	0.581	370	1.6	13.553	B
	A-B	0			0			
	A-C	66			66			
	D-ABC	0	311	0.000	0	0.0	0.000	A
	C-D	56			56			
	C-A	197			197			
	C-B	0	574	0.000	0	0.0	0.000	A

16:45 - 17:00

Junction	Stream	Total Demand	Capacity	RFC	Throughput	End queue	Delay (s)	LOS

		(PCU/hr)	(PCU/hr)		(PCU/hr)	(PCU)		
East	B-CD	0	624	0.000	0	0.0	0.000	A
	B-AD	0	507	0.000	0	0.0	0.000	A
	A-BCD	0	524	0.000	0	0.0	0.000	A
	A-B	260			260			
	A-C	131			131			
	D-ABC	214	502	0.426	215	0.8	12.624	B
	C-D	0			0			
	C-A	161			161			
	C-B	77	629	0.123	77	0.1	6.533	A
West	B-CD	113	595	0.190	114	0.2	7.483	A
	B-AD	405	515	0.787	460	4.5	77.774	F
	A-BCD	286	625	0.458	288	1.0	10.806	B
	A-B	0			0			
	A-C	70			70			
	D-ABC	0	340	0.000	0	0.0	0.000	A
	C-D	46			46			
	C-A	161			161			
	C-B	0	600	0.000	0	0.0	0.000	A

17:00 - 17:15

Junction	Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
East	B-CD	0	639	0.000	0	0.0	0.000	A
	B-AD	0	530	0.000	0	0.0	0.000	A
	A-BCD	0	532	0.000	0	0.0	0.000	A
	A-B	218			218			
	A-C	110			110			
	D-ABC	179	508	0.353	180	0.6	10.996	B
	C-D	0			0			
	C-A	135			135			
	C-B	65	643	0.101	65	0.1	6.225	A
West	B-CD	95	651	0.146	95	0.2	6.481	A
	B-AD	340	537	0.633	350	1.8	20.329	C
	A-BCD	230	616	0.373	231	0.7	9.401	A
	A-B	0			0			
	A-C	68			68			
	D-ABC	0	364	0.000	0	0.0	0.000	A
	C-D	38			38			
	C-A	135			135			
	C-B	0	620	0.000	0	0.0	0.000	A

BASE 2016 Weekend, 12-13

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix	Junction East	HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.
Warning	Vehicle Mix	Junction West	HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.

Junction Network

Junctions

Junction	Name	Junction Type	Major road direction	Junction Delay (s)	Junction LOS
East	untitled	Crossroads	Two-way	3.51	A
West		Crossroads	Two-way	160.76	F

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D_03	BASE 2016 Weekend	12-13	Q3	ONE HOUR	11:45	13:15	15

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

Demand overview (Traffic)

Junction	Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
East	**A**		✓	334	100.000
	B		✓	0	100.000
	C		✓	206	100.000
	D		✓	180	100.000
West	**A**		✓	386	100.000
	B		✓	595	100.000
	C		✓	158	100.000
	D		✓	0	100.000

Origin-Destination Data

Demand (PCU/hr)

Junction East

		To			
		A	**B**	**C**	**D**
From	**A**	0	214	120	0
	B	0	0	0	0
	C	133	73	0	0
	D	152	0	28	0

Demand (PCU/hr)

Junction West

		To			
		A	B	C	D
From	A	0	0	120	266
	B	533	0	62	0
	C	133	0	0	25
	D	0	0	0	0

Vehicle Mix

Heavy Vehicle Percentages

Junction East

		To			
		A	B	C	D
From	A	0	0	0	0
	B	0	0	0	0
	C	0	0	0	0
	D	0	0	0	0

Heavy Vehicle Percentages

Junction West

		To			
		A	B	C	D
From	A	0	0	0	0
	B	0	0	0	0
	C	0	0	0	0
	D	0	0	0	0

Results

Results Summary for whole modelled period

Junction	Stream	Max RFC	Max delay (s)	Max Queue (PCU)	Max LOS
East	B-CD	0.00	0.00	0.0	A
	B-AD	0.00	0.00	0.0	A
	A-BCD	0.00	0.00	0.0	A
	A-B				
	A-C				
	D-ABC	0.39	11.39	0.6	B
	C-D				
	C-A				
	C-B	0.13	6.50	0.1	A
West	B-CD	0.12	7.02	0.1	A
	B-AD	1.18	334.22	52.4	F
	A-BCD	0.59	13.91	1.6	B
	A-B				
	A-C				
	D-ABC	0.00	0.00	0.0	A
	C-D				
	C-A				

	C-B	0.00	0.00	0.0	A

Main Results for each time segment

11:45 - 12:00

Junction	Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
East	B-CD	0	656	0.000	0	0.0	0.000	A
	B-AD	0	554	0.000	0	0.0	0.000	A
	A-BCD	0	541	0.000	0	0.0	0.000	A
	A-B	161			161			
	A-C	90			90			
	D-ABC	136	525	0.258	134	0.3	9.179	A
	C-D	0			0			
	C-A	100			100			
	C-B	55	661	0.083	55	0.1	5.933	A
West	B-CD	47	642	0.073	46	0.1	6.040	A
	B-AD	401	546	0.735	391	2.5	22.069	C
	A-BCD	235	612	0.384	232	0.7	9.421	A
	A-B	0			0			
	A-C	56			56			
	D-ABC	0	374	0.000	0	0.0	0.000	A
	C-D	19			19			
	C-A	100			100			
	C-B	0	622	0.000	0	0.0	0.000	A

12:00 - 12:15

Junction	Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
East	B-CD	0	644	0.000	0	0.0	0.000	A
	B-AD	0	536	0.000	0	0.0	0.000	A
	A-BCD	0	535	0.000	0	0.0	0.000	A
	A-B	192			192			
	A-C	108			108			
	D-ABC	162	520	0.311	161	0.4	10.015	B
	C-D	0			0			
	C-A	120			120			
	C-B	66	650	0.101	66	0.1	6.163	A
West	B-CD	56	600	0.093	56	0.1	6.615	A
	B-AD	479	526	0.911	463	6.5	48.073	E
	A-BCD	290	620	0.468	289	1.0	10.852	B
	A-B	0			0			
	A-C	57			57			
	D-ABC	0	354	0.000	0	0.0	0.000	A
	C-D	22			22			
	C-A	120			120			
	C-B	0	602	0.000	0	0.0	0.000	A

12:15 - 12:30

Junction	Stream	Total Demand	Capacity	RFC	Throughput	End queue	Delay (s)	LOS

		(PCU/hr)	(PCU/hr)		(PCU/hr)	(PCU)		
East	B-CD	0	627	0.000	0	0.0	0.000	A
	B-AD	0	512	0.000	0	0.0	0.000	A
	A-BCD	0	526	0.000	0	0.0	0.000	A
	A-B	236			236			
	A-C	132			132			
	D-ABC	198	514	0.385	198	0.6	11.342	B
	C-D	0			0			
	C-A	146			146			
	C-B	80	634	0.127	80	0.1	6.497	A
West	B-CD	68	581	0.118	68	0.1	7.020	A
	B-AD	587	500	1.174	492	30.1	153.341	F
	A-BCD	371	631	0.588	369	1.6	13.672	B
	A-B	0			0			
	A-C	54			54			
	D-ABC	0	326	0.000	0	0.0	0.000	A
	C-D	28			28			
	C-A	146			146			
	C-B	0	575	0.000	0	0.0	0.000	A

12:30 - 12:45

Junction	Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
East	B-CD	0	627	0.000	0	0.0	0.000	A
	B-AD	0	512	0.000	0	0.0	0.000	A
	A-BCD	0	526	0.000	0	0.0	0.000	A
	A-B	236			236			
	A-C	132			132			
	D-ABC	198	514	0.385	198	0.6	11.389	B
	C-D	0			0			
	C-A	146			146			
	C-B	80	634	0.127	80	0.1	6.500	A
West	B-CD	68	581	0.118	68	0.1	7.024	A
	B-AD	587	499	1.176	498	52.4	310.211	F
	A-BCD	372	632	0.589	372	1.6	13.913	B
	A-B	0			0			
	A-C	53			53			
	D-ABC	0	321	0.000	0	0.0	0.000	A
	C-D	28			28			
	C-A	146			146			
	C-B	0	575	0.000	0	0.0	0.000	A

12:45 - 13:00

Junction	Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
East	B-CD	0	644	0.000	0	0.0	0.000	A
	B-AD	0	536	0.000	0	0.0	0.000	A
	A-BCD	0	535	0.000	0	0.0	0.000	A
	A-B	192			192			
	A-C	108			108			
	D-ABC	162	520	0.311	162	0.5	10.076	B
	C-D	0			0			
	C-A	120			120			
	C-B	66	650	0.101	66	0.1	6.165	A

West	B-CD	56	586	0.095	56	0.1	6.791	A
	B-AD	479	525	0.913	515	43.4	334.217	F
	A-BCD	291	621	0.468	293	1.0	11.085	B
	A-B	0			0			
	A-C	56			56			
	D-ABC	0	346	0.000	0	0.0	0.000	A
	C-D	22			22			
	C-A	120			120			
	C-B	0	601	0.000	0	0.0	0.000	A

13:00 - 13:15

Junction	Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
East	B-CD	0	656	0.000	0	0.0	0.000	A
	B-AD	0	553	0.000	0	0.0	0.000	A
	A-BCD	0	541	0.000	0	0.0	0.000	A
	A-B	161			161			
	A-C	90			90			
	D-ABC	136	525	0.258	136	0.4	9.263	A
	C-D	0			0			
	C-A	100			100			
	C-B	55	661	0.083	55	0.1	5.942	A
West	B-CD	47	590	0.079	47	0.1	6.630	A
	B-AD	401	545	0.737	532	10.7	190.802	F
	A-BCD	236	613	0.384	237	0.7	9.621	A
	A-B	0			0			
	A-C	55			55			
	D-ABC	0	367	0.000	0	0.0	0.000	A
	C-D	19			19			
	C-A	100			100			
	C-B	0	620	0.000	0	0.0	0.000	A

REF 2020 AM, 08-09

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix	Junction East	HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.
Warning	Vehicle Mix	Junction West	HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.

Junction Network

Junctions

Junction	Name	Junction Type	Major road direction	Junction Delay (s)	Junction LOS
East	untitled	Crossroads	Two-way	51.48	F
West		Crossroads	Two-way	11.83	B

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D_04	REF 2020 AM	08-09	Q3	ONE HOUR	07:45	09:15	15

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

Demand overview (Traffic)

Junction	Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
East	A		✓	559	100.000
	B		✓	0	100.000
	C		✓	235	100.000
	D		✓	446	100.000
West	A		✓	440	100.000
	B		✓	337	100.000
	C		✓	268	100.000
	D		✓	0	100.000

Origin-Destination Data

Demand (PCU/hr)

Junction East

		To			
		A	B	C	D
From	A	0	377	182	0
	B	0	0	0	0
	C	182	53	0	0
	D	319	0	127	0

Demand (PCU/hr)

Junction West

		To			
		A	B	C	D
From	A	0	0	182	258
	B	292	0	45	0
	C	182	0	0	86
	D	0	0	0	0

Vehicle Mix

Heavy Vehicle Percentages

Junction East

		To			
		A	B	C	D
From	A	0	0	0	0
	B	0	0	0	0
	C	0	0	0	0
	D	0	0	0	0

Heavy Vehicle Percentages

Junction West

		To			
		A	B	C	D
From	A	0	0	0	0
	B	0	0	0	0
	C	0	0	0	0
	D	0	0	0	0

Results

Results Summary for whole modelled period

Junction	Stream	Max RFC	Max delay (s)	Max Queue (PCU)	Max LOS
East	B-CD	0.00	0.00	0.0	A
	B-AD	0.00	0.00	0.0	A
	A-BCD	0.00	0.00	0.0	A
	A-B				
	A-C				
	D-ABC	1.03	142.29	19.4	F
	C-D				
	C-A				
	C-B	0.10	6.94	0.1	A
West	B-CD	0.08	6.28	0.1	A
	B-AD	0.68	23.57	2.0	C
	A-BCD	0.63	14.72	2.0	B
	A-B				
	A-C				
	D-ABC	0.00	0.00	0.0	A
	C-D				
	C-A				
	C-B	0.00	0.00	0.0	A

Main Results for each time segment

07:45 - 08:00

Junction	Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
East	B-CD	0	631	0.000	0	0.0	0.000	A

	B-AD	0	508	0.000	0	0.0	0.000	A
	A-BCD	0	538	0.000	0	0.0	0.000	A
	A-B	284			284			
	A-C	137			137			
	D-ABC	336	494	0.679	328	2.0	20.769	C
	C-D	0			0			
	C-A	137			137			
	C-B	40	622	0.064	40	0.1	6.179	A
West	B-CD	34	693	0.049	34	0.1	5.461	A
	B-AD	220	528	0.416	217	0.7	11.472	B
	A-BCD	248	629	0.395	245	0.8	9.335	A
	A-B	0			0			
	A-C	83			83			
	D-ABC	0	367	0.000	0	0.0	0.000	A
	C-D	65			65			
	C-A	137			137			
	C-B	0	612	0.000	0	0.0	0.000	A

08:00 - 08:15

Junction	Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
East	B-CD	0	614	0.000	0	0.0	0.000	A
	B-AD	0	481	0.000	0	0.0	0.000	A
	A-BCD	0	531	0.000	0	0.0	0.000	A
	A-B	339			339			
	A-C	164			164			
	D-ABC	401	488	0.822	393	3.8	35.508	E
	C-D	0			0			
	C-A	164			164			
	C-B	48	603	0.079	48	0.1	6.479	A
West	B-CD	40	665	0.061	40	0.1	5.765	A
	B-AD	263	505	0.520	261	1.0	14.658	B
	A-BCD	312	641	0.488	311	1.1	10.913	B
	A-B	0			0			
	A-C	83			83			
	D-ABC	0	346	0.000	0	0.0	0.000	A
	C-D	77			77			
	C-A	164			164			
	C-B	0	590	0.000	0	0.0	0.000	A

08:15 - 08:30

Junction	Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
East	B-CD	0	591	0.000	0	0.0	0.000	A
	B-AD	0	442	0.000	0	0.0	0.000	A
	A-BCD	0	522	0.000	0	0.0	0.000	A
	A-B	415			415			
	A-C	200			200			
	D-ABC	491	478	1.027	454	13.2	87.233	F
	C-D	0			0			
	C-A	200			200			
	C-B	58	577	0.101	58	0.1	6.935	A
West	B-CD	50	625	0.079	49	0.1	6.257	A
	B-AD	321	474	0.678	318	2.0	22.518	C

	A-BCD	410	657	0.624	407	2.0	14.349	B
	A-B	0			0			
	A-C	74			74			
	D-ABC	0	317	0.000	0	0.0	0.000	A
	C-D	95			95			
	C-A	200			200			
	C-B	0	561	0.000	0	0.0	0.000	A

08:30 - 08:45

Junction	Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
East	B-CD	0	591	0.000	0	0.0	0.000	A
	B-AD	0	437	0.000	0	0.0	0.000	A
	A-BCD	0	522	0.000	0	0.0	0.000	A
	A-B	415			415			
	A-C	200			200			
	D-ABC	491	478	1.027	466	19.4	142.293	F
	C-D	0			0			
	C-A	200			200			
	C-B	58	577	0.101	58	0.1	6.937	A
West	B-CD	50	623	0.080	50	0.1	6.279	A
	B-AD	321	473	0.680	321	2.0	23.575	C
	A-BCD	411	658	0.625	411	2.0	14.719	B
	A-B	0			0			
	A-C	73			73			
	D-ABC	0	316	0.000	0	0.0	0.000	A
	C-D	95			95			
	C-A	200			200			
	C-B	0	560	0.000	0	0.0	0.000	A

08:45 - 09:00

Junction	Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
East	B-CD	0	614	0.000	0	0.0	0.000	A
	B-AD	0	472	0.000	0	0.0	0.000	A
	A-BCD	0	531	0.000	0	0.0	0.000	A
	A-B	339			339			
	A-C	164			164			
	D-ABC	401	488	0.822	453	6.2	102.648	F
	C-D	0			0			
	C-A	164			164			
	C-B	48	603	0.079	48	0.1	6.484	A
West	B-CD	40	662	0.061	41	0.1	5.792	A
	B-AD	263	504	0.521	266	1.1	15.375	C
	A-BCD	314	642	0.488	317	1.2	11.235	B
	A-B	0			0			
	A-C	82			82			
	D-ABC	0	345	0.000	0	0.0	0.000	A
	C-D	77			77			
	C-A	164			164			
	C-B	0	588	0.000	0	0.0	0.000	A

09:00 - 09:15

Junction	Stream	Total Demand	Capacity	RFC	Throughput	End queue	Delay (s)	LOS

		(PCU/hr)	(PCU/hr)		(PCU/hr)	(PCU)		
East	B-CD	0	631	0.000	0	0.0	0.000	A
	B-AD	0	505	0.000	0	0.0	0.000	A
	A-BCD	0	538	0.000	0	0.0	0.000	A
	A-B	284			284			
	A-C	137			137			
	D-ABC	336	494	0.679	352	2.3	27.490	D
	C-D	0			0			
	C-A	137			137			
	C-B	40	622	0.064	40	0.1	6.188	A
West	B-CD	34	691	0.049	34	0.1	5.484	A
	B-AD	220	527	0.417	221	0.7	11.845	B
	A-BCD	249	630	0.396	251	0.8	9.567	A
	A-B	0			0			
	A-C	82			82			
	D-ABC	0	366	0.000	0	0.0	0.000	A
	C-D	65			65			
	C-A	137			137			
	C-B	0	610	0.000	0	0.0	0.000	A

REF 2020 PM, 16-17

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix	Junction East	HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.
Warning	Vehicle Mix	Junction West	HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.

Junction Network

Junctions

Junction	Name	Junction Type	Major road direction	Junction Delay (s)	Junction LOS
East	untitled	Crossroads	Two-way	3.99	A
West		Crossroads	Two-way	103.73	F

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D_05	REF 2020 PM	16-17	Q3	ONE HOUR	15:45	17:15	15

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

Demand overview (Traffic)

Junction	Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
East	A		✓	473	100.000
	B		✓	0	100.000
	C		✓	283	100.000
	D		✓	225	100.000
West	A		✓	438	100.000
	B		✓	621	100.000
	C		✓	247	100.000
	D		✓	0	100.000

Origin-Destination Data

Demand (PCU/hr)

Junction East

		To			
		A	B	C	D
From	A	0	315	158	0
	B	0	0	0	0
	C	193	90	0	0
	D	185	0	40	0

Demand (PCU/hr)

Junction West

		To			
		A	B	C	D
From	A	0	0	158	280
	B	488	0	133	0
	C	193	0	0	54
	D	0	0	0	0

Vehicle Mix

Heavy Vehicle Percentages

Junction East

		To			
		A	B	C	D
From	A	0	0	0	0
	B	0	0	0	0
	C	0	0	0	0
	D	0	0	0	0

Heavy Vehicle Percentages

Junction West

		To			
		A	B	C	D
From	A	0	0	0	0
	B	0	0	0	0
	C	0	0	0	0
	D	0	0	0	0

Results

Results Summary for whole modelled period

Junction	Stream	Max RFC	Max delay (s)	Max Queue (PCU)	Max LOS
East	B-CD	0.00	0.00	0.0	A
	B-AD	0.00	0.00	0.0	A
	A-BCD	0.00	0.00	0.0	A
	A-B				
	A-C				
	D-ABC	0.50	14.53	1.0	B
	C-D				
	C-A				
	C-B	0.17	7.20	0.2	A
West	B-CD	0.26	8.47	0.3	A
	B-AD	1.14	262.75	41.0	F
	A-BCD	0.66	16.64	2.3	C
	A-B				
	A-C				
	D-ABC	0.00	0.00	0.0	A
	C-D				
	C-A				
	C-B	0.00	0.00	0.0	A

Main Results for each time segment

15:45 - 16:00

Junction	Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
East	B-CD	0	633	0.000	0	0.0	0.000	A
	B-AD	0	524	0.000	0	0.0	0.000	A
	A-BCD	0	529	0.000	0	0.0	0.000	A
	A-B	237			237			
	A-C	119			119			
	D-ABC	169	511	0.331	167	0.5	10.419	B
	C-D	0			0			
	C-A	145			145			
	C-B	68	637	0.106	67	0.1	6.315	A
West	B-CD	100	643	0.156	99	0.2	6.617	A
	B-AD	367	527	0.697	359	2.1	20.485	C
	A-BCD	261	619	0.421	258	0.8	9.893	A
	A-B	0			0			
	A-C	69			69			
	D-ABC	0	356	0.000	0	0.0	0.000	A
	C-D	41			41			
	C-A	145			145			
	C-B	0	610	0.000	0	0.0	0.000	A

16:00 - 16:15

Junction	Stream	Total Demand	Capacity	RFC	Throughput	End queue	Delay (s)	LOS

		(PCU/hr)	(PCU/hr)		(PCU/hr)	(PCU)		
East	B-CD	0	617	0.000	0	0.0	0.000	A
	B-AD	0	501	0.000	0	0.0	0.000	A
	A-BCD	0	521	0.000	0	0.0	0.000	A
	A-B	283			283			
	A-C	142			142			
	D-ABC	202	505	0.401	202	0.7	11.856	B
	C-D	0			0			
	C-A	174			174			
	C-B	81	621	0.130	81	0.1	6.662	A
West	B-CD	120	600	0.199	119	0.2	7.481	A
	B-AD	439	504	0.871	427	5.0	41.565	E
	A-BCD	326	629	0.518	324	1.2	11.804	B
	A-B	0			0			
	A-C	68			68			
	D-ABC	0	331	0.000	0	0.0	0.000	A
	C-D	49			49			
	C-A	174			174			
	C-B	0	588	0.000	0	0.0	0.000	A

16:15 - 16:30

Junction	Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
East	B-CD	0	593	0.000	0	0.0	0.000	A
	B-AD	0	469	0.000	0	0.0	0.000	A
	A-BCD	0	509	0.000	0	0.0	0.000	A
	A-B	347			347			
	A-C	174			174			
	D-ABC	248	495	0.500	246	1.0	14.386	B
	C-D	0			0			
	C-A	212			212			
	C-B	99	599	0.165	99	0.2	7.199	A
West	B-CD	146	572	0.256	146	0.3	8.452	A
	B-AD	537	472	1.137	462	23.9	133.446	F
	A-BCD	424	643	0.660	421	2.2	16.108	C
	A-B	0			0			
	A-C	58			58			
	D-ABC	0	296	0.000	0	0.0	0.000	A
	C-D	59			59			
	C-A	212			212			
	C-B	0	559	0.000	0	0.0	0.000	A

16:30 - 16:45

Junction	Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
East	B-CD	0	593	0.000	0	0.0	0.000	A
	B-AD	0	469	0.000	0	0.0	0.000	A
	A-BCD	0	509	0.000	0	0.0	0.000	A
	A-B	347			347			
	A-C	174			174			
	D-ABC	248	495	0.500	248	1.0	14.525	B
	C-D	0			0			
	C-A	212			212			
	C-B	99	599	0.165	99	0.2	7.201	A

West	B-CD	146	571	0.256	146	0.3	8.473	A
	B-AD	537	471	1.140	469	41.0	262.748	F
	A-BCD	425	644	0.661	425	2.3	16.638	C
	A-B	0			0			
	A-C	57			57			
	D-ABC	0	292	0.000	0	0.0	0.000	A
	C-D	59			59			
	C-A	212			212			
	C-B	0	557	0.000	0	0.0	0.000	A

16:45 - 17:00

Junction	Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
East	B-CD	0	617	0.000	0	0.0	0.000	A
	B-AD	0	500	0.000	0	0.0	0.000	A
	A-BCD	0	521	0.000	0	0.0	0.000	A
	A-B	283			283			
	A-C	142			142			
	D-ABC	202	505	0.401	203	0.7	12.009	B
	C-D	0			0			
	C-A	174			174			
	C-B	81	621	0.130	81	0.2	6.672	A
West	B-CD	120	578	0.207	120	0.3	7.859	A
	B-AD	439	502	0.873	490	28.1	255.556	F
	A-BCD	327	630	0.519	331	1.3	12.236	B
	A-B	0			0			
	A-C	67			67			
	D-ABC	0	323	0.000	0	0.0	0.000	A
	C-D	49			49			
	C-A	174			174			
	C-B	0	586	0.000	0	0.0	0.000	A

17:00 - 17:15

Junction	Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
East	B-CD	0	633	0.000	0	0.0	0.000	A
	B-AD	0	524	0.000	0	0.0	0.000	A
	A-BCD	0	529	0.000	0	0.0	0.000	A
	A-B	237			237			
	A-C	119			119			
	D-ABC	169	511	0.331	170	0.5	10.582	B
	C-D	0			0			
	C-A	145			145			
	C-B	68	637	0.106	68	0.1	6.328	A
West	B-CD	100	601	0.167	100	0.2	7.200	A
	B-AD	367	526	0.699	469	2.7	95.952	F
	A-BCD	262	620	0.422	264	0.9	10.176	B
	A-B	0			0			
	A-C	68			68			
	D-ABC	0	350	0.000	0	0.0	0.000	A
	C-D	41			41			
	C-A	145			145			
	C-B	0	609	0.000	0	0.0	0.000	A

REF 2020 Weekend, 12-13

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix	Junction East	HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.
Warning	Vehicle Mix	Junction West	HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.

Junction Network

Junctions

Junction	Name	Junction Type	Major road direction	Junction Delay (s)	Junction LOS
East	untitled	Crossroads	Two-way	3.65	A
West		Crossroads	Two-way	240.43	F

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D_06	REF 2020 Weekend	12-13	Q3	ONE HOUR	11:45	13:15	15

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

Demand overview (Traffic)

Junction	Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
East	**A**		✓	350	100.000
	B		✓	0	100.000
	C		✓	216	100.000
	D		✓	190	100.000
West	**A**		✓	405	100.000
	B		✓	626	100.000
	C		✓	167	100.000
	D		✓	0	100.000

Origin-Destination Data

Demand (PCU/hr)

Junction East

		To			
		A	B	C	D
From	A	0	225	125	0
	B	0	0	0	0
	C	140	76	0	0
	D	160	0	30	0

Demand (PCU/hr)

Junction West

		To			
		A	B	C	D
From	A	0	0	125	280
	B	561	0	65	0
	C	140	0	0	27
	D	0	0	0	0

Vehicle Mix

Heavy Vehicle Percentages

Junction East

		To			
		A	B	C	D
From	A	0	0	0	0
	B	0	0	0	0
	C	0	0	0	0
	D	0	0	0	0

Heavy Vehicle Percentages

Junction West

		To			
		A	B	C	D
From	A	0	0	0	0
	B	0	0	0	0
	C	0	0	0	0
	D	0	0	0	0

Results

Results Summary for whole modelled period

Junction	Stream	Max RFC	Max delay (s)	Max Queue (PCU)	Max LOS
East	B-CD	0.00	0.00	0.0	A
	B-AD	0.00	0.00	0.0	A
	A-BCD	0.00	0.00	0.0	A
	A-B				
	A-C				
	D-ABC	0.41	11.89	0.7	B
	C-D				

	C-A				
	C-B	0.13	6.59	0.2	A
West	B-CD	0.12	7.09	0.1	A
	B-AD	1.26	503.23	73.3	F
	A-BCD	0.62	15.19	1.9	C
	A-B				
	A-C				
	D-ABC	0.00	0.00	0.0	A
	C-D				
	C-A				
	C-B	0.00	0.00	0.0	A

Main Results for each time segment

11:45 - 12:00

Junction	Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
East	B-CD	0	653	0.000	0	0.0	0.000	A
	B-AD	0	550	0.000	0	0.0	0.000	A
	A-BCD	0	540	0.000	0	0.0	0.000	A
	A-B	169			169			
	A-C	94			94			
	D-ABC	143	523	0.273	142	0.4	9.392	A
	C-D	0			0			
	C-A	105			105			
	C-B	57	658	0.087	57	0.1	5.983	A
West	B-CD	49	632	0.077	49	0.1	6.165	A
	B-AD	422	541	0.781	410	3.1	25.509	D
	A-BCD	249	614	0.406	246	0.7	9.736	A
	A-B	0			0			
	A-C	56			56			
	D-ABC	0	369	0.000	0	0.0	0.000	A
	C-D	20			20			
	C-A	105			105			
	C-B	0	617	0.000	0	0.0	0.000	A

12:00 - 12:15

Junction	Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
East	B-CD	0	640	0.000	0	0.0	0.000	A
	B-AD	0	531	0.000	0	0.0	0.000	A
	A-BCD	0	533	0.000	0	0.0	0.000	A
	A-B	202			202			
	A-C	112			112			
	D-ABC	171	519	0.329	170	0.5	10.323	B
	C-D	0			0			
	C-A	126			126			
	C-B	68	646	0.106	68	0.1	6.227	A
West	B-CD	58	586	0.100	58	0.1	6.814	A
	B-AD	504	520	0.969	479	9.4	63.846	F

	A-BCD	308	622	0.495	307	1.1	11.401	B
	A-B	0			0			
	A-C	56			56			
	D-ABC	0	348	0.000	0	0.0	0.000	A
	C-D	24			24			
	C-A	126			126			
	C-B	0	596	0.000	0	0.0	0.000	A

12:15 - 12:30

Junction	Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
East	B-CD	0	623	0.000	0	0.0	0.000	A
	B-AD	0	506	0.000	0	0.0	0.000	A
	A-BCD	0	524	0.000	0	0.0	0.000	A
	A-B	248			248			
	A-C	138			138			
	D-ABC	209	512	0.409	208	0.7	11.827	B
	C-D	0			0			
	C-A	154			154			
	C-B	84	630	0.133	84	0.2	6.584	A
West	B-CD	72	580	0.123	71	0.1	7.082	A
	B-AD	618	493	1.254	489	41.6	206.548	F
	A-BCD	395	633	0.624	392	1.8	14.844	B
	A-B	0			0			
	A-C	51			51			
	D-ABC	0	317	0.000	0	0.0	0.000	A
	C-D	30			30			
	C-A	154			154			
	C-B	0	568	0.000	0	0.0	0.000	A

12:30 - 12:45

Junction	Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
East	B-CD	0	623	0.000	0	0.0	0.000	A
	B-AD	0	506	0.000	0	0.0	0.000	A
	A-BCD	0	524	0.000	0	0.0	0.000	A
	A-B	248			248			
	A-C	138			138			
	D-ABC	209	512	0.409	209	0.7	11.886	B
	C-D	0			0			
	C-A	154			154			
	C-B	84	630	0.133	84	0.2	6.587	A
West	B-CD	72	579	0.124	72	0.1	7.087	A
	B-AD	618	492	1.256	491	73.3	427.893	F
	A-BCD	396	634	0.624	395	1.9	15.188	C
	A-B	0			0			
	A-C	50			50			
	D-ABC	0	311	0.000	0	0.0	0.000	A
	C-D	30			30			
	C-A	154			154			
	C-B	0	567	0.000	0	0.0	0.000	A

12:45 - 13:00

Junction	Stream	Total Demand	Capacity	RFC	Throughput	End queue	Delay (s)	LOS

		(PCU/hr)	(PCU/hr)		(PCU/hr)	(PCU)		
East	B-CD	0	640	0.000	0	0.0	0.000	A
	B-AD	0	531	0.000	0	0.0	0.000	A
	A-BCD	0	533	0.000	0	0.0	0.000	A
	A-B	202			202			
	A-C	112			112			
	D-ABC	171	519	0.329	172	0.5	10.394	B
	C-D	0			0			
	C-A	126			126			
	C-B	68	646	0.106	68	0.1	6.232	A
West	B-CD	58	585	0.100	59	0.1	6.839	A
	B-AD	504	519	0.972	512	71.3	503.233	F
	A-BCD	309	623	0.496	311	1.1	11.712	B
	A-B	0			0			
	A-C	55			55			
	D-ABC	0	335	0.000	0	0.0	0.000	A
	C-D	24			24			
	C-A	126			126			
	C-B	0	594	0.000	0	0.0	0.000	A

13:00 - 13:15

Junction	Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
East	B-CD	0	653	0.000	0	0.0	0.000	A
	B-AD	0	549	0.000	0	0.0	0.000	A
	A-BCD	0	539	0.000	0	0.0	0.000	A
	A-B	169			169			
	A-C	94			94			
	D-ABC	143	523	0.273	144	0.4	9.491	A
	C-D	0			0			
	C-A	105			105			
	C-B	57	658	0.087	57	0.1	5.992	A
West	B-CD	49	589	0.083	49	0.1	6.665	A
	B-AD	422	540	0.783	532	43.9	392.608	F
	A-BCD	250	614	0.407	251	0.8	9.974	A
	A-B	0			0			
	A-C	55			55			
	D-ABC	0	358	0.000	0	0.0	0.000	A
	C-D	20			20			
	C-A	105			105			
	C-B	0	615	0.000	0	0.0	0.000	A

REF 2023 AM, 08-09

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix	Junction East	HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.
Warning	Vehicle Mix	Junction West	HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.

Junction Network

Junctions

Junction	Name	Junction Type	Major road direction	Junction Delay (s)	Junction LOS
East	untitled	Crossroads	Two-way	62.18	F
West		Crossroads	Two-way	12.87	B

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D_07	REF 2023 AM	08-09	Q3	ONE HOUR	07:45	09:15	15

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

Demand overview (Traffic)

Junction	Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
East	**A**		✓	574	100.000
	B		✓	0	100.000
	C		✓	240	100.000
	D		✓	458	100.000
West	**A**		✓	452	100.000
	B		✓	347	100.000
	C		✓	274	100.000
	D		✓	0	100.000

Origin-Destination Data

Demand (PCU/hr)

Junction East

		To			
		A	**B**	**C**	**D**
From	**A**	0	387	187	0
	B	0	0	0	0
	C	186	54	0	0
	D	328	0	130	0

Demand (PCU/hr)

Junction West

		To			
		A	B	C	D
From	A	0	0	187	265
	B	301	0	46	0
	C	186	0	0	88
	D	0	0	0	0

Vehicle Mix

Heavy Vehicle Percentages

Junction East

		To			
		A	B	C	D
From	A	0	0	0	0
	B	0	0	0	0
	C	0	0	0	0
	D	0	0	0	0

Heavy Vehicle Percentages

Junction West

		To			
		A	B	C	D
From	A	0	0	0	0
	B	0	0	0	0
	C	0	0	0	0
	D	0	0	0	0

Results

Results Summary for whole modelled period

Junction	Stream	Max RFC	Max delay (s)	Max Queue (PCU)	Max LOS
East	B-CD	0.00	0.00	0.0	A
	B-AD	0.00	0.00	0.0	A
	A-BCD	0.00	0.00	0.0	A
	A-B				
	A-C				
	D-ABC	1.06	171.87	24.5	F
	C-D				
	C-A				
	C-B	0.10	7.00	0.1	A
West	B-CD	0.08	6.37	0.1	A
	B-AD	0.71	25.98	2.3	D
	A-BCD	0.65	15.54	2.2	C
	A-B				
	A-C				
	D-ABC	0.00	0.00	0.0	A
	C-D				
	C-A				

	C-B	0.00	0.00	0.0	A

Main Results for each time segment

07:45 - 08:00

Junction	Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
East	B-CD	0	629	0.000	0	0.0	0.000	A
	B-AD	0	505	0.000	0	0.0	0.000	A
	A-BCD	0	538	0.000	0	0.0	0.000	A
	A-B	291			291			
	A-C	141			141			
	D-ABC	345	494	0.698	336	2.1	21.842	C
	C-D	0			0			
	C-A	140			140			
	C-B	41	619	0.066	40	0.1	6.215	A
West	B-CD	35	689	0.050	34	0.1	5.500	A
	B-AD	227	525	0.432	224	0.7	11.829	B
	A-BCD	257	631	0.407	254	0.8	9.495	A
	A-B	0			0			
	A-C	83			83			
	D-ABC	0	364	0.000	0	0.0	0.000	A
	C-D	66			66			
	C-A	140			140			
	C-B	0	609	0.000	0	0.0	0.000	A

08:00 - 08:15

Junction	Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
East	B-CD	0	612	0.000	0	0.0	0.000	A
	B-AD	0	476	0.000	0	0.0	0.000	A
	A-BCD	0	530	0.000	0	0.0	0.000	A
	A-B	348			348			
	A-C	168			168			
	D-ABC	412	487	0.846	403	4.4	39.025	E
	C-D	0			0			
	C-A	167			167			
	C-B	49	600	0.081	48	0.1	6.526	A
West	B-CD	41	660	0.063	41	0.1	5.820	A
	B-AD	271	502	0.540	269	1.1	15.377	C
	A-BCD	324	643	0.503	322	1.2	11.212	B
	A-B	0			0			
	A-C	83			83			
	D-ABC	0	343	0.000	0	0.0	0.000	A
	C-D	79			79			
	C-A	167			167			
	C-B	0	587	0.000	0	0.0	0.000	A

08:15 - 08:30

Junction	Stream	Total Demand	Capacity	RFC	Throughput	End queue	Delay (s)	LOS

		(PCU/hr)	(PCU/hr)		(PCU/hr)	(PCU)		
East	B-CD	0	588	0.000	0	0.0	0.000	A
	B-AD	0	437	0.000	0	0.0	0.000	A
	A-BCD	0	521	0.000	0	0.0	0.000	A
	A-B	426			426			
	A-C	206			206			
	D-ABC	504	477	1.056	458	15.9	99.772	F
	C-D	0			0			
	C-A	205			205			
	C-B	59	573	0.104	59	0.1	7.001	A
West	B-CD	51	618	0.082	51	0.1	6.343	A
	B-AD	331	470	0.706	327	2.2	24.536	C
	A-BCD	426	660	0.645	422	2.1	15.082	C
	A-B	0			0			
	A-C	72			72			
	D-ABC	0	313	0.000	0	0.0	0.000	A
	C-D	97			97			
	C-A	205			205			
	C-B	0	557	0.000	0	0.0	0.000	A

08:30 - 08:45

Junction	Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
East	B-CD	0	588	0.000	0	0.0	0.000	A
	B-AD	0	430	0.000	0	0.0	0.000	A
	A-BCD	0	521	0.000	0	0.0	0.000	A
	A-B	426			426			
	A-C	206			206			
	D-ABC	504	477	1.056	470	24.5	171.871	F
	C-D	0			0			
	C-A	205			205			
	C-B	59	573	0.104	59	0.1	7.004	A
West	B-CD	51	616	0.082	51	0.1	6.369	A
	B-AD	331	469	0.707	331	2.3	25.983	D
	A-BCD	427	661	0.646	427	2.2	15.540	C
	A-B	0			0			
	A-C	70			70			
	D-ABC	0	312	0.000	0	0.0	0.000	A
	C-D	97			97			
	C-A	205			205			
	C-B	0	555	0.000	0	0.0	0.000	A

08:45 - 09:00

Junction	Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
East	B-CD	0	612	0.000	0	0.0	0.000	A
	B-AD	0	465	0.000	0	0.0	0.000	A
	A-BCD	0	530	0.000	0	0.0	0.000	A
	A-B	348			348			
	A-C	168			168			
	D-ABC	412	487	0.846	471	9.8	142.538	F
	C-D	0			0			
	C-A	167			167			
	C-B	49	600	0.081	49	0.1	6.529	A

West	B-CD	41	657	0.063	41	0.1	5.855	A
	B-AD	271	500	0.541	275	1.2	16.286	C
	A-BCD	325	644	0.504	329	1.3	11.591	B
	A-B	0			0			
	A-C	81			81			
	D-ABC	0	341	0.000	0	0.0	0.000	A
	C-D	79			79			
	C-A	167			167			
	C-B	0	585	0.000	0	0.0	0.000	A

09:00 - 09:15

Junction	Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
East	B-CD	0	629	0.000	0	0.0	0.000	A
	B-AD	0	500	0.000	0	0.0	0.000	A
	A-BCD	0	537	0.000	0	0.0	0.000	A
	A-B	291			291			
	A-C	141			141			
	D-ABC	345	494	0.698	374	2.5	35.454	E
	C-D	0			0			
	C-A	140			140			
	C-B	41	619	0.066	41	0.1	6.224	A
West	B-CD	35	686	0.050	35	0.1	5.525	A
	B-AD	227	524	0.433	228	0.8	12.258	B
	A-BCD	258	632	0.408	260	0.8	9.751	A
	A-B	0			0			
	A-C	82			82			
	D-ABC	0	363	0.000	0	0.0	0.000	A
	C-D	66			66			
	C-A	140			140			
	C-B	0	607	0.000	0	0.0	0.000	A

REF 2023 PM, 16-17

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix	Junction East	HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.
Warning	Vehicle Mix	Junction West	HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.

Junction Network

Junctions

Junction	Name	Junction Type	Major road direction	Junction Delay (s)	Junction LOS
East	untitled	Crossroads	Two-way	4.11	A
West		Crossroads	Two-way	131.01	F

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D_08	REF 2023 PM	16-17	Q3	ONE HOUR	15:45	17:15	15

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

Demand overview (Traffic)

Junction	Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
East	A		✓	486	100.000
	B		✓	0	100.000
	C		✓	291	100.000
	D		✓	231	100.000
West	A		✓	449	100.000
	B		✓	637	100.000
	C		✓	253	100.000
	D		✓	0	100.000

Origin-Destination Data

Demand (PCU/hr)

Junction East

		To			
		A	B	C	D
From	A	0	325	161	0
	B	0	0	0	0
	C	198	93	0	0
	D	190	0	41	0

Demand (PCU/hr)

Junction West

		To			
		A	B	C	D
From	A	0	0	161	288
	B	501	0	136	0
	C	198	0	0	55
	D	0	0	0	0

Vehicle Mix

Heavy Vehicle Percentages

Junction East

		To			
		A	B	C	D
From	A	0	0	0	0
	B	0	0	0	0
	C	0	0	0	0
	D	0	0	0	0

Heavy Vehicle Percentages

Junction West

		To			
		A	B	C	D
From	A	0	0	0	0
	B	0	0	0	0
	C	0	0	0	0
	D	0	0	0	0

Results

Results Summary for whole modelled period

Junction	Stream	Max RFC	Max delay (s)	Max Queue (PCU)	Max LOS
East	B-CD	0.00	0.00	0.0	A
	B-AD	0.00	0.00	0.0	A
	A-BCD	0.00	0.00	0.0	A
	A-B				
	A-C				
	D-ABC	0.51	15.00	1.0	B
	C-D				
	C-A				
	C-B	0.17	7.30	0.2	A
West	B-CD	0.26	8.56	0.4	A
	B-AD	1.18	334.32	50.3	F
	A-BCD	0.68	17.78	2.5	C
	A-B				
	A-C				
	D-ABC	0.00	0.00	0.0	A
	C-D				
	C-A				
	C-B	0.00	0.00	0.0	A

Main Results for each time segment

15:45 - 16:00

Junction	Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
East	B-CD	0	631	0.000	0	0.0	0.000	A

	B-AD	0	521	0.000	0	0.0	0.000	A
	A-BCD	0	528	0.000	0	0.0	0.000	A
	A-B	245			245			
	A-C	121			121			
	D-ABC	174	510	0.341	172	0.5	10.576	B
	C-D	0			0			
	C-A	149			149			
	C-B	70	635	0.110	70	0.1	6.365	A
West	B-CD	102	638	0.161	102	0.2	6.703	A
	B-AD	377	524	0.720	368	2.4	21.881	C
	A-BCD	270	620	0.435	266	0.9	10.102	B
	A-B	0			0			
	A-C	69			69			
	D-ABC	0	352	0.000	0	0.0	0.000	A
	C-D	41			41			
	C-A	149			149			
	C-B	0	608	0.000	0	0.0	0.000	A

16:00 - 16:15

Junction	Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
East	B-CD	0	614	0.000	0	0.0	0.000	A
	B-AD	0	497	0.000	0	0.0	0.000	A
	A-BCD	0	519	0.000	0	0.0	0.000	A
	A-B	292			292			
	A-C	145			145			
	D-ABC	208	504	0.412	207	0.7	12.107	B
	C-D	0			0			
	C-A	178			178			
	C-B	84	618	0.135	83	0.2	6.730	A
West	B-CD	122	594	0.206	122	0.3	7.629	A
	B-AD	450	500	0.900	436	6.0	47.452	E
	A-BCD	337	630	0.535	335	1.3	12.202	B
	A-B	0			0			
	A-C	67			67			
	D-ABC	0	327	0.000	0	0.0	0.000	A
	C-D	49			49			
	C-A	178			178			
	C-B	0	585	0.000	0	0.0	0.000	A

16:15 - 16:30

Junction	Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
East	B-CD	0	590	0.000	0	0.0	0.000	A
	B-AD	0	464	0.000	0	0.0	0.000	A
	A-BCD	0	507	0.000	0	0.0	0.000	A
	A-B	358			358			
	A-C	177			177			
	D-ABC	254	494	0.515	253	1.0	14.839	B
	C-D	0			0			
	C-A	218			218			
	C-B	102	596	0.172	102	0.2	7.291	A
West	B-CD	150	571	0.262	149	0.4	8.533	A
	B-AD	552	468	1.178	461	28.8	156.170	F

	A-BCD	439	644	0.682	435	2.4	17.104	C
	A-B	0			0			
	A-C	55			55			
	D-ABC	0	291	0.000	0	0.0	0.000	A
	C-D	61			61			
	C-A	218			218			
	C-B	0	554	0.000	0	0.0	0.000	A

16:30 - 16:45

Junction	Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
East	B-CD	0	590	0.000	0	0.0	0.000	A
	B-AD	0	464	0.000	0	0.0	0.000	A
	A-BCD	0	507	0.000	0	0.0	0.000	A
	A-B	358			358			
	A-C	177			177			
	D-ABC	254	494	0.515	254	1.0	14.998	B
	C-D	0			0			
	C-A	218			218			
	C-B	102	596	0.172	102	0.2	7.297	A
West	B-CD	150	571	0.262	150	0.4	8.555	A
	B-AD	552	467	1.181	465	50.3	316.994	F
	A-BCD	441	645	0.683	440	2.5	17.781	C
	A-B	0			0			
	A-C	54			54			
	D-ABC	0	286	0.000	0	0.0	0.000	A
	C-D	61			61			
	C-A	218			218			
	C-B	0	553	0.000	0	0.0	0.000	A

16:45 - 17:00

Junction	Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
East	B-CD	0	614	0.000	0	0.0	0.000	A
	B-AD	0	497	0.000	0	0.0	0.000	A
	A-BCD	0	519	0.000	0	0.0	0.000	A
	A-B	292			292			
	A-C	145			145			
	D-ABC	208	504	0.412	209	0.7	12.278	B
	C-D	0			0			
	C-A	178			178			
	C-B	84	618	0.135	84	0.2	6.740	A
West	B-CD	122	578	0.212	123	0.3	7.917	A
	B-AD	450	499	0.903	489	40.7	334.321	F
	A-BCD	338	631	0.536	343	1.4	12.727	B
	A-B	0			0			
	A-C	65			65			
	D-ABC	0	317	0.000	0	0.0	0.000	A
	C-D	49			49			
	C-A	178			178			
	C-B	0	583	0.000	0	0.0	0.000	A

17:00 - 17:15

Junction	Stream	Total Demand	Capacity	RFC	Throughput	End queue	Delay (s)	LOS

		(PCU/hr)	(PCU/hr)		(PCU/hr)	(PCU)		
East	B-CD	0	631	0.000	0	0.0	0.000	A
	B-AD	0	520	0.000	0	0.0	0.000	A
	A-BCD	0	528	0.000	0	0.0	0.000	A
	A-B	245			245			
	A-C	121			121			
	D-ABC	174	510	0.341	175	0.5	10.754	B
	C-D	0			0			
	C-A	149			149			
	C-B	70	635	0.110	70	0.1	6.378	A
West	B-CD	102	583	0.176	103	0.2	7.498	A
	B-AD	377	523	0.722	510	7.5	179.332	F
	A-BCD	271	621	0.436	273	0.9	10.423	B
	A-B	0			0			
	A-C	67			67			
	D-ABC	0	345	0.000	0	0.0	0.000	A
	C-D	41			41			
	C-A	149			149			
	C-B	0	606	0.000	0	0.0	0.000	A

REF 2023 Weekend, 12-13

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix	Junction East	HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.
Warning	Vehicle Mix	Junction West	HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.

Junction Network

Junctions

Junction	Name	Junction Type	Major road direction	Junction Delay (s)	Junction LOS
East	untitled	Crossroads	Two-way	3.70	A
West		Crossroads	Two-way	280.21	F

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D_09	REF 2023 Weekend	12-13	Q3	ONE HOUR	11:45	13:15	15

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

Demand overview (Traffic)

Junction	Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
East	A		✓	358	100.000
	B		✓	0	100.000
	C		✓	221	100.000
	D		✓	194	100.000
West	A		✓	413	100.000
	B		✓	640	100.000
	C		✓	170	100.000
	D		✓	0	100.000

Origin-Destination Data

Demand (PCU/hr)

Junction East

		To			
		A	B	C	D
From	A	0	231	127	0
	B	0	0	0	0
	C	143	78	0	0
	D	164	0	30	0

Demand (PCU/hr)

Junction West

		To			
		A	B	C	D
From	A	0	0	127	286
	B	574	0	66	0
	C	143	0	0	27
	D	0	0	0	0

Vehicle Mix

Heavy Vehicle Percentages

Junction East

		To			
		A	B	C	D
From	A	0	0	0	0
	B	0	0	0	0
	C	0	0	0	0
	D	0	0	0	0

Heavy Vehicle Percentages

Junction West

		To			
		A	B	C	D
From	A	0	0	0	0
	B	0	0	0	0
	C	0	0	0	0
	D	0	0	0	0

Results

Results Summary for whole modelled period

Junction	Stream	Max RFC	Max delay (s)	Max Queue (PCU)	Max LOS
East	B-CD	0.00	0.00	0.0	A
	B-AD	0.00	0.00	0.0	A
	A-BCD	0.00	0.00	0.0	A
	A-B				
	A-C				
	D-ABC	0.42	12.06	0.7	B
	C-D				
	C-A				
	C-B	0.14	6.64	0.2	A
West	B-CD	0.13	7.11	0.1	A
	B-AD	1.29	586.45	84.2	F
	A-BCD	0.64	15.80	2.0	C
	A-B				
	A-C				
	D-ABC	0.00	0.00	0.0	A
	C-D				
	C-A				
	C-B	0.00	0.00	0.0	A

Main Results for each time segment

11:45 - 12:00

Junction	Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
East	B-CD	0	652	0.000	0	0.0	0.000	A
	B-AD	0	547	0.000	0	0.0	0.000	A
	A-BCD	0	539	0.000	0	0.0	0.000	A
	A-B	174			174			
	A-C	96			96			
	D-ABC	146	523	0.279	145	0.4	9.463	A
	C-D	0			0			
	C-A	108			108			
	C-B	59	657	0.089	58	0.1	6.012	A
West	B-CD	50	628	0.079	49	0.1	6.221	A
	B-AD	432	539	0.802	418	3.5	27.391	D
	A-BCD	255	614	0.415	252	0.8	9.875	A
	A-B	0			0			
	A-C	56			56			
	D-ABC	0	367	0.000	0	0.0	0.000	A
	C-D	20			20			
	C-A	108			108			
	C-B	0	615	0.000	0	0.0	0.000	A

12:00 - 12:15

Junction	Stream	Total Demand	Capacity	RFC	Throughput	End queue	Delay (s)	LOS

		(PCU/hr)	(PCU/hr)		(PCU/hr)	(PCU)		
East	B-CD	0	639	0.000	0	0.0	0.000	A
	B-AD	0	529	0.000	0	0.0	0.000	A
	A-BCD	0	532	0.000	0	0.0	0.000	A
	A-B	208			208			
	A-C	114			114			
	D-ABC	174	519	0.336	174	0.5	10.429	B
	C-D	0			0			
	C-A	129			129			
	C-B	70	645	0.109	70	0.1	6.264	A
West	B-CD	59	585	0.101	59	0.1	6.847	A
	B-AD	516	518	0.997	485	11.3	72.861	F
	A-BCD	315	623	0.507	314	1.1	11.650	B
	A-B	0			0			
	A-C	56			56			
	D-ABC	0	345	0.000	0	0.0	0.000	A
	C-D	24			24			
	C-A	129			129			
	C-B	0	593	0.000	0	0.0	0.000	A

12:15 - 12:30

Junction	Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
East	B-CD	0	621	0.000	0	0.0	0.000	A
	B-AD	0	503	0.000	0	0.0	0.000	A
	A-BCD	0	522	0.000	0	0.0	0.000	A
	A-B	254			254			
	A-C	140			140			
	D-ABC	214	512	0.417	213	0.7	12.002	B
	C-D	0			0			
	C-A	157			157			
	C-B	86	628	0.137	86	0.2	6.636	A
West	B-CD	73	579	0.125	73	0.1	7.104	A
	B-AD	632	490	1.291	487	47.6	235.540	F
	A-BCD	405	634	0.639	402	1.9	15.404	C
	A-B	0			0			
	A-C	50			50			
	D-ABC	0	313	0.000	0	0.0	0.000	A
	C-D	30			30			
	C-A	157			157			
	C-B	0	565	0.000	0	0.0	0.000	A

12:30 - 12:45

Junction	Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
East	B-CD	0	621	0.000	0	0.0	0.000	A
	B-AD	0	503	0.000	0	0.0	0.000	A
	A-BCD	0	522	0.000	0	0.0	0.000	A
	A-B	254			254			
	A-C	140			140			
	D-ABC	214	512	0.417	214	0.7	12.062	B
	C-D	0			0			
	C-A	157			157			
	C-B	86	628	0.137	86	0.2	6.638	A

West	B-CD	73	579	0.126	73	0.1	7.110	A
	B-AD	632	489	1.293	488	83.5	487.439	F
	A-BCD	406	635	0.639	406	2.0	15.801	C
	A-B	0			0			
	A-C	49			49			
	D-ABC	0	306	0.000	0	0.0	0.000	A
	C-D	30			30			
	C-A	157			157			
	C-B	0	564	0.000	0	0.0	0.000	A

12:45 - 13:00

Junction	Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
East	B-CD	0	639	0.000	0	0.0	0.000	A
	B-AD	0	529	0.000	0	0.0	0.000	A
	A-BCD	0	532	0.000	0	0.0	0.000	A
	A-B	208			208			
	A-C	114			114			
	D-ABC	174	519	0.336	175	0.5	10.508	B
	C-D	0			0			
	C-A	129			129			
	C-B	70	645	0.109	70	0.1	6.270	A
West	B-CD	59	585	0.102	59	0.1	6.857	A
	B-AD	516	516	0.999	513	84.2	586.446	F
	A-BCD	316	623	0.507	319	1.2	12.005	B
	A-B	0			0			
	A-C	55			55			
	D-ABC	0	331	0.000	0	0.0	0.000	A
	C-D	24			24			
	C-A	129			129			
	C-B	0	592	0.000	0	0.0	0.000	A

13:00 - 13:15

Junction	Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
East	B-CD	0	652	0.000	0	0.0	0.000	A
	B-AD	0	547	0.000	0	0.0	0.000	A
	A-BCD	0	539	0.000	0	0.0	0.000	A
	A-B	174			174			
	A-C	96			96			
	D-ABC	146	523	0.279	147	0.4	9.564	A
	C-D	0			0			
	C-A	108			108			
	C-B	59	657	0.089	59	0.1	6.021	A
West	B-CD	50	589	0.084	50	0.1	6.679	A
	B-AD	432	537	0.804	531	59.5	488.733	F
	A-BCD	256	615	0.416	257	0.8	10.133	B
	A-B	0			0			
	A-C	55			55			
	D-ABC	0	353	0.000	0	0.0	0.000	A
	C-D	20			20			
	C-A	108			108			
	C-B	0	613	0.000	0	0.0	0.000	A

REF 2033 AM, 08-09

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix	Junction East	HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.
Warning	Vehicle Mix	Junction West	HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.

Junction Network

Junctions

Junction	Name	Junction Type	Major road direction	Junction Delay (s)	Junction LOS
East	untitled	Crossroads	Two-way	128.37	F
West		Crossroads	Two-way	22.18	C

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D_10	REF 2033 AM	08-09	Q3	ONE HOUR	07:45	09:15	15

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

Demand overview (Traffic)

Junction	Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
East	**A**		✓	618	100.000
	B		✓	0	100.000
	C		✓	258	100.000
	D		✓	502	100.000
West	**A**		✓	519	100.000
	B		✓	382	100.000
	C		✓	312	100.000
	D		✓	0	100.000

Origin-Destination Data

Demand (PCU/hr)

Junction East

		To			
		A	B	C	D
From	A	0	418	200	0
	B	0	0	0	0
	C	199	59	0	0
	D	359	0	143	0

Demand (PCU/hr)

Junction West

		To			
		A	B	C	D
From	A	0	0	200	319
	B	331	0	51	0
	C	199	0	0	113
	D	0	0	0	0

Vehicle Mix

Heavy Vehicle Percentages

Junction East

		To			
		A	B	C	D
From	A	0	0	0	0
	B	0	0	0	0
	C	0	0	0	0
	D	0	0	0	0

Heavy Vehicle Percentages

Junction West

		To			
		A	B	C	D
From	A	0	0	0	0
	B	0	0	0	0
	C	0	0	0	0
	D	0	0	0	0

Results

Results Summary for whole modelled period

Junction	Stream	Max RFC	Max delay (s)	Max Queue (PCU)	Max LOS
East	B-CD	0.00	0.00	0.0	A
	B-AD	0.00	0.00	0.0	A
	A-BCD	0.00	0.00	0.0	A
	A-B				
	A-C				
	D-ABC	1.17	351.52	49.1	F
	C-D				

	C-A				
	C-B	0.12	7.24	0.1	A
West	B-CD	0.10	6.77	0.1	A
	B-AD	0.82	42.85	4.1	E
	A-BCD	0.80	27.29	4.5	D
	A-B				
	A-C				
	D-ABC	0.00	0.00	0.0	A
	C-D				
	C-A				
	C-B	0.00	0.00	0.0	A

Main Results for each time segment

07:45 - 08:00

Junction	Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
East	B-CD	0	623	0.000	0	0.0	0.000	A
	B-AD	0	493	0.000	0	0.0	0.000	A
	A-BCD	0	535	0.000	0	0.0	0.000	A
	A-B	315			315			
	A-C	151			151			
	D-ABC	378	491	0.770	366	2.9	26.806	D
	C-D	0			0			
	C-A	150			150			
	C-B	44	612	0.073	44	0.1	6.340	A
West	B-CD	38	675	0.057	38	0.1	5.650	A
	B-AD	249	510	0.489	245	0.9	13.448	B
	A-BCD	315	632	0.499	311	1.1	11.093	B
	A-B	0			0			
	A-C	75			75			
	D-ABC	0	349	0.000	0	0.0	0.000	A
	C-D	85			85			
	C-A	150			150			
	C-B	0	591	0.000	0	0.0	0.000	A

08:00 - 08:15

Junction	Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
East	B-CD	0	604	0.000	0	0.0	0.000	A
	B-AD	0	462	0.000	0	0.0	0.000	A
	A-BCD	0	527	0.000	0	0.0	0.000	A
	A-B	376			376			
	A-C	180			180			
	D-ABC	451	484	0.933	434	7.3	57.467	F
	C-D	0			0			
	C-A	179			179			
	C-B	53	591	0.090	53	0.1	6.691	A
West	B-CD	46	642	0.071	46	0.1	6.040	A
	B-AD	298	483	0.617	295	1.5	18.954	C

	A-BCD	399	645	0.619	396	1.9	14.424	B
	A-B	0			0			
	A-C	67			67			
	D-ABC	0	323	0.000	0	0.0	0.000	A
	C-D	102			102			
	C-A	179			179			
	C-B	0	565	0.000	0	0.0	0.000	A

08:15 - 08:30

Junction	Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
East	B-CD	0	577	0.000	0	0.0	0.000	A
	B-AD	0	417	0.000	0	0.0	0.000	A
	A-BCD	0	517	0.000	0	0.0	0.000	A
	A-B	460			460			
	A-C	220			220			
	D-ABC	553	473	1.167	466	28.9	159.896	F
	C-D	0			0			
	C-A	219			219			
	C-B	65	562	0.116	65	0.1	7.235	A
West	B-CD	56	593	0.095	56	0.1	6.703	A
	B-AD	364	446	0.817	356	3.7	36.756	E
	A-BCD	529	663	0.798	520	4.2	24.455	C
	A-B	0			0			
	A-C	42			42			
	D-ABC	0	288	0.000	0	0.0	0.000	A
	C-D	124			124			
	C-A	219			219			
	C-B	0	530	0.000	0	0.0	0.000	A

08:30 - 08:45

Junction	Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
East	B-CD	0	577	0.000	0	0.0	0.000	A
	B-AD	0	405	0.000	0	0.0	0.000	A
	A-BCD	0	517	0.000	0	0.0	0.000	A
	A-B	460			460			
	A-C	220			220			
	D-ABC	553	473	1.167	472	49.1	311.933	F
	C-D	0			0			
	C-A	219			219			
	C-B	65	562	0.116	65	0.1	7.238	A
West	B-CD	56	588	0.096	56	0.1	6.773	A
	B-AD	364	444	0.822	363	4.1	42.848	E
	A-BCD	533	666	0.800	531	4.5	27.288	D
	A-B	0			0			
	A-C	39			39			
	D-ABC	0	285	0.000	0	0.0	0.000	A
	C-D	124			124			
	C-A	219			219			
	C-B	0	527	0.000	0	0.0	0.000	A

08:45 - 09:00

Junction	Stream	Total Demand	Capacity	RFC	Throughput	End queue	Delay (s)	LOS

		(PCU/hr)	(PCU/hr)		(PCU/hr)	(PCU)		
East	B-CD	0	604	0.000	0	0.0	0.000	A
	B-AD	0	437	0.000	0	0.0	0.000	A
	A-BCD	0	527	0.000	0	0.0	0.000	A
	A-B	376			376			
	A-C	180			180			
	D-ABC	451	484	0.933	474	43.4	351.519	F
	C-D	0			0			
	C-A	179			179			
	C-B	53	591	0.090	53	0.1	6.694	A
West	B-CD	46	635	0.072	46	0.1	6.116	A
	B-AD	298	479	0.621	307	1.7	21.931	C
	A-BCD	403	649	0.621	413	2.1	16.018	C
	A-B	0			0			
	A-C	64			64			
	D-ABC	0	320	0.000	0	0.0	0.000	A
	C-D	102			102			
	C-A	179			179			
	C-B	0	561	0.000	0	0.0	0.000	A

09:00 - 09:15

Junction	Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
East	B-CD	0	622	0.000	0	0.0	0.000	A
	B-AD	0	471	0.000	0	0.0	0.000	A
	A-BCD	0	535	0.000	0	0.0	0.000	A
	A-B	315			315			
	A-C	151			151			
	D-ABC	378	491	0.770	480	17.9	236.256	F
	C-D	0			0			
	C-A	150			150			
	C-B	44	612	0.073	45	0.1	6.346	A
West	B-CD	38	672	0.057	38	0.1	5.686	A
	B-AD	249	507	0.491	252	1.0	14.264	B
	A-BCD	317	634	0.500	321	1.2	11.669	B
	A-B	0			0			
	A-C	74			74			
	D-ABC	0	347	0.000	0	0.0	0.000	A
	C-D	85			85			
	C-A	150			150			
	C-B	0	589	0.000	0	0.0	0.000	A

REF 2033 PM, 16-17

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix	Junction East	HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.
Warning	Vehicle Mix	Junction West	HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.

Junction Network

Junctions

Junction	Name	Junction Type	Major road direction	Junction Delay (s)	Junction LOS
East	untitled	Crossroads	Two-way	6.22	A
West		Crossroads	Two-way	239.08	F

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D_11	REF 2033 PM	16-17	Q3	ONE HOUR	15:45	17:15	15

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

Demand overview (Traffic)

Junction	Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
East	**A**		✓	532	100.000
	B		✓	0	100.000
	C		✓	313	100.000
	D		✓	290	100.000
West	**A**		✓	487	100.000
	B		✓	687	100.000
	C		✓	276	100.000
	D		✓	0	100.000

Origin-Destination Data

Demand (PCU/hr)

Junction East

		To			
		A	**B**	**C**	**D**
From	**A**	0	360	172	0
	B	0	0	0	0
	C	214	99	0	0
	D	230	0	60	0

Demand (PCU/hr)

Junction West

		To			
		A	B	C	D
From	A	0	0	172	315
	B	541	0	146	0
	C	214	0	0	62
	D	0	0	0	0

Vehicle Mix

Heavy Vehicle Percentages

Junction East

		To			
		A	B	C	D
From	A	0	0	0	0
	B	0	0	0	0
	C	0	0	0	0
	D	0	0	0	0

Heavy Vehicle Percentages

Junction West

		To			
		A	B	C	D
From	A	0	0	0	0
	B	0	0	0	0
	C	0	0	0	0
	D	0	0	0	0

Results

Results Summary for whole modelled period

Junction	Stream	Max RFC	Max delay (s)	Max Queue (PCU)	Max LOS
East	B-CD	0.00	0.00	0.0	A
	B-AD	0.00	0.00	0.0	A
	A-BCD	0.00	0.00	0.0	A
	A-B				
	A-C				
	D-ABC	0.66	21.75	1.9	C
	C-D				
	C-A				
	C-B	0.19	7.58	0.2	A
West	B-CD	0.28	8.85	0.4	A
	B-AD	1.32	619.97	84.2	F
	A-BCD	0.76	23.44	3.6	C
	A-B				
	A-C				
	D-ABC	0.00	0.00	0.0	A
	C-D				
	C-A				

	C-B	0.00	0.00	0.0	A

Main Results for each time segment

15:45 - 16:00

Junction	Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
East	B-CD	0	624	0.000	0	0.0	0.000	A
	B-AD	0	508	0.000	0	0.0	0.000	A
	A-BCD	0	525	0.000	0	0.0	0.000	A
	A-B	271			271			
	A-C	129			129			
	D-ABC	218	502	0.435	215	0.8	12.435	B
	C-D	0			0			
	C-A	161			161			
	C-B	75	627	0.119	74	0.1	6.509	A
West	B-CD	110	622	0.177	109	0.2	7.008	A
	B-AD	407	514	0.792	394	3.3	27.580	D
	A-BCD	299	622	0.481	295	1.0	10.907	B
	A-B	0			0			
	A-C	67			67			
	D-ABC	0	342	0.000	0	0.0	0.000	A
	C-D	47			47			
	C-A	161			161			
	C-B	0	598	0.000	0	0.0	0.000	A

16:00 - 16:15

Junction	Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
East	B-CD	0	605	0.000	0	0.0	0.000	A
	B-AD	0	481	0.000	0	0.0	0.000	A
	A-BCD	0	515	0.000	0	0.0	0.000	A
	A-B	324			324			
	A-C	155			155			
	D-ABC	261	494	0.527	259	1.1	15.224	C
	C-D	0			0			
	C-A	192			192			
	C-B	89	609	0.146	89	0.2	6.923	A
West	B-CD	131	576	0.228	131	0.3	8.085	A
	B-AD	486	488	0.996	456	10.9	74.725	F
	A-BCD	376	633	0.594	373	1.7	13.827	B
	A-B	0			0			
	A-C	62			62			
	D-ABC	0	314	0.000	0	0.0	0.000	A
	C-D	56			56			
	C-A	192			192			
	C-B	0	573	0.000	0	0.0	0.000	A

16:15 - 16:30

Junction	Stream	Total Demand	Capacity	RFC	Throughput	End queue	Delay (s)	LOS

		(PCU/hr)	(PCU/hr)		(PCU/hr)	(PCU)		
East	B-CD	0	579	0.000	0	0.0	0.000	A
	B-AD	0	444	0.000	0	0.0	0.000	A
	A-BCD	0	502	0.000	0	0.0	0.000	A
	A-B	396			396			
	A-C	189			189			
	D-ABC	319	484	0.660	316	1.8	21.084	C
	C-D	0			0			
	C-A	236			236			
	C-B	109	584	0.187	109	0.2	7.571	A
West	B-CD	161	568	0.283	160	0.4	8.819	A
	B-AD	596	453	1.314	451	47.1	250.599	F
	A-BCD	493	648	0.760	485	3.4	21.733	C
	A-B	0			0			
	A-C	44			44			
	D-ABC	0	272	0.000	0	0.0	0.000	A
	C-D	68			68			
	C-A	236			236			
	C-B	0	540	0.000	0	0.0	0.000	A

16:30 - 16:45

Junction	Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
East	B-CD	0	579	0.000	0	0.0	0.000	A
	B-AD	0	444	0.000	0	0.0	0.000	A
	A-BCD	0	502	0.000	0	0.0	0.000	A
	A-B	396			396			
	A-C	189			189			
	D-ABC	319	484	0.660	319	1.9	21.751	C
	C-D	0			0			
	C-A	236			236			
	C-B	109	584	0.187	109	0.2	7.577	A
West	B-CD	161	568	0.283	161	0.4	8.849	A
	B-AD	596	451	1.320	451	83.3	521.145	F
	A-BCD	495	650	0.761	494	3.6	23.438	C
	A-B	0			0			
	A-C	41			41			
	D-ABC	0	263	0.000	0	0.0	0.000	A
	C-D	68			68			
	C-A	236			236			
	C-B	0	538	0.000	0	0.0	0.000	A

16:45 - 17:00

Junction	Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
East	B-CD	0	605	0.000	0	0.0	0.000	A
	B-AD	0	481	0.000	0	0.0	0.000	A
	A-BCD	0	515	0.000	0	0.0	0.000	A
	A-B	324			324			
	A-C	155			155			
	D-ABC	261	494	0.527	264	1.2	15.785	C
	C-D	0			0			
	C-A	192			192			
	C-B	89	609	0.146	89	0.2	6.934	A

West	B-CD	131	575	0.228	132	0.3	8.124	A
	B-AD	486	485	1.002	483	84.2	619.971	F
	A-BCD	378	636	0.595	386	1.8	14.910	B
	A-B	0			0			
	A-C	59			59			
	D-ABC	0	296	0.000	0	0.0	0.000	A
	C-D	56			56			
	C-A	192			192			
	C-B	0	570	0.000	0	0.0	0.000	A

17:00 - 17:15

Junction	Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
East	B-CD	0	624	0.000	0	0.0	0.000	A
	B-AD	0	507	0.000	0	0.0	0.000	A
	A-BCD	0	525	0.000	0	0.0	0.000	A
	A-B	271			271			
	A-C	129			129			
	D-ABC	218	502	0.435	220	0.8	12.827	B
	C-D	0			0			
	C-A	161			161			
	C-B	75	627	0.119	75	0.1	6.523	A
West	B-CD	110	581	0.189	110	0.2	7.647	A
	B-AD	407	512	0.795	506	59.5	512.843	F
	A-BCD	301	624	0.482	304	1.1	11.390	B
	A-B	0			0			
	A-C	66			66			
	D-ABC	0	326	0.000	0	0.0	0.000	A
	C-D	47			47			
	C-A	161			161			
	C-B	0	596	0.000	0	0.0	0.000	A

REF 2033 Weekend, 12-13

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix	Junction East	HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.
Warning	Vehicle Mix	Junction West	HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.

Junction Network

Junctions

Junction	Name	Junction Type	Major road direction	Junction Delay (s)	Junction LOS
East	untitled	Crossroads	Two-way	3.96	A
West		Crossroads	Two-way	409.40	F

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D_12	REF 2033 Weekend	12-13	Q3	ONE HOUR	11:45	13:15	15

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

Demand overview (Traffic)

Junction	Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
East	A		✓	383	100.000
	B		✓	0	100.000
	C		✓	236	100.000
	D		✓	210	100.000
West	A		✓	441	100.000
	B		✓	682	100.000
	C		✓	183	100.000
	D		✓	0	100.000

Origin-Destination Data

Demand (PCU/hr)

Junction East

		To			
		A	B	C	D
From	A	0	249	134	0
	B	0	0	0	0
	C	153	83	0	0
	D	177	0	33	0

Demand (PCU/hr)

Junction West

		To			
		A	B	C	D
From	A	0	0	134	307
	B	612	0	70	0
	C	153	0	0	30
	D	0	0	0	0

Vehicle Mix

Heavy Vehicle Percentages

Junction East

		To			
		A	B	C	D
From	A	0	0	0	0
	B	0	0	0	0
	C	0	0	0	0
	D	0	0	0	0

Heavy Vehicle Percentages

Junction West

		To			
		A	B	C	D
From	A	0	0	0	0
	B	0	0	0	0
	C	0	0	0	0
	D	0	0	0	0

Results

Results Summary for whole modelled period

Junction	Stream	Max RFC	Max delay (s)	Max Queue (PCU)	Max LOS
East	B-CD	0.00	0.00	0.0	A
	B-AD	0.00	0.00	0.0	A
	A-BCD	0.00	0.00	0.0	A
	A-B				
	A-C				
	D-ABC	0.45	12.96	0.8	B
	C-D				
	C-A				
	C-B	0.15	6.79	0.2	A
West	B-CD	0.13	7.20	0.2	A
	B-AD	1.41	861.15	127.9	F
	A-BCD	0.69	18.53	2.5	C
	A-B				
	A-C				
	D-ABC	0.00	0.00	0.0	A
	C-D				
	C-A				
	C-B	0.00	0.00	0.0	A

Main Results for each time segment

11:45 - 12:00

Junction	Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
East	B-CD	0	647	0.000	0	0.0	0.000	A

	B-AD	0	541	0.000	0	0.0	0.000	A
	A-BCD	0	536	0.000	0	0.0	0.000	A
	A-B	187			187			
	A-C	101			101			
	D-ABC	158	521	0.303	156	0.4	9.820	A
	C-D	0			0			
	C-A	115			115			
	C-B	62	652	0.096	62	0.1	6.094	A
West	B-CD	53	614	0.086	52	0.1	6.405	A
	B-AD	461	532	0.867	441	4.9	34.649	D
	A-BCD	276	616	0.449	273	0.9	10.412	B
	A-B	0			0			
	A-C	56			56			
	D-ABC	0	360	0.000	0	0.0	0.000	A
	C-D	23			23			
	C-A	115			115			
	C-B	0	608	0.000	0	0.0	0.000	A

12:00 - 12:15

Junction	Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
East	B-CD	0	633	0.000	0	0.0	0.000	A
	B-AD	0	521	0.000	0	0.0	0.000	A
	A-BCD	0	529	0.000	0	0.0	0.000	A
	A-B	224			224			
	A-C	120			120			
	D-ABC	189	516	0.366	188	0.6	10.961	B
	C-D	0			0			
	C-A	138			138			
	C-B	75	640	0.117	75	0.1	6.371	A
West	B-CD	63	583	0.108	63	0.1	6.913	A
	B-AD	550	509	1.080	493	19.1	108.090	F
	A-BCD	343	625	0.548	341	1.3	12.652	B
	A-B	0			0			
	A-C	54			54			
	D-ABC	0	336	0.000	0	0.0	0.000	A
	C-D	27			27			
	C-A	138			138			
	C-B	0	585	0.000	0	0.0	0.000	A

12:15 - 12:30

Junction	Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
East	B-CD	0	614	0.000	0	0.0	0.000	A
	B-AD	0	494	0.000	0	0.0	0.000	A
	A-BCD	0	519	0.000	0	0.0	0.000	A
	A-B	274			274			
	A-C	148			148			
	D-ABC	231	509	0.454	230	0.8	12.870	B
	C-D	0			0			
	C-A	168			168			
	C-B	91	622	0.147	91	0.2	6.784	A
West	B-CD	77	577	0.133	77	0.2	7.192	A
	B-AD	674	479	1.407	478	68.1	344.232	F

	A-BCD	441	637	0.693	437	2.4	17.802	C
	A-B	0			0			
	A-C	44			44			
	D-ABC	0	300	0.000	0	0.0	0.000	A
	C-D	33			33			
	C-A	168			168			
	C-B	0	554	0.000	0	0.0	0.000	A

12:30 - 12:45

Junction	Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
East	B-CD	0	614	0.000	0	0.0	0.000	A
	B-AD	0	493	0.000	0	0.0	0.000	A
	A-BCD	0	519	0.000	0	0.0	0.000	A
	A-B	274			274			
	A-C	148			148			
	D-ABC	231	509	0.454	231	0.8	12.959	B
	C-D	0			0			
	C-A	168			168			
	C-B	91	622	0.147	91	0.2	6.787	A
West	B-CD	77	577	0.134	77	0.2	7.198	A
	B-AD	674	478	1.410	478	117.1	691.452	F
	A-BCD	442	638	0.693	442	2.5	18.526	C
	A-B	0			0			
	A-C	43			43			
	D-ABC	0	289	0.000	0	0.0	0.000	A
	C-D	33			33			
	C-A	168			168			
	C-B	0	553	0.000	0	0.0	0.000	A

12:45 - 13:00

Junction	Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
East	B-CD	0	633	0.000	0	0.0	0.000	A
	B-AD	0	521	0.000	0	0.0	0.000	A
	A-BCD	0	529	0.000	0	0.0	0.000	A
	A-B	224			224			
	A-C	120			120			
	D-ABC	189	516	0.366	190	0.6	11.062	B
	C-D	0			0			
	C-A	138			138			
	C-B	75	640	0.117	75	0.1	6.375	A
West	B-CD	63	583	0.108	63	0.1	6.927	A
	B-AD	550	507	1.084	507	127.9	861.155	F
	A-BCD	344	626	0.549	348	1.4	13.215	B
	A-B	0			0			
	A-C	53			53			
	D-ABC	0	314	0.000	0	0.0	0.000	A
	C-D	27			27			
	C-A	138			138			
	C-B	0	583	0.000	0	0.0	0.000	A

13:00 - 13:15

Junction	Stream	Total Demand	Capacity	RFC	Throughput	End queue	Delay (s)	LOS

		(PCU/hr)	(PCU/hr)		(PCU/hr)	(PCU)		
East	B-CD	0	647	0.000	0	0.0	0.000	A
	B-AD	0	541	0.000	0	0.0	0.000	A
	A-BCD	0	536	0.000	0	0.0	0.000	A
	A-B	187			187			
	A-C	101			101			
	D-ABC	158	521	0.303	159	0.4	9.946	A
	C-D	0			0			
	C-A	115			115			
	C-B	62	652	0.096	63	0.1	6.103	A
West	B-CD	53	588	0.090	53	0.1	6.732	A
	B-AD	461	530	0.869	526	111.6	820.146	F
	A-BCD	277	617	0.450	279	0.9	10.760	B
	A-B	0			0			
	A-C	55			55			
	D-ABC	0	338	0.000	0	0.0	0.000	A
	C-D	23			23			
	C-A	115			115			
	C-B	0	606	0.000	0	0.0	0.000	A

WNP 2020 AM WBP, 08-09

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix	Junction East	HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.
Warning	Vehicle Mix	Junction West	HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.

Junction Network

Junctions

Junction	Name	Junction Type	Major road direction	Junction Delay (s)	Junction LOS
East	untitled	Crossroads	Two-way	51.48	F
West		Crossroads	Two-way	11.89	B

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D_13	WNP 2020 AM WBP	08-09	Q3	ONE HOUR	07:45	09:15	15

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

Demand overview (Traffic)

Junction	Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
East	A		✓	559	100.000
	B		✓	0	100.000
	C		✓	235	100.000
	D		✓	446	100.000
West	A		✓	440	100.000
	B		✓	338	100.000
	C		✓	268	100.000
	D		✓	0	100.000

Origin-Destination Data

Demand (PCU/hr)

Junction East

		To			
		A	B	C	D
From	A	0	377	182	0
	B	0	0	0	0
	C	182	53	0	0
	D	319	0	127	0

Demand (PCU/hr)

Junction West

		To			
		A	B	C	D
From	A	0	0	182	258
	B	293	0	45	0
	C	182	0	0	86
	D	0	0	0	0

Vehicle Mix

Heavy Vehicle Percentages

Junction East

		To			
		A	B	C	D
From	A	0	0	0	0
	B	0	0	0	0
	C	0	0	0	0
	D	0	0	0	0

Heavy Vehicle Percentages

Junction West

		To			
		A	B	C	D
From	A	0	0	0	0
	B	0	0	0	0
	C	0	0	0	0
	D	0	0	0	0

Results

Results Summary for whole modelled period

Junction	Stream	Max RFC	Max delay (s)	Max Queue (PCU)	Max LOS
East	B-CD	0.00	0.00	0.0	A
	B-AD	0.00	0.00	0.0	A
	A-BCD	0.00	0.00	0.0	A
	A-B				
	A-C				
	D-ABC	1.03	142.29	19.4	F
	C-D				
	C-A				
	C-B	0.10	6.94	0.1	A
West	B-CD	0.08	6.28	0.1	A
	B-AD	0.68	23.74	2.1	C
	A-BCD	0.63	14.72	2.0	B
	A-B				
	A-C				
	D-ABC	0.00	0.00	0.0	A
	C-D				
	C-A				
	C-B	0.00	0.00	0.0	A

Main Results for each time segment

07:45 - 08:00

Junction	Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
East	B-CD	0	631	0.000	0	0.0	0.000	A
	B-AD	0	508	0.000	0	0.0	0.000	A
	A-BCD	0	538	0.000	0	0.0	0.000	A
	A-B	284			284			
	A-C	137			137			
	D-ABC	336	494	0.679	328	2.0	20.769	C
	C-D	0			0			
	C-A	137			137			
	C-B	40	622	0.064	40	0.1	6.179	A
West	B-CD	34	692	0.049	34	0.1	5.463	A
	B-AD	221	528	0.418	218	0.7	11.500	B
	A-BCD	248	629	0.395	245	0.8	9.335	A
	A-B	0			0			
	A-C	83			83			
	D-ABC	0	367	0.000	0	0.0	0.000	A
	C-D	65			65			
	C-A	137			137			
	C-B	0	612	0.000	0	0.0	0.000	A

08:00 - 08:15

Junction	Stream	Total Demand	Capacity	RFC	Throughput	End queue	Delay (s)	LOS

		(PCU/hr)	(PCU/hr)		(PCU/hr)	(PCU)		
East	B-CD	0	614	0.000	0	0.0	0.000	A
	B-AD	0	481	0.000	0	0.0	0.000	A
	A-BCD	0	531	0.000	0	0.0	0.000	A
	A-B	339			339			
	A-C	164			164			
	D-ABC	401	488	0.822	393	3.8	35.508	E
	C-D	0			0			
	C-A	164			164			
	C-B	48	603	0.079	48	0.1	6.479	A
West	B-CD	40	664	0.061	40	0.1	5.768	A
	B-AD	263	505	0.521	262	1.1	14.717	B
	A-BCD	312	641	0.488	311	1.1	10.913	B
	A-B	0			0			
	A-C	83			83			
	D-ABC	0	346	0.000	0	0.0	0.000	A
	C-D	77			77			
	C-A	164			164			
	C-B	0	590	0.000	0	0.0	0.000	A

08:15 - 08:30

Junction	Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
East	B-CD	0	591	0.000	0	0.0	0.000	A
	B-AD	0	442	0.000	0	0.0	0.000	A
	A-BCD	0	522	0.000	0	0.0	0.000	A
	A-B	415			415			
	A-C	200			200			
	D-ABC	491	478	1.027	454	13.2	87.233	F
	C-D	0			0			
	C-A	200			200			
	C-B	58	577	0.101	58	0.1	6.935	A
West	B-CD	50	624	0.079	49	0.1	6.262	A
	B-AD	323	474	0.681	319	2.0	22.660	C
	A-BCD	410	657	0.624	407	2.0	14.349	B
	A-B	0			0			
	A-C	74			74			
	D-ABC	0	317	0.000	0	0.0	0.000	A
	C-D	95			95			
	C-A	200			200			
	C-B	0	561	0.000	0	0.0	0.000	A

08:30 - 08:45

Junction	Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
East	B-CD	0	591	0.000	0	0.0	0.000	A
	B-AD	0	437	0.000	0	0.0	0.000	A
	A-BCD	0	522	0.000	0	0.0	0.000	A
	A-B	415			415			
	A-C	200			200			
	D-ABC	491	478	1.027	466	19.4	142.293	F
	C-D	0			0			
	C-A	200			200			
	C-B	58	577	0.101	58	0.1	6.937	A

West	B-CD	50	622	0.080	50	0.1	6.284	A
	B-AD	323	473	0.682	322	2.1	23.742	C
	A-BCD	411	658	0.625	411	2.0	14.719	B
	A-B	0			0			
	A-C	73			73			
	D-ABC	0	316	0.000	0	0.0	0.000	A
	C-D	95			95			
	C-A	200			200			
	C-B	0	560	0.000	0	0.0	0.000	A

08:45 - 09:00

Junction	Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
East	B-CD	0	614	0.000	0	0.0	0.000	A
	B-AD	0	472	0.000	0	0.0	0.000	A
	A-BCD	0	531	0.000	0	0.0	0.000	A
	A-B	339			339			
	A-C	164			164			
	D-ABC	401	488	0.822	453	6.2	102.648	F
	C-D	0			0			
	C-A	164			164			
	C-B	48	603	0.079	48	0.1	6.484	A
West	B-CD	40	662	0.061	41	0.1	5.796	A
	B-AD	263	504	0.523	267	1.1	15.440	C
	A-BCD	314	642	0.488	317	1.2	11.235	B
	A-B	0			0			
	A-C	82			82			
	D-ABC	0	345	0.000	0	0.0	0.000	A
	C-D	77			77			
	C-A	164			164			
	C-B	0	588	0.000	0	0.0	0.000	A

09:00 - 09:15

Junction	Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
East	B-CD	0	631	0.000	0	0.0	0.000	A
	B-AD	0	505	0.000	0	0.0	0.000	A
	A-BCD	0	538	0.000	0	0.0	0.000	A
	A-B	284			284			
	A-C	137			137			
	D-ABC	336	494	0.679	352	2.3	27.490	D
	C-D	0			0			
	C-A	137			137			
	C-B	40	622	0.064	40	0.1	6.188	A
West	B-CD	34	690	0.049	34	0.1	5.484	A
	B-AD	221	527	0.419	222	0.7	11.878	B
	A-BCD	249	630	0.396	251	0.8	9.567	A
	A-B	0			0			
	A-C	82			82			
	D-ABC	0	366	0.000	0	0.0	0.000	A
	C-D	65			65			
	C-A	137			137			
	C-B	0	610	0.000	0	0.0	0.000	A

WNP 2020 PM WBP, 16-17

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix	Junction East	HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.
Warning	Vehicle Mix	Junction West	HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.

Junction Network

Junctions

Junction	Name	Junction Type	Major road direction	Junction Delay (s)	Junction LOS
East	untitled	Crossroads	Two-way	4.08	A
West		Crossroads	Two-way	105.89	F

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D_14	WNP 2020 PM WBP	16-17	Q3	ONE HOUR	15:45	17:15	15

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

Demand overview (Traffic)

Junction	Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
East	**A**		✓	473	100.000
	B		✓	0	100.000
	C		✓	283	100.000
	D		✓	228	100.000
West	**A**		✓	445	100.000
	B		✓	621	100.000
	C		✓	250	100.000
	D		✓	0	100.000

Origin-Destination Data

Demand (PCU/hr)

Junction East

		To			
		A	B	C	D
From	A	0	315	158	0
	B	0	0	0	0
	C	193	90	0	0
	D	187	0	41	0

Demand (PCU/hr)

Junction West

		To			
		A	B	C	D
From	A	0	0	158	287
	B	488	0	133	0
	C	193	0	0	57
	D	0	0	0	0

Vehicle Mix

Heavy Vehicle Percentages

Junction East

		To			
		A	B	C	D
From	A	0	0	0	0
	B	0	0	0	0
	C	0	0	0	0
	D	0	0	0	0

Heavy Vehicle Percentages

Junction West

		To			
		A	B	C	D
From	A	0	0	0	0
	B	0	0	0	0
	C	0	0	0	0
	D	0	0	0	0

Results

Results Summary for whole modelled period

Junction	Stream	Max RFC	Max delay (s)	Max Queue (PCU)	Max LOS
East	B-CD	0.00	0.00	0.0	A
	B-AD	0.00	0.00	0.0	A
	A-BCD	0.00	0.00	0.0	A
	A-B				
	A-C				
	D-ABC	0.51	14.75	1.0	B
	C-D				

	C-A				
	C-B	0.17	7.20	0.2	A
West	B-CD	0.26	8.47	0.3	A
	B-AD	1.15	269.68	42.1	F
	A-BCD	0.68	17.56	2.4	C
	A-B				
	A-C				
	D-ABC	0.00	0.00	0.0	A
	C-D				
	C-A				
	C-B	0.00	0.00	0.0	A

Main Results for each time segment

15:45 - 16:00

Junction	Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
East	B-CD	0	633	0.000	0	0.0	0.000	A
	B-AD	0	524	0.000	0	0.0	0.000	A
	A-BCD	0	529	0.000	0	0.0	0.000	A
	A-B	237			237			
	A-C	119			119			
	D-ABC	172	511	0.336	170	0.5	10.496	B
	C-D	0			0			
	C-A	145			145			
	C-B	68	637	0.106	67	0.1	6.315	A
West	B-CD	100	642	0.156	99	0.2	6.621	A
	B-AD	367	526	0.699	359	2.1	20.639	C
	A-BCD	267	619	0.432	264	0.9	10.076	B
	A-B	0			0			
	A-C	68			68			
	D-ABC	0	354	0.000	0	0.0	0.000	A
	C-D	43			43			
	C-A	145			145			
	C-B	0	608	0.000	0	0.0	0.000	A

16:00 - 16:15

Junction	Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
East	B-CD	0	617	0.000	0	0.0	0.000	A
	B-AD	0	501	0.000	0	0.0	0.000	A
	A-BCD	0	521	0.000	0	0.0	0.000	A
	A-B	283			283			
	A-C	142			142			
	D-ABC	205	504	0.407	204	0.7	11.977	B
	C-D	0			0			
	C-A	174			174			
	C-B	81	621	0.130	81	0.1	6.662	A
West	B-CD	120	600	0.199	119	0.2	7.491	A
	B-AD	439	502	0.874	427	5.1	42.216	E

	A-BCD	334	629	0.532	333	1.3	12.145	B
	A-B	0			0			
	A-C	66			66			
	D-ABC	0	329	0.000	0	0.0	0.000	A
	C-D	51			51			
	C-A	174			174			
	C-B	0	586	0.000	0	0.0	0.000	A

16:15 - 16:30

Junction	Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
East	B-CD	0	593	0.000	0	0.0	0.000	A
	B-AD	0	468	0.000	0	0.0	0.000	A
	A-BCD	0	509	0.000	0	0.0	0.000	A
	A-B	347			347			
	A-C	174			174			
	D-ABC	251	495	0.507	250	1.0	14.599	B
	C-D	0			0			
	C-A	212			212			
	C-B	99	599	0.165	99	0.2	7.199	A
West	B-CD	146	572	0.256	146	0.3	8.453	A
	B-AD	537	470	1.143	460	24.4	136.277	F
	A-BCD	435	642	0.678	431	2.4	16.922	C
	A-B	0			0			
	A-C	55			55			
	D-ABC	0	294	0.000	0	0.0	0.000	A
	C-D	63			63			
	C-A	212			212			
	C-B	0	556	0.000	0	0.0	0.000	A

16:30 - 16:45

Junction	Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
East	B-CD	0	593	0.000	0	0.0	0.000	A
	B-AD	0	468	0.000	0	0.0	0.000	A
	A-BCD	0	509	0.000	0	0.0	0.000	A
	A-B	347			347			
	A-C	174			174			
	D-ABC	251	495	0.507	251	1.0	14.747	B
	C-D	0			0			
	C-A	212			212			
	C-B	99	599	0.165	99	0.2	7.201	A
West	B-CD	146	571	0.256	146	0.3	8.474	A
	B-AD	537	469	1.145	467	42.1	269.676	F
	A-BCD	436	643	0.679	436	2.4	17.563	C
	A-B	0			0			
	A-C	54			54			
	D-ABC	0	289	0.000	0	0.0	0.000	A
	C-D	63			63			
	C-A	212			212			
	C-B	0	554	0.000	0	0.0	0.000	A

16:45 - 17:00

Junction	Stream	Total Demand	Capacity	RFC	Throughput	End queue	Delay (s)	LOS

		(PCU/hr)	(PCU/hr)		(PCU/hr)	(PCU)		
East	B-CD	0	617	0.000	0	0.0	0.000	A
	B-AD	0	500	0.000	0	0.0	0.000	A
	A-BCD	0	521	0.000	0	0.0	0.000	A
	A-B	283			283			
	A-C	142			142			
	D-ABC	205	504	0.407	206	0.7	12.135	B
	C-D	0			0			
	C-A	174			174			
	C-B	81	621	0.130	81	0.2	6.672	A
West	B-CD	120	578	0.207	120	0.3	7.861	A
	B-AD	439	500	0.877	489	29.6	265.225	F
	A-BCD	336	630	0.533	340	1.4	12.650	B
	A-B	0			0			
	A-C	64			64			
	D-ABC	0	321	0.000	0	0.0	0.000	A
	C-D	51			51			
	C-A	174			174			
	C-B	0	584	0.000	0	0.0	0.000	A

17:00 - 17:15

Junction	Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
East	B-CD	0	633	0.000	0	0.0	0.000	A
	B-AD	0	523	0.000	0	0.0	0.000	A
	A-BCD	0	529	0.000	0	0.0	0.000	A
	A-B	237			237			
	A-C	119			119			
	D-ABC	172	511	0.336	172	0.5	10.666	B
	C-D	0			0			
	C-A	145			145			
	C-B	68	637	0.106	68	0.1	6.328	A
West	B-CD	100	598	0.167	100	0.2	7.238	A
	B-AD	367	524	0.701	474	2.8	104.772	F
	A-BCD	269	620	0.433	270	0.9	10.393	B
	A-B	0			0			
	A-C	66			66			
	D-ABC	0	348	0.000	0	0.0	0.000	A
	C-D	43			43			
	C-A	145			145			
	C-B	0	607	0.000	0	0.0	0.000	A

WNP 2020 Weekend WBP, 12-13

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix	Junction East	HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.
Warning	Vehicle Mix	Junction West	HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.

Junction Network

Junctions

Junction	Name	Junction Type	Major road direction	Junction Delay (s)	Junction LOS
East	untitled	Crossroads	Two-way	3.65	A
West		Crossroads	Two-way	240.43	F

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D_15	WNP 2020 Weekend WBP	12-13	Q3	ONE HOUR	11:45	13:15	15

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

Demand overview (Traffic)

Junction	Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
East	**A**		✓	350	100.000
	B		✓	0	100.000
	C		✓	216	100.000
	D		✓	190	100.000
West	**A**		✓	405	100.000
	B		✓	626	100.000
	C		✓	167	100.000
	D		✓	0	100.000

Origin-Destination Data

Demand (PCU/hr)

Junction East

		To			
		A	**B**	**C**	**D**
From	**A**	0	225	125	0
	B	0	0	0	0
	C	140	76	0	0
	D	160	0	30	0

Demand (PCU/hr)

Junction West

		To			
		A	B	C	D
From	A	0	0	125	280
	B	561	0	65	0
	C	140	0	0	27
	D	0	0	0	0

Vehicle Mix

Heavy Vehicle Percentages

Junction East

		To			
		A	B	C	D
From	A	0	0	0	0
	B	0	0	0	0
	C	0	0	0	0
	D	0	0	0	0

Heavy Vehicle Percentages

Junction West

		To			
		A	B	C	D
From	A	0	0	0	0
	B	0	0	0	0
	C	0	0	0	0
	D	0	0	0	0

Results

Results Summary for whole modelled period

Junction	Stream	Max RFC	Max delay (s)	Max Queue (PCU)	Max LOS
East	B-CD	0.00	0.00	0.0	A
	B-AD	0.00	0.00	0.0	A
	A-BCD	0.00	0.00	0.0	A
	A-B				
	A-C				
	D-ABC	0.41	11.89	0.7	B
	C-D				
	C-A				
	C-B	0.13	6.59	0.2	A
West	B-CD	0.12	7.09	0.1	A
	B-AD	1.26	503.23	73.3	F
	A-BCD	0.62	15.19	1.9	C
	A-B				
	A-C				
	D-ABC	0.00	0.00	0.0	A
	C-D				
	C-A				

	C-B	0.00	0.00	0.0	A

Main Results for each time segment

11:45 - 12:00

Junction	Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
East	B-CD	0	653	0.000	0	0.0	0.000	A
	B-AD	0	550	0.000	0	0.0	0.000	A
	A-BCD	0	540	0.000	0	0.0	0.000	A
	A-B	169			169			
	A-C	94			94			
	D-ABC	143	523	0.273	142	0.4	9.392	A
	C-D	0			0			
	C-A	105			105			
	C-B	57	658	0.087	57	0.1	5.983	A
West	B-CD	49	632	0.077	49	0.1	6.165	A
	B-AD	422	541	0.781	410	3.1	25.509	D
	A-BCD	249	614	0.406	246	0.7	9.736	A
	A-B	0			0			
	A-C	56			56			
	D-ABC	0	369	0.000	0	0.0	0.000	A
	C-D	20			20			
	C-A	105			105			
	C-B	0	617	0.000	0	0.0	0.000	A

12:00 - 12:15

Junction	Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
East	B-CD	0	640	0.000	0	0.0	0.000	A
	B-AD	0	531	0.000	0	0.0	0.000	A
	A-BCD	0	533	0.000	0	0.0	0.000	A
	A-B	202			202			
	A-C	112			112			
	D-ABC	171	519	0.329	170	0.5	10.323	B
	C-D	0			0			
	C-A	126			126			
	C-B	68	646	0.106	68	0.1	6.227	A
West	B-CD	58	586	0.100	58	0.1	6.814	A
	B-AD	504	520	0.969	479	9.4	63.846	F
	A-BCD	308	622	0.495	307	1.1	11.401	B
	A-B	0			0			
	A-C	56			56			
	D-ABC	0	348	0.000	0	0.0	0.000	A
	C-D	24			24			
	C-A	126			126			
	C-B	0	596	0.000	0	0.0	0.000	A

12:15 - 12:30

Junction	Stream	Total Demand	Capacity	RFC	Throughput	End queue	Delay (s)	LOS

		(PCU/hr)	(PCU/hr)		(PCU/hr)	(PCU)		
East	B-CD	0	623	0.000	0	0.0	0.000	A
	B-AD	0	506	0.000	0	0.0	0.000	A
	A-BCD	0	524	0.000	0	0.0	0.000	A
	A-B	248			248			
	A-C	138			138			
	D-ABC	209	512	0.409	208	0.7	11.827	B
	C-D	0			0			
	C-A	154			154			
	C-B	84	630	0.133	84	0.2	6.584	A
West	B-CD	72	580	0.123	71	0.1	7.082	A
	B-AD	618	493	1.254	489	41.6	206.548	F
	A-BCD	395	633	0.624	392	1.8	14.844	B
	A-B	0			0			
	A-C	51			51			
	D-ABC	0	317	0.000	0	0.0	0.000	A
	C-D	30			30			
	C-A	154			154			
	C-B	0	568	0.000	0	0.0	0.000	A

12:30 - 12:45

Junction	Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
East	B-CD	0	623	0.000	0	0.0	0.000	A
	B-AD	0	506	0.000	0	0.0	0.000	A
	A-BCD	0	524	0.000	0	0.0	0.000	A
	A-B	248			248			
	A-C	138			138			
	D-ABC	209	512	0.409	209	0.7	11.886	B
	C-D	0			0			
	C-A	154			154			
	C-B	84	630	0.133	84	0.2	6.587	A
West	B-CD	72	579	0.124	72	0.1	7.087	A
	B-AD	618	492	1.256	491	73.3	427.893	F
	A-BCD	396	634	0.624	395	1.9	15.188	C
	A-B	0			0			
	A-C	50			50			
	D-ABC	0	311	0.000	0	0.0	0.000	A
	C-D	30			30			
	C-A	154			154			
	C-B	0	567	0.000	0	0.0	0.000	A

12:45 - 13:00

Junction	Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
East	B-CD	0	640	0.000	0	0.0	0.000	A
	B-AD	0	531	0.000	0	0.0	0.000	A
	A-BCD	0	533	0.000	0	0.0	0.000	A
	A-B	202			202			
	A-C	112			112			
	D-ABC	171	519	0.329	172	0.5	10.394	B
	C-D	0			0			
	C-A	126			126			
	C-B	68	646	0.106	68	0.1	6.232	A

West	B-CD	58	585	0.100	59	0.1	6.839	A
	B-AD	504	519	0.972	512	71.3	503.233	F
	A-BCD	309	623	0.496	311	1.1	11.712	B
	A-B	0			0			
	A-C	55			55			
	D-ABC	0	335	0.000	0	0.0	0.000	A
	C-D	24			24			
	C-A	126			126			
	C-B	0	594	0.000	0	0.0	0.000	A

13:00 - 13:15

Junction	Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
East	B-CD	0	653	0.000	0	0.0	0.000	A
	B-AD	0	549	0.000	0	0.0	0.000	A
	A-BCD	0	539	0.000	0	0.0	0.000	A
	A-B	169			169			
	A-C	94			94			
	D-ABC	143	523	0.273	144	0.4	9.491	A
	C-D	0			0			
	C-A	105			105			
	C-B	57	658	0.087	57	0.1	5.992	A
West	B-CD	49	589	0.083	49	0.1	6.665	A
	B-AD	422	540	0.783	532	43.9	392.608	F
	A-BCD	250	614	0.407	251	0.8	9.974	A
	A-B	0			0			
	A-C	55			55			
	D-ABC	0	358	0.000	0	0.0	0.000	A
	C-D	20			20			
	C-A	105			105			
	C-B	0	615	0.000	0	0.0	0.000	A

WNP 2020 AM BP, 08-09

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix	Junction East	HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.
Warning	Vehicle Mix	Junction West	HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.

