A611 Economic Impacts Transport Study

Baseline Conditions

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Quality information

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Revision History

Revision	Revision date	Details	Authorized	Name	Position
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1. Introduction

1.1 Overview

1.1.1 AECOM has been commissioned by Nottinghamshire County Council (NCC), Ashfield District Council and Mansfield District Council to prepare a study into the impacts, causes and potential solutions to congestion on the A608 - A611 corridor.

1.1.2 The A608 – A611 corridor provides a key link to Ashfield and Mansfield town centres, with several business parks located either along it (such as the Sherwood Business Park) or close to the route (such as Oakham and Ransom Wood). The route also provides an important connection to the M1 motorway for businesses and residents from both Ashfield and Mansfield, and links the Mansfield Southern Growth Corridor to the M1.

1.1.3 The aims of this study are to:

- value the current economic impacts (costs) of the journey time delay along the study route;
- identify potential schemes along the study route to improve journey times;
- test the potential schemes to determine if they offer sufficient economic value to warrant further development; and
- develop an outline business case for the identified improvements.

1.1.4 This document forms the **Baseline Conditions** report. It summarises the traffic surveys undertaken to support the study, and the development of the junction models used to determine the efficiency of the highway network.

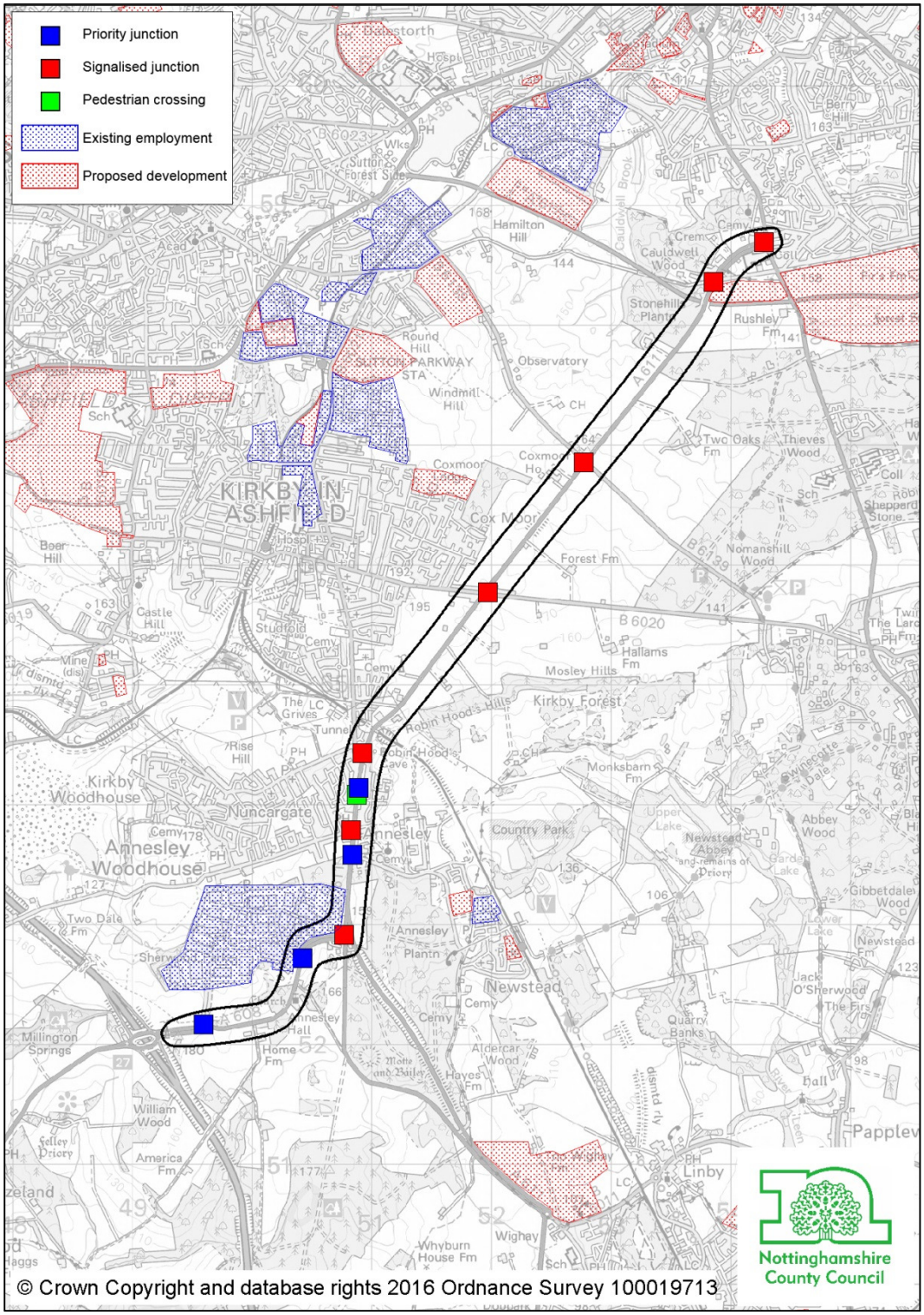
1.2 Study Area

1.2.1 Figure 1.1 shows the Study Area. It includes the following eleven junctions:

- A608 / Willow Drive;
- A608 / Osier Drive;
- A608 / A611 / Annesley Road;
- A611 / Annesley Cutting;
- A611 / Forest Road / School Hill;
- A611 / Midfield Road;
- A611 / B6021 (Nottingham Road);
- A611 / B6020;
- A611 / B6139 (Coxmoor Road);
- A611 / Cauldwell Road; and
- A611 / A60 (Nottingham Road).

1.2.2 The M1 (Junction 27) itself is not part of the study, and it is understood that Highways England (HE) is separately examining the capacity of this junction.

Figure 1.1: Study Area



1.3 Methodology and Reporting Structure

1.3.1 Prior to the final report, a series of interim reports will summarise the work that has been undertaken. These reports will be:

- Baseline Conditions (i.e. this report);
- Future Year Forecasts and Operation;
- Option Generation and Preferred Package; and
- Outline Business Case / Scheme Assessment.

1.3.2 The methodology was agreed with NCC, the local highway authority, prior to commencing work.

2. Traffic Flow and Journey Time

2.1 Overview

2.1.1 The purpose of this section is to identify the traffic flows on the A608 – A611 corridor for use later in this study. It is based on traffic surveys specifically undertaken to support this study, and also data provided by NCC.

2.2 Traffic Surveys

2.2.1 According to the document, *How the National Road Traffic Estimates are Made* (DfT, 2007), traffic counts are normally undertaken during the 'neutral' months of March, April, May, June, September and October (but outside of school holidays). This is to ensure seasonal impacts are minimised. The traffic surveys undertaken to support this study were undertaken on Wednesday 15th March 2017. On this date, traffic conditions on the M1 in the vicinity of Junction 27 were monitored during the day, and no incidents were noted that would have interrupted traffic conditions along the A608 – A611 corridor. In addition, NCC confirmed that there were no roadworks booked that would have disrupted normal traffic flows, and there was no disruptive weather.

2.2.2 The traffic surveys included Manual Classified Counts (MCCs) and queue length surveys. For the MCCs, all possible traffic movements were recorded in 15 minutes intervals, between the times of 07:00 – 19:00hrs. The following classifications were used:

- PC – Pedal cycles using the road; this does not include cyclists using the pavement.
- MC – Two wheeled motor cycles;
- Car – Including taxis, state cars, 'people carriers' and other passenger vehicles (for example, minibuses and camper vans) with a gross vehicle weight of less than 3.5 tonnes, normally ones which can accommodate not more than 15 seats. Three-wheeled cars, motor invalid carriages, Land Rovers, Range Rovers and Jeeps and smaller ambulances are included. Cars towing caravans or trailers are counted as one vehicle;
- LGV – Light Goods Vehicle. Includes all goods vehicles up to 3.5 tonnes gross vehicle weight (goods vehicles over 3.5 tonnes have sideguards fitted between axles), including those towing a trailer or caravan. This includes all car delivery vans and those of the next larger carrying capacity such as transit vans. Included here are small pickup vans, three-wheeled goods vehicles, milk floats and pedestrian controlled motor vehicles. Most of this group are delivery vans of one type or another;
- OGV1 – Other Goods Vehicles Category 1. Includes all rigid vehicles over 3.5 tonnes gross vehicle weight with two or three axles. Includes larger ambulances, tractors (without trailers), road rollers for tarmac pressing, box vans and similar large vans. A two or three axle motor tractive without a trailer is also included;
- OGV2 – Other Goods Vehicles Category 2. Includes all rigid vehicles with four or more axles and all articulated vehicles. Also included in this class are OGV1 goods vehicles towing a caravan or trailer;
- PSV – Buses and Coaches. Includes all public service vehicles and works buses with a gross vehicle weight of 3.5 tonnes or more, usually vehicles with more than 16 seats.

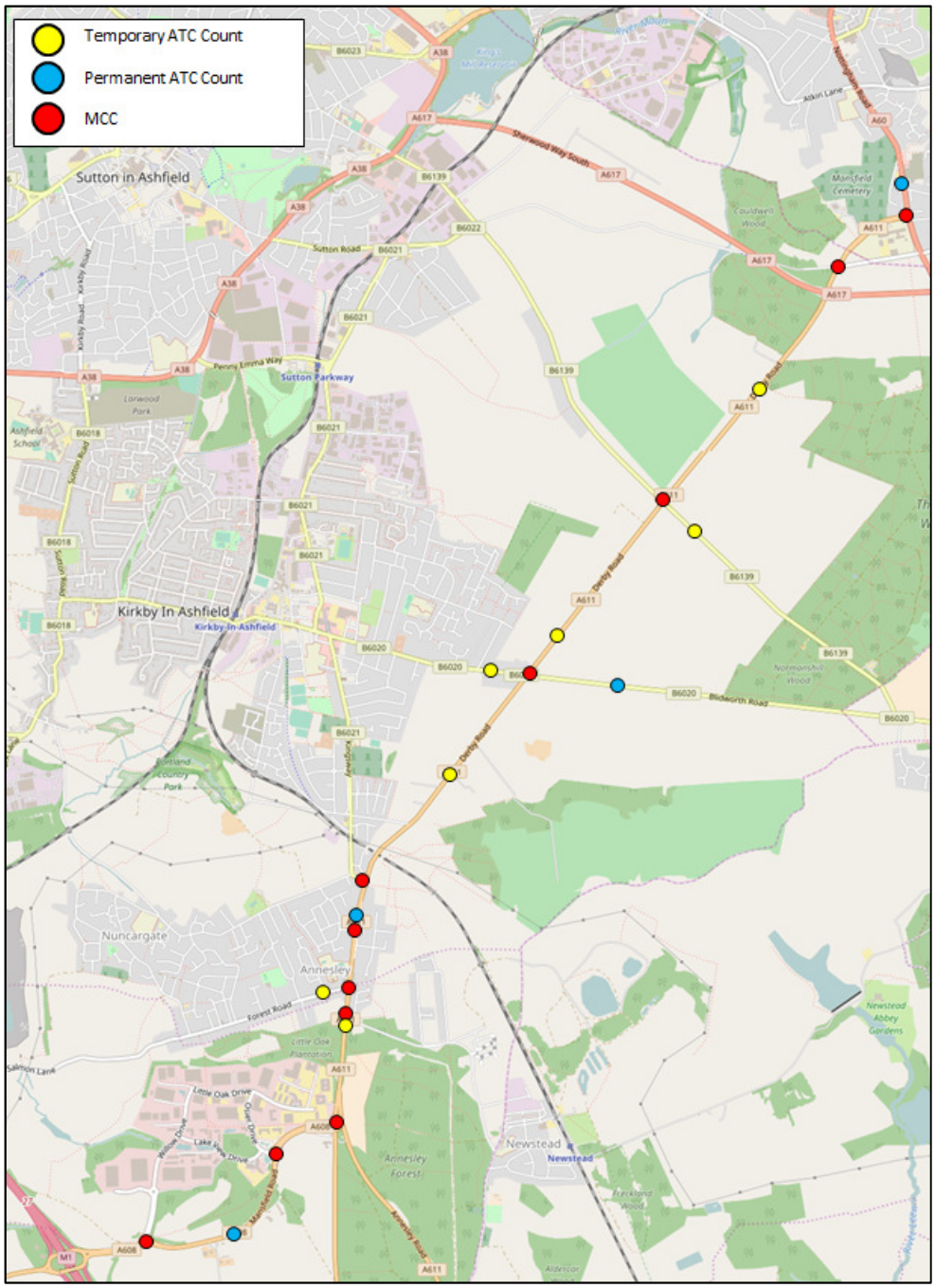
2.2.3 For the queue length surveys, the length of queues was recorded at each junction on the same day as the turning counts between 07:00 – 10:00hrs & 16:00 – 19:00hrs, every five minutes.

2.2.4 In addition to the eleven MCCs, the following data has been provided by NCC:

- Automatic Traffic Counts (ATCs) at the following locations:
  - A611 Derby Road (South of Annesley Cutting)
  - Forest Road (Annesley Primary);
  - A611 (North of Balls Lane);
  - Diamond Avenue;
  - A611 (North of Blidworth Road);
  - Coxmoor Road; and
  - A611 (North of Coxmoor Road).
- Permanent ATCs at the following four locations:
  - A608 (east of A608 / Willow Drive junction);
  - A611 (North of Midfield Road);
  - Blidworth Road (east of A611 / Blidworth Road junction); and
  - A60 (North of A611 Junction).
- TrafficMaster data showing journey times along the A611 corridor.

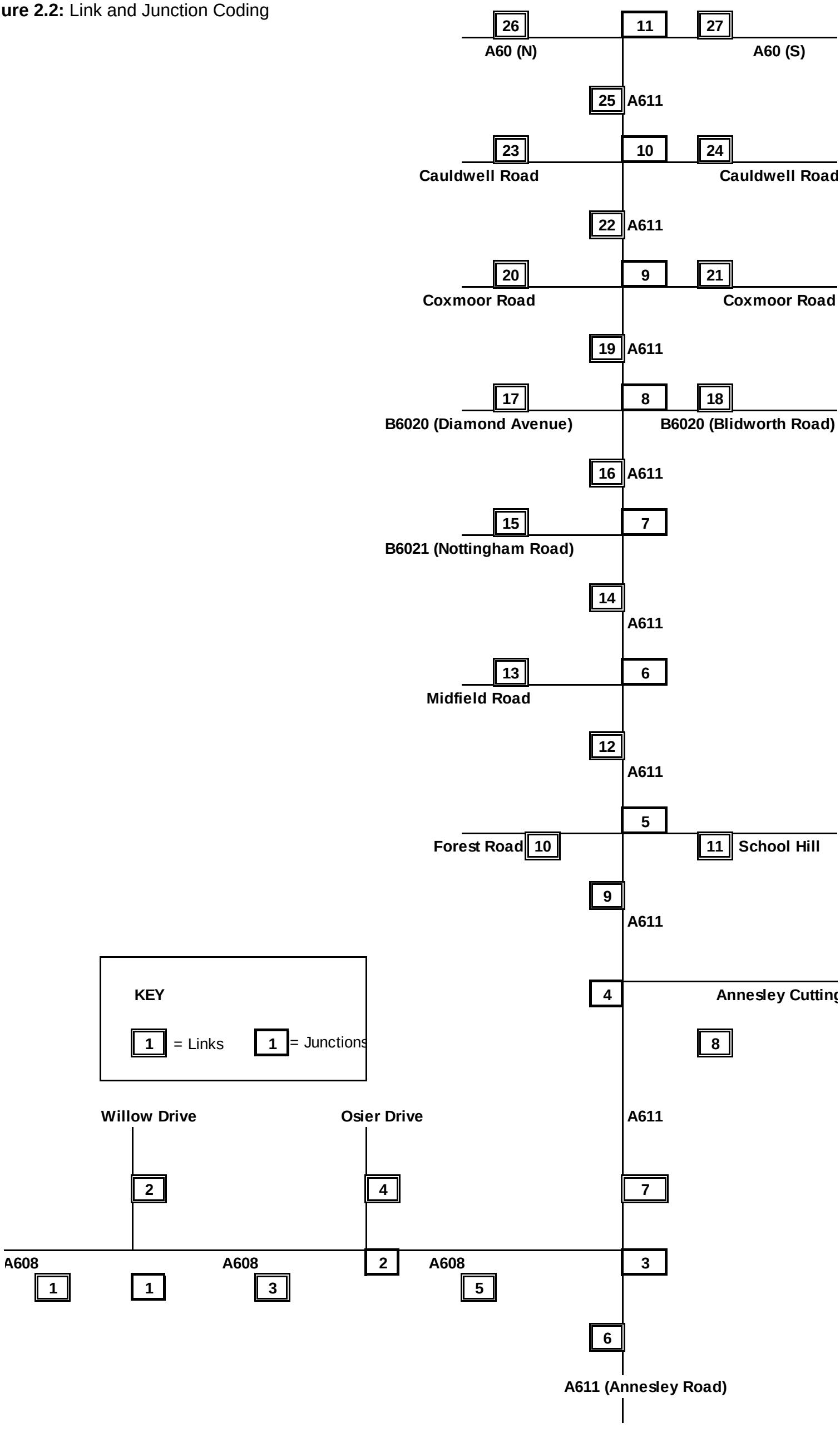
2.2.5 A plan showing the locations of the NCC provided ATCs is provided as Figure 2.1.

Figure 2.1: Location of permanent and temporary ATCs



2.2.6 A plan of the study area divided into Links and Junctions (for use in the COBALT modelling described late in this report) is shown in Figure 2.2.

Figure 2.2: Link and Junction Coding



2.3 Local Network Peak Hours

2.3.1 Analysis of the MCC data has been undertaken to identify the busiest individual 60 minute segment in both the AM (0700 – 1000hrs) and PM (1600 – 1900hrs) peak periods. Table 2.1 shows this analysis for each junction, with the overall busiest 60 minute periods being identified as 0715 – 0815hrs and 1645 – 1745hrs. These hours have been used as the local AM and PM peak hours on which the analysis later in this study will be based.

Table 2.1: Busiest Sixty Minute Segment in the AM and PM peak periods

Junction	Junction Name	AM Peak	PM Peak
1	Willow Drive / A608 E / A608 W	07.15-08.15	16.00-17.00
2	Mansfield Rd (NE) / (SW) / Osier Drive	07.15-08.15	16.00-17.00
3	A611 Derby Rd / A611 Annesley Rd / A608 Mansfield Rd	07.15-08.15	16.45-17.45
4	A611 Derby Rd (N) / (S) / Annesley Cutting	07.15-08.15	16.45-17.45
5	A611 Derby Rd (N) / (S) / School Hill / Forest Rd	07.15-08.15	16.45-17.45
6	A611 Derby Rd (N) / (S) / Midfield Rd	07.00-08.00	16.45-17.45
7	A611 Derby Rd (NE) / (SW) / B6021 Nottingham Rd	07.00-08.00	16.45-17.45
8	A611 Derby Rd (NE) / (SW) / B6020 Blidworth Rd / Diamond Ave	07.00-08.00	16.15-17.25
9	A611 Derby Rd (NE) / (SW) / B6139 Coxmoor Rd (SE) / (NW)	07.45-08.45	16.00-17.00
10	A611 Derby Rd (NE) / (SW) / Cauldwell Rd (E) / (W)	07.45-08.45	16.30-17.30
11	A60 Nottingham Rd (N) / (S) / A611 Derby Rd	08.00-09.00	17.00-18.00

2.4 Comparison with Longer Term Counts

2.4.1 A comparison between the one-day MCCs and the longer term ATCs (whether permanent or temporary) has been undertaken to determine if the MCCs are representative of longer term conditions. In this regard, it should be noted that normal variation in ‘day to day’ traffic flow can be in the order of ± 15%.

2.4.2 Table 2.2 shows this comparison in both the AM and PM peak hour.

Table 2.2: Percentage difference between MCC (one day) and ATC data (averaged across all weekdays in the sample)

Location	AM Peak Hour	PM Peak Hour
A608	10.3%	8.0%
A611 North of Midfield Rd	7.0%	8.4%
Blidworth Road	32.1%	30.3%
A60 North of A611 Junction	18.3%	6.3%
A611 South of Annesley Cutting	26.1%	22.4%
Forest Road (Annesley Primary)	2.1%	*-1.8%*
A611 North of Balls Lane	*-1.8%*	9.2%
Diamond Avenue	8.4%	2.6%
A611 North of Blidworth Rd	*-1.7%*	*-1.9%*
Coxmoor Road	2.0%	*-2.1%*
A611 North of Coxmoor Rd	*-0.6%*	5.6%

Note: a positive % indicates the MCC recorded more traffic than the ATC.
Grey shading indicates comparison of the MCC against a permanent ATC with data taken from 2017 (Jan to March), whilst other comparisons are of the MCC against the average weekday taken from the 7-day ATCs undertaken in March 2017

2.4.3 The two locations which show the greatest discrepancy are (1) B6020 Blidworth Road, and (2) the A611 (South of Annesley Cutting). In the case of the former, whilst the percentage differences are over 30% the difference in actual vehicle numbers between the MCC and average weekday in the ATC are smaller (+173 two-way vehicles in the AM peak hour and +79 two-way vehicles in the PM peak hour). For the A611 (south of Annesley Cutting), the differences relate primarily to the southbound movement; however, comparisons between the MCC and ATC data at the adjacent count sites to the north and south of this location are within 10%. It is not clear, therefore, whether there was a localised issue at this junction at the time of the survey. Notwithstanding this, the overall pattern is that the MCC recorded slightly more flow than the longer term ATCs (whether temporary or permanent) along the A611 itself. This may be because of slow moving queuing traffic interrupting the ATC equipment.

2.4.4 Notwithstanding the above, data from the 2016 permanent count site from the A611 has also been used to identify variance on a month-by-month basis by calculating an average of weekday traffic flow within each month. This data (Table 2.3) shows that traffic counts collected in March are highly likely to be representative of data across the full year. As such, no corrections have been applied for monthly variation.

Table 2.3: Comparison of 24-hr weekday traffic flow (Month Total / Year Month Average – Weekday Traffic Totals) – at A611 Permanent Count Site

January	February	March	April	May	June
97.2%	99.5%	100.3%	100.0%	100.1%	100.4%
July	**August**	**September**	**October**	**November**	**December**
102.0%	98.9%	102.4%	102.0%	100.9%	96.5%

This table has been calculated by dividing the total average weekday 24hr traffic in a particular month, by the total average weekday 24hr traffic recorded across the entire of 2016

2.5 Baseline Traffic Flows

2.5.1 Diagrams showing the traffic flow through each of the study area junctions are shown in Appendix A. As the MCCs only recorded vehicles passing through the junction, vehicles that were recorded as queuing at the end of each of the peak sixty minute period have also been added to the recorded traffic flow through each junction (proportioned to each individual turning movement) so that the full demand through each junction is identified. i.e.

Baseline 2017 = Junction MCC + Queuing Traffic at Period End

2.6 Annual Average Daily Traffic

2.6.1 The road safety assessment (contained later in this report) requires data in Annual Average Daily Traffic (AADT) format. The permanent count sites on the A608 and A611 have therefore been examined to determine a factor that could be applied to expand information from the existing traffic count data to an AADT value.

2.6.2 Table 2.4 and Table 2.5 shows the average 5-day (weekday) and 7-day traffic flow recorded in 2016 (January to December, inclusive).

Table 2.4: A611: Average 5-day (weekday) and 7-day traffic flows (2016) (Source: NCC Permanent Traffic Count Data)

Hour	Workday	7 Day	
00:00:00	125	154	
01:00:00	67	85	
02:00:00	52	62	
03:00:00	79	80	
04:00:00	176	156	
05:00:00	627	512	
06:00:00	1,163	924	
07:00:00	1,725	1,369	
08:00:00	**1,692**	1,405	
09:00:00	1,556	1,398	
10:00:00	1,405	1,366	
11:00:00	1,427	1,428	
12:00:00	1,514	1,517	
13:00:00	1,588	1,553	
14:00:00	1,653	1,572	**IP Average**
15:00:00	1,727	1,606	**1,552**
16:00:00	1,937	1,756	
17:00:00	**1,957**	1,759	
18:00:00	1,631	1,478	
19:00:00	1,096	1,027	
20:00:00	761	720	
21:00:00	599	564	
22:00:00	460	433	
23:00:00	247	254	
24-Hr Total	**25,264**	**23,178**	

Table 2.5: A608: Average 5-day (weekday) and 7-day traffic flows (2016) (Source: NCC Permanent Traffic Count Data)

Hour	Workday	7 Day	
00:00:00	96	115	
01:00:00	58	66	
02:00:00	46	49	
03:00:00	66	63	
04:00:00	155	133	
05:00:00	499	405	
06:00:00	1,116	872	
07:00:00	1,895	1,461	
08:00:00	1,842	1,468	
09:00:00	1,476	1,297	
10:00:00	1,212	1,174	
11:00:00	1,231	1,238	
12:00:00	1,326	1,337	
13:00:00	1,440	1,404	
14:00:00	1,571	1,474	**IP Average**
15:00:00	1,774	1,606	**1,426**
16:00:00	2,177	1,904	
17:00:00	2,163	1,881	
18:00:00	1,599	1,425	
19:00:00	948	886	
20:00:00	600	571	
21:00:00	455	431	
22:00:00	362	339	
23:00:00	187	190	
24-Hr Total	**24,294**	**21,789**	

2.6.3 The factor would therefore be the 7-day total divided by the sum of the AM, PM and IP period, i.e.:

A611: 23,178 / (1,692 + 1,957 + 1,552) = 4.456

A608: 21,789 / (1,842 + 2,163 + 1,426) = 4.012

Overall: 4.229

2.6.4 Table 2.6 provides the AADT values across the study area network.

Table 2.6: Study Area 2016 AADT Values (for use in COBA Analysis) *

Link Number	Link	AADT
1	A608 Mansfield Road from M1 J27 to Willow Drive	36,050
2	Willow Drive	7,900
3	A608 Mansfield Road from Willow Drive to Osier Drive	*21,789***
4	Osier Drive	10,050
5	A608 Mansfield Road from Osier Drive to A611 Annesley Road	34,400
6	Annesley Road	27,850
7	A611 Derby Road (A608 Mansfield Road to Annesley Cutting)	26,300
8	Annesley Cutting	3,850
9	A611 Derby Road (Annesley Cutting to Forest Road)	28,050
10	Forest Road	8,800
11	School Hill	50
12	A611 Derby Road (Forest Road / School Hill to Midfield Road)	24,900
13	Midfield Road	1,100
14	A611 Derby Road (Midfield Road to B6021 Nottingham Road)	*23,178***
15	B6021 Nottingham Road	8,150
16	A611 Derby Road (B6021 to Diamond Avenue)	19,200
17	B6020 Diamond Avenue	10,200
18	B6020 Blidworth Road	8,200
19	A611 Derby Road (Diamond Avenue to Coxmoor Road)	18,850
20	Coxmoor Road (West)	11,900
21	Coxmoor Road (East)	6,200
22	A611 Derby Road from Coxmoor Road to Cauldwell Road	15,500
23	Cauldwell Road (West)	100
24	Cauldwell Road (East)	4,500
25	A611 Derby Road from Cauldwell Road to A60	12,900
26	A60 (North)	18,800
27	A60 (South	13,150

*Shown as rounded to the nearest 50

** Figures are actual AADT values, all others are factored from AM, IP and PM peak flows

2.7 Journey Time Analysis

2.7.1 Each year, the Department for Transport (DfT) supply NCC with historic journey time data, collected by Trafficmaster PLC, during the previous academic year. The Trafficmaster journey time data is calculated using anonymised data from around 100,000 probe vehicles across Britain equipped with global positioning system devices. These devices record speed and location information which is collated, digitally mapped, and matched to the road network.

2.7.2 The raw data supplied by Trafficmaster was fed into a database by NCC where a series of queries have been run to identify the relevant Trafficmaster records as follows:

- Exclude any records that are not during school days.
- Include only car and goods vehicles.
- Include only records relating to the chosen Nottinghamshire routes.
- Make necessary adjustments to allow for British Summer Time (BST).

2.7.3 The final table of journey time data shows, for each road link (and direction), the journey time in seconds. It has then been exported into a spreadsheet where average journey speeds (mph) were calculated for each peak period as follows:

((Link Length in metres / 1,000) / (Journey Time in seconds / 3,600)) * 0.621

2.7.4 Tables 2.7 to 2.12 show the outputs from the Trafficmaster data over the length of the A611 corridor for the AM, PM and IP (average hour between 1000 – 1200hrs) period[1]. The data covers the 2015/16 academic year.

Table 2.7: TrafficMaster database, A611 Corridor. (Source: Trafficmaster GPS Data) – AM Peak Hour (Inbound, i.e. towards Mansfield)

From	To	Distance (m)	Cumulative Distance (m)	Cumulative distance (km)	Time	Cumulative Time
M1 J27	Willow Drive	642	642	0.64	00:00:48	00:00:48
Willow Drive	Osier Drive	1,205	1,847	1.85	00:01:30	00:02:18
Osier Drive	A611 Derby Road	479	2,326	2.33	00:01:13	00:03:31
A608 Mansfield Road	Annesley Cutting	718	3,043	3.04	00:03:05	00:06:36
Annesley Cutting	Forest Road	188	3,231	3.23	00:00:52	00:07:28
Forest Road	B6021 Nottingham Road	659	3,890	3.89	00:02:20	00:09:48
B6021 Nottingham Road	B6020 Blidworth Road	1,685	5,576	5.58	00:03:47	00:13:34
B6020 Blidworth Road	B6139 Coxmoor Road	1,387	6,962	6.96	00:02:55	00:16:29
B6139 Coxmoor Road	Cauldwell Road	1,671	8,633	8.63	00:01:30	00:17:59
Cauldwell Road	A60 Nottingham Road	723	9,356	9.36	00:02:10	00:20:09

[1] Note: Tables 2.7 to 2.12 are in units of kilometres (km) and hours:minutes:seconds. Also, the total cumulative distance is different for the inbound and outbound directions, given the curvature of the route.

Table 2.8: TrafficMaster database, A611 Corridor. (Source: Trafficmaster GPS Data) – PM Peak Hour (Inbound)

From	To	Distance (m)	Cumulative Distance (m)	Cumulative distance (km)	Time	Cumulative Time
M1 J27	Willow Drive	642	642	0.64	00:00:48	00:00:48
Willow Drive	Osier Drive	1,205	1,847	1.85	00:01:28	00:02:16
Osier Drive	A611 Derby Road	479	2,326	2.33	00:02:04	00:04:20
A608 Mansfield Road	Annesley Cutting	718	3,043	3.04	00:04:28	00:08:47
Annesley Cutting	Forest Road	188	3,231	3.23	00:00:41	00:09:28
Forest Road	B6021 Nottingham Road	659	3,890	3.89	00:01:50	00:11:17
B6021 Nottingham Road	B6020 Blidworth Road	1,685	5,576	5.58	00:04:01	00:15:19
B6020 Blidworth Road	B6139 Coxmoor Road	1,387	6,962	6.96	00:02:48	00:18:07
B6139 Coxmoor Road	Cauldwell Road	1,671	8,633	8.63	00:01:31	00:19:37
Cauldwell Road	A60 Nottingham Road	723	9,356	9.36	00:01:43	00:21:20

Table 2.9: TrafficMaster database, A611 Corridor. (Source: Trafficmaster GPS Data) – Interpeak (Inbound)

From	To	Distance (m)	Cumulative Distance (m)	Cumulative Distance (km)	Time	Cumulative Time
M1 J27	Willow Drive	642	642	0.64	00:00:44	00:00:44
Willow Drive	Osier Drive	1,205	1,847	1.85	00:01:10	00:01:54
Osier Drive	A611 Derby Road	479	2,326	2.33	00:00:51	00:02:45
A608 Mansfield Road	Annesley Cutting	718	3,043	3.04	00:00:56	00:03:41
Annesley Cutting	Forest Road	188	3,231	3.23	00:00:26	00:04:07
Forest Road	B6021 Nottingham Road	659	3,890	3.89	00:01:10	00:05:17
B6021 Nottingham Road	B6020 Blidworth Road	1,685	5,576	5.58	00:02:06	00:07:22
B6020 Blidworth Road	B6139 Coxmoor Road	1,387	6,962	6.96	00:01:42	00:09:05
B6139 Coxmoor Road	Cauldwell Road	1,671	8,633	8.63	00:01:27	00:10:31
Cauldwell Road	A60 Nottingham Road	723	9,356	9.36	00:01:34	00:12:05

2.7.5 For the inbound journey (i.e. from M1 Junction 27 towards the A601), Tables 2.6 to 2.8 show the time taken to traverse the A611 through the study area is 12 minutes and 5 seconds between the peak hours, but 20 minutes and 9 seconds in the AM peak hour and 21 minutes and 20 seconds in the PM peak hour.

Table 2.10: TrafficMaster database, A611 Corridor. (Source: Trafficmaster GPS Data) – AM Peak Hour (Outbound, i.e. towards Junction 27)

From	To	Distance (m)	Cumulative Distance (m)	Cumulative distance (km)	Time	Cumulative Time
A60 Nottingham Road	Cauldwell Road	569	569	0.57	00:01:08	00:01:08
Cauldwell Road	B6139 Coxmoor Road	1817	2,387	2.39	00:02:03	00:03:11
B6139 Coxmoor Road	B6020 Blidworth Road	1387	3,773	3.77	00:02:15	00:05:26
B6020 Blidworth Road	B6021 Nottingham Road	1685	5,458	5.46	00:06:15	00:11:41
B6021 Nottingham Road	Forest Road	652	6,110	6.11	00:02:24	00:14:05
Forest Road	Annesley Cutting	196	6,306	6.31	00:00:28	00:14:33
Annesley Cutting	A608 Mansfield Road	690	6,996	7.00	00:00:59	00:15:32
A611 Derby Road	Osier Drive	420	7,416	7.42	00:00:32	00:16:04
Osier Drive	Willow Drive	1140	8,556	8.56	00:01:08	00:17:12
Willow Drive	M1 J27	450	9,006	9.01	00:00:39	00:17:51

Table 2.11: TrafficMaster database, A611 Corridor. (Source: Trafficmaster GPS Data) – PM Peak Hour (Outbound)

From	To	Distance (m)	Cumulative Distance (m)	Cumulative distance (km)	Time	Cumulative Time
A60 Nottingham Road	Cauldwell Road	569	569	0.57	00:01:03	00:01:03
Cauldwell Road	B6139 Coxmoor Road	1,817	2,387	2.39	00:02:10	00:03:13
B6139 Coxmoor Road	B6020 Blidworth Road	1,387	3,773	3.77	00:03:10	00:06:23
B6020 Blidworth Road	B6021 Nottingham Road	1,685	5,458	5.46	00:02:31	00:08:54
B6021 Nottingham Road	Forest Road	652	6,110	6.11	00:01:33	00:10:27
Forest Road	Annesley Cutting	196	6,306	6.31	00:00:21	00:10:48
Annesley Cutting	A608 Mansfield Road	690	6,996	7.00	00:00:54	00:11:42
A611 Derby Road	Osier Drive	420	7,416	7.42	00:00:33	00:12:15
Osier Drive	Willow Drive	1,140	8,556	8.56	00:01:16	00:13:31
Willow Drive	M1 J27	450	9,006	9.01	00:00:38	00:14:09

Table 2.12: TrafficMaster database, A611 Corridor. (Source: Trafficmaster GPS Data) – Interpeak (Outbound)

From	To	Distance (m)	Cumulative Distance (m)	Cumulative Distance (km)	Time	Cumulative Time
A60 Nottingham Road	Cauldwell Road	569	569	0.57	00:00:59	00:00:59
Cauldwell Road	B6139 Coxmoor Road	1,817	2,387	2.39	00:01:53	00:02:52
B6139 Coxmoor Road	B6020 Blidworth Road	1,387	3,773	3.77	00:01:40	00:04:31
B6020 Blidworth Road	B6021 Nottingham Road	1,685	5,458	5.46	00:01:53	00:06:24
B6021 Nottingham Road	Forest Road	652	6,110	6.11	00:01:09	00:07:33
Forest Road	Annesley Cutting	196	6,306	6.31	00:00:17	00:07:50
Annesley Cutting	A608 Mansfield Road	690	6,996	7.00	00:00:52	00:08:43
A611 Derby Road	Osier Drive	420	7,416	7.42	00:00:29	00:09:11
Osier Drive	Willow Drive	1,140	8,556	8.56	00:01:05	00:10:16
Willow Drive	M1 J27	450	9,006	9.01	00:00:38	00:10:54

2.7.6 Tables 2.10 to Table 2.12 show that for the outbound journey, this takes an average of 10 minutes 54 seconds in the interpeak, but 17 minutes 51 seconds in the AM peak and 14 minutes 9 seconds in the PM peak.

2.7.7 Figures 2.2 and 2.3 plot how the cumulative journey times for the route, both inbound and outbound respectively in the AM, PM and interpeak periods. Also shown is an 'off-peak' (i.e. between 1am and 6am) curve (i.e. if there was little other traffic on the network).

Figure 2.2: Journey Time Plot for A608 – A611 Route – Inbound (towards Mansfield)

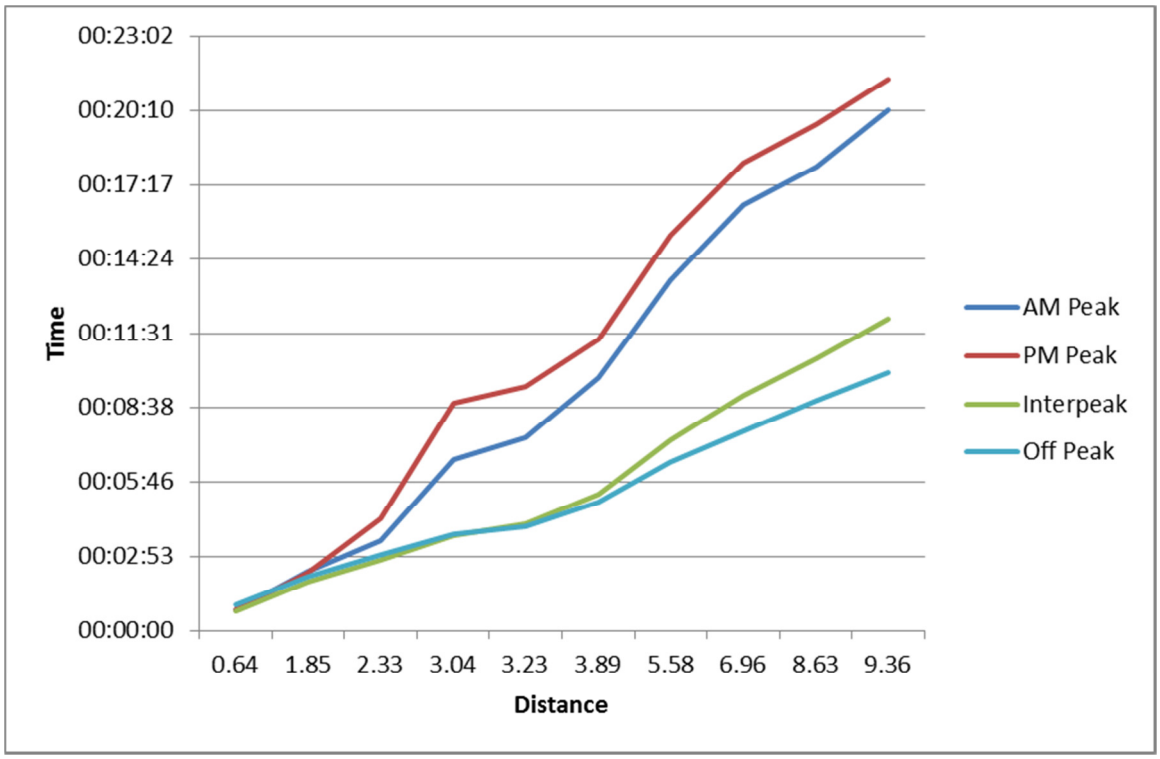
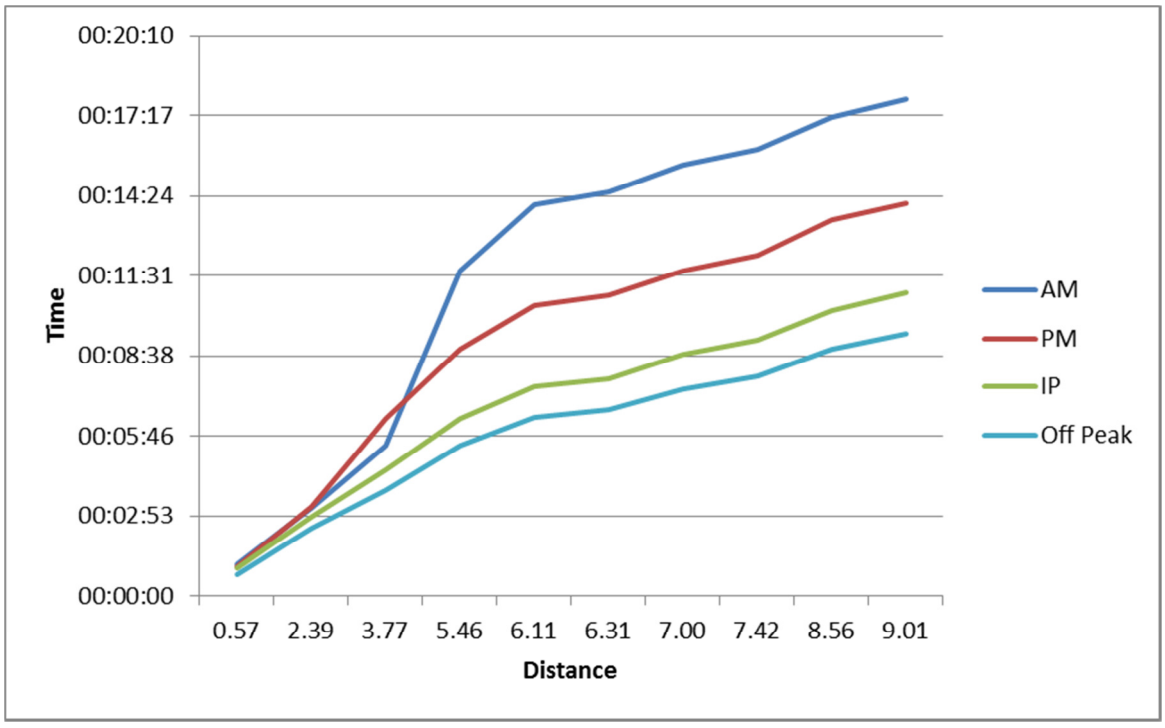


Figure 2.3: Journey Time Plot for A608 – A611 Route – Outbound (towards J27)



2.7.8 Comparison of the AM and PM peak journey times against that recorded in the off peak identifies particular segments of the route which are experiencing long delays during these times. Table 2.13 summarises this analysis.

Table 2.13: Differences in Journey Time with respect to the Off-Peak

From	To	AM	PM	IP
Inbound				
M1 J27	Willow Drive	-	-	-
Willow Drive	Osier Drive	00:00:23	00:00:21	00:00:03
Osier Drive	A611 Derby Road	00:00:23	**00:01:14**	00:00:01
A608 Mansfield Road	Annesley Cutting	**00:02:16**	**00:03:38**	00:00:07
Annesley Cutting	Forest Road	00:00:34	00:00:23	00:00:09
Forest Road	B6021 Nottingham Road	**00:01:23**	00:00:52	00:00:13
B6021 Nottingham Road	B6020 Blidworth Road	**00:02:16**	**00:02:31**	00:00:35
B6020 Blidworth Road	B6139 Coxmoor Road	**00:01:44**	**00:01:37**	00:00:31
B6139 Coxmoor Road	Cauldwell Road	00:00:16	00:00:17	00:00:13
Cauldwell Road	A60 Nottingham Road	**00:01:05**	**00:00:38**	00:00:29
Total Delay (above OP)		**00:10:20**	**00:11:31**	**00:02:19**
From	**To**	**AM**	**PM**	**IP**
Outbound				
A60 Nottingham Road	Cauldwell Road	00:00:22	00:00:17	00:00:12
Cauldwell Road	B6139 Coxmoor Road	00:00:23	00:00:29	00:00:13
B6139 Coxmoor Road	B6020 Blidworth Road	00:00:54	**00:01:49**	00:00:19
B6020 Blidworth Road	B6021 Nottingham Road	**00:04:38**	00:00:54	00:00:15
B6021 Nottingham Road	Forest Road	**00:01:23**	00:00:33	00:00:09
Forest Road	Annesley Cutting	00:00:11	00:00:05	00:00:01
Annesley Cutting	A608 Mansfield Road	00:00:14	00:00:09	00:00:07
A611 Derby Road	Osier Drive	00:00:05	00:00:06	00:00:02
Osier Drive	Willow Drive	00:00:08	00:00:17	00:00:05
Willow Drive	M1 J27	00:00:07	00:00:06	00:00:06
Total Delay (above OP)		**00:08:26**	**00:04:44**	**00:01:29**

2.7.9 Highlighted in red (bold) are those segments of link where there is over 1 minutes delay when comparing the AM, PM or IP hours with the off-peak.

3. Junction Performance

3.1 Overview

3.1.1 The purpose of this section is to describe the junctions along the A608 – A611 corridor, and how each junction has been modelled. Baseline traffic flows have been entered into each model as has been calculated from Section 2.

3.2 A608 / Willow Drive

3.2.1 The A608 / Willow Drive junction is an un-signalised roundabout, and has been modelled using ARCADY (which is recommended by the DfT for measuring the capacity of this junction type).

3.2.2 Traffic flow profiles through the AM and PM peak hours for the priority controlled junctions are given in Appendix B. Given these profiles, the ARCADY software has been run using both a synthesised and a 'flat' profile and provides outputs in the form of Ratios of Flow to Capacity (RFC) and queue length (Q). A synthesised profile includes a 12.5% mid-peak 'surge' to robustly test the performance of the junction whereas a 'flat' profile assumes a constant arrival pattern of traffic through the hour being assessed.

3.2.3 For a new junction, a worst-arm target RFC value of 0.85 during a single time segment is preferred as this minimises the chance that queuing will occur at a new junction on opening. For existing junctions, RFC values above 0.85 are likely to produce queues which increase slowly. Above an RFC value of 1.0, a junction is more than likely to be at capacity (with resulting larger increases in queue length).

3.2.4 Geometrical parameters have been measured from OS mapping, with entry widths measured on site. Table 3.1 summarises the results of the ARCADY modelling, with full results provided in Appendix C. Table 3.1 shows the junction approaching capacity in the AM peak hour.

Table 3.1: ARCADY Results for the A608 / Willow Drive junction – Worst Arm Only

Scenario	AM Peak Hour		Interpeak Hour		PM Peak Hour	
	RFC	Q	RFC	Q	RFC	Q
Synthesised	0.92	10.33	0.45	0.81	0.83	4.62
Flat	0.84	5.01	0.41	0.68	0.73	2.75
Notes: RFC = Ratio of Flow to Capacity. A measure of the trafficking at the junction in relation to its ability to accommodate such flow, reported on a worst-arm basis. Q = Mean Maximum Vehicle Queue, reported on a worst arm basis						

3.3 A608 / Osier Drive

3.3.1 The A608 / Osier Drive junction is an un-signalised roundabout, and has been modelled using ARCADY.

3.3.2 Geometrical parameters have been measured from OS mapping, with entry widths measured on site. Table 3.2 summarises the results of the ARCADY modelling, with full results provided in Appendix D.

Table 3.2: ARCADY Results for the A608 / Osier Drive junction – Worst Arm Only

Scenario	AM Peak Hour		Interpeak Hour		PM Peak Hour	
	RFC	Q	RFC	Q	RFC	Q
Synthesised	0.97	20.13	0.43	0.75	0.70	2.33
Flat	0.88	7.03	0.39	0.64	0.64	1.73
Notes: RFC = Ratio of Flow to Capacity. A measure of the trafficking at the junction in relation to its ability to accommodate such flow, reported on a worst-arm basis. Q = Mean Maximum Vehicle Queue, reported on a worst arm basis						

3.3.3 Table 3.2 shows that the junction is approaching capacity in the AM peak hour.

3.4 A608 / A611 / Annesley Road

3.4.1 The A608 / A611 / Annesley Road junction is a signalised roundabout, and has been modelled using LINSIG.

3.4.2 LINSIG is an industry standard tool for measuring the capacity of this junction type. LINSIG software provides outputs for both individual entry 'arms' and the junction as a whole. For the individual arms, the outputs are Degree of Saturation (DoS) and Mean Maximum Queue Length (MMQ). A total-junction statistic known as the Practical Reserve Capacity (PRC) is also reported, which shows the percentage of "spare" capacity left at the junction compared with the operational target DoS of 90%.

3.4.3 LINSIG works on the basis that a junction is considered to be at capacity when the individual junction arm DoS values exceeds 90%. A 90% target is used because a flat profile is assumed over the hour. Below this threshold, queues begin to increase slowly as the DoS increases. Above this threshold, queues begin to elongate rapidly. As the DoS on any arm increases, the PRC remaining at the junction decreases. When a DoS value exceeds 90%, the PRC value becomes negative.

3.4.4 The LINSIG model has been developed using signal specification data provided by NCC's signals advisors (VIA East Midlands Ltd). Table 3.3 summarises the results of the LINSIG modelling, with full results provided in Appendix E.

Table 3.3: LINSIG Results for the A608 / A611 / Annesley Road junction – Overall Junction Performance

Scenario	AM Peak Hour		Interpeak Hour		PM Peak Hour	
	PRC	Delay	PRC	Delay	PRC	Delay
Baseline	5.1%	41.45	59.7%	18.15	-11.9%	55.35
Notes: PRC = Percentage of Reserve Capacity. A measure of the overall "spare" capacity at a junction. Delay = Vehicle Delay in PCU/hrs.						

3.4.5 Table 3.3 shows that the junction is currently operating at capacity in both the AM and PM peak hour.

3.5 A611 / Annesley Cutting

3.5.1 The A611 / Annesley Cutting junction is a priority T-junction, with Annesley Cutting forming the minor arm. There is no right-turn harbourage provided, meaning that vehicles waiting to turn right into the minor arm block ahead moving traffic on the A611.

3.5.2 The junction has been modelled using PICADY (which is recommended by the DfT for measuring the capacity of this junction type).

3.5.3 As per the roundabout junctions, PICADY software has been run using both a synthesised profile and a 'flat' profile, with outputs provided in the form of Ratios of Flow to Capacity (RFC) and queue length (Q). For a new junction, a worst-arm target RFC value of 0.85 during a single time segment is preferred (or 0.75 in a rural location) as this minimises the chance that queuing will occur at a new junction on opening. For existing junctions, RFC values above 0.85 are likely to produce queues which increase slowly. Above an RFC value of 1.0, a junction is more than likely to be at capacity (with resulting larger increases in queue length).

3.5.4 Geometrical parameters have been measured from OS mapping, with entry widths measured on site. Table 3.4 summarises the results of the PICADY modelling, with full results provided in Appendix F.

Table 3.4: PICADY Results for the A611 / Annesley Cutting junction – Worst Arm Only

Scenario	AM Peak Hour		Interpeak Hour		PM Peak Hour	
	RFC	Q	RFC	Q	RFC	Q
Synthesised	4.15	47.08	0.31	0.44	1.45	27.06
Flat	1.40	34.05	0.26	0.35	1.00	3.44
Notes: RFC = Ratio of Flow to Capacity. A measure of the trafficking at the junction in relation to its ability to accommodate such flow, reported on a worst-arm basis. Q = Mean Maximum Vehicle Queue, reported on a worst arm basis						

3.5.5 Table 3.4 shows that the junction is operating at capacity in both the AM and PM peak hours. The results in the AM peak hour are particularly high, and the junction software is perhaps not reflecting actual driving conditions in that queuing traffic (past the minor arm) means that drivers are allowing side-road vehicles to enter into gaps in the queue.

3.6 A611 / Forest Road / School Hill (Badger Box)

3.6.1 The A611 / Forest Road / School Hill (Badger Box) junction is a signalised junction. As such, it has been modelled using LINSIG based on the signal specification provided via NCC. Table 3.5 summarises the results of the LINSIG modelling, with full results provided in Appendix G.

Table 3.5: LINSIG Results for the A608 / Forest Road / School Hill – Overall Junction Performance

Scenario	AM Peak Hour		Interpeak Hour		PM Peak Hour	
	PRC	Delay	PRC	Delay	PRC	Delay
Baseline	-21.8%	112.18	-24.0	126.47	-18.8%	93.88
Notes: PRC = Percentage of Reserve Capacity. A measure of the overall "spare" capacity at a junction. Delay = Vehicle Delay in PCU/hrs.						

3.6.2 Table 3.5 shows the junction operating at capacity in all peak hours (i.e. throughout the working day). This assumes that the pedestrian stages are called every other cycle. If the pedestrian stage as not called, then the junction would still operate at capacity with the AM, IP and PM PRC values decreasing to -4.3%, -6.1%, and -3.6%, respectively.

3.7 A611 Pedestrian Crossing

3.7.1 There is a pedestrian crossing on the A611, just to the south of Midfield Road. This crossing has been modelled using LINSIG, based on pedestrian demand data obtained via a survey undertaken at the same time as the MCCs supporting this study. The pedestrian survey counted the number of times the pedestrian crossing was used during the AM and PM peak hours. The results of the analysis are shown in Table 3.6

Table 3.6: LINSIG Results for the A611 Pedestrian Crossing – Overall Junction Performance

Scenario	AM Peak Hour		Interpeak Hour		PM Peak Hour	
	PRC	Delay	PRC	Delay	PRC	Delay
Baseline	18.9%	5.66	41.5%	3.62	16.1%	6.57
Notes: PRC = Percentage of Reserve Capacity. A measure of the overall "spare" capacity at a junction. Delay = Vehicle Delay in PCU/hrs.						

3.8 A611 / Midfield Road

3.8.1 The A611 / Midfield Road junction is a priority junction and, as such, has been modelled in PICADY. The junction does not benefit from a right-turn harbourage and, as such, vehicles waiting to turn right into Midfield Road block ahead moving traffic on the A611.

3.8.2 Geometrical parameters have been measured from OS mapping, with entry widths measured on site. Table 3.7 summarises the results of the PICADY modelling, with full results provided in Appendix H.

