

DAVID WILSON HOMES

PROPOSED RESIDENTIAL DEVELOPMENT  
LAND WEST OF BARKBY ROAD, QUENIBOROUGH

TRANSPORT ASSESSMENT

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## EXECUTIVE SUMMARY

David Wilson Homes commissioned ADC Infrastructure to advise on transport matters in support of an outline planning application associated with the potential residential development of up to 160 houses on land to the west of Barkby Road in Queniborough.

The proposed development will be accessed via a new priority-controlled T-junction on Barkby Road, designed to standard and with appropriate visibility.

The development site is accessible by sustainable travel modes. As part of the development proposals, the internal layout will include a footway that will connect to the existing footway network on Barkby Road. The local pedestrian infrastructure is good and all the amenities within Queniborough and Syston would be within walking distance. There are opportunities for cycle travel between the site and local attractions, and there are good opportunities for bus travel due to the number 5 bus route that runs along Syston Road every twenty minutes between East Goscote and Leicester.

The proposed dwellings would generate 9 pedestrian journeys, 4 cycle journeys and 6 bus journeys in a peak hour. This additional demand can be accommodated by the existing infrastructure and the proposed measures. Those measures include the provisions of a Travel Plan, which is a separate report. The Travel Plan includes the appointment of a Travel Plan Co-ordinator, travel packs for residents and free bus passes.

The proposed dwellings would generate up to 116 two-way traffic movements in a peak hour. Most journeys from the site will route to and from the north, via Barkby Road and Rearsby Road to the Queniborough Roundabout. The Queniborough Roundabout would operate with spare capacity with the development in place.

Only seven vehicles would route through the Melton Road/Syston Road priority controlled T-junction. Hence there would not be a material change to the operation of that junction.

The Syston Road/Rearsby Road/Queniborough Road/Barkby Road crossroads (Queniborough crossroads) is already over capacity. As a result of the development, the worst delays that occur on Rearsby Road would increase by 17 seconds per vehicle, and the longest queue would extend by three vehicles. That is not a severe impact. Nevertheless, a mitigation scheme is proposed that has previously been accepted by Leicestershire County Council. The scheme proposes the widening of the Rearsby Road approach to the crossroads. The scheme achieves a better than nil-detriment scenario. The scheme can be conditioned to be implemented prior to the 100th occupation.

Overall, the proposed development would accord with the aims of the NPPF. The opportunities for sustainable travel would be taken up, safe and suitable access can be provided, and the proposed mitigation scheme to the crossroads would improve the performance of the junction compared to the existing layout. The development should not be prevented on transport grounds.

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## 1.0 INTRODUCTION

1.1 David Wilson Homes commissioned ADC Infrastructure to provide transport and highways advice in support of an outline planning application for a residential development on land to the west of Barkby Road in Queniborough (**Figure 1**). Charnwood Borough Council are the local planning authority and Leicestershire County Council are the local highway authority.



Figure 1: general site location

1.2 The development site is approximately 9 miles northeast of Leicester. It is bound by Queniborough Industrial Estate to the west, residential properties to the north, and open land to the south (**Figure 2**). Opposite the development site, on the eastern side of Barkby Road, construction has commenced on a residential development that has outline consent gained by Gladman for 165 dwellings (P/14/0708/2). Davidsons purchased the site from Gladman and a reserved matters application for 101 dwellings was granted conditionally in February 2017 (P/16/2090/2).

1.3 The development proposal comprises up to 160 residential dwellings. The vehicular access would be on Barkby Road. An illustrative masterplan is in **Appendix A**.



Figure 2: detailed site location

1.4 This report has been produced with reference to *Guidance on Transport Assessment*<sup>1</sup>, and in accordance with *Travel plans, transport assessments and statements in decision-taking*<sup>2</sup>. It examines the transport implications of the proposed development taking into account the following objectives from paragraph 32 of the National Planning Policy Framework (NPPF):

- *“the opportunities for sustainable transport modes have been taken up depending on the nature and location of the site, to reduce the need for major transport infrastructure*
- *safe and suitable access to the site can be achieved for all people, and*
- *improvements can be undertaken within the transport network that cost effectively limit the significant impacts of the development. Development should only be prevented or refused on transport grounds where the residual cumulative impacts of development are severe.”*

<sup>1</sup> Guidance on Transport Assessment, Department for Transport, March 2007

<sup>2</sup> Travel plans, transport assessments and statements in decision-taking, National Planning Practice Guidance, March 2014

## 2.0 EXISTING CONDITIONS

### Highway network

2.1 To the immediate northwest of the site, Chestnut Close is a residential road that provides access to 15 residential properties including two bungalows. It has a 5.5m wide carriageway with 2m wide footways on both sides (**Figure 3**). At its northern end, Chestnut Close meets with Beechwood Avenue at a priority controlled T-junction. Beechwood Avenue adjoins with Avenue Road at a priority controlled T-junction and runs parallel to the northern boundary of the site. Avenue Road has a 5.5m wide carriageway with a 2m wide footway along its northern side and 2.2m footway along its southern side. Avenue Road meets with Barkby Road at a priority controlled T-junction.



Figure 3: aerial photograph of site and local highway network

2.2 Barkby Road runs along the eastern boundary of the site. It is subject to a 30mph speed limit on the approach to Queniborough, which changes to 40mph once out of the built-up area. Barkby Road provides access to the northeast of Leicester via Thorpe Lane and Barkbythorpe Road.

2.3 At its northern end, Barkby Road connects with Syston Road, Queniborough Road, and Rearsby Road at a priority controlled crossroads. Queniborough Road, which becomes Main Street, forms the principal route through Queniborough in a west to east direction and is subject

to a 7.5t weight restriction (except for loading) and a 30mph speed limit. Syston Road and Queniborough Road are traffic calmed with speed humps for 700 metres.

- 2.4 North of the crossroads, Rearsby Road links with Queniborough roundabout, providing access to the A607. The A607 provides connections to the A46 and beyond.
- 2.5 The site is therefore well located for access to the local roads within Queniborough, and the wider network via the A607.

### Accident record

- 2.6 The Crashmap database shows the recorded accidents near the site between 2013 and June 2017 (**Figure 4**). No accidents have been recorded in the urban section of Barkby Road. Three slight accidents have been recorded along Syston Road and Queniborough Road at or near the crossroads.



Figure 4: accident record (2013 to June 2017) (slight accident = yellow flag)

## Opportunities for pedestrian travel

- 2.7 For commuters and school pupils, up to 500 metres is the desirable walking distance, up to 1,000 metres is an acceptable walking distance, and up to 2,000 metres is the preferred maximum walking distance<sup>3</sup>. A 2km pedestrian catchment covers Queniborough, East Goscote and most of Syston (**Figure 5**).
- 2.8 **Figure 5** also shows the Public Rights of Way (PRoW) network. Footpath I84/1 runs through the heart of the site in a southwest to northeast direction, connecting Melton Road with Barkby Road via Millstone Lane and Avenue Road.

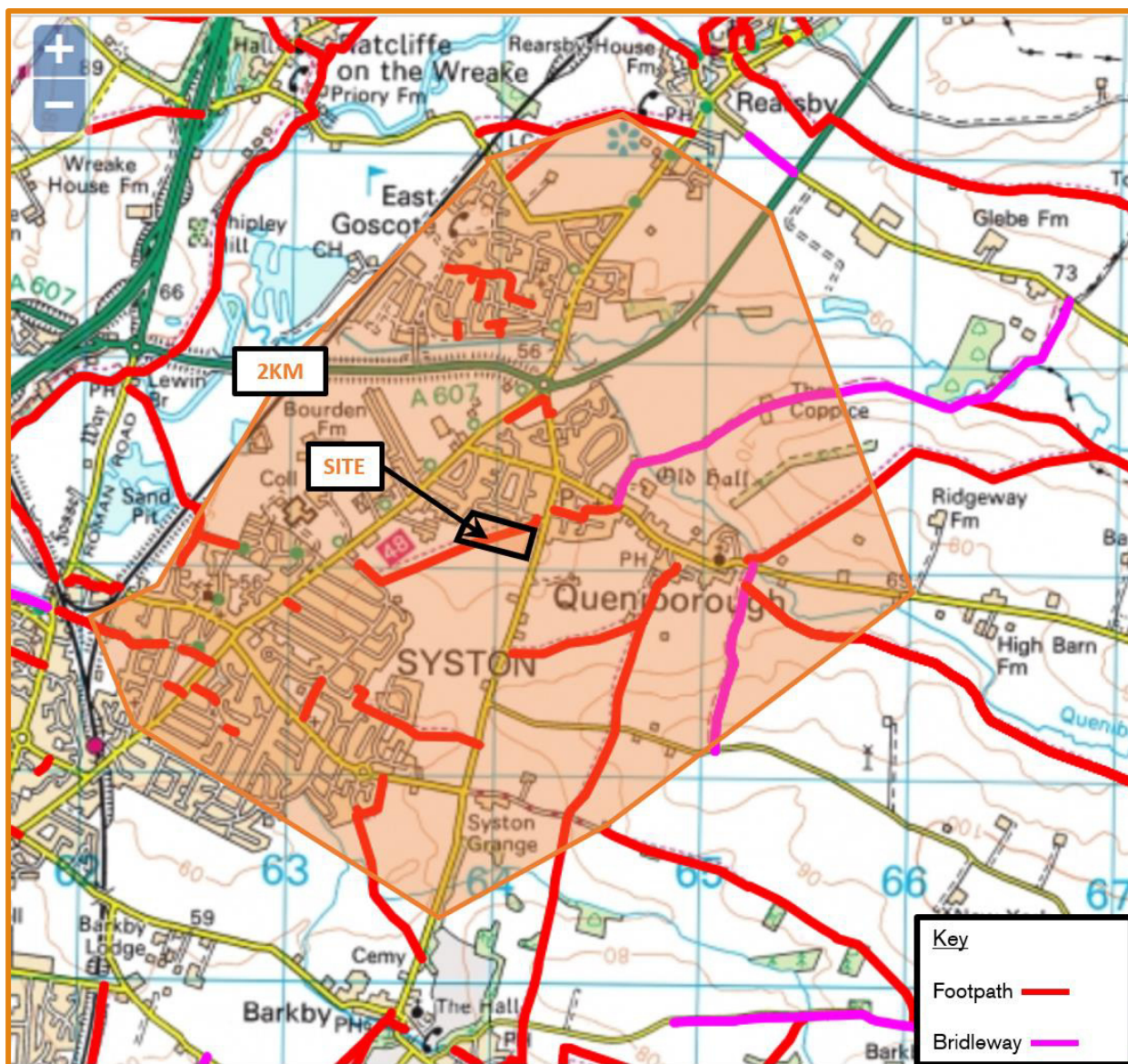


Figure 5: 2km pedestrian catchment and local PRoW network

- 2.9 **Figure 6** shows the key local facilities that are within the preferred maximum walking distance from the site. To the northeast, there is a cluster of local facilities along Queniborough Road and the adjoining Main Street, which includes Queniborough Methodist Church, Queniborough CofE Primary School, St Mary's Church and the local post office and convenience store. In addition, there is also a cluster of local amenities to the southwest of the site notably Wreake

<sup>3</sup> Guidelines for Providing for Journeys on Foot, Institution of Highways and Transportation, 2000



Valley Academy, St. Peter and St. Paul Primary School, Jubilee Medical Practice plus Aldi and Tesco supermarkets along Melton Road.

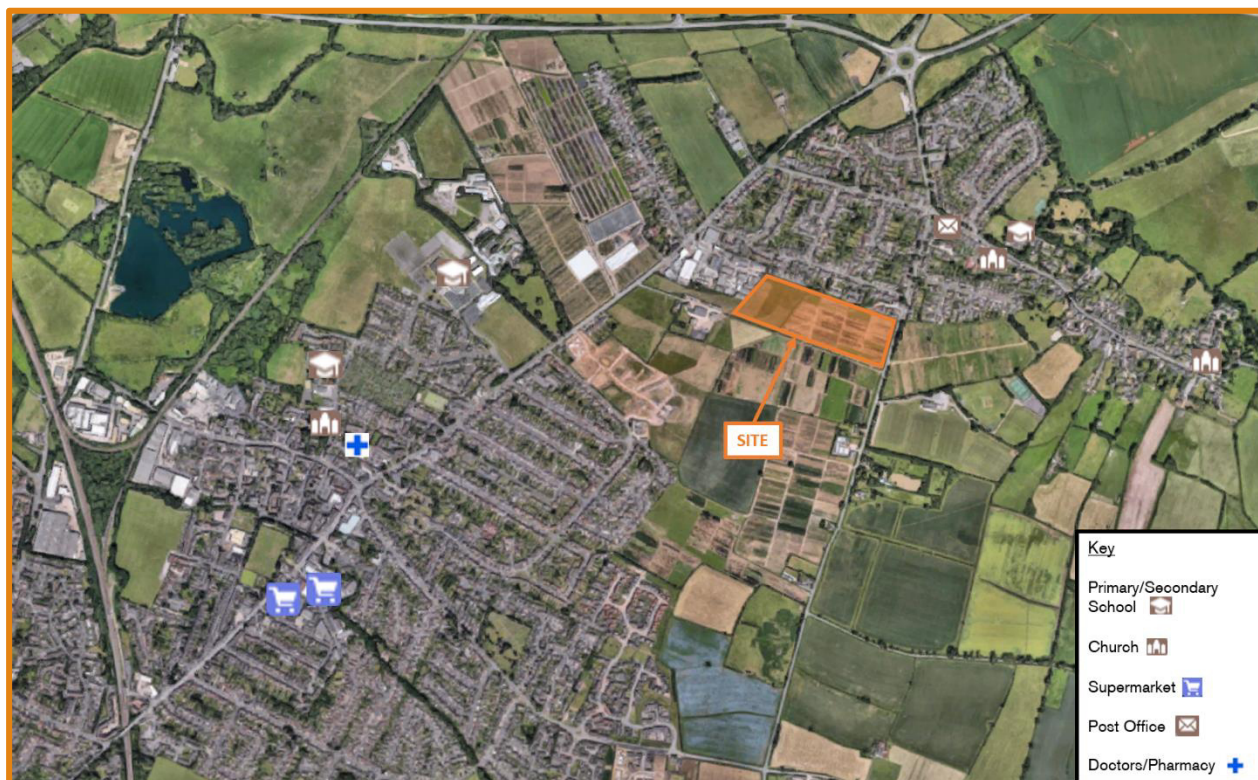


Figure 6: local facilities in vicinity of site

2.10 With regards to pedestrian infrastructure, there are street-lit footways on both sides of Beechwood Avenue and the adjoining Avenue Road, running parallel to the northern boundary of the site. There are also street-lit footways along both sides of Barkby Road to the northeast of the site as well as pedestrian crossing opportunities in the form of tactile paving at Queniborough crossroads.

### Opportunities for cycle travel

2.11 Cyclists are typically prepared to cycle up to 5km for non-leisure journeys, such as those to school or work. As **Figure 7** shows, the 5km cycle catchment from the centre of the site includes Sileby, Thrussington, Birstall and the northern part of Thurmaston.

2.12 As shown in LCC's cycle map (**Figure 8**), Barkby Road is a recommended on-road cycle route and adjoins with Queniborough Road, Thorpe Lane and Barkbythorpe Road to provide cycle access to northeast Leicester. In addition, Syston Road is an on-road cycle route that provides cycle access through the heart of Queniborough.

2.13 Melton Road, to the west of the site, provides a shared footway/cycleway which is also utilised as National Cycle Network (NCN) route 48. NCN48 provides cyclists with good connectivity to Syston and Birstall both of which are within the 5km cycle catchment, whilst adjoining with NCN route 6, providing direct access to the centre of Leicester.