Junction Network

Junctions

Junction	Name	Junction Type	Major road direction	Junction Delay (s)	Junction LOS
East	untitled	Crossroads	Two-way	51.48	F
West		Crossroads	Two-way	11.89	B

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D_16	WNP 2020 AM BP	08-09	Q3	ONE HOUR	07:45	09:15	15

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

Demand overview (Traffic)

Junction	Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
East	A		✓	559	100.000
	B		✓	0	100.000
	C		✓	235	100.000
	D		✓	446	100.000
West	A		✓	440	100.000
	B		✓	338	100.000
	C		✓	268	100.000
	D		✓	0	100.000

Origin-Destination Data

Junction East

Demand (PCU/hr)

		To			
		A	B	C	D
From	A	0	377	182	0
	B	0	0	0	0
	C	182	53	0	0
	D	319	0	127	0

Junction West

Demand (PCU/hr)

		To			
		A	B	C	D
From	A	0	0	182	258
	B	293	0	45	0
	C	182	0	0	86
	D	0	0	0	0

Vehicle Mix

Heavy Vehicle Percentages

Junction East

		To			
		A	B	C	D
From	A	0	0	0	0
	B	0	0	0	0
	C	0	0	0	0
	D	0	0	0	0

Heavy Vehicle Percentages

Junction West

		To			
		A	B	C	D
From	A	0	0	0	0
	B	0	0	0	0
	C	0	0	0	0
	D	0	0	0	0

Results

Results Summary for whole modelled period

Junction	Stream	Max RFC	Max delay (s)	Max Queue (PCU)	Max LOS
East	B-CD	0.00	0.00	0.0	A
	B-AD	0.00	0.00	0.0	A
	A-BCD	0.00	0.00	0.0	A
	A-B				
	A-C				
	D-ABC	1.03	142.29	19.4	F
	C-D				
	C-A				
	C-B	0.10	6.94	0.1	A
West	B-CD	0.08	6.28	0.1	A
	B-AD	0.68	23.74	2.1	C
	A-BCD	0.63	14.72	2.0	B
	A-B				
	A-C				
	D-ABC	0.00	0.00	0.0	A
	C-D				
	C-A				
	C-B	0.00	0.00	0.0	A

Main Results for each time segment

07:45 - 08:00

Junction	Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
East	B-CD	0	631	0.000	0	0.0	0.000	A

	B-AD	0	508	0.000	0	0.0	0.000	A
	A-BCD	0	538	0.000	0	0.0	0.000	A
	A-B	284			284			
	A-C	137			137			
	D-ABC	336	494	0.679	328	2.0	20.769	C
	C-D	0			0			
	C-A	137			137			
	C-B	40	622	0.064	40	0.1	6.179	A
West	B-CD	34	692	0.049	34	0.1	5.463	A
	B-AD	221	528	0.418	218	0.7	11.500	B
	A-BCD	248	629	0.395	245	0.8	9.335	A
	A-B	0			0			
	A-C	83			83			
	D-ABC	0	367	0.000	0	0.0	0.000	A
	C-D	65			65			
	C-A	137			137			
	C-B	0	612	0.000	0	0.0	0.000	A

08:00 - 08:15

Junction	Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
East	B-CD	0	614	0.000	0	0.0	0.000	A
	B-AD	0	481	0.000	0	0.0	0.000	A
	A-BCD	0	531	0.000	0	0.0	0.000	A
	A-B	339			339			
	A-C	164			164			
	D-ABC	401	488	0.822	393	3.8	35.508	E
	C-D	0			0			
	C-A	164			164			
	C-B	48	603	0.079	48	0.1	6.479	A
West	B-CD	40	664	0.061	40	0.1	5.768	A
	B-AD	263	505	0.521	262	1.1	14.717	B
	A-BCD	312	641	0.488	311	1.1	10.913	B
	A-B	0			0			
	A-C	83			83			
	D-ABC	0	346	0.000	0	0.0	0.000	A
	C-D	77			77			
	C-A	164			164			
	C-B	0	590	0.000	0	0.0	0.000	A

08:15 - 08:30

Junction	Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
East	B-CD	0	591	0.000	0	0.0	0.000	A
	B-AD	0	442	0.000	0	0.0	0.000	A
	A-BCD	0	522	0.000	0	0.0	0.000	A
	A-B	415			415			
	A-C	200			200			
	D-ABC	491	478	1.027	454	13.2	87.233	F
	C-D	0			0			
	C-A	200			200			
	C-B	58	577	0.101	58	0.1	6.935	A
West	B-CD	50	624	0.079	49	0.1	6.262	A
	B-AD	323	474	0.681	319	2.0	22.660	C

	A-BCD	410	657	0.624	407	2.0	14.349	B
	A-B	0			0			
	A-C	74			74			
	D-ABC	0	317	0.000	0	0.0	0.000	A
	C-D	95			95			
	C-A	200			200			
	C-B	0	561	0.000	0	0.0	0.000	A

08:30 - 08:45

Junction	Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
East	B-CD	0	591	0.000	0	0.0	0.000	A
	B-AD	0	437	0.000	0	0.0	0.000	A
	A-BCD	0	522	0.000	0	0.0	0.000	A
	A-B	415			415			
	A-C	200			200			
	D-ABC	491	478	1.027	466	19.4	142.293	F
	C-D	0			0			
	C-A	200			200			
	C-B	58	577	0.101	58	0.1	6.937	A
West	B-CD	50	622	0.080	50	0.1	6.284	A
	B-AD	323	473	0.682	322	2.1	23.742	C
	A-BCD	411	658	0.625	411	2.0	14.719	B
	A-B	0			0			
	A-C	73			73			
	D-ABC	0	316	0.000	0	0.0	0.000	A
	C-D	95			95			
	C-A	200			200			
	C-B	0	560	0.000	0	0.0	0.000	A

08:45 - 09:00

Junction	Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
East	B-CD	0	614	0.000	0	0.0	0.000	A
	B-AD	0	472	0.000	0	0.0	0.000	A
	A-BCD	0	531	0.000	0	0.0	0.000	A
	A-B	339			339			
	A-C	164			164			
	D-ABC	401	488	0.822	453	6.2	102.648	F
	C-D	0			0			
	C-A	164			164			
	C-B	48	603	0.079	48	0.1	6.484	A
West	B-CD	40	662	0.061	41	0.1	5.796	A
	B-AD	263	504	0.523	267	1.1	15.440	C
	A-BCD	314	642	0.488	317	1.2	11.235	B
	A-B	0			0			
	A-C	82			82			
	D-ABC	0	345	0.000	0	0.0	0.000	A
	C-D	77			77			
	C-A	164			164			
	C-B	0	588	0.000	0	0.0	0.000	A

09:00 - 09:15

Junction	Stream	Total Demand	Capacity	RFC	Throughput	End queue	Delay (s)	LOS

		(PCU/hr)	(PCU/hr)		(PCU/hr)	(PCU)		
East	B-CD	0	631	0.000	0	0.0	0.000	A
	B-AD	0	505	0.000	0	0.0	0.000	A
	A-BCD	0	538	0.000	0	0.0	0.000	A
	A-B	284			284			
	A-C	137			137			
	D-ABC	336	494	0.679	352	2.3	27.490	D
	C-D	0			0			
	C-A	137			137			
	C-B	40	622	0.064	40	0.1	6.188	A
West	B-CD	34	690	0.049	34	0.1	5.484	A
	B-AD	221	527	0.419	222	0.7	11.878	B
	A-BCD	249	630	0.396	251	0.8	9.567	A
	A-B	0			0			
	A-C	82			82			
	D-ABC	0	366	0.000	0	0.0	0.000	A
	C-D	65			65			
	C-A	137			137			
	C-B	0	610	0.000	0	0.0	0.000	A

WNP 2020 PM BP, 16-17

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix	Junction East	HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.
Warning	Vehicle Mix	Junction West	HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.

Junction Network

Junctions

Junction	Name	Junction Type	Major road direction	Junction Delay (s)	Junction LOS
East	untitled	Crossroads	Two-way	4.08	A
West		Crossroads	Two-way	105.89	F

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D_17	WNP 2020 PM BP	16-17	Q3	ONE HOUR	15:45	17:15	15

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

Demand overview (Traffic)

Junction	Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
East	A		✓	473	100.000
	B		✓	0	100.000
	C		✓	283	100.000
	D		✓	228	100.000
West	A		✓	445	100.000
	B		✓	621	100.000
	C		✓	250	100.000
	D		✓	0	100.000

Origin-Destination Data

Demand (PCU/hr)

Junction East

		To			
		A	B	C	D
From	A	0	315	158	0
	B	0	0	0	0
	C	193	90	0	0
	D	187	0	41	0

Demand (PCU/hr)

Junction West

		To			
		A	B	C	D
From	A	0	0	158	287
	B	488	0	133	0
	C	193	0	0	57
	D	0	0	0	0

Vehicle Mix

Heavy Vehicle Percentages

Junction East

		To			
		A	B	C	D
From	A	0	0	0	0
	B	0	0	0	0
	C	0	0	0	0
	D	0	0	0	0

Heavy Vehicle Percentages

Junction West

		To			
		A	B	C	D
From	A	0	0	0	0
	B	0	0	0	0
	C	0	0	0	0
	D	0	0	0	0

Results

Results Summary for whole modelled period

Junction	Stream	Max RFC	Max delay (s)	Max Queue (PCU)	Max LOS
East	B-CD	0.00	0.00	0.0	A
	B-AD	0.00	0.00	0.0	A
	A-BCD	0.00	0.00	0.0	A
	A-B				
	A-C				
	D-ABC	0.51	14.75	1.0	B
	C-D				
	C-A				
	C-B	0.17	7.20	0.2	A
West	B-CD	0.26	8.47	0.3	A
	B-AD	1.15	269.68	42.1	F
	A-BCD	0.68	17.56	2.4	C
	A-B				
	A-C				
	D-ABC	0.00	0.00	0.0	A
	C-D				
	C-A				
	C-B	0.00	0.00	0.0	A

Main Results for each time segment

15:45 - 16:00

Junction	Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
East	B-CD	0	633	0.000	0	0.0	0.000	A
	B-AD	0	524	0.000	0	0.0	0.000	A
	A-BCD	0	529	0.000	0	0.0	0.000	A
	A-B	237			237			
	A-C	119			119			
	D-ABC	172	511	0.336	170	0.5	10.496	B
	C-D	0			0			
	C-A	145			145			
	C-B	68	637	0.106	67	0.1	6.315	A
West	B-CD	100	642	0.156	99	0.2	6.621	A
	B-AD	367	526	0.699	359	2.1	20.639	C
	A-BCD	267	619	0.432	264	0.9	10.076	B
	A-B	0			0			
	A-C	68			68			
	D-ABC	0	354	0.000	0	0.0	0.000	A
	C-D	43			43			
	C-A	145			145			
	C-B	0	608	0.000	0	0.0	0.000	A

16:00 - 16:15

Junction	Stream	Total Demand	Capacity	RFC	Throughput	End queue	Delay (s)	LOS

		(PCU/hr)	(PCU/hr)		(PCU/hr)	(PCU)		
East	B-CD	0	617	0.000	0	0.0	0.000	A
	B-AD	0	501	0.000	0	0.0	0.000	A
	A-BCD	0	521	0.000	0	0.0	0.000	A
	A-B	283			283			
	A-C	142			142			
	D-ABC	205	504	0.407	204	0.7	11.977	B
	C-D	0			0			
	C-A	174			174			
	C-B	81	621	0.130	81	0.1	6.662	A
West	B-CD	120	600	0.199	119	0.2	7.491	A
	B-AD	439	502	0.874	427	5.1	42.216	E
	A-BCD	334	629	0.532	333	1.3	12.145	B
	A-B	0			0			
	A-C	66			66			
	D-ABC	0	329	0.000	0	0.0	0.000	A
	C-D	51			51			
	C-A	174			174			
	C-B	0	586	0.000	0	0.0	0.000	A

16:15 - 16:30

Junction	Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
East	B-CD	0	593	0.000	0	0.0	0.000	A
	B-AD	0	468	0.000	0	0.0	0.000	A
	A-BCD	0	509	0.000	0	0.0	0.000	A
	A-B	347			347			
	A-C	174			174			
	D-ABC	251	495	0.507	250	1.0	14.599	B
	C-D	0			0			
	C-A	212			212			
	C-B	99	599	0.165	99	0.2	7.199	A
West	B-CD	146	572	0.256	146	0.3	8.453	A
	B-AD	537	470	1.143	460	24.4	136.277	F
	A-BCD	435	642	0.678	431	2.4	16.922	C
	A-B	0			0			
	A-C	55			55			
	D-ABC	0	294	0.000	0	0.0	0.000	A
	C-D	63			63			
	C-A	212			212			
	C-B	0	556	0.000	0	0.0	0.000	A

16:30 - 16:45

Junction	Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
East	B-CD	0	593	0.000	0	0.0	0.000	A
	B-AD	0	468	0.000	0	0.0	0.000	A
	A-BCD	0	509	0.000	0	0.0	0.000	A
	A-B	347			347			
	A-C	174			174			
	D-ABC	251	495	0.507	251	1.0	14.747	B
	C-D	0			0			
	C-A	212			212			
	C-B	99	599	0.165	99	0.2	7.201	A

West	B-CD	146	571	0.256	146	0.3	8.474	A
	B-AD	537	469	1.145	467	42.1	269.676	F
	A-BCD	436	643	0.679	436	2.4	17.563	C
	A-B	0			0			
	A-C	54			54			
	D-ABC	0	289	0.000	0	0.0	0.000	A
	C-D	63			63			
	C-A	212			212			
	C-B	0	554	0.000	0	0.0	0.000	A

16:45 - 17:00

Junction	Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
East	B-CD	0	617	0.000	0	0.0	0.000	A
	B-AD	0	500	0.000	0	0.0	0.000	A
	A-BCD	0	521	0.000	0	0.0	0.000	A
	A-B	283			283			
	A-C	142			142			
	D-ABC	205	504	0.407	206	0.7	12.135	B
	C-D	0			0			
	C-A	174			174			
	C-B	81	621	0.130	81	0.2	6.672	A
West	B-CD	120	578	0.207	120	0.3	7.861	A
	B-AD	439	500	0.877	489	29.6	265.225	F
	A-BCD	336	630	0.533	340	1.4	12.650	B
	A-B	0			0			
	A-C	64			64			
	D-ABC	0	321	0.000	0	0.0	0.000	A
	C-D	51			51			
	C-A	174			174			
	C-B	0	584	0.000	0	0.0	0.000	A

17:00 - 17:15

Junction	Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
East	B-CD	0	633	0.000	0	0.0	0.000	A
	B-AD	0	523	0.000	0	0.0	0.000	A
	A-BCD	0	529	0.000	0	0.0	0.000	A
	A-B	237			237			
	A-C	119			119			
	D-ABC	172	511	0.336	172	0.5	10.666	B
	C-D	0			0			
	C-A	145			145			
	C-B	68	637	0.106	68	0.1	6.328	A
West	B-CD	100	598	0.167	100	0.2	7.238	A
	B-AD	367	524	0.701	474	2.8	104.772	F
	A-BCD	269	620	0.433	270	0.9	10.393	B
	A-B	0			0			
	A-C	66			66			
	D-ABC	0	348	0.000	0	0.0	0.000	A
	C-D	43			43			
	C-A	145			145			
	C-B	0	607	0.000	0	0.0	0.000	A

WNP 2020 Weekend BP, 12-13

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix	Junction East	HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.
Warning	Vehicle Mix	Junction West	HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.

Junction Network

Junctions

Junction	Name	Junction Type	Major road direction	Junction Delay (s)	Junction LOS
East	untitled	Crossroads	Two-way	3.65	A
West		Crossroads	Two-way	240.43	F

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D_18	WNP 2020 Weekend BP	12-13	Q3	ONE HOUR	11:45	13:15	15

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

Demand overview (Traffic)

Junction	Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
East	**A**		✓	350	100.000
	B		✓	0	100.000
	C		✓	216	100.000
	D		✓	190	100.000
West	**A**		✓	405	100.000
	B		✓	626	100.000
	C		✓	167	100.000
	D		✓	0	100.000

Origin-Destination Data

Demand (PCU/hr)

Junction East

		To			
		A	B	C	D
From	A	0	225	125	0
	B	0	0	0	0
	C	140	76	0	0
	D	160	0	30	0

Demand (PCU/hr)

Junction West

		To			
		A	B	C	D
From	A	0	0	125	280
	B	561	0	65	0
	C	140	0	0	27
	D	0	0	0	0

Vehicle Mix

Heavy Vehicle Percentages

Junction East

		To			
		A	B	C	D
From	A	0	0	0	0
	B	0	0	0	0
	C	0	0	0	0
	D	0	0	0	0

Heavy Vehicle Percentages

Junction West

		To			
		A	B	C	D
From	A	0	0	0	0
	B	0	0	0	0
	C	0	0	0	0
	D	0	0	0	0

Results

Results Summary for whole modelled period

Junction	Stream	Max RFC	Max delay (s)	Max Queue (PCU)	Max LOS
East	B-CD	0.00	0.00	0.0	A
	B-AD	0.00	0.00	0.0	A
	A-BCD	0.00	0.00	0.0	A
	A-B				
	A-C				
	D-ABC	0.41	11.89	0.7	B
	C-D				

	C-A				
	C-B	0.13	6.59	0.2	A
West	B-CD	0.12	7.09	0.1	A
	B-AD	1.26	503.23	73.3	F
	A-BCD	0.62	15.19	1.9	C
	A-B				
	A-C				
	D-ABC	0.00	0.00	0.0	A
	C-D				
	C-A				
	C-B	0.00	0.00	0.0	A

Main Results for each time segment

11:45 - 12:00

Junction	Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
East	B-CD	0	653	0.000	0	0.0	0.000	A
	B-AD	0	550	0.000	0	0.0	0.000	A
	A-BCD	0	540	0.000	0	0.0	0.000	A
	A-B	169			169			
	A-C	94			94			
	D-ABC	143	523	0.273	142	0.4	9.392	A
	C-D	0			0			
	C-A	105			105			
	C-B	57	658	0.087	57	0.1	5.983	A
West	B-CD	49	632	0.077	49	0.1	6.165	A
	B-AD	422	541	0.781	410	3.1	25.509	D
	A-BCD	249	614	0.406	246	0.7	9.736	A
	A-B	0			0			
	A-C	56			56			
	D-ABC	0	369	0.000	0	0.0	0.000	A
	C-D	20			20			
	C-A	105			105			
	C-B	0	617	0.000	0	0.0	0.000	A

12:00 - 12:15

Junction	Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
East	B-CD	0	640	0.000	0	0.0	0.000	A
	B-AD	0	531	0.000	0	0.0	0.000	A
	A-BCD	0	533	0.000	0	0.0	0.000	A
	A-B	202			202			
	A-C	112			112			
	D-ABC	171	519	0.329	170	0.5	10.323	B
	C-D	0			0			
	C-A	126			126			
	C-B	68	646	0.106	68	0.1	6.227	A
West	B-CD	58	586	0.100	58	0.1	6.814	A
	B-AD	504	520	0.969	479	9.4	63.846	F

	A-BCD	308	622	0.495	307	1.1	11.401	B
	A-B	0			0			
	A-C	56			56			
	D-ABC	0	348	0.000	0	0.0	0.000	A
	C-D	24			24			
	C-A	126			126			
	C-B	0	596	0.000	0	0.0	0.000	A

12:15 - 12:30

Junction	Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
East	B-CD	0	623	0.000	0	0.0	0.000	A
	B-AD	0	506	0.000	0	0.0	0.000	A
	A-BCD	0	524	0.000	0	0.0	0.000	A
	A-B	248			248			
	A-C	138			138			
	D-ABC	209	512	0.409	208	0.7	11.827	B
	C-D	0			0			
	C-A	154			154			
	C-B	84	630	0.133	84	0.2	6.584	A
West	B-CD	72	580	0.123	71	0.1	7.082	A
	B-AD	618	493	1.254	489	41.6	206.548	F
	A-BCD	395	633	0.624	392	1.8	14.844	B
	A-B	0			0			
	A-C	51			51			
	D-ABC	0	317	0.000	0	0.0	0.000	A
	C-D	30			30			
	C-A	154			154			
	C-B	0	568	0.000	0	0.0	0.000	A

12:30 - 12:45

Junction	Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
East	B-CD	0	623	0.000	0	0.0	0.000	A
	B-AD	0	506	0.000	0	0.0	0.000	A
	A-BCD	0	524	0.000	0	0.0	0.000	A
	A-B	248			248			
	A-C	138			138			
	D-ABC	209	512	0.409	209	0.7	11.886	B
	C-D	0			0			
	C-A	154			154			
	C-B	84	630	0.133	84	0.2	6.587	A
West	B-CD	72	579	0.124	72	0.1	7.087	A
	B-AD	618	492	1.256	491	73.3	427.893	F
	A-BCD	396	634	0.624	395	1.9	15.188	C
	A-B	0			0			
	A-C	50			50			
	D-ABC	0	311	0.000	0	0.0	0.000	A
	C-D	30			30			
	C-A	154			154			
	C-B	0	567	0.000	0	0.0	0.000	A

12:45 - 13:00

Junction	Stream	Total Demand	Capacity	RFC	Throughput	End queue	Delay (s)	LOS

		(PCU/hr)	(PCU/hr)		(PCU/hr)	(PCU)		
East	B-CD	0	640	0.000	0	0.0	0.000	A
	B-AD	0	531	0.000	0	0.0	0.000	A
	A-BCD	0	533	0.000	0	0.0	0.000	A
	A-B	202			202			
	A-C	112			112			
	D-ABC	171	519	0.329	172	0.5	10.394	B
	C-D	0			0			
	C-A	126			126			
	C-B	68	646	0.106	68	0.1	6.232	A
West	B-CD	58	585	0.100	59	0.1	6.839	A
	B-AD	504	519	0.972	512	71.3	503.233	F
	A-BCD	309	623	0.496	311	1.1	11.712	B
	A-B	0			0			
	A-C	55			55			
	D-ABC	0	335	0.000	0	0.0	0.000	A
	C-D	24			24			
	C-A	126			126			
	C-B	0	594	0.000	0	0.0	0.000	A

13:00 - 13:15

Junction	Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
East	B-CD	0	653	0.000	0	0.0	0.000	A
	B-AD	0	549	0.000	0	0.0	0.000	A
	A-BCD	0	539	0.000	0	0.0	0.000	A
	A-B	169			169			
	A-C	94			94			
	D-ABC	143	523	0.273	144	0.4	9.491	A
	C-D	0			0			
	C-A	105			105			
	C-B	57	658	0.087	57	0.1	5.992	A
West	B-CD	49	589	0.083	49	0.1	6.665	A
	B-AD	422	540	0.783	532	43.9	392.608	F
	A-BCD	250	614	0.407	251	0.8	9.974	A
	A-B	0			0			
	A-C	55			55			
	D-ABC	0	358	0.000	0	0.0	0.000	A
	C-D	20			20			
	C-A	105			105			
	C-B	0	615	0.000	0	0.0	0.000	A

WNP 2023 AM, 08-09

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix	Junction East	HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.
Warning	Vehicle Mix	Junction West	HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.

Junction Network

Junctions

Junction	Name	Junction Type	Major road direction	Junction Delay (s)	Junction LOS
East	untitled	Crossroads	Two-way	62.18	F
West		Crossroads	Two-way	12.87	B

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D_19	WNP 2023 AM	08-09	Q3	ONE HOUR	07:45	09:15	15

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

Demand overview (Traffic)

Junction	Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
East	**A**		✓	574	100.000
	B		✓	0	100.000
	C		✓	240	100.000
	D		✓	458	100.000
West	**A**		✓	452	100.000
	B		✓	347	100.000
	C		✓	274	100.000
	D		✓	0	100.000

Origin-Destination Data

Demand (PCU/hr)

Junction East

		To			
		A	**B**	**C**	**D**
From	**A**	0	387	187	0
	B	0	0	0	0
	C	186	54	0	0
	D	328	0	130	0

Demand (PCU/hr)

Junction West

		To			
		A	B	C	D
From	A	0	0	187	265
	B	301	0	46	0
	C	186	0	0	88
	D	0	0	0	0

Vehicle Mix

Heavy Vehicle Percentages

Junction East

		To			
		A	B	C	D
From	A	0	0	0	0
	B	0	0	0	0
	C	0	0	0	0
	D	0	0	0	0

Heavy Vehicle Percentages

Junction West

		To			
		A	B	C	D
From	A	0	0	0	0
	B	0	0	0	0
	C	0	0	0	0
	D	0	0	0	0

Results

Results Summary for whole modelled period

Junction	Stream	Max RFC	Max delay (s)	Max Queue (PCU)	Max LOS
East	B-CD	0.00	0.00	0.0	A
	B-AD	0.00	0.00	0.0	A
	A-BCD	0.00	0.00	0.0	A
	A-B				
	A-C				
	D-ABC	1.06	171.87	24.5	F
	C-D				
	C-A				
	C-B	0.10	7.00	0.1	A
West	B-CD	0.08	6.37	0.1	A
	B-AD	0.71	25.98	2.3	D
	A-BCD	0.65	15.54	2.2	C
	A-B				
	A-C				
	D-ABC	0.00	0.00	0.0	A
	C-D				
	C-A				

	C-B	0.00	0.00	0.0	A

Main Results for each time segment

07:45 - 08:00

Junction	Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
East	B-CD	0	629	0.000	0	0.0	0.000	A
	B-AD	0	505	0.000	0	0.0	0.000	A
	A-BCD	0	538	0.000	0	0.0	0.000	A
	A-B	291			291			
	A-C	141			141			
	D-ABC	345	494	0.698	336	2.1	21.842	C
	C-D	0			0			
	C-A	140			140			
	C-B	41	619	0.066	40	0.1	6.215	A
West	B-CD	35	689	0.050	34	0.1	5.500	A
	B-AD	227	525	0.432	224	0.7	11.829	B
	A-BCD	257	631	0.407	254	0.8	9.495	A
	A-B	0			0			
	A-C	83			83			
	D-ABC	0	364	0.000	0	0.0	0.000	A
	C-D	66			66			
	C-A	140			140			
	C-B	0	609	0.000	0	0.0	0.000	A

08:00 - 08:15

Junction	Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
East	B-CD	0	612	0.000	0	0.0	0.000	A
	B-AD	0	476	0.000	0	0.0	0.000	A
	A-BCD	0	530	0.000	0	0.0	0.000	A
	A-B	348			348			
	A-C	168			168			
	D-ABC	412	487	0.846	403	4.4	39.025	E
	C-D	0			0			
	C-A	167			167			
	C-B	49	600	0.081	48	0.1	6.526	A
West	B-CD	41	660	0.063	41	0.1	5.820	A
	B-AD	271	502	0.540	269	1.1	15.377	C
	A-BCD	324	643	0.503	322	1.2	11.212	B
	A-B	0			0			
	A-C	83			83			
	D-ABC	0	343	0.000	0	0.0	0.000	A
	C-D	79			79			
	C-A	167			167			
	C-B	0	587	0.000	0	0.0	0.000	A

08:15 - 08:30

Junction	Stream	Total Demand	Capacity	RFC	Throughput	End queue	Delay (s)	LOS

		(PCU/hr)	(PCU/hr)		(PCU/hr)	(PCU)		
East	B-CD	0	588	0.000	0	0.0	0.000	A
	B-AD	0	437	0.000	0	0.0	0.000	A
	A-BCD	0	521	0.000	0	0.0	0.000	A
	A-B	426			426			
	A-C	206			206			
	D-ABC	504	477	1.056	458	15.9	99.772	F
	C-D	0			0			
	C-A	205			205			
	C-B	59	573	0.104	59	0.1	7.001	A
West	B-CD	51	618	0.082	51	0.1	6.343	A
	B-AD	331	470	0.706	327	2.2	24.536	C
	A-BCD	426	660	0.645	422	2.1	15.082	C
	A-B	0			0			
	A-C	72			72			
	D-ABC	0	313	0.000	0	0.0	0.000	A
	C-D	97			97			
	C-A	205			205			
	C-B	0	557	0.000	0	0.0	0.000	A

08:30 - 08:45

Junction	Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
East	B-CD	0	588	0.000	0	0.0	0.000	A
	B-AD	0	430	0.000	0	0.0	0.000	A
	A-BCD	0	521	0.000	0	0.0	0.000	A
	A-B	426			426			
	A-C	206			206			
	D-ABC	504	477	1.056	470	24.5	171.871	F
	C-D	0			0			
	C-A	205			205			
	C-B	59	573	0.104	59	0.1	7.004	A
West	B-CD	51	616	0.082	51	0.1	6.369	A
	B-AD	331	469	0.707	331	2.3	25.983	D
	A-BCD	427	661	0.646	427	2.2	15.540	C
	A-B	0			0			
	A-C	70			70			
	D-ABC	0	312	0.000	0	0.0	0.000	A
	C-D	97			97			
	C-A	205			205			
	C-B	0	555	0.000	0	0.0	0.000	A

08:45 - 09:00

Junction	Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
East	B-CD	0	612	0.000	0	0.0	0.000	A
	B-AD	0	465	0.000	0	0.0	0.000	A
	A-BCD	0	530	0.000	0	0.0	0.000	A
	A-B	348			348			
	A-C	168			168			
	D-ABC	412	487	0.846	471	9.8	142.538	F
	C-D	0			0			
	C-A	167			167			
	C-B	49	600	0.081	49	0.1	6.529	A

West	B-CD	41	657	0.063	41	0.1	5.855	A
	B-AD	271	500	0.541	275	1.2	16.286	C
	A-BCD	325	644	0.504	329	1.3	11.591	B
	A-B	0			0			
	A-C	81			81			
	D-ABC	0	341	0.000	0	0.0	0.000	A
	C-D	79			79			
	C-A	167			167			
	C-B	0	585	0.000	0	0.0	0.000	A

09:00 - 09:15

Junction	Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
East	B-CD	0	629	0.000	0	0.0	0.000	A
	B-AD	0	500	0.000	0	0.0	0.000	A
	A-BCD	0	537	0.000	0	0.0	0.000	A
	A-B	291			291			
	A-C	141			141			
	D-ABC	345	494	0.698	374	2.5	35.454	E
	C-D	0			0			
	C-A	140			140			
	C-B	41	619	0.066	41	0.1	6.224	A
West	B-CD	35	686	0.050	35	0.1	5.525	A
	B-AD	227	524	0.433	228	0.8	12.258	B
	A-BCD	258	632	0.408	260	0.8	9.751	A
	A-B	0			0			
	A-C	82			82			
	D-ABC	0	363	0.000	0	0.0	0.000	A
	C-D	66			66			
	C-A	140			140			
	C-B	0	607	0.000	0	0.0	0.000	A

WNP 2023 PM, 16-17

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix	Junction East	HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.
Warning	Vehicle Mix	Junction West	HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.

Junction Network

Junctions

Junction	Name	Junction Type	Major road direction	Junction Delay (s)	Junction LOS
East	untitled	Crossroads	Two-way	4.40	A
West		Crossroads	Two-way	136.90	F

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D_20	WNP 2023 PM	16-17	Q3	ONE HOUR	15:45	17:15	15

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

Demand overview (Traffic)

Junction	Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
East	A		✓	486	100.000
	B		✓	0	100.000
	C		✓	291	100.000
	D		✓	241	100.000
West	A		✓	461	100.000
	B		✓	637	100.000
	C		✓	259	100.000
	D		✓	0	100.000

Origin-Destination Data

Demand (PCU/hr)

Junction East

		To			
		A	B	C	D
From	A	0	325	161	0
	B	0	0	0	0
	C	198	93	0	0
	D	197	0	44	0

Demand (PCU/hr)

Junction West

		To			
		A	B	C	D
From	A	0	0	161	300
	B	501	0	136	0
	C	198	0	0	61
	D	0	0	0	0

Vehicle Mix

Heavy Vehicle Percentages

Junction East

		To			
		A	B	C	D
From	A	0	0	0	0
	B	0	0	0	0
	C	0	0	0	0
	D	0	0	0	0

Heavy Vehicle Percentages

Junction West

		To			
		A	B	C	D
From	A	0	0	0	0
	B	0	0	0	0
	C	0	0	0	0
	D	0	0	0	0

Results

Results Summary for whole modelled period

Junction	Stream	Max RFC	Max delay (s)	Max Queue (PCU)	Max LOS
East	B-CD	0.00	0.00	0.0	A
	B-AD	0.00	0.00	0.0	A
	A-BCD	0.00	0.00	0.0	A
	A-B				
	A-C				
	D-ABC	0.54	15.79	1.1	C
	C-D				
	C-A				
	C-B	0.17	7.30	0.2	A
West	B-CD	0.26	8.56	0.4	A
	B-AD	1.19	352.86	52.3	F
	A-BCD	0.71	19.71	2.9	C
	A-B				
	A-C				
	D-ABC	0.00	0.00	0.0	A
	C-D				
	C-A				
	C-B	0.00	0.00	0.0	A

Main Results for each time segment

15:45 - 16:00

Junction	Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
East	B-CD	0	631	0.000	0	0.0	0.000	A

	B-AD	0	520	0.000	0	0.0	0.000	A
	A-BCD	0	528	0.000	0	0.0	0.000	A
	A-B	245			245			
	A-C	121			121			
	D-ABC	181	509	0.356	179	0.5	10.839	B
	C-D	0			0			
	C-A	149			149			
	C-B	70	635	0.110	70	0.1	6.365	A
West	B-CD	102	637	0.161	102	0.2	6.711	A
	B-AD	377	522	0.723	368	2.4	22.183	C
	A-BCD	281	619	0.454	277	0.9	10.447	B
	A-B	0			0			
	A-C	66			66			
	D-ABC	0	350	0.000	0	0.0	0.000	A
	C-D	46			46			
	C-A	149			149			
	C-B	0	604	0.000	0	0.0	0.000	A

16:00 - 16:15

Junction	Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
East	B-CD	0	614	0.000	0	0.0	0.000	A
	B-AD	0	496	0.000	0	0.0	0.000	A
	A-BCD	0	519	0.000	0	0.0	0.000	A
	A-B	292			292			
	A-C	145			145			
	D-ABC	217	503	0.431	216	0.7	12.521	B
	C-D	0			0			
	C-A	178			178			
	C-B	84	618	0.135	83	0.2	6.730	A
West	B-CD	122	593	0.206	122	0.3	7.648	A
	B-AD	450	497	0.906	435	6.2	48.815	E
	A-BCD	351	629	0.559	349	1.4	12.851	B
	A-B	0			0			
	A-C	63			63			
	D-ABC	0	324	0.000	0	0.0	0.000	A
	C-D	55			55			
	C-A	178			178			
	C-B	0	581	0.000	0	0.0	0.000	A

16:15 - 16:30

Junction	Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
East	B-CD	0	590	0.000	0	0.0	0.000	A
	B-AD	0	463	0.000	0	0.0	0.000	A
	A-BCD	0	507	0.000	0	0.0	0.000	A
	A-B	358			358			
	A-C	177			177			
	D-ABC	265	493	0.538	264	1.1	15.589	C
	C-D	0			0			
	C-A	218			218			
	C-B	102	596	0.172	102	0.2	7.291	A
West	B-CD	150	571	0.262	149	0.4	8.534	A
	B-AD	552	464	1.188	457	29.7	161.800	F

	A-BCD	458	643	0.713	453	2.7	18.757	C
	A-B	0			0			
	A-C	49			49			
	D-ABC	0	287	0.000	0	0.0	0.000	A
	C-D	67			67			
	C-A	218			218			
	C-B	0	549	0.000	0	0.0	0.000	A

16:30 - 16:45

Junction	Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
East	B-CD	0	590	0.000	0	0.0	0.000	A
	B-AD	0	462	0.000	0	0.0	0.000	A
	A-BCD	0	507	0.000	0	0.0	0.000	A
	A-B	358			358			
	A-C	177			177			
	D-ABC	265	493	0.538	265	1.1	15.788	C
	C-D	0			0			
	C-A	218			218			
	C-B	102	596	0.172	102	0.2	7.297	A
West	B-CD	150	570	0.263	150	0.4	8.557	A
	B-AD	552	463	1.192	462	52.3	330.370	F
	A-BCD	460	644	0.714	459	2.9	19.714	C
	A-B	0			0			
	A-C	48			48			
	D-ABC	0	281	0.000	0	0.0	0.000	A
	C-D	67			67			
	C-A	218			218			
	C-B	0	548	0.000	0	0.0	0.000	A

16:45 - 17:00

Junction	Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
East	B-CD	0	614	0.000	0	0.0	0.000	A
	B-AD	0	496	0.000	0	0.0	0.000	A
	A-BCD	0	519	0.000	0	0.0	0.000	A
	A-B	292			292			
	A-C	145			145			
	D-ABC	217	503	0.431	218	0.8	12.726	B
	C-D	0			0			
	C-A	178			178			
	C-B	84	618	0.135	84	0.2	6.740	A
West	B-CD	122	578	0.212	123	0.3	7.920	A
	B-AD	450	495	0.910	486	43.4	352.858	F
	A-BCD	353	631	0.560	358	1.5	13.541	B
	A-B	0			0			
	A-C	61			61			
	D-ABC	0	313	0.000	0	0.0	0.000	A
	C-D	55			55			
	C-A	178			178			
	C-B	0	578	0.000	0	0.0	0.000	A

17:00 - 17:15

Junction	Stream	Total Demand	Capacity	RFC	Throughput	End queue	Delay (s)	LOS

		(PCU/hr)	(PCU/hr)		(PCU/hr)	(PCU)		
East	B-CD	0	631	0.000	0	0.0	0.000	A
	B-AD	0	520	0.000	0	0.0	0.000	A
	A-BCD	0	528	0.000	0	0.0	0.000	A
	A-B	245			245			
	A-C	121			121			
	D-ABC	181	509	0.356	182	0.6	11.039	B
	C-D	0			0			
	C-A	149			149			
	C-B	70	635	0.110	70	0.1	6.378	A
West	B-CD	102	583	0.176	103	0.2	7.499	A
	B-AD	377	520	0.725	508	10.6	199.350	F
	A-BCD	282	620	0.455	284	1.0	10.822	B
	A-B	0			0			
	A-C	65			65			
	D-ABC	0	342	0.000	0	0.0	0.000	A
	C-D	46			46			
	C-A	149			149			
	C-B	0	602	0.000	0	0.0	0.000	A

WNP 2023 Weekend , 12-13

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix	Junction East	HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.
Warning	Vehicle Mix	Junction West	HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.

Junction Network

Junctions

Junction	Name	Junction Type	Major road direction	Junction Delay (s)	Junction LOS
East	untitled	Crossroads	Two-way	3.70	A
West		Crossroads	Two-way	280.21	F

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D_21	WNP 2023 Weekend	12-13	Q3	ONE HOUR	11:45	13:15	15

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

Demand overview (Traffic)

Junction	Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
East	A		✓	358	100.000
	B		✓	0	100.000
	C		✓	221	100.000
	D		✓	194	100.000
West	A		✓	413	100.000
	B		✓	640	100.000
	C		✓	170	100.000
	D		✓	0	100.000

Origin-Destination Data

Demand (PCU/hr)

Junction East

		To			
		A	B	C	D
From	A	0	231	127	0
	B	0	0	0	0
	C	143	78	0	0
	D	164	0	30	0

Demand (PCU/hr)

Junction West

		To			
		A	B	C	D
From	A	0	0	127	286
	B	574	0	66	0
	C	143	0	0	27
	D	0	0	0	0

Vehicle Mix

Heavy Vehicle Percentages

Junction East

		To			
		A	B	C	D
From	A	0	0	0	0
	B	0	0	0	0
	C	0	0	0	0
	D	0	0	0	0

Heavy Vehicle Percentages

Junction West

		To			
		A	B	C	D
From	A	0	0	0	0
	B	0	0	0	0
	C	0	0	0	0
	D	0	0	0	0

Results

Results Summary for whole modelled period

Junction	Stream	Max RFC	Max delay (s)	Max Queue (PCU)	Max LOS
East	B-CD	0.00	0.00	0.0	A
	B-AD	0.00	0.00	0.0	A
	A-BCD	0.00	0.00	0.0	A
	A-B				
	A-C				
	D-ABC	0.42	12.06	0.7	B
	C-D				
	C-A				
	C-B	0.14	6.64	0.2	A
West	B-CD	0.13	7.11	0.1	A
	B-AD	1.29	586.45	84.2	F
	A-BCD	0.64	15.80	2.0	C
	A-B				
	A-C				
	D-ABC	0.00	0.00	0.0	A
	C-D				
	C-A				
	C-B	0.00	0.00	0.0	A

Main Results for each time segment

11:45 - 12:00

Junction	Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
East	B-CD	0	652	0.000	0	0.0	0.000	A
	B-AD	0	547	0.000	0	0.0	0.000	A
	A-BCD	0	539	0.000	0	0.0	0.000	A
	A-B	174			174			
	A-C	96			96			
	D-ABC	146	523	0.279	145	0.4	9.463	A
	C-D	0			0			
	C-A	108			108			
	C-B	59	657	0.089	58	0.1	6.012	A
West	B-CD	50	628	0.079	49	0.1	6.221	A
	B-AD	432	539	0.802	418	3.5	27.391	D
	A-BCD	255	614	0.415	252	0.8	9.875	A
	A-B	0			0			
	A-C	56			56			
	D-ABC	0	367	0.000	0	0.0	0.000	A
	C-D	20			20			
	C-A	108			108			
	C-B	0	615	0.000	0	0.0	0.000	A

12:00 - 12:15

Junction	Stream	Total Demand	Capacity	RFC	Throughput	End queue	Delay (s)	LOS

		(PCU/hr)	(PCU/hr)		(PCU/hr)	(PCU)		
East	B-CD	0	639	0.000	0	0.0	0.000	A
	B-AD	0	529	0.000	0	0.0	0.000	A
	A-BCD	0	532	0.000	0	0.0	0.000	A
	A-B	208			208			
	A-C	114			114			
	D-ABC	174	519	0.336	174	0.5	10.429	B
	C-D	0			0			
	C-A	129			129			
	C-B	70	645	0.109	70	0.1	6.264	A
West	B-CD	59	585	0.101	59	0.1	6.847	A
	B-AD	516	518	0.997	485	11.3	72.861	F
	A-BCD	315	623	0.507	314	1.1	11.650	B
	A-B	0			0			
	A-C	56			56			
	D-ABC	0	345	0.000	0	0.0	0.000	A
	C-D	24			24			
	C-A	129			129			
	C-B	0	593	0.000	0	0.0	0.000	A

12:15 - 12:30

Junction	Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
East	B-CD	0	621	0.000	0	0.0	0.000	A
	B-AD	0	503	0.000	0	0.0	0.000	A
	A-BCD	0	522	0.000	0	0.0	0.000	A
	A-B	254			254			
	A-C	140			140			
	D-ABC	214	512	0.417	213	0.7	12.002	B
	C-D	0			0			
	C-A	157			157			
	C-B	86	628	0.137	86	0.2	6.636	A
West	B-CD	73	579	0.125	73	0.1	7.104	A
	B-AD	632	490	1.291	487	47.6	235.540	F
	A-BCD	405	634	0.639	402	1.9	15.404	C
	A-B	0			0			
	A-C	50			50			
	D-ABC	0	313	0.000	0	0.0	0.000	A
	C-D	30			30			
	C-A	157			157			
	C-B	0	565	0.000	0	0.0	0.000	A

12:30 - 12:45

Junction	Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
East	B-CD	0	621	0.000	0	0.0	0.000	A
	B-AD	0	503	0.000	0	0.0	0.000	A
	A-BCD	0	522	0.000	0	0.0	0.000	A
	A-B	254			254			
	A-C	140			140			
	D-ABC	214	512	0.417	214	0.7	12.062	B
	C-D	0			0			
	C-A	157			157			
	C-B	86	628	0.137	86	0.2	6.638	A

West	B-CD	73	579	0.126	73	0.1	7.110	A
	B-AD	632	489	1.293	488	83.5	487.439	F
	A-BCD	406	635	0.639	406	2.0	15.801	C
	A-B	0			0			
	A-C	49			49			
	D-ABC	0	306	0.000	0	0.0	0.000	A
	C-D	30			30			
	C-A	157			157			
	C-B	0	564	0.000	0	0.0	0.000	A

12:45 - 13:00

Junction	Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
East	B-CD	0	639	0.000	0	0.0	0.000	A
	B-AD	0	529	0.000	0	0.0	0.000	A
	A-BCD	0	532	0.000	0	0.0	0.000	A
	A-B	208			208			
	A-C	114			114			
	D-ABC	174	519	0.336	175	0.5	10.508	B
	C-D	0			0			
	C-A	129			129			
	C-B	70	645	0.109	70	0.1	6.270	A
West	B-CD	59	585	0.102	59	0.1	6.857	A
	B-AD	516	516	0.999	513	84.2	586.446	F
	A-BCD	316	623	0.507	319	1.2	12.005	B
	A-B	0			0			
	A-C	55			55			
	D-ABC	0	331	0.000	0	0.0	0.000	A
	C-D	24			24			
	C-A	129			129			
	C-B	0	592	0.000	0	0.0	0.000	A

13:00 - 13:15

Junction	Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
East	B-CD	0	652	0.000	0	0.0	0.000	A
	B-AD	0	547	0.000	0	0.0	0.000	A
	A-BCD	0	539	0.000	0	0.0	0.000	A
	A-B	174			174			
	A-C	96			96			
	D-ABC	146	523	0.279	147	0.4	9.564	A
	C-D	0			0			
	C-A	108			108			
	C-B	59	657	0.089	59	0.1	6.021	A
West	B-CD	50	589	0.084	50	0.1	6.679	A
	B-AD	432	537	0.804	531	59.5	488.733	F
	A-BCD	256	615	0.416	257	0.8	10.133	B
	A-B	0			0			
	A-C	55			55			
	D-ABC	0	353	0.000	0	0.0	0.000	A
	C-D	20			20			
	C-A	108			108			
	C-B	0	613	0.000	0	0.0	0.000	A

WNP 2033 AM, 08-09

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix	Junction East	HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.
Warning	Vehicle Mix	Junction West	HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.

Junction Network

Junctions

Junction	Name	Junction Type	Major road direction	Junction Delay (s)	Junction LOS
East	untitled	Crossroads	Two-way	128.37	F
West		Crossroads	Two-way	22.18	C

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D_22	WNP 2033 AM	08-09	Q3	ONE HOUR	07:45	09:15	15

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

Demand overview (Traffic)

Junction	Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
East	**A**		✓	618	100.000
	B		✓	0	100.000
	C		✓	258	100.000
	D		✓	502	100.000
West	**A**		✓	519	100.000
	B		✓	382	100.000
	C		✓	312	100.000
	D		✓	0	100.000

Origin-Destination Data

Demand (PCU/hr)

Junction East

		To			
		A	B	C	D
From	A	0	418	200	0
	B	0	0	0	0
	C	199	59	0	0
	D	359	0	143	0

Demand (PCU/hr)

Junction West

		To			
		A	B	C	D
From	A	0	0	200	319
	B	331	0	51	0
	C	199	0	0	113
	D	0	0	0	0

Vehicle Mix

Heavy Vehicle Percentages

Junction East

		To			
		A	B	C	D
From	A	0	0	0	0
	B	0	0	0	0
	C	0	0	0	0
	D	0	0	0	0

Heavy Vehicle Percentages

Junction West

		To			
		A	B	C	D
From	A	0	0	0	0
	B	0	0	0	0
	C	0	0	0	0
	D	0	0	0	0

Results

Results Summary for whole modelled period

Junction	Stream	Max RFC	Max delay (s)	Max Queue (PCU)	Max LOS
East	B-CD	0.00	0.00	0.0	A
	B-AD	0.00	0.00	0.0	A
	A-BCD	0.00	0.00	0.0	A
	A-B				
	A-C				
	D-ABC	1.17	351.52	49.1	F
	C-D				

	C-A				
	C-B	0.12	7.24	0.1	A
West	B-CD	0.10	6.77	0.1	A
	B-AD	0.82	42.85	4.1	E
	A-BCD	0.80	27.29	4.5	D
	A-B				
	A-C				
	D-ABC	0.00	0.00	0.0	A
	C-D				
	C-A				
	C-B	0.00	0.00	0.0	A

Main Results for each time segment

07:45 - 08:00

Junction	Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
East	B-CD	0	623	0.000	0	0.0	0.000	A
	B-AD	0	493	0.000	0	0.0	0.000	A
	A-BCD	0	535	0.000	0	0.0	0.000	A
	A-B	315			315			
	A-C	151			151			
	D-ABC	378	491	0.770	366	2.9	26.806	D
	C-D	0			0			
	C-A	150			150			
	C-B	44	612	0.073	44	0.1	6.340	A
West	B-CD	38	675	0.057	38	0.1	5.650	A
	B-AD	249	510	0.489	245	0.9	13.448	B
	A-BCD	315	632	0.499	311	1.1	11.093	B
	A-B	0			0			
	A-C	75			75			
	D-ABC	0	349	0.000	0	0.0	0.000	A
	C-D	85			85			
	C-A	150			150			
	C-B	0	591	0.000	0	0.0	0.000	A

08:00 - 08:15

Junction	Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
East	B-CD	0	604	0.000	0	0.0	0.000	A
	B-AD	0	462	0.000	0	0.0	0.000	A
	A-BCD	0	527	0.000	0	0.0	0.000	A
	A-B	376			376			
	A-C	180			180			
	D-ABC	451	484	0.933	434	7.3	57.467	F
	C-D	0			0			
	C-A	179			179			
	C-B	53	591	0.090	53	0.1	6.691	A
West	B-CD	46	642	0.071	46	0.1	6.040	A
	B-AD	298	483	0.617	295	1.5	18.954	C

	A-BCD	399	645	0.619	396	1.9	14.424	B
	A-B	0			0			
	A-C	67			67			
	D-ABC	0	323	0.000	0	0.0	0.000	A
	C-D	102			102			
	C-A	179			179			
	C-B	0	565	0.000	0	0.0	0.000	A

08:15 - 08:30

Junction	Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
East	B-CD	0	577	0.000	0	0.0	0.000	A
	B-AD	0	417	0.000	0	0.0	0.000	A
	A-BCD	0	517	0.000	0	0.0	0.000	A
	A-B	460			460			
	A-C	220			220			
	D-ABC	553	473	1.167	466	28.9	159.896	F
	C-D	0			0			
	C-A	219			219			
	C-B	65	562	0.116	65	0.1	7.235	A
West	B-CD	56	593	0.095	56	0.1	6.703	A
	B-AD	364	446	0.817	356	3.7	36.756	E
	A-BCD	529	663	0.798	520	4.2	24.455	C
	A-B	0			0			
	A-C	42			42			
	D-ABC	0	288	0.000	0	0.0	0.000	A
	C-D	124			124			
	C-A	219			219			
	C-B	0	530	0.000	0	0.0	0.000	A

08:30 - 08:45

Junction	Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
East	B-CD	0	577	0.000	0	0.0	0.000	A
	B-AD	0	405	0.000	0	0.0	0.000	A
	A-BCD	0	517	0.000	0	0.0	0.000	A
	A-B	460			460			
	A-C	220			220			
	D-ABC	553	473	1.167	472	49.1	311.933	F
	C-D	0			0			
	C-A	219			219			
	C-B	65	562	0.116	65	0.1	7.238	A
West	B-CD	56	588	0.096	56	0.1	6.773	A
	B-AD	364	444	0.822	363	4.1	42.848	E
	A-BCD	533	666	0.800	531	4.5	27.288	D
	A-B	0			0			
	A-C	39			39			
	D-ABC	0	285	0.000	0	0.0	0.000	A
	C-D	124			124			
	C-A	219			219			
	C-B	0	527	0.000	0	0.0	0.000	A

08:45 - 09:00

Junction	Stream	Total Demand	Capacity	RFC	Throughput	End queue	Delay (s)	LOS

		(PCU/hr)	(PCU/hr)		(PCU/hr)	(PCU)		
East	B-CD	0	604	0.000	0	0.0	0.000	A
	B-AD	0	437	0.000	0	0.0	0.000	A
	A-BCD	0	527	0.000	0	0.0	0.000	A
	A-B	376			376			
	A-C	180			180			
	D-ABC	451	484	0.933	474	43.4	351.519	F
	C-D	0			0			
	C-A	179			179			
	C-B	53	591	0.090	53	0.1	6.694	A
West	B-CD	46	635	0.072	46	0.1	6.116	A
	B-AD	298	479	0.621	307	1.7	21.931	C
	A-BCD	403	649	0.621	413	2.1	16.018	C
	A-B	0			0			
	A-C	64			64			
	D-ABC	0	320	0.000	0	0.0	0.000	A
	C-D	102			102			
	C-A	179			179			
	C-B	0	561	0.000	0	0.0	0.000	A

09:00 - 09:15

Junction	Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
East	B-CD	0	622	0.000	0	0.0	0.000	A
	B-AD	0	471	0.000	0	0.0	0.000	A
	A-BCD	0	535	0.000	0	0.0	0.000	A
	A-B	315			315			
	A-C	151			151			
	D-ABC	378	491	0.770	480	17.9	236.256	F
	C-D	0			0			
	C-A	150			150			
	C-B	44	612	0.073	45	0.1	6.346	A
West	B-CD	38	672	0.057	38	0.1	5.686	A
	B-AD	249	507	0.491	252	1.0	14.264	B
	A-BCD	317	634	0.500	321	1.2	11.669	B
	A-B	0			0			
	A-C	74			74			
	D-ABC	0	347	0.000	0	0.0	0.000	A
	C-D	85			85			
	C-A	150			150			
	C-B	0	589	0.000	0	0.0	0.000	A

WNP 2033 PM, 16-17

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix	Junction East	HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.
Warning	Vehicle Mix	Junction West	HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.

Junction Network

Junctions

Junction	Name	Junction Type	Major road direction	Junction Delay (s)	Junction LOS
East	untitled	Crossroads	Two-way	7.24	A
West		Crossroads	Two-way	239.08	F

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D_23	WNP 2033 PM	16-17	Q3	ONE HOUR	15:45	17:15	15

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

Demand overview (Traffic)

Junction	Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
East	**A**		✓	532	100.000
	B		✓	0	100.000
	C		✓	313	100.000
	D		✓	307	100.000
West	**A**		✓	487	100.000
	B		✓	687	100.000
	C		✓	276	100.000
	D		✓	0	100.000

Origin-Destination Data

Demand (PCU/hr)

Junction East

		To			
		A	**B**	**C**	**D**
From	**A**	0	360	172	0
	B	0	0	0	0
	C	214	99	0	0
	D	241	0	66	0

Junction West

Demand (PCU/hr)

		To			
		A	B	C	D
From	A	0	0	172	315
	B	541	0	146	0
	C	214	0	0	62
	D	0	0	0	0

Vehicle Mix

Junction East

Heavy Vehicle Percentages

		To			
		A	B	C	D
From	A	0	0	0	0
	B	0	0	0	0
	C	0	0	0	0
	D	0	0	0	0

Junction West

Heavy Vehicle Percentages

		To			
		A	B	C	D
From	A	0	0	0	0
	B	0	0	0	0
	C	0	0	0	0
	D	0	0	0	0

Results

Results Summary for whole modelled period

Junction	Stream	Max RFC	Max delay (s)	Max Queue (PCU)	Max LOS
East	B-CD	0.00	0.00	0.0	A
	B-AD	0.00	0.00	0.0	A
	A-BCD	0.00	0.00	0.0	A
	A-B				
	A-C				
	D-ABC	0.70	24.74	2.2	C
	C-D				
	C-A				
	C-B	0.19	7.58	0.2	A
West	B-CD	0.28	8.85	0.4	A
	B-AD	1.32	619.97	84.2	F
	A-BCD	0.76	23.44	3.6	C
	A-B				
	A-C				

	D-ABC	0.00	0.00	0.0	A
	C-D				
	C-A				
	C-B	0.00	0.00	0.0	A

Main Results for each time segment

15:45 - 16:00

Junction	Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
East	B-CD	0	624	0.000	0	0.0	0.000	A
	B-AD	0	507	0.000	0	0.0	0.000	A
	A-BCD	0	525	0.000	0	0.0	0.000	A
	A-B	271			271			
	A-C	129			129			
	D-ABC	231	500	0.462	228	0.8	13.052	B
	C-D	0			0			
	C-A	161			161			
	C-B	75	627	0.119	74	0.1	6.509	A
West	B-CD	110	622	0.177	109	0.2	7.008	A
	B-AD	407	514	0.792	394	3.3	27.580	D
	A-BCD	299	622	0.481	295	1.0	10.907	B
	A-B	0			0			
	A-C	67			67			
	D-ABC	0	342	0.000	0	0.0	0.000	A
	C-D	47			47			
	C-A	161			161			
	C-B	0	598	0.000	0	0.0	0.000	A

16:00 - 16:15

Junction	Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
East	B-CD	0	605	0.000	0	0.0	0.000	A
	B-AD	0	479	0.000	0	0.0	0.000	A
	A-BCD	0	515	0.000	0	0.0	0.000	A
	A-B	324			324			
	A-C	155			155			
	D-ABC	276	493	0.560	274	1.2	16.354	C
	C-D	0			0			
	C-A	192			192			
	C-B	89	609	0.146	89	0.2	6.923	A
West	B-CD	131	576	0.228	131	0.3	8.085	A
	B-AD	486	488	0.996	456	10.9	74.725	F
	A-BCD	376	633	0.594	373	1.7	13.827	B

	A-B	0			0			
	A-C	62			62			
	D-ABC	0	314	0.000	0	0.0	0.000	A
	C-D	56			56			
	C-A	192			192			
	C-B	0	573	0.000	0	0.0	0.000	A

16:15 - 16:30

Junction	Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
East	B-CD	0	579	0.000	0	0.0	0.000	A
	B-AD	0	442	0.000	0	0.0	0.000	A
	A-BCD	0	502	0.000	0	0.0	0.000	A
	A-B	396			396			
	A-C	189			189			
	D-ABC	338	482	0.701	334	2.2	23.695	C
	C-D	0			0			
	C-A	236			236			
	C-B	109	584	0.187	109	0.2	7.571	A
West	B-CD	161	568	0.283	160	0.4	8.819	A
	B-AD	596	453	1.314	451	47.1	250.599	F
	A-BCD	493	648	0.760	485	3.4	21.733	C
	A-B	0			0			
	A-C	44			44			
	D-ABC	0	272	0.000	0	0.0	0.000	A
	C-D	68			68			
	C-A	236			236			
	C-B	0	540	0.000	0	0.0	0.000	A

16:30 - 16:45

Junction	Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
East	B-CD	0	579	0.000	0	0.0	0.000	A
	B-AD	0	442	0.000	0	0.0	0.000	A
	A-BCD	0	502	0.000	0	0.0	0.000	A
	A-B	396			396			
	A-C	189			189			
	D-ABC	338	482	0.701	338	2.2	24.740	C
	C-D	0			0			
	C-A	236			236			
	C-B	109	584	0.187	109	0.2	7.577	A
West	B-CD	161	568	0.283	161	0.4	8.849	A
	B-AD	596	451	1.320	451	83.3	521.145	F
	A-BCD	495	650	0.761	494	3.6	23.438	C
	A-B	0			0			
	A-C	41			41			
	D-ABC	0	263	0.000	0	0.0	0.000	A

	C-D	68			68			
	C-A	236			236			
	C-B	0	538	0.000	0	0.0	0.000	A

16:45 - 17:00

Junction	Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
East	B-CD	0	605	0.000	0	0.0	0.000	A
	B-AD	0	479	0.000	0	0.0	0.000	A
	A-BCD	0	515	0.000	0	0.0	0.000	A
	A-B	324			324			
	A-C	155			155			
	D-ABC	276	493	0.560	280	1.3	17.167	C
	C-D	0			0			
	C-A	192			192			
	C-B	89	609	0.146	89	0.2	6.934	A
West	B-CD	131	575	0.228	132	0.3	8.124	A
	B-AD	486	485	1.002	483	84.2	619.971	F
	A-BCD	378	636	0.595	386	1.8	14.910	B
	A-B	0			0			
	A-C	59			59			
	D-ABC	0	296	0.000	0	0.0	0.000	A
	C-D	56			56			
	C-A	192			192			
	C-B	0	570	0.000	0	0.0	0.000	A

17:00 - 17:15

Junction	Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
East	B-CD	0	624	0.000	0	0.0	0.000	A
	B-AD	0	506	0.000	0	0.0	0.000	A
	A-BCD	0	525	0.000	0	0.0	0.000	A
	A-B	271			271			
	A-C	129			129			
	D-ABC	231	500	0.462	233	0.9	13.547	B
	C-D	0			0			
	C-A	161			161			
	C-B	75	627	0.119	75	0.1	6.523	A
West	B-CD	110	581	0.189	110	0.2	7.647	A
	B-AD	407	512	0.795	506	59.5	512.843	F
	A-BCD	301	624	0.482	304	1.1	11.390	B
	A-B	0			0			
	A-C	66			66			
	D-ABC	0	326	0.000	0	0.0	0.000	A
	C-D	47			47			
	C-A	161			161			
	C-B	0	596	0.000	0	0.0	0.000	A

WNP 2033 Weekend , 12-13

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix	Junction East	HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.
Warning	Vehicle Mix	Junction West	HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.

Junction Network

Junctions

Junction	Name	Junction Type	Major road direction	Junction Delay (s)	Junction LOS
East	untitled	Crossroads	Two-way	3.96	A
West		Crossroads	Two-way	409.40	F

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D_24	WNP 2033 Weekend	12-13	Q3	ONE HOUR	11:45	13:15	15

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

Demand overview (Traffic)

Junction	Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
East	**A**		✓	383	100.000
	B		✓	0	100.000
	C		✓	236	100.000
	D		✓	210	100.000
West	**A**		✓	441	100.000
	B		✓	682	100.000
	C		✓	183	100.000
	D		✓	0	100.000

Origin-Destination Data

Junction East

Demand (PCU/hr)

		To			
		A	B	C	D
From	A	0	249	134	0
	B	0	0	0	0
	C	153	83	0	0
	D	177	0	33	0

Junction West

Demand (PCU/hr)

		To			
		A	B	C	D
From	A	0	0	134	307
	B	612	0	70	0
	C	153	0	0	30
	D	0	0	0	0

Vehicle Mix

Junction East

Heavy Vehicle Percentages

		To			
		A	B	C	D
From	A	0	0	0	0
	B	0	0	0	0
	C	0	0	0	0
	D	0	0	0	0

Junction West

Heavy Vehicle Percentages

		To			
		A	B	C	D
From	A	0	0	0	0
	B	0	0	0	0
	C	0	0	0	0
	D	0	0	0	0

Results

Results Summary for whole modelled period

Junction	Stream	Max RFC	Max delay (s)	Max Queue (PCU)	Max LOS
East	B-CD	0.00	0.00	0.0	A
	B-AD	0.00	0.00	0.0	A
	A-BCD	0.00	0.00	0.0	A
	A-B				
	A-C				
	D-ABC	0.45	12.96	0.8	B

	C-D				
	C-A				
	C-B	0.15	6.79	0.2	A
West	B-CD	0.13	7.20	0.2	A
	B-AD	1.41	861.15	127.9	F
	A-BCD	0.69	18.53	2.5	C
	A-B				
	A-C				
	D-ABC	0.00	0.00	0.0	A
	C-D				
	C-A				
	C-B	0.00	0.00	0.0	A

Main Results for each time segment

11:45 - 12:00

Junction	Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
East	B-CD	0	647	0.000	0	0.0	0.000	A
	B-AD	0	541	0.000	0	0.0	0.000	A
	A-BCD	0	536	0.000	0	0.0	0.000	A
	A-B	187			187			
	A-C	101			101			
	D-ABC	158	521	0.303	156	0.4	9.820	A
	C-D	0			0			
	C-A	115			115			
	C-B	62	652	0.096	62	0.1	6.094	A
West	B-CD	53	614	0.086	52	0.1	6.405	A
	B-AD	461	532	0.867	441	4.9	34.649	D
	A-BCD	276	616	0.449	273	0.9	10.412	B
	A-B	0			0			
	A-C	56			56			
	D-ABC	0	360	0.000	0	0.0	0.000	A
	C-D	23			23			
	C-A	115			115			
	C-B	0	608	0.000	0	0.0	0.000	A

12:00 - 12:15

Junction	Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
East	B-CD	0	633	0.000	0	0.0	0.000	A
	B-AD	0	521	0.000	0	0.0	0.000	A
	A-BCD	0	529	0.000	0	0.0	0.000	A
	A-B	224			224			

	A-C	120			120			
	D-ABC	189	516	0.366	188	0.6	10.961	B
	C-D	0			0			
	C-A	138			138			
	C-B	75	640	0.117	75	0.1	6.371	A
West	B-CD	63	583	0.108	63	0.1	6.913	A
	B-AD	550	509	1.080	493	19.1	108.090	F
	A-BCD	343	625	0.548	341	1.3	12.652	B
	A-B	0			0			
	A-C	54			54			
	D-ABC	0	336	0.000	0	0.0	0.000	A
	C-D	27			27			
	C-A	138			138			
	C-B	0	585	0.000	0	0.0	0.000	A

12:15 - 12:30

Junction	Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
East	B-CD	0	614	0.000	0	0.0	0.000	A
	B-AD	0	494	0.000	0	0.0	0.000	A
	A-BCD	0	519	0.000	0	0.0	0.000	A
	A-B	274			274			
	A-C	148			148			
	D-ABC	231	509	0.454	230	0.8	12.870	B
	C-D	0			0			
	C-A	168			168			
	C-B	91	622	0.147	91	0.2	6.784	A
West	B-CD	77	577	0.133	77	0.2	7.192	A
	B-AD	674	479	1.407	478	68.1	344.232	F
	A-BCD	441	637	0.693	437	2.4	17.802	C
	A-B	0			0			
	A-C	44			44			
	D-ABC	0	300	0.000	0	0.0	0.000	A
	C-D	33			33			
	C-A	168			168			
	C-B	0	554	0.000	0	0.0	0.000	A

12:30 - 12:45

Junction	Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
East	B-CD	0	614	0.000	0	0.0	0.000	A
	B-AD	0	493	0.000	0	0.0	0.000	A
	A-BCD	0	519	0.000	0	0.0	0.000	A
	A-B	274			274			
	A-C	148			148			
	D-ABC	231	509	0.454	231	0.8	12.959	B
	C-D	0			0			

	C-A	168			168			
	C-B	91	622	0.147	91	0.2	6.787	A
West	B-CD	77	577	0.134	77	0.2	7.198	A
	B-AD	674	478	1.410	478	117.1	691.452	F
	A-BCD	442	638	0.693	442	2.5	18.526	C
	A-B	0			0			
	A-C	43			43			
	D-ABC	0	289	0.000	0	0.0	0.000	A
	C-D	33			33			
	C-A	168			168			
	C-B	0	553	0.000	0	0.0	0.000	A

12:45 - 13:00

Junction	Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
East	B-CD	0	633	0.000	0	0.0	0.000	A
	B-AD	0	521	0.000	0	0.0	0.000	A
	A-BCD	0	529	0.000	0	0.0	0.000	A
	A-B	224			224			
	A-C	120			120			
	D-ABC	189	516	0.366	190	0.6	11.062	B
	C-D	0			0			
	C-A	138			138			
	C-B	75	640	0.117	75	0.1	6.375	A
West	B-CD	63	583	0.108	63	0.1	6.927	A
	B-AD	550	507	1.084	507	127.9	861.155	F
	A-BCD	344	626	0.549	348	1.4	13.215	B
	A-B	0			0			
	A-C	53			53			
	D-ABC	0	314	0.000	0	0.0	0.000	A
	C-D	27			27			
	C-A	138			138			
	C-B	0	583	0.000	0	0.0	0.000	A

13:00 - 13:15

Junction	Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
East	B-CD	0	647	0.000	0	0.0	0.000	A
	B-AD	0	541	0.000	0	0.0	0.000	A
	A-BCD	0	536	0.000	0	0.0	0.000	A
	A-B	187			187			
	A-C	101			101			
	D-ABC	158	521	0.303	159	0.4	9.946	A
	C-D	0			0			
	C-A	115			115			
	C-B	62	652	0.096	63	0.1	6.103	A
West	B-CD	53	588	0.090	53	0.1	6.732	A

	B-AD	461	530	0.869	526	111.6	820.146	F
	A-BCD	277	617	0.450	279	0.9	10.760	B
	A-B	0			0			
	A-C	55			55			
	D-ABC	0	338	0.000	0	0.0	0.000	A
	C-D	23			23			
	C-A	115			115			
	C-B	0	606	0.000	0	0.0	0.000	A

A55 Junction 8a

Junctions 9 – ARCADY

- Baseline 2016
- Reference Case 2020, 2023 and 2033
- With Development Without By-Pass 2020
- With Development With By-Pass 2020
- With Development 2023 and 2033

Junctions 9

PICADY 9 - Priority Intersection Module

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»BASE 2016 AM, 08-09
»BASE 2016 PM, 16-17
»BASE 2016 Weekend, 12-13
»REF 2020 AM, 08-09
»REF 2020 PM, 16-17
»REF 2020 Weekend, 12-13
»REF 2023 AM, 08-09
»REF 2023 PM, 16-17
»REF 2023 Weekend, 12-13
»REF 2033 AM, 08-09
»REF 2033 PM, 16-17
»REF 2033 Weekend, 12-13
»WNP 2020 AM WBP, 08-09
»WNP 2020 PM WBP, 16-17
»WNP 2020 Weekend WBP, 12-13
»WNP 2020 AM BP, 08-09
»WNP 2020 PM BP, 16-17
»WNP 2020 Weekend BP, 12-13
»WNP 2023 AM, 08-09
»WNP 2023 PM, 16-17
»WNP 2023 Weekend , 12-13
»WNP 2033 AM, 08-09
»WNP 2033 PM, 16-17
»WNP 2033 Weekend , 12-13

Summary of junction performance

	08-09				16-17				12-13			
	Queue (PCU)	Delay (s)	RFC	LOS	Queue (PCU)	Delay (s)	RFC	LOS	Queue (PCU)	Delay (s)	RFC	LOS
	BASE 2016 AM											
Stream B-C	0.8	11.30	0.45	B								

Stream B-A	0.6	12.03	0.39	B								
Stream C-B	0.0	0.00	0.00	A								
	BASE 2016 PM											
Stream B-C					2.2	20.77	0.70	C				
Stream B-A					0.7	15.36	0.40	C				
Stream C-B					0.0	0.00	0.00	A				
	BASE 2016 Weekend											
Stream B-C									1.3	15.96	0.57	C
Stream B-A									0.7	14.67	0.43	B
Stream C-B									0.0	0.00	0.00	A
	REF 2020 AM											
Stream B-C	0.9	12.28	0.49	B								
Stream B-A	0.7	12.89	0.42	B								
Stream C-B	0.0	0.00	0.00	A								
	REF 2020 PM											
Stream B-C					3.1	27.18	0.77	D				
Stream B-A					0.9	19.09	0.47	C				
Stream C-B					0.0	0.00	0.00	A				
	REF 2020 Weekend											
Stream B-C									1.6	18.16	0.62	C
Stream B-A									0.9	16.21	0.47	C
Stream C-B									0.0	0.00	0.00	A
	REF 2023 AM											
Stream B-C	1.0	12.86	0.51	B								
Stream B-A	0.8	13.39	0.44	B								
Stream C-B	0.0	0.00	0.00	A								
	REF 2023 PM											
Stream B-C					3.5	30.32	0.79	D				
Stream B-A					1.0	21.16	0.50	C				
Stream C-B					0.0	0.00	0.00	A				
	REF 2023 Weekend											
Stream B-C									1.7	19.28	0.64	C
Stream B-A									0.9	17.01	0.49	C
Stream C-B									0.0	0.00	0.00	A
	REF 2033 AM											
Stream B-C	1.3	15.27	0.58	C								
Stream B-A	1.0	15.41	0.49	C								
Stream C-B	0.0	0.00	0.00	A								
	REF 2033 PM											
Stream B-C					5.6	46.76	0.87	E				
Stream B-A					1.8	36.49	0.66	E				
Stream C-B					0.0	0.00	0.00	A				
	REF 2033 Weekend											
Stream B-C									2.3	24.48	0.71	C
Stream B-A									1.2	20.78	0.55	C
Stream C-B									0.0	0.00	0.00	A
	WNP 2020 AM WBP											
Stream B-C	0.9	12.28	0.49	B								
Stream B-A	0.7	12.89	0.42	B								
Stream C-B	0.0	0.00	0.00	A								

	WNP 2020 PM WBP											
Stream B-C					3.1	27.18	0.77	D				
Stream B-A					0.9	19.09	0.47	C				
Stream C-B					0.0	0.00	0.00	A				
	WNP 2020 Weekend WBP											
Stream B-C									1.6	18.16	0.62	C
Stream B-A									0.9	16.21	0.47	C
Stream C-B									0.0	0.00	0.00	A
	WNP 2020 AM BP											
Stream B-C	0.9	12.28	0.49	B								
Stream B-A	0.7	12.89	0.42	B								
Stream C-B	0.0	0.00	0.00	A								
	WNP 2020 PM BP											
Stream B-C					3.1	27.18	0.77	D				
Stream B-A					0.9	19.09	0.47	C				
Stream C-B					0.0	0.00	0.00	A				
	WNP 2020 Weekend BP											
Stream B-C									1.6	18.16	0.62	C
Stream B-A									0.9	16.21	0.47	C
Stream C-B									0.0	0.00	0.00	A
	WNP 2023 AM											
Stream B-C	1.0	12.86	0.51	B								
Stream B-A	0.8	13.39	0.44	B								
Stream C-B	0.0	0.00	0.00	A								
	WNP 2023 PM											
Stream B-C					3.5	30.32	0.79	D				
Stream B-A					1.0	21.16	0.50	C				
Stream C-B					0.0	0.00	0.00	A				
	WNP 2023 Weekend											
Stream B-C									1.7	19.28	0.64	C
Stream B-A									0.9	17.01	0.49	C
Stream C-B									0.0	0.00	0.00	A
	WNP 2033 AM											
Stream B-C	1.3	15.27	0.58	C								
Stream B-A	1.0	15.41	0.49	C								
Stream C-B	0.0	0.00	0.00	A								
	WNP 2033 PM											
Stream B-C					5.6	46.76	0.87	E				
Stream B-A					1.8	36.49	0.66	E				
Stream C-B					0.0	0.00	0.00	A				
	WNP 2033 Weekend											
Stream B-C									2.3	24.48	0.71	C
Stream B-A									1.2	20.78	0.55	C
Stream C-B									0.0	0.00	0.00	A

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

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

File summary

File Description

Title	A55 Junction 8a Assessment
Location	A55 Junction 8a
Site number	47
Date	19/06/2017
Version	Rev0I
Status	Existing
Identifier	OW
Client	Horizon
Jobnumber	60PO8077
Enumerator	JEGINTL\LopezM3
Description	Assessment of J8a - to be read in conjunction with the Network Diagram results

Units

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

Analysis Options

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

Demand Set Summary

ID	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D_01	BASE 2016 AM	08-09	Q3	ONE HOUR	07:45	09:15	15
D_02	BASE 2016 PM	16-17	Q3	ONE HOUR	15:45	17:15	15
D_03	BASE 2016 Weekend	12-13	Q3	ONE HOUR	11:45	13:15	15
D_04	REF 2020 AM	08-09	Q3	ONE HOUR	07:45	09:15	15
D_05	REF 2020 PM	16-17	Q3	ONE HOUR	15:45	17:15	15
D_06	REF 2020 Weekend	12-13	Q3	ONE HOUR	11:45	13:15	15
D_07	REF 2023 AM	08-09	Q3	ONE HOUR	07:45	09:15	15
D_08	REF 2023 PM	16-17	Q3	ONE HOUR	15:45	17:15	15
D_09	REF 2023 Weekend	12-13	Q3	ONE HOUR	11:45	13:15	15
D_10	REF 2033 AM	08-09	Q3	ONE HOUR	07:45	09:15	15
D_11	REF 2033 PM	16-17	Q3	ONE HOUR	15:45	17:15	15
D_12	REF 2033 Weekend	12-13	Q3	ONE HOUR	11:45	13:15	15
D_13	WNP 2020 AM WBP	08-09	Q3	ONE HOUR	07:45	09:15	15
D_14	WNP 2020 PM WBP	16-17	Q3	ONE HOUR	15:45	17:15	15
D_15	WNP 2020 Weekend WBP	12-13	Q3	ONE HOUR	11:45	13:15	15
D_16	WNP 2020 AM BP	08-09	Q3	ONE HOUR	07:45	09:15	15
D_17	WNP 2020 PM BP	16-17	Q3	ONE HOUR	15:45	17:15	15

D_18	WNP 2020 Weekend BP	12-13	Q3	ONE HOUR	11:45	13:15	15
D_19	WNP 2023 AM	08-09	Q3	ONE HOUR	07:45	09:15	15
D_20	WNP 2023 PM	16-17	Q3	ONE HOUR	15:45	17:15	15
D_21	WNP 2023 Weekend	12-13	Q3	ONE HOUR	11:45	13:15	15
D_22	WNP 2033 AM	08-09	Q3	ONE HOUR	07:45	09:15	15
D_23	WNP 2033 PM	16-17	Q3	ONE HOUR	15:45	17:15	15
D_24	WNP 2033 Weekend	12-13	Q3	ONE HOUR	11:45	13:15	15

Analysis Set Details

ID	Network flow scaling factor (%)
A1	100.000

BASE 2016 AM, 08-09

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.

Junction Network

Junctions

Junction	Name	Junction Type	Major road direction	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way	5.29	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Name	Description	Arm type
A	Holyhead Road Westbound		Major
B	A55 offslip		Minor
C	Holyhead Road Eastbound		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Visibility for right turn (m)	Blocks?	Blocking queue (PCU)
C	6.10	✓	3.10		250.0		-

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

Minor Arm Geometry

Arm	Minor arm type	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate flare length	Flare length (PCU)	Visibility to left (m)	Visibility to right (m)
B	One lane plus flare	8.60	5.40	5.40	5.40	5.40	✓	3.00	250	47

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
1	B-A	593	0.101	0.254	0.160	0.363
1	B-C	688	0.105	0.265	-	-
1	C-B	719	0.277	0.277	-	-

The slopes and intercepts shown above do NOT include any corrections or adjustments.
Streams may be combined, in which case capacity will be adjusted.
Values are shown for the first time segment only; they may differ for subsequent time segments.

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D_01	BASE 2016 AM	08-09	Q3	ONE HOUR	07:45	09:15	15

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

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		✓	132	100.000
B		✓	411	100.000
C		✓	359	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A	B	C
From	A	0	0	132
	B	171	0	240
	C	359	0	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A	B	C
From	A	0	0	0
	B	0	0	0
	C	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max delay (s)	Max Queue (PCU)	Max LOS
B-C	0.45	11.30	0.8	B
B-A	0.39	12.03	0.6	B
C-A				
C-B	0.00	0.00	0.0	A
A-B				
A-C				

Main Results for each time segment

07:45 - 08:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	181	620	0.291	179	0.4	8.129	A
B-A	129	524	0.246	127	0.3	9.050	A
C-A	270			270			
C-B	0	691	0.000	0	0.0	0.000	A
A-B	0			0			
A-C	99			99			

08:00 - 08:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	216	605	0.356	215	0.5	9.214	A
B-A	154	510	0.302	153	0.4	10.090	B
C-A	323			323			
C-B	0	686	0.000	0	0.0	0.000	A
A-B	0			0			
A-C	119			119			

08:15 - 08:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	264	583	0.453	263	0.8	11.215	B
B-A	188	488	0.386	188	0.6	11.969	B
C-A	395			395			
C-B	0	678	0.000	0	0.0	0.000	A
A-B	0			0			
A-C	145			145			

08:30 - 08:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	264	583	0.453	264	0.8	11.297	B
B-A	188	487	0.386	188	0.6	12.032	B
C-A	395			395			
C-B	0	678	0.000	0	0.0	0.000	A
A-B	0			0			
A-C	145			145			

08:45 - 09:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	216	605	0.357	217	0.6	9.301	A
B-A	154	510	0.302	154	0.4	10.160	B
C-A	323			323			
C-B	0	686	0.000	0	0.0	0.000	A
A-B	0			0			
A-C	119			119			

09:00 - 09:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	181	620	0.292	181	0.4	8.223	A
B-A	129	524	0.246	129	0.3	9.129	A
C-A	270			270			
C-B	0	691	0.000	0	0.0	0.000	A
A-B	0			0			
A-C	99			99			

BASE 2016 PM, 16-17

Data Errors and Warnings

Severity	Area	Item	Description

Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.

Junction Network

Junctions

Junction	Name	Junction Type	Major road direction	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way	9.25	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D_02	BASE 2016 PM	16-17	Q3	ONE HOUR	15:45	17:15	15

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

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		✓	306	100.000
B		✓	503	100.000
C		✓	237	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A	B	C
From	A	0	0	306
	B	142	0	361
	C	237	0	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A	B	C
From	A	0	0	0
	B	0	0	0
	C	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max delay (s)	Max Queue (PCU)	Max LOS
B-C	0.70	20.77	2.2	C
B-A	0.40	15.36	0.7	C
C-A				
C-B	0.00	0.00	0.0	A
A-B				
A-C				

Main Results for each time segment

15:45 - 16:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	272	623	0.436	269	0.8	10.069	B
B-A	107	471	0.227	106	0.3	9.863	A
C-A	178			178			
C-B	0	655	0.000	0	0.0	0.000	A
A-B	0			0			
A-C	230			230			

16:00 - 16:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	325	602	0.539	323	1.1	12.843	B
B-A	128	446	0.286	127	0.4	11.269	B
C-A	213			213			
C-B	0	642	0.000	0	0.0	0.000	A
A-B	0			0			
A-C	275			275			

16:15 - 16:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	397	570	0.697	393	2.2	19.918	C
B-A	156	393	0.398	155	0.6	15.080	C
C-A	261			261			
C-B	0	625	0.000	0	0.0	0.000	A
A-B	0			0			
A-C	337			337			

16:30 - 16:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	397	570	0.698	397	2.2	20.771	C
B-A	156	390	0.400	156	0.7	15.358	C
C-A	261			261			
C-B	0	625	0.000	0	0.0	0.000	A
A-B	0			0			
A-C	337			337			

16:45 - 17:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	325	601	0.540	329	1.2	13.383	B
B-A	128	445	0.287	129	0.4	11.424	B
C-A	213			213			
C-B	0	642	0.000	0	0.0	0.000	A
A-B	0			0			
A-C	275			275			

17:00 - 17:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	272	623	0.436	273	0.8	10.352	B
B-A	107	470	0.227	107	0.3	9.934	A
C-A	178			178			
C-B	0	655	0.000	0	0.0	0.000	A
A-B	0			0			
A-C	230			230			

BASE 2016 Weekend, 12-13

Data Errors and Warnings

Severity	Area	Item	Description

Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.

Junction Network

Junctions

Junction	Name	Junction Type	Major road direction	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way	6.69	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D_03	BASE 2016 Weekend	12-13	Q3	ONE HOUR	11:45	13:15	15

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

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		✓	338	100.000
B		✓	445	100.000
C		✓	246	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A	B	C
From	A	0	0	338
	B	169	0	276
	C	246	0	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A	B	C
From	A	0	0	0
	B	0	0	0
	C	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max delay (s)	Max Queue (PCU)	Max LOS
B-C	0.57	15.96	1.3	C
B-A	0.43	14.67	0.7	B
C-A				
C-B	0.00	0.00	0.0	A
A-B				
A-C				

Main Results for each time segment

11:45 - 12:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	208	588	0.353	206	0.5	9.364	A
B-A	127	489	0.260	126	0.3	9.875	A
C-A	185			185			
C-B	0	648	0.000	0	0.0	0.000	A
A-B	0			0			
A-C	254			254			

12:00 - 12:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	248	564	0.440	247	0.8	11.311	B
B-A	152	468	0.325	151	0.5	11.350	B
C-A	221			221			
C-B	0	634	0.000	0	0.0	0.000	A
A-B	0			0			
A-C	304			304			

12:15 - 12:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	304	530	0.574	302	1.3	15.658	C
B-A	186	432	0.431	185	0.7	14.517	B
C-A	271			271			
C-B	0	616	0.000	0	0.0	0.000	A
A-B	0			0			
A-C	372			372			

12:30 - 12:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	304	529	0.574	304	1.3	15.960	C
B-A	186	431	0.431	186	0.7	14.674	B
C-A	271			271			
C-B	0	616	0.000	0	0.0	0.000	A
A-B	0			0			
A-C	372			372			

12:45 - 13:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	248	564	0.440	250	0.8	11.549	B
B-A	152	468	0.325	153	0.5	11.478	B
C-A	221			221			
C-B	0	634	0.000	0	0.0	0.000	A
A-B	0			0			
A-C	304			304			

13:00 - 13:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	208	587	0.354	209	0.6	9.536	A
B-A	127	489	0.260	128	0.4	9.982	A
C-A	185			185			
C-B	0	648	0.000	0	0.0	0.000	A
A-B	0			0			
A-C	254			254			

REF 2020 AM, 08-09

Data Errors and Warnings

Severity	Area	Item	Description

Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.

Junction Network

Junctions

Junction	Name	Junction Type	Major road direction	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way	5.75	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D_04	REF 2020 AM	08-09	Q3	ONE HOUR	07:45	09:15	15

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

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		✓	139	100.000
B		✓	438	100.000
C		✓	377	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A	B	C
From	A	0	0	139
	B	182	0	256
	C	377	0	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A	B	C
From	A	0	0	0
	B	0	0	0
	C	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max delay (s)	Max Queue (PCU)	Max LOS
B-C	0.49	12.28	0.9	B
B-A	0.42	12.89	0.7	B
C-A				
C-B	0.00	0.00	0.0	A
A-B				
A-C				

Main Results for each time segment

07:45 - 08:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	193	616	0.313	191	0.4	8.434	A
B-A	137	520	0.263	136	0.4	9.330	A
C-A	284			284			
C-B	0	690	0.000	0	0.0	0.000	A
A-B	0			0			
A-C	105			105			

08:00 - 08:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	230	600	0.384	229	0.6	9.704	A
B-A	164	505	0.324	163	0.5	10.528	B
C-A	339			339			
C-B	0	684	0.000	0	0.0	0.000	A
A-B	0			0			
A-C	125			125			

08:15 - 08:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	282	575	0.490	281	0.9	12.165	B
B-A	200	480	0.418	199	0.7	12.796	B
C-A	415			415			
C-B	0	676	0.000	0	0.0	0.000	A
A-B	0			0			
A-C	153			153			

08:30 - 08:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	282	575	0.490	282	0.9	12.283	B
B-A	200	480	0.418	200	0.7	12.887	B
C-A	415			415			
C-B	0	676	0.000	0	0.0	0.000	A
A-B	0			0			
A-C	153			153			

08:45 - 09:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	230	599	0.384	231	0.6	9.819	A
B-A	164	504	0.324	164	0.5	10.618	B
C-A	339			339			
C-B	0	684	0.000	0	0.0	0.000	A
A-B	0			0			
A-C	125			125			

09:00 - 09:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	193	615	0.313	193	0.5	8.546	A
B-A	137	520	0.263	138	0.4	9.422	A
C-A	284			284			
C-B	0	690	0.000	0	0.0	0.000	A
A-B	0			0			
A-C	105			105			

REF 2020 PM, 16-17

Data Errors and Warnings

Severity	Area	Item	Description

Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.

Junction Network

Junctions

Junction	Name	Junction Type	Major road direction	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way	12.02	B

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D_05	REF 2020 PM	16-17	Q3	ONE HOUR	15:45	17:15	15

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

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		✓	327	100.000
B		✓	539	100.000
C		✓	251	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A	B	C
From	A	0	0	327
	B	152	0	387
	C	251	0	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A	B	C
From	A	0	0	0
	B	0	0	0
	C	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max delay (s)	Max Queue (PCU)	Max LOS
B-C	0.77	27.18	3.1	D
B-A	0.47	19.09	0.9	C
C-A				
C-B	0.00	0.00	0.0	A
A-B				
A-C				

Main Results for each time segment

15:45 - 16:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	291	616	0.473	288	0.9	10.858	B
B-A	114	463	0.247	113	0.3	10.248	B
C-A	189			189			
C-B	0	650	0.000	0	0.0	0.000	A
A-B	0			0			
A-C	246			246			

16:00 - 16:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	348	592	0.587	346	1.4	14.482	B
B-A	137	433	0.315	136	0.5	12.098	B
C-A	226			226			
C-B	0	637	0.000	0	0.0	0.000	A
A-B	0			0			
A-C	294			294			

16:15 - 16:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	426	557	0.765	420	2.9	25.161	D
B-A	167	361	0.464	166	0.8	18.295	C
C-A	276			276			
C-B	0	619	0.000	0	0.0	0.000	A
A-B	0			0			
A-C	360			360			

16:30 - 16:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	426	556	0.766	425	3.1	27.180	D
B-A	167	355	0.471	167	0.9	19.095	C
C-A	276			276			
C-B	0	619	0.000	0	0.0	0.000	A
A-B	0			0			
A-C	360			360			

16:45 - 17:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	348	592	0.588	354	1.5	15.533	C
B-A	137	430	0.318	138	0.5	12.403	B
C-A	226			226			
C-B	0	637	0.000	0	0.0	0.000	A
A-B	0			0			
A-C	294			294			

17:00 - 17:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	291	615	0.473	294	0.9	11.264	B
B-A	114	462	0.248	115	0.3	10.383	B
C-A	189			189			
C-B	0	650	0.000	0	0.0	0.000	A
A-B	0			0			
A-C	246			246			

REF 2020 Weekend, 12-13

Data Errors and Warnings

Severity	Area	Item	Description

Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.

Junction Network

Junctions

Junction	Name	Junction Type	Major road direction	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way	7.56	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D_06	REF 2020 Weekend	12-13	Q3	ONE HOUR	11:45	13:15	15

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

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		✓	355	100.000
B		✓	469	100.000
C		✓	257	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A	B	C
From	A	0	0	355
	B	178	0	291
	C	257	0	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A	B	C
From	A	0	0	0
	B	0	0	0
	C	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max delay (s)	Max Queue (PCU)	Max LOS
B-C	0.62	18.16	1.6	C
B-A	0.47	16.21	0.9	C
C-A				
C-B	0.00	0.00	0.0	A
A-B				
A-C				

Main Results for each time segment

11:45 - 12:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	219	582	0.376	217	0.6	9.792	A
B-A	134	484	0.277	132	0.4	10.200	B
C-A	193			193			
C-B	0	645	0.000	0	0.0	0.000	A
A-B	0			0			
A-C	267			267			

12:00 - 12:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	262	557	0.470	261	0.9	12.098	B
B-A	160	461	0.347	159	0.5	11.915	B
C-A	231			231			
C-B	0	630	0.000	0	0.0	0.000	A
A-B	0			0			
A-C	319			319			

12:15 - 12:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	320	519	0.618	318	1.5	17.671	C
B-A	196	419	0.468	195	0.9	15.954	C
C-A	283			283			
C-B	0	610	0.000	0	0.0	0.000	A
A-B	0			0			
A-C	391			391			

12:30 - 12:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	320	518	0.618	320	1.6	18.161	C
B-A	196	418	0.469	196	0.9	16.208	C
C-A	283			283			
C-B	0	610	0.000	0	0.0	0.000	A
A-B	0			0			
A-C	391			391			

12:45 - 13:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	262	556	0.470	264	0.9	12.440	B
B-A	160	460	0.348	161	0.5	12.091	B
C-A	231			231			
C-B	0	630	0.000	0	0.0	0.000	A
A-B	0			0			
A-C	319			319			

13:00 - 13:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	219	581	0.377	220	0.6	10.001	B
B-A	134	484	0.277	135	0.4	10.331	B
C-A	193			193			
C-B	0	645	0.000	0	0.0	0.000	A
A-B	0			0			
A-C	267			267			

REF 2023 AM, 08-09

Data Errors and Warnings

Severity	Area	Item	Description

Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.

Junction Network

Junctions

Junction	Name	Junction Type	Major road direction	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way	6.03	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D_07	REF 2023 AM	08-09	Q3	ONE HOUR	07:45	09:15	15

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

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		✓	142	100.000
B		✓	452	100.000
C		✓	386	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A	B	C
From	A	0	0	142
	B	188	0	264
	C	386	0	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A	B	C
From	A	0	0	0
	B	0	0	0
	C	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max delay (s)	Max Queue (PCU)	Max LOS
B-C	0.51	12.86	1.0	B
B-A	0.44	13.39	0.8	B
C-A				
C-B	0.00	0.00	0.0	A
A-B				
A-C				

Main Results for each time segment

07:45 - 08:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	199	614	0.324	197	0.5	8.598	A
B-A	142	518	0.273	140	0.4	9.479	A
C-A	291			291			
C-B	0	689	0.000	0	0.0	0.000	A
A-B	0			0			
A-C	107			107			

08:00 - 08:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	237	597	0.398	237	0.6	9.975	A
B-A	169	502	0.337	168	0.5	10.769	B
C-A	347			347			
C-B	0	683	0.000	0	0.0	0.000	A
A-B	0			0			
A-C	128			128			

08:15 - 08:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	291	571	0.509	289	1.0	12.718	B
B-A	207	476	0.435	206	0.8	13.287	B
C-A	425			425			
C-B	0	675	0.000	0	0.0	0.000	A
A-B	0			0			
A-C	156			156			

08:30 - 08:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	291	570	0.510	291	1.0	12.863	B
B-A	207	476	0.435	207	0.8	13.394	B
C-A	425			425			
C-B	0	675	0.000	0	0.0	0.000	A
A-B	0			0			
A-C	156			156			

08:45 - 09:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	237	596	0.398	239	0.7	10.110	B
B-A	169	502	0.337	170	0.5	10.872	B
C-A	347			347			
C-B	0	683	0.000	0	0.0	0.000	A
A-B	0			0			
A-C	128			128			

09:00 - 09:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	199	613	0.324	199	0.5	8.722	A
B-A	142	518	0.273	142	0.4	9.581	A
C-A	291			291			
C-B	0	689	0.000	0	0.0	0.000	A
A-B	0			0			
A-C	107			107			

REF 2023 PM, 16-17

Data Errors and Warnings

Severity	Area	Item	Description

Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.

Junction Network

Junctions

Junction	Name	Junction Type	Major road direction	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way	13.39	B

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D_08	REF 2023 PM	16-17	Q3	ONE HOUR	15:45	17:15	15

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

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		✓	334	100.000
B		✓	551	100.000
C		✓	257	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A	B	C
From	A	0	0	334
	B	155	0	396
	C	257	0	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A	B	C
From	A	0	0	0
	B	0	0	0
	C	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max delay (s)	Max Queue (PCU)	Max LOS
B-C	0.79	30.32	3.5	D
B-A	0.50	21.16	1.0	C
C-A				
C-B	0.00	0.00	0.0	A
A-B				
A-C				

Main Results for each time segment

15:45 - 16:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	298	614	0.486	294	0.9	11.152	B
B-A	117	460	0.254	115	0.3	10.401	B
C-A	193			193			
C-B	0	649	0.000	0	0.0	0.000	A
A-B	0			0			
A-C	251			251			

16:00 - 16:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	356	589	0.604	354	1.5	15.130	C
B-A	139	428	0.326	139	0.5	12.429	B
C-A	231			231			
C-B	0	635	0.000	0	0.0	0.000	A
A-B	0			0			
A-C	300			300			

16:15 - 16:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	436	553	0.789	429	3.3	27.530	D
B-A	171	348	0.491	169	0.9	19.937	C
C-A	283			283			
C-B	0	617	0.000	0	0.0	0.000	A
A-B	0			0			
A-C	368			368			

16:30 - 16:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	436	552	0.790	435	3.5	30.322	D
B-A	171	340	0.502	170	1.0	21.155	C
C-A	283			283			
C-B	0	617	0.000	0	0.0	0.000	A
A-B	0			0			
A-C	368			368			

16:45 - 17:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	356	589	0.605	364	1.6	16.486	C
B-A	139	424	0.329	141	0.5	12.825	B
C-A	231			231			
C-B	0	635	0.000	0	0.0	0.000	A
A-B	0			0			
A-C	300			300			

17:00 - 17:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	298	613	0.486	301	1.0	11.609	B
B-A	117	459	0.254	117	0.3	10.552	B
C-A	193			193			
C-B	0	649	0.000	0	0.0	0.000	A
A-B	0			0			
A-C	251			251			

REF 2023 Weekend, 12-13

Data Errors and Warnings

Severity	Area	Item	Description

Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.

Junction Network

Junctions

Junction	Name	Junction Type	Major road direction	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way	8.00	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D_09	REF 2023 Weekend	12-13	Q3	ONE HOUR	11:45	13:15	15

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

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		✓	362	100.000
B		✓	479	100.000
C		✓	262	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A	B	C
From	A	0	0	362
	B	182	0	297
	C	262	0	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A	B	C
From	A	0	0	0
	B	0	0	0
	C	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max delay (s)	Max Queue (PCU)	Max LOS
B-C	0.64	19.28	1.7	C
B-A	0.49	17.01	0.9	C
C-A				
C-B	0.00	0.00	0.0	A
A-B				
A-C				

Main Results for each time segment

11:45 - 12:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	224	579	0.386	221	0.6	9.981	A
B-A	137	482	0.284	135	0.4	10.346	B
C-A	197			197			
C-B	0	643	0.000	0	0.0	0.000	A
A-B	0			0			
A-C	273			273			

12:00 - 12:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	267	554	0.482	266	0.9	12.459	B
B-A	164	458	0.357	163	0.5	12.181	B
C-A	236			236			
C-B	0	629	0.000	0	0.0	0.000	A
A-B	0			0			
A-C	325			325			

12:15 - 12:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	327	514	0.637	324	1.7	18.673	C
B-A	200	413	0.485	199	0.9	16.694	C
C-A	288			288			
C-B	0	608	0.000	0	0.0	0.000	A
A-B	0			0			
A-C	399			399			

12:30 - 12:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	327	513	0.637	327	1.7	19.283	C
B-A	200	412	0.487	200	0.9	17.012	C
C-A	288			288			
C-B	0	608	0.000	0	0.0	0.000	A
A-B	0			0			
A-C	399			399			

12:45 - 13:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	267	553	0.483	270	1.0	12.858	B
B-A	164	457	0.358	165	0.6	12.384	B
C-A	236			236			
C-B	0	629	0.000	0	0.0	0.000	A
A-B	0			0			
A-C	325			325			

13:00 - 13:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	224	579	0.386	225	0.6	10.211	B
B-A	137	482	0.284	138	0.4	10.486	B
C-A	197			197			
C-B	0	643	0.000	0	0.0	0.000	A
A-B	0			0			
A-C	273			273			

REF 2033 AM, 08-09

Data Errors and Warnings

Severity	Area	Item	Description

Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.

Junction Network

Junctions

Junction	Name	Junction Type	Major road direction	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way	7.17	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D_10	REF 2033 AM	08-09	Q3	ONE HOUR	07:45	09:15	15

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

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		✓	152	100.000
B		✓	497	100.000
C		✓	413	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A	B	C
From	A	0	0	152
	B	206	0	291
	C	413	0	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A	B	C
From	A	0	0	0
	B	0	0	0
	C	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max delay (s)	Max Queue (PCU)	Max LOS
B-C	0.58	15.27	1.3	C
B-A	0.49	15.41	1.0	C
C-A				
C-B	0.00	0.00	0.0	A
A-B				
A-C				

Main Results for each time segment

07:45 - 08:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	219	607	0.361	217	0.6	9.176	A
B-A	155	512	0.303	153	0.4	9.989	A
C-A	311			311			
C-B	0	687	0.000	0	0.0	0.000	A
A-B	0			0			
A-C	114			114			

08:00 - 08:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	262	588	0.445	261	0.8	10.977	B
B-A	185	494	0.375	185	0.6	11.625	B
C-A	371			371			
C-B	0	681	0.000	0	0.0	0.000	A
A-B	0			0			
A-C	137			137			

08:15 - 08:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	320	557	0.576	318	1.3	14.978	B
B-A	227	461	0.492	225	0.9	15.197	C
C-A	455			455			
C-B	0	672	0.000	0	0.0	0.000	A
A-B	0			0			
A-C	167			167			

08:30 - 08:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	320	556	0.577	320	1.3	15.271	C
B-A	227	460	0.493	227	1.0	15.408	C
C-A	455			455			
C-B	0	672	0.000	0	0.0	0.000	A
A-B	0			0			
A-C	167			167			

08:45 - 09:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	262	587	0.446	264	0.8	11.208	B
B-A	185	493	0.375	187	0.6	11.792	B
C-A	371			371			
C-B	0	681	0.000	0	0.0	0.000	A
A-B	0			0			
A-C	137			137			

09:00 - 09:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	219	606	0.361	220	0.6	9.351	A
B-A	155	512	0.303	156	0.4	10.126	B
C-A	311			311			
C-B	0	687	0.000	0	0.0	0.000	A
A-B	0			0			
A-C	114			114			

REF 2033 PM, 16-17

Data Errors and Warnings

Severity	Area	Item	Description

Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.

Junction Network

Junctions

Junction	Name	Junction Type	Major road direction	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way	21.21	C

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D_11	REF 2033 PM	16-17	Q3	ONE HOUR	15:45	17:15	15

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

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		✓	355	100.000
B		✓	589	100.000
C		✓	274	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A	B	C
From	A	0	0	355
	B	166	0	423
	C	274	0	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A	B	C
From	A	0	0	0
	B	0	0	0
	C	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max delay (s)	Max Queue (PCU)	Max LOS
B-C	0.87	46.76	5.6	E
B-A	0.66	36.49	1.8	E
C-A				
C-B	0.00	0.00	0.0	A
A-B				
A-C				

Main Results for each time segment

15:45 - 16:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	318	606	0.526	314	1.1	12.177	B
B-A	125	451	0.277	123	0.4	10.940	B
C-A	206			206			
C-B	0	645	0.000	0	0.0	0.000	A
A-B	0			0			
A-C	267			267			

16:00 - 16:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	380	579	0.657	377	1.8	17.573	C
B-A	149	410	0.364	149	0.6	13.722	B
C-A	246			246			
C-B	0	630	0.000	0	0.0	0.000	A
A-B	0			0			
A-C	319			319			

16:15 - 16:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	466	537	0.867	453	5.0	38.119	E
B-A	183	297	0.614	179	1.5	29.572	D
C-A	302			302			
C-B	0	610	0.000	0	0.0	0.000	A
A-B	0			0			
A-C	391			391			

16:30 - 16:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	466	535	0.871	463	5.6	46.758	E
B-A	183	279	0.656	182	1.8	36.492	E
C-A	302			302			
C-B	0	610	0.000	0	0.0	0.000	A
A-B	0			0			
A-C	391			391			

16:45 - 17:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	380	577	0.659	395	2.0	21.104	C
B-A	149	400	0.373	154	0.6	14.871	B
C-A	246			246			
C-B	0	630	0.000	0	0.0	0.000	A
A-B	0			0			
A-C	319			319			

17:00 - 17:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	318	605	0.526	322	1.1	12.882	B
B-A	125	449	0.278	126	0.4	11.164	B
C-A	206			206			
C-B	0	645	0.000	0	0.0	0.000	A
A-B	0			0			
A-C	267			267			

REF 2033 Weekend, 12-13

Data Errors and Warnings

Severity	Area	Item	Description

Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.

