

# Himley Village, NW Bicester

## Technical Note 1 – Assessment of early phases of NW Bicester on Howes Lane / Lords Lane corridor

Prepared for

P3Eco

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## 1.0 INTRODUCTION

This note sets out our methodology and assessment regarding the traffic impact of the early phases of NW Bicester on the Howes Lane / Lords Lane corridor. The developments that have been considered in this assessment are:

- The Exemplar scheme (396 homes)
- Application 1 (500 homes)
- Himley Village (500 homes)
- Himley Village (1000 homes)
- Himley Village (1700 homes)

## 2.0 BACKGROUND

The Howes Lane / Bucknell Road junction has been identified as a key capacity constraint on the Howes Lane / Lords Lane corridor. A new strategic link road within the NW Bicester site with an underpass beneath the railway line is proposed to relieve this capacity constraint. This strategic link will facilitate not only NW Bicester but has wider benefits for housing and employment growth elsewhere in the town. The alignment of the strategic link road and connecting junctions have been incorporated into a number of different outline planning applications for NW Bicester.

Based on a traffic assessment by Hyder, OCC have come to the view that the strategic link road needs to be implemented at or before occupation of 900 homes and 4ha of employment land across NW Bicester. Delivery of the link road is contingent on securing agreement from Network Rail to the underpass which currently introduces significant uncertainty over cost and timetable into the delivery programme.

The assessment by Hyder assumed an even distribution of housing and employment across the entire NW Bicester site. In broad terms the agreed trigger point means the delivery of 450 homes and 2ha of employment on both the north and south of the railway line. The trigger of 900 homes includes the Exemplar of 396 homes, which has commenced.

We have undertaken a detailed assessment of traffic generation and distribution that takes into account the likely distribution of trips from the key development sites identified. This demonstrates that the impacts of the development sites north of the railway on the Lords Lane / Bucknell Road and Howes Lane / Bucknell Road junctions are far greater than the impact of Himley Village to the south of the railway.

## 3.0 SCENARIOS TESTED

The impact of the NW Bicester schemes have been assessed against a 2021 baseline. The baseline includes background growth and the effect of the opening of Vendee Drive on traffic volumes on Howes Lane and Lords Lane.

The baseline traffic data has been extracted from Appendix C of the Exemplar TA with the 'Vendee Drive traffic' taken from Figure 01 of Appendix O of the SW Bicester TA. Both data sets have been factored up to 2021 using TEMPRO growth factors.

The following scenarios have been assessed:

- 2021 with background growth only
- 2021 with background growth, Exemplar and Application 1
- 2021 with background growth, Exemplar, Application 1 and Himley Village (500 homes)
- 2021 with background growth, Exemplar, Application 1 and Himley Village (1000 homes)
- 2021 with background growth, Exemplar, Application 1 and Himley Village (1700 homes)
- 2021 with background growth, Exemplar and Himley Village (500 homes)
- 2021 with background growth, Exemplar and Himley Village (1000 homes)
- 2021 with background growth, Exemplar and Himley Village (1700 homes)

#### **4.0 VEHICLE TRIP RATES AND CONTAINMENT**

Trip rates for the Exemplar development were taken from table 8.8 of the approved TA. The TA produced by Hyder for application 1 and the TA produced by Alan Baxter for the Himley Village scheme used a consistent methodology to derive trip rates, which have been adopted for this assessment. The methodology involved the creation of a set of total person trip rates for each land use based on comparable sites in the TRICS database. These are set out in tables 8.1-8.4 in Alan Baxter's TA for Himley, with table 8.14 setting out the 85<sup>th</sup> percentile vehicle trip rates for the residential use.

In order to ensure a robust worst case for assessment the 85<sup>th</sup> percentile trip rate has been applied. Furthermore, for the Application 1 site, 30% of the trips set out in Table 8.14 of the Application 1 TA have been applied to the network, rather than the 19% of trips that would be suggested by implementation of 500 homes. This represents the additional trips that would be added to the network from other, non-residential uses on-site that would be delivered early to support the residential uses. For consistency a similar uplift to 40% has been applied to the Himley Village 500 homes scenario.

The trip rate figures referred to above include the containment assumptions agreed with OCC. However, as it has been assumed that the Himley Village (500 unit) development will come forward ahead of the full implementation of NW Bicester it is therefore reasonable to assume that the full level of containment will not be achieved by 2021. To ensure a robust assessment we have assumed that all of the internal trips set out in table 8.14 will be added to the local highway network. For the Himley Village (1000 unit) development scenario we have assumed that 50% of internal trips will be added to the network with none of the internal trips added to the network for the 1700 unit scenario. For the Application 1 site we have assumed that 50% of the internal trips set out in Table 8.14 will be added to the network, which is reasonable given that there will be 896 homes with both the Exemplar and Application 1 implemented.

The Exemplar TA applied a different methodology to that used for the application 1 and 2 schemes and Himley Village. An initial containment level of 17.4% was assumed for the early stages of development along with a higher trip rate. To ensure a robust assessment we have applied the higher trips rates and the 17.4% containment rate. These are the trip generation figures set out in table 8.8 of the Exemplar TA.

The total vehicle trips added to the network for each development scenario are set out below.

Table 1: Exemplar trips

	AM peak			PM peak		
	IN	OUT	TOTAL	IN	OUT	TOTAL
Internal	-	-	-	-	-	-
External in Bicester	-	-	-	-	-	-
External outside Bicester	137	132	269	100	115	215
TOTAL	137	132	269	100	115	215

Table 2: Application 1 trips

	AM peak			PM peak		
	IN	OUT	TOTAL	IN	OUT	TOTAL
Internal	4	12	16	5	3	9
External in Bicester	34	62	96	56	40	96
External outside Bicester	73	156	229	154	82	236
TOTAL	116	242	358	221	129	350

Table 3: Himley Village (500 unit scenario) trips

	AM peak			PM peak		
	IN	OUT	TOTAL	IN	OUT	TOTAL
Internal	8	21	29	9	6	15
External in Bicester	30	54	83	49	34	83
External outside Bicester	74	145	218	144	105	249
TOTAL	111	220	330	202	145	347

Table 4: Himley Village (1000 unit scenario) trips

	AM peak			PM peak		
	IN	OUT	TOTAL	IN	OUT	TOTAL
Internal	6	16	21	7	4	11
External in Bicester	44	79	123	72	51	123
External outside Bicester	109	214	322	212	155	367
TOTAL	158	308	466	291	210	501

Table 5: Himley Village (1700 unit scenario) trips

	AM peak			PM peak		
	IN	OUT	TOTAL	IN	OUT	TOTAL
Internal	0	0	0	0	0	0
External in Bicester	74	134	208	122	86	208
External outside Bicester	184	362	546	360	262	622
TOTAL	258	496	754	482	348	830

## **5.0 BACKGROUND GROWTH**

As set out in section 3, a 2021 baseline has been used to test the scenarios outlined. This sets an ambitious but we believe achievable date to deliver 900 homes to the north of the railway.

In terms of Himley Village the applicant P3Eco has confirmed that it has the ability to deliver 1700 homes by 2021. The lower levels of 1000 and 500 homes could equally be delivered by this date.

The application of TEMPRO growth factors are assumed to cover background growth in traffic across the wider area plus specific growth in Bicester and at SW Bicester.

## **6.0 TRIP DISTRIBUTION**

The TA produced by Hyder for application 1 and application 2 and the TA produced by Alan Baxter for the Himley Village scheme used the 2007 Bicester Household Travel Diary survey in order to identify the destinations residents travelled to for different trip purposes. This data has been used to identify the distribution of residential trips onto the network from the three development areas. Using the Travel Diary survey an assessment has been made as to the routing that will be taken from the three sites to the various destinations and specifically whether the Lords Lane / Howes Lane corridor will be used. This is set out in Table 6.

Table 6: All household trips main destinations from the 2007 Bicester Household Travel Diary Survey (source: Table 2.2 of the Exemplar Travel Plan)

District/ Ward Name	% of Trips	Himley Village via Howes Lane corridor?	App 1 via Howes Lane corridor?	Exemplar via Howes Lane corridor?
Bicester Town Ward	18.9%	N	N	N
Oxford District (B)	9.0%	N	Y	Y
Bicester East Ward	8.7%	N	N	N
Kidlington Wards	7.8%	N	Y	Y
Bicester South Ward	7.8%	N	N	N
Bicester West Ward	6.8%	N	Y	Y
Bicester North Ward	6.5%	Y	N	N
Wards South and West of Bicester	4.7%	N	Y	Y
South Oxfordshire District	3.4%	N	Y	Y
Wards North and West of Bicester	3.0%	Y	N	N
South Northamptonshire District	2.4%	N	N	N
West Oxfordshire District	2.4%	N	Y	Y
Banbury	2.3%	N	N	N
<b>Total</b>	<b>83.7%</b>	<b>9.5%</b>	<b>34.1%</b>	<b>34.1%</b>

The figures in Table 6 only account for 83.7% of trips and therefore they have been factored up in the same proportions to account for 100% of trips. The adjusted figures are set out in Table 7.

These distribution figures have been used to identify the volume of traffic from the Himley Village, Application 1 and Exemplar schemes that will use the Lords Lane / Bucknell Road and Howes Lane / Bucknell Road junctions. For Himley Village it is assumed that all trips will enter and leave via Middleton Stoney Road. The totals in Table 7 demonstrate the relative impact of the three development areas on these junctions.

Table 7: All household trips main destinations from the 2007 Bicester Household Travel Diary Survey factored to 100%

District/ Ward Name	% of Trips	Himley Village via Howes Lane corridor?	App 1 via Howes Lane corridor?	Exemplar via Howes Lane corridor?
Bicester Town Ward	22.6%	N	N	N
Oxford District (B)	10.8%	N	Y	Y
Bicester East Ward	10.4%	N	N	N
Kidlington Wards	9.3%	N	Y	Y
Bicester South Ward	9.3%	N	N	N
Bicester West Ward	8.1%	N	Y	Y
Bicester North Ward	7.8%	Y	N	N
Wards South and West of Bicester	5.6%	N	Y	Y
South Oxfordshire District	4.1%	N	Y	Y
Wards North and West of Bicester	3.6%	Y	N	N
South Northamptonshire District	2.9%	N	N	N
West Oxfordshire District	2.9%	N	Y	Y
Banbury	2.7%	N	N	N
<b>Total</b>	<b>100.0%</b>	<b>11.3%</b>	<b>40.7%</b>	<b>40.7%</b>

The distributions in Table 7 have been applied to the total trips set out in Tables 1 to 6. Taking account of the containment and non-residential trip assumptions previously stated, the trips that will pass through the Howes Lane / Bucknell Road and Lords Lane / Bucknell Road junctions for each development area are set out in Tables 8 – 12.

Table 8: Exemplar trips

	AM peak			PM peak		
	IN	OUT	TOTAL	IN	OUT	TOTAL
Internal	-	-	-	-	-	-
External in Bicester	-	-	-	-	-	-
External outside Bicester	56	54	110	41	47	88
<b>TOTAL</b>	<b>56</b>	<b>54</b>	<b>110</b>	<b>41</b>	<b>47</b>	<b>88</b>

Table 9: Application 1 trips

	AM peak			PM peak		
	IN	OUT	TOTAL	IN	OUT	TOTAL
Internal	2	5	7	2	1	4
External in Bicester	14	25	39	23	16	39
External outside Bicester	30	64	93	63	33	96
TOTAL	47	99	146	90	52	142

Table 10: Himley Village (500 unit scenario) trips

	AM peak			PM peak		
	IN	OUT	TOTAL	IN	OUT	TOTAL
Internal	1	2	3	1	1	2
External in Bicester	3	6	9	6	4	9
External outside Bicester	8	16	25	16	12	28
TOTAL	13	25	37	23	16	39

Table 11: Himley Village (1000 unit scenario) trips

	AM peak			PM peak		
	IN	OUT	TOTAL	IN	OUT	TOTAL
Internal	1	2	2	1	1	1
External in Bicester	5	9	14	8	6	14
External outside Bicester	12	24	37	24	18	42
TOTAL	18	35	53	33	24	57

Table 12: Himley Village (1700 unit scenario) trips

	AM peak			PM peak		
	IN	OUT	TOTAL	IN	OUT	TOTAL
Internal	0	0	0	0	0	0
External in Bicester	8	15	24	14	10	24
External outside Bicester	21	41	62	41	30	71
TOTAL	29	56	86	55	39	94

## 7.0 BASELINE TRAFFIC FLOWS

Within the timescale that this assessment has been undertaken it has not been possible in the to commission up to date traffic surveys. Therefore, the surveyed 2010 traffic flows used for the Exemplar application have been used. As set out in section 5 the flows have been factored up accordingly making use of TEMPRO growth predictions for the modelled year of 2021.

An error has been noted in the original data presented in Appendix C of the Exemplar TA. The Howes Lane to Bucknell Road (N) movement has 513 vehicles recorded. This is anomalously high when compared to other movements and when attempting to balance flows between the



Howes Lane and Lords Lane junctions. The movement has been reduced to 390, which balances movements and fits within the expected volume when analysing movements across the junction.

## 8.0 EFFECT OF HIGHWAY INFRASTRUCTURE INTERVENTIONS

The introduction of the perimeter road (Vendee Drive) connecting Middleton Stoney Road with the A41 will have had an effect on traffic flows in and around Bicester. The volume of flows likely to divert onto Howes Lane/Lords Lane corridor was considered in the TA for the SW Bicester scheme with predications made based on data collected through cordon surveys.

The traffic diverted onto the Howes Lane/Lords Lane corridor as a result of Vendee Drive is set out in Figure O1 in Appendix O of the SW Bicester TA. These traffic flows have been added to the baseline traffic flows and factored accordingly using the TEMPRO growth predictions.

To ensure a worst case assessment it has been assumed that all diverted traffic remains on the Howes Lane/Lords Lane corridor at the Lords Lane / Bucknell Road and Howes Lane / Bucknell Road junctions.

If an up to date traffic survey were to be undertaken this would include the Vendee Drive perimeter road effect and it would not have to be accounted for separately.

## 8.0 TRAFFIC VOLUME CHANGES AT THE LORDS LANE / BUCKNELL ROAD AND HOWES LANE / BUCKNELL ROAD JUNCTIONS

The tables below provide an analysis of the impact of the scenarios set out in Section 3. The analysis is set out diagrammatically in Figure 1 of Appendix 1. Figures 2-9 in Appendix 2 provide the network diagrams with baseline traffic volumes as well as the additional traffic added by background growth and development at the Lords Lane / Bucknell Road and Howes Lane / Bucknell Road junctions.

The tables and analysis below focus on the Howes Lane / Bucknell Road junction as the Lords Lane junction does not pose any capacity problems.

### 8.1 Traffic volumes for the 2021 baseline with background traffic growth.

Table 13: Howes Lane / Bucknell Road 2021 with background growth AM peak

AM (08.00-09.00)		TO			
		Howes Lane	Bucknell Road (N)	Bucknell Road (S)	TOTAL
FROM	Howes Lane	0	375	18	393
	Bucknell Road (N)	593	0	180	774
	Bucknell Road (S)	48	180	0	229
	TOTAL	642	555	198	1396

Table 14: Howes Lane / Bucknell Road 2021 with background growth PM peak

PM (08.00-09.00)		TO			
		Howes Lane	Bucknell Road (N)	Bucknell Road (S)	TOTAL
FROM	Howes Lane	0	619	74	693
	Bucknell Road (N)	507	0	213	720
	Bucknell Road (S)	39	205	0	243
	TOTAL	546	823	287	1656

## 8.2 Traffic volumes for the 2021 baseline with background traffic growth, Exemplar and Application 1

Table 15: Howes Lane / Bucknell Road 2021 with background growth, Exemplar and Application 1 AM peak

AM (08.00-09.00)		TO			
		Howes Lane	Bucknell Road (N)	Bucknell Road (S)	TOTAL
FROM	Howes Lane	0	444	18	462
	Bucknell Road (N)	720	0	207	926
	Bucknell Road (S)	48	214	0	263
	TOTAL	768	658	225	1651

Table 16: Howes Lane / Bucknell Road 2021 with background growth, Exemplar and Application 1 PM peak

PM (08.00-09.00)		TO			
		Howes Lane	Bucknell Road (N)	Bucknell Road (S)	TOTAL
FROM	Howes Lane	0	735	74	809
	Bucknell Road (N)	602	0	218	820
	Bucknell Road (S)	39	219	0	257
	TOTAL	640	954	292	1886

Across both peaks there is a 15.9% increase in traffic as a result of the Exemplar and Application 1.