Figure 7: 2km and 5km cycle catchments

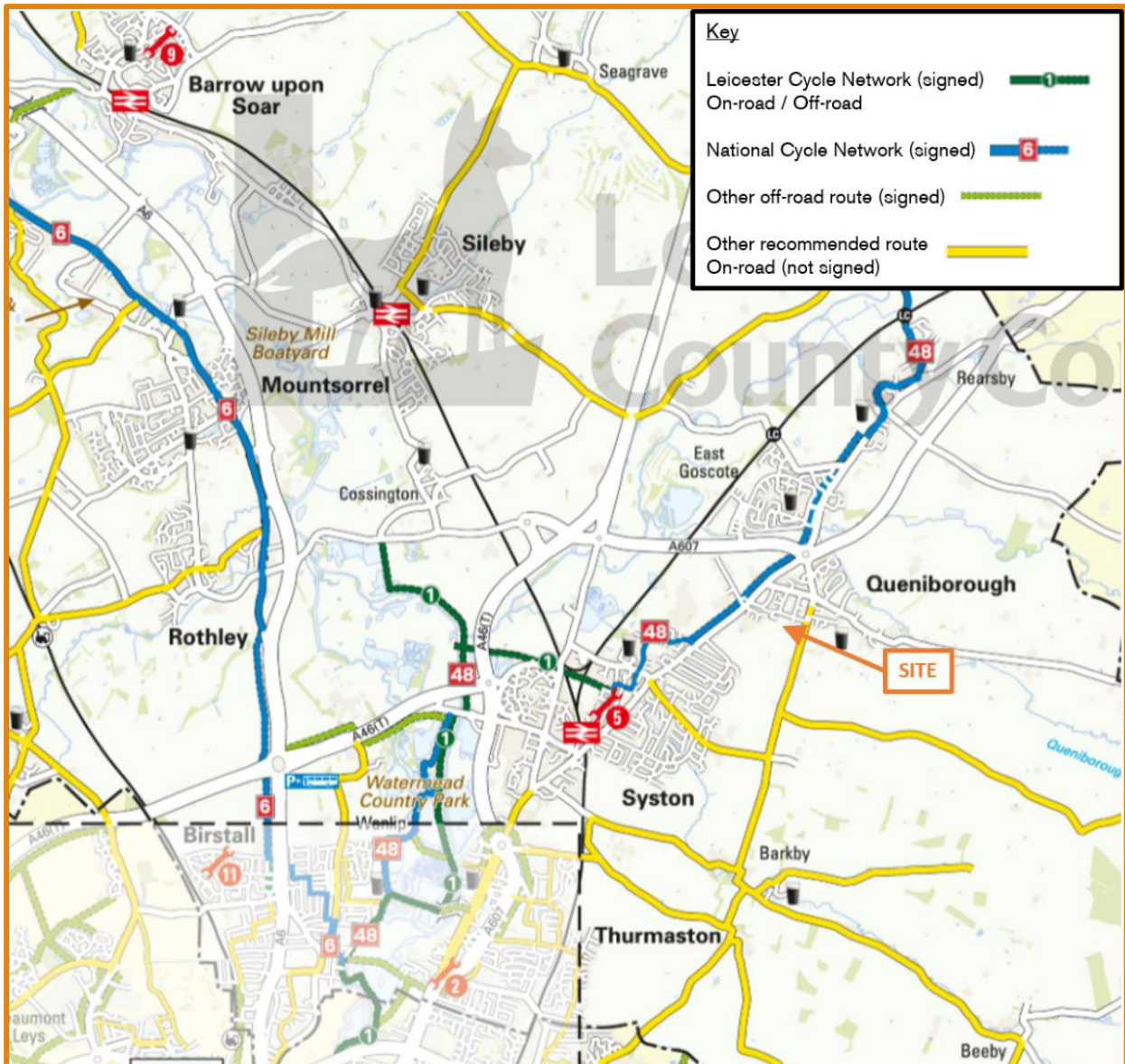


Figure 8: local cycle facilities (extract from LCC cycle map)

### Opportunities for bus travel

- 2.14 As shown in LCC's bus map (**Figure 9**), the nearest bus stops (illustrated by orange dots) to the site are on Melton Road and Syston Road, the latter being within 400 metres walking distance of the site.
- 2.15 The bus stop on Syston Road (adjacent to Barkby Road) is approximately 320 metres from the centre of the site and consists of a flag and pole arrangement and timetabled information. The stop provides access to the number 5 service which runs from East Goscote to the centre of Leicester via Syston. The number 5 service runs every 20 minutes from Monday to Friday between 0603 and 1843, and also every 20 minutes on Saturdays between 0922 and 2015.



Figure 9: local bus services and closest bus stops to site (extract from LCC bus map)

### Opportunities for rail travel

- 2.16 With regards to rail accessibility, the nearest train station to the site is Syston Railway Station, approximately 2.4 km from the site and therefore well within the acceptable cycling distance.
- 2.17 Notably, Syston Railway Station provides 24 trains per day on a typical weekday to Leicester with an average journey time of seven minutes.
- 2.18 Rail journeys from Syston Railway Station can form part of a multi-modal journey from the site as the station provides six cycle spaces. Additionally, the number 5 bus route provides regular access to the train station from the site, stopping 160m from the station.

### 3.0 PROPOSED DEVELOPMENT

#### Development proposals and access

- 3.1 The development proposals comprise up to 160 residential dwellings with associated parking. The illustrative masterplan is in **Appendix A** and an extract is shown below (**Figure 10**).



Figure 10: extract of illustrative masterplan

- 3.2 The development access on Barkby Road is shown in on **Drawing ADC1659-DR-001-P2** in **Appendix B**. It would be a new T-junction with a 5.5m wide carriageway, 2m wide footways either side of the carriageway, and 6m kerb radii, all in accordance with the 6Cs Design Guide.
- 3.3 The location of the proposed access is subject to a 30mph speed limit. Hence visibility splays of 2.4 x 43m are demonstrated. However, the existing gateway feature where the limit changes from 30mph to 40mph is to the immediate south of the proposed site access. Hence, visibility splays of 2.4 x 120m are also demonstrated. The longer visibility splays demonstrate that there would be sufficient visibility even if vehicles entering and exiting Queniborough were travelling significantly above 30mph. Sufficient visibility is achievable in both directions without obstruction.

#### Internal layout

- 3.4 The internal layout of the development will be designed to adoptable standard. Service vehicles will be able to enter, manoeuvre and exit the development in a forward gear, with the provision of appropriate turning heads. To encourage pedestrian travel, the PRow footpath I84/1 that runs through the site will be retained and a pedestrian link will also be provided to facilitate access to the footpath for residents living in the eastern side of the development, as shown in **Figure 10**. Also shown in **Figure 10**, there is the potential for a further pedestrian link enabling pedestrian connectivity between the site and Chestnut Close. At the site access junction, 2m wide footways either side of the carriageway are proposed with the northern footway continuing along Barkby Road to create a continuous link with the existing footway network.

## 4.0 TRIP GENERATION

### Proposed traffic generation

- 4.1 Immediately north of the development is an estate of 64 houses clustered around the Glebe Road cul-de-sac. Given the locational comparability, the trip rate and distribution of traffic of residents on Glebe Road should be similar to those of the proposed development. Hence a traffic count was undertaken at the Barkby Road/Glebe Road junction. From that count, trip rates were determined, that were used to forecast the amount of traffic generate by 160 dwellings, as shown in the table below. Based on this method, the proposed development would generate up to 72 two-way vehicles in a peak hour.

GLEBE ROAD COUNT		arrive	depart	two-way
trip rates (per dwelling)	AM peak hour	0.125	0.297	0.422
	PM peak hour	0.250	0.203	0.453
vehicle trips (160 dwellings)	AM peak hour	20	48	68
	PM peak hour	40	32	72

- 4.2 To provide a further measure, the 'privately owned houses' category of the TRICS database was examined. All sites in England, outside Greater London, were selected, and all weekend surveys were deselected. The TRICS outputs are in **Appendix C**, and the 85<sup>th</sup> percentile trip rates and resultant traffic generation are shown in the table below. The proposed residential development will result in an increase of up to 116 two-way vehicle trips in a peak hour

TRICS DATABASE		arrive	depart	two-way
trip rates (per dwelling)	AM peak hour	0.177	0.523	0.700
	PM peak hour	0.478	0.248	0.726
vehicle trips (160 dwellings)	AM peak hour	28	84	112
	PM peak hour	76	40	116

- 4.3 The figures derived from TRICS are significantly greater than the estimate based on the local survey. The local survey is more representative. Nevertheless, for robustness, the TRICS figures have been adopted for the remainder of the analysis in this report.

### Modal split and person trip generation

- 4.4 The proportion of trips by each mode was calculated using the 2011 National Census 'Method of travel to Work' data (dataset QS701EW). The site is in the parish of Queniborough and data for this parish was examined. The resultant modal split and person trip generation is shown in the table below.

	walk	cycle	bus	train	m/cycle	car driver	passenger
	6.0%	3.0%	4.2%	0.4%	0.6%	79.2%	5.0%
AM Peak	9	4	6	2	1	112	7
PM Peak	9	4	6	2	1	116	7

- 4.5 The proposed residential development would generate approximately nine pedestrian trips, four bicycle trips, and six bus trips in the peak hours.
- 4.6 This report details the existing accessibility of the site, including a description of the existing pedestrian, cycle and public transport infrastructure. The report also details the proposed measures. The existing and proposed infrastructure has the capacity to accommodate the additional trips, and no further infrastructure is required as part of the development.

## 5.0 VEHICLE DISTRIBUTION AND ASSIGNMENT

5.2 Traffic turning in and out of the proposed development was assigned at the access junction in the same proportions as recorded in the traffic count at the Barkby Road/Glebe Road junction. At the remaining three junctions that form the study area, development traffic was assigned in the same proportions as recorded in the November 2017 traffic counts. Those proportions are shown below on **Figures 11 and 12** for the morning and evening peak hours. The development traffic from section 4 was assigned in those proportions. The morning and evening peak hour development traffic assignments are shown in **Diagrams 5 and 6** in **Appendix D**.

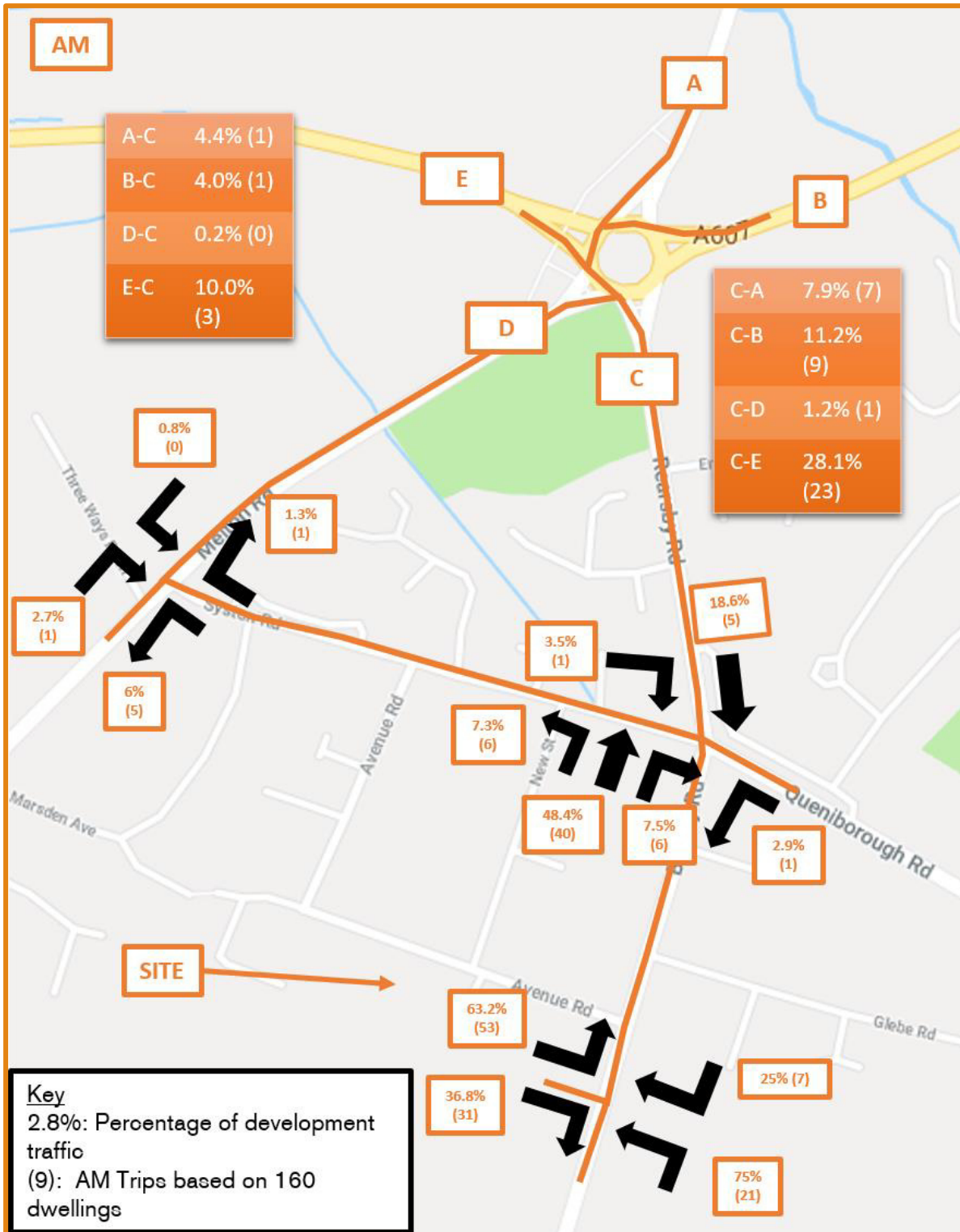


Figure 11: vehicle distribution pattern of proposed development traffic to/from site (AM)

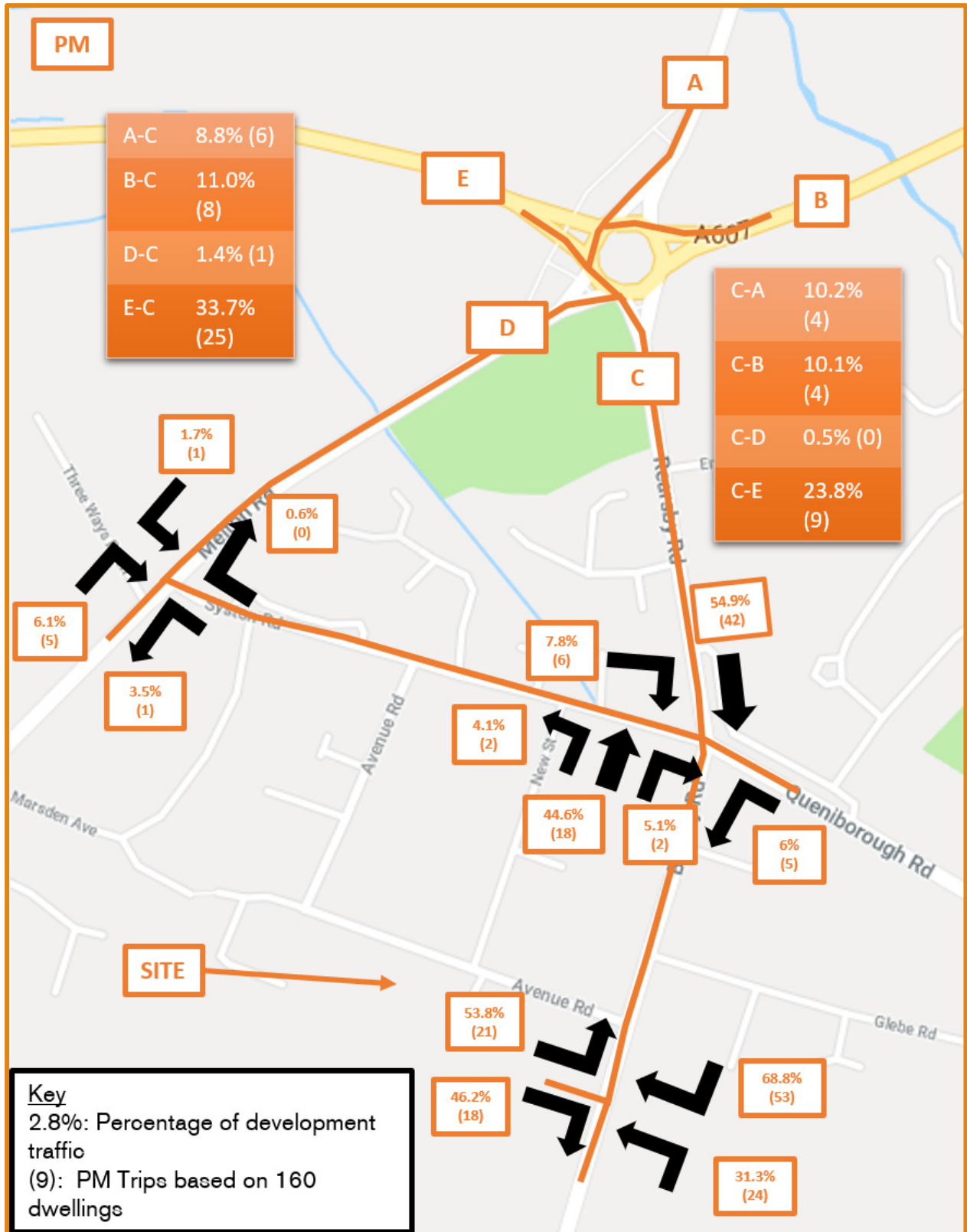


Figure 12: vehicle distribution pattern of proposed development traffic to/from site (PM)



## 6.0 ASSESSMENT TRAFFIC FLOWS

### Study area

6.1 Based on the increase in traffic as a result of the proposed development, the study area for assessment consist of the following junctions:

- proposed site access
- Rearsby Road/Queniborough Road/Barkby Road/Syston Road crossroads
- Queniborough Roundabout
- Syston Road/Melton Road T-junction

### Observed traffic flows

6.2 Traffic flows at the junctions were obtained from traffic counts undertaken on Tuesday 7 November 2017. The surveyed morning and evening peak hour traffic flows are shown in **Diagrams 1 and 2 in Appendix D**.