Junction Network

Junctions

Junction	Name	Junction Type	Major road direction	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way	10.04	B

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D_12	REF 2033 Weekend	12-13	Q3	ONE HOUR	11:45	13:15	15

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

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		✓	386	100.000
B		✓	512	100.000
C		✓	279	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A	B	C
From	A	0	0	386
	B	194	0	318
	C	279	0	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A	B	C
From	A	0	0	0
	B	0	0	0
	C	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max delay (s)	Max Queue (PCU)	Max LOS
B-C	0.71	24.48	2.3	C
B-A	0.55	20.78	1.2	C
C-A				
C-B	0.00	0.00	0.0	A
A-B				
A-C				

Main Results for each time segment

11:45 - 12:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	239	571	0.419	237	0.7	10.670	B
B-A	146	474	0.308	144	0.4	10.863	B
C-A	210			210			
C-B	0	638	0.000	0	0.0	0.000	A
A-B	0			0			
A-C	291			291			

12:00 - 12:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	286	543	0.527	284	1.1	13.849	B
B-A	174	446	0.391	174	0.6	13.165	B
C-A	251			251			
C-B	0	623	0.000	0	0.0	0.000	A
A-B	0			0			
A-C	347			347			

12:15 - 12:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	350	497	0.704	346	2.2	23.098	C
B-A	214	389	0.549	211	1.2	20.010	C
C-A	307			307			
C-B	0	601	0.000	0	0.0	0.000	A
A-B	0			0			
A-C	425			425			

12:30 - 12:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	350	496	0.706	350	2.3	24.484	C
B-A	214	386	0.553	213	1.2	20.779	C
C-A	307			307			
C-B	0	601	0.000	0	0.0	0.000	A
A-B	0			0			
A-C	425			425			

12:45 - 13:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	286	542	0.528	290	1.2	14.583	B
B-A	174	445	0.392	177	0.7	13.531	B
C-A	251			251			
C-B	0	623	0.000	0	0.0	0.000	A
A-B	0			0			
A-C	347			347			

13:00 - 13:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	239	570	0.420	241	0.7	10.990	B
B-A	146	474	0.308	147	0.5	11.049	B
C-A	210			210			
C-B	0	638	0.000	0	0.0	0.000	A
A-B	0			0			
A-C	291			291			

WNP 2020 AM WBP, 08-09

Data Errors and Warnings

Severity	Area	Item	Description

Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.

Junction Network

Junctions

Junction	Name	Junction Type	Major road direction	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way	5.75	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D_13	WNP 2020 AM WBP	08-09	Q3	ONE HOUR	07:45	09:15	15

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

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		✓	139	100.000
B		✓	438	100.000
C		✓	377	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A	B	C
From	A	0	0	139
	B	182	0	256
	C	377	0	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A	B	C
From	A	0	0	0
	B	0	0	0
	C	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max delay (s)	Max Queue (PCU)	Max LOS
B-C	0.49	12.28	0.9	B
B-A	0.42	12.89	0.7	B
C-A				
C-B	0.00	0.00	0.0	A
A-B				
A-C				

Main Results for each time segment

07:45 - 08:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	193	616	0.313	191	0.4	8.434	A
B-A	137	520	0.263	136	0.4	9.330	A
C-A	284			284			
C-B	0	690	0.000	0	0.0	0.000	A
A-B	0			0			
A-C	105			105			

08:00 - 08:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	230	600	0.384	229	0.6	9.704	A
B-A	164	505	0.324	163	0.5	10.528	B
C-A	339			339			
C-B	0	684	0.000	0	0.0	0.000	A
A-B	0			0			
A-C	125			125			

08:15 - 08:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	282	575	0.490	281	0.9	12.165	B
B-A	200	480	0.418	199	0.7	12.796	B
C-A	415			415			
C-B	0	676	0.000	0	0.0	0.000	A
A-B	0			0			
A-C	153			153			

08:30 - 08:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	282	575	0.490	282	0.9	12.283	B
B-A	200	480	0.418	200	0.7	12.887	B
C-A	415			415			
C-B	0	676	0.000	0	0.0	0.000	A
A-B	0			0			
A-C	153			153			

08:45 - 09:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	230	599	0.384	231	0.6	9.819	A
B-A	164	504	0.324	164	0.5	10.618	B
C-A	339			339			
C-B	0	684	0.000	0	0.0	0.000	A
A-B	0			0			
A-C	125			125			

09:00 - 09:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	193	615	0.313	193	0.5	8.546	A
B-A	137	520	0.263	138	0.4	9.422	A
C-A	284			284			
C-B	0	690	0.000	0	0.0	0.000	A
A-B	0			0			
A-C	105			105			

WNP 2020 PM WBP, 16-17

Data Errors and Warnings

Severity	Area	Item	Description

Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.

Junction Network

Junctions

Junction	Name	Junction Type	Major road direction	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way	12.02	B

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D_14	WNP 2020 PM WBP	16-17	Q3	ONE HOUR	15:45	17:15	15

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

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		✓	327	100.000
B		✓	539	100.000
C		✓	251	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A	B	C
From	A	0	0	327
	B	152	0	387
	C	251	0	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A	B	C
From	A	0	0	0
	B	0	0	0
	C	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max delay (s)	Max Queue (PCU)	Max LOS
B-C	0.77	27.18	3.1	D
B-A	0.47	19.09	0.9	C
C-A				
C-B	0.00	0.00	0.0	A
A-B				
A-C				

Main Results for each time segment

15:45 - 16:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	291	616	0.473	288	0.9	10.858	B
B-A	114	463	0.247	113	0.3	10.248	B
C-A	189			189			
C-B	0	650	0.000	0	0.0	0.000	A
A-B	0			0			
A-C	246			246			

16:00 - 16:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	348	592	0.587	346	1.4	14.482	B
B-A	137	433	0.315	136	0.5	12.098	B
C-A	226			226			
C-B	0	637	0.000	0	0.0	0.000	A
A-B	0			0			
A-C	294			294			

16:15 - 16:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	426	557	0.765	420	2.9	25.161	D
B-A	167	361	0.464	166	0.8	18.295	C
C-A	276			276			
C-B	0	619	0.000	0	0.0	0.000	A
A-B	0			0			
A-C	360			360			

16:30 - 16:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	426	556	0.766	425	3.1	27.180	D
B-A	167	355	0.471	167	0.9	19.095	C
C-A	276			276			
C-B	0	619	0.000	0	0.0	0.000	A
A-B	0			0			
A-C	360			360			

16:45 - 17:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	348	592	0.588	354	1.5	15.533	C
B-A	137	430	0.318	138	0.5	12.403	B
C-A	226			226			
C-B	0	637	0.000	0	0.0	0.000	A
A-B	0			0			
A-C	294			294			

17:00 - 17:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	291	615	0.473	294	0.9	11.264	B
B-A	114	462	0.248	115	0.3	10.383	B
C-A	189			189			
C-B	0	650	0.000	0	0.0	0.000	A
A-B	0			0			
A-C	246			246			

WNP 2020 Weekend WBP, 12-13

Data Errors and Warnings

Severity	Area	Item	Description

Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.

Junction Network

Junctions

Junction	Name	Junction Type	Major road direction	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way	7.56	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D_15	WNP 2020 Weekend WBP	12-13	Q3	ONE HOUR	11:45	13:15	15

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

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		✓	355	100.000
B		✓	469	100.000
C		✓	257	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A	B	C
From	A	0	0	355
	B	178	0	291
	C	257	0	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A	B	C
From	A	0	0	0
	B	0	0	0
	C	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max delay (s)	Max Queue (PCU)	Max LOS
B-C	0.62	18.16	1.6	C
B-A	0.47	16.21	0.9	C
C-A				
C-B	0.00	0.00	0.0	A
A-B				
A-C				

Main Results for each time segment

11:45 - 12:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	219	582	0.376	217	0.6	9.792	A
B-A	134	484	0.277	132	0.4	10.200	B
C-A	193			193			
C-B	0	645	0.000	0	0.0	0.000	A
A-B	0			0			
A-C	267			267			

12:00 - 12:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	262	557	0.470	261	0.9	12.098	B
B-A	160	461	0.347	159	0.5	11.915	B
C-A	231			231			
C-B	0	630	0.000	0	0.0	0.000	A
A-B	0			0			
A-C	319			319			

12:15 - 12:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	320	519	0.618	318	1.5	17.671	C
B-A	196	419	0.468	195	0.9	15.954	C
C-A	283			283			
C-B	0	610	0.000	0	0.0	0.000	A
A-B	0			0			
A-C	391			391			

12:30 - 12:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	320	518	0.618	320	1.6	18.161	C
B-A	196	418	0.469	196	0.9	16.208	C
C-A	283			283			
C-B	0	610	0.000	0	0.0	0.000	A
A-B	0			0			
A-C	391			391			

12:45 - 13:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	262	556	0.470	264	0.9	12.440	B
B-A	160	460	0.348	161	0.5	12.091	B
C-A	231			231			
C-B	0	630	0.000	0	0.0	0.000	A
A-B	0			0			
A-C	319			319			

13:00 - 13:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	219	581	0.377	220	0.6	10.001	B
B-A	134	484	0.277	135	0.4	10.331	B
C-A	193			193			
C-B	0	645	0.000	0	0.0	0.000	A
A-B	0			0			
A-C	267			267			

WNP 2020 AM BP, 08-09

Data Errors and Warnings

Severity	Area	Item	Description

Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.

Junction Network

Junctions

Junction	Name	Junction Type	Major road direction	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way	5.75	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D_16	WNP 2020 AM BP	08-09	Q3	ONE HOUR	07:45	09:15	15

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

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		✓	139	100.000
B		✓	438	100.000
C		✓	377	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A	B	C
From	A	0	0	139
	B	182	0	256
	C	377	0	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A	B	C
From	A	0	0	0
	B	0	0	0
	C	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max delay (s)	Max Queue (PCU)	Max LOS
B-C	0.49	12.28	0.9	B
B-A	0.42	12.89	0.7	B
C-A				
C-B	0.00	0.00	0.0	A
A-B				
A-C				

Main Results for each time segment

07:45 - 08:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	193	616	0.313	191	0.4	8.434	A
B-A	137	520	0.263	136	0.4	9.330	A
C-A	284			284			
C-B	0	690	0.000	0	0.0	0.000	A
A-B	0			0			
A-C	105			105			

08:00 - 08:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	230	600	0.384	229	0.6	9.704	A
B-A	164	505	0.324	163	0.5	10.528	B
C-A	339			339			
C-B	0	684	0.000	0	0.0	0.000	A
A-B	0			0			
A-C	125			125			

08:15 - 08:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	282	575	0.490	281	0.9	12.165	B
B-A	200	480	0.418	199	0.7	12.796	B
C-A	415			415			
C-B	0	676	0.000	0	0.0	0.000	A
A-B	0			0			
A-C	153			153			

08:30 - 08:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	282	575	0.490	282	0.9	12.283	B
B-A	200	480	0.418	200	0.7	12.887	B
C-A	415			415			
C-B	0	676	0.000	0	0.0	0.000	A
A-B	0			0			
A-C	153			153			

08:45 - 09:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	230	599	0.384	231	0.6	9.819	A
B-A	164	504	0.324	164	0.5	10.618	B
C-A	339			339			
C-B	0	684	0.000	0	0.0	0.000	A
A-B	0			0			
A-C	125			125			

09:00 - 09:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	193	615	0.313	193	0.5	8.546	A
B-A	137	520	0.263	138	0.4	9.422	A
C-A	284			284			
C-B	0	690	0.000	0	0.0	0.000	A
A-B	0			0			
A-C	105			105			

WNP 2020 PM BP, 16-17

Data Errors and Warnings

Severity	Area	Item	Description

Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.

Junction Network

Junctions

Junction	Name	Junction Type	Major road direction	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way	12.02	B

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D_17	WNP 2020 PM BP	16-17	Q3	ONE HOUR	15:45	17:15	15

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

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		✓	327	100.000
B		✓	539	100.000
C		✓	251	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A	B	C
From	A	0	0	327
	B	152	0	387
	C	251	0	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A	B	C
From	A	0	0	0
	B	0	0	0
	C	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max delay (s)	Max Queue (PCU)	Max LOS
B-C	0.77	27.18	3.1	D
B-A	0.47	19.09	0.9	C
C-A				
C-B	0.00	0.00	0.0	A
A-B				
A-C				

Main Results for each time segment

15:45 - 16:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	291	616	0.473	288	0.9	10.858	B
B-A	114	463	0.247	113	0.3	10.248	B
C-A	189			189			
C-B	0	650	0.000	0	0.0	0.000	A
A-B	0			0			
A-C	246			246			

16:00 - 16:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	348	592	0.587	346	1.4	14.482	B
B-A	137	433	0.315	136	0.5	12.098	B
C-A	226			226			
C-B	0	637	0.000	0	0.0	0.000	A
A-B	0			0			
A-C	294			294			

16:15 - 16:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	426	557	0.765	420	2.9	25.161	D
B-A	167	361	0.464	166	0.8	18.295	C
C-A	276			276			
C-B	0	619	0.000	0	0.0	0.000	A
A-B	0			0			
A-C	360			360			

16:30 - 16:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	426	556	0.766	425	3.1	27.180	D
B-A	167	355	0.471	167	0.9	19.095	C
C-A	276			276			
C-B	0	619	0.000	0	0.0	0.000	A
A-B	0			0			
A-C	360			360			

16:45 - 17:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	348	592	0.588	354	1.5	15.533	C
B-A	137	430	0.318	138	0.5	12.403	B
C-A	226			226			
C-B	0	637	0.000	0	0.0	0.000	A
A-B	0			0			
A-C	294			294			

17:00 - 17:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	291	615	0.473	294	0.9	11.264	B
B-A	114	462	0.248	115	0.3	10.383	B
C-A	189			189			
C-B	0	650	0.000	0	0.0	0.000	A
A-B	0			0			
A-C	246			246			

WNP 2020 Weekend BP, 12-13

Data Errors and Warnings

Severity	Area	Item	Description

Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.

Junction Network

Junctions

Junction	Name	Junction Type	Major road direction	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way	7.56	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D_18	WNP 2020 Weekend BP	12-13	Q3	ONE HOUR	11:45	13:15	15

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

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		✓	355	100.000
B		✓	469	100.000
C		✓	257	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A	B	C
From	A	0	0	355
	B	178	0	291
	C	257	0	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A	B	C
From	A	0	0	0
	B	0	0	0
	C	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max delay (s)	Max Queue (PCU)	Max LOS
B-C	0.62	18.16	1.6	C
B-A	0.47	16.21	0.9	C
C-A				
C-B	0.00	0.00	0.0	A
A-B				
A-C				

Main Results for each time segment

11:45 - 12:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	219	582	0.376	217	0.6	9.792	A
B-A	134	484	0.277	132	0.4	10.200	B
C-A	193			193			
C-B	0	645	0.000	0	0.0	0.000	A
A-B	0			0			
A-C	267			267			

12:00 - 12:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	262	557	0.470	261	0.9	12.098	B
B-A	160	461	0.347	159	0.5	11.915	B
C-A	231			231			
C-B	0	630	0.000	0	0.0	0.000	A
A-B	0			0			
A-C	319			319			

12:15 - 12:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	320	519	0.618	318	1.5	17.671	C
B-A	196	419	0.468	195	0.9	15.954	C
C-A	283			283			
C-B	0	610	0.000	0	0.0	0.000	A
A-B	0			0			
A-C	391			391			

12:30 - 12:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	320	518	0.618	320	1.6	18.161	C
B-A	196	418	0.469	196	0.9	16.208	C
C-A	283			283			
C-B	0	610	0.000	0	0.0	0.000	A
A-B	0			0			
A-C	391			391			

12:45 - 13:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	262	556	0.470	264	0.9	12.440	B
B-A	160	460	0.348	161	0.5	12.091	B
C-A	231			231			
C-B	0	630	0.000	0	0.0	0.000	A
A-B	0			0			
A-C	319			319			

13:00 - 13:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	219	581	0.377	220	0.6	10.001	B
B-A	134	484	0.277	135	0.4	10.331	B
C-A	193			193			
C-B	0	645	0.000	0	0.0	0.000	A
A-B	0			0			
A-C	267			267			

WNP 2023 AM, 08-09

Data Errors and Warnings

Severity	Area	Item	Description

Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.

Junction Network

Junctions

Junction	Name	Junction Type	Major road direction	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way	6.03	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D_19	WNP 2023 AM	08-09	Q3	ONE HOUR	07:45	09:15	15

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

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		✓	142	100.000
B		✓	452	100.000
C		✓	386	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A	B	C
From	A	0	0	142
	B	188	0	264
	C	386	0	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A	B	C
From	A	0	0	0
	B	0	0	0
	C	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max delay (s)	Max Queue (PCU)	Max LOS
B-C	0.51	12.86	1.0	B
B-A	0.44	13.39	0.8	B
C-A				
C-B	0.00	0.00	0.0	A
A-B				
A-C				

Main Results for each time segment

07:45 - 08:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	199	614	0.324	197	0.5	8.598	A
B-A	142	518	0.273	140	0.4	9.479	A
C-A	291			291			
C-B	0	689	0.000	0	0.0	0.000	A
A-B	0			0			
A-C	107			107			

08:00 - 08:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	237	597	0.398	237	0.6	9.975	A
B-A	169	502	0.337	168	0.5	10.769	B
C-A	347			347			
C-B	0	683	0.000	0	0.0	0.000	A
A-B	0			0			
A-C	128			128			

08:15 - 08:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	291	571	0.509	289	1.0	12.718	B
B-A	207	476	0.435	206	0.8	13.287	B
C-A	425			425			
C-B	0	675	0.000	0	0.0	0.000	A
A-B	0			0			
A-C	156			156			

08:30 - 08:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	291	570	0.510	291	1.0	12.863	B
B-A	207	476	0.435	207	0.8	13.394	B
C-A	425			425			
C-B	0	675	0.000	0	0.0	0.000	A
A-B	0			0			
A-C	156			156			

08:45 - 09:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	237	596	0.398	239	0.7	10.110	B
B-A	169	502	0.337	170	0.5	10.872	B
C-A	347			347			
C-B	0	683	0.000	0	0.0	0.000	A
A-B	0			0			
A-C	128			128			

09:00 - 09:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	199	613	0.324	199	0.5	8.722	A
B-A	142	518	0.273	142	0.4	9.581	A
C-A	291			291			
C-B	0	689	0.000	0	0.0	0.000	A
A-B	0			0			
A-C	107			107			

WNP 2023 PM, 16-17

Data Errors and Warnings

Severity	Area	Item	Description

Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.

Junction Network

Junctions

Junction	Name	Junction Type	Major road direction	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way	13.39	B

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D_20	WNP 2023 PM	16-17	Q3	ONE HOUR	15:45	17:15	15

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

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		✓	334	100.000
B		✓	551	100.000
C		✓	257	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A	B	C
From	A	0	0	334
	B	155	0	396
	C	257	0	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A	B	C
From	A	0	0	0
	B	0	0	0
	C	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max delay (s)	Max Queue (PCU)	Max LOS
B-C	0.79	30.32	3.5	D
B-A	0.50	21.16	1.0	C
C-A				
C-B	0.00	0.00	0.0	A
A-B				
A-C				

Main Results for each time segment

15:45 - 16:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	298	614	0.486	294	0.9	11.152	B
B-A	117	460	0.254	115	0.3	10.401	B
C-A	193			193			
C-B	0	649	0.000	0	0.0	0.000	A
A-B	0			0			
A-C	251			251			

16:00 - 16:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	356	589	0.604	354	1.5	15.130	C
B-A	139	428	0.326	139	0.5	12.429	B
C-A	231			231			
C-B	0	635	0.000	0	0.0	0.000	A
A-B	0			0			
A-C	300			300			

16:15 - 16:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	436	553	0.789	429	3.3	27.530	D
B-A	171	348	0.491	169	0.9	19.937	C
C-A	283			283			
C-B	0	617	0.000	0	0.0	0.000	A
A-B	0			0			
A-C	368			368			

16:30 - 16:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	436	552	0.790	435	3.5	30.322	D
B-A	171	340	0.502	170	1.0	21.155	C
C-A	283			283			
C-B	0	617	0.000	0	0.0	0.000	A
A-B	0			0			
A-C	368			368			

16:45 - 17:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	356	589	0.605	364	1.6	16.486	C
B-A	139	424	0.329	141	0.5	12.825	B
C-A	231			231			
C-B	0	635	0.000	0	0.0	0.000	A
A-B	0			0			
A-C	300			300			

17:00 - 17:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	298	613	0.486	301	1.0	11.609	B
B-A	117	459	0.254	117	0.3	10.552	B
C-A	193			193			
C-B	0	649	0.000	0	0.0	0.000	A
A-B	0			0			
A-C	251			251			

WNP 2023 Weekend , 12-13

Data Errors and Warnings

Severity	Area	Item	Description

Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.

Junction Network

Junctions

Junction	Name	Junction Type	Major road direction	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way	8.00	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D_21	WNP 2023 Weekend	12-13	Q3	ONE HOUR	11:45	13:15	15

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

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		✓	362	100.000
B		✓	479	100.000
C		✓	262	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A	B	C
From	A	0	0	362
	B	182	0	297
	C	262	0	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A	B	C
From	A	0	0	0
	B	0	0	0
	C	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max delay (s)	Max Queue (PCU)	Max LOS
B-C	0.64	19.28	1.7	C
B-A	0.49	17.01	0.9	C
C-A				
C-B	0.00	0.00	0.0	A
A-B				
A-C				

Main Results for each time segment

11:45 - 12:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	224	579	0.386	221	0.6	9.981	A
B-A	137	482	0.284	135	0.4	10.346	B
C-A	197			197			
C-B	0	643	0.000	0	0.0	0.000	A
A-B	0			0			
A-C	273			273			

12:00 - 12:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	267	554	0.482	266	0.9	12.459	B
B-A	164	458	0.357	163	0.5	12.181	B
C-A	236			236			
C-B	0	629	0.000	0	0.0	0.000	A
A-B	0			0			
A-C	325			325			

12:15 - 12:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	327	514	0.637	324	1.7	18.673	C
B-A	200	413	0.485	199	0.9	16.694	C
C-A	288			288			
C-B	0	608	0.000	0	0.0	0.000	A
A-B	0			0			
A-C	399			399			

12:30 - 12:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	327	513	0.637	327	1.7	19.283	C
B-A	200	412	0.487	200	0.9	17.012	C
C-A	288			288			
C-B	0	608	0.000	0	0.0	0.000	A
A-B	0			0			
A-C	399			399			

12:45 - 13:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	267	553	0.483	270	1.0	12.858	B
B-A	164	457	0.358	165	0.6	12.384	B
C-A	236			236			
C-B	0	629	0.000	0	0.0	0.000	A
A-B	0			0			
A-C	325			325			

13:00 - 13:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	224	579	0.386	225	0.6	10.211	B
B-A	137	482	0.284	138	0.4	10.486	B
C-A	197			197			
C-B	0	643	0.000	0	0.0	0.000	A
A-B	0			0			
A-C	273			273			

WNP 2033 AM, 08-09

Data Errors and Warnings

Severity	Area	Item	Description

Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.

Junction Network

Junctions

Junction	Name	Junction Type	Major road direction	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way	7.17	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D_22	WNP 2033 AM	08-09	Q3	ONE HOUR	07:45	09:15	15

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

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		✓	152	100.000
B		✓	497	100.000
C		✓	413	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A	B	C
From	A	0	0	152
	B	206	0	291
	C	413	0	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A	B	C
From	A	0	0	0
	B	0	0	0
	C	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max delay (s)	Max Queue (PCU)	Max LOS
B-C	0.58	15.27	1.3	C
B-A	0.49	15.41	1.0	C
C-A				
C-B	0.00	0.00	0.0	A
A-B				
A-C				

Main Results for each time segment

07:45 - 08:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	219	607	0.361	217	0.6	9.176	A
B-A	155	512	0.303	153	0.4	9.989	A
C-A	311			311			
C-B	0	687	0.000	0	0.0	0.000	A
A-B	0			0			
A-C	114			114			

08:00 - 08:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	262	588	0.445	261	0.8	10.977	B
B-A	185	494	0.375	185	0.6	11.625	B
C-A	371			371			
C-B	0	681	0.000	0	0.0	0.000	A
A-B	0			0			
A-C	137			137			

08:15 - 08:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	320	557	0.576	318	1.3	14.978	B
B-A	227	461	0.492	225	0.9	15.197	C
C-A	455			455			
C-B	0	672	0.000	0	0.0	0.000	A
A-B	0			0			
A-C	167			167			

08:30 - 08:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	320	556	0.577	320	1.3	15.271	C
B-A	227	460	0.493	227	1.0	15.408	C
C-A	455			455			
C-B	0	672	0.000	0	0.0	0.000	A
A-B	0			0			
A-C	167			167			

08:45 - 09:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	262	587	0.446	264	0.8	11.208	B
B-A	185	493	0.375	187	0.6	11.792	B
C-A	371			371			
C-B	0	681	0.000	0	0.0	0.000	A
A-B	0			0			
A-C	137			137			

09:00 - 09:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	219	606	0.361	220	0.6	9.351	A
B-A	155	512	0.303	156	0.4	10.126	B
C-A	311			311			
C-B	0	687	0.000	0	0.0	0.000	A
A-B	0			0			
A-C	114			114			

WNP 2033 PM, 16-17

Data Errors and Warnings

Severity	Area	Item	Description

Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.

Junction Network

Junctions

Junction	Name	Junction Type	Major road direction	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way	21.21	C

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D_23	WNP 2033 PM	16-17	Q3	ONE HOUR	15:45	17:15	15

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

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		✓	355	100.000
B		✓	589	100.000
C		✓	274	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A	B	C
From	A	0	0	355
	B	166	0	423
	C	274	0	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A	B	C
From	A	0	0	0
	B	0	0	0
	C	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max delay (s)	Max Queue (PCU)	Max LOS
B-C	0.87	46.76	5.6	E
B-A	0.66	36.49	1.8	E
C-A				
C-B	0.00	0.00	0.0	A
A-B				
A-C				

Main Results for each time segment

15:45 - 16:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	318	606	0.526	314	1.1	12.177	B
B-A	125	451	0.277	123	0.4	10.940	B
C-A	206			206			
C-B	0	645	0.000	0	0.0	0.000	A
A-B	0			0			
A-C	267			267			

16:00 - 16:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	380	579	0.657	377	1.8	17.573	C
B-A	149	410	0.364	149	0.6	13.722	B
C-A	246			246			
C-B	0	630	0.000	0	0.0	0.000	A
A-B	0			0			
A-C	319			319			

16:15 - 16:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	466	537	0.867	453	5.0	38.119	E
B-A	183	297	0.614	179	1.5	29.572	D
C-A	302			302			
C-B	0	610	0.000	0	0.0	0.000	A
A-B	0			0			
A-C	391			391			

16:30 - 16:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	466	535	0.871	463	5.6	46.758	E
B-A	183	279	0.656	182	1.8	36.492	E
C-A	302			302			
C-B	0	610	0.000	0	0.0	0.000	A
A-B	0			0			
A-C	391			391			

16:45 - 17:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	380	577	0.659	395	2.0	21.104	C
B-A	149	400	0.373	154	0.6	14.871	B
C-A	246			246			
C-B	0	630	0.000	0	0.0	0.000	A
A-B	0			0			
A-C	319			319			

17:00 - 17:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	318	605	0.526	322	1.1	12.882	B
B-A	125	449	0.278	126	0.4	11.164	B
C-A	206			206			
C-B	0	645	0.000	0	0.0	0.000	A
A-B	0			0			
A-C	267			267			

WNP 2033 Weekend , 12-13

Data Errors and Warnings

Severity	Area	Item	Description

Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.

Junction Network

Junctions

Junction	Name	Junction Type	Major road direction	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way	10.04	B

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D_24	WNP 2033 Weekend	12-13	Q3	ONE HOUR	11:45	13:15	15

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

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		✓	386	100.000
B		✓	512	100.000
C		✓	279	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A	B	C
From	A	0	0	386
	B	194	0	318
	C	279	0	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A	B	C
From	A	0	0	0
	B	0	0	0
	C	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max delay (s)	Max Queue (PCU)	Max LOS
B-C	0.71	24.48	2.3	C
B-A	0.55	20.78	1.2	C
C-A				
C-B	0.00	0.00	0.0	A
A-B				
A-C				

Main Results for each time segment

11:45 - 12:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	239	571	0.419	237	0.7	10.670	B
B-A	146	474	0.308	144	0.4	10.863	B
C-A	210			210			
C-B	0	638	0.000	0	0.0	0.000	A
A-B	0			0			
A-C	291			291			

12:00 - 12:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	286	543	0.527	284	1.1	13.849	B
B-A	174	446	0.391	174	0.6	13.165	B
C-A	251			251			
C-B	0	623	0.000	0	0.0	0.000	A
A-B	0			0			
A-C	347			347			

12:15 - 12:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	350	497	0.704	346	2.2	23.098	C
B-A	214	389	0.549	211	1.2	20.010	C
C-A	307			307			
C-B	0	601	0.000	0	0.0	0.000	A
A-B	0			0			
A-C	425			425			

12:30 - 12:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	350	496	0.706	350	2.3	24.484	C
B-A	214	386	0.553	213	1.2	20.779	C
C-A	307			307			
C-B	0	601	0.000	0	0.0	0.000	A
A-B	0			0			
A-C	425			425			

12:45 - 13:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	286	542	0.528	290	1.2	14.583	B
B-A	174	445	0.392	177	0.7	13.531	B
C-A	251			251			
C-B	0	623	0.000	0	0.0	0.000	A
A-B	0			0			
A-C	347			347			

13:00 - 13:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	239	570	0.420	241	0.7	10.990	B
B-A	146	474	0.308	147	0.5	11.049	B
C-A	210			210			
C-B	0	638	0.000	0	0.0	0.000	A
A-B	0			0			
A-C	291			291			

	D1	0.14	2.92	0.2	A	169	253
	E1	0.22	3.04	0.3	A	278	417
South	A2	0.38	4.86	0.6	A	383	575
	B2	0.19	2.21	0.2	A	311	467
	C2	0.30	4.37	0.4	A	296	445
	D2	0.00	0.00	0.0	A	0	0
	E2						

Main Results for each time segment

11:45 - 12:00

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	507	127	195	2173	0.233	505	459	0.0	0.3	2.158	A
	B1			384				317				
	C1	450	112	70	1617	0.278	448	314	0.0	0.4	3.075	A
	D1	139	35	518	1594	0.087	138	0	0.0	0.1	2.473	A
	E1	228	57	427	1649	0.138	227	229	0.0	0.2	2.530	A
South	A2	314	78	0	1201	0.261	312	450	0.0	0.4	4.046	A
	B2	255	64	312	2111	0.121	255	0	0.0	0.1	1.939	A
	C2	243	61	361	1277	0.190	242	206	0.0	0.2	3.475	A
	D2	0	0	604	1158	0.000	0	0	0.0	0.0	0.000	A
	E2			450				154				

12:00 - 12:15

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	605	151	234	2145	0.282	605	550	0.3	0.4	2.337	A
	B1			459				379				
	C1	538	135	84	1609	0.334	538	376	0.4	0.5	3.358	A
	D1	165	41	621	1526	0.108	165	0	0.1	0.1	2.645	A
	E1	272	68	512	1594	0.171	272	275	0.2	0.2	2.723	A
South	A2	376	94	0	1201	0.313	375	538	0.4	0.5	4.359	A
	B2	305	76	375	2066	0.148	305	0	0.1	0.2	2.043	A
	C2	290	73	433	1235	0.235	290	247	0.2	0.3	3.808	A
	D2	0	0	723	1090	0.000	0	0	0.0	0.0	0.000	A
	E2			538				185				

12:15 - 12:30

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	741	185	286	2107	0.352	740	674	0.4	0.5	2.633	A
	B1			562				464				
	C1	659	165	102	1598	0.412	658	460	0.5	0.7	3.827	A
	D1	203	51	760	1434	0.141	202	0	0.1	0.2	2.922	A
	E1	334	83	626	1520	0.220	333	336	0.2	0.3	3.034	A
South	A2	460	115	0	1201	0.383	459	659	0.5	0.6	4.851	A
	B2	373	93	459	2005	0.186	373	0	0.2	0.2	2.205	A

	C2	356	89	530	1179	0.302	355	303	0.3	0.4	4.366	A
	D2	0	0	885	996	0.000	0	0	0.0	0.0	0.000	A
	E2			659				226				

12:30 - 12:45

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	741	185	286	2106	0.352	741	675	0.5	0.5	2.636	A
	B1			563				465				
	C1	660	165	102	1598	0.413	659	460	0.7	0.7	3.836	A
	D1	203	51	762	1433	0.141	203	0	0.2	0.2	2.924	A
	E1	334	83	628	1519	0.220	334	337	0.3	0.3	3.036	A
South	A2	460	115	0	1201	0.383	460	660	0.6	0.6	4.861	A
	B2	373	93	460	2004	0.186	373	0	0.2	0.2	2.206	A
	C2	356	89	530	1179	0.302	356	303	0.4	0.4	4.373	A
	D2	0	0	886	995	0.000	0	0	0.0	0.0	0.000	A
	E2			660				226				

12:45 - 13:00

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	605	151	234	2145	0.282	606	552	0.5	0.4	2.341	A
	B1			460				380				
	C1	539	135	84	1609	0.335	540	376	0.7	0.5	3.371	A
	D1	165	41	624	1524	0.109	166	0	0.2	0.1	2.649	A
	E1	272	68	513	1593	0.171	273	276	0.3	0.2	2.726	A
South	A2	376	94	0	1201	0.313	377	539	0.6	0.5	4.374	A
	B2	305	76	377	2065	0.148	305	0	0.2	0.2	2.047	A
	C2	290	73	434	1235	0.235	291	248	0.4	0.3	3.814	A
	D2	0	0	724	1089	0.000	0	0	0.0	0.0	0.000	A
	E2			539				185				

13:00 - 13:15

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	507	127	196	2172	0.233	507	462	0.4	0.3	2.163	A
	B1			385				318				
	C1	451	113	70	1617	0.279	452	315	0.5	0.4	3.092	A
	D1	139	35	522	1591	0.087	139	0	0.1	0.1	2.478	A
	E1	228	57	430	1647	0.138	228	231	0.2	0.2	2.536	A
South	A2	315	79	0	1201	0.262	315	451	0.5	0.4	4.067	A
	B2	255	64	315	2109	0.121	255	0	0.2	0.1	1.941	A
	C2	243	61	363	1276	0.191	243	208	0.3	0.2	3.489	A
	D2	0	0	606	1157	0.000	0	0	0.0	0.0	0.000	A
	E2			451				155				

A55 Junction 9

Junctions 9 – ARCADY

- Baseline 2016
- Reference Case 2020, 2023 and 2033
- With Development Without By-Pass 2020
- With Development With By-Pass 2020
- With Development 2023 and 2033

Junctions 9

ARCADY 9 - Roundabout Module

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»Base 2016 AM, 08-09
»Base 2016 PM, 17-18
»Base 2016 WEEKEND, 13-14
»REF 2020 AM, 08-09
»REF 2020 PM, 17-18
»REF 2020 WEEKEND, 13-14
»REF 2023 AM, 08-09
»REF 2023 PM, 17-18
»REF 2023 WEEKEND, 13-14
»REF 2033 AM, 08-09
»REF 2033 PM, 17-18
»REF 2033 WEEKEND, 13-14
»WNP 2020 AM WBP, 08-09
»WNP 2020 PM WBP, 17-18
»WNP 2020 WEEKEND WBP, 13-14
»WNP 2020 AM BP, 08-09
»WNP 2020 PM BP, 17-18
»WNP 2020 WEEKEND BP, 13-14
»WNP 2023 AM, 08-09
»WNP 2023 PM, 17-18
»WNP 2023 WEEKEND, 13-14
»WNP 2033 AM, 08-09
»WNP 2033 PM, 16-17
»WNP 2033 WEEKEND, 13-14

Summary of junction performance

	08-09				17-18				13-14				16-17			
	Queue (PCU)	Delay (s)	RFC	LOS	Queue (PCU)	Delay (s)	RFC	LOS	Queue (PCU)	Delay (s)	RFC	LOS	Queue (PCU)	Delay (s)	RFC	LOS
	Base 2016 AM															
Junction North - Arm A1	0.5	3.34	0.31	A												
Junction North - Arm	1.5	10.32	0.60	B												

B1																
Junction North - Arm C1	0.7	2.48	0.40	A												
Junction North - Arm D1	1.9	4.27	0.65	A												
Junction South - Arm A2	1.7	4.00	0.63	A												
Junction South - Arm B2	2.0	7.55	0.67	A												
Junction South - Arm C2	0.2	3.66	0.19	A												
Junction South - Arm D2	0.9	4.06	0.48	A												
	Base 2016 PM															
Junction North - Arm A1					0.4	2.67	0.31	A								
Junction North - Arm B1					3.4	16.15	0.78	C								
Junction North - Arm C1					1.6	4.18	0.62	A								
Junction North - Arm D1					0.7	2.72	0.41	A								
Junction South - Arm A2					1.2	3.13	0.54	A								
Junction South - Arm B2					2.2	6.66	0.69	A								
Junction South - Arm C2					5.8	25.77	0.87	D								
Junction South - Arm D2					0.5	4.34	0.35	A								
	Base 2016 WEEKEND															
Junction North - Arm A1									0.4	2.18	0.27	A				
Junction North - Arm B1									0.4	4.54	0.30	A				
Junction North - Arm C1									0.9	2.87	0.48	A				
Junction North - Arm D1									0.3	2.11	0.25	A				
Junction South - Arm A2									0.5	2.14	0.33	A				
Junction South - Arm B2									0.9	3.71	0.48	A				
Junction South - Arm C2									0.1	3.28	0.10	A				
Junction South - Arm D2									1.1	4.41	0.52	A				
	REF 2020 AM															
Junction North - Arm A1	0.5	3.64	0.34	A												
Junction North - Arm B1	2.0	13.00	0.67	B												
Junction North - Arm C1	0.8	2.61	0.43	A												
Junction North - Arm D1	2.3	4.98	0.70	A												
Junction South - Arm A2	2.0	4.51	0.67	A												
Junction South - Arm B2	2.6	9.22	0.72	A												

Junction South - Arm C2	0.3	3.83	0.21	A												
Junction South - Arm D2	1.0	4.38	0.51	A												
	REF 2020 PM															
Junction North - Arm A1					0.5	2.86	0.33	A								
Junction North - Arm B1					6.1	28.08	0.87	D								
Junction North - Arm C1					2.0	4.79	0.67	A								
Junction North - Arm D1					0.8	2.95	0.44	A								
Junction South - Arm A2					1.4	3.44	0.58	A								
Junction South - Arm B2					2.8	8.15	0.74	A								
Junction South - Arm C2					13.5	56.30	0.96	F								
Junction South - Arm D2					0.6	4.73	0.39	A								
	REF 2020 WEEKEND															
Junction North - Arm A1									0.4	2.23	0.29	A				
Junction North - Arm B1									0.5	4.76	0.32	A				
Junction North - Arm C1									1.0	3.03	0.50	A				
Junction North - Arm D1									0.4	2.17	0.26	A				
Junction South - Arm A2									0.5	2.20	0.34	A				
Junction South - Arm B2									1.0	3.87	0.50	A				
Junction South - Arm C2									0.1	3.36	0.10	A				
Junction South - Arm D2									1.2	4.75	0.56	A				
	REF 2023 AM															
Junction North - Arm A1	0.6	3.79	0.36	A												
Junction North - Arm B1	2.3	14.81	0.70	B												
Junction North - Arm C1	0.8	2.67	0.44	A												
Junction North - Arm D1	2.5	5.39	0.72	A												
Junction South - Arm A2	2.2	4.80	0.69	A												
Junction South - Arm B2	2.9	10.31	0.75	B												
Junction South - Arm C2	0.3	3.92	0.22	A												
Junction South - Arm D2	1.1	4.54	0.53	A												
	REF 2023 PM															
Junction North - Arm A1					0.5	2.94	0.34	A								
Junction North - Arm B1					8.2	37.05	0.91	E								

Junction North - Arm C1					2.1	5.03	0.68	A								
Junction North - Arm D1					0.8	3.04	0.46	A								
Junction South - Arm A2					1.5	3.57	0.59	A								
Junction South - Arm B2					3.1	8.81	0.76	A								
Junction South - Arm C2					20.3	79.04	1.00	F								
Junction South - Arm D2					0.7	4.87	0.40	A								
	REF 2023 WEEKEND															
Junction North - Arm A1									0.4	2.27	0.29	A				
Junction North - Arm B1									0.5	4.89	0.33	A				
Junction North - Arm C1									1.1	3.13	0.51	A				
Junction North - Arm D1									0.4	2.21	0.27	A				
Junction South - Arm A2									0.5	2.23	0.35	A				
Junction South - Arm B2									1.0	3.98	0.51	A				
Junction South - Arm C2									0.1	3.42	0.11	A				
Junction South - Arm D2									1.3	4.94	0.57	A				
	REF 2033 AM															
Junction North - Arm A1	0.7	4.49	0.42	A												
Junction North - Arm B1	4.7	28.88	0.84	D												
Junction North - Arm C1	0.9	2.85	0.47	A												
Junction North - Arm D1	3.8	7.43	0.79	A												
Junction South - Arm A2	3.1	6.29	0.76	A												
Junction South - Arm B2	5.6	18.09	0.86	C												
Junction South - Arm C2	0.3	4.36	0.25	A												
Junction South - Arm D2	1.3	5.06	0.57	A												
	REF 2033 PM															
Junction North - Arm A1					0.7	3.40	0.40	A								
Junction North - Arm B1					47.4	171.39	1.09	F								
Junction North - Arm C1					2.4	5.45	0.71	A								
Junction North - Arm D1					1.2	3.67	0.55	A								
Junction South - Arm A2					2.0	4.32	0.67	A								
Junction South - Arm B2					5.6	14.48	0.86	B								
Junction South - Arm					77.3	259.5	1.17	F								

C2						8										
Junction South - Arm D2					0.8	5.20	0.43	A								
	REF 2033 WEEKEND															
Junction North - Arm A1									0.5	2.38	0.32	A				
Junction North - Arm B1									0.6	5.36	0.36	A				
Junction North - Arm C1									1.2	3.46	0.56	A				
Junction North - Arm D1									0.4	2.36	0.30	A				
Junction South - Arm A2									0.6	2.34	0.38	A				
Junction South - Arm B2									1.2	4.35	0.55	A				
Junction South - Arm C2									0.1	3.59	0.12	A				
Junction South - Arm D2									1.6	5.68	0.62	A				
	WNP 2020 AM WBP															
Junction North - Arm A1	0.5	3.65	0.34	A												
Junction North - Arm B1	2.0	13.11	0.67	B												
Junction North - Arm C1	0.7	2.61	0.43	A												
Junction North - Arm D1	2.3	5.01	0.70	A												
Junction South - Arm A2	2.0	4.54	0.67	A												
Junction South - Arm B2	2.6	9.31	0.73	A												
Junction South - Arm C2	0.3	3.84	0.21	A												
Junction South - Arm D2	1.0	4.37	0.51	A												
	WNP 2020 PM WBP															
Junction North - Arm A1					0.5	2.95	0.34	A								
Junction North - Arm B1					7.5	34.43	0.90	D								
Junction North - Arm C1					2.0	4.87	0.67	A								
Junction North - Arm D1					0.9	3.10	0.47	A								
Junction South - Arm A2					1.5	3.61	0.60	A								
Junction South - Arm B2					3.2	9.08	0.77	A								
Junction South - Arm C2					17.8	71.79	0.99	F								
Junction South - Arm D2					0.6	4.77	0.39	A								
	WNP 2020 WEEKEND WBP															
Junction North - Arm A1									0.4	2.23	0.29	A				
Junction North - Arm B1									0.5	4.76	0.32	A				
Junction North - Arm									1.0	3.03	0.50	A				

C1																
Junction North - Arm D1									0.4	2.17	0.26	A				
Junction South - Arm A2									0.5	2.20	0.34	A				
Junction South - Arm B2									1.0	3.87	0.50	A				
Junction South - Arm C2									0.1	3.37	0.10	A				
Junction South - Arm D2									1.2	4.75	0.56	A				
	WNP 2020 AM BP															
Junction North - Arm A1	0.5	3.65	0.34	A												
Junction North - Arm B1	2.0	13.11	0.67	B												
Junction North - Arm C1	0.7	2.61	0.43	A												
Junction North - Arm D1	2.3	5.01	0.70	A												
Junction South - Arm A2	2.0	4.54	0.67	A												
Junction South - Arm B2	2.6	9.31	0.73	A												
Junction South - Arm C2	0.3	3.84	0.21	A												
Junction South - Arm D2	1.0	4.37	0.51	A												
	WNP 2020 PM BP															
Junction North - Arm A1					0.5	2.95	0.34	A								
Junction North - Arm B1					7.5	34.43	0.90	D								
Junction North - Arm C1					2.0	4.87	0.67	A								
Junction North - Arm D1					0.9	3.10	0.47	A								
Junction South - Arm A2					1.5	3.61	0.60	A								
Junction South - Arm B2					3.2	9.08	0.77	A								
Junction South - Arm C2					17.8	71.79	0.99	F								
Junction South - Arm D2					0.6	4.77	0.39	A								
	WNP 2020 WEEKEND BP															
Junction North - Arm A1									0.4	2.23	0.29	A				
Junction North - Arm B1									0.5	4.76	0.32	A				
Junction North - Arm C1									1.0	3.03	0.50	A				
Junction North - Arm D1									0.4	2.17	0.26	A				
Junction South - Arm A2									0.5	2.20	0.34	A				
Junction South - Arm B2									1.0	3.87	0.50	A				
Junction South - Arm C2									0.1	3.37	0.10	A				

Junction South - Arm D2									1.2	4.75	0.56	A				
	WNP 2023 AM															
Junction North - Arm A1	0.6	3.82	0.36	A												
Junction North - Arm B1	2.3	15.06	0.71	C												
Junction North - Arm C1	0.8	2.67	0.44	A												
Junction North - Arm D1	2.6	5.46	0.72	A												
Junction South - Arm A2	2.2	4.85	0.69	A												
Junction South - Arm B2	3.0	10.53	0.76	B												
Junction South - Arm C2	0.3	3.94	0.22	A												
Junction South - Arm D2	1.1	4.54	0.53	A												
	WNP 2023 PM															
Junction North - Arm A1					0.5	3.04	0.35	A								
Junction North - Arm B1					10.7	48.56	0.94	E								
Junction North - Arm C1					2.2	5.13	0.69	A								
Junction North - Arm D1					1.0	3.24	0.49	A								
Junction South - Arm A2					1.6	3.76	0.62	A								
Junction South - Arm B2					3.7	10.03	0.79	B								
Junction South - Arm C2					27.5	102.32	1.03	F								
Junction South - Arm D2					0.7	4.92	0.40	A								
	WNP 2023 WEEKEND															
Junction North - Arm A1									0.4	2.27	0.29	A				
Junction North - Arm B1									0.5	4.90	0.33	A				
Junction North - Arm C1									1.1	3.12	0.51	A				
Junction North - Arm D1									0.4	2.22	0.27	A				
Junction South - Arm A2									0.5	2.23	0.35	A				
Junction South - Arm B2									1.0	3.99	0.51	A				
Junction South - Arm C2									0.1	3.43	0.11	A				
Junction South - Arm D2									1.3	4.94	0.57	A				
	WNP 2033 AM															
Junction North - Arm A1	0.7	4.51	0.42	A												
Junction North - Arm B1	4.7	29.40	0.84	D												
Junction North - Arm C1	0.9	2.85	0.47	A												

Junction North - Arm D1	3.8	7.49	0.80	A												
Junction South - Arm A2	3.1	6.34	0.76	A												
Junction South - Arm B2	5.7	18.43	0.86	C												
Junction South - Arm C2	0.3	4.37	0.25	A												
Junction South - Arm D2	1.3	5.06	0.57	A												
	WNP 2033 PM															
Junction North - Arm A1													0.6	3.25	0.38	A
Junction North - Arm B1													114.7	359.89	1.25	F
Junction North - Arm C1													1.5	4.13	0.61	A
Junction North - Arm D1													1.0	3.12	0.50	A
Junction South - Arm A2													1.8	4.05	0.64	A
Junction South - Arm B2													3.8	10.68	0.80	B
Junction South - Arm C2													21.1	87.28	1.01	F
Junction South - Arm D2													0.5	4.23	0.36	A
	WNP 2033 WEEKEND															
Junction North - Arm A1									0.5	2.38	0.32	A				
Junction North - Arm B1									0.6	5.39	0.37	A				
Junction North - Arm C1									1.2	3.47	0.56	A				
Junction North - Arm D1									0.4	2.37	0.30	A				
Junction South - Arm A2									0.6	2.35	0.38	A				
Junction South - Arm B2									1.2	4.37	0.55	A				
Junction South - Arm C2									0.1	3.60	0.12	A				
Junction South - Arm D2									1.6	5.69	0.62	A				

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

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

File summary

File Description

Title	A55 Junction 9 Assessment
Location	A55 Junction 9
Site number	M48 & M49
Date	02/11/2016
Version	Rev0k
Status	Original

Identifier	MLP
Client	Horizon
Jobnumber	60PO8048
Enumerator	JEGINTL\LopezM3
Description	Baseline & reference case & WNP scenarios of A55 Junction 9 WBP= without by-pass BP=with by-pass

Units

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

Analysis Options

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

Demand Set Summary

ID	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D_01	Base 2016 AM	08-09	Q3 70/30	ONE HOUR	07:45	09:15	15	✓
D_02	Base 2016 PM	17-18	Q3 70/30	ONE HOUR	16:45	18:15	15	✓
D_03	Base 2016 WEEKEND	13-14	Q3 70/30	ONE HOUR	12:45	14:15	15	✓
D_04	REF 2020 AM	08-09	Q3 70/30	ONE HOUR	07:45	09:15	15	✓
D_05	REF 2020 PM	17-18	Q3 70/30	ONE HOUR	16:45	18:15	15	✓
D_06	REF 2020 WEEKEND	13-14	Q3 70/30	ONE HOUR	12:45	14:15	15	✓
D_07	REF 2023 AM	08-09	Q3 70/30	ONE HOUR	07:45	09:15	15	✓
D_08	REF 2023 PM	17-18	Q3 70/30	ONE HOUR	16:45	18:15	15	✓
D_09	REF 2023 WEEKEND	13-14	Q3 70/30	ONE HOUR	12:45	14:15	15	✓
D_10	REF 2033 AM	08-09	Q3 70/30	ONE HOUR	07:45	09:15	15	✓
D_11	REF 2033 PM	17-18	Q3 70/30	ONE HOUR	16:45	18:15	15	✓
D_12	REF 2033 WEEKEND	13-14	Q3 70/30	ONE HOUR	12:45	14:15	15	✓
D_13	WNP 2020 AM WBP	08-09	Q3 70/30	ONE HOUR	07:45	09:15	15	✓
D_14	WNP 2020 PM WBP	17-18	Q3 70/30	ONE HOUR	16:45	18:15	15	✓
D_15	WNP 2020 WEEKEND WBP	13-14	Q3 70/30	ONE HOUR	12:45	14:15	15	✓
D_16	WNP 2020 AM BP	08-09	Q3 70/30	ONE HOUR	07:45	09:15	15	✓
D_17	WNP 2020 PM BP	17-18	Q3 70/30	ONE HOUR	16:45	18:15	15	✓
D_18	WNP 2020 WEEKEND BP	13-14	Q3 70/30	ONE HOUR	12:45	14:15	15	✓
D_19	WNP 2023 AM	08-09	Q3 70/30	ONE HOUR	07:45	09:15	15	✓

D_20	WNP 2023 PM	17-18	Q3 70/30	ONE HOUR	16:45	18:15	15	✓
D_21	WNP 2023 WEEKEND	13-14	Q3 70/30	ONE HOUR	12:45	14:15	15	✓
D_22	WNP 2033 AM	08-09	Q3 70/30	ONE HOUR	07:45	09:15	15	✓
D_23	WNP 2033 PM	16-17	Q3 70/30	ONE HOUR	15:45	17:15	15	✓
D_24	WNP 2033 WEEKEND	13-14	Q3 70/30	ONE HOUR	12:45	14:15	15	✓

Analysis Set Details

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

Base 2016 AM, 08-09

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	Junction North - Arm A1 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	Junction North - Arm B1 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	Junction North - Arm D1 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Linked Roundabout	Junction North - Arm C1	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 South - Arm A2	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 South - Arm B2	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	Vehicle Mix	Junction North	HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.
Warning	Vehicle Mix	Junction South	HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.

Junction Network

Junctions

Junction	Name	Junction Type	Arm order	Junction Delay (s)	Junction LOS
North	M-49	Standard Roundabout	A1,B1,C1,D1	4.55	A
South	M-48	Standard Roundabout	A2,B2,C2,D2	4.96	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Arms

Arms

Junction	Arm	Name	Description
North	A1	A487 Treborth Road Southbound	
	B1	Penrhos Road Entry Only	
	C1	A487 Northbound	
	D1	A55 offslip	
South	A2	A487 Southbound	
	B2	A487 Northbound	
	C2	Ffordd Y Parc	
	D2	A55 offslip	

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
North	A1	3.60	10.00	72.0	29.3	65.1	27.0	
	B1	3.80	5.20	45.2	53.6	65.1	16.0	
	C1	7.70	9.20	5.5	26.8	65.1	14.0	
	D1	7.10	9.70	54.8	134.8	65.1	22.0	
South	A2	7.30	9.30	16.1	16.1	65.2	19.0	
	B2	4.40	8.00	26.0	24.4	65.2	46.0	
	C2	4.20	9.90	6.3	36.9	65.2	28.0	
	D2	4.90	8.80	8.4	33.1	65.2	23.0	

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Junction	Arm	Final slope	Final intercept (PCU/hr)
North	A1	0.695	2668
	B1	0.542	1659
	C1	0.719	2751
	D1	0.766	3032
South	A2	0.702	2715
	B2	0.565	1992
	C2	0.547	1766
	D2	0.596	2046

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

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D_01	Base 2016 AM	08-09	Q3 70/30	ONE HOUR	07:45	09:15	15	✓

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

Linked Arm Data

Junction	Arm	Feeding Junction	Feeding Arm	Link Type	Flow source	Uniform flow (PCU/hr)	Flow multiplier (%)	Internal storage space (PCU)
North	C1	South	A2	Simple (vertical	Normal	0	100.00	

				queueing)				
South	**A2**	North	C1	Simple (vertical queueing)	Normal	0	100.00	
	B2	South	B2	Simple (vertical queueing)	Normal	0	100.00	

Demand overview (Traffic)

Junction	Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
North	**A1**		ONE HOUR	✓	442	100.000
	B1		ONE HOUR	✓	484	100.000
	C1	✓				
	D1		ONE HOUR	✓	1434	100.000
South	**A2**	✓				
	B2	✓				
	C2		ONE HOUR	✓	216	100.000
	D2		ONE HOUR	✓	739	100.000

Origin-Destination Data

Demand (PCU/hr)

Junction North

		To			
		A1	**B1**	**C1**	**D1**
From	**A1**	0	27	273	142
	B1	95	0	228	161
	C1	496	286	1	329
	D1	223	324	887	0

Demand (PCU/hr)

Junction South

		To			
		A2	**B2**	**C2**	**D2**
From	**A2**	3	791	422	174
	B2	566	0	243	605
	C2	124	48	0	44
	D2	416	40	283	0

Vehicle Mix

Heavy Vehicle Percentages

Junction North

		To			
		A1	**B1**	**C1**	**D1**
From	**A1**	0	0	0	0
	B1	0	0	0	0
	C1	0	0	0	0
	D1	0	0	0	0

Heavy Vehicle Percentages

Junction South

		To			
		A2	B2	C2	D2
From	A2	0	0	0	0
	B2	0	0	0	0
	C2	0	0	0	0
	D2	0	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)
North	A1	0.31	3.34	0.5	A	406	608
	B1	0.60	10.32	1.5	B	444	666
	C1	0.40	2.48	0.7	A	820	1230
	D1	0.65	4.27	1.9	A	1316	1974
South	A2	0.63	4.00	1.7	A	1274	1911
	B2	0.67	7.55	2.0	A	805	1208
	C2	0.19	3.66	0.2	A	198	297
	D2	0.48	4.06	0.9	A	678	1017

Main Results for each time segment

07:45 - 08:00

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	333	83	1082	1916	0.174	332	537	0.0	0.2	2.271	A
	B1	364	91	978	1129	0.323	362	435	0.0	0.5	4.687	A
	C1	670	167	298	2536	0.264	668	1042	0.0	0.4	1.926	A
	D1	1080	270	542	2617	0.413	1077	425	0.0	0.7	2.333	A
South	A2	1042	261	278	2520	0.414	1040	670	0.0	0.7	2.428	A
	B2	658	164	660	1618	0.406	655	658	0.0	0.7	3.725	A
	C2	163	41	675	1397	0.116	162	641	0.0	0.1	2.912	A
	D2	556	139	393	1811	0.307	555	443	0.0	0.4	2.862	A

08:00 - 08:15

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	397	99	1295	1768	0.225	397	643	0.2	0.3	2.625	A
	B1	435	109	1170	1025	0.425	434	522	0.5	0.7	6.086	A
	C1	803	201	357	2494	0.322	802	1247	0.4	0.5	2.128	A
	D1	1289	322	650	2534	0.509	1288	509	0.7	1.0	2.886	A
South	A2	1247	312	333	2481	0.503	1246	803	0.7	1.0	2.911	A
	B2	788	197	791	1545	0.510	787	788	0.7	1.0	4.741	A

	C2	194	49	810	1323	0.147	194	768	0.1	0.2	3.187	A
	D2	664	166	472	1764	0.377	664	532	0.4	0.6	3.270	A

08:15 - 08:30

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	487	122	1584	1567	0.311	486	786	0.3	0.4	3.327	A
	B1	533	133	1432	883	0.604	530	638	0.7	1.5	10.117	B
	C1	981	245	436	2437	0.403	980	1525	0.5	0.7	2.470	A
	D1	1579	395	794	2424	0.651	1576	622	1.0	1.8	4.228	A
South	A2	1525	381	408	2429	0.628	1523	981	1.0	1.7	3.960	A
	B2	963	241	967	1445	0.667	960	963	1.0	2.0	7.360	A
	C2	238	59	989	1226	0.194	238	938	0.2	0.2	3.643	A
	D2	814	203	577	1702	0.478	812	650	0.6	0.9	4.042	A

08:30 - 08:45

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	487	122	1587	1565	0.311	487	789	0.4	0.5	3.338	A
	B1	533	133	1434	881	0.605	533	640	1.5	1.5	10.321	B
	C1	985	246	438	2436	0.404	985	1529	0.7	0.7	2.480	A
	D1	1579	395	798	2421	0.652	1579	625	1.8	1.9	4.275	A
South	A2	1529	382	408	2428	0.630	1529	985	1.7	1.7	4.002	A
	B2	967	242	970	1443	0.670	967	967	2.0	2.0	7.549	A
	C2	238	59	995	1222	0.195	238	942	0.2	0.2	3.657	A
	D2	814	203	580	1700	0.479	814	653	0.9	0.9	4.061	A

08:45 - 09:00

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	397	99	1300	1764	0.225	398	648	0.5	0.3	2.635	A
	B1	435	109	1174	1023	0.425	438	524	1.5	0.7	6.189	A
	C1	808	202	360	2492	0.324	809	1252	0.7	0.5	2.139	A
	D1	1289	322	656	2530	0.510	1292	513	1.9	1.0	2.918	A
South	A2	1252	313	334	2481	0.505	1255	808	1.7	1.0	2.945	A
	B2	793	198	796	1542	0.515	797	793	2.0	1.1	4.858	A
	C2	194	49	820	1318	0.147	194	773	0.2	0.2	3.204	A
	D2	664	166	477	1761	0.377	666	538	0.9	0.6	3.290	A

09:00 - 09:15

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	333	83	1087	1912	0.174	333	541	0.3	0.2	2.281	A
	B1	364	91	982	1127	0.323	365	438	0.7	0.5	4.737	A
	C1	675	169	300	2535	0.266	676	1047	0.5	0.4	1.936	A
	D1	1080	270	547	2613	0.413	1081	428	1.0	0.7	2.353	A
South	A2	1047	262	280	2519	0.416	1048	675	1.0	0.7	2.451	A
	B2	663	166	665	1616	0.410	664	663	1.1	0.7	3.792	A
	C2	163	41	684	1392	0.117	163	646	0.2	0.1	2.929	A
	D2	556	139	398	1808	0.308	557	449	0.6	0.4	2.880	A

Base 2016 PM, 17-18

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	Junction North - Arm A1 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	Junction North - Arm B1 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	Junction North - Arm D1 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Linked Roundabout	Junction North - Arm C1	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 South - Arm A2	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 South - Arm B2	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	Vehicle Mix	Junction North	HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.
Warning	Vehicle Mix	Junction South	HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.

Junction Network

Junctions

Junction	Name	Junction Type	Arm order	Junction Delay (s)	Junction LOS
North	M-49	Standard Roundabout	A1,B1,C1,D1	6.10	A
South	M-48	Standard Roundabout	A2,B2,C2,D2	9.43	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D_02	Base 2016 PM	17-18	Q3 70/30	ONE HOUR	16:45	18:15	15	✓

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

Linked Arm Data

Junction	Arm	Feeding Junction	Feeding Arm	Link Type	Flow source	Uniform flow (PCU/hr)	Flow multiplier (%)	Internal storage space (PCU)
North	**C1**	South	A2	Simple (vertical	Normal	0	100.00	

				queueing)				
South	**A2**	North	C1	Simple (vertical queueing)	Normal	0	100.00	
	B2	South	B2	Simple (vertical queueing)	Normal	0	100.00	

Demand overview (Traffic)

Junction	Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
North	**A1**		ONE HOUR	✓	538	100.000
	B1		ONE HOUR	✓	709	100.000
	C1	✓				
	D1		ONE HOUR	✓	825	100.000
South	**A2**	✓				
	B2	✓				
	C2		ONE HOUR	✓	782	100.000
	D2		ONE HOUR	✓	408	100.000

Origin-Destination Data

Junction North

Demand (PCU/hr)

		To			
		A1	**B1**	**C1**	**D1**
From	**A1**	0	27	367	144
	B1	192	0	269	248
	C1	506	198	1	505
	D1	84	152	589	0

Junction South

Demand (PCU/hr)

		To			
		A2	**B2**	**C2**	**D2**
From	**A2**	7	849	105	239
	B2	513	0	43	444
	C2	445	164	0	173
	D2	293	47	68	0

Vehicle Mix

Junction North

Heavy Vehicle Percentages

		To			
		A1	**B1**	**C1**	**D1**
From	**A1**	0	0	0	0
	B1	0	0	0	0
	C1	0	0	0	0
	D1	0	0	0	0

Heavy Vehicle Percentages

Junction South

		To			
		A2	B2	C2	D2
From	A2	0	0	0	0
	B2	0	0	0	0
	C2	0	0	0	0
	D2	0	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)
North	A1	0.31	2.67	0.4	A	494	741
	B1	0.78	16.15	3.4	C	651	976
	C1	0.62	4.18	1.6	A	1190	1785
	D1	0.41	2.72	0.7	A	757	1136
South	A2	0.54	3.13	1.2	A	1125	1687
	B2	0.69	6.66	2.2	A	989	1483
	C2	0.87	25.77	5.8	D	718	1076
	D2	0.35	4.34	0.5	A	374	562

Main Results for each time segment

16:45 - 17:00

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	405	101	716	2170	0.187	404	612	0.0	0.2	2.037	A
	B1	534	133	827	1211	0.441	531	293	0.0	0.8	5.270	A
	C1	971	243	437	2436	0.399	968	920	0.0	0.7	2.448	A
	D1	621	155	708	2490	0.249	620	698	0.0	0.3	1.924	A
South	A2	920	230	209	2568	0.358	918	971	0.0	0.6	2.178	A
	B2	808	202	320	1811	0.446	804	808	0.0	0.8	3.564	A
	C2	589	147	958	1242	0.474	585	166	0.0	0.9	5.448	A
	D2	307	77	874	1525	0.201	306	669	0.0	0.3	2.951	A

17:00 - 17:15

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	484	121	857	2072	0.233	483	734	0.2	0.3	2.265	A
	B1	637	159	989	1123	0.568	635	351	0.8	1.3	7.355	A
	C1	1163	291	524	2374	0.490	1162	1101	0.7	1.0	2.968	A
	D1	742	185	849	2382	0.311	741	837	0.3	0.5	2.194	A
South	A2	1101	275	250	2540	0.434	1100	1163	0.6	0.8	2.499	A
	B2	967	242	383	1775	0.545	966	967	0.8	1.2	4.440	A

	C2	703	176	1150	1137	0.618	700	199	0.9	1.6	8.182	A
	D2	367	92	1047	1421	0.258	366	803	0.3	0.3	3.413	A

17:15 - 17:30

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	592	148	1047	1940	0.305	592	892	0.3	0.4	2.668	A
	B1	781	195	1211	1002	0.779	773	428	1.3	3.3	15.174	C
	C1	1415	354	638	2292	0.617	1412	1346	1.0	1.6	4.082	A
	D1	908	227	1032	2242	0.405	907	1018	0.5	0.7	2.697	A
South	A2	1346	336	304	2502	0.538	1344	1415	0.8	1.2	3.106	A
	B2	1180	295	468	1727	0.683	1177	1180	1.2	2.1	6.494	A
	C2	861	215	1402	1000	0.861	846	243	1.6	5.3	21.655	C
	D2	449	112	1270	1288	0.349	448	977	0.3	0.5	4.285	A

17:30 - 17:45

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	592	148	1051	1938	0.306	592	901	0.4	0.4	2.675	A
	B1	781	195	1212	1002	0.779	780	431	3.3	3.4	16.150	C
	C1	1428	357	643	2289	0.624	1428	1350	1.6	1.6	4.180	A
	D1	908	227	1043	2233	0.407	908	1027	0.7	0.7	2.716	A
South	A2	1350	337	307	2500	0.540	1350	1428	1.2	1.2	3.129	A
	B2	1187	297	470	1726	0.688	1187	1187	2.1	2.2	6.665	A
	C2	861	215	1412	994	0.866	859	244	5.3	5.8	25.774	D
	D2	449	112	1285	1279	0.351	449	986	0.5	0.5	4.338	A

17:45 - 18:00

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	484	121	862	2069	0.234	484	746	0.4	0.3	2.272	A
	B1	637	159	991	1122	0.568	646	355	3.4	1.3	7.687	A
	C1	1183	296	530	2369	0.499	1186	1106	1.6	1.0	3.049	A
	D1	742	185	866	2369	0.313	743	850	0.7	0.5	2.214	A
South	A2	1106	277	254	2536	0.436	1108	1183	1.2	0.8	2.522	A
	B2	977	244	385	1774	0.551	981	977	2.2	1.2	4.560	A
	C2	703	176	1166	1129	0.623	720	200	5.8	1.7	9.136	A
	D2	367	92	1070	1407	0.261	368	815	0.5	0.4	3.463	A

18:00 - 18:15

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	405	101	720	2168	0.187	405	619	0.3	0.2	2.044	A
	B1	534	133	830	1209	0.441	536	296	1.3	0.8	5.365	A
	C1	982	245	441	2434	0.403	983	924	1.0	0.7	2.483	A
	D1	621	155	718	2482	0.250	622	706	0.5	0.3	1.934	A
South	A2	924	231	211	2567	0.360	925	982	0.8	0.6	2.193	A
	B2	814	204	322	1810	0.450	816	814	1.2	0.8	3.627	A
	C2	589	147	970	1236	0.476	592	167	1.7	0.9	5.620	A
	D2	307	77	885	1518	0.202	308	677	0.4	0.3	2.977	A

Base 2016 WEEKEND, 13-14

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	Junction North - Arm A1 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	Junction North - Arm B1 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	Junction North - Arm D1 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Linked Roundabout	Junction North - Arm C1	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 South - Arm A2	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 South - Arm B2	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	Vehicle Mix	Junction North	HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.
Warning	Vehicle Mix	Junction South	HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.

Junction Network

Junctions

Junction	Name	Junction Type	Arm order	Junction Delay (s)	Junction LOS
North	M-49	Standard Roundabout	A1,B1,C1,D1	2.76	A
South	M-48	Standard Roundabout	A2,B2,C2,D2	3.45	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D_03	Base 2016 WEEKEND	13-14	Q3 70/30	ONE HOUR	12:45	14:15	15	✓

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

Linked Arm Data

Junction	Arm	Feeding Junction	Feeding Arm	Link Type	Flow source	Uniform flow (PCU/hr)	Flow multiplier (%)	Internal storage space (PCU)

North	**C1**	South	A2	Simple (vertical queueing)	Normal	0	100.00	
South	**A2**	North	C1	Simple (vertical queueing)	Normal	0	100.00	
	B2	South	B2	Simple (vertical queueing)	Normal	0	100.00	

Demand overview (Traffic)

Junction	Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
North	**A1**		ONE HOUR	✓	556	100.000
	B1		ONE HOUR	✓	302	100.000
	C1	✓				
	D1		ONE HOUR	✓	519	100.000
South	**A2**	✓				
	B2	✓				
	C2		ONE HOUR	✓	108	100.000
	D2		ONE HOUR	✓	819	100.000

Origin-Destination Data

Demand (PCU/hr)

Junction North

		To			
		A1	**B1**	**C1**	**D1**
From	**A1**	3	25	268	260
	B1	105	0	114	83
	C1	678	94	3	246
	D1	89	71	359	0

Demand (PCU/hr)

Junction South

		To			
		A2	**B2**	**C2**	**D2**
From	**A2**	20	543	56	119
	B2	374	1	32	342
	C2	40	37	0	31
	D2	575	216	20	8

Vehicle Mix

Heavy Vehicle Percentages

Junction North

		To			
		A1	**B1**	**C1**	**D1**
From	**A1**	0	0	0	0
	B1	0	0	0	0
	C1	0	0	0	0
	D1	0	0	0	0

Heavy Vehicle Percentages

Junction South

		To			
		A2	B2	C2	D2
From	A2	0	0	0	0
	B2	0	0	0	0
	C2	0	0	0	0
	D2	0	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)
North	A1	0.27	2.18	0.4	A	510	765
	B1	0.30	4.54	0.4	A	277	416
	C1	0.48	2.87	0.9	A	949	1424
	D1	0.25	2.11	0.3	A	476	714
South	A2	0.33	2.14	0.5	A	683	1024
	B2	0.48	3.71	0.9	A	735	1103
	C2	0.10	3.28	0.1	A	99	149
	D2	0.52	4.41	1.1	A	752	1127

Main Results for each time segment

12:45 - 13:00

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	419	105	397	2392	0.175	418	662	0.0	0.2	1.823	A
	B1	227	57	671	1295	0.176	227	143	0.0	0.2	3.363	A
	C1	776	194	339	2507	0.309	774	559	0.0	0.4	2.075	A
	D1	391	98	669	2520	0.155	390	444	0.0	0.2	1.689	A
South	A2	559	140	212	2567	0.218	558	776	0.0	0.3	1.792	A
	B2	601	150	168	1896	0.317	599	601	0.0	0.5	2.772	A
	C2	81	20	685	1392	0.058	81	83	0.0	0.1	2.746	A
	D2	617	154	373	1823	0.338	615	393	0.0	0.5	2.973	A

13:00 - 13:15

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	500	125	475	2338	0.214	500	794	0.2	0.3	1.958	A
	B1	271	68	802	1224	0.222	271	172	0.2	0.3	3.778	A
	C1	930	232	405	2459	0.378	929	668	0.4	0.6	2.350	A
	D1	467	117	802	2418	0.193	466	532	0.2	0.2	1.844	A
South	A2	668	167	253	2537	0.263	668	930	0.3	0.4	1.926	A
	B2	720	180	202	1878	0.383	719	720	0.5	0.6	3.106	A

	C2	97	24	821	1317	0.074	97	99	0.1	0.1	2.950	A
	D2	736	184	447	1779	0.414	735	471	0.5	0.7	3.449	A

13:15 - 13:30

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	612	153	581	2264	0.270	612	971	0.3	0.4	2.178	A
	B1	333	83	983	1126	0.295	332	210	0.3	0.4	4.529	A
	C1	1138	284	496	2394	0.475	1136	819	0.6	0.9	2.860	A
	D1	571	143	981	2281	0.251	571	651	0.2	0.3	2.106	A
South	A2	819	205	310	2497	0.328	818	1138	0.4	0.5	2.143	A
	B2	881	220	247	1852	0.476	880	881	0.6	0.9	3.701	A
	C2	119	30	1005	1216	0.098	119	122	0.1	0.1	3.279	A
	D2	902	225	547	1719	0.525	900	577	0.7	1.1	4.388	A

13:30 - 13:45

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	612	153	582	2264	0.270	612	974	0.4	0.4	2.179	A
	B1	333	83	983	1126	0.295	333	211	0.4	0.4	4.536	A
	C1	1140	285	497	2394	0.476	1140	819	0.9	0.9	2.870	A
	D1	571	143	984	2278	0.251	571	652	0.3	0.3	2.108	A
South	A2	819	205	311	2497	0.328	819	1140	0.5	0.5	2.145	A
	B2	882	221	247	1852	0.477	882	882	0.9	0.9	3.712	A
	C2	119	30	1008	1215	0.098	119	122	0.1	0.1	3.283	A
	D2	902	225	549	1718	0.525	902	578	1.1	1.1	4.408	A

13:45 - 14:00

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	500	125	476	2337	0.214	500	798	0.4	0.3	1.959	A
	B1	271	68	803	1223	0.222	272	172	0.4	0.3	3.787	A
	C1	933	233	406	2459	0.380	934	670	0.9	0.6	2.362	A
	D1	467	117	806	2414	0.193	467	534	0.3	0.2	1.850	A
South	A2	670	167	254	2537	0.264	670	933	0.5	0.4	1.930	A
	B2	722	180	202	1877	0.385	723	722	0.9	0.6	3.121	A
	C2	97	24	825	1315	0.074	97	100	0.1	0.1	2.956	A
	D2	736	184	449	1778	0.414	738	473	1.1	0.7	3.469	A

14:00 - 14:15

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	419	105	398	2391	0.175	419	667	0.3	0.2	1.824	A
	B1	227	57	673	1294	0.176	228	144	0.3	0.2	3.377	A
	C1	781	195	340	2506	0.312	781	561	0.6	0.5	2.087	A
	D1	391	98	675	2515	0.155	391	447	0.2	0.2	1.693	A
South	A2	561	140	213	2566	0.218	561	781	0.4	0.3	1.797	A
	B2	604	151	169	1896	0.319	605	604	0.6	0.5	2.789	A
	C2	81	20	691	1389	0.059	81	83	0.1	0.1	2.755	A
	D2	617	154	376	1821	0.339	617	396	0.7	0.5	2.993	A

REF 2020 AM, 08-09

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	Junction North - Arm A1 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	Junction North - Arm B1 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	Junction North - Arm D1 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Linked Roundabout	Junction North - Arm C1	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 South - Arm A2	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 South - Arm B2	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	Vehicle Mix	Junction North	HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.
Warning	Vehicle Mix	Junction South	HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.

Junction Network

Junctions

Junction	Name	Junction Type	Arm order	Junction Delay (s)	Junction LOS
North	M-49	Standard Roundabout	A1,B1,C1,D1	5.34	A
South	M-48	Standard Roundabout	A2,B2,C2,D2	5.72	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D_04	REF 2020 AM	08-09	Q3 70/30	ONE HOUR	07:45	09:15	15	✓

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

Linked Arm Data

Junction	Arm	Feeding Junction	Feeding Arm	Link Type	Flow source	Uniform flow (PCU/hr)	Flow multiplier (%)	Internal storage space (PCU)
North	**C1**	South	A2	Simple (vertical	Normal	0	100.00	

				queueing)				
South	**A2**	North	C1	Simple (vertical queueing)	Normal	0	100.00	
	B2	South	B2	Simple (vertical queueing)	Normal	0	100.00	

Demand overview (Traffic)

Junction	Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
North	**A1**		ONE HOUR	✓	466	100.000
	B1		ONE HOUR	✓	509	100.000
	C1	✓				
	D1		ONE HOUR	✓	1513	100.000
South	**A2**	✓				
	B2	✓				
	C2		ONE HOUR	✓	226	100.000
	D2		ONE HOUR	✓	780	100.000

Origin-Destination Data

Demand (PCU/hr)

Junction North

		To			
		A1	**B1**	**C1**	**D1**
From	**A1**	0	28	288	150
	B1	100	0	239	170
	C1	523	301	2	348
	D1	234	341	938	0

Demand (PCU/hr)

Junction South

		To			
		A2	**B2**	**C2**	**D2**
From	**A2**	3	839	442	184
	B2	598	0	256	639
	C2	129	51	0	46
	D2	439	42	299	0

Vehicle Mix

Heavy Vehicle Percentages

Junction North

		To			
		A1	**B1**	**C1**	**D1**
From	**A1**	0	0	0	0
	B1	0	0	0	0
	C1	0	0	0	0
	D1	0	0	0	0

Heavy Vehicle Percentages

Junction South

		To			
		A2	B2	C2	D2
From	A2	0	0	0	0
	B2	0	0	0	0
	C2	0	0	0	0
	D2	0	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)
North	A1	0.34	3.64	0.5	A	428	641
	B1	0.67	13.00	2.0	B	467	701
	C1	0.43	2.61	0.8	A	865	1298
	D1	0.70	4.98	2.3	A	1388	2083
South	A2	0.67	4.51	2.0	A	1345	2018
	B2	0.72	9.22	2.6	A	854	1281
	C2	0.21	3.83	0.3	A	207	311
	D2	0.51	4.38	1.0	A	716	1074

Main Results for each time segment

07:45 - 08:00

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	351	88	1142	1874	0.187	350	565	0.0	0.2	2.361	A
	B1	383	96	1034	1098	0.349	381	458	0.0	0.5	5.004	A
	C1	706	177	315	2524	0.280	705	1101	0.0	0.4	1.976	A
	D1	1139	285	571	2595	0.439	1136	449	0.0	0.8	2.462	A
South	A2	1101	275	294	2509	0.439	1098	706	0.0	0.8	2.546	A
	B2	697	174	695	1599	0.436	694	697	0.0	0.8	3.964	A
	C2	170	43	715	1375	0.124	170	674	0.0	0.1	2.983	A
	D2	587	147	415	1798	0.327	585	469	0.0	0.5	2.963	A

08:00 - 08:15

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	419	105	1367	1718	0.244	419	677	0.2	0.3	2.770	A
	B1	458	114	1237	988	0.463	456	548	0.5	0.9	6.750	A
	C1	847	212	377	2480	0.341	846	1317	0.4	0.5	2.203	A
	D1	1360	340	685	2507	0.542	1359	538	0.8	1.2	3.129	A
South	A2	1317	329	352	2468	0.533	1315	847	0.8	1.1	3.118	A
	B2	835	209	832	1521	0.549	833	835	0.8	1.2	5.219	A

	C2	203	51	858	1297	0.157	203	807	0.1	0.2	3.290	A
	D2	701	175	498	1748	0.401	700	563	0.5	0.7	3.433	A

08:15 - 08:30

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	513	128	1671	1506	0.341	512	827	0.3	0.5	3.621	A
	B1	560	140	1513	838	0.668	556	670	0.9	1.9	12.558	B
	C1	1034	259	460	2420	0.427	1033	1610	0.5	0.7	2.595	A
	D1	1666	416	836	2392	0.697	1662	657	1.2	2.3	4.901	A
South	A2	1610	402	431	2413	0.667	1606	1034	1.1	2.0	4.445	A
	B2	1020	255	1017	1417	0.720	1015	1020	1.2	2.5	8.846	A
	C2	249	62	1046	1194	0.208	249	986	0.2	0.3	3.806	A
	D2	859	215	608	1683	0.510	857	686	0.7	1.0	4.351	A

08:30 - 08:45

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	513	128	1676	1503	0.341	513	831	0.5	0.5	3.636	A
	B1	560	140	1517	837	0.670	560	673	1.9	2.0	12.999	B
	C1	1039	260	462	2418	0.430	1039	1615	0.7	0.8	2.609	A
	D1	1666	416	841	2388	0.698	1666	660	2.3	2.3	4.983	A
South	A2	1615	404	432	2412	0.669	1614	1039	2.0	2.0	4.511	A
	B2	1025	256	1021	1415	0.725	1025	1025	2.5	2.6	9.215	A
	C2	249	62	1055	1189	0.209	249	991	0.3	0.3	3.826	A
	D2	859	215	612	1681	0.511	859	692	1.0	1.0	4.379	A

08:45 - 09:00

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	419	105	1374	1713	0.245	420	683	0.5	0.3	2.784	A
	B1	458	114	1242	986	0.464	462	552	2.0	0.9	6.929	A
	C1	854	213	380	2477	0.345	855	1324	0.8	0.5	2.219	A
	D1	1360	340	692	2502	0.544	1364	543	2.3	1.2	3.178	A
South	A2	1324	331	353	2467	0.537	1327	854	2.0	1.2	3.165	A
	B2	842	211	838	1518	0.555	847	842	2.6	1.3	5.408	A
	C2	203	51	871	1290	0.158	203	814	0.3	0.2	3.316	A
	D2	701	175	504	1745	0.402	703	570	1.0	0.7	3.457	A

09:00 - 09:15

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	351	88	1148	1870	0.188	351	570	0.3	0.2	2.372	A
	B1	383	96	1039	1096	0.350	385	461	0.9	0.5	5.069	A
	C1	713	178	317	2523	0.283	713	1106	0.5	0.4	1.991	A
	D1	1139	285	577	2590	0.440	1141	453	1.2	0.8	2.488	A
South	A2	1106	277	295	2508	0.441	1108	713	1.2	0.8	2.575	A
	B2	703	176	700	1596	0.441	705	703	1.3	0.8	4.048	A
	C2	170	43	725	1370	0.124	170	680	0.2	0.1	3.001	A
	D2	587	147	420	1795	0.327	588	475	0.7	0.5	2.983	A

REF 2020 PM, 17-18

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	Junction North - Arm A1 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	Junction North - Arm B1 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	Junction North - Arm D1 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Linked Roundabout	Junction North - Arm C1	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 South - Arm A2	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 South - Arm B2	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	Vehicle Mix	Junction North	HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.
Warning	Vehicle Mix	Junction South	HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.

Junction Network

Junctions

Junction	Name	Junction Type	Arm order	Junction Delay (s)	Junction LOS
North	M-49	Standard Roundabout	A1,B1,C1,D1	8.93	A
South	M-48	Standard Roundabout	A2,B2,C2,D2	16.72	C

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D_05	REF 2020 PM	17-18	Q3 70/30	ONE HOUR	16:45	18:15	15	✓

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

Linked Arm Data

Junction	Arm	Feeding Junction	Feeding Arm	Link Type	Flow source	Uniform flow (PCU/hr)	Flow multiplier (%)	Internal storage space (PCU)
North	**C1**	South	A2	Simple (vertical	Normal	0	100.00	

				queueing)				
South	**A2**	North	C1	Simple (vertical queueing)	Normal	0	100.00	
	B2	South	B2	Simple (vertical queueing)	Normal	0	100.00	

Demand overview (Traffic)

Junction	Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
North	**A1**		ONE HOUR	✓	572	100.000
	B1		ONE HOUR	✓	756	100.000
	C1	✓				
	D1		ONE HOUR	✓	886	100.000
South	**A2**	✓				
	B2	✓				
	C2		ONE HOUR	✓	822	100.000
	D2		ONE HOUR	✓	435	100.000

Origin-Destination Data

Demand (PCU/hr)

Junction North

		To			
		A1	**B1**	**C1**	**D1**
From	**A1**	0	28	390	154
	B1	203	0	284	269
	C1	534	208	1	543
	D1	88	162	636	0

Demand (PCU/hr)

Junction South

		To			
		A2	**B2**	**C2**	**D2**
From	**A2**	7	915	109	253
	B2	551	0	45	483
	C2	468	172	0	182
	D2	310	51	74	0

Vehicle Mix

Heavy Vehicle Percentages

Junction North

		To			
		A1	**B1**	**C1**	**D1**
From	**A1**	0	0	0	0
	B1	0	0	0	0
	C1	0	0	0	0
	D1	0	0	0	0

Heavy Vehicle Percentages

Junction South

		To			
		A2	B2	C2	D2
From	A2	0	0	0	0
	B2	0	0	0	0
	C2	0	0	0	0
	D2	0	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)
North	A1	0.33	2.86	0.5	A	525	787
	B1	0.87	28.08	6.1	D	694	1041
	C1	0.67	4.79	2.0	A	1261	1892
	D1	0.44	2.95	0.8	A	813	1220
South	A2	0.58	3.44	1.4	A	1203	1804
	B2	0.74	8.15	2.8	A	1061	1592
	C2	0.96	56.30	13.5	F	754	1131
	D2	0.39	4.73	0.6	A	399	599

Main Results for each time segment

16:45 - 17:00

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	431	108	766	2136	0.202	430	644	0.0	0.3	2.109	A
	B1	569	142	887	1178	0.483	565	309	0.0	0.9	5.842	A
	C1	1028	257	469	2414	0.426	1025	984	0.0	0.7	2.588	A
	D1	667	167	744	2462	0.271	666	750	0.0	0.4	2.002	A
South	A2	984	246	222	2559	0.384	981	1028	0.0	0.6	2.275	A
	B2	866	217	338	1801	0.481	863	866	0.0	0.9	3.823	A
	C2	619	155	1025	1206	0.513	615	175	0.0	1.0	6.051	A
	D2	327	82	924	1494	0.219	326	716	0.0	0.3	3.079	A

17:00 - 17:15

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	514	129	917	2031	0.253	514	772	0.3	0.3	2.373	A
	B1	680	170	1061	1084	0.627	677	370	0.9	1.6	8.775	A
	C1	1232	308	561	2347	0.525	1231	1177	0.7	1.1	3.219	A
	D1	796	199	893	2348	0.339	796	899	0.4	0.5	2.319	A
South	A2	1177	294	266	2528	0.465	1176	1232	0.6	0.9	2.661	A
	B2	1038	259	404	1763	0.589	1036	1038	0.9	1.4	4.936	A

	C2	739	185	1231	1093	0.676	735	209	1.0	2.0	9.941	A
	D2	391	98	1108	1385	0.282	391	858	0.3	0.4	3.618	A

17:15 - 17:30

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	630	157	1119	1890	0.333	629	932	0.3	0.5	2.852	A
	B1	832	208	1299	955	0.872	816	449	1.6	5.6	23.741	C
	C1	1486	372	679	2262	0.657	1483	1436	1.1	1.9	4.601	A
	D1	976	244	1076	2208	0.442	974	1086	0.5	0.8	2.915	A
South	A2	1436	359	320	2491	0.577	1434	1486	0.9	1.4	3.403	A
	B2	1261	315	494	1713	0.736	1255	1261	1.4	2.7	7.786	A
	C2	905	226	1494	949	0.953	872	255	2.0	10.3	36.787	E
	D2	479	120	1328	1254	0.382	478	1038	0.4	0.6	4.637	A

17:30 - 17:45

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	630	157	1123	1887	0.334	630	945	0.5	0.5	2.862	A
	B1	832	208	1300	954	0.873	830	453	5.6	6.1	28.077	D
	C1	1506	376	688	2256	0.667	1505	1443	1.9	2.0	4.792	A
	D1	976	244	1093	2195	0.444	975	1101	0.8	0.8	2.950	A
South	A2	1443	361	324	2487	0.580	1443	1506	1.4	1.4	3.444	A
	B2	1271	318	496	1711	0.743	1270	1271	2.7	2.8	8.150	A
	C2	905	226	1510	941	0.962	892	257	10.3	13.5	56.301	F
	D2	479	120	1351	1240	0.386	479	1050	0.6	0.6	4.731	A

17:45 - 18:00

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	514	129	926	2024	0.254	515	797	0.5	0.3	2.387	A
	B1	680	170	1063	1083	0.628	697	378	6.1	1.7	9.744	A
	C1	1274	319	574	2338	0.545	1278	1186	2.0	1.2	3.406	A
	D1	796	199	925	2323	0.343	798	926	0.8	0.5	2.362	A
South	A2	1186	297	277	2521	0.471	1188	1274	1.4	0.9	2.707	A
	B2	1057	264	408	1761	0.600	1062	1057	2.8	1.5	5.188	A
	C2	739	185	1258	1078	0.685	784	212	13.5	2.3	14.034	B
	D2	391	98	1159	1354	0.289	392	883	0.6	0.4	3.746	A

18:00 - 18:15

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	431	108	771	2132	0.202	431	653	0.3	0.3	2.116	A
	B1	569	142	890	1177	0.484	572	312	1.7	0.9	5.987	A
	C1	1042	260	473	2410	0.432	1044	989	1.2	0.8	2.636	A
	D1	667	167	757	2453	0.272	668	760	0.5	0.4	2.018	A
South	A2	989	247	225	2557	0.387	990	1042	0.9	0.6	2.297	A
	B2	874	219	340	1799	0.486	877	874	1.5	1.0	3.911	A
	C2	619	155	1041	1197	0.517	624	176	2.3	1.1	6.325	A
	D2	327	82	939	1486	0.220	328	726	0.4	0.3	3.112	A

REF 2020 WEEKEND, 13-14

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	Junction North - Arm A1 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	Junction North - Arm B1 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	Junction North - Arm D1 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Linked Roundabout	Junction North - Arm C1	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 South - Arm A2	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 South - Arm B2	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	Vehicle Mix	Junction North	HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.
Warning	Vehicle Mix	Junction South	HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.

Junction Network

Junctions

Junction	Name	Junction Type	Arm order	Junction Delay (s)	Junction LOS
North	M-49	Standard Roundabout	A1,B1,C1,D1	2.88	A
South	M-48	Standard Roundabout	A2,B2,C2,D2	3.64	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D_06	REF 2020 WEEKEND	13-14	Q3 70/30	ONE HOUR	12:45	14:15	15	✓

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

Linked Arm Data

Junction	Arm	Feeding Junction	Feeding Arm	Link Type	Flow source	Uniform flow (PCU/hr)	Flow multiplier (%)	Internal storage space (PCU)

North	**C1**	South	A2	Simple (vertical queueing)	Normal	0	100.00	
South	**A2**	North	C1	Simple (vertical queueing)	Normal	0	100.00	
	B2	South	B2	Simple (vertical queueing)	Normal	0	100.00	

Demand overview (Traffic)

Junction	Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
North	**A1**		ONE HOUR	✓	584	100.000
	B1		ONE HOUR	✓	318	100.000
	C1	✓				
	D1		ONE HOUR	✓	532	100.000
South	**A2**	✓				
	B2	✓				
	C2		ONE HOUR	✓	112	100.000
	D2		ONE HOUR	✓	864	100.000

Origin-Destination Data

Demand (PCU/hr)

Junction North

		To			
		A1	**B1**	**C1**	**D1**
From	**A1**	3	26	282	273
	B1	111	0	120	87
	C1	714	98	3	258
	D1	93	75	364	0

Demand (PCU/hr)

Junction South

		To			
		A2	**B2**	**C2**	**D2**
From	**A2**	21	557	58	126
	B2	393	1	33	368
	C2	42	38	0	32
	D2	606	228	21	9

Vehicle Mix

Heavy Vehicle Percentages

Junction North

		To			
		A1	**B1**	**C1**	**D1**
From	**A1**	0	0	0	0
	B1	0	0	0	0
	C1	0	0	0	0
	D1	0	0	0	0

Heavy Vehicle Percentages

Junction South

		To			
		A2	B2	C2	D2
From	A2	0	0	0	0
	B2	0	0	0	0
	C2	0	0	0	0
	D2	0	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)
North	A1	0.29	2.23	0.4	A	536	804
	B1	0.32	4.76	0.5	A	292	438
	C1	0.50	3.03	1.0	A	990	1484
	D1	0.26	2.17	0.4	A	488	732
South	A2	0.34	2.20	0.5	A	705	1058
	B2	0.50	3.87	1.0	A	760	1141
	C2	0.10	3.36	0.1	A	103	154
	D2	0.56	4.75	1.2	A	793	1189

Main Results for each time segment

12:45 - 13:00

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	440	110	406	2386	0.184	439	692	0.0	0.2	1.848	A
	B1	239	60	695	1282	0.187	238	150	0.0	0.2	3.445	A
	C1	808	202	356	2495	0.324	807	578	0.0	0.5	2.131	A
	D1	401	100	698	2497	0.160	400	464	0.0	0.2	1.716	A
South	A2	578	144	223	2559	0.226	576	808	0.0	0.3	1.816	A
	B2	622	155	178	1891	0.329	620	622	0.0	0.5	2.828	A
	C2	84	21	712	1377	0.061	84	85	0.0	0.1	2.784	A
	D2	650	163	383	1817	0.358	648	413	0.0	0.6	3.075	A

13:00 - 13:15

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	525	131	486	2330	0.225	525	830	0.2	0.3	1.993	A
	B1	286	71	831	1208	0.237	286	179	0.2	0.3	3.900	A
	C1	969	242	426	2445	0.396	968	691	0.5	0.7	2.436	A
	D1	478	120	838	2391	0.200	478	556	0.2	0.2	1.881	A
South	A2	691	173	267	2528	0.273	691	969	0.3	0.4	1.959	A
	B2	745	186	213	1871	0.398	744	745	0.5	0.7	3.191	A

	C2	101	25	854	1299	0.078	101	102	0.1	0.1	3.003	A
	D2	777	194	460	1772	0.438	776	495	0.6	0.8	3.612	A

13:15 - 13:30

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	643	161	594	2255	0.285	643	1016	0.3	0.4	2.233	A
	B1	350	88	1018	1107	0.316	350	219	0.3	0.5	4.747	A
	C1	1185	296	521	2376	0.499	1184	846	0.7	1.0	3.018	A
	D1	586	146	1025	2247	0.261	585	681	0.2	0.4	2.166	A
South	A2	846	211	326	2486	0.340	845	1185	0.4	0.5	2.194	A
	B2	911	228	260	1844	0.494	910	911	0.7	1.0	3.849	A
	C2	123	31	1045	1195	0.103	123	125	0.1	0.1	3.359	A
	D2	951	238	562	1710	0.556	949	606	0.8	1.2	4.720	A

13:30 - 13:45

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	643	161	595	2254	0.285	643	1018	0.4	0.4	2.233	A
	B1	350	88	1018	1107	0.316	350	220	0.5	0.5	4.756	A
	C1	1188	297	522	2375	0.500	1188	847	1.0	1.0	3.031	A
	D1	586	146	1028	2245	0.261	586	682	0.4	0.4	2.169	A
South	A2	847	212	327	2486	0.341	847	1188	0.5	0.5	2.196	A
	B2	913	228	261	1844	0.495	913	913	1.0	1.0	3.865	A
	C2	123	31	1048	1193	0.103	123	125	0.1	0.1	3.364	A
	D2	951	238	564	1709	0.557	951	608	1.2	1.2	4.748	A

13:45 - 14:00

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	525	131	487	2330	0.225	525	835	0.4	0.3	1.995	A
	B1	286	71	832	1208	0.237	286	180	0.5	0.3	3.911	A
	C1	973	243	427	2444	0.398	974	692	1.0	0.7	2.452	A
	D1	478	120	843	2387	0.200	479	558	0.4	0.3	1.886	A
South	A2	692	173	268	2527	0.274	693	973	0.5	0.4	1.962	A
	B2	747	187	213	1871	0.399	748	747	1.0	0.7	3.211	A
	C2	101	25	859	1297	0.078	101	103	0.1	0.1	3.012	A
	D2	777	194	462	1770	0.439	779	498	1.2	0.8	3.636	A

14:00 - 14:15

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	440	110	407	2385	0.184	440	698	0.3	0.2	1.850	A
	B1	239	60	697	1281	0.187	240	150	0.3	0.2	3.459	A
	C1	814	203	357	2494	0.326	815	579	0.7	0.5	2.144	A
	D1	401	100	705	2492	0.161	401	467	0.3	0.2	1.720	A
South	A2	579	145	224	2558	0.227	580	814	0.4	0.3	1.819	A
	B2	625	156	179	1891	0.331	626	625	0.7	0.5	2.847	A
	C2	84	21	718	1373	0.061	84	86	0.1	0.1	2.794	A
	D2	650	163	386	1815	0.358	651	416	0.8	0.6	3.094	A

REF 2023 AM, 08-09

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	Junction North - Arm A1 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	Junction North - Arm B1 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	Junction North - Arm D1 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Linked Roundabout	Junction North - Arm C1	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 South - Arm A2	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 South - Arm B2	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	Vehicle Mix	Junction North	HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.
Warning	Vehicle Mix	Junction South	HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.

Junction Network

Junctions

Junction	Name	Junction Type	Arm order	Junction Delay (s)	Junction LOS
North	M-49	Standard Roundabout	A1,B1,C1,D1	5.82	A
South	M-48	Standard Roundabout	A2,B2,C2,D2	6.20	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D_07	REF 2023 AM	08-09	Q3 70/30	ONE HOUR	07:45	09:15	15	✓

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

Linked Arm Data

Junction	Arm	Feeding Junction	Feeding Arm	Link Type	Flow source	Uniform flow (PCU/hr)	Flow multiplier (%)	Internal storage space (PCU)
North	**C1**	South	A2	Simple (vertical	Normal	0	100.00	

				queueing)				
South	**A2**	North	C1	Simple (vertical queueing)	Normal	0	100.00	
	B2	South	B2	Simple (vertical queueing)	Normal	0	100.00	

Demand overview (Traffic)

Junction	Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
North	**A1**		ONE HOUR	✓	478	100.000
	B1		ONE HOUR	✓	521	100.000
	C1	✓				
	D1		ONE HOUR	✓	1550	100.000
South	**A2**	✓				
	B2	✓				
	C2		ONE HOUR	✓	232	100.000
	D2		ONE HOUR	✓	798	100.000

Origin-Destination Data

Demand (PCU/hr)

Junction North

		To			
		A1	**B1**	**C1**	**D1**
From	**A1**	0	29	295	154
	B1	102	0	245	174
	C1	535	308	2	358
	D1	240	348	962	0

Demand (PCU/hr)

Junction South

		To			
		A2	**B2**	**C2**	**D2**
From	**A2**	3	862	450	189
	B2	614	0	263	656
	C2	131	53	0	48
	D2	449	43	306	0

Vehicle Mix

Heavy Vehicle Percentages

Junction North

		To			
		A1	**B1**	**C1**	**D1**
From	**A1**	0	0	0	0
	B1	0	0	0	0
	C1	0	0	0	0
	D1	0	0	0	0

Heavy Vehicle Percentages

Junction South

		To			
		A2	B2	C2	D2
From	A2	0	0	0	0
	B2	0	0	0	0
	C2	0	0	0	0
	D2	0	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)
North	A1	0.36	3.79	0.6	A	439	658
	B1	0.70	14.81	2.3	B	478	717
	C1	0.44	2.67	0.8	A	886	1329
	D1	0.72	5.39	2.5	A	1422	2133
South	A2	0.69	4.80	2.2	A	1379	2069
	B2	0.75	10.31	2.9	B	878	1317
	C2	0.22	3.92	0.3	A	213	319
	D2	0.53	4.54	1.1	A	732	1098

Main Results for each time segment

07:45 - 08:00

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	360	90	1169	1855	0.194	359	577	0.0	0.2	2.405	A
	B1	392	98	1061	1084	0.362	390	468	0.0	0.6	5.170	A
	C1	723	181	322	2519	0.287	722	1128	0.0	0.4	2.001	A
	D1	1167	292	583	2585	0.451	1164	461	0.0	0.8	2.527	A
South	A2	1128	282	302	2503	0.451	1125	723	0.0	0.8	2.605	A
	B2	717	179	710	1590	0.451	714	717	0.0	0.8	4.091	A
	C2	175	44	735	1364	0.128	174	689	0.0	0.1	3.022	A
	D2	601	150	426	1791	0.335	599	483	0.0	0.5	3.013	A

08:00 - 08:15

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	430	107	1399	1695	0.253	429	692	0.2	0.3	2.843	A
	B1	468	117	1268	971	0.482	467	560	0.6	0.9	7.117	A
	C1	867	217	386	2473	0.350	866	1350	0.4	0.5	2.240	A
	D1	1393	348	700	2496	0.558	1392	552	0.8	1.3	3.253	A
South	A2	1350	337	361	2462	0.548	1348	867	0.8	1.2	3.229	A
	B2	859	215	850	1511	0.568	857	859	0.8	1.3	5.486	A

	C2	209	52	882	1284	0.162	208	825	0.1	0.2	3.346	A
	D2	717	179	511	1741	0.412	717	579	0.5	0.7	3.514	A

08:15 - 08:30

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	526	132	1711	1479	0.356	525	845	0.3	0.5	3.771	A
	B1	574	143	1551	818	0.701	568	685	0.9	2.2	14.141	B
	C1	1058	265	470	2412	0.439	1057	1649	0.5	0.8	2.655	A
	D1	1707	427	854	2378	0.718	1702	674	1.3	2.5	5.283	A
South	A2	1649	412	442	2405	0.686	1646	1058	1.2	2.1	4.718	A
	B2	1049	262	1039	1405	0.747	1043	1049	1.3	2.8	9.783	A
	C2	255	64	1074	1179	0.217	255	1008	0.2	0.3	3.896	A
	D2	879	220	623	1674	0.525	877	706	0.7	1.1	4.508	A

08:30 - 08:45

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	526	132	1716	1475	0.357	526	850	0.5	0.6	3.793	A
	B1	574	143	1555	816	0.703	573	687	2.2	2.3	14.806	B
	C1	1064	266	473	2410	0.441	1064	1655	0.8	0.8	2.673	A
	D1	1707	427	860	2374	0.719	1706	678	2.5	2.5	5.393	A
South	A2	1655	414	443	2404	0.688	1655	1064	2.1	2.2	4.803	A
	B2	1054	264	1043	1402	0.752	1054	1054	2.8	2.9	10.312	B
	C2	255	64	1084	1173	0.218	255	1013	0.3	0.3	3.922	A
	D2	879	220	628	1671	0.526	879	712	1.1	1.1	4.542	A

08:45 - 09:00

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	430	107	1408	1690	0.254	431	699	0.6	0.3	2.862	A
	B1	468	117	1274	968	0.484	474	564	2.3	1.0	7.357	A
	C1	875	219	390	2471	0.354	876	1358	0.8	0.6	2.258	A
	D1	1393	348	708	2490	0.560	1398	558	2.5	1.3	3.315	A
South	A2	1358	339	362	2461	0.552	1362	875	2.2	1.2	3.285	A
	B2	867	217	857	1507	0.575	873	867	2.9	1.4	5.731	A
	C2	209	52	897	1276	0.164	209	833	0.3	0.2	3.377	A
	D2	717	179	518	1737	0.413	719	588	1.1	0.7	3.544	A

09:00 - 09:15

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	360	90	1176	1851	0.194	360	583	0.3	0.2	2.415	A
	B1	392	98	1065	1082	0.363	394	471	1.0	0.6	5.244	A
	C1	730	183	325	2517	0.290	731	1134	0.6	0.4	2.015	A
	D1	1167	292	590	2580	0.452	1169	465	1.3	0.8	2.553	A
South	A2	1134	284	303	2502	0.453	1136	730	1.2	0.8	2.636	A
	B2	723	181	715	1587	0.456	725	723	1.4	0.8	4.186	A
	C2	175	44	746	1358	0.129	175	695	0.2	0.1	3.041	A
	D2	601	150	431	1788	0.336	602	489	0.7	0.5	3.034	A

REF 2023 PM, 17-18

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	Junction North - Arm A1 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	Junction North - Arm B1 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	Junction North - Arm D1 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Linked Roundabout	Junction North - Arm C1	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 South - Arm A2	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 South - Arm B2	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	Vehicle Mix	Junction North	HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.
Warning	Vehicle Mix	Junction South	HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.