Table 3.7: PICADY Results for the A611 / Midfield Road junction – Worst Arm Only

Scenario	AM Peak Hour		Interpeak Hour		PM Peak Hour	
	RFC	Q	RFC	Q	RFC	Q
Synthesised	0.39	0.62	0.08	0.09	0.12	0.13
Flat	0.28	0.38	0.06	0.07	0.08	0.08
Notes: RFC = Ratio of Flow to Capacity. A measure of the trafficking at the junction in relation to its ability to accommodate such flow, reported on a worst-arm basis. Q = Mean Maximum Vehicle Queue, reported on a worst arm basis						

3.8.3 Table 3.7 shows that the junction is operating within capacity in all of the assessed hours.

3.9 A611 / B6021 (Nottingham Road)

3.9.1 The A611 / B6021 (Nottingham Road) junction is a signalised junction. This junction is also known as the 'Shoulder of Mutton' junction. As such, it has been modelled using LINSIG based on the signal specification provided via NCC. Table 3.8 summarises the results of the LINSIG modelling, with full results provided in Appendix I.

Table 3.8: LINSIG Results for the A611 / B6021 (Nottingham Road) – Overall Junction Performance

Scenario	AM Peak Hour		Interpeak Hour		PM Peak Hour	
	PRC	Delay	PRC	Delay	PRC	Delay
Baseline	-6.5%	28.63	20.9%	11.15	-5.4	27.71
Notes: PRC = Percentage of Reserve Capacity. A measure of the overall "spare" capacity at a junction. Delay = Vehicle Delay in PCU/hrs.						

3.9.2 Table 3.8 shows that the junction is operating at capacity in the AM and PM peak hours, but there is spare capacity in the inter-peak period. This modelling assumes the pedestrian stage is called every other cycle in the modelled hours. If pedestrians are called in every cycle, the PRC reduces to -70.2% in the AM peak, -55.4% in the interpeak and -92.7% in the PM peak.

3.10 A611 / B6020 (Diamond Avenue)

3.10.1 The A611 / B6020 (Diamond Avenue) junction is a signalised junction. As such, it has been modelled using LINSIG based on the signal specification provided via NCC. Table 3.9 summarises the results of the LINSIG modelling, with full results provided in Appendix J.

Table 3.9: LINSIG Results for the A611 / B6020 (Diamond Avenue) – Overall Junction Performance

Scenario	AM Peak Hour		Interpeak Hour		PM Peak Hour	
	PRC	Delay	PRC	Delay	PRC	Delay
Baseline	-12.4%	164.29	16.6%	19.10	-19.5%	80.34
Notes: PRC = Percentage of Reserve Capacity. A measure of the overall "spare" capacity at a junction. Delay = Vehicle Delay in PCU/hrs.						

3.10.2 Table 3.9 shows that the junction is operating at capacity in the AM and PM peak hours, but retains some capacity in the interpeak period. This modelling assumes that the "all red" pedestrian stage is not called during the peak hours. Given the location of the junction, this is not considered unreasonable – and occasional calling of the one pedestrian phase requiring an all red would lead to a slight worsening of the results given in Table 3.8.

3.11 A611 / B6139 (Coxmoor Road)

3.11.1 The A611 / B6139 (Coxmoor Road) junction is a signalised junction. As such, it has been modelled using LINSIG based on the signal specification provided via NCC. Table 3.10 summarises the results of the LINSIG modelling, with full results provided in Appendix K.

Table 3.10: LINSIG Results for the A611 / B6139 (Coxmoor Road) – Overall Junction Performance

Scenario	AM Peak Hour		Interpeak Hour		PM Peak Hour	
	PRC	Delay	PRC	Delay	PRC	Delay
Baseline	-22.0%	82.12	6.9%	18.89	-25.7%	103.71
Notes: PRC = Percentage of Reserve Capacity. A measure of the overall "spare" capacity at a junction. Delay = Vehicle Delay in PCU/hrs.						

3.11.2 Table 3.10 shows that the junction is operating at capacity in all peak hours modelled. There are no pedestrian phases at this junction.

3.12 A611 / Cauldwell Road

3.12.1 The A611 / Cauldwell Road junction is a signalised junction. As such, it has been modelled using LINSIG based on the signal specification provided via NCC. Table 3.11 summarises the results of the LINSIG modelling, with full results provided in Appendix L.

Table 3.11: LINSIG Results for the A611 / Cauldwell Road – Overall Junction Performance

Scenario	AM Peak Hour		Interpeak Hour		PM Peak Hour	
	PRC	Delay	PRC	Delay	PRC	Delay
Baseline	20.6%	11.38	76.0%	6.94	13.8%	12.94
Notes: PRC = Percentage of Reserve Capacity. A measure of the overall "spare" capacity at a junction. Delay = Vehicle Delay in PCU/hrs.						

3.12.2 Table 3.11 shows that the junction operates efficiently in all the peak hours modelled.

3.13 A611 / A60 (Nottingham Road)

3.13.1 The A611 / A60 (Nottingham Road) junction is a signalised junction. As such, it has been modelled using LINSIG based on the signal specification provided via NCC. Table 3.12 summarises the results of the LINSIG modelling, with full results provided in Appendix M.

Table 3.12: LINSIG Results for the A611 / A60 (Nottingham Road) – Overall Junction Performance

Scenario	AM Peak Hour		Interpeak Hour		PM Peak Hour	
	PRC	Delay	PRC	Delay	PRC	Delay
Baseline	-12.4%	57.79	2.2%	26.95	-1.9%	38.66
Notes: PRC = Percentage of Reserve Capacity. A measure of the overall "spare" capacity at a junction. Delay = Vehicle Delay in PCU/hrs.						

3.13.2 Table 3.12 shows that the junction is operating at capacity in the AM and PM peak hours The modelling assumes the pedestrian phases are called every cycle, which is not unreasonable given the location of the site.

3.14 Summary

3.14.1 Table 3.13 summarises the performance of the junctions outlined in Tables 3.1 to 3.12.

Table 3.13: Summary of Baseline Junction Performance

Junction	**AM Peak Hour**		**Interpeak Hour**		**PM Peak Hour**	
	RFC	**Q**	**RFC**	**Q**	**RFC**	**Q**
A608 / Willow Drive	0.92	10.33	0.45	0.81	0.83	4.62
A608 / Osier Drive	0.97	20.13	0.43	0.75	0.70	2.33
	PRC	**Delay**	**PRC**	**Delay**	**PRC**	**Delay**
A608 / A611 / Annesley Road	5.1%	41.45	59.7%	18.15	-11.9%	55.35
	RFC	**Q**	**RFC**	**Q**	**RFC**	**Q**
A611 / Annesley Cutting	4.15	47.08	0.31	0.44	1.45	27.06
	PRC	**Delay**	**PRC**	**Delay**	**PRC**	**Delay**
A608 / Forest Road / School Hill	-21.8%	112.18	-24.0	126.47	-18.8%	93.88
	RFC	**Q**	**RFC**	**Q**	**RFC**	**Q**
A611 / Midfield Road junction	0.39	0.62	0.08	0.09	0.12	0.13
	PRC	**Delay**	**PRC**	**Delay**	**PRC**	**Delay**
A611 / B6021 (Nottingham Road)	-6.5%	28.63	-20.9%	11.15	-5.4	27.71
A611 / B6020 (Diamond Avenue)	-12.4%	164.29	16.6%	19.10	-19.5%	80.34
A611 / B6139 (Coxmoor Road)	-22.0%	82.12	6.9%	18.89	-25.7%	103.71
A611 / Cauldwell Road	20.6%	11.38	76.0%	6.94	13.8%	12.94
A611 / A60 (Nottingham Road)	-12.4%	57.79	2.2%	26.95	-1.9%	38.66
Notes: PRC = Percentage of Reserve Capacity. A measure of the overall “spare” capacity at a junction. Delay = Vehicle Delay in PCU/hrs. RFC = Ratio of Flow to Capacity. A measure of the trafficking at the junction in relation to its ability to accommodate such flow, reported on a worst-arm basis. Q = Mean Maximum Vehicle Queue, reported on a worst arm basis						

4. Valuation of Delays

4.1 Overview

4.1.1 The purpose of this section is to provide a valuation of the social welfare cost of delays on the A611 corridor[2].

4.2 Methodology and Outputs

4.2.1 The value of travel time at each junction has been calculated from the junction operational assessments described in Section 3. Overall junction delay in the baseline models has been extracted from each model and travel time has been monetised using average Values of Time by vehicle class. Values of time (2010 prices) were taken from Table A1.3.5 of the WebTAG databook (published March 2017) and weighted using vehicle proportions from observed count data.

4.2.2 Travel time costs in each time period were annualised to present the total travel time delay costs in the baseline year. The spreadsheets containing this analysis are given as Appendix N, with a summary by junction provided in Table 4.1. (Note: TAG VTTS will be updated in May 2017). For those junctions modelled in ARCADY and PICADY, the flat-profile models have been used within this analysis.

Table 4.1: Cost of Delays – Baseline Year (2017)

Junction	Cost of Delays
A608 / Willow Drive	£273,548
A608 / Osier Drive	£167,995
A608 / A611	£1,247,508
Annesley Cutting	£1,112,268*
A611 / Forest Road	£4,532,819
A611 / Midfield Road	£70,235
A611 / Shoulder of Mutton	£773,574
A611 / Diamond Avenue	£1,798,298
A611 / Coxmoor Road	£2,195,075
A611 / Cauldwell Road	£375,382
A60 / A611	£1,449,366
Total	**£13,996,068**
* - Potential overestimate, as PICADY not reflecting propensity for queuing traffic to allow side-road traffic to turn through gaps	

4.2.3 In reading Table 4.1, it is important to note that no improvement schemes will totally eliminate delay, as delays will occur at all junction types (even if such junctions are improved). As such, Table 4.1 provides a baseline delay valuation against which potential schemes can be assessed.

[2] Refer to DfT: "Understanding & Valuing Impacts of Transport Investment – updating WEI Guidance (September 2016)

5. Road Safety

5.1 Overview

5.1.1 The purpose of this section is to identify the road safety performance of the local highway network. It is informed by STATS19 data obtained via NCC. The Guidance on Transport Assessment (DfT, 2007) states that a TA should "establish the current personal injury accident records for the most recent three-year period, or five years if this is considered to be more appropriate." As such, road safety collision records have been obtained from 01/01/2012 to 31/12/2016. Longer term data has also been obtained from Crashmap.

5.1.2 The data obtained relates to those collisions that resulted in a personal injury and which were reported to the police. This data (known as STATS19 statistics) is generally recognised to be the most complete record of road collisions occurring on the local highway network. For the avoidance of doubt, and as is normal practice, they do not include statistics from collisions resulting in "damage-only" to vehicles, or which were not reported to the police.

5.1.3 Each collision resulting in a personal injury is classed as either 'slight', 'serious' or 'fatal' by the police depending on the most serious injury resulting from the collision (i.e. a collision resulting in two 'slight' injuries and one 'serious' injury would be classified as a 'serious' collision). Collisions classified as 'serious' generally involve injuries requiring hospital treatment, such as a broken bone. Fatal collisions are those in which a casualty dies within 30 days of the collision occurring.

5.2 Remedial Schemes

5.2.1 The following accident remedial schemes were carried out in the study area during the same period for which collision records have been examined.

- 2014/15
  - A608 / A611 eastbound approach northbound exit - surface improvements
  - A611 Derby Road near Badger Box PH - high friction surfacing
- 2015/16
  - A611 Coxmoor Crossroads, signs at ATS Banned RT

5.3 Road Collision Trends

5.3.1 Table 5.1 shows how the number of collisions has changed along the corridor.

Table 5.1: Road Collision Trends

Year	Slight	Serious	Fatal	Total	Moving Avg.
2012	17	3	0	20	-
2013	12	4	0	16	19.33
2014	20	1	1	22	21.33
2015	20	6	0	26	22.66
2016	17	3	0	20	-
Total	**86**	**17**	**1**	**104**	

5.4 Collision Clusters

5.4.1 Table 5.2 identifies where on the highway corridor the collisions have been occurring. Collisions occurring at links along the corridor are shown in *italics*, whilst collisions occurring at junctions are shown in **bold**.

Table 5.2: Collision Locations by Link / Junction

Number	Description	Slight	Serious	Fatal	Total
1	*A608 Mansfield Road from M1 J27 to Willow Drive*	3			**3**
1	**A608 / Willow Drive**	5			**5**
2	*Willow Drive*				**0**
3	*A608 Mansfield Road from Willow Drive to Osier Drive*	1			**1**
2	**A608 / Osier Drive**	3			**3**
4	*Osier Drive*		1		**1**
5	*A608 Mansfield Road from Osier Drive to A611 Annesley Road*				**0**
3	**A608 / A611**	6	2		**8**
6	*A611 Annesley Road*	1			**1**
7	*A611 from A608 to Annesley Cutting*	5	1		**6**
4	**A611 / Annesley Cutting**	5	1		**6**
8	*Annesley Cutting*				**0**
9	*A611 from Annesley Cutting to Forest Road / School Hill*				**0**
5	**A611 / Forest Road / School Hill**	1	2		**3**
10	*Forest Road*				**0**
11	*School Hill*				**0**
12	*A611 from Forest Road / School Hill to Midfield Road*	4			**4**
6	**A611 / Midfield Road**	2			**2**
13	*Midfield Road*				**0**
14	*A611 from Midfield Road to B6021 Nottingham Road*	1			**1**
7	**A611 / B6021 Nottingham Road**	2			**2**
15	*B6021 Nottingham Road*				**0**
16	*A611 from B6021 Nottingham Road to Diamond Avenue / Blidworth Road*	9	3	1	**13**
8	**A611 Diamond Avenue / Blidworth Road**	6			**6**
17	*Diamond Avenue*	1			**1**
18	*Blidworth Road*		1		**1**
19	*A611 from Diamond Avenue / Blidworth Road to Coxmoor Road*	7	2		**9**
9	**A611 / Coxmoor Road**	6	1		**7**
20	*Coxmoor Road (West)*				**0**
21	*Coxmoor Road (East)*				**0**
22	*A611 from Coxmoor Road to*	7	1		**8**

	Cauldwell Road				
10	**A611 / Cauldwell Road**	3			**3**
23	*Cauldwell Road (West)*	1			**1**
24	*Cauldwell Road (East)*				**0**
25	*A611 from Cauldwell Road to A60*	2	1		**3**
11	**A611 / A60**	3			**3**
26	*A60 (N)*	2	1		**3**
27	*A60 (S)*				**0**
Total		**86**	**17**	**1**	**104**

5.4.2 There are five locations at which there have been five or more collisions occurring in a single location, or at a single junction. These are:

- A611 / Coxmoor Road;
- A611 / Annesley Cutting
- A611 / Annesley Road;
- A611 / Willow Drive; and
- A611 / Diamond Avenue / Blidworth Road.

5.4.3 Three of the seven collisions at **Coxmoor Road** involved vehicles turning right, a movement which has now been banned. Of the others, two involved rear-end shunts and two involved single vehicle loss of control incidents.

5.4.4 At **Annesley Cutting**, two of the six collisions involved vehicles turning right into the minor arm, and two involved vehicles turning right out of the minor arm. A further two involved rear end shunts. This pattern of collisions confirms the junction capacity analysis, which suggests that vehicles are having difficulty turning at the junction and perhaps misjudging small gaps, or difficulty in communicating right-of-way in queuing traffic.

5.4.5 There is no common pattern of collisions at the A611 / A608 / Annesley Road junction, other than two involved passengers falling on buses as they slowed down.

5.4.6 Of the five collisions at A611 / **Willow Drive**, two involved rear-end shunts but there was no other clear pattern of collisions.

5.4.7 Of the five collisions at **Diamond Avenue / Blidworth Road**, three involved rear end shunts.

5.5 COBALT Analysis

NOTE: Default Accident Rates are expected to be updated in May 2017.

5.5.1 The number of collisions occurring on the highway network can be compared to statistics collected across the United Kingdom to determine if there are more collisions occurring on a network than could be expected for the type of road and the volume of traffic using those roads. This analysis is conducted by the computer software, COBALT. Version 2013.02

5.5.2 COBALT is a computer-based mathematical representation of the road network. COBALT derives the travel and accident characteristics of the road based on measured geometrical data and observed accident data for each link and junction in the model. Until 2013, the economic appraisal of impacts in road schemes was calculated, amongst other aspects, in a program called COBA. COBALT is a smaller version of this, carrying out only the accident-appraisal parts. The aim of COBALT is to carry out economic appraisal in accordance with the DfT's Transport Analysis Guidance; WebTAG.

5.5.3 Two scenarios have been run to determine the baseline performance of the network:

- firstly, one in which observed collision data was used for every existing link in the COBA network, which in turn produced a calculated accident rate for that link.
- secondly, one in which no observed collision data was used, thus making COBALT use its default values for roads similar in type to those of the A608 – A611 corridor.

5.5.4 The purpose of the accident assessment in this report is to calculate the monetary costs of collisions occurring in the baseline scenario. This is usually done by calculating the total cost of accidents on the network for a "Do Something" scenario and subtracting these from the total cost of accidents in the "Do Minimum" scenario. In this case, the Baseline (2017) only has been appraised to establish the existing accident conditions in the study area network.

5.5.5 As already stated, observed collision data was obtained from NCC for the period 01/01/2012 to 31/12/2016. This covered a five year period, because COBALT requires observed accident data to be input for 5 full calendar years.

5.5.6 As well as inputting the observed accident data, a separate 'default' network was also created where observed accidents were not inputted. For links and junctions where local accident data is not inputted, the program uses default accident rates based upon the classification of road or junction.

5.5.7 COBALT requires two input files in order to produce its outputs. An economic parameters file consisting of a series of data tables of standard parameters required to calculate accident impacts in line with WebTAG guidance, and a scheme specific input file, produced by the user, which contains data specific to the scheme being modelled, such as the scheme network and traffic flows.

5.5.8 COBALT link and junction types were classified by assigning a COBALT link or junction type using observations on the type of link or junction gained from site visits. A possible 15 different link and 96 different junction types can be entered.

5.5.9 Annual Average Daily Traffic (AADT) flows were entered for each link for the base year (from Table 2.5), and junction flows were represented using AADT entry flows per arm.

5.5.10 The COBALT analysis has been run using 'separate' accident analysis for links & junctions. That is, the software calculates accident benefits separately for links and junctions (defined as those accidents occurring within 20 m of a junction).

5.5.11 For each link an accident rate per million vehicle kilometres (mvkm), the total distance travelled in mvkm during that year and the monetary value of a single accident has been calculated.

5.5.12 Table 5.3 shows the number of collisions forecast in 2017 in COBALT, for (1) the model that has been loaded with the historic NCC collision data and (2) the model that has been set to use default values.

Table 5.3: COBALT Outputs – 2017 Collisions

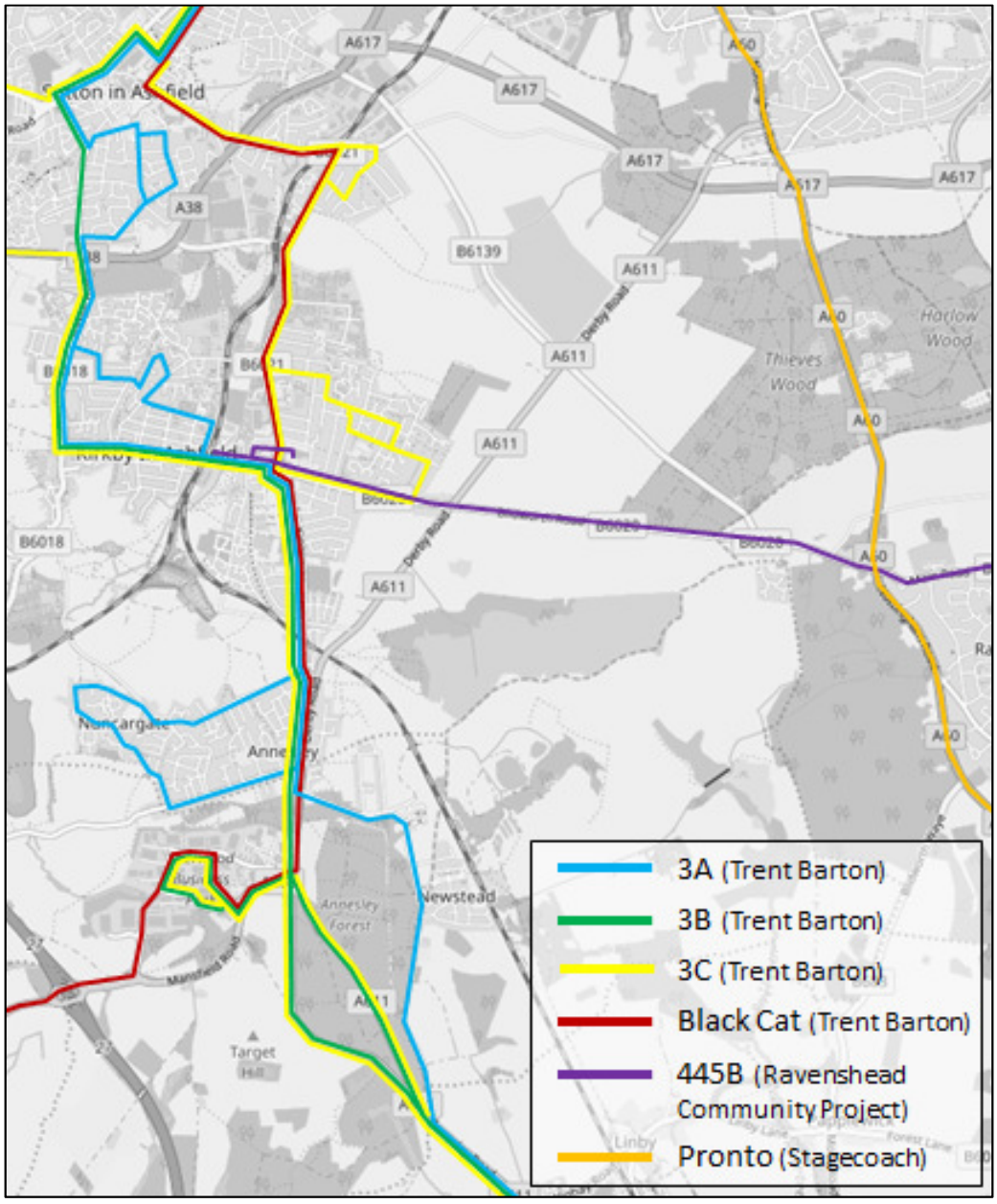
COBALT with Historic Collision Data	COBALT with Default Values
19.5 Collisions (Value £1,774,200)	55.6 Collisions (Value £3,608,500)

5.5.13 The results in Table 5.3 indicate that the A611 network is experiencing fewer collisions than could be expected for the type of road and volume of traffic using the route.

6. Public Transport

6.1.1 Figure 6.1 shows the public transport routes which currently route across and via the A608 – A611 route. This shows that there is a concentration of routes that use the A611 between its junction with the A608 / Annesley Road and the 'Shoulder of Mutton'.

Figure 6.1: Public Transport Services



7. Summary

7.1.1 This Baseline Conditions report describes the current traffic conditions on the A608 – A611 corridor and provides a valuation of the delays currently experienced on the route. Collision statistics have also been assessed and valued.

Appendix A

Traffic Flow Diagrams

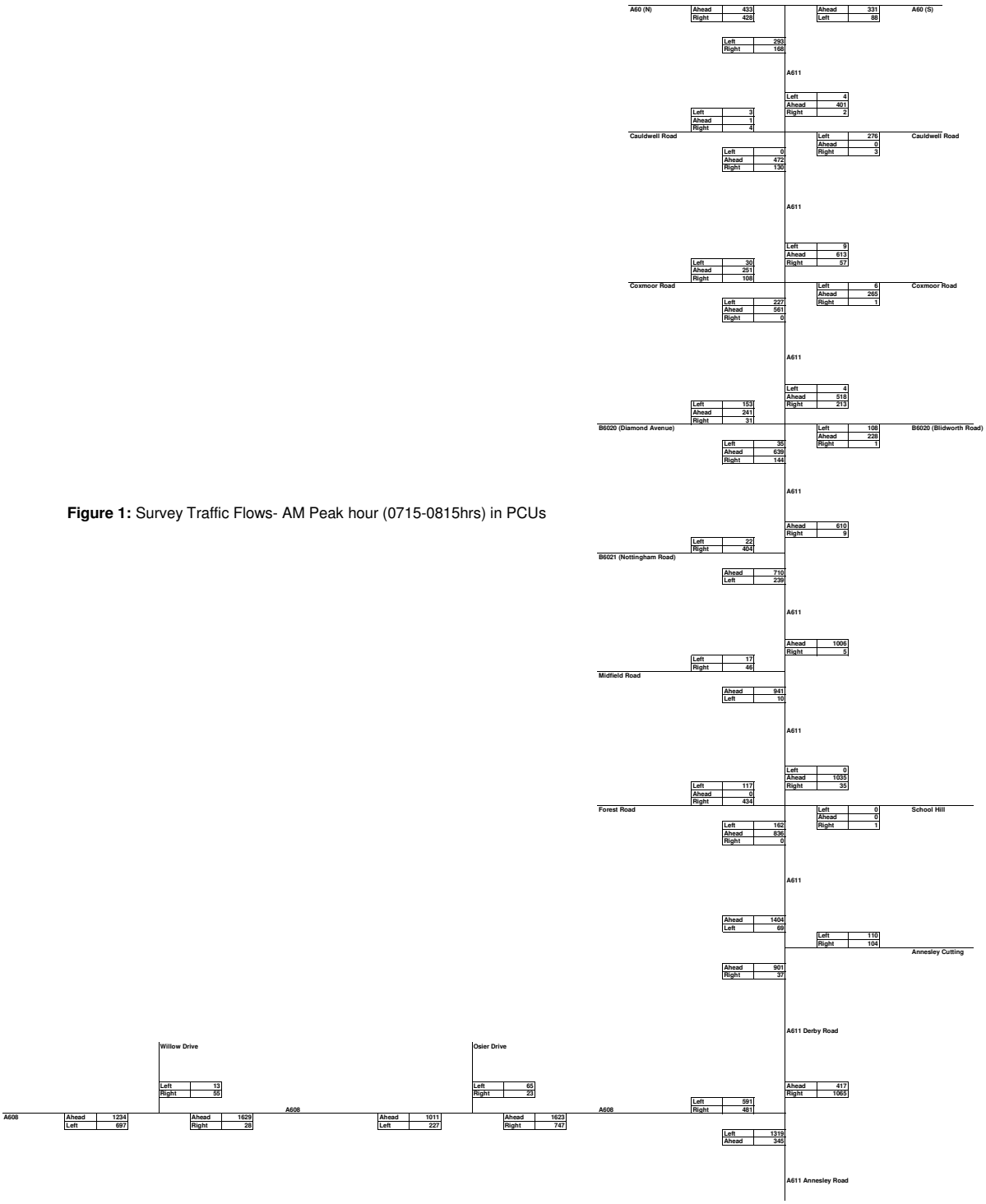


Figure 1: Survey Traffic Flows- AM Peak hour (0715-0815hrs) in PCUs

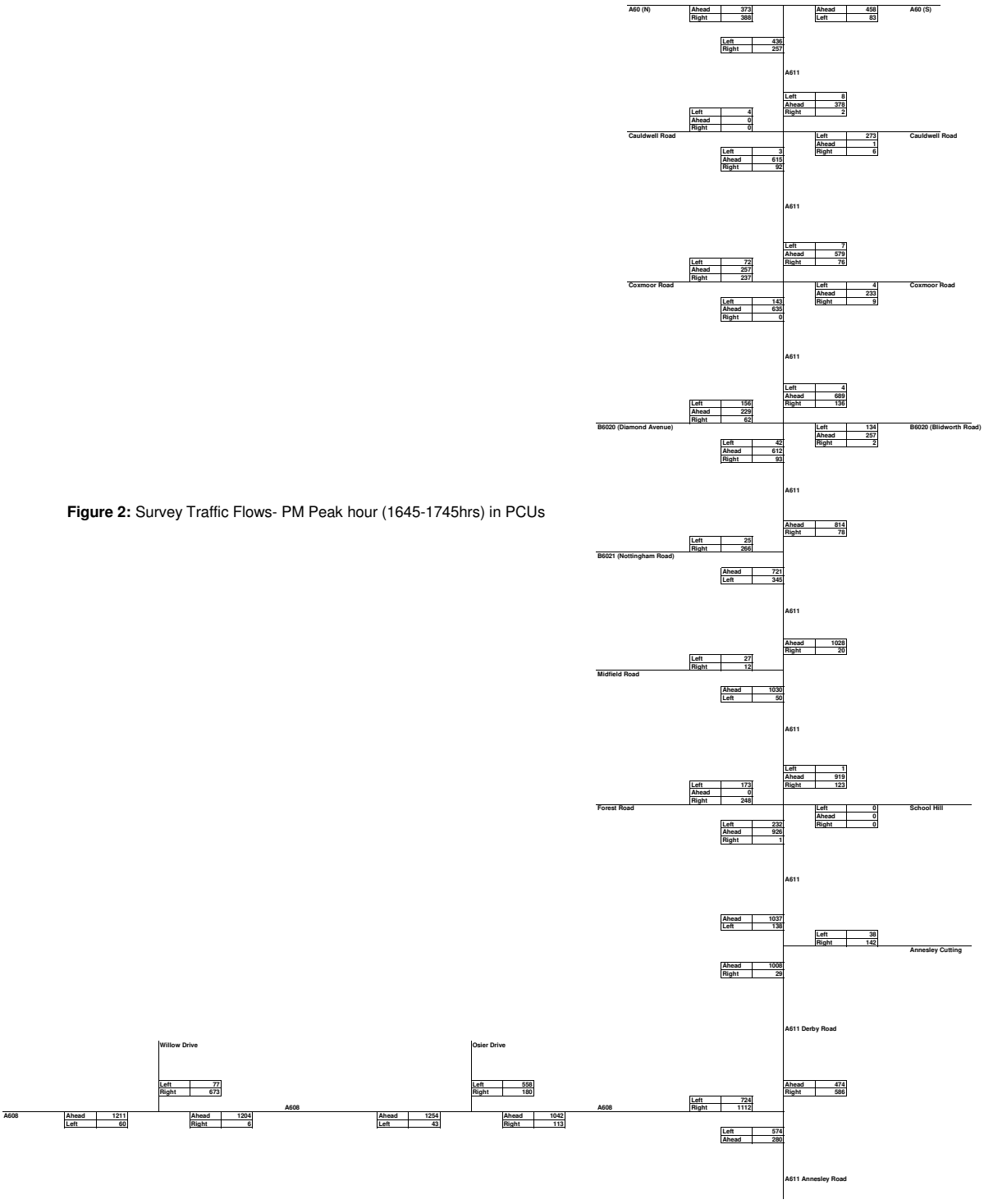


Figure 2: Survey Traffic Flows- PM Peak hour (1645-1745hrs) in PCUs

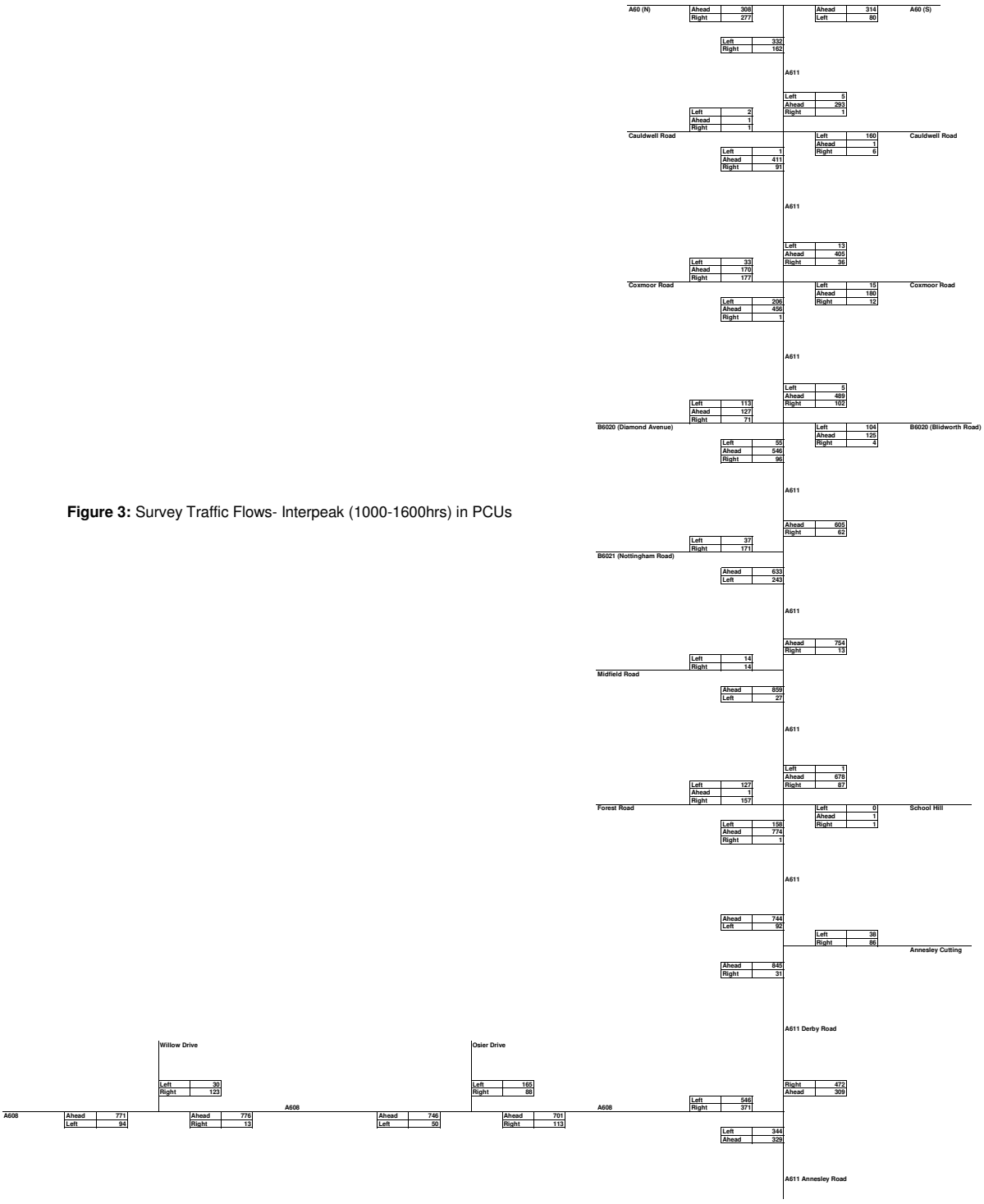


Figure 3: Survey Traffic Flows- Interpeak (1000-1600hrs) in PCUs

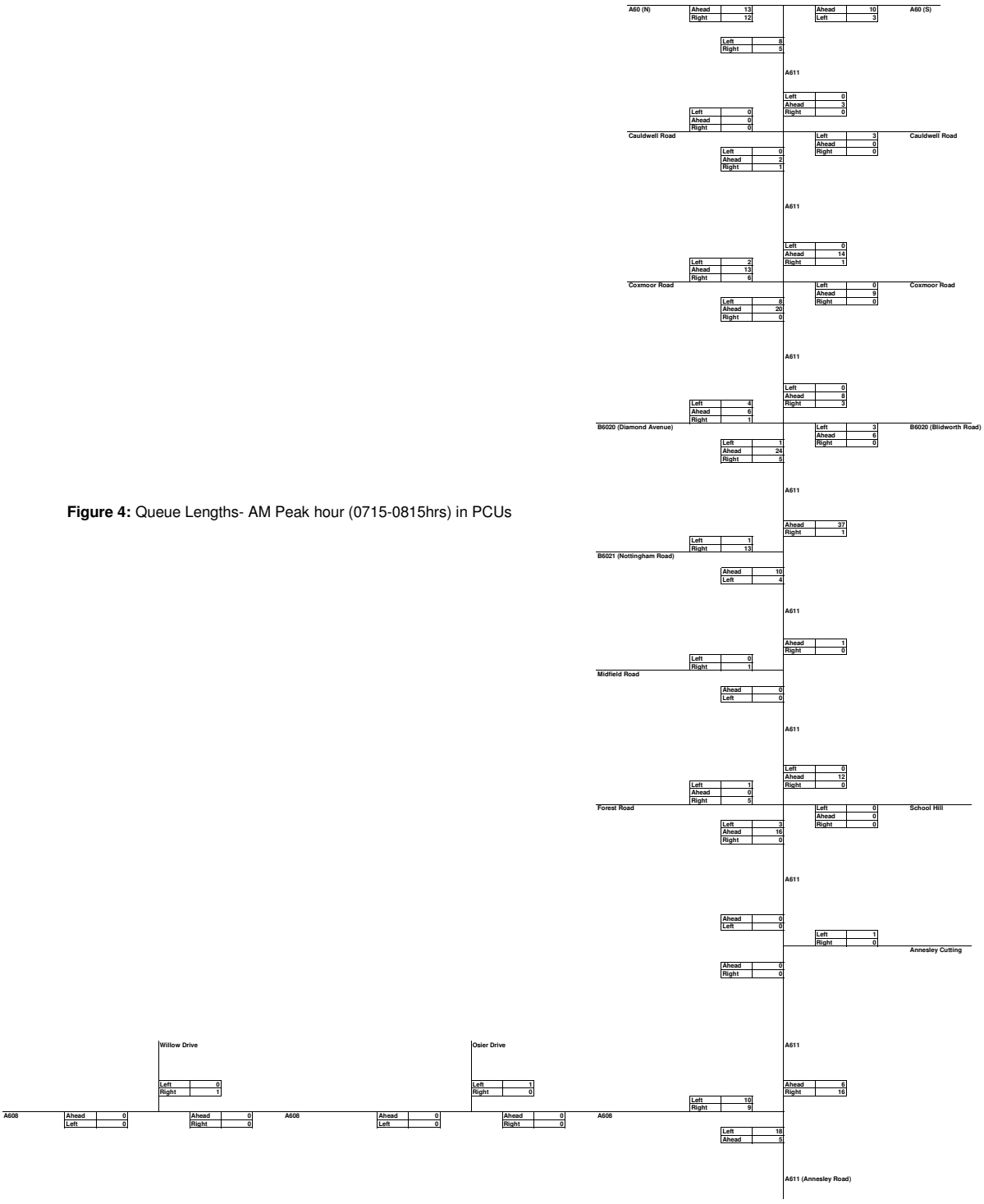


Figure 4: Queue Lengths- AM Peak hour (0715-0815hrs) in PCUs

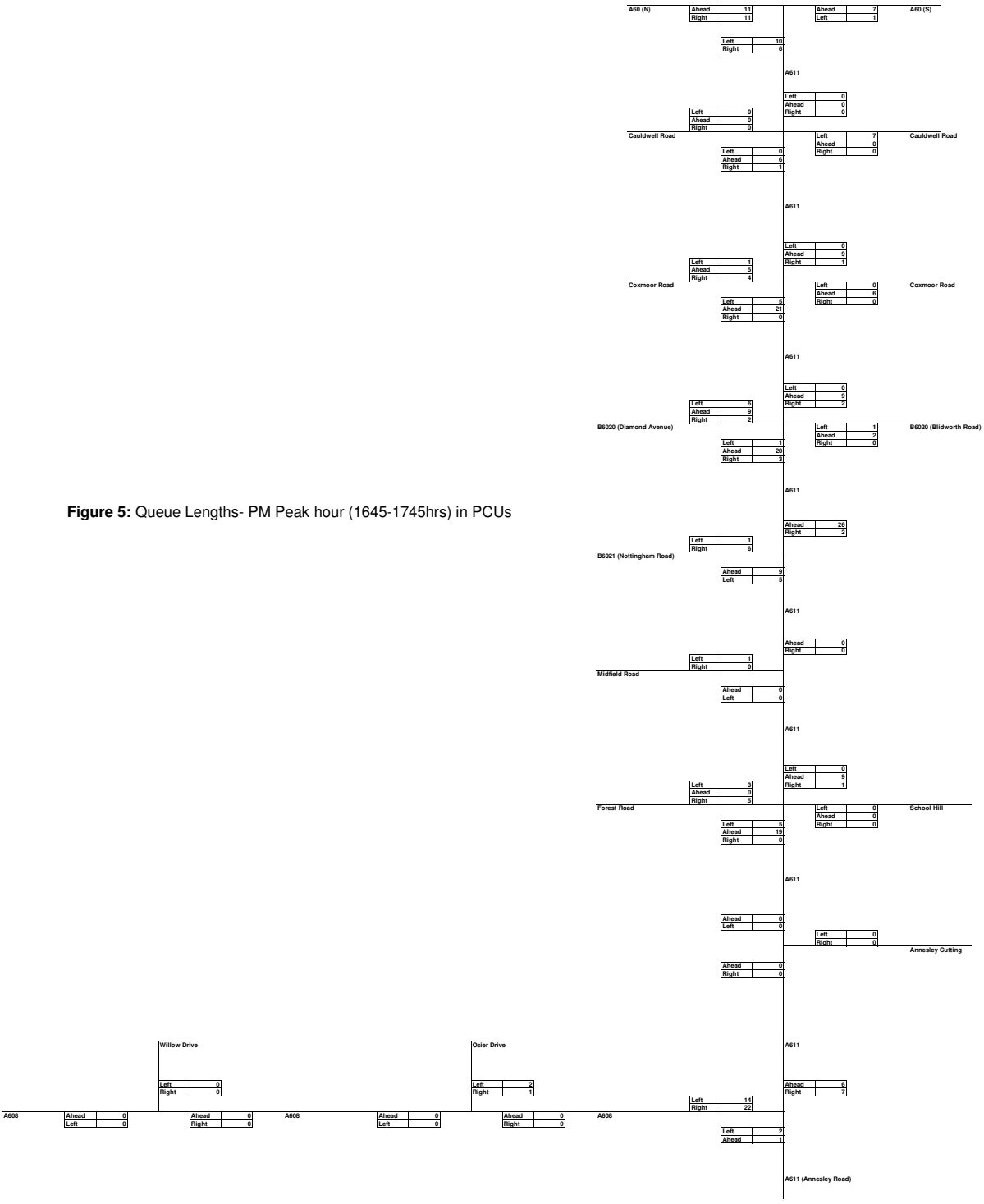


Figure 5: Queue Lengths- PM Peak hour (1645-1745hrs) in PCUs

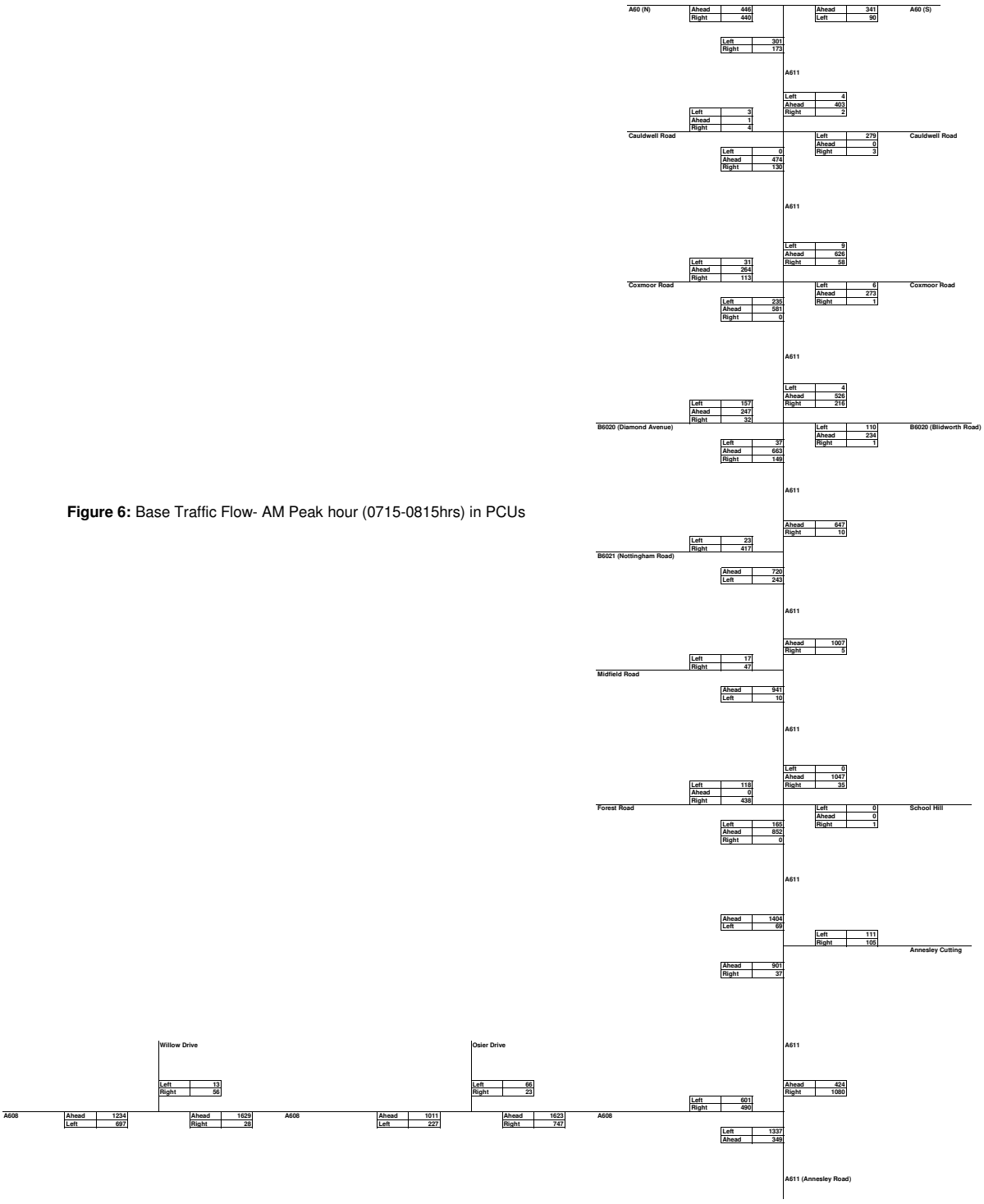


Figure 6: Base Traffic Flow- AM Peak hour (0715-0815hrs) in PCUs

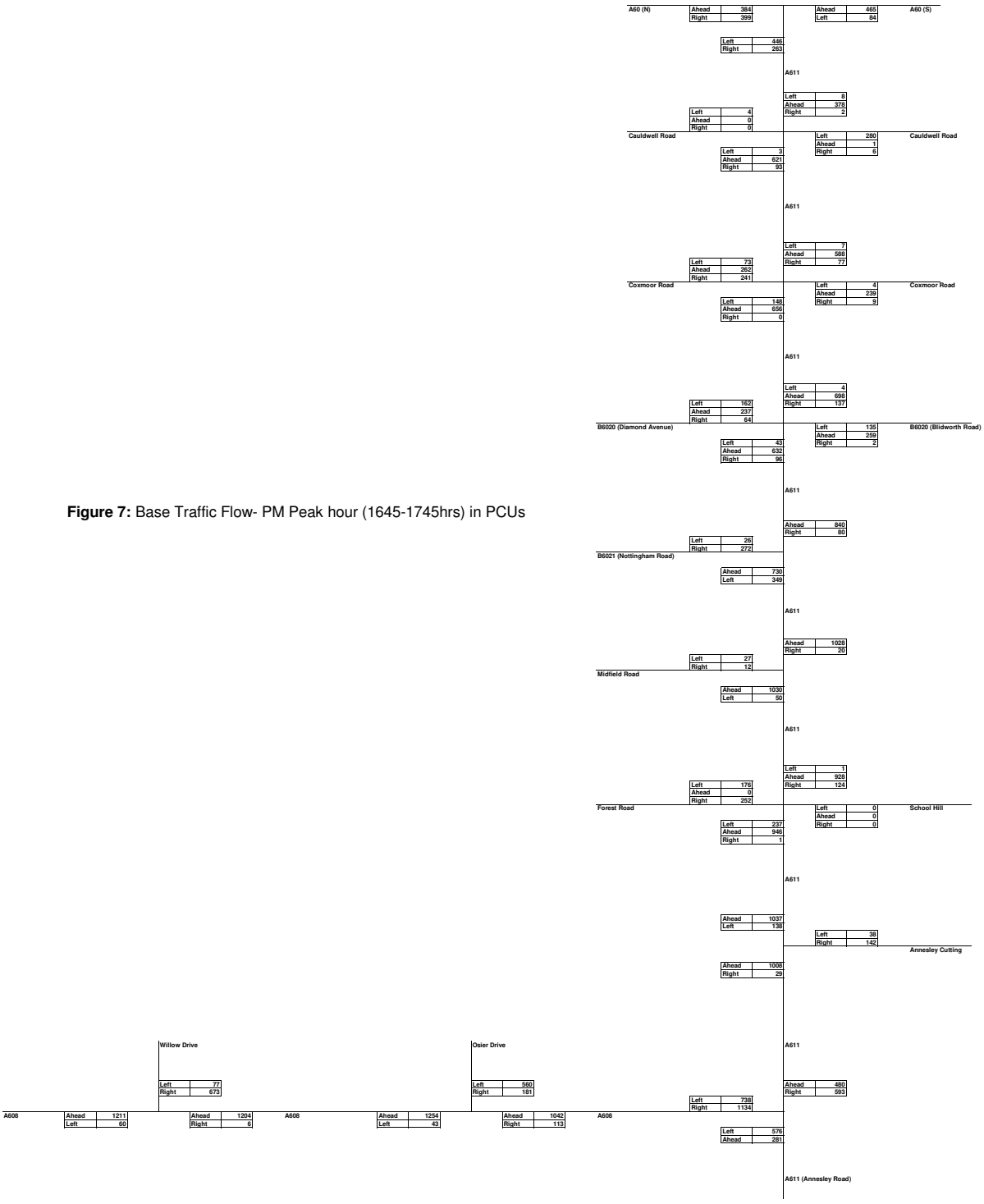


Figure 7: Base Traffic Flow- PM Peak hour (1645-1745hrs) in PCUs

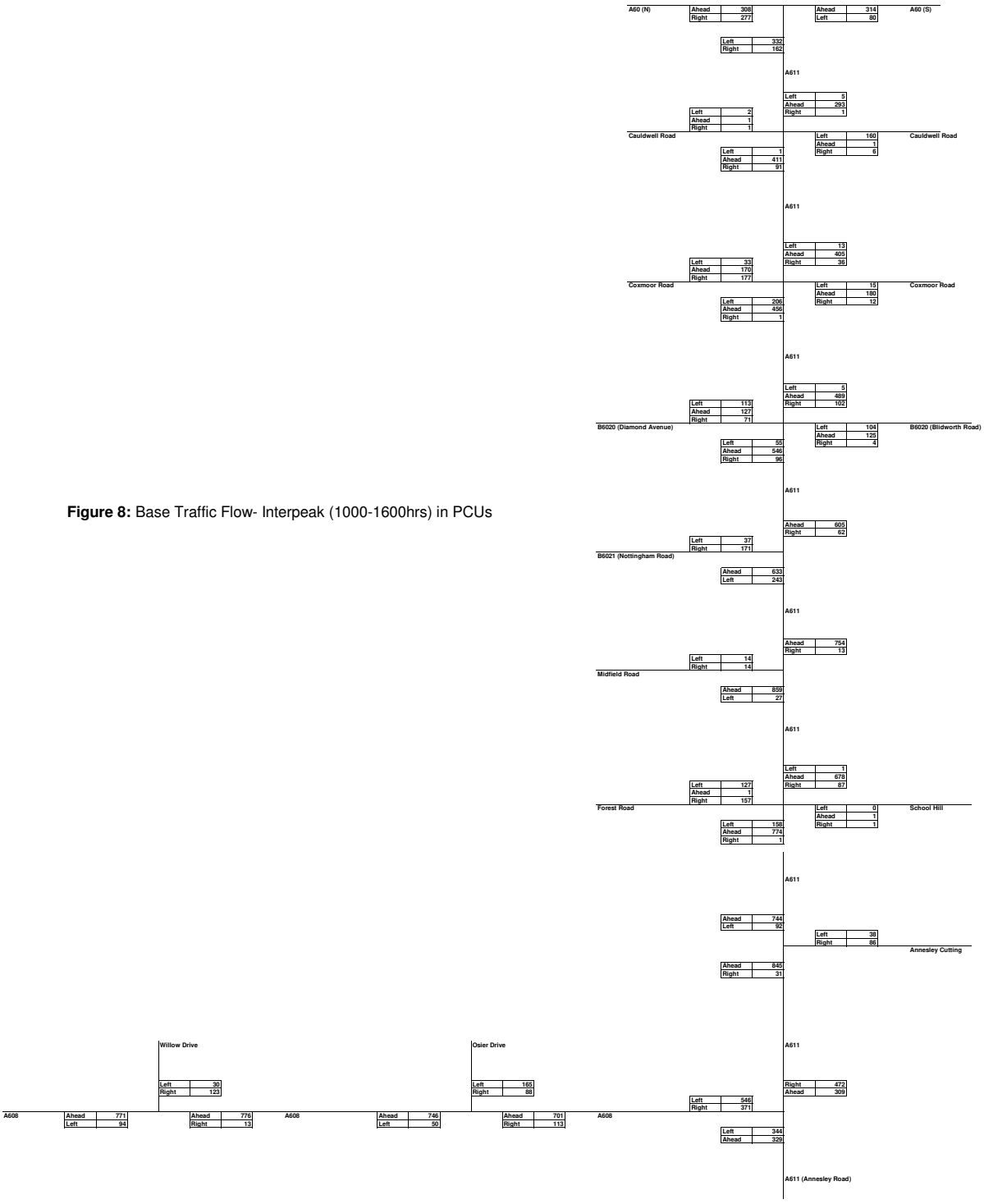
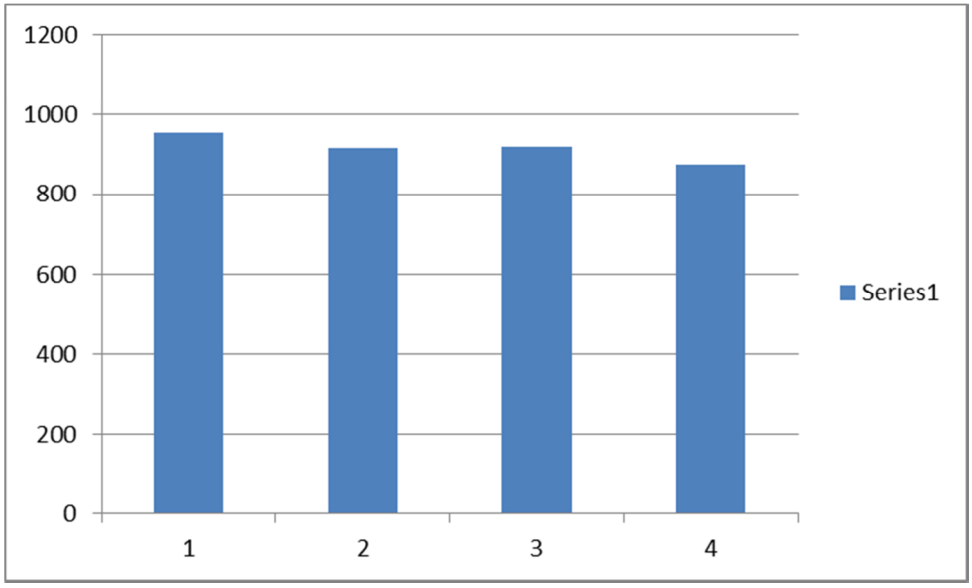