### Growth factors

6.3 An assessment year of 2023 has been adopted for this report, five years from the submission of the planning application. The observed traffic flows were therefore growthed to 2023 levels using TEMPRO (version 7.2, dataset 72). TEMPRO gives the following growth rates for 'all roads' in the Charnwood 015 MSOA:

- 2017 to 2023 (AM) 1.0957
- 2017 to 2023 (PM) 1.0961

6.4 These growth rates were applied to the observed traffic flows. The '2023 background' traffic flows are shown in **Diagrams 7 and 8 in Appendix D** for the morning and evening peak hours.

### Committed development

6.5 In accordance with guidance, traffic flows associated with any committed developments should be included within the 2023 assessment year traffic flows. The NPPG states that *"it is important to give appropriate consideration to the cumulative impacts arising from other committed development (i.e. development that is consented or allocated where there is a reasonable degree of certainty will proceed within the next three years). At the decision-taking stage this may require the developer to carry out an assessment of the impact of those adopted Local Plan allocations which have the potential to impact on the same sections of transport network as well as other relevant local sites benefitting from as yet unimplemented planning approval."*

6.6 In pre-application advice, LCC requested the developments listed below be considered as committed developments, to understand the cumulative impacts on the local highway network.

- Queniborough Lodge – Shield Engineering Ltd (planning application P/13/1696/2)
- The Millstones – David Wilson Homes (P/14/0393/2)
- Barley Fields – Davidsons Homes (P/14/0708/2) and (P/15/1799/2)
- North East of Leicester Sustainable Urban Extension (SUE) (P/13/2498/2)

6.7 The Queniborough Lodge development was granted consent in January 2015 for the erection of 125 dwellings, on land to the west of Melton Road. **Appendix E** shows the traffic flows forecast of the Queniborough Lodge development.

6.8 The Millstones was granted consent in October 2014 for the erection of 101 dwellings and cemetery, on land to the north of Millstone Lane. **Appendix E** shows the traffic flows forecast for the Millstones development. They do not show traffic increases at the study area junctions

for this Transport Assessment. That is because the traffic increases were not material and so those junctions were not considered. Hence, the traffic from that development is accounted for by the TEMPRO growth factors. Moreover, that development was partially occupied when the traffic counts were carried out in November 2017, and so the traffic movements by its residents would already be included.

- 6.9 The Barley Fields development gained reserved matters consent in February 2017 for 101 dwellings, on land to the east of Barkby Road. The forecast amount of traffic generated by the development at the study area junctions is in **Appendix E**. Again, that development was partially developed at the time of the traffic counts in November 2017, and thus there is an element of double counting.
- 6.10 The North East of Leicester SUE was granted consent in August 2016 for an SUE consisting of up to 4500 dwellings, up to 13ha of employment land, two local centres and a school. **Appendix E** shows the traffic flows forecast for that development
- 6.11 The traffic flows generated by these committed developments for the morning and evening peak hours are shown in **Diagrams 9 and 10 in Appendix D**.

#### **2023 without development traffic flows**

- 6.12 The flows generated by the committed developments (Diagrams 9 and 10) were added to the '2023 background' flows (Diagrams 7 and 8) to give the '2023 without development' traffic flows (**Diagrams 11 and 12 in Appendix D**).

#### **2023 with development traffic flows**

- 6.13 The traffic flows generated by the proposed development (**Diagrams 5 and 6**) were combined with the '2023 without development flows' (Diagrams 11 and 12) to give the '2023 with development' traffic flows shown on **Diagrams 13 and 14 in Appendix D**.

## 7.0 HIGHWAY IMPACT

### Proposed site access

7.1 The proposed site access will be a priority-controlled T-junction on Barkby Road (**Figure 13**). A model of the junction was built using Junctions 8 PICADY software with geometries from OS mapping. The model was tested using the 2023 traffic flows. The results are summarised in the table below and the PICADY outputs are in **Appendix F**.

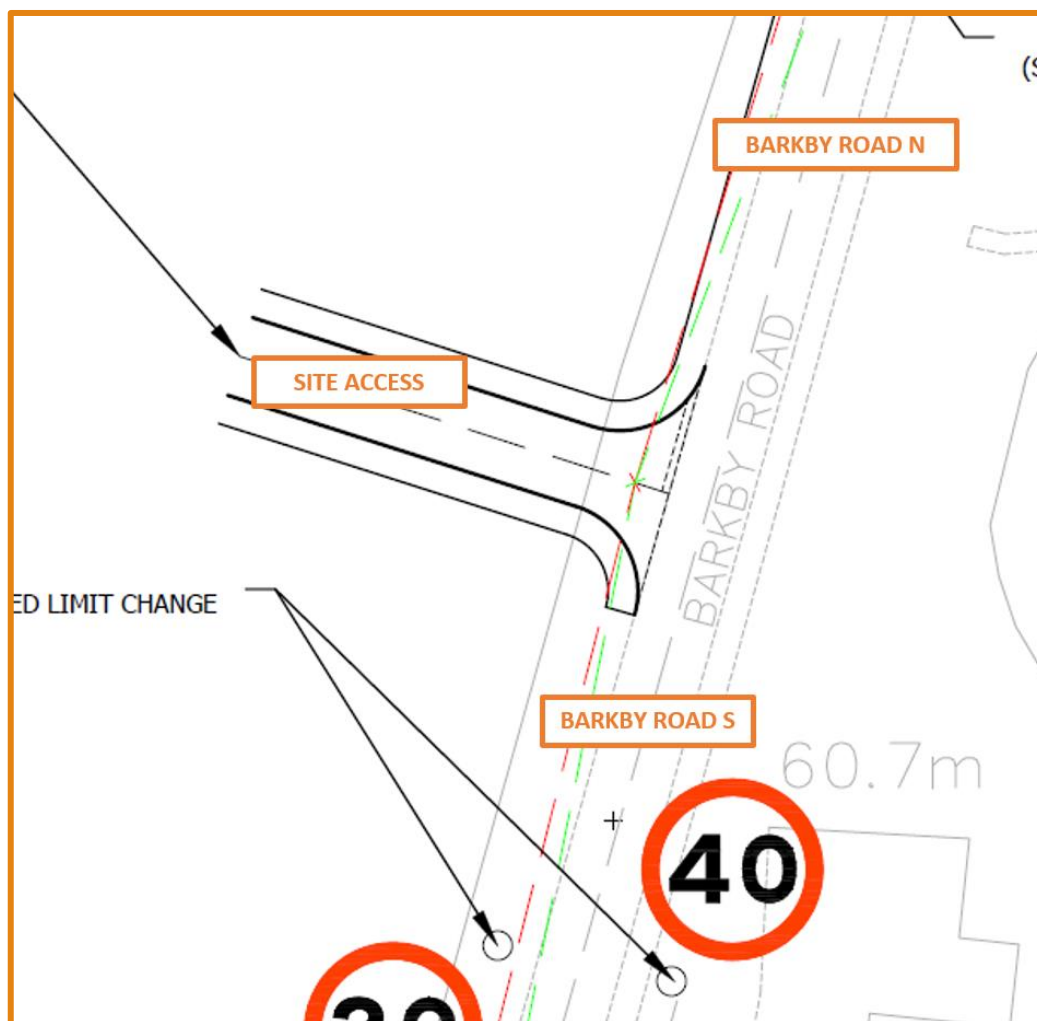


Figure 13: proposed site access (extract of **Drawing ADC1659-DR-001-P2**)

	peak		Site Access (left turn)	Site Access (right turn)	Barkby Road (right turn)
2023 with devel	AM	RFC	9%	7%	1%
		max queue (veh)	0.10	0.08	0.01
		max delay (secs)	5.97	7.96	6.07
	PM	RFC	4%	4%	10%
		max queue (veh)	0.04	0.04	0.11
		max delay (secs)	5.92	8.03	7.04

7.2 The junction will operate at 10% of capacity with the development in place, with minimal queuing and delay. In section 2 it was shown that there have been no accidents along the site frontage in the five years from 2013 to June 2017. The junction will be designed to standard with adequate visibility. Thus there would be no adverse capacity or safety impacts as a result of introducing the junction, which would provide a safe and suitable access for all people.

### Rearsby Rd/Queniborough Rd/Barkby Rd/Syston Rd crossroads - existing layout

- 7.3 The Rearsby Road/Queniborough Road/Barkby Road/Syston Road junction is a priority-controlled crossroads (**Figure 14**).
- 7.4 A model of the crossroads was built using Junctions 8 PICADY software with geometries for the existing junction layout, and was tested using the 2023 traffic flows, with and without the proposed developments. The results are summarised in the table below and the PICADY outputs are in **Appendix G**.



Figure 14: Rearsby Road/Queniborough Road/Barkby Road/Syston Road priority controlled crossroads

Scenario	peak	Stream	Max queue (veh)	Max delay (secs)	RFC (%)
2023 without devel	AM	Barkby Road (left turn and straight ahead)	1.85	27.83	66%
		Barkby Road (right turn and straight ahead)	1.44	33.14	60%
		Queniborough Road (right turn)	0.69	9.77	40%
		Rearsby Road (left turn and straight ahead)	20.04	164.56	106%
		Rearsby Road (right and straight ahead)	9.32	219.03	103%
		Syston Road (right turn)	0.17	7.68	14%
	PM	Barkby Road (left turn and straight ahead)	1.68	26.50	64%
		Barkby Road (right turn and straight ahead)	1.42	29.29	60%
		Queniborough Road (right turn)	0.62	9.51	38%
		Rearsby Road (left turn and straight ahead)	8.86	83.66	95%
		Rearsby Road (right and straight ahead)	5.37	127.34	93%
		Syston Road (right turn)	0.16	7.42	13%

Scenario	peak	Stream	Max queue (veh)	Max delay (secs)	RFC (%)
2023 with devel	AM	Barkby Road (left turn and straight ahead)	5.04	67.55	88%
		Barkby Road (right turn and straight ahead)	3.80	81.07	84%
		Queniborough Road (right turn)	0.69	9.78	40%
		Rearsby Road (left turn and straight ahead)	22.47	181.25	108%
		Rearsby Road (right and straight ahead)	10.15	235.95	105%
		Syston Road (right turn)	0.18	7.70	15%
	PM	Barkby Road (left turn and straight ahead)	2.53	37.76	74%
		Barkby Road (right turn and straight ahead)	2.06	41.97	69%
		Queniborough Road (right turn)	0.63	9.55	38%
		Rearsby Road (left turn and straight ahead)	21.89	178.79	107%
		Rearsby Road (right and straight ahead)	10.62	227.64	104%
		Syston Road (right turn)	0.17	7.53	15%

7.5 As shown in the tables above, in the worst case AM peak hour, the existing junction layout will operate at 106% of capacity without the development, deteriorating to 108% with the development in place. The delay on Rearsby Road would deteriorate from 3 minutes 39 seconds per vehicle to 3 minutes 56 seconds, a change of 17 seconds per vehicle. The longest queues would also occur on Rearsby Road, and be 29 vehicles without the development, extending to 32 vehicles with the development, an increase of 3 vehicles. There is a length of 360m from the Queniborough crossroads to the A607 roundabout, a distance capable of accommodating 63 cars. Therefore, the queue would not block back to the roundabout.

7.6 Thus the crossroads is already over capacity due to background traffic, a situation that is not caused by the development. An increase in the worst delay of 17 seconds could not be considered severe. An increase in the worst queue of 3 vehicles could also not be considered severe.

**Rearsby Rd/Queniborough Rd/Barkby Rd/Syston Rd crossroads – proposed layout**

7.7 Although there would not be a severe impact at the crossroads, the potential for a mitigation scheme was explored. The crossroads is already on a speed table and there are further humps along Syston Road and Queniborough Road. No suitable place could be found near to the crossroads to introduce a controlled pedestrian crossing that might create breaks in the traffic. Gladman’s outline consent for the Barkby Fields development by Davidsons examined the same

issue and looked at various alternatives, including the introduction of signal control, none of which found favour with LCC. In the end, the application was conditioned, by the 100<sup>th</sup> occupation, to introduce a scheme of works on Rearsby Road that widened the southbound approach to the give-way line to two lanes.

- 7.8 Davidsons have recently been granted consent to vary that condition (condition 5) so that the widening works are no longer provided. Their new scheme proposes changes to the road markings only (application P/17/1972/2) and was granted on 17 January 2018. Thus, the widening scheme on Rearsby Road remains as a potential mitigation scheme for David Wilson Homes' development. The scheme is shown in **Figure 15**, and consists of widening the existing Rearsby Road carriageway to provide a dedicated left turn only lane and a combined straight ahead and right turn lane. The eastern footway would be rerouted behind the existing row of trees to provide pedestrian connectivity between Rearsby Road and Queniborough Road. A new section of footway would also be provided on the western side of Rearsby Road to facilitate pedestrian connectivity to the existing zebra crossing, to the north of the junction.