Junction Network

Junctions

Junction	Name	Junction Type	Arm order	Junction Delay (s)	Junction LOS
North	M-49	Standard Roundabout	A1,B1,C1,D1	10.95	B
South	M-48	Standard Roundabout	A2,B2,C2,D2	21.95	C

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D_08	REF 2023 PM	17-18	Q3 70/30	ONE HOUR	16:45	18:15	15	✓

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

Linked Arm Data

Junction	Arm	Feeding Junction	Feeding Arm	Link Type	Flow source	Uniform flow (PCU/hr)	Flow multiplier (%)	Internal storage space (PCU)
North	**C1**	South	A2	Simple (vertical	Normal	0	100.00	

				queueing)				
South	**A2**	North	C1	Simple (vertical queueing)	Normal	0	100.00	
	B2	South	B2	Simple (vertical queueing)	Normal	0	100.00	

Demand overview (Traffic)

Junction	Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
North	**A1**		ONE HOUR	✓	585	100.000
	B1		ONE HOUR	✓	773	100.000
	C1	✓				
	D1		ONE HOUR	✓	908	100.000
South	**A2**	✓				
	B2	✓				
	C2		ONE HOUR	✓	838	100.000
	D2		ONE HOUR	✓	446	100.000

Origin-Destination Data

Demand (PCU/hr)

Junction North

		To			
		A1	**B1**	**C1**	**D1**
From	**A1**	0	28	399	158
	B1	208	0	290	275
	C1	546	213	1	557
	D1	90	166	652	0

Demand (PCU/hr)

Junction South

		To			
		A2	**B2**	**C2**	**D2**
From	**A2**	7	936	111	259
	B2	566	0	46	496
	C2	477	175	0	186
	D2	317	53	76	0

Vehicle Mix

Heavy Vehicle Percentages

Junction North

		To			
		A1	**B1**	**C1**	**D1**
From	**A1**	0	0	0	0
	B1	0	0	0	0
	C1	0	0	0	0
	D1	0	0	0	0

Heavy Vehicle Percentages

Junction South

		To			
		A2	B2	C2	D2
From	A2	0	0	0	0
	B2	0	0	0	0
	C2	0	0	0	0
	D2	0	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)
North	A1	0.34	2.94	0.5	A	537	805
	B1	0.91	37.05	8.2	E	709	1064
	C1	0.68	5.03	2.1	A	1289	1934
	D1	0.46	3.04	0.8	A	833	1250
South	A2	0.59	3.57	1.5	A	1231	1846
	B2	0.76	8.81	3.1	A	1086	1629
	C2	1.00	79.04	20.3	F	769	1153
	D2	0.40	4.87	0.7	A	409	614

Main Results for each time segment

16:45 - 17:00

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	440	110	785	2123	0.207	439	657	0.0	0.3	2.138	A
	B1	582	145	909	1166	0.499	578	315	0.0	1.0	6.080	A
	C1	1051	263	480	2406	0.437	1048	1007	0.0	0.8	2.646	A
	D1	684	171	760	2450	0.279	682	767	0.0	0.4	2.034	A
South	A2	1007	252	228	2555	0.394	1004	1051	0.0	0.6	2.317	A
	B2	887	222	345	1796	0.494	883	887	0.0	1.0	3.924	A
	C2	631	158	1050	1192	0.529	626	179	0.0	1.1	6.314	A
	D2	336	84	944	1483	0.226	335	732	0.0	0.3	3.133	A

17:00 - 17:15

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	526	131	939	2015	0.261	526	788	0.3	0.4	2.416	A
	B1	695	174	1087	1070	0.650	692	378	1.0	1.8	9.440	A
	C1	1259	315	574	2338	0.538	1257	1205	0.8	1.2	3.327	A
	D1	816	204	912	2334	0.350	816	920	0.4	0.5	2.369	A
South	A2	1205	301	272	2524	0.477	1204	1259	0.6	0.9	2.723	A
	B2	1062	265	414	1758	0.604	1060	1062	1.0	1.5	5.143	A

	C2	753	188	1260	1077	0.699	749	214	1.1	2.2	10.809	B
	D2	401	100	1130	1371	0.292	400	878	0.3	0.4	3.705	A

17:15 - 17:30

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	644	161	1144	1873	0.344	643	947	0.4	0.5	2.927	A
	B1	851	213	1331	937	0.908	830	457	1.8	7.2	28.956	D
	C1	1509	377	692	2253	0.670	1506	1468	1.2	2.0	4.796	A
	D1	1000	250	1092	2196	0.455	999	1106	0.5	0.8	3.005	A
South	A2	1468	367	325	2487	0.590	1466	1509	0.9	1.4	3.518	A
	B2	1286	322	504	1706	0.754	1281	1286	1.5	3.0	8.341	A
	C2	923	231	1525	933	0.989	877	261	2.2	13.8	45.749	E
	D2	491	123	1344	1244	0.395	490	1057	0.4	0.6	4.769	A

17:30 - 17:45

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	644	161	1149	1869	0.345	644	961	0.5	0.5	2.937	A
	B1	851	213	1332	937	0.909	847	461	7.2	8.2	37.049	E
	C1	1530	382	703	2245	0.681	1529	1476	2.0	2.1	5.026	A
	D1	1000	250	1110	2182	0.458	1000	1122	0.8	0.8	3.045	A
South	A2	1476	369	329	2484	0.594	1476	1530	1.4	1.5	3.570	A
	B2	1298	324	507	1705	0.761	1297	1298	3.0	3.1	8.807	A
	C2	923	231	1542	923	1.000	896	262	13.8	20.3	79.037	F
	D2	491	123	1368	1230	0.399	491	1071	0.6	0.7	4.873	A

17:45 - 18:00

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	526	131	951	2007	0.262	527	824	0.5	0.4	2.434	A
	B1	695	174	1089	1068	0.650	720	389	8.2	1.9	11.037	B
	C1	1320	330	592	2325	0.568	1324	1217	2.1	1.3	3.608	A
	D1	816	204	958	2299	0.355	817	958	0.8	0.6	2.433	A
South	A2	1217	304	288	2513	0.484	1219	1320	1.5	0.9	2.787	A
	B2	1089	272	419	1755	0.621	1095	1089	3.1	1.7	5.499	A
	C2	753	188	1296	1057	0.713	824	217	20.3	2.6	19.964	C
	D2	401	100	1207	1326	0.302	402	914	0.7	0.4	3.901	A

18:00 - 18:15

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	440	110	790	2119	0.208	441	668	0.4	0.3	2.147	A
	B1	582	145	912	1165	0.500	586	319	1.9	1.0	6.256	A
	C1	1066	266	485	2402	0.444	1068	1012	1.3	0.8	2.701	A
	D1	684	171	774	2439	0.280	684	779	0.6	0.4	2.053	A
South	A2	1012	253	230	2553	0.397	1014	1066	0.9	0.7	2.341	A
	B2	896	224	348	1795	0.499	898	896	1.7	1.0	4.028	A
	C2	631	158	1066	1183	0.533	637	180	2.6	1.2	6.655	A
	D2	336	84	960	1473	0.228	336	743	0.4	0.3	3.167	A

REF 2023 WEEKEND, 13-14

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	Junction North - Arm A1 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	Junction North - Arm B1 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	Junction North - Arm D1 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Linked Roundabout	Junction North - Arm C1	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 South - Arm A2	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 South - Arm B2	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	Vehicle Mix	Junction North	HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.
Warning	Vehicle Mix	Junction South	HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.

Junction Network

Junctions

Junction	Name	Junction Type	Arm order	Junction Delay (s)	Junction LOS
North	M-49	Standard Roundabout	A1,B1,C1,D1	2.95	A
South	M-48	Standard Roundabout	A2,B2,C2,D2	3.76	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D_09	REF 2023 WEEKEND	13-14	Q3 70/30	ONE HOUR	12:45	14:15	15	✓

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

Linked Arm Data

Junction	Arm	Feeding Junction	Feeding Arm	Link Type	Flow source	Uniform flow (PCU/hr)	Flow multiplier (%)	Internal storage space (PCU)

North	**C1**	South	A2	Simple (vertical queueing)	Normal	0	100.00	
South	**A2**	North	C1	Simple (vertical queueing)	Normal	0	100.00	
	B2	South	B2	Simple (vertical queueing)	Normal	0	100.00	

Demand overview (Traffic)

Junction	Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
North	**A1**		ONE HOUR	✓	597	100.000
	B1		ONE HOUR	✓	325	100.000
	C1	✓				
	D1		ONE HOUR	✓	544	100.000
South	**A2**	✓				
	B2	✓				
	C2		ONE HOUR	✓	114	100.000
	D2		ONE HOUR	✓	884	100.000

Origin-Destination Data

Demand (PCU/hr)

Junction North

		To			
		A1	**B1**	**C1**	**D1**
From	**A1**	3	27	288	279
	B1	113	0	123	89
	C1	732	100	3	264
	D1	95	76	373	0

Demand (PCU/hr)

Junction South

		To			
		A2	**B2**	**C2**	**D2**
From	**A2**	21	571	58	129
	B2	402	2	33	377
	C2	42	39	0	33
	D2	621	233	21	9

Vehicle Mix

Heavy Vehicle Percentages

Junction North

		To			
		A1	**B1**	**C1**	**D1**
From	**A1**	0	0	0	0
	B1	0	0	0	0
	C1	0	0	0	0
	D1	0	0	0	0

Heavy Vehicle Percentages

Junction South

		To			
		A2	B2	C2	D2
From	A2	0	0	0	0
	B2	0	0	0	0
	C2	0	0	0	0
	D2	0	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)
North	A1	0.29	2.27	0.4	A	548	822
	B1	0.33	4.89	0.5	A	298	447
	C1	0.51	3.13	1.1	A	1013	1519
	D1	0.27	2.21	0.4	A	499	749
South	A2	0.35	2.23	0.5	A	722	1083
	B2	0.51	3.98	1.0	A	780	1171
	C2	0.11	3.42	0.1	A	105	157
	D2	0.57	4.94	1.3	A	811	1217

Main Results for each time segment

12:45 - 13:00

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	449	112	415	2380	0.189	449	708	0.0	0.2	1.864	A
	B1	245	61	711	1274	0.192	244	153	0.0	0.2	3.492	A
	C1	827	207	363	2489	0.332	825	591	0.0	0.5	2.160	A
	D1	410	102	714	2485	0.165	409	475	0.0	0.2	1.733	A
South	A2	591	148	228	2555	0.231	590	827	0.0	0.3	1.832	A
	B2	638	160	180	1890	0.338	636	638	0.0	0.5	2.866	A
	C2	86	21	731	1367	0.063	86	85	0.0	0.1	2.809	A
	D2	666	166	392	1812	0.367	663	424	0.0	0.6	3.128	A

13:00 - 13:15

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	537	134	496	2323	0.231	536	849	0.2	0.3	2.014	A
	B1	292	73	850	1198	0.244	292	183	0.2	0.3	3.971	A
	C1	991	248	435	2438	0.407	991	707	0.5	0.7	2.486	A
	D1	489	122	857	2376	0.206	489	569	0.2	0.3	1.907	A
South	A2	707	177	273	2523	0.280	707	991	0.3	0.4	1.981	A
	B2	764	191	216	1870	0.409	763	764	0.5	0.7	3.253	A

	C2	102	26	877	1287	0.080	102	102	0.1	0.1	3.038	A
	D2	795	199	471	1765	0.450	794	508	0.6	0.8	3.703	A

13:15 - 13:30

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	657	164	608	2246	0.293	657	1039	0.3	0.4	2.266	A
	B1	358	89	1041	1095	0.327	357	224	0.3	0.5	4.877	A
	C1	1213	303	532	2368	0.512	1212	866	0.7	1.0	3.109	A
	D1	599	150	1048	2229	0.269	599	696	0.3	0.4	2.207	A
South	A2	866	216	334	2481	0.349	865	1213	0.4	0.5	2.229	A
	B2	935	234	264	1842	0.508	934	935	0.7	1.0	3.957	A
	C2	126	31	1073	1180	0.106	125	125	0.1	0.1	3.414	A
	D2	973	243	576	1702	0.572	971	622	0.8	1.3	4.912	A

13:30 - 13:45

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	657	164	608	2245	0.293	657	1042	0.4	0.4	2.266	A
	B1	358	89	1042	1094	0.327	358	224	0.5	0.5	4.887	A
	C1	1216	304	533	2368	0.514	1216	867	1.0	1.1	3.125	A
	D1	599	150	1052	2227	0.269	599	697	0.4	0.4	2.211	A
South	A2	867	217	335	2480	0.349	867	1216	0.5	0.5	2.230	A
	B2	937	234	264	1842	0.509	937	937	1.0	1.0	3.976	A
	C2	126	31	1076	1178	0.107	126	126	0.1	0.1	3.419	A
	D2	973	243	578	1701	0.572	973	624	1.3	1.3	4.945	A

13:45 - 14:00

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	537	134	497	2322	0.231	537	854	0.4	0.3	2.018	A
	B1	292	73	851	1198	0.244	293	183	0.5	0.3	3.981	A
	C1	996	249	436	2437	0.409	997	708	1.1	0.7	2.503	A
	D1	489	122	862	2372	0.206	489	571	0.4	0.3	1.912	A
South	A2	708	177	274	2523	0.281	709	996	0.5	0.4	1.985	A
	B2	767	192	216	1869	0.410	768	767	1.0	0.7	3.274	A
	C2	102	26	881	1284	0.080	103	103	0.1	0.1	3.048	A
	D2	795	199	473	1763	0.451	797	511	1.3	0.8	3.733	A

14:00 - 14:15

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	449	112	416	2379	0.189	450	714	0.3	0.2	1.868	A
	B1	245	61	713	1273	0.192	245	153	0.3	0.2	3.506	A
	C1	833	208	365	2488	0.335	834	593	0.7	0.5	2.176	A
	D1	410	102	721	2480	0.165	410	478	0.3	0.2	1.741	A
South	A2	593	148	229	2554	0.232	593	833	0.4	0.3	1.838	A
	B2	642	160	181	1889	0.340	642	642	0.7	0.5	2.890	A
	C2	86	21	737	1363	0.063	86	86	0.1	0.1	2.820	A
	D2	666	166	396	1810	0.368	666	427	0.8	0.6	3.153	A

REF 2033 AM, 08-09

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	Junction North - Arm A1 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	Junction North - Arm B1 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	Junction North - Arm D1 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Linked Roundabout	Junction North - Arm C1	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 South - Arm A2	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 South - Arm B2	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	Vehicle Mix	Junction North	HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.
Warning	Vehicle Mix	Junction South	HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.

Junction Network

Junctions

Junction	Name	Junction Type	Arm order	Junction Delay (s)	Junction LOS
North	M-49	Standard Roundabout	A1,B1,C1,D1	8.95	A
South	M-48	Standard Roundabout	A2,B2,C2,D2	9.17	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D_10	REF 2033 AM	08-09	Q3 70/30	ONE HOUR	07:45	09:15	15	✓

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

Linked Arm Data

Junction	Arm	Feeding Junction	Feeding Arm	Link Type	Flow source	Uniform flow (PCU/hr)	Flow multiplier (%)	Internal storage space (PCU)
North	**C1**	South	A2	Simple (vertical	Normal	0	100.00	

				queueing)				
South	**A2**	North	C1	Simple (vertical queueing)	Normal	0	100.00	
	B2	South	B2	Simple (vertical queueing)	Normal	0	100.00	

Demand overview (Traffic)

Junction	Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
North	**A1**		ONE HOUR	✓	522	100.000
	B1		ONE HOUR	✓	558	100.000
	C1	✓				
	D1		ONE HOUR	✓	1685	100.000
South	**A2**	✓				
	B2	✓				
	C2		ONE HOUR	✓	251	100.000
	D2		ONE HOUR	✓	855	100.000

Origin-Destination Data

Demand (PCU/hr)

Junction North

		To			
		A1	**B1**	**C1**	**D1**
From	**A1**	0	30	326	166
	B1	109	0	261	188
	C1	573	329	2	389
	D1	258	371	1056	0

Demand (PCU/hr)

Junction South

		To			
		A2	**B2**	**C2**	**D2**
From	**A2**	3	956	476	213
	B2	663	0	281	817
	C2	139	59	0	53
	D2	481	47	327	0

Vehicle Mix

Heavy Vehicle Percentages

Junction North

		To			
		A1	**B1**	**C1**	**D1**
From	**A1**	0	0	0	0
	B1	0	0	0	0
	C1	0	0	0	0
	D1	0	0	0	0

Heavy Vehicle Percentages

Junction South

		To			
		A2	B2	C2	D2
From	A2	0	0	0	0
	B2	0	0	0	0
	C2	0	0	0	0
	D2	0	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)
North	A1	0.42	4.49	0.7	A	479	718
	B1	0.84	28.88	4.7	D	512	768
	C1	0.47	2.85	0.9	A	937	1406
	D1	0.79	7.43	3.8	A	1546	2319
South	A2	0.76	6.29	3.1	A	1508	2263
	B2	0.86	18.09	5.6	C	972	1458
	C2	0.25	4.36	0.3	A	230	345
	D2	0.57	5.06	1.3	A	785	1177

Main Results for each time segment

07:45 - 08:00

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	393	98	1266	1788	0.220	392	613	0.0	0.3	2.576	A
	B1	420	105	1163	1028	0.408	417	495	0.0	0.7	5.866	A
	C1	764	191	347	2501	0.306	763	1234	0.0	0.4	2.068	A
	D1	1269	317	615	2561	0.495	1265	495	0.0	1.0	2.768	A
South	A2	1234	308	325	2487	0.496	1230	764	0.0	1.0	2.855	A
	B2	793	198	762	1561	0.508	789	793	0.0	1.0	4.638	A
	C2	189	47	824	1316	0.144	188	726	0.0	0.2	3.192	A
	D2	644	161	448	1779	0.362	641	565	0.0	0.6	3.158	A

08:00 - 08:15

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	469	117	1515	1615	0.291	469	735	0.3	0.4	3.139	A
	B1	502	125	1391	905	0.554	499	593	0.7	1.2	8.833	A
	C1	916	229	415	2452	0.373	915	1476	0.4	0.6	2.340	A
	D1	1515	379	738	2467	0.614	1512	593	1.0	1.6	3.761	A
South	A2	1476	369	389	2442	0.604	1473	916	1.0	1.5	3.709	A
	B2	950	237	912	1476	0.644	947	950	1.0	1.8	6.767	A

	C2	226	56	989	1225	0.184	225	870	0.2	0.2	3.599	A
	D2	769	192	537	1725	0.445	768	677	0.6	0.8	3.756	A

08:15 - 08:30

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	575	144	1849	1383	0.416	574	894	0.4	0.7	4.443	A
	B1	614	154	1700	737	0.833	602	723	1.2	4.3	24.699	C
	C1	1115	279	503	2389	0.467	1114	1799	0.6	0.9	2.820	A
	D1	1855	464	896	2345	0.791	1847	720	1.6	3.6	7.103	A
South	A2	1799	450	476	2381	0.756	1793	1115	1.5	3.0	6.061	A
	B2	1157	289	1112	1363	0.849	1144	1157	1.8	5.0	15.555	C
	C2	276	69	1196	1112	0.249	276	1060	0.2	0.3	4.303	A
	D2	941	235	651	1657	0.568	939	821	0.8	1.3	5.002	A

08:30 - 08:45

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	575	144	1859	1376	0.418	575	902	0.7	0.7	4.491	A
	B1	614	154	1706	734	0.837	613	727	4.3	4.7	28.880	D
	C1	1124	281	509	2385	0.471	1124	1810	0.9	0.9	2.855	A
	D1	1855	464	906	2339	0.793	1855	727	3.6	3.8	7.427	A
South	A2	1810	452	477	2380	0.760	1809	1124	3.0	3.1	6.295	A
	B2	1166	292	1120	1359	0.858	1164	1166	5.0	5.6	18.094	C
	C2	276	69	1215	1102	0.251	276	1068	0.3	0.3	4.362	A
	D2	941	235	660	1652	0.570	941	832	1.3	1.3	5.063	A

08:45 - 09:00

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	469	117	1528	1606	0.292	470	746	0.7	0.4	3.176	A
	B1	502	125	1400	900	0.557	515	599	4.7	1.3	9.660	A
	C1	930	232	424	2446	0.380	931	1491	0.9	0.6	2.377	A
	D1	1515	379	751	2457	0.617	1523	603	3.8	1.6	3.891	A
South	A2	1491	373	390	2441	0.611	1497	930	3.1	1.6	3.839	A
	B2	964	241	923	1470	0.656	978	964	5.6	1.9	7.532	A
	C2	226	56	1018	1209	0.187	226	883	0.3	0.2	3.662	A
	D2	769	192	549	1718	0.447	771	695	1.3	0.8	3.810	A

09:00 - 09:15

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	393	98	1274	1782	0.221	394	620	0.4	0.3	2.592	A
	B1	420	105	1169	1025	0.410	422	499	1.3	0.7	5.995	A
	C1	773	193	350	2499	0.309	773	1241	0.6	0.4	2.086	A
	D1	1269	317	623	2555	0.497	1271	500	1.6	1.0	2.811	A
South	A2	1241	310	326	2486	0.499	1243	773	1.6	1.0	2.902	A
	B2	801	200	769	1557	0.515	805	801	1.9	1.1	4.807	A
	C2	189	47	839	1307	0.145	189	734	0.2	0.2	3.222	A
	D2	644	161	455	1775	0.363	645	574	0.8	0.6	3.190	A

REF 2033 PM, 17-18

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	Junction North - Arm A1 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	Junction North - Arm B1 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	Junction North - Arm D1 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Linked Roundabout	Junction North - Arm C1	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 South - Arm A2	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 South - Arm B2	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	Vehicle Mix	Junction North	HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.
Warning	Vehicle Mix	Junction South	HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.

Junction Network

Junctions

Junction	Name	Junction Type	Arm order	Junction Delay (s)	Junction LOS
North	M-49	Standard Roundabout	A1,B1,C1,D1	38.23	E
South	M-48	Standard Roundabout	A2,B2,C2,D2	61.04	F

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D_11	REF 2033 PM	17-18	Q3 70/30	ONE HOUR	16:45	18:15	15	✓

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

Linked Arm Data

Junction	Arm	Feeding Junction	Feeding Arm	Link Type	Flow source	Uniform flow (PCU/hr)	Flow multiplier (%)	Internal storage space (PCU)
North	**C1**	South	A2	Simple (vertical	Normal	0	100.00	

				queueing)				
South	**A2**	North	C1	Simple (vertical queueing)	Normal	0	100.00	
	B2	South	B2	Simple (vertical queueing)	Normal	0	100.00	

Demand overview (Traffic)

Junction	Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
North	**A1**		ONE HOUR	✓	627	100.000
	B1		ONE HOUR	✓	822	100.000
	C1	✓				
	D1		ONE HOUR	✓	1075	100.000
South	**A2**	✓				
	B2	✓				
	C2		ONE HOUR	✓	890	100.000
	D2		ONE HOUR	✓	477	100.000

Origin-Destination Data

Demand (PCU/hr)

Junction North

		To			
		A1	**B1**	**C1**	**D1**
From	**A1**	0	30	427	170
	B1	221	0	309	292
	C1	585	227	2	602
	D1	105	178	792	0

Demand (PCU/hr)

Junction South

		To			
		A2	**B2**	**C2**	**D2**
From	**A2**	8	1095	117	278
	B2	616	0	48	553
	C2	506	186	0	198
	D2	339	57	81	0

Vehicle Mix

Heavy Vehicle Percentages

Junction North

		To			
		A1	**B1**	**C1**	**D1**
From	**A1**	0	0	0	0
	B1	0	0	0	0
	C1	0	0	0	0
	D1	0	0	0	0

Heavy Vehicle Percentages

Junction South

		To			
		A2	B2	C2	D2
From	A2	0	0	0	0
	B2	0	0	0	0
	C2	0	0	0	0
	D2	0	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)
North	A1	0.40	3.40	0.7	A	575	863
	B1	1.09	171.39	47.4	F	754	1131
	C1	0.71	5.45	2.4	A	1413	2120
	D1	0.55	3.67	1.2	A	986	1480
South	A2	0.67	4.32	2.0	A	1403	2105
	B2	0.86	14.48	5.6	B	1248	1872
	C2	1.17	259.58	77.3	F	817	1225
	D2	0.43	5.20	0.8	A	438	657

Main Results for each time segment

16:45 - 17:00

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	472	118	914	2033	0.232	471	718	0.0	0.3	2.304	A
	B1	619	155	1045	1093	0.566	614	340	0.0	1.3	7.439	A
	C1	1151	288	511	2384	0.483	1147	1148	0.0	0.9	2.903	A
	D1	809	202	824	2401	0.337	807	833	0.0	0.5	2.256	A
South	A2	1148	287	242	2545	0.451	1144	1151	0.0	0.8	2.565	A
	B2	1018	255	369	1783	0.571	1013	1018	0.0	1.3	4.642	A
	C2	670	168	1191	1115	0.601	664	190	0.0	1.5	7.891	A
	D2	359	90	1035	1428	0.251	358	820	0.0	0.3	3.358	A

17:00 - 17:15

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	564	141	1093	1908	0.295	563	859	0.3	0.4	2.677	A
	B1	739	185	1250	982	0.753	733	407	1.3	2.9	14.110	B
	C1	1376	344	610	2312	0.595	1374	1372	0.9	1.5	3.827	A
	D1	966	242	987	2276	0.425	965	997	0.5	0.7	2.745	A
South	A2	1372	343	289	2512	0.546	1371	1376	0.8	1.2	3.149	A
	B2	1218	305	441	1742	0.699	1214	1218	1.3	2.3	6.772	A

	C2	800	200	1428	985	0.812	790	228	1.5	3.9	17.655	C
	D2	429	107	1237	1308	0.328	428	982	0.3	0.5	4.089	A

17:15 - 17:30

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	690	173	1321	1750	0.394	689	983	0.4	0.6	3.391	A
	B1	905	226	1529	830	1.091	808	481	2.9	27.2	81.524	F
	C1	1577	394	691	2254	0.700	1573	1646	1.5	2.3	5.264	A
	D1	1184	296	1122	2173	0.545	1182	1143	0.7	1.2	3.626	A
South	A2	1646	412	326	2486	0.662	1643	1577	1.2	1.9	4.255	A
	B2	1438	359	531	1691	0.850	1426	1438	2.3	5.2	13.022	B
	C2	980	245	1684	846	1.159	833	274	3.9	40.7	110.109	F
	D2	525	131	1378	1224	0.429	524	1138	0.5	0.7	5.140	A

17:30 - 17:45

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	690	173	1325	1747	0.395	690	993	0.6	0.7	3.404	A
	B1	905	226	1532	829	1.092	824	483	27.2	47.4	171.386	F
	C1	1587	397	702	2246	0.706	1587	1654	2.3	2.4	5.453	A
	D1	1184	296	1134	2164	0.547	1184	1154	1.2	1.2	3.671	A
South	A2	1654	414	326	2486	0.665	1654	1587	1.9	2.0	4.324	A
	B2	1446	361	534	1690	0.856	1444	1446	5.2	5.6	14.476	B
	C2	980	245	1703	835	1.174	833	275	40.7	77.3	259.584	F
	D2	525	131	1388	1218	0.431	525	1149	0.7	0.8	5.196	A

17:45 - 18:00

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	564	141	1116	1893	0.298	565	959	0.7	0.4	2.712	A
	B1	739	185	1253	980	0.754	914	427	47.4	3.6	86.425	F
	C1	1496	374	724	2230	0.671	1498	1443	2.4	2.1	4.921	A
	D1	966	242	1107	2185	0.442	968	1114	1.2	0.8	2.964	A
South	A2	1443	361	316	2494	0.579	1446	1496	2.0	1.4	3.445	A
	B2	1299	325	462	1731	0.751	1309	1299	5.6	3.1	8.738	A
	C2	800	200	1534	927	0.863	916	238	77.3	48.4	245.785	F
	D2	429	107	1382	1221	0.351	430	1067	0.8	0.5	4.554	A

18:00 - 18:15

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	472	118	941	2014	0.234	473	784	0.4	0.3	2.335	A
	B1	619	155	1049	1090	0.568	628	365	3.6	1.3	7.935	A
	C1	1293	323	520	2377	0.544	1297	1157	2.1	1.2	3.343	A
	D1	809	202	914	2332	0.347	810	903	0.8	0.5	2.367	A
South	A2	1157	289	283	2516	0.460	1159	1293	1.4	0.9	2.655	A
	B2	1069	267	373	1781	0.600	1076	1069	3.1	1.5	5.149	A
	C2	670	168	1254	1080	0.620	857	194	48.4	1.7	35.724	E
	D2	359	90	1217	1320	0.272	360	894	0.5	0.4	3.751	A

REF 2033 WEEKEND, 13-14

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	Junction North - Arm A1 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	Junction North - Arm B1 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	Junction North - Arm D1 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Linked Roundabout	Junction North - Arm C1	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 South - Arm A2	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 South - Arm B2	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	Vehicle Mix	Junction North	HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.
Warning	Vehicle Mix	Junction South	HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.

Junction Network

Junctions

Junction	Name	Junction Type	Arm order	Junction Delay (s)	Junction LOS
North	M-49	Standard Roundabout	A1,B1,C1,D1	3.22	A
South	M-48	Standard Roundabout	A2,B2,C2,D2	4.16	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D_12	REF 2033 WEEKEND	13-14	Q3 70/30	ONE HOUR	12:45	14:15	15	✓

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

Linked Arm Data

Junction	Arm	Feeding Junction	Feeding Arm	Link Type	Flow source	Uniform flow (PCU/hr)	Flow multiplier (%)	Internal storage space (PCU)

North	**C1**	South	A2	Simple (vertical queueing)	Normal	0	100.00	
South	**A2**	North	C1	Simple (vertical queueing)	Normal	0	100.00	
	B2	South	B2	Simple (vertical queueing)	Normal	0	100.00	

Demand overview (Traffic)

Junction	Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
North	**A1**		ONE HOUR	✓	637	100.000
	B1		ONE HOUR	✓	350	100.000
	C1	✓				
	D1		ONE HOUR	✓	582	100.000
South	**A2**	✓				
	B2	✓				
	C2		ONE HOUR	✓	121	100.000
	D2		ONE HOUR	✓	948	100.000

Origin-Destination Data

Demand (PCU/hr)

Junction North

		To			
		A1	**B1**	**C1**	**D1**
From	**A1**	3	30	308	296
	B1	122	0	132	96
	C1	785	107	3	281
	D1	102	81	399	0

Demand (PCU/hr)

Junction South

		To			
		A2	**B2**	**C2**	**D2**
From	**A2**	23	613	61	139
	B2	430	2	36	405
	C2	44	42	0	35
	D2	666	250	22	10

Vehicle Mix

Heavy Vehicle Percentages

Junction North

		To			
		A1	**B1**	**C1**	**D1**
From	**A1**	0	0	0	0
	B1	0	0	0	0
	C1	0	0	0	0
	D1	0	0	0	0

Heavy Vehicle Percentages

Junction South

		To			
		A2	B2	C2	D2
From	A2	0	0	0	0
	B2	0	0	0	0
	C2	0	0	0	0
	D2	0	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)
North	A1	0.32	2.38	0.5	A	585	877
	B1	0.36	5.36	0.6	A	321	482
	C1	0.56	3.46	1.2	A	1084	1626
	D1	0.30	2.36	0.4	A	534	801
South	A2	0.38	2.34	0.6	A	772	1159
	B2	0.55	4.35	1.2	A	836	1254
	C2	0.12	3.59	0.1	A	111	167
	D2	0.62	5.68	1.6	A	870	1305

Main Results for each time segment

12:45 - 13:00

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	480	120	443	2360	0.203	479	760	0.0	0.3	1.913	A
	B1	263	66	758	1248	0.211	262	164	0.0	0.3	3.649	A
	C1	885	221	388	2472	0.358	883	632	0.0	0.6	2.263	A
	D1	438	110	766	2446	0.179	437	505	0.0	0.2	1.792	A
South	A2	632	158	245	2543	0.249	631	885	0.0	0.3	1.882	A
	B2	683	171	192	1883	0.363	681	683	0.0	0.6	2.991	A
	C2	91	23	783	1338	0.068	91	91	0.0	0.1	2.886	A
	D2	714	178	419	1796	0.397	711	455	0.0	0.7	3.310	A

13:00 - 13:15

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	573	143	530	2299	0.249	572	911	0.3	0.3	2.084	A
	B1	315	79	907	1168	0.269	314	196	0.3	0.4	4.217	A
	C1	1061	265	464	2417	0.439	1060	756	0.6	0.8	2.652	A
	D1	523	131	919	2328	0.225	523	605	0.2	0.3	1.994	A
South	A2	756	189	293	2510	0.301	756	1061	0.3	0.4	2.053	A
	B2	818	205	230	1861	0.440	818	818	0.6	0.8	3.445	A

	C2	109	27	939	1253	0.087	109	109	0.1	0.1	3.146	A
	D2	852	213	503	1746	0.488	851	545	0.7	0.9	4.018	A

13:15 - 13:30

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	701	175	649	2217	0.316	701	1115	0.3	0.5	2.375	A
	B1	385	96	1110	1057	0.365	385	240	0.4	0.6	5.345	A
	C1	1298	324	568	2342	0.554	1296	926	0.8	1.2	3.436	A
	D1	641	160	1124	2172	0.295	640	741	0.3	0.4	2.351	A
South	A2	926	232	358	2464	0.376	925	1298	0.4	0.6	2.339	A
	B2	1002	250	282	1832	0.547	1000	1002	0.8	1.2	4.317	A
	C2	133	33	1149	1138	0.117	133	133	0.1	0.1	3.582	A
	D2	1044	261	615	1679	0.622	1041	667	0.9	1.6	5.620	A

13:30 - 13:45

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	701	175	650	2216	0.316	701	1119	0.5	0.5	2.376	A
	B1	385	96	1111	1057	0.365	385	241	0.6	0.6	5.361	A
	C1	1301	325	569	2341	0.556	1301	927	1.2	1.2	3.460	A
	D1	641	160	1128	2168	0.296	641	743	0.4	0.4	2.356	A
South	A2	927	232	359	2463	0.376	927	1301	0.6	0.6	2.343	A
	B2	1004	251	283	1832	0.548	1004	1004	1.2	1.2	4.345	A
	C2	133	33	1153	1136	0.117	133	133	0.1	0.1	3.589	A
	D2	1044	261	617	1678	0.622	1044	669	1.6	1.6	5.677	A

13:45 - 14:00

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	573	143	532	2298	0.249	573	918	0.5	0.3	2.088	A
	B1	315	79	908	1167	0.270	315	197	0.6	0.4	4.233	A
	C1	1066	267	466	2416	0.441	1068	758	1.2	0.8	2.674	A
	D1	523	131	926	2323	0.225	524	608	0.4	0.3	2.000	A
South	A2	758	189	294	2509	0.302	759	1066	0.6	0.4	2.059	A
	B2	821	205	231	1861	0.441	823	821	1.2	0.8	3.475	A
	C2	109	27	945	1249	0.087	109	109	0.1	0.1	3.158	A
	D2	852	213	506	1744	0.489	855	548	1.6	1.0	4.061	A

14:00 - 14:15

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	480	120	445	2359	0.203	480	767	0.3	0.3	1.918	A
	B1	263	66	760	1247	0.211	264	165	0.4	0.3	3.665	A
	C1	892	223	390	2471	0.361	893	634	0.8	0.6	2.282	A
	D1	438	110	774	2440	0.180	438	509	0.3	0.2	1.801	A
South	A2	634	159	246	2543	0.250	635	892	0.4	0.3	1.889	A
	B2	687	172	193	1882	0.365	688	687	0.8	0.6	3.016	A
	C2	91	23	790	1334	0.068	91	91	0.1	0.1	2.896	A
	D2	714	178	423	1793	0.398	715	459	1.0	0.7	3.343	A

WNP 2020 AM WBP, 08-09

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	Junction North - Arm A1 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	Junction North - Arm B1 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	Junction North - Arm D1 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Linked Roundabout	Junction North - Arm C1	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 South - Arm A2	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 South - Arm B2	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	Vehicle Mix	Junction North	HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.
Warning	Vehicle Mix	Junction South	HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.

Junction Network

Junctions

Junction	Name	Junction Type	Arm order	Junction Delay (s)	Junction LOS
North	M-49	Standard Roundabout	A1,B1,C1,D1	5.36	A
South	M-48	Standard Roundabout	A2,B2,C2,D2	5.76	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D_13	WNP 2020 AM WBP	08-09	Q3 70/30	ONE HOUR	07:45	09:15	15	✓

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

Linked Arm Data

Junction	Arm	Feeding Junction	Feeding Arm	Link Type	Flow source	Uniform flow (PCU/hr)	Flow multiplier (%)	Internal storage space (PCU)

North	**C1**	South	A2	Simple (vertical queueing)	Normal	0	100.00	
South	**A2**	North	C1	Simple (vertical queueing)	Normal	0	100.00	
	B2	South	B2	Simple (vertical queueing)	Normal	0	100.00	

Demand overview (Traffic)

Junction	Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
North	**A1**		ONE HOUR	✓	467	100.000
	B1		ONE HOUR	✓	509	100.000
	C1	✓				
	D1		ONE HOUR	✓	1517	100.000
South	**A2**	✓				
	B2	✓				
	C2		ONE HOUR	✓	226	100.000
	D2		ONE HOUR	✓	780	100.000

Origin-Destination Data

Demand (PCU/hr)

Junction North

		To			
		A1	**B1**	**C1**	**D1**
From	**A1**	0	28	289	150
	B1	100	0	239	170
	C1	523	301	2	348
	D1	235	341	941	0

Demand (PCU/hr)

Junction South

		To			
		A2	**B2**	**C2**	**D2**
From	**A2**	3	842	442	185
	B2	598	0	256	651
	C2	129	51	0	46
	D2	439	42	299	0

Vehicle Mix

Heavy Vehicle Percentages

Junction North

		To			
		A1	**B1**	**C1**	**D1**
From	**A1**	0	0	0	0
	B1	0	0	0	0
	C1	0	0	0	0
	D1	0	0	0	0

Heavy Vehicle Percentages

Junction South

		To			
		A2	B2	C2	D2
From	A2	0	0	0	0
	B2	0	0	0	0
	C2	0	0	0	0
	D2	0	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)
North	A1	0.34	3.65	0.5	A	429	643
	B1	0.67	13.11	2.0	B	467	701
	C1	0.43	2.61	0.7	A	864	1296
	D1	0.70	5.01	2.3	A	1392	2088
South	A2	0.67	4.54	2.0	A	1349	2023
	B2	0.73	9.31	2.6	A	857	1285
	C2	0.21	3.84	0.3	A	207	311
	D2	0.51	4.37	1.0	A	716	1074

Main Results for each time segment

07:45 - 08:00

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	352	88	1144	1873	0.188	351	565	0.0	0.2	2.364	A
	B1	383	96	1037	1097	0.349	381	457	0.0	0.5	5.015	A
	C1	705	176	315	2524	0.279	704	1104	0.0	0.4	1.975	A
	D1	1142	286	570	2596	0.440	1139	448	0.0	0.8	2.466	A
South	A2	1104	276	294	2509	0.440	1101	705	0.0	0.8	2.551	A
	B2	699	175	695	1599	0.437	696	699	0.0	0.8	3.976	A
	C2	170	43	718	1373	0.124	170	673	0.0	0.1	2.988	A
	D2	587	147	414	1799	0.326	585	474	0.0	0.5	2.961	A

08:00 - 08:15

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	420	105	1369	1716	0.245	419	677	0.2	0.3	2.775	A
	B1	458	114	1241	986	0.464	456	548	0.5	0.9	6.775	A
	C1	845	211	377	2480	0.341	845	1320	0.4	0.5	2.201	A
	D1	1364	341	684	2508	0.544	1362	537	0.8	1.2	3.137	A
South	A2	1320	330	352	2468	0.535	1319	845	0.8	1.1	3.128	A
	B2	838	209	833	1521	0.551	836	838	0.8	1.2	5.243	A

	C2	203	51	862	1295	0.157	203	807	0.1	0.2	3.297	A
	D2	701	175	497	1749	0.401	700	569	0.5	0.7	3.430	A

08:15 - 08:30

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	514	129	1674	1504	0.342	513	827	0.3	0.5	3.627	A
	B1	560	140	1518	836	0.670	556	670	0.9	2.0	12.659	B
	C1	1032	258	460	2420	0.427	1031	1614	0.5	0.7	2.591	A
	D1	1670	418	835	2393	0.698	1666	656	1.2	2.3	4.924	A
South	A2	1614	403	431	2413	0.669	1611	1032	1.1	2.0	4.470	A
	B2	1023	256	1018	1416	0.723	1018	1023	1.2	2.5	8.926	A
	C2	249	62	1051	1192	0.209	249	985	0.2	0.3	3.817	A
	D2	859	215	606	1684	0.510	857	693	0.7	1.0	4.345	A

08:30 - 08:45

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	514	129	1679	1501	0.343	514	831	0.5	0.5	3.647	A
	B1	560	140	1521	834	0.672	560	672	2.0	2.0	13.110	B
	C1	1037	259	462	2418	0.429	1037	1619	0.7	0.7	2.606	A
	D1	1670	418	840	2389	0.699	1670	660	2.3	2.3	5.006	A
South	A2	1619	405	432	2412	0.671	1619	1037	2.0	2.0	4.536	A
	B2	1028	257	1022	1414	0.727	1028	1028	2.5	2.6	9.309	A
	C2	249	62	1060	1187	0.210	249	990	0.3	0.3	3.837	A
	D2	859	215	610	1682	0.511	859	699	1.0	1.0	4.373	A

08:45 - 09:00

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	420	105	1376	1711	0.245	421	683	0.5	0.3	2.790	A
	B1	458	114	1245	984	0.465	462	551	2.0	0.9	6.959	A
	C1	852	213	380	2477	0.344	853	1327	0.7	0.5	2.217	A
	D1	1364	341	691	2503	0.545	1368	542	2.3	1.2	3.183	A
South	A2	1327	332	353	2467	0.538	1331	852	2.0	1.2	3.176	A
	B2	845	211	839	1518	0.557	850	845	2.6	1.3	5.439	A
	C2	203	51	876	1287	0.158	203	814	0.3	0.2	3.321	A
	D2	701	175	503	1746	0.402	703	576	1.0	0.7	3.454	A

09:00 - 09:15

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	352	88	1150	1868	0.188	352	570	0.3	0.2	2.374	A
	B1	383	96	1042	1094	0.350	385	461	0.9	0.5	5.082	A
	C1	711	178	317	2523	0.282	712	1109	0.5	0.4	1.989	A
	D1	1142	286	576	2591	0.441	1144	453	1.2	0.8	2.492	A
South	A2	1109	277	295	2508	0.442	1111	711	1.2	0.8	2.581	A
	B2	705	176	701	1596	0.442	707	705	1.3	0.8	4.062	A
	C2	170	43	729	1368	0.124	170	679	0.2	0.1	3.008	A
	D2	587	147	419	1796	0.327	588	480	0.7	0.5	2.981	A

WNP 2020 PM WBP, 17-18

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	Junction North - Arm A1 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	Junction North - Arm B1 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	Junction North - Arm D1 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Linked Roundabout	Junction North - Arm C1	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 South - Arm A2	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 South - Arm B2	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	Vehicle Mix	Junction North	HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.
Warning	Vehicle Mix	Junction South	HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.

Junction Network

Junctions

Junction	Name	Junction Type	Arm order	Junction Delay (s)	Junction LOS
North	M-49	Standard Roundabout	A1,B1,C1,D1	10.23	B
South	M-48	Standard Roundabout	A2,B2,C2,D2	20.17	C

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D_14	WNP 2020 PM WBP	17-18	Q3 70/30	ONE HOUR	16:45	18:15	15	✓

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

Linked Arm Data

Junction	Arm	Feeding Junction	Feeding Arm	Link Type	Flow source	Uniform flow (PCU/hr)	Flow multiplier (%)	Internal storage space (PCU)

North	**C1**	South	A2	Simple (vertical queueing)	Normal	0	100.00	
South	**A2**	North	C1	Simple (vertical queueing)	Normal	0	100.00	
	B2	South	B2	Simple (vertical queueing)	Normal	0	100.00	

Demand overview (Traffic)

Junction	Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
North	**A1**		ONE HOUR	✓	574	100.000
	B1		ONE HOUR	✓	756	100.000
	C1	✓				
	D1		ONE HOUR	✓	935	100.000
South	**A2**	✓				
	B2	✓				
	C2		ONE HOUR	✓	822	100.000
	D2		ONE HOUR	✓	435	100.000

Origin-Destination Data

Demand (PCU/hr)

Junction North

		To			
		A1	**B1**	**C1**	**D1**
From	**A1**	0	28	392	154
	B1	203	0	284	269
	C1	534	208	1	543
	D1	94	162	679	0

Demand (PCU/hr)

Junction South

		To			
		A2	**B2**	**C2**	**D2**
From	**A2**	7	957	109	256
	B2	551	0	45	491
	C2	468	172	0	182
	D2	310	51	74	0

Vehicle Mix

Heavy Vehicle Percentages

Junction North

		To			
		A1	**B1**	**C1**	**D1**
From	**A1**	0	0	0	0
	B1	0	0	0	0
	C1	0	0	0	0
	D1	0	0	0	0

Heavy Vehicle Percentages

Junction South

		To			
		A2	B2	C2	D2
From	A2	0	0	0	0
	B2	0	0	0	0
	C2	0	0	0	0
	D2	0	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)
North	A1	0.34	2.95	0.5	A	527	790
	B1	0.90	34.43	7.5	D	694	1041
	C1	0.67	4.87	2.0	A	1277	1916
	D1	0.47	3.10	0.9	A	858	1287
South	A2	0.60	3.61	1.5	A	1244	1866
	B2	0.77	9.08	3.2	A	1100	1650
	C2	0.99	71.79	17.8	F	754	1131
	D2	0.39	4.77	0.6	A	399	599

Main Results for each time segment

16:45 - 17:00

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	432	108	800	2112	0.205	431	653	0.0	0.3	2.141	A
	B1	569	142	921	1160	0.491	565	311	0.0	1.0	6.018	A
	C1	1041	260	469	2414	0.431	1038	1018	0.0	0.8	2.611	A
	D1	704	176	751	2457	0.287	702	755	0.0	0.4	2.050	A
South	A2	1018	254	222	2559	0.398	1015	1041	0.0	0.7	2.327	A
	B2	898	224	340	1800	0.499	894	898	0.0	1.0	3.956	A
	C2	619	155	1058	1188	0.521	615	176	0.0	1.1	6.234	A
	D2	327	82	937	1487	0.220	326	735	0.0	0.3	3.099	A

17:00 - 17:15

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	516	129	958	2002	0.258	516	783	0.3	0.3	2.421	A
	B1	680	170	1101	1062	0.640	677	372	1.0	1.7	9.266	A
	C1	1247	312	561	2348	0.531	1245	1217	0.8	1.1	3.262	A
	D1	841	210	901	2342	0.359	840	905	0.4	0.6	2.395	A
South	A2	1217	304	266	2528	0.481	1216	1247	0.7	0.9	2.740	A
	B2	1075	269	407	1762	0.610	1073	1075	1.0	1.5	5.211	A

	C2	739	185	1269	1072	0.689	735	211	1.1	2.1	10.537	B
	D2	391	98	1122	1376	0.284	391	882	0.3	0.4	3.650	A

17:15 - 17:30

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	632	158	1168	1856	0.340	631	942	0.3	0.5	2.937	A
	B1	832	208	1348	928	0.897	813	451	1.7	6.6	27.565	D
	C1	1498	375	677	2264	0.662	1495	1484	1.1	1.9	4.661	A
	D1	1029	257	1082	2203	0.467	1028	1090	0.6	0.9	3.060	A
South	A2	1484	371	318	2492	0.596	1482	1498	0.9	1.5	3.558	A
	B2	1304	326	496	1711	0.762	1298	1304	1.5	3.1	8.582	A
	C2	905	226	1537	925	0.978	864	257	2.1	12.5	43.008	E
	D2	479	120	1338	1247	0.384	478	1063	0.4	0.6	4.675	A

17:30 - 17:45

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	632	158	1173	1853	0.341	632	957	0.5	0.5	2.947	A
	B1	832	208	1350	927	0.898	829	455	6.6	7.5	34.429	D
	C1	1519	380	687	2257	0.673	1518	1492	1.9	2.0	4.872	A
	D1	1029	257	1100	2190	0.470	1029	1106	0.9	0.9	3.101	A
South	A2	1492	373	323	2489	0.599	1492	1519	1.5	1.5	3.610	A
	B2	1315	329	499	1710	0.769	1315	1315	3.1	3.2	9.079	A
	C2	905	226	1555	916	0.988	884	258	12.5	17.8	71.786	F
	D2	479	120	1362	1233	0.388	479	1077	0.6	0.6	4.772	A

17:45 - 18:00

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	516	129	969	1994	0.259	517	815	0.5	0.4	2.436	A
	B1	680	170	1104	1061	0.641	702	382	7.5	1.8	10.639	B
	C1	1302	326	577	2336	0.557	1305	1229	2.0	1.3	3.504	A
	D1	841	210	943	2310	0.364	842	940	0.9	0.6	2.455	A
South	A2	1229	307	280	2518	0.488	1231	1302	1.5	1.0	2.802	A
	B2	1100	275	411	1759	0.625	1106	1100	3.2	1.7	5.562	A
	C2	739	185	1304	1053	0.702	800	213	17.8	2.5	17.565	C
	D2	391	98	1190	1336	0.293	392	914	0.6	0.4	3.819	A

18:00 - 18:15

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	432	108	806	2108	0.205	433	664	0.4	0.3	2.148	A
	B1	569	142	924	1158	0.491	573	314	1.8	1.0	6.182	A
	C1	1055	264	474	2410	0.438	1057	1023	1.3	0.8	2.664	A
	D1	704	176	765	2446	0.288	705	766	0.6	0.4	2.067	A
South	A2	1023	256	225	2557	0.400	1024	1055	1.0	0.7	2.349	A
	B2	907	227	342	1798	0.504	909	907	1.7	1.0	4.062	A
	C2	619	155	1074	1179	0.525	624	177	2.5	1.1	6.554	A
	D2	327	82	952	1478	0.222	328	746	0.4	0.3	3.134	A

WNP 2020 WEEKEND WBP, 13-14

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	Junction North - Arm A1 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	Junction North - Arm B1 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	Junction North - Arm D1 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Linked Roundabout	Junction North - Arm C1	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 South - Arm A2	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 South - Arm B2	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	Vehicle Mix	Junction North	HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.
Warning	Vehicle Mix	Junction South	HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.

Junction Network

Junctions

Junction	Name	Junction Type	Arm order	Junction Delay (s)	Junction LOS
North	M-49	Standard Roundabout	A1,B1,C1,D1	2.88	A
South	M-48	Standard Roundabout	A2,B2,C2,D2	3.64	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D_15	WNP 2020 WEEKEND WBP	13-14	Q3 70/30	ONE HOUR	12:45	14:15	15	✓

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

Linked Arm Data

Junction	Arm	Feeding Junction	Feeding Arm	Link Type	Flow source	Uniform flow (PCU/hr)	Flow multiplier (%)	Internal storage space (PCU)

North	**C1**	South	A2	Simple (vertical queueing)	Normal	0	100.00	
South	**A2**	North	C1	Simple (vertical queueing)	Normal	0	100.00	
	B2	South	B2	Simple (vertical queueing)	Normal	0	100.00	

Demand overview (Traffic)

Junction	Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
North	**A1**		ONE HOUR	✓	584	100.000
	B1		ONE HOUR	✓	318	100.000
	C1	✓				
	D1		ONE HOUR	✓	533	100.000
South	**A2**	✓				
	B2	✓				
	C2		ONE HOUR	✓	112	100.000
	D2		ONE HOUR	✓	864	100.000

Origin-Destination Data

Demand (PCU/hr)

Junction North

		To			
		A1	**B1**	**C1**	**D1**
From	**A1**	3	26	282	273
	B1	111	0	120	87
	C1	714	98	3	258
	D1	93	75	365	0

Demand (PCU/hr)

Junction South

		To			
		A2	**B2**	**C2**	**D2**
From	**A2**	21	559	58	126
	B2	393	1	33	370
	C2	42	38	0	32
	D2	606	228	21	9

Vehicle Mix

Heavy Vehicle Percentages

Junction North

		To			
		A1	**B1**	**C1**	**D1**
From	**A1**	0	0	0	0
	B1	0	0	0	0
	C1	0	0	0	0
	D1	0	0	0	0

Heavy Vehicle Percentages

Junction South

		To			
		A2	B2	C2	D2
From	A2	0	0	0	0
	B2	0	0	0	0
	C2	0	0	0	0
	D2	0	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)
North	A1	0.29	2.23	0.4	A	536	804
	B1	0.32	4.76	0.5	A	292	438
	C1	0.50	3.03	1.0	A	989	1484
	D1	0.26	2.17	0.4	A	489	734
South	A2	0.34	2.20	0.5	A	706	1060
	B2	0.50	3.87	1.0	A	762	1142
	C2	0.10	3.37	0.1	A	103	154
	D2	0.56	4.75	1.2	A	793	1189

Main Results for each time segment

12:45 - 13:00

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	440	110	407	2385	0.184	439	692	0.0	0.2	1.849	A
	B1	239	60	696	1282	0.187	238	150	0.0	0.2	3.447	A
	C1	808	202	356	2495	0.324	806	578	0.0	0.5	2.130	A
	D1	401	100	698	2498	0.161	401	464	0.0	0.2	1.716	A
South	A2	578	145	223	2559	0.226	577	808	0.0	0.3	1.817	A
	B2	623	156	177	1891	0.329	621	623	0.0	0.5	2.830	A
	C2	84	21	713	1376	0.061	84	85	0.0	0.1	2.785	A
	D2	650	163	383	1817	0.358	648	414	0.0	0.6	3.074	A

13:00 - 13:15

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	525	131	486	2330	0.225	525	830	0.2	0.3	1.994	A
	B1	286	71	832	1208	0.237	286	179	0.2	0.3	3.902	A
	C1	968	242	426	2445	0.396	968	692	0.5	0.7	2.436	A
	D1	479	120	837	2391	0.200	479	556	0.2	0.3	1.882	A
South	A2	692	173	267	2528	0.274	691	968	0.3	0.4	1.960	A
	B2	746	186	212	1871	0.398	745	746	0.5	0.7	3.194	A

	C2	101	25	855	1299	0.078	101	102	0.1	0.1	3.004	A
	D2	777	194	459	1772	0.438	776	497	0.6	0.8	3.611	A

13:15 - 13:30

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	643	161	596	2254	0.285	643	1015	0.3	0.4	2.234	A
	B1	350	88	1019	1107	0.316	350	219	0.3	0.5	4.750	A
	C1	1185	296	521	2376	0.499	1184	847	0.7	1.0	3.017	A
	D1	587	147	1024	2248	0.261	586	681	0.3	0.4	2.167	A
South	A2	847	212	326	2486	0.341	847	1185	0.4	0.5	2.196	A
	B2	913	228	260	1845	0.495	912	913	0.7	1.0	3.854	A
	C2	123	31	1047	1194	0.103	123	125	0.1	0.1	3.361	A
	D2	951	238	562	1710	0.556	949	608	0.8	1.2	4.719	A

13:30 - 13:45

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	643	161	596	2254	0.285	643	1018	0.4	0.4	2.234	A
	B1	350	88	1020	1106	0.316	350	220	0.5	0.5	4.760	A
	C1	1188	297	522	2375	0.500	1188	848	1.0	1.0	3.029	A
	D1	587	147	1028	2245	0.261	587	682	0.4	0.4	2.170	A
South	A2	848	212	327	2486	0.341	848	1188	0.5	0.5	2.197	A
	B2	914	229	261	1844	0.496	914	914	1.0	1.0	3.870	A
	C2	123	31	1049	1192	0.103	123	125	0.1	0.1	3.366	A
	D2	951	238	563	1710	0.556	951	609	1.2	1.2	4.746	A

13:45 - 14:00

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	525	131	488	2329	0.225	525	834	0.4	0.3	1.996	A
	B1	286	71	833	1207	0.237	286	180	0.5	0.3	3.913	A
	C1	972	243	427	2444	0.398	974	693	1.0	0.7	2.452	A
	D1	479	120	842	2387	0.201	480	558	0.4	0.3	1.889	A
South	A2	693	173	268	2527	0.274	693	972	0.5	0.4	1.963	A
	B2	748	187	213	1871	0.400	749	748	1.0	0.7	3.211	A
	C2	101	25	860	1296	0.078	101	103	0.1	0.1	3.011	A
	D2	777	194	461	1770	0.439	779	499	1.2	0.8	3.638	A

14:00 - 14:15

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	440	110	408	2384	0.184	440	698	0.3	0.2	1.853	A
	B1	239	60	698	1281	0.187	240	150	0.3	0.2	3.457	A
	C1	813	203	357	2494	0.326	814	580	0.7	0.5	2.145	A
	D1	401	100	704	2493	0.161	402	467	0.3	0.2	1.720	A
South	A2	580	145	224	2558	0.227	580	813	0.4	0.3	1.822	A
	B2	626	157	178	1891	0.331	627	626	0.7	0.5	2.851	A
	C2	84	21	719	1373	0.061	84	86	0.1	0.1	2.793	A
	D2	650	163	386	1815	0.358	651	418	0.8	0.6	3.094	A

WNP 2020 AM BP, 08-09

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	Junction North - Arm A1 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	Junction North - Arm B1 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	Junction North - Arm D1 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Linked Roundabout	Junction North - Arm C1	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 South - Arm A2	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 South - Arm B2	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	Vehicle Mix	Junction North	HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.
Warning	Vehicle Mix	Junction South	HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.

Junction Network

Junctions

Junction	Name	Junction Type	Arm order	Junction Delay (s)	Junction LOS
North	M-49	Standard Roundabout	A1,B1,C1,D1	5.36	A
South	M-48	Standard Roundabout	A2,B2,C2,D2	5.76	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D_16	WNP 2020 AM BP	08-09	Q3 70/30	ONE HOUR	07:45	09:15	15	✓

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

Linked Arm Data

Junction	Arm	Feeding Junction	Feeding Arm	Link Type	Flow source	Uniform flow (PCU/hr)	Flow multiplier (%)	Internal storage space (PCU)

North	**C1**	South	A2	Simple (vertical queueing)	Normal	0	100.00	
South	**A2**	North	C1	Simple (vertical queueing)	Normal	0	100.00	
	B2	South	B2	Simple (vertical queueing)	Normal	0	100.00	

Demand overview (Traffic)

Junction	Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
North	**A1**		ONE HOUR	✓	467	100.000
	B1		ONE HOUR	✓	509	100.000
	C1	✓				
	D1		ONE HOUR	✓	1517	100.000
South	**A2**	✓				
	B2	✓				
	C2		ONE HOUR	✓	226	100.000
	D2		ONE HOUR	✓	780	100.000

Origin-Destination Data

Demand (PCU/hr)

Junction North

		To			
		A1	**B1**	**C1**	**D1**
From	**A1**	0	28	289	150
	B1	100	0	239	170
	C1	523	301	2	348
	D1	235	341	941	0

Demand (PCU/hr)

Junction South

		To			
		A2	**B2**	**C2**	**D2**
From	**A2**	3	842	442	185
	B2	598	0	256	651
	C2	129	51	0	46
	D2	439	42	299	0

Vehicle Mix

Heavy Vehicle Percentages

Junction North

		To			
		A1	**B1**	**C1**	**D1**
From	**A1**	0	0	0	0
	B1	0	0	0	0
	C1	0	0	0	0
	D1	0	0	0	0

Heavy Vehicle Percentages

Junction South

		To			
		A2	B2	C2	D2
From	A2	0	0	0	0
	B2	0	0	0	0
	C2	0	0	0	0
	D2	0	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)
North	A1	0.34	3.65	0.5	A	429	643
	B1	0.67	13.11	2.0	B	467	701
	C1	0.43	2.61	0.7	A	864	1296
	D1	0.70	5.01	2.3	A	1392	2088
South	A2	0.67	4.54	2.0	A	1349	2023
	B2	0.73	9.31	2.6	A	857	1285
	C2	0.21	3.84	0.3	A	207	311
	D2	0.51	4.37	1.0	A	716	1074

Main Results for each time segment

07:45 - 08:00

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	352	88	1144	1873	0.188	351	565	0.0	0.2	2.364	A
	B1	383	96	1037	1097	0.349	381	457	0.0	0.5	5.015	A
	C1	705	176	315	2524	0.279	704	1104	0.0	0.4	1.975	A
	D1	1142	286	570	2596	0.440	1139	448	0.0	0.8	2.466	A
South	A2	1104	276	294	2509	0.440	1101	705	0.0	0.8	2.551	A
	B2	699	175	695	1599	0.437	696	699	0.0	0.8	3.976	A
	C2	170	43	718	1373	0.124	170	673	0.0	0.1	2.988	A
	D2	587	147	414	1799	0.326	585	474	0.0	0.5	2.961	A

08:00 - 08:15

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	420	105	1369	1716	0.245	419	677	0.2	0.3	2.775	A
	B1	458	114	1241	986	0.464	456	548	0.5	0.9	6.775	A
	C1	845	211	377	2480	0.341	845	1320	0.4	0.5	2.201	A
	D1	1364	341	684	2508	0.544	1362	537	0.8	1.2	3.137	A
South	A2	1320	330	352	2468	0.535	1319	845	0.8	1.1	3.128	A
	B2	838	209	833	1521	0.551	836	838	0.8	1.2	5.243	A

	C2	203	51	862	1295	0.157	203	807	0.1	0.2	3.297	A
	D2	701	175	497	1749	0.401	700	569	0.5	0.7	3.430	A

08:15 - 08:30

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	514	129	1674	1504	0.342	513	827	0.3	0.5	3.627	A
	B1	560	140	1518	836	0.670	556	670	0.9	2.0	12.659	B
	C1	1032	258	460	2420	0.427	1031	1614	0.5	0.7	2.591	A
	D1	1670	418	835	2393	0.698	1666	656	1.2	2.3	4.924	A
South	A2	1614	403	431	2413	0.669	1611	1032	1.1	2.0	4.470	A
	B2	1023	256	1018	1416	0.723	1018	1023	1.2	2.5	8.926	A
	C2	249	62	1051	1192	0.209	249	985	0.2	0.3	3.817	A
	D2	859	215	606	1684	0.510	857	693	0.7	1.0	4.345	A

08:30 - 08:45

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	514	129	1679	1501	0.343	514	831	0.5	0.5	3.647	A
	B1	560	140	1521	834	0.672	560	672	2.0	2.0	13.110	B
	C1	1037	259	462	2418	0.429	1037	1619	0.7	0.7	2.606	A
	D1	1670	418	840	2389	0.699	1670	660	2.3	2.3	5.006	A
South	A2	1619	405	432	2412	0.671	1619	1037	2.0	2.0	4.536	A
	B2	1028	257	1022	1414	0.727	1028	1028	2.5	2.6	9.309	A
	C2	249	62	1060	1187	0.210	249	990	0.3	0.3	3.837	A
	D2	859	215	610	1682	0.511	859	699	1.0	1.0	4.373	A

08:45 - 09:00

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	420	105	1376	1711	0.245	421	683	0.5	0.3	2.790	A
	B1	458	114	1245	984	0.465	462	551	2.0	0.9	6.959	A
	C1	852	213	380	2477	0.344	853	1327	0.7	0.5	2.217	A
	D1	1364	341	691	2503	0.545	1368	542	2.3	1.2	3.183	A
South	A2	1327	332	353	2467	0.538	1331	852	2.0	1.2	3.176	A
	B2	845	211	839	1518	0.557	850	845	2.6	1.3	5.439	A
	C2	203	51	876	1287	0.158	203	814	0.3	0.2	3.321	A
	D2	701	175	503	1746	0.402	703	576	1.0	0.7	3.454	A

09:00 - 09:15

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	352	88	1150	1868	0.188	352	570	0.3	0.2	2.374	A
	B1	383	96	1042	1094	0.350	385	461	0.9	0.5	5.082	A
	C1	711	178	317	2523	0.282	712	1109	0.5	0.4	1.989	A
	D1	1142	286	576	2591	0.441	1144	453	1.2	0.8	2.492	A
South	A2	1109	277	295	2508	0.442	1111	711	1.2	0.8	2.581	A
	B2	705	176	701	1596	0.442	707	705	1.3	0.8	4.062	A
	C2	170	43	729	1368	0.124	170	679	0.2	0.1	3.008	A
	D2	587	147	419	1796	0.327	588	480	0.7	0.5	2.981	A

WNP 2020 PM BP, 17-18

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	Junction North - Arm A1 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	Junction North - Arm B1 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	Junction North - Arm D1 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Linked Roundabout	Junction North - Arm C1	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 South - Arm A2	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 South - Arm B2	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	Vehicle Mix	Junction North	HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.
Warning	Vehicle Mix	Junction South	HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.

Junction Network

Junctions

Junction	Name	Junction Type	Arm order	Junction Delay (s)	Junction LOS
North	M-49	Standard Roundabout	A1,B1,C1,D1	10.23	B
South	M-48	Standard Roundabout	A2,B2,C2,D2	20.17	C

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D_17	WNP 2020 PM BP	17-18	Q3 70/30	ONE HOUR	16:45	18:15	15	✓

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

Linked Arm Data

Junction	Arm	Feeding Junction	Feeding Arm	Link Type	Flow source	Uniform flow (PCU/hr)	Flow multiplier (%)	Internal storage space (PCU)

North	**C1**	South	A2	Simple (vertical queueing)	Normal	0	100.00	
South	**A2**	North	C1	Simple (vertical queueing)	Normal	0	100.00	
	B2	South	B2	Simple (vertical queueing)	Normal	0	100.00	

Demand overview (Traffic)

Junction	Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
North	**A1**		ONE HOUR	✓	574	100.000
	B1		ONE HOUR	✓	756	100.000
	C1	✓				
	D1		ONE HOUR	✓	935	100.000
South	**A2**	✓				
	B2	✓				
	C2		ONE HOUR	✓	822	100.000
	D2		ONE HOUR	✓	435	100.000

Origin-Destination Data

Demand (PCU/hr)

Junction North

		To			
		A1	**B1**	**C1**	**D1**
From	**A1**	0	28	392	154
	B1	203	0	284	269
	C1	534	208	1	543
	D1	94	162	679	0

Demand (PCU/hr)

Junction South

		To			
		A2	**B2**	**C2**	**D2**
From	**A2**	7	957	109	256
	B2	551	0	45	491
	C2	468	172	0	182
	D2	310	51	74	0

Vehicle Mix

Heavy Vehicle Percentages

Junction North

		To			
		A1	**B1**	**C1**	**D1**
From	**A1**	0	0	0	0
	B1	0	0	0	0
	C1	0	0	0	0
	D1	0	0	0	0

Heavy Vehicle Percentages

Junction South

		To			
		A2	B2	C2	D2
From	A2	0	0	0	0
	B2	0	0	0	0
	C2	0	0	0	0
	D2	0	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)
North	A1	0.34	2.95	0.5	A	527	790
	B1	0.90	34.43	7.5	D	694	1041
	C1	0.67	4.87	2.0	A	1277	1916
	D1	0.47	3.10	0.9	A	858	1287
South	A2	0.60	3.61	1.5	A	1244	1866
	B2	0.77	9.08	3.2	A	1100	1650
	C2	0.99	71.79	17.8	F	754	1131
	D2	0.39	4.77	0.6	A	399	599

Main Results for each time segment

16:45 - 17:00

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	432	108	800	2112	0.205	431	653	0.0	0.3	2.141	A
	B1	569	142	921	1160	0.491	565	311	0.0	1.0	6.018	A
	C1	1041	260	469	2414	0.431	1038	1018	0.0	0.8	2.611	A
	D1	704	176	751	2457	0.287	702	755	0.0	0.4	2.050	A
South	A2	1018	254	222	2559	0.398	1015	1041	0.0	0.7	2.327	A
	B2	898	224	340	1800	0.499	894	898	0.0	1.0	3.956	A
	C2	619	155	1058	1188	0.521	615	176	0.0	1.1	6.234	A
	D2	327	82	937	1487	0.220	326	735	0.0	0.3	3.099	A

17:00 - 17:15

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	516	129	958	2002	0.258	516	783	0.3	0.3	2.421	A
	B1	680	170	1101	1062	0.640	677	372	1.0	1.7	9.266	A
	C1	1247	312	561	2348	0.531	1245	1217	0.8	1.1	3.262	A
	D1	841	210	901	2342	0.359	840	905	0.4	0.6	2.395	A
South	A2	1217	304	266	2528	0.481	1216	1247	0.7	0.9	2.740	A
	B2	1075	269	407	1762	0.610	1073	1075	1.0	1.5	5.211	A

	C2	739	185	1269	1072	0.689	735	211	1.1	2.1	10.537	B
	D2	391	98	1122	1376	0.284	391	882	0.3	0.4	3.650	A

17:15 - 17:30

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	632	158	1168	1856	0.340	631	942	0.3	0.5	2.937	A
	B1	832	208	1348	928	0.897	813	451	1.7	6.6	27.565	D
	C1	1498	375	677	2264	0.662	1495	1484	1.1	1.9	4.661	A
	D1	1029	257	1082	2203	0.467	1028	1090	0.6	0.9	3.060	A
South	A2	1484	371	318	2492	0.596	1482	1498	0.9	1.5	3.558	A
	B2	1304	326	496	1711	0.762	1298	1304	1.5	3.1	8.582	A
	C2	905	226	1537	925	0.978	864	257	2.1	12.5	43.008	E
	D2	479	120	1338	1247	0.384	478	1063	0.4	0.6	4.675	A

17:30 - 17:45

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	632	158	1173	1853	0.341	632	957	0.5	0.5	2.947	A
	B1	832	208	1350	927	0.898	829	455	6.6	7.5	34.429	D
	C1	1519	380	687	2257	0.673	1518	1492	1.9	2.0	4.872	A
	D1	1029	257	1100	2190	0.470	1029	1106	0.9	0.9	3.101	A
South	A2	1492	373	323	2489	0.599	1492	1519	1.5	1.5	3.610	A
	B2	1315	329	499	1710	0.769	1315	1315	3.1	3.2	9.079	A
	C2	905	226	1555	916	0.988	884	258	12.5	17.8	71.786	F
	D2	479	120	1362	1233	0.388	479	1077	0.6	0.6	4.772	A

17:45 - 18:00

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	516	129	969	1994	0.259	517	815	0.5	0.4	2.436	A
	B1	680	170	1104	1061	0.641	702	382	7.5	1.8	10.639	B
	C1	1302	326	577	2336	0.557	1305	1229	2.0	1.3	3.504	A
	D1	841	210	943	2310	0.364	842	940	0.9	0.6	2.455	A
South	A2	1229	307	280	2518	0.488	1231	1302	1.5	1.0	2.802	A
	B2	1100	275	411	1759	0.625	1106	1100	3.2	1.7	5.562	A
	C2	739	185	1304	1053	0.702	800	213	17.8	2.5	17.565	C
	D2	391	98	1190	1336	0.293	392	914	0.6	0.4	3.819	A

18:00 - 18:15

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	432	108	806	2108	0.205	433	664	0.4	0.3	2.148	A
	B1	569	142	924	1158	0.491	573	314	1.8	1.0	6.182	A
	C1	1055	264	474	2410	0.438	1057	1023	1.3	0.8	2.664	A
	D1	704	176	765	2446	0.288	705	766	0.6	0.4	2.067	A
South	A2	1023	256	225	2557	0.400	1024	1055	1.0	0.7	2.349	A
	B2	907	227	342	1798	0.504	909	907	1.7	1.0	4.062	A
	C2	619	155	1074	1179	0.525	624	177	2.5	1.1	6.554	A
	D2	327	82	952	1478	0.222	328	746	0.4	0.3	3.134	A

WNP 2020 WEEKEND BP, 13-14

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	Junction North - Arm A1 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	Junction North - Arm B1 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	Junction North - Arm D1 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Linked Roundabout	Junction North - Arm C1	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 South - Arm A2	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 South - Arm B2	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	Vehicle Mix	Junction North	HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.
Warning	Vehicle Mix	Junction South	HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.

Junction Network

Junctions

Junction	Name	Junction Type	Arm order	Junction Delay (s)	Junction LOS
North	M-49	Standard Roundabout	A1,B1,C1,D1	2.88	A
South	M-48	Standard Roundabout	A2,B2,C2,D2	3.64	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D_18	WNP 2020 WEEKEND BP	13-14	Q3 70/30	ONE HOUR	12:45	14:15	15	✓

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

Linked Arm Data

Junction	Arm	Feeding Junction	Feeding Arm	Link Type	Flow source	Uniform flow (PCU/hr)	Flow multiplier (%)	Internal storage space (PCU)

North	**C1**	South	A2	Simple (vertical queueing)	Normal	0	100.00	
South	**A2**	North	C1	Simple (vertical queueing)	Normal	0	100.00	
	B2	South	B2	Simple (vertical queueing)	Normal	0	100.00	

Demand overview (Traffic)

Junction	Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
North	**A1**		ONE HOUR	✓	584	100.000
	B1		ONE HOUR	✓	318	100.000
	C1	✓				
	D1		ONE HOUR	✓	533	100.000
South	**A2**	✓				
	B2	✓				
	C2		ONE HOUR	✓	112	100.000
	D2		ONE HOUR	✓	864	100.000

Origin-Destination Data

Demand (PCU/hr)

Junction North

		To			
		A1	**B1**	**C1**	**D1**
From	**A1**	3	26	282	273
	B1	111	0	120	87
	C1	714	98	3	258
	D1	93	75	365	0

Demand (PCU/hr)

Junction South

		To			
		A2	**B2**	**C2**	**D2**
From	**A2**	21	559	58	126
	B2	393	1	33	370
	C2	42	38	0	32
	D2	606	228	21	9

Vehicle Mix

Heavy Vehicle Percentages

Junction North

		To			
		A1	**B1**	**C1**	**D1**
From	**A1**	0	0	0	0
	B1	0	0	0	0
	C1	0	0	0	0
	D1	0	0	0	0

Heavy Vehicle Percentages

Junction South

		To			
		A2	B2	C2	D2
From	A2	0	0	0	0
	B2	0	0	0	0
	C2	0	0	0	0
	D2	0	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)
North	A1	0.29	2.23	0.4	A	536	804
	B1	0.32	4.76	0.5	A	292	438
	C1	0.50	3.03	1.0	A	989	1484
	D1	0.26	2.17	0.4	A	489	734
South	A2	0.34	2.20	0.5	A	706	1060
	B2	0.50	3.87	1.0	A	762	1142
	C2	0.10	3.37	0.1	A	103	154
	D2	0.56	4.75	1.2	A	793	1189

Main Results for each time segment

12:45 - 13:00

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	440	110	407	2385	0.184	439	692	0.0	0.2	1.849	A
	B1	239	60	696	1282	0.187	238	150	0.0	0.2	3.447	A
	C1	808	202	356	2495	0.324	806	578	0.0	0.5	2.130	A
	D1	401	100	698	2498	0.161	401	464	0.0	0.2	1.716	A
South	A2	578	145	223	2559	0.226	577	808	0.0	0.3	1.817	A
	B2	623	156	177	1891	0.329	621	623	0.0	0.5	2.830	A
	C2	84	21	713	1376	0.061	84	85	0.0	0.1	2.785	A
	D2	650	163	383	1817	0.358	648	414	0.0	0.6	3.074	A

13:00 - 13:15

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	525	131	486	2330	0.225	525	830	0.2	0.3	1.994	A
	B1	286	71	832	1208	0.237	286	179	0.2	0.3	3.902	A
	C1	968	242	426	2445	0.396	968	692	0.5	0.7	2.436	A
	D1	479	120	837	2391	0.200	479	556	0.2	0.3	1.882	A
South	A2	692	173	267	2528	0.274	691	968	0.3	0.4	1.960	A
	B2	746	186	212	1871	0.398	745	746	0.5	0.7	3.194	A

	C2	101	25	855	1299	0.078	101	102	0.1	0.1	3.004	A
	D2	777	194	459	1772	0.438	776	497	0.6	0.8	3.611	A

13:15 - 13:30

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	643	161	596	2254	0.285	643	1015	0.3	0.4	2.234	A
	B1	350	88	1019	1107	0.316	350	219	0.3	0.5	4.750	A
	C1	1185	296	521	2376	0.499	1184	847	0.7	1.0	3.017	A
	D1	587	147	1024	2248	0.261	586	681	0.3	0.4	2.167	A
South	A2	847	212	326	2486	0.341	847	1185	0.4	0.5	2.196	A
	B2	913	228	260	1845	0.495	912	913	0.7	1.0	3.854	A
	C2	123	31	1047	1194	0.103	123	125	0.1	0.1	3.361	A
	D2	951	238	562	1710	0.556	949	608	0.8	1.2	4.719	A

13:30 - 13:45

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	643	161	596	2254	0.285	643	1018	0.4	0.4	2.234	A
	B1	350	88	1020	1106	0.316	350	220	0.5	0.5	4.760	A
	C1	1188	297	522	2375	0.500	1188	848	1.0	1.0	3.029	A
	D1	587	147	1028	2245	0.261	587	682	0.4	0.4	2.170	A
South	A2	848	212	327	2486	0.341	848	1188	0.5	0.5	2.197	A
	B2	914	229	261	1844	0.496	914	914	1.0	1.0	3.870	A
	C2	123	31	1049	1192	0.103	123	125	0.1	0.1	3.366	A
	D2	951	238	563	1710	0.556	951	609	1.2	1.2	4.746	A

13:45 - 14:00

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	525	131	488	2329	0.225	525	834	0.4	0.3	1.996	A
	B1	286	71	833	1207	0.237	286	180	0.5	0.3	3.913	A
	C1	972	243	427	2444	0.398	974	693	1.0	0.7	2.452	A
	D1	479	120	842	2387	0.201	480	558	0.4	0.3	1.889	A
South	A2	693	173	268	2527	0.274	693	972	0.5	0.4	1.963	A
	B2	748	187	213	1871	0.400	749	748	1.0	0.7	3.211	A
	C2	101	25	860	1296	0.078	101	103	0.1	0.1	3.011	A
	D2	777	194	461	1770	0.439	779	499	1.2	0.8	3.638	A

14:00 - 14:15

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	440	110	408	2384	0.184	440	698	0.3	0.2	1.853	A
	B1	239	60	698	1281	0.187	240	150	0.3	0.2	3.457	A
	C1	813	203	357	2494	0.326	814	580	0.7	0.5	2.145	A
	D1	401	100	704	2493	0.161	402	467	0.3	0.2	1.720	A
South	A2	580	145	224	2558	0.227	580	813	0.4	0.3	1.822	A
	B2	626	157	178	1891	0.331	627	626	0.7	0.5	2.851	A
	C2	84	21	719	1373	0.061	84	86	0.1	0.1	2.793	A
	D2	650	163	386	1815	0.358	651	418	0.8	0.6	3.094	A

WNP 2023 AM, 08-09

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	Junction North - Arm A1 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	Junction North - Arm B1 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	Junction North - Arm D1 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Linked Roundabout	Junction North - Arm C1	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 South - Arm A2	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 South - Arm B2	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	Vehicle Mix	Junction North	HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.
Warning	Vehicle Mix	Junction South	HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.

Junction Network

Junctions

Junction	Name	Junction Type	Arm order	Junction Delay (s)	Junction LOS
North	M-49	Standard Roundabout	A1,B1,C1,D1	5.89	A
South	M-48	Standard Roundabout	A2,B2,C2,D2	6.28	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D_19	WNP 2023 AM	08-09	Q3 70/30	ONE HOUR	07:45	09:15	15	✓

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

Linked Arm Data

Junction	Arm	Feeding Junction	Feeding Arm	Link Type	Flow source	Uniform flow (PCU/hr)	Flow multiplier (%)	Internal storage space (PCU)
North	**C1**	South	A2	Simple (vertical	Normal	0	100.00	

				queueing)				
South	**A2**	North	C1	Simple (vertical queueing)	Normal	0	100.00	
	B2	South	B2	Simple (vertical queueing)	Normal	0	100.00	

Demand overview (Traffic)

Junction	Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
North	**A1**		ONE HOUR	✓	479	100.000
	B1		ONE HOUR	✓	521	100.000
	C1	✓				
	D1		ONE HOUR	✓	1558	100.000
South	**A2**	✓				
	B2	✓				
	C2		ONE HOUR	✓	232	100.000
	D2		ONE HOUR	✓	798	100.000

Origin-Destination Data

Demand (PCU/hr)

Junction North

		To			
		A1	**B1**	**C1**	**D1**
From	**A1**	0	29	296	154
	B1	102	0	245	174
	C1	535	308	2	358
	D1	242	348	968	0

Demand (PCU/hr)

Junction South

		To			
		A2	**B2**	**C2**	**D2**
From	**A2**	3	868	450	190
	B2	614	0	263	664
	C2	131	53	0	48
	D2	449	43	306	0

Vehicle Mix

Heavy Vehicle Percentages

Junction North

		To			
		A1	**B1**	**C1**	**D1**
From	**A1**	0	0	0	0
	B1	0	0	0	0
	C1	0	0	0	0
	D1	0	0	0	0

Heavy Vehicle Percentages

Junction South

		To			
		A2	B2	C2	D2
From	A2	0	0	0	0
	B2	0	0	0	0
	C2	0	0	0	0
	D2	0	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)
North	A1	0.36	3.82	0.6	A	440	659
	B1	0.71	15.06	2.3	C	478	717
	C1	0.44	2.67	0.8	A	887	1330
	D1	0.72	5.46	2.6	A	1430	2144
South	A2	0.69	4.85	2.2	A	1386	2078
	B2	0.76	10.53	3.0	B	884	1325
	C2	0.22	3.94	0.3	A	213	319
	D2	0.53	4.54	1.1	A	732	1098

Main Results for each time segment

07:45 - 08:00

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	361	90	1174	1852	0.195	360	579	0.0	0.2	2.411	A
	B1	392	98	1066	1081	0.363	390	468	0.0	0.6	5.192	A
	C1	724	181	322	2519	0.287	722	1134	0.0	0.4	2.001	A
	D1	1173	293	583	2585	0.454	1170	461	0.0	0.8	2.538	A
South	A2	1134	283	302	2503	0.453	1130	724	0.0	0.8	2.615	A
	B2	721	180	711	1590	0.454	718	721	0.0	0.8	4.112	A
	C2	175	44	740	1362	0.128	174	689	0.0	0.1	3.029	A
	D2	601	150	426	1791	0.335	599	488	0.0	0.5	3.013	A

08:00 - 08:15

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	431	108	1405	1692	0.255	430	694	0.2	0.3	2.854	A
	B1	468	117	1275	968	0.484	467	560	0.6	0.9	7.166	A
	C1	867	217	386	2473	0.351	867	1356	0.4	0.5	2.240	A
	D1	1401	350	700	2496	0.561	1399	552	0.8	1.3	3.275	A
South	A2	1356	339	361	2462	0.551	1354	867	0.8	1.2	3.247	A
	B2	864	216	851	1511	0.572	862	864	0.8	1.3	5.536	A

	C2	209	52	888	1281	0.163	208	825	0.1	0.2	3.357	A
	D2	717	179	512	1741	0.412	717	585	0.5	0.7	3.514	A

08:15 - 08:30

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	527	132	1717	1474	0.358	527	847	0.3	0.6	3.794	A
	B1	574	143	1559	814	0.705	568	685	0.9	2.3	14.361	B
	C1	1059	265	470	2413	0.439	1058	1657	0.5	0.8	2.656	A
	D1	1715	429	854	2378	0.721	1710	674	1.3	2.5	5.353	A
South	A2	1657	414	442	2405	0.689	1653	1059	1.2	2.2	4.764	A
	B2	1055	264	1040	1404	0.752	1049	1055	1.3	2.9	9.963	A
	C2	255	64	1081	1175	0.217	255	1008	0.2	0.3	3.912	A
	D2	879	220	624	1674	0.525	877	713	0.7	1.1	4.509	A

08:30 - 08:45

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	527	132	1723	1470	0.359	527	852	0.6	0.6	3.816	A
	B1	574	143	1563	812	0.707	573	688	2.3	2.3	15.063	C
	C1	1064	266	473	2410	0.442	1064	1663	0.8	0.8	2.674	A
	D1	1715	429	860	2374	0.723	1715	678	2.5	2.6	5.465	A
South	A2	1663	416	443	2404	0.692	1663	1064	2.2	2.2	4.853	A
	B2	1061	265	1045	1401	0.757	1060	1061	2.9	3.0	10.526	B
	C2	255	64	1092	1169	0.218	255	1013	0.3	0.3	3.939	A
	D2	879	220	628	1671	0.526	879	719	1.1	1.1	4.543	A

08:45 - 09:00

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	431	108	1413	1686	0.255	431	701	0.6	0.3	2.871	A
	B1	468	117	1280	965	0.485	474	564	2.3	1.0	7.413	A
	C1	875	219	390	2470	0.354	876	1364	0.8	0.6	2.261	A
	D1	1401	350	708	2490	0.563	1406	558	2.6	1.3	3.336	A
South	A2	1364	341	362	2461	0.554	1368	875	2.2	1.3	3.307	A
	B2	872	218	858	1507	0.579	879	872	3.0	1.4	5.793	A
	C2	209	52	904	1272	0.164	209	833	0.3	0.2	3.388	A
	D2	717	179	519	1736	0.413	719	594	1.1	0.7	3.543	A

09:00 - 09:15

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	361	90	1181	1847	0.195	361	585	0.3	0.2	2.422	A
	B1	392	98	1070	1079	0.364	394	471	1.0	0.6	5.268	A
	C1	730	183	325	2517	0.290	731	1139	0.6	0.4	2.015	A
	D1	1173	293	590	2580	0.455	1175	465	1.3	0.8	2.567	A
South	A2	1139	285	303	2502	0.455	1141	730	1.3	0.8	2.649	A
	B2	728	182	716	1587	0.459	730	728	1.4	0.9	4.213	A
	C2	175	44	751	1355	0.129	175	695	0.2	0.1	3.051	A
	D2	601	150	432	1788	0.336	602	494	0.7	0.5	3.037	A

WNP 2023 PM, 17-18

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	Junction North - Arm A1 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	Junction North - Arm B1 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	Junction North - Arm D1 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Linked Roundabout	Junction North - Arm C1	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 South - Arm A2	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 South - Arm B2	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	Vehicle Mix	Junction North	HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.
Warning	Vehicle Mix	Junction South	HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.

Junction Network

Junctions

Junction	Name	Junction Type	Arm order	Junction Delay (s)	Junction LOS
North	M-49	Standard Roundabout	A1,B1,C1,D1	13.26	B
South	M-48	Standard Roundabout	A2,B2,C2,D2	27.00	D

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D_20	WNP 2023 PM	17-18	Q3 70/30	ONE HOUR	16:45	18:15	15	✓

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

Linked Arm Data

Junction	Arm	Feeding Junction	Feeding Arm	Link Type	Flow source	Uniform flow (PCU/hr)	Flow multiplier (%)	Internal storage space (PCU)
North	**C1**	South	A2	Simple (vertical	Normal	0	100.00	

				queueing)				
South	**A2**	North	C1	Simple (vertical queueing)	Normal	0	100.00	
	B2	South	B2	Simple (vertical queueing)	Normal	0	100.00	

Demand overview (Traffic)

Junction	Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
North	**A1**		ONE HOUR	✓	585	100.000
	B1		ONE HOUR	✓	773	100.000
	C1	✓				
	D1		ONE HOUR	✓	967	100.000
South	**A2**	✓				
	B2	✓				
	C2		ONE HOUR	✓	838	100.000
	D2		ONE HOUR	✓	446	100.000

Origin-Destination Data

Demand (PCU/hr)

Junction North

		To			
		A1	**B1**	**C1**	**D1**
From	**A1**	0	28	399	158
	B1	208	0	290	275
	C1	546	213	1	557
	D1	99	166	702	0

Demand (PCU/hr)

Junction South

		To			
		A2	**B2**	**C2**	**D2**
From	**A2**	7	987	111	260
	B2	566	0	46	498
	C2	477	175	0	186
	D2	317	53	76	0

Vehicle Mix

Heavy Vehicle Percentages

Junction North

		To			
		A1	**B1**	**C1**	**D1**
From	**A1**	0	0	0	0
	B1	0	0	0	0
	C1	0	0	0	0
	D1	0	0	0	0

Heavy Vehicle Percentages

Junction South

		To			
		A2	B2	C2	D2
From	A2	0	0	0	0
	B2	0	0	0	0
	C2	0	0	0	0
	D2	0	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)
North	A1	0.35	3.04	0.5	A	537	805
	B1	0.94	48.56	10.7	E	709	1064
	C1	0.69	5.13	2.2	A	1311	1967
	D1	0.49	3.24	1.0	A	887	1331
South	A2	0.62	3.76	1.6	A	1277	1915
	B2	0.79	10.03	3.7	B	1132	1698
	C2	1.03	102.32	27.5	F	769	1153
	D2	0.40	4.92	0.7	A	409	614

Main Results for each time segment

16:45 - 17:00

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	440	110	825	2095	0.210	439	672	0.0	0.3	2.174	A
	B1	582	145	946	1146	0.508	578	318	0.0	1.0	6.295	A
	C1	1069	267	480	2406	0.444	1065	1045	0.0	0.8	2.679	A
	D1	728	182	770	2442	0.298	726	775	0.0	0.4	2.096	A
South	A2	1045	261	228	2555	0.409	1042	1069	0.0	0.7	2.374	A
	B2	924	231	346	1796	0.514	920	924	0.0	1.0	4.087	A
	C2	631	158	1085	1173	0.538	626	180	0.0	1.1	6.536	A
	D2	336	84	962	1472	0.228	335	750	0.0	0.3	3.162	A

17:00 - 17:15

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	526	131	987	1982	0.265	526	805	0.3	0.4	2.472	A
	B1	695	174	1132	1045	0.665	691	381	1.0	1.9	10.066	B
	C1	1280	320	574	2338	0.547	1278	1249	0.8	1.2	3.393	A
	D1	869	217	924	2325	0.374	869	928	0.4	0.6	2.471	A
South	A2	1249	312	272	2524	0.495	1248	1280	0.7	1.0	2.819	A
	B2	1106	277	414	1758	0.629	1104	1106	1.0	1.7	5.486	A

	C2	753	188	1302	1054	0.715	748	215	1.1	2.4	11.588	B
	D2	401	100	1152	1359	0.295	400	899	0.3	0.4	3.754	A

17:15 - 17:30

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	644	161	1202	1833	0.351	643	961	0.4	0.5	3.025	A
	B1	851	213	1386	908	0.938	823	460	1.9	8.9	34.791	D
	C1	1526	381	688	2256	0.676	1522	1521	1.2	2.1	4.885	A
	D1	1065	266	1100	2190	0.486	1063	1110	0.6	0.9	3.191	A
South	A2	1521	380	322	2489	0.611	1518	1526	1.0	1.6	3.699	A
	B2	1337	334	504	1707	0.783	1329	1337	1.7	3.4	9.366	A
	C2	923	231	1571	907	1.017	864	262	2.4	17.1	54.277	F
	D2	491	123	1358	1236	0.397	490	1077	0.4	0.7	4.822	A

17:30 - 17:45

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	644	161	1207	1829	0.352	644	977	0.5	0.5	3.036	A
	B1	851	213	1387	907	0.939	844	463	8.9	10.7	48.564	E
	C1	1545	386	701	2246	0.688	1545	1530	2.1	2.2	5.126	A
	D1	1065	266	1119	2175	0.489	1065	1128	0.9	1.0	3.240	A
South	A2	1530	382	326	2486	0.615	1530	1545	1.6	1.6	3.763	A
	B2	1348	337	507	1705	0.791	1348	1348	3.4	3.7	10.033	B
	C2	923	231	1591	896	1.030	881	264	17.1	27.5	102.317	F
	D2	491	123	1380	1222	0.402	491	1092	0.7	0.7	4.922	A

17:45 - 18:00

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	526	131	1003	1971	0.267	527	852	0.5	0.4	2.493	A
	B1	695	174	1134	1044	0.666	730	396	10.7	2.1	12.659	B
	C1	1363	341	598	2321	0.587	1366	1266	2.2	1.4	3.784	A
	D1	869	217	985	2278	0.382	871	979	1.0	0.6	2.561	A
South	A2	1266	317	294	2509	0.505	1268	1363	1.6	1.0	2.909	A
	B2	1143	286	420	1754	0.651	1150	1143	3.7	1.9	6.021	A
	C2	753	188	1350	1028	0.733	851	219	27.5	3.0	30.769	D
	D2	401	100	1255	1297	0.309	402	946	0.7	0.5	4.026	A

18:00 - 18:15

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	440	110	831	2090	0.211	441	683	0.4	0.3	2.182	A
	B1	582	145	950	1144	0.509	586	322	2.1	1.0	6.494	A
	C1	1085	271	485	2402	0.452	1088	1050	1.4	0.8	2.743	A
	D1	728	182	785	2431	0.300	729	788	0.6	0.4	2.117	A
South	A2	1050	263	230	2553	0.411	1052	1085	1.0	0.7	2.400	A
	B2	934	233	349	1795	0.520	937	934	1.9	1.1	4.212	A
	C2	631	158	1104	1163	0.543	638	182	3.0	1.2	6.950	A
	D2	336	84	979	1461	0.230	336	762	0.5	0.3	3.200	A

WNP 2023 WEEKEND, 13-14

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	Junction North - Arm A1 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	Junction North - Arm B1 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	Junction North - Arm D1 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Linked Roundabout	Junction North - Arm C1	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 South - Arm A2	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 South - Arm B2	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	Vehicle Mix	Junction North	HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.
Warning	Vehicle Mix	Junction South	HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.

Junction Network

Junctions

Junction	Name	Junction Type	Arm order	Junction Delay (s)	Junction LOS
North	M-49	Standard Roundabout	A1,B1,C1,D1	2.96	A
South	M-48	Standard Roundabout	A2,B2,C2,D2	3.76	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D_21	WNP 2023 WEEKEND	13-14	Q3 70/30	ONE HOUR	12:45	14:15	15	✓

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

Linked Arm Data

Junction	Arm	Feeding Junction	Feeding Arm	Link Type	Flow source	Uniform flow (PCU/hr)	Flow multiplier (%)	Internal storage space (PCU)

North	**C1**	South	A2	Simple (vertical queueing)	Normal	0	100.00	
South	**A2**	North	C1	Simple (vertical queueing)	Normal	0	100.00	
	B2	South	B2	Simple (vertical queueing)	Normal	0	100.00	

Demand overview (Traffic)

Junction	Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
North	**A1**		ONE HOUR	✓	598	100.000
	B1		ONE HOUR	✓	325	100.000
	C1	✓				
	D1		ONE HOUR	✓	547	100.000
South	**A2**	✓				
	B2	✓				
	C2		ONE HOUR	✓	114	100.000
	D2		ONE HOUR	✓	884	100.000

Origin-Destination Data

Demand (PCU/hr)

Junction North

		To			
		A1	**B1**	**C1**	**D1**
From	**A1**	3	27	289	279
	B1	113	0	123	89
	C1	732	100	3	264
	D1	96	76	375	0

Demand (PCU/hr)

Junction South

		To			
		A2	**B2**	**C2**	**D2**
From	**A2**	21	574	58	129
	B2	402	2	33	380
	C2	42	39	0	33
	D2	621	233	21	9

Vehicle Mix

Heavy Vehicle Percentages

Junction North

		To			
		A1	**B1**	**C1**	**D1**
From	**A1**	0	0	0	0
	B1	0	0	0	0
	C1	0	0	0	0
	D1	0	0	0	0

Heavy Vehicle Percentages

Junction South

		To			
		A2	B2	C2	D2
From	A2	0	0	0	0
	B2	0	0	0	0
	C2	0	0	0	0
	D2	0	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)
North	A1	0.29	2.27	0.4	A	549	823
	B1	0.33	4.90	0.5	A	298	447
	C1	0.51	3.12	1.1	A	1013	1519
	D1	0.27	2.22	0.4	A	502	753
South	A2	0.35	2.23	0.5	A	725	1087
	B2	0.51	3.99	1.0	A	783	1175
	C2	0.11	3.43	0.1	A	105	157
	D2	0.57	4.94	1.3	A	811	1217

Main Results for each time segment

12:45 - 13:00

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	450	113	416	2379	0.189	449	709	0.0	0.2	1.865	A
	B1	245	61	713	1273	0.192	244	152	0.0	0.2	3.496	A
	C1	827	207	363	2489	0.332	825	593	0.0	0.5	2.160	A
	D1	412	103	714	2485	0.166	411	475	0.0	0.2	1.735	A
South	A2	593	148	228	2555	0.232	592	827	0.0	0.3	1.834	A
	B2	640	160	180	1890	0.339	638	640	0.0	0.5	2.871	A
	C2	86	21	733	1366	0.063	86	85	0.0	0.1	2.812	A
	D2	666	166	392	1812	0.367	663	426	0.0	0.6	3.128	A

13:00 - 13:15

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	538	134	498	2322	0.232	537	850	0.2	0.3	2.017	A
	B1	292	73	853	1197	0.244	292	183	0.2	0.3	3.977	A
	C1	991	248	435	2438	0.407	991	710	0.5	0.7	2.485	A
	D1	492	123	857	2376	0.207	491	569	0.2	0.3	1.909	A
South	A2	710	177	273	2523	0.281	709	991	0.3	0.4	1.984	A
	B2	767	192	216	1870	0.410	766	767	0.5	0.7	3.260	A

	C2	102	26	879	1285	0.080	102	102	0.1	0.1	3.042	A
	D2	795	199	471	1765	0.450	794	511	0.6	0.8	3.703	A

13:15 - 13:30

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	658	165	610	2244	0.293	658	1040	0.3	0.4	2.269	A
	B1	358	89	1044	1093	0.327	357	224	0.3	0.5	4.889	A
	C1	1213	303	532	2368	0.512	1212	869	0.7	1.0	3.109	A
	D1	602	151	1048	2229	0.270	602	696	0.3	0.4	2.212	A
South	A2	869	217	334	2481	0.350	868	1213	0.4	0.5	2.233	A
	B2	939	235	264	1842	0.509	937	939	0.7	1.0	3.972	A
	C2	126	31	1076	1178	0.107	125	125	0.1	0.1	3.420	A
	D2	973	243	576	1702	0.572	971	625	0.8	1.3	4.911	A

13:30 - 13:45

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	658	165	611	2244	0.293	658	1043	0.4	0.4	2.270	A
	B1	358	89	1045	1093	0.328	358	224	0.5	0.5	4.899	A
	C1	1216	304	533	2368	0.514	1216	870	1.0	1.1	3.125	A
	D1	602	151	1052	2227	0.270	602	697	0.4	0.4	2.215	A
South	A2	870	217	335	2480	0.351	870	1216	0.5	0.5	2.235	A
	B2	940	235	264	1842	0.510	940	940	1.0	1.0	3.991	A
	C2	126	31	1079	1176	0.107	126	126	0.1	0.1	3.425	A
	D2	973	243	577	1701	0.572	973	627	1.3	1.3	4.945	A

13:45 - 14:00

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	538	134	499	2321	0.232	538	855	0.4	0.3	2.019	A
	B1	292	73	854	1196	0.244	293	183	0.5	0.3	3.989	A
	C1	996	249	436	2437	0.409	997	711	1.1	0.7	2.503	A
	D1	492	123	862	2372	0.207	492	571	0.4	0.3	1.917	A
South	A2	711	178	274	2523	0.282	712	996	0.5	0.4	1.988	A
	B2	769	192	216	1869	0.412	771	769	1.0	0.7	3.279	A
	C2	102	26	884	1283	0.080	103	103	0.1	0.1	3.050	A
	D2	795	199	473	1763	0.451	797	514	1.3	0.8	3.733	A

14:00 - 14:15

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	450	113	418	2378	0.189	450	715	0.3	0.2	1.867	A
	B1	245	61	715	1271	0.192	245	153	0.3	0.2	3.510	A
	C1	833	208	365	2488	0.335	834	595	0.7	0.5	2.177	A
	D1	412	103	721	2480	0.166	412	478	0.3	0.2	1.742	A
South	A2	595	149	229	2554	0.233	596	833	0.4	0.3	1.840	A
	B2	644	161	181	1889	0.341	645	644	0.7	0.5	2.893	A
	C2	86	21	740	1362	0.063	86	86	0.1	0.1	2.820	A
	D2	666	166	396	1810	0.368	666	430	0.8	0.6	3.151	A

WNP 2033 AM, 08-09

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	Junction North - Arm A1 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	Junction North - Arm B1 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	Junction North - Arm D1 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Linked Roundabout	Junction North - Arm C1	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 South - Arm A2	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 South - Arm B2	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	Vehicle Mix	Junction North	HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.
Warning	Vehicle Mix	Junction South	HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.