Figure 8: Base Traffic Flow- Interpeak (1000-1600hrs) in PCUs

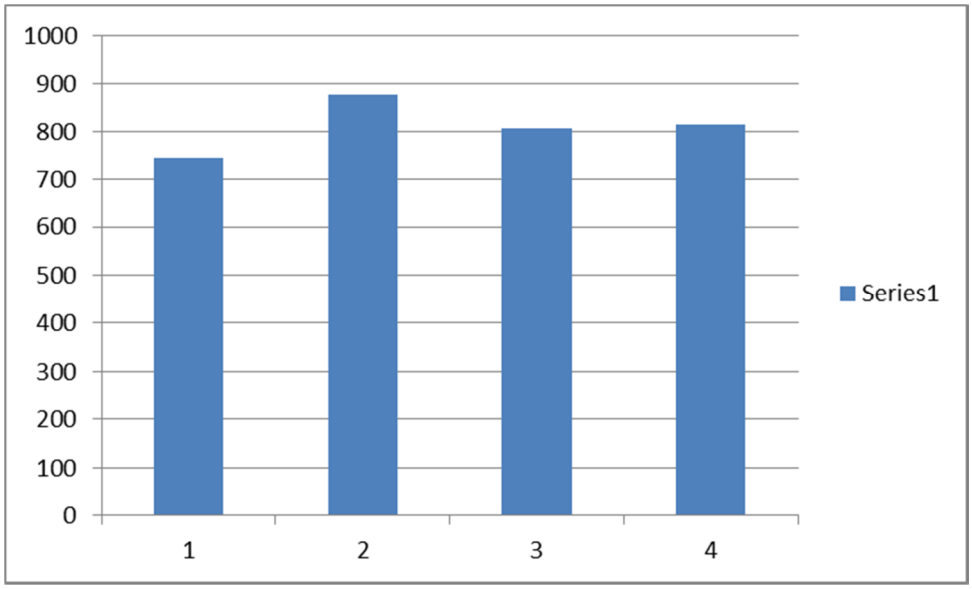
Appendix B

Traffic Flow Profiles (for roundabout and priority controlled junctions)

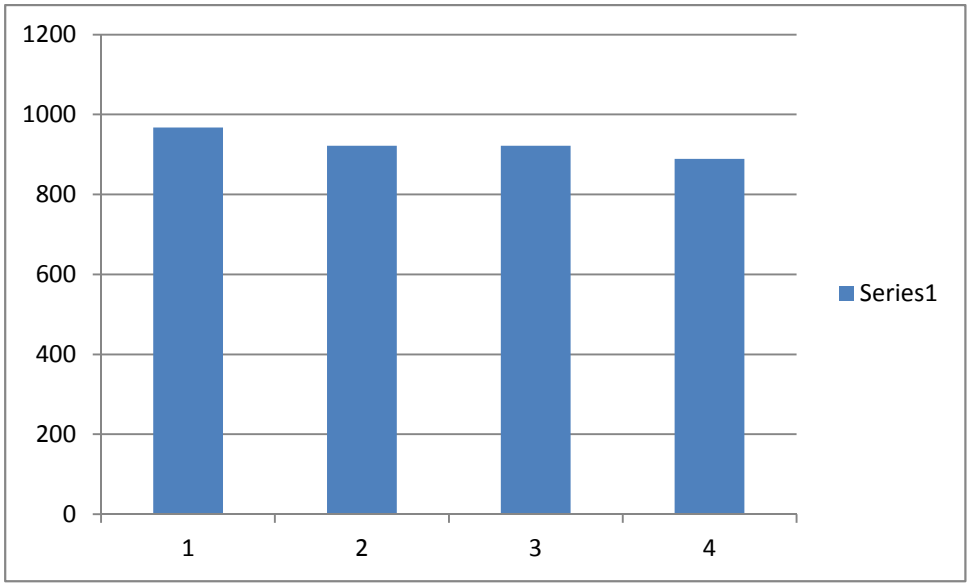
A608 – Willow Drive – Flow Profile – AM Peak Hour (15 Minute Blocks)



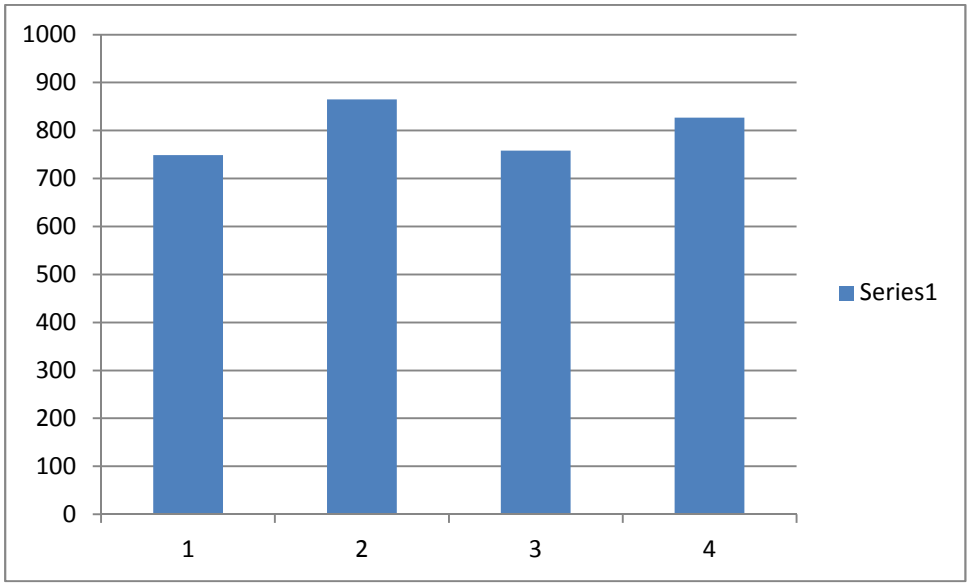
A608 – Willow Drive – Flow Profile – PM Peak Hour (15 Minute Blocks)



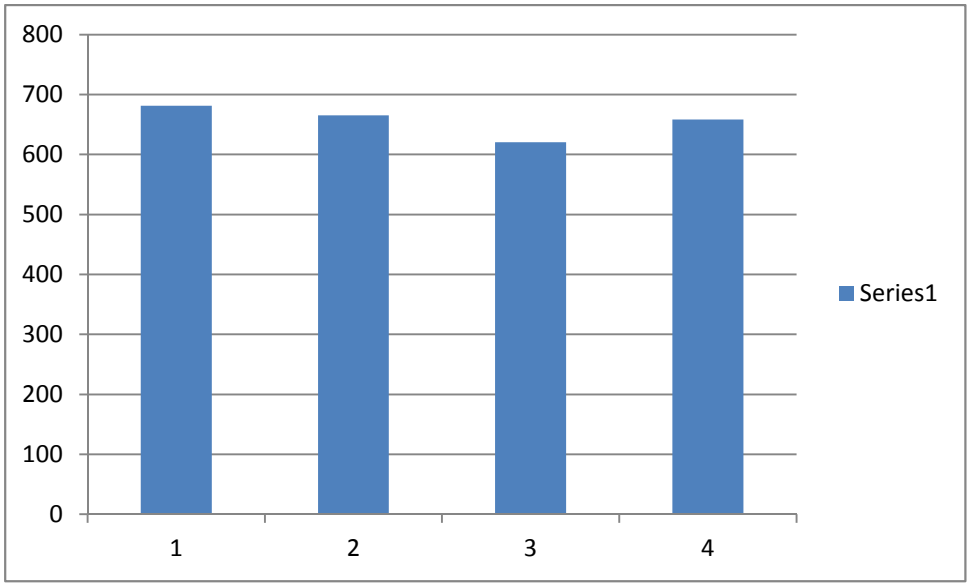
A608 – Osier Drive– Flow Profile – AM Peak Hour (15 Minute Blocks)



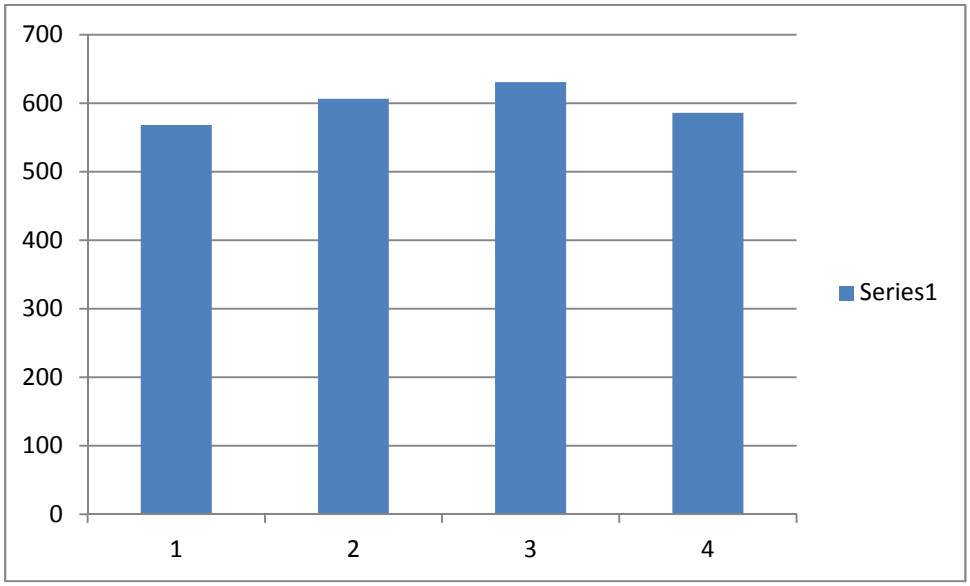
A608 – Osier Drive– Flow Profile – PM Peak Hour (15 Minute Blocks)



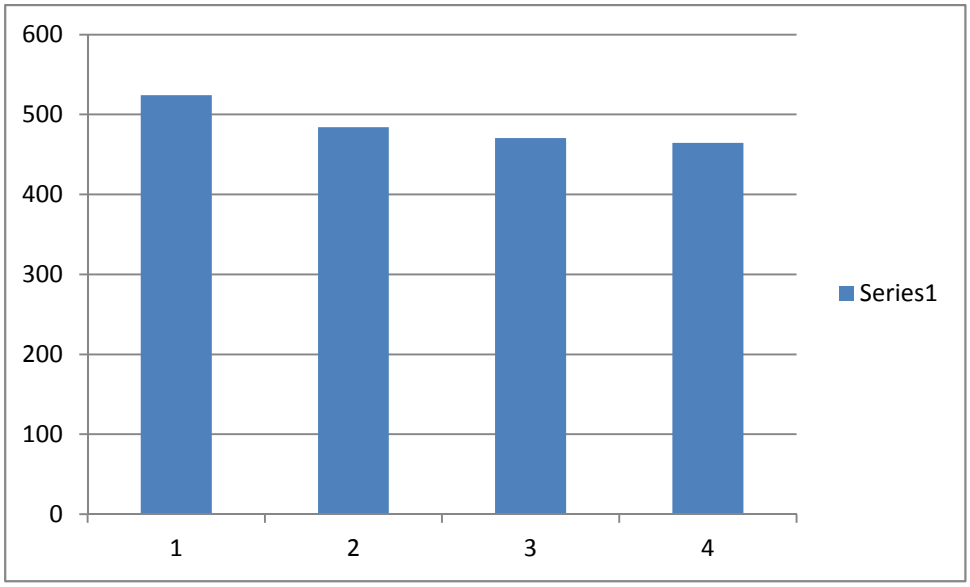
A611 – Annersley Cutting - AM Peak Hour (15 Minute Blocks)



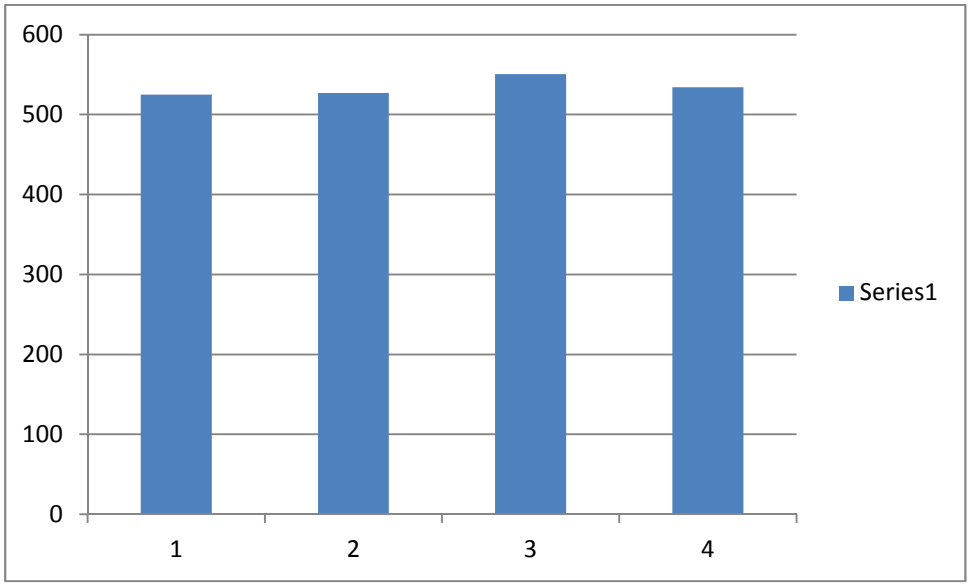
A611 – Annersley Cutting - PM Peak Hour (15 Minute Blocks)



A611 – Midfield - AM Peak Hour (15 Minute Blocks)

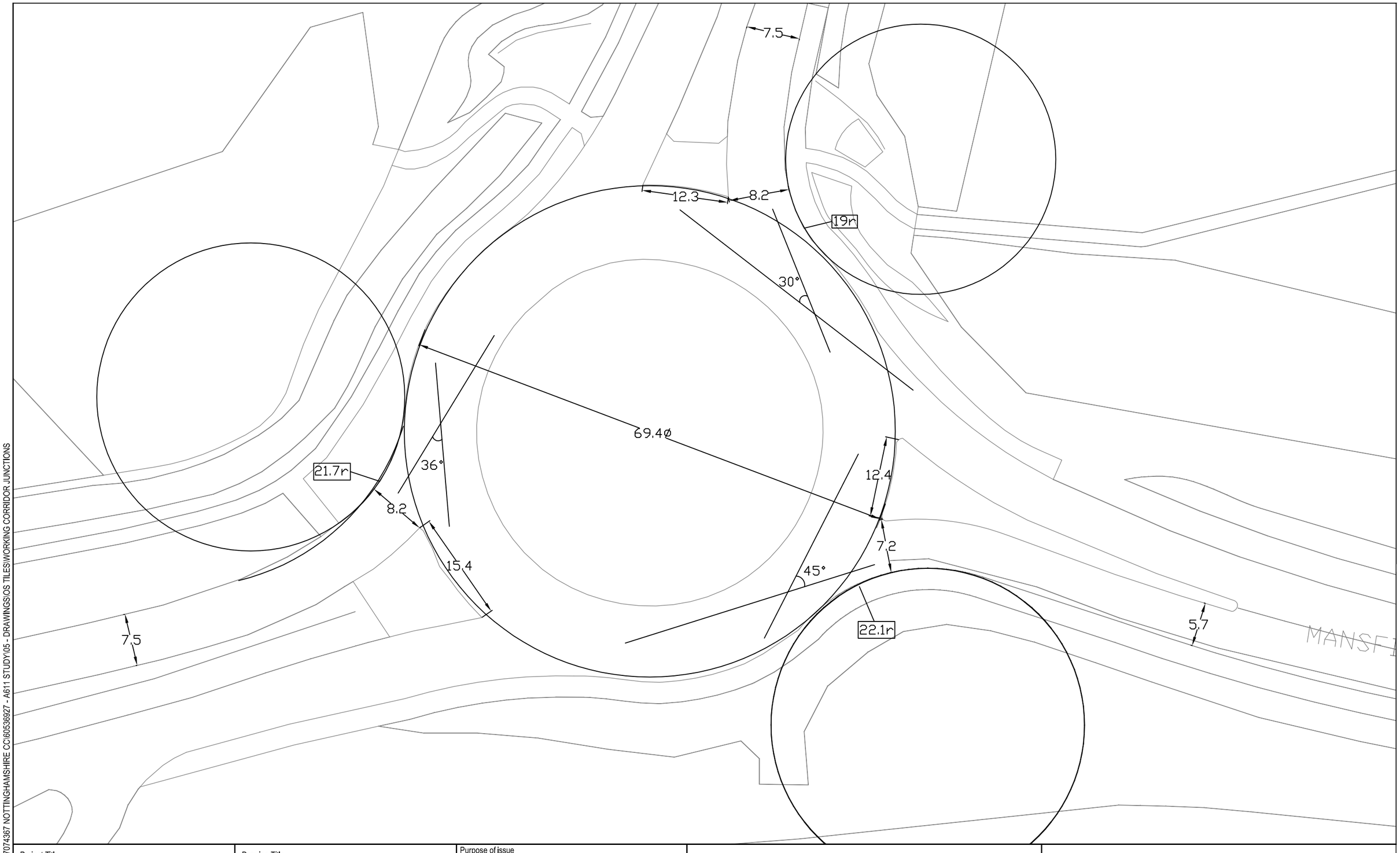


A611 – Midfield - PM Peak Hour (15 Minute Blocks)



Appendix C

A608 / Willow Drive Junction Capacity Results



Plot Date : 23 May 2017 15:04:13
File Name : L:\MHA PSP2\47074367 NOTTINGHAMSHIRE CC\60536927 - A611 STUDY\05 - DRAWINGS\OS TILES\WORKING CORRIDOR JUNCTIONS

Project Title
M1 J27 / A608 / A611 TO MANSFILED JUNCTION GEOMETRIES

Client
NOTTINGHAMSHIRE COUNTY COUNCIL

Drawing Title
ROUNDABOUT JUNCTION 1
A608 / WEST ACCESS
TO INDUSTRIAL ESTATE

Purpose of issue
FOR INFORMATION

Designed	Drawn	Checked	Approved	Date
RP	JPH	RP	DG	23/05/17

AECOM Internal Project No.	Suitability
60536927	
Scale @ A3	Zone / Mileage
1:500	

Drawing Number: 60536927/SK/001
Rev:

AECOM Infrastructure & Environment UK Limited
Royal Court, Basil Close
Chesterfield
S41 7SL
Tel:+44 (0)1246 209 221
Fax:+44 (0)1246 209 229
www.aecom.com

Junctions 8

ARCADY 8 - Roundabout Module

Version: 8.0.6.541 [19821,26/11/2015]

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

Filename: A608_Willow Drive.arc8
Path: L:\MHA PSP2\47074367 Nottinghamshire CC\60536927 - A611 Study\03 - Analysis\Junction Models
Report generation date: 24/05/2017 12:12:42

Summary of junction performance

	AM					Interpeak					PM				
	Queue (PCU)	Delay (s)	RFC	LOS	Junction Delay (s)	Queue (PCU)	Delay (s)	RFC	LOS	Junction Delay (s)	Queue (PCU)	Delay (s)	RFC	LOS	Junction Delay (s)
A1 - Base															
Arm 1	10.33	21.64	0.92	C	16.45	0.81	3.36	0.45	A	2.82	4.62	12.87	0.83	B	7.24
Arm 2	7.10	12.50	0.88	B		0.65	2.45	0.39	A		1.36	3.51	0.58	A	
Arm 3	0.05	2.34	0.05	A		0.10	2.04	0.09	A		1.02	4.47	0.51	A	
A1 - Design															
Arm 1	0.13	2.08	0.11	A	1.80	0.13	2.08	0.11	A	1.80	0.13	2.08	0.11	A	1.80
Arm 2	0.10	1.68	0.09	A		0.10	1.68	0.09	A		0.10	1.68	0.09	A	
Arm 3	0.10	1.65	0.09	A		0.10	1.65	0.09	A		0.10	1.65	0.09	A	

Values shown are the maximum values over all time segments. Delay is the maximum value of average delay per arriving vehicle. Junction LOS and Junction Delay are demand-weighted averages.

"D1 - Base, AM " model duration: 07:00 - 08:30
"D2 - Base, PM" model duration: 16:30 - 18:00
"D3 - Base, Interpeak" model duration: 11:45 - 13:15
"D4 - Design, Interpeak" model duration: 11:45 - 13:15
"D5 - Design, AM" model duration: 07:00 - 08:30
"D6 - Design, PM" model duration: 16:30 - 18:00

Run using Junctions 8.0.6.541 at 24/05/2017 12:12:40

File summary

Title	(untitled)
Location	
Site Number	
Date	16/05/2017
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	ross.paradise
Description	

Analysis Options

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

Units

Distance Units	Speed Units	Traffic Units Input	Traffic Units Results	Flow Units	Average Delay Units	Total Delay Units	Rate Of Delay Units
m	kph	PCU	PCU	perHour	s	-Min	perMin

(Default Analysis Set) - Base, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	Arm 1 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	Arm 2 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	Arm 3 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.

Analysis Set Details

Name	Roundabout Capacity Model	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)	ARCADY			100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
Base, AM	Base	AM		ONE HOUR	07:00	08:30	90	15		

Junction Network

Junctions

Junction	Name	Junction Type	Arm Order	Grade Separated	Large Roundabout	Junction Delay (s)	Junction LOS
1	(untitled)	Roundabout	1,2,3			16.45	C

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Arm	Name	Description
1	1	A608 East	
2	2	A608 West	
3	3	Willow Drive	

Capacity Options

Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)
1	0.00	99999.00
2	0.00	99999.00
3	0.00	99999.00

Roundabout Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	l' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only
1	5.50	7.20	35.00	22.10	70.00	45.00	
2	7.50	8.20	31.00	21.70	70.00	36.00	
3	7.50	8.20	34.00	19.00	70.00	30.00	

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Enter slope and intercept directly	Entered slope	Entered intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
1		(calculated)	(calculated)	0.543	2012.178
2		(calculated)	(calculated)	0.616	2428.339
3		(calculated)	(calculated)	0.625	2465.129

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

Traffic Flows

Demand Set Data Options

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

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
1	ONE HOUR	✓	1657.00	100.000
2	ONE HOUR	✓	1931.00	100.000
3	ONE HOUR	✓	69.00	100.000

Turning Proportions

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

		To		
		1	2	3
From	1	0.000	1629.000	28.000
	2	1234.000	0.000	697.000
	3	13.000	56.000	0.000

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

		To		
		1	2	3
From	1	0.00	0.98	0.02
	2	0.64	0.00	0.36
	3	0.19	0.81	0.00

Vehicle Mix

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

		To		
		1	2	3
From	1	1.000	1.000	1.000
	2	1.000	1.000	1.000
	3	1.000	1.000	1.000

Heavy Vehicle Percentages - Junction 1 (for whole period)

		To		
		1	2	3
From	1	0.0	0.0	0.0
	2	0.0	0.0	0.0
	3	0.0	0.0	0.0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
1	0.92	21.64	10.33	C
2	0.88	12.50	7.10	B
3	0.05	2.34	0.05	A

Main Results for each time segment

Main results: (07:00-07:15)

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	1247.48	1240.85	42.07	0.00	1989.32	0.627	1.66	4.768	A
2	1453.76	1447.77	20.97	0.00	2415.42	0.602	1.50	3.698	A
3	51.95	51.83	925.20	0.00	1886.62	0.028	0.03	1.961	A

Main results: (07:15-07:30)

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	1489.61	1484.57	50.32	0.00	1984.84	0.750	2.92	7.123	A
2	1735.93	1731.86	25.09	0.00	2412.88	0.719	2.51	5.255	A
3	62.03	62.00	1106.74	0.00	1773.11	0.035	0.04	2.103	A

Main results: (07:30-07:45)

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	1824.39	1798.54	61.62	0.00	1978.70	0.922	9.38	17.866	C
2	2126.07	2109.03	30.39	0.00	2409.62	0.882	6.77	11.378	B
3	75.97	75.92	1347.77	0.00	1622.40	0.047	0.05	2.327	A

Main results: (07:45-08:00)

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	1824.39	1820.59	61.66	0.00	1978.68	0.922	10.33	21.637	C
2	2126.07	2124.76	30.76	0.00	2409.39	0.882	7.10	12.497	B
3	75.97	75.97	1357.82	0.00	1616.11	0.047	0.05	2.337	A

Main results: (08:00-08:15)

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	1489.61	1518.51	50.38	0.00	1984.80	0.751	3.11	8.170	A
2	1735.93	1753.86	25.66	0.00	2412.53	0.720	2.62	5.610	A
3	62.03	62.08	1120.80	0.00	1764.32	0.035	0.04	2.114	A

Main results: (08:15-08:30)

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	1247.48	1253.08	42.19	0.00	1989.26	0.627	1.71	4.926	A
2	1453.76	1458.12	21.17	0.00	2415.29	0.602	1.53	3.780	A
3	51.95	51.98	931.81	0.00	1882.49	0.028	0.03	1.966	A

(Default Analysis Set) - Base, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	Arm 1 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	Arm 2 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	Arm 3 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.

Analysis Set Details

Name	Roundabout Capacity Model	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)	ARCADY			100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
Base, PM	Base	PM		ONE HOUR	16:30	18:00	90	15		

Junction Network

Junctions

Junction	Name	Junction Type	Arm Order	Grade Separated	Large Roundabout	Junction Delay (s)	Junction LOS
1	(untitled)	Roundabout	1,2,3			7.24	A

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Arm	Name	Description
1	1	A608 East	
2	2	A608 West	
3	3	Willow Drive	

Capacity Options

Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)
1	0.00	99999.00
2	0.00	99999.00
3	0.00	99999.00

Roundabout Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	l' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only
1	5.50	7.20	35.00	22.10	70.00	45.00	
2	7.50	8.20	31.00	21.70	70.00	36.00	
3	7.50	8.20	34.00	19.00	70.00	30.00	

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Enter slope and intercept directly	Entered slope	Entered intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
1		(calculated)	(calculated)	0.543	2012.178
2		(calculated)	(calculated)	0.616	2428.339
3		(calculated)	(calculated)	0.625	2465.129

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

Traffic Flows

Demand Set Data Options

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

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
1	ONE HOUR	✓	1210.00	100.000
2	ONE HOUR	✓	1271.00	100.000
3	ONE HOUR	✓	750.00	100.000

Turning Proportions

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

		To		
		1	2	3
From	1	0.000	1204.000	6.000
	2	1211.000	0.000	60.000
	3	77.000	673.000	0.000

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

		To		
		1	2	3
From	1	0.00	1.00	0.00
	2	0.95	0.00	0.05
	3	0.10	0.90	0.00

Vehicle Mix

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

		To		
		1	2	3
From	1	1.000	1.000	1.000
	2	1.000	1.000	1.000
	3	1.000	1.000	1.000

Heavy Vehicle Percentages - Junction 1 (for whole period)

		To		
		1	2	3
From	1	0.0	0.0	0.0
	2	0.0	0.0	0.0
	3	0.0	0.0	0.0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
1	0.83	12.87	4.62	B
2	0.58	3.51	1.36	A
3	0.51	4.47	1.02	A

Main Results for each time segment

Main results: (16:30-16:45)

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	910.95	906.59	505.15	0.00	1737.69	0.524	1.09	4.309	A
2	956.88	954.28	4.50	0.00	2425.57	0.395	0.65	2.443	A
3	564.64	562.95	909.23	0.00	1896.60	0.298	0.42	2.695	A

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

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	1087.77	1084.96	604.36	0.00	1683.79	0.646	1.79	5.982	A
2	1142.60	1141.65	5.38	0.00	2425.02	0.471	0.89	2.804	A
3	674.23	673.51	1087.76	0.00	1784.97	0.378	0.60	3.237	A

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

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	1332.23	1321.60	739.52	0.00	1610.35	0.827	4.45	12.046	B
2	1399.40	1397.53	6.55	0.00	2424.30	0.577	1.35	3.500	A
3	825.77	824.13	1331.55	0.00	1632.53	0.506	1.01	4.444	A

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

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	1332.23	1331.57	740.97	0.00	1609.56	0.828	4.62	12.868	B
2	1399.40	1399.37	6.60	0.00	2424.27	0.577	1.36	3.511	A
3	825.77	825.74	1333.31	0.00	1631.44	0.506	1.02	4.467	A

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

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	1087.77	1098.78	606.48	0.00	1682.64	0.646	1.86	6.279	A
2	1142.60	1144.45	5.45	0.00	2424.98	0.471	0.90	2.817	A
3	674.23	675.87	1090.43	0.00	1783.31	0.378	0.61	3.257	A

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

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	910.95	913.94	507.33	0.00	1736.51	0.525	1.11	4.393	A
2	956.88	957.84	4.53	0.00	2425.55	0.395	0.65	2.453	A
3	564.64	565.38	912.63	0.00	1894.48	0.298	0.43	2.709	A

(Default Analysis Set) - Base, Interpeak

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	Arm 1 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	Arm 2 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	Arm 3 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.

Analysis Set Details

Name	Roundabout Capacity Model	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)	ARCADY			100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
Base, Interpeak	Base	Interpeak		ONE HOUR	11:45	13:15	90	15		

Junction Network

Junctions

Junction	Name	Junction Type	Arm Order	Grade Separated	Large Roundabout	Junction Delay (s)	Junction LOS
1	(untitled)	Roundabout	1,2,3			2.82	A

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Arm	Name	Description
1	1	A608 East	
2	2	A608 West	
3	3	Willow Drive	

Capacity Options

Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)
1	0.00	99999.00
2	0.00	99999.00
3	0.00	99999.00

Roundabout Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	l' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only
1	5.50	7.20	35.00	22.10	70.00	45.00	
2	7.50	8.20	31.00	21.70	70.00	36.00	
3	7.50	8.20	34.00	19.00	70.00	30.00	

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Enter slope and intercept directly	Entered slope	Entered intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
1		(calculated)	(calculated)	0.543	2012.178
2		(calculated)	(calculated)	0.616	2428.339
3		(calculated)	(calculated)	0.625	2465.129

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

Traffic Flows

Demand Set Data Options

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

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
1	ONE HOUR	✓	789.00	100.000
2	ONE HOUR	✓	865.00	100.000
3	ONE HOUR	✓	153.00	100.000

Turning Proportions

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

		To		
		1	2	3
From	1	0.000	776.000	13.000
	2	771.000	0.000	94.000
	3	30.000	123.000	0.000

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

		To		
		1	2	3
From	1	0.00	0.98	0.02
	2	0.89	0.00	0.11
	3	0.20	0.80	0.00

Vehicle Mix

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

		To		
		1	2	3
From	1	1.000	1.000	1.000
	2	1.000	1.000	1.000
	3	1.000	1.000	1.000

Heavy Vehicle Percentages - Junction 1 (for whole period)

		To		
		1	2	3
From	1	0.0	0.0	0.0
	2	0.0	0.0	0.0
	3	0.0	0.0	0.0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
1	0.45	3.36	0.81	A
2	0.39	2.45	0.65	A
3	0.09	2.04	0.10	A

Main Results for each time segment

Main results: (11:45-12:00)

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	594.00	592.27	92.41	0.00	1961.96	0.303	0.43	2.624	A
2	651.22	649.75	9.76	0.00	2422.33	0.269	0.37	2.029	A
3	115.19	114.96	579.14	0.00	2103.00	0.055	0.06	1.810	A

Main results: (12:00-12:15)

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	709.29	708.75	110.53	0.00	1952.12	0.363	0.57	2.893	A
2	777.62	777.20	11.68	0.00	2421.14	0.321	0.47	2.190	A
3	137.54	137.49	692.74	0.00	2031.97	0.068	0.07	1.899	A

Main results: (12:15-12:30)

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	868.71	867.75	135.35	0.00	1938.63	0.448	0.81	3.358	A
2	952.38	951.68	14.30	0.00	2419.53	0.394	0.65	2.451	A
3	168.46	168.37	848.26	0.00	1934.73	0.087	0.10	2.037	A

Main results: (12:30-12:45)

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	868.71	868.69	135.43	0.00	1938.59	0.448	0.81	3.364	A
2	952.38	952.38	14.31	0.00	2419.52	0.394	0.65	2.453	A
3	168.46	168.46	848.88	0.00	1934.34	0.087	0.10	2.038	A

Main results: (12:45-13:00)

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	709.29	710.24	110.65	0.00	1952.06	0.363	0.57	2.900	A
2	777.62	778.31	11.70	0.00	2421.13	0.321	0.47	2.191	A
3	137.54	137.63	693.73	0.00	2031.35	0.068	0.07	1.900	A

Main results: (13:00-13:15)

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	594.00	594.55	92.65	0.00	1961.84	0.303	0.44	2.635	A
2	651.22	651.64	9.80	0.00	2422.30	0.269	0.37	2.034	A
3	115.19	115.25	580.83	0.00	2101.95	0.055	0.06	1.814	A

(Default Analysis Set) - Design, Interpeak

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	Arm 1 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	Arm 2 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	Arm 3 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.

Analysis Set Details

Name	Roundabout Capacity Model	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)	ARCADY			100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
Design, Interpeak	Design	Interpeak		ONE HOUR	11:45	13:15	90	15		

Junction Network

Junctions

Junction	Name	Junction Type	Arm Order	Grade Separated	Large Roundabout	Junction Delay (s)	Junction LOS
1	(untitled)	Roundabout	1,2,3			1.80	A

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Arm	Name	Description
1	1	A608 East	
2	2	A608 West	
3	3	Willow Drive	

Capacity Options

Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)
1	0.00	99999.00
2	0.00	99999.00
3	0.00	99999.00

Roundabout Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	l' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only
1	5.50	7.20	35.00	22.10	70.00	45.00	
2	7.50	8.20	31.00	21.70	70.00	36.00	
3	7.50	8.20	34.00	19.00	70.00	30.00	

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Enter slope and intercept directly	Entered slope	Entered intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
1		(calculated)	(calculated)	0.543	2012.178
2		(calculated)	(calculated)	0.616	2428.339
3		(calculated)	(calculated)	0.625	2465.129

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

Traffic Flows

Demand Set Data Options

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

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
1	ONE HOUR	✓	200.00	100.000
2	ONE HOUR	✓	200.00	100.000
3	ONE HOUR	✓	200.00	100.000

Turning Proportions

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

		To		
		1	2	3
From	1	0.000	100.000	100.000
	2	100.000	0.000	100.000
	3	100.000	100.000	0.000

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

		To		
		1	2	3
From	1	0.00	0.50	0.50
	2	0.50	0.00	0.50
	3	0.50	0.50	0.00

Vehicle Mix

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

		To		
		1	2	3
From	1	1.000	1.000	1.000
	2	1.000	1.000	1.000
	3	1.000	1.000	1.000

Heavy Vehicle Percentages - Junction 1 (for whole period)

		To		
		1	2	3
From	1	0.0	0.0	0.0
	2	0.0	0.0	0.0
	3	0.0	0.0	0.0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
1	0.11	2.08	0.13	A
2	0.09	1.68	0.10	A
3	0.09	1.65	0.10	A

Main Results for each time segment

Main results: (11:45-12:00)

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	150.57	150.24	75.15	0.00	1971.34	0.076	0.08	1.976	A
2	150.57	150.30	75.12	0.00	2382.06	0.063	0.07	1.612	A
3	150.57	150.31	75.15	0.00	2418.14	0.062	0.07	1.586	A

Main results: (12:00-12:15)

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	179.80	179.72	89.87	0.00	1963.35	0.092	0.10	2.018	A
2	179.80	179.74	89.86	0.00	2372.98	0.076	0.08	1.640	A
3	179.80	179.74	89.87	0.00	2408.94	0.075	0.08	1.614	A

Main results: (12:15-12:30)

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	220.20	220.10	110.06	0.00	1952.37	0.113	0.13	2.078	A
2	220.20	220.12	110.05	0.00	2360.54	0.093	0.10	1.681	A
3	220.20	220.12	110.06	0.00	2396.31	0.092	0.10	1.653	A

Main results: (12:30-12:45)

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	220.20	220.20	110.10	0.00	1952.35	0.113	0.13	2.078	A
2	220.20	220.20	110.10	0.00	2360.51	0.093	0.10	1.681	A
3	220.20	220.20	110.10	0.00	2396.28	0.092	0.10	1.653	A

Main results: (12:45-13:00)

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	179.80	179.90	89.94	0.00	1963.31	0.092	0.10	2.020	A
2	179.80	179.88	89.95	0.00	2372.92	0.076	0.08	1.643	A
3	179.80	179.88	89.94	0.00	2408.89	0.075	0.08	1.616	A

Main results: (13:00-13:15)

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	150.57	150.64	75.31	0.00	1971.25	0.076	0.08	1.977	A
2	150.57	150.63	75.32	0.00	2381.94	0.063	0.07	1.612	A
3	150.57	150.63	75.31	0.00	2418.04	0.062	0.07	1.589	A

(Default Analysis Set) - Design, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	Arm 1 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	Arm 2 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	Arm 3 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.

Analysis Set Details

Name	Roundabout Capacity Model	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)	ARCADY			100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
Design, AM	Design	AM		ONE HOUR	07:00	08:30	90	15		

Junction Network

Junctions

Junction	Name	Junction Type	Arm Order	Grade Separated	Large Roundabout	Junction Delay (s)	Junction LOS
1	(untitled)	Roundabout	1,2,3			1.80	A

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Arm	Name	Description
1	1	A608 East	
2	2	A608 West	
3	3	Willow Drive	

Capacity Options

Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)
1	0.00	99999.00
2	0.00	99999.00
3	0.00	99999.00

Roundabout Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	l' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only
1	5.50	7.20	35.00	22.10	70.00	45.00	
2	7.50	8.20	31.00	21.70	70.00	36.00	
3	7.50	8.20	34.00	19.00	70.00	30.00	

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Enter slope and intercept directly	Entered slope	Entered intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
1		(calculated)	(calculated)	0.543	2012.178
2		(calculated)	(calculated)	0.616	2428.339
3		(calculated)	(calculated)	0.625	2465.129

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

Traffic Flows

Demand Set Data Options

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

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
1	ONE HOUR	✓	200.00	100.000
2	ONE HOUR	✓	200.00	100.000
3	ONE HOUR	✓	200.00	100.000

Turning Proportions

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

		To		
		1	2	3
From	1	0.000	100.000	100.000
	2	100.000	0.000	100.000
	3	100.000	100.000	0.000

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

		To		
		1	2	3
From	1	0.00	0.50	0.50
	2	0.50	0.00	0.50
	3	0.50	0.50	0.00

Vehicle Mix

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

		To		
		1	2	3
From	1	1.000	1.000	1.000
	2	1.000	1.000	1.000
	3	1.000	1.000	1.000

Heavy Vehicle Percentages - Junction 1 (for whole period)

		To		
		1	2	3
From	1	0.0	0.0	0.0
	2	0.0	0.0	0.0
	3	0.0	0.0	0.0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
1	0.11	2.08	0.13	A
2	0.09	1.68	0.10	A
3	0.09	1.65	0.10	A

Main Results for each time segment

Main results: (07:00-07:15)

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	150.57	150.24	75.15	0.00	1971.34	0.076	0.08	1.976	A
2	150.57	150.30	75.12	0.00	2382.06	0.063	0.07	1.612	A
3	150.57	150.31	75.15	0.00	2418.14	0.062	0.07	1.586	A

Main results: (07:15-07:30)

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	179.80	179.72	89.87	0.00	1963.35	0.092	0.10	2.018	A
2	179.80	179.74	89.86	0.00	2372.98	0.076	0.08	1.640	A
3	179.80	179.74	89.87	0.00	2408.94	0.075	0.08	1.614	A

Main results: (07:30-07:45)

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	220.20	220.10	110.06	0.00	1952.37	0.113	0.13	2.078	A
2	220.20	220.12	110.05	0.00	2360.54	0.093	0.10	1.681	A
3	220.20	220.12	110.06	0.00	2396.31	0.092	0.10	1.653	A

Main results: (07:45-08:00)

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	220.20	220.20	110.10	0.00	1952.35	0.113	0.13	2.078	A
2	220.20	220.20	110.10	0.00	2360.51	0.093	0.10	1.681	A
3	220.20	220.20	110.10	0.00	2396.28	0.092	0.10	1.653	A

Main results: (08:00-08:15)

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	179.80	179.90	89.94	0.00	1963.31	0.092	0.10	2.020	A
2	179.80	179.88	89.95	0.00	2372.92	0.076	0.08	1.643	A
3	179.80	179.88	89.94	0.00	2408.89	0.075	0.08	1.616	A

Main results: (08:15-08:30)

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	150.57	150.64	75.31	0.00	1971.25	0.076	0.08	1.977	A
2	150.57	150.63	75.32	0.00	2381.94	0.063	0.07	1.612	A
3	150.57	150.63	75.31	0.00	2418.04	0.062	0.07	1.589	A

(Default Analysis Set) - Design, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	Arm 1 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	Arm 2 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	Arm 3 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.

Analysis Set Details

Name	Roundabout Capacity Model	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)	ARCADY			100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
Design, PM	Design	PM		ONE HOUR	16:30	18:00	90	15		

Junction Network

Junctions

Junction	Name	Junction Type	Arm Order	Grade Separated	Large Roundabout	Junction Delay (s)	Junction LOS
1	(untitled)	Roundabout	1,2,3			1.80	A

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Arm	Name	Description
1	1	A608 East	
2	2	A608 West	
3	3	Willow Drive	

Capacity Options

Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)
1	0.00	99999.00
2	0.00	99999.00
3	0.00	99999.00

Roundabout Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	l' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only
1	5.50	7.20	35.00	22.10	70.00	45.00	
2	7.50	8.20	31.00	21.70	70.00	36.00	
3	7.50	8.20	34.00	19.00	70.00	30.00	

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Enter slope and intercept directly	Entered slope	Entered intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
1		(calculated)	(calculated)	0.543	2012.178
2		(calculated)	(calculated)	0.616	2428.339
3		(calculated)	(calculated)	0.625	2465.129

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

Traffic Flows

Demand Set Data Options

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

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
1	ONE HOUR	✓	200.00	100.000
2	ONE HOUR	✓	200.00	100.000
3	ONE HOUR	✓	200.00	100.000

Turning Proportions

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

		To		
		1	2	3
From	1	0.000	100.000	100.000
	2	100.000	0.000	100.000
	3	100.000	100.000	0.000

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

		To		
		1	2	3
From	1	0.00	0.50	0.50
	2	0.50	0.00	0.50
	3	0.50	0.50	0.00

Vehicle Mix

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

		To		
		1	2	3
From	1	1.000	1.000	1.000
	2	1.000	1.000	1.000
	3	1.000	1.000	1.000

Heavy Vehicle Percentages - Junction 1 (for whole period)

		To		
		1	2	3
From	1	0.0	0.0	0.0
	2	0.0	0.0	0.0
	3	0.0	0.0	0.0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
1	0.11	2.08	0.13	A
2	0.09	1.68	0.10	A
3	0.09	1.65	0.10	A

Main Results for each time segment

Main results: (16:30-16:45)

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	150.57	150.24	75.15	0.00	1971.34	0.076	0.08	1.976	A
2	150.57	150.30	75.12	0.00	2382.06	0.063	0.07	1.612	A
3	150.57	150.31	75.15	0.00	2418.14	0.062	0.07	1.586	A

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

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	179.80	179.72	89.87	0.00	1963.35	0.092	0.10	2.018	A
2	179.80	179.74	89.86	0.00	2372.98	0.076	0.08	1.640	A
3	179.80	179.74	89.87	0.00	2408.94	0.075	0.08	1.614	A

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

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	220.20	220.10	110.06	0.00	1952.37	0.113	0.13	2.078	A
2	220.20	220.12	110.05	0.00	2360.54	0.093	0.10	1.681	A
3	220.20	220.12	110.06	0.00	2396.31	0.092	0.10	1.653	A

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

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	220.20	220.20	110.10	0.00	1952.35	0.113	0.13	2.078	A
2	220.20	220.20	110.10	0.00	2360.51	0.093	0.10	1.681	A
3	220.20	220.20	110.10	0.00	2396.28	0.092	0.10	1.653	A

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

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	179.80	179.90	89.94	0.00	1963.31	0.092	0.10	2.020	A
2	179.80	179.88	89.95	0.00	2372.92	0.076	0.08	1.643	A
3	179.80	179.88	89.94	0.00	2408.89	0.075	0.08	1.616	A

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

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	150.57	150.64	75.31	0.00	1971.25	0.076	0.08	1.977	A
2	150.57	150.63	75.32	0.00	2381.94	0.063	0.07	1.612	A
3	150.57	150.63	75.31	0.00	2418.04	0.062	0.07	1.589	A

Appendix D

A608 / Osier Drive Junction Capacity Results

Plot Date : 23 May 2017 15:08:25
File Name : L:\MHA PSP2\47074367 NOTTINGHAMSHIRE CC\60536927 - A611 STUDY\05 - DRAWINGS\OS TILES\WORKING CORRIDOR JUNCTIONS

Project Title
M1 J27 / A608 / A611 TO MANSFILED JUNCTION GEOMETRIES

Client
NOTTINGHAMSHIRE COUNTY COUNCIL

Drawing Title
ROUNDABOUT JUNCTION 2
A608 / EAST ACCESS
TO INDUSTRIAL ESTATE

Purpose of issue
FOR INFORMATION

Designed	Drawn	Checked	Approved	Date
RP	JPH	RP	DG	23/05/17

AECOM Internal Project No.	Suitability
60536927	
Scale @ A3	Zone / Mileage
1:500	

Drawing Number
60536927/SK/002

Rev

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Junctions 8

ARCADY 8 - Roundabout Module

Version: 8.0.6.541 [19821,26/11/2015]

Filename: A608_Osier Drive.arc8
Path: L:\MHA PSP2\47074367 Nottinghamshire CC\60536927 - A611 Study\03 - Analysis\Junction Models
Report generation date: 24/05/2017 12:10:56

Summary of junction performance

	AM					Interpeak					PM				
	Queue (PCU)	Delay (s)	RFC	LOS	Junction Delay (s)	Queue (PCU)	Delay (s)	RFC	LOS	Junction Delay (s)	Queue (PCU)	Delay (s)	RFC	LOS	Junction Delay (s)
	A1 - Base														
Arm 1	20.13	29.36	0.97	D	23.90	0.51	2.06	0.34	A	2.63	0.98	2.77	0.49	A	5.80
Arm 2	5.44	14.97	0.85	B		0.75	3.11	0.43	A		2.33	5.93	0.70	A	
Arm 3	0.08	2.93	0.07	A		0.23	2.94	0.19	A		2.29	10.31	0.70	B	
	A1 - Design														
Arm 1	0.09	1.49	0.08	A	1.86	0.09	1.49	0.08	A	1.86	0.09	1.49	0.08	A	1.86
Arm 2	0.12	1.97	0.11	A		0.12	1.97	0.11	A		0.12	1.97	0.11	A	
Arm 3	0.13	2.10	0.11	A		0.13	2.10	0.11	A		0.13	2.10	0.11	A	

Values shown are the maximum values over all time segments. Delay is the maximum value of average delay per arriving vehicle. Junction LOS and Junction Delay are demand-weighted averages.

"D1 - Base, AM " model duration: 07:00 - 08:30
"D2 - Base, PM" model duration: 16:30 - 18:00
"D3 - Base, Interpeak" model duration: 11:45 - 13:15
"D4 - Design, Interpeak" model duration: 11:45 - 13:15
"D5 - Design, AM" model duration: 07:00 - 08:30
"D6 - Design, PM" model duration: 16:30 - 18:00

Run using Junctions 8.0.6.541 at 24/05/2017 12:10:54

File summary

Title	(untitled)
Location	
Site Number	
Date	16/05/2017
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	ross.paradise
Description	

Analysis Options

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

Units

Distance Units	Speed Units	Traffic Units Input	Traffic Units Results	Flow Units	Average Delay Units	Total Delay Units	Rate Of Delay Units
m	kph	PCU	PCU	perHour	s	-Min	perMin

(Default Analysis Set) - Base, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	Arm 2 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	Arm 3 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.

Analysis Set Details

Name	Roundabout Capacity Model	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)	ARCADY			100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
Base, AM	Base	AM		ONE HOUR	07:00	08:30	90	15		

Junction Network

Junctions

Junction	Name	Junction Type	Arm Order	Grade Separated	Large Roundabout	Junction Delay (s)	Junction LOS
1	(untitled)	Roundabout	1,2,3			23.90	C

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Arm	Name	Description
1	1	A608 North	
2	2	A608 South	
3	3	Osier Drive	

Capacity Options

Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)
1	0.00	99999.00
2	0.00	99999.00
3	0.00	99999.00

Roundabout Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	l' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only
1	7.40	9.30	20.00	32.70	60.00	32.00	
2	4.30	7.80	37.00	42.40	60.00	38.00	
3	5.30	6.80	82.00	21.10	60.00	36.00	

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Enter slope and intercept directly	Entered slope	Entered intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
1		(calculated)	(calculated)	0.736	2716.031
2		(calculated)	(calculated)	0.628	2112.899
3		(calculated)	(calculated)	0.604	1998.081

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

Traffic Flows

Demand Set Data Options

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

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
1	ONE HOUR	✓	2370.00	100.000
2	ONE HOUR	✓	1238.00	100.000
3	ONE HOUR	✓	89.00	100.000

Turning Proportions

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

		To		
		1	2	3
From	1	0.000	1623.000	747.000
	2	1011.000	0.000	227.000
	3	66.000	23.000	0.000

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

		To		
		1	2	3
From	1	0.00	0.68	0.32
	2	0.82	0.00	0.18
	3	0.74	0.26	0.00

Vehicle Mix

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

		To		
		1	2	3
From	1	1.000	1.000	1.000
	2	1.000	1.000	1.000
	3	1.000	1.000	1.000

Heavy Vehicle Percentages - Junction 1 (for whole period)

		To		
		1	2	3
From	1	0.0	0.0	0.0
	2	0.0	0.0	0.0
	3	0.0	0.0	0.0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
1	0.97	29.36	20.13	D
2	0.85	14.97	5.44	B
3	0.07	2.93	0.08	A

Main Results for each time segment

Main results: (07:00-07:15)

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	1784.26	1776.59	17.27	0.00	2703.32	0.660	1.92	3.854	A
2	932.03	927.58	559.96	0.00	1761.19	0.529	1.11	4.297	A
3	67.00	66.82	757.50	0.00	1540.62	0.043	0.05	2.442	A

Main results: (07:15-07:30)

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	2130.58	2123.76	20.66	0.00	2700.82	0.789	3.62	6.166	A
2	1112.94	1109.85	669.39	0.00	1692.46	0.658	1.88	6.145	A
3	80.01	79.96	906.35	0.00	1450.73	0.055	0.06	2.625	A

Main results: (07:30-07:45)

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	2609.42	2557.26	25.30	0.00	2697.40	0.967	16.66	20.619	C
2	1363.06	1350.21	806.02	0.00	1606.64	0.848	5.10	13.413	B
3	97.99	97.91	1102.63	0.00	1332.19	0.074	0.08	2.916	A

Main results: (07:45-08:00)

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	2609.42	2595.54	25.32	0.00	2697.39	0.967	20.13	29.355	D
2	1363.06	1361.69	818.09	0.00	1599.07	0.852	5.44	14.972	B
3	97.99	97.99	1112.01	0.00	1326.53	0.074	0.08	2.929	A

Main results: (08:00-08:15)

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	2130.58	2195.63	20.70	0.00	2700.79	0.789	3.87	8.012	A
2	1112.94	1126.66	692.04	0.00	1678.24	0.663	2.01	6.682	A
3	80.01	80.09	920.08	0.00	1442.44	0.055	0.06	2.644	A

Main results: (08:15-08:30)

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	1784.26	1791.87	17.33	0.00	2703.27	0.660	1.97	3.982	A
2	932.03	935.51	564.78	0.00	1758.17	0.530	1.14	4.394	A
3	67.00	67.06	763.98	0.00	1536.71	0.044	0.05	2.451	A

(Default Analysis Set) - Base, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	Arm 2 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	Arm 3 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.

Analysis Set Details

Name	Roundabout Capacity Model	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)	ARCADY			100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
Base, PM	Base	PM		ONE HOUR	16:30	18:00	90	15		

Junction Network

Junctions

Junction	Name	Junction Type	Arm Order	Grade Separated	Large Roundabout	Junction Delay (s)	Junction LOS
1	(untitled)	Roundabout	1,2,3			5.80	A

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Arm	Name	Description
1	1	A608 North	
2	2	A608 South	
3	3	Osier Drive	

Capacity Options

Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)
1	0.00	99999.00
2	0.00	99999.00
3	0.00	99999.00

Roundabout Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	l' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only
1	7.40	9.30	20.00	32.70	60.00	32.00	
2	4.30	7.80	37.00	42.40	60.00	38.00	
3	5.30	6.80	82.00	21.10	60.00	36.00	

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Enter slope and intercept directly	Entered slope	Entered intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
1		(calculated)	(calculated)	0.736	2716.031
2		(calculated)	(calculated)	0.628	2112.899
3		(calculated)	(calculated)	0.604	1998.081

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

Traffic Flows

Demand Set Data Options

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

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
1	ONE HOUR	✓	1155.00	100.000
2	ONE HOUR	✓	1297.00	100.000
3	ONE HOUR	✓	741.00	100.000

Turning Proportions

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

		To		
		1	2	3
From	1	0.000	1042.000	113.000
	2	1254.000	0.000	43.000
	3	560.000	181.000	0.000

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

		To		
		1	2	3
From	1	0.00	0.90	0.10
	2	0.97	0.00	0.03
	3	0.76	0.24	0.00

Vehicle Mix

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

		To		
		1	2	3
From	1	1.000	1.000	1.000
	2	1.000	1.000	1.000
	3	1.000	1.000	1.000

Heavy Vehicle Percentages - Junction 1 (for whole period)

		To		
		1	2	3
From	1	0.0	0.0	0.0
	2	0.0	0.0	0.0
	3	0.0	0.0	0.0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
1	0.49	2.77	0.98	A
2	0.70	5.93	2.33	A
3	0.70	10.31	2.29	B

Main Results for each time segment

Main results: (16:30-16:45)

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	869.54	867.56	135.65	0.00	2616.16	0.332	0.50	2.057	A
2	976.45	972.87	84.88	0.00	2059.59	0.474	0.90	3.302	A
3	557.86	555.32	940.61	0.00	1430.03	0.390	0.63	4.104	A

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

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	1038.32	1037.65	162.35	0.00	2596.50	0.400	0.66	2.308	A
2	1165.98	1164.33	101.52	0.00	2049.14	0.569	1.31	4.061	A
3	666.14	664.65	1125.73	0.00	1318.24	0.505	1.01	5.496	A

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

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	1271.68	1270.44	198.08	0.00	2570.19	0.495	0.97	2.767	A
2	1428.02	1424.03	124.29	0.00	2034.83	0.702	2.30	5.855	A
3	815.86	810.92	1376.82	0.00	1166.60	0.699	2.24	9.984	A

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

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	1271.68	1271.67	199.24	0.00	2569.34	0.495	0.98	2.773	A
2	1428.02	1427.93	124.41	0.00	2034.76	0.702	2.33	5.930	A
3	815.86	815.66	1380.59	0.00	1164.33	0.701	2.29	10.310	B

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

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	1038.32	1039.55	163.94	0.00	2595.33	0.400	0.67	2.317	A
2	1165.98	1169.95	101.70	0.00	2049.02	0.569	1.33	4.113	A
3	666.14	671.17	1131.17	0.00	1314.96	0.507	1.04	5.633	A

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

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	869.54	870.22	136.65	0.00	2615.42	0.332	0.50	2.064	A
2	976.45	978.15	85.14	0.00	2059.42	0.474	0.91	3.336	A
3	557.86	559.43	945.73	0.00	1426.95	0.391	0.65	4.156	A

(Default Analysis Set) - Base, Interpeak

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	Arm 2 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	Arm 3 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.