### 8.3 Traffic volumes for the 2021 baseline with background traffic growth, Exemplar, Application 1 and 500 homes at Himley Village

Table 17: Howes Lane / Bucknell Road 2021 with background growth, Exemplar, Application 1 and Himley Village 500 unit AM peak

AM (08.00-09.00)		TO			
		Howes Lane	Bucknell Road (N)	Bucknell Road (S)	TOTAL
FROM	Howes Lane	0	468	20	487
	Bucknell Road (N)	732	0	207	939
	Bucknell Road (S)	48	214	0	263
	TOTAL	781	682	226	1689

Table 18: Howes Lane / Bucknell Road 2021 with background growth, Exemplar, Application 1 and Himley Village 500 unit PM peak

PM (08.00-09.00)		TO			
		Howes Lane	Bucknell Road (N)	Bucknell Road (S)	TOTAL
FROM	Howes Lane	0	750	76	826
	Bucknell Road (N)	625	0	218	843
	Bucknell Road (S)	39	219	0	257
	TOTAL	663	968	294	1926

Across both peaks there is a 2.2% increase in traffic as a result of 500 homes at Himley Village in comparison to the baseline with Exemplar and Application 1.

### 8.4 Traffic volumes for the 2021 baseline with background traffic growth, Exemplar, Application 1 and 1000 homes at Himley Village

Table 19: Howes Lane / Bucknell Road 2021 with background growth, Exemplar, Application 1 and Himley Village 1000 unit AM peak

AM (08.00-09.00)		TO			
		Howes Lane	Bucknell Road (N)	Bucknell Road (S)	TOTAL
FROM	Howes Lane	0	477	20	497
	Bucknell Road (N)	738	0	207	944
	Bucknell Road (S)	48	214	0	263
	TOTAL	786	691	227	1704

Table 20: Howes Lane / Bucknell Road 2021 with background growth, Exemplar, Application 1 and Himley Village 1000 unit PM peak

PM (08.00-09.00)		TO			
		Howes Lane	Bucknell Road (N)	Bucknell Road (S)	TOTAL
FROM	Howes Lane	0	756	77	833
	Bucknell Road (N)	635	0	218	853
	Bucknell Road (S)	39	219	0	257
	TOTAL	673	975	295	1943

Across both peaks this is a 3.1% increase as a result of 1000 homes at Himley Village in comparison to the baseline with Exemplar and Application 1.

### 8.5 Traffic volumes for the 2021 baseline with background traffic growth, Exemplar, Application 1 and 1700 homes at Himley Village

Table 21: Howes Lane / Bucknell Road 2021 with background growth, Exemplar, Application 1 and Himley Village 1700 unit AM peak

AM (08.00-09.00)		TO			
		Howes Lane	Bucknell Road (N)	Bucknell Road (S)	TOTAL
FROM	Howes Lane	0	497	22	519
	Bucknell Road (N)	749	0	207	955
	Bucknell Road (S)	48	214	0	263
	TOTAL	797	711	228	1737

Table 22: Howes Lane / Bucknell Road 2021 with background growth, Exemplar, Application 1 and Himley Village 1700 unit PM peak

PM (08.00-09.00)		TO			
		Howes Lane	Bucknell Road (N)	Bucknell Road (S)	TOTAL
FROM	Howes Lane	0	770	79	849
	Bucknell Road (N)	656	0	218	874
	Bucknell Road (S)	39	219	0	257
	TOTAL	695	988	297	1980

Across both peaks there is a 5.1% increase in traffic as a result of 1700 homes at Himley Village in comparison to the baseline with Exemplar and Application 1.

## 8.6 Traffic volumes for the 2021 baseline with background traffic growth, Exemplar and 500 homes at Himley Village

In order to allow a direct comparison between the Himley Village scenarios and the scenario where 900 homes are constructed north of the railway, the traffic volumes for the 2021 baseline with background traffic growth, Exemplar traffic and 500 homes at Himley Village are set out below.

Table 23: Howes Lane / Bucknell Road 2021 with background growth, Exemplar and Himley Village 500 homes AM peak

AM (08.00-09.00)		TO			
		Howes Lane	Bucknell Road (N)	Bucknell Road (S)	TOTAL
FROM	Howes Lane	0	436	20	456
	Bucknell Road (N)	651	0	190	840
	Bucknell Road (S)	48	199	0	247
	TOTAL	699	635	209	1543

Table 24: Howes Lane / Bucknell Road 2021 with background growth, Exemplar and Himley Village 500 homes PM peak

PM (08.00-09.00)		TO			
		Howes Lane	Bucknell Road (N)	Bucknell Road (S)	TOTAL
FROM	Howes Lane	0	669	76	745
	Bucknell Road (N)	575	0	215	790
	Bucknell Road (S)	39	209	0	248
	TOTAL	614	878	291	1783

Across both peaks this is a 9% increase as a result of adding 500 homes at Himley Village and the Exemplar in comparison to the 2021 baseline. This increase is 6.9% lower than the comparable increase as a result of adding the Application 1 and Exemplar traffic to the Howes Lane / Lords Lane corridor (section 8.2).

## 8.7 Traffic volumes for the 2021 baseline with background traffic growth, Exemplar and 1000 homes at Himley Village

Table 25: Howes Lane / Bucknell Road 2021 with background growth, Exemplar and Himley Village 1000 homes AM peak

AM (08.00-09.00)		TO			
		Howes Lane	Bucknell Road (N)	Bucknell Road (S)	TOTAL
FROM	Howes Lane	0	445	20	466
	Bucknell Road (N)	656	0	190	845
	Bucknell Road (S)	48	199	0	247
	TOTAL	704	644	210	1558

Table 26: Howes Lane / Bucknell Road 2021 with background growth, Exemplar and Himley Village 1000 homes PM peak

PM (08.00-09.00)		TO			
		Howes Lane	Bucknell Road (N)	Bucknell Road (S)	TOTAL
FROM	Howes Lane	0	676	77	753
	Bucknell Road (N)	585	0	215	800
	Bucknell Road (S)	39	209	0	248
	TOTAL	624	885	292	1801

Across both peaks this is a 10.1% increase as a result of adding 500 homes at Himley Village and the Exemplar in comparison to the 2021 baseline. This increase is 5.8% lower than the comparable increase as a result of adding the Application 1 and Exemplar traffic to the Howes Lane / Lords Lane corridor (section 8.2).

### 8.8 Traffic volumes for the 2021 baseline with background traffic growth, Exemplar and 1700 homes at Himley Village

Table 27: Howes Lane / Bucknell Road 2021 with background growth, Exemplar and Himley Village 1700 homes AM peak

AM (08.00-09.00)		TO			
		Howes Lane	Bucknell Road (N)	Bucknell Road (S)	TOTAL
FROM	Howes Lane	0	465	22	487
	Bucknell Road (N)	667	0	190	857
	Bucknell Road (S)	48	199	0	247
	TOTAL	716	664	211	1591

Table 28: Howes Lane / Bucknell Road 2021 with background growth, Exemplar and Himley Village 1700 homes PM peak

PM (08.00-09.00)		TO			
		Howes Lane	Bucknell Road (N)	Bucknell Road (S)	TOTAL
FROM	Howes Lane	0	689	79	768
	Bucknell Road (N)	607	0	215	822
	Bucknell Road (S)	39	209	0	248
	TOTAL	645	898	295	1838

Across both peaks this is a 12.4% increase as a result of adding 500 homes at Himley Village and the Exemplar in comparison to the 2021 baseline. This increase is 3.5% lower than the comparable increase as a result of adding the Application 1 and Exemplar traffic to the Howes Lane / Lords Lane corridor (section 8.2).

## 8.9 Comparison of development flows against 2021 baseline with Exemplar

Finally, a comparison has been made of the individual impact of each development scenario against the baseline and Exemplar traffic volumes at the Howes Lane / Bucknell Road and Lords Lane / Bucknell Road junctions. The baseline and Exemplar flows are set out below.

Table 29: Howes Lane / Bucknell Road 2021 with background growth and Exemplar AM peak

AM (08.00-09.00)		TO			
		Howes Lane	Bucknell Road (N)	Bucknell Road (S)	TOTAL
FROM	Howes Lane	0	413	18	431
	Bucknell Road (N)	638	0	190	828
	Bucknell Road (S)	48	199	0	247
	TOTAL	686	611	208	1505

Table 30: Howes Lane / Bucknell Road 2021 with background growth and Exemplar PM peak

PM (08.00-09.00)		TO			
		Howes Lane	Bucknell Road (N)	Bucknell Road (S)	TOTAL
FROM	Howes Lane	0	655	74	729
	Bucknell Road (N)	552	0	215	767
	Bucknell Road (S)	39	209	0	248
	TOTAL	591	864	289	1744

By applying the trips set out in Tables 8 to 12 to the baseline flows in Tables 29 and 30 a comparison of the impact of development traffic can be made. The Application 1 traffic represents an increase of 8.9% across both peaks on top of the baseline and Exemplar traffic. By comparison the Himley Village 500 unit scenario adds 2.4% traffic, the 1000 unit scenario adds 3.4% traffic and the 1700 unit scenario adds 5.5% traffic.

## 9.0 JUNCTION CAPACITY ASSESSMENT

### 9.1 Howes Lane/Bucknell Road Junction - Existing Layout

The assessment undertaken by Hyder on behalf of A2Dominion concludes with regards to the existing Howes Lane / Bucknell Road junction that *“both tests of 900 and 1200 homes show the junction over capacity, but with the 900 homes capacity issues are not significantly worsened compared to the situation consented for the Exemplar.”* As previously stated this is based on an even distribution of housing and employment across the NW Bicester site.

Using the traffic flows that we have derived for the different scenarios we have undertaken our own capacity assessment for the Howes Lane/Bucknell Road junction. The existing junction layout has been modelled in PICADY using the same geometric parameters as Hyder, which we have extracted from the model outputs provided by OCC. The results are set out in Tables 31 below.

In the 2021 baseline scenarios without any development at all at NW Bicester (Tables 13 and 14) the junction is shown to be over capacity in the AM peak and substantially over capacity in the PM peak. In comparing the 2021 baseline flows with Hyder’s 900 home test, the baseline flows

are around 100 vehicles lower. However, in the AM peak there is a higher demand for vehicles to turn right from Bucknell Road onto Howes Lane and in the PM peak a higher demand for vehicles to turn left from Howes Lane onto Bucknell Road. This different pattern of vehicle movement through the junction is the reason for the worse junction performance.

The 2021 baseline with Exemplar and Application (Tables 15 and 16) has also been tested with the junction shown to be significantly over capacity on the Bucknell Road southbound arm in the AM peak and on all arms in the PM peak. In comparison with Hyder's 900 home test flows are around 150 vehicles higher in both the AM and PM peaks.

The 2021 baseline with Exemplar and 1700 homes at Himley Village (Tables 27 and 28) has been tested. In broad terms this has a slightly better level of junction performance to the 2021 baseline with Exemplar and Application 1. This is consistent with overall flows through the junction, illustrated by comparing Tables 15 and 16 with 27 and 28. With 500 homes and 1000 homes the junction performance is better than the 2021 baseline with Exemplar and Application 1. However, it is acknowledged that in all scenarios the junction will be operating over capacity in both peaks and therefore that some improvements are needed in the near future.

Table 31: Howes Lane / Bucknell Road PICADY results

AM (09.00-08.00)	2021 baseline		2021 with Exemplar and Application 1		2021 with Exemplar and Himley Village (1700 homes)	
	RFC	Queue	RFC	Queue	RFC	Queue
Howes Lane - right turn	0.12	0.15	0.44	0.68	0.29	0.41
Howes Lane - left turn	0.60	1.64	0.78	3.58	0.78	3.57
Bucknell Road southbound - ahead and right	1.21	52.37	1.49	180.46	1.37	112.81

PM (17.00-18.00)	2021 baseline		2021 with Exemplar and Application 1		2021 with Exemplar and Himley Village (1700 homes)	
	RFC	Queue	RFC	Queue	RFC	Queue
Howes Lane - right turn	1.08	6.98	1.39	16.79	1.32	14.73
Howes Lane - left turn	1.12	41.05	1.48	158.21	1.40	119.92
Bucknell Road southbound - ahead and right	1.06	14.84	1.27	66.35	1.27	67.91

The full Picady outputs are available in Appendix 3.

It should be noted that the modelling undertaken by Hyder represented an optimistic assessment due to the use of a flat demand profile over the peak hours. This had the effect of smoothing the flow of vehicles over the peak modelled hour and therefore reducing the maximum volume of vehicles passing through the junction in the peak 15 minute modelled



periods. For robustness our modelling has adopted a standard peak hour traffic profile. Given the substantial shortfall in capacity however, running the model with a flat profile will not produce significantly different results given the more accurate traffic flows used in our assessment.

## 10.0 CONCLUSIONS

As set out in Table 7 a far greater proportion of trips generated at development sites to the north of the railway will pass through the Howes Lane / Bucknell Road and Lords Lane / Bucknell Road junctions than will trips from Himley Village.

Consequently, and as demonstrated in this assessment, constructing 900 homes on the Exemplar and Application 1 sites would introduce higher traffic flows to the junctions than would any development scenario at Himley Village, including a development of up to 1700 homes. Moreover, even if 900 homes were to be constructed to the north of the railway the addition of development on Himley Village has a small additional impact of 2.2% for 500 homes, rising to 3.1% for 1000 homes and 5.1% for 1700 homes. This is illustrated diagrammatically in Figure 1 of Appendix 1.

A detailed capacity assessment has been undertaken for the Howes Lane/Bucknell Road junction. This has shown that even without any development on the NW Bicester site in 2021 this junction would be over capacity in the AM peak and substantially over capacity in the PM peak. The addition of 900 homes on the north side of the railway in 2021 would result in significant over capacity issues in both the AM and PM peaks. By way of a comparison, the junction performance would be better in 2021 with only the Exemplar north of the railway combined with 1700 homes on Himley Village to the south.

In conclusion this assessment demonstrates that given the Exemplar has commenced and the capacity constraint on the Howes Lane/Lords Lane corridor, housing delivery across the NW Bicester site would be maximised by locating 1700 homes at Himley Village. This would deliver an additional 1200 homes before the new strategic link road is required.

## Appendix 1

### Analysis of traffic impact of NW Bicester schemes on the Howes Lane / Bucknell Road junction

# ANALYSIS OF TRAFFIC IMPACT OF NW BICESTER SCHEMES ON THE HOWES LANE/BUCKNELL ROAD JUNCTIONS

## EXEMPLAR TRAFFIC GENERATION - 396 HOMES

- ASSUMES 2016 TRIP RATE
- ASSUMES 17.4% CONTAINMENT

AM		PM	
IN	OUT	IN	OUT
56	54	41	47

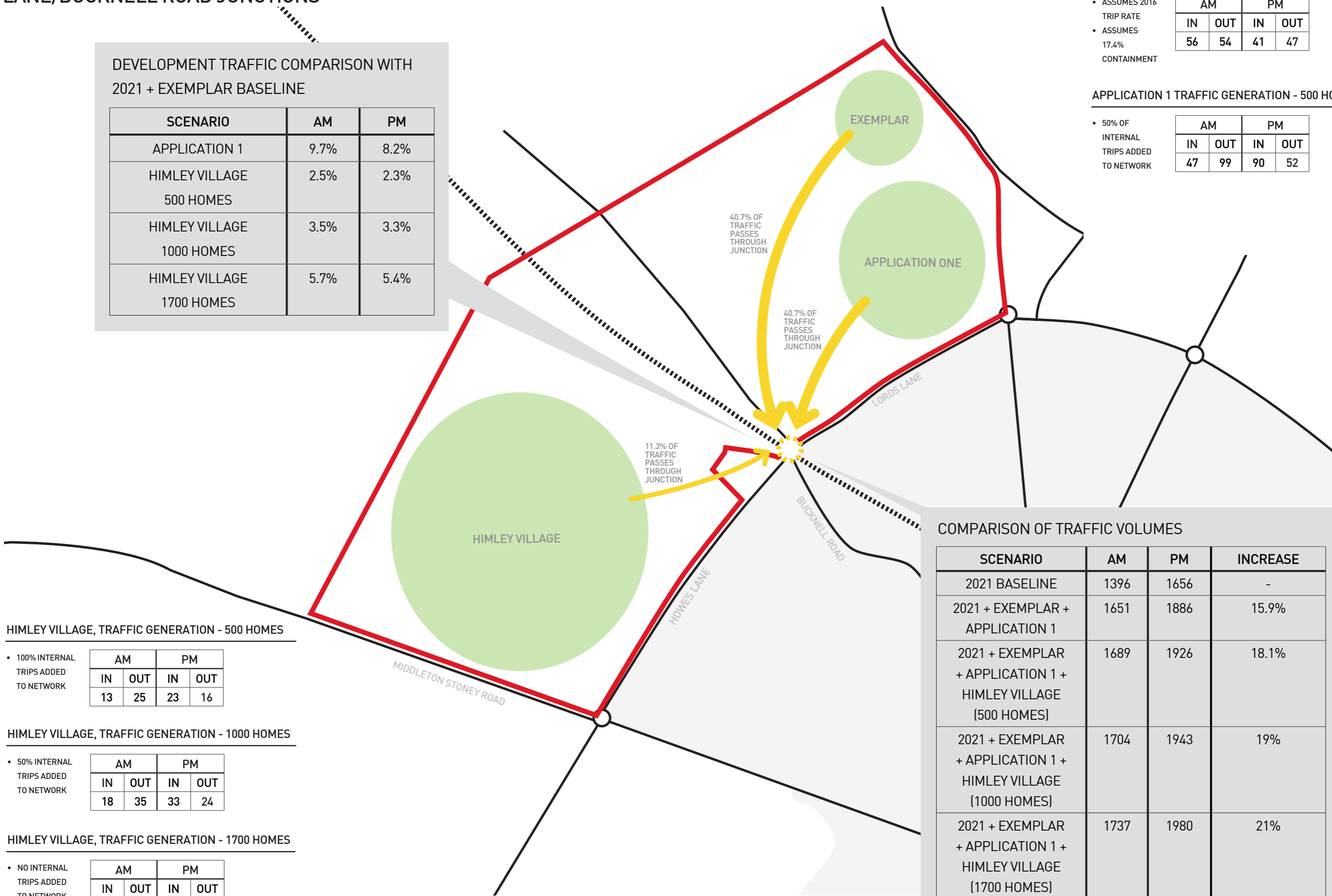
## APPLICATION 1 TRAFFIC GENERATION - 500 HOMES