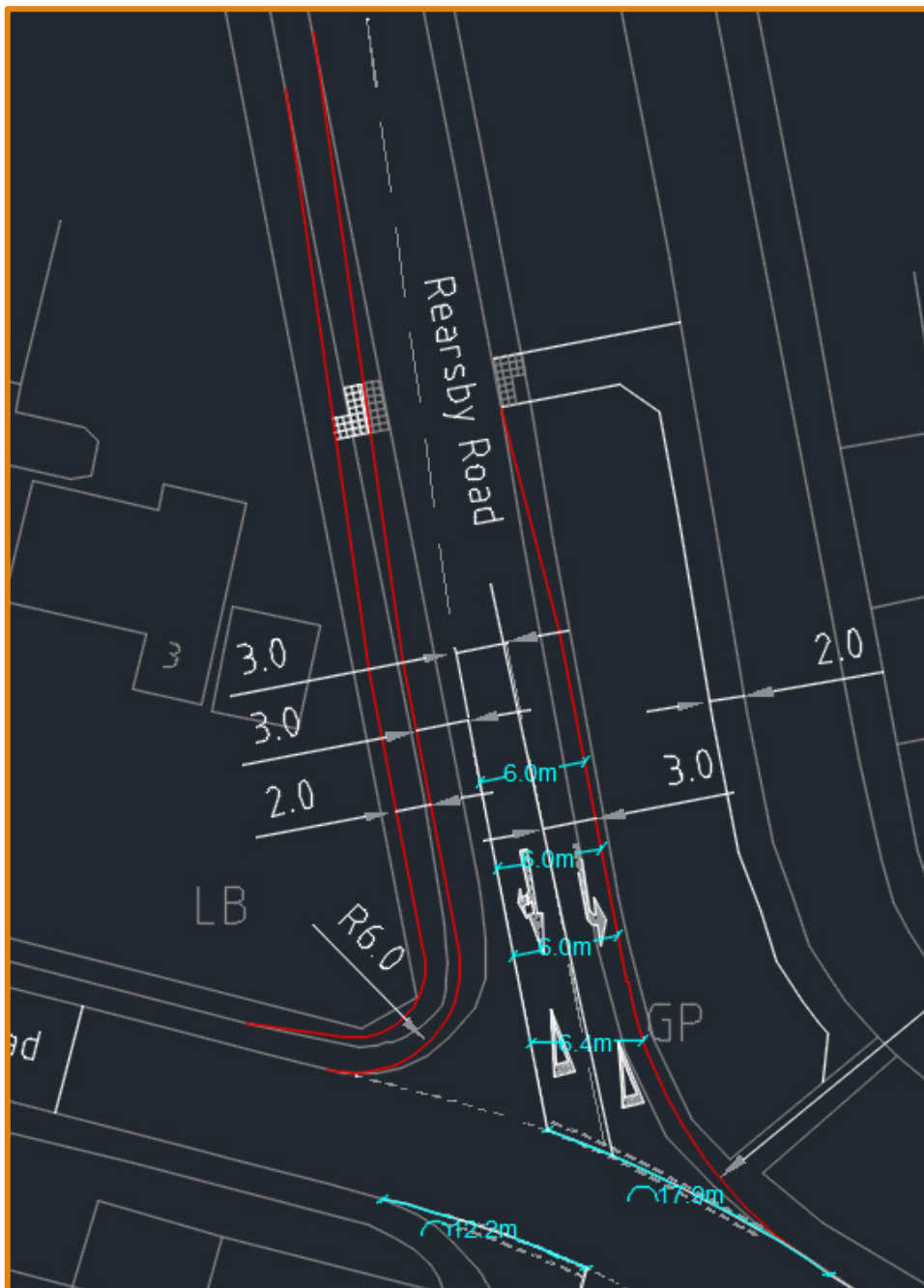


Figure 15: proposed mitigation scheme to the Queniborough crossroads

7.9 A model of the proposed crossroads with the mitigation scheme in place was built using Junctions 8 PICADY software with geometries and was tested using the 2023 with development traffic flows. The results are summarised in the table below and the PICADY outputs are in **Appendix G**.

Scenario	peak	Stream	Max queue (veh)	Max delay (secs)	RFC (%)
2023 with devel	AM	Barkby Road (left turn and straight ahead)	4.97	66.78	87%
		Barkby Road (right turn and straight ahead)	3.74	79.81	84%
		Queniborough Road (right turn)	0.69	9.78	40%
		Rearsby Road (left turn and straight ahead)	18.13	149.30	104%
		Rearsby Road (right turn and straight ahead)	8.73	198.96	103%
		Syston Road (right turn)	0.18	7.70	15%
	PM	Barkby Road (left turn and straight ahead)	2.50	37.41	73%
		Barkby Road (right turn and straight ahead)	2.03	41.42	69%
		Queniborough Road (right turn)	0.63	9.55	38%
		Rearsby Road (left turn and straight ahead)	16.12	135.77	102%
		Rearsby Road (right turn and straight ahead)	8.54	179.84	101%
		Syston Road (right turn)	0.17	7.53	15%

7.10 As shown in the tables above, the mitigation scheme produces a greater than nil-detriment effect. In the worst case morning peak hour, the delay on Rearsby Road reduces from 219 seconds per vehicle without the development, to 199 seconds with the development and the mitigation scheme. The queue on Rearsby Road reduces from 29 vehicles to 27 vehicles.

7.11 It is recommended that the mitigation scheme be conditioned to be implemented prior to the 100<sup>th</sup> occupation, as with the Davidsons' development.

### Queniborough Roundabout

7.12 Queniborough roundabout is a five-arm priority controlled roundabout (**Figure 15**). A model of the roundabout was built using Junctions 8 ARCADY software with geometries extracted from Appendix 7 of the Transport Assessment for the Davidsons development (P/14/0708/2). The model was tested using the 2023 traffic flows. The results are summarised in the table below and the ARCADY outputs are in **Appendix H**.

7.13 As shown in the table below, the roundabout operates at 69% of capacity without the developments in place and 74% of capacity with the developments in place. Therefore, the roundabout has spare capacity and mitigation is not necessary.



Figure 15: Queniborough roundabout

	peak		Melton Rd (north) (Arm 1)	A607 (east) (Arm 2)	Rearsby Rd (Arm 3)	Melton Rd (south) (Arm 4)	A607 (west) (Arm 5)
2023 without devel	AM	RFC	52%	58%	69%	32%	65%
		max queue (veh)	1.07	1.38	2.18	0.46	1.84
		max delay (secs)	7.65	5.33	12.79	3.92	5.97
	PM	RFC	31%	55%	60%	32%	66%
		max queue (veh)	0.46	1.20	1.45	0.48	1.91
2023 with devel	AM	RFC	52%	58%	74%	32%	66%
		max queue (veh)	1.09	1.39	2.73	0.47	1.88
		max delay (secs)	7.77	5.36	15.05	4.03	6.09
	PM	RFC	33%	56%	61%	33%	68%
		max queue (veh)	0.48	1.26	1.57	0.48	2.06
	max delay (secs)	5.23	4.82	9.86	3.81	6.33	

### Melton Road/Syston Road T-junction

7.14 The Syston Road/Melton Road T-junction is a priority controlled T-junction (**Figure 16**). As **Figures 11 and 12** highlight, the development would add seven vehicles to the junction in the peak hours and there would not be a material increase in traffic. Hence conditions would not materially alter, and no further assessment of the junction's capacity is necessary.



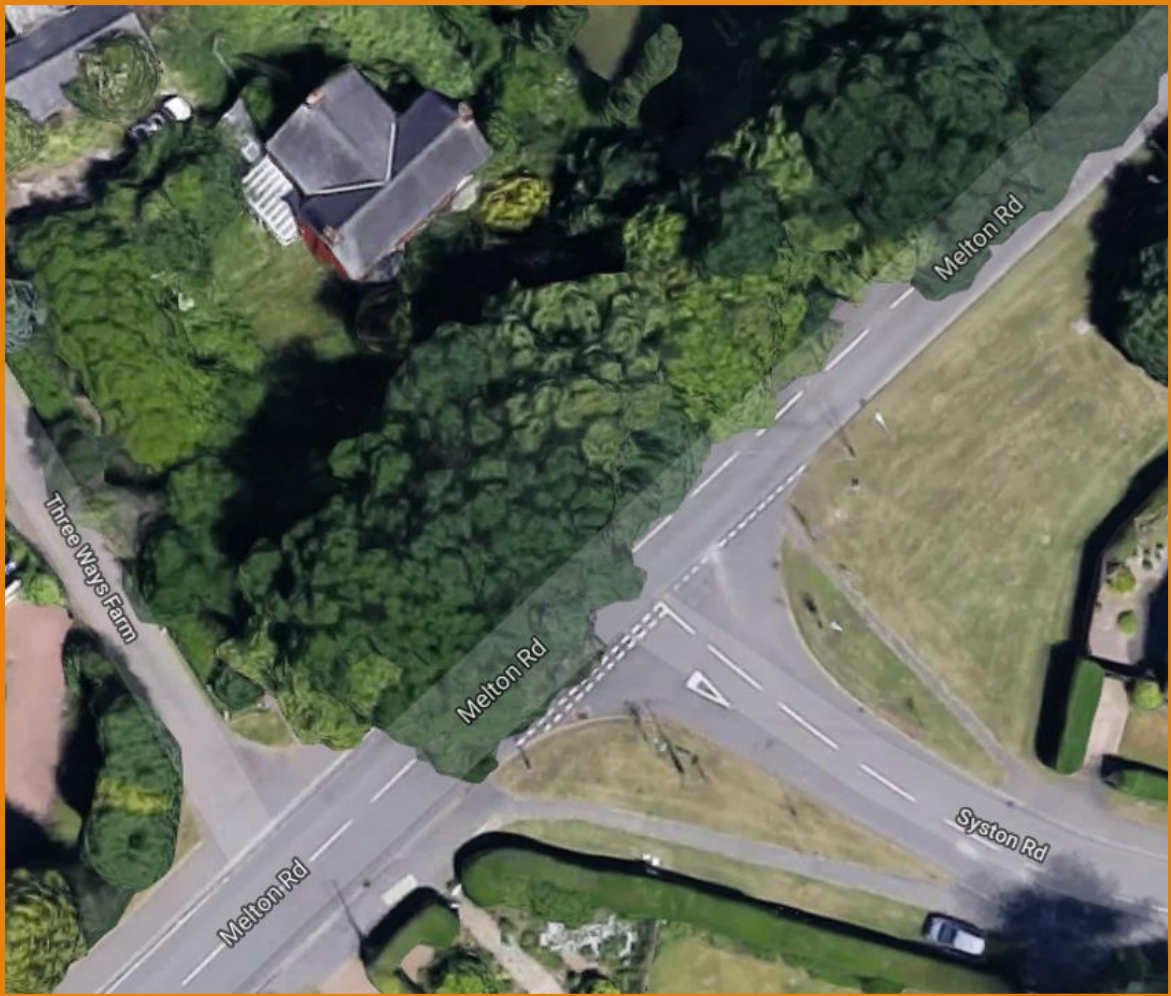


Figure 16: Syston Road/Melton Road T-junction


















## 8.0 SUMMARY AND CONCLUSIONS

- 8.1 David Wilson Homes commissioned ADC Infrastructure to advise on transport matters in support of an outline planning application associated with the potential residential development of up to 160 houses on land to the west of Barkby Road in Queniborough.
- 8.2 The proposed development will be accessed via a new priority-controlled T-junction on Barkby Road, designed to standard and with appropriate visibility.
- 8.3 The development site is accessible by sustainable travel modes. As part of the development proposals, the internal layout will include a footway that will connect to the existing footway network on Barkby Road. The local pedestrian infrastructure is good and all the amenities within Queniborough and Syston would be within walking distance. There are opportunities for cycle travel between the site and local attractions, and there are good opportunities for bus travel due to the number 5 bus route that runs along Syston Road every twenty minutes between East Goscote and Leicester.
- 8.4 The proposed dwellings would generate 9 pedestrian journeys, 4 cycle journeys and 6 bus journeys in a peak hour. This additional demand can be accommodated by the existing infrastructure and the proposed measures. Those measures include the provisions of a Travel Plan, which is a separate report. The Travel Plan includes the appointment of a Travel Plan Co-ordinator, travel packs for residents and free bus passes.
- 8.5 The proposed dwellings would generate up to 116 two-way traffic movements in a peak hour. Most journeys from the site will route to and from the north, via Barkby Road and Rearsby Road to the Queniborough Roundabout. The Queniborough Roundabout would operate with spare capacity with the development in place.
- 8.6 Only seven vehicles would route through the Melton Road/Syston Road priority controlled T-junction. Hence there would not be a material change to the operation of that junction.
- 8.7 The Syston Road/Rearsby Road/Queniborough Road/Barkby Road crossroads (Queniborough crossroads) is already over capacity. As a result of the development, the worst delays that occur on Rearsby Road would increase by 17 seconds per vehicle, and the longest queue would extend by three vehicles. That is not a severe impact.
- 8.8 Nevertheless, a mitigation scheme is proposed that has previously been accepted by Leicestershire County Council. The scheme proposes the widening of the Rearsby Road approach to the crossroads. The scheme achieves a better than nil-detriment scenario. The scheme can be conditioned to be implemented prior to the 100<sup>th</sup> occupation.
- 8.9 Overall, the proposed development would accord with the aims of the NPPF. The opportunities for sustainable travel would be taken up, safe and suitable access can be provided, and the proposed mitigation scheme to the crossroads would improve the performance of the junction compared to the existing layout. The development should not be prevented on transport grounds.

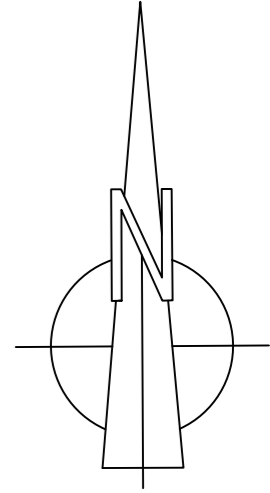
# APPENDIX A

## ILLUSTRATIVE MASTERPLAN



- KEY**
-  Site Boundary
  -  Surrounding Urban Context
  -  Proposed Residential (Indicative Only)
  -  Site Access
  -  Primary Access Roads
  -  Secondary Shared Surface Roads
  -  PROW to be Retained
  -  Open Space Areas
  -  Proposed LEAP
  -  Attenuation Basin
  -  Potential Pedestrian Link to Chestnut Close
  -  Existing Hedgerows/ Trees to be Retained
  -  Strong Landscaping Buffer to Southern Boundary
  -  Landscape Gateway Feature to Southern Boundary
  -  Surrounding Open Countryside
  -  Potential Location for Bungalows
  -  Potential Key Buildings/Feature Plots

Development By Davidson Homes



For Illustrative Purposes Only

Rev	Description	Initial	Date
B	Updated to Scheme 3		12.01.18
C	Updated to Scheme 4		26.01.18
D	Red line Updated		31.01.18
E	Red line Updated-SW Corner		01.02.18

# Land Off Barkby Road-Queniborough - Conceptual Plan



**CONCEPTUAL PLAN**

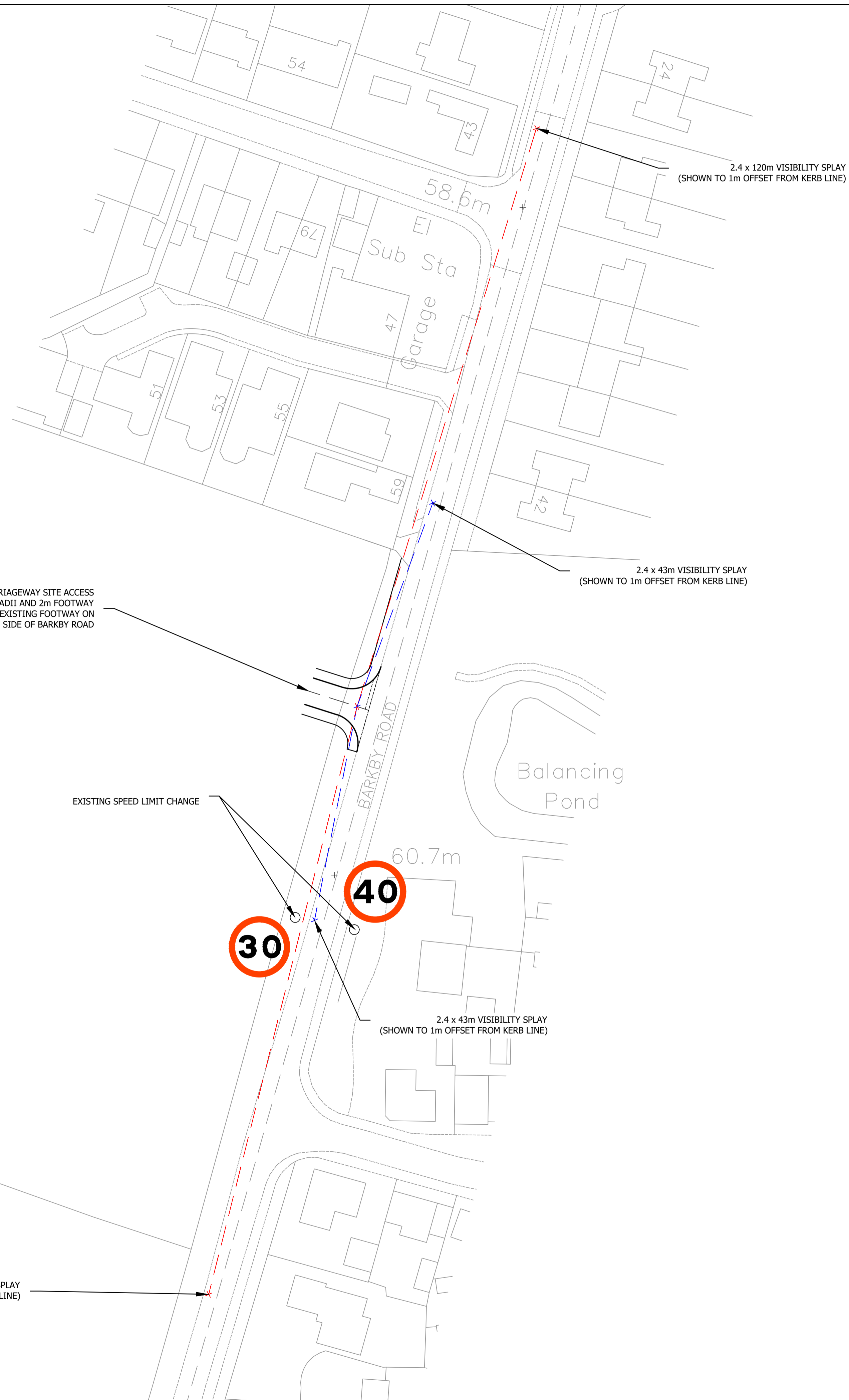
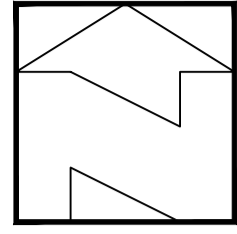
Drawn by: QUEN-CONC-SK2 Rev. E  
 Scale: NTS/AS2  
 Date: 19.12.17  
 Checked by: -