Analysis Set Details

Name	Roundabout Capacity Model	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)	ARCADY			100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
Base, Interpeak	Base	Interpeak		ONE HOUR	11:45	13:15	90	15		

Junction Network

Junctions

Junction	Name	Junction Type	Arm Order	Grade Separated	Large Roundabout	Junction Delay (s)	Junction LOS
1	(untitled)	Roundabout	1,2,3			2.63	A

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Arm	Name	Description
1	1	A608 North	
2	2	A608 South	
3	3	Osier Drive	

Capacity Options

Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)
1	0.00	99999.00
2	0.00	99999.00
3	0.00	99999.00

Roundabout Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	l' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only
1	7.40	9.30	20.00	32.70	60.00	32.00	
2	4.30	7.80	37.00	42.40	60.00	38.00	
3	5.30	6.80	82.00	21.10	60.00	36.00	

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Enter slope and intercept directly	Entered slope	Entered intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
1		(calculated)	(calculated)	0.736	2716.031
2		(calculated)	(calculated)	0.628	2112.899
3		(calculated)	(calculated)	0.604	1998.081

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

Traffic Flows

Demand Set Data Options

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

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
1	ONE HOUR	✓	814.00	100.000
2	ONE HOUR	✓	796.00	100.000
3	ONE HOUR	✓	253.00	100.000

Turning Proportions

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

		To		
		1	2	3
From	1	0.000	701.000	113.000
	2	746.000	0.000	50.000
	3	165.000	88.000	0.000

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

		To		
		1	2	3
From	1	0.00	0.86	0.14
	2	0.94	0.00	0.06
	3	0.65	0.35	0.00

Vehicle Mix

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

		To		
		1	2	3
From	1	1.000	1.000	1.000
	2	1.000	1.000	1.000
	3	1.000	1.000	1.000

Heavy Vehicle Percentages - Junction 1 (for whole period)

		To		
		1	2	3
From	1	0.0	0.0	0.0
	2	0.0	0.0	0.0
	3	0.0	0.0	0.0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
1	0.34	2.06	0.51	A
2	0.43	3.11	0.75	A
3	0.19	2.94	0.23	A

Main Results for each time segment

Main results: (11:45-12:00)

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	612.82	611.63	66.07	0.00	2667.39	0.230	0.30	1.751	A
2	599.27	597.64	84.91	0.00	2059.57	0.291	0.41	2.460	A
3	190.47	189.95	560.10	0.00	1659.83	0.115	0.13	2.449	A

Main results: (12:00-12:15)

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	731.77	731.44	79.06	0.00	2657.82	0.275	0.38	1.868	A
2	715.59	715.09	101.54	0.00	2049.12	0.349	0.53	2.699	A
3	227.44	227.29	670.17	0.00	1593.36	0.143	0.17	2.635	A

Main results: (12:15-12:30)

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	896.23	895.70	96.81	0.00	2644.76	0.339	0.51	2.058	A
2	876.41	875.54	124.34	0.00	2034.80	0.431	0.75	3.104	A
3	278.56	278.32	820.54	0.00	1502.55	0.185	0.23	2.940	A

Main results: (12:30-12:45)

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	896.23	896.23	96.89	0.00	2644.70	0.339	0.51	2.058	A
2	876.41	876.40	124.41	0.00	2034.76	0.431	0.75	3.107	A
3	278.56	278.56	821.35	0.00	1502.06	0.185	0.23	2.941	A

Main results: (12:45-13:00)

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	731.77	732.29	79.19	0.00	2657.72	0.275	0.38	1.872	A
2	715.59	716.45	101.66	0.00	2049.05	0.349	0.54	2.704	A
3	227.44	227.68	671.45	0.00	1592.59	0.143	0.17	2.639	A

Main results: (13:00-13:15)

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	612.82	613.15	66.30	0.00	2667.21	0.230	0.30	1.754	A
2	599.27	599.78	85.12	0.00	2059.44	0.291	0.41	2.466	A
3	190.47	190.62	562.10	0.00	1658.62	0.115	0.13	2.454	A

(Default Analysis Set) - Design, Interpeak

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	Arm 2 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	Arm 3 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.

Analysis Set Details

Name	Roundabout Capacity Model	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)	ARCADY			100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
Design, Interpeak	Design	Interpeak		ONE HOUR	11:45	13:15	90	15		

Junction Network

Junctions

Junction	Name	Junction Type	Arm Order	Grade Separated	Large Roundabout	Junction Delay (s)	Junction LOS
1	(untitled)	Roundabout	1,2,3			1.86	A

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Arm	Name	Description
1	1	A608 North	
2	2	A608 South	
3	3	Osier Drive	

Capacity Options

Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)
1	0.00	99999.00
2	0.00	99999.00
3	0.00	99999.00

Roundabout Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	l' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only
1	7.40	9.30	20.00	32.70	60.00	32.00	
2	4.30	7.80	37.00	42.40	60.00	38.00	
3	5.30	6.80	82.00	21.10	60.00	36.00	

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Enter slope and intercept directly	Entered slope	Entered intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
1		(calculated)	(calculated)	0.736	2716.031
2		(calculated)	(calculated)	0.628	2112.899
3		(calculated)	(calculated)	0.604	1998.081

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

Traffic Flows

Demand Set Data Options

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

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
1	ONE HOUR	✓	200.00	100.000
2	ONE HOUR	✓	200.00	100.000
3	ONE HOUR	✓	200.00	100.000

Turning Proportions

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

		To		
		1	2	3
From	1	0.000	100.000	100.000
	2	100.000	0.000	100.000
	3	100.000	100.000	0.000

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

		To		
		1	2	3
From	1	0.00	0.50	0.50
	2	0.50	0.00	0.50
	3	0.50	0.50	0.00

Vehicle Mix

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

		To		
		1	2	3
From	1	1.000	1.000	1.000
	2	1.000	1.000	1.000
	3	1.000	1.000	1.000

Heavy Vehicle Percentages - Junction 1 (for whole period)

		To		
		1	2	3
From	1	0.0	0.0	0.0
	2	0.0	0.0	0.0
	3	0.0	0.0	0.0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
1	0.08	1.49	0.09	A
2	0.11	1.97	0.12	A
3	0.11	2.10	0.13	A

Main Results for each time segment

Main results: (11:45-12:00)

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	150.57	150.33	75.12	0.00	2660.72	0.057	0.06	1.433	A
2	150.57	150.26	75.17	0.00	2065.69	0.073	0.08	1.878	A
3	150.57	150.24	75.13	0.00	1952.71	0.077	0.08	1.997	A

Main results: (12:00-12:15)

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	179.80	179.74	89.86	0.00	2649.87	0.068	0.07	1.456	A
2	179.80	179.73	89.87	0.00	2056.45	0.087	0.10	1.917	A
3	179.80	179.72	89.86	0.00	1943.81	0.093	0.10	2.040	A

Main results: (12:15-12:30)

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	220.20	220.13	110.05	0.00	2635.01	0.084	0.09	1.490	A
2	220.20	220.10	110.07	0.00	2043.77	0.108	0.12	1.973	A
3	220.20	220.10	110.05	0.00	1931.62	0.114	0.13	2.103	A

Main results: (12:30-12:45)

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	220.20	220.20	110.10	0.00	2634.97	0.084	0.09	1.490	A
2	220.20	220.20	110.10	0.00	2043.75	0.108	0.12	1.973	A
3	220.20	220.20	110.10	0.00	1931.59	0.114	0.13	2.103	A

Main results: (12:45-13:00)

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	179.80	179.87	89.95	0.00	2649.80	0.068	0.07	1.456	A
2	179.80	179.89	89.93	0.00	2056.41	0.087	0.10	1.917	A
3	179.80	179.90	89.95	0.00	1943.76	0.093	0.10	2.042	A

Main results: (13:00-13:15)

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	150.57	150.62	75.32	0.00	2660.57	0.057	0.06	1.435	A
2	150.57	150.64	75.31	0.00	2065.60	0.073	0.08	1.879	A
3	150.57	150.64	75.32	0.00	1952.59	0.077	0.08	1.997	A

(Default Analysis Set) - Design, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	Arm 2 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	Arm 3 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.

Analysis Set Details

Name	Roundabout Capacity Model	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)	ARCADY			100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
Design, AM	Design	AM		ONE HOUR	07:00	08:30	90	15		

Junction Network

Junctions

Junction	Name	Junction Type	Arm Order	Grade Separated	Large Roundabout	Junction Delay (s)	Junction LOS
1	(untitled)	Roundabout	1,2,3			1.86	A

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Arm	Name	Description
1	1	A608 North	
2	2	A608 South	
3	3	Osier Drive	

Capacity Options

Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)
1	0.00	99999.00
2	0.00	99999.00
3	0.00	99999.00

Roundabout Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	l' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only
1	7.40	9.30	20.00	32.70	60.00	32.00	
2	4.30	7.80	37.00	42.40	60.00	38.00	
3	5.30	6.80	82.00	21.10	60.00	36.00	

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Enter slope and intercept directly	Entered slope	Entered intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
1		(calculated)	(calculated)	0.736	2716.031
2		(calculated)	(calculated)	0.628	2112.899
3		(calculated)	(calculated)	0.604	1998.081

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

Traffic Flows

Demand Set Data Options

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

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
1	ONE HOUR	✓	200.00	100.000
2	ONE HOUR	✓	200.00	100.000
3	ONE HOUR	✓	200.00	100.000

Turning Proportions

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

		To		
		1	2	3
From	1	0.000	100.000	100.000
	2	100.000	0.000	100.000
	3	100.000	100.000	0.000

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

		To		
		1	2	3
From	1	0.00	0.50	0.50
	2	0.50	0.00	0.50
	3	0.50	0.50	0.00

Vehicle Mix

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

		To		
		1	2	3
From	1	1.000	1.000	1.000
	2	1.000	1.000	1.000
	3	1.000	1.000	1.000

Heavy Vehicle Percentages - Junction 1 (for whole period)

		To		
		1	2	3
From	1	0.0	0.0	0.0
	2	0.0	0.0	0.0
	3	0.0	0.0	0.0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
1	0.08	1.49	0.09	A
2	0.11	1.97	0.12	A
3	0.11	2.10	0.13	A

Main Results for each time segment

Main results: (07:00-07:15)

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	150.57	150.33	75.12	0.00	2660.72	0.057	0.06	1.433	A
2	150.57	150.26	75.17	0.00	2065.69	0.073	0.08	1.878	A
3	150.57	150.24	75.13	0.00	1952.71	0.077	0.08	1.997	A

Main results: (07:15-07:30)

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	179.80	179.74	89.86	0.00	2649.87	0.068	0.07	1.456	A
2	179.80	179.73	89.87	0.00	2056.45	0.087	0.10	1.917	A
3	179.80	179.72	89.86	0.00	1943.81	0.093	0.10	2.040	A

Main results: (07:30-07:45)

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	220.20	220.13	110.05	0.00	2635.01	0.084	0.09	1.490	A
2	220.20	220.10	110.07	0.00	2043.77	0.108	0.12	1.973	A
3	220.20	220.10	110.05	0.00	1931.62	0.114	0.13	2.103	A

Main results: (07:45-08:00)

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	220.20	220.20	110.10	0.00	2634.97	0.084	0.09	1.490	A
2	220.20	220.20	110.10	0.00	2043.75	0.108	0.12	1.973	A
3	220.20	220.20	110.10	0.00	1931.59	0.114	0.13	2.103	A

Main results: (08:00-08:15)

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	179.80	179.87	89.95	0.00	2649.80	0.068	0.07	1.456	A
2	179.80	179.89	89.93	0.00	2056.41	0.087	0.10	1.917	A
3	179.80	179.90	89.95	0.00	1943.76	0.093	0.10	2.042	A

Main results: (08:15-08:30)

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	150.57	150.62	75.32	0.00	2660.57	0.057	0.06	1.435	A
2	150.57	150.64	75.31	0.00	2065.60	0.073	0.08	1.879	A
3	150.57	150.64	75.32	0.00	1952.59	0.077	0.08	1.997	A

(Default Analysis Set) - Design, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	Arm 2 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	Arm 3 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.

Analysis Set Details

Name	Roundabout Capacity Model	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)	ARCADY			100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
Design, PM	Design	PM		ONE HOUR	16:30	18:00	90	15		

Junction Network

Junctions

Junction	Name	Junction Type	Arm Order	Grade Separated	Large Roundabout	Junction Delay (s)	Junction LOS
1	(untitled)	Roundabout	1,2,3			1.86	A

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Arm	Name	Description
1	1	A608 North	
2	2	A608 South	
3	3	Osier Drive	

Capacity Options

Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)
1	0.00	99999.00
2	0.00	99999.00
3	0.00	99999.00

Roundabout Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	l' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only
1	7.40	9.30	20.00	32.70	60.00	32.00	
2	4.30	7.80	37.00	42.40	60.00	38.00	
3	5.30	6.80	82.00	21.10	60.00	36.00	

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Enter slope and intercept directly	Entered slope	Entered intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
1		(calculated)	(calculated)	0.736	2716.031
2		(calculated)	(calculated)	0.628	2112.899
3		(calculated)	(calculated)	0.604	1998.081

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

Traffic Flows

Demand Set Data Options

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

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
1	ONE HOUR	✓	200.00	100.000
2	ONE HOUR	✓	200.00	100.000
3	ONE HOUR	✓	200.00	100.000

Turning Proportions

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

		To		
		1	2	3
From	1	0.000	100.000	100.000
	2	100.000	0.000	100.000
	3	100.000	100.000	0.000

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

		To		
		1	2	3
From	1	0.00	0.50	0.50
	2	0.50	0.00	0.50
	3	0.50	0.50	0.00

Vehicle Mix

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

		To		
		1	2	3
From	1	1.000	1.000	1.000
	2	1.000	1.000	1.000
	3	1.000	1.000	1.000

Heavy Vehicle Percentages - Junction 1 (for whole period)

		To		
		1	2	3
From	1	0.0	0.0	0.0
	2	0.0	0.0	0.0
	3	0.0	0.0	0.0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
1	0.08	1.49	0.09	A
2	0.11	1.97	0.12	A
3	0.11	2.10	0.13	A

Main Results for each time segment

Main results: (16:30-16:45)

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	150.57	150.33	75.12	0.00	2660.72	0.057	0.06	1.433	A
2	150.57	150.26	75.17	0.00	2065.69	0.073	0.08	1.878	A
3	150.57	150.24	75.13	0.00	1952.71	0.077	0.08	1.997	A

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

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	179.80	179.74	89.86	0.00	2649.87	0.068	0.07	1.456	A
2	179.80	179.73	89.87	0.00	2056.45	0.087	0.10	1.917	A
3	179.80	179.72	89.86	0.00	1943.81	0.093	0.10	2.040	A

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

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	220.20	220.13	110.05	0.00	2635.01	0.084	0.09	1.490	A
2	220.20	220.10	110.07	0.00	2043.77	0.108	0.12	1.973	A
3	220.20	220.10	110.05	0.00	1931.62	0.114	0.13	2.103	A

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

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	220.20	220.20	110.10	0.00	2634.97	0.084	0.09	1.490	A
2	220.20	220.20	110.10	0.00	2043.75	0.108	0.12	1.973	A
3	220.20	220.20	110.10	0.00	1931.59	0.114	0.13	2.103	A

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

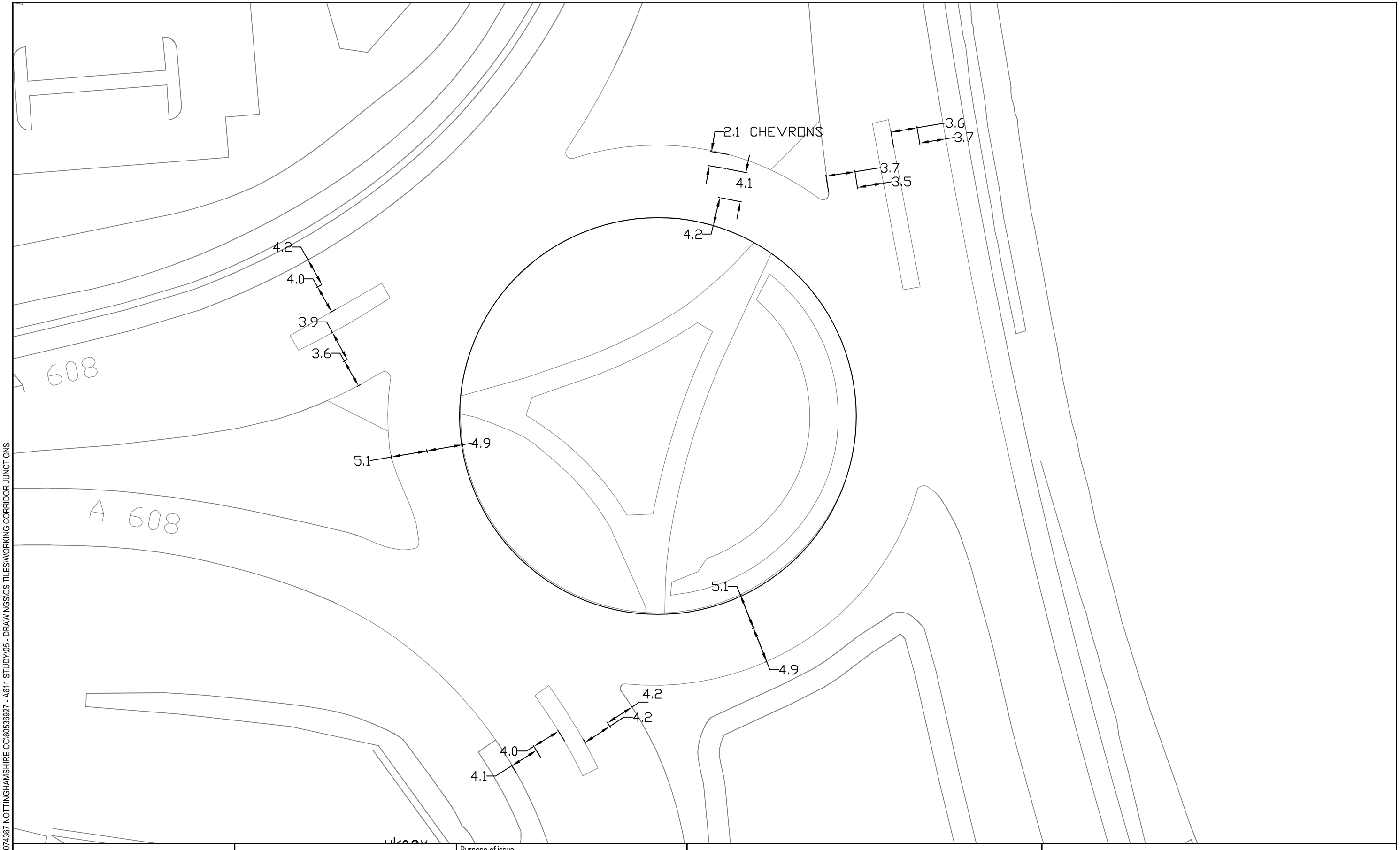
Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	179.80	179.87	89.95	0.00	2649.80	0.068	0.07	1.456	A
2	179.80	179.89	89.93	0.00	2056.41	0.087	0.10	1.917	A
3	179.80	179.90	89.95	0.00	1943.76	0.093	0.10	2.042	A

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

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	150.57	150.62	75.32	0.00	2660.57	0.057	0.06	1.435	A
2	150.57	150.64	75.31	0.00	2065.60	0.073	0.08	1.879	A
3	150.57	150.64	75.32	0.00	1952.59	0.077	0.08	1.997	A

Appendix E

A608 / A611 Derby Road / A611 Annesley Road Capacity Results



Plot Date : 23 May 2017 15:09:33
File Name : L:\MHA PSP2\47074367 NOTTINGHAMSHIRE CC\60536927 - A611 STUDY\05 - DRAWINGS\OS TILES\WORKING CORRIDOR JUNCTIONS

Project Title: M1 J27 / A608 / A611 TO MANSFILED JUNCTION GEOMETRIES	Drawing Title: ROUNDABOUT JUNCTION 3 A608 / A611	Purpose of issue: FOR INFORMATION	THIS DOCUMENT HAS BEEN PREPARED PURSUANT TO AND SUBJECT TO THE TERMS OF AECOM'S APPOINTMENT BY ITS CLIENT. AECOM ACCEPTS NO LIABILITY FOR ANY USE OF THIS DOCUMENT OTHER THAN BY ITS ORIGINAL CLIENT OR FOLLOWING AECOM'S EXPRESS AGREEMENT TO SUCH USE, AND ONLY FOR THE PURPOSES FOR WHICH IT WAS PREPARED AND PROVIDED.
Client: NOTTINGHAMSHIRE COUNTY COUNCIL		Designed: RP · Drawn: JPH · Checked: RP · Approved: DG · Date: 23/05/17	Drawing Number: 60536927/SK/003 · Rev:
		AECOM Internal Project No.: 60536927 · Suitability:	
		Scale @ A3: 1:500 · Zone / Mileage:	

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Basic Results Summary

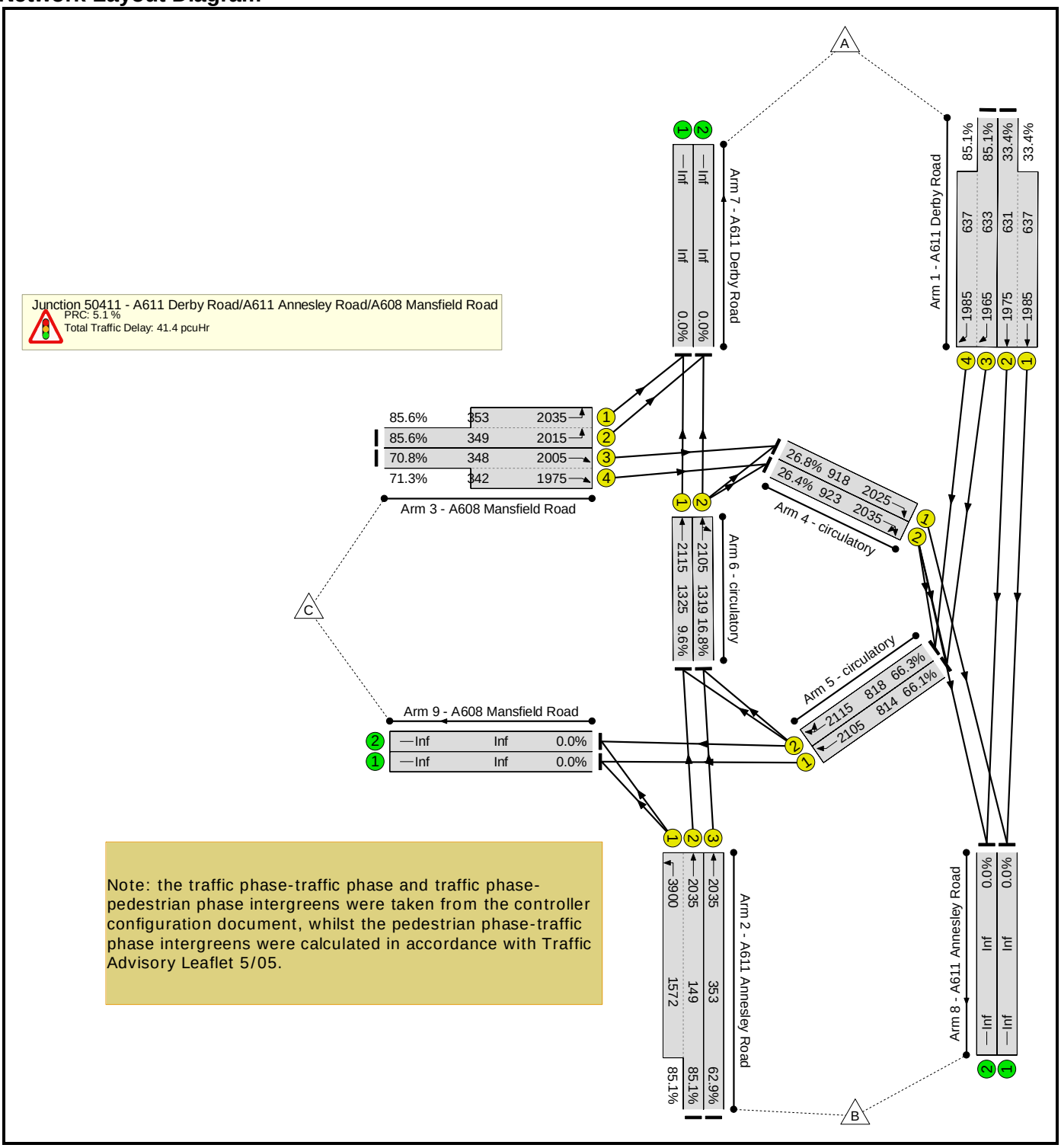
User and Project Details

Project:	**A611 Study**
Title:	**Junction 50411 - A611 Derby Road/A611 Annesley Road/A608 Mansfield Road**
Location:	
File name:	A611 Derby Road-A611 Annesley Road-A608 Mansfield Road (Final Base).lsg3x
Author:	Andrew Lane
Company:	AECOM
Address:	Royal Court, Basil Close, Chesterfield, Derbyshire S41 7SL
Notes:	

Basic Results Summary

Scenario 1: 'Base AM' (FG1: 'Base AM', Plan 1: 'Network Control Plan 1')

Network Layout Diagram



Basic Results Summary

Network Results

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network: Junction 50411 - A611 Derby Road/A611 Annesley Road/A608 Mansfield Road	**-**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**85.6%**	**0**	**0**	**0**	**41.4**	**-**	**-**
Junction 50411 - A611 Derby Road/A611 Annesley Road/A608 Mansfield Road	**-**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**85.6%**	**0**	**0**	**0**	**41.4**	**-**	**-**
1/2+1/1	A611 Derby Road Ahead	U	N		1	24	-	424	1975:1985	631+637	33.4 : 33.4%	-	-	-	2.4	20.8	3.6
1/3+1/4	A611 Derby Road Right	U	O		1	24	-	1080	1965:1985	633+637	85.1 : 85.1%	-	-	-	9.6	32.2	13.0
2/2+2/1	A611 Annesley Road Ahead Left	U	C B		1	12:31	-	1464	2035:3900	149+1572	85.1 : 85.1%	-	-	-	11.0	27.1	27.9
2/3	A611 Annesley Road Ahead	U	C		1	12	-	222	2035	353	62.9%	-	-	-	2.6	42.4	5.1
3/2+3/1	A608 Mansfield Road Left	U	H		1	12	-	601	2015:2035	349+353	85.6 : 85.6%	-	-	-	7.8	47.0	8.9
3/3+3/4	A608 Mansfield Road Ahead	U	I		1	12	-	490	2005:1975	348+342	70.8 : 71.3%	-	-	-	5.2	38.1	6.0
4/1	circulatory Right	U	M		1	33	-	246	2025	918	26.8%	-	-	-	0.2	2.8	0.2
4/2	circulatory Right Right2	U	M		1	33	-	244	2035	923	26.4%	-	-	-	0.2	2.8	0.2
5/1	circulatory Ahead	U	A		1	28	-	538	2105	814	66.1%	-	-	-	1.1	7.2	1.1
5/2	circulatory Right Ahead	U	A		1	28	-	542	2115	818	66.3%	-	-	-	1.1	7.2	1.2

Basic Results Summary

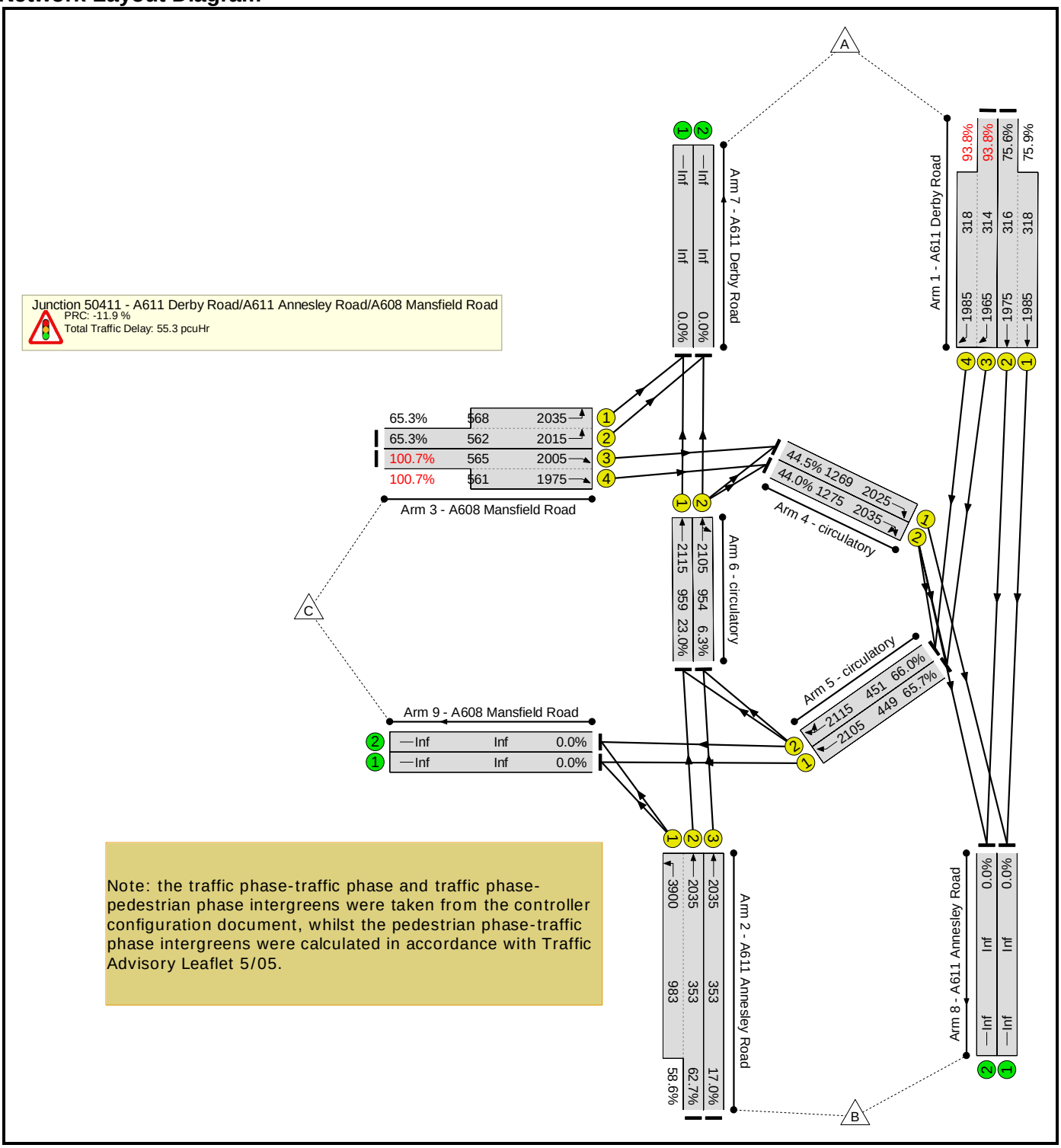
6/1	circulatory Ahead	U	G		1	46	-	127	2115	1325	9.6%	-	-	-	0.1	1.5	0.1
6/2	circulatory Right Ahead	U	G		1	46	-	222	2105	1319	16.8%	-	-	-	0.1	1.6	0.1

C1 Stream: 1 PRC for Signalled Lanes (%): 5.1 Total Delay for Signalled Lanes (pcuHr): 41.45 Cycle Time (s): 75
PRC Over All Lanes (%): 5.1 Total Delay Over All Lanes(pcuHr): 41.45

Basic Results Summary

Scenario 2: 'Base PM' (FG3: 'Base PM', Plan 1: 'Network Control Plan 1')

Network Layout Diagram



Basic Results Summary

Network Results

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network: Junction 50411 - A611 Derby Road/A611 Annesley Road/A608 Mansfield Road	-	-	-		-	-	-	-	-	-	**100.7%**	**0**	**0**	**0**	**55.3**	-	-
Junction 50411 - A611 Derby Road/A611 Annesley Road/A608 Mansfield Road	-	-	-		-	-	-	-	-	-	**100.7%**	**0**	**0**	**0**	**55.3**	-	-
1/2+1/1	A611 Derby Road Ahead	U	N		1	11	-	480	1975:1985	316+318	75.6 : 75.9%	-	-	-	5.5	41.6	6.3
1/3+1/4	A611 Derby Road Right	U	O		1	11	-	593	1965:1985	314+318	93.8 : 93.8%	-	-	-	11.0	66.6	12.0
2/2+2/1	A611 Annesley Road Ahead Left	U	C B		1	12:44	-	797	2035:3900	353+983	62.7 : 58.6%	-	-	-	3.6	16.4	6.3
2/3	A611 Annesley Road Ahead	U	C		1	12	-	60	2035	353	17.0%	-	-	-	0.5	32.6	1.2
3/2+3/1	A608 Mansfield Road Left	U	H		1	25	-	738	2015:2035	562+568	65.3 : 65.3%	-	-	-	5.0	24.2	7.0
3/3+3/4	A608 Mansfield Road Ahead	U	I		1	25	-	1134	2005:1975	565+561	100.7 : 100.7%	-	-	-	26.2	83.2	33.9
4/1	circulatory Right	U	M		1	46	-	569	2025	1269	44.5%	-	-	-	0.4	2.6	0.4
4/2	circulatory Right Right2	U	M		1	46	-	565	2035	1275	44.0%	-	-	-	0.4	2.6	0.4
5/1	circulatory Ahead	U	A		1	15	-	295	2105	449	65.7%	-	-	-	1.2	15.2	1.3
5/2	circulatory Right Ahead	U	A		1	15	-	298	2115	451	66.0%	-	-	-	1.3	15.3	1.4

Basic Results Summary

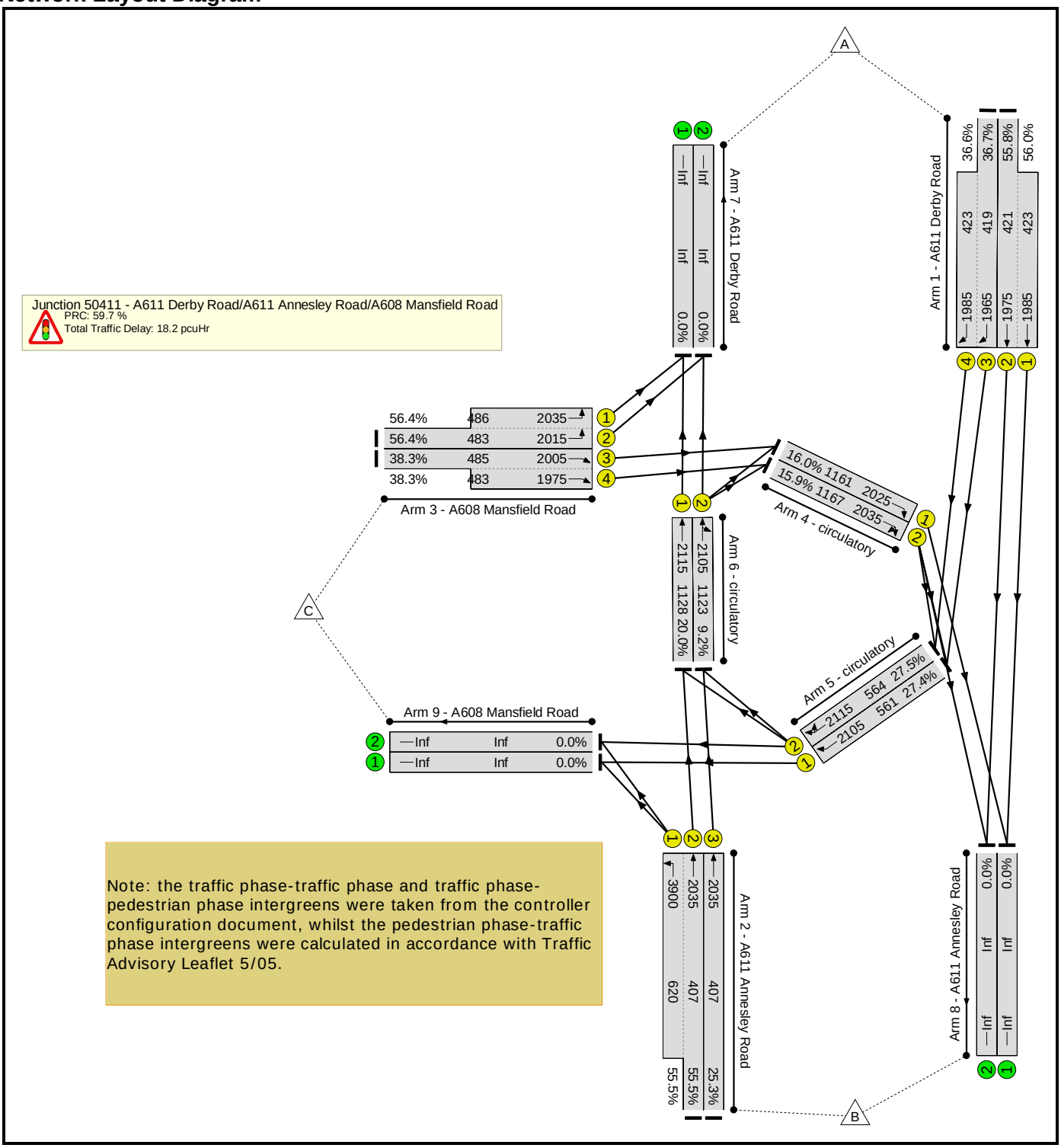
6/1	circulatory Ahead	U	G		1	33	-	221	2115	959	23.0%	-	-	-	0.1	2.4	0.1
6/2	circulatory Right Ahead	U	G		1	33	-	60	2105	954	6.3%	-	-	-	0.0	2.0	0.0

C1 Stream: 1 PRC for Signalled Lanes (%): -11.9 Total Delay for Signalled Lanes (pcuHr): 55.35 Cycle Time (s): 75
PRC Over All Lanes (%): -11.9 Total Delay Over All Lanes(pcuHr): 55.35

Basic Results Summary

Scenario 3: 'Base Interpeak' (FG2: 'Base Interpeak', Plan 1: 'Network Control Plan 1')

Network Layout Diagram



Basic Results Summary

Network Results

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network: Junction 50411 - A611 Derby Road/A611 Annesley Road/A608 Mansfield Road	-	-	-		-	-	-	-	-	-	**56.4%**	**0**	**0**	**0**	**18.2**	-	-
Junction 50411 - A611 Derby Road/A611 Annesley Road/A608 Mansfield Road	-	-	-		-	-	-	-	-	-	**56.4%**	**0**	**0**	**0**	**18.2**	-	-
1/2+1/1	A611 Derby Road Ahead	U	N		1	15	-	472	1975:1985	421+423	55.8 : 56.0%	-	-	-	4.1	31.2	5.0
1/3+1/4	A611 Derby Road Right	U	O		1	15	-	309	1965:1985	419+423	36.7 : 36.6%	-	-	-	2.5	28.5	3.0
2/2+2/1	A611 Annesley Road Ahead Left	U	C B		1	14:40	-	570	2035:3900	407+620	55.5 : 55.5%	-	-	-	3.1	19.8	4.8
2/3	A611 Annesley Road Ahead	U	C		1	14	-	103	2035	407	25.3%	-	-	-	0.9	31.2	2.0
3/2+3/1	A608 Mansfield Road Left	U	H		1	19	-	546	2015:2035	483+486	56.4 : 56.4%	-	-	-	4.2	27.6	5.4
3/3+3/4	A608 Mansfield Road Ahead	U	I		1	19	-	371	2005:1975	485+483	38.3 : 38.3%	-	-	-	2.6	25.3	3.4
4/1	circulatory Right	U	M		1	42	-	186	2025	1161	16.0%	-	-	-	0.1	1.9	0.1
4/2	circulatory Right Right2	U	M		1	42	-	185	2035	1167	15.9%	-	-	-	0.1	1.9	0.1
5/1	circulatory Ahead	U	A		1	19	-	154	2105	561	27.4%	-	-	-	0.2	5.2	0.2
5/2	circulatory Right Ahead	U	A		1	19	-	155	2115	564	27.5%	-	-	-	0.2	5.2	0.2

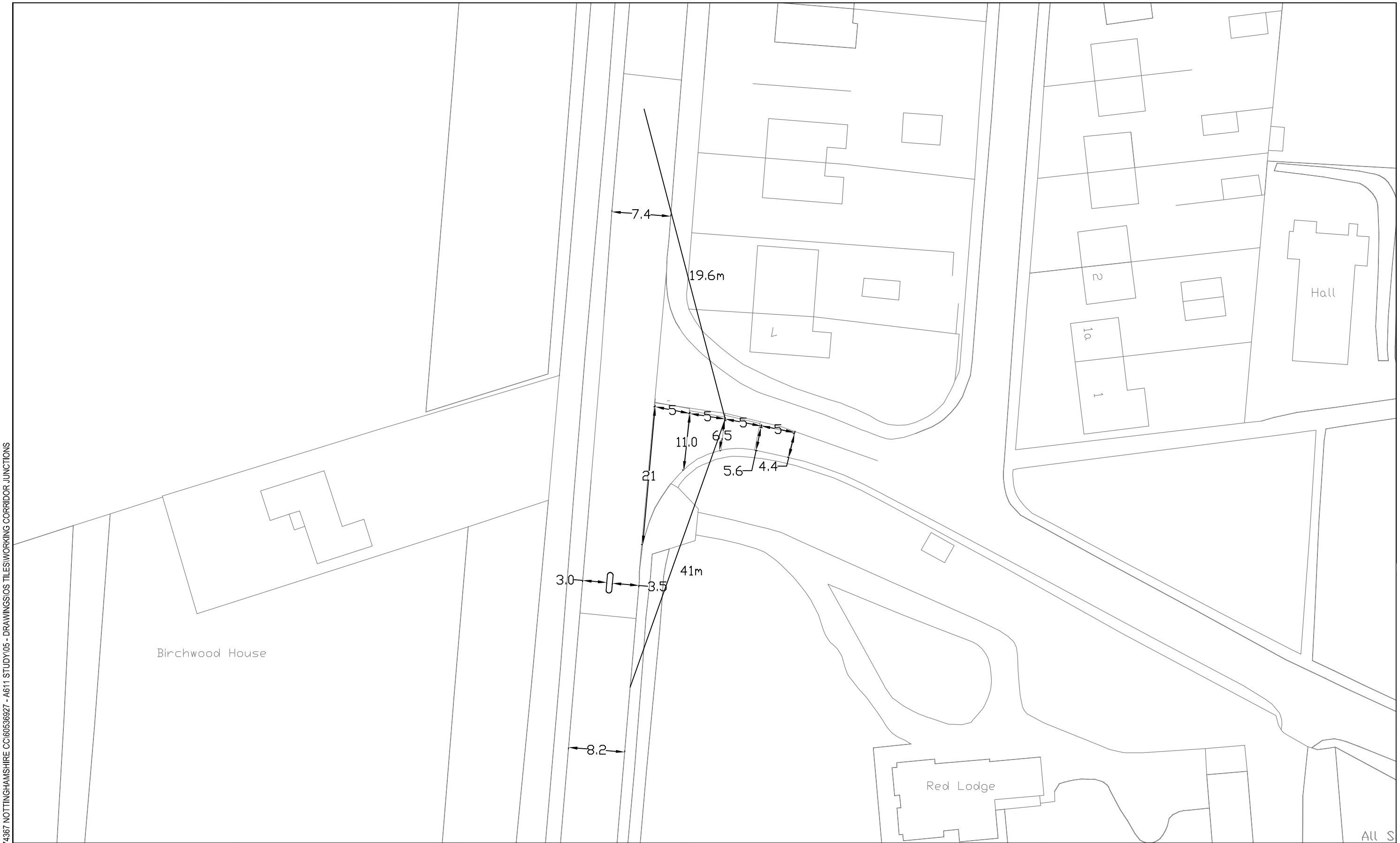
Basic Results Summary

6/1	circulatory Ahead	U	G		1	39	-	226	2115	1128	20.0%	-	-	-	0.1	2.0	0.1
6/2	circulatory Right Ahead	U	G		1	39	-	103	2105	1123	9.2%	-	-	-	0.1	1.8	0.1

C1 Stream: 1 PRC for Signalled Lanes (%): 59.7 Total Delay for Signalled Lanes (pcuHr): 18.15 Cycle Time (s): 75
PRC Over All Lanes (%): 59.7 Total Delay Over All Lanes(pcuHr): 18.15

Appendix F

A611 / Annesley Cutting Capacity Results



Plot Date : 23 May 2017 15:11:14
File Name : L:\MHA PSP2\47074367 NOTTINGHAMSHIRE CC\60536927 - A611 STUDY\05 - DRAWINGS\OS TILES\WORKING CORRIDOR JUNCTIONS

Project Title: M1 J27 / A608 / A611 TO MANSFILED JUNCTION GEOMETRIES	Drawing Title: JUNCTION 4 ANNESLEY CUTTING JUNCTION ONTO A611	Purpose of issue: FOR INFORMATION	THIS DOCUMENT HAS BEEN PREPARED PURSUANT TO AND SUBJECT TO THE TERMS OF AECOM'S APPOINTMENT BY ITS CLIENT. AECOM ACCEPTS NO LIABILITY FOR ANY USE OF THIS DOCUMENT OTHER THAN BY ITS ORIGINAL CLIENT OR FOLLOWING AECOM'S EXPRESS AGREEMENT TO SUCH USE, AND ONLY FOR THE PURPOSES FOR WHICH IT WAS PREPARED AND PROVIDED.
Client: NOTTINGHAMSHIRE COUNTY COUNCIL		Designed: RP · Drawn: JPH · Checked: RP · Approved: DG · Date: 23/05/17	Drawing Number: 60536927/SK/004 · Rev:
		AECOM Internal Project No.: 60536927 · Suitability:	
		Scale @ A3: 1:500 · Zone / Mileage:	

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Junctions 8

PICADY 8 - Priority Intersection Module

Version: 8.0.6.541 [19821,26/11/2015]

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

Filename: A611_Annesley Cutting.arc8
Path: L:\MHA PSP2\47074367 Nottinghamshire CC\60536927 - A611 Study\03 - Analysis\Junction Models
Report generation date: 24/05/2017 12:15:06

Summary of junction performance

	AM					Interpeak					PM				
	Queue (PCU)	Delay (s)	RFC	LOS	Junction Delay (s)	Queue (PCU)	Delay (s)	RFC	LOS	Junction Delay (s)	Queue (PCU)	Delay (s)	RFC	LOS	Ju
A1 - Base															
Stream B-C	47.08	4367.41	4.15	F	3598.62	0.11	9.66	0.10	A	12.49	7.90	706.89	1.49	F	5
Stream B-A	45.62	4414.70	3.95	F		0.44	16.78	0.31	C		27.06	595.65	1.45	F	
Stream C-AB	0.24	10.64	0.15	B		0.33	9.96	0.24	A		0.12	8.97	0.09	A	
Stream C-A	-	-	-	-		-	-	-	-		-	-	-	-	
Stream A-B	-	-	-	-		-	-	-	-		-	-	-	-	
Stream A-C	-	-	-	-		-	-	-	-		-	-	-	-	
A1 - Design															
Stream B-C	0.22	7.21	0.18	A	8.22	0.22	7.21	0.18	A	8.22	0.22	7.21	0.18	A	
Stream B-A	0.32	10.61	0.24	B		0.32	10.61	0.24	B		0.32	10.61	0.24	B	
Stream C-AB	0.22	6.86	0.18	A		0.22	6.86	0.18	A		0.22	6.86	0.18	A	
Stream C-A	-	-	-	-		-	-	-	-		-	-	-	-	
Stream A-B	-	-	-	-		-	-	-	-		-	-	-	-	
Stream A-C	-	-	-	-		-	-	-	-		-	-	-	-	

Values shown are the maximum values over all time segments. Delay is the maximum value of average delay per arriving vehicle. Junction LOS and Junction Delay are demand-weighted averages.