- 50% OF INTERNAL TRIPS ADDED TO NETWORK

AM		PM	
IN	OUT	IN	OUT
47	99	90	52

## DEVELOPMENT TRAFFIC COMPARISON WITH 2021 + EXEMPLAR BASELINE

SCENARIO	AM	PM
APPLICATION 1	9.7%	8.2%
HIMLEY VILLAGE 500 HOMES	2.5%	2.3%
HIMLEY VILLAGE 1000 HOMES	3.5%	3.3%
HIMLEY VILLAGE 1700 HOMES	5.7%	5.4%



## COMPARISON OF TRAFFIC VOLUMES

SCENARIO	AM	PM	INCREASE
2021 BASELINE	1396	1656	-
2021 + EXEMPLAR + APPLICATION 1	1651	1886	15.9%
2021 + EXEMPLAR + APPLICATION 1 + HIMLEY VILLAGE (500 HOMES)	1689	1926	18.1%
2021 + EXEMPLAR + APPLICATION 1 + HIMLEY VILLAGE (1000 HOMES)	1704	1943	19%
2021 + EXEMPLAR + APPLICATION 1 + HIMLEY VILLAGE (1700 HOMES)	1737	1980	21%

## HIMLEY VILLAGE, TRAFFIC GENERATION - 500 HOMES

- 100% INTERNAL TRIPS ADDED TO NETWORK

AM		PM	
IN	OUT	IN	OUT
13	25	23	16

## HIMLEY VILLAGE, TRAFFIC GENERATION - 1000 HOMES

- 50% INTERNAL TRIPS ADDED TO NETWORK

AM		PM	
IN	OUT	IN	OUT
18	35	33	24

## HIMLEY VILLAGE, TRAFFIC GENERATION - 1700 HOMES

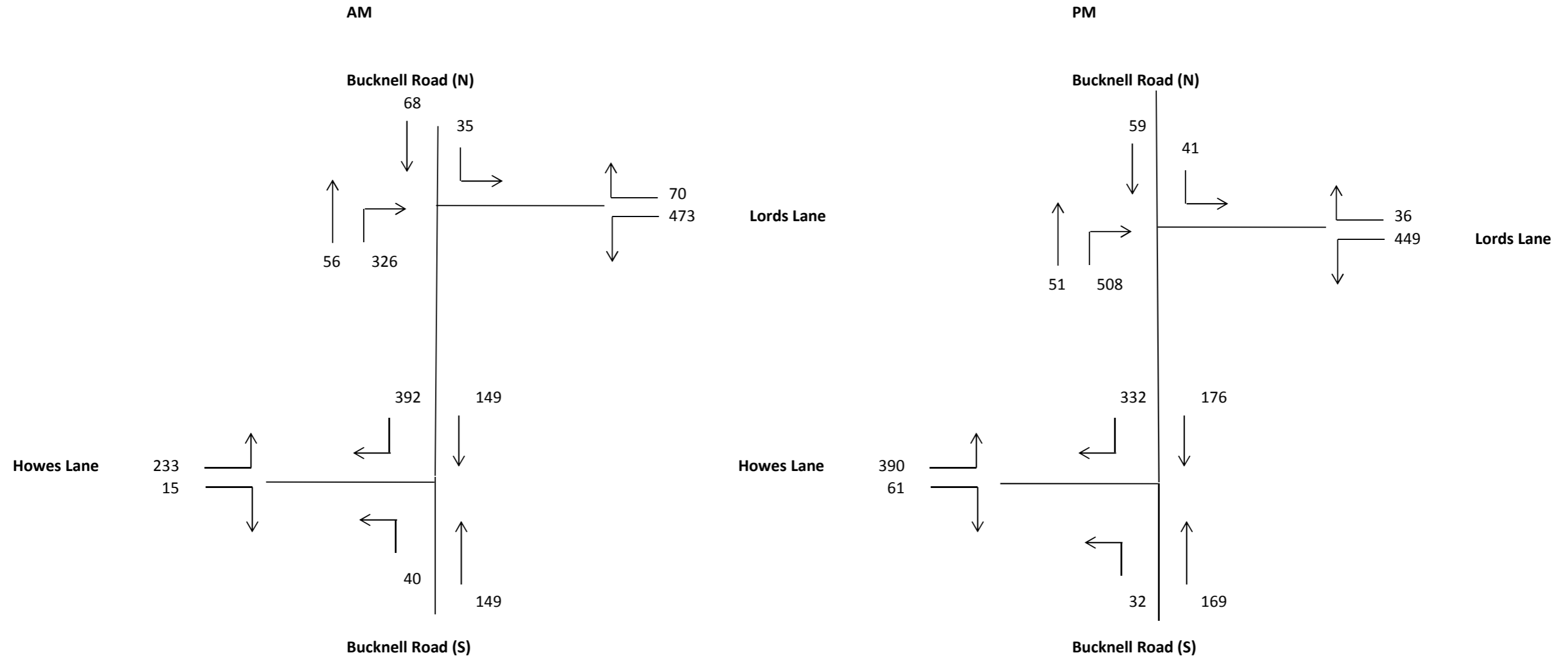
- NO INTERNAL TRIPS ADDED TO NETWORK

AM		PM	
IN	OUT	IN	OUT
29	56	55	39

## Appendix 2

### Figures 2 to 12 – network diagrams

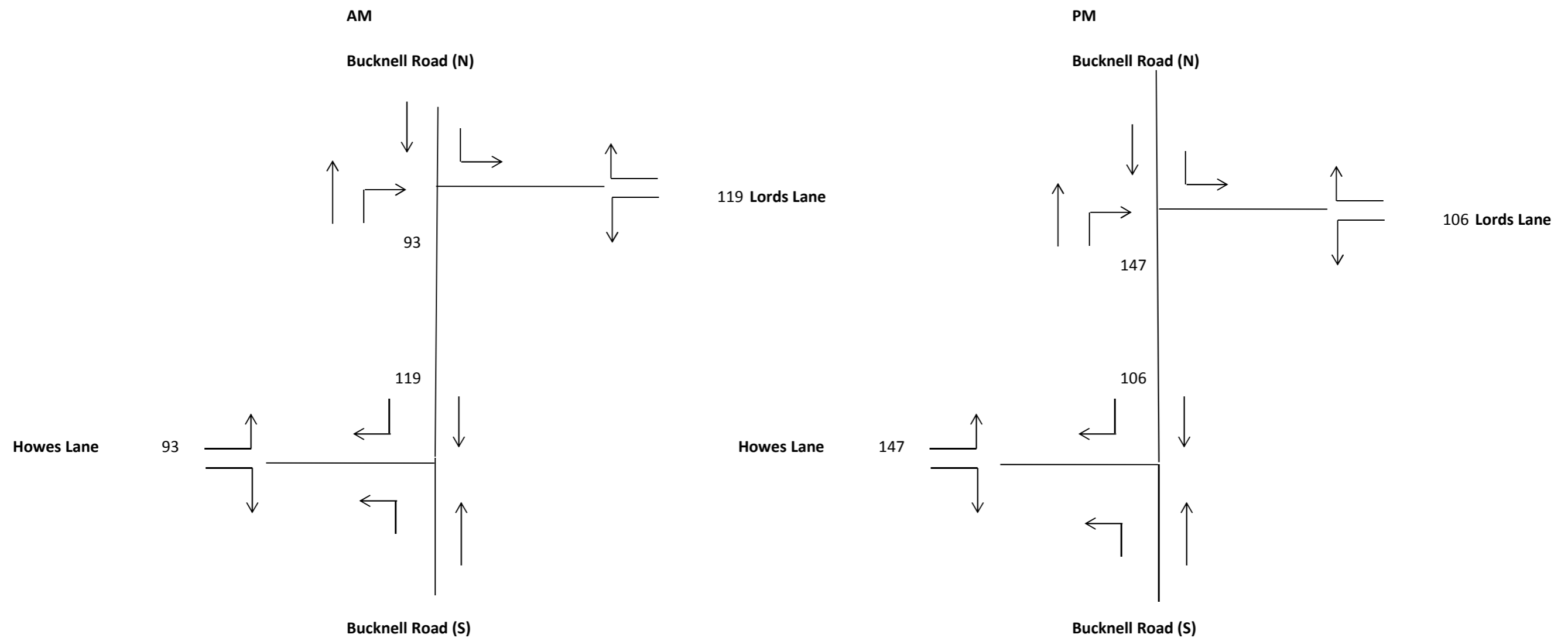
Figure 2: 2010 Baseline



Source: Appendix C, Exemplar TA

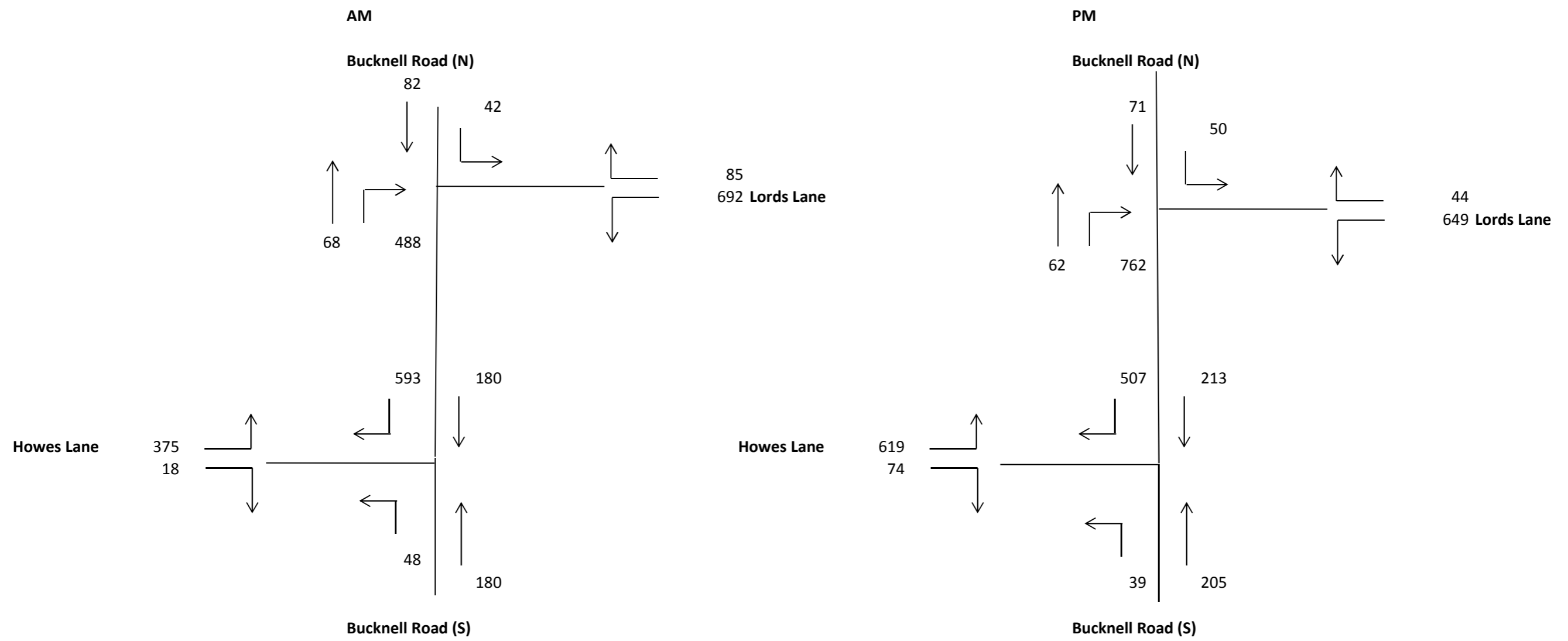
NB: Howes Lane northbound traffic movement corrected as set out in note

Figure 3: Perimeter road effects (factored down to 2010)



Source: Figure 01 from Appendix O of Appendix O SW Bicester TA (original data factored to 2014)

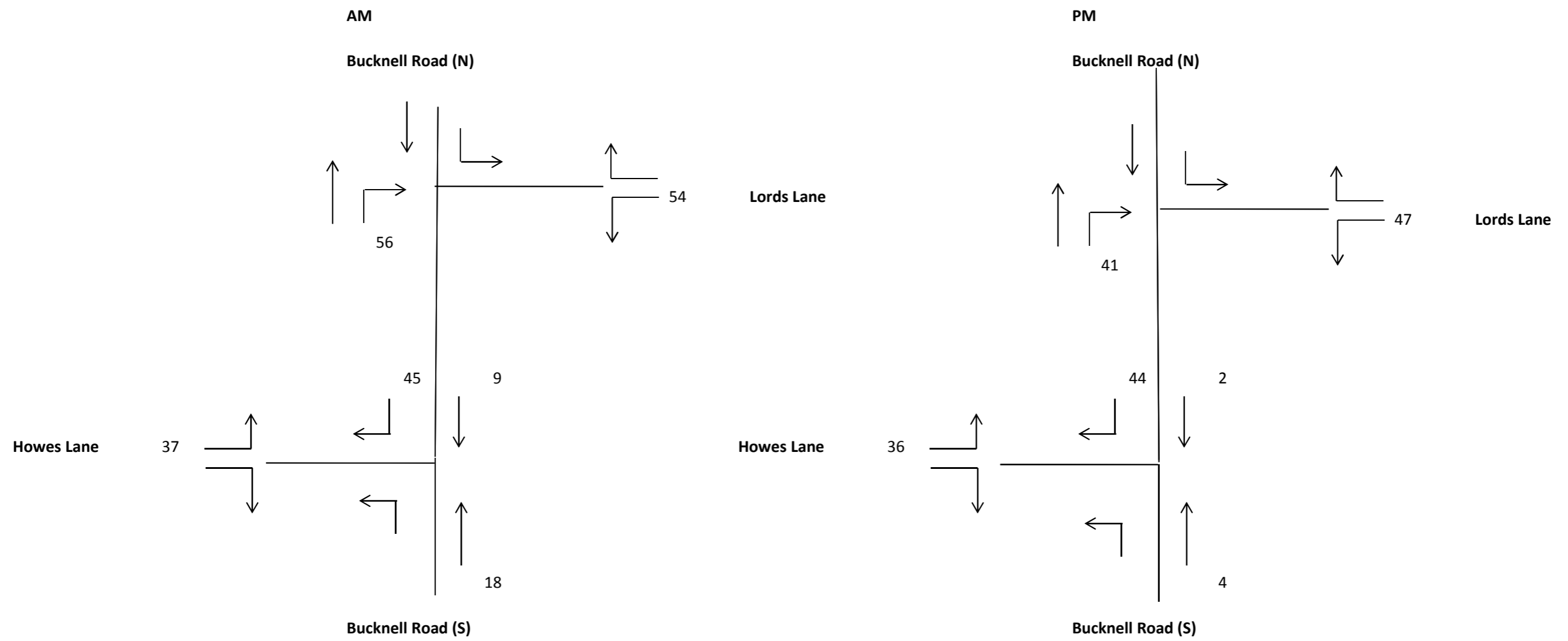
Figure 4: 2021 baseline with background growth and perimeter road effect