DOMINIUM DESIGN LTD  
 15 Topping Rise  
 Lichfield  
 Staffs. WV4 4 9DA

APPENDIX B

PROPOSED HIGHWAY WORKS

DRAWING ADC1659-DR-001-P2



PROPOSED 5.5m CARRIAGEWAY SITE ACCESS  
WITH 6m KERB RADII AND 2m FOOTWAY  
ADJOINING WITH EXISTING FOOTWAY ON  
WESTERN SIDE OF BARKBY ROAD

EXISTING SPEED LIMIT CHANGE

2.4 x 120m VISIBILITY SPLAY  
(SHOWN TO 1m OFFSET FROM KERB LINE)

2.4 x 43m VISIBILITY SPLAY  
(SHOWN TO 1m OFFSET FROM KERB LINE)

2.4 x 43m VISIBILITY SPLAY  
(SHOWN TO 1m OFFSET FROM KERB LINE)

2.4 x 120m VISIBILITY SPLAY  
(SHOWN TO 1m OFFSET FROM KERB LINE)

P2	Updated access location	20/01/21
P1	Preliminary Issue	08/01/18
Rev	Description	Date



Project:  
Barkby Road, Queniborough

Title:  
Proposed Access Junction Layout



Drg Size:	Scale:	Date:
A1	1:500	08/01/2018

Drg No:	Rev:
ADC1659-DR-001	P2

# APPENDIX C

## TRICS OUTPUTS

**TRIP RATE CALCULATION SELECTION PARAMETERS:**

Land Use : 03 - RESIDENTIAL  
 Category : A - HOUSES PRIVATELY OWNED

**VEHICLES**Selected regions and areas:

<b>02</b>	<b>SOUTH EAST</b>	
	EX ESSEX	1 days
	HC HAMPSHIRE	1 days
	SC SURREY	1 days
	WS WEST SUSSEX	1 days
<b>03</b>	<b>SOUTH WEST</b>	
	CW CORNWALL	1 days
	DC DORSET	1 days
	DV DEVON	2 days
<b>04</b>	<b>EAST ANGLIA</b>	
	NF NORFOLK	1 days
	SF SUFFOLK	2 days
<b>05</b>	<b>EAST MIDLANDS</b>	
	LN LINCOLNSHIRE	2 days
<b>06</b>	<b>WEST MIDLANDS</b>	
	SH SHROPSHIRE	2 days
	WM WEST MIDLANDS	1 days
<b>07</b>	<b>YORKSHIRE &amp; NORTH LINCOLNSHIRE</b>	
	NE NORTH EAST LINCOLNSHIRE	1 days
	NY NORTH YORKSHIRE	3 days
	SY SOUTH YORKSHIRE	1 days
<b>08</b>	<b>NORTH WEST</b>	
	CH CHESHIRE	2 days
<b>09</b>	<b>NORTH</b>	
	CB CUMBRIA	1 days
	DH DURHAM	2 days

*This section displays the number of survey days per TRICS® sub-region in the selected set*

**Secondary Filtering selection:**

*This data displays the chosen trip rate parameter and its selected range. Only sites that fall within the parameter range are included in the trip rate calculation.*

Parameter: Number of dwellings  
 Actual Range: 50 to 237 (units: )  
 Range Selected by User: 50 to 250 (units: )

Public Transport Provision:

Selection by: Include all surveys

Date Range: 01/01/07 to 28/03/17

*This data displays the range of survey dates selected. Only surveys that were conducted within this date range are included in the trip rate calculation.*

Selected survey days:

Monday	6 days
Tuesday	9 days
Wednesday	3 days
Thursday	5 days
Friday	3 days

*This data displays the number of selected surveys by day of the week.*

Selected survey types:

Manual count	26 days
Directional ATC Count	0 days

*This data displays the number of manual classified surveys and the number of unclassified ATC surveys, the total adding up to the overall number of surveys in the selected set. Manual surveys are undertaken using staff, whilst ATC surveys are undertaken using machines.*

Selected Locations:

Edge of Town Centre	1
Suburban Area (PPS6 Out of Centre)	14
Edge of Town	10
Neighbourhood Centre (PPS6 Local Centre)	1

*This data displays the number of surveys per main location category within the selected set. The main location categories consist of Free Standing, Edge of Town, Suburban Area, Neighbourhood Centre, Edge of Town Centre, Town Centre and Not Known.*

Selected Location Sub Categories:



*This data displays the number of surveys per location sub-category within the selected set. The location sub-categories consist of Commercial Zone, Industrial Zone, Development Zone, Residential Zone, Retail Zone, Built-Up Zone, Village, Out of Town, High Street and No Sub Category.*

### **Secondary Filtering selection:**

#### Use Class:

C3 26 days

*This data displays the number of surveys per Use Class classification within the selected set. The Use Classes Order 2005 has been used for this purpose, which can be found within the Library module of TRICS®.*

#### Population within 1 mile:

1,001 to 5,000	4 days
5,001 to 10,000	8 days
10,001 to 15,000	4 days
15,001 to 20,000	6 days
20,001 to 25,000	3 days
25,001 to 50,000	1 days

*This data displays the number of selected surveys within stated 1-mile radii of population.*

#### Population within 5 miles:

5,001 to 25,000	5 days
25,001 to 50,000	4 days
75,001 to 100,000	5 days
100,001 to 125,000	5 days
125,001 to 250,000	4 days
250,001 to 500,000	3 days

*This data displays the number of selected surveys within stated 5-mile radii of population.*

#### Car ownership within 5 miles:

0.6 to 1.0	5 days
1.1 to 1.5	21 days

*This data displays the number of selected surveys within stated ranges of average cars owned per residential dwelling, within a radius of 5-miles of selected survey sites.*

#### Travel Plan:

Yes	2 days
No	24 days

*This data displays the number of surveys within the selected set that were undertaken at sites with Travel Plans in place, and the number of surveys that were undertaken at sites without Travel Plans.*

#### PTAL Rating:

No PTAL Present	26 days
-----------------	---------

*This data displays the number of selected surveys with PTAL Ratings.*

LIST OF SITES relevant to selection parameters

<b>1</b>	<b>CB-03-A-04</b>	<b>SEMI DETACHED</b>	<b>CUMBRIA</b>
	MOORCLOSE ROAD		
	SALTERBACK		
	WORKINGTON		
	Edge of Town		
	No Sub Category		
	Total Number of dwellings:	82	
	Survey date: FRIDAY	24/04/09	Survey Type: MANUAL
<b>2</b>	<b>CH-03-A-02</b>	<b>HOUSES/FLATS</b>	<b>CHESHIRE</b>
	SYDNEY ROAD		
	CREWE		
	Edge of Town		
	Residential Zone		
	Total Number of dwellings:	174	
	Survey date: TUESDAY	14/10/08	Survey Type: MANUAL
<b>3</b>	<b>CH-03-A-06</b>	<b>SEMI-DET./BUNGALOWS</b>	<b>CHESHIRE</b>
	CREWE ROAD		
	CREWE		
	Suburban Area (PPS6 Out of Centre)		
	No Sub Category		
	Total Number of dwellings:	129	
	Survey date: TUESDAY	14/10/08	Survey Type: MANUAL
<b>4</b>	<b>CW-03-A-02</b>	<b>SEMI D./DETACHED</b>	<b>CORNWALL</b>
	BOSVEAN GARDENS		
	TRURO		
	Suburban Area (PPS6 Out of Centre)		
	Residential Zone		
	Total Number of dwellings:	73	
	Survey date: TUESDAY	18/09/07	Survey Type: MANUAL
<b>5</b>	<b>DC-03-A-01</b>	<b>DETACHED</b>	<b>DORSET</b>
	ISAACS CLOSE		
	POOLE		
	Suburban Area (PPS6 Out of Centre)		
	Residential Zone		
	Total Number of dwellings:	51	
	Survey date: WEDNESDAY	16/07/08	Survey Type: MANUAL
<b>6</b>	<b>DH-03-A-01</b>	<b>SEMI DETACHED</b>	<b>DURHAM</b>
	GREENFIELDS ROAD		
	BISHOP AUCKLAND		
	Suburban Area (PPS6 Out of Centre)		
	Residential Zone		
	Total Number of dwellings:	50	
	Survey date: TUESDAY	28/03/17	Survey Type: MANUAL
<b>7</b>	<b>DH-03-A-02</b>	<b>MIXED HOUSES</b>	<b>DURHAM</b>
	LEAZES LANE		
	ST HELEN AUCKLAND		
	BISHOP AUCKLAND		
	Neighbourhood Centre (PPS6 Local Centre)		
	Residential Zone		
	Total Number of dwellings:	125	
	Survey date: MONDAY	27/03/17	Survey Type: MANUAL
<b>8</b>	<b>DV-03-A-02</b>	<b>HOUSES &amp; BUNGALOWS</b>	<b>DEVON</b>
	MILLHEAD ROAD		
	HONITON		
	Suburban Area (PPS6 Out of Centre)		
	Residential Zone		
	Total Number of dwellings:	116	
	Survey date: FRIDAY	25/09/15	Survey Type: MANUAL

LIST OF SITES relevant to selection parameters (Cont.)

<b>9</b>	<b>DV-03-A-03</b>	<b>TERRACED &amp; SEMI DETACHED</b>	<b>DEVON</b>
	LOWER BRAND LANE		
	HONITON		
	Suburban Area (PPS6 Out of Centre)		
	Residential Zone		
	Total Number of dwellings:	70	
	Survey date: MONDAY	28/09/15	Survey Type: MANUAL
<b>10</b>	<b>EX-03-A-01</b>	<b>SEMI-DET.</b>	<b>ESSEX</b>
	MILTON ROAD		
	CORRINGHAM		
	STANFORD-LE-HOPE		
	Edge of Town		
	Residential Zone		
	Total Number of dwellings:	237	
	Survey date: TUESDAY	13/05/08	Survey Type: MANUAL
<b>11</b>	<b>HC-03-A-18</b>	<b>HOUSES &amp; FLATS</b>	<b>HAMPSHIRE</b>
	CANADA WAY		
	LIPHOOK		
	Suburban Area (PPS6 Out of Centre)		
	Residential Zone		
	Total Number of dwellings:	62	
	Survey date: TUESDAY	29/11/16	Survey Type: MANUAL
<b>12</b>	<b>LN-03-A-01</b>	<b>MIXED HOUSES</b>	<b>LINCOLNSHIRE</b>
	BRANT ROAD		
	BRACEBRIDGE		
	LINCOLN		
	Edge of Town		
	Residential Zone		
	Total Number of dwellings:	150	
	Survey date: TUESDAY	15/05/07	Survey Type: MANUAL
<b>13</b>	<b>LN-03-A-02</b>	<b>MIXED HOUSES</b>	<b>LINCOLNSHIRE</b>
	HYKEHAM ROAD		
	LINCOLN		
	Suburban Area (PPS6 Out of Centre)		
	Residential Zone		
	Total Number of dwellings:	186	
	Survey date: MONDAY	14/05/07	Survey Type: MANUAL
<b>14</b>	<b>NE-03-A-03</b>	<b>PRIVATE HOUSES</b>	<b>NORTH EAST LINCOLNSHIRE</b>
	STATION ROAD		
	SCUNTHORPE		
	Edge of Town Centre		
	Residential Zone		
	Total Number of dwellings:	180	
	Survey date: TUESDAY	20/05/14	Survey Type: MANUAL
<b>15</b>	<b>NF-03-A-02</b>	<b>HOUSES &amp; FLATS</b>	<b>NORFOLK</b>
	DEREHAM ROAD		
	NORWICH		
	Suburban Area (PPS6 Out of Centre)		
	Residential Zone		
	Total Number of dwellings:	98	
	Survey date: MONDAY	22/10/12	Survey Type: MANUAL
<b>16</b>	<b>NY-03-A-06</b>	<b>BUNGALOWS &amp; SEMI DET.</b>	<b>NORTH YORKSHIRE</b>
	HORSEFAIR		
	BOROUGHBRIDGE		
	Suburban Area (PPS6 Out of Centre)		
	Residential Zone		
	Total Number of dwellings:	115	
	Survey date: FRIDAY	14/10/11	Survey Type: MANUAL
<b>17</b>	<b>NY-03-A-09</b>	<b>MIXED HOUSING</b>	<b>NORTH YORKSHIRE</b>
	GRAMMAR SCHOOL LANE		
	NORTHALLERTON		
	Suburban Area (PPS6 Out of Centre)		
	Residential Zone		
	Total Number of dwellings:	52	
	Survey date: MONDAY	16/09/13	Survey Type: MANUAL

LIST OF SITES relevant to selection parameters (Cont.)

<b>18</b>	<b>NY-03-A-10</b>	<b>HOUSES AND FLATS</b>	<b>NORTH YORKSHIRE</b>
	BOROUGHBRIDGE ROAD		
	RIPON		
	Edge of Town		
	No Sub Category		
	Total Number of dwellings:	71	
	Survey date: TUESDAY	17/09/13	Survey Type: MANUAL
<b>19</b>	<b>SC-03-A-04</b>	<b>DETACHED &amp; TERRACED</b>	<b>SURREY</b>
	HIGH ROAD		
	BYFLEET		
	Edge of Town		
	Residential Zone		
	Total Number of dwellings:	71	
	Survey date: THURSDAY	23/01/14	Survey Type: MANUAL
<b>20</b>	<b>SF-03-A-01</b>	<b>SEMI DETACHED</b>	<b>SUFFOLK</b>
	A1156 FELIXSTOWE ROAD		
	RACECOURSE		
	IPSWICH		
	Suburban Area (PPS6 Out of Centre)		
	Residential Zone		
	Total Number of dwellings:	77	
	Survey date: WEDNESDAY	23/05/07	Survey Type: MANUAL
<b>21</b>	<b>SF-03-A-02</b>	<b>SEMI DET./TERRACED</b>	<b>SUFFOLK</b>
	STOKE PARK DRIVE		
	MAIDENHALL		
	IPSWICH		
	Edge of Town		
	Residential Zone		
	Total Number of dwellings:	230	
	Survey date: THURSDAY	24/05/07	Survey Type: MANUAL
<b>22</b>	<b>SH-03-A-04</b>	<b>TERRACED</b>	<b>SHROPSHIRE</b>
	ST MICHAEL'S STREET		
	SHREWSBURY		
	Suburban Area (PPS6 Out of Centre)		
	No Sub Category		
	Total Number of dwellings:	108	
	Survey date: THURSDAY	11/06/09	Survey Type: MANUAL
<b>23</b>	<b>SH-03-A-05</b>	<b>SEMI-DETACHED/TERRACED</b>	<b>SHROPSHIRE</b>
	SANDCROFT		
	SUTTON HILL		
	TELFORD		
	Edge of Town		
	Residential Zone		
	Total Number of dwellings:	54	
	Survey date: THURSDAY	24/10/13	Survey Type: MANUAL
<b>24</b>	<b>SY-03-A-01</b>	<b>SEMI DETACHED HOUSES</b>	<b>SOUTH YORKSHIRE</b>
	A19 BENTLEY ROAD		
	BENTLEY RISE		
	DONCASTER		
	Suburban Area (PPS6 Out of Centre)		
	Residential Zone		
	Total Number of dwellings:	54	
	Survey date: WEDNESDAY	18/09/13	Survey Type: MANUAL
<b>25</b>	<b>WM-03-A-03</b>	<b>MIXED HOUSING</b>	<b>WEST MIDLANDS</b>
	BASELEY WAY		
	ROWLEYS GREEN		
	COVENTRY		
	Edge of Town		
	Residential Zone		
	Total Number of dwellings:	84	
	Survey date: MONDAY	24/09/07	Survey Type: MANUAL

LIST OF SITES relevant to selection parameters (Cont.)