Junction Network

Junctions

Junction	Name	Junction Type	Arm order	Junction Delay (s)	Junction LOS
North	M-49	Standard Roundabout	A1,B1,C1,D1	9.06	A
South	M-48	Standard Roundabout	A2,B2,C2,D2	9.29	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D_22	WNP 2033 AM	08-09	Q3 70/30	ONE HOUR	07:45	09:15	15	✓

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

Linked Arm Data

Junction	Arm	Feeding Junction	Feeding Arm	Link Type	Flow source	Uniform flow (PCU/hr)	Flow multiplier (%)	Internal storage space (PCU)
North	**C1**	South	A2	Simple (vertical	Normal	0	100.00	

				queueing)				
South	**A2**	North	C1	Simple (vertical queueing)	Normal	0	100.00	
	B2	South	B2	Simple (vertical queueing)	Normal	0	100.00	

Demand overview (Traffic)

Junction	Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
North	**A1**		ONE HOUR	✓	523	100.000
	B1		ONE HOUR	✓	558	100.000
	C1	✓				
	D1		ONE HOUR	✓	1689	100.000
South	**A2**	✓				
	B2	✓				
	C2		ONE HOUR	✓	251	100.000
	D2		ONE HOUR	✓	855	100.000

Origin-Destination Data

Demand (PCU/hr)

Junction North

		To			
		A1	**B1**	**C1**	**D1**
From	**A1**	0	30	327	166
	B1	109	0	261	188
	C1	573	329	2	389
	D1	259	371	1059	0

Demand (PCU/hr)

Junction South

		To			
		A2	**B2**	**C2**	**D2**
From	**A2**	3	959	476	214
	B2	663	0	281	824
	C2	139	59	0	53
	D2	481	47	327	0

Vehicle Mix

Heavy Vehicle Percentages

Junction North

		To			
		A1	**B1**	**C1**	**D1**
From	**A1**	0	0	0	0
	B1	0	0	0	0
	C1	0	0	0	0
	D1	0	0	0	0

Heavy Vehicle Percentages

Junction South

		To			
		A2	B2	C2	D2
From	A2	0	0	0	0
	B2	0	0	0	0
	C2	0	0	0	0
	D2	0	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)
North	A1	0.42	4.51	0.7	A	480	720
	B1	0.84	29.40	4.7	D	512	768
	C1	0.47	2.85	0.9	A	937	1405
	D1	0.80	7.49	3.8	A	1550	2325
South	A2	0.76	6.34	3.1	A	1512	2268
	B2	0.86	18.43	5.7	C	975	1462
	C2	0.25	4.37	0.3	A	230	345
	D2	0.57	5.06	1.3	A	785	1177

Main Results for each time segment

07:45 - 08:00

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	394	98	1268	1786	0.220	393	614	0.0	0.3	2.580	A
	B1	420	105	1166	1027	0.409	417	495	0.0	0.7	5.881	A
	C1	764	191	347	2501	0.305	762	1237	0.0	0.4	2.068	A
	D1	1272	318	614	2561	0.496	1268	495	0.0	1.0	2.775	A
South	A2	1237	309	325	2487	0.497	1233	764	0.0	1.0	2.862	A
	B2	795	199	762	1561	0.509	791	795	0.0	1.0	4.654	A
	C2	189	47	827	1314	0.144	188	726	0.0	0.2	3.197	A
	D2	644	161	447	1779	0.362	641	568	0.0	0.6	3.158	A

08:00 - 08:15

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	470	118	1518	1613	0.291	470	735	0.3	0.4	3.146	A
	B1	502	125	1395	903	0.556	499	593	0.7	1.2	8.877	A
	C1	915	229	415	2452	0.373	915	1479	0.4	0.6	2.340	A
	D1	1518	380	737	2467	0.615	1516	593	1.0	1.6	3.774	A
South	A2	1479	370	389	2442	0.606	1477	915	1.0	1.5	3.722	A
	B2	953	238	913	1476	0.646	950	953	1.0	1.8	6.805	A

	C2	226	56	993	1223	0.184	225	870	0.2	0.2	3.607	A
	D2	769	192	537	1726	0.445	768	682	0.6	0.8	3.755	A

08:15 - 08:30

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	576	144	1852	1380	0.417	575	895	0.4	0.7	4.461	A
	B1	614	154	1704	735	0.836	602	723	1.2	4.3	25.036	D
	C1	1114	279	503	2389	0.466	1113	1803	0.6	0.9	2.819	A
	D1	1860	465	896	2346	0.793	1851	720	1.6	3.7	7.159	A
South	A2	1803	451	476	2381	0.757	1797	1114	1.5	3.0	6.103	A
	B2	1160	290	1113	1363	0.851	1146	1160	1.8	5.1	15.772	C
	C2	276	69	1200	1110	0.249	276	1059	0.2	0.3	4.315	A
	D2	941	235	651	1657	0.568	939	825	0.8	1.3	4.999	A

08:30 - 08:45

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	576	144	1862	1374	0.419	576	903	0.7	0.7	4.509	A
	B1	614	154	1710	732	0.840	613	727	4.3	4.7	29.398	D
	C1	1124	281	509	2385	0.471	1124	1814	0.9	0.9	2.853	A
	D1	1860	465	905	2339	0.795	1859	727	3.7	3.8	7.491	A
South	A2	1814	454	477	2380	0.762	1814	1124	3.0	3.1	6.343	A
	B2	1170	292	1121	1358	0.861	1167	1170	5.1	5.7	18.427	C
	C2	276	69	1220	1099	0.251	276	1068	0.3	0.3	4.375	A
	D2	941	235	659	1653	0.570	941	837	1.3	1.3	5.061	A

08:45 - 09:00

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	470	118	1531	1604	0.293	471	747	0.7	0.4	3.181	A
	B1	502	125	1403	898	0.558	515	599	4.7	1.3	9.727	A
	C1	930	232	424	2446	0.380	931	1495	0.9	0.6	2.377	A
	D1	1518	380	751	2457	0.618	1527	603	3.8	1.6	3.907	A
South	A2	1495	374	390	2441	0.612	1501	930	3.1	1.6	3.854	A
	B2	967	242	924	1469	0.658	982	967	5.7	2.0	7.598	A
	C2	226	56	1023	1207	0.187	226	883	0.3	0.2	3.673	A
	D2	769	192	549	1718	0.447	771	700	1.3	0.8	3.806	A

09:00 - 09:15

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	394	98	1277	1781	0.221	394	620	0.4	0.3	2.597	A
	B1	420	105	1172	1024	0.410	422	499	1.3	0.7	6.011	A
	C1	772	193	350	2499	0.309	773	1244	0.6	0.4	2.086	A
	D1	1272	318	623	2555	0.498	1274	500	1.6	1.0	2.817	A
South	A2	1244	311	326	2486	0.500	1247	772	1.6	1.0	2.909	A
	B2	804	201	769	1557	0.516	807	804	2.0	1.1	4.826	A
	C2	189	47	843	1305	0.145	189	734	0.2	0.2	3.224	A
	D2	644	161	454	1775	0.363	645	578	0.8	0.6	3.187	A

WNP 2033 PM, 16-17

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	Junction North - Arm A1 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	Junction North - Arm B1 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	Junction North - Arm D1 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Linked Roundabout	Junction North - Arm C1	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 South - Arm A2	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 South - Arm B2	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	Vehicle Mix	Junction North	HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.
Warning	Vehicle Mix	Junction South	HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.

Junction Network

Junctions

Junction	Name	Junction Type	Arm order	Junction Delay (s)	Junction LOS
North	M-49	Standard Roundabout	A1,B1,C1,D1	92.71	F
South	M-48	Standard Roundabout	A2,B2,C2,D2	22.53	C

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D_23	WNP 2033 PM	16-17	Q3 70/30	ONE HOUR	15:45	17:15	15	✓

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

Linked Arm Data

Junction	Arm	Feeding Junction	Feeding Arm	Link Type	Flow source	Uniform flow (PCU/hr)	Flow multiplier (%)	Internal storage space (PCU)
North	**C1**	South	A2	Simple (vertical	Normal	0	100.00	

				queueing)				
South	**A2**	North	C1	Simple (vertical queueing)	Normal	0	100.00	
	B2	South	B2	Simple (vertical queueing)	Normal	0	100.00	

Demand overview (Traffic)

Junction	Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
North	**A1**		ONE HOUR	✓	629	100.000
	B1		ONE HOUR	✓	979	100.000
	C1	✓				
	D1		ONE HOUR	✓	1043	100.000
South	**A2**	✓				
	B2	✓				
	C2		ONE HOUR	✓	785	100.000
	D2		ONE HOUR	✓	426	100.000

Origin-Destination Data

Demand (PCU/hr)

Junction North

		To			
		A1	**B1**	**C1**	**D1**
From	**A1**	0	43	347	239
	B1	208	0	438	333
	C1	525	223	2	563
	D1	117	180	744	2

Demand (PCU/hr)

Junction South

		To			
		A2	**B2**	**C2**	**D2**
From	**A2**	9	994	130	377
	B2	615	0	53	712
	C2	385	203	0	197
	D2	314	38	74	0

Vehicle Mix

Heavy Vehicle Percentages

Junction North

		To			
		A1	**B1**	**C1**	**D1**
From	**A1**	0	0	0	0
	B1	0	0	0	0
	C1	0	0	0	0
	D1	0	0	0	0

Heavy Vehicle Percentages

Junction South

		To			
		A2	B2	C2	D2
From	A2	0	0	0	0
	B2	0	0	0	0
	C2	0	0	0	0
	D2	0	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)
North	A1	0.38	3.25	0.6	A	577	866
	B1	1.25	359.89	114.7	F	898	1348
	C1	0.61	4.13	1.5	A	1159	1738
	D1	0.50	3.12	1.0	A	957	1436
South	A2	0.64	4.05	1.8	A	1404	2106
	B2	0.80	10.68	3.8	B	1145	1717
	C2	1.01	87.28	21.1	F	720	1080
	D2	0.36	4.23	0.5	A	391	586

Main Results for each time segment

15:45 - 16:00

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	474	118	857	2072	0.228	472	619	0.0	0.3	2.249	A
	B1	737	184	1002	1116	0.661	729	327	0.0	1.9	9.147	A
	C1	944	236	584	2331	0.405	941	1147	0.0	0.7	2.587	A
	D1	785	196	693	2502	0.314	783	833	0.0	0.5	2.093	A
South	A2	1147	287	236	2550	0.450	1144	944	0.0	0.8	2.556	A
	B2	933	233	446	1739	0.537	929	933	0.0	1.1	4.417	A
	C2	591	148	1185	1118	0.529	587	190	0.0	1.1	6.721	A
	D2	321	80	860	1533	0.209	320	912	0.0	0.3	2.965	A

16:00 - 16:15

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	565	141	1025	1955	0.289	565	740	0.3	0.4	2.589	A
	B1	880	220	1198	1009	0.872	865	392	1.9	5.7	22.863	C
	C1	1129	282	694	2251	0.502	1128	1369	0.7	1.0	3.203	A
	D1	938	234	828	2398	0.391	937	994	0.5	0.6	2.463	A
South	A2	1369	342	282	2517	0.544	1367	1129	0.8	1.2	3.126	A
	B2	1115	279	534	1690	0.660	1112	1115	1.1	1.9	6.200	A

	C2	706	176	1419	990	0.713	701	227	1.1	2.4	12.224	B
	D2	383	96	1029	1432	0.267	383	1091	0.3	0.4	3.430	A

16:15 - 16:30

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	693	173	1246	1802	0.384	692	842	0.4	0.6	3.242	A
	B1	1078	269	1467	864	1.248	857	471	5.7	60.8	151.788	F
	C1	1330	332	739	2219	0.599	1328	1585	1.0	1.5	4.028	A
	D1	1148	287	941	2312	0.497	1147	1126	0.6	1.0	3.086	A
South	A2	1585	396	334	2480	0.639	1583	1330	1.2	1.8	4.002	A
	B2	1295	324	622	1640	0.790	1289	1295	1.9	3.6	10.056	B
	C2	864	216	1644	867	0.997	817	267	2.4	14.1	49.911	E
	D2	469	117	1196	1332	0.352	468	1265	0.4	0.5	4.163	A

16:30 - 16:45

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	693	173	1250	1799	0.385	693	850	0.6	0.6	3.252	A
	B1	1078	269	1469	863	1.249	862	474	60.8	114.7	359.890	F
	C1	1346	337	742	2217	0.607	1346	1589	1.5	1.5	4.130	A
	D1	1148	287	952	2303	0.499	1148	1136	1.0	1.0	3.117	A
South	A2	1589	397	340	2477	0.642	1589	1346	1.8	1.8	4.054	A
	B2	1304	326	624	1639	0.796	1303	1304	3.6	3.8	10.684	B
	C2	864	216	1659	859	1.006	836	268	14.1	21.1	87.276	F
	D2	469	117	1217	1320	0.355	469	1279	0.5	0.5	4.230	A

16:45 - 17:00

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	565	141	1039	1946	0.291	566	798	0.6	0.4	2.611	A
	B1	880	220	1201	1008	0.873	999	405	114.7	84.9	355.105	F
	C1	1200	300	769	2198	0.546	1201	1431	1.5	1.2	3.620	A
	D1	938	234	899	2344	0.400	939	1072	1.0	0.7	2.566	A
South	A2	1431	358	302	2503	0.572	1433	1200	1.8	1.3	3.367	A
	B2	1178	295	556	1677	0.703	1184	1178	3.8	2.4	7.375	A
	C2	706	176	1505	943	0.748	777	235	21.1	3.2	29.412	D
	D2	383	96	1118	1379	0.278	384	1164	0.5	0.4	3.619	A

17:00 - 17:15

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	474	118	870	2063	0.230	474	717	0.4	0.3	2.265	A
	B1	737	184	1005	1114	0.662	1067	339	84.9	2.3	136.156	F
	C1	1003	251	771	2196	0.457	1005	1301	1.2	0.8	3.025	A
	D1	785	196	801	2419	0.325	786	976	0.7	0.5	2.205	A
South	A2	1301	325	239	2547	0.511	1302	1003	1.3	1.1	2.894	A
	B2	1041	260	501	1709	0.609	1044	1041	2.4	1.6	5.445	A
	C2	591	148	1337	1035	0.571	598	208	3.2	1.4	8.380	A
	D2	321	80	921	1496	0.214	321	1014	0.4	0.3	3.064	A

WNP 2033 WEEKEND, 13-14

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	Junction North - Arm A1 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	Junction North - Arm B1 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	Junction North - Arm D1 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Linked Roundabout	Junction North - Arm C1	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 South - Arm A2	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 South - Arm B2	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	Vehicle Mix	Junction North	HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.
Warning	Vehicle Mix	Junction South	HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.

Junction Network

Junctions

Junction	Name	Junction Type	Arm order	Junction Delay (s)	Junction LOS
North	M-49	Standard Roundabout	A1,B1,C1,D1	3.23	A
South	M-48	Standard Roundabout	A2,B2,C2,D2	4.18	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D_24	WNP 2033 WEEKEND	13-14	Q3 70/30	ONE HOUR	12:45	14:15	15	✓

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

Linked Arm Data

Junction	Arm	Feeding Junction	Feeding Arm	Link Type	Flow source	Uniform flow (PCU/hr)	Flow multiplier (%)	Internal storage space (PCU)

North	**C1**	South	A2	Simple (vertical queueing)	Normal	0	100.00	
South	**A2**	North	C1	Simple (vertical queueing)	Normal	0	100.00	
	B2	South	B2	Simple (vertical queueing)	Normal	0	100.00	

Demand overview (Traffic)

Junction	Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
North	**A1**		ONE HOUR	✓	637	100.000
	B1		ONE HOUR	✓	350	100.000
	C1	✓				
	D1		ONE HOUR	✓	587	100.000
South	**A2**	✓				
	B2	✓				
	C2		ONE HOUR	✓	121	100.000
	D2		ONE HOUR	✓	948	100.000

Origin-Destination Data

Demand (PCU/hr)

Junction North

		To			
		A1	**B1**	**C1**	**D1**
From	**A1**	3	30	308	296
	B1	122	0	132	96
	C1	785	107	3	281
	D1	102	81	404	0

Demand (PCU/hr)

Junction South

		To			
		A2	**B2**	**C2**	**D2**
From	**A2**	23	617	61	139
	B2	430	2	36	406
	C2	44	42	0	35
	D2	666	250	22	10

Vehicle Mix

Heavy Vehicle Percentages

Junction North

		To			
		A1	**B1**	**C1**	**D1**
From	**A1**	0	0	0	0
	B1	0	0	0	0
	C1	0	0	0	0
	D1	0	0	0	0

A5 / A487 Treborth Road / Unnamed road roundabout

Junctions 9 – ARCADY

- Baseline 2016
- Reference Case 2020, 2023 and 2033
- With Development Without By-Pass 2020
- With Development With By-Pass 2020
- With Development 2023 and 2033

Junctions 9

ARCADY 9 - Roundabout Module

Version: 9.0.1.4646 []
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Path: \\europe.jacobs.com\sale\Projects\Transport\Projects\60PO8008 T&T\4. Project Work\2) DCO Main Site\09 Junction Modelling_2017__2017 Junction Models\73_A5 A487 Roundabout
Report generation date: 19/06/2017 11:44:07

«WNP 2033 WEEKEND, 13-14
»Junction Network
»Arms
»Traffic Demand
»Origin-Destination Data
»Vehicle Mix
»Results

Summary of junction performance

	08-09				17-18				13-14			
	Queue (PCU)	Delay (s)	RFC	LOS	Queue (PCU)	Delay (s)	RFC	LOS	Queue (PCU)	Delay (s)	RFC	LOS
Base 2016 AM												
Arm A	0.2	2.17	0.18	A								
Arm B	0.4	3.17	0.31	A								
Arm C	1.1	3.62	0.52	A								
Arm D	0.0	0.00	0.00	A								
Base 2016 PM												
Arm A					0.7	2.91	0.42	A				
Arm B					1.1	5.49	0.52	A				
Arm C					0.3	2.13	0.25	A				
Arm D					0.0	0.00	0.00	A				
Base 2016 WEEKEND												
Arm A									0.2	2.09	0.18	A
Arm B									0.3	2.84	0.20	A
Arm C									0.4	2.25	0.29	A
Arm D									0.0	0.00	0.00	A
REF 2020 AM												
Arm A	0.2	2.22	0.19	A								
Arm B	0.5	3.27	0.32	A								
Arm C	1.2	3.90	0.56	A								
Arm D	0.0	0.00	0.00	A								
REF 2020 PM												

Arm A					0.8	3.07	0.45	A				
Arm B					1.2	6.07	0.55	A				
Arm C					0.4	2.19	0.26	A				
Arm D					0.0	0.00	0.00	A				
	REF 2020 WEEKEND											
Arm A									0.2	2.13	0.19	A
Arm B									0.3	2.89	0.21	A
Arm C									0.4	2.31	0.30	A
Arm D									0.0	0.00	0.00	A
	REF 2023 AM											
Arm A	0.2	2.25	0.20	A								
Arm B	0.5	3.32	0.33	A								
Arm C	1.3	4.05	0.57	A								
Arm D	0.0	0.00	0.00	A								
	REF 2023 PM											
Arm A					0.9	3.14	0.46	A				
Arm B					1.3	6.34	0.57	A				
Arm C					0.4	2.21	0.27	A				
Arm D					0.0	0.00	0.00	A				
	REF 2023 WEEKEND											
Arm A									0.2	2.15	0.20	A
Arm B									0.3	2.92	0.22	A
Arm C									0.4	2.33	0.31	A
Arm D									0.0	0.00	0.00	A
	REF 2033 AM											
Arm A	0.3	2.34	0.22	A								
Arm B	0.6	3.48	0.36	A								
Arm C	1.6	4.56	0.62	A								
Arm D	0.0	0.00	0.00	A								
	REF 2033 PM											
Arm A					1.0	3.40	0.50	A				
Arm B					1.7	7.57	0.63	A				
Arm C					0.4	2.29	0.29	A				
Arm D					0.0	0.00	0.00	A				
	REF 2033 WEEKEND											
Arm A									0.3	2.21	0.21	A
Arm B									0.3	3.01	0.23	A
Arm C									0.5	2.42	0.33	A
Arm D									0.0	0.00	0.00	A
	WNP 2020 AM WBP											
Arm A	0.2	2.22	0.19	A								
Arm B	0.5	3.27	0.32	A								
Arm C	1.2	3.90	0.56	A								
Arm D	0.0	0.00	0.00	A								
	WNP 2020 PM WBP											
Arm A					0.8	3.08	0.45	A				
Arm B					1.3	6.14	0.56	A				
Arm C					0.4	2.19	0.26	A				
Arm D					0.0	0.00	0.00	A				
	WNP 2020 WEEKEND WBP											

Arm A									0.2	2.13	0.19	A
Arm B									0.3	2.89	0.21	A
Arm C									0.4	2.31	0.30	A
Arm D									0.0	0.00	0.00	A
	WNP 2020 AM BP											
Arm A	0.2	2.22	0.19	A								
Arm B	0.5	3.27	0.32	A								
Arm C	1.2	3.90	0.56	A								
Arm D	0.0	0.00	0.00	A								
	WNP 2020 PM BP											
Arm A					0.8	3.08	0.45	A				
Arm B					1.3	6.14	0.56	A				
Arm C					0.4	2.19	0.26	A				
Arm D					0.0	0.00	0.00	A				
	WNP 2020 WEEKEND BP											
Arm A									0.2	2.13	0.19	A
Arm B									0.3	2.89	0.21	A
Arm C									0.4	2.31	0.30	A
Arm D									0.0	0.00	0.00	A
	WNP 2023 AM											
Arm A	0.2	2.25	0.20	A								
Arm B	0.5	3.33	0.33	A								
Arm C	1.3	4.05	0.57	A								
Arm D	0.0	0.00	0.00	A								
	WNP 2023 PM											
Arm A					0.9	3.14	0.46	A				
Arm B					1.4	6.45	0.58	A				
Arm C					0.4	2.22	0.27	A				
Arm D					0.0	0.00	0.00	A				
	WNP 2023 WEEKEND											
Arm A									0.2	2.15	0.20	A
Arm B									0.3	2.92	0.22	A
Arm C									0.4	2.34	0.31	A
Arm D									0.0	0.00	0.00	A
	WNP 2033 AM											
Arm A	0.3	2.34	0.22	A								
Arm B	0.6	3.49	0.36	A								
Arm C	1.6	4.56	0.62	A								
Arm D	0.0	0.00	0.00	A								
	WNP 2033 PM											
Arm A					1.0	3.40	0.50	A				
Arm B					1.7	7.59	0.63	A				
Arm C					0.4	2.29	0.29	A				
Arm D					0.0	0.00	0.00	A				
	WNP 2033 WEEKEND											
Arm A									0.3	2.21	0.21	A
Arm B									0.3	3.01	0.24	A
Arm C									0.5	2.42	0.33	A
Arm D									0.0	0.00	0.00	A

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

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

File summary

File Description

Title	73_A5 A487 Roundabout
Location	mainland
Site number	m73
Date	31/05/2017
Version	rev_0a
Status	existing
Identifier	paolo
Client	Horizon Nuclear Power
Jobnumber	60PO8077
Enumerator	JEGINTL\WitherO
Description	All reference cases and WNP cases assessment. WBP=without by-pass BP=with by-pass

Units

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

Analysis Options

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

Analysis Set Details

ID	Network flow scaling factor (%)
A1	100.000

Demand Set Details

ID	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D_24	WNP 2033 WEEKEND	13-14	Q3	ONE HOUR	12:45	14:15	15

WNP 2033 WEEKEND, 13-14

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.

Junction Network

Junctions

Junction	Name	Junction Type	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout	2.50	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Name	Description
A	Holyhead rd	
B	A487	
C	A5	
D	unnamed Rd	

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
A	7.70	8.70	3.4	41.3	50.9	52.0	
B	5.10	7.90	8.0	9.7	50.9	40.0	
C	6.50	7.80	13.3	49.2	50.9	30.0	
D	2.50	3.00	3.7	9.8	50.9	35.0	

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Final slope	Final intercept (PCU/hr)
A	0.714	2362
B	0.594	1777
C	0.732	2335
D	0.417	804

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

Traffic Demand

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

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		✓	400	100.000
B		✓	334	100.000
C		✓	669	100.000
D		✓	0	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
		A	B	C	D
From	A	0	78	322	0
	B	135	3	196	0
	C	297	365	7	0
	D	0	0	0	0

Vehicle Mix

Heavy Vehicle Percentages

		To			
		A	B	C	D
From	A	0	0	0	0
	B	0	0	0	0
	C	0	0	0	0
	D	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max delay (s)	Max Queue (PCU)	Max LOS
A	0.21	2.21	0.3	A
B	0.24	3.01	0.3	A
C	0.33	2.42	0.5	A
D	0.00	0.00	0.0	A

Main Results for each time segment

12:45 - 13:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
A	301	282	2161	0.139	300	0.2	1.935	A
B	251	247	1630	0.154	251	0.2	2.608	A
C	504	104	2260	0.223	503	0.3	2.048	A
D	0	606	552	0.000	0	0.0	0.000	A

13:00 - 13:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
A	360	337	2121	0.170	359	0.2	2.043	A
B	300	296	1601	0.188	300	0.2	2.766	A
C	601	124	2245	0.268	601	0.4	2.190	A
D	0	725	502	0.000	0	0.0	0.000	A

13:15 - 13:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
A	440	413	2067	0.213	440	0.3	2.212	A
B	368	362	1562	0.235	367	0.3	3.014	A
C	737	152	2224	0.331	736	0.5	2.419	A
D	0	888	434	0.000	0	0.0	0.000	A

13:30 - 13:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
A	440	413	2067	0.213	440	0.3	2.212	A
B	368	362	1562	0.235	368	0.3	3.014	A
C	737	152	2224	0.331	737	0.5	2.419	A
D	0	889	434	0.000	0	0.0	0.000	A

13:45 - 14:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
A	360	337	2121	0.170	360	0.2	2.044	A
B	300	296	1601	0.188	301	0.2	2.768	A
C	601	124	2244	0.268	602	0.4	2.193	A
D	0	726	502	0.000	0	0.0	0.000	A

14:00 - 14:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
A	301	282	2160	0.139	301	0.2	1.938	A
B	251	248	1630	0.154	252	0.2	2.614	A
C	504	104	2259	0.223	504	0.3	2.052	A
D	0	608	551	0.000	0	0.0	0.000	A

Heavy Vehicle Percentages

Junction South

		To			
		A2	B2	C2	D2
From	A2	0	0	0	0
	B2	0	0	0	0
	C2	0	0	0	0
	D2	0	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)
North	A1	0.32	2.38	0.5	A	585	877
	B1	0.37	5.39	0.6	A	321	482
	C1	0.56	3.47	1.2	A	1086	1629
	D1	0.30	2.37	0.4	A	539	808
South	A2	0.38	2.35	0.6	A	777	1165
	B2	0.55	4.37	1.2	A	840	1260
	C2	0.12	3.60	0.1	A	111	167
	D2	0.62	5.69	1.6	A	870	1305

Main Results for each time segment

12:45 - 13:00

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	480	120	447	2357	0.203	479	761	0.0	0.3	1.916	A
	B1	263	66	762	1246	0.211	262	164	0.0	0.3	3.657	A
	C1	887	222	388	2472	0.359	885	636	0.0	0.6	2.265	A
	D1	442	110	767	2445	0.181	441	506	0.0	0.2	1.796	A
South	A2	636	159	245	2543	0.250	635	887	0.0	0.3	1.886	A
	B2	687	172	193	1883	0.365	685	687	0.0	0.6	3.000	A
	C2	91	23	786	1336	0.068	91	91	0.0	0.1	2.890	A
	D2	714	178	420	1795	0.398	711	457	0.0	0.7	3.313	A

13:00 - 13:15

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	573	143	535	2296	0.249	572	913	0.3	0.3	2.088	A
	B1	315	79	911	1165	0.270	314	196	0.3	0.4	4.229	A
	C1	1063	266	464	2417	0.440	1062	761	0.6	0.8	2.655	A
	D1	528	132	920	2327	0.227	527	606	0.2	0.3	2.000	A
South	A2	761	190	293	2510	0.303	761	1063	0.3	0.4	2.058	A
	B2	823	206	231	1861	0.442	822	823	0.6	0.8	3.460	A

	C2	109	27	944	1250	0.087	109	109	0.1	0.1	3.153	A
	D2	852	213	504	1745	0.488	851	548	0.7	0.9	4.023	A

13:15 - 13:30

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	701	175	655	2213	0.317	701	1116	0.3	0.5	2.381	A
	B1	385	96	1116	1054	0.366	385	240	0.4	0.6	5.369	A
	C1	1300	325	568	2342	0.555	1298	932	0.8	1.2	3.442	A
	D1	646	162	1125	2170	0.298	646	741	0.3	0.4	2.361	A
South	A2	932	233	358	2464	0.378	931	1300	0.4	0.6	2.347	A
	B2	1007	252	282	1832	0.550	1005	1007	0.8	1.2	4.345	A
	C2	133	33	1154	1135	0.117	133	133	0.1	0.1	3.592	A
	D2	1044	261	617	1678	0.622	1041	670	0.9	1.6	5.631	A

13:30 - 13:45

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	701	175	656	2212	0.317	701	1120	0.5	0.5	2.382	A
	B1	385	96	1116	1054	0.366	385	241	0.6	0.6	5.385	A
	C1	1304	326	569	2341	0.557	1303	933	1.2	1.2	3.467	A
	D1	646	162	1130	2167	0.298	646	743	0.4	0.4	2.367	A
South	A2	933	233	359	2463	0.379	933	1304	0.6	0.6	2.351	A
	B2	1009	252	283	1832	0.551	1009	1009	1.2	1.2	4.374	A
	C2	133	33	1158	1133	0.118	133	133	0.1	0.1	3.600	A
	D2	1044	261	619	1677	0.623	1044	672	1.6	1.6	5.688	A

13:45 - 14:00

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	573	143	537	2295	0.250	573	919	0.5	0.3	2.092	A
	B1	315	79	912	1164	0.270	315	197	0.6	0.4	4.244	A
	C1	1068	267	466	2416	0.442	1070	762	1.2	0.8	2.677	A
	D1	528	132	927	2322	0.227	528	609	0.4	0.3	2.007	A
South	A2	762	191	294	2509	0.304	763	1068	0.6	0.4	2.064	A
	B2	826	206	231	1861	0.444	827	826	1.2	0.8	3.488	A
	C2	109	27	949	1247	0.087	109	109	0.1	0.1	3.162	A
	D2	852	213	507	1743	0.489	855	551	1.6	1.0	4.066	A

14:00 - 14:15

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	480	120	449	2356	0.204	480	768	0.3	0.3	1.921	A
	B1	263	66	764	1245	0.212	264	165	0.4	0.3	3.670	A
	C1	893	223	390	2471	0.362	894	638	0.8	0.6	2.284	A
	D1	442	110	775	2439	0.181	442	509	0.3	0.2	1.802	A
South	A2	638	160	246	2542	0.251	639	893	0.4	0.3	1.890	A
	B2	691	173	194	1882	0.367	692	691	0.8	0.6	3.025	A
	C2	91	23	794	1332	0.068	91	91	0.1	0.1	2.900	A
	D2	714	178	424	1793	0.398	715	461	1.0	0.7	3.343	A

Magnox access road / A5025 junction – EXISTING

Junctions 9 – PICADY

- Baseline 2016
- Reference Case 2020, 2023 and 2033

Junctions 9

PICADY 9 - Priority Intersection Module

Version: 9.0.1.4646 []
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Filename: _12 Existing Magnox Access Junction - Rev0c.j9
Path: \\europe.jacobs.com\sale\Projects\Transport\Projects\60PO8008 T&T\4. Project Work\2) DCO Main Site\09 Junction Modelling_2017__2017 Junction Models\12_Existing Magnox Access Rd-A5025 jct
Report generation date: 16/06/2017 16:52:15

«BASE 2016 AM, 08-09
»Junction Network
»Arms
»Traffic Demand
»Origin-Destination Data
»Vehicle Mix
»Results

Summary of junction performance

	08-09				16-17				12-13				17-18			
	Queue (PCU)	Delay (s)	RFC	LOS	Queue (PCU)	Delay (s)	RFC	LOS	Queue (PCU)	Delay (s)	RFC	LOS	Queue (PCU)	Delay (s)	RFC	LOS
BASE 2016 AM																
Stream B-C	0.0	5.06	0.02	A												
Stream B-A	0.0	6.89	0.03	A												
Stream C-AB	0.6	8.25	0.36	A												
BASE 2016 PM																
Stream B-C					0.4	7.66	0.31	A								
Stream B-A					0.4	8.97	0.31	A								
Stream C-AB					0.0	4.77	0.01	A								
BASE 2016 Weekend																
Stream B-C									0.0	4.93	0.02	A				
Stream B-A									0.0	6.03	0.03	A				
Stream C-AB									0.0	4.93	0.02	A				
REF 2020 AM																
Stream B-C	0.0	4.97	0.03	A												
Stream B-A	0.0	7.97	0.04	A												
Stream C-AB	1.1	10.96	0.51	B												
REF 2020 PM																
Stream B-C					0.0	0.00	0.00									
Stream B-A					0.0	0.00	0.00									

Stream C-AB					0.0	0.00	0.00									
	REF 2020 Weekend															
Stream B-C									0.0	4.93	0.03	A				
Stream B-A									0.0	6.01	0.03	A				
Stream C-AB									0.0	4.96	0.03	A				
	REF 2023 AM															
Stream B-C	0.0	4.96	0.03	A												
Stream B-A	0.0	7.83	0.04	A												
Stream C-AB	1.0	10.40	0.49	B												
	REF 2023 PM															
Stream B-C					0.0	0.00	0.00									
Stream B-A					0.0	0.00	0.00									
Stream C-AB					0.0	0.00	0.00									
	REF 2023 Weekend															
Stream B-C									0.0	4.94	0.03	A				
Stream B-A									0.0	6.04	0.03	A				
Stream C-AB									0.0	4.96	0.03	A				
	REF 2033 AM															
Stream B-C	0.0	5.07	0.03	A												
Stream B-A	0.0	6.77	0.04	A												
Stream C-AB	0.5	7.50	0.30	A												
	REF 2033 PM															
Stream B-C													0.3	6.27	0.22	A
Stream B-A													0.2	8.12	0.17	A
Stream C-AB													0.0	4.63	0.03	A
	REF 2033 Weekend															
Stream B-C									0.0	4.98	0.03	A				
Stream B-A									0.0	6.10	0.03	A				
Stream C-AB									0.0	4.95	0.03	A				

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

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

File summary

File Description

Title	Existing Magnox Access
Location	Anglesey
Site number	_12
Date	13/06/2017
Version	Rev0c
Status	New File
Identifier	OW
Client	Horizon Nuclear Power
Jobnumber	60PO8077
Enumerator	JEGINTL\WitherO
Description	To be reviewed in conjunction with DMRB assessment of the junction. WNP comparison scenarios are found in the upgraded junction model file.

Units

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

Analysis Options

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

Analysis Set Details

ID	Network flow scaling factor (%)
A1	100.000

Demand Set Details

ID	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D_01	BASE 2016 AM	08-09	Q3	ONE HOUR	07:45	09:15	15

BASE 2016 AM, 08-09

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.

Junction Network

Junctions

Junction	Name	Junction Type	Major road direction	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way	3.94	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Name	Description	Arm type
A	A5025 Northbound		Major
B	Magnox Access Road		Minor
C	A5025 Southbound		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Has right turn bay	Visibility for right turn (m)	Blocks?	Blocking queue (PCU)
C	6.60			250.0	✓	0.00

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

Minor Arm Geometry

Arm	Minor arm type	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate flare length	Flare length (PCU)	Visibility to left (m)	Visibility to right (m)
B	One lane plus flare	10.00	6.90	6.10	4.60	3.80		1.00	210	202

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
1	B-A	694	0.123	0.311	0.196	0.445
1	B-C	774	0.116	0.292	-	-
1	C-B	719	0.271	0.271	-	-

The slopes and intercepts shown above do NOT include any corrections or adjustments.
Streams may be combined, in which case capacity will be adjusted.
Values are shown for the first time segment only; they may differ for subsequent time segments.

Traffic Demand

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

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		✓	227	100.000
B		✓	30	100.000
C		✓	246	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A	B	C
From	A	0	164	63
	B	16	0	14
	C	40	206	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A	B	C
From	A	0	0	0
	B	0	0	0
	C	0	0	0

Results

Magnox access road / A5025 junction – UPGRADED

Junctions 9 – PICADY

- With Development Without By-Pass 2020
- With Development With By-Pass 2020
- With Development 2023 and 2033

Junctions 9

PICADY 9 - Priority Intersection Module

Version: 9.0.1.4646 []
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Filename: 12_Existing Magnox Junction UPGRADED- Rev0g.j9
Path: \\europe.jacobs.com\sale\Projects\Transport\Projects\60PO8008 T&T\4. Project Work\2) DCO Main Site\09 Junction Modelling_2017__2017 Junction Models\12_Existing Magnox Access Rd-A5025 jct\UPGRADED JUNCTION
Report generation date: 13/06/2017 16:37:35

»WNP 2020 AM WBP, 07-08
»WNP 2020 PM WBP, 17-18
»WNP 2020 Weekend WBP, 17-18
»WNP 2020 AM BP, 07-08
»WNP 2020 PM BP, 17-18
»WNP 2020 Weekend BP, 17-18
»WNP 2023 AM, 07-08
»WNP 2023 PM, 17-18
»WNP 2023 Weekend , 17-18
»WNP 2033 AM, 07-08
»WNP 2033 PM, 18-19
»WNP 2033 Weekend , 07-08

Summary of junction performance

	07-08				17-18				18-19			
	Queue (PCU)	Delay (s)	RFC	LOS	Queue (PCU)	Delay (s)	RFC	LOS	Queue (PCU)	Delay (s)	RFC	LOS
	WNP 2020 AM WBP											
Stream B-C	0.0	5.47	0.04	A								
Stream B-A	0.1	10.50	0.05	B								
Stream C-AB	2.6	19.87	0.72	C								
	WNP 2020 PM WBP											
Stream B-C					2.3	22.69	0.71	C				
Stream B-A					1.7	24.92	0.64	C				
Stream C-AB					0.1	4.75	0.05	A				
	WNP 2020 Weekend WBP											
Stream B-C					0.1	5.47	0.09	A				
Stream B-A					0.1	7.14	0.06	A				
Stream C-AB					0.0	4.64	0.01	A				
	WNP 2020 AM BP											
Stream B-C	0.0	5.47	0.04	A								
Stream B-A	0.1	10.50	0.05	B								

Stream C-AB	2.6	19.87	0.72	C								
	WNP 2020 PM BP											
Stream B-C					2.3	22.69	0.71	C				
Stream B-A					1.7	24.92	0.64	C				
Stream C-AB					0.1	4.75	0.05	A				
	WNP 2020 Weekend BP											
Stream B-C					0.1	5.47	0.09	A				
Stream B-A					0.1	7.14	0.06	A				
Stream C-AB					0.0	4.64	0.01	A				
	WNP 2023 AM											
Stream B-C	0.1	5.80	0.05	A								
Stream B-A	0.1	12.63	0.06	B								
Stream C-AB	4.9	34.18	0.84	D								
	WNP 2023 PM											
Stream B-C					26.0	170.03	1.07	F				
Stream B-A					14.1	203.60	1.05	F				
Stream C-AB					0.1	4.53	0.04	A				
	WNP 2023 Weekend											
Stream B-C					0.2	6.10	0.17	A				
Stream B-A					0.1	8.93	0.11	A				
Stream C-AB					0.5	5.75	0.28	A				
	WNP 2033 AM											
Stream B-C	1.9	21.06	0.66	C								
Stream B-A	1.6	27.04	0.63	D								
Stream C-AB	0.5	8.00	0.33	A								
	WNP 2033 PM											
Stream B-C									0.1	6.23	0.06	A
Stream B-A									0.3	11.27	0.23	B
Stream C-AB									1.6	11.55	0.58	B
	WNP 2033 Weekend											
Stream B-C	1.2	13.52	0.55	B								
Stream B-A	0.9	14.59	0.46	B								
Stream C-AB	0.1	5.42	0.06	A								

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

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

File summary

File Description

Title	Upgraded Magnox access
Location	Anglesey
Site number	_12
Date	13/06/2017
Version	Rev0g
Status	Owen Witherow
Identifier	OW
Client	Horizon Nuclear Power
Jobnumber	60PO8077
Enumerator	JEGINTL\WitherO

Description	WNP scenario modelling of the upgraded Magnox access junction WBP = without bypasses BP = bypasses

Units

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

Analysis Options

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

Demand Set Summary

ID	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D_01	WNP 2020 AM WBP	07-08	Q3	ONE HOUR	06:45	08:15	15
D_02	WNP 2020 PM WBP	17-18	Q3	ONE HOUR	16:45	18:15	15
D_03	WNP 2020 Weekend WBP	17-18	Q3	ONE HOUR	16:45	18:15	15
D_04	WNP 2020 AM BP	07-08	Q3	ONE HOUR	06:45	08:15	15
D_05	WNP 2020 PM BP	17-18	Q3	ONE HOUR	16:45	18:15	15
D_06	WNP 2020 Weekend BP	17-18	Q3	ONE HOUR	16:45	18:15	15
D_07	WNP 2023 AM	07-08	Q3	ONE HOUR	06:45	08:15	15
D_08	WNP 2023 PM	17-18	Q3	ONE HOUR	16:45	18:15	15
D_09	WNP 2023 Weekend	17-18	Q3	ONE HOUR	16:45	18:15	15
D_10	WNP 2033 AM	07-08	Q3	ONE HOUR	06:45	08:15	15
D_11	WNP 2033 PM	18-19	Q3	ONE HOUR	17:45	19:15	15
D_12	WNP 2033 Weekend	07-08	Q3	ONE HOUR	06:45	08:15	15

Analysis Set Details

ID	Network flow scaling factor (%)
A1	100.000

WNP 2020 AM WBP, 07-08

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.

Junction Network

Junctions

Junction	Name	Junction Type	Major road direction	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way	9.98	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Name	Description	Arm type
A	untitled		Major
B	untitled		Minor
C	untitled		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Has right turn bay	Visibility for right turn (m)	Blocks?	Blocking queue (PCU)
C	7.40			250.0	✓	0.00

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

Minor Arm Geometry

Arm	Minor arm type	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate flare length	Flare length (PCU)	Visibility to left (m)	Visibility to right (m)
B	One lane plus flare	10.00	5.90	3.90	3.60	3.60		1.00	112	103

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
1	B-A	607	0.104	0.263	0.165	0.375
1	B-C	773	0.111	0.281	-	-
1	C-B	719	0.262	0.262	-	-

The slopes and intercepts shown above do NOT include any corrections or adjustments.
Streams may be combined, in which case capacity will be adjusted.
Values are shown for the first time segment only; they may differ for subsequent time segments.

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D_01	WNP 2020 AM WBP	07-08	Q3	ONE HOUR	06:45	08:15	15

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

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		✓	383	100.000
B		✓	41	100.000
C		✓	439	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A	B	C
From	A	0	212	171
	B	17	0	24
	C	54	385	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A	B	C
From	A	0	0	0
	B	0	0	0
	C	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max delay (s)	Max Queue (PCU)	Max LOS
B-C	0.04	5.47	0.0	A
B-A	0.05	10.50	0.1	B
C-AB	0.72	19.87	2.6	C
C-A				
A-B				
A-C				

Main Results for each time segment

06:45 - 07:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	18	714	0.025	18	0.0	5.171	A
B-A	13	442	0.029	13	0.0	8.391	A
C-AB	309	669	0.461	305	0.9	9.798	A
C-A	22			22			
A-B	160			160			
A-C	129			129			

07:00 - 07:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	22	702	0.031	22	0.0	5.289	A
B-A	15	408	0.037	15	0.0	9.161	A

C-AB	374	660	0.566	372	1.3	12.420	B
C-A	21			21			
A-B	191			191			
A-C	154			154			

07:15 - 07:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	26	685	0.039	26	0.0	5.464	A
B-A	19	363	0.052	19	0.1	10.451	B
C-AB	467	648	0.721	462	2.5	18.984	C
C-A	16			16			
A-B	233			233			
A-C	188			188			

07:30 - 07:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	26	685	0.039	26	0.0	5.465	A
B-A	19	361	0.052	19	0.1	10.503	B
C-AB	468	648	0.721	467	2.6	19.866	C
C-A	16			16			
A-B	233			233			
A-C	188			188			

07:45 - 08:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	22	702	0.031	22	0.0	5.294	A
B-A	15	406	0.038	15	0.0	9.220	A
C-AB	374	661	0.566	379	1.4	13.008	B
C-A	20			20			
A-B	191			191			
A-C	154			154			

08:00 - 08:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	18	714	0.025	18	0.0	5.176	A
B-A	13	440	0.029	13	0.0	8.433	A
C-AB	309	670	0.461	311	0.9	10.097	B
C-A	22			22			
A-B	160			160			
A-C	129			129			

WNP 2020 PM WBP, 17-18

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.

Junction Network

Junctions

Junction	Name	Junction Type	Major road direction	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way	14.72	B

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D_02	WNP 2020 PM WBP	17-18	Q3	ONE HOUR	16:45	18:15	15

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

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		✓	133	100.000
B		✓	580	100.000
C		✓	228	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A	B	C
From	A	0	2	131
	B	229	0	351
	C	199	29	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A	B	C
From	A	0	0	0
	B	0	0	0
	C	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max delay (s)	Max Queue (PCU)	Max LOS
B-C	0.71	22.69	2.3	C
B-A	0.64	24.92	1.7	C
C-AB	0.05	4.75	0.1	A
C-A				
A-B				
A-C				

Main Results for each time segment

16:45 - 17:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	264	663	0.399	262	0.7	8.916	A
B-A	172	514	0.336	170	0.5	10.425	B
C-AB	27	785	0.034	27	0.0	4.750	A
C-A	145			145			
A-B	2			2			
A-C	99			99			

17:00 - 17:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	316	622	0.507	314	1.0	11.647	B
B-A	206	476	0.433	205	0.7	13.251	B
C-AB	34	798	0.042	34	0.1	4.709	A
C-A	171			171			
A-B	2			2			
A-C	118			118			

17:15 - 17:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	386	549	0.705	382	2.2	20.981	C
B-A	252	401	0.629	249	1.6	23.210	C
C-AB	44	817	0.054	44	0.1	4.656	A
C-A	207			207			
A-B	2			2			
A-C	144			144			

17:30 - 17:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	386	543	0.711	386	2.3	22.685	C
B-A	252	395	0.638	252	1.7	24.918	C
C-AB	44	817	0.054	44	0.1	4.657	A
C-A	207			207			
A-B	2			2			
A-C	144			144			

17:45 - 18:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	316	617	0.512	321	1.1	12.360	B
B-A	206	471	0.437	209	0.8	13.927	B
C-AB	34	798	0.042	34	0.1	4.710	A
C-A	171			171			
A-B	2			2			
A-C	118			118			

18:00 - 18:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	264	660	0.400	266	0.7	9.164	A
B-A	172	512	0.337	174	0.5	10.667	B
C-AB	27	785	0.034	27	0.0	4.753	A
C-A	145			145			
A-B	2			2			
A-C	99			99			

WNP 2020 Weekend WBP, 17-18

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.

Junction Network

Junctions

Junction	Name	Junction Type	Major road direction	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way	1.61	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D_03	WNP 2020 Weekend WBP	17-18	Q3	ONE HOUR	16:45	18:15	15

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

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		✓	83	100.000

B		✓	87	100.000
C		✓	180	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A	B	C
From	A	0	2	81
	B	28	0	59
	C	173	7	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A	B	C
From	A	0	0	0
	B	0	0	0
	C	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max delay (s)	Max Queue (PCU)	Max LOS
B-C	0.09	5.47	0.1	A
B-A	0.06	7.14	0.1	A
C-AB	0.01	4.64	0.0	A
C-A				
A-B				
A-C				

Main Results for each time segment

16:45 - 17:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	44	735	0.060	44	0.1	5.210	A
B-A	21	553	0.038	21	0.0	6.762	A
C-AB	6	782	0.008	6	0.0	4.641	A
C-A	129			129			
A-B	2			2			
A-C	61			61			

17:00 - 17:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	53	730	0.073	53	0.1	5.316	A
B-A	25	546	0.046	25	0.0	6.916	A
C-AB	8	794	0.010	8	0.0	4.576	A
C-A	154			154			
A-B	2			2			
A-C	73			73			

17:15 - 17:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	65	723	0.090	65	0.1	5.466	A
B-A	31	535	0.058	31	0.1	7.138	A
C-AB	10	812	0.012	10	0.0	4.490	A
C-A	188			188			
A-B	2			2			
A-C	89			89			

17:30 - 17:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	65	723	0.090	65	0.1	5.467	A
B-A	31	535	0.058	31	0.1	7.138	A
C-AB	10	812	0.012	10	0.0	4.491	A
C-A	188			188			
A-B	2			2			
A-C	89			89			

17:45 - 18:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	53	730	0.073	53	0.1	5.320	A
B-A	25	546	0.046	25	0.0	6.919	A
C-AB	8	794	0.010	8	0.0	4.578	A
C-A	154			154			
A-B	2			2			
A-C	73			73			

18:00 - 18:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	44	735	0.060	44	0.1	5.214	A
B-A	21	553	0.038	21	0.0	6.767	A
C-AB	6	782	0.008	6	0.0	4.641	A
C-A	129			129			
A-B	2			2			
A-C	61			61			

WNP 2020 AM BP, 07-08

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.

Junction Network

Junctions

Junction	Name	Junction Type	Major road direction	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way	9.98	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D_04	WNP 2020 AM BP	07-08	Q3	ONE HOUR	06:45	08:15	15

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

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		✓	383	100.000
B		✓	41	100.000
C		✓	439	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A	B	C
From	A	0	212	171
	B	17	0	24
	C	54	385	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A	B	C
From	A	0	0	0
	B	0	0	0
	C	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max delay (s)	Max Queue (PCU)	Max LOS
B-C	0.04	5.47	0.0	A
B-A	0.05	10.50	0.1	B
C-AB	0.72	19.87	2.6	C
C-A				
A-B				
A-C				

Main Results for each time segment

06:45 - 07:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	18	714	0.025	18	0.0	5.171	A
B-A	13	442	0.029	13	0.0	8.391	A
C-AB	309	669	0.461	305	0.9	9.798	A
C-A	22			22			
A-B	160			160			
A-C	129			129			

07:00 - 07:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	22	702	0.031	22	0.0	5.289	A
B-A	15	408	0.037	15	0.0	9.161	A
C-AB	374	660	0.566	372	1.3	12.420	B
C-A	21			21			
A-B	191			191			
A-C	154			154			

07:15 - 07:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	26	685	0.039	26	0.0	5.464	A
B-A	19	363	0.052	19	0.1	10.451	B
C-AB	467	648	0.721	462	2.5	18.984	C
C-A	16			16			
A-B	233			233			
A-C	188			188			

07:30 - 07:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	26	685	0.039	26	0.0	5.465	A
B-A	19	361	0.052	19	0.1	10.503	B
C-AB	468	648	0.721	467	2.6	19.866	C
C-A	16			16			

A-B	233			233			
A-C	188			188			

07:45 - 08:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	22	702	0.031	22	0.0	5.294	A
B-A	15	406	0.038	15	0.0	9.220	A
C-AB	374	661	0.566	379	1.4	13.008	B
C-A	20			20			
A-B	191			191			
A-C	154			154			

08:00 - 08:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	18	714	0.025	18	0.0	5.176	A
B-A	13	440	0.029	13	0.0	8.433	A
C-AB	309	670	0.461	311	0.9	10.097	B
C-A	22			22			
A-B	160			160			
A-C	129			129			

WNP 2020 PM BP, 17-18

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.

Junction Network

Junctions

Junction	Name	Junction Type	Major road direction	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way	14.72	B

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D_05	WNP 2020 PM BP	17-18	Q3	ONE HOUR	16:45	18:15	15

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

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		✓	133	100.000
B		✓	580	100.000
C		✓	228	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A	B	C
From	A	0	2	131
	B	229	0	351
	C	199	29	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A	B	C
From	A	0	0	0
	B	0	0	0
	C	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max delay (s)	Max Queue (PCU)	Max LOS
B-C	0.71	22.69	2.3	C
B-A	0.64	24.92	1.7	C
C-AB	0.05	4.75	0.1	A
C-A				
A-B				
A-C				

Main Results for each time segment

16:45 - 17:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	264	663	0.399	262	0.7	8.916	A
B-A	172	514	0.336	170	0.5	10.425	B
C-AB	27	785	0.034	27	0.0	4.750	A
C-A	145			145			

A-B	2			2			
A-C	99			99			

17:00 - 17:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	316	622	0.507	314	1.0	11.647	B
B-A	206	476	0.433	205	0.7	13.251	B
C-AB	34	798	0.042	34	0.1	4.709	A
C-A	171			171			
A-B	2			2			
A-C	118			118			

17:15 - 17:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	386	549	0.705	382	2.2	20.981	C
B-A	252	401	0.629	249	1.6	23.210	C
C-AB	44	817	0.054	44	0.1	4.656	A
C-A	207			207			
A-B	2			2			
A-C	144			144			

17:30 - 17:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	386	543	0.711	386	2.3	22.685	C
B-A	252	395	0.638	252	1.7	24.918	C
C-AB	44	817	0.054	44	0.1	4.657	A
C-A	207			207			
A-B	2			2			
A-C	144			144			

17:45 - 18:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	316	617	0.512	321	1.1	12.360	B
B-A	206	471	0.437	209	0.8	13.927	B
C-AB	34	798	0.042	34	0.1	4.710	A
C-A	171			171			
A-B	2			2			
A-C	118			118			

18:00 - 18:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	264	660	0.400	266	0.7	9.164	A
B-A	172	512	0.337	174	0.5	10.667	B
C-AB	27	785	0.034	27	0.0	4.753	A
C-A	145			145			
A-B	2			2			
A-C	99			99			

WNP 2020 Weekend BP, 17-18

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.

Junction Network

Junctions

Junction	Name	Junction Type	Major road direction	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way	1.61	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D_06	WNP 2020 Weekend BP	17-18	Q3	ONE HOUR	16:45	18:15	15

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

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		✓	83	100.000
B		✓	87	100.000
C		✓	180	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A	B	C
From	A	0	2	81
	B	28	0	59
	C	173	7	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A	B	C
From	A	0	0	0
	B	0	0	0
	C	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max delay (s)	Max Queue (PCU)	Max LOS
B-C	0.09	5.47	0.1	A
B-A	0.06	7.14	0.1	A
C-AB	0.01	4.64	0.0	A
C-A				
A-B				
A-C				

Main Results for each time segment

16:45 - 17:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	44	735	0.060	44	0.1	5.210	A
B-A	21	553	0.038	21	0.0	6.762	A
C-AB	6	782	0.008	6	0.0	4.641	A
C-A	129			129			
A-B	2			2			
A-C	61			61			

17:00 - 17:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	53	730	0.073	53	0.1	5.316	A
B-A	25	546	0.046	25	0.0	6.916	A
C-AB	8	794	0.010	8	0.0	4.576	A
C-A	154			154			
A-B	2			2			
A-C	73			73			

17:15 - 17:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	65	723	0.090	65	0.1	5.466	A
B-A	31	535	0.058	31	0.1	7.138	A
C-AB	10	812	0.012	10	0.0	4.490	A
C-A	188			188			

A-B	2			2			
A-C	89			89			

17:30 - 17:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	65	723	0.090	65	0.1	5.467	A
B-A	31	535	0.058	31	0.1	7.138	A
C-AB	10	812	0.012	10	0.0	4.491	A
C-A	188			188			
A-B	2			2			
A-C	89			89			

17:45 - 18:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	53	730	0.073	53	0.1	5.320	A
B-A	25	546	0.046	25	0.0	6.919	A
C-AB	8	794	0.010	8	0.0	4.578	A
C-A	154			154			
A-B	2			2			
A-C	73			73			

18:00 - 18:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	44	735	0.060	44	0.1	5.214	A
B-A	21	553	0.038	21	0.0	6.767	A
C-AB	6	782	0.008	6	0.0	4.641	A
C-A	129			129			
A-B	2			2			
A-C	61			61			

WNP 2023 AM, 07-08

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.

Junction Network

Junctions

Junction	Name	Junction Type	Major road direction	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way	15.44	C

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D_07	WNP 2023 AM	07-08	Q3	ONE HOUR	06:45	08:15	15

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

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		✓	518	100.000
B		✓	47	100.000
C		✓	481	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A	B	C
From	A	0	228	290
	B	17	0	30
	C	67	414	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A	B	C
From	A	0	0	0
	B	0	0	0
	C	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max delay (s)	Max Queue (PCU)	Max LOS
B-C	0.05	5.80	0.1	A
B-A	0.06	12.63	0.1	B
C-AB	0.84	34.18	4.9	D
C-A				
A-B				
A-C				

Main Results for each time segment

06:45 - 07:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	23	697	0.032	22	0.0	5.336	A
B-A	13	401	0.032	13	0.0	9.265	A
C-AB	338	650	0.520	333	1.1	11.242	B
C-A	24			24			
A-B	172			172			
A-C	218			218			

07:00 - 07:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	27	679	0.040	27	0.0	5.519	A
B-A	15	361	0.042	15	0.0	10.402	B
C-AB	411	637	0.645	409	1.8	15.570	C
C-A	21			21			
A-B	205			205			
A-C	261			261			

07:15 - 07:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	33	654	0.050	33	0.1	5.795	A
B-A	19	307	0.061	19	0.1	12.472	B
C-AB	518	620	0.835	508	4.5	29.830	D
C-A	11			11			
A-B	251			251			
A-C	319			319			

07:30 - 07:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	33	654	0.051	33	0.1	5.797	A
B-A	19	304	0.062	19	0.1	12.632	B
C-AB	520	621	0.836	518	4.9	34.180	D
C-A	10			10			
A-B	251			251			
A-C	319			319			

07:45 - 08:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	27	679	0.040	27	0.0	5.526	A
B-A	15	356	0.043	15	0.0	10.564	B
C-AB	413	639	0.646	424	2.0	17.640	C
C-A	20			20			
A-B	205			205			
A-C	261			261			

08:00 - 08:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	23	696	0.032	23	0.0	5.344	A

B-A	13	398	0.032	13	0.0	9.339	A
C-AB	339	650	0.520	342	1.2	11.811	B
C-A	24			24			
A-B	172			172			
A-C	218			218			

WNP 2023 PM, 17-18

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.

Junction Network

Junctions

Junction	Name	Junction Type	Major road direction	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way	110.85	F

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D_08	WNP 2023 PM	17-18	Q3	ONE HOUR	16:45	18:15	15

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

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		✓	152	100.000
B		✓	712	100.000
C		✓	300	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A	**B**	**C**
From	**A**	0	2	150
	B	233	0	479
	C	278	22	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A	B	C
From	A	0	0	0
	B	0	0	0
	C	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max delay (s)	Max Queue (PCU)	Max LOS
B-C	1.07	170.03	26.0	F
B-A	1.05	203.60	14.1	F
C-AB	0.04	4.53	0.1	A
C-A				
A-B				
A-C				

Main Results for each time segment

16:45 - 17:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	361	628	0.574	355	1.3	12.959	B
B-A	175	446	0.394	173	0.6	13.086	B
C-AB	22	818	0.027	22	0.0	4.523	A
C-A	204			204			
A-B	2			2			
A-C	113			113			

17:00 - 17:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	431	575	0.748	425	2.7	23.081	C
B-A	209	363	0.577	207	1.3	22.690	C
C-AB	28	838	0.034	28	0.0	4.444	A
C-A	241			241			
A-B	2			2			
A-C	135			135			

17:15 - 17:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	527	502	1.051	478	15.1	86.893	F
B-A	257	244	1.051	224	9.4	114.674	F

C-AB	38	866	0.043	37	0.1	4.343	A
C-A	293			293			
A-B	2			2			
A-C	165			165			

17:30 - 17:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	527	491	1.074	484	26.0	170.026	F
B-A	257	246	1.044	238	14.1	203.596	F
C-AB	38	866	0.043	38	0.1	4.344	A
C-A	293			293			
A-B	2			2			
A-C	165			165			

17:45 - 18:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	431	509	0.846	490	11.0	142.712	F
B-A	209	253	0.826	238	7.1	170.396	F
C-AB	28	838	0.034	28	0.0	4.447	A
C-A	241			241			
A-B	2			2			
A-C	135			135			

18:00 - 18:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	361	598	0.603	398	1.6	21.225	C
B-A	175	408	0.430	201	0.8	19.405	C
C-AB	22	818	0.027	22	0.0	4.526	A
C-A	204			204			
A-B	2			2			
A-C	113			113			

WNP 2023 Weekend , 17-18

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.

Junction Network

Junctions

Junction	Name	Junction Type	Major road direction	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way	3.43	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D_09	WNP 2023 Weekend	17-18	Q3	ONE HOUR	16:45	18:15	15

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

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		✓	98	100.000
B		✓	155	100.000
C		✓	408	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A	B	C
From	A	0	2	96
	B	46	0	109
	C	262	146	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A	B	C
From	A	0	0	0
	B	0	0	0
	C	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max delay (s)	Max Queue (PCU)	Max LOS
B-C	0.17	6.10	0.2	A
B-A	0.11	8.93	0.1	A
C-AB	0.28	5.75	0.5	A
C-A				
A-B				
A-C				

Main Results for each time segment

16:45 - 17:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	82	728	0.113	82	0.1	5.571	A
B-A	35	497	0.070	34	0.1	7.774	A
C-AB	145	820	0.176	144	0.3	5.317	A
C-A	162			162			
A-B	2			2			
A-C	72			72			

17:00 - 17:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	98	720	0.136	98	0.2	5.781	A
B-A	41	479	0.086	41	0.1	8.225	A
C-AB	183	840	0.217	182	0.4	5.473	A
C-A	184			184			
A-B	2			2			
A-C	86			86			

17:15 - 17:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	120	710	0.169	120	0.2	6.101	A
B-A	51	454	0.112	51	0.1	8.926	A
C-AB	241	869	0.278	241	0.5	5.738	A
C-A	208			208			
A-B	2			2			
A-C	106			106			

17:30 - 17:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	120	710	0.169	120	0.2	6.105	A
B-A	51	454	0.112	51	0.1	8.934	A
C-AB	241	869	0.278	241	0.5	5.749	A
C-A	208			208			
A-B	2			2			
A-C	106			106			

17:45 - 18:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	98	720	0.136	98	0.2	5.788	A
B-A	41	479	0.086	41	0.1	8.237	A
C-AB	183	841	0.218	184	0.4	5.490	A
C-A	184			184			
A-B	2			2			
A-C	86			86			

18:00 - 18:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	82	728	0.113	82	0.1	5.581	A
B-A	35	497	0.070	35	0.1	7.793	A
C-AB	145	820	0.177	145	0.3	5.340	A
C-A	162			162			
A-B	2			2			
A-C	72			72			

WNP 2033 AM, 07-08

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.

Junction Network

Junctions

Junction	Name	Junction Type	Major road direction	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way	11.94	B

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D_10	WNP 2033 AM	07-08	Q3	ONE HOUR	06:45	08:15	15

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

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		✓	366	100.000
B		✓	506	100.000
C		✓	253	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A	B	C
From	A	0	164	202
	B	203	0	303
	C	79	174	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A	B	C
From	A	0	0	0
	B	0	0	0
	C	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max delay (s)	Max Queue (PCU)	Max LOS
B-C	0.66	21.06	1.9	C
B-A	0.63	27.04	1.6	D
C-AB	0.33	8.00	0.5	A
C-A				
A-B				
A-C				

Main Results for each time segment

06:45 - 07:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	228	640	0.356	226	0.5	8.644	A
B-A	153	472	0.324	151	0.5	11.135	B
C-AB	143	685	0.209	142	0.3	6.626	A
C-A	47			47			
A-B	123			123			
A-C	152			152			

07:00 - 07:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	272	594	0.459	271	0.8	11.113	B
B-A	182	432	0.423	182	0.7	14.331	B

C-AB	175	679	0.258	174	0.4	7.136	A
C-A	53			53			
A-B	147			147			
A-C	182			182			

07:15 - 07:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	334	509	0.656	330	1.8	19.693	C
B-A	224	359	0.622	220	1.5	25.317	D
C-AB	220	671	0.328	220	0.5	7.975	A
C-A	58			58			
A-B	181			181			
A-C	222			222			

07:30 - 07:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	334	503	0.663	333	1.9	21.061	C
B-A	224	356	0.629	223	1.6	27.040	D
C-AB	220	671	0.329	220	0.5	7.997	A
C-A	58			58			
A-B	181			181			
A-C	222			222			

07:45 - 08:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	272	589	0.463	276	0.9	11.669	B
B-A	182	429	0.426	186	0.8	15.026	C
C-AB	175	679	0.258	176	0.4	7.165	A
C-A	53			53			
A-B	147			147			
A-C	182			182			

08:00 - 08:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	228	638	0.358	229	0.6	8.845	A
B-A	153	471	0.325	154	0.5	11.396	B
C-AB	144	685	0.210	144	0.3	6.661	A
C-A	47			47			
A-B	123			123			
A-C	152			152			

WNP 2033 PM, 18-19

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.

Junction Network

Junctions

Junction	Name	Junction Type	Major road direction	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way	6.28	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D_11	WNP 2033 PM	18-19	Q3	ONE HOUR	17:45	19:15	15

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

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		✓	302	100.000
B		✓	117	100.000
C		✓	457	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A	B	C
From	A	0	196	106
	B	85	0	32
	C	157	300	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A	B	C
From	A	0	0	0
	B	0	0	0
	C	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max delay (s)	Max Queue (PCU)	Max LOS
B-C	0.06	6.23	0.1	A
B-A	0.23	11.27	0.3	B
C-AB	0.58	11.55	1.6	B
C-A				
A-B				
A-C				

Main Results for each time segment

17:45 - 18:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	24	651	0.037	24	0.0	5.743	A
B-A	64	482	0.133	63	0.2	8.582	A
C-AB	269	734	0.367	267	0.6	7.667	A
C-A	75			75			
A-B	148			148			
A-C	80			80			

18:00 - 18:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	29	636	0.045	29	0.0	5.926	A
B-A	76	453	0.169	76	0.2	9.545	A
C-AB	334	738	0.452	333	0.9	8.872	A
C-A	77			77			
A-B	176			176			
A-C	95			95			

18:15 - 18:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	35	614	0.057	35	0.1	6.223	A
B-A	94	414	0.226	93	0.3	11.221	B
C-AB	431	744	0.579	429	1.5	11.369	B
C-A	72			72			
A-B	216			216			
A-C	117			117			

18:30 - 18:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	35	613	0.057	35	0.1	6.227	A
B-A	94	413	0.227	94	0.3	11.273	B
C-AB	432	745	0.580	432	1.6	11.546	B
C-A	71			71			
A-B	216			216			
A-C	117			117			

18:45 - 19:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	29	636	0.045	29	0.0	5.935	A
B-A	76	452	0.169	77	0.2	9.604	A
C-AB	335	739	0.453	337	1.0	9.032	A
C-A	76			76			
A-B	176			176			
A-C	95			95			

19:00 - 19:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	24	650	0.037	24	0.0	5.752	A
B-A	64	481	0.133	64	0.2	8.641	A
C-AB	270	735	0.367	271	0.7	7.794	A
C-A	74			74			
A-B	148			148			
A-C	80			80			

WNP 2033 Weekend , 07-08

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.

Junction Network

Junctions

Junction	Name	Junction Type	Major road direction	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way	9.36	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D_12	WNP 2033 Weekend	07-08	Q3	ONE HOUR	06:45	08:15	15

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

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		✓	176	100.000

B		✓	495	100.000
C		✓	87	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A	B	C
From	A	0	25	151
	B	194	0	301
	C	53	34	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A	B	C
From	A	0	0	0
	B	0	0	0
	C	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max delay (s)	Max Queue (PCU)	Max LOS
B-C	0.55	13.52	1.2	B
B-A	0.46	14.59	0.9	B
C-AB	0.06	5.42	0.1	A
C-A				
A-B				
A-C				

Main Results for each time segment

06:45 - 07:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	227	679	0.334	225	0.5	7.893	A
B-A	146	536	0.272	145	0.4	9.160	A
C-AB	27	709	0.038	27	0.0	5.278	A
C-A	38			38			
A-B	19			19			
A-C	114			114			

07:00 - 07:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	271	649	0.417	270	0.7	9.474	A
B-A	174	510	0.342	174	0.5	10.678	B
C-AB	33	707	0.046	33	0.1	5.338	A
C-A	45			45			
A-B	22			22			
A-C	136			136			

07:15 - 07:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	331	599	0.553	329	1.2	13.261	B
B-A	214	462	0.463	212	0.8	14.365	B
C-AB	41	705	0.058	41	0.1	5.421	A
C-A	55			55			
A-B	28			28			
A-C	166			166			

07:30 - 07:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	331	597	0.555	331	1.2	13.515	B
B-A	214	460	0.464	214	0.9	14.592	B
C-AB	41	705	0.058	41	0.1	5.422	A
C-A	55			55			
A-B	28			28			
A-C	166			166			

07:45 - 08:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	271	647	0.418	273	0.7	9.655	A
B-A	174	509	0.343	176	0.5	10.840	B
C-AB	33	707	0.046	33	0.1	5.339	A
C-A	45			45			
A-B	22			22			
A-C	136			136			

08:00 - 08:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	227	677	0.335	227	0.5	8.017	A
B-A	146	535	0.273	147	0.4	9.275	A
C-AB	27	709	0.038	27	0.0	5.283	A
C-A	38			38			
A-B	19			19			
A-C	114			114			

A5025 Pentraeth Road / B5420 Ffordd Penmynydd / B5420 Pentraeth Road (Menai Bridge) roundabout (adj. The Four Crosses Inn)

Junctions 9 – ARCADY

- Baseline 2016
- Reference Case 2020, 2023 and 2033
- With Development Without By-Pass 2020
- With Development With By-Pass 2020
- With Development 2023 and 2033

Junctions 9

ARCADY 9 - Roundabout Module

Version: 9.0.1.4646 []
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Filename: A5025 - B5420 Roundabout Assessment - Rev0k.j9
Path: \\europe.jacobs.com\sale\Projects\Transport\Projects\60PO8008 T&T\4. Project Work\2) DCO Main Site\09 Junction Modelling_2017__2017 Junction Models\39_A5025-B5420 Ffordd Penmynydd-Pentraeth Rd (Menai Bridge)
Report generation date: 16/06/2017 17:03:16

»REF 2016 PM, 17-18
»REF 2020 PM, 17-18
»REF 2023 PM, 17-18
»REF 2033 PM, 17-18
»WNP 2020 PM WBP, 17-18
»WNP 2020 PM BP, 17-18
»WNP 2023 PM, 17-18
»WNP 2033 PM, 17-18

Summary of junction performance

	17-18			
	Queue (PCU)	Delay (s)	RFC	LOS
	REF 2016 PM			
Arm A	0.5	3.71	0.31	A
Arm B	1.4	6.18	0.59	A
Arm C	1.5	7.08	0.60	A
Arm D	0.2	4.63	0.13	A
	REF 2020 PM			
Arm A	0.5	3.88	0.33	A
Arm B	1.7	7.02	0.64	A
Arm C	1.8	8.20	0.65	A
Arm D	0.2	4.98	0.15	A
	REF 2023 PM			
Arm A	0.5	3.97	0.35	A
Arm B	1.9	7.39	0.65	A
Arm C	2.0	8.75	0.67	A
Arm D	0.2	5.11	0.16	A
	REF 2033 PM			
Arm A	0.6	4.33	0.38	A
Arm B	2.4	8.94	0.71	A

Arm C	3.0	12.09	0.75	B
Arm D	0.2	5.80	0.19	A
	WNP 2020 PM WBP			
Arm A	0.5	3.91	0.34	A
Arm B	1.7	7.02	0.64	A
Arm C	1.9	8.41	0.66	A
Arm D	0.2	5.03	0.15	A
	WNP 2020 PM BP			
Arm A	0.5	3.91	0.34	A
Arm B	1.7	7.02	0.64	A
Arm C	1.9	8.41	0.66	A
Arm D	0.2	5.03	0.15	A
	WNP 2023 PM			
Arm A	0.5	4.03	0.35	A
Arm B	1.9	7.39	0.65	A
Arm C	2.1	9.22	0.68	A
Arm D	0.2	5.21	0.16	A
	WNP 2033 PM			
Arm A	0.6	4.33	0.38	A
Arm B	2.4	8.94	0.71	A
Arm C	3.0	12.09	0.75	B
Arm D	0.2	5.80	0.19	A

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

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

File summary

File Description

Title	A5025 - B5420 Roundabout Assessment
Location	A5025 - B5420 Roundabout
Site number	39
Date	30/05/2017
Version	Rev0k
Status	Existing
Identifier	MLP
Client	Horizon
Jobnumber	60PO8077
Enumerator	JEGINTL\LopezM3
Description	To be reviewed in conjunction with the DMRB analysis. Further investigation of the PM peak hour Ref & WNP. WBP = without bypasses BP = bypasses

Units

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

Analysis Options

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

Demand Set Summary

ID	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D_01	REF 2016 PM	17-18	Q3	ONE HOUR	16:45	18:15	15
D_02	REF 2020 PM	17-18	Q3	ONE HOUR	16:45	18:15	15
D_03	REF 2023 PM	17-18	Q3	ONE HOUR	16:45	18:15	15
D_04	REF 2033 PM	17-18	Q3	ONE HOUR	16:45	18:15	15
D_05	WNP 2020 PM WBP	17-18	Q3	ONE HOUR	16:45	18:15	15
D_06	WNP 2020 PM BP	17-18	Q3	ONE HOUR	16:45	18:15	15
D_07	WNP 2023 PM	17-18	Q3	ONE HOUR	16:45	18:15	15
D_08	WNP 2033 PM	17-18	Q3	ONE HOUR	16:45	18:15	15

Analysis Set Details

ID	Network flow scaling factor (%)
A1	100.000

REF 2016 PM, 17-18

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.

Junction Network

Junctions

Junction	Name	Junction Type	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout	5.91	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Name	Description
A	A5025 Southbound	
B	B5420 Westbound	
C	A5025 Northbound	
D	B5420 Eastbound	

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
A	3.60	7.90	9.2	35.1	31.0	27.0	
B	3.90	8.10	5.7	22.2	31.0	19.0	
C	3.40	8.60	7.6	23.2	31.0	18.0	
D	2.90	7.20	15.4	15.8	31.0	19.0	

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Final slope	Final intercept (PCU/hr)
A	0.659	1664
B	0.655	1628
C	0.651	1598
D	0.645	1606

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

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D_01	REF 2016 PM	17-18	Q3	ONE HOUR	16:45	18:15	15

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

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		✓	399	100.000
B		✓	769	100.000
C		✓	683	100.000
D		✓	110	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
		A	B	C	D
From	A	1	160	228	10
	B	333	2	309	125
	C	404	255	1	23
	D	16	58	36	0

Vehicle Mix

Heavy Vehicle Percentages

		To			
		A	B	C	D
From	A	0	0	0	0
	B	0	0	0	0
	C	0	0	0	0
	D	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max delay (s)	Max Queue (PCU)	Max LOS
A	0.31	3.71	0.5	A
B	0.59	6.18	1.4	A
C	0.60	7.08	1.5	A
D	0.13	4.63	0.2	A

Main Results for each time segment

16:45 - 17:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
A	300	264	1490	0.202	299	0.3	3.021	A
B	579	207	1492	0.388	576	0.6	3.922	A
C	514	353	1368	0.376	512	0.6	4.192	A
D	83	746	1124	0.074	82	0.1	3.455	A

17:00 - 17:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
A	359	316	1455	0.246	358	0.3	3.281	A
B	691	248	1465	0.472	690	0.9	4.639	A
C	614	423	1323	0.464	613	0.9	5.065	A
D	99	894	1029	0.096	99	0.1	3.869	A

17:15 - 17:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
A	439	386	1409	0.312	439	0.5	3.709	A
B	847	304	1429	0.593	845	1.4	6.136	A
C	752	517	1261	0.596	750	1.4	7.005	A
D	121	1093	900	0.135	121	0.2	4.616	A

17:30 - 17:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
A	439	388	1408	0.312	439	0.5	3.714	A
B	847	304	1429	0.593	847	1.4	6.185	A
C	752	519	1260	0.597	752	1.5	7.077	A
D	121	1097	898	0.135	121	0.2	4.630	A

17:45 - 18:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
A	359	317	1454	0.247	359	0.3	3.287	A
B	691	248	1465	0.472	693	0.9	4.678	A
C	614	425	1321	0.465	616	0.9	5.121	A
D	99	899	1026	0.096	99	0.1	3.885	A

18:00 - 18:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
A	300	266	1489	0.202	301	0.3	3.033	A
B	579	208	1491	0.388	580	0.6	3.955	A
C	514	355	1367	0.376	515	0.6	4.234	A
D	83	751	1121	0.074	83	0.1	3.466	A

REF 2020 PM, 17-18

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.

Junction Network

Junctions

Junction	Name	Junction Type	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout	6.68	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D_02	REF 2020 PM	17-18	Q3	ONE HOUR	16:45	18:15	15

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

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		✓	424	100.000
B		✓	818	100.000
C		✓	728	100.000
D		✓	119	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
		A	B	C	D
From	A	1	168	245	10
	B	351	2	330	135
	C	436	267	1	24
	D	17	62	40	0

Vehicle Mix

Heavy Vehicle Percentages

		To			
		A	B	C	D
From	A	0	0	0	0
	B	0	0	0	0
	C	0	0	0	0
	D	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max delay (s)	Max Queue (PCU)	Max LOS
A	0.33	3.88	0.5	A
B	0.64	7.02	1.7	A
C	0.65	8.20	1.8	A
D	0.15	4.98	0.2	A

Main Results for each time segment

16:45 - 17:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
A	319	279	1480	0.216	318	0.3	3.096	A
B	616	223	1482	0.416	613	0.7	4.130	A
C	548	374	1355	0.405	545	0.7	4.435	A
D	90	793	1095	0.082	89	0.1	3.581	A

17:00 - 17:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
A	381	334	1444	0.264	381	0.4	3.387	A
B	735	267	1453	0.506	734	1.0	5.000	A
C	654	448	1306	0.501	653	1.0	5.499	A
D	107	949	993	0.108	107	0.1	4.060	A

17:15 - 17:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
A	467	408	1395	0.335	466	0.5	3.875	A
B	901	327	1414	0.637	898	1.7	6.937	A
C	802	548	1241	0.646	798	1.8	8.068	A
D	131	1161	857	0.153	131	0.2	4.955	A

17:30 - 17:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
A	467	410	1394	0.335	467	0.5	3.884	A
B	901	327	1414	0.637	901	1.7	7.015	A
C	802	549	1240	0.646	801	1.8	8.197	A
D	131	1165	854	0.153	131	0.2	4.976	A

17:45 - 18:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
A	381	336	1442	0.264	382	0.4	3.395	A
B	735	267	1453	0.506	738	1.0	5.060	A
C	654	450	1305	0.502	658	1.0	5.590	A
D	107	955	990	0.108	107	0.1	4.082	A

18:00 - 18:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
A	319	281	1479	0.216	320	0.3	3.106	A
B	616	224	1481	0.416	617	0.7	4.172	A
C	548	376	1353	0.405	549	0.7	4.489	A
D	90	798	1091	0.082	90	0.1	3.598	A

REF 2023 PM, 17-18

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.

Junction Network

Junctions

Junction	Name	Junction Type	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout	7.04	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D_03	REF 2023 PM	17-18	Q3	ONE HOUR	16:45	18:15	15

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

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		✓	436	100.000
B		✓	836	100.000
C		✓	746	100.000
D		✓	121	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
		A	B	C	D
From	A	1	172	252	11
	B	358	2	338	138
	C	446	274	1	25
	D	17	63	41	0

Vehicle Mix

Heavy Vehicle Percentages

		To			
		A	B	C	D
From	A	0	0	0	0
	B	0	0	0	0
	C	0	0	0	0
	D	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max delay (s)	Max Queue (PCU)	Max LOS
A	0.35	3.97	0.5	A
B	0.65	7.39	1.9	A
C	0.67	8.75	2.0	A
D	0.16	5.11	0.2	A

Main Results for each time segment

16:45 - 17:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
A	328	285	1475	0.222	327	0.3	3.132	A
B	629	230	1477	0.426	626	0.7	4.216	A
C	562	382	1349	0.416	559	0.7	4.538	A
D	91	811	1083	0.084	91	0.1	3.628	A

17:00 - 17:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
A	392	342	1438	0.273	392	0.4	3.439	A
B	752	275	1448	0.519	750	1.1	5.152	A
C	671	458	1300	0.516	669	1.1	5.694	A
D	109	971	980	0.111	109	0.1	4.133	A

17:15 - 17:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
A	480	418	1388	0.346	479	0.5	3.959	A
B	920	336	1407	0.654	917	1.8	7.301	A
C	821	560	1234	0.666	818	1.9	8.584	A
D	133	1187	840	0.159	133	0.2	5.088	A

17:30 - 17:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
A	480	419	1387	0.346	480	0.5	3.968	A
B	920	337	1407	0.654	920	1.9	7.395	A
C	821	561	1232	0.666	821	2.0	8.748	A
D	133	1191	837	0.159	133	0.2	5.112	A

17:45 - 18:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
A	392	344	1437	0.273	393	0.4	3.451	A
B	752	276	1447	0.519	755	1.1	5.220	A
C	671	460	1298	0.517	674	1.1	5.802	A
D	109	977	975	0.112	109	0.1	4.156	A

18:00 - 18:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
A	328	287	1474	0.223	329	0.3	3.145	A
B	629	231	1477	0.426	631	0.7	4.264	A
C	562	385	1347	0.417	563	0.7	4.597	A
D	91	817	1079	0.084	91	0.1	3.643	A

REF 2033 PM, 17-18

Data Errors and Warnings

Severity	Area	Item	Description

Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.

Junction Network

Junctions

Junction	Name	Junction Type	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout	8.96	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D_04	REF 2033 PM	17-18	Q3	ONE HOUR	16:45	18:15	15

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

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		✓	469	100.000
B		✓	897	100.000
C		✓	828	100.000
D		✓	131	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
		A	B	C	D
From	A	1	184	272	12
	B	382	2	366	147
	C	478	321	1	28
	D	19	68	44	0

Vehicle Mix

Heavy Vehicle Percentages

		To			
		A	B	C	D
From	A	0	0	0	0
	B	0	0	0	0
	C	0	0	0	0
	D	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max delay (s)	Max Queue (PCU)	Max LOS
A	0.38	4.33	0.6	A
B	0.71	8.94	2.4	A
C	0.75	12.09	3.0	B
D	0.19	5.80	0.2	A

Main Results for each time segment

16:45 - 17:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
A	353	327	1448	0.244	352	0.3	3.280	A
B	675	248	1466	0.461	672	0.8	4.517	A
C	623	408	1333	0.468	620	0.9	5.027	A
D	99	887	1033	0.095	98	0.1	3.847	A

17:00 - 17:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
A	422	391	1406	0.300	421	0.4	3.653	A
B	806	296	1434	0.562	805	1.3	5.709	A
C	744	488	1280	0.581	742	1.4	6.667	A
D	118	1063	920	0.128	118	0.1	4.483	A

17:15 - 17:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
A	516	477	1349	0.383	516	0.6	4.316	A
B	988	363	1390	0.710	983	2.4	8.752	A
C	912	596	1210	0.754	905	2.9	11.598	B
D	144	1297	769	0.188	144	0.2	5.755	A

17:30 - 17:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
A	516	480	1347	0.383	516	0.6	4.332	A

B	988	363	1390	0.711	987	2.4	8.940	A
C	912	599	1208	0.755	911	3.0	12.095	B
D	144	1304	764	0.189	144	0.2	5.805	A

17:45 - 18:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
A	422	395	1403	0.300	422	0.4	3.674	A
B	806	297	1433	0.563	811	1.3	5.828	A
C	744	492	1278	0.583	751	1.4	6.909	A
D	118	1073	913	0.129	118	0.1	4.527	A

18:00 - 18:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
A	353	329	1447	0.244	354	0.3	3.296	A
B	675	249	1465	0.461	677	0.9	4.581	A
C	623	411	1331	0.468	625	0.9	5.119	A
D	99	895	1029	0.096	99	0.1	3.872	A

WNP 2020 PM WBP, 17-18

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.

Junction Network

Junctions

Junction	Name	Junction Type	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout	6.77	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D_05	WNP 2020 PM WBP	17-18	Q3	ONE HOUR	16:45	18:15	15

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

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		✓	424	100.000

B		✓	818	100.000
C		✓	738	100.000
D		✓	119	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
		A	**B**	**C**	**D**
From	**A**	1	168	245	10
	B	351	2	330	135
	C	436	277	1	24
	D	17	62	40	0

Vehicle Mix

Heavy Vehicle Percentages

		To			
		A	**B**	**C**	**D**
From	**A**	0	0	0	0
	B	0	0	0	0
	C	0	0	0	0
	D	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max delay (s)	Max Queue (PCU)	Max LOS
A	0.34	3.91	0.5	A
B	0.64	7.02	1.7	A
C	0.66	8.41	1.9	A
D	0.15	5.03	0.2	A

Main Results for each time segment

16:45 - 17:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
A	319	286	1475	0.216	318	0.3	3.109	A
B	616	223	1482	0.416	613	0.7	4.130	A
C	556	374	1355	0.410	553	0.7	4.475	A
D	90	800	1090	0.082	89	0.1	3.598	A

17:00 - 17:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
A	381	343	1438	0.265	381	0.4	3.406	A
B	735	267	1453	0.506	734	1.0	5.000	A
C	663	448	1306	0.508	662	1.0	5.576	A
D	107	958	988	0.108	107	0.1	4.087	A

17:15 - 17:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
A	467	419	1387	0.337	466	0.5	3.906	A
B	901	327	1414	0.637	898	1.7	6.937	A
C	813	548	1241	0.655	809	1.8	8.266	A
D	131	1171	850	0.154	131	0.2	5.004	A

17:30 - 17:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
A	467	421	1386	0.337	467	0.5	3.914	A
B	901	327	1414	0.637	901	1.7	7.015	A
C	813	549	1240	0.655	812	1.9	8.408	A
D	131	1176	847	0.155	131	0.2	5.025	A

17:45 - 18:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
A	381	345	1436	0.265	382	0.4	3.414	A
B	735	267	1453	0.506	738	1.0	5.058	A
C	663	450	1305	0.508	667	1.0	5.672	A
D	107	965	984	0.109	107	0.1	4.109	A

18:00 - 18:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
A	319	288	1474	0.217	320	0.3	3.122	A
B	616	224	1481	0.416	617	0.7	4.172	A
C	556	376	1353	0.411	557	0.7	4.532	A
D	90	806	1086	0.082	90	0.1	3.612	A

WNP 2020 PM BP, 17-18

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.

Junction Network

Junctions

Junction	Name	Junction Type	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout	6.77	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D_06	WNP 2020 PM BP	17-18	Q3	ONE HOUR	16:45	18:15	15

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

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		✓	424	100.000
B		✓	818	100.000
C		✓	738	100.000
D		✓	119	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
		A	B	C	D
From	A	1	168	245	10
	B	351	2	330	135
	C	436	277	1	24
	D	17	62	40	0

Vehicle Mix

Heavy Vehicle Percentages

		To			
		A	B	C	D
From	A	0	0	0	0
	B	0	0	0	0
	C	0	0	0	0
	D	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max delay (s)	Max Queue (PCU)	Max LOS
A	0.34	3.91	0.5	A

B	0.64	7.02	1.7	A
C	0.66	8.41	1.9	A
D	0.15	5.03	0.2	A

Main Results for each time segment

16:45 - 17:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
A	319	286	1475	0.216	318	0.3	3.109	A
B	616	223	1482	0.416	613	0.7	4.130	A
C	556	374	1355	0.410	553	0.7	4.475	A
D	90	800	1090	0.082	89	0.1	3.598	A

17:00 - 17:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
A	381	343	1438	0.265	381	0.4	3.406	A
B	735	267	1453	0.506	734	1.0	5.000	A
C	663	448	1306	0.508	662	1.0	5.576	A
D	107	958	988	0.108	107	0.1	4.087	A

17:15 - 17:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
A	467	419	1387	0.337	466	0.5	3.906	A
B	901	327	1414	0.637	898	1.7	6.937	A
C	813	548	1241	0.655	809	1.8	8.266	A
D	131	1171	850	0.154	131	0.2	5.004	A

17:30 - 17:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
A	467	421	1386	0.337	467	0.5	3.914	A
B	901	327	1414	0.637	901	1.7	7.015	A
C	813	549	1240	0.655	812	1.9	8.408	A
D	131	1176	847	0.155	131	0.2	5.025	A

17:45 - 18:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
A	381	345	1436	0.265	382	0.4	3.414	A
B	735	267	1453	0.506	738	1.0	5.058	A
C	663	450	1305	0.508	667	1.0	5.672	A
D	107	965	984	0.109	107	0.1	4.109	A

18:00 - 18:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
A	319	288	1474	0.217	320	0.3	3.122	A
B	616	224	1481	0.416	617	0.7	4.172	A

C	556	376	1353	0.411	557	0.7	4.532	A
D	90	806	1086	0.082	90	0.1	3.612	A

WNP 2023 PM, 17-18

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.

Junction Network

Junctions

Junction	Name	Junction Type	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout	7.24	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D_07	WNP 2023 PM	17-18	Q3	ONE HOUR	16:45	18:15	15

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

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		✓	436	100.000
B		✓	836	100.000
C		✓	765	100.000
D		✓	121	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
		A	**B**	**C**	**D**
From	**A**	1	172	252	11
	B	358	2	338	138
	C	446	293	1	25
	D	17	63	41	0

Vehicle Mix

Heavy Vehicle Percentages

		To			
		A	B	C	D
From	A	0	0	0	0
	B	0	0	0	0
	C	0	0	0	0
	D	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max delay (s)	Max Queue (PCU)	Max LOS
A	0.35	4.03	0.5	A
B	0.65	7.39	1.9	A
C	0.68	9.22	2.1	A
D	0.16	5.21	0.2	A

Main Results for each time segment

16:45 - 17:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
A	328	300	1466	0.224	327	0.3	3.158	A
B	629	230	1477	0.426	626	0.7	4.216	A
C	576	382	1349	0.427	573	0.7	4.620	A
D	91	825	1074	0.085	91	0.1	3.662	A

17:00 - 17:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
A	392	359	1427	0.275	392	0.4	3.477	A
B	752	275	1448	0.519	750	1.1	5.152	A
C	688	458	1300	0.529	686	1.1	5.851	A
D	109	988	969	0.112	109	0.1	4.186	A

17:15 - 17:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
A	480	439	1374	0.349	479	0.5	4.020	A
B	920	336	1407	0.654	917	1.8	7.300	A
C	842	560	1234	0.683	838	2.1	9.018	A
D	133	1207	827	0.161	133	0.2	5.185	A

17:30 - 17:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS

A	480	440	1373	0.350	480	0.5	4.029	A
B	920	337	1407	0.654	920	1.9	7.395	A
C	842	561	1232	0.683	842	2.1	9.215	A
D	133	1212	824	0.162	133	0.2	5.211	A

17:45 - 18:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
A	392	361	1425	0.275	393	0.4	3.489	A
B	752	276	1447	0.519	755	1.1	5.222	A
C	688	460	1298	0.530	692	1.1	5.973	A
D	109	995	964	0.113	109	0.1	4.213	A

18:00 - 18:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
A	328	302	1465	0.224	329	0.3	3.169	A
B	629	231	1477	0.426	631	0.7	4.264	A
C	576	385	1347	0.427	577	0.8	4.684	A
D	91	831	1070	0.085	91	0.1	3.678	A

WNP 2033 PM, 17-18

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.

Junction Network

Junctions

Junction	Name	Junction Type	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout	8.96	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D_08	WNP 2033 PM	17-18	Q3	ONE HOUR	16:45	18:15	15

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

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)

A		✓	469	100.000
B		✓	897	100.000
C		✓	828	100.000
D		✓	131	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
		A	**B**	**C**	**D**
From	**A**	1	184	272	12
	B	382	2	366	147
	C	478	321	1	28
	D	19	68	44	0

Vehicle Mix

Heavy Vehicle Percentages

		To			
		A	**B**	**C**	**D**
From	**A**	0	0	0	0
	B	0	0	0	0
	C	0	0	0	0
	D	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max delay (s)	Max Queue (PCU)	Max LOS
A	0.38	4.33	0.6	A
B	0.71	8.94	2.4	A
C	0.75	12.09	3.0	B
D	0.19	5.80	0.2	A

Main Results for each time segment

16:45 - 17:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
A	353	327	1448	0.244	352	0.3	3.280	A
B	675	248	1466	0.461	672	0.8	4.517	A
C	623	408	1333	0.468	620	0.9	5.027	A
D	99	887	1033	0.095	98	0.1	3.847	A

17:00 - 17:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
A	422	391	1406	0.300	421	0.4	3.653	A
B	806	296	1434	0.562	805	1.3	5.709	A
C	744	488	1280	0.581	742	1.4	6.667	A
D	118	1063	920	0.128	118	0.1	4.483	A

17:15 - 17:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
A	516	477	1349	0.383	516	0.6	4.316	A
B	988	363	1390	0.710	983	2.4	8.752	A
C	912	596	1210	0.754	905	2.9	11.598	B
D	144	1297	769	0.188	144	0.2	5.755	A

17:30 - 17:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
A	516	480	1347	0.383	516	0.6	4.332	A
B	988	363	1390	0.711	987	2.4	8.940	A
C	912	599	1208	0.755	911	3.0	12.095	B
D	144	1304	764	0.189	144	0.2	5.805	A

17:45 - 18:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
A	422	395	1403	0.300	422	0.4	3.674	A
B	806	297	1433	0.563	811	1.3	5.828	A
C	744	492	1278	0.583	751	1.4	6.909	A
D	118	1073	913	0.129	118	0.1	4.527	A

18:00 - 18:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
A	353	329	1447	0.244	354	0.3	3.296	A
B	675	249	1465	0.461	677	0.9	4.581	A
C	623	411	1331	0.468	625	0.9	5.119	A
D	99	895	1029	0.096	99	0.1	3.872	A

Results Summary for whole modelled period

Stream	Max RFC	Max delay (s)	Max Queue (PCU)	Max LOS
B-C	0.02	5.06	0.0	A
B-A	0.03	6.89	0.0	A
C-AB	0.36	8.25	0.6	A
C-A				
A-B				
A-C				

Main Results for each time segment

07:45 - 08:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	11	742	0.014	10	0.0	4.921	A
B-A	12	589	0.020	12	0.0	6.236	A
C-AB	162	691	0.235	161	0.3	6.773	A
C-A	23			23			
A-B	123			123			
A-C	47			47			

08:00 - 08:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	13	736	0.017	13	0.0	4.979	A
B-A	14	568	0.025	14	0.0	6.497	A
C-AB	195	686	0.285	195	0.4	7.327	A
C-A	26			26			
A-B	147			147			
A-C	57			57			

08:15 - 08:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	15	727	0.021	15	0.0	5.061	A
B-A	18	540	0.033	18	0.0	6.889	A
C-AB	243	679	0.357	242	0.6	8.226	A
C-A	28			28			
A-B	181			181			
A-C	69			69			

08:30 - 08:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	15	727	0.021	15	0.0	5.061	A
B-A	18	540	0.033	18	0.0	6.892	A
C-AB	243	679	0.357	243	0.6	8.251	A
C-A	28			28			
A-B	181			181			
A-C	69			69			

08:45 - 09:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	13	735	0.017	13	0.0	4.980	A
B-A	14	568	0.025	14	0.0	6.502	A
C-AB	196	686	0.285	196	0.4	7.360	A
C-A	26			26			
A-B	147			147			
A-C	57			57			

09:00 - 09:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	11	742	0.014	11	0.0	4.924	A
B-A	12	589	0.020	12	0.0	6.243	A
C-AB	162	691	0.235	163	0.3	6.814	A
C-A	23			23			
A-B	123			123			
A-C	47			47			

A487 Y Felinheli Bypass / B4547 / A4087 Caernarfon Road roundabout

Junctions 9 – ARCADY

- Reference Case 2033
- With Development 2033

Junctions 9

ARCADY 9 - Roundabout Module

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Filename: 74_ A487_B4547 Roundabout Assessment - Rev0a.j9
Path: \\europe.jacobs.com\sale\Projects\Transport\Projects\60PO8008 T&T\4. Project Work\2) DCO Main Site\09 Junction Modelling_2017__2017 Junction Models\74_A487 B4547 Roundabout
Report generation date: 19/06/2017 13:08:32

«2033 WNP AM, 08-09
»Junction Network
»Arms
»Traffic Demand
»Origin-Destination Data
»Vehicle Mix
»Results

Summary of junction performance

	08-09			
	Queue (PCU)	Delay (s)	RFC	LOS
	2033 REF AM			
Arm A	1.5	5.86	0.60	A
Arm B	0.5	3.17	0.34	A
Arm C	2.8	6.62	0.74	A
Arm D	1.2	4.85	0.55	A
	2033 WNP AM			
Arm A	1.5	5.89	0.61	A
Arm B	0.5	3.18	0.34	A
Arm C	2.8	6.71	0.74	A
Arm D	1.2	4.88	0.55	A

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

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

File summary

File Description

Title	A487 B4547 Roundabout
Location	Mainland
Site number	M-74

Date	19/06/2017
Version	Rev0a
Status	Existing
Identifier	OW
Client	Horizon Nuclear Power
Jobnumber	60PO8077
Enumerator	JEGINTL\WitherO
Description	2033 AM Ref & WNP assessment to be read in conjunction with the DMRB results in the network diagrams

Units

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

Analysis Options

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

Analysis Set Details

ID	Network flow scaling factor (%)
A1	100.000

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D02	2033 WNP AM	08-09	ONE HOUR	07:45	09:15	15

2033 WNP AM, 08-09

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	Arm B - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	Arm D - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.

Junction Network

Junctions

Junction	Name	Junction Type	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout	5.57	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Name	Description
A	A487 SB	
B	A4087 WB	
C	A487 NB	
D	B4547 EB	

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
A	3.60	7.70	21.0	17.9	94.5	35.0	
B	5.00	7.80	47.6	23.7	94.5	34.0	
C	6.00	8.10	7.5	49.5	94.5	26.0	
D	5.00	9.50	31.7	57.3	94.5	28.0	

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Final slope	Final intercept (PCU/hr)
A	0.463	1813
B	0.524	2215
C	0.539	2246
D	0.580	2548

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

Traffic Demand

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

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		✓	850	100.000
B		✓	541	100.000
C		✓	1391	100.000
D		✓	830	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
		A	B	C	D
From	A	0	8	628	214
	B	13	2	453	73
	C	1082	306	0	3
	D	617	211	2	0

Vehicle Mix

Heavy Vehicle Percentages

		To			
		A	B	C	D
From	A	0	0	0	0
	B	0	0	0	0
	C	0	0	0	0
	D	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max delay (s)	Max Queue (PCU)	Max LOS
A	0.61	5.89	1.5	A
B	0.34	3.18	0.5	A
C	0.74	6.71	2.8	A
D	0.55	4.88	1.2	A

Main Results for each time segment

07:45 - 08:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
A	640	391	1631	0.392	637	0.6	3.612	A
B	407	633	1884	0.216	406	0.3	2.436	A
C	1047	227	2124	0.493	1043	1.0	3.318	A
D	625	1052	1937	0.323	623	0.5	2.736	A

08:00 - 08:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
A	764	468	1596	0.479	763	0.9	4.318	A
B	486	758	1818	0.267	486	0.4	2.702	A
C	1250	271	2100	0.595	1249	1.5	4.218	A
D	746	1259	1817	0.411	745	0.7	3.355	A

08:15 - 08:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
A	936	572	1548	0.605	933	1.5	5.841	A
B	596	927	1730	0.344	595	0.5	3.171	A
C	1532	332	2068	0.741	1526	2.8	6.586	A
D	914	1539	1655	0.552	912	1.2	4.832	A

08:30 - 08:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS

A5114 Glanhwfa Road / B5109 High Street priority intersection

Junctions 9 – PICADY

- Baseline 2016
- Reference Case 2020, 2023 and 2033
- With Development Without By-Pass 2020
- With Development With By-Pass 2020
- With Development 2023 and 2033

Junctions 9

PICADY 9 - Priority Intersection Module

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Filename: 75_A5112 Bridge Street Junction.j9
Path: \\europe.jacobs.com\sale\Projects\Transport\Projects\60PO8008 T&T\4. Project Work\2) DCO Main Site\09 Junction Modelling_2017__2017 Junction Models\75_A5112 Bridge Street Junction
Report generation date: 19/06/2017 12:23:20

«REF 2020 PM, 17-18
»Junction Network
»Arms
»Traffic Demand
»Origin-Destination Data
»Vehicle Mix
»Results

Summary of junction performance

	08-09				17-18				12-13			
	Queue (PCU)	Delay (s)	RFC	LOS	Queue (PCU)	Delay (s)	RFC	LOS	Queue (PCU)	Delay (s)	RFC	LOS
Base 2016 AM												
Stream B-AC	2.6	26.58	0.73	D								
Stream C-B	0.0	0.00	0.00	A								
Base 2016 PM												
Stream B-AC					7.6	72.05	0.92	F				
Stream C-B					0.0	0.00	0.00	A				
Base 2016 WEEKEND												
Stream B-AC									1.7	21.50	0.64	C
Stream C-B									0.0	0.00	0.00	A
REF 2020 AM												
Stream B-AC	3.4	33.55	0.79	D								
Stream C-B	0.0	0.00	0.00	A								
REF 2020 PM												
Stream B-AC					16.2	134.46	1.01	F				
Stream C-B					0.0	0.00	0.00	A				
REF 2020 WEEKEND												
Stream B-AC									2.1	25.47	0.69	D
Stream C-B									0.0	0.00	0.00	A
REF 2023 AM												
Stream B-AC	4.1	38.94	0.82	E								

Stream C-B	0.0	0.00	0.00	A								
	REF 2023 PM											
Stream B-AC					21.9	171.54	1.05	F				
Stream C-B					0.0	0.00	0.00	A				
	REF 2023 WEEKEND											
Stream B-AC									2.4	28.16	0.72	D
Stream C-B									0.0	0.00	0.00	A
	REF 2033 AM											
Stream B-AC	13.9	112.72	0.99	F								
Stream C-B	0.0	0.00	0.00	A								
	REF 2033 PM											
Stream B-AC					115.8	869.36	1.45	F				
Stream C-B					0.0	0.00	0.00	A				
	REF 2033 WEEKEND											
Stream B-AC									3.7	40.21	0.80	E
Stream C-B									0.0	0.00	0.00	A
	WNP 2020 AM WBP											
Stream B-AC	3.4	33.55	0.79	D								
Stream C-B	0.0	0.00	0.00	A								
	WNP 2020 PM WBP											
Stream B-AC					21.3	166.22	1.05	F				
Stream C-B					0.0	0.00	0.00	A				
	WNP 2020 WEEKEND WBP											
Stream B-AC									2.1	25.47	0.69	D
Stream C-B									0.0	0.00	0.00	A
	WNP 2020 AM BP											
Stream B-AC	3.4	33.55	0.79	D								
Stream C-B	0.0	0.00	0.00	A								
	WNP 2020 PM BP											
Stream B-AC					21.3	166.22	1.05	F				
Stream C-B					0.0	0.00	0.00	A				
	WNP 2020 WEEKEND BP											
Stream B-AC									2.1	25.47	0.69	D
Stream C-B									0.0	0.00	0.00	A
	WNP 2023 AM											
Stream B-AC	4.1	38.94	0.82	E								
Stream C-B	0.0	0.00	0.00	A								
	WNP 2023 PM											
Stream B-AC					32.9	237.55	1.12	F				
Stream C-B					0.0	0.00	0.00	A				
	WNP 2023 WEEKEND											
Stream B-AC									2.4	28.16	0.72	D
Stream C-B									0.0	0.00	0.00	A
	WNP 2033 AM											
Stream B-AC	13.9	112.72	0.99	F								
Stream C-B	0.0	0.00	0.00	A								
	WNP 2033 PM											
Stream B-AC					115.8	869.36	1.45	F				
Stream C-B					0.0	0.00	0.00	A				

	WNP 2033 WEEKEND											
Stream B-AC									3.7	40.21	0.80	E
Stream C-B									0.0	0.00	0.00	A

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

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

File summary

File Description

Title	75_A5114 Bridge Street Junction
Location	anglesey
Site number	m75
Date	31/05/2017
Version	rev_0a
Status	existing
Identifier	paolo
Client	Horizon Nuclear Power
Jobnumber	60PO8077
Enumerator	JEGINTL\WitherO
Description	All ref cases and WNP WBP=without by-pass BO=with by-pass

Units

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

Analysis Options

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

Analysis Set Details

ID	Network flow scaling factor (%)
A1	100.000

Demand Set Details

ID	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D_05	REF 2020 PM	17-18	Q3	ONE HOUR	16:45	18:15	15

REF 2020 PM, 17-18

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.