TEMPRO growth factor 2010 - 2021

1.210322

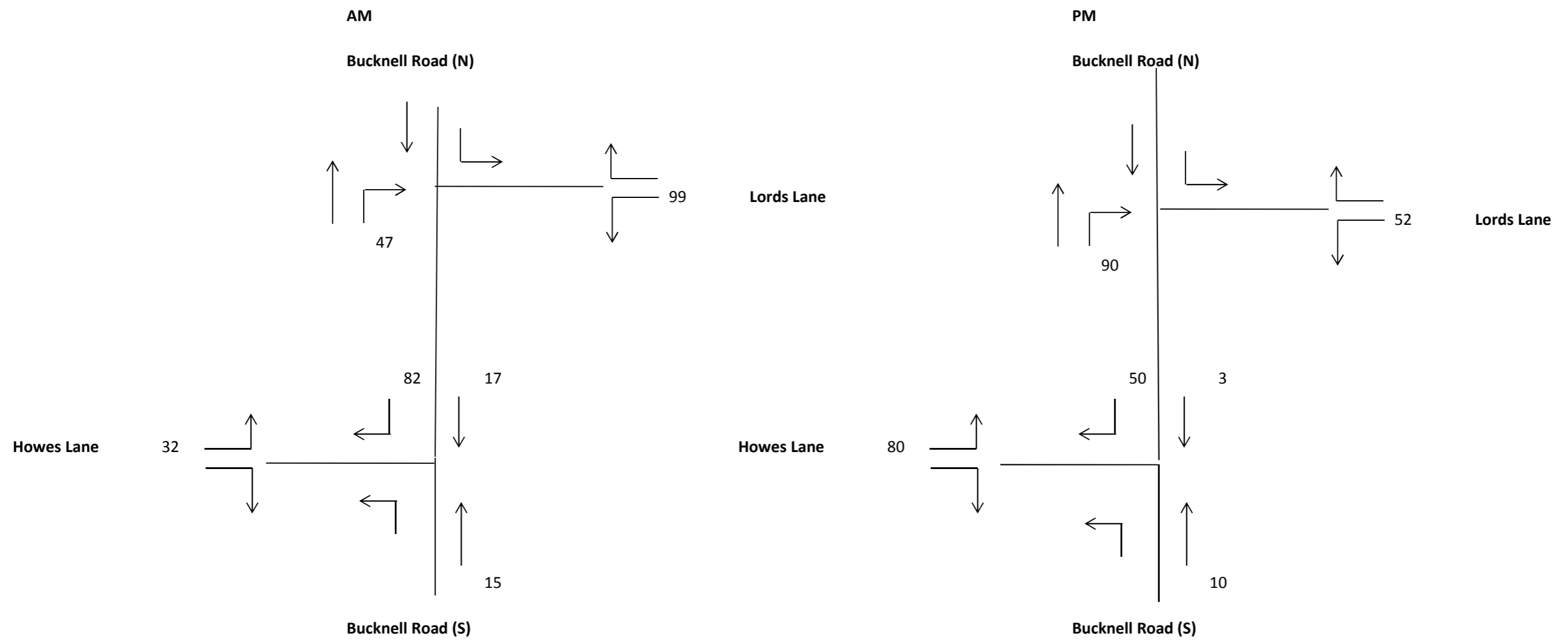
Figure 5: Exemplar traffic (396 homes)



Source: Table 8.8 of Exemplar TA; turning movements based on Figure 8.1 of Exemplar TA

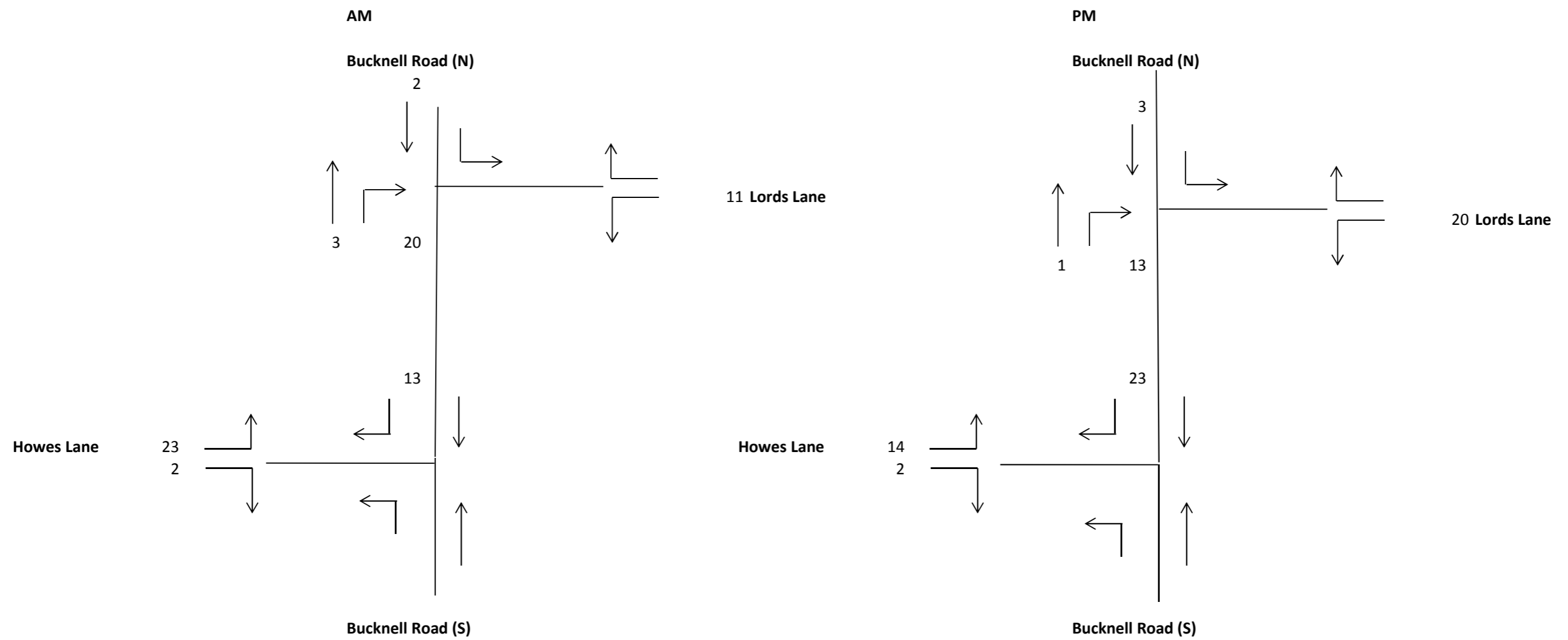


Figure 6: Application 1 traffic (500 homes)



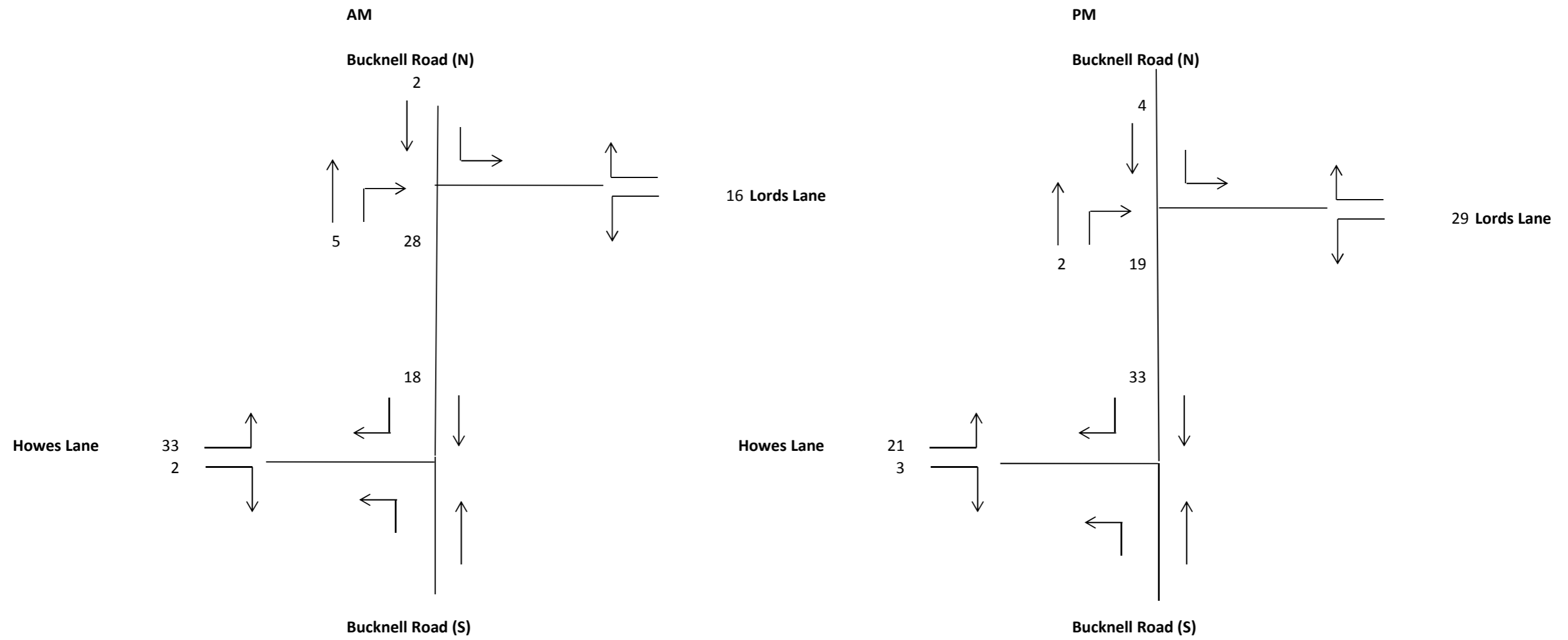
Source: Table 8.14 of Application 1 TA; turning movements based on Figure 8.1 of Exemplar TA

Figure 7: Himley Village traffic (500 homes)



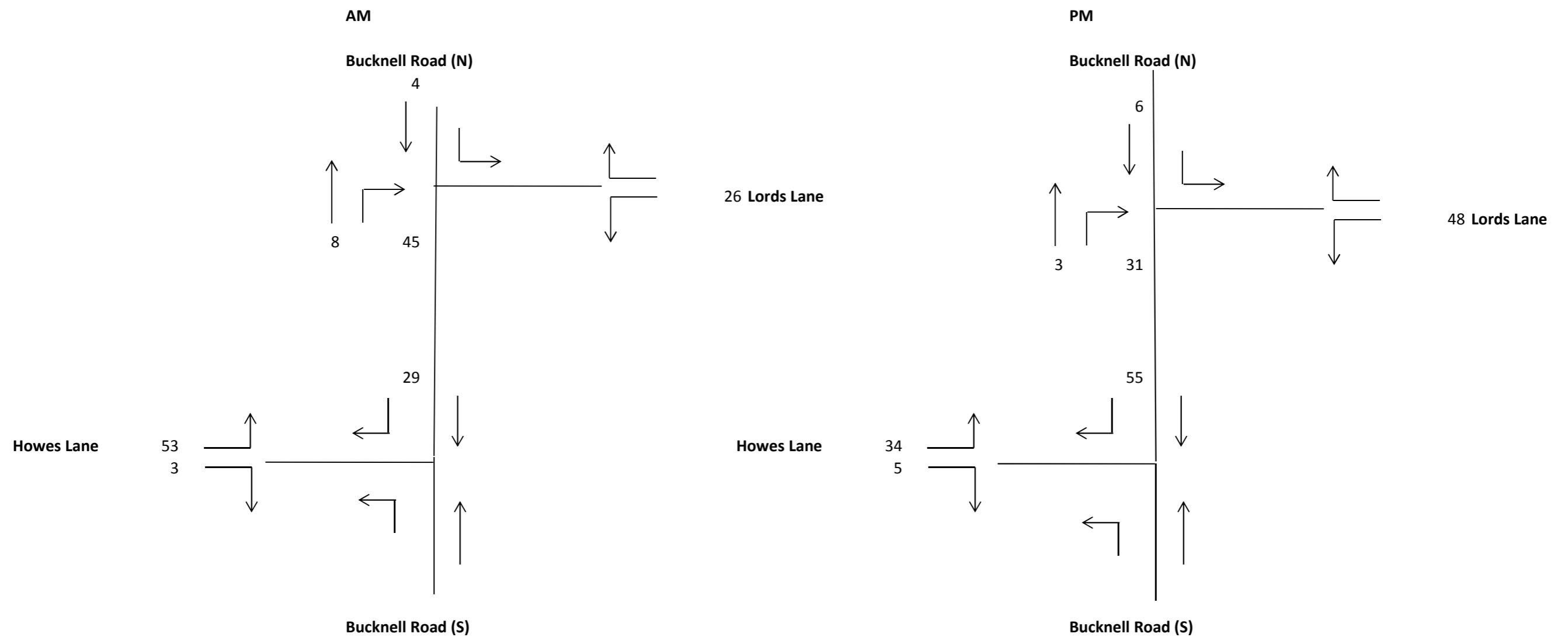
Source: Table 8.14 of Himley Village TA; Turning movements based on 2010 baseline traffic survey

Figure 8: Himley Village traffic (1000 homes)



Source: Table 8.14 of Himley Village TA; Turning movements based on 2010 baseline traffic survey

Figure 9: Himley Village traffic (1700 homes)



Source: Table 8.14 of Himley Village TA; Turning movements based on 2010 baseline traffic survey

**Appendix 3**

**PICADY model outputs**

<b>Junctions 8</b>
<b>PICADY 8 - Priority Intersection Module</b>
Version: 8.0.4.487 [15039,24/03/2014] © Copyright TRL Limited, 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
<b>The users of this computer program for the solution of an engineering problem are in no way relieved of their responsibility for the correctness of the solution</b>

**Filename:** Howes Lane - Bucknell RoadV4 (PEAK).arc8  
**Path:** T:\1665\1665-075\14 Calculations\2015 modelling  
**Report generation date:** 10/12/2015 17:12:21

- » (Default Analysis Set) - Hyder Test 2, AM
- » (Default Analysis Set) - Hyder Test 2, PM
- » (Default Analysis Set) - Scenario 1, AM
- » (Default Analysis Set) - Scenario 1, PM
- » (Default Analysis Set) - Scenario 2, AM
- » (Default Analysis Set) - Scenario 2, PM
- » (Default Analysis Set) - Scenario 3, AM
- » (Default Analysis Set) - Scenario 3, PM
- » (Default Analysis Set) - Scenario 4, AM
- » (Default Analysis Set) - Scenario 4, PM
- » (Default Analysis Set) - Scenario 5, AM
- » (Default Analysis Set) - Scenario 5, PM
- » (Default Analysis Set) - Scenario 6, AM
- » (Default Analysis Set) - Scenario 6, PM

### Summary of junction performance

	AM				PM			
	Queue (PCU)	Delay (s)	RFC	LOS	Queue (PCU)	Delay (s)	RFC	LOS
<b>A1 - Hyder Test 2</b>								
Stream B-C	3.45	26.81	0.77	D	20.18	126.39	1.02	F
Stream B-A	0.32	32.17	0.23	D	3.65	307.02	1.00	F
Stream C-AB	6.62	53.84	0.92	F	7.18	62.60	0.93	F
Stream C-A	-	-	-	-	-	-	-	-
Stream A-B	-	-	-	-	-	-	-	-
Stream A-C	-	-	-	-	-	-	-	-
<b>A1 - Scenario 1</b>								
Stream B-C	1.64	14.55	0.60	B	41.05	205.57	1.12	F
Stream B-A	0.15	28.50	0.12	D	6.98	343.84	1.08	F
Stream C-AB	52.37	273.30	1.21	F	14.84	113.09	1.06	F
Stream C-A	-	-	-	-	-	-	-	-
Stream A-B	-	-	-	-	-	-	-	-
Stream A-C	-	-	-	-	-	-	-	-
<b>A1 - Scenario 2</b>								
Stream B-C	2.22	18.09	0.68	C	70.38	399.24	1.23	F
Stream B-A	0.22	40.84	0.17	E	9.42	503.60	1.16	F
Stream C-AB	87.72	487.89	1.31	F	32.67	201.97	1.17	F
Stream C-A	-	-	-	-	-	-	-	-
Stream A-B	-	-	-	-	-	-	-	-
Stream A-C	-	-	-	-	-	-	-	-

A1 - Scenario 3								
Stream B-C	3.58	27.74	0.78	D	158.21	901.81	1.48	F
Stream B-A	0.68	148.84	0.44	F	16.79	1030.68	1.39	F
Stream C-AB	180.46	951.90	1.49	F	66.35	354.55	1.27	F
Stream C-A	-	-	-	-	-	-	-	-
Stream A-B	-	-	-	-	-	-	-	-
Stream A-C	-	-	-	-	-	-	-	-
A1 - Scenario 4								
Stream B-C	2.70	21.01	0.72	C	84.88	505.18	1.29	F
Stream B-A	0.29	49.20	0.22	E	11.10	603.13	1.21	F
Stream C-AB	98.77	558.06	1.34	F	46.07	254.13	1.21	F
Stream C-A	-	-	-	-	-	-	-	-
Stream A-B	-	-	-	-	-	-	-	-
Stream A-C	-	-	-	-	-	-	-	-
A1 - Scenario 5								
Stream B-C	2.91	22.28	0.74	C	91.38	539.98	1.31	F
Stream B-A	0.31	52.81	0.23	F	11.63	628.42	1.23	F
Stream C-AB	102.76	582.61	1.35	F	51.51	273.38	1.23	F
Stream C-A	-	-	-	-	-	-	-	-
Stream A-B	-	-	-	-	-	-	-	-
Stream A-C	-	-	-	-	-	-	-	-
A1 - Scenario 6								
Stream B-C	3.57	26.36	0.78	D	119.92	706.44	1.40	F
Stream B-A	0.41	65.56	0.29	F	14.73	798.43	1.32	F
Stream C-AB	112.81	637.44	1.37	F	67.91	363.69	1.27	F
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.