<b>26</b>	<b>WS-03-A-04</b>	<b>MIXED HOUSES</b>	<b>WEST SUSSEX</b>
	HILLS FARM LANE		
	BROADBRIDGE HEATH		
	HORSHAM		
	Edge of Town		
	Residential Zone		
	Total Number of dwellings:	151	
	Survey date: THURSDAY	11/12/14	Survey Type: MANUAL

*This section provides a list of all survey sites and days in the selected set. For each individual survey site, it displays a unique site reference code and site address, the selected trip rate calculation parameter and its value, the day of the week and date of each survey, and whether the survey was a manual classified count or an ATC count.*

ADC Infrastructure Limited The Lace Market Nottingham

Licence No: 855401

RANK ORDER for Land Use 03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED

**VEHICLES**

Ranking Type: **TOTALS** Time Range: 08:00-09:00

15th Percentile = No. **22** NY-03-A-09 Tot: 0.385

85th Percentile = No. **5** EX-03-A-01 Tot: 0.700

Median Values

Arrivals: 0.122  
 Departures: 0.363  
 Totals: 0.485

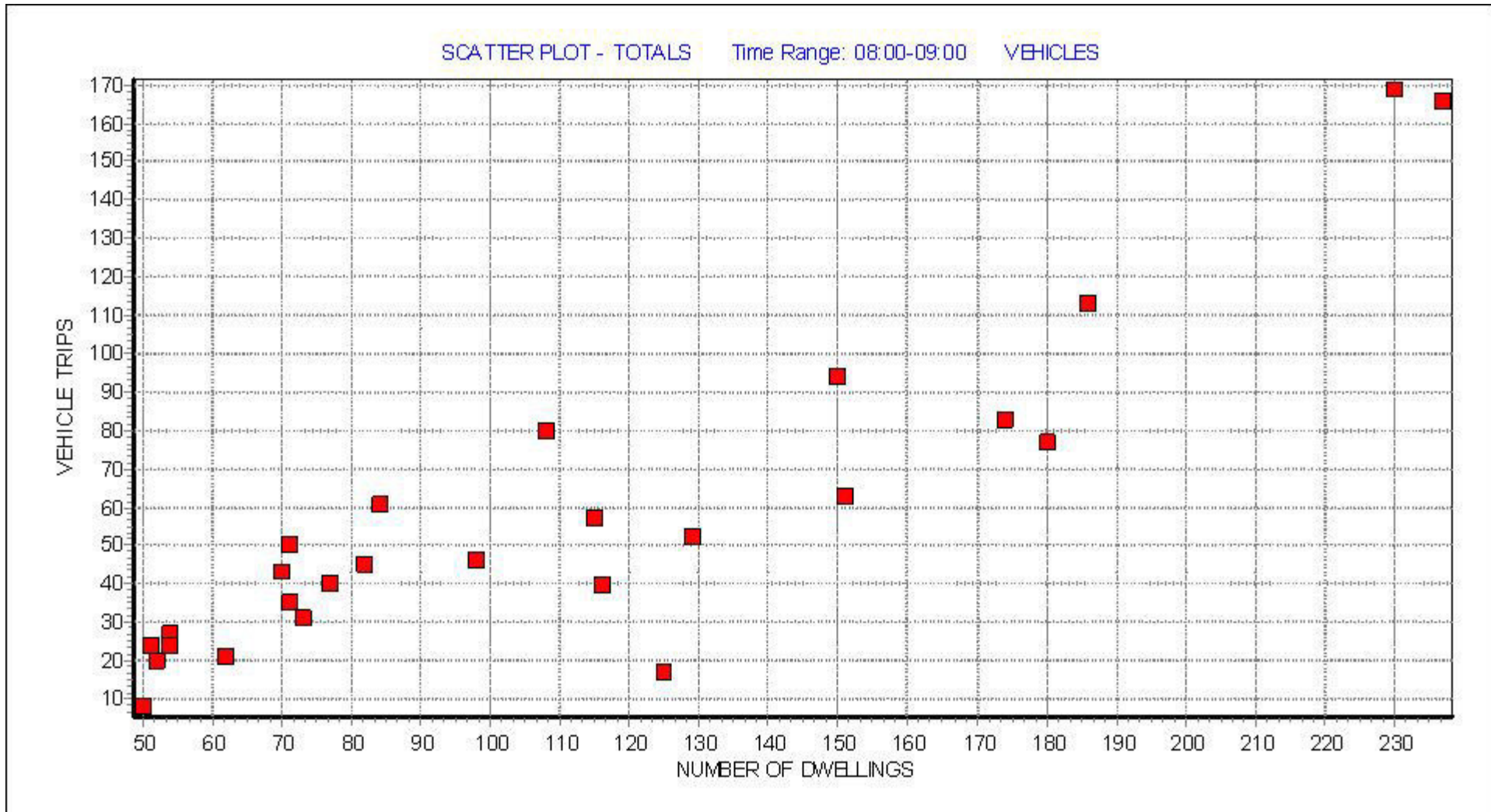
Mean Values

Arrivals: 0.140  
 Departures: 0.356  
 Totals: 0.497

Rank	Site-Ref	Description	Town/City	Area	DWELLS	Day	Date	Trip Rate (Sorted by Totals)			Park Spaces Per Dwelling
								Arrivals	Departures	Totals	
1	SH-03-A-04	TERRACED	SHREWSBURY	SHROPSHIRE	108	Thu	11/06/09	0.287	0.454	0.741	1.86
2	SF-03-A-02	SEMI DET./TERR	IPSWICH	SUFFOLK	230	Thu	24/05/07	0.243	0.491	0.734	2.48
3	WM-03-A-03	MIXED HOUSING	COVENTRY	WEST MIDLANDS	84	Mon	24/09/07	0.321	0.405	0.726	2.60
4	NY-03-A-10	HOUSES AND FLA	RIPON	NORTH YORKSHIRE	71	Tue	17/09/13	0.183	0.521	0.704	0.83
<b>5</b>	<b>EX-03-A-01</b>	<b>SEMI-DET.</b>	<b>STANFORD-LE-HOPE</b>	<b>ESSEX</b>	<b>237</b>	<b>Tue</b>	<b>13/05/08</b>	<b>0.177</b>	<b>0.523</b>	<b>0.700</b>	<b>2.53</b>
6	LN-03-A-01	MIXED HOUSES	LINCOLN	LINCOLNSHIRE	150	Tue	15/05/07	0.187	0.440	0.627	4.91
7	DV-03-A-03	TERRACED & SEM	HONITON	DEVON	70	Mon	28/09/15	0.086	0.529	0.615	1.66
8	LN-03-A-02	MIXED HOUSES	LINCOLN	LINCOLNSHIRE	186	Mon	14/05/07	0.183	0.425	0.608	4.13
9	CB-03-A-04	SEMI DETACHED	WORKINGTON	CUMBRIA	82	Fri	24/04/09	0.183	0.366	0.549	1.74
10	SF-03-A-01	SEMI DETACHED	IPSWICH	SUFFOLK	77	Wed	23/05/07	0.104	0.416	0.520	2.22
11	SH-03-A-05	SEMI-DETACHED/	TELFORD	SHROPSHIRE	54	Thu	24/10/13	0.130	0.370	0.500	1.17
12	NY-03-A-06	BUNGALOWS & SE	BOROUGHBRIDGE	NORTH YORKSHIRE	115	Fri	14/10/11	0.096	0.400	0.496	3.50
13	SC-03-A-04	DETACHED & TER	BYFLEET	SURREY	71	Thu	23/01/14	0.141	0.352	0.493	2.49
14	CH-03-A-02	HOUSES/FLATS	CREWE	CHESHIRE	174	Tue	14/10/08	0.103	0.374	0.477	2.81
15	DC-03-A-01	DETACHED	POOLE	DORSET	51	Wed	16/07/08	0.098	0.373	0.471	3.00
16	NF-03-A-02	HOUSES & FLATS	NORWICH	NORFOLK	98	Mon	22/10/12	0.122	0.347	0.469	2.24
17	SY-03-A-01	SEMI DETACHED	DONCASTER	SOUTH YORKSHIRE	54	Wed	18/09/13	0.056	0.389	0.445	1.13
18	NE-03-A-03	PRIVATE HOUSES	SCUNTHORPE	NORTH EAST LINCOLNS	180	Tue	20/05/14	0.144	0.283	0.427	2.68
19	CW-03-A-02	SEMI D./DETATC	TRURO	CORNWALL	73	Tue	18/09/07	0.096	0.329	0.425	3.73
20	WS-03-A-04	MIXED HOUSES	HORSHAM	WEST SUSSEX	151	Thu	11/12/14	0.139	0.278	0.417	2.28
21	CH-03-A-06	SEMI-DET./BUNG	CREWE	CHESHIRE	129	Tue	14/10/08	0.163	0.240	0.403	2.59
<b>22</b>	<b>NY-03-A-09</b>	<b>MIXED HOUSING</b>	<b>NORTHALLERTON</b>	<b>NORTH YORKSHIRE</b>	<b>52</b>	<b>Mon</b>	<b>16/09/13</b>	<b>0.173</b>	<b>0.212</b>	<b>0.385</b>	<b>2.60</b>
23	DV-03-A-02	HOUSES & BUNGA	HONITON	DEVON	116	Fri	25/09/15	0.103	0.241	0.344	2.25
24	HC-03-A-18	HOUSES & FLATS	LIPHOOK	HAMPSHIRE	62	Tue	29/11/16	0.081	0.258	0.339	2.19
25	DH-03-A-01	SEMI DETACHED	BISHOP AUCKLAND	DURHAM	50	Tue	28/03/17	0.020	0.140	0.160	1.74
26	DH-03-A-02	MIXED HOUSES	BISHOP AUCKLAND	DURHAM	125	Mon	27/03/17	0.032	0.104	0.136	0.99

This section displays actual (not average) trip rates for each of the survey days in the selected set, and ranks them in order of relative trip rate intensity, for a given time period (or peak period irrespective of time) selected by the user. The count type and direction are both displayed just above the table, along with the rows within the table representing the 85th and 15th percentile trip rate figures (highlighted in bold within the table itself).

The table itself displays details of each individual survey, alongside arrivals, departures and totals trip rates, sorted by whichever of the three directional options has been chosen by the user. As with the preceding trip rate calculation results table, the trip rates shown are per the calculation factor (e.g. per 100m2 GFA, per employee, per hectare, etc). Note that if the peak period option has been selected (as opposed to a specific chosen time period), the peak period for each individual survey day in the table is also displayed.



*This graph is a visual representation of the correlation between the selected trip rate calculation parameter and the rank order trip rates generated by each individual survey day in the selected set. The range of the trip rate parameter is shown along the x axis, with the level of trips shown on the y axis. The selected time range used to create the rank order list from which the graph is derived is displayed at the top of the graph (unless the peak period irrespective of time range has been selected). A line of best fit is sometimes displayed in the graph, should it be selected for inclusion by the user.*

**TRIP RATE CALCULATION SELECTION PARAMETERS:**

Land Use : 03 - RESIDENTIAL  
 Category : A - HOUSES PRIVATELY OWNED

**VEHICLES**Selected regions and areas:

<b>02</b>	<b>SOUTH EAST</b>	
	EX ESSEX	1 days
	HC HAMPSHIRE	1 days
	SC SURREY	1 days
	WS WEST SUSSEX	1 days
<b>03</b>	<b>SOUTH WEST</b>	
	CW CORNWALL	1 days
	DC DORSET	1 days
	DV DEVON	2 days
<b>04</b>	<b>EAST ANGLIA</b>	
	NF NORFOLK	1 days
	SF SUFFOLK	2 days
<b>05</b>	<b>EAST MIDLANDS</b>	
	LN LINCOLNSHIRE	2 days
<b>06</b>	<b>WEST MIDLANDS</b>	
	SH SHROPSHIRE	2 days
	WM WEST MIDLANDS	1 days
<b>07</b>	<b>YORKSHIRE &amp; NORTH LINCOLNSHIRE</b>	
	NE NORTH EAST LINCOLNSHIRE	1 days
	NY NORTH YORKSHIRE	3 days
	SY SOUTH YORKSHIRE	1 days
<b>08</b>	<b>NORTH WEST</b>	
	CH CHESHIRE	2 days
<b>09</b>	<b>NORTH</b>	
	CB CUMBRIA	1 days
	DH DURHAM	2 days

*This section displays the number of survey days per TRICS® sub-region in the selected set*

**Secondary Filtering selection:**

*This data displays the chosen trip rate parameter and its selected range. Only sites that fall within the parameter range are included in the trip rate calculation.*

Parameter: Number of dwellings  
 Actual Range: 50 to 237 (units: )  
 Range Selected by User: 50 to 250 (units: )

Public Transport Provision:

Selection by: Include all surveys

Date Range: 01/01/07 to 28/03/17

*This data displays the range of survey dates selected. Only surveys that were conducted within this date range are included in the trip rate calculation.*

Selected survey days:

Monday	6 days
Tuesday	9 days
Wednesday	3 days
Thursday	5 days
Friday	3 days

*This data displays the number of selected surveys by day of the week.*

Selected survey types:

Manual count	26 days
Directional ATC Count	0 days

*This data displays the number of manual classified surveys and the number of unclassified ATC surveys, the total adding up to the overall number of surveys in the selected set. Manual surveys are undertaken using staff, whilst ATC surveys are undertaken using machines.*

Selected Locations:

Edge of Town Centre	1
Suburban Area (PPS6 Out of Centre)	14
Edge of Town	10
Neighbourhood Centre (PPS6 Local Centre)	1

*This data displays the number of surveys per main location category within the selected set. The main location categories consist of Free Standing, Edge of Town, Suburban Area, Neighbourhood Centre, Edge of Town Centre, Town Centre and Not Known.*

Selected Location Sub Categories:



*This data displays the number of surveys per location sub-category within the selected set. The location sub-categories consist of Commercial Zone, Industrial Zone, Development Zone, Residential Zone, Retail Zone, Built-Up Zone, Village, Out of Town, High Street and No Sub Category.*

### **Secondary Filtering selection:**

#### Use Class:

C3 26 days

*This data displays the number of surveys per Use Class classification within the selected set. The Use Classes Order 2005 has been used for this purpose, which can be found within the Library module of TRICS®.*

#### Population within 1 mile:

1,001 to 5,000	4 days
5,001 to 10,000	8 days
10,001 to 15,000	4 days
15,001 to 20,000	6 days
20,001 to 25,000	3 days
25,001 to 50,000	1 days

*This data displays the number of selected surveys within stated 1-mile radii of population.*

#### Population within 5 miles:

5,001 to 25,000	5 days
25,001 to 50,000	4 days
75,001 to 100,000	5 days
100,001 to 125,000	5 days
125,001 to 250,000	4 days
250,001 to 500,000	3 days

*This data displays the number of selected surveys within stated 5-mile radii of population.*

#### Car ownership within 5 miles:

0.6 to 1.0	5 days
1.1 to 1.5	21 days

*This data displays the number of selected surveys within stated ranges of average cars owned per residential dwelling, within a radius of 5-miles of selected survey sites.*

#### Travel Plan:

Yes	2 days
No	24 days

*This data displays the number of surveys within the selected set that were undertaken at sites with Travel Plans in place, and the number of surveys that were undertaken at sites without Travel Plans.*

#### PTAL Rating:

No PTAL Present	26 days
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*This data displays the number of selected surveys with PTAL Ratings.*