Junction Network

Junctions

Junction	Name	Junction Type	Major road direction	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way	36.46	E

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Name	Description	Arm type
A	untitled		Major
B	untitled		Minor
C	untitled		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Has right turn bay	Visibility for right turn (m)	Blocks?	Blocking queue (PCU)
C	6.00			0.0		-

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

Minor Arm Geometry

Arm	Minor arm type	Lane width (m)	Visibility to left (m)	Visibility to right (m)
B	One lane	3.20	23	30

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
1	B-A	510	0.093	0.235	0.148	0.335
1	B-C	656	0.101	0.254	-	-
1	C-B	574	0.222	0.222	-	-

The slopes and intercepts shown above do NOT include any corrections or adjustments.
Streams may be combined, in which case capacity will be adjusted.
Values are shown for the first time segment only; they may differ for subsequent time segments.

Traffic Demand

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

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		✓	1070	100.000
B		✓	398	100.000
C		✓	0	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A	B	C
From	A	0	449	621
	B	0	0	398
	C	0	0	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A	B	C
From	A	0	0	0
	B	0	0	0
	C	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max delay (s)	Max Queue (PCU)	Max LOS
B-AC	1.01	134.46	16.2	F
C-A				
C-B	0.00	0.00	0.0	A
A-B				
A-C				

Main Results for each time segment

16:45 - 17:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-AC	300	503	0.596	294	1.4	16.807	C
C-A	0			0			
C-B	0	395	0.000	0	0.0	0.000	A
A-B	338			338			
A-C	468			468			

17:00 - 17:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-AC	358	473	0.756	352	2.8	28.497	D
C-A	0			0			
C-B	0	360	0.000	0	0.0	0.000	A
A-B	404			404			

A-C	558			558			

17:15 - 17:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-AC	438	432	1.013	404	11.2	82.672	F
C-A	0			0			
C-B	0	312	0.000	0	0.0	0.000	A
A-B	494			494			
A-C	684			684			

17:30 - 17:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-AC	438	432	1.013	418	16.2	134.464	F
C-A	0			0			
C-B	0	312	0.000	0	0.0	0.000	A
A-B	494			494			
A-C	684			684			

17:45 - 18:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-AC	358	473	0.756	408	3.7	69.843	F
C-A	0			0			
C-B	0	360	0.000	0	0.0	0.000	A
A-B	404			404			
A-C	558			558			

18:00 - 18:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-AC	300	503	0.596	308	1.5	19.191	C
C-A	0			0			
C-B	0	395	0.000	0	0.0	0.000	A
A-B	338			338			
A-C	468			468			

A	936	574	1547	0.605	936	1.5	5.892	A
B	596	929	1728	0.345	596	0.5	3.177	A
C	1532	332	2067	0.741	1531	2.8	6.714	A
D	914	1545	1652	0.553	914	1.2	4.878	A

08:45 - 09:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
A	764	470	1595	0.479	766	0.9	4.358	A
B	486	761	1817	0.268	487	0.4	2.710	A
C	1250	272	2100	0.596	1256	1.5	4.292	A
D	746	1267	1813	0.412	748	0.7	3.389	A

09:00 - 09:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
A	640	393	1630	0.392	641	0.7	3.644	A
B	407	637	1882	0.216	408	0.3	2.444	A
C	1047	228	2124	0.493	1049	1.0	3.356	A
D	625	1058	1934	0.323	626	0.5	2.755	A

11:45 - 12:00

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	495	124	58	1298	0.381	492	569	0.0	0.6	4.455	A
	B1			316				234				
	C1	363	91	0	1960	0.185	362	316	0.0	0.2	2.252	A
	D1	265	66	362	1252	0.212	264	0	0.0	0.3	3.640	A
South	A2	316	79	0	2057	0.154	315	363	0.0	0.2	2.065	A
	B2	327	82	315	1081	0.302	325	0	0.0	0.4	4.750	A
	C2	233	58	338	1173	0.198	232	302	0.0	0.2	3.821	A
	D2			363				206				

12:00 - 12:15

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	591	148	69	1291	0.457	590	682	0.6	0.8	5.126	A
	B1			379				280				
	C1	435	109	0	1960	0.222	435	379	0.2	0.3	2.360	A
	D1	316	79	435	1209	0.262	316	0	0.3	0.4	4.034	A
South	A2	379	95	0	2057	0.184	379	435	0.2	0.2	2.144	A
	B2	390	98	379	1046	0.373	390	0	0.4	0.6	5.478	A
	C2	278	69	406	1134	0.245	277	363	0.2	0.3	4.203	A
	D2			435				248				

12:15 - 12:30

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	723	181	85	1282	0.564	722	835	0.8	1.3	6.399	A
	B1			464				343				
	C1	533	133	0	1960	0.272	533	464	0.3	0.4	2.521	A
	D1	388	97	533	1150	0.337	387	0	0.4	0.5	4.712	A
South	A2	464	116	0	2057	0.225	463	533	0.2	0.3	2.258	A
	B2	478	119	463	999	0.478	477	0	0.6	0.9	6.878	A
	C2	340	85	496	1081	0.315	340	444	0.3	0.5	4.852	A
	D2			533				303				

12:30 - 12:45

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	723	181	85	1282	0.564	723	837	1.3	1.3	6.441	A
	B1			465				343				
	C1	534	133	0	1960	0.272	534	465	0.4	0.4	2.523	A
	D1	388	97	534	1149	0.337	388	0	0.5	0.5	4.725	A
South	A2	465	116	0	2057	0.226	465	534	0.3	0.3	2.260	A
	B2	478	119	465	998	0.479	478	0	0.9	0.9	6.921	A
	C2	340	85	498	1080	0.315	340	445	0.5	0.5	4.862	A
	D2			534				304				

12:45 - 13:00

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	A1	591	148	69	1291	0.458	592	685	1.3	0.9	5.165	A

	B1			380				281				
	C1	437	109	0	1960	0.223	437	380	0.4	0.3	2.366	A
	D1	316	79	437	1207	0.262	317	0	0.5	0.4	4.046	A
South	**A2**	380	95	0	2057	0.185	381	437	0.3	0.2	2.149	A
	B2	390	98	381	1045	0.373	391	0	0.9	0.6	5.519	A
	C2	278	69	408	1133	0.245	278	364	0.5	0.3	4.215	A
	D2			437				249				

13:00 - 13:15

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
North	**A1**	495	124	58	1297	0.381	496	573	0.9	0.6	4.495	A
	B1			318				235				
	C1	366	91	0	1960	0.187	366	318	0.3	0.2	2.260	A
	D1	265	66	366	1250	0.212	265	0	0.4	0.3	3.659	A
South	**A2**	318	80	0	2057	0.155	318	366	0.2	0.2	2.072	A
	B2	327	82	318	1080	0.303	327	0	0.6	0.4	4.792	A
	C2	233	58	341	1171	0.199	233	305	0.3	0.2	3.836	A
	D2			366				208				

Valley Crossroads

LinSig version 3

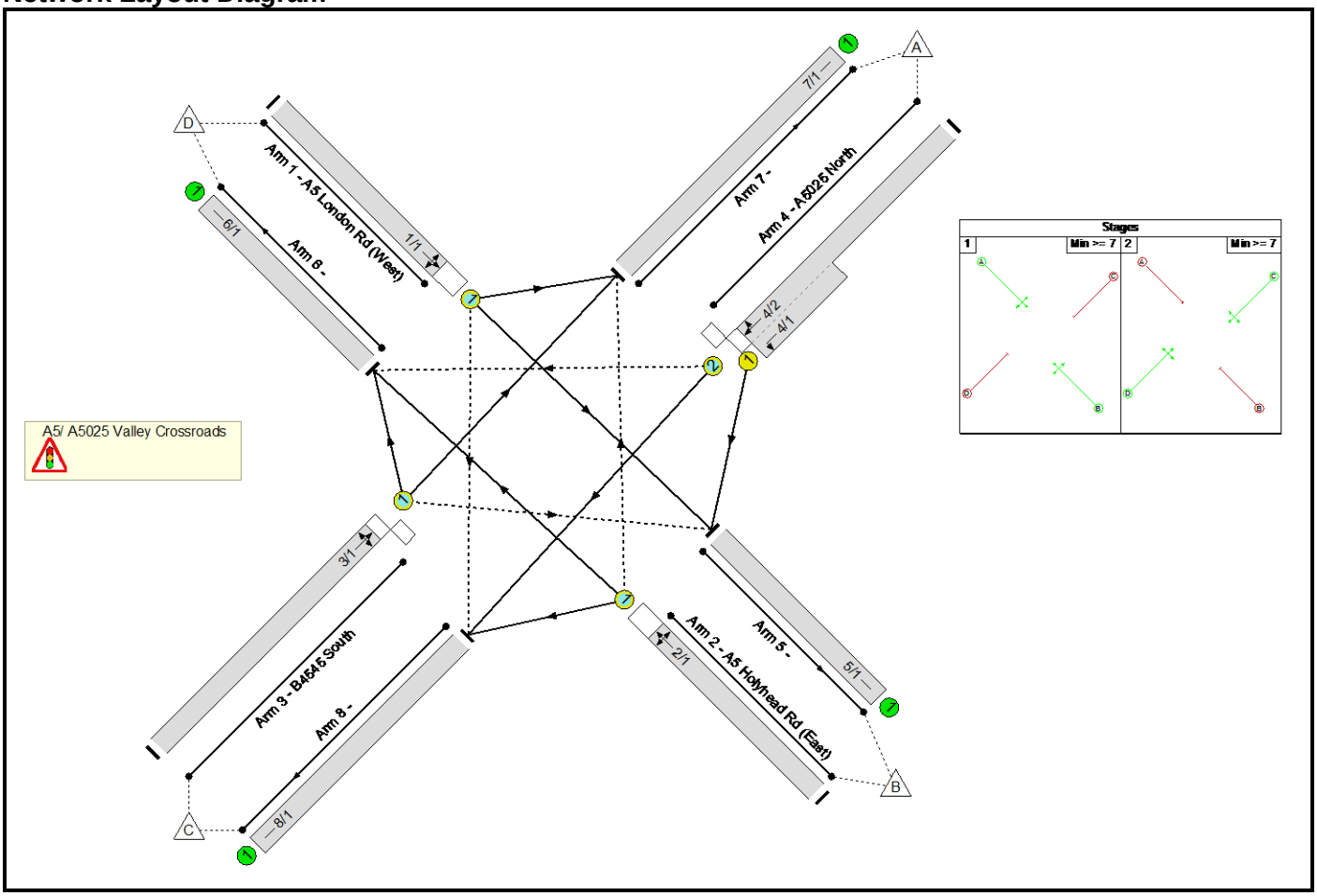
- Baseline 2016
- Reference Case 2020, 2023 and 2033
- With Development Without By-Pass 2020
- With Development With By-Pass 2020
- With Development 2023 and 2023

Full Input Data And Results

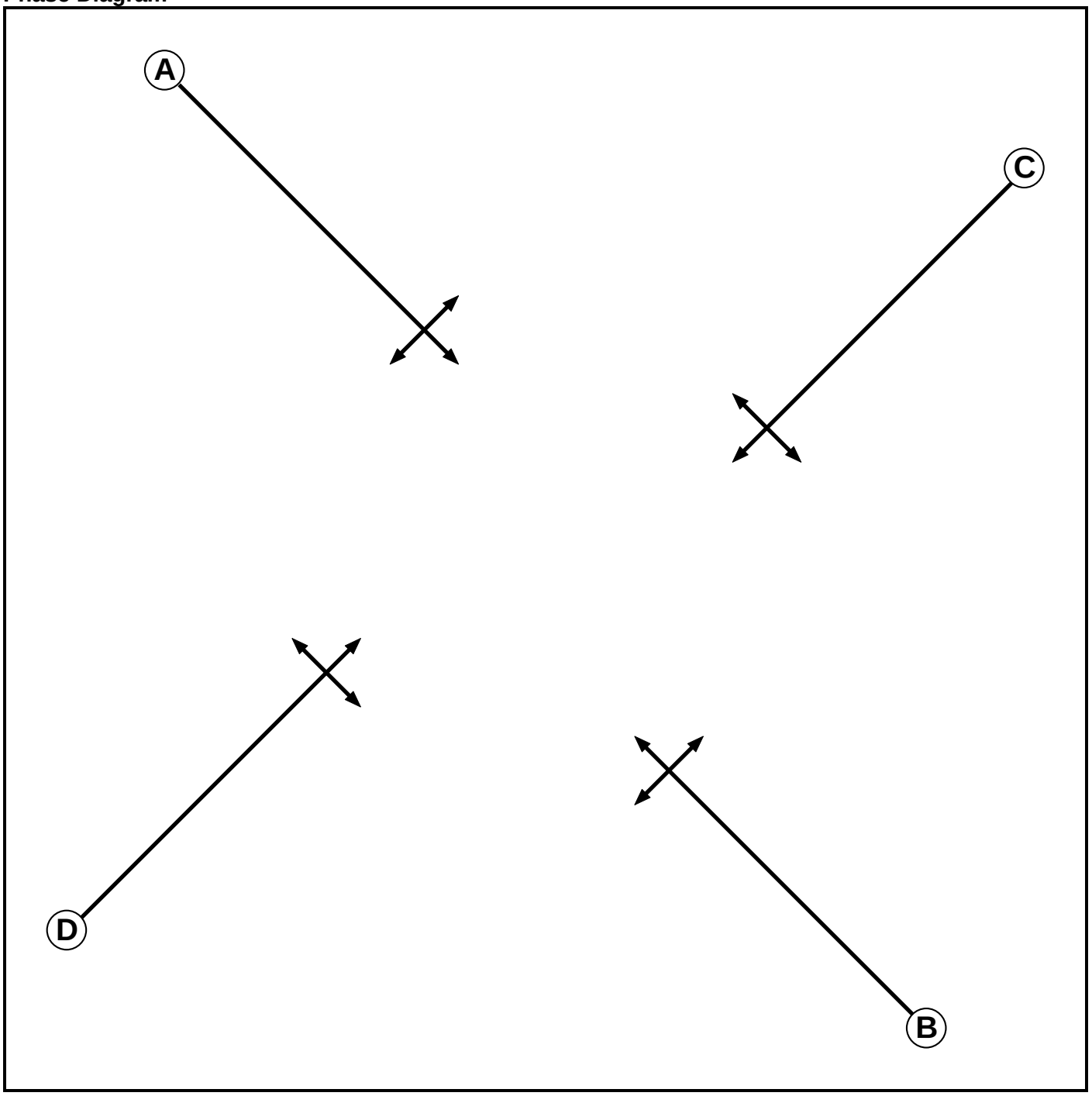
User and Project Details

Project:	**Horizon**
Title:	**A5- B4545 Valley Crossroads**
Location:	
File name:	A5- B4545 Valley Crossroads Rev 1.lsg3x
Author:	Mark Fleming
Company:	Jacobs U.K. Limited
Address:	Jacobs House, Shrewsbury Business Park, Sitka Drive, Shrewsbury, Shropshire, SY2 6L
Notes:	In the absence of saturation flow measurements individual lane sat flows have been assumed to be RR67 values minus 10%. This considered appropriate for this type of location.No optimisation of junction timings has been undertaken. The modelling simply assumes each stage will run to the maximum green time currently in use within the controller. Additional capacity improvement can therefore be achieved through the optimisation process and the input of the resultant timings within the controller. Storage in front of the B4545 South stopline = 17 metres from stopline to centre of the junction. Therefore, 2 PCU storage has been allocated to this arm as it isn't quite long enough for 3 PCU. There is 1 PCU non-blocking storage also allocated to this arm.Storage in front of A5025 stopline = 15 metres to centre of junction. Therefore, 2 PCU storage, with 1 PCU non-blocking storage, has been allocated to this arm.Storage in front of A5 east stopline = 12 metres to centre of junction. Therefore 2 PCU allocated to this arm. All storage in front of the stop line is 'blocking storage'.Storage in front of A5 west stopline = 12 metres to centre of junction. Therefore, 2 PCU allocated to this arm. All storage in front of the stop line is 'blocking storage'.

Network Layout Diagram



Phase Diagram



Phase Input Data

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

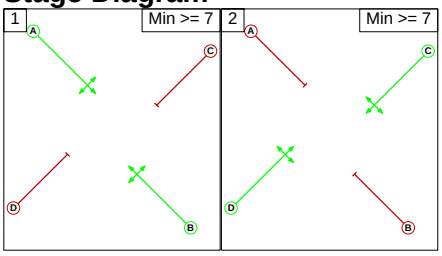
Phase Intergreens Matrix

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

Phases in Stage

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

Stage Diagram



Phase Delays

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

Prohibited Stage Change

	To Stage		
From Stage		1	2
	1		6
	2	6	

Full Input Data And Results

Give-Way Lane Input Data

Junction: A5/ A5025 Valley Crossroads											
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)**
1/1 (A5 London Rd (West))	8/1 (Right)	1439	0	2/1	1.09	All	2.00	-	0.50	2	2.00
2/1 (A5 Holyhead Rd (East))	7/1 (Right)	1439	0	1/1	1.09	All	2.00	-	0.50	2	2.00
3/1 (B4545 South)	5/1 (Right)	1439	0	4/1	1.09	All	2.00	1.00	0.50	2	2.00
				4/2	1.09	All					
4/2 (A5025 North)	6/1 (Right)	1439	0	3/1	1.09	All	2.00	1.00	0.50	2	2.00

Full Input Data And Results

Lane Input Data

Junction: A5/ A5025 Valley Crossroads												
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 (A5 London Rd (West))	O	A	2	3	60.0	Geom	-	3.40	0.00	Y	Arm 5 Ahead	Inf
											Arm 7 Left	9.00
											Arm 8 Right	12.00
2/1 (A5 Holyhead Rd (East))	O	B	2	3	60.0	Geom	-	3.45	0.00	Y	Arm 6 Ahead	Inf
											Arm 7 Right	15.00
											Arm 8 Left	11.00
3/1 (B4545 South)	O	D	2	3	60.0	Geom	-	3.20	0.00	Y	Arm 5 Right	12.00
											Arm 6 Left	7.00
											Arm 7 Ahead	Inf
4/1 (A5025 North)	U	C	2	3	8.0	Geom	-	3.00	0.00	Y	Arm 5 Left	12.00
4/2 (A5025 North)	O	C	2	3	60.0	Geom	-	3.00	0.00	N	Arm 6 Right	18.00
											Arm 8 Ahead	Inf
5/1	U		2	3	60.0	Inf	-	-	-	-	-	-
6/1	U		2	3	60.0	Inf	-	-	-	-	-	-
7/1	U		2	3	60.0	Inf	-	-	-	-	-	-
8/1	U		2	3	60.0	Inf	-	-	-	-	-	-

Full Input Data And Results

Traffic Flow Groups

Flow Group	Start Time	End Time	Duration	Formula
1: 'Baseline 2016 : AM'	08:00	09:00	01:00	
2: 'Baseline 2016 : PM'	16:00	17:00	01:00	
3: 'Baseline 2016 : Weekend (Saturday)'	13:00	14:00	01:00	
4: 'Reference Case 2020 : AM'	08:00	09:00	01:00	
5: 'Reference Case 2020 : PM'	16:00	17:00	01:00	
6: 'Reference Case 2020 : Weekend (Sunday)'	13:00	14:00	01:00	
7: 'Reference Case 2023 : AM'	08:00	09:00	01:00	
8: 'Reference Case 2023 : PM'	16:00	17:00	01:00	
9: 'Reference Case 2023 : Weekend (Sunday)'	13:00	14:00	01:00	
10: 'Reference Case 2033 : AM'	08:00	09:00	01:00	
11: 'Reference Case 2033 : PM'	16:00	17:00	01:00	
12: 'Reference Case 2033 : Weekend (Saturday)'	13:00	14:00	01:00	
13: 'Wylfa Newydd Project 2020 (without bypasses) : AM'	08:00	09:00	01:00	
14: 'Wylfa Newydd Project 2020 (without bypasses) : PM'	17:00	18:00	01:00	
15: 'Wylfa Newydd Project 2020 (without bypasses) : Weekend (Sunday)'	12:00	13:00	01:00	
16: 'Wylfa Newydd Project 2020 (with bypasses) : AM'	08:00	09:00	01:00	
17: 'Wylfa Newydd Project 2020 (with bypasses) : PM'	16:00	17:00	01:00	
18: 'Wylfa Newydd Project 2020 (with bypasses) : Weekend (Sunday)'	13:00	14:00	01:00	
19: 'Wylfa Newydd Project 2023 : AM'	08:00	09:00	01:00	
20: 'Wylfa Newydd Project 2023 : PM'	16:00	17:00	01:00	
21: 'Wylfa Newydd Project 2023 : Weekend (Sunday)'	13:00	14:00	01:00	
22: 'Wylfa Newydd Project 2033 : AM'	08:00	09:00	01:00	
23: 'Wylfa Newydd Project 2033 : PM'	16:00	17:00	01:00	
24: 'Wylfa Newydd Project 2033 : Weekend (Saturday)'	13:00	14:00	01:00	

Scenario 1: 'Baseline 2016 AM' (FG1: 'Baseline 2016 : AM', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

Origin	Destination					
		A	B	C	D	Tot.
	A	0	130	42	120	292
	B	63	0	91	77	231
	C	26	121	0	35	182
	D	60	148	35	0	243
	Tot.	149	399	168	232	948

Traffic Lane Flows

Lane	Scenario 1: Baseline 2016 AM
Junction: A5/ A5025 Valley Crossroads	
1/1	243
2/1	231
3/1	182
4/1 (short)	130
4/2 (with short)	292(In) 162(Out)
5/1	399
6/1	232
7/1	149
8/1	168

Full Input Data And Results

Lane Saturation Flows

Junction: A5/ A5025 Valley Crossroads								
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 (A5 London Rd (West))	3.40	0.00	Y	Arm 5 Ahead	Inf	60.9 %	1846	1846
				Arm 7 Left	9.00	24.7 %		
				Arm 8 Right	12.00	14.4 %		
2/1 (A5 Holyhead Rd (East))	3.45	0.00	Y	Arm 6 Ahead	Inf	33.3 %	1813	1813
				Arm 7 Right	15.00	27.3 %		
				Arm 8 Left	11.00	39.4 %		
3/1 (B4545 South)	3.20	0.00	Y	Arm 5 Right	12.00	66.5 %	1721	1721
				Arm 6 Left	7.00	19.2 %		
				Arm 7 Ahead	Inf	14.3 %		
4/1 (A5025 North)	3.00	0.00	Y	Arm 5 Left	12.00	100.0 %	1702	1702
4/2 (A5025 North)	3.00	0.00	N	Arm 6 Right	18.00	74.1 %	1936	1936
				Arm 8 Ahead	Inf	25.9 %		
5/1	Infinite Saturation Flow						Inf	Inf
6/1	Infinite Saturation Flow						Inf	Inf
7/1	Infinite Saturation Flow						Inf	Inf
8/1	Infinite Saturation Flow						Inf	Inf

Scenario 2: 'Baseline 2016 PM' (FG2: 'Baseline 2016 : PM', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

		Destination				
		A	B	C	D	Tot.
Origin	A	0	110	37	120	267
	B	98	0	155	160	413
	C	58	98	0	67	223
	D	169	122	66	0	357
	Tot.	325	330	258	347	1260

Full Input Data And Results

Traffic Lane Flows

Lane	Scenario 2: Baseline 2016 PM
Junction: A5/ A5025 Valley Crossroads	
1/1	357
2/1	413
3/1	223
4/1 (short)	110
4/2 (with short)	267(In) 157(Out)
5/1	330
6/1	347
7/1	325
8/1	258

Lane Saturation Flows

Junction: A5/ A5025 Valley Crossroads								
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 (A5 London Rd (West))	3.40	0.00	Y	Arm 5 Ahead	Inf	34.2 %	1774	1774
				Arm 7 Left	9.00	47.3 %		
				Arm 8 Right	12.00	18.5 %		
2/1 (A5 Holyhead Rd (East))	3.45	0.00	Y	Arm 6 Ahead	Inf	38.7 %	1823	1823
				Arm 7 Right	15.00	23.7 %		
				Arm 8 Left	11.00	37.5 %		
3/1 (B4545 South)	3.20	0.00	Y	Arm 5 Right	12.00	43.9 %	1729	1729
				Arm 6 Left	7.00	30.0 %		
				Arm 7 Ahead	Inf	26.0 %		
4/1 (A5025 North)	3.00	0.00	Y	Arm 5 Left	12.00	100.0 %	1702	1702
4/2 (A5025 North)	3.00	0.00	N	Arm 6 Right	18.00	76.4 %	1932	1932
				Arm 8 Ahead	Inf	23.6 %		
5/1	Infinite Saturation Flow						Inf	Inf
6/1	Infinite Saturation Flow						Inf	Inf
7/1	Infinite Saturation Flow						Inf	Inf
8/1	Infinite Saturation Flow						Inf	Inf

Full Input Data And Results

Scenario 3: 'Baseline 2016 Saturday' (FG3: 'Baseline 2016 : Weekend (Saturday)', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

		Destination				
		A	B	C	D	Tot.
Origin	A	0	64	43	137	244
	B	77	1	104	122	304
	C	40	110	0	76	226
	D	159	224	84	0	467
	Tot.	276	399	231	335	1241

Traffic Lane Flows

Lane	Scenario 3: Baseline 2016 Saturday
Junction: A5/ A5025 Valley Crossroads	
1/1	467
2/1	303
3/1	226
4/1 (short)	64
4/2 (with short)	244(In) 180(Out)
5/1	398
6/1	335
7/1	276
8/1	231

Full Input Data And Results

Lane Saturation Flows

Junction: A5/ A5025 Valley Crossroads								
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 (A5 London Rd (West))	3.40	0.00	Y	Arm 5 Ahead	Inf	48.0 %	1811	1811
				Arm 7 Left	9.00	34.0 %		
				Arm 8 Right	12.00	18.0 %		
2/1 (A5 Holyhead Rd (East))	3.45	0.00	Y	Arm 6 Ahead	Inf	40.3 %	1828	1828
				Arm 7 Right	15.00	25.4 %		
				Arm 8 Left	11.00	34.3 %		
3/1 (B4545 South)	3.20	0.00	Y	Arm 5 Right	12.00	48.7 %	1708	1708
				Arm 6 Left	7.00	33.6 %		
				Arm 7 Ahead	Inf	17.7 %		
4/1 (A5025 North)	3.00	0.00	Y	Arm 5 Left	12.00	100.0 %	1702	1702
4/2 (A5025 North)	3.00	0.00	N	Arm 6 Right	18.00	76.1 %	1932	1932
				Arm 8 Ahead	Inf	23.9 %		
5/1	Infinite Saturation Flow						Inf	Inf
6/1	Infinite Saturation Flow						Inf	Inf
7/1	Infinite Saturation Flow						Inf	Inf
8/1	Infinite Saturation Flow						Inf	Inf

Scenario 4: 'Reference Case 2020 AM' (FG4: 'Reference Case 2020 : AM', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

		Destination				
		A	B	C	D	Tot.
Origin	A	0	142	45	127	314
	B	52	0	96	103	251
	C	29	127	0	38	194
	D	63	166	37	0	266
	Tot.	144	435	178	268	1025

Full Input Data And Results

Traffic Lane Flows

Lane	Scenario 4: Reference Case 2020 AM
Junction: A5/ A5025 Valley Crossroads	
1/1	266
2/1	251
3/1	194
4/1 (short)	142
4/2 (with short)	314(In) 172(Out)
5/1	435
6/1	268
7/1	144
8/1	178

Lane Saturation Flows

Junction: A5/ A5025 Valley Crossroads								
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 (A5 London Rd (West))	3.40	0.00	Y	Arm 5 Ahead	Inf	62.4 %	1850	1850
				Arm 7 Left	9.00	23.7 %		
				Arm 8 Right	12.00	13.9 %		
2/1 (A5 Holyhead Rd (East))	3.45	0.00	Y	Arm 6 Ahead	Inf	41.0 %	1827	1827
				Arm 7 Right	15.00	20.7 %		
				Arm 8 Left	11.00	38.2 %		
3/1 (B4545 South)	3.20	0.00	Y	Arm 5 Right	12.00	65.5 %	1722	1722
				Arm 6 Left	7.00	19.6 %		
				Arm 7 Ahead	Inf	14.9 %		
4/1 (A5025 North)	3.00	0.00	Y	Arm 5 Left	12.00	100.0 %	1702	1702
4/2 (A5025 North)	3.00	0.00	N	Arm 6 Right	18.00	73.8 %	1936	1936
				Arm 8 Ahead	Inf	26.2 %		
5/1	Infinite Saturation Flow						Inf	Inf
6/1	Infinite Saturation Flow						Inf	Inf
7/1	Infinite Saturation Flow						Inf	Inf
8/1	Infinite Saturation Flow						Inf	Inf

Full Input Data And Results

Scenario 5: 'Reference Case 2020 PM' (FG5: 'Reference Case 2020 : PM', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

		Destination				
		A	B	C	D	Tot.
Origin	A	0	51	44	130	225
	B	112	0	168	193	473
	C	61	110	0	72	243
	D	181	155	69	0	405
	Tot.	354	316	281	395	1346

Traffic Lane Flows

Lane	Scenario 5: Reference Case 2020 PM
Junction: A5/ A5025 Valley Crossroads	
1/1	405
2/1	473
3/1	243
4/1 (short)	51
4/2 (with short)	225(In) 174(Out)
5/1	316
6/1	395
7/1	354
8/1	281

Full Input Data And Results

Lane Saturation Flows

Junction: A5/ A5025 Valley Crossroads								
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 (A5 London Rd (West))	3.40	0.00	Y	Arm 5 Ahead	Inf	38.3 %	1784	1784
				Arm 7 Left	9.00	44.7 %		
				Arm 8 Right	12.00	17.0 %		
2/1 (A5 Holyhead Rd (East))	3.45	0.00	Y	Arm 6 Ahead	Inf	40.8 %	1828	1828
				Arm 7 Right	15.00	23.7 %		
				Arm 8 Left	11.00	35.5 %		
3/1 (B4545 South)	3.20	0.00	Y	Arm 5 Right	12.00	45.3 %	1728	1728
				Arm 6 Left	7.00	29.6 %		
				Arm 7 Ahead	Inf	25.1 %		
4/1 (A5025 North)	3.00	0.00	Y	Arm 5 Left	12.00	100.0 %	1702	1702
4/2 (A5025 North)	3.00	0.00	N	Arm 6 Right	18.00	74.7 %	1935	1935
				Arm 8 Ahead	Inf	25.3 %		
5/1	Infinite Saturation Flow						Inf	Inf
6/1	Infinite Saturation Flow						Inf	Inf
7/1	Infinite Saturation Flow						Inf	Inf
8/1	Infinite Saturation Flow						Inf	Inf

Scenario 6: 'Reference Case 2020 Sunday' (FG6: 'Reference Case 2020 : Weekend (Sunday)', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

		Destination				
		A	B	C	D	Tot.
Origin	A	0	63	44	142	249
	B	66	1	109	161	337
	C	42	116	0	81	239
	D	154	169	81	0	404
	Tot.	262	349	234	384	1229

Full Input Data And Results

Traffic Lane Flows

Lane	Scenario 6: Reference Case 2020 Sunday
Junction: A5/ A5025 Valley Crossroads	
1/1	404
2/1	336
3/1	239
4/1 (short)	63
4/2 (with short)	249(In) 186(Out)
5/1	348
6/1	384
7/1	262
8/1	234

Lane Saturation Flows

Junction: A5/ A5025 Valley Crossroads								
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 (A5 London Rd (West))	3.40	0.00	Y	Arm 5 Ahead	Inf	41.8 %	1796	1796
				Arm 7 Left	9.00	38.1 %		
				Arm 8 Right	12.00	20.0 %		
2/1 (A5 Holyhead Rd (East))	3.45	0.00	Y	Arm 6 Ahead	Inf	47.9 %	1842	1842
				Arm 7 Right	15.00	19.6 %		
				Arm 8 Left	11.00	32.4 %		
3/1 (B4545 South)	3.20	0.00	Y	Arm 5 Right	12.00	48.5 %	1707	1707
				Arm 6 Left	7.00	33.9 %		
				Arm 7 Ahead	Inf	17.6 %		
4/1 (A5025 North)	3.00	0.00	Y	Arm 5 Left	12.00	100.0 %	1702	1702
4/2 (A5025 North)	3.00	0.00	N	Arm 6 Right	18.00	76.3 %	1932	1932
				Arm 8 Ahead	Inf	23.7 %		
5/1	Infinite Saturation Flow						Inf	Inf
6/1	Infinite Saturation Flow						Inf	Inf
7/1	Infinite Saturation Flow						Inf	Inf
8/1	Infinite Saturation Flow						Inf	Inf

Full Input Data And Results

Scenario 7: 'Reference Case 2023 AM' (FG7: 'Reference Case 2023 : AM', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

		Destination				
		A	B	C	D	Tot.
Origin	A	0	145	46	131	322
	B	53	0	100	106	259
	C	30	130	0	39	199
	D	64	170	38	0	272
	Tot.	147	445	184	276	1052

Traffic Lane Flows

Lane	Scenario 7: Reference Case 2023 AM
Junction: A5/ A5025 Valley Crossroads	
1/1	272
2/1	259
3/1	199
4/1 (short)	145
4/2 (with short)	322(In) 177(Out)
5/1	445
6/1	276
7/1	147
8/1	184

Full Input Data And Results

Lane Saturation Flows

Junction: A5/ A5025 Valley Crossroads								
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 (A5 London Rd (West))	3.40	0.00	Y	Arm 5 Ahead	Inf	62.5 %	1850	1850
				Arm 7 Left	9.00	23.5 %		
				Arm 8 Right	12.00	14.0 %		
2/1 (A5 Holyhead Rd (East))	3.45	0.00	Y	Arm 6 Ahead	Inf	40.9 %	1826	1826
				Arm 7 Right	15.00	20.5 %		
				Arm 8 Left	11.00	38.6 %		
3/1 (B4545 South)	3.20	0.00	Y	Arm 5 Right	12.00	65.3 %	1722	1722
				Arm 6 Left	7.00	19.6 %		
				Arm 7 Ahead	Inf	15.1 %		
4/1 (A5025 North)	3.00	0.00	Y	Arm 5 Left	12.00	100.0 %	1702	1702
4/2 (A5025 North)	3.00	0.00	N	Arm 6 Right	18.00	74.0 %	1936	1936
				Arm 8 Ahead	Inf	26.0 %		
5/1	Infinite Saturation Flow						Inf	Inf
6/1	Infinite Saturation Flow						Inf	Inf
7/1	Infinite Saturation Flow						Inf	Inf
8/1	Infinite Saturation Flow						Inf	Inf

Scenario 8: 'Reference Case 2023 PM' (FG8: 'Reference Case 2023 : PM', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

		Destination				
		A	B	C	D	Tot.
Origin	A	0	54	45	133	232
	B	114	0	171	197	482
	C	63	113	0	73	249
	D	186	158	71	0	415
	Tot.	363	325	287	403	1378

Full Input Data And Results

Traffic Lane Flows

Lane	Scenario 8: Reference Case 2023 PM
Junction: A5/ A5025 Valley Crossroads	
1/1	415
2/1	482
3/1	249
4/1 (short)	54
4/2 (with short)	232(In) 178(Out)
5/1	325
6/1	403
7/1	363
8/1	287

Lane Saturation Flows

Junction: A5/ A5025 Valley Crossroads								
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 (A5 London Rd (West))	3.40	0.00	Y	Arm 5 Ahead	Inf	38.1 %	1784	1784
				Arm 7 Left	9.00	44.8 %		
				Arm 8 Right	12.00	17.1 %		
2/1 (A5 Holyhead Rd (East))	3.45	0.00	Y	Arm 6 Ahead	Inf	40.9 %	1828	1828
				Arm 7 Right	15.00	23.7 %		
				Arm 8 Left	11.00	35.5 %		
3/1 (B4545 South)	3.20	0.00	Y	Arm 5 Right	12.00	45.4 %	1728	1728
				Arm 6 Left	7.00	29.3 %		
				Arm 7 Ahead	Inf	25.3 %		
4/1 (A5025 North)	3.00	0.00	Y	Arm 5 Left	12.00	100.0 %	1702	1702
4/2 (A5025 North)	3.00	0.00	N	Arm 6 Right	18.00	74.7 %	1935	1935
				Arm 8 Ahead	Inf	25.3 %		
5/1	Infinite Saturation Flow						Inf	Inf
6/1	Infinite Saturation Flow						Inf	Inf
7/1	Infinite Saturation Flow						Inf	Inf
8/1	Infinite Saturation Flow						Inf	Inf

Full Input Data And Results

Scenario 9: 'Reference Case 2023 Sunday' (FG9: 'Reference Case 2023 : Weekend (Sunday)', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

Origin	Destination					
		A	B	C	D	Tot.
	A	0	65	45	145	255
	B	68	1	112	164	345
	C	43	118	0	83	244
	D	158	172	83	0	413
	Tot.	269	356	240	392	1257

Traffic Lane Flows

Lane	Scenario 9: Reference Case 2023 Sunday
Junction: A5/ A5025 Valley Crossroads	
1/1	413
2/1	344
3/1	244
4/1 (short)	65
4/2 (with short)	255(In) 190(Out)
5/1	355
6/1	392
7/1	269
8/1	240

Lane Saturation Flows

Junction: A5/ A5025 Valley Crossroads								
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 (A5 London Rd (West))	3.40	0.00	Y	Arm 5 Ahead	Inf	41.6 %	1795	1795
				Arm 7 Left	9.00	38.3 %		
				Arm 8 Right	12.00	20.1 %		
2/1 (A5 Holyhead Rd (East))	3.45	0.00	Y	Arm 6 Ahead	Inf	47.7 %	1842	1842
				Arm 7 Right	15.00	19.8 %		
				Arm 8 Left	11.00	32.6 %		
3/1 (B4545 South)	3.20	0.00	Y	Arm 5 Right	12.00	48.4 %	1707	1707
				Arm 6 Left	7.00	34.0 %		
				Arm 7 Ahead	Inf	17.6 %		
4/1 (A5025 North)	3.00	0.00	Y	Arm 5 Left	12.00	100.0 %	1702	1702
4/2 (A5025 North)	3.00	0.00	N	Arm 6 Right	18.00	76.3 %	1932	1932
				Arm 8 Ahead	Inf	23.7 %		
5/1	Infinite Saturation Flow						Inf	Inf
6/1	Infinite Saturation Flow						Inf	Inf
7/1	Infinite Saturation Flow						Inf	Inf
8/1	Infinite Saturation Flow						Inf	Inf

Scenario 10: 'Reference Case 2033 AM' (FG10: 'Reference Case 2033 : AM', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

		Destination				
		A	B	C	D	Tot.
Origin	A	0	367	50	142	559
	B	97	0	110	113	320
	C	33	139	0	42	214
	D	69	183	42	0	294
	Tot.	199	689	202	297	1387

Full Input Data And Results

Traffic Lane Flows

Lane	Scenario 10: Reference Case 2033 AM
Junction: A5/ A5025 Valley Crossroads	
1/1	294
2/1	320
3/1	214
4/1 (short)	367
4/2 (with short)	559(In) 192(Out)
5/1	689
6/1	297
7/1	199
8/1	202

Lane Saturation Flows

Junction: A5/ A5025 Valley Crossroads								
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 (A5 London Rd (West))	3.40	0.00	Y	Arm 5 Ahead	Inf	62.2 %	1850	1850
				Arm 7 Left	9.00	23.5 %		
				Arm 8 Right	12.00	14.3 %		
2/1 (A5 Holyhead Rd (East))	3.45	0.00	Y	Arm 6 Ahead	Inf	35.3 %	1820	1820
				Arm 7 Right	15.00	30.3 %		
				Arm 8 Left	11.00	34.4 %		
3/1 (B4545 South)	3.20	0.00	Y	Arm 5 Right	12.00	65.0 %	1723	1723
				Arm 6 Left	7.00	19.6 %		
				Arm 7 Ahead	Inf	15.4 %		
4/1 (A5025 North)	3.00	0.00	Y	Arm 5 Left	12.00	100.0 %	1702	1702
4/2 (A5025 North)	3.00	0.00	N	Arm 6 Right	18.00	74.0 %	1936	1936
				Arm 8 Ahead	Inf	26.0 %		
5/1	Infinite Saturation Flow						Inf	Inf
6/1	Infinite Saturation Flow						Inf	Inf
7/1	Infinite Saturation Flow						Inf	Inf
8/1	Infinite Saturation Flow						Inf	Inf

Full Input Data And Results

Scenario 11: 'Reference Case 2033 PM' (FG11: 'Reference Case 2033 : PM', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

		Destination				
		A	B	C	D	Tot.
Origin	A	0	113	49	144	306
	B	234	0	183	208	625
	C	68	123	0	79	270
	D	201	168	76	0	445
	Tot.	503	404	308	431	1646

Traffic Lane Flows

Lane	Scenario 11: Reference Case 2033 PM
Junction: A5/ A5025 Valley Crossroads	
1/1	445
2/1	625
3/1	270
4/1 (short)	113
4/2 (with short)	306(In) 193(Out)
5/1	404
6/1	431
7/1	503
8/1	308

Full Input Data And Results

Lane Saturation Flows

Junction: A5/ A5025 Valley Crossroads								
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 (A5 London Rd (West))	3.40	0.00	Y	Arm 5 Ahead	Inf	37.8 %	1783	1783
				Arm 7 Left	9.00	45.2 %		
				Arm 8 Right	12.00	17.1 %		
2/1 (A5 Holyhead Rd (East))	3.45	0.00	Y	Arm 6 Ahead	Inf	33.3 %	1819	1819
				Arm 7 Right	15.00	37.4 %		
				Arm 8 Left	11.00	29.3 %		
3/1 (B4545 South)	3.20	0.00	Y	Arm 5 Right	12.00	45.6 %	1728	1728
				Arm 6 Left	7.00	29.3 %		
				Arm 7 Ahead	Inf	25.2 %		
4/1 (A5025 North)	3.00	0.00	Y	Arm 5 Left	12.00	100.0 %	1702	1702
4/2 (A5025 North)	3.00	0.00	N	Arm 6 Right	18.00	74.6 %	1935	1935
				Arm 8 Ahead	Inf	25.4 %		
5/1	Infinite Saturation Flow						Inf	Inf
6/1	Infinite Saturation Flow						Inf	Inf
7/1	Infinite Saturation Flow						Inf	Inf
8/1	Infinite Saturation Flow						Inf	Inf

Scenario 12: 'Reference Case 2033 Saturday' (FG12: 'Reference Case 2033 : Weekend (Saturday)', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

		Destination				
		A	B	C	D	Tot.
Origin	A	0	70	49	156	275
	B	73	1	119	173	366
	C	47	126	0	89	262
	D	170	183	89	0	442
	Tot.	290	380	257	418	1345

Full Input Data And Results

Traffic Lane Flows

Lane	Scenario 12: Reference Case 2033 Saturday
Junction: A5/ A5025 Valley Crossroads	
1/1	442
2/1	365
3/1	262
4/1 (short)	70
4/2 (with short)	275(In) 205(Out)
5/1	379
6/1	418
7/1	290
8/1	257

Lane Saturation Flows

Junction: A5/ A5025 Valley Crossroads								
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 (A5 London Rd (West))	3.40	0.00	Y	Arm 5 Ahead	Inf	41.4 %	1795	1795
				Arm 7 Left	9.00	38.5 %		
				Arm 8 Right	12.00	20.1 %		
2/1 (A5 Holyhead Rd (East))	3.45	0.00	Y	Arm 6 Ahead	Inf	47.4 %	1841	1841
				Arm 7 Right	15.00	20.0 %		
				Arm 8 Left	11.00	32.6 %		
3/1 (B4545 South)	3.20	0.00	Y	Arm 5 Right	12.00	48.1 %	1708	1708
				Arm 6 Left	7.00	34.0 %		
				Arm 7 Ahead	Inf	17.9 %		
4/1 (A5025 North)	3.00	0.00	Y	Arm 5 Left	12.00	100.0 %	1702	1702
4/2 (A5025 North)	3.00	0.00	N	Arm 6 Right	18.00	76.1 %	1932	1932
				Arm 8 Ahead	Inf	23.9 %		
5/1	Infinite Saturation Flow						Inf	Inf
6/1	Infinite Saturation Flow						Inf	Inf
7/1	Infinite Saturation Flow						Inf	Inf
8/1	Infinite Saturation Flow						Inf	Inf

Full Input Data And Results

Scenario 13: 'WNP 2020 (w/o bypasses) AM' (FG13: 'Wylfa Newydd Project 2020 (without bypasses) : AM', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

Origin		Destination				
		A	B	C	D	Tot.
	A	0	162	45	127	334
	B	80	0	96	104	280
	C	29	127	0	38	194
	D	63	166	37	0	266
	Tot.	172	455	178	269	1074

Traffic Lane Flows

Lane	Scenario 13: WNP 2020 (w/o bypasses) AM
Junction: A5/ A5025 Valley Crossroads	
1/1	266
2/1	280
3/1	194
4/1 (short)	162
4/2 (with short)	334(In) 172(Out)
5/1	455
6/1	269
7/1	172
8/1	178

Full Input Data And Results

Lane Saturation Flows

Junction: A5/ A5025 Valley Crossroads								
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 (A5 London Rd (West))	3.40	0.00	Y	Arm 5 Ahead	Inf	62.4 %	1850	1850
				Arm 7 Left	9.00	23.7 %		
				Arm 8 Right	12.00	13.9 %		
2/1 (A5 Holyhead Rd (East))	3.45	0.00	Y	Arm 6 Ahead	Inf	37.1 %	1823	1823
				Arm 7 Right	15.00	28.6 %		
				Arm 8 Left	11.00	34.3 %		
3/1 (B4545 South)	3.20	0.00	Y	Arm 5 Right	12.00	65.5 %	1722	1722
				Arm 6 Left	7.00	19.6 %		
				Arm 7 Ahead	Inf	14.9 %		
4/1 (A5025 North)	3.00	0.00	Y	Arm 5 Left	12.00	100.0 %	1702	1702
4/2 (A5025 North)	3.00	0.00	N	Arm 6 Right	18.00	73.8 %	1936	1936
				Arm 8 Ahead	Inf	26.2 %		
5/1	Infinite Saturation Flow						Inf	Inf
6/1	Infinite Saturation Flow						Inf	Inf
7/1	Infinite Saturation Flow						Inf	Inf
8/1	Infinite Saturation Flow						Inf	Inf

Scenario 14: 'WNP 2020 (w/o bypasses) PM' (FG14: 'Wylfa Newydd Project 2020 (without bypasses) : PM', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

		Destination				
		A	B	C	D	Tot.
Origin	A	0	267	56	111	434
	B	194	0	172	162	528
	C	56	106	0	53	215
	D	167	138	67	0	372
	Tot.	417	511	295	326	1549

Full Input Data And Results

Traffic Lane Flows

Lane	Scenario 14: WNP 2020 (w/o bypasses) PM
Junction: A5/ A5025 Valley Crossroads	
1/1	372
2/1	528
3/1	215
4/1 (short)	267
4/2 (with short)	434(In) 167(Out)
5/1	511
6/1	326
7/1	417
8/1	295

Lane Saturation Flows

Junction: A5/ A5025 Valley Crossroads

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 (A5 London Rd (West))	3.40	0.00	Y	Arm 5 Ahead	Inf	37.1 %	1782	1782
				Arm 7 Left	9.00	44.9 %		
				Arm 8 Right	12.00	18.0 %		
2/1 (A5 Holyhead Rd (East))	3.45	0.00	Y	Arm 6 Ahead	Inf	30.7 %	1813	1813
				Arm 7 Right	15.00	36.7 %		
				Arm 8 Left	11.00	32.6 %		
3/1 (B4545 South)	3.20	0.00	Y	Arm 5 Right	12.00	49.3 %	1736	1736
				Arm 6 Left	7.00	24.7 %		
				Arm 7 Ahead	Inf	26.0 %		
4/1 (A5025 North)	3.00	0.00	Y	Arm 5 Left	12.00	100.0 %	1702	1702
4/2 (A5025 North)	3.00	0.00	N	Arm 6 Right	18.00	66.5 %	1947	1947
				Arm 8 Ahead	Inf	33.5 %		
5/1	Infinite Saturation Flow						Inf	Inf
6/1	Infinite Saturation Flow						Inf	Inf
7/1	Infinite Saturation Flow						Inf	Inf
8/1	Infinite Saturation Flow						Inf	Inf

Full Input Data And Results

Scenario 15: 'WNP 2020 (w/o bypasses) Sunday' (FG15: 'Wylfa Newydd Project 2020 (without bypasses) : Weekend (Sunday)', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

Origin	Destination					
		A	B	C	D	Tot.
	A	0	75	47	158	280
	B	60	0	123	136	319
	C	45	128	0	76	249
	D	159	151	80	0	390
	Tot.	264	354	250	370	1238

Traffic Lane Flows

Lane	Scenario 15: WNP 2020 (w/o bypasses) Sunday
Junction: A5/ A5025 Valley Crossroads	
1/1	390
2/1	319
3/1	249
4/1 (short)	75
4/2 (with short)	280(In) 205(Out)
5/1	354
6/1	370
7/1	264
8/1	250

Full Input Data And Results

Lane Saturation Flows

Junction: A5/ A5025 Valley Crossroads								
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 (A5 London Rd (West))	3.40	0.00	Y	Arm 5 Ahead	Inf	38.7 %	1788	1788
				Arm 7 Left	9.00	40.8 %		
				Arm 8 Right	12.00	20.5 %		
2/1 (A5 Holyhead Rd (East))	3.45	0.00	Y	Arm 6 Ahead	Inf	42.6 %	1829	1829
				Arm 7 Right	15.00	18.8 %		
				Arm 8 Left	11.00	38.6 %		
3/1 (B4545 South)	3.20	0.00	Y	Arm 5 Right	12.00	51.4 %	1713	1713
				Arm 6 Left	7.00	30.5 %		
				Arm 7 Ahead	Inf	18.1 %		
4/1 (A5025 North)	3.00	0.00	Y	Arm 5 Left	12.00	100.0 %	1702	1702
4/2 (A5025 North)	3.00	0.00	N	Arm 6 Right	18.00	77.1 %	1931	1931
				Arm 8 Ahead	Inf	22.9 %		
5/1	Infinite Saturation Flow						Inf	Inf
6/1	Infinite Saturation Flow						Inf	Inf
7/1	Infinite Saturation Flow						Inf	Inf
8/1	Infinite Saturation Flow						Inf	Inf

Scenario 16: 'WNP 2020 (with bypasses) AM' (FG16: 'Wylfa Newydd Project 2020 (with bypasses) : AM', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

		Destination				
		A	B	C	D	Tot.
Origin	A	0	0	0	0	0
	B	0	0	141	104	245
	C	0	156	0	38	194
	D	0	229	37	0	266
	Tot.	0	385	178	142	705

Full Input Data And Results

Traffic Lane Flows

Lane	Scenario 16: WNP 2020 (with bypasses) AM
Junction: A5/ A5025 Valley Crossroads	
1/1	266
2/1	245
3/1	194
4/1 (short)	0
4/2 (with short)	0(In) 0(Out)
5/1	385
6/1	142
7/1	0
8/1	178

Lane Saturation Flows

Junction: A5/ A5025 Valley Crossroads								
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 (A5 London Rd (West))	3.40	0.00	Y	Arm 5 Ahead	Inf	86.1 %	1922	1922
				Arm 7 Left	9.00	0.0 %		
				Arm 8 Right	12.00	13.9 %		
2/1 (A5 Holyhead Rd (East))	3.45	0.00	Y	Arm 6 Ahead	Inf	42.4 %	1817	1817
				Arm 7 Right	15.00	0.0 %		
				Arm 8 Left	11.00	57.6 %		
3/1 (B4545 South)	3.20	0.00	Y	Arm 5 Right	12.00	80.4 %	1694	1694
				Arm 6 Left	7.00	19.6 %		
				Arm 7 Ahead	Inf	0.0 %		
4/1 (A5025 North)	3.00	0.00	Y	Arm 5 Left	12.00	0.0 %	1915	1915
4/2 (A5025 North)	3.00	0.00	N	Arm 6 Right	18.00	0.0 %	2055	2055
				Arm 8 Ahead	Inf	0.0 %		
5/1	Infinite Saturation Flow						Inf	Inf
6/1	Infinite Saturation Flow						Inf	Inf
7/1	Infinite Saturation Flow						Inf	Inf
8/1	Infinite Saturation Flow						Inf	Inf

Full Input Data And Results

Scenario 17: 'WNP 2020 (with bypasses) PM' (FG17: 'Wylfa Newydd Project 2020 (with bypasses) : PM', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

Origin	Destination					
		A	B	C	D	Tot.
	A	0	0	0	0	0
	B	0	0	217	193	410
	C	0	195	0	72	267
	D	0	336	69	0	405
	Tot.	0	531	286	265	1082

Traffic Lane Flows

Lane	Scenario 17: WNP 2020 (with bypasses) PM
Junction: A5/ A5025 Valley Crossroads	
1/1	405
2/1	410
3/1	267
4/1 (short)	0
4/2 (with short)	0(In) 0(Out)
5/1	531
6/1	265
7/1	0
8/1	286

Full Input Data And Results

Lane Saturation Flows

Junction: A5/ A5025 Valley Crossroads								
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 (A5 London Rd (West))	3.40	0.00	Y	Arm 5 Ahead	Inf	83.0 %	1914	1914
				Arm 7 Left	9.00	0.0 %		
				Arm 8 Right	12.00	17.0 %		
2/1 (A5 Holyhead Rd (East))	3.45	0.00	Y	Arm 6 Ahead	Inf	47.1 %	1828	1828
				Arm 7 Right	15.00	0.0 %		
				Arm 8 Left	11.00	52.9 %		
3/1 (B4545 South)	3.20	0.00	Y	Arm 5 Right	12.00	73.0 %	1684	1684
				Arm 6 Left	7.00	27.0 %		
				Arm 7 Ahead	Inf	0.0 %		
4/1 (A5025 North)	3.00	0.00	Y	Arm 5 Left	12.00	0.0 %	1915	1915
4/2 (A5025 North)	3.00	0.00	N	Arm 6 Right	18.00	0.0 %	2055	2055
				Arm 8 Ahead	Inf	0.0 %		
5/1	Infinite Saturation Flow						Inf	Inf
6/1	Infinite Saturation Flow						Inf	Inf
7/1	Infinite Saturation Flow						Inf	Inf
8/1	Infinite Saturation Flow						Inf	Inf

Scenario 18: 'WNP 2020 (with bypasses) Sunday' (FG18: 'Wylfa Newydd Project 2020 (with bypasses) : Weekend (Sunday)', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

		Destination				
		A	B	C	D	Tot.
Origin	A	0	0	0	0	0
	B	0	1	153	161	315
	C	0	158	0	81	239
	D	0	323	81	0	404
	Tot.	0	482	234	242	958

Full Input Data And Results

Traffic Lane Flows

Lane	Scenario 18: WNP 2020 (with bypasses) Sunday
Junction: A5/ A5025 Valley Crossroads	
1/1	404
2/1	314
3/1	239
4/1 (short)	0
4/2 (with short)	0(In) 0(Out)
5/1	481
6/1	242
7/1	0
8/1	234

Lane Saturation Flows

Junction: A5/ A5025 Valley Crossroads								
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 (A5 London Rd (West))	3.40	0.00	Y	Arm 5 Ahead	Inf	80.0 %	1907	1907
				Arm 7 Left	9.00	0.0 %		
				Arm 8 Right	12.00	20.0 %		
2/1 (A5 Holyhead Rd (East))	3.45	0.00	Y	Arm 6 Ahead	Inf	51.3 %	1838	1838
				Arm 7 Right	15.00	0.0 %		
				Arm 8 Left	11.00	48.7 %		
3/1 (B4545 South)	3.20	0.00	Y	Arm 5 Right	12.00	66.1 %	1675	1675
				Arm 6 Left	7.00	33.9 %		
				Arm 7 Ahead	Inf	0.0 %		
4/1 (A5025 North)	3.00	0.00	Y	Arm 5 Left	12.00	0.0 %	1915	1915
4/2 (A5025 North)	3.00	0.00	N	Arm 6 Right	18.00	0.0 %	2055	2055
				Arm 8 Ahead	Inf	0.0 %		
5/1	Infinite Saturation Flow						Inf	Inf
6/1	Infinite Saturation Flow						Inf	Inf
7/1	Infinite Saturation Flow						Inf	Inf
8/1	Infinite Saturation Flow						Inf	Inf

Full Input Data And Results

Scenario 19: 'WNP 2023 AM' (FG19: 'Wylfa Newydd Project 2023 : AM', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

		Destination				
		A	B	C	D	Tot.
Origin	A	0	0	0	0	0
	B	0	0	145	106	251
	C	0	160	0	39	199
	D	0	235	38	0	273
	Tot.	0	395	183	145	723

Traffic Lane Flows

Lane	Scenario 19: WNP 2023 AM
Junction: A5/ A5025 Valley Crossroads	
1/1	273
2/1	251
3/1	199
4/1 (short)	0
4/2 (with short)	0(In) 0(Out)
5/1	395
6/1	145
7/1	0
8/1	183

Lane Saturation Flows

Junction: A5/ A5025 Valley Crossroads								
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 (A5 London Rd (West))	3.40	0.00	Y	Arm 5 Ahead	Inf	86.1 %	1922	1922
				Arm 7 Left	9.00	0.0 %		
				Arm 8 Right	12.00	13.9 %		
2/1 (A5 Holyhead Rd (East))	3.45	0.00	Y	Arm 6 Ahead	Inf	42.2 %	1817	1817
				Arm 7 Right	15.00	0.0 %		
				Arm 8 Left	11.00	57.8 %		
3/1 (B4545 South)	3.20	0.00	Y	Arm 5 Right	12.00	80.4 %	1694	1694
				Arm 6 Left	7.00	19.6 %		
				Arm 7 Ahead	Inf	0.0 %		
4/1 (A5025 North)	3.00	0.00	Y	Arm 5 Left	12.00	0.0 %	1915	1915
4/2 (A5025 North)	3.00	0.00	N	Arm 6 Right	18.00	0.0 %	2055	2055
				Arm 8 Ahead	Inf	0.0 %		
5/1	Infinite Saturation Flow						Inf	Inf
6/1	Infinite Saturation Flow						Inf	Inf
7/1	Infinite Saturation Flow						Inf	Inf
8/1	Infinite Saturation Flow						Inf	Inf

Scenario 20: 'WNP 2023 PM' (FG20: 'Wylfa Newydd Project 2023 : PM', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

		Destination				
		A	B	C	D	Tot.
Origin	A	0	0	0	0	0
	B	0	0	233	197	430
	C	0	199	0	73	272
	D	0	344	71	0	415
	Tot.	0	543	304	270	1117

Full Input Data And Results

Traffic Lane Flows

Lane	Scenario 20: WNP 2023 PM
Junction: A5/ A5025 Valley Crossroads	
1/1	415
2/1	430
3/1	272
4/1 (short)	0
4/2 (with short)	0(In) 0(Out)
5/1	543
6/1	270
7/1	0
8/1	304

Lane Saturation Flows

Junction: A5/ A5025 Valley Crossroads								
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 (A5 London Rd (West))	3.40	0.00	Y	Arm 5 Ahead	Inf	82.9 %	1914	1914
				Arm 7 Left	9.00	0.0 %		
				Arm 8 Right	12.00	17.1 %		
2/1 (A5 Holyhead Rd (East))	3.45	0.00	Y	Arm 6 Ahead	Inf	45.8 %	1825	1825
				Arm 7 Right	15.00	0.0 %		
				Arm 8 Left	11.00	54.2 %		
3/1 (B4545 South)	3.20	0.00	Y	Arm 5 Right	12.00	73.2 %	1684	1684
				Arm 6 Left	7.00	26.8 %		
				Arm 7 Ahead	Inf	0.0 %		
4/1 (A5025 North)	3.00	0.00	Y	Arm 5 Left	12.00	0.0 %	1915	1915
4/2 (A5025 North)	3.00	0.00	N	Arm 6 Right	18.00	0.0 %	2055	2055
				Arm 8 Ahead	Inf	0.0 %		
5/1	Infinite Saturation Flow						Inf	Inf
6/1	Infinite Saturation Flow						Inf	Inf
7/1	Infinite Saturation Flow						Inf	Inf
8/1	Infinite Saturation Flow						Inf	Inf

Full Input Data And Results

Scenario 21: 'WNP 2023 Sunday' (FG21: 'Wylfa Newydd Project 2023 : Weekend (Sunday)', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

Origin	Destination					
		A	B	C	D	Tot.
	A	0	0	0	0	0
	B	0	1	157	164	322
	C	0	161	0	83	244
	D	0	330	83	0	413
	Tot.	0	492	240	247	979

Traffic Lane Flows

Lane	Scenario 21: WNP 2023 Sunday
Junction: A5/ A5025 Valley Crossroads	
1/1	413
2/1	321
3/1	244
4/1 (short)	0
4/2 (with short)	0(In) 0(Out)
5/1	491
6/1	247
7/1	0
8/1	240

Full Input Data And Results

Lane Saturation Flows

Junction: A5/ A5025 Valley Crossroads								
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 (A5 London Rd (West))	3.40	0.00	Y	Arm 5 Ahead	Inf	79.9 %	1907	1907
				Arm 7 Left	9.00	0.0 %		
				Arm 8 Right	12.00	20.1 %		
2/1 (A5 Holyhead Rd (East))	3.45	0.00	Y	Arm 6 Ahead	Inf	51.1 %	1837	1837
				Arm 7 Right	15.00	0.0 %		
				Arm 8 Left	11.00	48.9 %		
3/1 (B4545 South)	3.20	0.00	Y	Arm 5 Right	12.00	66.0 %	1675	1675
				Arm 6 Left	7.00	34.0 %		
				Arm 7 Ahead	Inf	0.0 %		
4/1 (A5025 North)	3.00	0.00	Y	Arm 5 Left	12.00	0.0 %	1915	1915
4/2 (A5025 North)	3.00	0.00	N	Arm 6 Right	18.00	0.0 %	2055	2055
				Arm 8 Ahead	Inf	0.0 %		
5/1	Infinite Saturation Flow						Inf	Inf
6/1	Infinite Saturation Flow						Inf	Inf
7/1	Infinite Saturation Flow						Inf	Inf
8/1	Infinite Saturation Flow						Inf	Inf

Scenario 22: 'WNP 2033 AM' (FG22: 'Wylfa Newydd Project 2033 : AM', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

		Destination				
		A	B	C	D	Tot.
Origin	A	0	0	0	0	0
	B	0	0	160	113	273
	C	0	172	0	42	214
	D	0	252	42	0	294
	Tot.	0	424	202	155	781

Full Input Data And Results

Traffic Lane Flows

Lane	Scenario 22: WNP 2033 AM
Junction: A5/ A5025 Valley Crossroads	
1/1	294
2/1	273
3/1	214
4/1 (short)	0
4/2 (with short)	0(In) 0(Out)
5/1	424
6/1	155
7/1	0
8/1	202

Lane Saturation Flows

Junction: A5/ A5025 Valley Crossroads								
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 (A5 London Rd (West))	3.40	0.00	Y	Arm 5 Ahead	Inf	85.7 %	1921	1921
				Arm 7 Left	9.00	0.0 %		
				Arm 8 Right	12.00	14.3 %		
2/1 (A5 Holyhead Rd (East))	3.45	0.00	Y	Arm 6 Ahead	Inf	41.4 %	1815	1815
				Arm 7 Right	15.00	0.0 %		
				Arm 8 Left	11.00	58.6 %		
3/1 (B4545 South)	3.20	0.00	Y	Arm 5 Right	12.00	80.4 %	1694	1694
				Arm 6 Left	7.00	19.6 %		
				Arm 7 Ahead	Inf	0.0 %		
4/1 (A5025 North)	3.00	0.00	Y	Arm 5 Left	12.00	0.0 %	1915	1915
4/2 (A5025 North)	3.00	0.00	N	Arm 6 Right	18.00	0.0 %	2055	2055
				Arm 8 Ahead	Inf	0.0 %		
5/1	Infinite Saturation Flow						Inf	Inf
6/1	Infinite Saturation Flow						Inf	Inf
7/1	Infinite Saturation Flow						Inf	Inf
8/1	Infinite Saturation Flow						Inf	Inf

Full Input Data And Results

Scenario 23: 'WNP 2033 PM' (FG23: 'Wylfa Newydd Project 2033 : PM', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

		Destination				
		A	B	C	D	Tot.
Origin	A	0	0	0	0	0
	B	0	0	260	208	468
	C	0	191	0	79	270
	D	0	369	76	0	445
	Tot.	0	560	336	287	1183

Traffic Lane Flows

Lane	Scenario 23: WNP 2033 PM
Junction: A5/ A5025 Valley Crossroads	
1/1	445
2/1	468
3/1	270
4/1 (short)	0
4/2 (with short)	0(In) 0(Out)
5/1	560
6/1	287
7/1	0
8/1	336

Full Input Data And Results

Lane Saturation Flows

Junction: A5/ A5025 Valley Crossroads								
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 (A5 London Rd (West))	3.40	0.00	Y	Arm 5 Ahead	Inf	82.9 %	1914	1914
				Arm 7 Left	9.00	0.0 %		
				Arm 8 Right	12.00	17.1 %		
2/1 (A5 Holyhead Rd (East))	3.45	0.00	Y	Arm 6 Ahead	Inf	44.4 %	1822	1822
				Arm 7 Right	15.00	0.0 %		
				Arm 8 Left	11.00	55.6 %		
3/1 (B4545 South)	3.20	0.00	Y	Arm 5 Right	12.00	70.7 %	1681	1681
				Arm 6 Left	7.00	29.3 %		
				Arm 7 Ahead	Inf	0.0 %		
4/1 (A5025 North)	3.00	0.00	Y	Arm 5 Left	12.00	0.0 %	1915	1915
4/2 (A5025 North)	3.00	0.00	N	Arm 6 Right	18.00	0.0 %	2055	2055
				Arm 8 Ahead	Inf	0.0 %		
5/1	Infinite Saturation Flow						Inf	Inf
6/1	Infinite Saturation Flow						Inf	Inf
7/1	Infinite Saturation Flow						Inf	Inf
8/1	Infinite Saturation Flow						Inf	Inf

Scenario 24: 'WNP 2033 Saturday' (FG24: 'Wylfa Newydd Project 2033 : Weekend (Saturday)', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

		Destination				
		A	B	C	D	Tot.
Origin	A	0	0	0	0	0
	B	0	1	168	173	342
	C	0	173	0	89	262
	D	0	352	89	0	441
	Tot.	0	526	257	262	1045

Full Input Data And Results

Traffic Lane Flows

Lane	Scenario 24: WNP 2033 Saturday
Junction: A5/ A5025 Valley Crossroads	
1/1	441
2/1	341
3/1	262
4/1 (short)	0
4/2 (with short)	0(In) 0(Out)
5/1	525
6/1	262
7/1	0
8/1	257

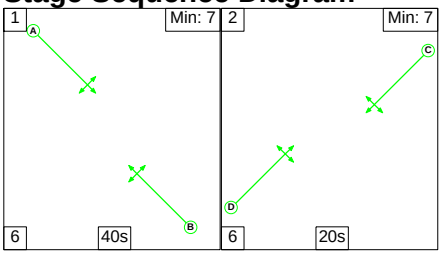
Lane Saturation Flows

Junction: A5/ A5025 Valley Crossroads								
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 (A5 London Rd (West))	3.40	0.00	Y	Arm 5 Ahead	Inf	79.8 %	1907	1907
				Arm 7 Left	9.00	0.0 %		
				Arm 8 Right	12.00	20.2 %		
2/1 (A5 Holyhead Rd (East))	3.45	0.00	Y	Arm 6 Ahead	Inf	50.7 %	1837	1837
				Arm 7 Right	15.00	0.0 %		
				Arm 8 Left	11.00	49.3 %		
3/1 (B4545 South)	3.20	0.00	Y	Arm 5 Right	12.00	66.0 %	1675	1675
				Arm 6 Left	7.00	34.0 %		
				Arm 7 Ahead	Inf	0.0 %		
4/1 (A5025 North)	3.00	0.00	Y	Arm 5 Left	12.00	0.0 %	1915	1915
4/2 (A5025 North)	3.00	0.00	N	Arm 6 Right	18.00	0.0 %	2055	2055
				Arm 8 Ahead	Inf	0.0 %		
5/1	Infinite Saturation Flow						Inf	Inf
6/1	Infinite Saturation Flow						Inf	Inf
7/1	Infinite Saturation Flow						Inf	Inf
8/1	Infinite Saturation Flow						Inf	Inf

Full Input Data And Results

Scenario 1: 'Baseline 2016 AM' (FG1: 'Baseline 2016 : AM', Plan 1: 'Network Control Plan 1')

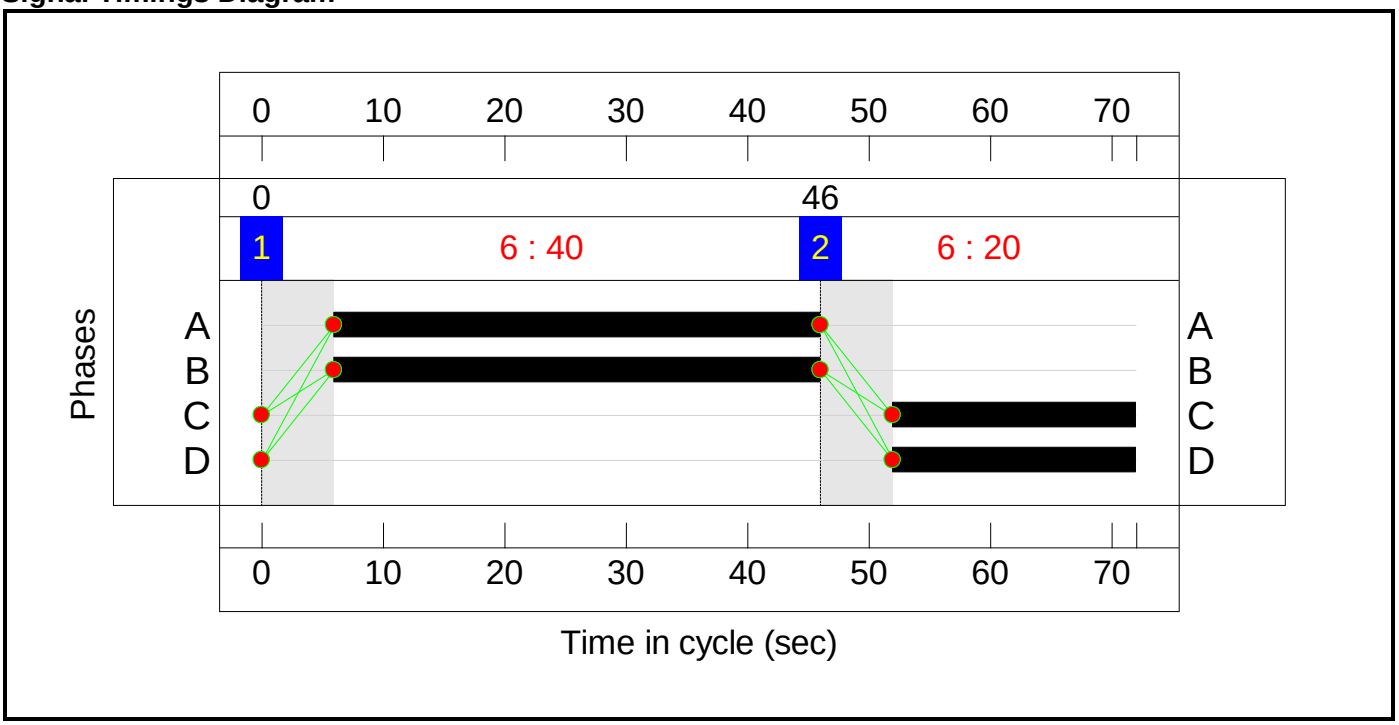
Stage Sequence Diagram



Stage Timings

Stage	1	2
Duration	40	20
Change Point	0	46

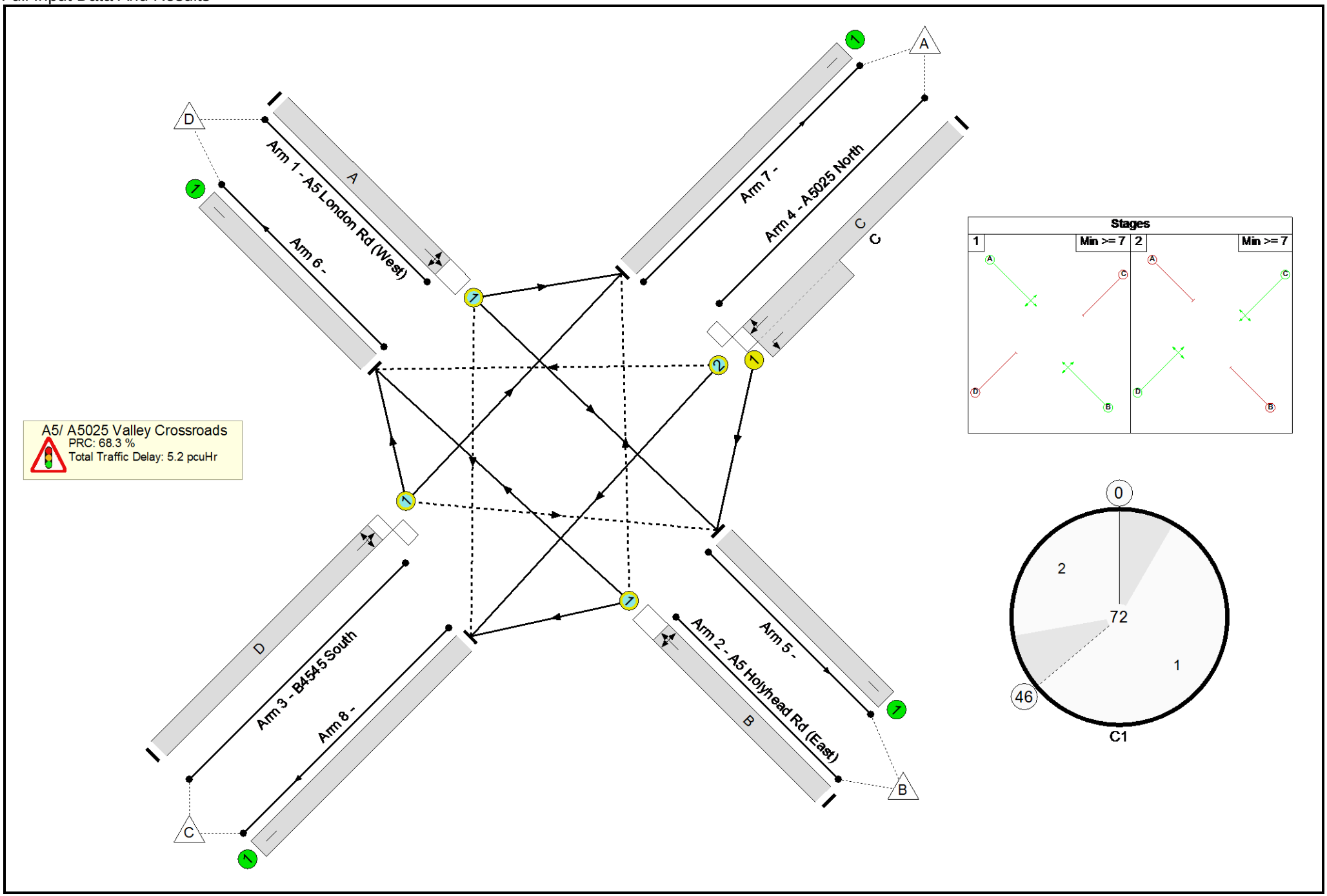
Signal Timings Diagram



Full Input Data And Results

Network Layout Diagram

Full Input Data And Results



Network Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network: A5-B4545 Valley Crossroads	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**53.5%**
A5/ A5025 Valley Crossroads	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**53.5%**
1/1	A5 London Rd (West) Ahead Left Right	O	N/A	N/A	A		1	40	-	243	1846	904	26.9%
2/1	A5 Holyhead Rd (East) Ahead Right Left	O	N/A	N/A	B		1	40	-	231	1813	842	27.4%
3/1	B4545 South Right Left Ahead	O	N/A	N/A	D		1	20	-	182	1721	340	53.5%
4/2+4/1	A5025 North Left Right Ahead	O+U	N/A	N/A	C		1	20	-	292	1936:1702	392+315	41.3 : 41.3%
5/1		U	N/A	N/A	-		-	-	-	399	Inf	Inf	0.0%
6/1		U	N/A	N/A	-		-	-	-	232	Inf	Inf	0.0%
7/1		U	N/A	N/A	-		-	-	-	149	Inf	Inf	0.0%
8/1		U	N/A	N/A	-		-	-	-	168	Inf	Inf	0.0%

Full Input Data And Results

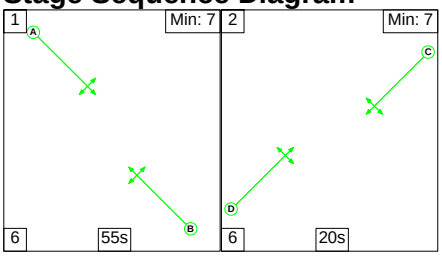
Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network: A5-B4545 Valley Crossroads	**-**	**-**	**333**	**0**	**6**	**3.7**	**1.3**	**0.3**	**5.2**	**-**	**-**	**-**	**-**
A5/ A5025 Valley Crossroads	**-**	**-**	**333**	**0**	**6**	**3.7**	**1.3**	**0.3**	**5.2**	**-**	**-**	**-**	**-**
1/1	243	243	34	0	1	0.5	0.2	0.0	0.7	10.6	2.4	0.2	2.5
2/1	231	231	61	0	2	0.5	0.2	0.0	0.7	10.9	2.2	0.2	2.4
3/1	182	182	119	0	2	1.1	0.6	0.2	1.8	36.5	3.2	0.6	3.8
4/2+4/1	292	292	118	0	2	1.6	0.4	0.0	2.0 (1.1+0.9)	24.4 (24.8:23.9)	2.5	0.4	2.8
5/1	399	399	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	232	232	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	149	149	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	168	168	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

C1 PRC for Signalled Lanes (%): 68.3 Total Delay for Signalled Lanes (pcuHr): 5.24 Cycle Time (s): 72
PRC Over All Lanes (%): 68.3 Total Delay Over All Lanes(pcuHr): 5.24

Full Input Data And Results

Scenario 2: 'Baseline 2016 PM' (FG2: 'Baseline 2016 : PM', Plan 1: 'Network Control Plan 1')

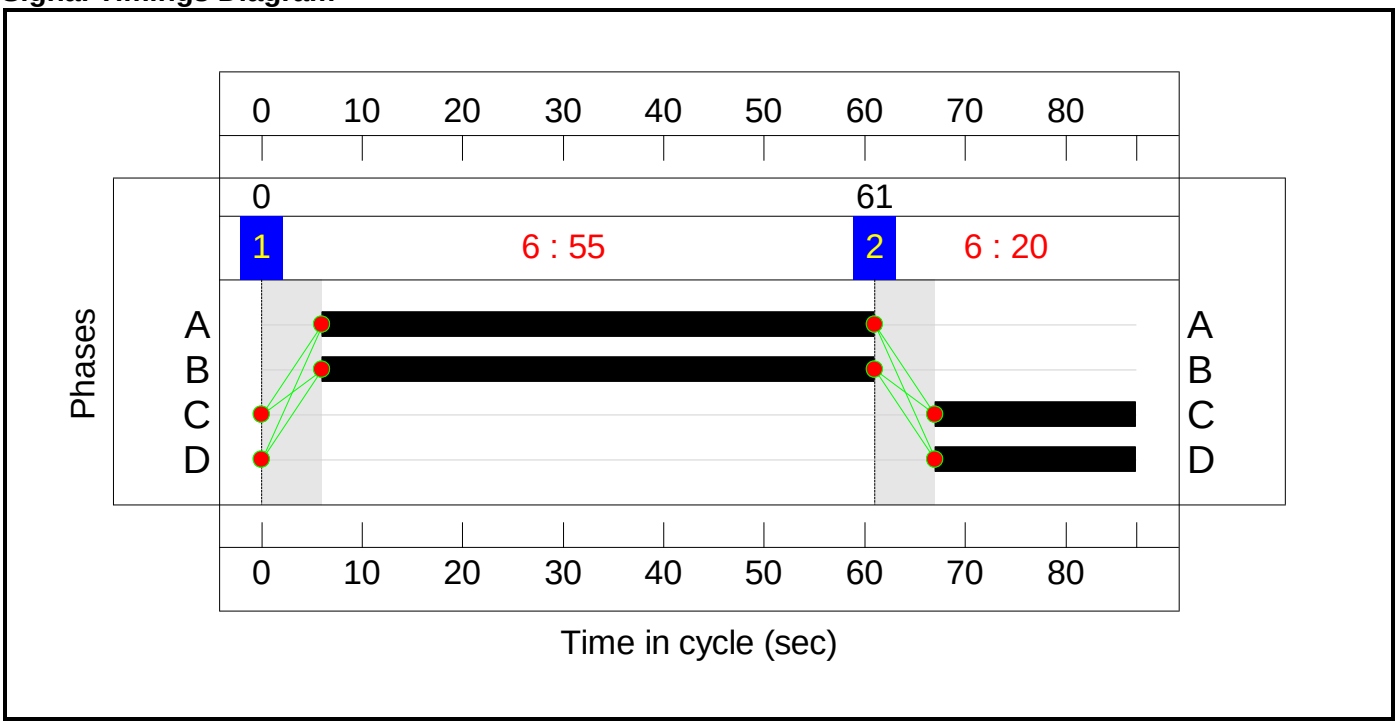
Stage Sequence Diagram



Stage Timings

Stage	1	2
Duration	55	20
Change Point	0	61

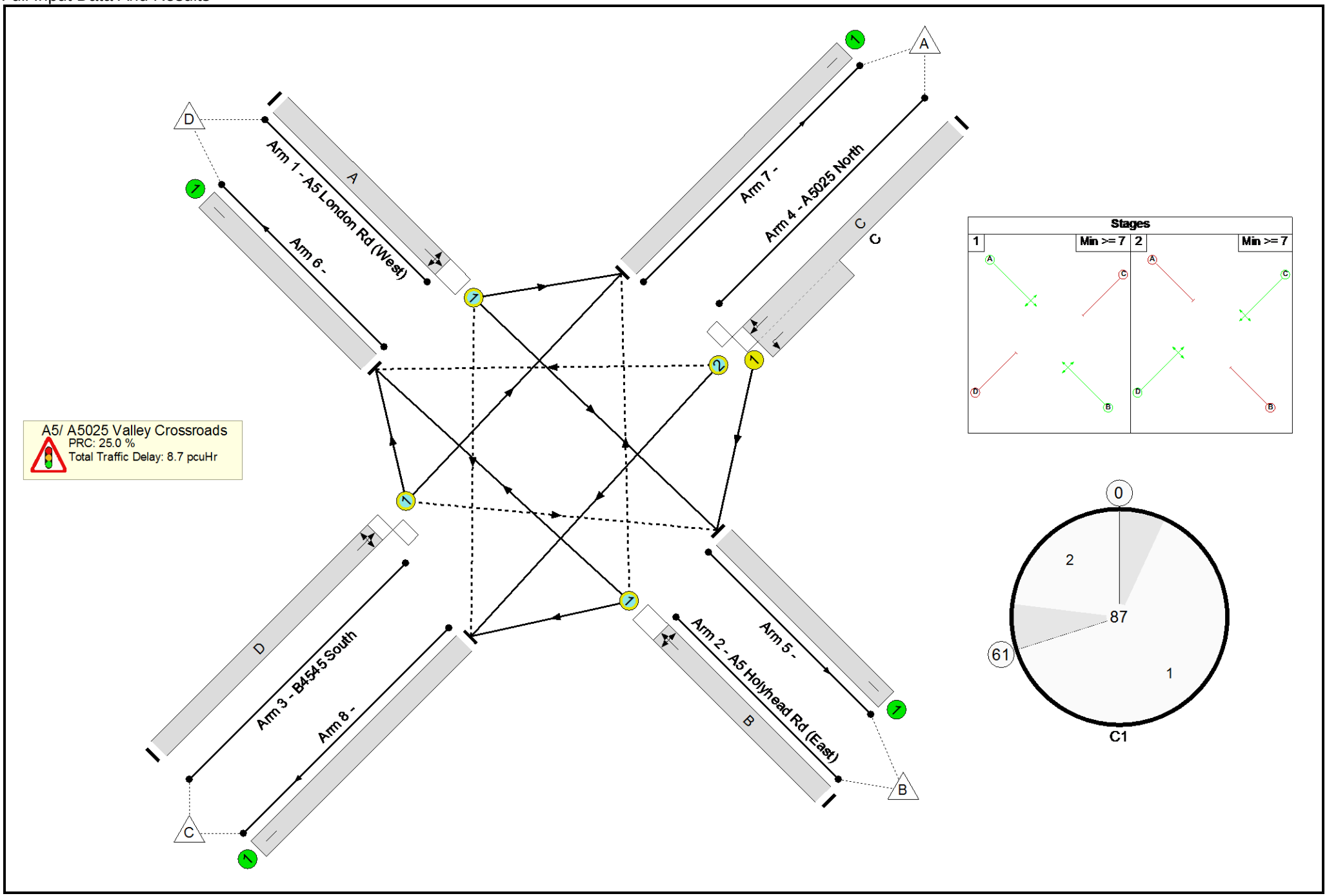
Signal Timings Diagram



Full Input Data And Results

Network Layout Diagram

Full Input Data And Results



Network Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network: A5-B4545 Valley Crossroads	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**72.0%**
A5/ A5025 Valley Crossroads	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**72.0%**
1/1	A5 London Rd (West) Ahead Left Right	O	N/A	N/A	A		1	55	-	357	1774	821	43.5%
2/1	A5 Holyhead Rd (East) Ahead Right Left	O	N/A	N/A	B		1	55	-	413	1823	861	48.0%
3/1	B4545 South Right Left Ahead	O	N/A	N/A	D		1	20	-	223	1729	310	72.0%
4/2+4/1	A5025 North Left Right Ahead	O+U	N/A	N/A	C		1	20	-	267	1932:1702	258+180	61.0 : 61.0%
5/1		U	N/A	N/A	-		-	-	-	330	Inf	Inf	0.0%
6/1		U	N/A	N/A	-		-	-	-	347	Inf	Inf	0.0%
7/1		U	N/A	N/A	-		-	-	-	325	Inf	Inf	0.0%
8/1		U	N/A	N/A	-		-	-	-	258	Inf	Inf	0.0%

Full Input Data And Results

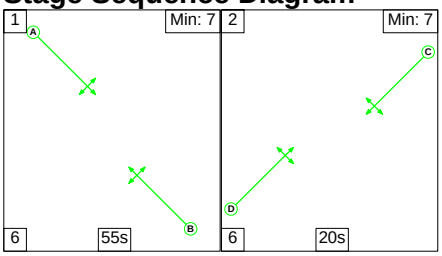
Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network: A5-B4545 Valley Crossroads	**-**	**-**	**376**	**0**	**6**	**5.5**	**2.9**	**0.3**	**8.7**	**-**	**-**	**-**	**-**
A5/ A5025 Valley Crossroads	**-**	**-**	**376**	**0**	**6**	**5.5**	**2.9**	**0.3**	**8.7**	**-**	**-**	**-**	**-**
1/1	357	357	64	0	2	0.7	0.4	0.0	1.1	11.5	4.3	0.4	4.6
2/1	413	413	96	0	2	0.9	0.5	0.1	1.4	12.4	5.5	0.5	6.0
3/1	223	223	97	0	1	1.8	1.2	0.1	3.2	52.2	5.0	1.2	6.2
4/2+4/1	267	267	119	0	1	2.0	0.8	0.1	2.9 (1.8+1.1)	39.0 (40.3:37.2)	3.1	0.8	3.9
5/1	330	330	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	347	347	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	325	325	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	258	258	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

C1 PRC for Signalled Lanes (%): 25.0 Total Delay for Signalled Lanes (pcuHr): 8.69 Cycle Time (s): 87
PRC Over All Lanes (%): 25.0 Total Delay Over All Lanes(pcuHr): 8.69

Full Input Data And Results

Scenario 3: 'Baseline 2016 Saturday' (FG3: 'Baseline 2016 : Weekend (Saturday)', Plan 1: 'Network Control Plan 1')

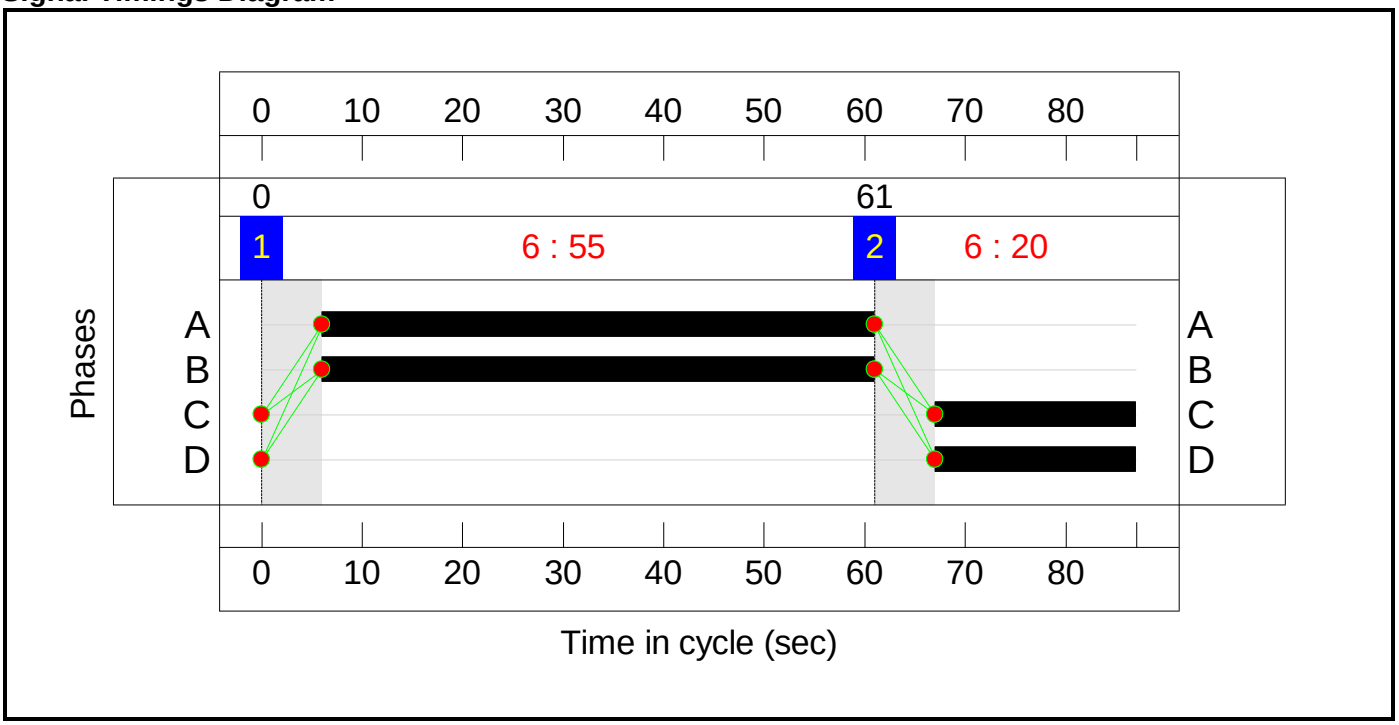
Stage Sequence Diagram



Stage Timings

Stage	1	2
Duration	55	20
Change Point	0	61

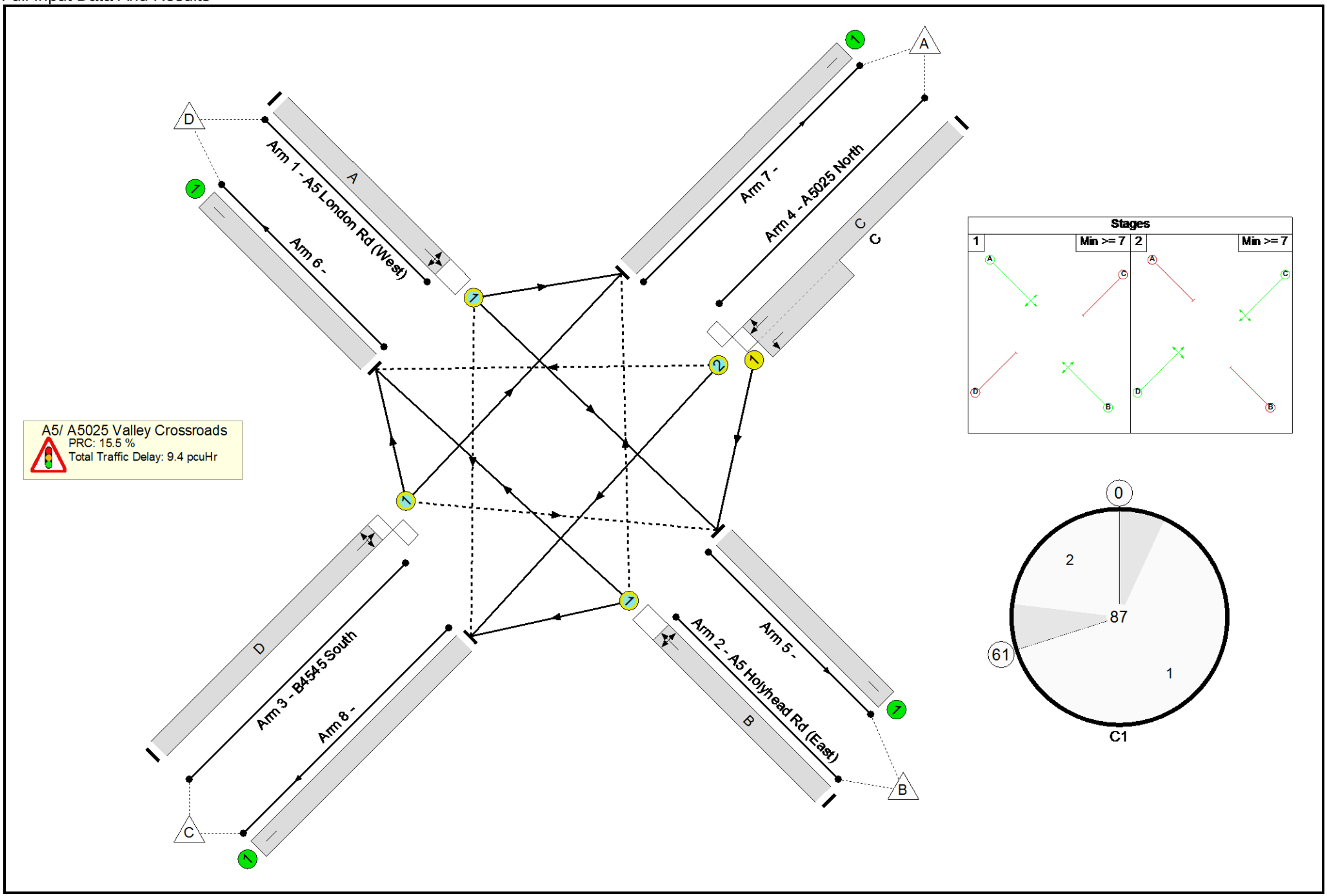
Signal Timings Diagram



Full Input Data And Results

Network Layout Diagram

Full Input Data And Results



Full Input Data And Results

Network Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network: A5-B4545 Valley Crossroads	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**78.0%**
A5/ A5025 Valley Crossroads	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**78.0%**
1/1	A5 London Rd (West) Ahead Left Right	O	N/A	N/A	A		1	55	-	467	1811	924	50.6%
2/1	A5 Holyhead Rd (East) Ahead Right Left	O	N/A	N/A	B		1	55	-	303	1828	768	39.5%
3/1	B4545 South Right Left Ahead	O	N/A	N/A	D		1	20	-	226	1708	333	67.8%
4/2+4/1	A5025 North Left Right Ahead	O+U	N/A	N/A	C		1	20	-	244	1932:1702	231+82	78.0 : 78.0%
5/1		U	N/A	N/A	-		-	-	-	398	Inf	Inf	0.0%
6/1		U	N/A	N/A	-		-	-	-	335	Inf	Inf	0.0%
7/1		U	N/A	N/A	-		-	-	-	276	Inf	Inf	0.0%
8/1		U	N/A	N/A	-		-	-	-	231	Inf	Inf	0.0%

Full Input Data And Results

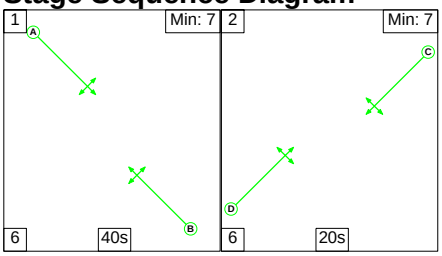
Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network: A5-B4545 Valley Crossroads	**-**	**-**	**399**	**0**	**9**	**5.4**	**3.6**	**0.4**	**9.4**	**-**	**-**	**-**	**-**
A5/ A5025 Valley Crossroads	**-**	**-**	**399**	**0**	**9**	**5.4**	**3.6**	**0.4**	**9.4**	**-**	**-**	**-**	**-**
1/1	467	467	82	0	2	1.1	0.5	0.0	1.7	13.0	6.9	0.5	7.4
2/1	303	303	75	0	2	0.6	0.3	0.0	0.9	11.0	3.3	0.3	3.6
3/1	226	226	109	0	1	1.8	1.0	0.1	3.0	47.8	4.8	1.0	5.9
4/2+4/1	244	244	133	0	4	1.8	1.7	0.2	3.8 (2.9+0.9)	55.5 (57.2:50.9)	3.6	1.7	5.3
5/1	398	398	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	335	335	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	276	276	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	231	231	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

C1 PRC for Signalled Lanes (%): 15.5 Total Delay for Signalled Lanes (pcuHr): 9.37 Cycle Time (s): 87
PRC Over All Lanes (%): 15.5 Total Delay Over All Lanes(pcuHr): 9.37

Full Input Data And Results

Scenario 4: 'Reference Case 2020 AM' (FG4: 'Reference Case 2020 : AM', Plan 1: 'Network Control Plan 1')