- "D1 - Hyder Test 2, AM" model duration: 07:45 - 09:15
- "D2 - Hyder Test 2, PM" model duration: 16:45 - 18:15
- "D3 - Scenario 1, AM" model duration: 07:45 - 09:15
- "D4 - Scenario 1, PM" model duration: 16:45 - 18:15
- "D5 - Scenario 2, AM" model duration: 07:45 - 09:15
- "D6 - Scenario 2, PM" model duration: 16:45 - 18:15
- "D7 - Scenario 3, AM" model duration: 07:45 - 09:15
- "D8 - Scenario 3, PM" model duration: 16:45 - 18:15
- "D9 - Scenario 4, AM" model duration: 07:45 - 09:15
- "D10 - Scenario 4, PM" model duration: 16:45 - 18:15
- "D11 - Scenario 5, AM" model duration: 07:45 - 09:15
- "D12 - Scenario 5, PM" model duration: 16:45 - 18:15
- "D13 - Scenario 6, AM" model duration: 07:45 - 09:15
- "D14 - Scenario 6, PM" model duration: 16:45 - 18:15

Run using Junctions 8.0.4.487 at 10/12/2015 17:12:09

### File summary

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<b>Location</b>	
<b>Site Number</b>	
<b>Date</b>	10/12/2015
<b>Version</b>	
<b>Status</b>	(new file)
<b>Identifier</b>	
<b>Client</b>	
<b>Jobnumber</b>	
<b>Enumerator</b>	aohare
<b>Description</b>	

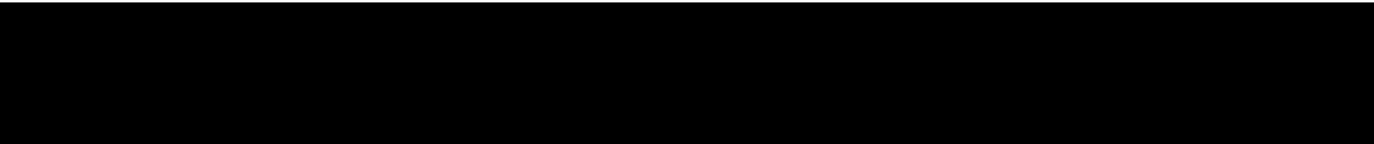
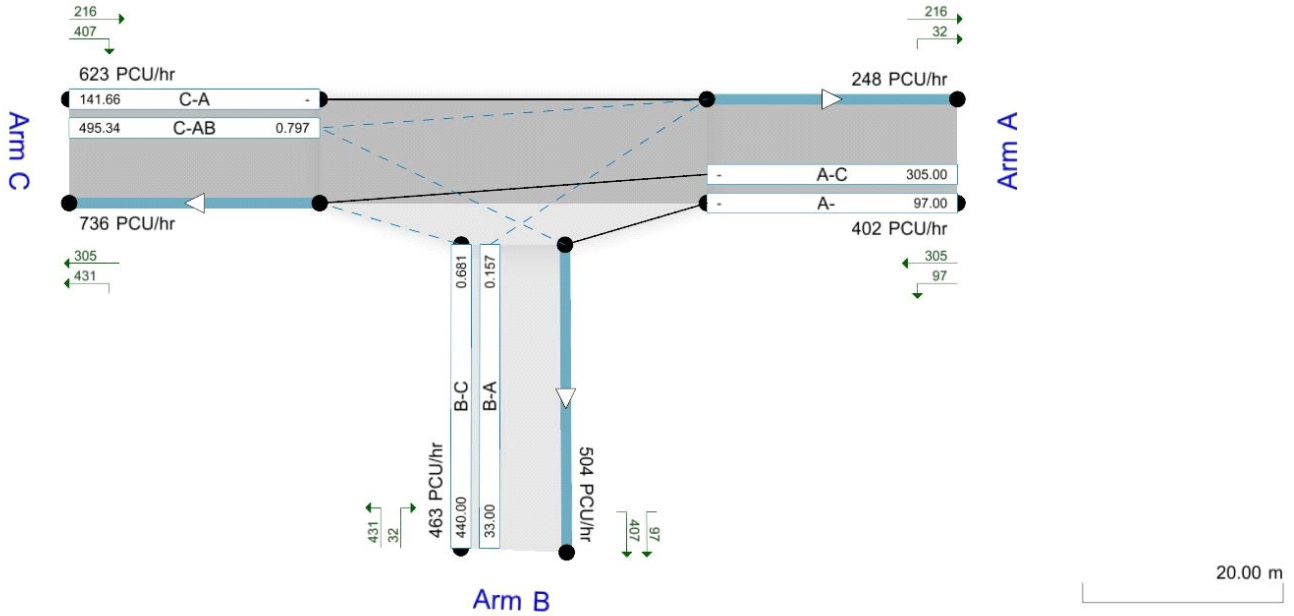
### Analysis Options

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





The junction diagram reflects the last run of ARCADY.

## (Default Analysis Set) - Hyder Test 2, 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
Hyder Test 2, AM	Hyder Test 2	AM		ONE HOUR	07:45	09:15	90	15		

# Junction Network

## Junctions

Junction	Name	Junction Type	Major Road Direction	Arm Order	Junction Delay (s)	Junction LOS
1	Howes Lane - Bucknell Road	T-Junction	Two-way	A,B,C	40.72	E

## Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

# Arms

## Arms

Arm	Arm	Name	Description	Arm Type
A	A	(untitled)		Major
B	B	(untitled)		Minor
C	C	(untitled)		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	6.50	✓	1.75	✓	2.20	140.00	✓	3.00

*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	7.50	5.50	5.50	5.50		3.00	20	27

## 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	454.690	0.078	0.197	0.124	0.282
1	B-C	769.271	0.115	0.292	-	-
1	C-B	655.039	0.248	0.248	-	-

*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	✓	402.00	100.000
B	ONE HOUR	✓	473.00	100.000
C	ONE HOUR	✓	637.00	100.000

# Turning Proportions

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

		To		
		A	B	C
From	A	0.000	97.000	305.000
	B	33.000	0.000	440.000
	C	218.000	419.000	0.000

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

		To		
		A	B	C
From	A	0.00	0.24	0.76
	B	0.07	0.00	0.93
	C	0.34	0.66	0.00

# Vehicle Mix

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

		To		
		A	B	C
From	A	1.000	1.100	1.000
	B	1.100	1.000	1.100
	C	1.100	1.100	1.000

### Heavy Vehicle Percentages - Junction 1 (for whole period)

		To		
From		A	B	C
	A	0.0	10.0	0.0
	B	10.0	0.0	10.0
	C	10.0	10.0	0.0

## Results

### Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-C	0.77	26.81	3.45	D
B-A	0.23	32.17	0.32	D
C-AB	0.92	53.84	6.62	F
C-A	-	-	-	-
A-B	-	-	-	-
A-C	-	-	-	-

### Main Results for each time segment

#### 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	331.26	327.17	0.00	679.24	0.488	1.02	11.125	B
B-A	24.84	24.43	0.00	286.37	0.087	0.10	15.096	C
C-AB	332.41	327.10	0.00	600.68	0.553	1.33	14.221	B
C-A	147.16	147.16	0.00	-	-	-	-	-
A-B	73.03	73.03	0.00	-	-	-	-	-
A-C	229.62	229.62	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	395.55	393.30	0.00	659.67	0.600	1.59	14.734	B
B-A	29.67	29.48	0.00	242.04	0.123	0.15	18.613	C
C-AB	419.82	416.05	0.00	608.19	0.690	2.27	20.182	C
C-A	152.83	152.83	0.00	-	-	-	-	-
A-B	87.20	87.20	0.00	-	-	-	-	-
A-C	274.19	274.19	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	484.45	477.69	0.00	630.62	0.768	3.27	24.830	C
B-A	36.33	35.75	0.00	165.47	0.220	0.30	30.383	D
C-AB	590.15	575.52	0.00	643.00	0.918	5.93	44.360	E
C-A	111.20	111.20	0.00	-	-	-	-	-
A-B	106.80	106.80	0.00	-	-	-	-	-
A-C	335.81	335.81	0.00	-	-	-	-	-

**Main results: (08:30-08:45)**

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	484.45	483.73	0.00	629.65	0.769	3.45	26.807	D
B-A	36.33	36.26	0.00	159.23	0.228	0.32	32.166	D
C-AB	590.15	587.38	0.00	643.00	0.918	6.62	53.844	F
C-A	111.20	111.20	0.00	-	-	-	-	-
A-B	106.80	106.80	0.00	-	-	-	-	-
A-C	335.81	335.81	0.00	-	-	-	-	-

**Main results: (08:45-09:00)**

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	395.55	402.49	0.00	658.70	0.601	1.72	15.844	C
B-A	29.67	30.28	0.00	234.93	0.126	0.16	19.406	C
C-AB	419.82	435.75	0.00	608.19	0.690	2.64	24.743	C
C-A	152.83	152.83	0.00	-	-	-	-	-
A-B	87.20	87.20	0.00	-	-	-	-	-
A-C	274.19	274.19	0.00	-	-	-	-	-

**Main results: (09:00-09:15)**

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	331.26	333.84	0.00	678.71	0.488	1.07	11.568	B
B-A	24.84	25.06	0.00	282.80	0.088	0.11	15.378	C
C-AB	332.41	337.22	0.00	600.68	0.553	1.44	15.304	C
C-A	147.16	147.16	0.00	-	-	-	-	-
A-B	73.03	73.03	0.00	-	-	-	-	-
A-C	229.62	229.62	0.00	-	-	-	-	-

## (Default Analysis Set) - Hyder Test 2, 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
Hyder Test 2, PM	Hyder Test 2	PM		ONE HOUR	16:45	18:15	90	15		

## Junction Network

### Junctions

Junction	Name	Junction Type	Major Road Direction	Arm Order	Junction Delay (s)	Junction LOS
1	Howes Lane - Bucknell Road	T-Junction	Two-way	A,B,C	105.56	F

## Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

## Arms

### Arms

Arm	Arm	Name	Description	Arm Type
A	A	(untitled)		Major
B	B	(untitled)		Minor
C	C	(untitled)		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	6.50	✓	1.75	✓	2.20	140.00	✓	3.00

*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	7.50	5.50	5.50	5.50		3.00	20	27

## 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	454.690	0.078	0.197	0.124	0.282
1	B-C	769.271	0.115	0.292	-	-
1	C-B	655.039	0.248	0.248	-	-

*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	✓	623.00	100.000
B	ONE HOUR	✓	557.00	100.000
C	ONE HOUR	✓	558.00	100.000

# Turning Proportions

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

		To		
		A	B	C
From	A	0.000	169.000	454.000
	B	40.000	0.000	517.000
	C	178.000	380.000	0.000

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

		To		
		A	B	C
From	A	0.00	0.27	0.73
	B	0.07	0.00	0.93
	C	0.32	0.68	0.00

# Vehicle Mix

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

		To		
		A	B	C
From	A	1.000	1.100	1.100
	B	1.100	1.000	1.100
	C	1.100	1.100	1.000

## Heavy Vehicle Percentages - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.0	10.0	10.0
	B	10.0	0.0	10.0
	C	10.0	10.0	0.0

# Results

## Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-C	1.02	126.39	20.18	F
B-A	1.00	307.02	3.65	F
C-AB	0.93	62.60	7.18	F
C-A	-	-	-	-
A-B	-	-	-	-
A-C	-	-	-	-

## Main Results for each time segment

### 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	389.22	382.61	0.00	637.26	0.611	1.65	15.186	C
B-A	30.11	29.54	0.00	257.67	0.117	0.14	17.319	C
C-AB	298.76	293.76	0.00	555.10	0.538	1.25	14.893	B
C-A	121.33	121.33	0.00	-	-	-	-	-
A-B	127.23	127.23	0.00	-	-	-	-	-
A-C	341.80	341.80	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	464.77	458.62	0.00	608.84	0.763	3.19	25.332	D
B-A	35.96	35.51	0.00	185.65	0.194	0.26	26.296	D
C-AB	376.01	372.24	0.00	552.02	0.681	2.19	21.563	C
C-A	125.62	125.62	0.00	-	-	-	-	-
A-B	151.93	151.93	0.00	-	-	-	-	-
A-C	408.14	408.14	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	569.23	530.30	0.00	566.04	1.006	12.92	73.060	F
B-A	44.04	32.88	0.00	43.83	1.005	3.05	260.136	F
C-AB	531.61	515.25	0.00	574.08	0.926	6.29	49.753	E
C-A	82.76	82.76	0.00	-	-	-	-	-
A-B	186.07	186.07	0.00	-	-	-	-	-
A-C	499.86	499.86	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	569.23	540.20	0.00	555.51	1.025	20.18	126.386	F
B-A	44.04	41.60	0.00	50.30	0.876	3.65	307.019	F
C-AB	531.61	528.01	0.00	574.08	0.926	7.18	62.604	F
C-A	82.76	82.76	0.00	-	-	-	-	-
A-B	186.07	186.07	0.00	-	-	-	-	-
A-C	499.86	499.86	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	464.77	527.11	0.00	598.01	0.777	4.59	70.255	F
B-A	35.96	48.53	0.00	119.54	0.301	0.51	63.465	F
C-AB	376.01	394.48	0.00	552.02	0.681	2.57	27.583	D
C-A	125.62	125.62	0.00	-	-	-	-	-
A-B	151.93	151.93	0.00	-	-	-	-	-
A-C	408.14	408.14	0.00	-	-	-	-	-

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

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	389.22	400.35	0.00	635.85	0.612	1.81	17.534	C
B-A	30.11	31.55	0.00	249.56	0.121	0.15	18.275	C
C-AB	298.76	303.62	0.00	555.10	0.538	1.35	16.045	C
C-A	121.33	121.33	0.00	-	-	-	-	-
A-B	127.23	127.23	0.00	-	-	-	-	-
A-C	341.80	341.80	0.00	-	-	-	-	-

## (Default Analysis Set) - Scenario 1, 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
Scenario 1, AM	Scenario 1	AM		ONE HOUR	07:45	09:15	90	15		

## Junction Network

### Junctions

Junction	Name	Junction Type	Major Road Direction	Arm Order	Junction Delay (s)	Junction LOS
1	Howes Lane - Bucknell Road	T-Junction	Two-way	A,B,C	181.92	F

## Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

## Arms

### Arms

Arm	Arm	Name	Description	Arm Type
A	A	(untitled)		Major
B	B	(untitled)		Minor
C	C	(untitled)		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	6.50	✓	1.75	✓	2.20	140.00	✓	3.00

*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	7.50	5.50	5.50	5.50		3.00	20	27

## 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	454.690	0.078	0.197	0.124	0.282
1	B-C	769.271	0.115	0.292	-	-
1	C-B	655.039	0.248	0.248	-	-

*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	✓	228.00	100.000
B	ONE HOUR	✓	393.00	100.000
C	ONE HOUR	✓	773.00	100.000

# Turning Proportions

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

		To		
		A	B	C
From	A	0.000	48.000	180.000
	B	18.000	0.000	375.000
	C	180.000	593.000	0.000

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

		To		
		A	B	C
From	A	0.00	0.21	0.79
	B	0.05	0.00	0.95
	C	0.23	0.77	0.00

# Vehicle Mix

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

		To		
		A	B	C
From	A	1.000	1.100	1.100
	B	1.100	1.000	1.100
	C	1.100	1.100	1.000

## Heavy Vehicle Percentages - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.0	10.0	10.0
	B	10.0	0.0	10.0
	C	10.0	10.0	0.0

# Results

## Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-C	0.60	14.55	1.64	B
B-A	0.12	28.50	0.15	D
C-AB	1.21	273.30	52.37	F
C-A	-	-	-	-
A-B	-	-	-	-
A-C	-	-	-	-

## Main Results for each time segment

### 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	282.32	279.51	0.00	716.89	0.394	0.70	8.998	A
B-A	13.55	13.33	0.00	279.64	0.048	0.06	14.857	B
C-AB	488.16	476.48	0.00	649.01	0.752	2.92	21.612	C
C-A	93.80	93.80	0.00	-	-	-	-	-
A-B	36.14	36.14	0.00	-	-	-	-	-
A-C	135.51	135.51	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	337.12	335.98	0.00	705.15	0.478	0.99	10.691	B
B-A	16.18	16.09	0.00	239.41	0.068	0.08	17.725	C
C-AB	634.60	618.15	0.00	675.98	0.939	7.03	48.364	E
C-A	60.31	60.31	0.00	-	-	-	-	-
A-B	43.15	43.15	0.00	-	-	-	-	-
A-C	161.82	161.82	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	412.88	410.44	0.00	687.20	0.601	1.60	14.178	B
B-A	19.82	19.60	0.00	180.53	0.110	0.13	24.574	C
C-AB	851.09	753.83	0.00	702.42	1.212	31.35	153.458	F
C-A	0.00	0.00	0.00	-	-	-	-	-
A-B	52.85	52.85	0.00	-	-	-	-	-
A-C	198.18	198.18	0.00	-	-	-	-	-