"D1 - Base, AM " model duration: 07:00 - 08:30
"D2 - Base, PM" model duration: 16:30 - 18:00
"D3 - Base, Interpeak" model duration: 11:45 - 13:15
"D4 - Design, Interpeak" model duration: 11:45 - 13:15
"D5 - Design, AM" model duration: 07:00 - 08:30
"D6 - Design, PM" model duration: 16:30 - 18:00

Run using Junctions 8.0.6.541 at 24/05/2017 12:15:03

File summary

Title	(untitled)
Location	
Site Number	
Date	16/05/2017
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	ross.paradise
Description	

Analysis Options

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

Units

Distance Units	Speed Units	Traffic Units Input	Traffic Units Results	Flow Units	Average Delay Units	Total Delay Units	Rate Of Delay Units
m	kph	PCU	PCU	perHour	s	-Min	perMin

(Default Analysis Set) - Base, AM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Roundabout Capacity Model	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)	N/A			100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
Base, AM	Base	AM		ONE HOUR	07:00	08:30	90	15		

Junction Network

Junctions

Junction	Name	Junction Type	Major Road Direction	Arm Order	Junction Delay (s)	Junction LOS
1	(untitled)	T-Junction	Two-way	A,B,C	3598.62	F

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Arm	Name	Description	Arm Type
A	A	A611 North		Major
B	B	Annesley Cutting		Minor
C	C	A611 South		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
C	8.10		0.00		2.20	180.00	✓	1.00

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	Lane Width (m)	Lane Width (Left) (m)	Lane Width (Right) (m)	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	10.00	6.50	5.60	4.40	✓	3.00	24	34

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	532.434	0.088	0.223	0.140	0.318
1	B-C	690.298	0.096	0.243	-	-
1	C-B	678.203	0.239	0.239	-	-

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 Flows

Demand Set Data Options

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

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
A	ONE HOUR	✓	1473.00	100.000
B	ONE HOUR	✓	216.00	100.000
C	ONE HOUR	✓	938.00	100.000

Turning Proportions

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

		To		
		A	B	C
From	A	0.000	69.000	1404.000
	B	105.000	0.000	111.000
	C	901.000	37.000	0.000

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

		To		
		A	B	C
From	A	0.00	0.05	0.95
	B	0.49	0.00	0.51
	C	0.96	0.04	0.00

Vehicle Mix

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

		To		
		A	B	C
From	A	1.000	1.000	1.000
	B	1.000	1.000	1.000
	C	1.000	1.000	1.000

Heavy Vehicle Percentages - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.0	0.0	0.0
	B	0.0	0.0	0.0
	C	0.0	0.0	0.0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-C	4.15	4367.41	47.08	F
B-A	3.95	4414.70	45.62	F
C-AB	0.15	10.64	0.24	B
C-A	-	-	-	-
A-B	-	-	-	-
A-C	-	-	-	-

Main Results for each time segment

Main results: (07:00-07:15)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-C	83.57	82.46	0.00	380.53	0.220	0.28	12.034	B
B-A	79.05	76.33	0.00	188.42	0.420	0.68	31.432	D
C-AB	30.93	30.62	0.00	447.76	0.069	0.08	8.624	A
C-A	675.24	675.24	0.00	-	-	-	-	-
A-B	51.95	51.95	0.00	-	-	-	-	-
A-C	1057.00	1057.00	0.00	-	-	-	-	-

Main results: (07:15-07:30)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-C	99.79	98.16	0.00	239.32	0.417	0.68	25.222	D
B-A	94.39	87.55	0.00	121.07	0.780	2.39	93.674	F
C-AB	40.10	39.94	0.00	419.12	0.096	0.12	9.493	A
C-A	803.14	803.14	0.00	-	-	-	-	-
A-B	62.03	62.03	0.00	-	-	-	-	-
A-C	1262.17	1262.17	0.00	-	-	-	-	-

Main results: (07:30-07:45)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-C	122.21	28.65	0.00	29.42	4.154	24.07	1167.652	F
B-A	115.61	29.05	0.00	29.47	3.923	24.03	1256.749	F
C-AB	60.18	59.74	0.00	399.07	0.151	0.23	10.610	B
C-A	972.57	972.57	0.00	-	-	-	-	-
A-B	75.97	75.97	0.00	-	-	-	-	-
A-C	1545.83	1545.83	0.00	-	-	-	-	-

Main results: (07:45-08:00)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-C	122.21	30.20	0.00	30.23	4.043	47.08	4367.413	F
B-A	115.61	29.26	0.00	29.29	3.947	45.62	4414.700	F
C-AB	60.18	60.16	0.00	399.07	0.151	0.24	10.635	B
C-A	972.57	972.57	0.00	-	-	-	-	-
A-B	75.97	75.97	0.00	-	-	-	-	-
A-C	1545.83	1545.83	0.00	-	-	-	-	-

Main results: (08:00-08:15)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-C	99.79	121.19	0.00	123.76	0.806	41.73	1182.107	F
B-A	94.39	116.38	0.00	118.93	0.794	40.12	1188.365	F
C-AB	40.10	40.54	0.00	419.12	0.096	0.12	9.525	A
C-A	803.14	803.14	0.00	-	-	-	-	-
A-B	62.03	62.03	0.00	-	-	-	-	-
A-C	1262.17	1262.17	0.00	-	-	-	-	-

Main results: (08:15-08:30)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-C	83.57	180.97	0.00	185.31	0.451	17.38	597.638	F
B-A	79.05	172.90	0.00	177.21	0.446	16.66	601.296	F
C-AB	30.93	31.11	0.00	447.76	0.069	0.08	8.646	A
C-A	675.24	675.24	0.00	-	-	-	-	-
A-B	51.95	51.95	0.00	-	-	-	-	-
A-C	1057.00	1057.00	0.00	-	-	-	-	-

(Default Analysis Set) - Base, PM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Roundabout Capacity Model	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)	N/A			100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
Base, PM	Base	PM		ONE HOUR	16:30	18:00	90	15		

Junction Network

Junctions

Junction	Name	Junction Type	Major Road Direction	Arm Order	Junction Delay (s)	Junction LOS
1	(untitled)	T-Junction	Two-way	A,B,C	522.55	F

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Arm	Name	Description	Arm Type
A	A	A611 North		Major
B	B	Annesley Cutting		Minor
C	C	A611 South		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
C	8.10		0.00		2.20	180.00	✓	1.00

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	Lane Width (m)	Lane Width (Left) (m)	Lane Width (Right) (m)	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	10.00	6.50	5.60	4.40	✓	3.00	24	34

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	581.373	0.096	0.243	0.153	0.347
1	B-C	627.394	0.087	0.221	-	-
1	C-B	678.203	0.239	0.239	-	-

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 Flows

Demand Set Data Options

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

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
A	ONE HOUR	✓	1175.00	100.000
B	ONE HOUR	✓	180.00	100.000
C	ONE HOUR	✓	1037.00	100.000

Turning Proportions

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

		To		
		A	B	C
From	A	0.000	138.000	1037.000
	B	142.000	0.000	38.000
	C	1008.000	29.000	0.000

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

		To		
		A	B	C
From	A	0.00	0.12	0.88
	B	0.79	0.00	0.21
	C	0.97	0.03	0.00

Vehicle Mix

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

		To		
		A	B	C
From	A	1.000	1.000	1.000
	B	1.000	1.000	1.000
	C	1.000	1.000	1.000

Heavy Vehicle Percentages - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.0	0.0	0.0
	B	0.0	0.0	0.0
	C	0.0	0.0	0.0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-C	1.49	706.89	7.90	F
B-A	1.45	595.65	27.06	F
C-AB	0.09	8.97	0.12	A
C-A	-	-	-	-
A-B	-	-	-	-
A-C	-	-	-	-

Main Results for each time segment

Main results: (16:30-16:45)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-C	28.61	28.30	0.00	395.59	0.072	0.08	9.794	A
B-A	106.91	104.19	0.00	257.82	0.415	0.68	23.059	C
C-AB	23.49	23.28	0.00	492.76	0.048	0.05	7.664	A
C-A	757.22	757.22	0.00	-	-	-	-	-
A-B	103.89	103.89	0.00	-	-	-	-	-
A-C	780.71	780.71	0.00	-	-	-	-	-

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

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-C	34.16	33.97	0.00	303.03	0.113	0.13	13.370	B
B-A	127.66	123.77	0.00	195.01	0.655	1.65	48.137	E
C-AB	29.46	29.38	0.00	467.06	0.063	0.07	8.224	A
C-A	902.78	902.78	0.00	-	-	-	-	-
A-B	124.06	124.06	0.00	-	-	-	-	-
A-C	932.24	932.24	0.00	-	-	-	-	-

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

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-C	41.84	23.45	0.00	28.11	1.488	4.72	470.136	F
B-A	156.34	103.84	0.00	108.18	1.445	14.78	333.757	F
C-AB	40.23	40.05	0.00	441.72	0.091	0.12	8.962	A
C-A	1101.53	1101.53	0.00	-	-	-	-	-
A-B	151.94	151.94	0.00	-	-	-	-	-
A-C	1141.76	1141.76	0.00	-	-	-	-	-

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

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-C	41.84	29.13	0.00	30.40	1.376	7.90	706.890	F
B-A	156.34	107.22	0.00	107.87	1.449	27.06	595.650	F
C-AB	40.23	40.22	0.00	441.72	0.091	0.12	8.969	A
C-A	1101.53	1101.53	0.00	-	-	-	-	-
A-B	151.94	151.94	0.00	-	-	-	-	-
A-C	1141.76	1141.76	0.00	-	-	-	-	-

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

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-C	34.16	48.13	0.00	54.22	0.630	4.41	400.925	F
B-A	127.66	187.56	0.00	194.49	0.656	12.08	374.542	F
C-AB	29.46	29.64	0.00	467.06	0.063	0.07	8.235	A
C-A	902.78	902.78	0.00	-	-	-	-	-
A-B	124.06	124.06	0.00	-	-	-	-	-
A-C	932.24	932.24	0.00	-	-	-	-	-

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

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-C	28.61	45.88	0.00	355.35	0.081	0.09	12.278	B
B-A	106.91	152.20	0.00	256.88	0.416	0.76	49.085	E
C-AB	23.49	23.58	0.00	492.76	0.048	0.05	7.676	A
C-A	757.22	757.22	0.00	-	-	-	-	-
A-B	103.89	103.89	0.00	-	-	-	-	-
A-C	780.71	780.71	0.00	-	-	-	-	-

(Default Analysis Set) - Base, Interpeak

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Roundabout Capacity Model	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)	N/A			100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
Base, Interpeak	Base	Interpeak		ONE HOUR	11:45	13:15	90	15		

Junction Network

Junctions

Junction	Name	Junction Type	Major Road Direction	Arm Order	Junction Delay (s)	Junction LOS
1	(untitled)	T-Junction	Two-way	A,B,C	12.49	B

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Arm	Name	Description	Arm Type
A	A	A611 North		Major
B	B	Annesley Cutting		Minor
C	C	A611 South		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
C	8.10		0.00		2.20	180.00	✓	1.00

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	Lane Width (m)	Lane Width (Left) (m)	Lane Width (Right) (m)	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	10.00	6.50	5.60	4.40	✓	3.00	24	34

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	566.843	0.094	0.237	0.149	0.339
1	B-C	646.070	0.090	0.227	-	-
1	C-B	678.203	0.239	0.239	-	-

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 Flows

Demand Set Data Options

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

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
A	ONE HOUR	✓	836.00	100.000
B	ONE HOUR	✓	124.00	100.000
C	ONE HOUR	✓	200.00	100.000

Turning Proportions

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

		To		
		A	B	C
From	A	0.000	92.000	744.000
	B	86.000	0.000	38.000
	C	100.000	100.000	0.000

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

		To		
		A	B	C
From	A	0.00	0.11	0.89
	B	0.69	0.00	0.31
	C	0.50	0.50	0.00

Vehicle Mix

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

		To		
		A	B	C
From	A	1.000	1.000	1.000
	B	1.000	1.000	1.000
	C	1.000	1.000	1.000

Heavy Vehicle Percentages - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.0	0.0	0.0
	B	0.0	0.0	0.0
	C	0.0	0.0	0.0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-C	0.10	9.66	0.11	A
B-A	0.31	16.78	0.44	C
C-AB	0.24	9.96	0.33	A
C-A	-	-	-	-
A-B	-	-	-	-
A-C	-	-	-	-

Main Results for each time segment

Main results: (11:45-12:00)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-C	28.61	28.36	0.00	491.17	0.058	0.06	7.774	A
B-A	64.75	63.96	0.00	390.80	0.166	0.20	10.988	B
C-AB	76.82	76.14	0.00	535.47	0.143	0.17	7.827	A
C-A	73.75	73.75	0.00	-	-	-	-	-
A-B	69.26	69.26	0.00	-	-	-	-	-
A-C	560.12	560.12	0.00	-	-	-	-	-

Main results: (12:00-12:15)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-C	34.16	34.09	0.00	459.60	0.074	0.08	8.459	A
B-A	77.31	77.01	0.00	356.47	0.217	0.27	12.867	B
C-AB	92.82	92.59	0.00	510.37	0.182	0.22	8.612	A
C-A	86.98	86.98	0.00	-	-	-	-	-
A-B	82.71	82.71	0.00	-	-	-	-	-
A-C	668.84	668.84	0.00	-	-	-	-	-

Main results: (12:15-12:30)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-C	41.84	41.71	0.00	414.79	0.101	0.11	9.646	A
B-A	94.69	94.05	0.00	309.15	0.306	0.43	16.685	C
C-AB	116.45	116.03	0.00	477.86	0.244	0.33	9.941	A
C-A	103.75	103.75	0.00	-	-	-	-	-
A-B	101.29	101.29	0.00	-	-	-	-	-
A-C	819.16	819.16	0.00	-	-	-	-	-

Main results: (12:30-12:45)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-C	41.84	41.84	0.00	414.42	0.101	0.11	9.661	A
B-A	94.69	94.67	0.00	309.09	0.306	0.44	16.781	C
C-AB	116.45	116.44	0.00	477.86	0.244	0.33	9.964	A
C-A	103.75	103.75	0.00	-	-	-	-	-
A-B	101.29	101.29	0.00	-	-	-	-	-
A-C	819.16	819.16	0.00	-	-	-	-	-

Main results: (12:45-13:00)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-C	34.16	34.28	0.00	459.05	0.074	0.08	8.479	A
B-A	77.31	77.93	0.00	356.40	0.217	0.28	12.957	B
C-AB	92.82	93.23	0.00	510.37	0.182	0.23	8.640	A
C-A	86.98	86.98	0.00	-	-	-	-	-
A-B	82.71	82.71	0.00	-	-	-	-	-
A-C	668.84	668.84	0.00	-	-	-	-	-

Main results: (13:00-13:15)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-C	28.61	28.68	0.00	490.58	0.058	0.06	7.796	A
B-A	64.75	65.07	0.00	390.64	0.166	0.20	11.070	B
C-AB	76.82	77.05	0.00	535.47	0.143	0.17	7.858	A
C-A	73.75	73.75	0.00	-	-	-	-	-
A-B	69.26	69.26	0.00	-	-	-	-	-
A-C	560.12	560.12	0.00	-	-	-	-	-

(Default Analysis Set) - Design, Interpeak

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Roundabout Capacity Model	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)	N/A			100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
Design, Interpeak	Design	Interpeak		ONE HOUR	11:45	13:15	90	15		

Junction Network

Junctions

Junction	Name	Junction Type	Major Road Direction	Arm Order	Junction Delay (s)	Junction LOS
1	(untitled)	T-Junction	Two-way	A,B,C	8.22	A

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Arm	Name	Description	Arm Type
A	A	A611 North		Major
B	B	Annesley Cutting		Minor
C	C	A611 South		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
C	8.10		0.00		2.20	180.00	✓	1.00

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	Lane Width (m)	Lane Width (Left) (m)	Lane Width (Right) (m)	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	10.00	6.50	5.60	4.40	✓	3.00	24	34

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	534.738	0.088	0.224	0.141	0.320
1	B-C	687.337	0.096	0.242	-	-
1	C-B	678.203	0.239	0.239	-	-

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 Flows

Demand Set Data Options

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

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
A	ONE HOUR	✓	200.00	100.000
B	ONE HOUR	✓	200.00	100.000
C	ONE HOUR	✓	200.00	100.000

Turning Proportions

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

		To		
		A	B	C
From	A	0.000	100.000	100.000
	B	100.000	0.000	100.000
	C	100.000	100.000	0.000

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

		To		
		A	B	C
From	A	0.00	0.50	0.50
	B	0.50	0.00	0.50
	C	0.50	0.50	0.00

Vehicle Mix

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

		To		
		A	B	C
From	A	1.000	1.000	1.000
	B	1.000	1.000	1.000
	C	1.000	1.000	1.000

Heavy Vehicle Percentages - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.0	0.0	0.0
	B	0.0	0.0	0.0
	C	0.0	0.0	0.0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-C	0.18	7.21	0.22	A
B-A	0.24	10.61	0.32	B
C-AB	0.18	6.86	0.22	A
C-A	-	-	-	-
A-B	-	-	-	-
A-C	-	-	-	-

Main Results for each time segment

Main results: (11:45-12:00)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-C	75.29	74.75	0.00	635.74	0.118	0.13	6.412	A
B-A	75.29	74.54	0.00	476.58	0.158	0.19	8.939	A
C-AB	76.32	75.79	0.00	647.90	0.118	0.13	6.287	A
C-A	74.25	74.25	0.00	-	-	-	-	-
A-B	75.29	75.29	0.00	-	-	-	-	-
A-C	75.29	75.29	0.00	-	-	-	-	-

Main results: (12:00-12:15)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-C	89.90	89.76	0.00	624.77	0.144	0.17	6.727	A
B-A	89.90	89.69	0.00	465.19	0.193	0.24	9.582	A
C-AB	91.70	91.57	0.00	643.45	0.143	0.17	6.521	A
C-A	88.10	88.10	0.00	-	-	-	-	-
A-B	89.90	89.90	0.00	-	-	-	-	-
A-C	89.90	89.90	0.00	-	-	-	-	-

Main results: (12:15-12:30)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-C	110.10	109.90	0.00	609.57	0.181	0.22	7.201	A
B-A	110.10	109.77	0.00	449.50	0.245	0.32	10.585	B
C-AB	113.51	113.31	0.00	638.13	0.178	0.22	6.858	A
C-A	106.69	106.69	0.00	-	-	-	-	-
A-B	110.10	110.10	0.00	-	-	-	-	-
A-C	110.10	110.10	0.00	-	-	-	-	-

Main results: (12:30-12:45)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-C	110.10	110.10	0.00	609.39	0.181	0.22	7.209	A
B-A	110.10	110.09	0.00	449.47	0.245	0.32	10.607	B
C-AB	113.51	113.51	0.00	638.13	0.178	0.22	6.864	A
C-A	106.69	106.69	0.00	-	-	-	-	-
A-B	110.10	110.10	0.00	-	-	-	-	-
A-C	110.10	110.10	0.00	-	-	-	-	-

Main results: (12:45-13:00)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-C	89.90	90.10	0.00	624.46	0.144	0.17	6.741	A
B-A	89.90	90.22	0.00	465.16	0.193	0.24	9.611	A
C-AB	91.70	91.90	0.00	643.45	0.143	0.17	6.531	A
C-A	88.10	88.10	0.00	-	-	-	-	-
A-B	89.90	89.90	0.00	-	-	-	-	-
A-C	89.90	89.90	0.00	-	-	-	-	-

Main results: (13:00-13:15)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-C	75.29	75.42	0.00	635.20	0.119	0.14	6.434	A
B-A	75.29	75.50	0.00	476.50	0.158	0.19	8.981	A
C-AB	76.32	76.46	0.00	647.90	0.118	0.14	6.303	A
C-A	74.25	74.25	0.00	-	-	-	-	-
A-B	75.29	75.29	0.00	-	-	-	-	-
A-C	75.29	75.29	0.00	-	-	-	-	-

(Default Analysis Set) - Design, AM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Roundabout Capacity Model	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)	N/A			100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
Design, AM	Design	AM		ONE HOUR	07:00	08:30	90	15		

Junction Network

Junctions

Junction	Name	Junction Type	Major Road Direction	Arm Order	Junction Delay (s)	Junction LOS
1	(untitled)	T-Junction	Two-way	A,B,C	8.22	A

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Arm	Name	Description	Arm Type
A	A	A611 North		Major
B	B	Annesley Cutting		Minor
C	C	A611 South		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
C	8.10		0.00		2.20	180.00	✓	1.00

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	Lane Width (m)	Lane Width (Left) (m)	Lane Width (Right) (m)	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	10.00	6.50	5.60	4.40	✓	3.00	24	34

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	534.738	0.088	0.224	0.141	0.320
1	B-C	687.337	0.096	0.242	-	-
1	C-B	678.203	0.239	0.239	-	-

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 Flows

Demand Set Data Options

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

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
A	ONE HOUR	✓	200.00	100.000
B	ONE HOUR	✓	200.00	100.000
C	ONE HOUR	✓	200.00	100.000

Turning Proportions

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

		To		
		A	B	C
From	A	0.000	100.000	100.000
	B	100.000	0.000	100.000
	C	100.000	100.000	0.000

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

		To		
		A	B	C
From	A	0.00	0.50	0.50
	B	0.50	0.00	0.50
	C	0.50	0.50	0.00

Vehicle Mix

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

		To		
		A	B	C
From	A	1.000	1.000	1.000
	B	1.000	1.000	1.000
	C	1.000	1.000	1.000

Heavy Vehicle Percentages - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.0	0.0	0.0
	B	0.0	0.0	0.0
	C	0.0	0.0	0.0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-C	0.18	7.21	0.22	A
B-A	0.24	10.61	0.32	B
C-AB	0.18	6.86	0.22	A
C-A	-	-	-	-
A-B	-	-	-	-
A-C	-	-	-	-

Main Results for each time segment

Main results: (07:00-07:15)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-C	75.29	74.75	0.00	635.74	0.118	0.13	6.412	A
B-A	75.29	74.54	0.00	476.58	0.158	0.19	8.939	A
C-AB	76.32	75.79	0.00	647.90	0.118	0.13	6.287	A
C-A	74.25	74.25	0.00	-	-	-	-	-
A-B	75.29	75.29	0.00	-	-	-	-	-
A-C	75.29	75.29	0.00	-	-	-	-	-

Main results: (07:15-07:30)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-C	89.90	89.76	0.00	624.77	0.144	0.17	6.727	A
B-A	89.90	89.69	0.00	465.19	0.193	0.24	9.582	A
C-AB	91.70	91.57	0.00	643.45	0.143	0.17	6.521	A
C-A	88.10	88.10	0.00	-	-	-	-	-
A-B	89.90	89.90	0.00	-	-	-	-	-
A-C	89.90	89.90	0.00	-	-	-	-	-

Main results: (07:30-07:45)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-C	110.10	109.90	0.00	609.57	0.181	0.22	7.201	A
B-A	110.10	109.77	0.00	449.50	0.245	0.32	10.585	B
C-AB	113.51	113.31	0.00	638.13	0.178	0.22	6.858	A
C-A	106.69	106.69	0.00	-	-	-	-	-
A-B	110.10	110.10	0.00	-	-	-	-	-
A-C	110.10	110.10	0.00	-	-	-	-	-

Main results: (07:45-08:00)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-C	110.10	110.10	0.00	609.39	0.181	0.22	7.209	A
B-A	110.10	110.09	0.00	449.47	0.245	0.32	10.607	B
C-AB	113.51	113.51	0.00	638.13	0.178	0.22	6.864	A
C-A	106.69	106.69	0.00	-	-	-	-	-
A-B	110.10	110.10	0.00	-	-	-	-	-
A-C	110.10	110.10	0.00	-	-	-	-	-

Main results: (08:00-08:15)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-C	89.90	90.10	0.00	624.46	0.144	0.17	6.741	A
B-A	89.90	90.22	0.00	465.16	0.193	0.24	9.611	A
C-AB	91.70	91.90	0.00	643.45	0.143	0.17	6.531	A
C-A	88.10	88.10	0.00	-	-	-	-	-
A-B	89.90	89.90	0.00	-	-	-	-	-
A-C	89.90	89.90	0.00	-	-	-	-	-

Main results: (08:15-08:30)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-C	75.29	75.42	0.00	635.20	0.119	0.14	6.434	A
B-A	75.29	75.50	0.00	476.50	0.158	0.19	8.981	A
C-AB	76.32	76.46	0.00	647.90	0.118	0.14	6.303	A
C-A	74.25	74.25	0.00	-	-	-	-	-
A-B	75.29	75.29	0.00	-	-	-	-	-
A-C	75.29	75.29	0.00	-	-	-	-	-

(Default Analysis Set) - Design, PM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Roundabout Capacity Model	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)	N/A			100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
Design, PM	Design	PM		ONE HOUR	16:30	18:00	90	15		

Junction Network

Junctions

Junction	Name	Junction Type	Major Road Direction	Arm Order	Junction Delay (s)	Junction LOS
1	(untitled)	T-Junction	Two-way	A,B,C	8.22	A

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Arm	Name	Description	Arm Type
A	A	A611 North		Major
B	B	Annesley Cutting		Minor
C	C	A611 South		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
C	8.10		0.00		2.20	180.00	✓	1.00

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	Lane Width (m)	Lane Width (Left) (m)	Lane Width (Right) (m)	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	10.00	6.50	5.60	4.40	✓	3.00	24	34

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	534.738	0.088	0.224	0.141	0.320
1	B-C	687.337	0.096	0.242	-	-
1	C-B	678.203	0.239	0.239	-	-

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 Flows

Demand Set Data Options

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

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
A	ONE HOUR	✓	200.00	100.000
B	ONE HOUR	✓	200.00	100.000
C	ONE HOUR	✓	200.00	100.000

Turning Proportions

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

		To		
		A	B	C
From	A	0.000	100.000	100.000
	B	100.000	0.000	100.000
	C	100.000	100.000	0.000

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

		To		
		A	B	C
From	A	0.00	0.50	0.50
	B	0.50	0.00	0.50
	C	0.50	0.50	0.00

Vehicle Mix

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

		To		
		A	B	C
From	A	1.000	1.000	1.000
	B	1.000	1.000	1.000
	C	1.000	1.000	1.000

Heavy Vehicle Percentages - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.0	0.0	0.0
	B	0.0	0.0	0.0
	C	0.0	0.0	0.0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-C	0.18	7.21	0.22	A
B-A	0.24	10.61	0.32	B
C-AB	0.18	6.86	0.22	A
C-A	-	-	-	-
A-B	-	-	-	-
A-C	-	-	-	-

Main Results for each time segment

Main results: (16:30-16:45)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-C	75.29	74.75	0.00	635.74	0.118	0.13	6.412	A
B-A	75.29	74.54	0.00	476.58	0.158	0.19	8.939	A
C-AB	76.32	75.79	0.00	647.90	0.118	0.13	6.287	A
C-A	74.25	74.25	0.00	-	-	-	-	-
A-B	75.29	75.29	0.00	-	-	-	-	-
A-C	75.29	75.29	0.00	-	-	-	-	-

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

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-C	89.90	89.76	0.00	624.77	0.144	0.17	6.727	A
B-A	89.90	89.69	0.00	465.19	0.193	0.24	9.582	A
C-AB	91.70	91.57	0.00	643.45	0.143	0.17	6.521	A
C-A	88.10	88.10	0.00	-	-	-	-	-
A-B	89.90	89.90	0.00	-	-	-	-	-
A-C	89.90	89.90	0.00	-	-	-	-	-

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

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-C	110.10	109.90	0.00	609.57	0.181	0.22	7.201	A
B-A	110.10	109.77	0.00	449.50	0.245	0.32	10.585	B
C-AB	113.51	113.31	0.00	638.13	0.178	0.22	6.858	A
C-A	106.69	106.69	0.00	-	-	-	-	-
A-B	110.10	110.10	0.00	-	-	-	-	-
A-C	110.10	110.10	0.00	-	-	-	-	-

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

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-C	110.10	110.10	0.00	609.39	0.181	0.22	7.209	A
B-A	110.10	110.09	0.00	449.47	0.245	0.32	10.607	B
C-AB	113.51	113.51	0.00	638.13	0.178	0.22	6.864	A
C-A	106.69	106.69	0.00	-	-	-	-	-
A-B	110.10	110.10	0.00	-	-	-	-	-
A-C	110.10	110.10	0.00	-	-	-	-	-

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

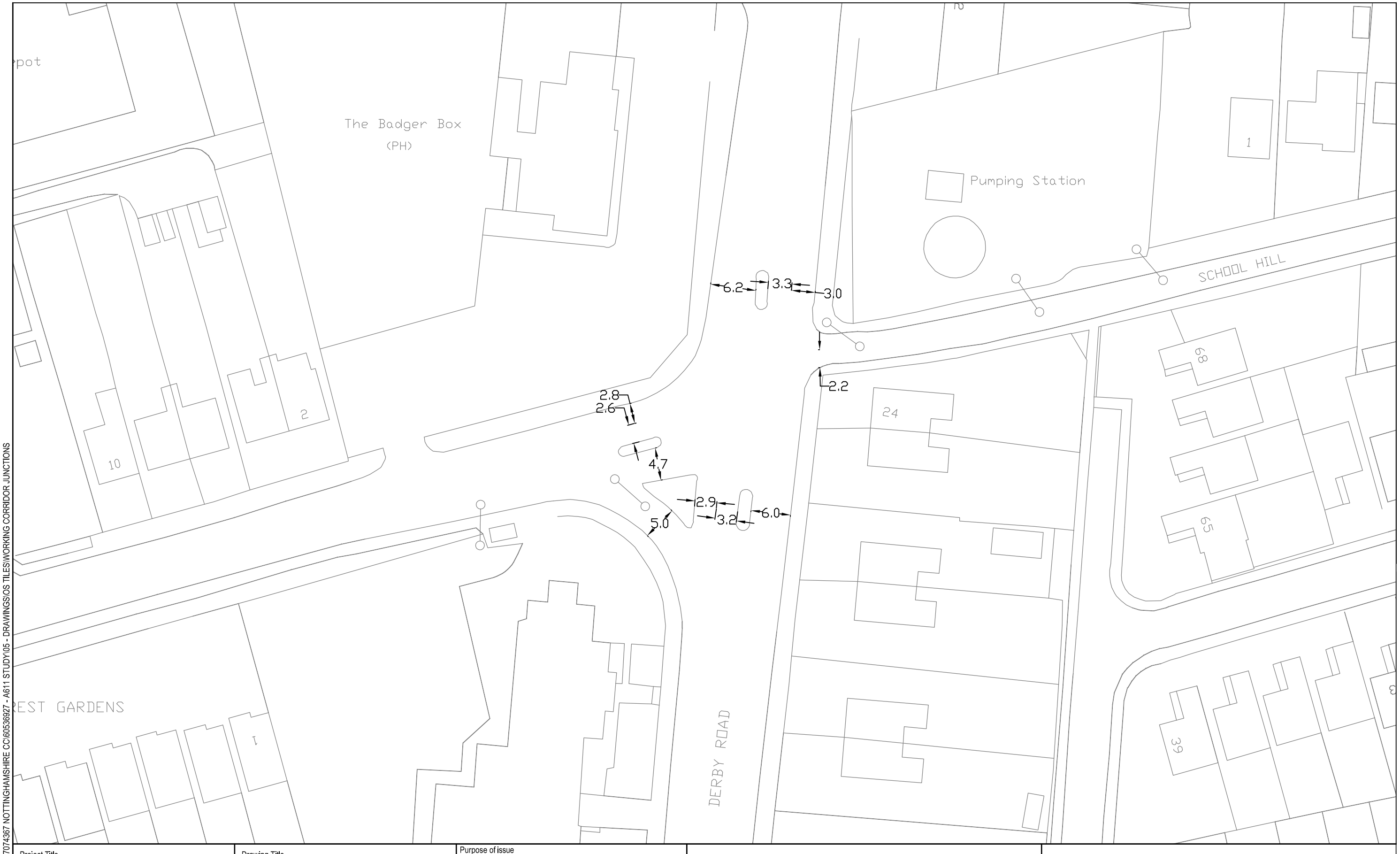
Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-C	89.90	90.10	0.00	624.46	0.144	0.17	6.741	A
B-A	89.90	90.22	0.00	465.16	0.193	0.24	9.611	A
C-AB	91.70	91.90	0.00	643.45	0.143	0.17	6.531	A
C-A	88.10	88.10	0.00	-	-	-	-	-
A-B	89.90	89.90	0.00	-	-	-	-	-
A-C	89.90	89.90	0.00	-	-	-	-	-

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

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-C	75.29	75.42	0.00	635.20	0.119	0.14	6.434	A
B-A	75.29	75.50	0.00	476.50	0.158	0.19	8.981	A
C-AB	76.32	76.46	0.00	647.90	0.118	0.14	6.303	A
C-A	74.25	74.25	0.00	-	-	-	-	-
A-B	75.29	75.29	0.00	-	-	-	-	-
A-C	75.29	75.29	0.00	-	-	-	-	-

Appendix G

A611 / School Hill / Forest Road Capacity Results



Plot Date : 23 May 2017 15:12:38
File Name : L:\MHA PSP2\47074367 NOTTINGHAMSHIRE CC\60536927 - A611 STUDY\05 - DRAWINGS\OS TILES\WORKING CORRIDOR JUNCTIONS

Project Title
M1 J27 / A608 / A611 TO MANSFILED JUNCTION GEOMETRIES

Client
NOTTINGHAMSHIRE COUNTY COUNCIL

Drawing Title
JUNCTION 5
FOREST ROAD AND SCHOOL HILL
JUNCTION ON A611

Purpose of issue
FOR INFORMATION

Designed	Drawn	Checked	Approved	Date
RP	JPH	RP	DG	23/05/17

AECOM Internal Project No.: 60536927
Suitability:
Scale @ A3: 1:500
Zone / Mileage:

Drawing Number: 60536927/SK/005
Rev:

AECOM Infrastructure & Environment UK Limited
Royal Court, Basil Close
Chesterfield
S41 7SL
Tel:+44 (0)1246 209 221
Fax:+44 (0)1246 209 229
www.aecom.com

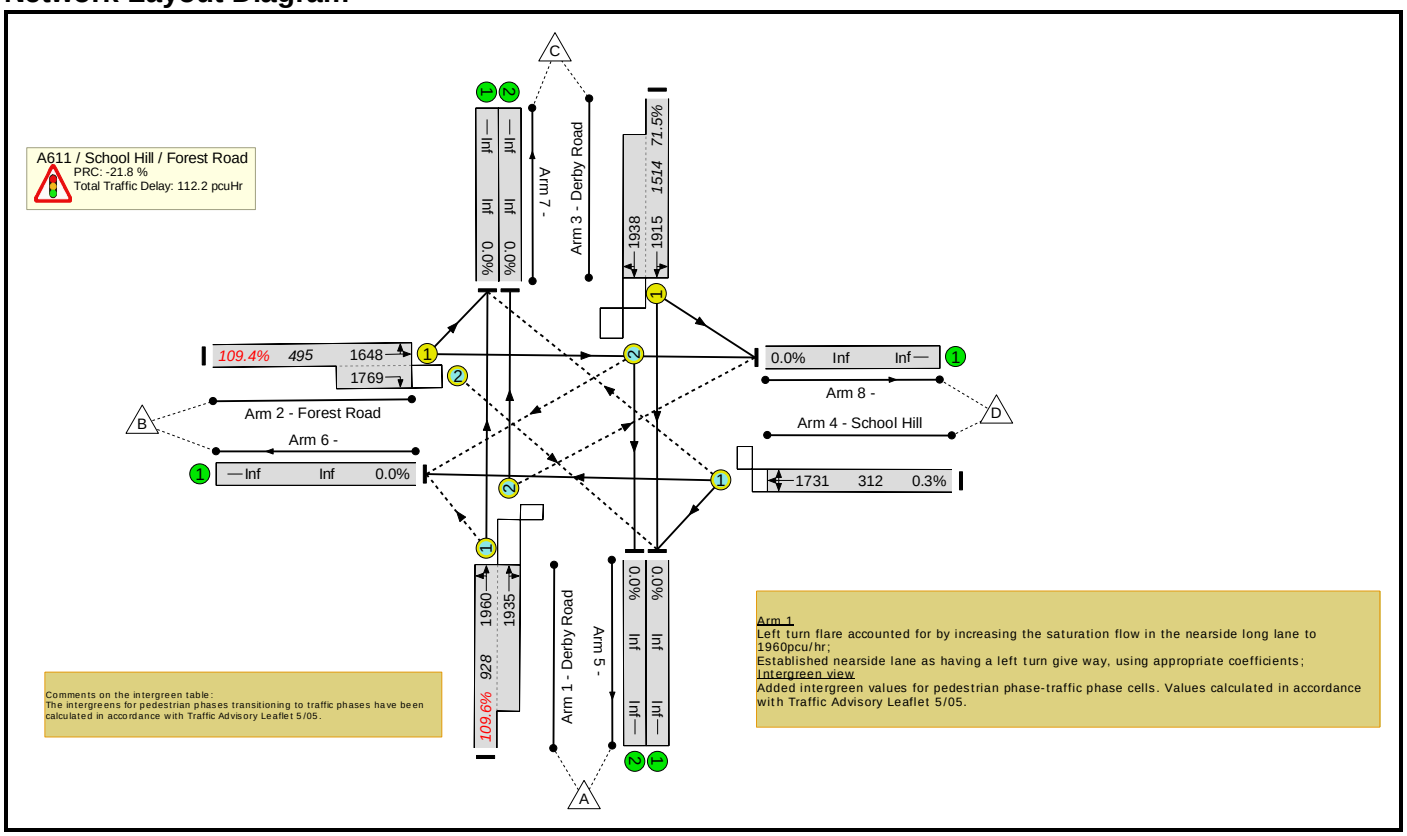
Basic Results Summary

User and Project Details

Project:	**A611 Study**
Title:	**Junction 50331 - A611 / School Hill / Forest Road**
Location:	
File name:	Derby Road Forest Road School Hill - (Final Base).lsg3x
Author:	Andrew Lane
Company:	AECOM
Address:	Royal Court, Basil Close, Chesterfield, Derbyshire S41 7SL
Notes:	

Scenario 1: 'Base AM' (FG1: 'Base AM', Plan 1: 'Network Control Plan 1')

Network Layout Diagram



Basic Results Summary

Network Results

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network: Junction 50331 - A611 / School Hill / Forest Road	-	-	-		-	-	-	-	-	-	**109.6%**	**564**	**158**	**2**	**112.2**	-	-
A611 / School Hill / Forest Road	-	-	-		-	-	-	-	-	-	**109.6%**	**564**	**158**	**2**	**112.2**	-	-
1/1+1/2	Derby Road Left Ahead Right	O	A		2	65	-	1017	1960:1935	928	109.6%	234	67	0	66.8	236.4	88.5
2/1+2/2	Forest Road Right Left Ahead	U+O	D		2	43	-	541	1648:1769	495	109.4%	328	59	0	38.5	256.3	46.3
3/1+3/2	Derby Road Ahead Right Left	U+O	B	C	2	83	8	1082	1915:1938	1514	71.5%	3	31	2	6.9	22.9	13.2
4/1	School Hill Left Ahead Right	O	E		2	43	-	1	1731	312	0.3%	0	1	0	0.0	31.8	0.0

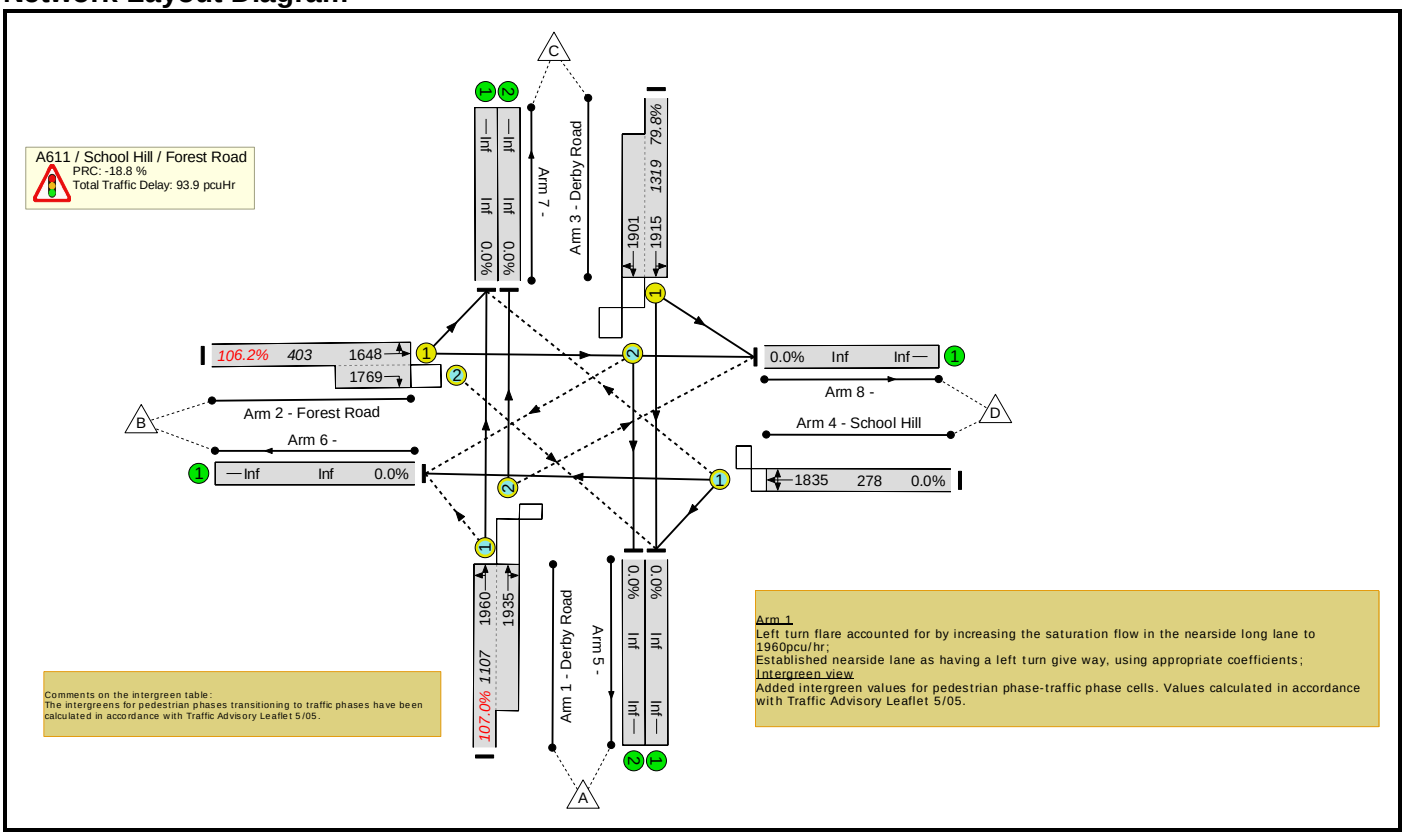
C1 PRC for Signalled Lanes (%): -21.8 Total Delay for Signalled Lanes (pcuHr): 112.18 Cycle Time (s): 180

PRC Over All Lanes (%): -21.8 Total Delay Over All Lanes(pcuHr): 112.18

Basic Results Summary

Scenario 2: 'Base PM' (FG3: 'Base PM', Plan 1: 'Network Control Plan 1')

Network Layout Diagram



Basic Results Summary

Network Results

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network: Junction 50331 - A611 / School Hill / Forest Road	-	-	-		-	-	-	-	-	-	**107.0%**	**564**	**232**	**11**	**93.9**	-	-
A611 / School Hill / Forest Road	-	-	-		-	-	-	-	-	-	**107.0%**	**564**	**232**	**11**	**93.9**	-	-
1/1+1/2	Derby Road Left Ahead Right	O	A		2	82	-	1184	1960:1935	1107	107.0%	369	75	0	61.4	186.5	89.0
2/1+2/2	Forest Road Right Left Ahead	U+O	D		2	26	-	428	1648:1769	403	106.2%	179	59	0	25.3	212.7	28.0
3/1+3/2	Derby Road Ahead Right Left	U+O	B	C	2	100	8	1053	1915:1901	1319	79.8%	16	98	11	7.2	24.8	19.4
4/1	School Hill Left Ahead Right	O	E		2	26	-	0	1835	278	0.0%	0	0	0	0.0	0.0	0.0

C1

PRC for Signalled Lanes (%): -18.8
PRC Over All Lanes (%): -18.8

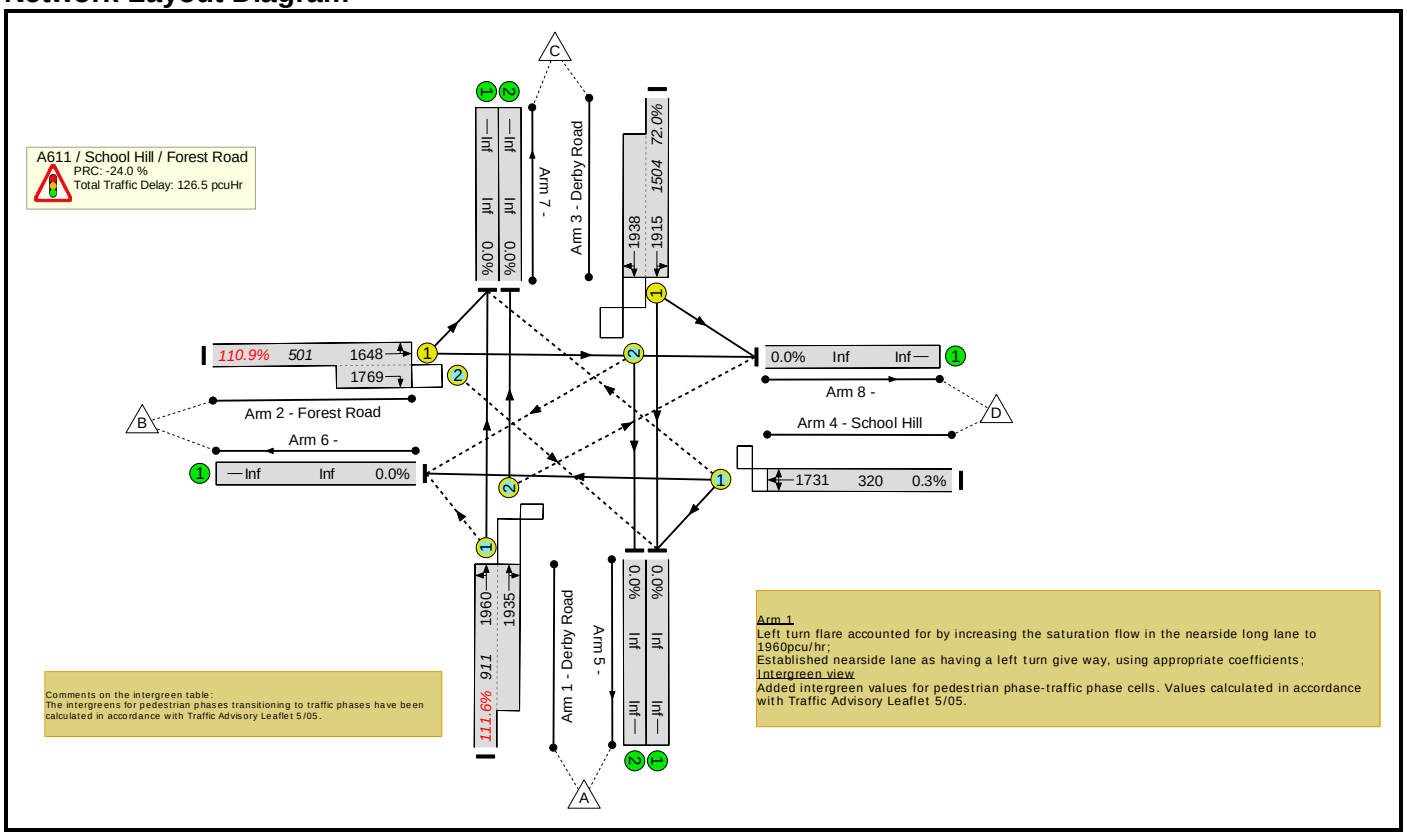
Total Delay for Signalled Lanes (pcuHr): 93.88
Total Delay Over All Lanes(pcuHr): 93.88

Cycle Time (s): 180

Basic Results Summary

Scenario 3: 'Base Interpeak' (FG2: 'Base Interpeak', Plan 1: 'Network Control Plan 1')

Network Layout Diagram



Basic Results Summary

Network Results

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network: Junction 50331 - A611 / School Hill / Forest Road	-	-	-		-	-	-	-	-	-	**111.6%**	**567**	**158**	**2**	**126.5**	-	-
A611 / School Hill / Forest Road	-	-	-		-	-	-	-	-	-	**111.6%**	**567**	**158**	**2**	**126.5**	-	-
1/1+1/2	Derby Road Left Ahead Right	O	A		2	64	-	1017	1960:1935	911	111.6%	228	68	0	75.8	268.3	97.1
2/1+2/2	Forest Road Right Left Ahead	U+O	D		2	44	-	556	1648:1769	501	110.9%	336	59	0	43.7	283.1	52.3
3/1+3/2	Derby Road Ahead Right Left	U+O	B	C	2	82	8	1082	1915:1938	1504	72.0%	3	31	2	7.0	23.1	12.9
4/1	School Hill Left Ahead Right	O	E		2	44	-	1	1731	320	0.3%	0	1	0	0.0	31.2	0.0

C1 PRC for Signalled Lanes (%): -24.0 Total Delay for Signalled Lanes (pcuHr): 126.47 Cycle Time (s): 180
PRC Over All Lanes (%): -24.0 Total Delay Over All Lanes(pcuHr): 126.47

Appendix H

A611 / Midfield Road Capacity Results

Plot Date : 23 May 2017 15:13:54
File Name : L:\MHA PSP2\47074367 NOTTINGHAMSHIRE CC\60536927 - A611 STUDY\05 - DRAWINGS\OS TILES\WORKING CORRIDOR JUNCTIONS

Project Title
M1 J27 / A608 / A611 TO MANSFILED JUNCTION GEOMETRIES

Client
NOTTINGHAMSHIRE COUNTY COUNCIL

Drawing Title
JUNCTION 6
MIDFIELD ROAD JUNCTION
ONTO A611

Purpose of issue
FOR INFORMATION

Designed	Drawn	Checked	Approved	Date
RP	JPH	RP	DG	23/05/17

AECOM Internal Project No.
60536927

Suitability

Scale @ A3
1:500

Zone / Mileage

Drawing Number
60536927/SK/006

Rev

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Royal Court, Basil Close
Chesterfield
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Tel:+44 (0)1246 209 221
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www.aecom.com

Junctions 8

PICADY 8 - Priority Intersection Module

Version: 8.0.6.541 [19821,26/11/2015]

Filename: A611_Midfield Road.arc8
Path: L:\MHA PSP2\47074367 Nottinghamshire CC\60536927 - A611 Study\03 - Analysis\Junction Models
Report generation date: 24/05/2017 12:16:37

Summary of junction performance

	AM					Interpeak					PM				
	Queue (PCU)	Delay (s)	RFC	LOS	Junction Delay (s)	Queue (PCU)	Delay (s)	RFC	LOS	Junction Delay (s)	Queue (PCU)	Delay (s)	RFC	LOS	Jun De (
A1 - Base															
Stream B-C	0.05	9.10	0.05	A	33.26	0.03	7.34	0.03	A	12.33	0.08	10.13	0.08	B	14
Stream B-A	0.62	44.64	0.39	E		0.09	20.83	0.08	C		0.13	36.42	0.12	E	
Stream C-AB	0.01	9.11	0.01	A		0.04	8.74	0.04	A		0.08	9.38	0.06	A	
Stream C-A	-	-	-	-		-	-	-	-		-	-	-	-	
Stream A-B	-	-	-	-		-	-	-	-		-	-	-	-	
Stream A-C	-	-	-	-		-	-	-	-		-	-	-	-	
A1 - Design															
Stream B-C	0.19	6.21	0.16	A	8.21	0.19	6.21	0.16	A	8.21	0.19	6.21	0.16	A	8.
Stream B-A	0.33	10.86	0.25	B		0.33	10.86	0.25	B		0.33	10.86	0.25	B	
Stream C-AB	0.24	7.56	0.19	A		0.24	7.56	0.19	A		0.24	7.56	0.19	A	
Stream C-A	-	-	-	-		-	-	-	-		-	-	-	-	
Stream A-B	-	-	-	-		-	-	-	-		-	-	-	-	
Stream A-C	-	-	-	-		-	-	-	-		-	-	-	-	

Values shown are the maximum values over all time segments. Delay is the maximum value of average delay per arriving vehicle. Junction LOS and Junction Delay are demand-weighted averages.

"D1 - Base, AM " model duration: 07:00 - 08:30
"D2 - Base, PM" model duration: 16:30 - 18:00
"D3 - Base, Interpeak" model duration: 11:45 - 13:15
"D4 - Design, Interpeak" model duration: 11:45 - 13:15
"D5 - Design, AM" model duration: 07:00 - 08:30
"D6 - Design, PM" model duration: 16:30 - 18:00

Run using Junctions 8.0.6.541 at 24/05/2017 12:16:34

File summary

Title	(untitled)
Location	
Site Number	
Date	16/05/2017
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	ross.paradise
Description	

Analysis Options

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

Units

Distance Units	Speed Units	Traffic Units Input	Traffic Units Results	Flow Units	Average Delay Units	Total Delay Units	Rate Of Delay Units
m	kph	PCU	PCU	perHour	s	-Min	perMin

(Default Analysis Set) - Base, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Minor arm flare	Arm B - Minor Arm Geometry	Is flare very short? Estimated flare length is zero but has been increased to 1 because a zero flare length is not allowed.

Analysis Set Details

Name	Roundabout Capacity Model	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)	N/A			100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
Base, AM	Base	AM		ONE HOUR	07:00	08:30	90	15		

Junction Network

Junctions

Junction	Name	Junction Type	Major Road Direction	Arm Order	Junction Delay (s)	Junction LOS
1	(untitled)	T-Junction	Two-way	A,B,C	33.26	D

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Arm	Name	Description	Arm Type
A	A	A611 South		Major
B	B	Midfield Road		Minor
C	C	A611 North		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
C	7.50		0.00		2.20	90.00	✓	1.00

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	Lane Width (m)	Lane Width (Left) (m)	Lane Width (Right) (m)	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	3.80	2.70	2.70	2.70	✓	1.00	21	56

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	531.314	0.090	0.229	0.144	0.327
1	B-C	791.183	0.113	0.287	-	-
1	C-B	626.083	0.227	0.227	-	-

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 Flows

Demand Set Data Options

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

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
A	ONE HOUR	✓	951.00	100.000
B	ONE HOUR	✓	64.00	100.000
C	ONE HOUR	✓	1012.00	100.000

Turning Proportions

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

		To		
		A	B	C
From	A	0.000	10.000	941.000
	B	47.000	0.000	17.000
	C	1007.000	5.000	0.000

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

		To		
		A	B	C
From	A	0.00	0.01	0.99
	B	0.73	0.00	0.27
	C	1.00	0.00	0.00

Vehicle Mix

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

		To		
		A	B	C
From	A	1.000	1.000	1.000
	B	1.000	1.000	1.000
	C	1.000	1.000	1.000

Heavy Vehicle Percentages - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.0	0.0	0.0
	B	0.0	0.0	0.0
	C	0.0	0.0	0.0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-C	0.05	9.10	0.05	A
B-A	0.39	44.64	0.62	E
C-AB	0.01	9.11	0.01	A
C-A	-	-	-	-
A-B	-	-	-	-
A-C	-	-	-	-

Main Results for each time segment

Main results: (07:00-07:15)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-C	12.80	12.71	0.00	565.92	0.023	0.02	6.507	A
B-A	35.38	34.76	0.00	258.36	0.137	0.16	16.058	C
C-AB	3.81	3.78	0.00	468.29	0.008	0.01	7.750	A
C-A	758.07	758.07	0.00	-	-	-	-	-
A-B	7.53	7.53	0.00	-	-	-	-	-
A-C	708.43	708.43	0.00	-	-	-	-	-

Main results: (07:15-07:30)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-C	15.28	15.25	0.00	514.90	0.030	0.03	7.204	A
B-A	42.25	41.87	0.00	205.36	0.206	0.25	21.967	C
C-AB	4.59	4.58	0.00	439.35	0.010	0.01	8.280	A
C-A	905.17	905.17	0.00	-	-	-	-	-
A-B	8.99	8.99	0.00	-	-	-	-	-
A-C	845.94	845.94	0.00	-	-	-	-	-

Main results: (07:30-07:45)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-C	18.72	18.65	0.00	417.80	0.045	0.05	9.018	A
B-A	51.75	50.36	0.00	132.05	0.392	0.60	43.363	E
C-AB	5.73	5.71	0.00	400.87	0.014	0.01	9.110	A
C-A	1108.51	1108.51	0.00	-	-	-	-	-
A-B	11.01	11.01	0.00	-	-	-	-	-
A-C	1036.06	1036.06	0.00	-	-	-	-	-

Main results: (07:45-08:00)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-C	18.72	18.72	0.00	414.44	0.045	0.05	9.096	A
B-A	51.75	51.66	0.00	132.05	0.392	0.62	44.641	E
C-AB	5.73	5.73	0.00	400.87	0.014	0.01	9.110	A
C-A	1108.51	1108.51	0.00	-	-	-	-	-
A-B	11.01	11.01	0.00	-	-	-	-	-
A-C	1036.06	1036.06	0.00	-	-	-	-	-

Main results: (08:00-08:15)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-C	15.28	15.35	0.00	513.08	0.030	0.03	7.235	A
B-A	42.25	43.66	0.00	205.35	0.206	0.27	22.446	C
C-AB	4.59	4.61	0.00	439.35	0.010	0.01	8.282	A
C-A	905.17	905.17	0.00	-	-	-	-	-
A-B	8.99	8.99	0.00	-	-	-	-	-
A-C	845.94	845.94	0.00	-	-	-	-	-

Main results: (08:15-08:30)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-C	12.80	12.83	0.00	565.19	0.023	0.02	6.517	A
B-A	35.38	35.80	0.00	258.35	0.137	0.16	16.207	C
C-AB	3.81	3.82	0.00	468.29	0.008	0.01	7.750	A
C-A	758.07	758.07	0.00	-	-	-	-	-
A-B	7.53	7.53	0.00	-	-	-	-	-
A-C	708.43	708.43	0.00	-	-	-	-	-

(Default Analysis Set) - Base, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Minor arm flare	Arm B - Minor Arm Geometry	Is flare very short? Estimated flare length is zero but has been increased to 1 because a zero flare length is not allowed.