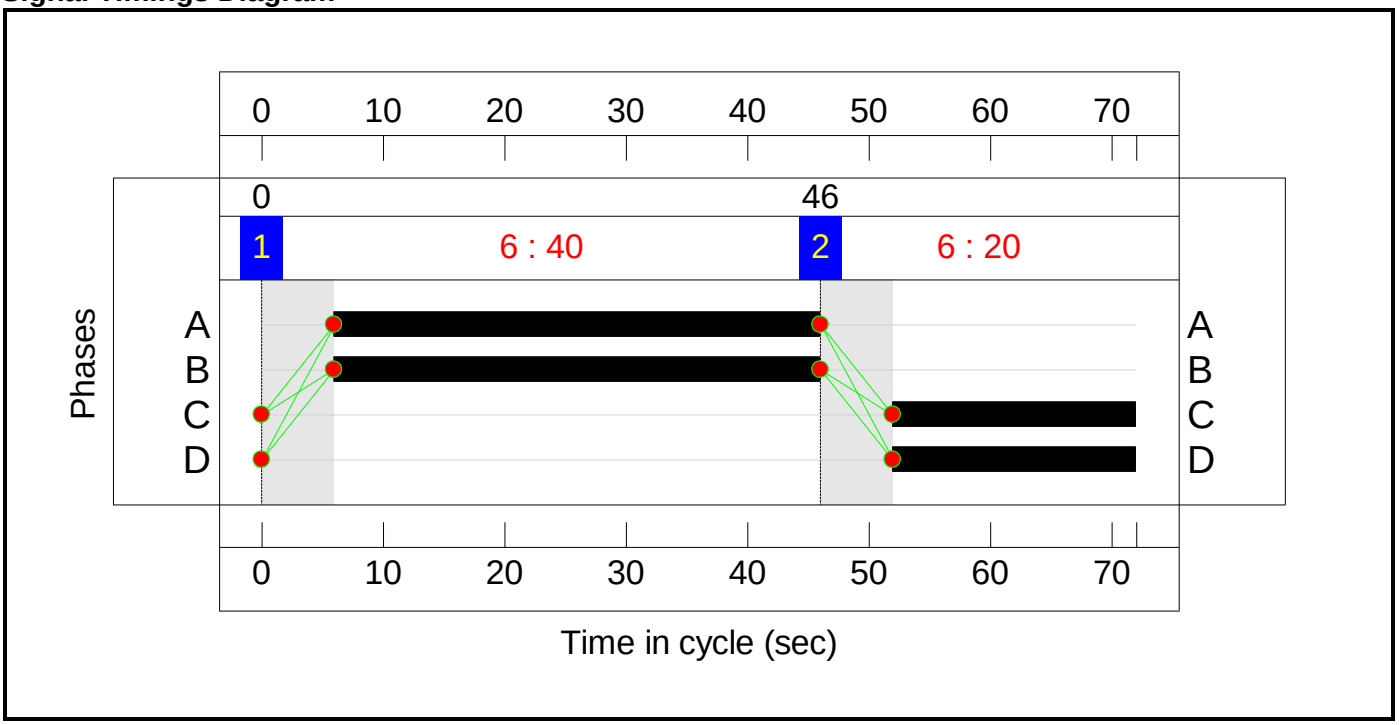
Stage Sequence Diagram



Stage Timings

Stage	1	2
Duration	40	20
Change Point	0	46

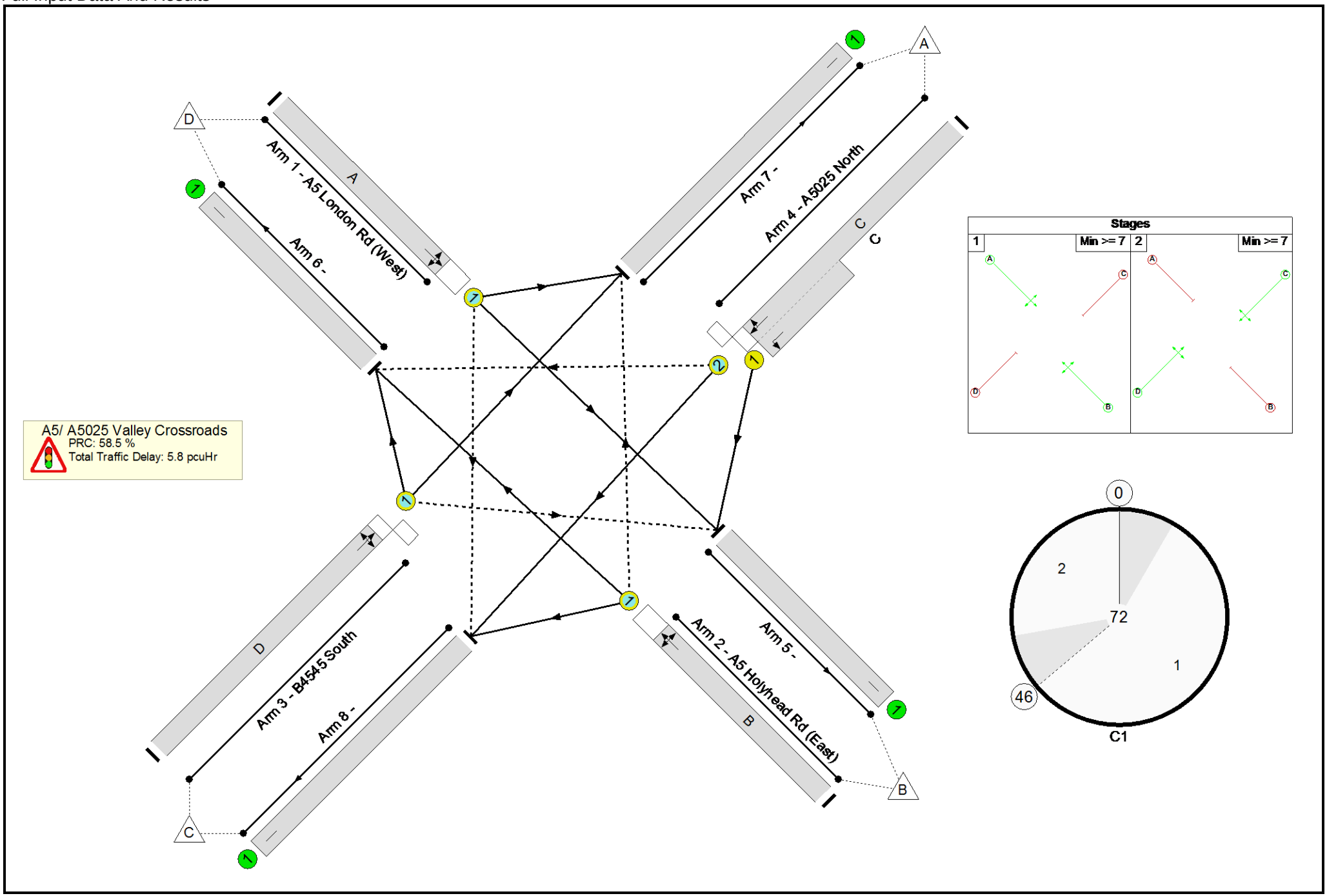
Signal Timings Diagram



Full Input Data And Results

Network Layout Diagram

Full Input Data And Results



Network Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network: A5-B4545 Valley Crossroads	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**56.8%**
A5/ A5025 Valley Crossroads	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**56.8%**
1/1	A5 London Rd (West) Ahead Left Right	O	N/A	N/A	A		1	40	-	266	1850	888	30.0%
2/1	A5 Holyhead Rd (East) Ahead Right Left	O	N/A	N/A	B		1	40	-	251	1827	848	29.6%
3/1	B4545 South Right Left Ahead	O	N/A	N/A	D		1	20	-	194	1722	342	56.8%
4/2+4/1	A5025 North Left Right Ahead	O+U	N/A	N/A	C		1	20	-	314	1936:1702	384+317	44.7 : 44.7%
5/1		U	N/A	N/A	-		-	-	-	435	Inf	Inf	0.0%
6/1		U	N/A	N/A	-		-	-	-	268	Inf	Inf	0.0%
7/1		U	N/A	N/A	-		-	-	-	144	Inf	Inf	0.0%
8/1		U	N/A	N/A	-		-	-	-	178	Inf	Inf	0.0%

Full Input Data And Results

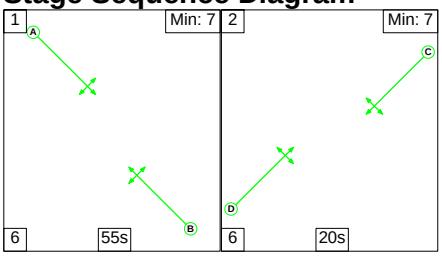
Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network: A5-B4545 Valley Crossroads	**-**	**-**	**337**	**0**	**6**	**4.0**	**1.5**	**0.3**	**5.8**	**-**	**-**	**-**	**-**
A5/ A5025 Valley Crossroads	**-**	**-**	**337**	**0**	**6**	**4.0**	**1.5**	**0.3**	**5.8**	**-**	**-**	**-**	**-**
1/1	266	266	36	0	1	0.6	0.2	0.0	0.8	10.9	2.7	0.2	2.9
2/1	251	251	51	0	1	0.5	0.2	0.0	0.8	11.0	2.4	0.2	2.7
3/1	194	194	125	0	2	1.2	0.7	0.2	2.0	37.9	3.5	0.7	4.2
4/2+4/1	314	314	125	0	2	1.7	0.4	0.0	2.2 (1.2+1.0)	24.9 (25.3:24.4)	2.6	0.4	3.0
5/1	435	435	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	268	268	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	144	144	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	178	178	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

C1 PRC for Signalled Lanes (%): 58.5 Total Delay for Signalled Lanes (pcuHr): 5.78 Cycle Time (s): 72
PRC Over All Lanes (%): 58.5 Total Delay Over All Lanes(pcuHr): 5.78

Full Input Data And Results

Scenario 5: 'Reference Case 2020 PM' (FG5: 'Reference Case 2020 : PM', Plan 1: 'Network Control Plan 1')

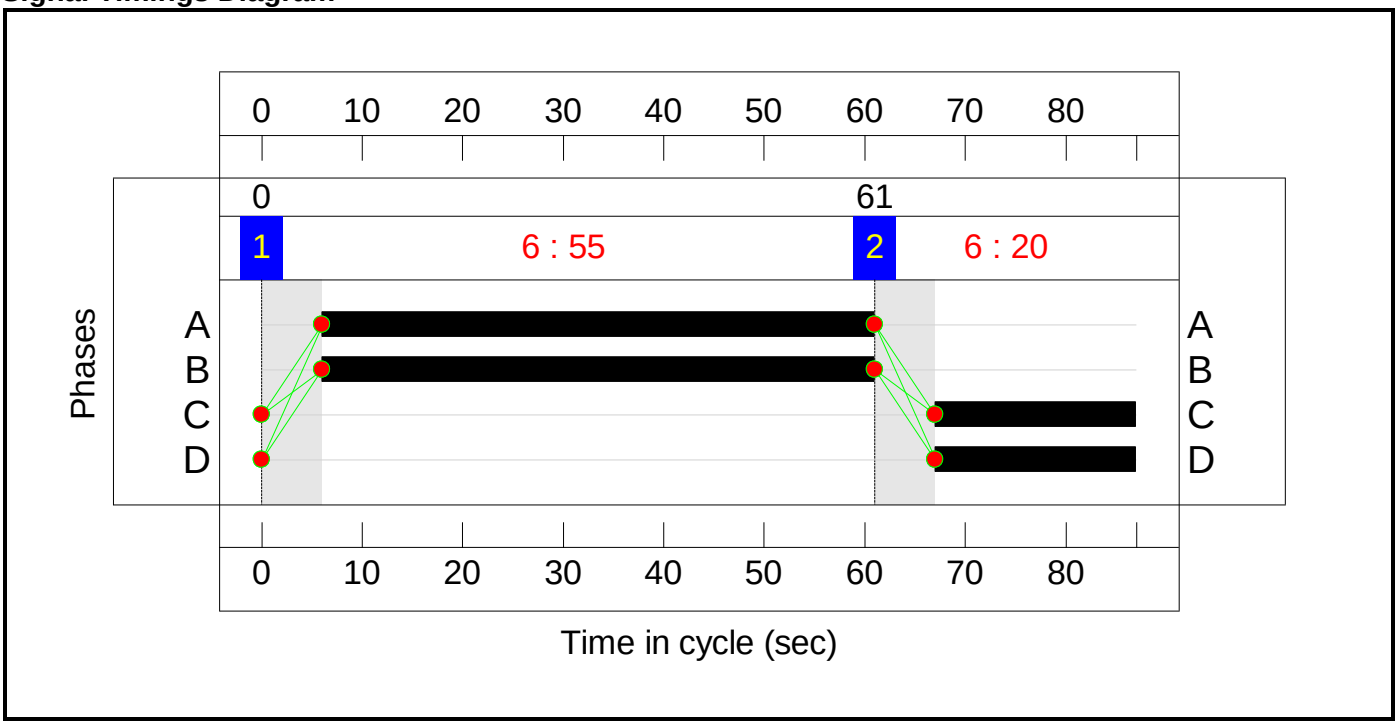
Stage Sequence Diagram



Stage Timings

Stage	1	2
Duration	55	20
Change Point	0	61

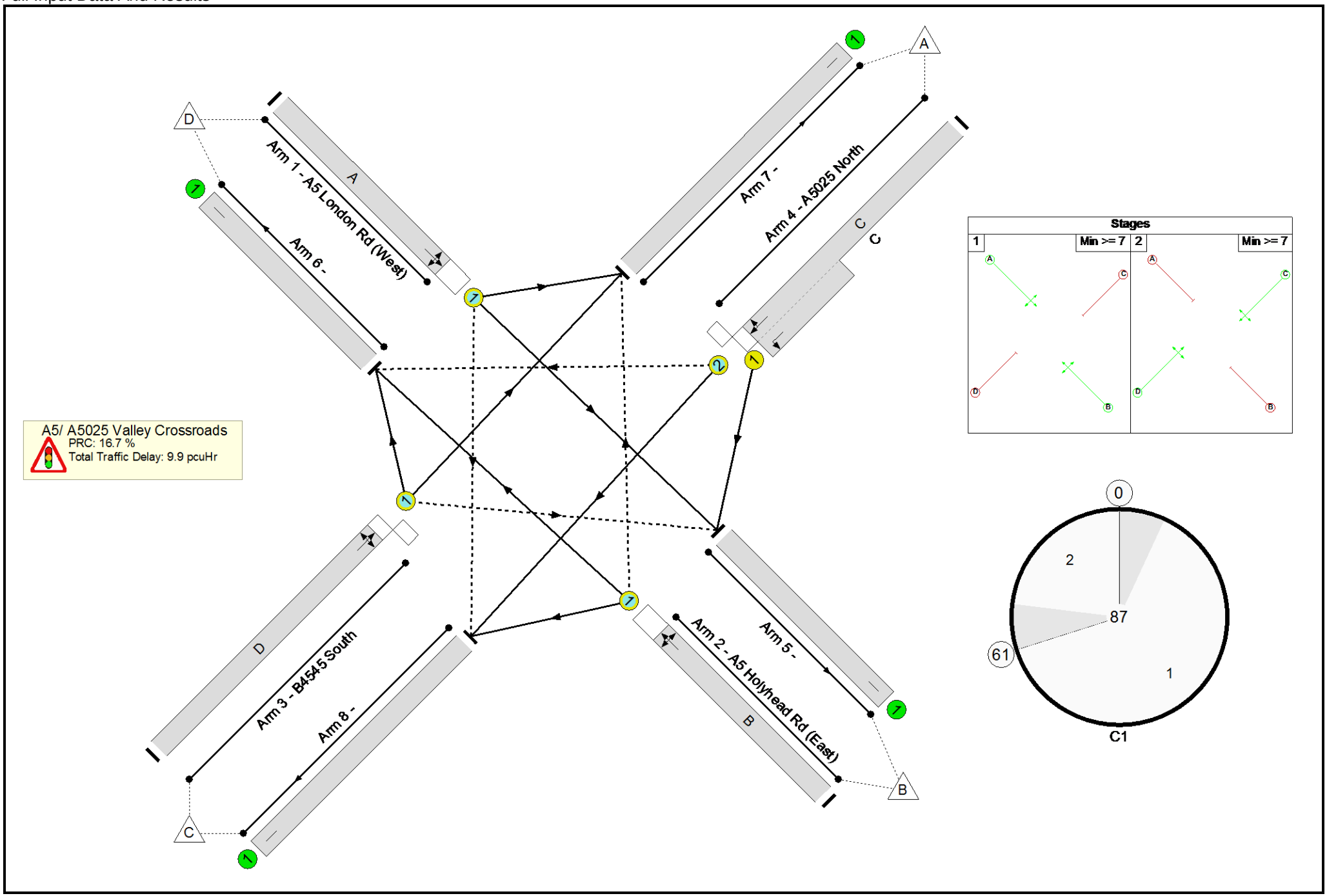
Signal Timings Diagram



Full Input Data And Results

Network Layout Diagram

Full Input Data And Results



Network Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network: A5-B4545 Valley Crossroads	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**77.1%**
A5/ A5025 Valley Crossroads	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**77.1%**
1/1	A5 London Rd (West) Ahead Left Right	O	N/A	N/A	A		1	55	-	405	1784	763	53.1%
2/1	A5 Holyhead Rd (East) Ahead Right Left	O	N/A	N/A	B		1	55	-	473	1828	804	58.8%
3/1	B4545 South Right Left Ahead	O	N/A	N/A	D		1	20	-	243	1728	399	60.9%
4/2+4/1	A5025 North Left Right Ahead	O+U	N/A	N/A	C		1	20	-	225	1935:1702	226+66	77.1 : 77.1%
5/1		U	N/A	N/A	-		-	-	-	316	Inf	Inf	0.0%
6/1		U	N/A	N/A	-		-	-	-	395	Inf	Inf	0.0%
7/1		U	N/A	N/A	-		-	-	-	354	Inf	Inf	0.0%
8/1		U	N/A	N/A	-		-	-	-	281	Inf	Inf	0.0%

Full Input Data And Results

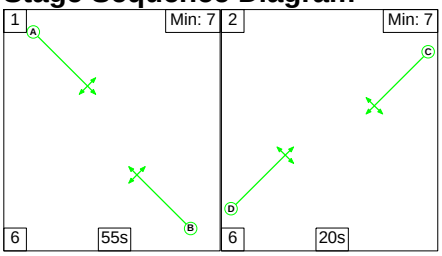
Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network: A5-B4545 Valley Crossroads	**-**	**-**	**412**	**0**	**9**	**5.7**	**3.7**	**0.5**	**9.9**	**-**	**-**	**-**	**-**
A5/ A5025 Valley Crossroads	**-**	**-**	**412**	**0**	**9**	**5.7**	**3.7**	**0.5**	**9.9**	**-**	**-**	**-**	**-**
1/1	405	405	67	0	2	0.9	0.6	0.0	1.5	13.2	5.4	0.6	6.0
2/1	473	473	109	0	3	1.2	0.7	0.1	2.0	15.1	7.6	0.7	8.3
3/1	243	243	107	0	3	2.0	0.8	0.1	2.9	42.3	5.2	0.8	6.0
4/2+4/1	225	225	128	0	2	1.7	1.6	0.3	3.6 (2.8+0.7)	56.9 (58.5:51.5)	3.5	1.6	5.1
5/1	316	316	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	395	395	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	354	354	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	281	281	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

C1 PRC for Signalled Lanes (%): 16.7 Total Delay for Signalled Lanes (pcuHr): 9.88 Cycle Time (s): 87
PRC Over All Lanes (%): 16.7 Total Delay Over All Lanes(pcuHr): 9.88

Full Input Data And Results

Scenario 6: 'Reference Case 2020 Sunday' (FG6: 'Reference Case 2020 : Weekend (Sunday)', Plan 1: 'Network Control Plan 1')

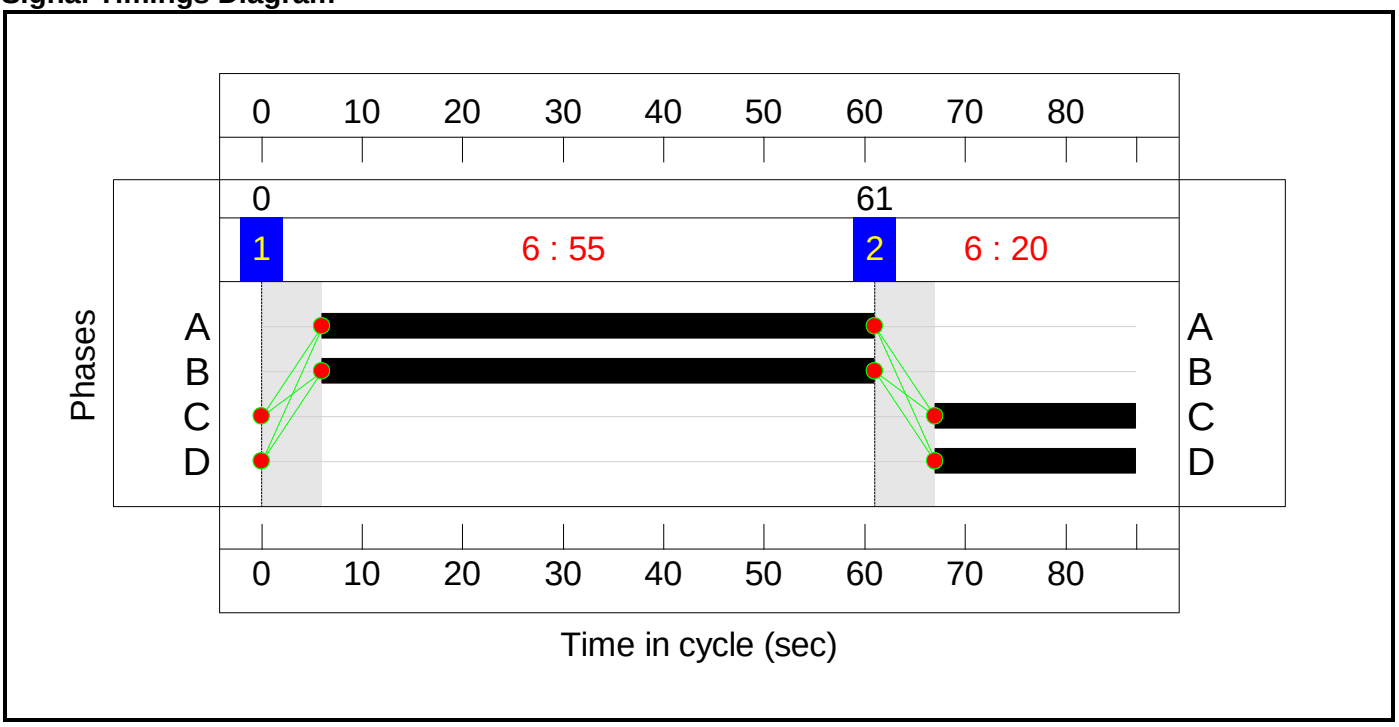
Stage Sequence Diagram



Stage Timings

Stage	1	2
Duration	55	20
Change Point	0	61

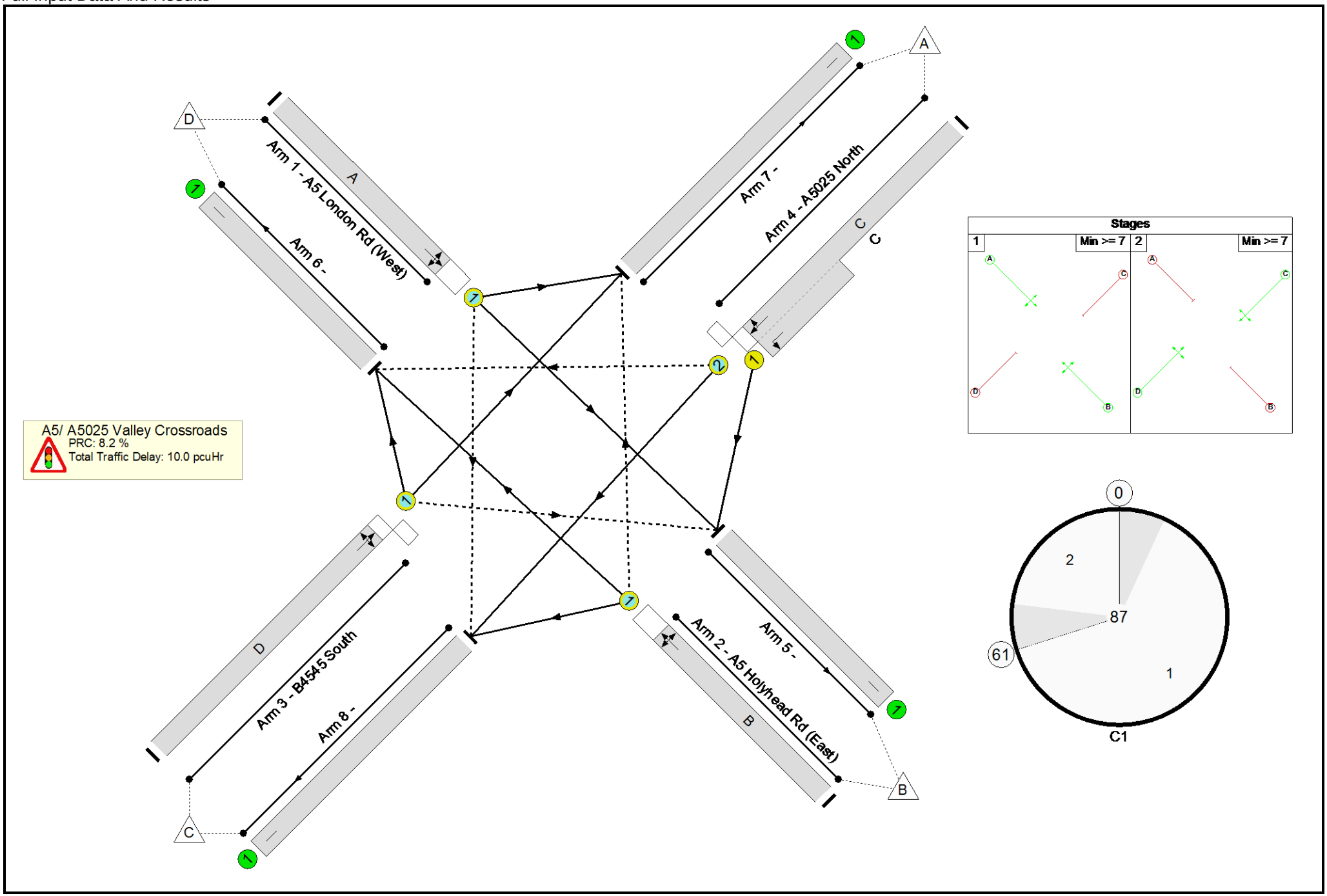
Signal Timings Diagram



Full Input Data And Results

Network Layout Diagram

Full Input Data And Results



Full Input Data And Results

Network Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network: A5-B4545 Valley Crossroads	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**83.2%**
A5/ A5025 Valley Crossroads	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**83.2%**
1/1	A5 London Rd (West) Ahead Left Right	O	N/A	N/A	A		1	55	-	404	1796	898	45.0%
2/1	A5 Holyhead Rd (East) Ahead Right Left	O	N/A	N/A	B		1	55	-	336	1842	863	39.0%
3/1	B4545 South Right Left Ahead	O	N/A	N/A	D		1	20	-	239	1707	337	71.0%
4/2+4/1	A5025 North Left Right Ahead	O+U	N/A	N/A	C		1	20	-	249	1932:1702	224+76	83.2 : 83.2%
5/1		U	N/A	N/A	-		-	-	-	348	Inf	Inf	0.0%
6/1		U	N/A	N/A	-		-	-	-	384	Inf	Inf	0.0%
7/1		U	N/A	N/A	-		-	-	-	262	Inf	Inf	0.0%
8/1		U	N/A	N/A	-		-	-	-	234	Inf	Inf	0.0%

Full Input Data And Results

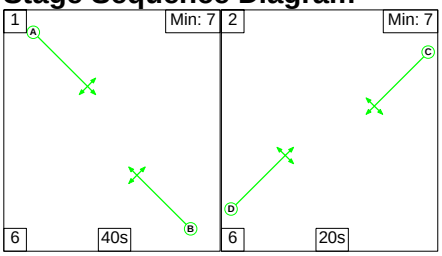
Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network: A5-B4545 Valley Crossroads	**-**	**-**	**384**	**0**	**21**	**5.4**	**4.2**	**0.5**	**10.0**	**-**	**-**	**-**	**-**
A5/ A5025 Valley Crossroads	**-**	**-**	**384**	**0**	**21**	**5.4**	**4.2**	**0.5**	**10.0**	**-**	**-**	**-**	**-**
1/1	404	404	79	0	2	0.9	0.4	0.0	1.3	11.8	5.4	0.4	5.8
2/1	336	336	64	0	2	0.6	0.3	0.0	1.0	10.7	3.7	0.3	4.1
3/1	239	239	115	0	1	2.0	1.2	0.1	3.3	49.5	5.2	1.2	6.4
4/2+4/1	249	249	126	0	16	1.9	2.3	0.3	4.4 (3.4+1.0)	63.9 (65.6:58.8)	3.8	2.3	6.0
5/1	348	348	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	384	384	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	262	262	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	234	234	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

C1 PRC for Signalled Lanes (%): 8.2 Total Delay for Signalled Lanes (pcuHr): 10.03 Cycle Time (s): 87
PRC Over All Lanes (%): 8.2 Total Delay Over All Lanes(pcuHr): 10.03

Full Input Data And Results

Scenario 7: 'Reference Case 2023 AM' (FG7: 'Reference Case 2023 : AM', Plan 1: 'Network Control Plan 1')

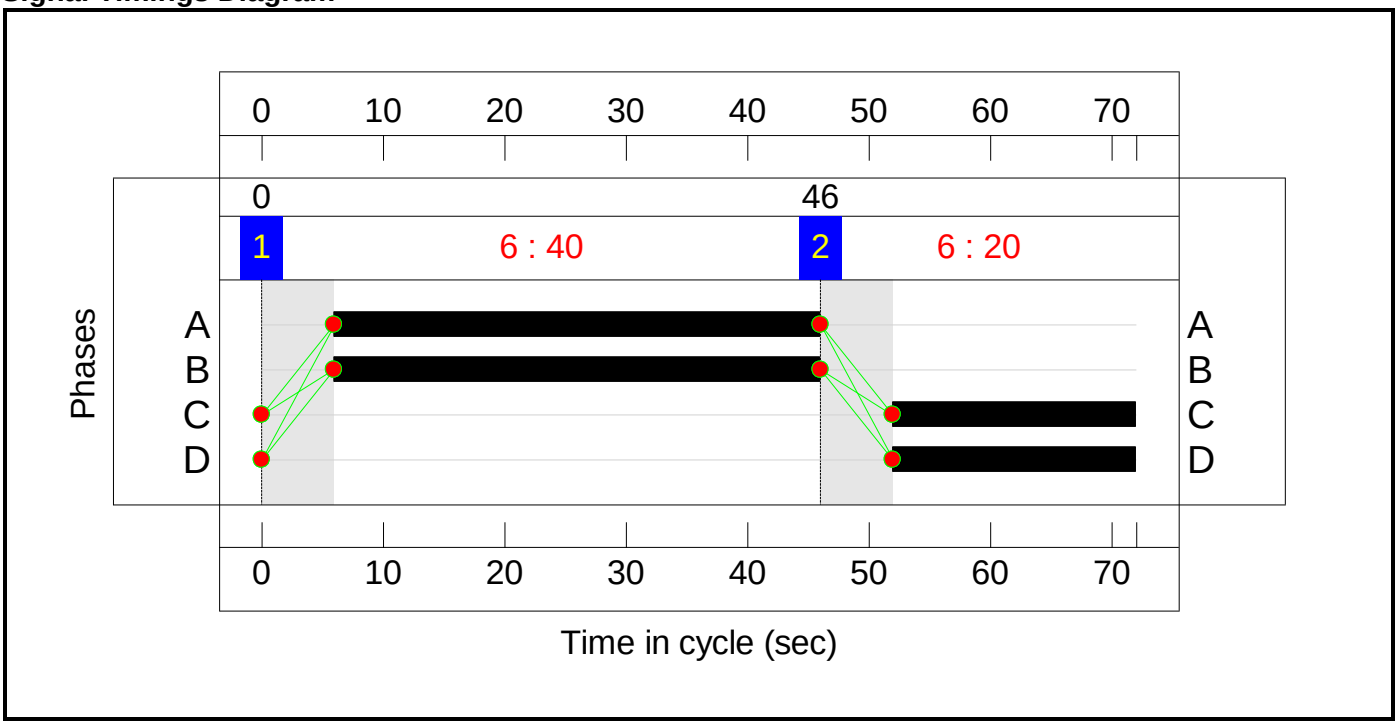
Stage Sequence Diagram



Stage Timings

Stage	1	2
Duration	40	20
Change Point	0	46

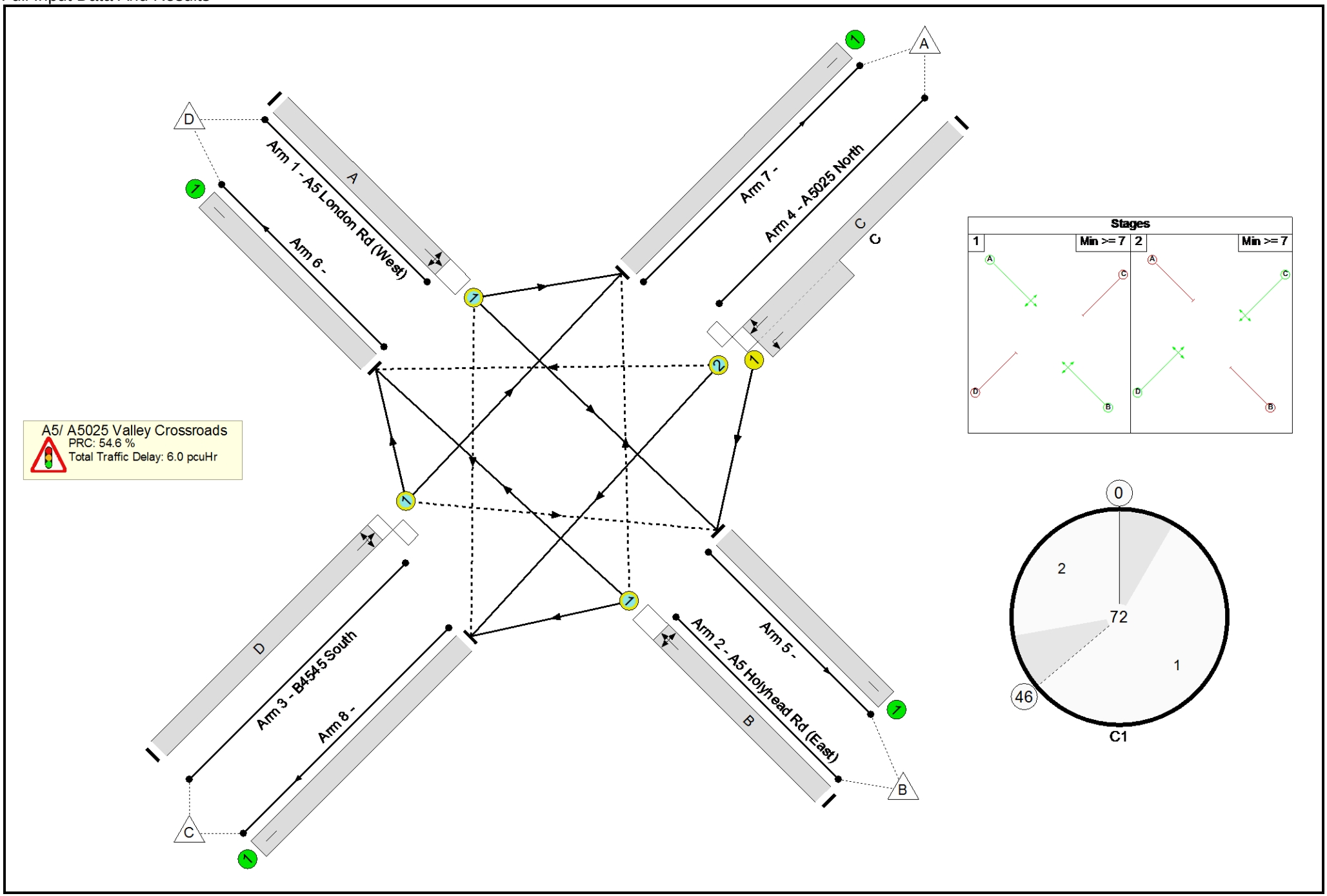
Signal Timings Diagram



Full Input Data And Results

Network Layout Diagram

Full Input Data And Results



Network Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network: A5-B4545 Valley Crossroads	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**58.2%**
A5/ A5025 Valley Crossroads	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**58.2%**
1/1	A5 London Rd (West) Ahead Left Right	O	N/A	N/A	A		1	40	-	272	1850	882	30.8%
2/1	A5 Holyhead Rd (East) Ahead Right Left	O	N/A	N/A	B		1	40	-	259	1826	836	31.0%
3/1	B4545 South Right Left Ahead	O	N/A	N/A	D		1	20	-	199	1722	342	58.2%
4/2+4/1	A5025 North Left Right Ahead	O+U	N/A	N/A	C		1	20	-	322	1936:1702	384+314	46.1 : 46.1%
5/1		U	N/A	N/A	-		-	-	-	445	Inf	Inf	0.0%
6/1		U	N/A	N/A	-		-	-	-	276	Inf	Inf	0.0%
7/1		U	N/A	N/A	-		-	-	-	147	Inf	Inf	0.0%
8/1		U	N/A	N/A	-		-	-	-	184	Inf	Inf	0.0%

Full Input Data And Results

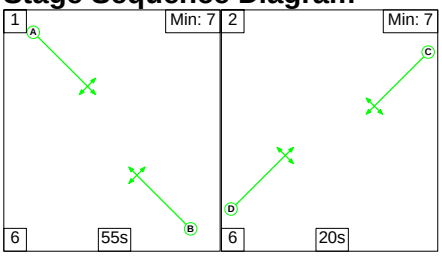
Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network: A5-B4545 Valley Crossroads	**-**	**-**	**346**	**0**	**6**	**4.1**	**1.6**	**0.3**	**6.0**	**-**	**-**	**-**	**-**
A5/ A5025 Valley Crossroads	**-**	**-**	**346**	**0**	**6**	**4.1**	**1.6**	**0.3**	**6.0**	**-**	**-**	**-**	**-**
1/1	272	272	37	0	1	0.6	0.2	0.0	0.8	11.0	2.7	0.2	2.9
2/1	259	259	52	0	1	0.6	0.2	0.0	0.8	11.1	2.6	0.2	2.8
3/1	199	199	128	0	2	1.2	0.7	0.2	2.1	38.5	3.6	0.7	4.3
4/2+4/1	322	322	129	0	2	1.8	0.4	0.0	2.2 (1.3+1.0)	25.1 (25.5:24.5)	2.8	0.4	3.2
5/1	445	445	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	276	276	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	147	147	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	184	184	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

C1 PRC for Signalled Lanes (%): 54.6 Total Delay for Signalled Lanes (pcuHr): 6.00 Cycle Time (s): 72
PRC Over All Lanes (%): 54.6 Total Delay Over All Lanes(pcuHr): 6.00

Full Input Data And Results

Scenario 8: 'Reference Case 2023 PM' (FG8: 'Reference Case 2023 : PM', Plan 1: 'Network Control Plan 1')

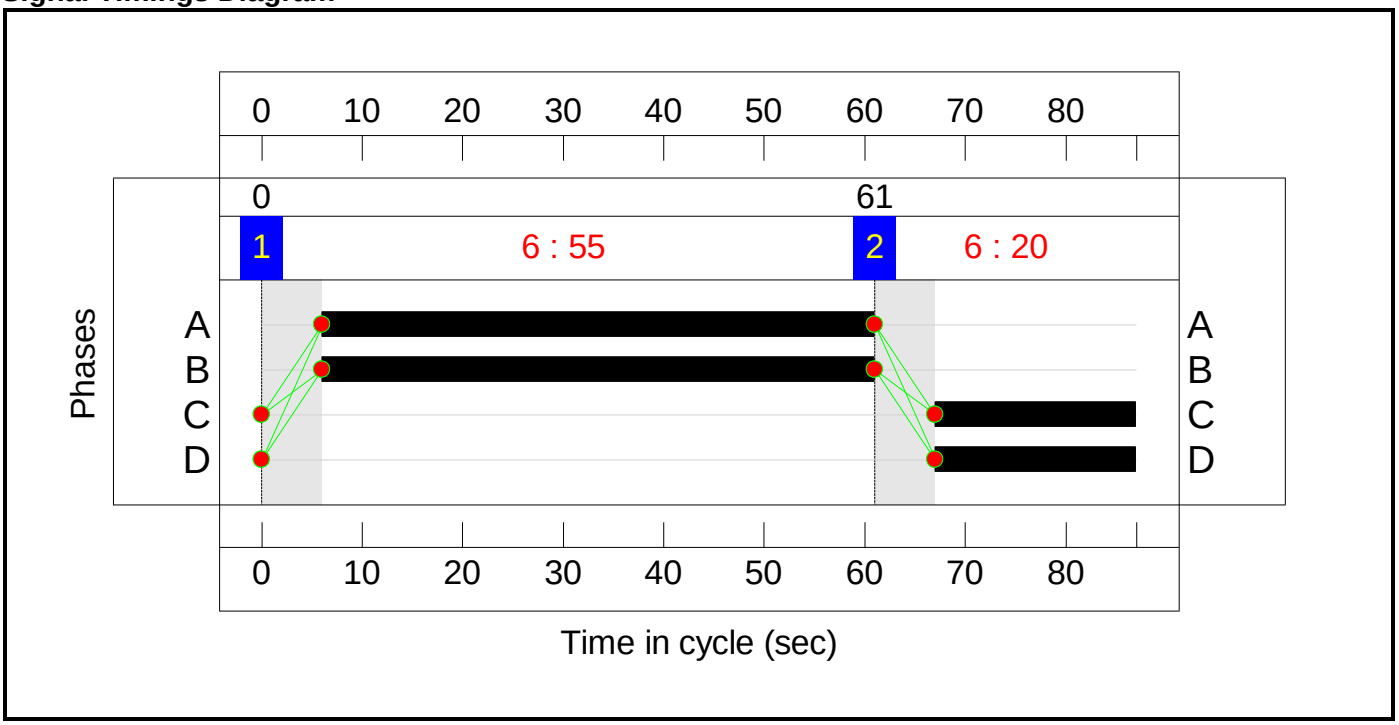
Stage Sequence Diagram



Stage Timings

Stage	1	2
Duration	55	20
Change Point	0	61

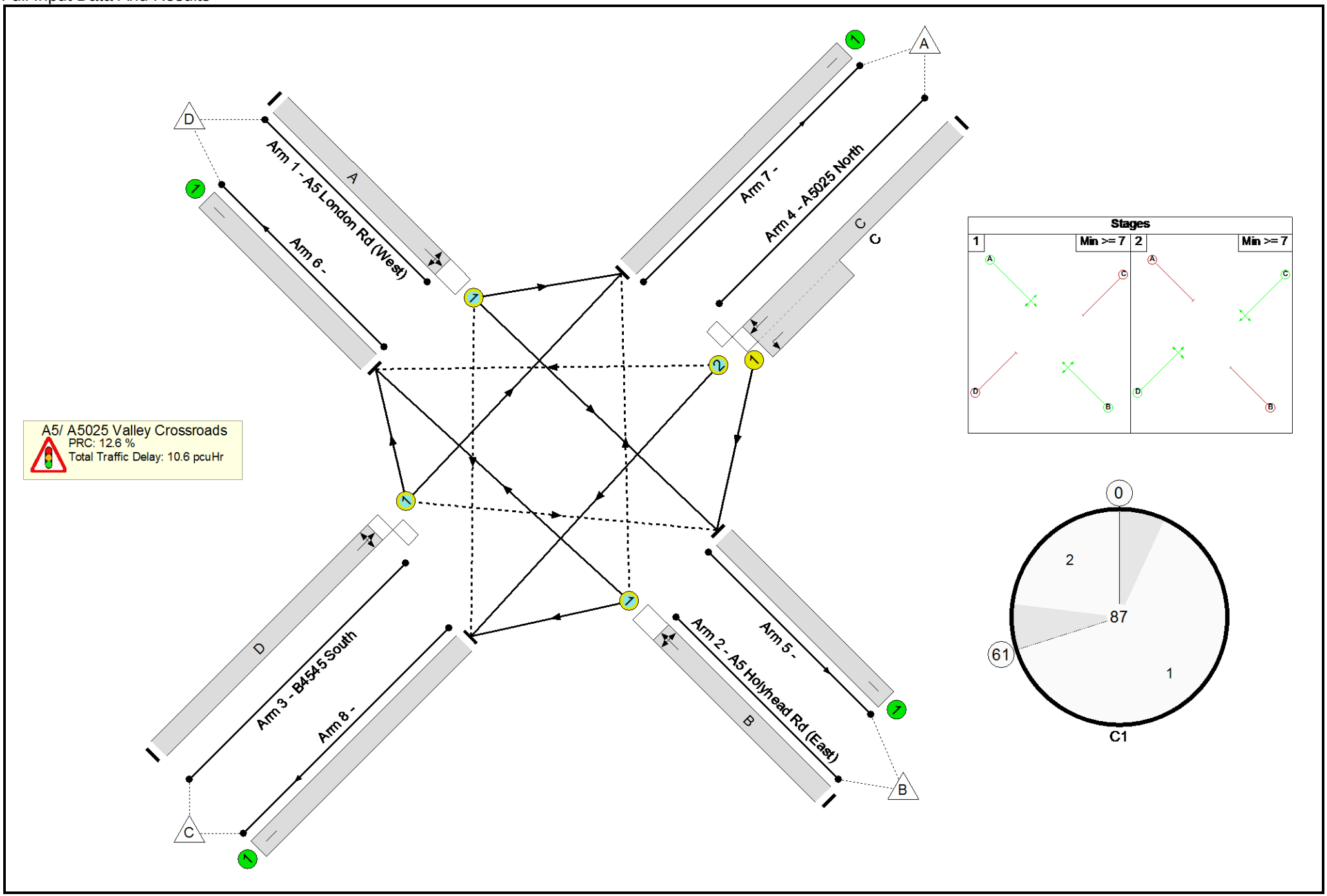
Signal Timings Diagram



Full Input Data And Results

Network Layout Diagram

Full Input Data And Results



Network Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network: A5-B4545 Valley Crossroads	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**79.9%**
A5/ A5025 Valley Crossroads	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**79.9%**
1/1	A5 London Rd (West) Ahead Left Right	O	N/A	N/A	A		1	55	-	415	1784	736	56.4%
2/1	A5 Holyhead Rd (East) Ahead Right Left	O	N/A	N/A	B		1	55	-	482	1828	787	61.2%
3/1	B4545 South Right Left Ahead	O	N/A	N/A	D		1	20	-	249	1728	400	62.2%
4/2+4/1	A5025 North Left Right Ahead	O+U	N/A	N/A	C		1	20	-	232	1935:1702	223+68	79.9 : 79.9%
5/1		U	N/A	N/A	-		-	-	-	325	Inf	Inf	0.0%
6/1		U	N/A	N/A	-		-	-	-	403	Inf	Inf	0.0%
7/1		U	N/A	N/A	-		-	-	-	363	Inf	Inf	0.0%
8/1		U	N/A	N/A	-		-	-	-	287	Inf	Inf	0.0%

Full Input Data And Results

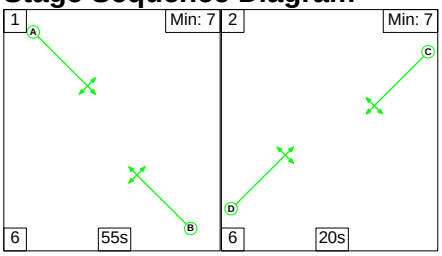
Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network: A5-B4545 Valley Crossroads	**-**	**-**	**415**	**0**	**16**	**6.0**	**4.1**	**0.5**	**10.6**	**-**	**-**	**-**	**-**
A5/ A5025 Valley Crossroads	**-**	**-**	**415**	**0**	**16**	**6.0**	**4.1**	**0.5**	**10.6**	**-**	**-**	**-**	**-**
1/1	415	415	69	0	2	0.9	0.6	0.0	1.6	14.0	5.5	0.6	6.2
2/1	482	482	111	0	3	1.2	0.8	0.1	2.1	15.7	7.9	0.8	8.7
3/1	249	249	110	0	3	2.0	0.8	0.1	3.0	42.7	5.3	0.8	6.1
4/2+4/1	232	232	124	0	9	1.8	1.9	0.3	3.9 (3.1+0.8)	60.5 (62.1:54.9)	3.6	1.9	5.5
5/1	325	325	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	403	403	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	363	363	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	287	287	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

C1 PRC for Signalled Lanes (%): 12.6 Total Delay for Signalled Lanes (pcuHr): 10.57 Cycle Time (s): 87
PRC Over All Lanes (%): 12.6 Total Delay Over All Lanes(pcuHr): 10.57

Full Input Data And Results

Scenario 9: 'Reference Case 2023 Sunday' (FG9: 'Reference Case 2023 : Weekend (Sunday)', Plan 1: 'Network Control Plan 1')

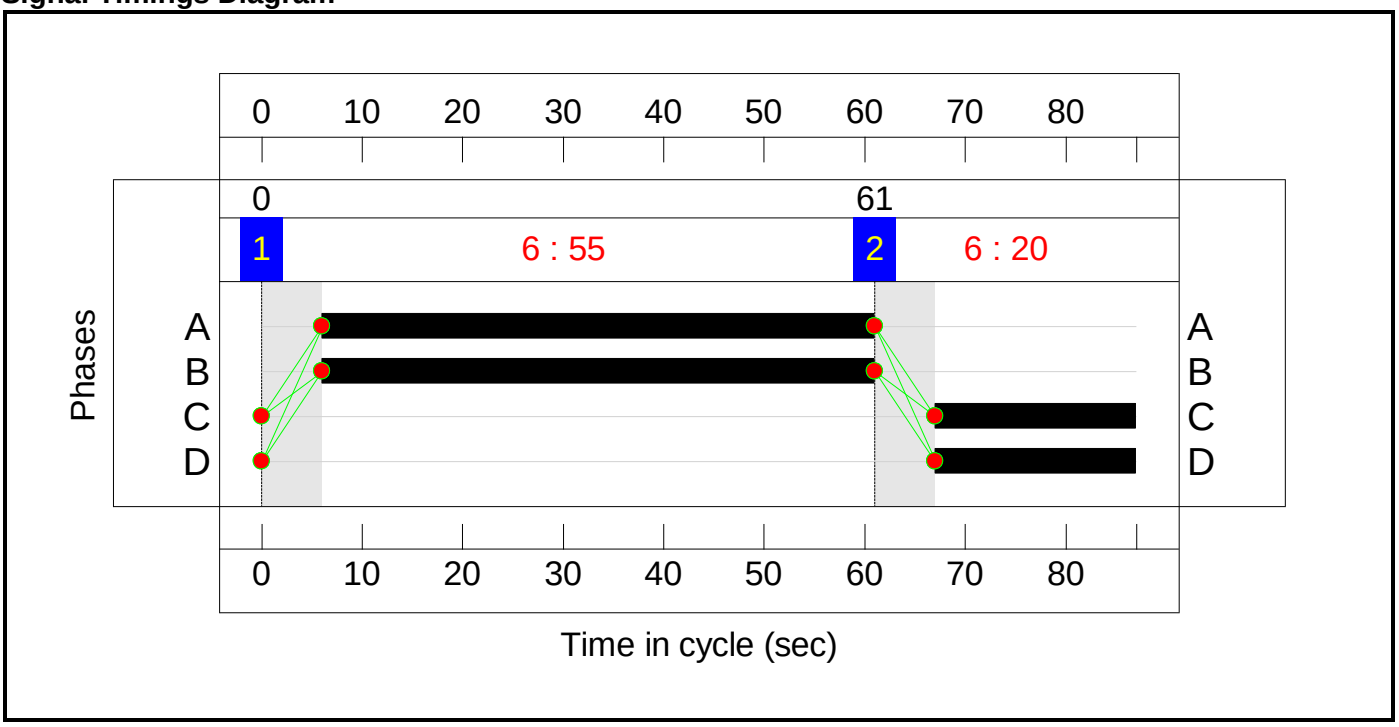
Stage Sequence Diagram



Stage Timings

Stage	1	2
Duration	55	20
Change Point	0	61

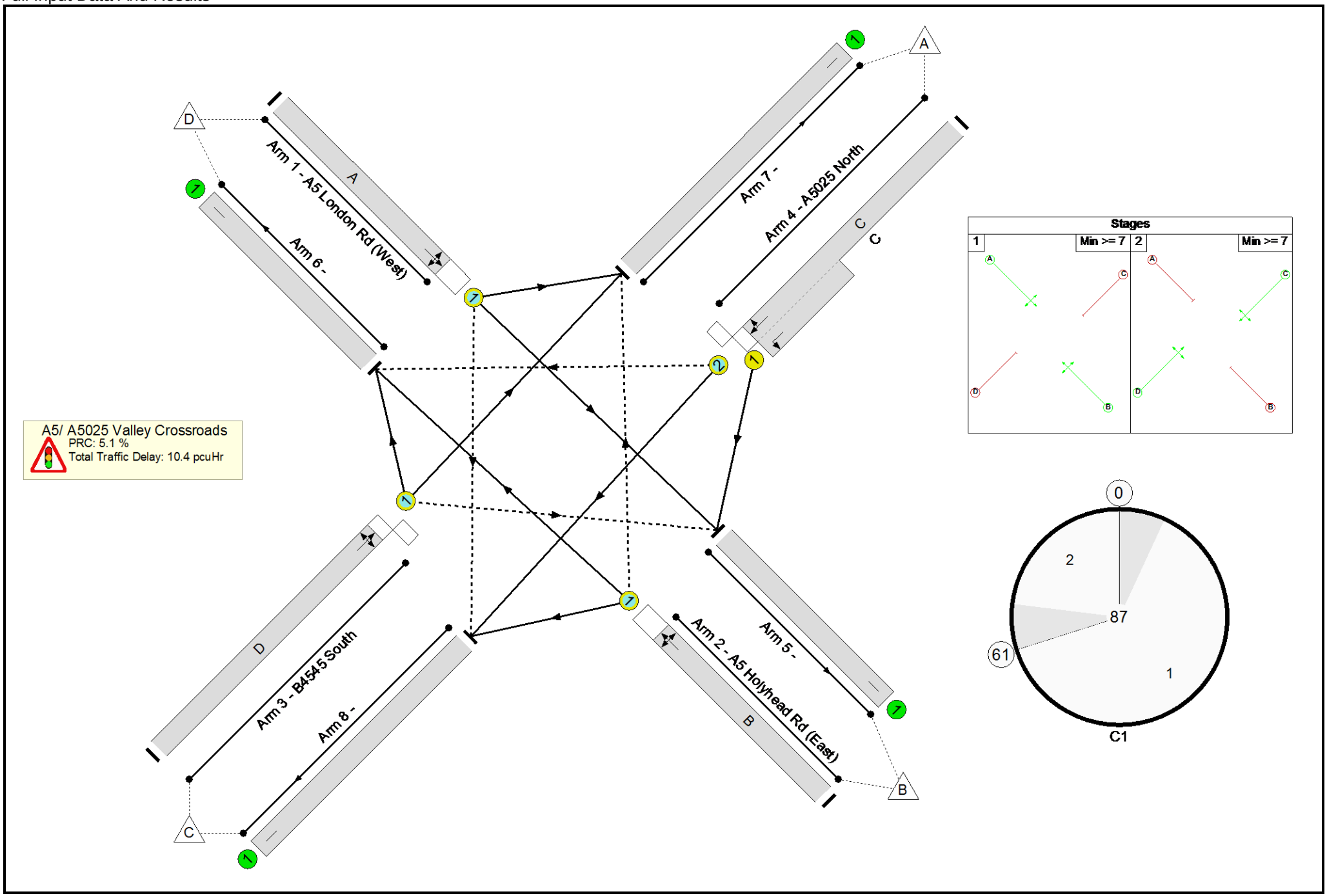
Signal Timings Diagram



Full Input Data And Results

Network Layout Diagram

Full Input Data And Results



Full Input Data And Results

Network Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network: A5-B4545 Valley Crossroads	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**85.7%**
A5/ A5025 Valley Crossroads	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**85.7%**
1/1	A5 London Rd (West) Ahead Left Right	O	N/A	N/A	A		1	55	-	413	1795	884	46.7%
2/1	A5 Holyhead Rd (East) Ahead Right Left	O	N/A	N/A	B		1	55	-	344	1842	844	40.8%
3/1	B4545 South Right Left Ahead	O	N/A	N/A	D		1	20	-	244	1707	375	65.0%
4/2+4/1	A5025 North Left Right Ahead	O+U	N/A	N/A	C		1	20	-	255	1932:1702	222+76	85.7 : 85.7%
5/1		U	N/A	N/A	-		-	-	-	355	Inf	Inf	0.0%
6/1		U	N/A	N/A	-		-	-	-	392	Inf	Inf	0.0%
7/1		U	N/A	N/A	-		-	-	-	269	Inf	Inf	0.0%
8/1		U	N/A	N/A	-		-	-	-	240	Inf	Inf	0.0%

Full Input Data And Results

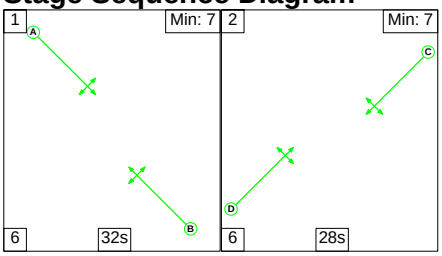
Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network: A5-B4545 Valley Crossroads	**-**	**-**	**389**	**0**	**25**	**5.5**	**4.4**	**0.5**	**10.4**	**-**	**-**	**-**	**-**
A5/ A5025 Valley Crossroads	**-**	**-**	**389**	**0**	**25**	**5.5**	**4.4**	**0.5**	**10.4**	**-**	**-**	**-**	**-**
1/1	413	413	81	0	2	0.9	0.4	0.0	1.4	12.1	5.5	0.4	5.9
2/1	344	344	66	0	2	0.7	0.3	0.0	1.0	11.0	3.8	0.3	4.2
3/1	244	244	117	0	1	2.0	0.9	0.1	3.1	45.1	5.3	0.9	6.2
4/2+4/1	255	255	124	0	21	1.9	2.7	0.3	4.9 (3.7+1.1)	68.8 (70.6:63.6)	4.0	2.7	6.7
5/1	355	355	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	392	392	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	269	269	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	240	240	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

C1 PRC for Signalled Lanes (%): 5.1 Total Delay for Signalled Lanes (pcuHr): 10.37 Cycle Time (s): 87
PRC Over All Lanes (%): 5.1 Total Delay Over All Lanes(pcuHr): 10.37

Full Input Data And Results

Scenario 10: 'Reference Case 2033 AM' (FG10: 'Reference Case 2033 : AM', Plan 1: 'Network Control Plan 1')

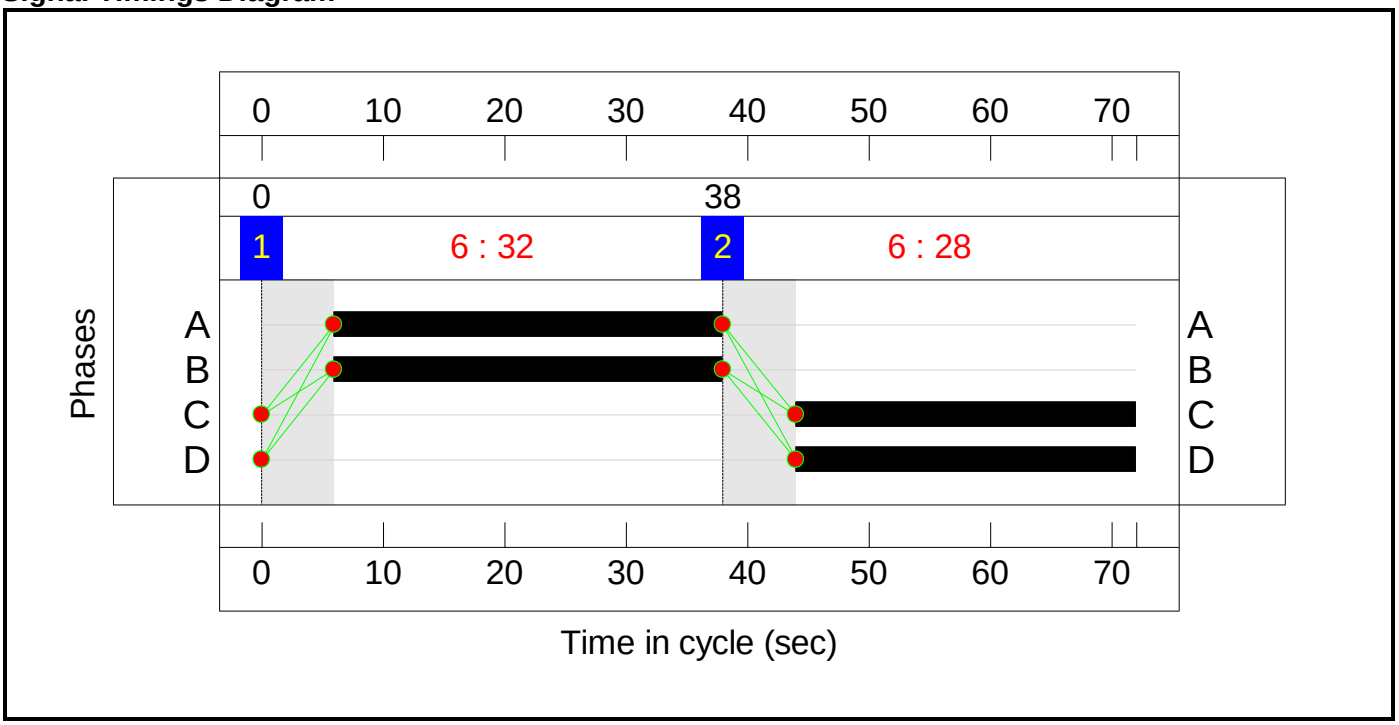
Stage Sequence Diagram



Stage Timings

Stage	1	2
Duration	32	28
Change Point	0	38

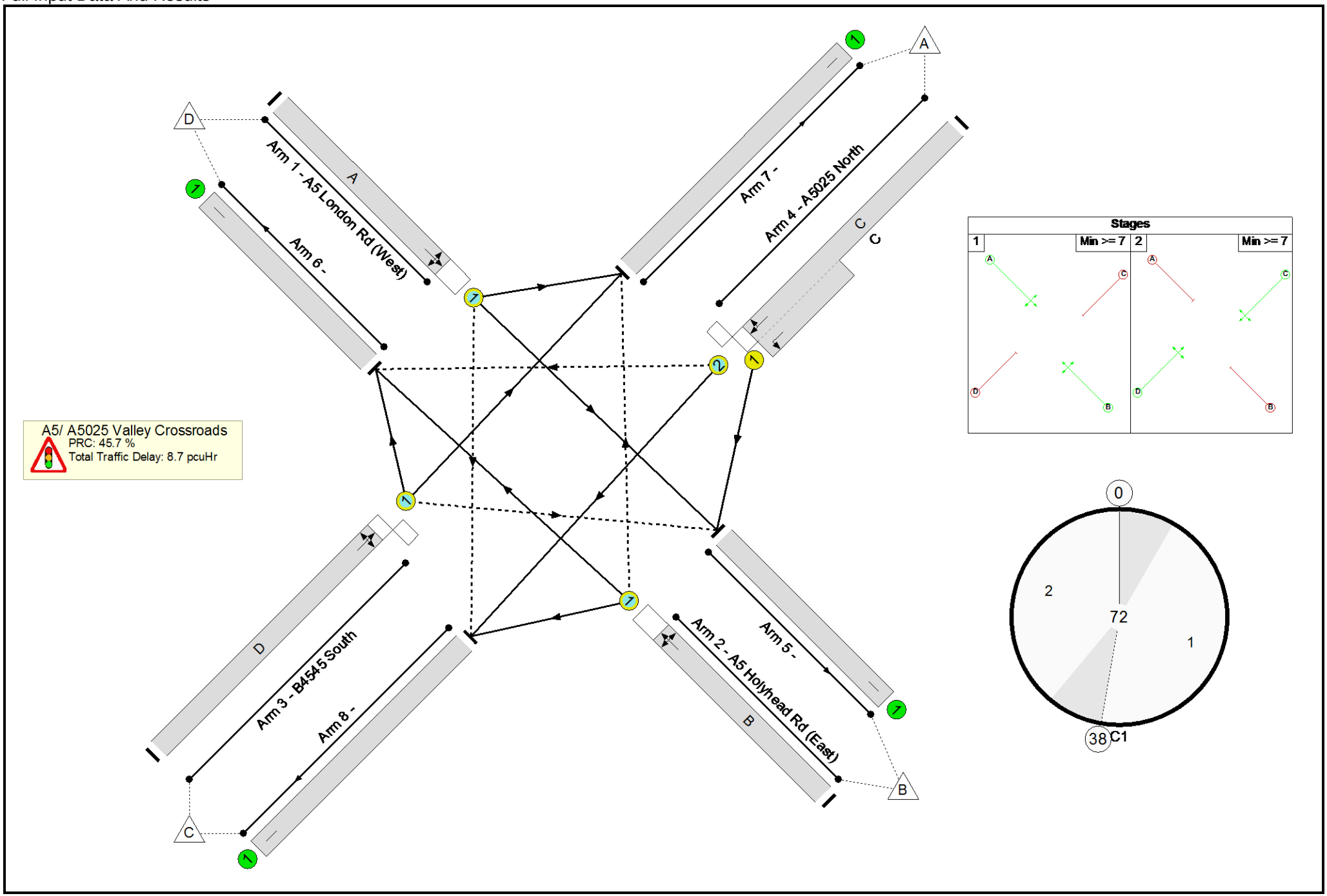
Signal Timings Diagram



Full Input Data And Results

Network Layout Diagram

Full Input Data And Results



Full Input Data And Results

Network Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network: A5-B4545 Valley Crossroads	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**61.8%**
A5/ A5025 Valley Crossroads	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**61.8%**
1/1	A5 London Rd (West) Ahead Left Right	O	N/A	N/A	A		1	32	-	294	1850	551	53.3%
2/1	A5 Holyhead Rd (East) Ahead Right Left	O	N/A	N/A	B		1	32	-	320	1820	575	55.7%
3/1	B4545 South Right Left Ahead	O	N/A	N/A	D		1	28	-	214	1723	387	55.2%
4/2+4/1	A5025 North Left Right Ahead	O+U	N/A	N/A	C		1	28	-	559	1936:1702	311+594	61.8 : 61.8%
5/1		U	N/A	N/A	-		-	-	-	689	Inf	Inf	0.0%
6/1		U	N/A	N/A	-		-	-	-	297	Inf	Inf	0.0%
7/1		U	N/A	N/A	-		-	-	-	199	Inf	Inf	0.0%
8/1		U	N/A	N/A	-		-	-	-	202	Inf	Inf	0.0%

Full Input Data And Results

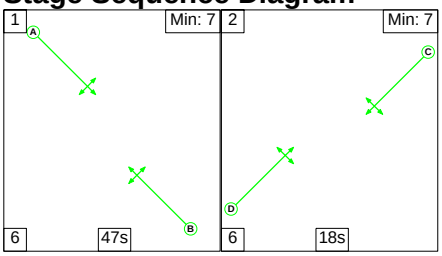
Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network: A5-B4545 Valley Crossroads	**-**	**-**	**412**	**0**	**8**	**5.7**	**2.6**	**0.5**	**8.7**	**-**	**-**	**-**	**-**
A5/ A5025 Valley Crossroads	**-**	**-**	**412**	**0**	**8**	**5.7**	**2.6**	**0.5**	**8.7**	**-**	**-**	**-**	**-**
1/1	294	294	41	0	1	1.1	0.6	0.0	1.7	20.2	4.2	0.6	4.7
2/1	320	320	94	0	3	1.2	0.6	0.1	1.9	21.4	4.6	0.6	5.2
3/1	214	214	137	0	2	1.0	0.6	0.3	1.9	32.4	3.6	0.6	4.2
4/2+4/1	559	559	140	0	2	2.4	0.8	0.0	3.3 (1.1+2.2)	21.0 (20.0:21.5)	5.5	0.8	6.3
5/1	689	689	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	297	297	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	199	199	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	202	202	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

C1 PRC for Signalled Lanes (%): 45.7 Total Delay for Signalled Lanes (pcuHr): 8.75 Cycle Time (s): 72
PRC Over All Lanes (%): 45.7 Total Delay Over All Lanes(pcuHr): 8.75

Full Input Data And Results

Scenario 11: 'Reference Case 2033 PM' (FG11: 'Reference Case 2033 : PM', Plan 1: 'Network Control Plan 1')

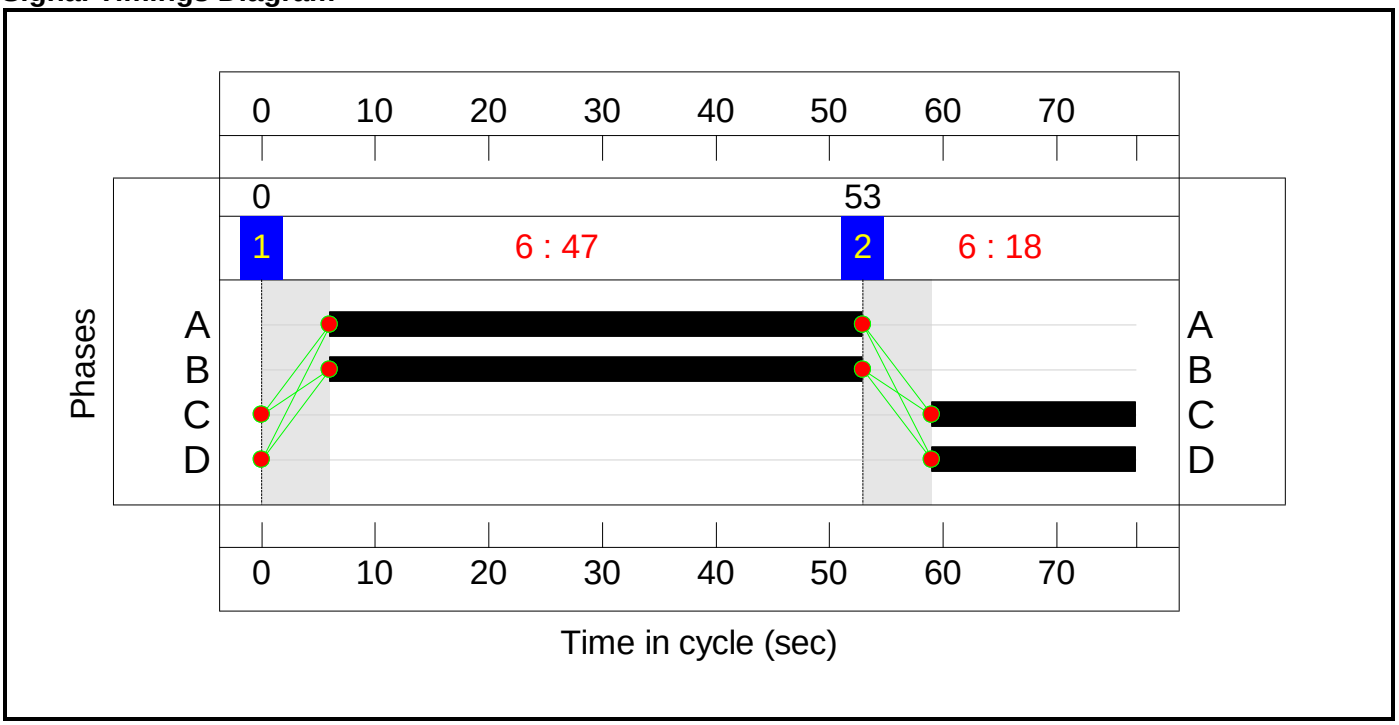
Stage Sequence Diagram



Stage Timings

Stage	1	2
Duration	47	18
Change Point	0	53

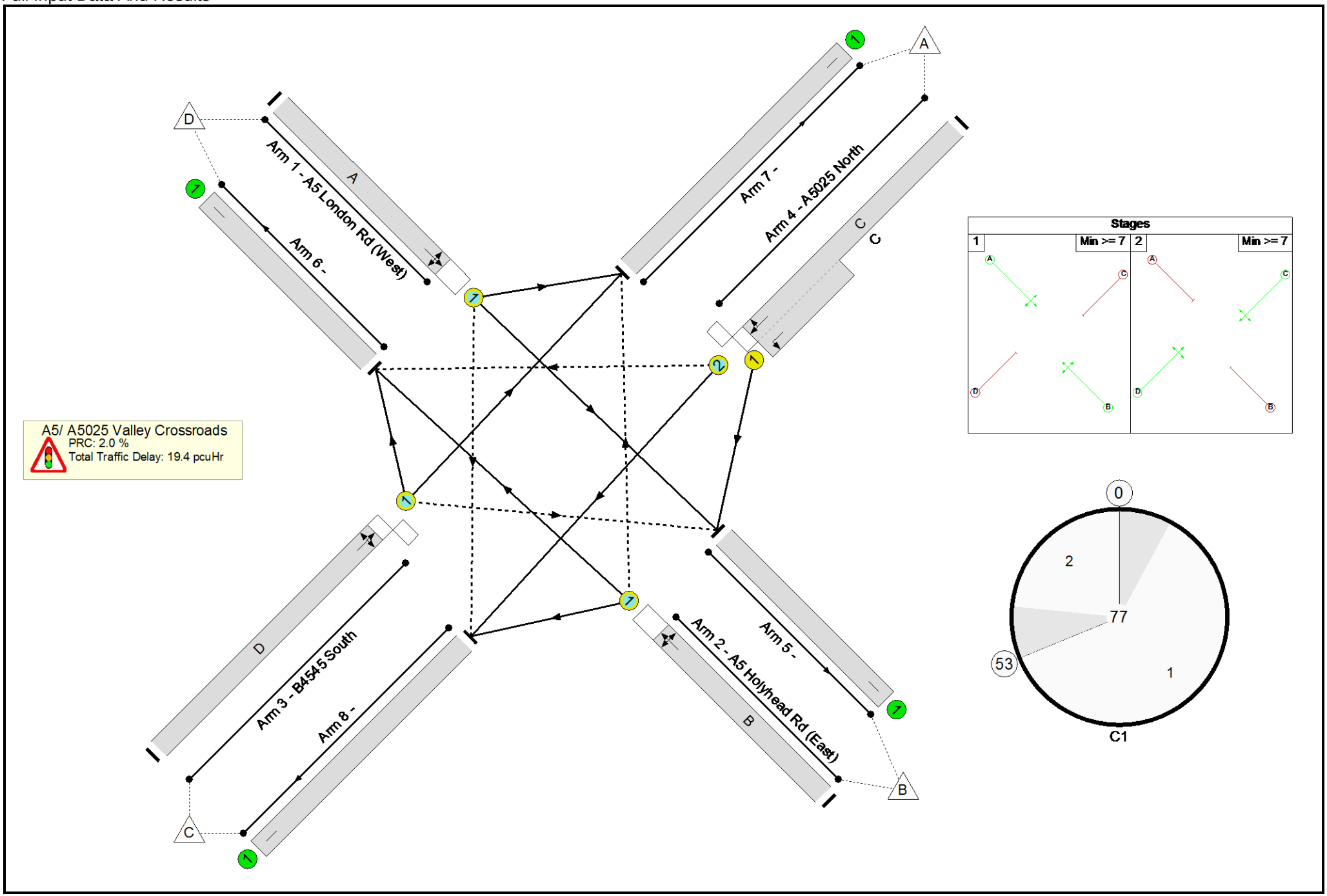
Signal Timings Diagram



Full Input Data And Results

Network Layout Diagram

Full Input Data And Results



Full Input Data And Results

Network Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network: A5-B4545 Valley Crossroads	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**88.2%**
A5/ A5025 Valley Crossroads	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**88.2%**
1/1	A5 London Rd (West) Ahead Left Right	O	N/A	N/A	A		1	47	-	445	1783	511	87.0%
2/1	A5 Holyhead Rd (East) Ahead Right Left	O	N/A	N/A	B		1	47	-	625	1819	709	88.1%
3/1	B4545 South Right Left Ahead	O	N/A	N/A	D		1	18	-	270	1728	306	88.2%
4/2+4/1	A5025 North Left Right Ahead	O+U	N/A	N/A	C		1	18	-	306	1935:1702	245+143	78.9 : 78.9%
5/1		U	N/A	N/A	-		-	-	-	404	Inf	Inf	0.0%
6/1		U	N/A	N/A	-		-	-	-	431	Inf	Inf	0.0%
7/1		U	N/A	N/A	-		-	-	-	503	Inf	Inf	0.0%
8/1		U	N/A	N/A	-		-	-	-	308	Inf	Inf	0.0%

Full Input Data And Results

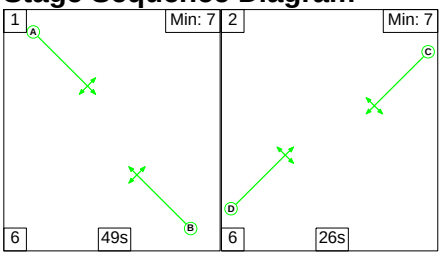
Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network: A5-B4545 Valley Crossroads	**-**	**-**	**526**	**0**	**51**	**7.4**	**11.5**	**0.6**	**19.4**	**-**	**-**	**-**	**-**
A5/ A5025 Valley Crossroads	**-**	**-**	**526**	**0**	**51**	**7.4**	**11.5**	**0.6**	**19.4**	**-**	**-**	**-**	**-**
1/1	445	445	72	0	4	1.0	3.1	0.1	4.2	34.0	6.1	3.1	9.1
2/1	625	625	216	0	18	2.2	3.4	0.2	5.9	33.8	11.3	3.4	14.7
3/1	270	270	121	0	2	2.0	3.2	0.2	5.4	71.9	5.5	3.2	8.7
4/2+4/1	306	306	117	0	27	2.0	1.8	0.2	4.0 (2.6+1.4)	47.0 (48.5:44.4)	3.4	1.8	5.2
5/1	404	404	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	431	431	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	503	503	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	308	308	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

C1 PRC for Signalled Lanes (%): 2.0 Total Delay for Signalled Lanes (pcuHr): 19.45 Cycle Time (s): 77
PRC Over All Lanes (%): 2.0 Total Delay Over All Lanes(pcuHr): 19.45

Full Input Data And Results

Scenario 12: 'Reference Case 2033 Saturday' (FG12: 'Reference Case 2033 : Weekend (Saturday)', Plan 1: 'Network Control Plan 1')

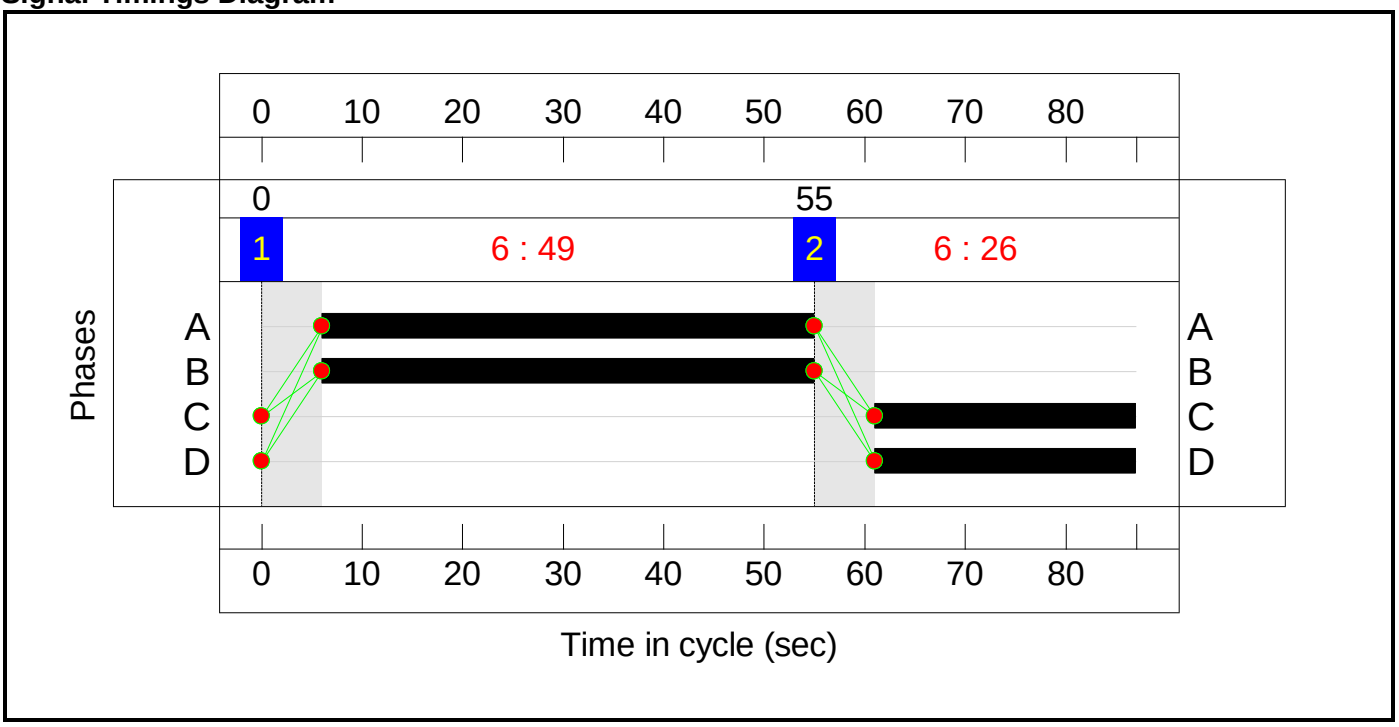
Stage Sequence Diagram



Stage Timings

Stage	1	2
Duration	49	26
Change Point	0	55

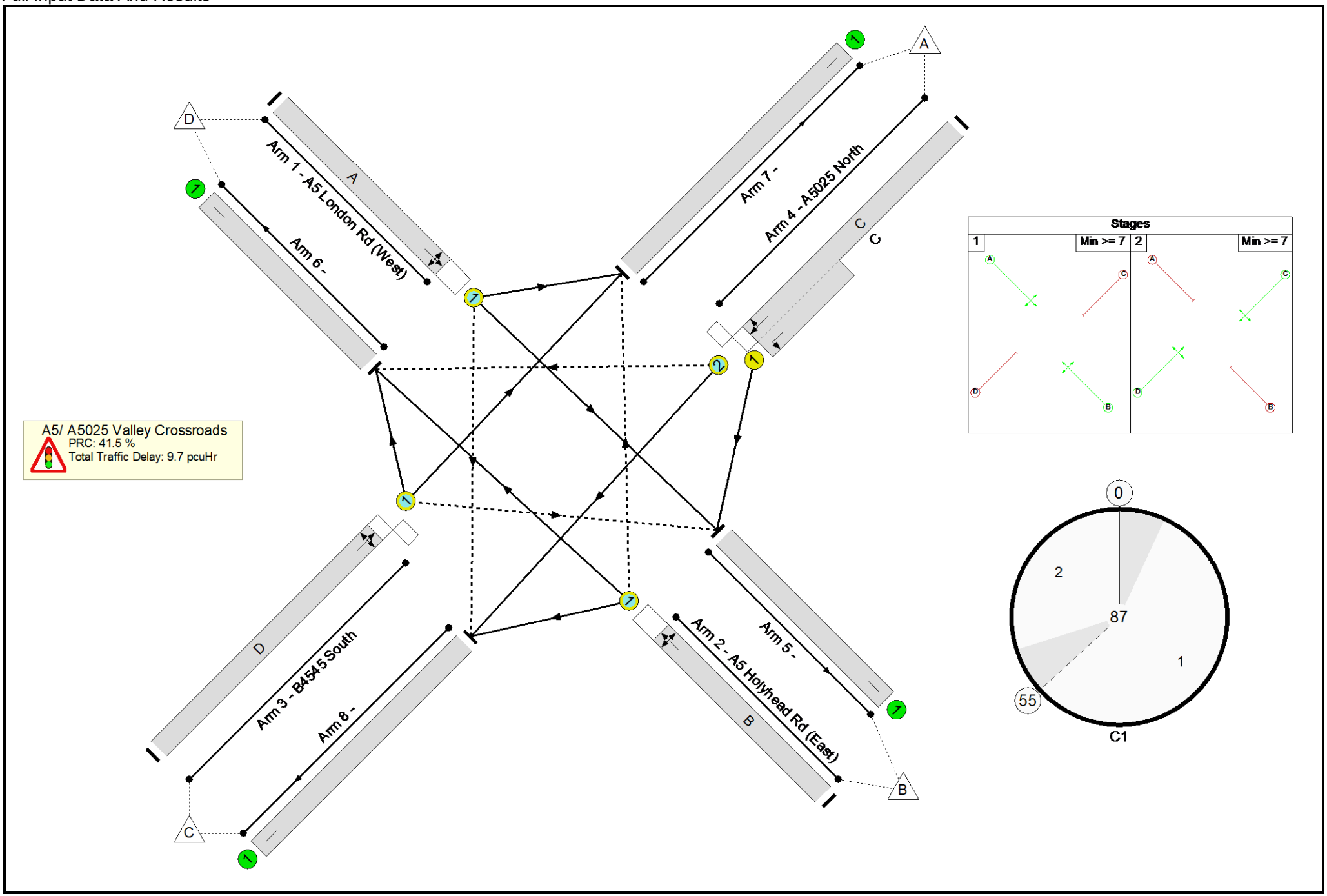
Signal Timings Diagram



Full Input Data And Results

Network Layout Diagram

Full Input Data And Results



Full Input Data And Results

Network Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network: A5-B4545 Valley Crossroads	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**63.6%**
A5/ A5025 Valley Crossroads	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**63.6%**
1/1	A5 London Rd (West) Ahead Left Right	O	N/A	N/A	A		1	49	-	442	1795	695	63.6%
2/1	A5 Holyhead Rd (East) Ahead Right Left	O	N/A	N/A	B		1	49	-	365	1841	648	56.4%
3/1	B4545 South Right Left Ahead	O	N/A	N/A	D		1	26	-	262	1708	450	58.2%
4/2+4/1	A5025 North Left Right Ahead	O+U	N/A	N/A	C		1	26	-	275	1932:1702	325+111	63.2 : 63.2%
5/1		U	N/A	N/A	-		-	-	-	379	Inf	Inf	0.0%
6/1		U	N/A	N/A	-		-	-	-	418	Inf	Inf	0.0%
7/1		U	N/A	N/A	-		-	-	-	290	Inf	Inf	0.0%
8/1		U	N/A	N/A	-		-	-	-	257	Inf	Inf	0.0%

Full Input Data And Results

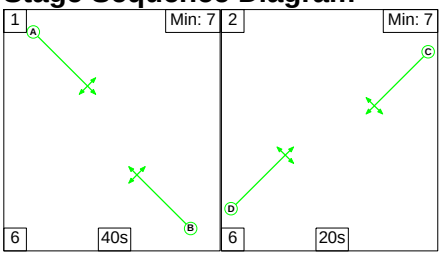
Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network: A5-B4545 Valley Crossroads	**-**	**-**	**437**	**0**	**7**	**6.1**	**3.0**	**0.5**	**9.7**	**-**	**-**	**-**	**-**
A5/ A5025 Valley Crossroads	**-**	**-**	**437**	**0**	**7**	**6.1**	**3.0**	**0.5**	**9.7**	**-**	**-**	**-**	**-**
1/1	442	442	87	0	2	1.5	0.9	0.0	2.4	19.7	7.4	0.9	8.2
2/1	365	365	71	0	2	1.1	0.6	0.1	1.8	17.7	5.5	0.6	6.1
3/1	262	262	125	0	1	1.8	0.7	0.1	2.6	36.1	5.2	0.7	5.9
4/2+4/1	275	275	154	0	2	1.7	0.8	0.3	2.9 (2.3+0.6)	37.9 (39.6:32.7)	3.9	0.8	4.7
5/1	379	379	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	418	418	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	290	290	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	257	257	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

C1 PRC for Signalled Lanes (%): 41.5 Total Delay for Signalled Lanes (pcuHr): 9.73 Cycle Time (s): 87
PRC Over All Lanes (%): 41.5 Total Delay Over All Lanes(pcuHr): 9.73

Full Input Data And Results

Scenario 13: 'WNP 2020 (w/o bypasses) AM' (FG13: 'Wylfa Newydd Project 2020 (without bypasses) : AM', Plan 1: 'Network Control Plan 1')

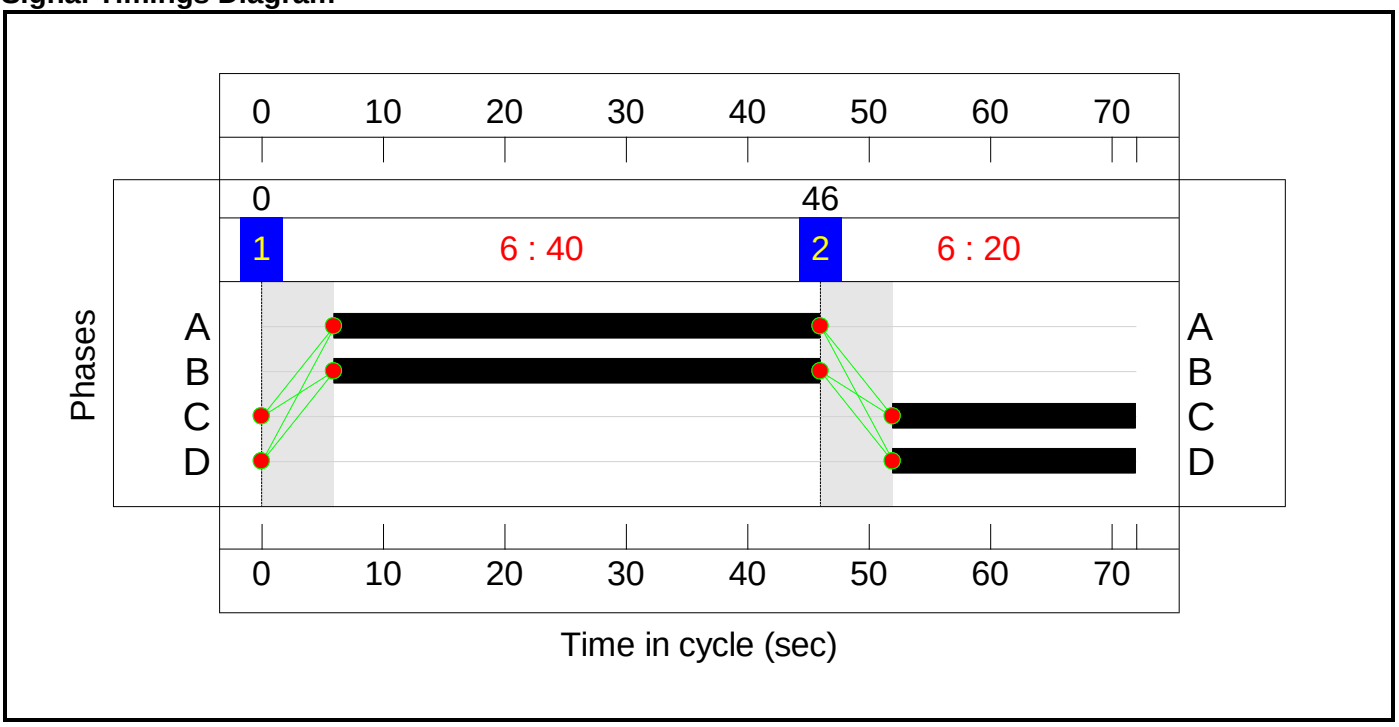
Stage Sequence Diagram



Stage Timings

Stage	1	2
Duration	40	20
Change Point	0	46

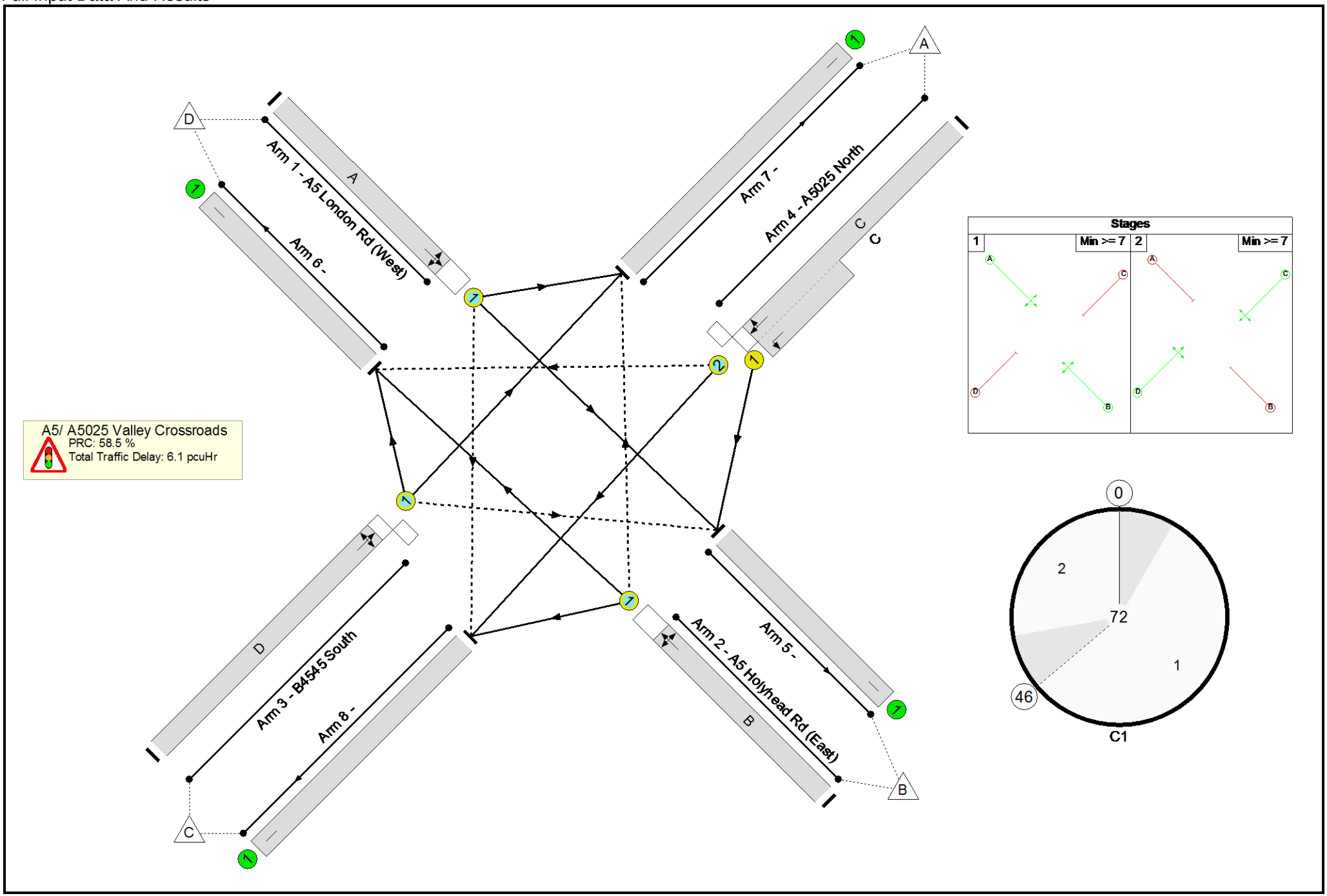
Signal Timings Diagram



Full Input Data And Results

Network Layout Diagram

Full Input Data And Results



Full Input Data And Results

Network Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network: A5-B4545 Valley Crossroads	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**56.8%**
A5/ A5025 Valley Crossroads	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**56.8%**
1/1	A5 London Rd (West) Ahead Left Right	O	N/A	N/A	A		1	40	-	266	1850	861	30.9%
2/1	A5 Holyhead Rd (East) Ahead Right Left	O	N/A	N/A	B		1	40	-	280	1823	819	34.2%
3/1	B4545 South Right Left Ahead	O	N/A	N/A	D		1	20	-	194	1722	342	56.8%
4/2+4/1	A5025 North Left Right Ahead	O+U	N/A	N/A	C		1	20	-	334	1936:1702	383+361	44.9 : 44.9%
5/1		U	N/A	N/A	-		-	-	-	455	Inf	Inf	0.0%
6/1		U	N/A	N/A	-		-	-	-	269	Inf	Inf	0.0%
7/1		U	N/A	N/A	-		-	-	-	172	Inf	Inf	0.0%
8/1		U	N/A	N/A	-		-	-	-	178	Inf	Inf	0.0%

Full Input Data And Results

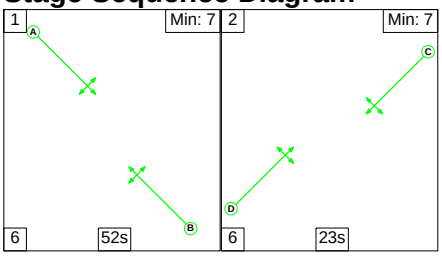
Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network: A5-B4545 Valley Crossroads	**-**	**-**	**364**	**0**	**7**	**4.2**	**1.5**	**0.3**	**6.1**	**-**	**-**	**-**	**-**
A5/ A5025 Valley Crossroads	**-**	**-**	**364**	**0**	**7**	**4.2**	**1.5**	**0.3**	**6.1**	**-**	**-**	**-**	**-**
1/1	266	266	36	0	1	0.6	0.2	0.0	0.8	11.0	2.7	0.2	2.9
2/1	280	280	78	0	2	0.6	0.3	0.0	0.9	11.7	2.8	0.3	3.1
3/1	194	194	125	0	2	1.2	0.7	0.2	2.0	37.9	3.5	0.7	4.2
4/2+4/1	334	334	125	0	2	1.8	0.4	0.0	2.3 (1.2+1.1)	24.7 (25.0:24.4)	2.6	0.4	3.0
5/1	455	455	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	269	269	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	172	172	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	178	178	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

C1 PRC for Signalled Lanes (%): 58.5 Total Delay for Signalled Lanes (pcuHr): 6.05 Cycle Time (s): 72
PRC Over All Lanes (%): 58.5 Total Delay Over All Lanes(pcuHr): 6.05

Full Input Data And Results

Scenario 14: 'WNP 2020 (w/o bypasses) PM' (FG14: 'Wylfa Newydd Project 2020 (without bypasses) : PM', Plan 1: 'Network Control Plan 1')

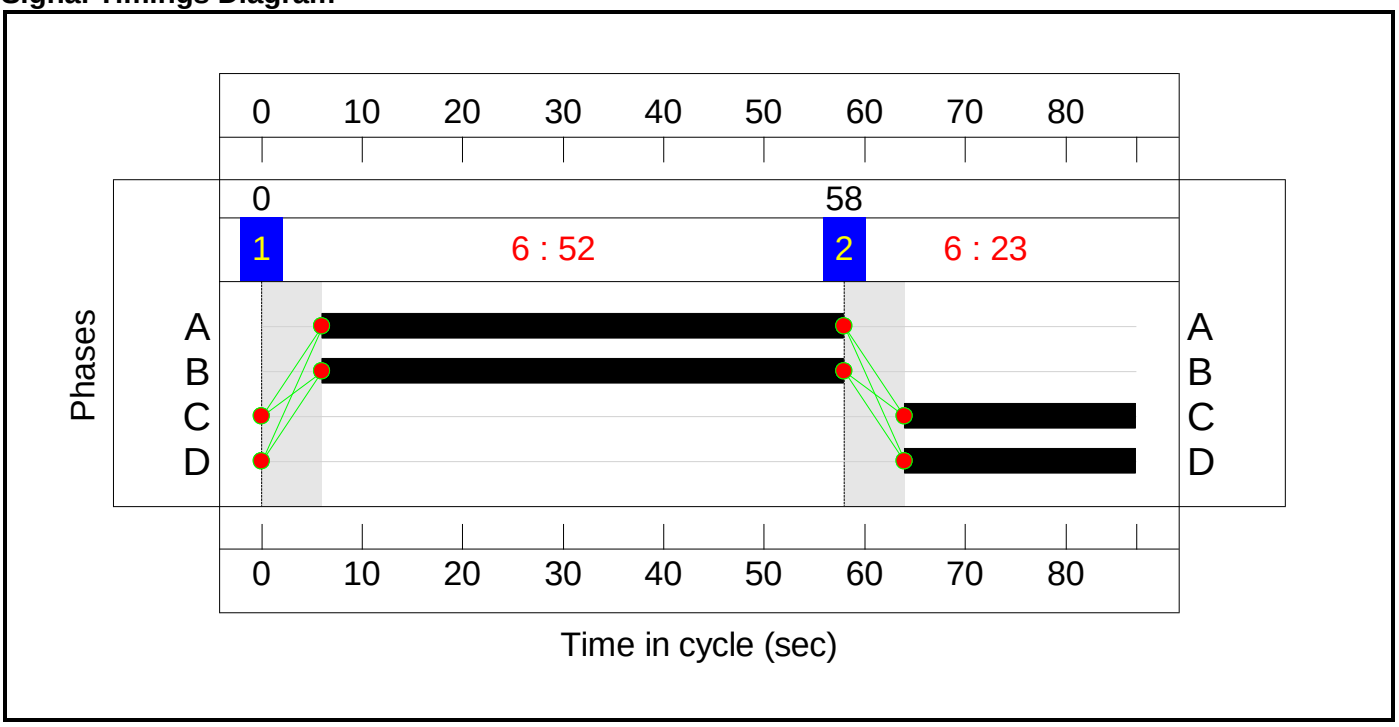
Stage Sequence Diagram



Stage Timings

Stage	1	2
Duration	52	23
Change Point	0	58

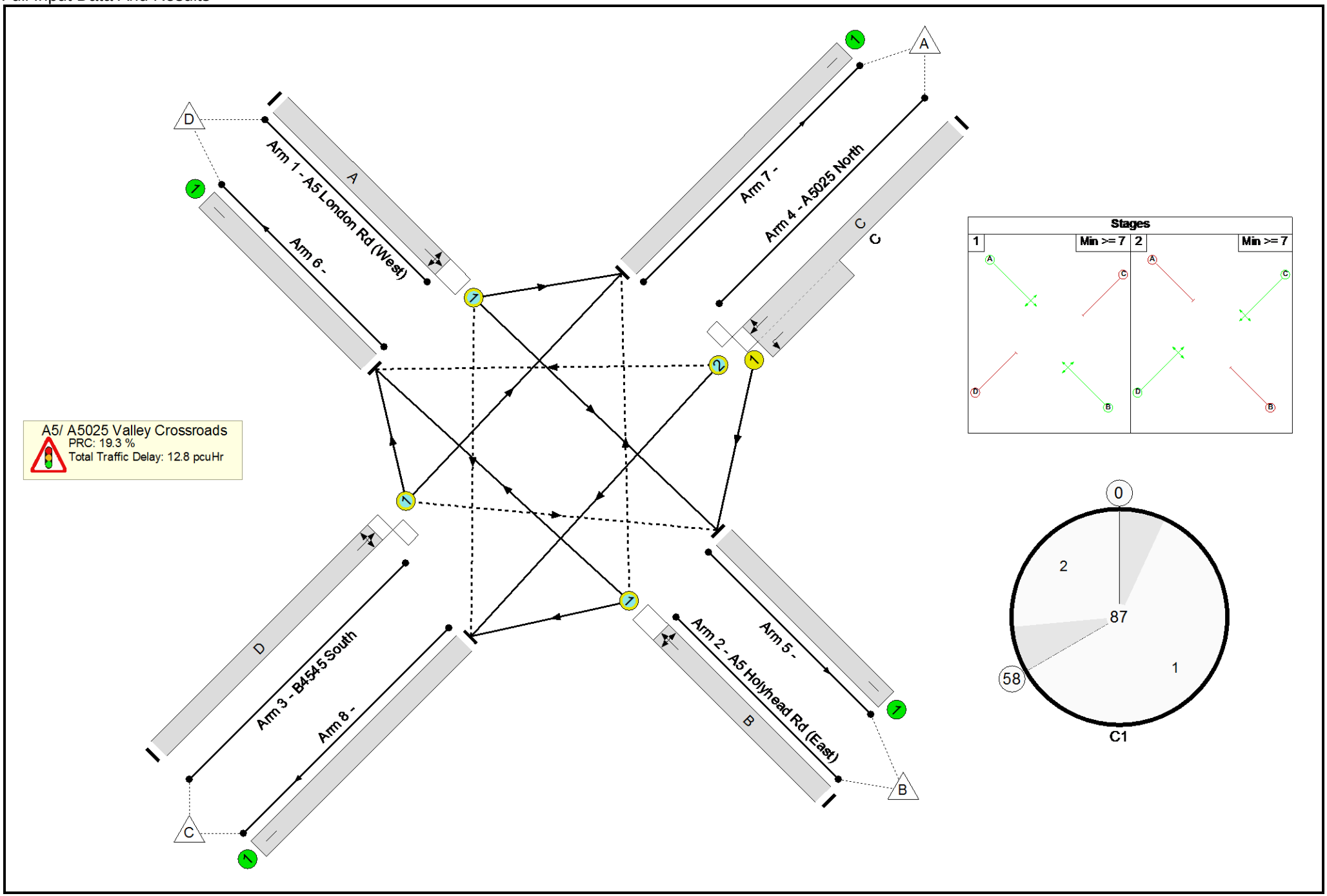
Signal Timings Diagram



Full Input Data And Results

Network Layout Diagram

Full Input Data And Results



Full Input Data And Results

Network Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network: A5-B4545 Valley Crossroads	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**75.5%**
A5/ A5025 Valley Crossroads	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**75.5%**
1/1	A5 London Rd (West) Ahead Left Right	O	N/A	N/A	A		1	52	-	372	1782	576	64.5%
2/1	A5 Holyhead Rd (East) Ahead Right Left	O	N/A	N/A	B		1	52	-	528	1813	712	74.1%
3/1	B4545 South Right Left Ahead	O	N/A	N/A	D		1	23	-	215	1736	285	75.5%
4/2+4/1	A5025 North Left Right Ahead	O+U	N/A	N/A	C		1	23	-	434	1947:1702	262+420	63.6 : 63.6%
5/1		U	N/A	N/A	-		-	-	-	511	Inf	Inf	0.0%
6/1		U	N/A	N/A	-		-	-	-	326	Inf	Inf	0.0%
7/1		U	N/A	N/A	-		-	-	-	417	Inf	Inf	0.0%
8/1		U	N/A	N/A	-		-	-	-	295	Inf	Inf	0.0%