**Main results: (08:30-08:45)**

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	412.88	412.72	0.00	684.46	0.603	1.64	14.551	B
B-A	19.82	19.74	0.00	158.60	0.125	0.15	28.498	D
C-AB	851.09	767.01	0.00	702.42	1.212	52.37	273.305	F
C-A	0.00	0.00	0.00	-	-	-	-	-
A-B	52.85	52.85	0.00	-	-	-	-	-
A-C	198.18	198.18	0.00	-	-	-	-	-

**Main results: (08:45-09:00)**

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	337.12	339.51	0.00	701.88	0.480	1.04	10.998	B
B-A	16.18	16.38	0.00	192.38	0.084	0.10	22.526	C
C-AB	634.60	727.22	0.00	675.98	0.939	29.21	268.500	F
C-A	60.31	60.31	0.00	-	-	-	-	-
A-B	43.15	43.15	0.00	-	-	-	-	-
A-C	161.82	161.82	0.00	-	-	-	-	-

**Main results: (09:00-09:15)**

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	282.32	283.56	0.00	715.56	0.395	0.73	9.194	A
B-A	13.55	13.71	0.00	249.85	0.054	0.06	16.780	C
C-AB	488.16	590.10	0.00	649.01	0.752	3.73	87.851	F
C-A	93.80	93.80	0.00	-	-	-	-	-
A-B	36.14	36.14	0.00	-	-	-	-	-
A-C	135.51	135.51	0.00	-	-	-	-	-

## (Default Analysis Set) - Scenario 1, 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
Scenario 1, PM	Scenario 1	PM		ONE HOUR	16:45	18:15	90	15		

## Junction Network

### Junctions

Junction	Name	Junction Type	Major Road Direction	Arm Order	Junction Delay (s)	Junction LOS
1	Howes Lane - Bucknell Road	T-Junction	Two-way	A,B,C	169.77	F

## Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

## Arms

### Arms

Arm	Arm	Name	Description	Arm Type
A	A	(untitled)		Major
B	B	(untitled)		Minor
C	C	(untitled)		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	6.50	✓	1.75	✓	2.20	140.00	✓	3.00

*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	7.50	5.50	5.50	5.50		3.00	20	27

## 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	457.667	0.078	0.198	0.125	0.283
1	B-C	765.579	0.115	0.290	-	-
1	C-B	655.039	0.248	0.248	-	-

*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	✓	244.00	100.000
B	ONE HOUR	✓	683.00	100.000
C	ONE HOUR	✓	720.00	100.000

# Turning Proportions

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

		To		
		A	B	C
From	A	0.000	39.000	205.000
	B	74.000	0.000	609.000
	C	213.000	507.000	0.000

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

		To		
		A	B	C
From	A	0.00	0.16	0.84
	B	0.11	0.00	0.89
	C	0.30	0.70	0.00

# Vehicle Mix

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

		To		
		A	B	C
From	A	1.000	1.100	1.100
	B	1.100	1.000	1.100
	C	1.100	1.100	1.000

## Heavy Vehicle Percentages - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.0	10.0	10.0
	B	10.0	0.0	10.0
	C	10.0	10.0	0.0

# Results

## Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-C	1.12	205.57	41.05	F
B-A	1.08	343.84	6.98	F
C-AB	1.06	113.09	14.84	F
C-A	-	-	-	-
A-B	-	-	-	-
A-C	-	-	-	-

## Main Results for each time segment

### 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	458.49	449.99	0.00	683.06	0.671	2.12	16.449	C
B-A	55.71	54.56	0.00	263.24	0.212	0.29	18.878	C
C-AB	409.73	402.25	0.00	638.32	0.642	1.87	16.303	C
C-A	132.32	132.32	0.00	-	-	-	-	-
A-B	29.36	29.36	0.00	-	-	-	-	-
A-C	154.33	154.33	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	547.48	537.92	0.00	660.00	0.830	4.51	30.218	D
B-A	66.52	65.24	0.00	179.99	0.370	0.61	34.133	D
C-AB	524.26	517.65	0.00	657.84	0.797	3.52	26.618	D
C-A	123.00	123.00	0.00	-	-	-	-	-
A-B	35.06	35.06	0.00	-	-	-	-	-
A-C	184.29	184.29	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	670.52	600.30	0.00	620.07	1.081	22.07	98.768	F
B-A	81.48	63.65	0.00	75.56	1.078	5.07	220.340	F
C-AB	751.01	718.34	0.00	711.25	1.056	11.69	79.913	F
C-A	41.72	41.72	0.00	-	-	-	-	-
A-B	42.94	42.94	0.00	-	-	-	-	-
A-C	225.71	225.71	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	670.52	594.60	0.00	598.93	1.120	41.05	205.574	F
B-A	81.48	73.81	0.00	80.30	1.015	6.98	343.839	F
C-AB	751.01	738.41	0.00	711.25	1.056	14.84	113.094	F
C-A	41.72	41.72	0.00	-	-	-	-	-
A-B	42.94	42.94	0.00	-	-	-	-	-
A-C	225.71	225.71	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	547.48	616.14	0.00	632.65	0.865	23.88	193.218	F
B-A	66.52	71.07	0.00	83.96	0.792	5.85	293.413	F
C-AB	524.26	565.49	0.00	657.84	0.797	4.54	50.031	F
C-A	123.00	123.00	0.00	-	-	-	-	-
A-B	35.06	35.06	0.00	-	-	-	-	-
A-C	184.29	184.29	0.00	-	-	-	-	-

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

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	458.49	543.15	0.00	663.06	0.691	2.72	50.269	F
B-A	55.71	77.39	0.00	205.94	0.271	0.43	35.677	E
C-AB	409.73	419.52	0.00	638.32	0.642	2.09	18.839	C
C-A	132.32	132.32	0.00	-	-	-	-	-
A-B	29.36	29.36	0.00	-	-	-	-	-
A-C	154.33	154.33	0.00	-	-	-	-	-

## (Default Analysis Set) - Scenario 2, 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
Scenario 2, AM	Scenario 2	AM		ONE HOUR	07:45	09:15	90	15		

## Junction Network

### Junctions

Junction	Name	Junction Type	Major Road Direction	Arm Order	Junction Delay (s)	Junction LOS
1	Howes Lane - Bucknell Road	T-Junction	Two-way	A,B,C	321.84	F

## Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

## Arms

### Arms

Arm	Arm	Name	Description	Arm Type
A	A	(untitled)		Major
B	B	(untitled)		Minor
C	C	(untitled)		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	6.50	✓	1.75	✓	2.20	140.00	✓	3.00

*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	7.50	5.50	5.50	5.50		3.00	20	27

## 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	454.690	0.078	0.197	0.124	0.282
1	B-C	769.271	0.115	0.292	-	-
1	C-B	655.039	0.248	0.248	-	-

*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	✓	247.00	100.000
B	ONE HOUR	✓	431.00	100.000
C	ONE HOUR	✓	828.00	100.000

# Turning Proportions

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

		To		
		A	B	C
From	A	0.000	48.000	199.000
	B	18.000	0.000	413.000
	C	190.000	638.000	0.000

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

		To		
		A	B	C
From	A	0.00	0.19	0.81
	B	0.04	0.00	0.96
	C	0.23	0.77	0.00

# Vehicle Mix

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

		To		
		A	B	C
From	A	1.000	1.100	1.100
	B	1.100	1.000	1.100
	C	1.100	1.000	1.100

## Heavy Vehicle Percentages - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.0	10.0	10.0
	B	10.0	0.0	10.0
	C	10.0	0.0	10.0

# Results

## Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-C	0.68	18.09	2.22	C
B-A	0.17	40.84	0.22	E
C-AB	1.31	487.89	87.72	F
C-A	-	-	-	-
A-B	-	-	-	-
A-C	-	-	-	-

## Main Results for each time segment

### 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	310.93	307.58	0.00	712.34	0.436	0.84	9.706	A
B-A	13.55	13.32	0.00	264.65	0.051	0.06	15.742	C
C-AB	535.72	521.25	0.00	653.60	0.820	3.62	24.898	C
C-A	87.65	87.65	0.00	-	-	-	-	-
A-B	36.14	36.14	0.00	-	-	-	-	-
A-C	149.82	149.82	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	371.28	369.77	0.00	699.39	0.531	1.21	11.957	B
B-A	16.18	16.07	0.00	219.16	0.074	0.09	19.487	C
C-AB	716.25	686.68	0.00	689.19	1.039	11.01	72.892	F
C-A	28.10	28.10	0.00	-	-	-	-	-
A-B	43.15	43.15	0.00	-	-	-	-	-
A-C	178.90	178.90	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	454.72	451.10	0.00	678.75	0.670	2.12	17.114	C
B-A	19.82	19.52	0.00	149.95	0.132	0.16	30.290	D
C-AB	911.64	755.37	0.00	694.08	1.313	50.08	213.947	F
C-A	0.00	0.00	0.00	-	-	-	-	-
A-B	52.85	52.85	0.00	-	-	-	-	-
A-C	219.10	219.10	0.00	-	-	-	-	-

**Main results: (08:30-08:45)**

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	454.72	454.32	0.00	672.37	0.676	2.22	18.087	C
B-A	19.82	19.60	0.00	116.32	0.170	0.22	40.836	E
C-AB	911.64	761.07	0.00	694.94	1.312	87.72	411.063	F
C-A	0.00	0.00	0.00	-	-	-	-	-
A-B	52.85	52.85	0.00	-	-	-	-	-
A-C	219.10	219.10	0.00	-	-	-	-	-

**Main results: (08:45-09:00)**

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	371.28	374.90	0.00	691.44	0.537	1.31	12.648	B
B-A	16.18	16.45	0.00	140.36	0.115	0.15	32.026	D
C-AB	716.25	751.35	0.00	692.89	1.034	78.95	487.888	F
C-A	28.10	28.10	0.00	-	-	-	-	-
A-B	43.15	43.15	0.00	-	-	-	-	-
A-C	178.90	178.90	0.00	-	-	-	-	-

**Main results: (09:00-09:15)**

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	310.93	312.66	0.00	708.00	0.439	0.88	10.062	B
B-A	13.55	13.79	0.00	186.86	0.073	0.09	22.910	C
C-AB	535.72	703.40	0.00	656.90	0.816	37.03	362.335	F
C-A	87.65	87.65	0.00	-	-	-	-	-
A-B	36.14	36.14	0.00	-	-	-	-	-
A-C	149.82	149.82	0.00	-	-	-	-	-

## (Default Analysis Set) - Scenario 2, 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
Scenario 2, PM	Scenario 2	PM		ONE HOUR	16:45	18:15	90	15		

## Junction Network

### Junctions

Junction	Name	Junction Type	Major Road Direction	Arm Order	Junction Delay (s)	Junction LOS
1	Howes Lane - Bucknell Road	T-Junction	Two-way	A,B,C	309.00	F

## Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

## Arms

### Arms

Arm	Arm	Name	Description	Arm Type
A	A	(untitled)		Major
B	B	(untitled)		Minor
C	C	(untitled)		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	6.50	✓	1.75	✓	2.20	140.00	✓	3.00

*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	7.50	5.50	5.50	5.50		3.00	20	27

## 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	456.500	0.078	0.198	0.124	0.283
1	B-C	767.026	0.115	0.291	-	-
1	C-B	655.039	0.248	0.248	-	-

*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	✓	248.00	100.000
B	ONE HOUR	✓	729.00	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	39.000	209.000
	B	74.000	0.000	655.000
	C	215.000	552.000	0.000

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

		To		
		A	B	C
From	A	0.00	0.16	0.84
	B	0.10	0.00	0.90
	C	0.28	0.72	0.00

# Vehicle Mix

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

		To		
		A	B	C
From	A	1.000	1.100	1.100
	B	1.100	1.000	1.100
	C	1.100	1.100	1.000

## Heavy Vehicle Percentages - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.0	10.0	10.0
	B	10.0	0.0	10.0
	C	10.0	10.0	0.0

# Results

## Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-C	1.23	399.24	70.38	F
B-A	1.16	503.60	9.42	F
C-AB	1.17	201.97	32.67	F
C-A	-	-	-	-
A-B	-	-	-	-
A-C	-	-	-	-

## Main Results for each time segment

### 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	493.12	482.48	0.00	682.04	0.723	2.66	18.960	C
B-A	55.71	54.42	0.00	239.47	0.233	0.32	21.259	C
C-AB	454.60	445.03	0.00	645.35	0.704	2.39	18.937	C
C-A	122.83	122.83	0.00	-	-	-	-	-
A-B	29.36	29.36	0.00	-	-	-	-	-
A-C	157.35	157.35	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	588.83	572.69	0.00	656.85	0.896	6.70	40.685	E
B-A	66.52	63.95	0.00	134.26	0.496	0.97	54.533	F
C-AB	591.66	580.66	0.00	671.96	0.881	5.14	36.870	E
C-A	97.85	97.85	0.00	-	-	-	-	-
A-B	35.06	35.06	0.00	-	-	-	-	-
A-C	187.89	187.89	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	721.17	604.17	0.00	612.98	1.176	35.94	146.381	F
B-A	81.48	61.24	0.00	69.94	1.165	6.03	272.504	F
C-AB	844.48	779.42	0.00	723.98	1.166	21.41	125.554	F
C-A	0.00	0.00	0.00	-	-	-	-	-
A-B	42.94	42.94	0.00	-	-	-	-	-
A-C	230.11	230.11	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	721.17	583.41	0.00	584.60	1.234	70.38	337.440	F
B-A	81.48	67.94	0.00	71.36	1.142	9.41	471.089	F
C-AB	844.48	799.44	0.00	723.98	1.166	32.67	201.973	F
C-A	0.00	0.00	0.00	-	-	-	-	-
A-B	42.94	42.94	0.00	-	-	-	-	-
A-C	230.11	230.11	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	588.83	607.45	0.00	616.95	0.954	65.73	399.236	F
B-A	66.52	66.50	0.00	73.84	0.901	9.42	503.600	F
C-AB	591.66	688.82	0.00	671.96	0.881	8.38	145.666	F
C-A	97.85	97.85	0.00	-	-	-	-	-
A-B	35.06	35.06	0.00	-	-	-	-	-
A-C	187.89	187.89	0.00	-	-	-	-	-

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

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	493.12	640.58	0.00	651.30	0.757	28.86	270.210	F
B-A	55.71	72.03	0.00	80.44	0.693	5.34	389.203	F
C-AB	454.60	476.96	0.00	645.35	0.704	2.79	26.017	D
C-A	122.83	122.83	0.00	-	-	-	-	-
A-B	29.36	29.36	0.00	-	-	-	-	-
A-C	157.35	157.35	0.00	-	-	-	-	-

## (Default Analysis Set) - Scenario 3, 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
Scenario 3, AM	Scenario 3	AM		ONE HOUR	07:45	09:15	90	15		

## Junction Network

### Junctions

Junction	Name	Junction Type	Major Road Direction	Arm Order	Junction Delay (s)	Junction LOS
1	Howes Lane - Bucknell Road	T-Junction	Two-way	A,B,C	641.78	F

## Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

## Arms

### Arms

Arm	Arm	Name	Description	Arm Type
A	A	(untitled)		Major
B	B	(untitled)		Minor
C	C	(untitled)		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	6.50	✓	1.75	✓	2.20	140.00	✓	3.00

*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	7.50	5.50	5.50	5.50		3.00	20	27

## 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	454.690	0.078	0.197	0.124	0.282
1	B-C	769.271	0.115	0.292	-	-
1	C-B	655.039	0.248	0.248	-	-

*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	✓	262.00	100.000
B	ONE HOUR	✓	462.00	100.000
C	ONE HOUR	✓	927.00	100.000

# Turning Proportions

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

		To		
		A	B	C
From	A	0.000	48.000	214.000
	B	18.000	0.000	444.000
	C	207.000	720.000	0.000

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

		To		
		A	B	C
From	A	0.00	0.18	0.82
	B	0.04	0.00	0.96
	C	0.22	0.78	0.00

# Vehicle Mix

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

		To		
		A	B	C
From	A	1.000	1.100	1.100
	B	1.100	1.000	1.100
	C	1.100	1.100	1.000

## Heavy Vehicle Percentages - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.0	10.0	10.0
	B	10.0	0.0	10.0
	C	10.0	10.0	0.0