Analysis Set Details

Name	Roundabout Capacity Model	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)	N/A			100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
Base, PM	Base	PM		ONE HOUR	16:30	18:00	90	15		

Junction Network

Junctions

Junction	Name	Junction Type	Major Road Direction	Arm Order	Junction Delay (s)	Junction LOS
1	(untitled)	T-Junction	Two-way	A,B,C	14.98	B

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Arm	Name	Description	Arm Type
A	A	A611 South		Major
B	B	Midfield Road		Minor
C	C	A611 North		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
C	7.50		0.00		2.20	90.00	✓	1.00

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	Lane Width (m)	Lane Width (Left) (m)	Lane Width (Right) (m)	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	3.80	2.70	2.70	2.70	✓	1.00	21	56

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	614.330	0.105	0.264	0.166	0.378
1	B-C	684.269	0.098	0.248	-	-
1	C-B	626.083	0.227	0.227	-	-

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 Flows

Demand Set Data Options

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

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
A	ONE HOUR	✓	1080.00	100.000
B	ONE HOUR	✓	39.00	100.000
C	ONE HOUR	✓	1048.00	100.000

Turning Proportions

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

		To		
		A	B	C
From	A	0.000	50.000	1030.000
	B	12.000	0.000	27.000
	C	1028.000	20.000	0.000

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

		To		
		A	B	C
From	A	0.00	0.05	0.95
	B	0.31	0.00	0.69
	C	0.98	0.02	0.00

Vehicle Mix

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

		To		
		A	B	C
From	A	1.000	1.000	1.000
	B	1.000	1.000	1.000
	C	1.000	1.000	1.000

Heavy Vehicle Percentages - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.0	0.0	0.0
	B	0.0	0.0	0.0
	C	0.0	0.0	0.0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-C	0.08	10.13	0.08	B
B-A	0.12	36.42	0.13	E
C-AB	0.06	9.38	0.08	A
C-A	-	-	-	-
A-B	-	-	-	-
A-C	-	-	-	-

Main Results for each time segment

Main results: (16:30-16:45)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-C	20.33	20.15	0.00	484.32	0.042	0.04	7.754	A
B-A	9.03	8.90	0.00	270.97	0.033	0.03	13.729	B
C-AB	15.96	15.81	0.00	461.34	0.035	0.04	8.077	A
C-A	773.03	773.03	0.00	-	-	-	-	-
A-B	37.64	37.64	0.00	-	-	-	-	-
A-C	775.44	775.44	0.00	-	-	-	-	-

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

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-C	24.27	24.22	0.00	444.30	0.055	0.06	8.568	A
B-A	10.79	10.71	0.00	204.26	0.053	0.05	18.592	C
C-AB	19.79	19.74	0.00	436.93	0.045	0.05	8.628	A
C-A	922.34	922.34	0.00	-	-	-	-	-
A-B	44.95	44.95	0.00	-	-	-	-	-
A-C	925.95	925.95	0.00	-	-	-	-	-

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

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-C	29.73	29.63	0.00	385.29	0.077	0.08	10.120	B
B-A	13.21	12.92	0.00	112.06	0.118	0.13	36.207	E
C-AB	26.34	26.23	0.00	410.44	0.064	0.08	9.371	A
C-A	1127.53	1127.53	0.00	-	-	-	-	-
A-B	55.05	55.05	0.00	-	-	-	-	-
A-C	1134.05	1134.05	0.00	-	-	-	-	-

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

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-C	29.73	29.73	0.00	384.98	0.077	0.08	10.133	B
B-A	13.21	13.20	0.00	112.03	0.118	0.13	36.417	E
C-AB	26.34	26.34	0.00	410.44	0.064	0.08	9.375	A
C-A	1127.53	1127.53	0.00	-	-	-	-	-
A-B	55.05	55.05	0.00	-	-	-	-	-
A-C	1134.05	1134.05	0.00	-	-	-	-	-

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

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-C	24.27	24.37	0.00	444.07	0.055	0.06	8.580	A
B-A	10.79	11.08	0.00	204.21	0.053	0.06	18.667	C
C-AB	19.79	19.90	0.00	436.93	0.045	0.05	8.634	A
C-A	922.34	922.34	0.00	-	-	-	-	-
A-B	44.95	44.95	0.00	-	-	-	-	-
A-C	925.95	925.95	0.00	-	-	-	-	-

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

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-C	20.33	20.38	0.00	484.21	0.042	0.04	7.763	A
B-A	9.03	9.12	0.00	270.90	0.033	0.04	13.758	B
C-AB	15.96	16.01	0.00	461.34	0.035	0.04	8.086	A
C-A	773.03	773.03	0.00	-	-	-	-	-
A-B	37.64	37.64	0.00	-	-	-	-	-
A-C	775.44	775.44	0.00	-	-	-	-	-

(Default Analysis Set) - Base, Interpeak

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Minor arm flare	Arm B - Minor Arm Geometry	Is flare very short? Estimated flare length is zero but has been increased to 1 because a zero flare length is not allowed.

Analysis Set Details

Name	Roundabout Capacity Model	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)	N/A			100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
Base, Interpeak	Base	Interpeak		ONE HOUR	11:45	13:15	90	15		

Junction Network

Junctions

Junction	Name	Junction Type	Major Road Direction	Arm Order	Junction Delay (s)	Junction LOS
1	(untitled)	T-Junction	Two-way	A,B,C	12.33	B

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Arm	Name	Description	Arm Type
A	A	A611 South		Major
B	B	Midfield Road		Minor
C	C	A611 North		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
C	7.50		0.00		2.20	90.00	✓	1.00

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	Lane Width (m)	Lane Width (Left) (m)	Lane Width (Right) (m)	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	3.80	2.70	2.70	2.70	✓	1.00	21	56

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	531.314	0.090	0.229	0.144	0.327
1	B-C	791.183	0.113	0.287	-	-
1	C-B	626.083	0.227	0.227	-	-

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 Flows

Demand Set Data Options

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

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
A	ONE HOUR	✓	886.00	100.000
B	ONE HOUR	✓	28.00	100.000
C	ONE HOUR	✓	767.00	100.000

Turning Proportions

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

		To		
		A	B	C
From	A	0.000	27.000	859.000
	B	14.000	0.000	14.000
	C	754.000	13.000	0.000

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

		To		
		A	B	C
From	A	0.00	0.03	0.97
	B	0.50	0.00	0.50
	C	0.98	0.02	0.00

Vehicle Mix

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

		To		
		A	B	C
From	A	1.000	1.000	1.000
	B	1.000	1.000	1.000
	C	1.000	1.000	1.000

Heavy Vehicle Percentages - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.0	0.0	0.0
	B	0.0	0.0	0.0
	C	0.0	0.0	0.0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-C	0.03	7.34	0.03	A
B-A	0.08	20.83	0.09	C
C-AB	0.04	8.74	0.04	A
C-A	-	-	-	-
A-B	-	-	-	-
A-C	-	-	-	-

Main Results for each time segment

Main results: (11:45-12:00)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-C	10.54	10.47	0.00	598.19	0.018	0.02	6.125	A
B-A	10.54	10.39	0.00	296.76	0.036	0.04	12.564	B
C-AB	10.03	9.94	0.00	483.39	0.021	0.02	7.604	A
C-A	567.41	567.41	0.00	-	-	-	-	-
A-B	20.33	20.33	0.00	-	-	-	-	-
A-C	646.70	646.70	0.00	-	-	-	-	-

Main results: (12:00-12:15)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-C	12.59	12.57	0.00	559.91	0.022	0.02	6.576	A
B-A	12.59	12.52	0.00	251.21	0.050	0.05	15.079	C
C-AB	12.15	12.13	0.00	458.73	0.026	0.03	8.061	A
C-A	677.36	677.36	0.00	-	-	-	-	-
A-B	24.27	24.27	0.00	-	-	-	-	-
A-C	772.22	772.22	0.00	-	-	-	-	-

Main results: (12:15-12:30)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-C	15.41	15.38	0.00	505.83	0.030	0.03	7.339	A
B-A	15.41	15.27	0.00	188.25	0.082	0.09	20.796	C
C-AB	15.35	15.31	0.00	427.27	0.036	0.04	8.739	A
C-A	829.13	829.13	0.00	-	-	-	-	-
A-B	29.73	29.73	0.00	-	-	-	-	-
A-C	945.78	945.78	0.00	-	-	-	-	-

Main results: (12:30-12:45)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-C	15.41	15.41	0.00	505.73	0.030	0.03	7.341	A
B-A	15.41	15.41	0.00	188.23	0.082	0.09	20.830	C
C-AB	15.35	15.35	0.00	427.27	0.036	0.04	8.739	A
C-A	829.13	829.13	0.00	-	-	-	-	-
A-B	29.73	29.73	0.00	-	-	-	-	-
A-C	945.78	945.78	0.00	-	-	-	-	-

Main results: (12:45-13:00)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-C	12.59	12.62	0.00	559.79	0.022	0.02	6.581	A
B-A	12.59	12.72	0.00	251.19	0.050	0.05	15.107	C
C-AB	12.15	12.20	0.00	458.73	0.026	0.03	8.064	A
C-A	677.36	677.36	0.00	-	-	-	-	-
A-B	24.27	24.27	0.00	-	-	-	-	-
A-C	772.22	772.22	0.00	-	-	-	-	-

Main results: (13:00-13:15)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-C	10.54	10.56	0.00	598.08	0.018	0.02	6.127	A
B-A	10.54	10.61	0.00	296.73	0.036	0.04	12.586	B
C-AB	10.03	10.05	0.00	483.39	0.021	0.02	7.605	A
C-A	567.41	567.41	0.00	-	-	-	-	-
A-B	20.33	20.33	0.00	-	-	-	-	-
A-C	646.70	646.70	0.00	-	-	-	-	-

(Default Analysis Set) - Design, Interpeak

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Minor arm flare	Arm B - Minor Arm Geometry	Is flare very short? Estimated flare length is zero but has been increased to 1 because a zero flare length is not allowed.

Analysis Set Details

Name	Roundabout Capacity Model	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)	N/A			100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
Design, Interpeak	Design	Interpeak		ONE HOUR	11:45	13:15	90	15		

Junction Network

Junctions

Junction	Name	Junction Type	Major Road Direction	Arm Order	Junction Delay (s)	Junction LOS
1	(untitled)	T-Junction	Two-way	A,B,C	8.21	A

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Arm	Name	Description	Arm Type
A	A	A611 South		Major
B	B	Midfield Road		Minor
C	C	A611 North		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
C	7.50		0.00		2.20	90.00	✓	1.00

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	Lane Width (m)	Lane Width (Left) (m)	Lane Width (Right) (m)	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	3.80	2.70	2.70	2.70	✓	1.00	21	56

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	531.314	0.090	0.229	0.144	0.327
1	B-C	791.183	0.113	0.287	-	-
1	C-B	626.083	0.227	0.227	-	-

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 Flows

Demand Set Data Options

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

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
A	ONE HOUR	✓	200.00	100.000
B	ONE HOUR	✓	200.00	100.000
C	ONE HOUR	✓	200.00	100.000

Turning Proportions

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

		To		
		A	B	C
From	A	0.000	100.000	100.000
	B	100.000	0.000	100.000
	C	100.000	100.000	0.000

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

		To		
		A	B	C
From	A	0.00	0.50	0.50
	B	0.50	0.00	0.50
	C	0.50	0.50	0.00

Vehicle Mix

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

		To		
		A	B	C
From	A	1.000	1.000	1.000
	B	1.000	1.000	1.000
	C	1.000	1.000	1.000

Heavy Vehicle Percentages - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.0	0.0	0.0
	B	0.0	0.0	0.0
	C	0.0	0.0	0.0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-C	0.16	6.21	0.19	A
B-A	0.25	10.86	0.33	B
C-AB	0.19	7.56	0.24	A
C-A	-	-	-	-
A-B	-	-	-	-
A-C	-	-	-	-

Main Results for each time segment

Main results: (11:45-12:00)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-C	75.29	74.83	0.00	727.89	0.103	0.11	5.509	A
B-A	75.29	74.53	0.00	471.11	0.160	0.19	9.060	A
C-AB	76.50	75.92	0.00	598.33	0.128	0.15	6.884	A
C-A	74.07	74.07	0.00	-	-	-	-	-
A-B	75.29	75.29	0.00	-	-	-	-	-
A-C	75.29	75.29	0.00	-	-	-	-	-

Main results: (12:00-12:15)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-C	89.90	89.78	0.00	712.81	0.126	0.14	5.778	A
B-A	89.90	89.69	0.00	458.78	0.196	0.24	9.746	A
C-AB	92.02	91.87	0.00	594.56	0.155	0.18	7.159	A
C-A	87.78	87.78	0.00	-	-	-	-	-
A-B	89.90	89.90	0.00	-	-	-	-	-
A-C	89.90	89.90	0.00	-	-	-	-	-

Main results: (12:15-12:30)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-C	110.10	109.92	0.00	690.05	0.160	0.19	6.204	A
B-A	110.10	109.76	0.00	441.51	0.249	0.33	10.840	B
C-AB	114.12	113.89	0.00	590.29	0.193	0.24	7.553	A
C-A	106.08	106.08	0.00	-	-	-	-	-
A-B	110.10	110.10	0.00	-	-	-	-	-
A-C	110.10	110.10	0.00	-	-	-	-	-

Main results: (12:30-12:45)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-C	110.10	110.10	0.00	689.80	0.160	0.19	6.209	A
B-A	110.10	110.09	0.00	441.42	0.249	0.33	10.865	B
C-AB	114.12	114.12	0.00	590.29	0.193	0.24	7.562	A
C-A	106.08	106.08	0.00	-	-	-	-	-
A-B	110.10	110.10	0.00	-	-	-	-	-
A-C	110.10	110.10	0.00	-	-	-	-	-

Main results: (12:45-13:00)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-C	89.90	90.07	0.00	712.47	0.126	0.15	5.785	A
B-A	89.90	90.23	0.00	458.64	0.196	0.25	9.782	A
C-AB	92.02	92.24	0.00	594.56	0.155	0.19	7.172	A
C-A	87.78	87.78	0.00	-	-	-	-	-
A-B	89.90	89.90	0.00	-	-	-	-	-
A-C	89.90	89.90	0.00	-	-	-	-	-

Main results: (13:00-13:15)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-C	75.29	75.40	0.00	727.36	0.104	0.12	5.522	A
B-A	75.29	75.50	0.00	470.85	0.160	0.19	9.110	A
C-AB	76.50	76.66	0.00	598.33	0.128	0.15	6.902	A
C-A	74.07	74.07	0.00	-	-	-	-	-
A-B	75.29	75.29	0.00	-	-	-	-	-
A-C	75.29	75.29	0.00	-	-	-	-	-

(Default Analysis Set) - Design, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Minor arm flare	Arm B - Minor Arm Geometry	Is flare very short? Estimated flare length is zero but has been increased to 1 because a zero flare length is not allowed.

Analysis Set Details

Name	Roundabout Capacity Model	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)	N/A			100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
Design, AM	Design	AM		ONE HOUR	07:00	08:30	90	15		

Junction Network

Junctions

Junction	Name	Junction Type	Major Road Direction	Arm Order	Junction Delay (s)	Junction LOS
1	(untitled)	T-Junction	Two-way	A,B,C	8.21	A

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Arm	Name	Description	Arm Type
A	A	A611 South		Major
B	B	Midfield Road		Minor
C	C	A611 North		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
C	7.50		0.00		2.20	90.00	✓	1.00

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	Lane Width (m)	Lane Width (Left) (m)	Lane Width (Right) (m)	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	3.80	2.70	2.70	2.70	✓	1.00	21	56

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	531.314	0.090	0.229	0.144	0.327
1	B-C	791.183	0.113	0.287	-	-
1	C-B	626.083	0.227	0.227	-	-

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 Flows

Demand Set Data Options

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

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
A	ONE HOUR	✓	200.00	100.000
B	ONE HOUR	✓	200.00	100.000
C	ONE HOUR	✓	200.00	100.000

Turning Proportions

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

		To		
		A	B	C
From	A	0.000	100.000	100.000
	B	100.000	0.000	100.000
	C	100.000	100.000	0.000

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

		To		
		A	B	C
From	A	0.00	0.50	0.50
	B	0.50	0.00	0.50
	C	0.50	0.50	0.00

Vehicle Mix

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

		To		
		A	B	C
From	A	1.000	1.000	1.000
	B	1.000	1.000	1.000
	C	1.000	1.000	1.000

Heavy Vehicle Percentages - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.0	0.0	0.0
	B	0.0	0.0	0.0
	C	0.0	0.0	0.0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-C	0.16	6.21	0.19	A
B-A	0.25	10.86	0.33	B
C-AB	0.19	7.56	0.24	A
C-A	-	-	-	-
A-B	-	-	-	-
A-C	-	-	-	-

Main Results for each time segment

Main results: (07:00-07:15)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-C	75.29	74.83	0.00	727.89	0.103	0.11	5.509	A
B-A	75.29	74.53	0.00	471.11	0.160	0.19	9.060	A
C-AB	76.50	75.92	0.00	598.33	0.128	0.15	6.884	A
C-A	74.07	74.07	0.00	-	-	-	-	-
A-B	75.29	75.29	0.00	-	-	-	-	-
A-C	75.29	75.29	0.00	-	-	-	-	-

Main results: (07:15-07:30)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-C	89.90	89.78	0.00	712.81	0.126	0.14	5.778	A
B-A	89.90	89.69	0.00	458.78	0.196	0.24	9.746	A
C-AB	92.02	91.87	0.00	594.56	0.155	0.18	7.159	A
C-A	87.78	87.78	0.00	-	-	-	-	-
A-B	89.90	89.90	0.00	-	-	-	-	-
A-C	89.90	89.90	0.00	-	-	-	-	-

Main results: (07:30-07:45)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-C	110.10	109.92	0.00	690.05	0.160	0.19	6.204	A
B-A	110.10	109.76	0.00	441.51	0.249	0.33	10.840	B
C-AB	114.12	113.89	0.00	590.29	0.193	0.24	7.553	A
C-A	106.08	106.08	0.00	-	-	-	-	-
A-B	110.10	110.10	0.00	-	-	-	-	-
A-C	110.10	110.10	0.00	-	-	-	-	-

Main results: (07:45-08:00)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-C	110.10	110.10	0.00	689.80	0.160	0.19	6.209	A
B-A	110.10	110.09	0.00	441.42	0.249	0.33	10.865	B
C-AB	114.12	114.12	0.00	590.29	0.193	0.24	7.562	A
C-A	106.08	106.08	0.00	-	-	-	-	-
A-B	110.10	110.10	0.00	-	-	-	-	-
A-C	110.10	110.10	0.00	-	-	-	-	-

Main results: (08:00-08:15)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-C	89.90	90.07	0.00	712.47	0.126	0.15	5.785	A
B-A	89.90	90.23	0.00	458.64	0.196	0.25	9.782	A
C-AB	92.02	92.24	0.00	594.56	0.155	0.19	7.172	A
C-A	87.78	87.78	0.00	-	-	-	-	-
A-B	89.90	89.90	0.00	-	-	-	-	-
A-C	89.90	89.90	0.00	-	-	-	-	-

Main results: (08:15-08:30)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-C	75.29	75.40	0.00	727.36	0.104	0.12	5.522	A
B-A	75.29	75.50	0.00	470.85	0.160	0.19	9.110	A
C-AB	76.50	76.66	0.00	598.33	0.128	0.15	6.902	A
C-A	74.07	74.07	0.00	-	-	-	-	-
A-B	75.29	75.29	0.00	-	-	-	-	-
A-C	75.29	75.29	0.00	-	-	-	-	-

(Default Analysis Set) - Design, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Minor arm flare	Arm B - Minor Arm Geometry	Is flare very short? Estimated flare length is zero but has been increased to 1 because a zero flare length is not allowed.

Analysis Set Details

Name	Roundabout Capacity Model	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)	N/A			100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
Design, PM	Design	PM		ONE HOUR	16:30	18:00	90	15		

Junction Network

Junctions

Junction	Name	Junction Type	Major Road Direction	Arm Order	Junction Delay (s)	Junction LOS
1	(untitled)	T-Junction	Two-way	A,B,C	8.21	A

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Arm	Name	Description	Arm Type
A	A	A611 South		Major
B	B	Midfield Road		Minor
C	C	A611 North		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
C	7.50		0.00		2.20	90.00	✓	1.00

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	Lane Width (m)	Lane Width (Left) (m)	Lane Width (Right) (m)	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	3.80	2.70	2.70	2.70	✓	1.00	21	56

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	531.314	0.090	0.229	0.144	0.327
1	B-C	791.183	0.113	0.287	-	-
1	C-B	626.083	0.227	0.227	-	-

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 Flows

Demand Set Data Options

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

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
A	ONE HOUR	✓	200.00	100.000
B	ONE HOUR	✓	200.00	100.000
C	ONE HOUR	✓	200.00	100.000

Turning Proportions

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

		To		
		A	B	C
From	A	0.000	100.000	100.000
	B	100.000	0.000	100.000
	C	100.000	100.000	0.000

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

		To		
		A	B	C
From	A	0.00	0.50	0.50
	B	0.50	0.00	0.50
	C	0.50	0.50	0.00

Vehicle Mix

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

		To		
		A	B	C
From	A	1.000	1.000	1.000
	B	1.000	1.000	1.000
	C	1.000	1.000	1.000

Heavy Vehicle Percentages - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.0	0.0	0.0
	B	0.0	0.0	0.0
	C	0.0	0.0	0.0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-C	0.16	6.21	0.19	A
B-A	0.25	10.86	0.33	B
C-AB	0.19	7.56	0.24	A
C-A	-	-	-	-
A-B	-	-	-	-
A-C	-	-	-	-

Main Results for each time segment

Main results: (16:30-16:45)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-C	75.29	74.83	0.00	727.89	0.103	0.11	5.509	A
B-A	75.29	74.53	0.00	471.11	0.160	0.19	9.060	A
C-AB	76.50	75.92	0.00	598.33	0.128	0.15	6.884	A
C-A	74.07	74.07	0.00	-	-	-	-	-
A-B	75.29	75.29	0.00	-	-	-	-	-
A-C	75.29	75.29	0.00	-	-	-	-	-

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

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-C	89.90	89.78	0.00	712.81	0.126	0.14	5.778	A
B-A	89.90	89.69	0.00	458.78	0.196	0.24	9.746	A
C-AB	92.02	91.87	0.00	594.56	0.155	0.18	7.159	A
C-A	87.78	87.78	0.00	-	-	-	-	-
A-B	89.90	89.90	0.00	-	-	-	-	-
A-C	89.90	89.90	0.00	-	-	-	-	-

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

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-C	110.10	109.92	0.00	690.05	0.160	0.19	6.204	A
B-A	110.10	109.76	0.00	441.51	0.249	0.33	10.840	B
C-AB	114.12	113.89	0.00	590.29	0.193	0.24	7.553	A
C-A	106.08	106.08	0.00	-	-	-	-	-
A-B	110.10	110.10	0.00	-	-	-	-	-
A-C	110.10	110.10	0.00	-	-	-	-	-

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

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-C	110.10	110.10	0.00	689.80	0.160	0.19	6.209	A
B-A	110.10	110.09	0.00	441.42	0.249	0.33	10.865	B
C-AB	114.12	114.12	0.00	590.29	0.193	0.24	7.562	A
C-A	106.08	106.08	0.00	-	-	-	-	-
A-B	110.10	110.10	0.00	-	-	-	-	-
A-C	110.10	110.10	0.00	-	-	-	-	-

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

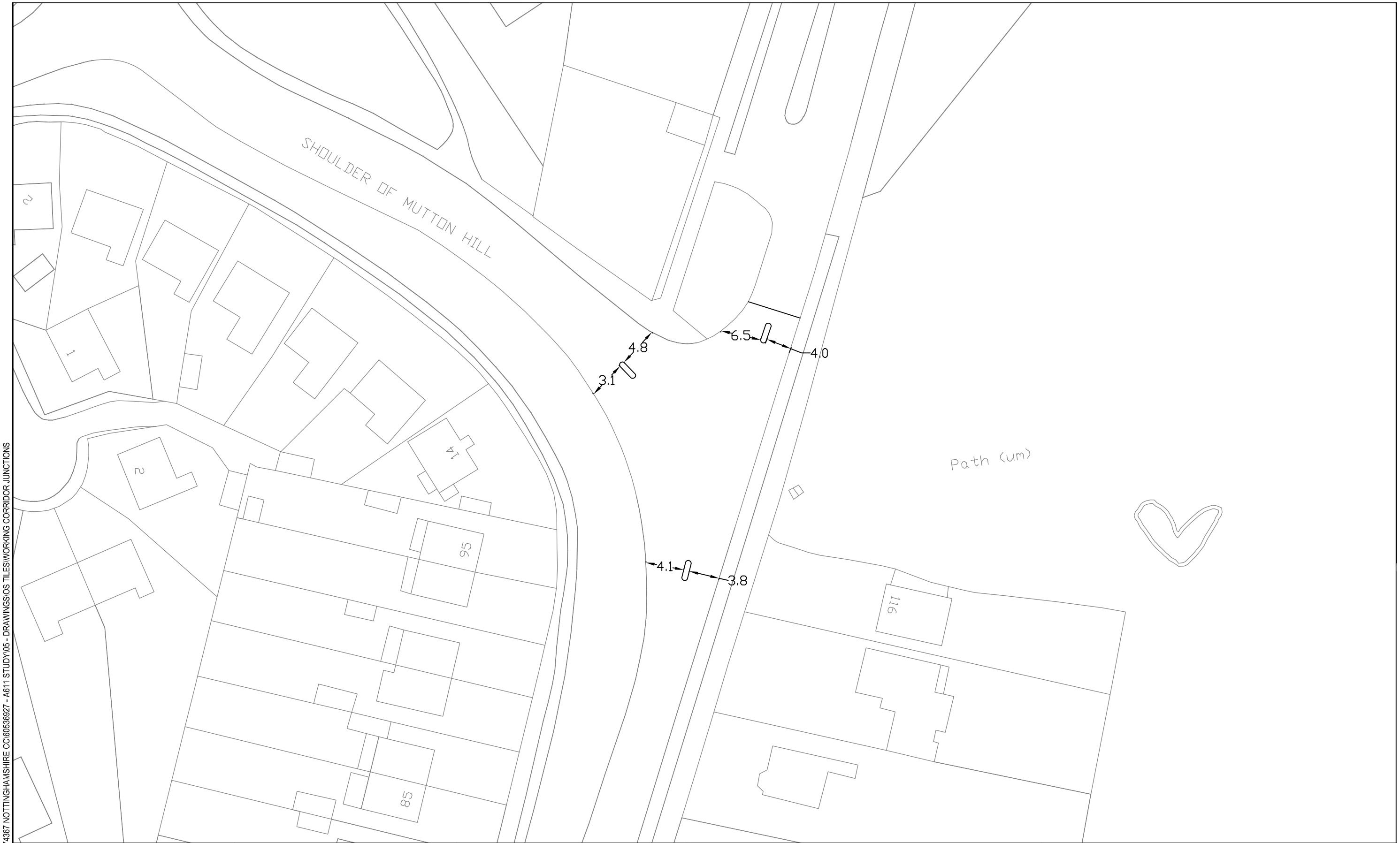
Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-C	89.90	90.07	0.00	712.47	0.126	0.15	5.785	A
B-A	89.90	90.23	0.00	458.64	0.196	0.25	9.782	A
C-AB	92.02	92.24	0.00	594.56	0.155	0.19	7.172	A
C-A	87.78	87.78	0.00	-	-	-	-	-
A-B	89.90	89.90	0.00	-	-	-	-	-
A-C	89.90	89.90	0.00	-	-	-	-	-

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

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-C	75.29	75.40	0.00	727.36	0.104	0.12	5.522	A
B-A	75.29	75.50	0.00	470.85	0.160	0.19	9.110	A
C-AB	76.50	76.66	0.00	598.33	0.128	0.15	6.902	A
C-A	74.07	74.07	0.00	-	-	-	-	-
A-B	75.29	75.29	0.00	-	-	-	-	-
A-C	75.29	75.29	0.00	-	-	-	-	-

Appendix I

A611 / B6021 Shoulder of Mutton Capacity Results



Plot Date : 23 May 2017 15:14:42
File Name : L:\MHA PSP2\47074367 NOTTINGHAMSHIRE CC\60536927 - A611 STUDY\05 - DRAWINGS\OS TILES\WORKING CORRIDOR JUNCTIONS

Project Title
M1 J27 / A608 / A611 TO MANSFILED JUNCTION GEOMETRIES

Client
NOTTINGHAMSHIRE COUNTY COUNCIL

Drawing Title
SHOULDER OF MUTTON HILL JUNCTION ONTO A611

Purpose of issue
FOR INFORMATION

Designed	Drawn	Checked	Approved	Date
RP	JPH	RP	DG	23/05/17

AECOM Internal Project No.: 60536927
Suitability:
Scale @ A3: 1:500
Zone / Mileage:

Drawing Number: 60536927/SK/007
Rev:

AECOM Infrastructure & Environment UK Limited
Royal Court, Basil Close
Chesterfield
S41 7SL
Tel:+44 (0)1246 209 221
Fax:+44 (0)1246 209 229
www.aecom.com

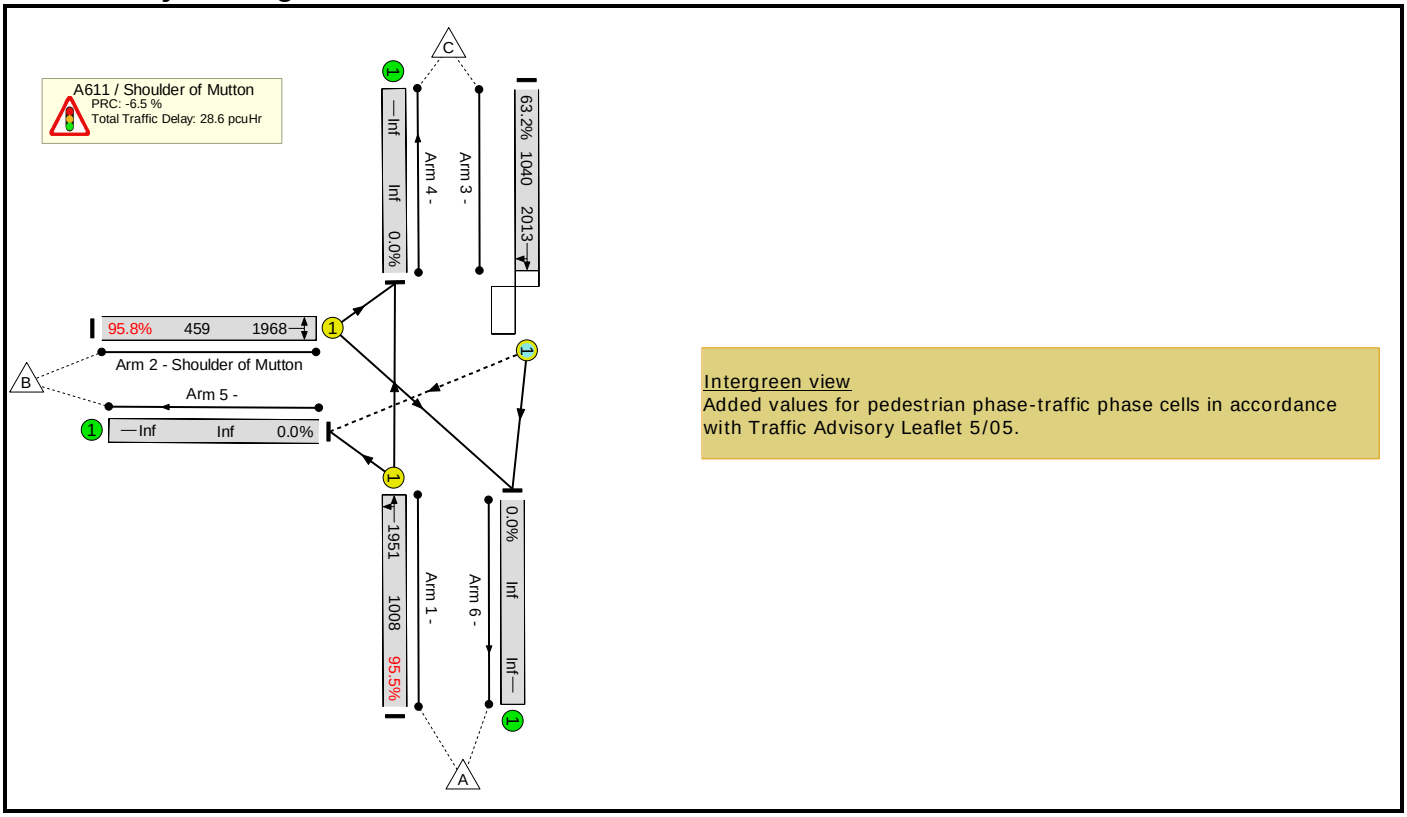
Basic Results Summary

User and Project Details

Project:	**A611 Study**
Title:	**Junction 50381 - A611 / Shoulder of Mutton**
Location:	
File name:	Shoulder of Mutton (Final Base).lsg3x
Author:	Andrew Lane
Company:	AECOM
Address:	Royal Court, Basil Close, Chesterfield, Derbyshire S41 7SL
Notes:	

Scenario 1: 'Base AM' (FG1: 'Base AM', Plan 1: 'Network Control Plan 1')

Network Layout Diagram



Intergreen view
Added values for pedestrian phase-traffic phase cells in accordance with Traffic Advisory Leaflet 5/05.

Basic Results Summary

Network Results

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network: Junction 50381 - A611 / Shoulder of Mutton	-	-	-		-	-	-	-	-	-	**95.8%**	**6**	**1**	**3**	**28.6**	-	-
A611 / Shoulder of Mutton	-	-	-		-	-	-	-	-	-	**95.8%**	**6**	**1**	**3**	**28.6**	-	-
1/1	Ahead Left	U	B		2	91	-	963	1951	1008	95.5%	-	-	-	13.8	51.4	35.8
2/1	Shoulder of Mutton Left Right	U	C		2	40	-	440	1968	459	95.8%	-	-	-	11.0	89.7	18.0
3/1	Right Ahead	O	A		2	91	-	657	2013	1040	63.2%	6	1	3	3.9	21.5	15.1

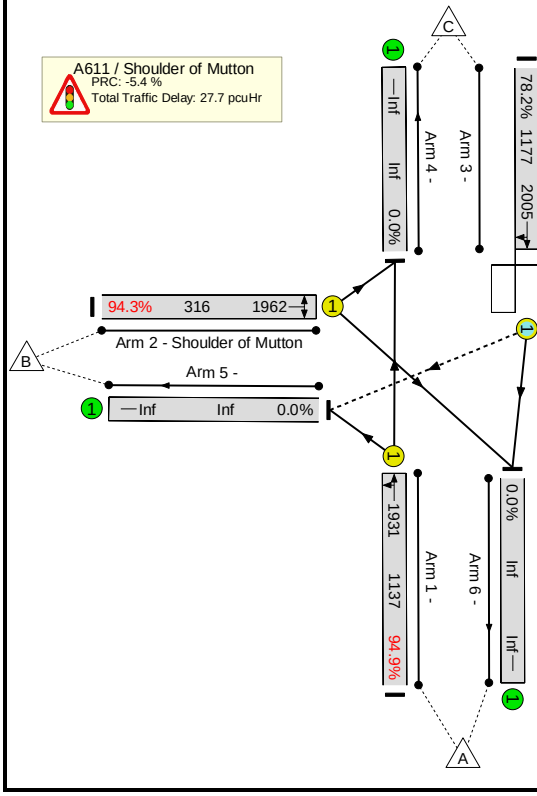
C1 PRC for Signalled Lanes (%): -6.5 Total Delay for Signalled Lanes (pcuHr): 28.63 Cycle Time (s): 180

PRC Over All Lanes (%): -6.5 Total Delay Over All Lanes(pcuHr): 28.63

Basic Results Summary

Scenario 2: 'Base PM' (FG3: 'Base PM', Plan 1: 'Network Control Plan 1')

Network Layout Diagram



Intergreen view

Added values for pedestrian phase-traffic phase cells in accordance with Traffic Advisory Leaflet 5/05.

Basic Results Summary

Network Results

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network: Junction 50381 - A611 / Shoulder of Mutton	-	-	-		-	-	-	-	-	-	**94.9%**	**17**	**5**	**58**	**27.7**	-	-
A611 / Shoulder of Mutton	-	-	-		-	-	-	-	-	-	**94.9%**	**17**	**5**	**58**	**27.7**	-	-
1/1	Ahead Left	U	B		2	104	-	1079	1931	1137	94.9%	-	-	-	12.9	43.2	39.2
2/1	Shoulder of Mutton Left Right	U	C		2	27	-	298	1962	316	94.3%	-	-	-	8.4	101.1	12.9
3/1	Right Ahead	O	A		2	104	-	920	2005	1177	78.2%	17	5	58	6.4	25.0	23.7

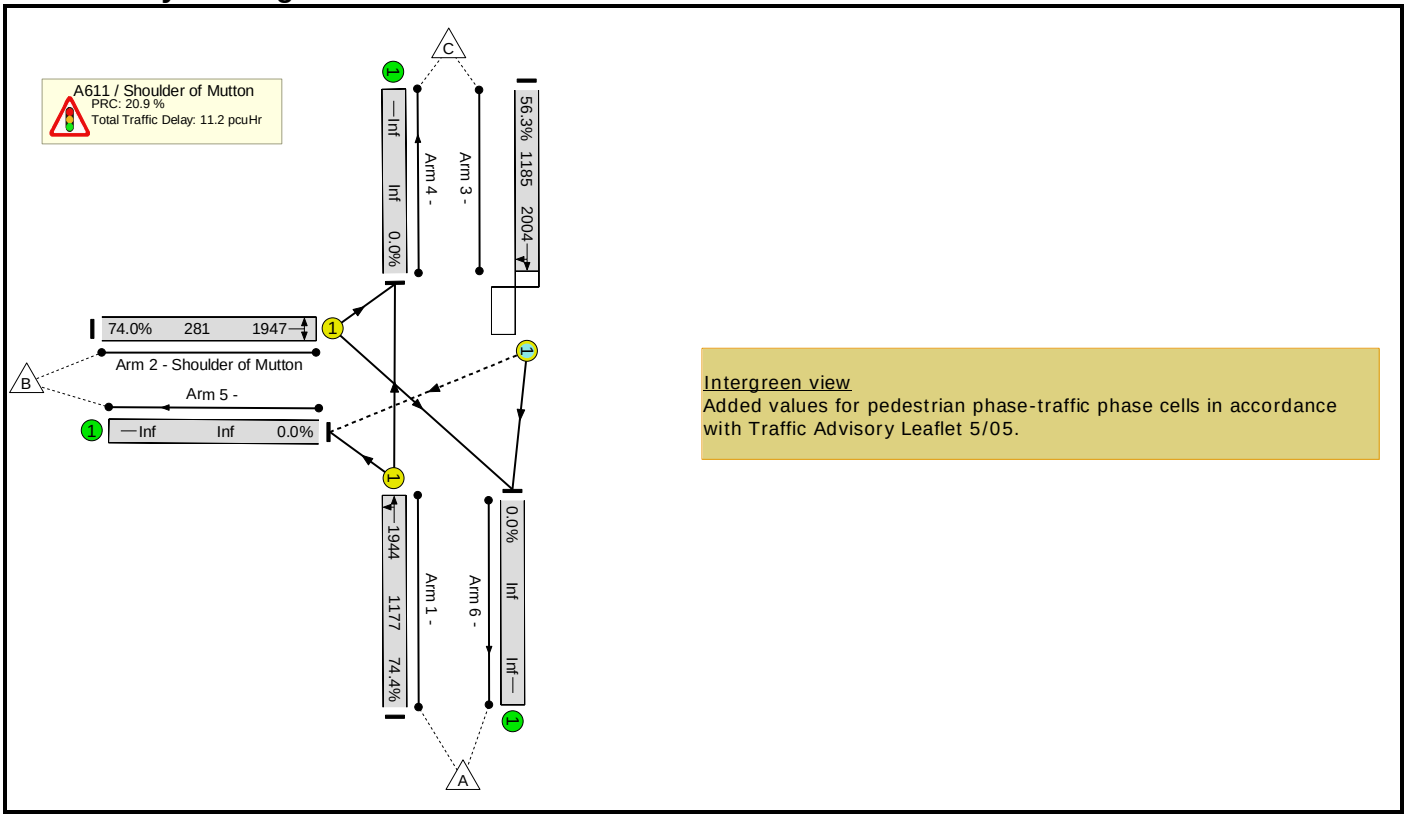
C1 PRC for Signalled Lanes (%): -5.4 Total Delay for Signalled Lanes (pcuHr): 27.71 Cycle Time (s): 180

PRC Over All Lanes (%): -5.4 Total Delay Over All Lanes(pcuHr): 27.71

Basic Results Summary

Scenario 3: 'Base Interpeak' (FG2: 'Base Interpeak', Plan 1: 'Network Control Plan 1')

Network Layout Diagram



Intergreen view
Added values for pedestrian phase-traffic phase cells in accordance with Traffic Advisory Leaflet 5/05.

Basic Results Summary

Network Results

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network: Junction 50381 - A611 / Shoulder of Mutton	**-**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**74.4%**	**55**	**6**	**1**	**11.2**	**-**	**-**
A611 / Shoulder of Mutton	**-**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**74.4%**	**55**	**6**	**1**	**11.2**	**-**	**-**
1/1	Ahead Left	U	B		2	107	-	876	1944	1177	74.4%	-	-	-	4.7	19.2	20.4
2/1	Shoulder of Mutton Left Right	U	C		2	24	-	208	1947	281	74.0%	-	-	-	3.5	60.6	6.5
3/1	Right Ahead	O	A		2	107	-	667	2004	1185	56.3%	55	6	1	3.0	16.0	12.5

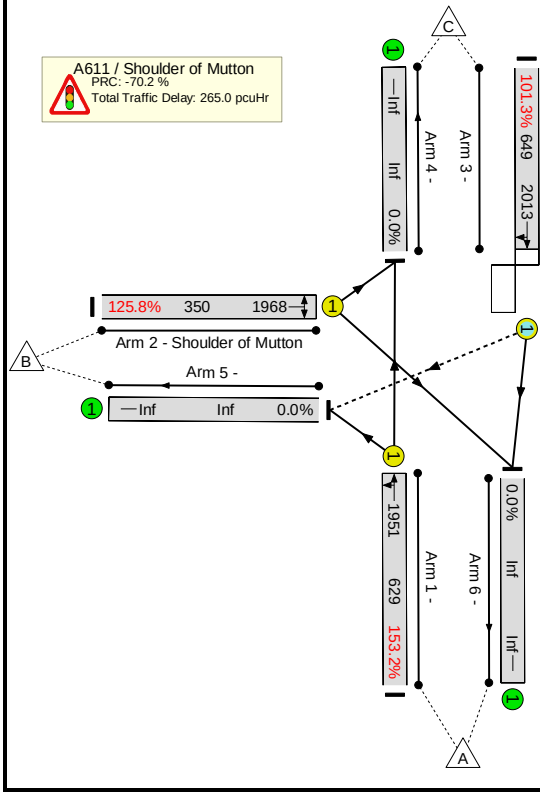
C1 PRC for Signalled Lanes (%): 20.9 Total Delay for Signalled Lanes (pcuHr): 11.15 Cycle Time (s): 180

PRC Over All Lanes (%): 20.9 Total Delay Over All Lanes(pcuHr): 11.15

Basic Results Summary

Scenario 4: 'Base AM - Peds Every' (FG1: 'Base AM', Plan 2: 'Network Control Plan 2')

Network Layout Diagram



Intergreen view

Added values for pedestrian phase-traffic phase cells in accordance with Traffic Advisory Leaflet 5/05.

Basic Results Summary

Network Results

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network: Junction 50381 - A611 / Shoulder of Mutton	-	-	-		-	-	-	-	-	-	**153.2%**	**0**	**3**	**6**	**265.0**	-	-
A611 / Shoulder of Mutton	-	-	-		-	-	-	-	-	-	**153.2%**	**0**	**3**	**6**	**265.0**	-	-
1/1	Ahead Left	U	B		2	27	-	963	1951	629	153.2%	-	-	-	191.1	714.3	202.2
2/1	Shoulder of Mutton Left Right	U	C		2	14	-	440	1968	350	125.8%	-	-	-	55.0	450.0	58.2
3/1	Right Ahead	O	A		2	27	-	657	2013	649	101.3%	0	3	6	18.9	103.8	27.3

C1

PRC for Signalled Lanes (%): -70.2
PRC Over All Lanes (%): -70.2

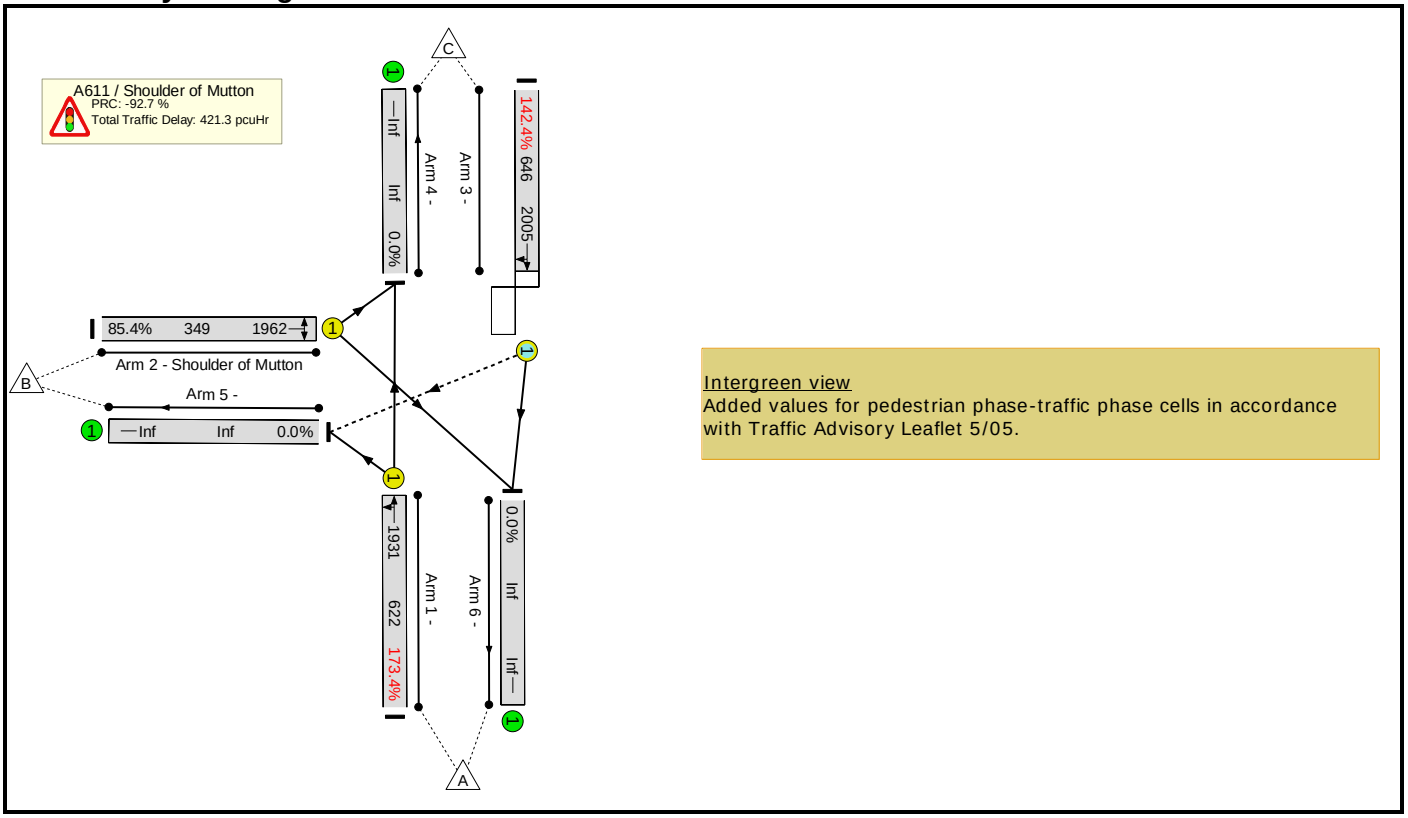
Total Delay for Signalled Lanes (pcuHr): 265.02
Total Delay Over All Lanes(pcuHr): 265.02

Cycle Time (s): 90

Basic Results Summary

Scenario 5: 'Base PM - Peds Every' (FG3: 'Base PM', Plan 2: 'Network Control Plan 2')

Network Layout Diagram



Intergreen view
Added values for pedestrian phase-traffic phase cells in accordance with Traffic Advisory Leaflet 5/05.

Basic Results Summary

Network Results

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network: Junction 50381 - A611 / Shoulder of Mutton	-	-	-		-	-	-	-	-	-	**173.4%**	**0**	**10**	**47**	**421.3**	-	-
A611 / Shoulder of Mutton	-	-	-		-	-	-	-	-	-	**173.4%**	**0**	**10**	**47**	**421.3**	-	-
1/1	Ahead Left	U	B		2	27	-	1079	1931	622	173.4%	-	-	-	259.2	864.7	271.0
2/1	Shoulder of Mutton Left Right	U	C		2	14	-	298	1962	349	85.4%	-	-	-	4.2	50.5	6.8
3/1	Right Ahead	O	A		2	27	-	920	2005	646	142.4%	0	10	47	158.0	618.2	168.3

C1

PRC for Signalled Lanes (%): -92.7
PRC Over All Lanes (%): -92.7

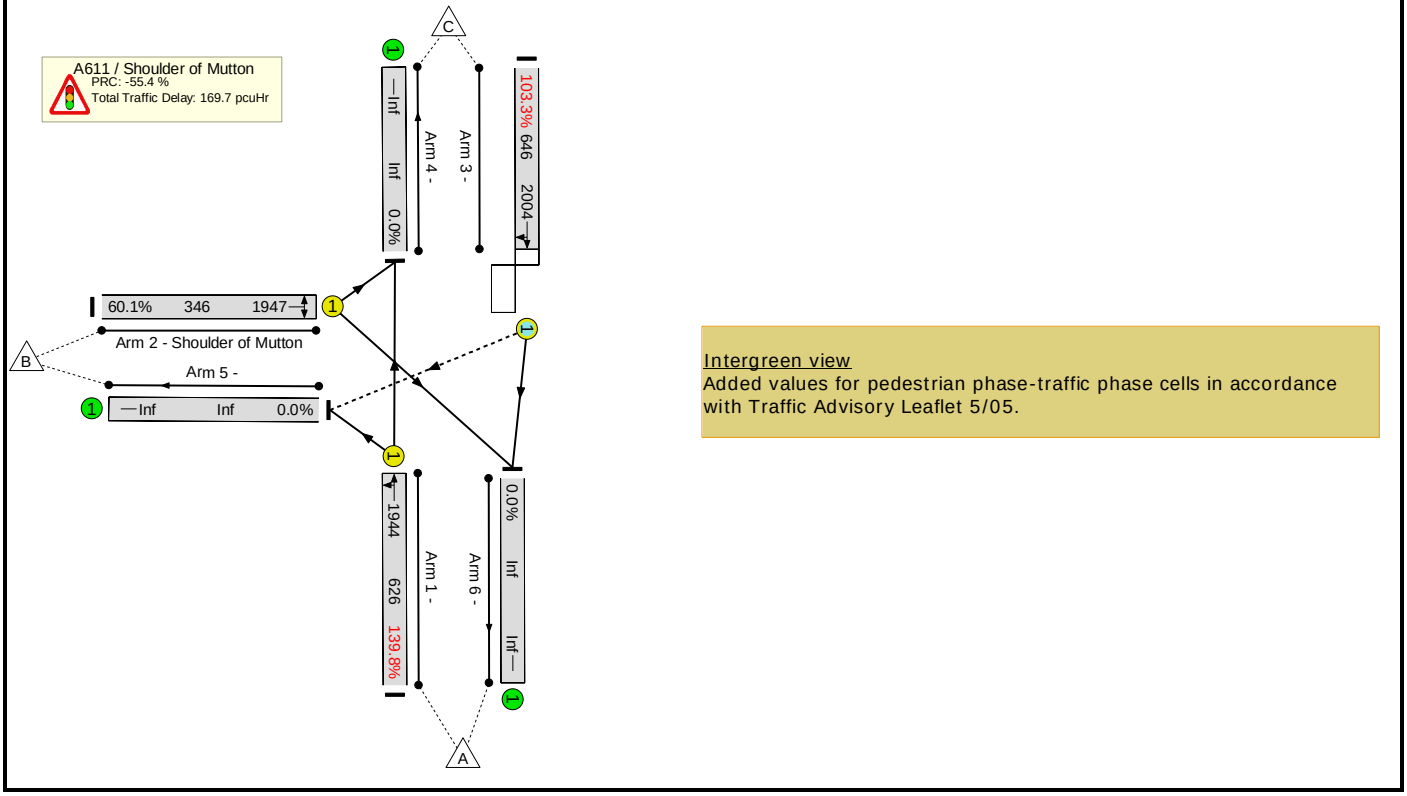
Total Delay for Signalled Lanes (pcuHr): 421.31
Total Delay Over All Lanes(pcuHr): 421.31

Cycle Time (s): 90

Basic Results Summary

Scenario 6: 'Base IP - Peds Every' (FG2: 'Base Interpeak', Plan 2: 'Network Control Plan 2')

Network Layout Diagram



Intergreen view

Added values for pedestrian phase-traffic phase cells in accordance with Traffic Advisory Leaflet 5/05.