LIST OF SITES relevant to selection parameters

<b>1</b>	<b>CB-03-A-04</b>	<b>SEMI DETACHED</b>	<b>CUMBRIA</b>
	MOORCLOSE ROAD		
	SALTERBACK		
	WORKINGTON		
	Edge of Town		
	No Sub Category		
	Total Number of dwellings:	82	
	Survey date: FRIDAY	24/04/09	Survey Type: MANUAL
<b>2</b>	<b>CH-03-A-02</b>	<b>HOUSES/FLATS</b>	<b>CHESHIRE</b>
	SYDNEY ROAD		
	CREWE		
	Edge of Town		
	Residential Zone		
	Total Number of dwellings:	174	
	Survey date: TUESDAY	14/10/08	Survey Type: MANUAL
<b>3</b>	<b>CH-03-A-06</b>	<b>SEMI-DET./BUNGALOWS</b>	<b>CHESHIRE</b>
	CREWE ROAD		
	CREWE		
	Suburban Area (PPS6 Out of Centre)		
	No Sub Category		
	Total Number of dwellings:	129	
	Survey date: TUESDAY	14/10/08	Survey Type: MANUAL
<b>4</b>	<b>CW-03-A-02</b>	<b>SEMI D./DETACHED</b>	<b>CORNWALL</b>
	BOSVEAN GARDENS		
	TRURO		
	Suburban Area (PPS6 Out of Centre)		
	Residential Zone		
	Total Number of dwellings:	73	
	Survey date: TUESDAY	18/09/07	Survey Type: MANUAL
<b>5</b>	<b>DC-03-A-01</b>	<b>DETACHED</b>	<b>DORSET</b>
	ISAACS CLOSE		
	POOLE		
	Suburban Area (PPS6 Out of Centre)		
	Residential Zone		
	Total Number of dwellings:	51	
	Survey date: WEDNESDAY	16/07/08	Survey Type: MANUAL
<b>6</b>	<b>DH-03-A-01</b>	<b>SEMI DETACHED</b>	<b>DURHAM</b>
	GREENFIELDS ROAD		
	BISHOP AUCKLAND		
	Suburban Area (PPS6 Out of Centre)		
	Residential Zone		
	Total Number of dwellings:	50	
	Survey date: TUESDAY	28/03/17	Survey Type: MANUAL
<b>7</b>	<b>DH-03-A-02</b>	<b>MIXED HOUSES</b>	<b>DURHAM</b>
	LEAZES LANE		
	ST HELEN AUCKLAND		
	BISHOP AUCKLAND		
	Neighbourhood Centre (PPS6 Local Centre)		
	Residential Zone		
	Total Number of dwellings:	125	
	Survey date: MONDAY	27/03/17	Survey Type: MANUAL
<b>8</b>	<b>DV-03-A-02</b>	<b>HOUSES &amp; BUNGALOWS</b>	<b>DEVON</b>
	MILLHEAD ROAD		
	HONITON		
	Suburban Area (PPS6 Out of Centre)		
	Residential Zone		
	Total Number of dwellings:	116	
	Survey date: FRIDAY	25/09/15	Survey Type: MANUAL

LIST OF SITES relevant to selection parameters (Cont.)

<b>9</b>	<b>DV-03-A-03</b>	<b>TERRACED &amp; SEMI DETACHED</b>	<b>DEVON</b>
	LOWER BRAND LANE		
	HONITON		
	Suburban Area (PPS6 Out of Centre)		
	Residential Zone		
	Total Number of dwellings:	70	
	Survey date: MONDAY	28/09/15	Survey Type: MANUAL
<b>10</b>	<b>EX-03-A-01</b>	<b>SEMI-DET.</b>	<b>ESSEX</b>
	MILTON ROAD		
	CORRINGHAM		
	STANFORD-LE-HOPE		
	Edge of Town		
	Residential Zone		
	Total Number of dwellings:	237	
	Survey date: TUESDAY	13/05/08	Survey Type: MANUAL
<b>11</b>	<b>HC-03-A-18</b>	<b>HOUSES &amp; FLATS</b>	<b>HAMPSHIRE</b>
	CANADA WAY		
	LIPHOOK		
	Suburban Area (PPS6 Out of Centre)		
	Residential Zone		
	Total Number of dwellings:	62	
	Survey date: TUESDAY	29/11/16	Survey Type: MANUAL
<b>12</b>	<b>LN-03-A-01</b>	<b>MIXED HOUSES</b>	<b>LINCOLNSHIRE</b>
	BRANT ROAD		
	BRACEBRIDGE		
	LINCOLN		
	Edge of Town		
	Residential Zone		
	Total Number of dwellings:	150	
	Survey date: TUESDAY	15/05/07	Survey Type: MANUAL
<b>13</b>	<b>LN-03-A-02</b>	<b>MIXED HOUSES</b>	<b>LINCOLNSHIRE</b>
	HYKEHAM ROAD		
	LINCOLN		
	Suburban Area (PPS6 Out of Centre)		
	Residential Zone		
	Total Number of dwellings:	186	
	Survey date: MONDAY	14/05/07	Survey Type: MANUAL
<b>14</b>	<b>NE-03-A-03</b>	<b>PRIVATE HOUSES</b>	<b>NORTH EAST LINCOLNSHIRE</b>
	STATION ROAD		
	SCUNTHORPE		
	Edge of Town Centre		
	Residential Zone		
	Total Number of dwellings:	180	
	Survey date: TUESDAY	20/05/14	Survey Type: MANUAL
<b>15</b>	<b>NF-03-A-02</b>	<b>HOUSES &amp; FLATS</b>	<b>NORFOLK</b>
	DEREHAM ROAD		
	NORWICH		
	Suburban Area (PPS6 Out of Centre)		
	Residential Zone		
	Total Number of dwellings:	98	
	Survey date: MONDAY	22/10/12	Survey Type: MANUAL
<b>16</b>	<b>NY-03-A-06</b>	<b>BUNGALOWS &amp; SEMI DET.</b>	<b>NORTH YORKSHIRE</b>
	HORSEFAIR		
	BOROUGHBRIDGE		
	Suburban Area (PPS6 Out of Centre)		
	Residential Zone		
	Total Number of dwellings:	115	
	Survey date: FRIDAY	14/10/11	Survey Type: MANUAL
<b>17</b>	<b>NY-03-A-09</b>	<b>MIXED HOUSING</b>	<b>NORTH YORKSHIRE</b>
	GRAMMAR SCHOOL LANE		
	NORTHALLERTON		
	Suburban Area (PPS6 Out of Centre)		
	Residential Zone		
	Total Number of dwellings:	52	
	Survey date: MONDAY	16/09/13	Survey Type: MANUAL

LIST OF SITES relevant to selection parameters (Cont.)

<b>18</b>	<b>NY-03-A-10</b>	<b>HOUSES AND FLATS</b>	<b>NORTH YORKSHIRE</b>
	BOROUGHBRIDGE ROAD		
	RIPON		
	Edge of Town		
	No Sub Category		
	Total Number of dwellings:	71	
	Survey date: TUESDAY	17/09/13	Survey Type: MANUAL
<b>19</b>	<b>SC-03-A-04</b>	<b>DETACHED &amp; TERRACED</b>	<b>SURREY</b>
	HIGH ROAD		
	BYFLEET		
	Edge of Town		
	Residential Zone		
	Total Number of dwellings:	71	
	Survey date: THURSDAY	23/01/14	Survey Type: MANUAL
<b>20</b>	<b>SF-03-A-01</b>	<b>SEMI DETACHED</b>	<b>SUFFOLK</b>
	A1156 FELIXSTOWE ROAD		
	RACECOURSE		
	IPSWICH		
	Suburban Area (PPS6 Out of Centre)		
	Residential Zone		
	Total Number of dwellings:	77	
	Survey date: WEDNESDAY	23/05/07	Survey Type: MANUAL
<b>21</b>	<b>SF-03-A-02</b>	<b>SEMI DET./TERRACED</b>	<b>SUFFOLK</b>
	STOKE PARK DRIVE		
	MAIDENHALL		
	IPSWICH		
	Edge of Town		
	Residential Zone		
	Total Number of dwellings:	230	
	Survey date: THURSDAY	24/05/07	Survey Type: MANUAL
<b>22</b>	<b>SH-03-A-04</b>	<b>TERRACED</b>	<b>SHROPSHIRE</b>
	ST MICHAEL'S STREET		
	SHREWSBURY		
	Suburban Area (PPS6 Out of Centre)		
	No Sub Category		
	Total Number of dwellings:	108	
	Survey date: THURSDAY	11/06/09	Survey Type: MANUAL
<b>23</b>	<b>SH-03-A-05</b>	<b>SEMI-DETACHED/TERRACED</b>	<b>SHROPSHIRE</b>
	SANDCROFT		
	SUTTON HILL		
	TELFORD		
	Edge of Town		
	Residential Zone		
	Total Number of dwellings:	54	
	Survey date: THURSDAY	24/10/13	Survey Type: MANUAL
<b>24</b>	<b>SY-03-A-01</b>	<b>SEMI DETACHED HOUSES</b>	<b>SOUTH YORKSHIRE</b>
	A19 BENTLEY ROAD		
	BENTLEY RISE		
	DONCASTER		
	Suburban Area (PPS6 Out of Centre)		
	Residential Zone		
	Total Number of dwellings:	54	
	Survey date: WEDNESDAY	18/09/13	Survey Type: MANUAL
<b>25</b>	<b>WM-03-A-03</b>	<b>MIXED HOUSING</b>	<b>WEST MIDLANDS</b>
	BASELEY WAY		
	ROWLEYS GREEN		
	COVENTRY		
	Edge of Town		
	Residential Zone		
	Total Number of dwellings:	84	
	Survey date: MONDAY	24/09/07	Survey Type: MANUAL

LIST OF SITES relevant to selection parameters (Cont.)

<b>26</b>	<b>WS-03-A-04</b>	<b>MIXED HOUSES</b>	<b>WEST SUSSEX</b>
	HILLS FARM LANE		
	BROADBRIDGE HEATH		
	HORSHAM		
	Edge of Town		
	Residential Zone		
	Total Number of dwellings:	151	
	Survey date: THURSDAY	11/12/14	Survey Type: MANUAL

*This section provides a list of all survey sites and days in the selected set. For each individual survey site, it displays a unique site reference code and site address, the selected trip rate calculation parameter and its value, the day of the week and date of each survey, and whether the survey was a manual classified count or an ATC count.*

ADC Infrastructure Limited The Lace Market Nottingham

Licence No: 855401

RANK ORDER for Land Use 03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED

**VEHICLES**

Ranking Type: **TOTALS** Time Range: 17:00-18:00

15th Percentile = No. **22** SY-03-A-01 Tot: 0.334

85th Percentile = No. **5** SF-03-A-02 Tot: 0.726

Median Values

Arrivals: 0.363  
Departures: 0.122  
Totals: 0.485

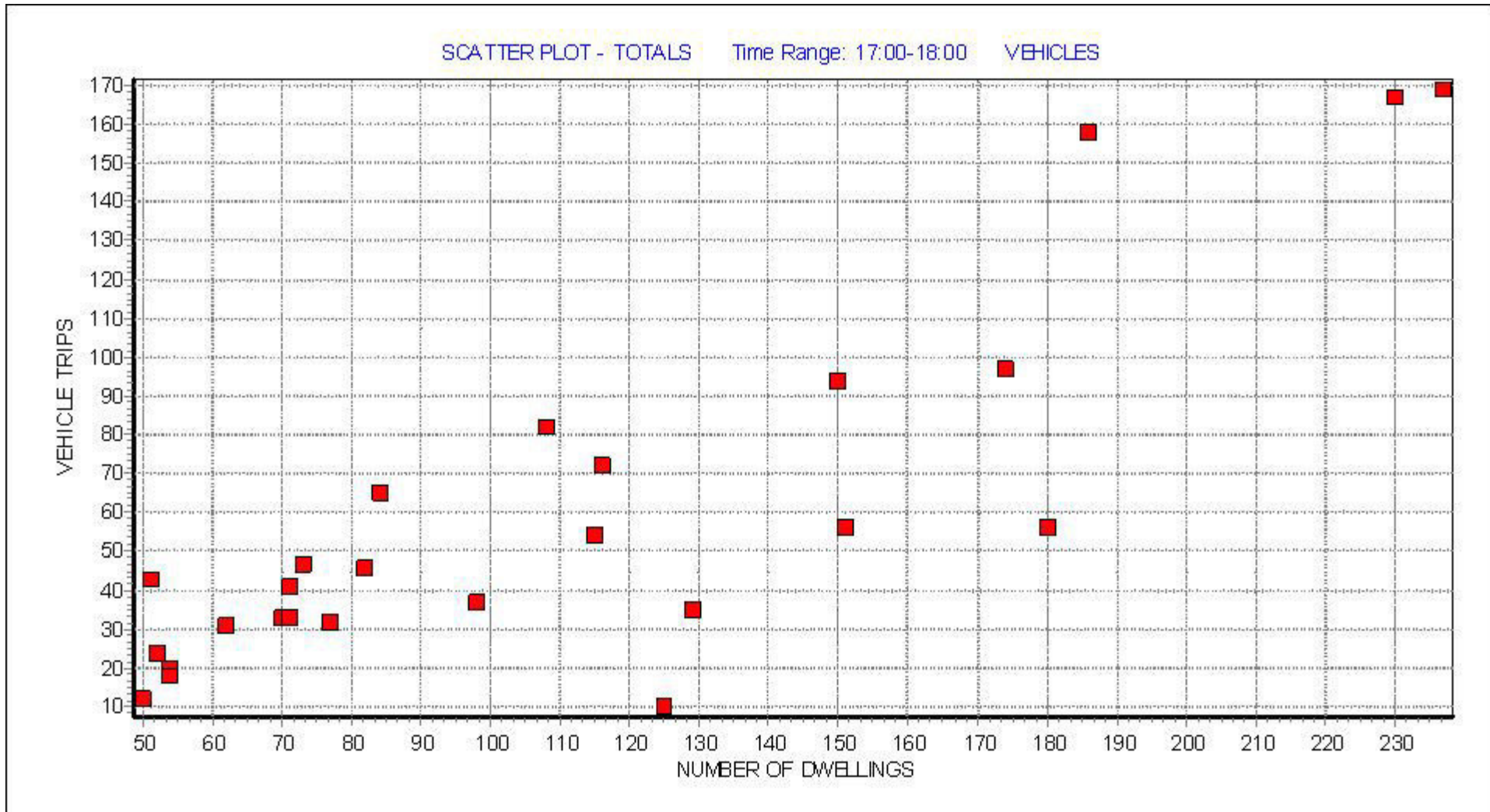
Mean Values

Arrivals: 0.332  
Departures: 0.183  
Totals: 0.515

Rank	Site-Ref	Description	Town/City	Area	DWELLS	Day	Date	Trip Rate (Sorted by Totals)			Park Spaces Per Dwelling
								Arrivals	Departures	Totals	
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2	DC-03-A-01	DETACHED	POOLE	DORSET	51	Wed	16/07/08	0.510	0.333	0.843	3.00
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18	SF-03-A-01	SEMI DETACHED	IPSWICH	SUFFOLK	77	Wed	23/05/07	0.247	0.169	0.416	2.22
19	NF-03-A-02	HOUSES & FLATS	NORWICH	NORFOLK	98	Mon	22/10/12	0.235	0.143	0.378	2.24
20	WS-03-A-04	MIXED HOUSES	HORSHAM	WEST SUSSEX	151	Thu	11/12/14	0.252	0.119	0.371	2.28
21	SH-03-A-05	SEMI-DETACHED/	TELFORD	SHROPSHIRE	54	Thu	24/10/13	0.241	0.130	0.371	1.17
<b>22</b>	<b>SY-03-A-01</b>	<b>SEMI DETACHED</b>	<b>DONCASTER</b>	<b>SOUTH YORKSHIRE</b>	<b>54</b>	<b>Wed</b>	<b>18/09/13</b>	<b>0.278</b>	<b>0.056</b>	<b>0.334</b>	<b>1.13</b>
23	NE-03-A-03	PRIVATE HOUSES	SCUNTHORPE	NORTH EAST LINCOLNS	180	Tue	20/05/14	0.128	0.183	0.311	2.68
24	CH-03-A-06	SEMI-DET./BUNG	CREWE	CHESHIRE	129	Tue	14/10/08	0.132	0.140	0.272	2.59
25	DH-03-A-01	SEMI DETACHED	BISHOP AUCKLAND	DURHAM	50	Tue	28/03/17	0.220	0.020	0.240	1.74
26	DH-03-A-02	MIXED HOUSES	BISHOP AUCKLAND	DURHAM	125	Mon	27/03/17	0.064	0.016	0.080	0.99

This section displays actual (not average) trip rates for each of the survey days in the selected set, and ranks them in order of relative trip rate intensity, for a given time period (or peak period irrespective of time) selected by the user. The count type and direction are both displayed just above the table, along with the rows within the table representing the 85th and 15th percentile trip rate figures (highlighted in bold within the table itself).