# Results

## Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-C	0.78	27.74	3.58	D
B-A	0.44	148.84	0.68	F
C-AB	1.49	951.90	180.46	F
C-A	-	-	-	-
A-B	-	-	-	-
A-C	-	-	-	-

## Main Results for each time segment

### 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	334.27	330.42	0.00	708.32	0.472	0.96	10.377	B
B-A	13.55	13.30	0.00	241.88	0.056	0.06	17.305	C
C-AB	644.85	615.45	0.00	677.73	0.951	7.35	43.903	E
C-A	53.04	53.04	0.00	-	-	-	-	-
A-B	36.14	36.14	0.00	-	-	-	-	-
A-C	161.11	161.11	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	399.15	397.22	0.00	693.66	0.575	1.44	13.269	B
B-A	16.18	16.03	0.00	187.32	0.086	0.10	23.096	C
C-AB	833.35	747.71	0.00	701.25	1.188	28.76	146.119	F
C-A	0.00	0.00	0.00	-	-	-	-	-
A-B	43.15	43.15	0.00	-	-	-	-	-
A-C	192.38	192.38	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	488.85	483.41	0.00	665.79	0.734	2.80	21.088	C
B-A	19.82	19.21	0.00	100.27	0.198	0.25	48.495	E
C-AB	1020.65	749.52	0.00	687.12	1.485	96.54	381.681	F
C-A	0.00	0.00	0.00	-	-	-	-	-
A-B	52.85	52.85	0.00	-	-	-	-	-
A-C	235.62	235.62	0.00	-	-	-	-	-

**Main results: (08:30-08:45)**

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	488.85	485.74	0.00	624.35	0.783	3.58	27.740	D
B-A	19.82	18.11	0.00	45.29	0.438	0.68	138.541	F
C-AB	1020.65	750.81	0.00	687.12	1.485	164.00	726.748	F
C-A	0.00	0.00	0.00	-	-	-	-	-
A-B	52.85	52.85	0.00	-	-	-	-	-
A-C	235.62	235.62	0.00	-	-	-	-	-

**Main results: (08:45-09:00)**

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	399.15	405.41	0.00	627.54	0.636	2.02	18.293	C
B-A	16.18	16.19	0.00	42.86	0.378	0.68	148.842	F
C-AB	833.35	767.52	0.00	701.25	1.188	180.46	951.900	F
C-A	0.00	0.00	0.00	-	-	-	-	-
A-B	43.15	43.15	0.00	-	-	-	-	-
A-C	192.38	192.38	0.00	-	-	-	-	-

**Main results: (09:00-09:15)**

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	334.27	337.92	0.00	675.68	0.495	1.10	11.846	B
B-A	13.55	15.09	0.00	68.56	0.198	0.30	75.708	F
C-AB	644.85	727.27	0.00	677.73	0.951	159.86	945.375	F
C-A	53.04	53.04	0.00	-	-	-	-	-
A-B	36.14	36.14	0.00	-	-	-	-	-
A-C	161.11	161.11	0.00	-	-	-	-	-

## (Default Analysis Set) - Scenario 3, 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
Scenario 3, PM	Scenario 3	PM		ONE HOUR	16:45	18:15	90	15		

## Junction Network

### Junctions

Junction	Name	Junction Type	Major Road Direction	Arm Order	Junction Delay (s)	Junction LOS
1	Howes Lane - Bucknell Road	T-Junction	Two-way	A,B,C	643.07	F

## Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

## Arms

### Arms

Arm	Arm	Name	Description	Arm Type
A	A	(untitled)		Major
B	B	(untitled)		Minor
C	C	(untitled)		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	6.50	✓	1.75	✓	2.20	140.00	✓	3.00

*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	7.50	5.50	5.50	5.50		3.00	20	27

## 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	454.786	0.078	0.197	0.124	0.282
1	B-C	769.152	0.115	0.292	-	-
1	C-B	655.039	0.248	0.248	-	-

*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	✓	258.00	100.000
B	ONE HOUR	✓	809.00	100.000
C	ONE HOUR	✓	820.00	100.000

# Turning Proportions

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

		To		
		A	B	C
From	A	0.000	39.000	219.000
	B	74.000	0.000	735.000
	C	218.000	602.000	0.000

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

		To		
		A	B	C
From	A	0.00	0.15	0.85
	B	0.09	0.00	0.91
	C	0.27	0.73	0.00

# Vehicle Mix

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

		To		
		A	B	C
From	A	1.000	1.100	1.100
	B	1.100	1.000	1.100
	C	1.100	1.100	1.000

## Heavy Vehicle Percentages - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.0	10.0	10.0
	B	10.0	0.0	10.0
	C	10.0	10.0	0.0

# Results

## Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-C	1.48	901.81	158.21	F
B-A	1.39	1030.68	16.79	F
C-AB	1.27	354.55	66.35	F
C-A	-	-	-	-
A-B	-	-	-	-
A-C	-	-	-	-

## Main Results for each time segment

### 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	553.35	536.83	0.00	679.81	0.814	4.13	25.384	D
B-A	55.71	54.01	0.00	194.01	0.287	0.42	27.979	D
C-AB	508.52	495.58	0.00	653.96	0.778	3.23	23.238	C
C-A	108.82	108.82	0.00	-	-	-	-	-
A-B	29.36	29.36	0.00	-	-	-	-	-
A-C	164.87	164.87	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	660.75	617.44	0.00	651.64	1.014	14.96	73.244	F
B-A	66.52	52.47	0.00	65.64	1.013	3.94	215.465	F
C-AB	676.73	655.87	0.00	689.75	0.981	8.45	58.297	F
C-A	60.43	60.43	0.00	-	-	-	-	-
A-B	35.06	35.06	0.00	-	-	-	-	-
A-C	196.88	196.88	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	809.25	587.08	0.00	588.95	1.374	70.50	283.305	F
B-A	81.48	62.22	0.00	65.89	1.237	8.75	459.399	F
C-AB	902.84	781.64	0.00	712.41	1.267	38.75	182.261	F
C-A	0.00	0.00	0.00	-	-	-	-	-
A-B	42.94	42.94	0.00	-	-	-	-	-
A-C	241.12	241.12	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	809.25	547.96	0.00	548.16	1.476	135.82	676.815	F
B-A	81.48	57.40	0.00	58.51	1.392	14.77	812.450	F
C-AB	902.84	792.43	0.00	712.41	1.267	66.35	332.143	F
C-A	0.00	0.00	0.00	-	-	-	-	-
A-B	42.94	42.94	0.00	-	-	-	-	-
A-C	241.12	241.12	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	660.75	571.17	0.00	571.39	1.156	158.21	901.808	F
B-A	66.52	58.44	0.00	59.61	1.116	16.79	1030.683	F
C-AB	676.73	753.38	0.00	689.75	0.981	47.19	354.547	F
C-A	60.43	60.43	0.00	-	-	-	-	-
A-B	35.06	35.06	0.00	-	-	-	-	-
A-C	196.88	196.88	0.00	-	-	-	-	-

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

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	553.35	610.94	0.00	615.19	0.899	143.82	890.302	F
B-A	55.71	59.81	0.00	63.73	0.874	15.77	982.578	F
C-AB	508.52	678.15	0.00	653.96	0.778	4.78	180.806	F
C-A	108.82	108.82	0.00	-	-	-	-	-
A-B	29.36	29.36	0.00	-	-	-	-	-
A-C	164.87	164.87	0.00	-	-	-	-	-

## (Default Analysis Set) - Scenario 4, 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
Scenario 4, AM	Scenario 4	AM		ONE HOUR	07:45	09:15	90	15		

## Junction Network

### Junctions

Junction	Name	Junction Type	Major Road Direction	Arm Order	Junction Delay (s)	Junction LOS
1	Howes Lane - Bucknell Road	T-Junction	Two-way	A,B,C	364.56	F

## Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

## Arms

### Arms

Arm	Arm	Name	Description	Arm Type
A	A	(untitled)		Major
B	B	(untitled)		Minor
C	C	(untitled)		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	6.50	✓	1.75	✓	2.20	140.00	✓	3.00

*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	7.50	5.50	5.50	5.50		3.00	20	27

## 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	454.690	0.078	0.197	0.124	0.282
1	B-C	769.271	0.115	0.292	-	-
1	C-B	655.039	0.248	0.248	-	-

*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	✓	247.00	100.000
B	ONE HOUR	✓	456.00	100.000
C	ONE HOUR	✓	841.00	100.000

# Turning Proportions

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

		To		
		A	B	C
From	A	0.000	48.000	199.000
	B	20.000	0.000	436.000
	C	190.000	651.000	0.000

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

		To		
		A	B	C
From	A	0.00	0.19	0.81
	B	0.04	0.00	0.96
	C	0.23	0.77	0.00

# Vehicle Mix

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

		To		
		A	B	C
From	A	1.000	1.100	1.100
	B	1.100	1.000	1.100
	C	1.100	1.100	1.000

## Heavy Vehicle Percentages - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.0	10.0	10.0
	B	10.0	0.0	10.0
	C	10.0	10.0	0.0

# Results

## Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-C	0.72	21.01	2.70	C
B-A	0.22	49.20	0.29	E
C-AB	1.34	558.06	98.77	F
C-A	-	-	-	-
A-B	-	-	-	-
A-C	-	-	-	-

## Main Results for each time segment

### 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	328.24	324.55	0.00	711.23	0.462	0.92	10.149	B
B-A	15.06	14.79	0.00	260.57	0.058	0.07	16.095	C
C-AB	553.82	536.57	0.00	659.04	0.840	4.31	28.624	D
C-A	79.33	79.33	0.00	-	-	-	-	-
A-B	36.14	36.14	0.00	-	-	-	-	-
A-C	149.82	149.82	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	391.96	390.18	0.00	697.70	0.562	1.37	12.799	B
B-A	17.98	17.85	0.00	212.31	0.085	0.10	20.349	C
C-AB	740.98	704.35	0.00	697.68	1.062	13.47	85.719	F
C-A	15.06	15.06	0.00	-	-	-	-	-
A-B	43.15	43.15	0.00	-	-	-	-	-
A-C	178.90	178.90	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	480.04	475.42	0.00	675.49	0.711	2.52	19.342	C
B-A	22.02	21.62	0.00	137.75	0.160	0.20	33.983	D
C-AB	925.96	752.96	0.00	692.98	1.336	56.72	237.789	F
C-A	0.00	0.00	0.00	-	-	-	-	-
A-B	52.85	52.85	0.00	-	-	-	-	-
A-C	219.10	219.10	0.00	-	-	-	-	-

**Main results: (08:30-08:45)**

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	480.04	479.34	0.00	666.39	0.720	2.70	21.011	C
B-A	22.02	21.68	0.00	101.77	0.216	0.29	49.199	E
C-AB	925.96	757.75	0.00	692.98	1.336	98.77	456.242	F
C-A	0.00	0.00	0.00	-	-	-	-	-
A-B	52.85	52.85	0.00	-	-	-	-	-
A-C	219.10	219.10	0.00	-	-	-	-	-

**Main results: (08:45-09:00)**

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	391.96	396.70	0.00	686.30	0.571	1.51	13.887	B
B-A	17.98	18.35	0.00	124.74	0.144	0.19	37.352	E
C-AB	740.98	760.44	0.00	697.68	1.062	93.90	558.060	F
C-A	15.06	15.06	0.00	-	-	-	-	-
A-B	43.15	43.15	0.00	-	-	-	-	-
A-C	178.90	178.90	0.00	-	-	-	-	-

**Main results: (09:00-09:15)**

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	328.24	330.38	0.00	704.91	0.466	0.98	10.632	B
B-A	15.06	15.39	0.00	169.17	0.089	0.11	25.802	D
C-AB	553.82	707.25	0.00	659.04	0.840	55.55	453.080	F
C-A	79.33	79.33	0.00	-	-	-	-	-
A-B	36.14	36.14	0.00	-	-	-	-	-
A-C	149.82	149.82	0.00	-	-	-	-	-

## (Default Analysis Set) - Scenario 4, 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
Scenario 4, PM	Scenario 4	PM		ONE HOUR	16:45	18:15	90	15		

## Junction Network

### Junctions

Junction	Name	Junction Type	Major Road Direction	Arm Order	Junction Delay (s)	Junction LOS
1	Howes Lane - Bucknell Road	T-Junction	Two-way	A,B,C	387.08	F

## Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

## Arms

### Arms

Arm	Arm	Name	Description	Arm Type
A	A	(untitled)		Major
B	B	(untitled)		Minor
C	C	(untitled)		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	6.50	✓	1.75	✓	2.20	140.00	✓	3.00

*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	7.50	5.50	5.50	5.50		3.00	20	27

## 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	456.586	0.078	0.198	0.125	0.283
1	B-C	766.920	0.115	0.291	-	-
1	C-B	655.039	0.248	0.248	-	-

*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	✓	248.00	100.000
B	ONE HOUR	✓	745.00	100.000
C	ONE HOUR	✓	790.00	100.000

# Turning Proportions

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

		To		
		A	B	C
From	A	0.000	39.000	209.000
	B	76.000	0.000	669.000
	C	215.000	575.000	0.000

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

		To		
		A	B	C
From	A	0.00	0.16	0.84
	B	0.10	0.00	0.90
	C	0.27	0.73	0.00

# Vehicle Mix

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

		To		
		A	B	C
From	A	1.000	1.100	1.100
	B	1.100	1.000	1.100
	C	1.100	1.100	1.000

## Heavy Vehicle Percentages - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.0	10.0	10.0
	B	10.0	0.0	10.0
	C	10.0	10.0	0.0

# Results

## Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-C	1.29	505.18	84.88	F
B-A	1.21	603.13	11.10	F
C-AB	1.21	254.13	46.07	F
C-A	-	-	-	-
A-B	-	-	-	-
A-C	-	-	-	-

## Main Results for each time segment

### 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	503.66	492.14	0.00	680.21	0.740	2.88	20.001	C
B-A	57.22	55.81	0.00	230.35	0.248	0.35	22.518	C
C-AB	478.33	467.44	0.00	649.52	0.736	2.72	20.610	C
C-A	116.42	116.42	0.00	-	-	-	-	-
A-B	29.36	29.36	0.00	-	-	-	-	-
A-C	157.35	157.35	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	601.42	581.68	0.00	653.36	0.921	7.81	45.754	E
B-A	68.32	64.54	0.00	117.02	0.584	1.30	71.216	F
C-AB	628.02	613.57	0.00	679.90	0.924	6.34	44.634	E
C-A	82.17	82.17	0.00	-	-	-	-	-
A-B	35.06	35.06	0.00	-	-	-	-	-
A-C	187.89	187.89	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	736.58	598.88	0.00	605.24	1.217	42.24	170.125	F
B-A	83.68	62.53	0.00	70.05	1.195	6.58	297.245	F
C-AB	869.81	782.26	0.00	719.10	1.210	28.22	148.257	F
C-A	0.00	0.00	0.00	-	-	-	-	-
A-B	42.94	42.94	0.00	-	-	-	-	-
A-C	230.11	230.11	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	736.58	569.92	0.00	570.66	1.291	83.90	405.370	F
B-A	83.68	66.75	0.00	69.33	1.207	10.82	534.008	F
C-AB	869.81	798.40	0.00	719.10	1.210	46.07	254.134	F
C-A	0.00	0.00	0.00	-	-	-	-	-
A-B	42.94	42.94	0.00	-	-	-	-	-
A-C	230.11	230.11	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	601.42	597.51	0.00	601.40	1.000	84.88	505.182	F
B-A	68.32	67.18	0.00	71.62	0.954	11.10	603.134	F
C-AB	628.02	741.75	0.00	679.90	0.924	17.64	228.077	F
C-A	82.17	82.17	0.00	-	-	-	-	-
A-B	35.06	35.06	0.00	-	-	-	-	-
A-C	187.89	187.89	0.00	-	-	-	-	-

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

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	503.66	634.38	0.00	642.60	0.784	52.20	391.467	F
B-A	57.22	70.47	0.00	77.45	0.739	7.79	495.992	F
C-AB	478.33	535.64	0.00	649.52	0.736	3.32	45.532	E
C-A	116.42	116.42	0.00	-	-	-	-	-
A-B	29.36	29.36	0.00	-	-	-	-	-
A-C	157.35	157.35	0.00	-	-	-	-	-

## (Default Analysis Set) - Scenario 5, 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
Scenario 5, AM	Scenario 5	AM		ONE HOUR	07:45	09:15	90	15		

## Junction Network

### Junctions

Junction	Name	Junction Type	Major Road Direction	Arm Order	Junction Delay (s)	Junction LOS
1	Howes Lane - Bucknell Road	T-Junction	Two-way	A,B,C	379.37	F

## Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

## Arms

### Arms

Arm	Arm	Name	Description	Arm Type
A	A	(untitled)		Major
B	B	(untitled)		Minor
C	C	(untitled)		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	6.50	✓	1.75	✓	2.20	140.00	✓	3.00

*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	7.50	5.50	5.50	5.50		3.00	20	27