Basic Results Summary

Network Results

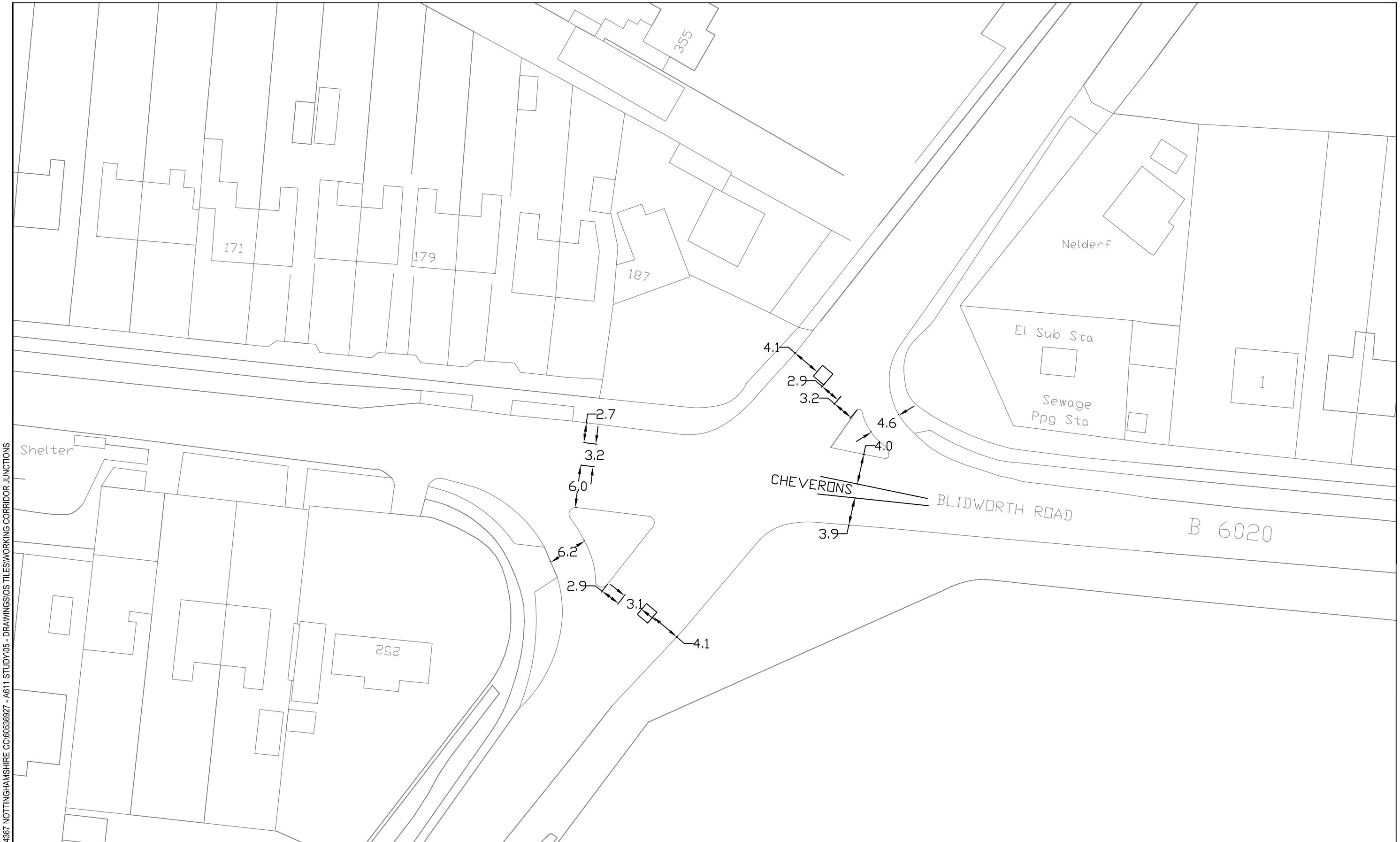
Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network: Junction 50381 - A611 / Shoulder of Mutton	-	-	-		-	-	-	-	-	-	**139.8%**	**0**	**11**	**49**	**169.7**	-	-
A611 / Shoulder of Mutton	-	-	-		-	-	-	-	-	-	**139.8%**	**0**	**11**	**49**	**169.7**	-	-
1/1	Ahead Left	U	B		2	27	-	876	1944	626	139.8%	-	-	-	144.1	592.1	154.1
2/1	Shoulder of Mutton Left Right	U	C		2	14	-	208	1947	346	60.1%	-	-	-	1.8	30.4	3.5
3/1	Right Ahead	O	A		2	27	-	667	2004	646	103.3%	0	11	49	23.9	128.9	31.9

C1 PRC for Signalled Lanes (%): -55.4 Total Delay for Signalled Lanes (pcuHr): 169.73 Cycle Time (s): 90

PRC Over All Lanes (%): -55.4 Total Delay Over All Lanes(pcuHr): 169.73

Appendix J

A611 / B6020 Blidworth Road / Diamond Avenue Capacity Results



Plot Date : 23 May 2017 15:15:39
File Name : L:\MHA PSP2\47074367 NOTTINGHAMSHIRE CC\60536927 - A611 STUDY\05 - DRAWINGS\OS TILESWORKING CORRIDOR JUNCTIONS

Project Title: M1 J27 / A608 / A611 TO MANSFILED JUNCTION GEOMETRIES	Drawing Title: BLIDWORTH ROAD CROSS ROADS WITH A611	Purpose of issue: FOR INFORMATION		AECOM Infrastructure & Environment UK Limited Royal Court, Basil Close Chesterfield S41 7SL Tel:+44 (0)1246 209 221 Fax:+44 (0)1246 209 229 www.aecom.com

Designed	Drawn	Checked	Approved	Date
RP	JPH	RP	DG	23/05/17

Client: NOTTINGHAMSHIRE COUNTY COUNCIL	AECOM Internal Project No.: 60536927
	Suitability:
	Scale @ A3: 1:500
	Zone / Mileage:
	Drawing Number: 60536927/SK/008
	Rev:

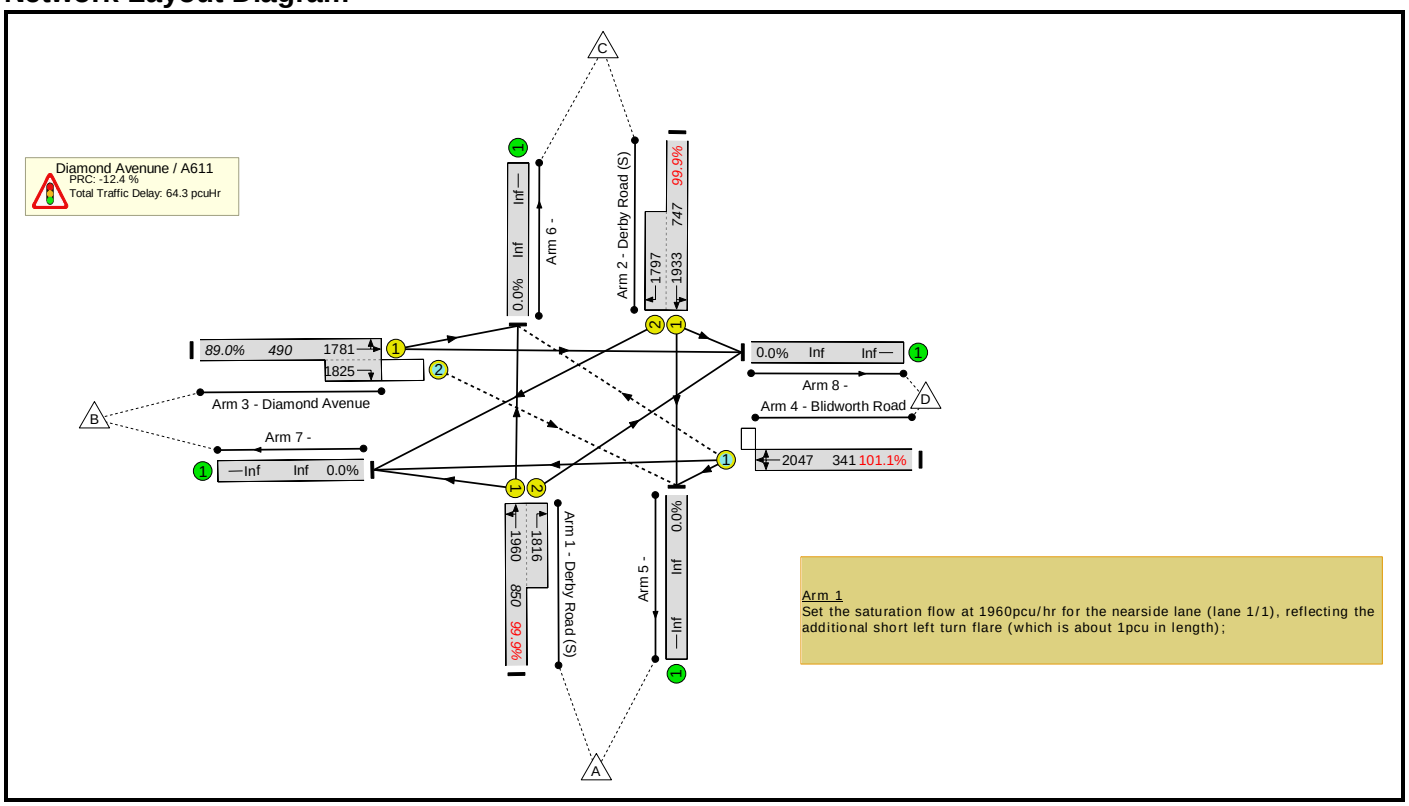
Basic Results Summary

User and Project Details

Project:	**A611 Study**
Title:	**Junction 52193 - A611 / Diamond Avenue / Blidworth Road**
Location:	
File name:	Diamond Avenue - (Final base).lsg3x
Author:	Andrew Lane
Company:	AECOM
Address:	Royal Court, Basil Close, Chesterfield, Derbyshire S41 7SL
Notes:	

Scenario 1: 'Base AM' (FG1: 'Base AM', Plan 1: 'Network Control Plan 1')

Network Layout Diagram



Basic Results Summary

Network Results

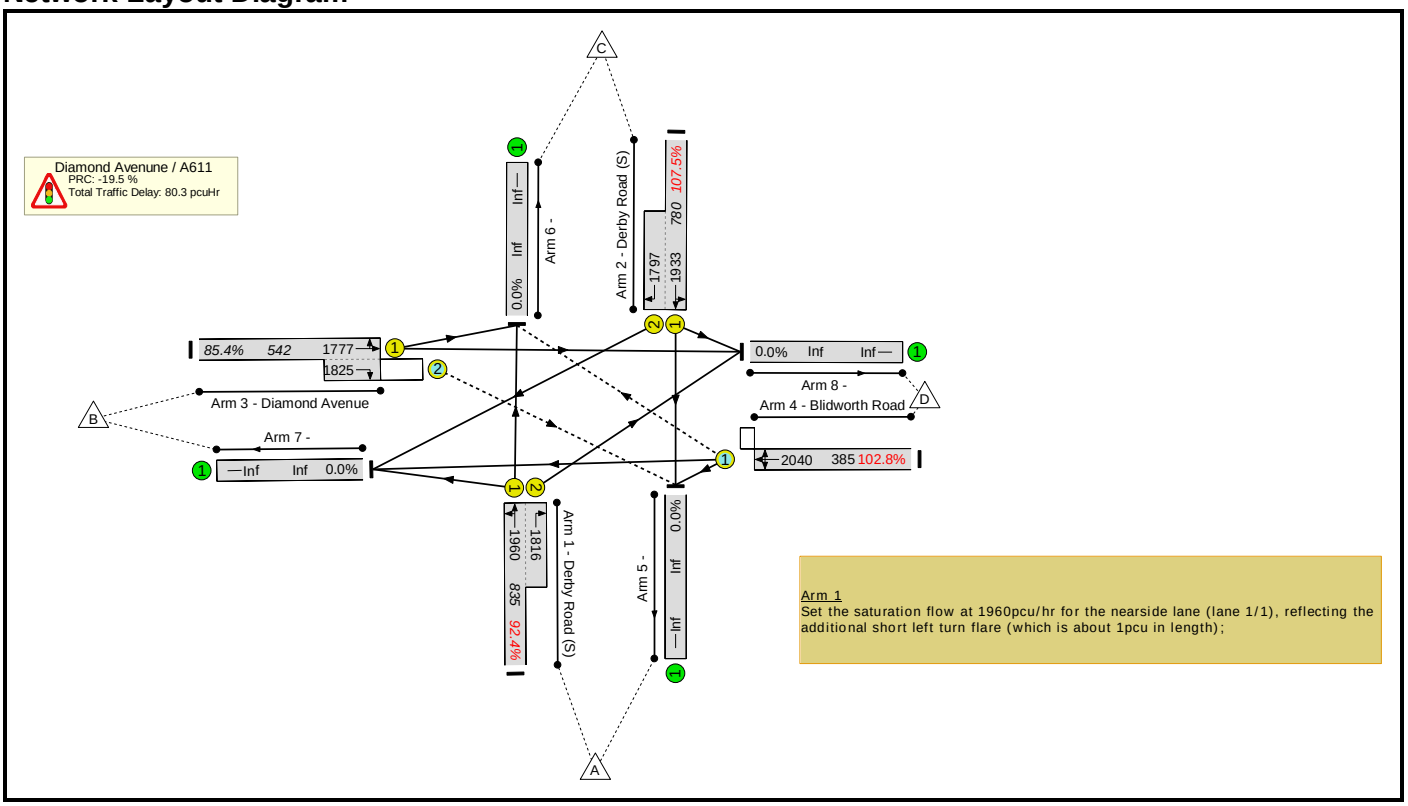
Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network: Junction 52193 - A611 / Diamond Avenue / Blidworth Road	-	-	-		-	-	-	-	-	-	**101.1%**	**1**	**31**	**1**	**64.3**	-	-
Diamond Avenune / A611	-	-	-		-	-	-	-	-	-	**101.1%**	**1**	**31**	**1**	**64.3**	-	-
1/1+1/2	Derby Road (S) Ahead Left Right	U	A C		1	36:12	-	849	1960:1816	850	99.9%	-	-	-	22.2	94.2	34.1
2/1+2/2	Derby Road (S) Ahead Right Left	U	B D		1	30:9	-	746	1933:1797	747	99.9%	-	-	-	20.6	99.4	28.7
3/1+3/2	Diamond Avenue Right Left Ahead	U+O	E	K	1	23	4	436	1781:1825	490	89.0%	0	31	1	7.4	61.5	13.7
4/1	Blidworth Road Left Right Ahead	O	F		1	14	-	345	2047	341	101.1%	1	0	0	14.0	146.3	19.0

C1 PRC for Signalled Lanes (%): -12.4 Total Delay for Signalled Lanes (pcuHr): 64.29 Cycle Time (s): 90
PRC Over All Lanes (%): -12.4 Total Delay Over All Lanes(pcuHr): 64.29

Basic Results Summary

Scenario 2: 'Base PM' (FG3: 'Base PM', Plan 1: 'Network Control Plan 1')

Network Layout Diagram



Basic Results Summary

Network Results

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network: Junction 52193 - A611 / Diamond Avenue / Blidworth Road	-	-	-		-	-	-	-	-	-	**107.5%**	**1**	**62**	**2**	**80.3**	-	-
Diamond Avenune / A611	-	-	-		-	-	-	-	-	-	**107.5%**	**1**	**62**	**2**	**80.3**	-	-
1/1+1/2	Derby Road (S) Ahead Left Right	U	A C		1	36:7	-	771	1960:1816	835	92.4%	-	-	-	11.6	54.1	22.5
2/1+2/2	Derby Road (S) Ahead Right Left	U	B D		1	33:7	-	839	1933:1797	780	107.5%	-	-	-	44.7	191.8	57.8
3/1+3/2	Diamond Avenue Right Left Ahead	U+O	E	K	1	25	4	463	1777:1825	542	85.4%	0	62	2	6.7	52.2	12.9
4/1	Blidworth Road Left Right Ahead	O	F		1	16	-	396	2040	385	102.8%	1	1	0	17.3	157.7	23.1

C1

PRC for Signalled Lanes (%): -19.5
PRC Over All Lanes (%): -19.5

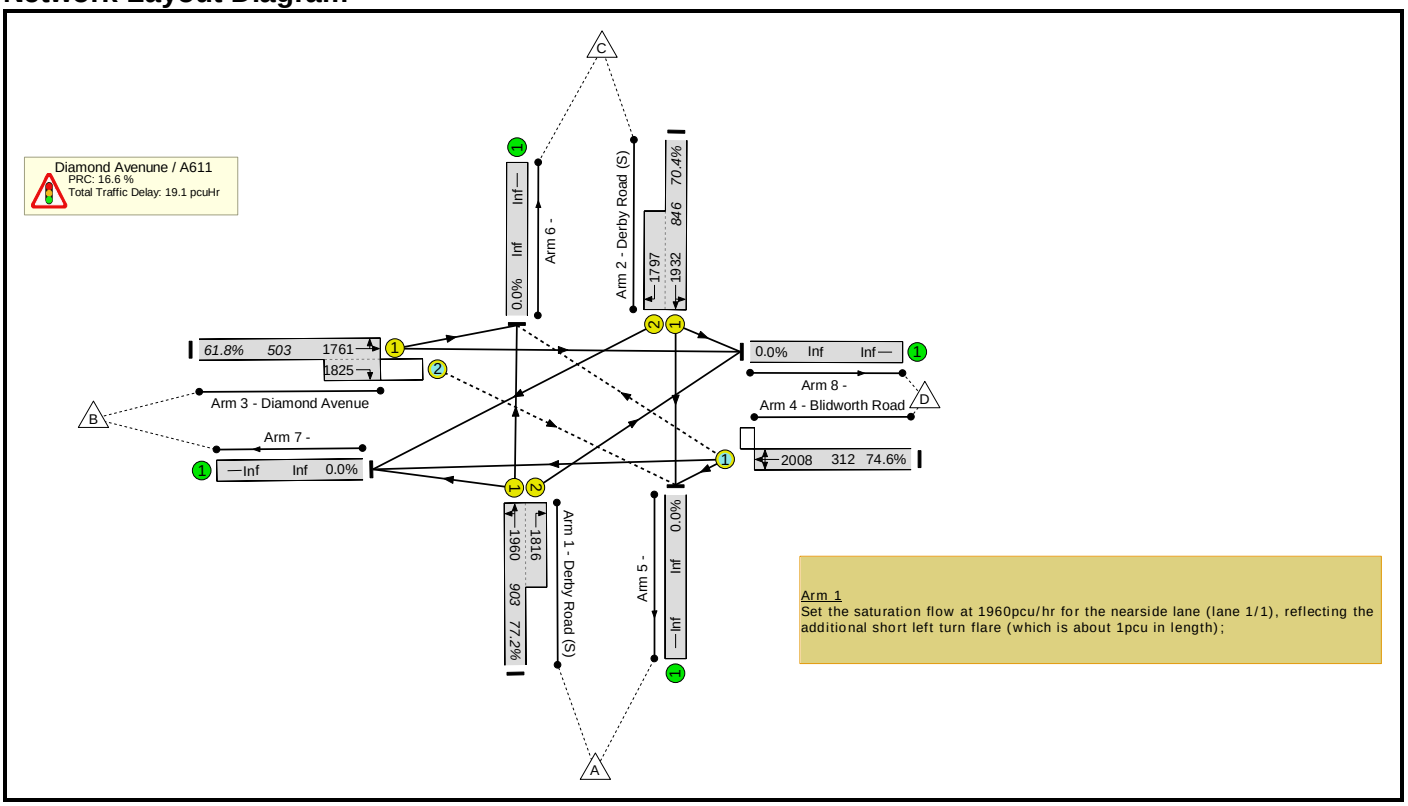
Total Delay for Signalled Lanes (pcuHr): 80.34
Total Delay Over All Lanes(pcuHr): 80.34

Cycle Time (s): 90

Basic Results Summary

Scenario 3: 'Base Interpeak' (FG2: 'Base Interpeak', Plan 1: 'Network Control Plan 1')

Network Layout Diagram



Basic Results Summary

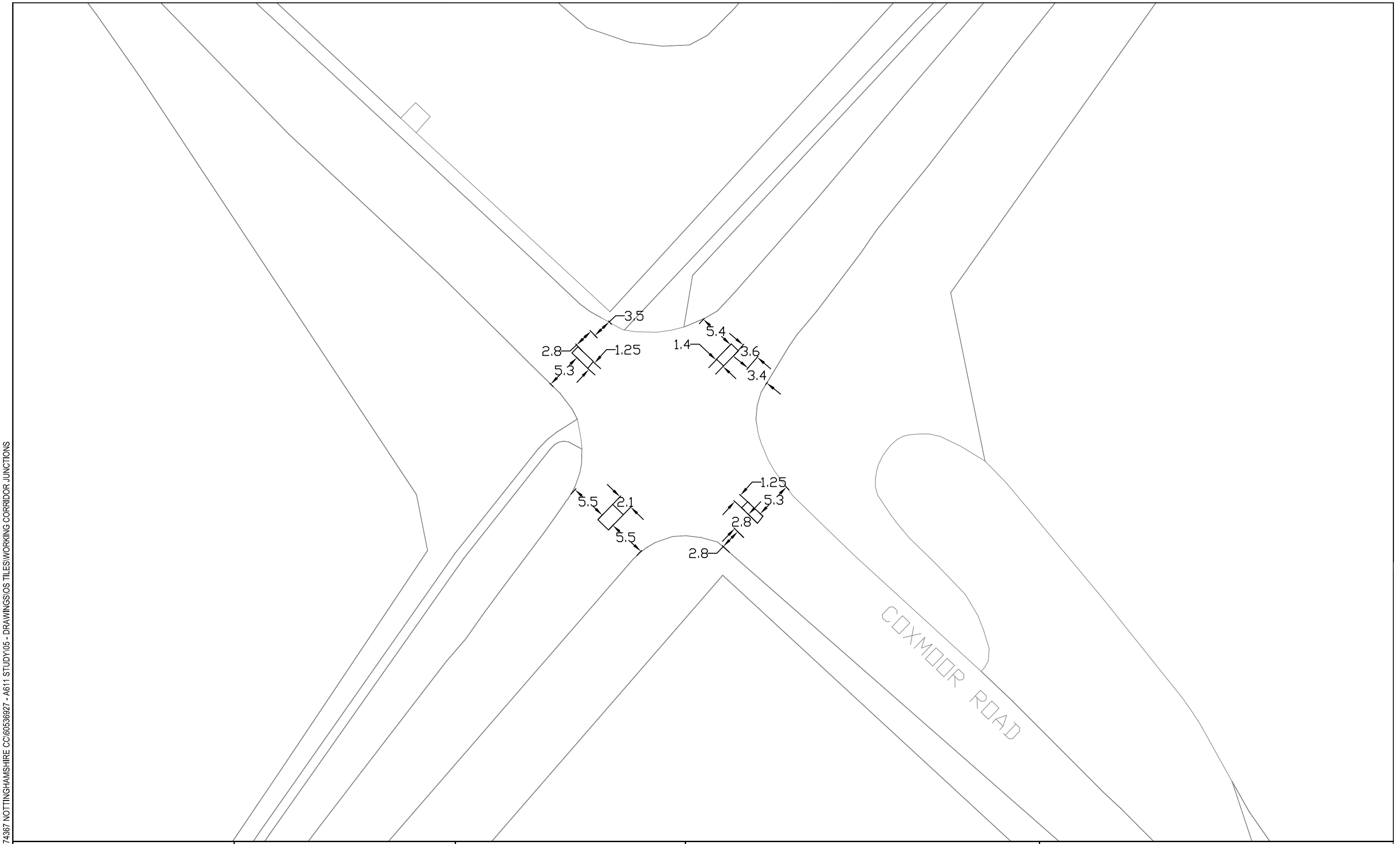
Network Results

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network: Junction 52193 - A611 / Diamond Avenue / Blidworth Road	-	-	-		-	-	-	-	-	-	**77.2%**	**55**	**18**	**2**	**19.1**	-	-
Diamond Avenune / A611	-	-	-		-	-	-	-	-	-	**77.2%**	**55**	**18**	**2**	**19.1**	-	-
1/1+1/2	Derby Road (S) Ahead Left Right	U	A C		1	39:7	-	697	1960:1816	903	77.2%	-	-	-	6.7	34.5	15.2
2/1+2/2	Derby Road (S) Ahead Right Left	U	B D		1	36:7	-	596	1932:1797	846	70.4%	-	-	-	5.2	31.4	11.7
3/1+3/2	Diamond Avenue Right Left Ahead	U+O	E	K	1	22	4	311	1761:1825	503	61.8%	53	16	2	3.4	39.8	6.4
4/1	Blidworth Road Left Right Ahead	O	F		1	13	-	233	2008	312	74.6%	2	2	0	3.8	58.3	6.9

C1 PRC for Signalled Lanes (%): 16.6 Total Delay for Signalled Lanes (pcuHr): 19.10 Cycle Time (s): 90
PRC Over All Lanes (%): 16.6 Total Delay Over All Lanes(pcuHr): 19.10

Appendix K

A611 / B6139 Coxmoor Road Capacity Results



Plot Date : 23 May 2017 15:16:41
File Name : L:\MHA PSP2\47074367 NOTTINGHAMSHIRE CC\60536927 - A611 STUDY\05 - DRAWINGS\OS TILES\WORKING CORRIDOR JUNCTIONS

Project Title
M1 J27 / A608 / A611 TO MANSFILED JUNCTION GEOMETRIES

Client
NOTTINGHAMSHIRE COUNTY COUNCIL

Drawing Title
COXMORE ROAD CROSS ROADS WITH A611

Purpose of issue
FOR INFORMATION

Designed	Drawn	Checked	Approved	Date
RP	JPH	RP	DG	23/05/17

AECOM Internal Project No.: 60536927
Suitability:
Scale @ A3: 1:500
Zone / Mileage:

Drawing Number: 60536927/SK/009
Rev:

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Chesterfield
S41 7SL
Tel:+44 (0)1246 209 221
Fax:+44 (0)1246 209 229
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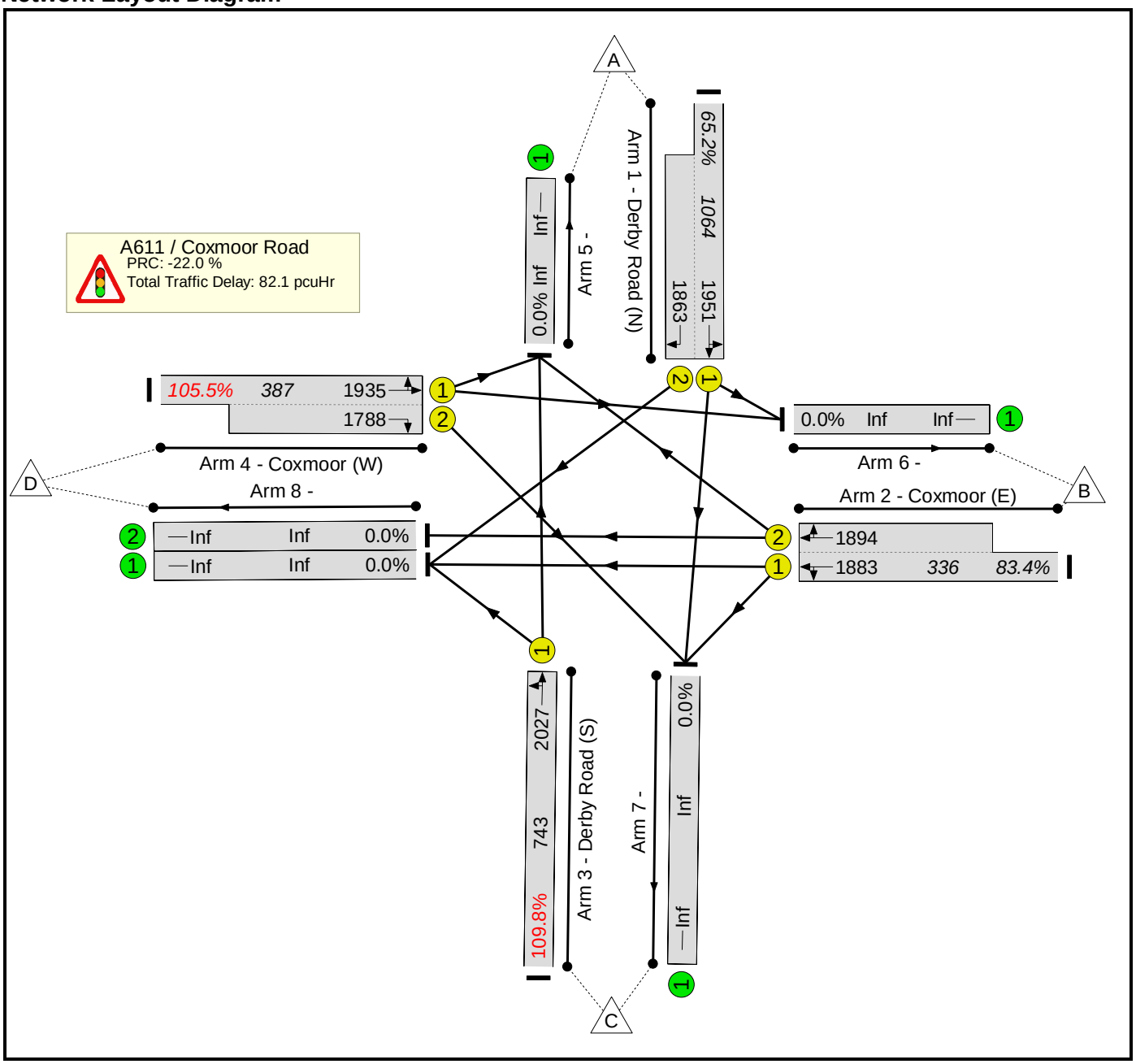
Basic Results Summary

User and Project Details

Project:	**A611 Study**
Title:	**Junction 50293**
Location:	
File name:	Coxmoor - (Final Base).lsg3x
Author:	Andrew Lane
Company:	AECOM
Address:	Royal Court, Basil Close, Chesterfield, Derbyshire S41 7SL
Notes:	

Scenario 1: 'Base AM' (FG1: 'Base AM', Plan 1: 'Network Control Plan 1')

Network Layout Diagram



Basic Results Summary

Network Results

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network: Junction 50293	-	-	-		-	-	-	-	-	-	**109.8%**	**0**	**0**	**0**	**82.1**	-	-
A611 / Coxmoor Road	-	-	-		-	-	-	-	-	-	**109.8%**	**0**	**0**	**0**	**82.1**	-	-
1/1+1/2	Derby Road (N) Left Ahead Right	U	B F		1	46:7	-	693	1951:1863	1064	65.2%	-	-	-	4.2	22.0	12.0
2/1+2/2	Coxmoor (E) Right Left Ahead	U	D		1	7	-	280	1883:1894	336	83.4%	-	-	-	5.5	70.2	5.7
3/1	Derby Road (S) Ahead Left	U	A		1	32	-	816	2027	743	109.8%	-	-	-	50.9	224.5	63.5
4/1+4/2	Coxmoor (W) Left Ahead Right	U	C		1	12	-	408	1935:1788	387	105.5%	-	-	-	21.5	189.9	24.6

C1

PRC for Signalled Lanes (%): -22.0
PRC Over All Lanes (%): -22.0

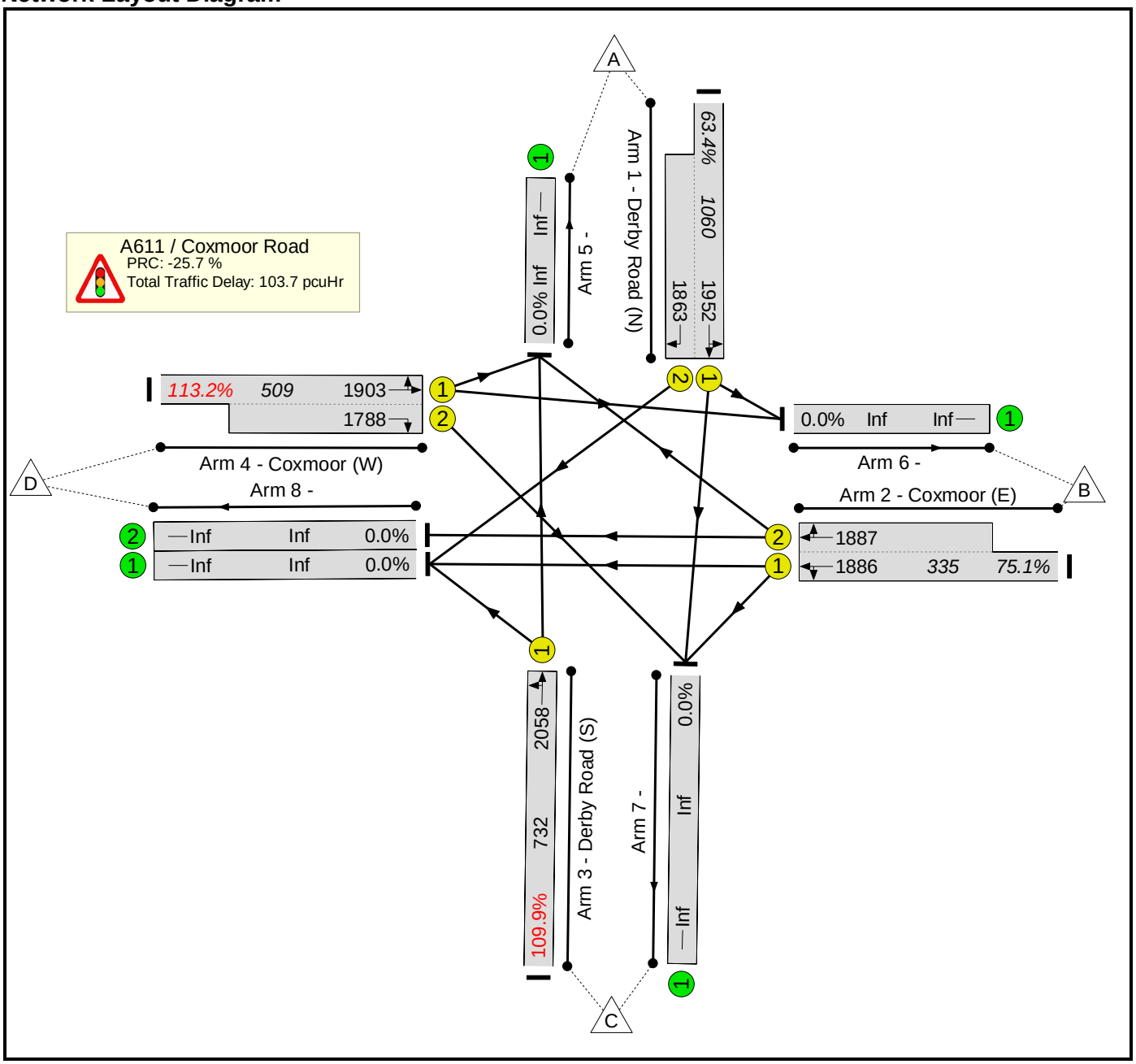
Total Delay for Signalled Lanes (pcuHr): 82.12
Total Delay Over All Lanes(pcuHr): 82.12

Cycle Time (s): 90

Basic Results Summary

Scenario 2: 'Base PM' (FG3: 'Base PM', Plan 1: 'Network Control Plan 1')

Network Layout Diagram



Basic Results Summary

Network Results

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network: Junction 50293	-	-	-		-	-	-	-	-	-	**113.2%**	**0**	**0**	**0**	**103.7**	-	-
A611 / Coxmoor Road	-	-	-		-	-	-	-	-	-	**113.2%**	**0**	**0**	**0**	**103.7**	-	-
1/1+1/2	Derby Road (N) Left Ahead Right	U	B F		1	45:7	-	672	1952:1863	1060	63.4%	-	-	-	4.3	22.8	11.3
2/1+2/2	Coxmoor (E) Right Left Ahead	U	D		1	7	-	252	1886:1887	335	75.1%	-	-	-	4.3	60.9	4.5
3/1	Derby Road (S) Ahead Left	U	A		1	31	-	804	2058	732	109.9%	-	-	-	50.6	226.6	62.9
4/1+4/2	Coxmoor (W) Left Ahead Right	U	C		1	13	-	576	1903:1788	509	113.2%	-	-	-	44.6	278.6	46.7

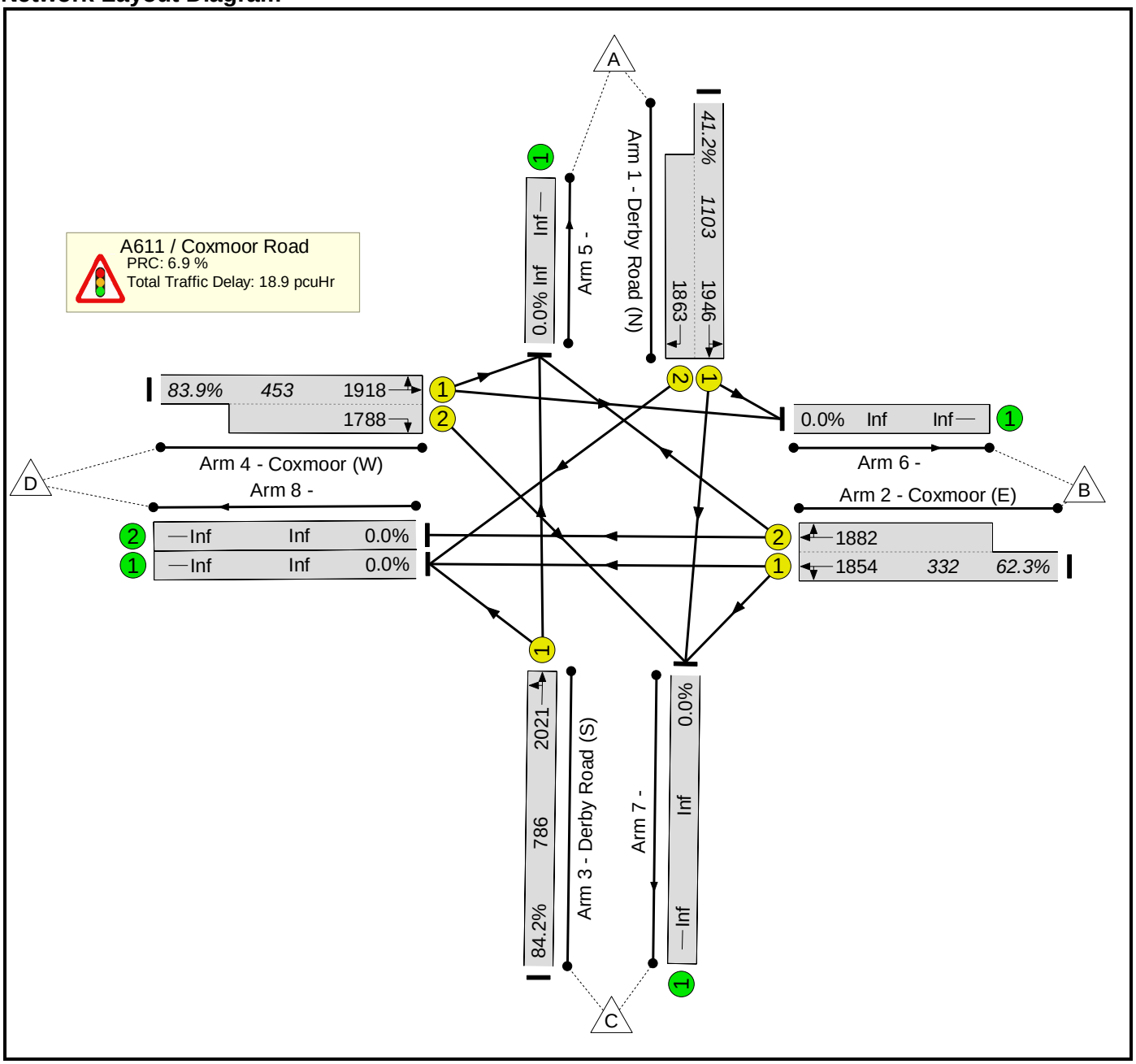
C1 PRC for Signalled Lanes (%): -25.7 Total Delay for Signalled Lanes (pcuHr): 103.71 Cycle Time (s): 90

PRC Over All Lanes (%): -25.7 Total Delay Over All Lanes(pcuHr): 103.71

Basic Results Summary

Scenario 3: 'Base Interpeak' (FG2: 'Base Interpeak', Plan 1: 'Network Control Plan 1')

Network Layout Diagram



Basic Results Summary

Network Results

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network: Junction 50293	-	-	-		-	-	-	-	-	-	**84.2%**	**0**	**0**	**0**	**18.9**	-	-
A611 / Coxmoor Road	-	-	-		-	-	-	-	-	-	**84.2%**	**0**	**0**	**0**	**18.9**	-	-
1/1+1/2	Derby Road (N) Left Ahead Right	U	B F		1	48:7	-	454	1946:1863	1103	41.2%	-	-	-	2.1	16.7	6.4
2/1+2/2	Coxmoor (E) Right Left Ahead	U	D		1	7	-	207	1854:1882	332	62.3%	-	-	-	3.1	53.8	3.3
3/1	Derby Road (S) Ahead Left	U	A		1	34	-	662	2021	786	84.2%	-	-	-	7.2	38.9	17.5
4/1+4/2	Coxmoor (W) Left Ahead Right	U	C		1	10	-	380	1918:1788	453	83.9%	-	-	-	6.5	61.8	7.4

C1

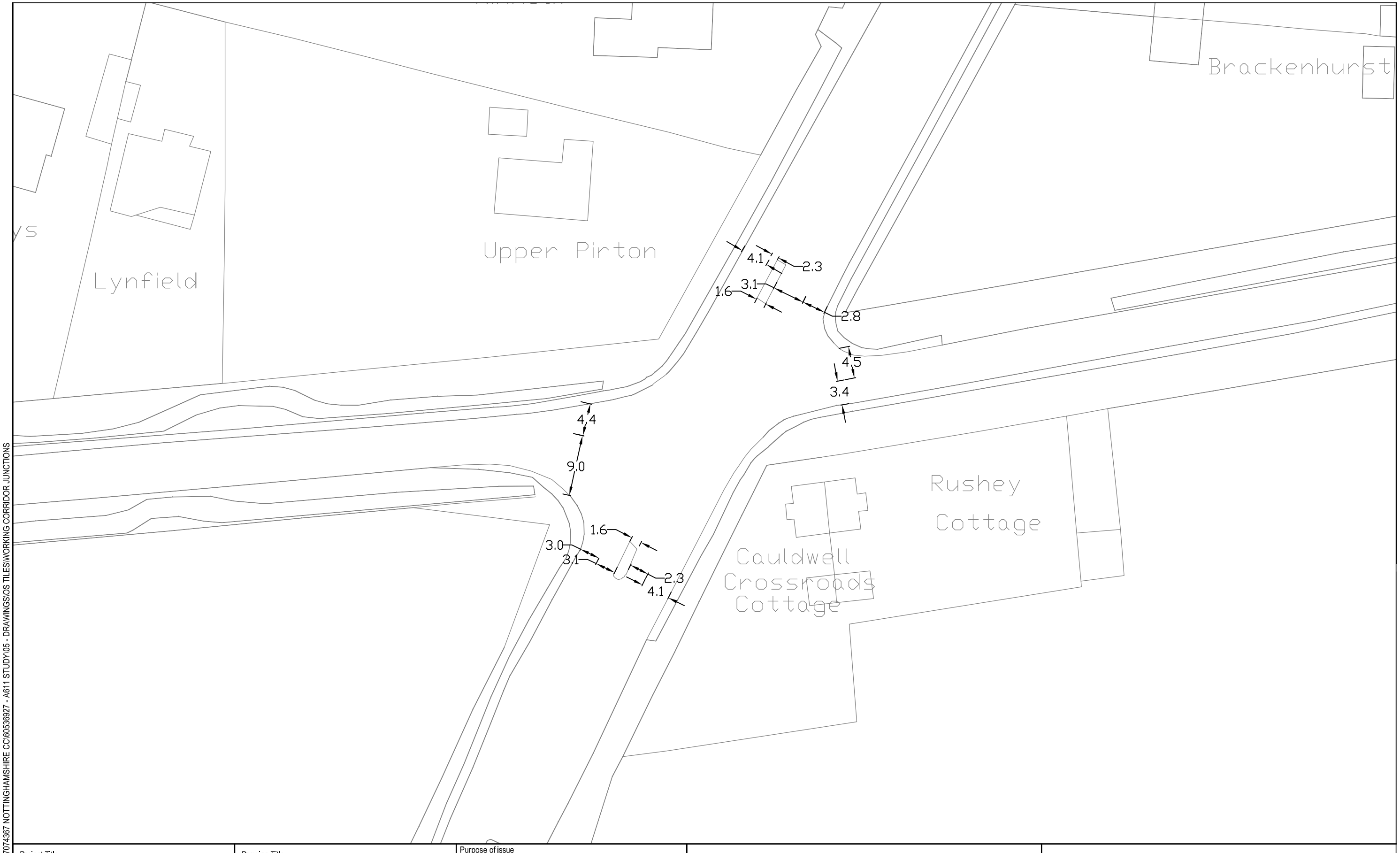
PRC for Signalled Lanes (%): 6.9
PRC Over All Lanes (%): 6.9

Total Delay for Signalled Lanes (pcuHr): 18.89
Total Delay Over All Lanes(pcuHr): 18.89

Cycle Time (s): 90

Appendix L

A611 / Cauldwell Road Capacity Results



Plot Date : 23 May 2017 15:17:34
File Name : L:\MHA PSP2\47074367 NOTTINGHAMSHIRE CC\60536927 - A611 STUDY\05 - DRAWINGS\OS TILES\WORKING CORRIDOR JUNCTIONS

Project Title: M1 J27 / A608 / A611 TO MANSFILED JUNCTION GEOMETRIES	Drawing Title: CAULDWELL ROAD CROSSROADS WITH A611	Purpose of issue: FOR INFORMATION	THIS DOCUMENT HAS BEEN PREPARED PURSUANT TO AND SUBJECT TO THE TERMS OF AECOM'S APPOINTMENT BY ITS CLIENT. AECOM ACCEPTS NO LIABILITY FOR ANY USE OF THIS DOCUMENT OTHER THAN BY ITS ORIGINAL CLIENT OR FOLLOWING AECOM'S EXPRESS AGREEMENT TO SUCH USE, AND ONLY FOR THE PURPOSES FOR WHICH IT WAS PREPARED AND PROVIDED.
Client: NOTTINGHAMSHIRE COUNTY COUNCIL		Designed: RP · Drawn: JPH · Checked: RP · Approved: DG · Date:	Drawing Number: 60536927/SK/010 · Rev:
		AECOM Internal Project No.: 60536927 · Suitability:	
		Scale @ A3: 1:500 · Zone / Mileage:	

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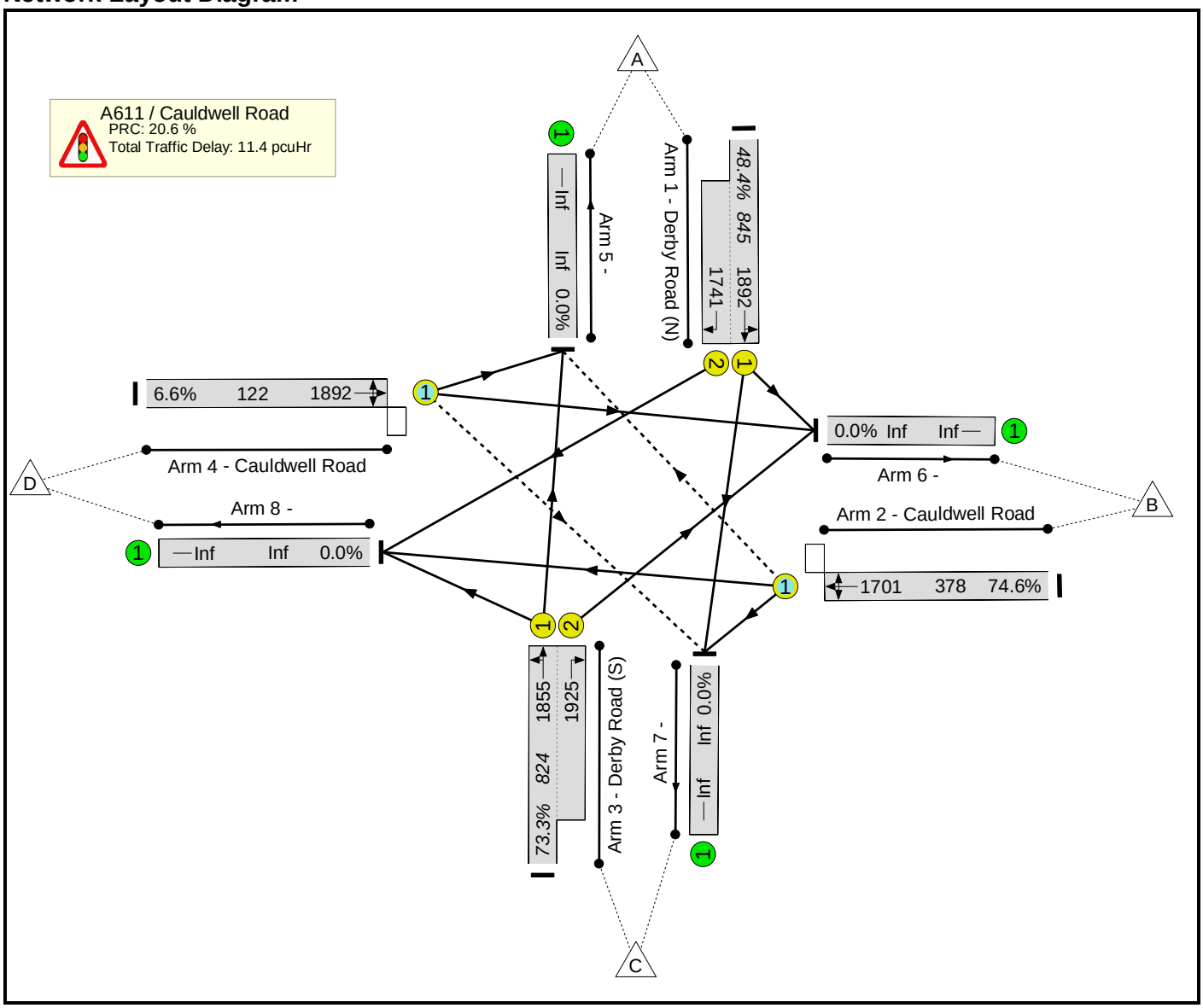
Basic Results Summary

User and Project Details

Project:	**A611 Study**
Title:	**Junction 50292 - A611 / Cauldwell Road**
Location:	
File name:	Cauldwell Road1 - (Final Base).lsg3x
Author:	Andrew Lane
Company:	AECOM
Address:	Royal Court, Basil Close, Chesterfield, Derbyshire S41 7SL
Notes:	

Scenario 1: 'Base AM' (FG1: 'Base AM', Plan 1: 'Network Control Plan 1')

Network Layout Diagram



Basic Results Summary

Network Results

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network: Junction 50292 - A611 / Cauldwell Road	**-**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**74.6%**	**3**	**4**	**0**	**11.4**	**-**	**-**
A611 / Cauldwell Road	**-**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**74.6%**	**3**	**4**	**0**	**11.4**	**-**	**-**
1/1+1/2	Derby Road (N) Left Ahead Right	U	A C		1	39:7	-	409	1892:1741	845	48.4%	-	-	-	2.5	21.9	7.6
2/1	Cauldwell Road Right Left Ahead	O	F		1	19	-	282	1701	378	74.6%	3	0	0	4.0	50.8	7.9
3/1+3/2	Derby Road (S) Ahead Right Left	U	B D		1	39:7	-	604	1855:1925	824	73.3%	-	-	-	4.8	28.7	13.8
4/1	Cauldwell Road Left Ahead Right	O	E		1	19	-	8	1892	122	6.6%	1	3	0	0.1	44.1	0.2

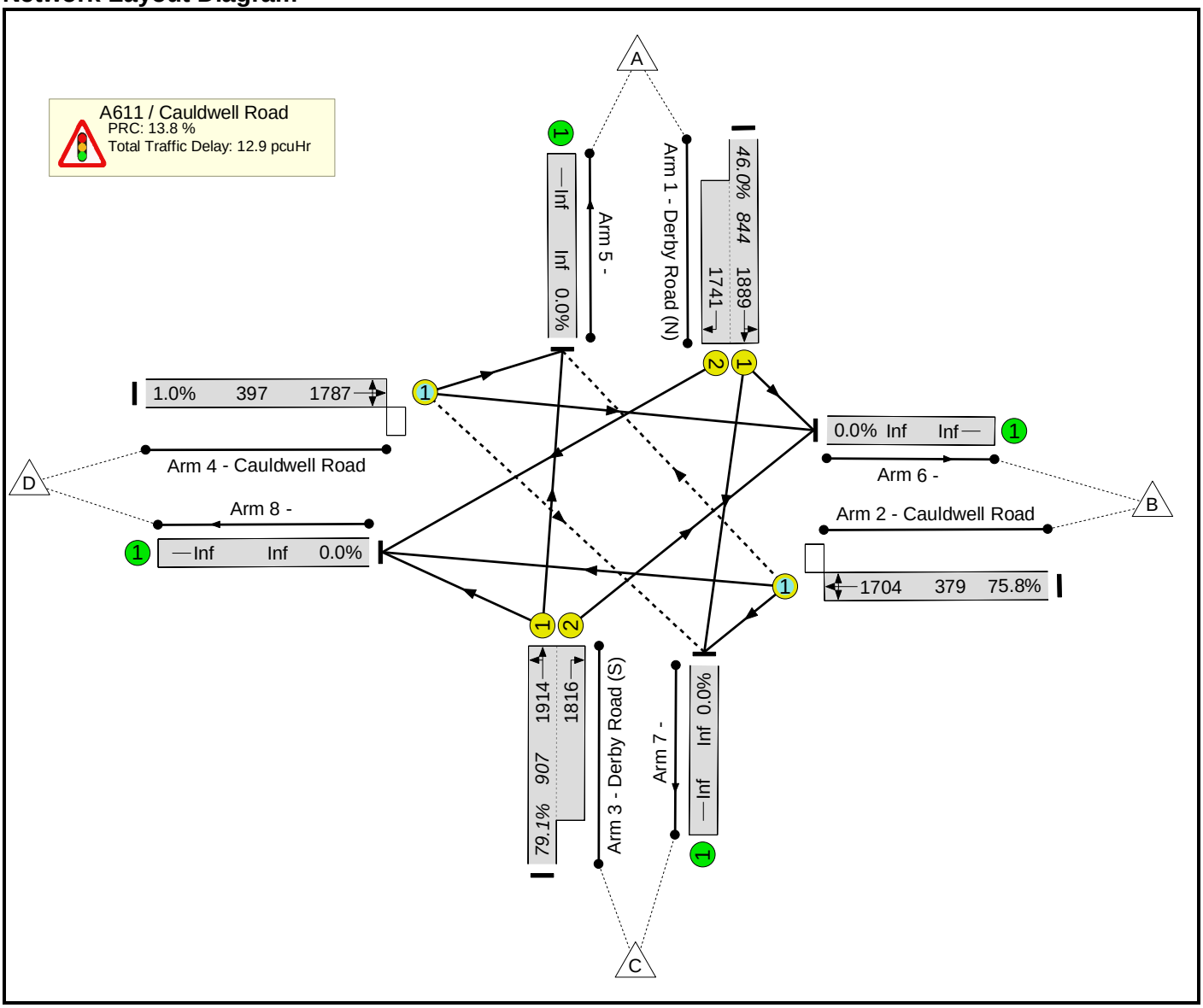
C1 PRC for Signalled Lanes (%): 20.6 Total Delay for Signalled Lanes (pcuHr): 11.38 Cycle Time (s): 90

PRC Over All Lanes (%): 20.6 Total Delay Over All Lanes(pcuHr): 11.38

Basic Results Summary

Scenario 2: 'Base PM' (FG3: 'Base PM', Plan 1: 'Network Control Plan 1')

Network Layout Diagram



Basic Results Summary

Network Results

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network: Junction 50292 - A611 / Cauldwell Road	**-**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**79.1%**	**5**	**1**	**0**	**12.9**	**-**	**-**
A611 / Cauldwell Road	**-**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**79.1%**	**5**	**1**	**0**	**12.9**	**-**	**-**
1/1+1/2	Derby Road (N) Left Ahead Right	U	A C		1	39:7	-	388	1889:1741	844	46.0%	-	-	-	2.3	21.5	7.1
2/1	Cauldwell Road Right Left Ahead	O	F		1	19	-	287	1704	379	75.8%	5	1	0	4.1	51.8	8.2
3/1+3/2	Derby Road (S) Ahead Right Left	U	B D		1	39:7	-	717	1914:1816	907	79.1%	-	-	-	6.5	32.4	15.2
4/1	Cauldwell Road Left Ahead Right	O	E		1	19	-	4	1787	397	1.0%	0	0	0	0.0	32.2	0.1