Full Input Data And Results

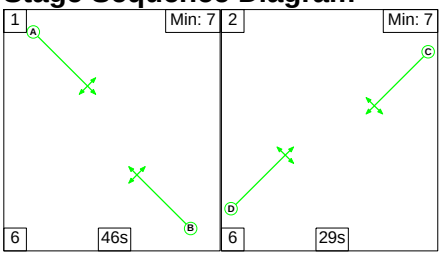
Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network: A5-B4545 Valley Crossroads	**-**	**-**	**470**	**0**	**8**	**7.7**	**4.7**	**0.5**	**12.8**	**-**	**-**	**-**	**-**
A5/ A5025 Valley Crossroads	**-**	**-**	**470**	**0**	**8**	**7.7**	**4.7**	**0.5**	**12.8**	**-**	**-**	**-**	**-**
1/1	372	372	65	0	2	0.9	0.9	0.1	1.9	18.4	5.2	0.9	6.1
2/1	528	528	190	0	4	1.8	1.4	0.1	3.4	23.1	9.4	1.4	10.8
3/1	215	215	105	0	1	1.7	1.5	0.2	3.4	57.3	4.9	1.5	6.4
4/2+4/1	434	434	110	0	1	3.2	0.9	0.1	4.1 (1.5+2.5)	33.9 (33.4:34.3)	5.5	0.9	6.4
5/1	511	511	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	326	326	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	417	417	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	295	295	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

C1 PRC for Signalled Lanes (%): 19.3 Total Delay for Signalled Lanes (pcuHr): 12.80 Cycle Time (s): 87
PRC Over All Lanes (%): 19.3 Total Delay Over All Lanes(pcuHr): 12.80

Full Input Data And Results

Scenario 15: 'WNP 2020 (w/o bypasses) Sunday' (FG15: 'Wylfa Newydd Project 2020 (without bypasses) : Weekend (Sunday)', Plan 1: 'Network Control Plan 1')

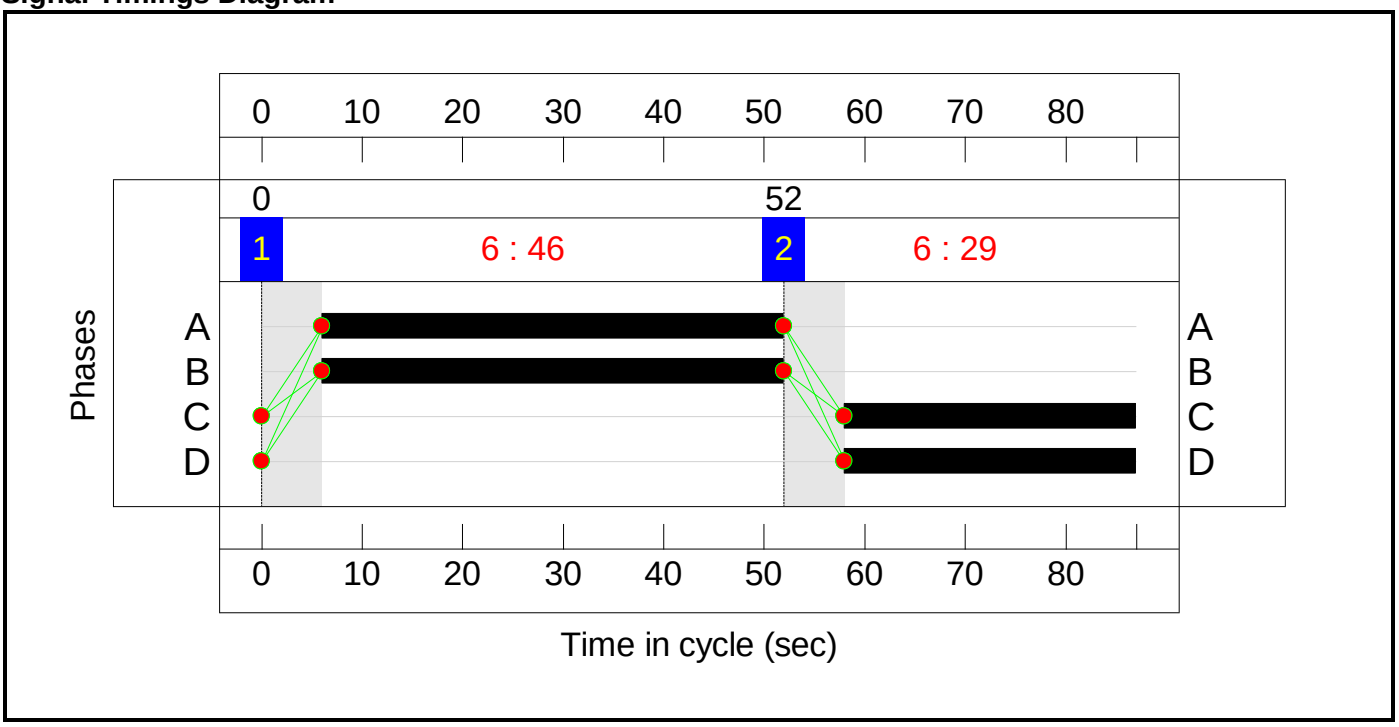
Stage Sequence Diagram



Stage Timings

Stage	1	2
Duration	46	29
Change Point	0	52

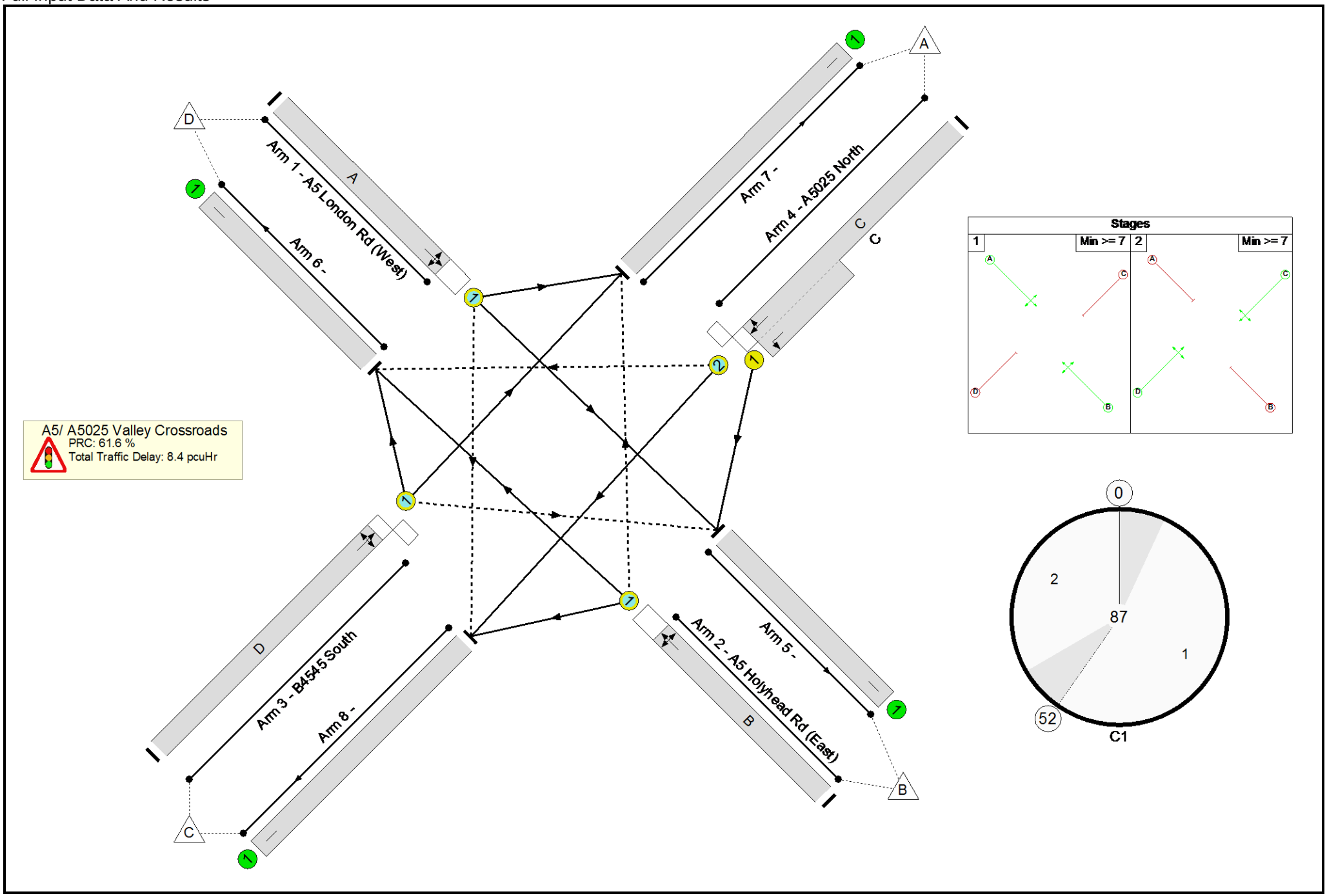
Signal Timings Diagram



Full Input Data And Results

Network Layout Diagram

Full Input Data And Results



Network Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network: A5-B4545 Valley Crossroads	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**55.7%**
A5/ A5025 Valley Crossroads	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**55.7%**
1/1	A5 London Rd (West) Ahead Left Right	O	N/A	N/A	A		1	46	-	390	1788	700	55.7%
2/1	A5 Holyhead Rd (East) Ahead Right Left	O	N/A	N/A	B		1	46	-	319	1829	649	49.2%
3/1	B4545 South Right Left Ahead	O	N/A	N/A	D		1	29	-	249	1713	452	55.1%
4/2+4/1	A5025 North Left Right Ahead	O+U	N/A	N/A	C		1	29	-	280	1931:1702	380+139	54.0 : 54.0%
5/1		U	N/A	N/A	-		-	-	-	354	Inf	Inf	0.0%
6/1		U	N/A	N/A	-		-	-	-	370	Inf	Inf	0.0%
7/1		U	N/A	N/A	-		-	-	-	264	Inf	Inf	0.0%
8/1		U	N/A	N/A	-		-	-	-	250	Inf	Inf	0.0%

Full Input Data And Results

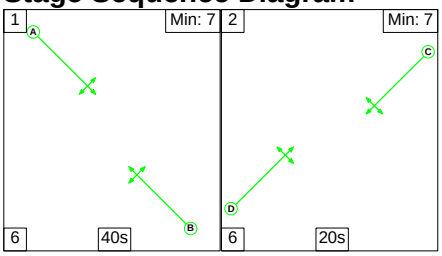
Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network: A5-B4545 Valley Crossroads	**-**	**-**	**419**	**0**	**7**	**5.6**	**2.3**	**0.4**	**8.4**	**-**	**-**	**-**	**-**
A5/ A5025 Valley Crossroads	**-**	**-**	**419**	**0**	**7**	**5.6**	**2.3**	**0.4**	**8.4**	**-**	**-**	**-**	**-**
1/1	390	390	78	0	2	1.4	0.6	0.0	2.1	19.5	6.6	0.6	7.2
2/1	319	319	59	0	1	1.0	0.5	0.0	1.6	17.7	4.7	0.5	5.2
3/1	249	249	127	0	1	1.6	0.6	0.2	2.4	34.0	4.9	0.6	5.5
4/2+4/1	280	280	156	0	2	1.6	0.6	0.2	2.4 (1.8+0.6)	30.3 (31.5:27.1)	3.6	0.6	4.2
5/1	354	354	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	370	370	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	264	264	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	250	250	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

C1 PRC for Signalled Lanes (%): 61.6 Total Delay for Signalled Lanes (pcuHr): 8.39 Cycle Time (s): 87
PRC Over All Lanes (%): 61.6 Total Delay Over All Lanes(pcuHr): 8.39

Full Input Data And Results

Scenario 16: 'WNP 2020 (with bypasses) AM' (FG16: 'Wylfa Newydd Project 2020 (with bypasses) : AM', Plan 1: 'Network Control Plan 1')

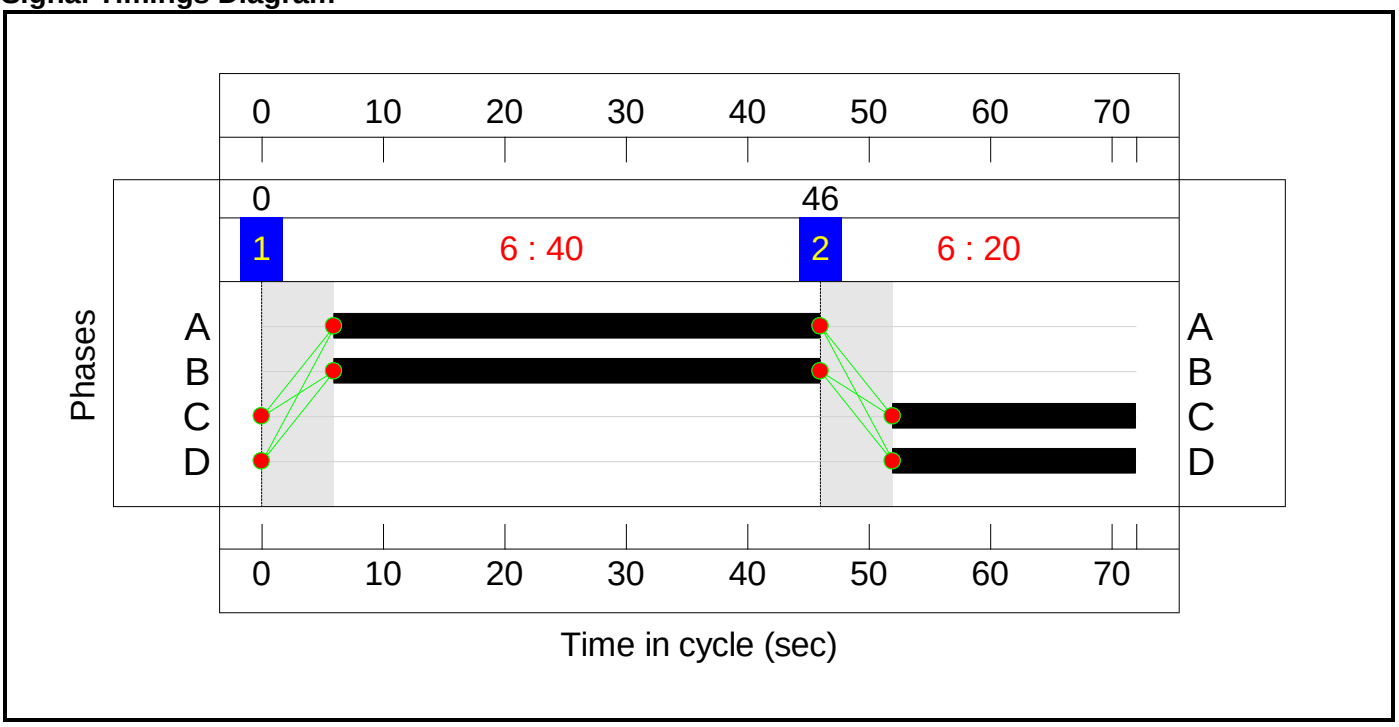
Stage Sequence Diagram



Stage Timings

Stage	1	2
Duration	40	20
Change Point	0	46

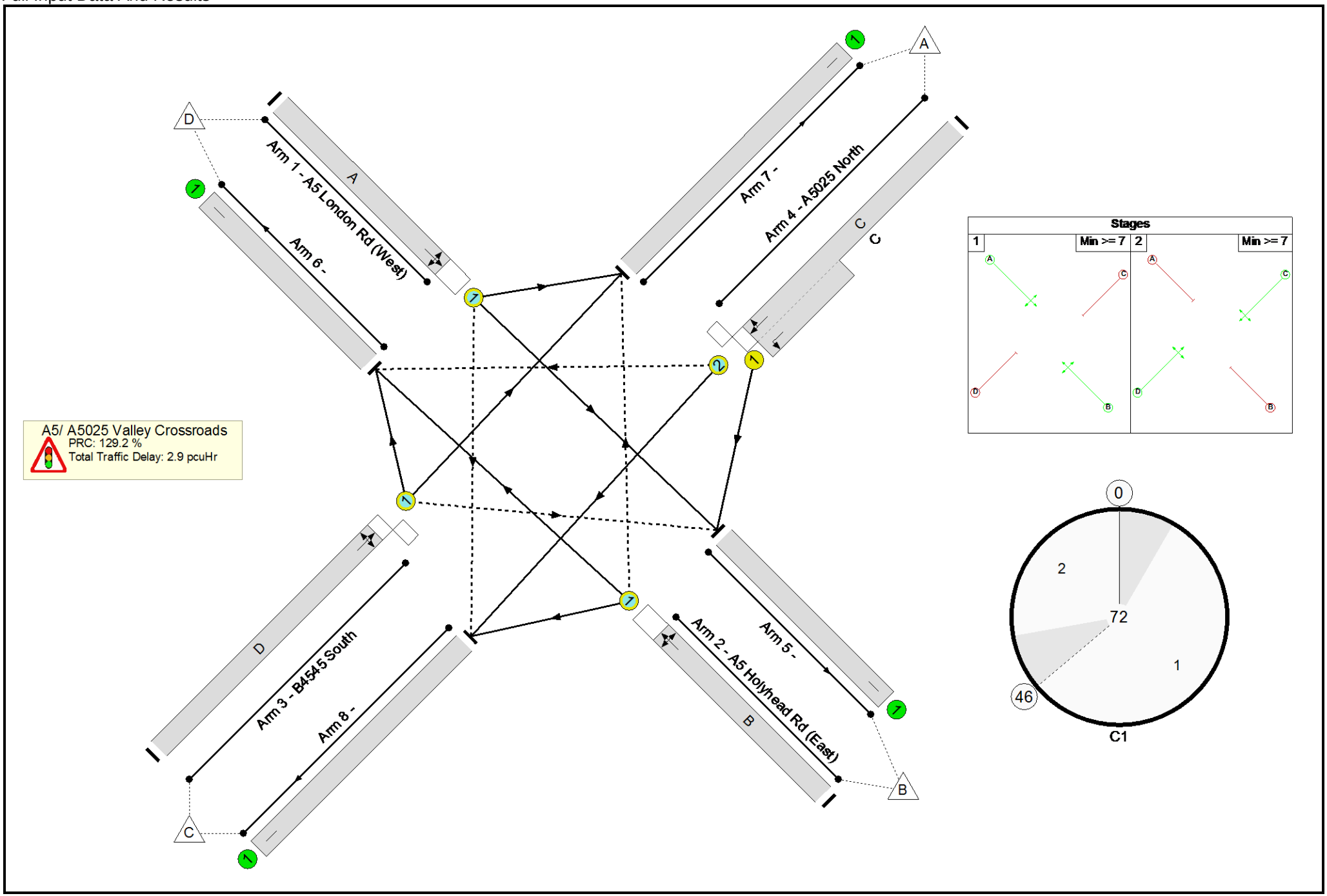
Signal Timings Diagram



Full Input Data And Results

Network Layout Diagram

Full Input Data And Results



Full Input Data And Results

Network Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network: A5-B4545 Valley Crossroads	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**39.3%**
A5/ A5025 Valley Crossroads	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**39.3%**
1/1	A5 London Rd (West) Ahead Left Right	O	N/A	N/A	A		1	40	-	266	1922	935	28.4%
2/1	A5 Holyhead Rd (East) Ahead Right Left	O	N/A	N/A	B		1	40	-	245	1817	1035	23.7%
3/1	B4545 South Right Left Ahead	O	N/A	N/A	D		1	20	-	194	1694	494	39.3%
4/2+4/1	A5025 North Left Right Ahead	O+U	N/A	N/A	C		1	20	-	0	2055:1915	484+242	0.0 : 0.0%
5/1		U	N/A	N/A	-		-	-	-	385	Inf	Inf	0.0%
6/1		U	N/A	N/A	-		-	-	-	142	Inf	Inf	0.0%
7/1		U	N/A	N/A	-		-	-	-	0	Inf	Inf	0.0%
8/1		U	N/A	N/A	-		-	-	-	178	Inf	Inf	0.0%

Full Input Data And Results

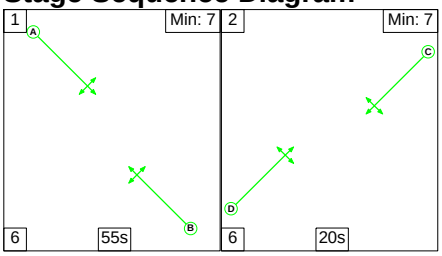
Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network: A5-B4545 Valley Crossroads	**-**	**-**	**190**	**0**	**3**	**2.2**	**0.7**	**0.0**	**2.9**	**-**	**-**	**-**	**-**
A5/ A5025 Valley Crossroads	**-**	**-**	**190**	**0**	**3**	**2.2**	**0.7**	**0.0**	**2.9**	**-**	**-**	**-**	**-**
1/1	266	266	36	0	1	0.6	0.2	0.0	0.8	10.7	2.6	0.2	2.8
2/1	245	245	0	0	0	0.5	0.2	0.0	0.7	10.0	2.4	0.2	2.5
3/1	194	194	154	0	2	1.1	0.3	0.0	1.4	26.5	3.1	0.3	3.4
4/2+4/1	0	0	0	0	0	0.0	0.0	0.0	0.0 (0.0+0.0)	0.0 (0.0:0.0)	0.0	0.0	0.0
5/1	385	385	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	142	142	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	0	0	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	178	178	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

C1 PRC for Signalled Lanes (%): 129.2 Total Delay for Signalled Lanes (pcuHr): 2.90 Cycle Time (s): 72
PRC Over All Lanes (%): 129.2 Total Delay Over All Lanes(pcuHr): 2.90

Full Input Data And Results

Scenario 17: 'WNP 2020 (with bypasses) PM' (FG17: 'Wylfa Newydd Project 2020 (with bypasses) : PM', Plan 1: 'Network Control Plan 1')

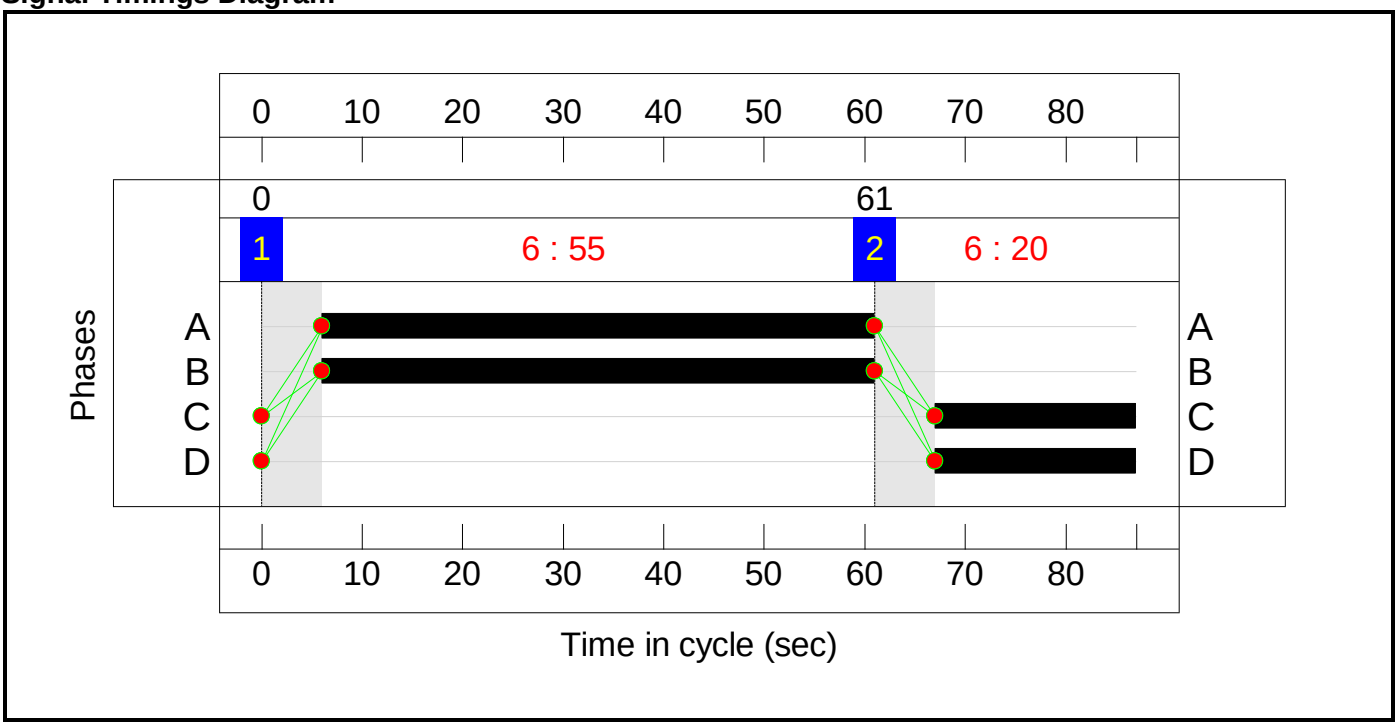
Stage Sequence Diagram



Stage Timings

Stage	1	2
Duration	55	20
Change Point	0	61

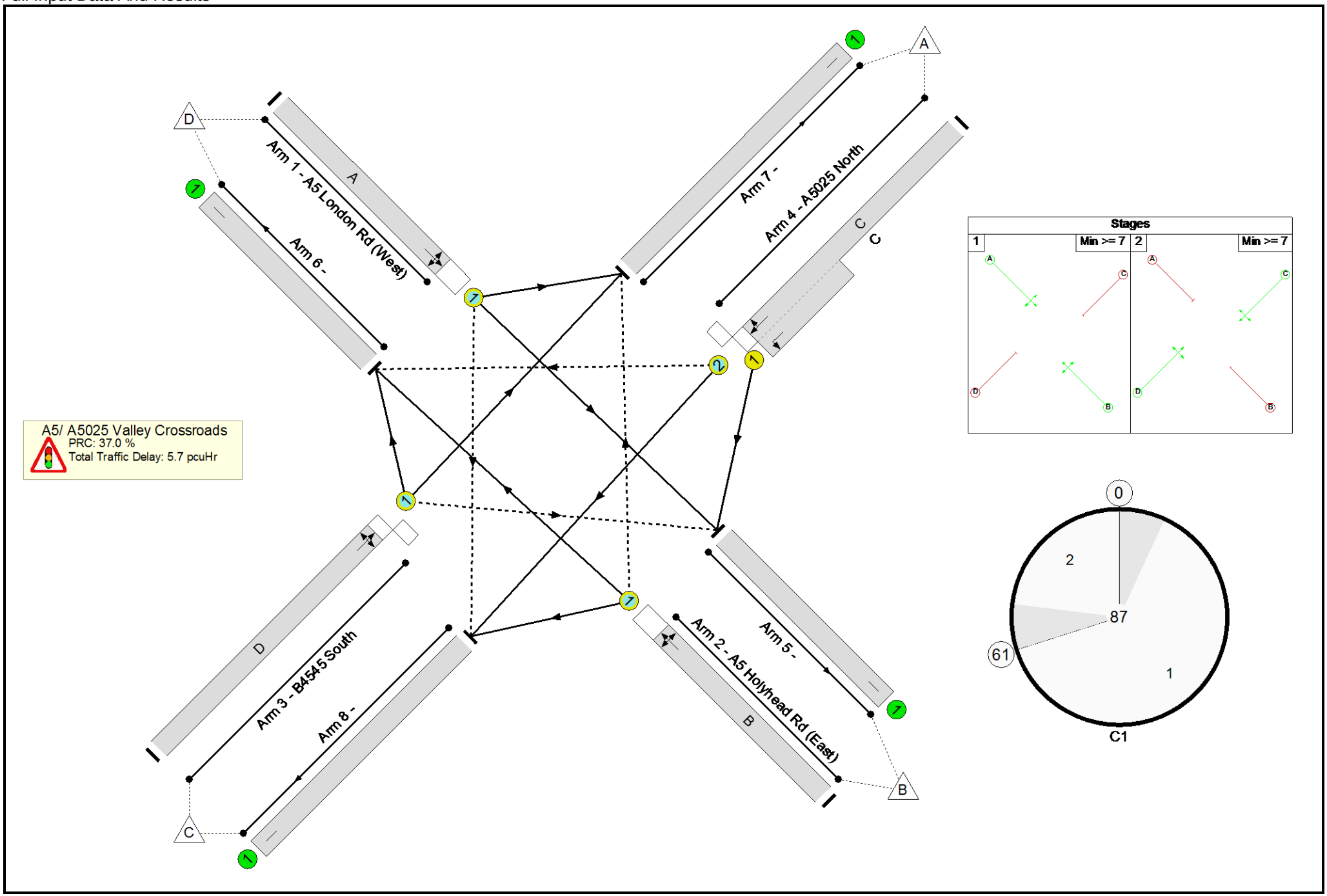
Signal Timings Diagram



Full Input Data And Results

Network Layout Diagram

Full Input Data And Results



Full Input Data And Results

Network Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network: A5-B4545 Valley Crossroads	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**65.7%**
A5/ A5025 Valley Crossroads	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**65.7%**
1/1	A5 London Rd (West) Ahead Left Right	O	N/A	N/A	A		1	55	-	405	1914	941	43.0%
2/1	A5 Holyhead Rd (East) Ahead Right Left	O	N/A	N/A	B		1	55	-	410	1828	1177	34.8%
3/1	B4545 South Right Left Ahead	O	N/A	N/A	D		1	20	-	267	1684	406	65.7%
4/2+4/1	A5025 North Left Right Ahead	O+U	N/A	N/A	C		1	20	-	0	2055:1915	254+127	0.0 : 0.0%
5/1		U	N/A	N/A	-		-	-	-	531	Inf	Inf	0.0%
6/1		U	N/A	N/A	-		-	-	-	265	Inf	Inf	0.0%
7/1		U	N/A	N/A	-		-	-	-	0	Inf	Inf	0.0%
8/1		U	N/A	N/A	-		-	-	-	286	Inf	Inf	0.0%

Full Input Data And Results

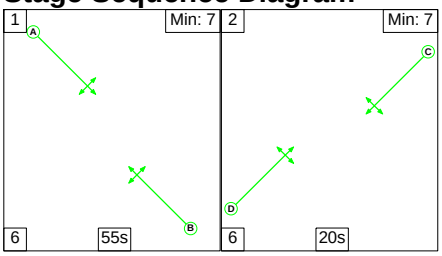
Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network: A5-B4545 Valley Crossroads	**-**	**-**	**260**	**0**	**4**	**4.0**	**1.6**	**0.1**	**5.7**	**-**	**-**	**-**	**-**
A5/ A5025 Valley Crossroads	**-**	**-**	**260**	**0**	**4**	**4.0**	**1.6**	**0.1**	**5.7**	**-**	**-**	**-**	**-**
1/1	405	405	67	0	2	1.0	0.4	0.0	1.4	12.7	5.7	0.4	6.1
2/1	410	410	0	0	0	0.8	0.3	0.0	1.1	9.5	4.4	0.3	4.7
3/1	267	267	193	0	2	2.2	0.9	0.0	3.2	42.8	5.8	0.9	6.7
4/2+4/1	0	0	0	0	0	0.0	0.0	0.0	0.0 (0.0+0.0)	0.0 (0.0:0.0)	0.0	0.0	0.0
5/1	531	531	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	265	265	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	0	0	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	286	286	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

C1 PRC for Signalled Lanes (%): 37.0 Total Delay for Signalled Lanes (pcuHr): 5.68 Cycle Time (s): 87
PRC Over All Lanes (%): 37.0 Total Delay Over All Lanes(pcuHr): 5.68

Full Input Data And Results

Scenario 18: 'WNP 2020 (with bypasses) Sunday' (FG18: 'Wylfa Newydd Project 2020 (with bypasses) : Weekend (Sunday)', Plan 1: 'Network Control Plan 1')

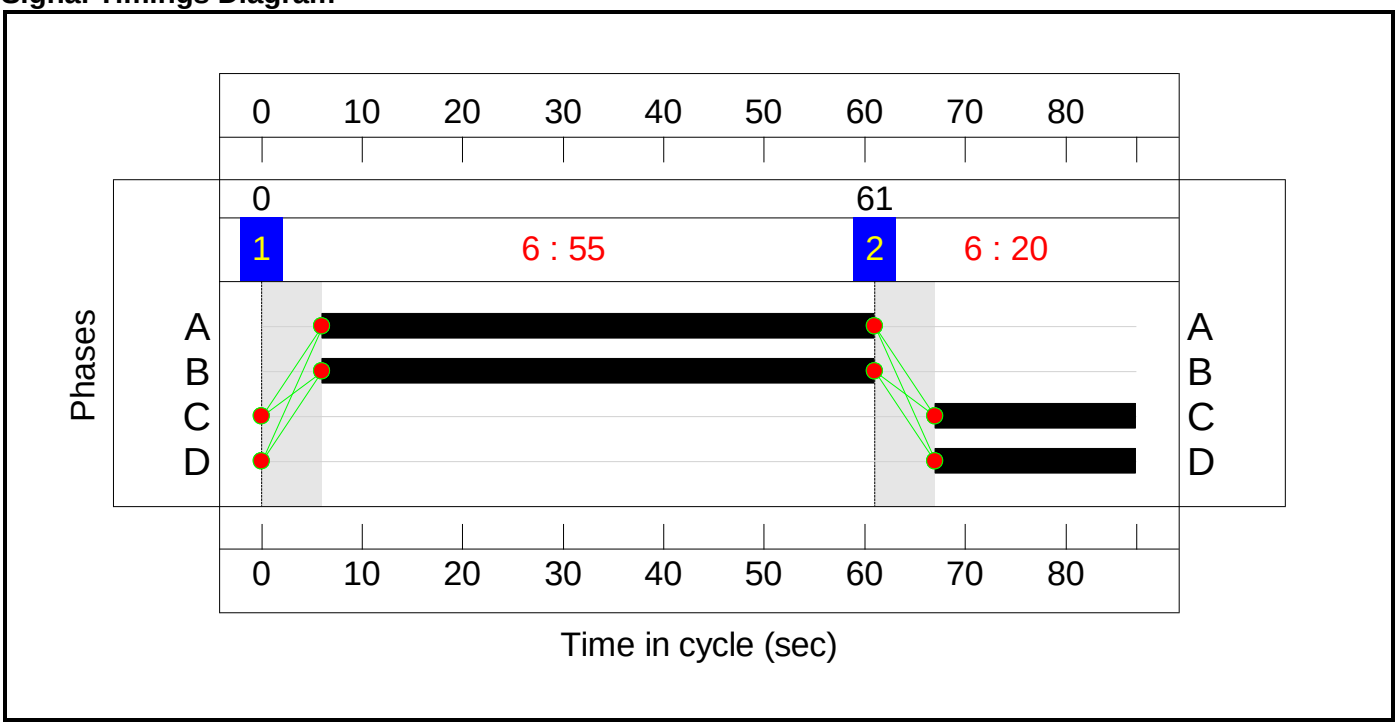
Stage Sequence Diagram



Stage Timings

Stage	1	2
Duration	55	20
Change Point	0	61

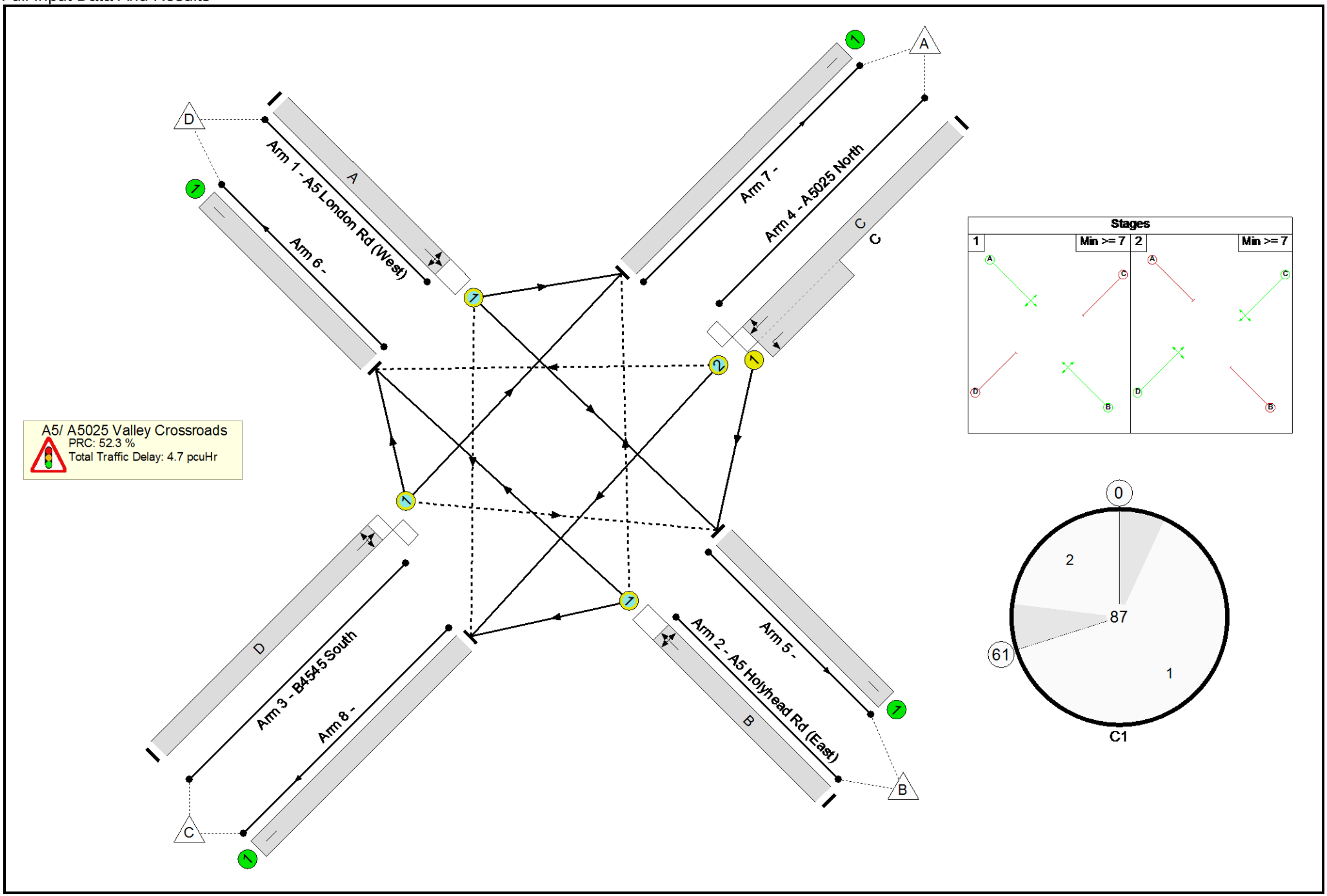
Signal Timings Diagram



Full Input Data And Results

Network Layout Diagram

Full Input Data And Results



Full Input Data And Results

Network Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network: A5-B4545 Valley Crossroads	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**59.1%**
A5/ A5025 Valley Crossroads	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**59.1%**
1/1	A5 London Rd (West) Ahead Left Right	O	N/A	N/A	A		1	55	-	404	1907	996	40.5%
2/1	A5 Holyhead Rd (East) Ahead Right Left	O	N/A	N/A	B		1	55	-	314	1838	1183	26.5%
3/1	B4545 South Right Left Ahead	O	N/A	N/A	D		1	20	-	239	1675	404	59.1%
4/2+4/1	A5025 North Left Right Ahead	O+U	N/A	N/A	C		1	20	-	0	2055:1915	293+146	0.0 : 0.0%
5/1		U	N/A	N/A	-		-	-	-	481	Inf	Inf	0.0%
6/1		U	N/A	N/A	-		-	-	-	242	Inf	Inf	0.0%
7/1		U	N/A	N/A	-		-	-	-	0	Inf	Inf	0.0%
8/1		U	N/A	N/A	-		-	-	-	234	Inf	Inf	0.0%

Full Input Data And Results

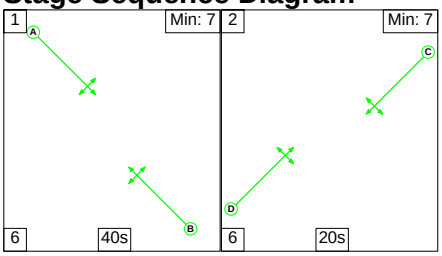
Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network: A5-B4545 Valley Crossroads	**-**	**-**	**235**	**0**	**4**	**3.4**	**1.2**	**0.1**	**4.7**	**-**	**-**	**-**	**-**
A5/ A5025 Valley Crossroads	**-**	**-**	**235**	**0**	**4**	**3.4**	**1.2**	**0.1**	**4.7**	**-**	**-**	**-**	**-**
1/1	404	404	79	0	2	0.9	0.3	0.0	1.3	11.6	5.3	0.3	5.6
2/1	314	314	0	0	0	0.6	0.2	0.0	0.8	8.7	3.2	0.2	3.4
3/1	239	239	156	0	2	1.9	0.7	0.0	2.7	40.3	5.0	0.7	5.8
4/2+4/1	0	0	0	0	0	0.0	0.0	0.0	0.0 (0.0+0.0)	0.0 (0.0:0.0)	0.0	0.0	0.0
5/1	481	481	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	242	242	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	0	0	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	234	234	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

C1 PRC for Signalled Lanes (%): 52.3 Total Delay for Signalled Lanes (pcuHr): 4.74 Cycle Time (s): 87
PRC Over All Lanes (%): 52.3 Total Delay Over All Lanes(pcuHr): 4.74

Full Input Data And Results

Scenario 19: 'WNP 2023 AM' (FG19: 'Wylfa Newydd Project 2023 : AM', Plan 1: 'Network Control Plan 1')

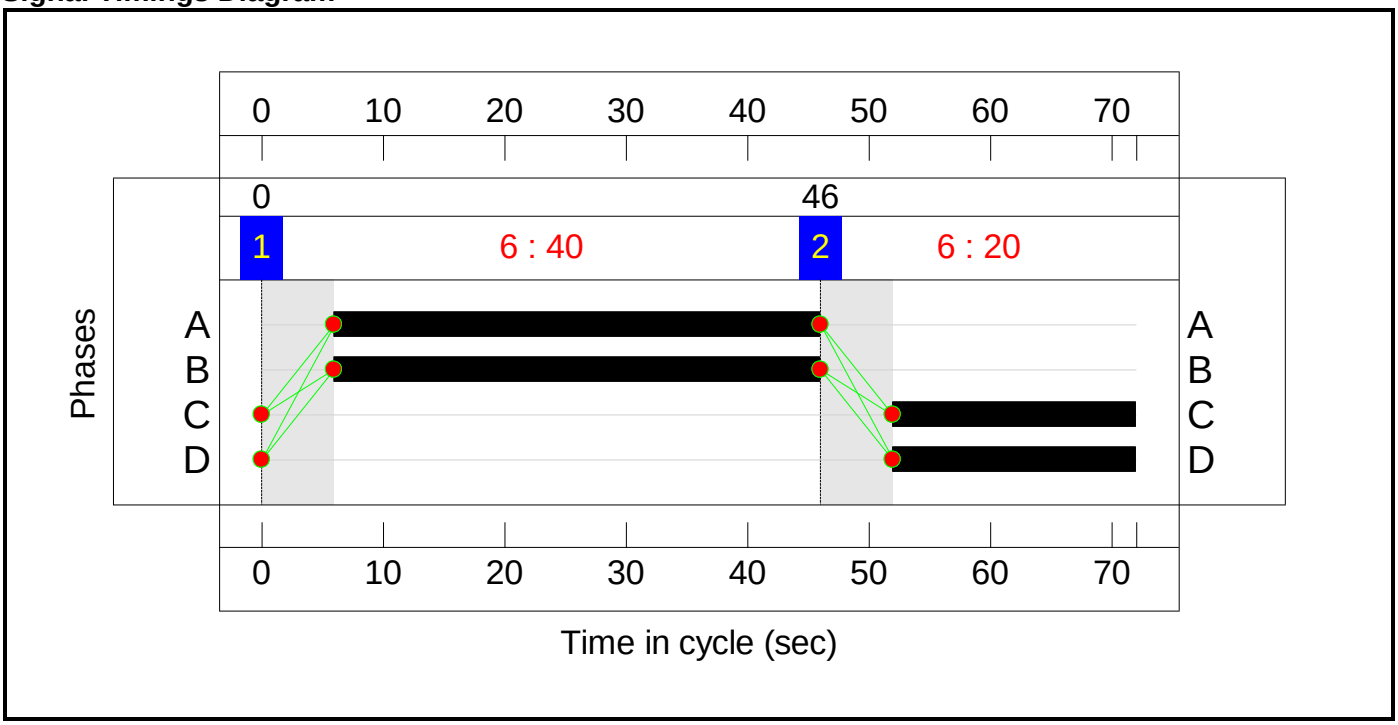
Stage Sequence Diagram



Stage Timings

Stage	1	2
Duration	40	20
Change Point	0	46

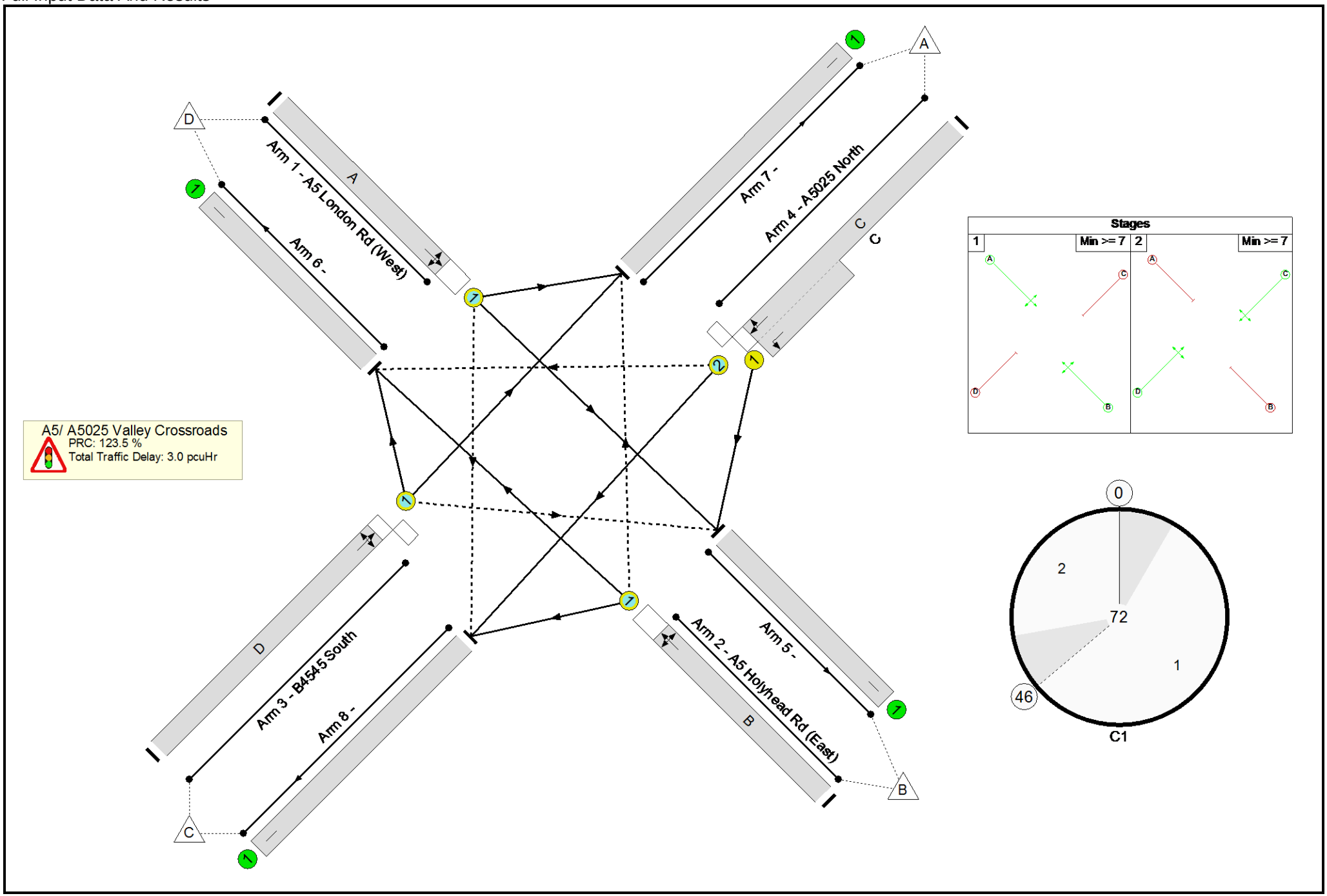
Signal Timings Diagram



Full Input Data And Results

Network Layout Diagram

Full Input Data And Results



Full Input Data And Results

Network Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network: A5-B4545 Valley Crossroads	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**40.3%**
A5/ A5025 Valley Crossroads	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**40.3%**
1/1	A5 London Rd (West) Ahead Left Right	O	N/A	N/A	A		1	40	-	273	1922	934	29.2%
2/1	A5 Holyhead Rd (East) Ahead Right Left	O	N/A	N/A	B		1	40	-	251	1817	1035	24.3%
3/1	B4545 South Right Left Ahead	O	N/A	N/A	D		1	20	-	199	1694	494	40.3%
4/2+4/1	A5025 North Left Right Ahead	O+U	N/A	N/A	C		1	20	-	0	2055:1915	478+239	0.0 : 0.0%
5/1		U	N/A	N/A	-		-	-	-	395	Inf	Inf	0.0%
6/1		U	N/A	N/A	-		-	-	-	145	Inf	Inf	0.0%
7/1		U	N/A	N/A	-		-	-	-	0	Inf	Inf	0.0%
8/1		U	N/A	N/A	-		-	-	-	183	Inf	Inf	0.0%

Full Input Data And Results

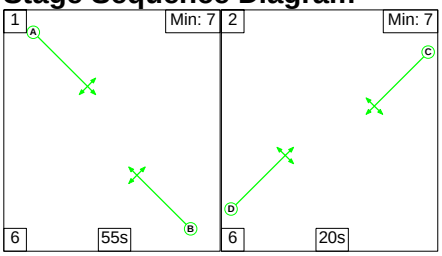
Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network: A5-B4545 Valley Crossroads	**-**	**-**	**195**	**0**	**3**	**2.3**	**0.7**	**0.0**	**3.0**	**-**	**-**	**-**	**-**
A5/ A5025 Valley Crossroads	**-**	**-**	**195**	**0**	**3**	**2.3**	**0.7**	**0.0**	**3.0**	**-**	**-**	**-**	**-**
1/1	273	273	37	0	1	0.6	0.2	0.0	0.8	10.8	2.7	0.2	2.9
2/1	251	251	0	0	0	0.5	0.2	0.0	0.7	10.0	2.4	0.2	2.6
3/1	199	199	158	0	2	1.1	0.3	0.0	1.5	26.7	3.2	0.3	3.5
4/2+4/1	0	0	0	0	0	0.0	0.0	0.0	0.0 (0.0+0.0)	0.0 (0.0:0.0)	0.0	0.0	0.0
5/1	395	395	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	145	145	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	0	0	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	183	183	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

C1 PRC for Signalled Lanes (%): 123.5 Total Delay for Signalled Lanes (pcuHr): 3.00 Cycle Time (s): 72
PRC Over All Lanes (%): 123.5 Total Delay Over All Lanes(pcuHr): 3.00

Full Input Data And Results

Scenario 20: 'WNP 2023 PM' (FG20: 'Wylfa Newydd Project 2023 : PM', Plan 1: 'Network Control Plan 1')

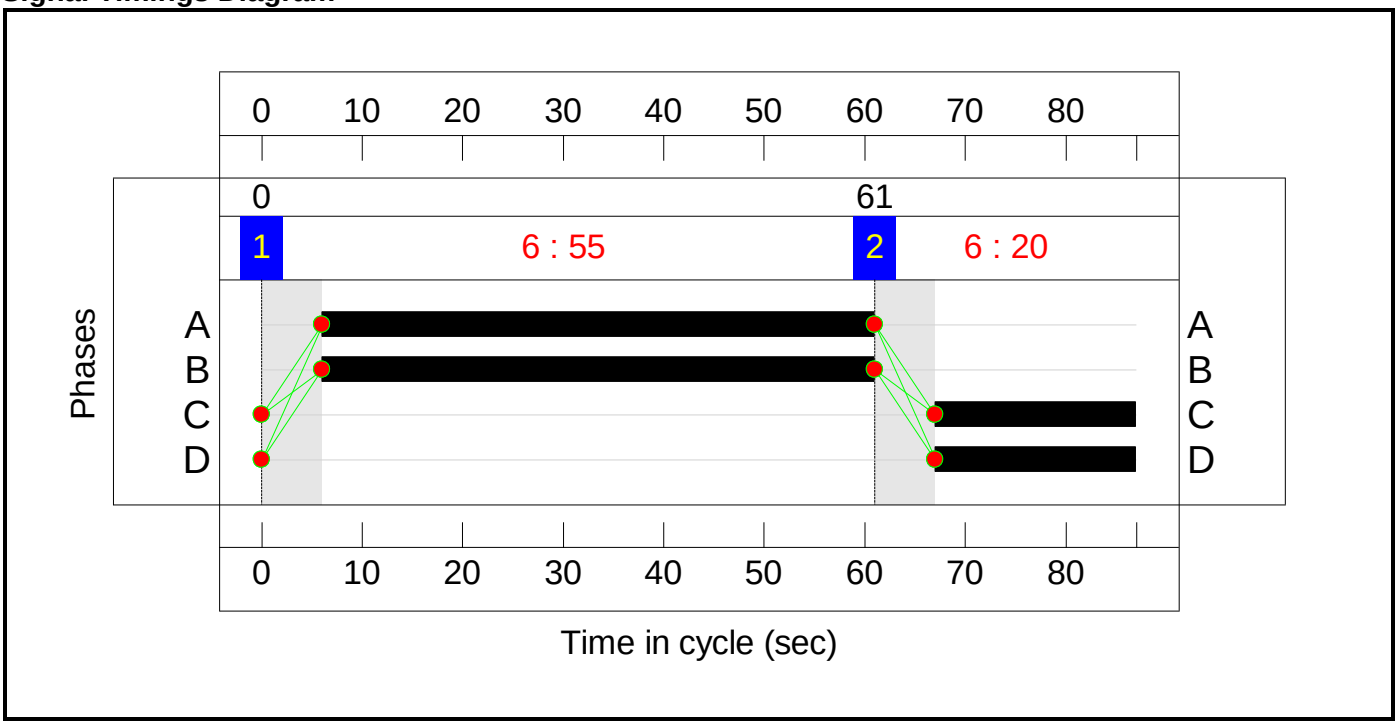
Stage Sequence Diagram



Stage Timings

Stage	1	2
Duration	55	20
Change Point	0	61

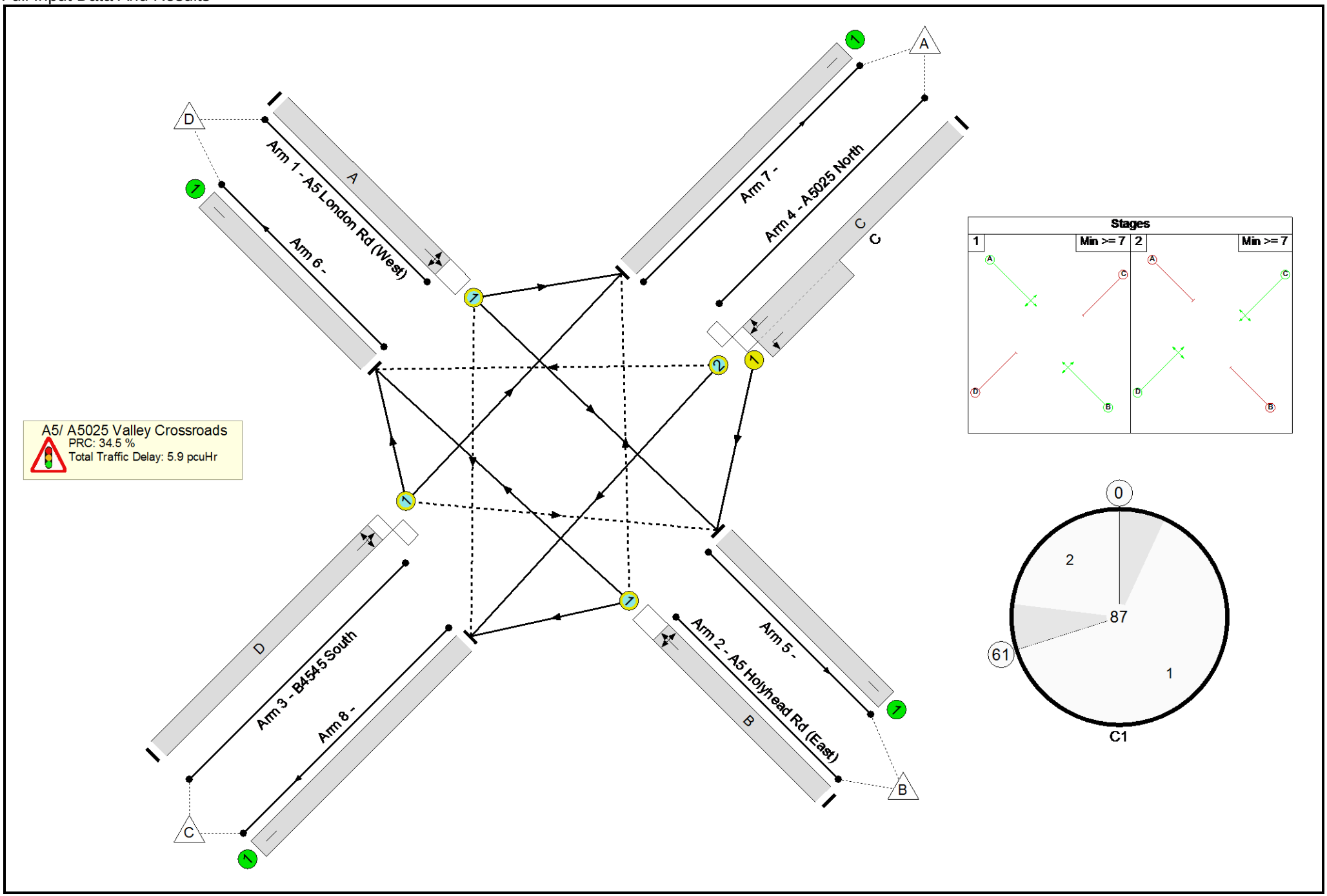
Signal Timings Diagram



Full Input Data And Results

Network Layout Diagram

Full Input Data And Results



Full Input Data And Results

Network Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network: A5-B4545 Valley Crossroads	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**66.9%**
A5/ A5025 Valley Crossroads	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**66.9%**
1/1	A5 London Rd (West) Ahead Left Right	O	N/A	N/A	A		1	55	-	415	1914	923	45.0%
2/1	A5 Holyhead Rd (East) Ahead Right Left	O	N/A	N/A	B		1	55	-	430	1825	1175	36.6%
3/1	B4545 South Right Left Ahead	O	N/A	N/A	D		1	20	-	272	1684	406	66.9%
4/2+4/1	A5025 North Left Right Ahead	O+U	N/A	N/A	C		1	20	-	0	2055:1915	247+124	0.0 : 0.0%
5/1		U	N/A	N/A	-		-	-	-	543	Inf	Inf	0.0%
6/1		U	N/A	N/A	-		-	-	-	270	Inf	Inf	0.0%
7/1		U	N/A	N/A	-		-	-	-	0	Inf	Inf	0.0%
8/1		U	N/A	N/A	-		-	-	-	304	Inf	Inf	0.0%

Full Input Data And Results

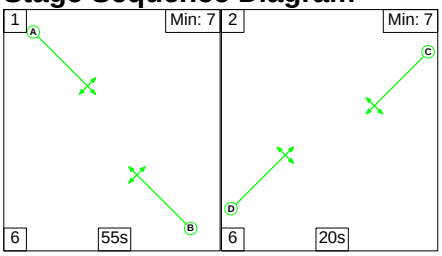
Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network: A5-B4545 Valley Crossroads	**-**	**-**	**266**	**0**	**4**	**4.2**	**1.7**	**0.1**	**5.9**	**-**	**-**	**-**	**-**
A5/ A5025 Valley Crossroads	**-**	**-**	**266**	**0**	**4**	**4.2**	**1.7**	**0.1**	**5.9**	**-**	**-**	**-**	**-**
1/1	415	415	69	0	2	1.1	0.4	0.0	1.5	13.1	5.9	0.4	6.3
2/1	430	430	0	0	0	0.9	0.3	0.0	1.2	9.6	4.8	0.3	5.1
3/1	272	272	197	0	2	2.3	1.0	0.0	3.3	43.4	5.9	1.0	6.9
4/2+4/1	0	0	0	0	0	0.0	0.0	0.0	0.0 (0.0+0.0)	0.0 (0.0:0.0)	0.0	0.0	0.0
5/1	543	543	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	270	270	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	0	0	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	304	304	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

C1 PRC for Signalled Lanes (%): 34.5 Total Delay for Signalled Lanes (pcuHr): 5.94 Cycle Time (s): 87
PRC Over All Lanes (%): 34.5 Total Delay Over All Lanes(pcuHr): 5.94

Full Input Data And Results

Scenario 21: 'WNP 2023 Sunday' (FG21: 'Wylfa Newydd Project 2023 : Weekend (Sunday)', Plan 1: 'Network Control Plan 1')

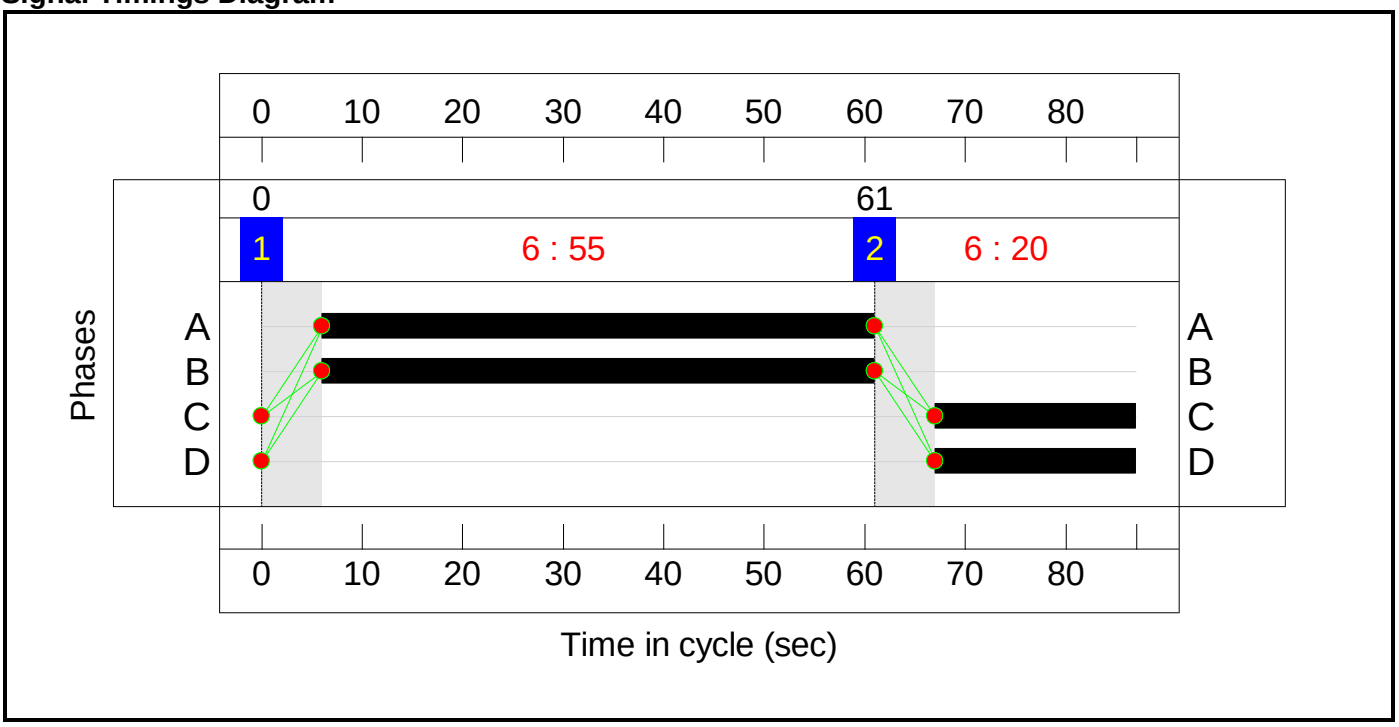
Stage Sequence Diagram



Stage Timings

Stage	1	2
Duration	55	20
Change Point	0	61

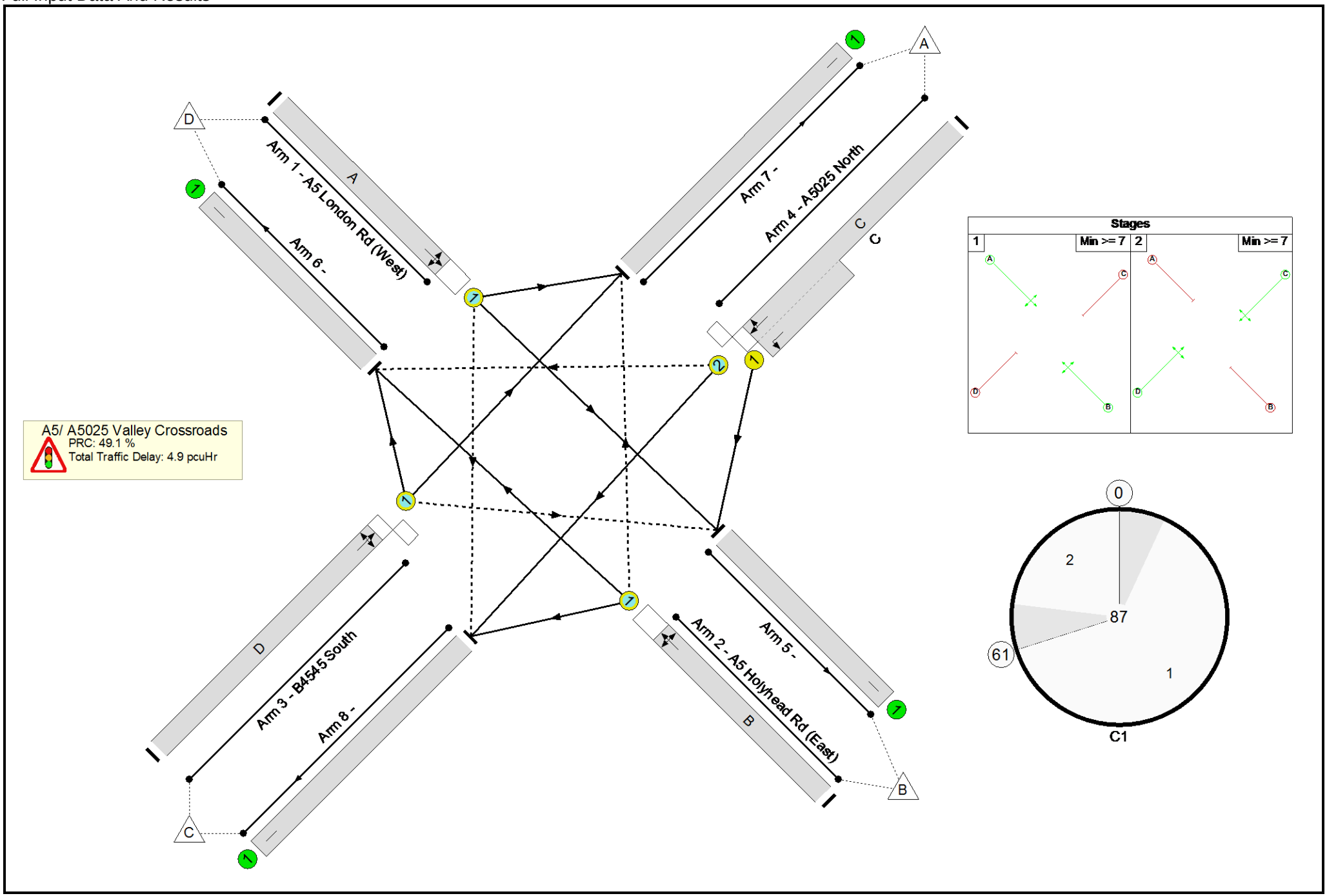
Signal Timings Diagram



Full Input Data And Results

Network Layout Diagram

Full Input Data And Results



Full Input Data And Results

Network Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network: A5-B4545 Valley Crossroads	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**60.3%**
A5/ A5025 Valley Crossroads	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**60.3%**
1/1	A5 London Rd (West) Ahead Left Right	O	N/A	N/A	A		1	55	-	413	1907	988	41.8%
2/1	A5 Holyhead Rd (East) Ahead Right Left	O	N/A	N/A	B		1	55	-	321	1837	1182	27.1%
3/1	B4545 South Right Left Ahead	O	N/A	N/A	D		1	20	-	244	1675	404	60.3%
4/2+4/1	A5025 North Left Right Ahead	O+U	N/A	N/A	C		1	20	-	0	2055:1915	287+143	0.0 : 0.0%
5/1		U	N/A	N/A	-		-	-	-	491	Inf	Inf	0.0%
6/1		U	N/A	N/A	-		-	-	-	247	Inf	Inf	0.0%
7/1		U	N/A	N/A	-		-	-	-	0	Inf	Inf	0.0%
8/1		U	N/A	N/A	-		-	-	-	240	Inf	Inf	0.0%

Full Input Data And Results

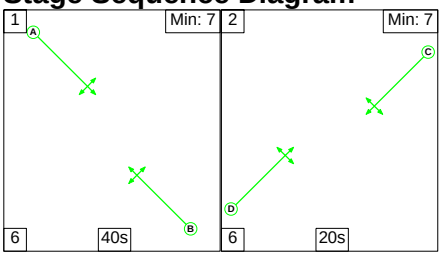
Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network: A5-B4545 Valley Crossroads	**-**	**-**	**240**	**0**	**4**	**3.5**	**1.3**	**0.1**	**4.9**	**-**	**-**	**-**	**-**
A5/ A5025 Valley Crossroads	**-**	**-**	**240**	**0**	**4**	**3.5**	**1.3**	**0.1**	**4.9**	**-**	**-**	**-**	**-**
1/1	413	413	81	0	2	1.0	0.4	0.0	1.4	11.8	5.4	0.4	5.8
2/1	321	321	0	0	0	0.6	0.2	0.0	0.8	8.8	3.3	0.2	3.5
3/1	244	244	159	0	2	2.0	0.8	0.0	2.8	40.7	5.2	0.8	6.0
4/2+4/1	0	0	0	0	0	0.0	0.0	0.0	0.0 (0.0+0.0)	0.0 (0.0:0.0)	0.0	0.0	0.0
5/1	491	491	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	247	247	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	0	0	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	240	240	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

C1 PRC for Signalled Lanes (%): 49.1 Total Delay for Signalled Lanes (pcuHr): 4.90 Cycle Time (s): 87
PRC Over All Lanes (%): 49.1 Total Delay Over All Lanes(pcuHr): 4.90

Full Input Data And Results

Scenario 22: 'WNP 2033 AM' (FG22: 'Wylfa Newydd Project 2033 : AM', Plan 1: 'Network Control Plan 1')

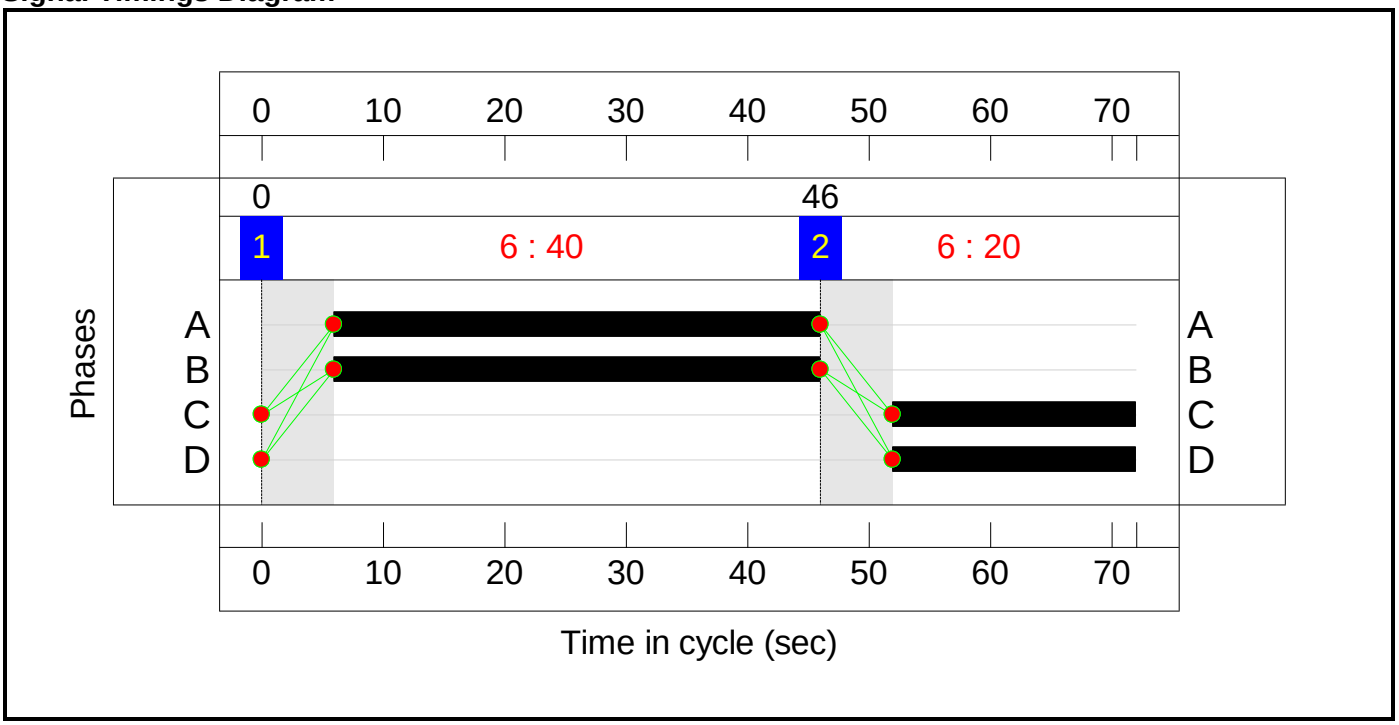
Stage Sequence Diagram



Stage Timings

Stage	1	2
Duration	40	20
Change Point	0	46

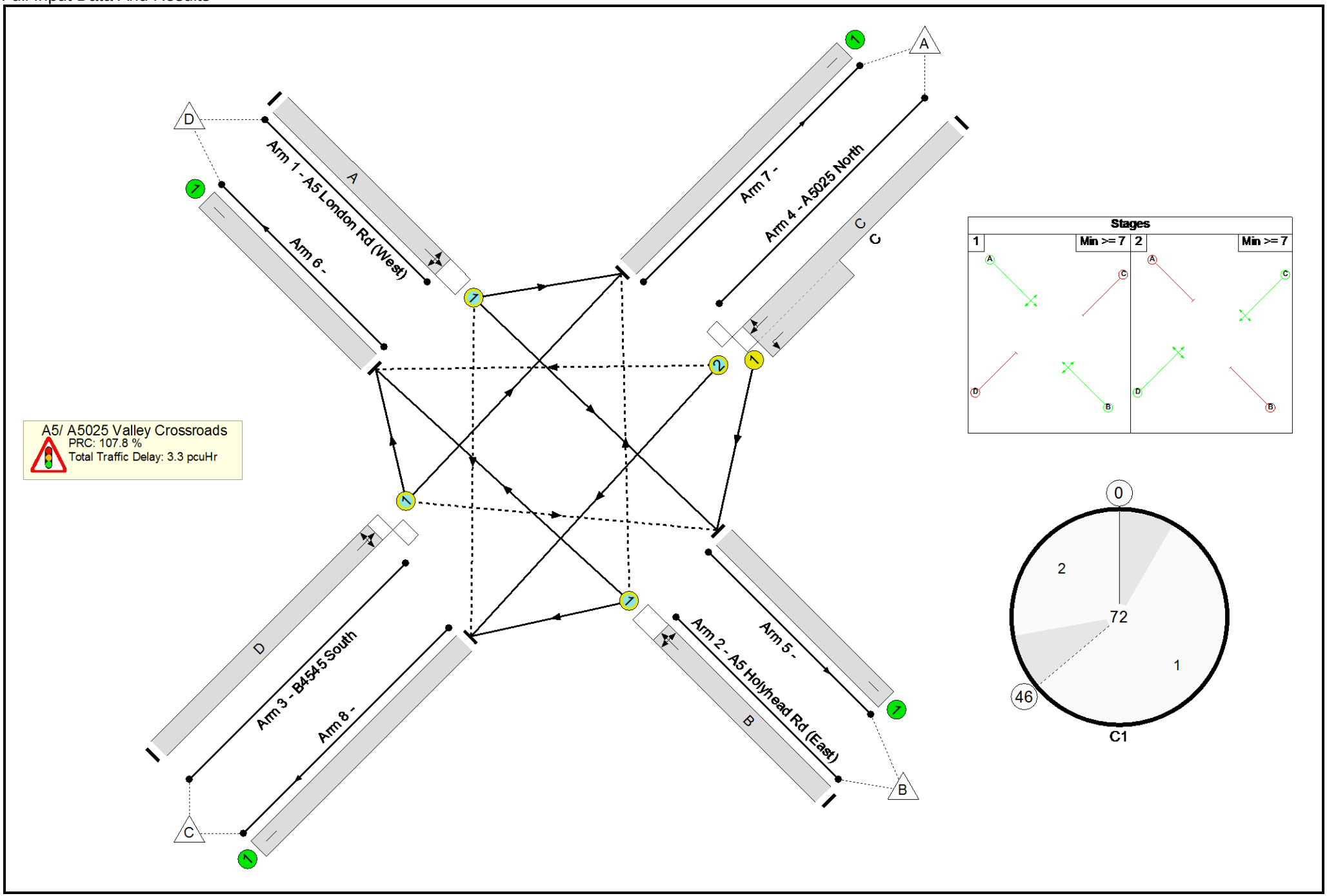
Signal Timings Diagram



Full Input Data And Results

Network Layout Diagram

Full Input Data And Results



Full Input Data And Results

Network Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network: A5-B4545 Valley Crossroads	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**43.3%**
A5/ A5025 Valley Crossroads	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**43.3%**
1/1	A5 London Rd (West) Ahead Left Right	O	N/A	N/A	A		1	40	-	294	1921	920	32.0%
2/1	A5 Holyhead Rd (East) Ahead Right Left	O	N/A	N/A	B		1	40	-	273	1815	1034	26.4%
3/1	B4545 South Right Left Ahead	O	N/A	N/A	D		1	20	-	214	1694	494	43.3%
4/2+4/1	A5025 North Left Right Ahead	O+U	N/A	N/A	C		1	20	-	0	2055:1915	460+230	0.0 : 0.0%
5/1		U	N/A	N/A	-		-	-	-	424	Inf	Inf	0.0%
6/1		U	N/A	N/A	-		-	-	-	155	Inf	Inf	0.0%
7/1		U	N/A	N/A	-		-	-	-	0	Inf	Inf	0.0%
8/1		U	N/A	N/A	-		-	-	-	202	Inf	Inf	0.0%

Full Input Data And Results

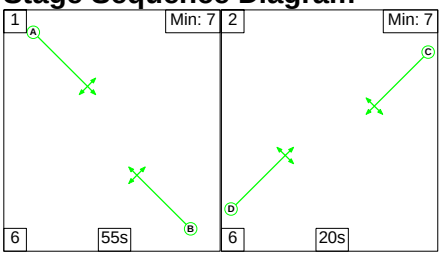
Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network: A5-B4545 Valley Crossroads	**-**	**-**	**210**	**0**	**4**	**2.5**	**0.8**	**0.0**	**3.3**	**-**	**-**	**-**	**-**
A5/ A5025 Valley Crossroads	**-**	**-**	**210**	**0**	**4**	**2.5**	**0.8**	**0.0**	**3.3**	**-**	**-**	**-**	**-**
1/1	294	294	41	0	1	0.7	0.2	0.0	0.9	11.3	3.4	0.2	3.7
2/1	273	273	0	0	0	0.6	0.2	0.0	0.8	10.2	2.7	0.2	2.9
3/1	214	214	170	0	2	1.2	0.4	0.0	1.6	27.3	3.4	0.4	3.8
4/2+4/1	0	0	0	0	0	0.0	0.0	0.0	0.0 (0.0+0.0)	0.0 (0.0:0.0)	0.0	0.0	0.0
5/1	424	424	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	155	155	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	0	0	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	202	202	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

C1 PRC for Signalled Lanes (%): 107.8 Total Delay for Signalled Lanes (pcuHr): 3.32 Cycle Time (s): 72
PRC Over All Lanes (%): 107.8 Total Delay Over All Lanes(pcuHr): 3.32

Full Input Data And Results

Scenario 23: 'WNP 2033 PM' (FG23: 'Wylfa Newydd Project 2033 : PM', Plan 1: 'Network Control Plan 1')

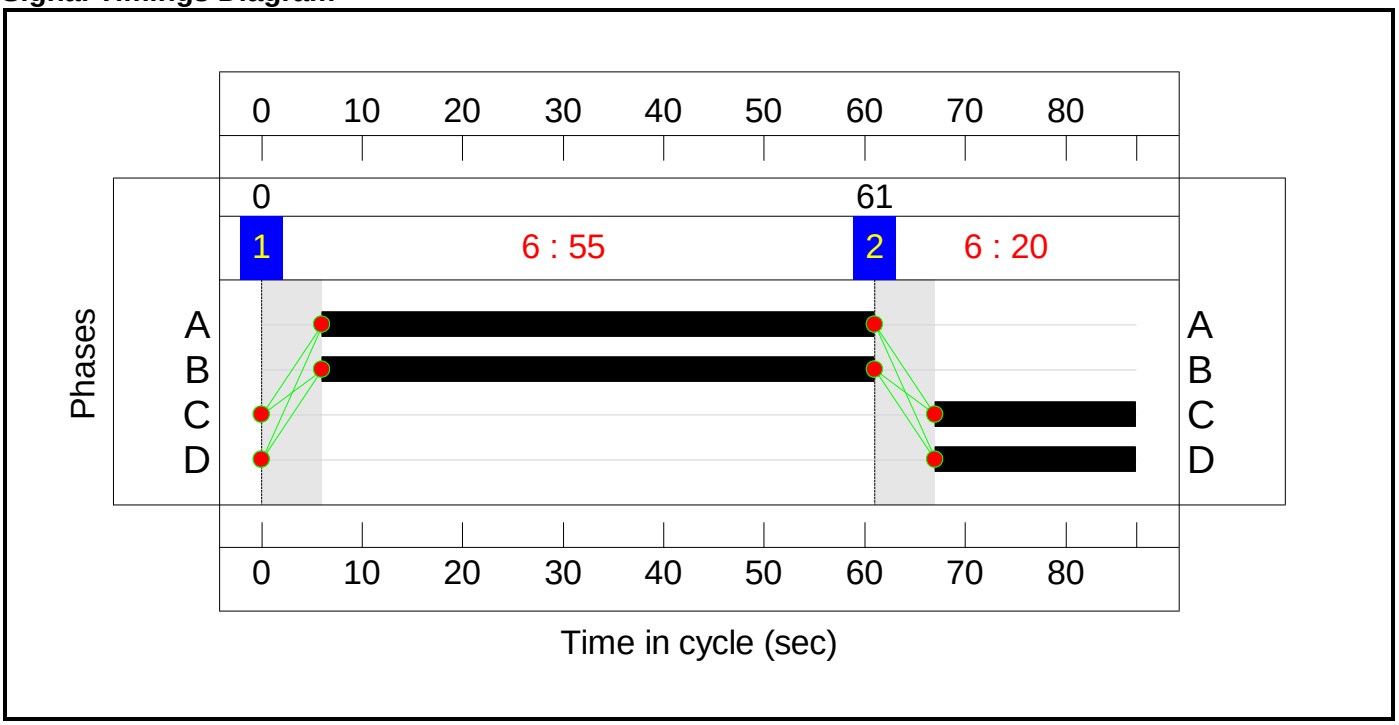
Stage Sequence Diagram



Stage Timings

Stage	1	2
Duration	55	20
Change Point	0	61

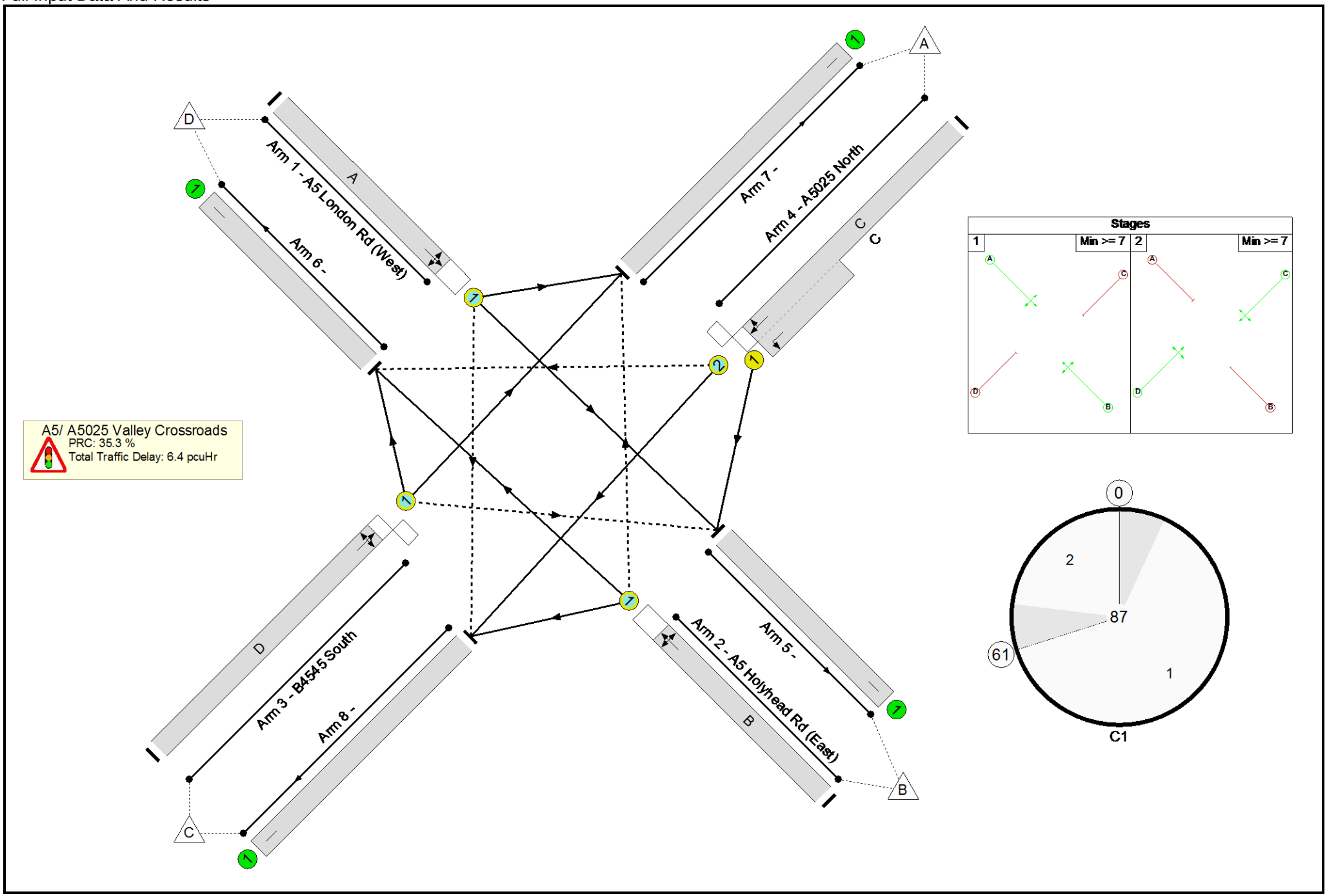
Signal Timings Diagram



Full Input Data And Results

Network Layout Diagram

Full Input Data And Results



Full Input Data And Results

Network Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network: A5-B4545 Valley Crossroads	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**66.5%**
A5/ A5025 Valley Crossroads	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**66.5%**
1/1	A5 London Rd (West) Ahead Left Right	O	N/A	N/A	A		1	55	-	445	1914	888	50.1%
2/1	A5 Holyhead Rd (East) Ahead Right Left	O	N/A	N/A	B		1	55	-	468	1822	1173	39.9%
3/1	B4545 South Right Left Ahead	O	N/A	N/A	D		1	20	-	270	1681	406	66.5%
4/2+4/1	A5025 North Left Right Ahead	O+U	N/A	N/A	C		1	20	-	0	2055:1915	249+125	0.0 : 0.0%
5/1		U	N/A	N/A	-		-	-	-	560	Inf	Inf	0.0%
6/1		U	N/A	N/A	-		-	-	-	287	Inf	Inf	0.0%
7/1		U	N/A	N/A	-		-	-	-	0	Inf	Inf	0.0%
8/1		U	N/A	N/A	-		-	-	-	336	Inf	Inf	0.0%

Full Input Data And Results

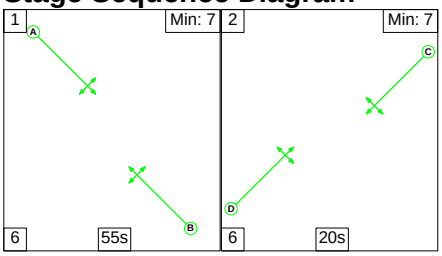
Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network: A5-B4545 Valley Crossroads	**-**	**-**	**263**	**0**	**4**	**4.5**	**1.8**	**0.1**	**6.4**	**-**	**-**	**-**	**-**
A5/ A5025 Valley Crossroads	**-**	**-**	**263**	**0**	**4**	**4.5**	**1.8**	**0.1**	**6.4**	**-**	**-**	**-**	**-**
1/1	445	445	74	0	2	1.3	0.5	0.1	1.8	14.8	6.8	0.5	7.3
2/1	468	468	0	0	0	1.0	0.3	0.0	1.3	10.0	5.3	0.3	5.7
3/1	270	270	189	0	2	2.2	1.0	0.0	3.2	43.2	5.9	1.0	6.8
4/2+4/1	0	0	0	0	0	0.0	0.0	0.0	0.0 (0.0+0.0)	0.0 (0.0:0.0)	0.0	0.0	0.0
5/1	560	560	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	287	287	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	0	0	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	336	336	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

C1 PRC for Signalled Lanes (%): 35.3 Total Delay for Signalled Lanes (pcuHr): 6.36 Cycle Time (s): 87
PRC Over All Lanes (%): 35.3 Total Delay Over All Lanes(pcuHr): 6.36

Full Input Data And Results

Scenario 24: 'WNP 2033 Saturday' (FG24: 'Wylfa Newydd Project 2033 : Weekend (Saturday)', Plan 1: 'Network Control Plan 1')

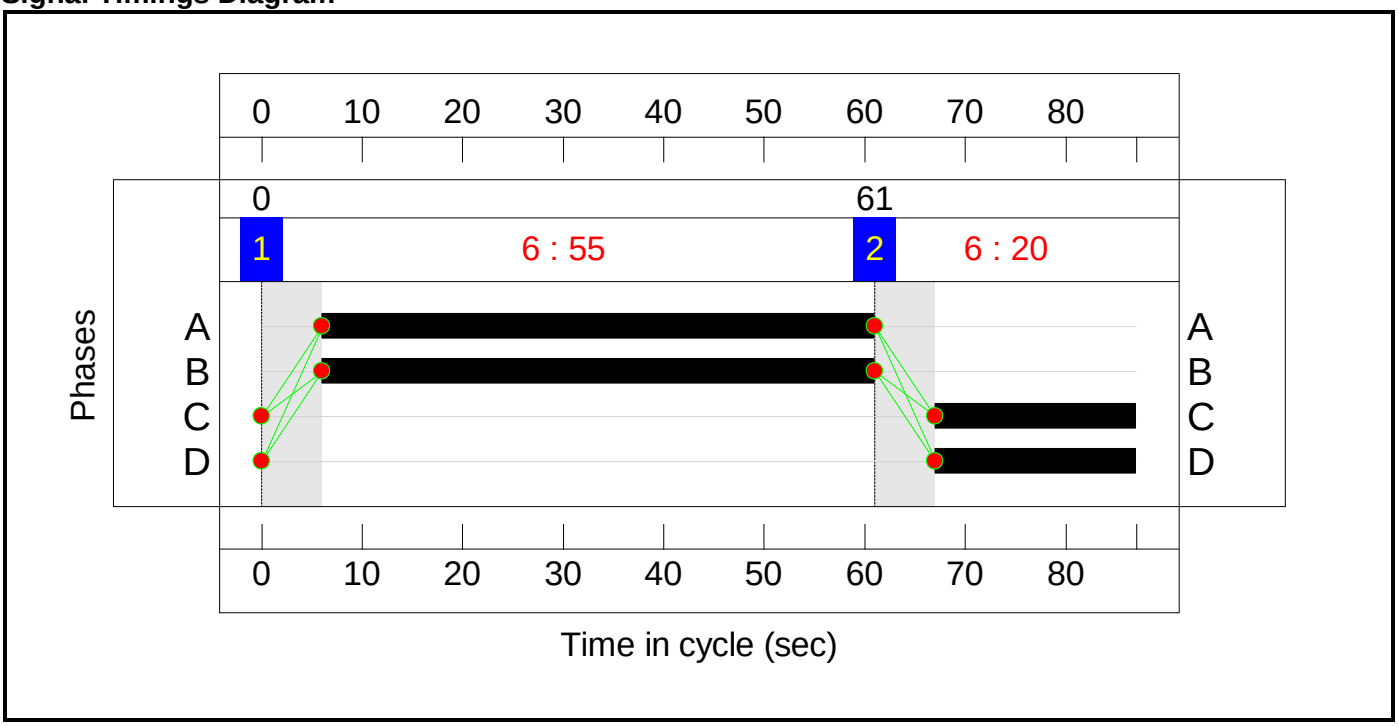
Stage Sequence Diagram



Stage Timings

Stage	1	2
Duration	55	20
Change Point	0	61

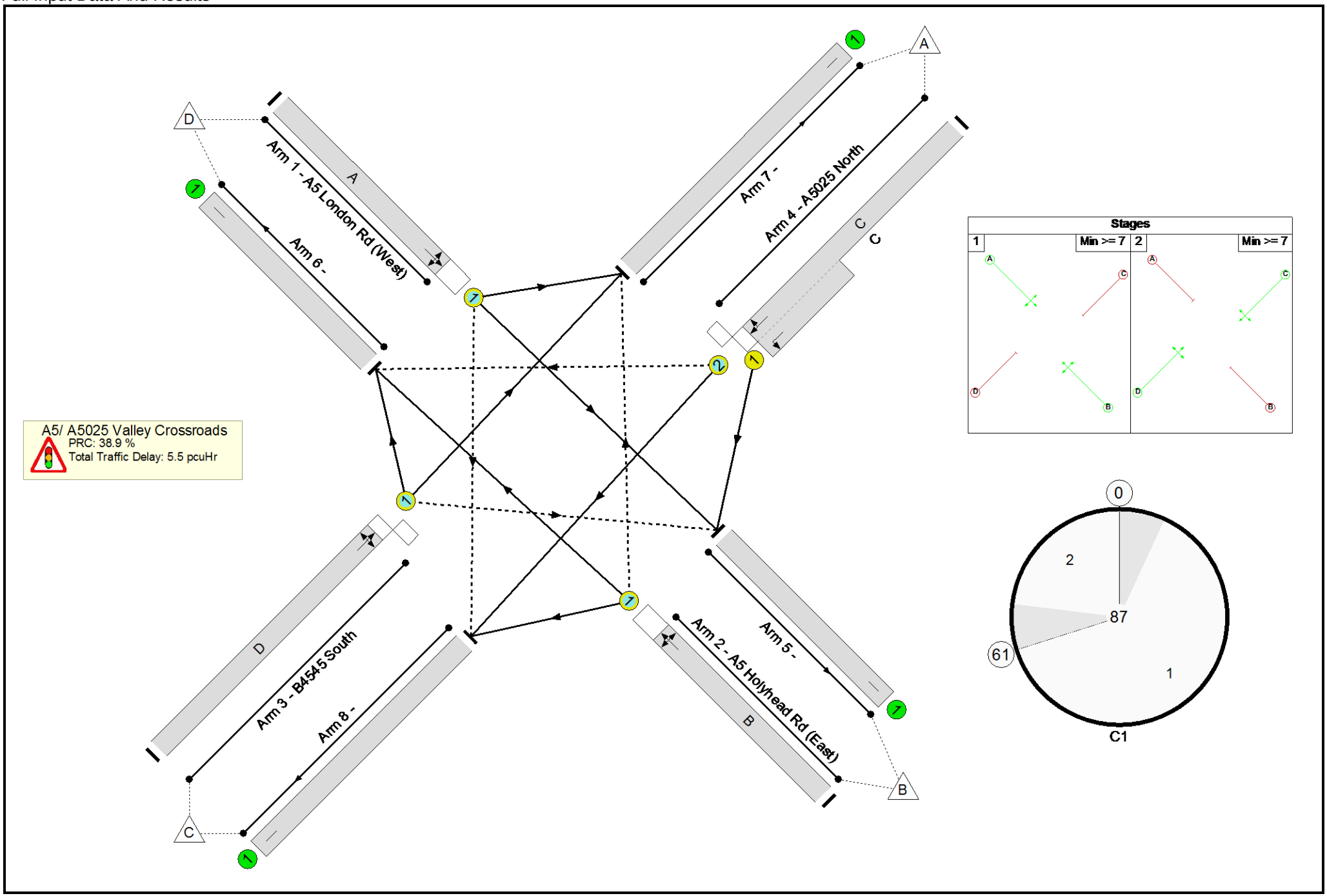
Signal Timings Diagram



Full Input Data And Results

Network Layout Diagram

Full Input Data And Results



Full Input Data And Results

Network Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network: A5-B4545 Valley Crossroads	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**64.8%**
A5/ A5025 Valley Crossroads	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**64.8%**
1/1	A5 London Rd (West) Ahead Left Right	O	N/A	N/A	A		1	55	-	441	1907	974	45.3%
2/1	A5 Holyhead Rd (East) Ahead Right Left	O	N/A	N/A	B		1	55	-	341	1837	1182	28.8%
3/1	B4545 South Right Left Ahead	O	N/A	N/A	D		1	20	-	262	1675	404	64.8%
4/2+4/1	A5025 North Left Right Ahead	O+U	N/A	N/A	C		1	20	-	0	2055:1915	261+131	0.0 : 0.0%
5/1		U	N/A	N/A	-		-	-	-	525	Inf	Inf	0.0%
6/1		U	N/A	N/A	-		-	-	-	262	Inf	Inf	0.0%
7/1		U	N/A	N/A	-		-	-	-	0	Inf	Inf	0.0%
8/1		U	N/A	N/A	-		-	-	-	257	Inf	Inf	0.0%

Full Input Data And Results

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network: A5-B4545 Valley Crossroads	**-**	**-**	**258**	**0**	**4**	**3.9**	**1.5**	**0.1**	**5.5**	**-**	**-**	**-**	**-**
A5/ A5025 Valley Crossroads	**-**	**-**	**258**	**0**	**4**	**3.9**	**1.5**	**0.1**	**5.5**	**-**	**-**	**-**	**-**
1/1	441	441	87	0	2	1.1	0.4	0.0	1.5	12.7	6.0	0.4	6.4
2/1	341	341	0	0	0	0.6	0.2	0.0	0.8	8.9	3.6	0.2	3.8
3/1	262	262	171	0	2	2.2	0.9	0.0	3.1	42.4	5.7	0.9	6.6
4/2+4/1	0	0	0	0	0	0.0	0.0	0.0	0.0 (0.0+0.0)	0.0 (0.0:0.0)	0.0	0.0	0.0
5/1	525	525	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	262	262	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	0	0	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	257	257	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

C1 PRC for Signalled Lanes (%): 38.9 Total Delay for Signalled Lanes (pcuHr): 5.48 Cycle Time (s): 87
PRC Over All Lanes (%): 38.9 Total Delay Over All Lanes(pcuHr): 5.48