## 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	454.690	0.078	0.197	0.124	0.282
1	B-C	769.271	0.115	0.292	-	-
1	C-B	655.039	0.248	0.248	-	-

*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	✓	247.00	100.000
B	ONE HOUR	✓	465.00	100.000
C	ONE HOUR	✓	846.00	100.000

# Turning Proportions

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

		To		
		A	B	C
From	A	0.000	48.000	199.000
	B	20.000	0.000	445.000
	C	190.000	656.000	0.000

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

		To		
		A	B	C
From	A	0.00	0.19	0.81
	B	0.04	0.00	0.96
	C	0.22	0.78	0.00

# Vehicle Mix

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

		To		
		A	B	C
From	A	1.000	1.100	1.100
	B	1.100	1.000	1.100
	C	1.100	1.100	1.000

## Heavy Vehicle Percentages - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.0	10.0	10.0
	B	10.0	0.0	10.0
	C	10.0	10.0	0.0

# Results

## Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-C	0.74	22.28	2.91	C
B-A	0.23	52.81	0.31	F
C-AB	1.35	582.61	102.76	F
C-A	-	-	-	-
A-B	-	-	-	-
A-C	-	-	-	-

## Main Results for each time segment

### 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	335.02	331.18	0.00	711.19	0.471	0.96	10.321	B
B-A	15.06	14.79	0.00	258.91	0.058	0.07	16.206	C
C-AB	559.43	541.59	0.00	660.05	0.848	4.46	29.358	D
C-A	77.49	77.49	0.00	-	-	-	-	-
A-B	36.14	36.14	0.00	-	-	-	-	-
A-C	149.82	149.82	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	400.05	398.15	0.00	697.61	0.573	1.43	13.135	B
B-A	17.98	17.84	0.00	209.59	0.086	0.10	20.638	C
C-AB	749.98	710.96	0.00	699.57	1.072	14.21	89.585	F
C-A	10.55	10.55	0.00	-	-	-	-	-
A-B	43.15	43.15	0.00	-	-	-	-	-
A-C	178.90	178.90	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	489.95	484.88	0.00	675.15	0.726	2.70	20.271	C
B-A	22.02	21.59	0.00	132.86	0.166	0.21	35.453	E
C-AB	931.46	752.19	0.00	692.24	1.346	59.03	245.625	F
C-A	0.00	0.00	0.00	-	-	-	-	-
A-B	52.85	52.85	0.00	-	-	-	-	-
A-C	219.10	219.10	0.00	-	-	-	-	-

**Main results: (08:30-08:45)**

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	489.95	489.11	0.00	665.20	0.737	2.91	22.276	C
B-A	22.02	21.63	0.00	96.18	0.229	0.31	52.812	F
C-AB	931.46	756.57	0.00	692.24	1.346	102.76	471.947	F
C-A	0.00	0.00	0.00	-	-	-	-	-
A-B	52.85	52.85	0.00	-	-	-	-	-
A-C	219.10	219.10	0.00	-	-	-	-	-

**Main results: (08:45-09:00)**

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	400.05	405.30	0.00	685.09	0.584	1.60	14.407	B
B-A	17.98	18.38	0.00	118.90	0.151	0.21	39.552	E
C-AB	749.98	750.94	0.00	699.57	1.072	102.52	582.609	F
C-A	10.55	10.55	0.00	-	-	-	-	-
A-B	43.15	43.15	0.00	-	-	-	-	-
A-C	178.90	178.90	0.00	-	-	-	-	-

**Main results: (09:00-09:15)**

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	335.02	337.33	0.00	703.91	0.476	1.02	10.871	B
B-A	15.06	15.40	0.00	159.60	0.094	0.12	27.527	D
C-AB	559.43	707.73	0.00	660.05	0.848	65.44	501.905	F
C-A	77.49	77.49	0.00	-	-	-	-	-
A-B	36.14	36.14	0.00	-	-	-	-	-
A-C	149.82	149.82	0.00	-	-	-	-	-

## (Default Analysis Set) - Scenario 5, 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
Scenario 5, PM	Scenario 5	PM		ONE HOUR	16:45	18:15	90	15		

## Junction Network

### Junctions

Junction	Name	Junction Type	Major Road Direction	Arm Order	Junction Delay (s)	Junction LOS
1	Howes Lane - Bucknell Road	T-Junction	Two-way	A,B,C	413.47	F

## Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

## Arms

### Arms

Arm	Arm	Name	Description	Arm Type
A	A	(untitled)		Major
B	B	(untitled)		Minor
C	C	(untitled)		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	6.50	✓	1.75	✓	2.20	140.00	✓	3.00

*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	7.50	5.50	5.50	5.50		3.00	20	27

## 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	456.628	0.078	0.198	0.125	0.283
1	B-C	766.868	0.115	0.291	-	-
1	C-B	655.039	0.248	0.248	-	-

*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	✓	248.00	100.000
B	ONE HOUR	✓	753.00	100.000
C	ONE HOUR	✓	800.00	100.000

# Turning Proportions

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

		To		
		A	B	C
From	A	0.000	39.000	209.000
	B	77.000	0.000	676.000
	C	215.000	585.000	0.000

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

		To		
		A	B	C
From	A	0.00	0.16	0.84
	B	0.10	0.00	0.90
	C	0.27	0.73	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	1.31	539.98	91.38	F
B-A	1.23	628.42	11.63	F
C-AB	1.23	273.38	51.51	F
C-A	-	-	-	-
A-B	-	-	-	-
A-C	-	-	-	-

## Main Results for each time segment

### 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	508.93	497.97	0.00	679.70	0.749	2.74	18.827	C
B-A	57.97	56.66	0.00	230.34	0.252	0.33	20.582	C
C-AB	484.78	474.28	0.00	647.93	0.748	2.62	19.628	C
C-A	117.50	117.50	0.00	-	-	-	-	-
A-B	29.36	29.36	0.00	-	-	-	-	-
A-C	157.35	157.35	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	607.71	587.48	0.00	653.19	0.930	7.80	44.728	E
B-A	69.22	65.28	0.00	113.05	0.612	1.31	70.638	F
C-AB	640.22	625.10	0.00	680.74	0.940	6.41	45.118	E
C-A	78.96	78.96	0.00	-	-	-	-	-
A-B	35.06	35.06	0.00	-	-	-	-	-
A-C	187.89	187.89	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	744.29	599.55	0.00	604.71	1.231	43.98	174.052	F
B-A	84.78	63.48	0.00	70.20	1.208	6.64	292.710	F
C-AB	880.82	783.82	0.00	717.09	1.228	30.66	154.540	F
C-A	0.00	0.00	0.00	-	-	-	-	-
A-B	42.94	42.94	0.00	-	-	-	-	-
A-C	230.11	230.11	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	744.29	567.32	0.00	567.86	1.311	88.23	424.880	F
B-A	84.78	66.61	0.00	68.70	1.234	11.18	542.913	F
C-AB	880.82	797.40	0.00	717.09	1.228	51.51	273.380	F
C-A	0.00	0.00	0.00	-	-	-	-	-
A-B	42.94	42.94	0.00	-	-	-	-	-
A-C	230.11	230.11	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	607.71	595.11	0.00	596.95	1.018	91.38	539.977	F
B-A	69.22	67.41	0.00	70.80	0.978	11.63	628.422	F
C-AB	640.22	741.12	0.00	680.74	0.940	26.29	261.717	F
C-A	78.96	78.96	0.00	-	-	-	-	-
A-B	35.06	35.06	0.00	-	-	-	-	-
A-C	187.89	187.89	0.00	-	-	-	-	-

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

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	508.93	631.83	0.00	638.75	0.797	60.65	435.013	F
B-A	57.97	70.29	0.00	76.33	0.759	8.55	527.726	F
C-AB	484.78	576.92	0.00	647.93	0.748	3.25	72.690	F
C-A	117.50	117.50	0.00	-	-	-	-	-
A-B	29.36	29.36	0.00	-	-	-	-	-
A-C	157.35	157.35	0.00	-	-	-	-	-

## (Default Analysis Set) - Scenario 6, 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
Scenario 6, AM	Scenario 6	AM		ONE HOUR	07:45	09:15	90	15		

## Junction Network

### Junctions

Junction	Name	Junction Type	Major Road Direction	Arm Order	Junction Delay (s)	Junction LOS
1	Howes Lane - Bucknell Road	T-Junction	Two-way	A,B,C	412.17	F

## Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

## Arms

### Arms

Arm	Arm	Name	Description	Arm Type
A	A	(untitled)		Major
B	B	(untitled)		Minor
C	C	(untitled)		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	6.50	✓	1.75	✓	2.20	140.00	✓	3.00

*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	7.50	5.50	5.50	5.50		3.00	20	27

## 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	454.690	0.078	0.197	0.124	0.282
1	B-C	769.271	0.115	0.292	-	-
1	C-B	655.039	0.248	0.248	-	-

*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	✓	247.00	100.000
B	ONE HOUR	✓	487.00	100.000
C	ONE HOUR	✓	857.00	100.000

# Turning Proportions

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

		To		
		A	B	C
From	A	0.000	48.000	199.000
	B	22.000	0.000	465.000
	C	190.000	667.000	0.000

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

		To		
		A	B	C
From	A	0.00	0.19	0.81
	B	0.05	0.00	0.95
	C	0.22	0.78	0.00

# Vehicle Mix

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

		To		
		A	B	C
From	A	1.000	1.100	1.100
	B	1.100	1.000	1.100
	C	1.100	1.100	1.000

## Heavy Vehicle Percentages - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.0	10.0	10.0
	B	10.0	0.0	10.0
	C	10.0	10.0	0.0

# Results

## Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-C	0.78	26.36	3.57	D
B-A	0.29	65.56	0.41	F
C-AB	1.37	637.44	112.81	F
C-A	-	-	-	-
A-B	-	-	-	-
A-C	-	-	-	-

## Main Results for each time segment

### 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	350.08	345.90	0.00	710.06	0.493	1.04	10.757	B
B-A	16.56	16.26	0.00	255.11	0.065	0.07	16.559	C
C-AB	571.90	552.67	0.00	662.32	0.863	4.81	31.089	D
C-A	73.29	73.29	0.00	-	-	-	-	-
A-B	36.14	36.14	0.00	-	-	-	-	-
A-C	149.82	149.82	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	418.03	415.82	0.00	695.91	0.601	1.60	14.021	B
B-A	19.78	19.61	0.00	203.28	0.097	0.12	21.541	C
C-AB	770.12	725.37	0.00	703.79	1.094	15.99	98.565	F
C-A	0.31	0.31	0.00	-	-	-	-	-
A-B	43.15	43.15	0.00	-	-	-	-	-
A-C	178.90	178.90	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	511.97	505.56	0.00	671.73	0.762	3.20	22.961	C
B-A	24.22	23.64	0.00	121.38	0.200	0.26	40.288	E
C-AB	943.57	750.41	0.00	690.66	1.366	64.29	263.673	F
C-A	0.00	0.00	0.00	-	-	-	-	-
A-B	52.85	52.85	0.00	-	-	-	-	-
A-C	219.10	219.10	0.00	-	-	-	-	-

**Main results: (08:30-08:45)**

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	511.97	510.51	0.00	658.06	0.778	3.57	26.357	D
B-A	24.22	23.61	0.00	83.36	0.291	0.41	65.557	F
C-AB	943.57	753.98	0.00	690.66	1.366	111.69	507.208	F
C-A	0.00	0.00	0.00	-	-	-	-	-
A-B	52.85	52.85	0.00	-	-	-	-	-
A-C	219.10	219.10	0.00	-	-	-	-	-

**Main results: (08:45-09:00)**

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	418.03	424.94	0.00	678.63	0.616	1.84	16.006	C
B-A	19.78	20.36	0.00	105.84	0.187	0.27	46.629	E
C-AB	770.12	765.62	0.00	703.79	1.094	112.81	637.436	F
C-A	0.31	0.31	0.00	-	-	-	-	-
A-B	43.15	43.15	0.00	-	-	-	-	-
A-C	178.90	178.90	0.00	-	-	-	-	-

**Main results: (09:00-09:15)**

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	350.08	352.92	0.00	700.40	0.500	1.13	11.489	B
B-A	16.56	17.05	0.00	146.99	0.113	0.14	30.586	D
C-AB	571.90	709.02	0.00	662.32	0.863	78.53	562.500	F
C-A	73.29	73.29	0.00	-	-	-	-	-
A-B	36.14	36.14	0.00	-	-	-	-	-
A-C	149.82	149.82	0.00	-	-	-	-	-

## (Default Analysis Set) - Scenario 6, 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
Scenario 6, PM	Scenario 6	PM		ONE HOUR	16:45	18:15	90	15		

## Junction Network

### Junctions

Junction	Name	Junction Type	Major Road Direction	Arm Order	Junction Delay (s)	Junction LOS
1	Howes Lane - Bucknell Road	T-Junction	Two-way	A,B,C	540.42	F

## Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

## Arms

### Arms

Arm	Arm	Name	Description	Arm Type
A	A	(untitled)		Major
B	B	(untitled)		Minor
C	C	(untitled)		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	6.50	✓	1.75	✓	2.20	140.00	✓	3.00

*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	7.50	5.50	5.50	5.50		3.00	20	27

## 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	456.731	0.078	0.198	0.125	0.283
1	B-C	766.739	0.115	0.291	-	-
1	C-B	655.039	0.248	0.248	-	-

*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	✓	248.00	100.000
B	ONE HOUR	✓	768.00	100.000
C	ONE HOUR	✓	822.00	100.000

# Turning Proportions

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

		To		
		A	B	C
From	A	0.000	39.000	209.000
	B	79.000	0.000	689.000
	C	215.000	607.000	0.000

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

		To		
		A	B	C
From	A	0.00	0.16	0.84
	B	0.10	0.00	0.90
	C	0.26	0.74	0.00

# Vehicle Mix

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

		To		
		A	B	C
From	A	1.000	1.100	1.100
	B	1.100	1.000	1.100
	C	1.100	1.100	1.000

## Heavy Vehicle Percentages - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.0	10.0	10.0
	B	10.0	0.0	10.0
	C	10.0	10.0	0.0

# Results

## Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-C	1.40	706.44	119.92	F
B-A	1.32	798.43	14.73	F
C-AB	1.27	363.69	67.91	F
C-A	-	-	-	-
A-B	-	-	-	-
A-C	-	-	-	-

## Main Results for each time segment

### 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	518.72	505.75	0.00	677.38	0.766	3.24	21.695	C
B-A	59.48	57.87	0.00	216.97	0.274	0.40	24.659	C
C-AB	512.59	499.42	0.00	655.77	0.782	3.29	23.486	C
C-A	106.26	106.26	0.00	-	-	-	-	-
A-B	29.36	29.36	0.00	-	-	-	-	-
A-C	157.35	157.35	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	619.40	592.61	0.00	647.66	0.956	9.94	54.748	F
B-A	71.02	63.19	0.00	90.78	0.782	2.36	122.183	F
C-AB	681.64	660.13	0.00	691.69	0.985	8.67	59.493	F
C-A	57.32	57.32	0.00	-	-	-	-	-
A-B	35.06	35.06	0.00	-	-	-	-	-
A-C	187.89	187.89	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	758.60	585.61	0.00	589.39	1.287	53.18	215.142	F
B-A	86.98	65.64	0.00	71.18	1.222	7.69	354.162	F
C-AB	905.04	781.37	0.00	712.87	1.270	39.59	184.216	F
C-A	0.00	0.00	0.00	-	-	-	-	-
A-B	42.94	42.94	0.00	-	-	-	-	-
A-C	230.11	230.11	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	758.60	542.86	0.00	543.22	1.396	107.12	534.917	F
B-A	86.98	64.24	0.00	65.85	1.321	13.38	658.796	F
C-AB	905.04	791.73	0.00	712.87	1.270	67.91	337.032	F
C-A	0.00	0.00	0.00	-	-	-	-	-
A-B	42.94	42.94	0.00	-	-	-	-	-
A-C	230.11	230.11	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	619.40	568.19	0.00	568.72	1.089	119.92	706.444	F
B-A	71.02	65.62	0.00	67.59	1.051	14.73	798.427	F
C-AB	681.64	754.78	0.00	691.69	0.985	49.63	363.693	F
C-A	57.32	57.32	0.00	-	-	-	-	-
A-B	35.06	35.06	0.00	-	-	-	-	-
A-C	187.89	187.89	0.00	-	-	-	-	-

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

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	518.72	610.14	0.00	615.74	0.842	97.07	641.187	F
B-A	59.48	67.93	0.00	73.01	0.815	12.61	730.409	F
C-AB	512.59	690.76	0.00	655.77	0.782	5.09	194.238	F
C-A	106.26	106.26	0.00	-	-	-	-	-
A-B	29.36	29.36	0.00	-	-	-	-	-
A-C	157.35	157.35	0.00	-	-	-	-	-

**Prepared by** Geoff Burrage  
**Reviewed by** Malcolm Turner  
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