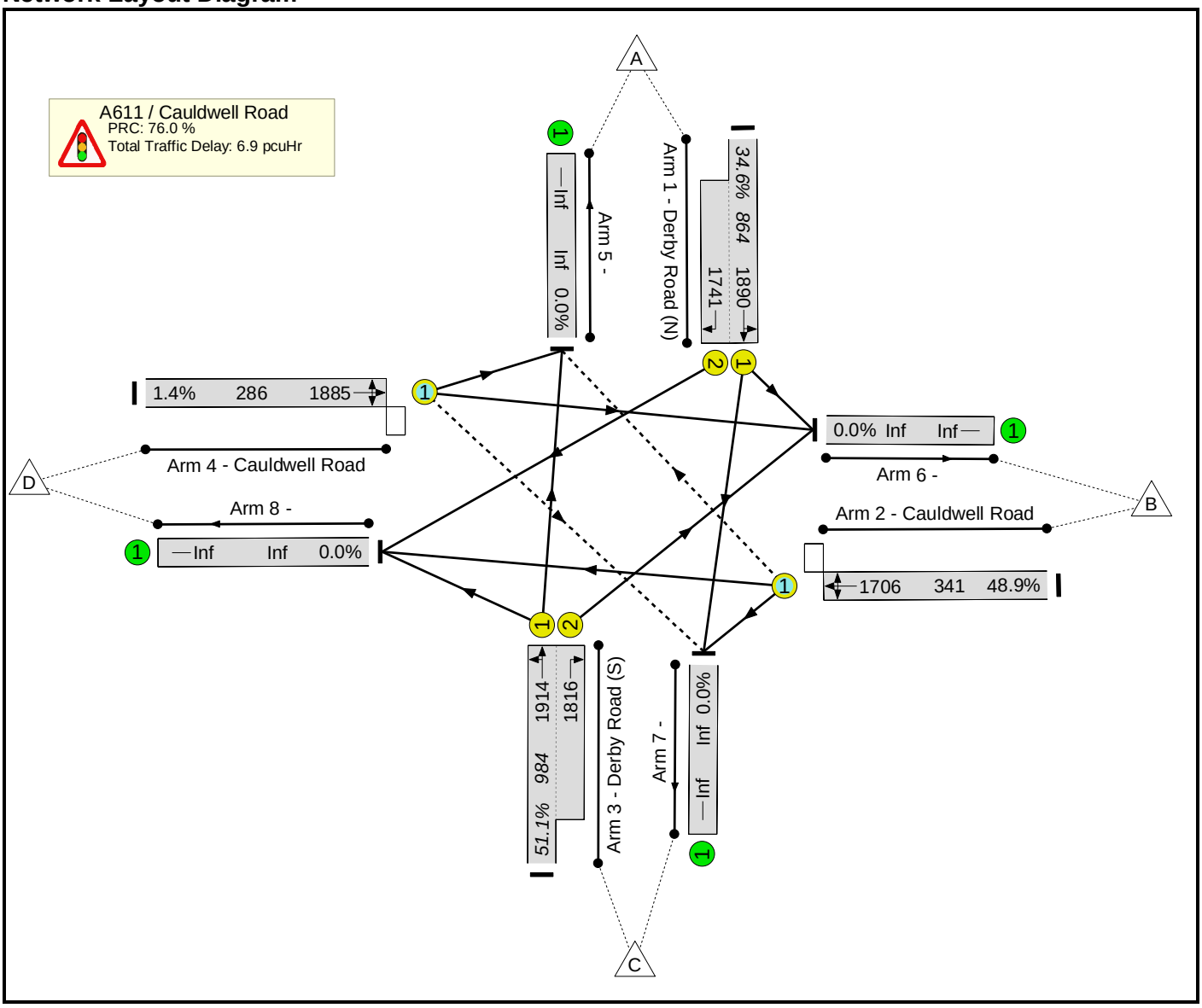
C1 PRC for Signalled Lanes (%): 13.8 Total Delay for Signalled Lanes (pcuHr): 12.94 Cycle Time (s): 90

PRC Over All Lanes (%): 13.8 Total Delay Over All Lanes(pcuHr): 12.94

Basic Results Summary

Scenario 3: 'Base Interpeak' (FG2: 'Base Interpeak', Plan 1: 'Network Control Plan 1')

Network Layout Diagram



Basic Results Summary

Network Results

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network: Junction 50292 - A611 / Cauldwell Road	**-**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**51.1%**	**5**	**2**	**0**	**6.9**	**-**	**-**
A611 / Cauldwell Road	**-**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**51.1%**	**5**	**2**	**0**	**6.9**	**-**	**-**
1/1+1/2	Derby Road (N) Left Ahead Right	U	A C		1	40:7	-	299	1890:1741	864	34.6%	-	-	-	1.6	19.1	5.1
2/1	Cauldwell Road Right Left Ahead	O	F		1	17	-	167	1706	341	48.9%	5	1	0	2.0	42.2	4.1
3/1+3/2	Derby Road (S) Ahead Right Left	U	B D		1	41:8	-	503	1914:1816	984	51.1%	-	-	-	3.4	24.0	7.5
4/1	Cauldwell Road Left Ahead Right	O	E		1	17	-	4	1885	286	1.4%	0	1	0	0.0	35.7	0.1

C1 PRC for Signalled Lanes (%): 76.0 Total Delay for Signalled Lanes (pcuHr): 6.94 Cycle Time (s): 90

PRC Over All Lanes (%): 76.0 Total Delay Over All Lanes(pcuHr): 6.94

Appendix M

A611 / A60 Nottingham Road Capacity Results

Heathfields

Forest House

Cedar House

Woodfield

Wellbank

405

LICHFIELD CLOSE

407

413

415

1

2

3.1
3.9
3.1
3.3
1.2

3.5
3.1
5.4

2.6
1.2
3.75
3.1
3.8

Plot Date : 23 May 2017 15:18:19
File Name : L:\MHA PSP2\47074367 NOTTINGHAMSHIRE CC\60536927 - A611 STUDY\05 - DRAWINGS\05 TILES\WORKING CORRIDOR JUNCTIONS

Project Title: M1 J27 / A608 / A611 TO MANSFILED JUNCTION GEOMETRIES	Drawing Title: A611 JUNCTION WITH NOTTINGHAM ROAD	Purpose of issue: FOR INFORMATION	
Client: NOTTINGHAMSHIRE COUNTY COUNCIL		Designed: RP · Drawn: JPH · Checked: RP · Approved: DG · Date: 23/05/17	
		AECOM Internal Project No.: 60536927 · Suitability:	Drawing Number: 60536927/SK/011 · Rev:
		Scale @ A3: 1:500 · Zone / Mileage:	

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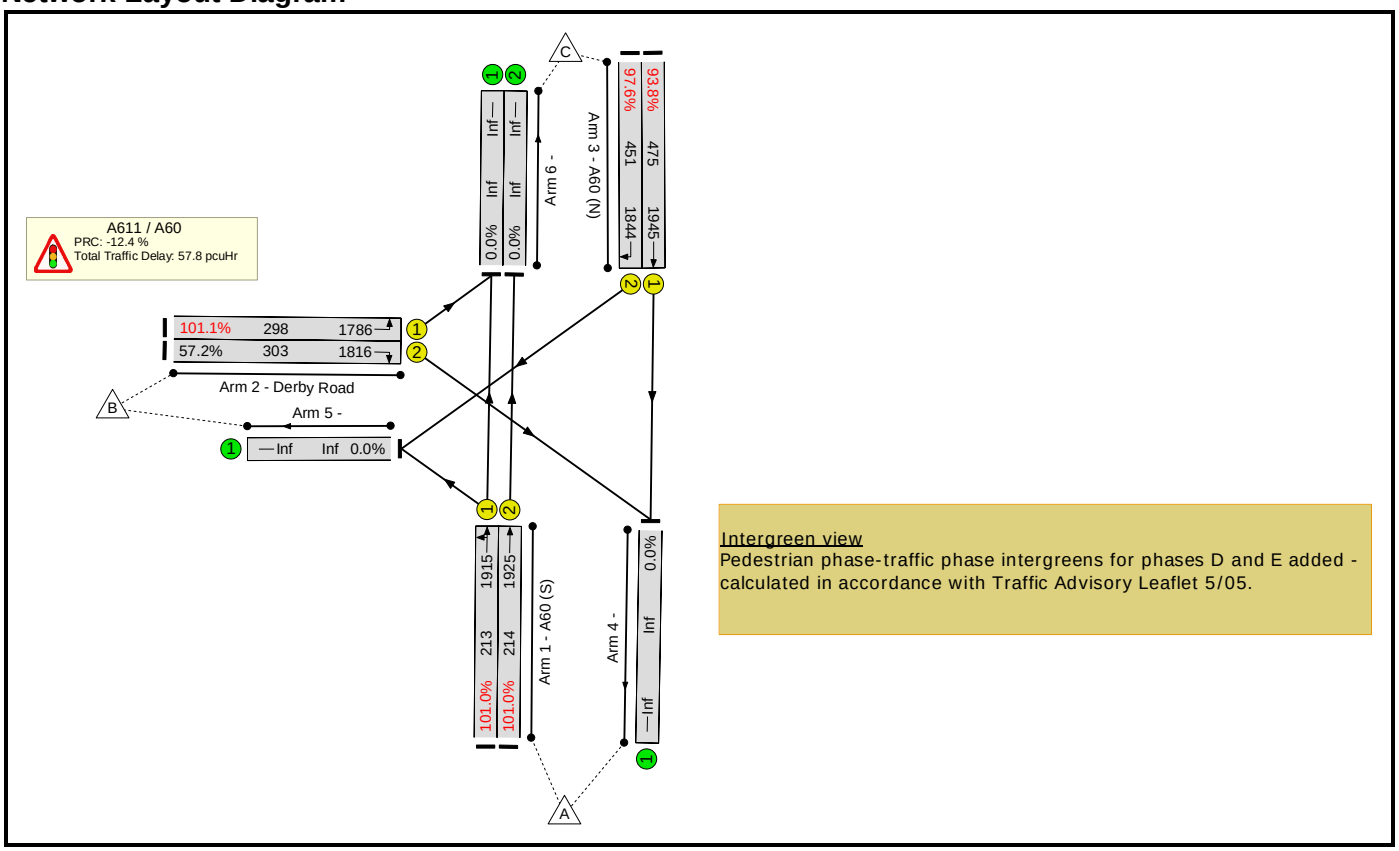
Basic Results Summary

User and Project Details

Project:	**A611 Study**
Title:	**Junction 64192 - A611 / A60**
Location:	
File name:	A60 Junction - (Final Base).lsg3x
Author:	Andrew Lane
Company:	AECOM
Address:	Royal Court, Basil Close, Chesterfield, Derbyshire S41 7SL
Notes:	

Scenario 1: 'Base AM' (FG1: 'Base AM', Plan 1: 'Network Control Plan 1')

Network Layout Diagram



Basic Results Summary

Network Results

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network: Junction 64192 - A611 / A60	-	-	-		-	-	-	-	-	-	**101.1%**	**0**	**0**	**0**	**57.8**	-	-
A611 / A60	-	-	-		-	-	-	-	-	-	**101.1%**	**0**	**0**	**0**	**57.8**	-	-
1/1	A60 (S) Left Ahead	U	A		1	9	-	215	1915	213	101.0%	-	-	-	10.4	174.1	13.3
1/2	A60 (S) Ahead	U	A		1	9	-	216	1925	214	101.0%	-	-	-	10.4	173.1	13.3
2/1	Derby Road Left	U	C		1	14	-	301	1786	298	101.1%	-	-	-	12.8	152.9	17.2
2/2	Derby Road Right	U	C		1	14	-	173	1816	303	57.2%	-	-	-	2.3	48.3	4.6
3/1	A60 (N) Ahead	U	B		1	21	-	446	1945	475	93.8%	-	-	-	9.6	77.8	16.4
3/2	A60 (N) Right	U	B		1	21	-	440	1844	451	97.6%	-	-	-	12.3	100.3	19.0

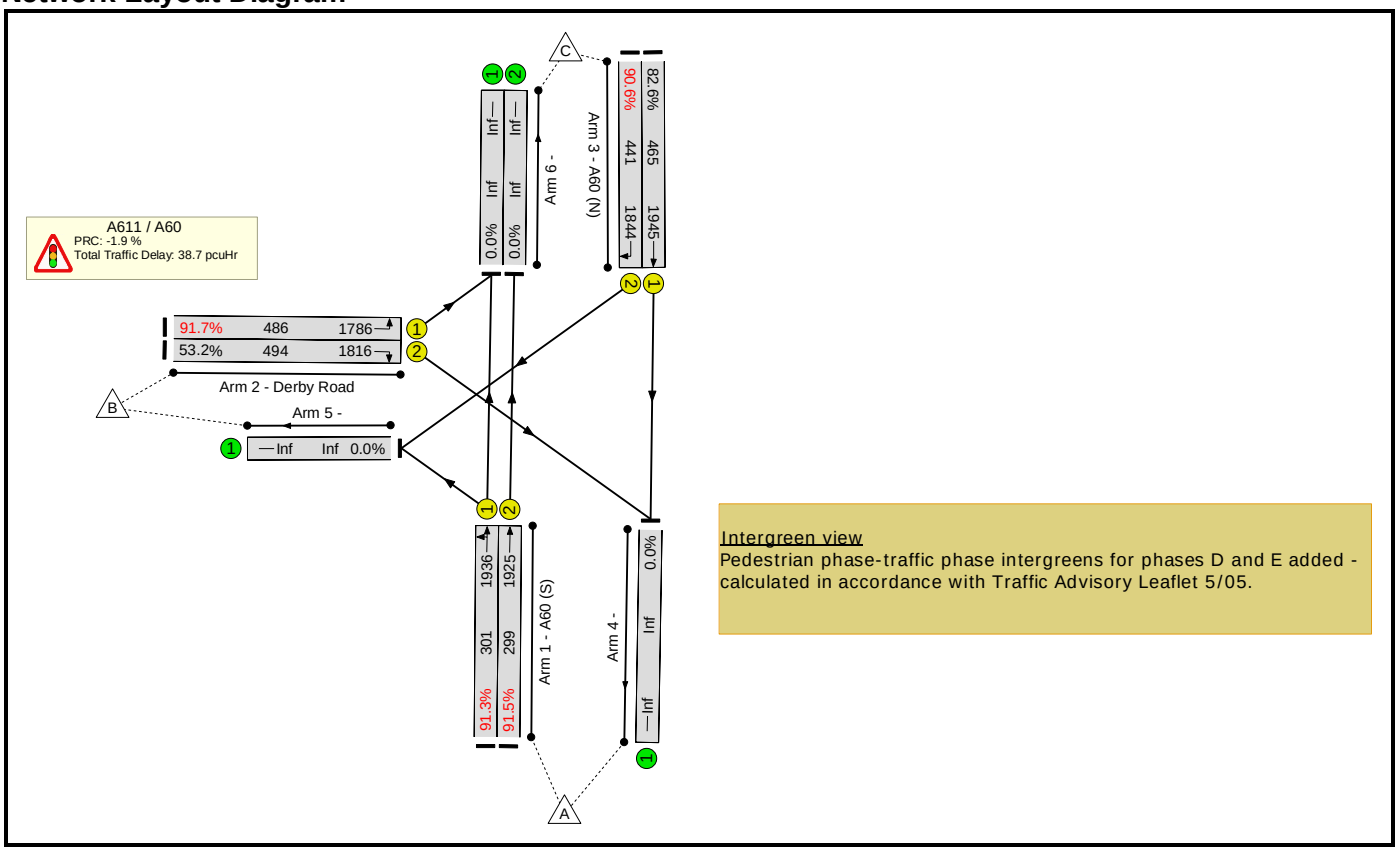
C1 PRC for Signalled Lanes (%): -12.4 Total Delay for Signalled Lanes (pcuHr): 57.79 Cycle Time (s): 90

PRC Over All Lanes (%): -12.4 Total Delay Over All Lanes(pcuHr): 57.79

Basic Results Summary

Scenario 2: 'Base PM' (FG3: 'Base PM', Plan 2: 'Network Control Plan 2')

Network Layout Diagram



Intergreen view

Pedestrian phase-traffic phase intergreens for phases D and E added - calculated in accordance with Traffic Advisory Leaflet 5/05.

Basic Results Summary

Network Results

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network: Junction 64192 - A611 / A60	-	-	-		-	-	-	-	-	-	**91.7%**	**0**	**0**	**0**	**38.7**	-	-
A611 / A60	-	-	-		-	-	-	-	-	-	**91.7%**	**0**	**0**	**0**	**38.7**	-	-
1/1	A60 (S) Left Ahead	U	A		2	26	-	275	1936	301	91.3%	-	-	-	6.9	90.1	11.1
1/2	A60 (S) Ahead	U	A		2	26	-	274	1925	299	91.5%	-	-	-	6.9	91.1	11.2
2/1	Derby Road Left	U	C		2	47	-	446	1786	486	91.7%	-	-	-	8.7	69.9	17.7
2/2	Derby Road Right	U	C		2	47	-	263	1816	494	53.2%	-	-	-	2.7	37.0	7.4
3/1	A60 (N) Ahead	U	B		2	41	-	384	1945	465	82.6%	-	-	-	5.7	53.8	12.1
3/2	A60 (N) Right	U	B		2	41	-	399	1844	441	90.6%	-	-	-	7.7	69.8	14.4

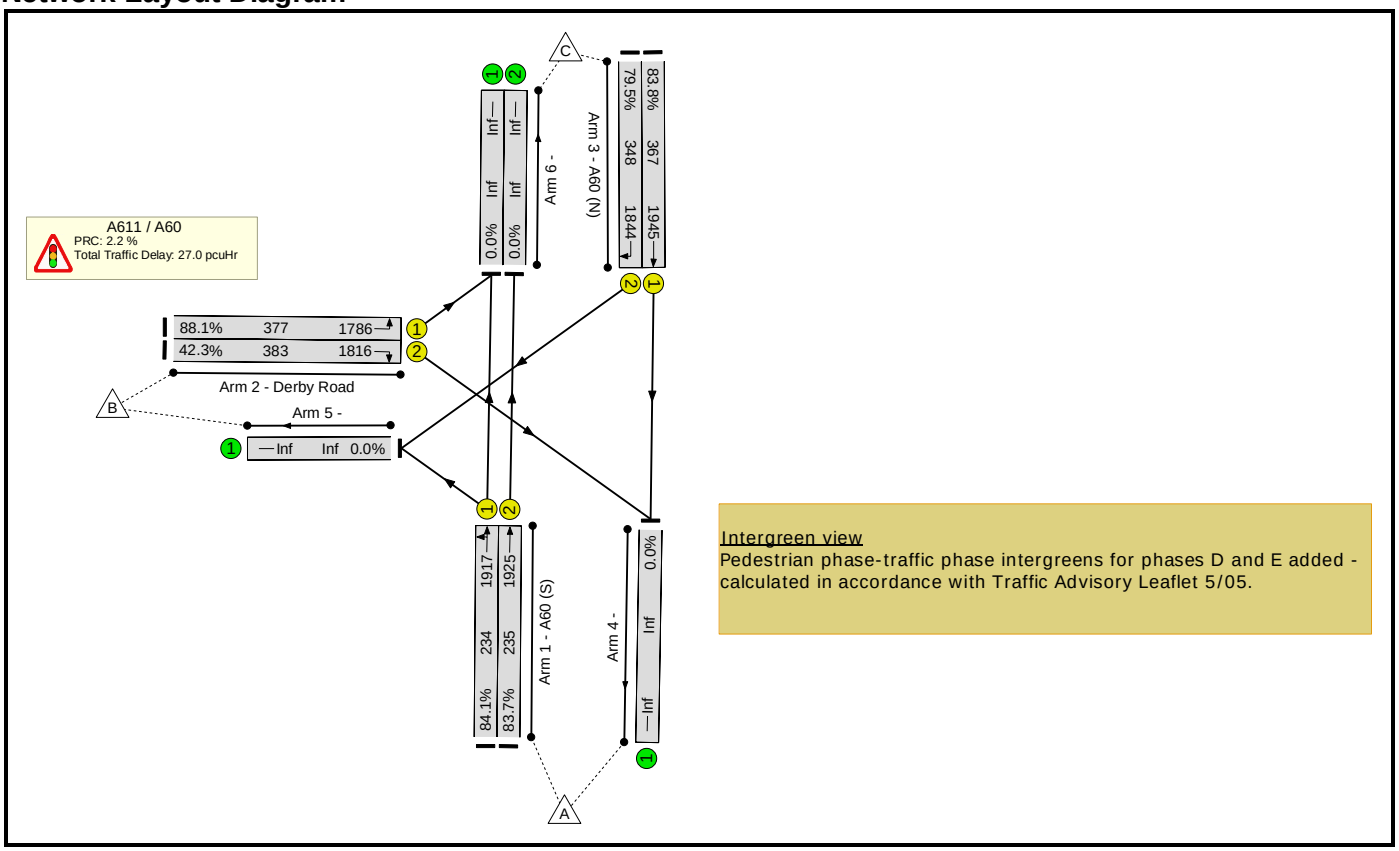
C1 PRC for Signalled Lanes (%): -1.9 Total Delay for Signalled Lanes (pcuHr): 38.66 Cycle Time (s): 180

PRC Over All Lanes (%): -1.9 Total Delay Over All Lanes(pcuHr): 38.66

Basic Results Summary

Scenario 3: 'Base Interpeak' (FG2: 'Base Interpeak', Plan 1: 'Network Control Plan 1')

Network Layout Diagram



Intergreen view
Pedestrian phase-traffic phase intergreens for phases D and E added - calculated in accordance with Traffic Advisory Leaflet 5/05.

Basic Results Summary

Network Results

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network: Junction 64192 - A611 / A60	-	-	-		-	-	-	-	-	-	**88.1%**	**0**	**0**	**0**	**27.0**	-	-
A611 / A60	-	-	-		-	-	-	-	-	-	**88.1%**	**0**	**0**	**0**	**27.0**	-	-
1/1	A60 (S) Left Ahead	U	A		1	10	-	197	1917	234	84.1%	-	-	-	4.5	81.5	7.2
1/2	A60 (S) Ahead	U	A		1	10	-	197	1925	235	83.7%	-	-	-	4.4	80.6	7.1
2/1	Derby Road Left	U	C		1	18	-	332	1786	377	88.1%	-	-	-	6.4	69.4	11.2
2/2	Derby Road Right	U	C		1	18	-	162	1816	383	42.3%	-	-	-	1.7	38.9	3.8
3/1	A60 (N) Ahead	U	B		1	16	-	308	1945	367	83.8%	-	-	-	5.4	63.2	9.8
3/2	A60 (N) Right	U	B		1	16	-	277	1844	348	79.5%	-	-	-	4.5	58.8	8.4

C1 PRC for Signalled Lanes (%): 2.2 Total Delay for Signalled Lanes (pcuHr): 26.95 Cycle Time (s): 90

PRC Over All Lanes (%): 2.2 Total Delay Over All Lanes(pcuHr): 26.95

Appendix N
TUBA Outputs

Baseline Scenario

A608 / Willow Drive ARCADY

AM_PEAK

A608 / Willow Drive ARCADY

Road	Position	Link	Number PCU	Queue Length PCU	Existing Operation RFC	Delay Seconds on Link	Total Delay By Lane
A608 East	Centre	A	1657	5.01	84%	11.06	18,326
A608 West	Centre	B	1931	3.98	80%	7.49	14,463
Willow Drive	Centre	C	69	0.04	4%	2.22	153
						Delay Seconds	32,943
	PCU		3657	9.01	0.150135767		

Interpeak

A608 / Willow Drive ARCADY

Road	Position	Link	Number PCU	Queue Length PCU	Existing Operation RFC	Delay Seconds on Link	Total Delay By Lane
A608 East	Centre	A	789	0.68	41%	3.11	2,454
A608 West	Centre	B	865	0.56	36%	2.31	1,998
Willow Drive	Centre	C	153	0.08	8%	1.97	301
						Delay Seconds	4,753
	PCU		1807	2.63	0.043842003		

PM_PEAK

A608 / Willow Drive ARCADY

Road	Position	Link	Number PCU	Queue Length PCU	Existing Operation RFC	Delay Seconds on Link	Total Delay By Lane
A608 East	Centre	A	1210	2.75	73%	8.24	9,970
A608 West	Centre	B	1271	1.1	52%	3.12	3,966
Willow Drive	Centre	C	750	0.78	44%	3.76	2,820
							0
						Delay Seconds	16,756
	PCU		3231	5.19	0.086433096		

Off Peak

A608 / Willow Drive ARCADY

Road	Position	Link	Number PCU	Queue Length PCU	Existing Operation RFC	Delay Seconds on Link	Total Delay By Lane
A608 East	Centre	A					0
A608 West	Centre	B					0
Willow Drive	Centre	C					0
							0
						Delay Seconds	0
	PCU		0	#DIV/0!	#DIV/0!		

A608 / Willow Drive ARCADY

Total Delays	Number of Hours	Cost (2010 Market)	Delay	
AM Peak			32942.79	Seconds
Cost Per Hour	1	£258.87	9.15	Hours
Cost Per AM Period	3	£776.62	27.45	
Inter Peak			4753.35	Seconds
Cost Per Hour	1	£16.81	1.32	Hours
Cost Per IP Period	6	£100.83	7.92	
PM Peak			16755.92	Seconds
Cost Per Hour	1	£58.22	4.65	Hours
Cost Per PM Period	3	£174.66	13.96	
Off Peak			0.00	Seconds
Cost Per Hour	1	£0.00	0.00	Hours
Cost Per OP Period	12	£0.00	0.00	
Total Cost Per Day	24	£1,052.11		
Total Cost Per Year		**£273,547.77**		

Total Overall Cost Per Year	**£273,547.77**

Baseline Scenario

A608 / Osier Drive ARCADY

AM_PEAK

A608 / Osier Drive ARCADY

Road	Position	Link	Number PCU	Queue Length PCU	Existing Operation RFC	Delay Seconds on Link	Total Delay By Lane
A608 North	Centre	A	2370	7.03	88%	10.89	25,809
A608 South	Centre	B	1238	3.02	75%	8.86	10,969
Osier Drive	Centre	C	89	0.07	6%	2.77	247
						Delay Seconds	37,025
	PCU		3697	10.01	0.166912406		

Interpeak

A608 / Osier Drive ARCADY

Road	Position	Link	Number PCU	Queue Length PCU	Existing Operation RFC	Delay Seconds on Link	Total Delay By Lane
A608 North	Centre	A	814	0.44	31%	1.96	1,595
A608 South	Centre	B	796	0.64	39%	2.89	2,300
Osier Drive	Centre	C	253	0.2	16%	2.78	703
						Delay Seconds	4,599
	PCU		1863	2.47	0.041145285		

PM_PEAK

A608 / Osier Drive ARCADY

Road	Position	Link	Number PCU	Queue Length PCU	Existing Operation RFC	Delay Seconds on Link	Total Delay By Lane
A608 North	Centre	A	1155	0.81	45%	2.52	2,911
A608 South	Centre	B	1297	1.73	64%	4.83	6,265
Osier Drive	Centre	C	741	1.47	60%	7.20	5,335
							0
						Delay Seconds	14,510
	PCU		3193	4.54	0.075740213		

Off Peak

A608 / Osier Drive ARCADY

Road	Position	Link	Number PCU	Queue Length PCU	Existing Operation RFC	Delay Seconds on Link	Total Delay By Lane
A608 North	Centre	A					0
A608 South	Centre	B					0
Osier Drive	Centre	C					0
							0
						Delay Seconds	0
	PCU		0	#DIV/0!	#DIV/0!		

A608 / Osier Drive ARCADY

Total Delays	Number of Hours	Cost (2010 Market)	Delay	
AM Peak			37024.51	Seconds
Cost Per Hour	1	£132.35	10.28	Hours
Cost Per AM Period	3	£397.05	30.85	
Inter Peak			4599.22	Seconds
Cost Per Hour	1	£16.31	1.28	Hours
Cost Per IP Period	6	£97.84	7.67	
PM Peak			14510.31	Seconds
Cost Per Hour	1	£50.42	4.03	Hours
Cost Per PM Period	3	£151.25	12.09	
Off Peak			0.00	Seconds
Cost Per Hour	1	£0.00	0.00	Hours
Cost Per OP Period	12	£0.00	0.00	
Total Cost Per Day	24	£646.14		
Total Cost Per Year		**£167,995.47**		

Total Overall Cost Per Year	**£167,995.47**

Baseline Scenario

A608/ A611 LinSig

AM_PEAK

A608/ A611 LinSig

Road	Position	Link	Number PCU	Queue Length PCU	Existing Operation DOS	Delay Seconds on Link	Total Delay By Lane
A611 North	Nearside	A	424	3.6	33%	20.80	8,819
	Offside	A	1080	13	85%	32.20	34,776
A611 South	Nearside	B	1343	27.9	85%	27.10	36,395
	Offside	B	343	5.41	63%	42.40	14,543
A608	Nearside	C	601	8.9	86%	47.00	28,247
	Offside	C	490	6	71%	38.10	18,669
						Delay Seconds	141,450
	PCU		4281	33.04	0.550687923		

Interpeak

A608/ A611 LinSig

Road	Position	Link	Number PCU	Queue Length PCU	Existing Operation DOS	Delay Seconds on Link	Total Delay By Lane
A611 North	Nearside	A	472	5	56%	31.20	14,726
	Offside	A	309	3	37%	28.50	8,807
A611 South	Nearside	B	558	4.8	56%	19.80	11,048
	Offside	B	115	2	25%	31.20	3,588
A608	Nearside	C	546	5.4	56%	27.60	15,070
	Offside	C	371	3.4	38%	25.30	9,386
						Delay Seconds	62,625
	PCU		2371	26.41	0.440216505		

PM_PEAK

A608/ A611 LinSig

Road	Position	Link	Number PCU	Queue Length PCU	Existing Operation DOS	Delay Seconds on Link	Total Delay By Lane
A611 North	Nearside	A	480	6.3	76%	41.60	19,968
	Offside	A	593	12	94%	66.60	39,494
A611 South	Nearside	B	810	6.3	59%	16.40	13,284
	Offside	B	47	1.2	17%	32.60	1,532
A608	Nearside	C	738	7	65%	24.20	17,860
	Offside	C	1134	33.9	101%	83.20	94,349
						Delay Seconds	186,486
	PCU		3802	49.05	0.817492548		

Off Peak

A608/ A611 LinSig

Road	Position	Link	Number PCU	Queue Length PCU	Existing Operation DOS	Delay Seconds on Link	Total Delay By Lane
A611 North							0
A611 South							0
A608							0
							0
						Delay Seconds	0
	PCU		0	#DIV/0!	#DIV/0!		

A608/ A611 LinSig

Total Delays	Number of Hours	Cost (2010 Market)	Delay	
AM Peak			141449.70	Seconds
Cost Per Hour	1	£514.04	39.29	Hours
Cost Per AM Period	3	£1,542.11	117.87	
Inter Peak			62625.20	Seconds
Cost Per Hour	1	£218.69	17.40	Hours
Cost Per IP Period	6	£1,312.14	104.38	
PM Peak			186486.40	Seconds
Cost Per Hour	1	£647.95	51.80	Hours
Cost Per PM Period	3	£1,943.85	155.41	
Off Peak			0.00	Seconds
Cost Per Hour	1	£0.00	0.00	Hours
Cost Per OP Period	12	£0.00	0.00	
Total Cost Per Day	24	£4,798.11		
Total Cost Per Year		**£1,247,507.76**		

Total Overall Cost Per Year	**£1,247,507.76**

Baseline Scenario

A611 / Annesley Cutting PICADY

AM_PEAK

A611 / Annesley Cutting PICADY

Road	Position	Link	Number PCU	Queue Length PCU	Existing Operation RFC	Delay Seconds on Link	Total Delay By Lane
A611 North	Centre	A	1473	0	0%	0.00	0
Annesley Cutting	Centre	B	216	34.05	140%	1428.22	308,496
A611 South	Centre	C	938	0.17	12%	10.09	9,464
						Delay Seconds	317,960
	PCU		2627	121.04	2.017256313		

Interpeak

A611 / Annesley Cutting PICADY

Road	Position	Link	Number PCU	Queue Length PCU	Existing Operation RFC	Delay Seconds on Link	Total Delay By Lane
A611 North	Centre	A	836	0	0%	0.00	0
Annesley Cutting	Centre	B	124	0.35	26%	14.59	1,809
A611 South	Centre	C	200	0.27	21%	9.25	1,850
						Delay Seconds	3,659
	PCU		1160	3.15	0.052574138		

PM_PEAK

A611 / Annesley Cutting PICADY

Road	Position	Link	Number PCU	Queue Length PCU	Existing Operation RFC	Delay Seconds on Link	Total Delay By Lane
A611 North	Centre	A	1175	0	0%	0.00	0
Annesley Cutting	Centre	B	180	7.87	100%	363.82	65,488
A611 South	Centre	C	1037	0.09	8%	8.61	8,929
							0
						Delay Seconds	74,416
	PCU		2392	31.11	0.518507316		

Off Peak

A611 / Annesley Cutting PICADY

Road	Position	Link	Number PCU	Queue Length PCU	Existing Operation RFC	Delay Seconds on Link	Total Delay By Lane
A611 North	Centre	A					0
Annesley Cutting	Centre	B					0
A611 South	Centre	C					0
							0
						Delay Seconds	0
	PCU		0	#DIV/0!	#DIV/0!		

A611 / Annesley Cutting PICADY

Total Delays	Number of Hours	Cost (2010 Market)	Delay	
AM Peak			317959.94	Seconds
Cost Per Hour	1	£1,142.02	88.32	Hours
Cost Per AM Period	3	£3,426.07	264.97	
Inter Peak			3659.16	Seconds
Cost Per Hour	1	£12.70	1.02	Hours
Cost Per IP Period	6	£76.20	6.10	
PM Peak			74416.17	Seconds
Cost Per Hour	1	£258.56	20.67	Hours
Cost Per PM Period	3	£775.68	62.01	
Off Peak			0.00	Seconds
Cost Per Hour	1	£0.00	0.00	Hours
Cost Per OP Period	12	£0.00	0.00	
Total Cost Per Day	24	£4,277.95		
Total Cost Per Year		**£1,112,268.01**		

Total Overall Cost Per Year	**£1,112,268.01**

Baseline Scenario

A608 / A611 LinSig

AM_PEAK

A608 / A611 LinSig

			Number	Queue Length	Existing Operation	Delay Seconds	Total Delay
Road	Position	Link	PCU	PCU	PRC	on Link	By Lane
A611 South	Nearside	A	1017	88.5	110%	236.40	240,419
Forest Road	Nearside	B	541	46.3	109%	256.30	138,658
A611 North	Nearside	C	1082	13.2	71%	22.90	24,778
School Hill	Nearside	D	1	0	0%	31.80	32
						Delay Seconds	403,887
	PCU		2640	152.99	2.549789773		

Interpeak

A608 / A611 LinSig

			Number	Queue Length	Existing Operation	Delay Seconds	Total Delay
Road	Position	Link	PCU	PCU	PRC	on Link	By Lane
A611 South	Nearside	A	1017	97.1	111%	268.30	272,861
Forest Road	Nearside	B	556	52.3	111%	283.10	157,404
A611 North	Nearside	C	1082	12.9	72%	23.10	24,994
School Hill	Nearside	D	1	0	0%	31.20	31
						Delay Seconds	455,290
	PCU		2656	171.42	2.856991089		

PM_PEAK

A608 / A611 LinSig

			Number	Queue Length	Existing Operation	Delay Seconds	Total Delay
Road	Position	Link	PCU	PCU	PRC	on Link	By Lane
A611 South	Nearside	A	1184	89	107%	186.50	220,816
Forest Road	Nearside	B	428	28	106%	212.70	91,036
A611 North	Nearside	C	1053	19.4	80%	24.80	26,114
School Hill	Nearside	D	0	0	0%	0.00	0
						Delay Seconds	337,966
	PCU		2665	126.82	2.113608505		

Off Peak

A608 / A611 LinSig

			Number	Queue Length	Existing Operation	Delay Seconds	Total Delay
Road	Position	Link	PCU	PCU	PRC	on Link	By Lane
A611 South	Nearside	A					0
Forest Road	Nearside	B					0
A611 North	Nearside	C					0
School Hill	Nearside	D					0
						Delay Seconds	0
	PCU		0	#DIV/0!	#DIV/0!		

A608 / A611 LinSig

Total Delays	Number of Hours	Cost (2010 Market)	Delay	
AM Peak			403886.70	Seconds
Cost Per Hour	1	£1,446.94	112.19	Hours
Cost Per AM Period	3	£4,340.82	336.57	
Inter Peak			455290.10	Seconds
Cost Per Hour	1	£1,595.05	126.47	Hours
Cost Per IP Period	6	£9,570.29	758.82	
PM Peak			337966.00	Seconds
Cost Per Hour	1	£1,174.27	93.88	Hours
Cost Per PM Period	3	£3,522.81	281.64	
Off Peak			0.00	Seconds
Cost Per Hour	1	£0.00	0.00	Hours
Cost Per OP Period	12	£0.00	0.00	
Total Cost Per Day	24	£17,433.92		
Total Cost Per Year		**£4,532,818.53**		

Total Overall Cost Per Year	**£4,532,818.53**

Baseline Scenario

A611 / Midfield Road PICADY

AM_PEAK

A611 / Midfield Road PICADY

Road	Position	Link	Number PCU	Queue Length PCU	Existing Operation RFC	Delay Seconds on Link	Total Delay By Lane
A611 South	Centre	A	951	0	0%	0.00	0
Midfield Road	Centre	B	64	0.28	28%	29.57	1,892
A611 North	Centre	C	1012	0.01	1%	8.68	8,784
						Delay Seconds	10,677
	PCU		2027	5.27	0.087786877		

Interpeak

A611 / Midfield Road PICADY

Road	Position	Link	Number PCU	Queue Length PCU	Existing Operation RFC	Delay Seconds on Link	Total Delay By Lane
A611 South	Centre	A	886	0	0%	0.00	0
Midfield Road	Centre	B	28	0.07	6%	17.50	490
A611 North	Centre	C	767	0.03	3%	8.40	6,443
						Delay Seconds	6,933
	PCU		1681	4.12	0.068736863		

PM_PEAK

A611 / Midfield Road PICADY

Road	Position	Link	Number PCU	Queue Length PCU	Existing Operation RFC	Delay Seconds on Link	Total Delay By Lane
A611 South	Centre	A	1080	0	0%	0.00	0
Midfield Road	Centre	B	39	0.08	8%	24.63	961
A611 North	Centre	C	1048	0.06	5%	0.05	52
							0
						Delay Seconds	1,013
	PCU		2167	0.47	0.007790878		

Off Peak

A611 / Midfield Road PICADY

Road	Position	Link	Number PCU	Queue Length PCU	Existing Operation RFC	Delay Seconds on Link	Total Delay By Lane
A611 South	Centre	A					0
Midfield Road	Centre	B					0
A611 North	Centre	C					0
							0
						Delay Seconds	0
	PCU		0	#DIV/0!	#DIV/0!		

A611 / Midfield Road PICADY

Total Delays	Number of Hours	Cost (2010 Market)	Delay	
AM Peak			10676.64	Seconds
Cost Per Hour	1	£38.43	2.97	Hours
Cost Per AM Period	3	£115.30	8.90	
Inter Peak			6932.80	Seconds
Cost Per Hour	1	£24.06	1.93	Hours
Cost Per IP Period	6	£144.38	11.55	
PM Peak			1012.97	Seconds
Cost Per Hour	1	£3.49	0.28	Hours
Cost Per PM Period	3	£10.46	0.84	
Off Peak			0.00	Seconds
Cost Per Hour	1	£0.00	0.00	Hours
Cost Per OP Period	12	£0.00	0.00	
Total Cost Per Day	24	£270.13		
Total Cost Per Year		**£70,234.94**		

Total Overall Cost Per Year	**£70,234.94**

Baseline Scenario

Nottingham Road / A611 LinSig

AM_PEAK

Nottingham Road / A611 LinSig

Road	Position	Link	Number PCU	Queue Length PCU	Existing Operation PRC	Delay Seconds on Link	Total Delay By Lane
A611 South	Nearside	A	963	35.8	96%	51.40	49,498
Nottingham Road	Nearside	B	440	18	96%	89.70	39,468
A611 North	Nearside	C	657	15.1	63%	21.50	14,126
						Delay Seconds	103,092
	PCU		2060	50.04	0.834075243		

Interpeak

Nottingham Road / A611 LinSig

Road	Position	Link	Number PCU	Queue Length PCU	Existing Operation PRC	Delay Seconds on Link	Total Delay By Lane
A611 South	Nearside	A	876	20.4	74%	19.20	16,819
Nottingham Road	Nearside	B	208	6.5	74%	60.60	12,605
A611 North	Nearside	C	667	12.5	56%	16.00	10,672
						Delay Seconds	40,096
	PCU		1751	22.90	0.381648582		

PM_PEAK

Nottingham Road / A611 LinSig

Road	Position	Link	Number PCU	Queue Length PCU	Existing Operation PRC	Delay Seconds on Link	Total Delay By Lane
A611 South	Nearside	A	1079	39.2	95%	43.20	46,613
Nottingham Road	Nearside	B	298	12.9	94%	101.10	30,128
A611 North	Nearside	C	920	23.7	78%	25.00	23,000
						Delay Seconds	99,741
	PCU		2297	43.42	0.72370193		

Off Peak

Nottingham Road / A611 LinSig

Road	Position	Link	Number PCU	Queue Length PCU	Existing Operation PRC	Delay Seconds on Link	Total Delay By Lane
A611 South	Nearside	A					0
Nottingham Road	Nearside	B					0
A611 North	Nearside	C					0
							0
						Delay Seconds	0
	PCU		0	#DIV/0!	#DIV/0!		

Nottingham Road / A611 LinSig

Total Delays	Number of Hours	Cost (2010 Market)	Delay	
AM Peak			103091.70	Seconds
Cost Per Hour	1	£371.09	28.64	Hours
Cost Per AM Period	3	£1,113.28	85.91	
Inter Peak			40096.00	Seconds
Cost Per Hour	1	£139.17	11.14	Hours
Cost Per IP Period	6	£835.03	66.83	
PM Peak			99740.60	Seconds
Cost Per Hour	1	£342.33	27.71	Hours
Cost Per PM Period	3	£1,026.98	83.12	
Off Peak			0.00	Seconds
Cost Per Hour	1	£0.00	0.00	Hours
Cost Per OP Period	12	£0.00	0.00	
Total Cost Per Day	24	£2,975.28		
Total Cost Per Year		**£773,573.91**		

Total Overall Cost Per Year	**£773,573.91**

Baseline Scenario

Diamond Avenue / A611 LinSig

AM_PEAK

Diamond Avenue / A611LinSig

Road	Position	Link	Number PCU	Queue Length PCU	Existing Operation PRC	Delay Seconds on Link	Total Delay By Lane
A611 South	Nearside	A	849	34.1	100%	94.20	79,976
Diamond Avenue	Nearside	B	746	28.7	100%	99.40	74,152
A611 North	Nearside	C	436	13.7	89%	61.50	26,814
Blidworth Road	Nearside	D	345	19	101%	146.30	50,474
						Delay Seconds	231,416
	PCU		2031	113.94	1.899029214		

Interpeak

Diamond Avenue / A611LinSig

Road	Position	Link	Number PCU	Queue Length PCU	Existing Operation PRC	Delay Seconds on Link	Total Delay By Lane
A611 South	Nearside	A	697	15.2	77%	34.50	24,047
Diamond Avenue	Nearside	B	596	11.7	70%	31.40	18,714
A611 North	Nearside	C	311	6.4	62%	39.80	12,378
Blidworth Road	Nearside	D	233	6.9	75%	58.30	13,584
						Delay Seconds	68,723
	PCU		1837	37.41	0.623503901		

PM_PEAK

Diamond Avenue / A611LinSig

Road	Position	Link	Number PCU	Queue Length PCU	Existing Operation PRC	Delay Seconds on Link	Total Delay By Lane
A611 South	Nearside	A	771	22.5	92%	54.10	41,711
Diamond Avenue	Nearside	B	839	57.8	108%	191.80	160,920
A611 North	Nearside	C	463	12.9	85%	52.20	24,169
Blidworth Road	Nearside	D	396	23.1	103%	157.70	62,449
						Delay Seconds	289,249
	PCU		2469	117.15	1.952538815		

Off Peak

Diamond Avenue / A611LinSig

Road	Position	Link	Number PCU	Queue Length PCU	Existing Operation PRC	Delay Seconds on Link	Total Delay By Lane
A611 South	Nearside	A					0
Diamond Avenue	Nearside	B					0
A611 North	Nearside	C					0
Blidworth Road	Nearside	D					0
						Delay Seconds	0
	PCU		0	#DIV/0!	#DIV/0!		

Diamond Avenue / A611LinSig

Total Delays	Number of Hours	Cost (2010 Market)	Delay	
AM Peak			231415.70	Seconds
Cost Per Hour	1	£833.01	64.28	Hours
Cost Per AM Period	3	£2,499.04	192.85	
Inter Peak			68722.60	Seconds
Cost Per Hour	1	£238.53	19.09	Hours
Cost Per IP Period	6	£1,431.19	114.54	
PM Peak			289249.10	Seconds
Cost Per Hour	1	£995.43	80.35	Hours
Cost Per PM Period	3	£2,986.30	241.04	
Off Peak			0.00	Seconds
Cost Per Hour	1	£0.00	0.00	Hours
Cost Per OP Period	12	£0.00	0.00	
Total Cost Per Day	24	£6,916.53		
Total Cost Per Year		**£1,798,297.74**		

Total Overall Cost Per Year	**£1,798,297.74**

Baseline Scenario

Coxmoor / A611 LinSig

AM_PEAK

Coxmoor / A611 LinSig

Road	Position	Link	Number PCU	Queue Length PCU	Existing Operation PRC	Delay Seconds on Link	Total Delay By Lane
A611 North	Nearside	A	693	12	65%	22.00	15,246
Coxmoor E	Nearside	B	280	5.7	83%	70.20	19,656
A611 South	Nearside	C	816	63.5	110%	224.50	183,192
Coxmoor W	Nearside	D	408	24.6	106%	189.90	77,479
						Delay Seconds	295,573
	PCU		1789	165.22	2.753616546		

Interpeak

Coxmoor / A611 LinSig

Road	Position	Link	Number PCU	Queue Length PCU	Existing Operation PRC	Delay Seconds on Link	Total Delay By Lane
A611 North	Nearside	A	454	6.4	41%	16.70	7,582
Coxmoor E	Nearside	B	207	3.3	62%	53.80	11,137
A611 South	Nearside	C	662	17.5	84%	38.90	25,752
Coxmoor W	Nearside	D	380	7.4	84%	61.80	23,484
						Delay Seconds	67,954
	PCU		1703	39.90	0.66504404		

PM_PEAK

Coxmoor / A611 LinSig

Road	Position	Link	Number PCU	Queue Length PCU	Existing Operation PRC	Delay Seconds on Link	Total Delay By Lane
A611 North	Nearside	A	672	11.3	63%	22.80	15,322
Coxmoor E	Nearside	B	252	4.5	75%	60.90	15,347
A611 South	Nearside	C	804	62.9	110%	226.60	182,186
Coxmoor W	Nearside	D	576	46.7	113%	278.60	160,474
						Delay Seconds	373,328
	PCU		2304	162.03	2.700581597		

Off Peak

Coxmoor / A611 LinSig

Road	Position	Link	Number PCU	Queue Length PCU	Existing Operation PRC	Delay Seconds on Link	Total Delay By Lane
A611 North	Nearside	A					0
Coxmoor E	Nearside	B					0
A611 South	Nearside	C					0
Coxmoor W	Nearside	D					0
						Delay Seconds	0
	PCU		0	#DIV/0!	#DIV/0!		

Coxmoor / A611 LinSig

Total Delays	Number of Hours	Cost (2010 Market)	Delay	
AM Peak			295573.20	Seconds
Cost Per Hour	1	£1,061.62	82.10	Hours
Cost Per AM Period	3	£3,184.85	246.31	
Inter Peak			67954.20	Seconds
Cost Per Hour	1	£235.87	18.88	Hours
Cost Per IP Period	6	£1,415.19	113.26	
PM Peak			373328.40	Seconds
Cost Per Hour	1	£1,280.85	103.70	Hours
Cost Per PM Period	3	£3,842.56	311.11	
Off Peak			0.00	Seconds
Cost Per Hour	1	£0.00	0.00	Hours
Cost Per OP Period	12	£0.00	0.00	
Total Cost Per Day	24	£8,442.60		
Total Cost Per Year		**£2,195,075.48**		

Total Overall Cost Per Year	**£2,195,075.48**

Baseline Scenario

Caudwell Road / A611 LinSig

AM_PEAK

Caudwell Road / A611 LinSig

Road	Position	Link	Number PCU	Queue Length PCU	Existing Operation PRC	Delay Seconds on Link	Total Delay By Lane
A611 North	Nearside	A	409	7.6	48%	21.90	8,957
Caudwell E	Nearside	B	282	7.9	75%	50.80	14,326
A611 South	Nearside	C	604	13.8	73%	28.70	17,335
Caudwell W	Nearside	D	8	0.2	7%	44.10	353
						Delay Seconds	40,970
	PCU		1295	31.64	0.527288288		

Interpeak

Caudwell Road / A611 LinSig

Road	Position	Link	Number PCU	Queue Length PCU	Existing Operation PRC	Delay Seconds on Link	Total Delay By Lane
A611 North	Nearside	A	299	5.1	35%	19.10	5,711
Caudwell E	Nearside	B	167	4.1	49%	42.20	7,047
A611 South	Nearside	C	503	7.5	51%	24.00	12,072
Caudwell W	Nearside	D	4	0.1	1%	35.70	143
						Delay Seconds	24,973
	PCU		973	25.67	0.427768071		

PM_PEAK

Caudwell Road / A611 LinSig

Road	Position	Link	Number PCU	Queue Length PCU	Existing Operation PRC	Delay Seconds on Link	Total Delay By Lane
A611 North	Nearside	A	388	7.1	46%	21.50	8,342
Caudwell E	Nearside	B	287	8.2	76%	51.80	14,867
A611 South	Nearside	C	717	15.2	79%	32.40	23,231
Caudwell W	Nearside	D	4	0.1	1%	32.20	129
						Delay Seconds	46,568
	PCU		1396	33.36	0.555971824		

Off Peak

Caudwell Road / A611 LinSig

Road	Position	Link	Number PCU	Queue Length PCU	Existing Operation PRC	Delay Seconds on Link	Total Delay By Lane
A611 North	Nearside	A					0
Caudwell E	Nearside	B					0
A611 South	Nearside	C					0
Caudwell W	Nearside	D					0
						Delay Seconds	0
	PCU		0	#DIV/0!	#DIV/0!		

Caudwell Road / A611 LinSig

Total Delays	Number of Hours	Cost (2010 Market)	Delay	
AM Peak			40970.30	Seconds
Cost Per Hour	1	£148.56	11.38	Hours
Cost Per AM Period	3	£445.69	34.14	
Inter Peak			24973.10	Seconds
Cost Per Hour	1	£86.43	6.94	Hours
Cost Per IP Period	6	£518.59	41.62	
PM Peak			46568.20	Seconds
Cost Per Hour	1	£159.83	12.94	Hours
Cost Per PM Period	3	£479.49	38.81	
Off Peak			0.00	Seconds
Cost Per Hour	1	£0.00	0.00	Hours
Cost Per OP Period	12	£0.00	0.00	
Total Cost Per Day	24	£1,443.78		
Total Cost Per Year		**£375,382.36**		

Total Overall Cost Per Year	**£375,382.36**

Baseline Scenario

Nottingham Road / A611 LinSig

AM_PEAK

Nottingham Road / A611 LinSig

Road	Position	Link	Number PCU	Queue Length PCU	Existing Operation PRC	Delay Seconds on Link	Total Delay By Lane
A60 S	Nearside	A	215	13.3	101%	174.10	37,432
	Offside	A	216	13.3	101%	173.10	37,390
A611	Nearside	B	301	17.2	101%	152.90	46,023
	Offside	B	173	4.6	57%	48.30	8,356
A60 N	Nearside	C	446	16.4	94%	77.80	34,699
	Offside	C	440	19	98%	100.30	44,132
						Delay Seconds	208,031
	PCU		1791	116.15	1.935889633		

Interpeak

Nottingham Road / A611 LinSig

Road	Position	Link	Number PCU	Queue Length PCU	Existing Operation PRC	Delay Seconds on Link	Total Delay By Lane
A60 S	Nearside	A	197	7.2	84%	81.50	16,056
	Offside	A	197	7.1	84%	80.60	15,878
A611	Nearside	B	332	11.2	88%	69.40	23,041
	Offside	B	162	3.8	42%	38.90	6,302
A60 N	Nearside	C	308	9.8	84%	63.20	19,466
	Offside	C	277	8.4	80%	58.80	16,288
						Delay Seconds	97,030
	PCU		1473	65.87	1.097867165		

PM_PEAK

Nottingham Road / A611 LinSig

Road	Position	Link	Number PCU	Queue Length PCU	Existing Operation PRC	Delay Seconds on Link	Total Delay By Lane
A60 S	Nearside	A	275	11.1	91%	90.10	24,778
	Offside	A	274	11.2	92%	91.10	24,961
A611	Nearside	B	446	17.7	92%	69.00	30,774
	Offside	B	263	7.4	53%	37.00	9,731
A60 N	Nearside	C	384	12.1	83%	53.80	20,659
	Offside	C	399	14.4	91%	69.80	27,850
						Delay Seconds	138,753
	PCU		2041	67.98	1.133049976		

Off Peak

Nottingham Road / A611 LinSig

Road	Position	Link	Number PCU	Queue Length PCU	Existing Operation PRC	Delay Seconds on Link	Total Delay By Lane
A60 S	Nearside	A					0
	Offside	A					
A611	Nearside	B					0
	Offside	B					
A60 N	Nearside	C					0
	Offside	C					
							0
						Delay Seconds	0
	PCU		0	#DIV/0!	#DIV/0!		

Nottingham Road / A611 LinSig

Total Delays	Number of Hours	Cost (2010 Market)	Delay	
AM Peak			208030.70	Seconds
Cost Per Hour	1	£732.91	57.79	Hours
Cost Per AM Period	3	£2,198.73	173.36	
Inter Peak			97029.50	Seconds
Cost Per Hour	1	£326.53	26.95	Hours
Cost Per IP Period	6	£1,959.18	161.72	
PM Peak			138753.30	Seconds
Cost Per Hour	1	£472.19	38.54	Hours
Cost Per PM Period	3	£1,416.58	115.63	
Off Peak			0.00	Seconds
Cost Per Hour	1	£0.00	0.00	Hours
Cost Per OP Period	12	£0.00	0.00	
Total Cost Per Day	24	£5,574.49		
Total Cost Per Year		**£1,449,366.23**		

Total Overall Cost Per Year	**£1,449,366.23**

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