The table itself displays details of each individual survey, alongside arrivals, departures and totals trip rates, sorted by whichever of the three directional options has been chosen by the user. As with the preceding trip rate calculation results table, the trip rates shown are per the calculation factor (e.g. per 100m2 GFA, per employee, per hectare, etc). Note that if the peak period option has been selected (as opposed to a specific chosen time period), the peak period for each individual survey day in the table is also displayed.



*This graph is a visual representation of the correlation between the selected trip rate calculation parameter and the rank order trip rates generated by each individual survey day in the selected set. The range of the trip rate parameter is shown along the x axis, with the level of trips shown on the y axis. The selected time range used to create the rank order list from which the graph is derived is displayed at the top of the graph (unless the peak period irrespective of time range has been selected). A line of best fit is sometimes displayed in the graph, should it be selected for inclusion by the user.*

# APPENDIX D

## TRAFFIC DIAGRAMS



Lights	337	436	773
HGVs	13	14	27
Total	350	450	800
	↑	↓	2way

Melton Road			
Lights	401	35	
HGVs	14	0	
Total	415	35	
	↓	→	

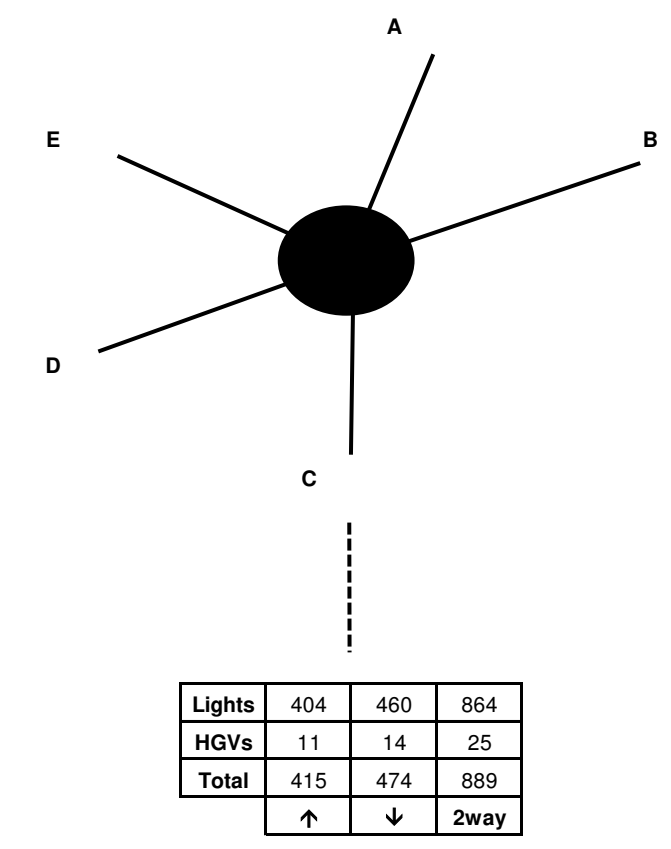
↑	→	
Lights	309	109
HGVs	11	10
Total	320	119

Melton Road			
↑	↓	2way	
Lights	418	534	952
HGVs	21	22	43
Total	439	556	995

Syston Road				
↑	→	Lights	HGVs	Total
↑	→	28	2	30
↓	→	133	8	141

→	Lights	HGVs	Total
→	144	10	154
←	161	10	171
2way	305	20	325

Lights	HGVs	Total	→
169	9	178	→
110	10	120	←
279	19	298	2way



Lights						
A	B	C	D	E	Total	
A	1	43	107	193	63	407
B	18	0	103	139	462	722
C	72	107	0	12	263	454
D	95	104	6	0	134	339
E	31	481	247	101	0	860
Total	217	735	463	445	922	2782

HGVs						
A	B	C	D	E	Total	
A	0	2	5	9	0	16
B	0	0	0	3	48	51
C	4	1	0	0	8	13
D	5	4	0	0	4	13
E	3	46	9	2	0	60
Total	12	53	14	14	60	153

Total						
A	B	C	D	E	Total	
A	1	45	112	202	63	423
B	18	0	103	142	510	773
C	76	108	0	12	271	467
D	100	108	6	0	138	352
E	34	527	256	103	0	920
Total	229	788	477	459	982	2935

HGV %						
A	B	C	D	E	Total	
A	0.0%	4.4%	4.5%	4.5%	0.0%	3.8%
B	0.0%	0.0%	0.0%	2.1%	9.4%	6.6%
C	5.3%	0.9%	0.0%	0.0%	3.0%	2.8%
D	5.0%	3.7%	0.0%	0.0%	2.9%	3.7%
E	8.8%	8.7%	3.5%	1.9%	0.0%	6.5%
Total	19.1%	17.8%	8.0%	8.5%	15.3%	68.6%

Rearsby Road			
Lights	HGVs	Total	↑
10	245	205	↑
4	3	7	↓
14	248	212	2way

Lights	HGVs	Total	↑
33	3	36	↑
90	5	95	→
46	1	47	↓

Lights	HGVs	Total	→
324	13	337	→
292	9	301	←
616	22	638	2way

Syston Road			
←	↑	→	
Lights	28	189	29
HGVs	1	4	1
Total	29	193	30

Queniborough Road			
↑	Lights	HGVs	Total
↑	182	4	186
←	72	5	77
↓	38	0	38

Barkby Road			
↑	↓	2way	
Lights	246	329	575
HGVs	6	4	10
Total	252	333	585

Barkby Road			
↑	↓	2way	
Lights	236	333	569
HGVs	6	4	10
Total	242	337	579

Barkby Road			
↑	↓	2way	
Lights	331	2	
HGVs	4	0	
Total	335	2	

Barkby Road				
↑	→	Lights	HGVs	Total
↑	→	225	4	
↓	→	5	2	
Total		230	6	

Glebe Road			
↑	Lights	HGVs	Total
↑	11	1	12
↓	6	1	7

Lights	HGVs	Total	→
6	2	8	→
17	2	19	←
23	4	27	2way

Barkby Road			
↑	↓	2way	
Lights	229	337	566
HGVs	7	5	12
Total	236	342	578

Lights	HGVs	Total	↑
			↑
			↓
			2way

Barkby Road			
Lights	HGVs	Total	↑
			↑
			↓
			2way

Lights	HGVs	Total	→
			→
			←
			2way

Site Access			
←	↑		
Lights			
HGVs			
Total			

Barkby Road			
↑	↓	2way	
Lights			
HGVs			
Total			

Diagram 1

2017 Surveyed AM (0745-0845)



Lights	371	391	762
HGVs	5	6	11
Total	376	397	773
	↑	↓	2way

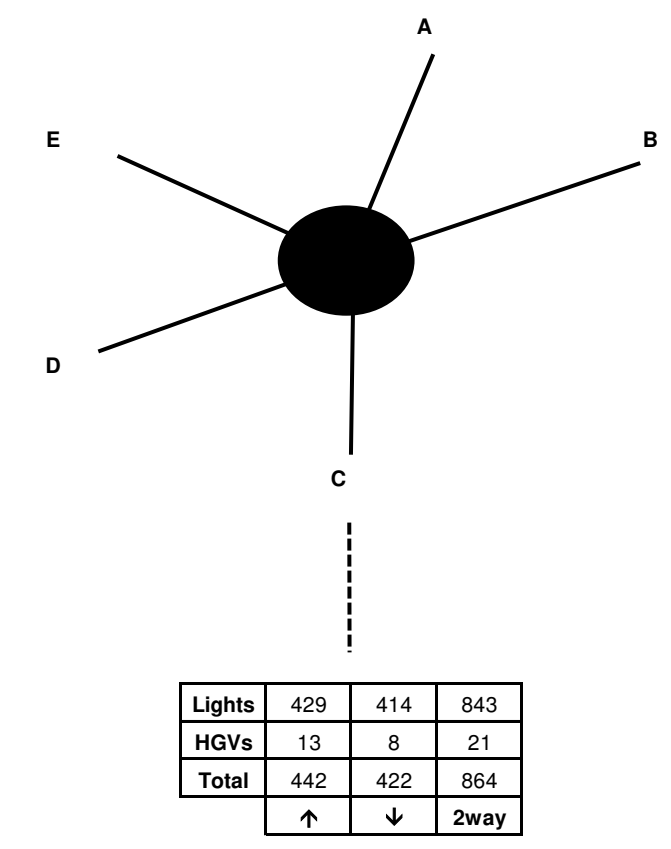
Lights	354	37
HGVs	6	0
Total	360	37
	↓	→

Lights	353	130
HGVs	5	4
Total	358	134

Lights	483	457	940
HGVs	9	10	19
Total	492	467	959
	↑	↓	2way

Lights	18	0	18
HGVs	0	0	0
Total	18	0	18
	↑	↓	2way

Lights	167	4	171
HGVs	121	4	125
Total	288	8	296
	→	←	2way



Lights						
	A	B	C	D	E	Total
A	0	17	65	135	44	261
B	16	0	84	119	511	730
C	97	99	0	5	227	428
D	172	94	11	1	96	374
E	71	461	262	129	0	923
Total	356	671	422	389	878	2716

HGVs						
	A	B	C	D	E	Total
A	0	0	0	4	3	7
B	0	0	0	2	1	3
C	4	1	0	0	0	5
D	4	1	0	0	0	5
E	0	13	2	2	0	17
Total	8	15	8	6	37	74

Total						
	A	B	C	D	E	Total
A	0	17	69	138	45	269
B	16	0	86	120	538	760
C	101	100	0	5	236	442
D	176	95	11	1	96	379
E	71	474	264	131	0	940
Total	364	686	430	395	915	2790

HGV %						
	A	B	C	D	E	Total
A	0.0%	0.0%	5.8%	2.2%	2.2%	3.0%
B	0.0%	0.0%	2.3%	0.8%	5.0%	3.9%
C	4.0%	1.0%	0.0%	0.0%	3.8%	3.2%
D	2.3%	1.1%	0.0%	0.0%	0.0%	1.3%
E	0.0%	2.7%	0.8%	1.5%	0.0%	1.8%
Total	6.2%	4.8%	8.9%	4.5%	11.1%	35.5%

Lights	429	414	843
HGVs	13	8	21
Total	442	422	864
	↑	↓	2way

Lights	12	208	194
HGVs	4	2	2
Total	16	210	196
	←	↓	→

Lights	12	3	15
HGVs	1	1	2
Total	13	4	17
	←	↑	→

Lights	313	3	316
HGVs	265	8	273
Total	578	11	589
	→	←	2way

Lights	132	4	136
HGVs	109	5	114
Total	241	9	250
	→	←	2way

Lights	300	260	560
HGVs	4	3	7
Total	304	263	567
	↑	↓	2way

Lights	304	263	567
HGVs	4	3	7
Total	308	266	574
	↑	↓	2way

Lights	252	11
HGVs	3	0
Total	255	11
	↓	→

Lights	16	0	16
HGVs	13	0	13
Total	29	0	29
	→	←	2way

Lights	297	5
HGVs	4	0
Total	301	5
	↑	→

Lights	7	0	7
HGVs	6	0	6
Total	13	0	13
	↑	↓	2way

Lights	302	258	560
HGVs	4	3	7
Total	306	261	567
	↑	↓	2way

Lights			
HGVs			
Total			
	↑	↓	2way

Lights			
HGVs			
Total			
	←	↓	→

Lights			
HGVs			
Total			
	→	←	2way

Lights			
HGVs			
Total			
	←	↑	→

Lights			
HGVs			
Total			
	↑	↓	2way

Diagram 2

2017 Surveyed PM (1630-1730)



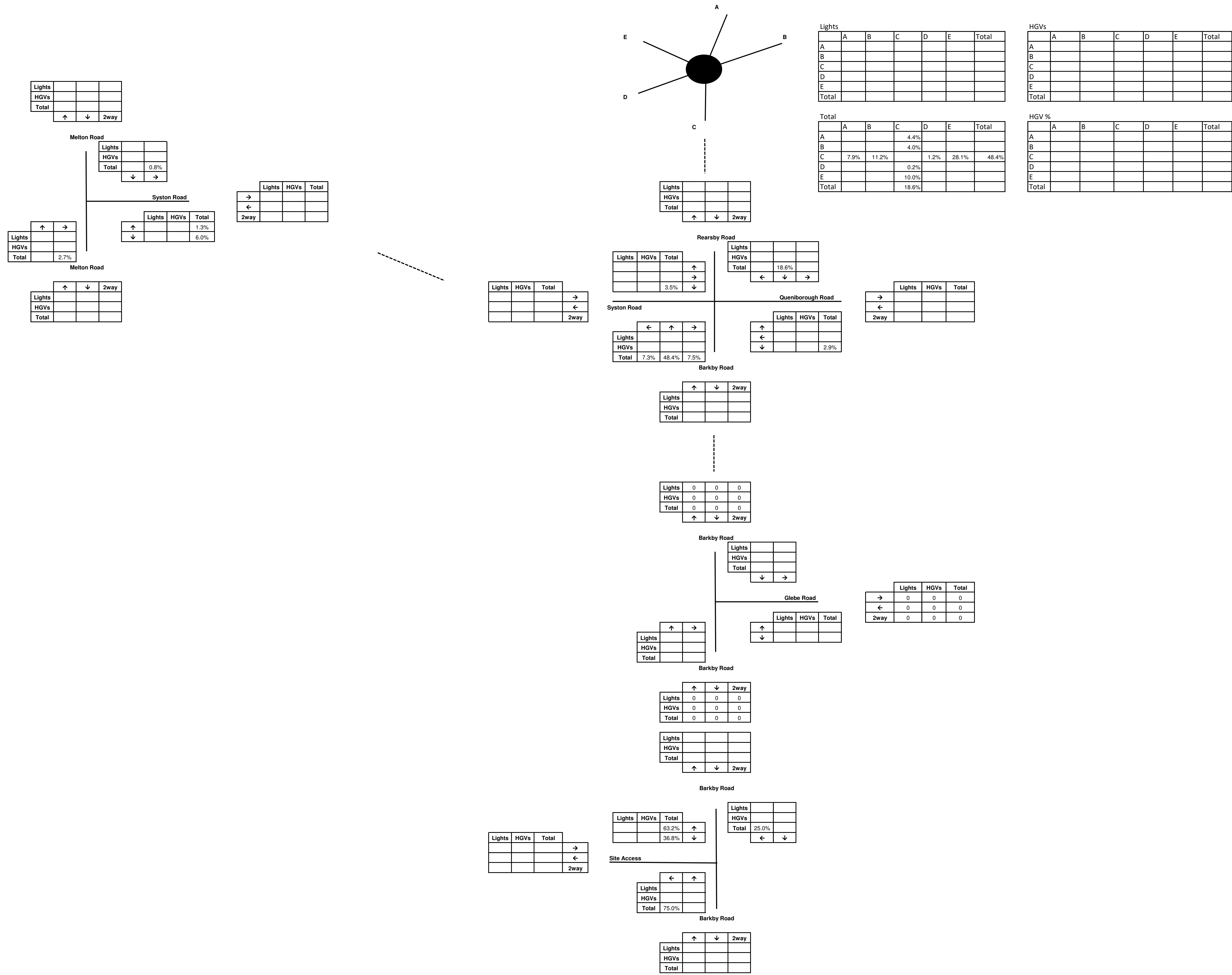


Diagram 3

Trip Distribution AM

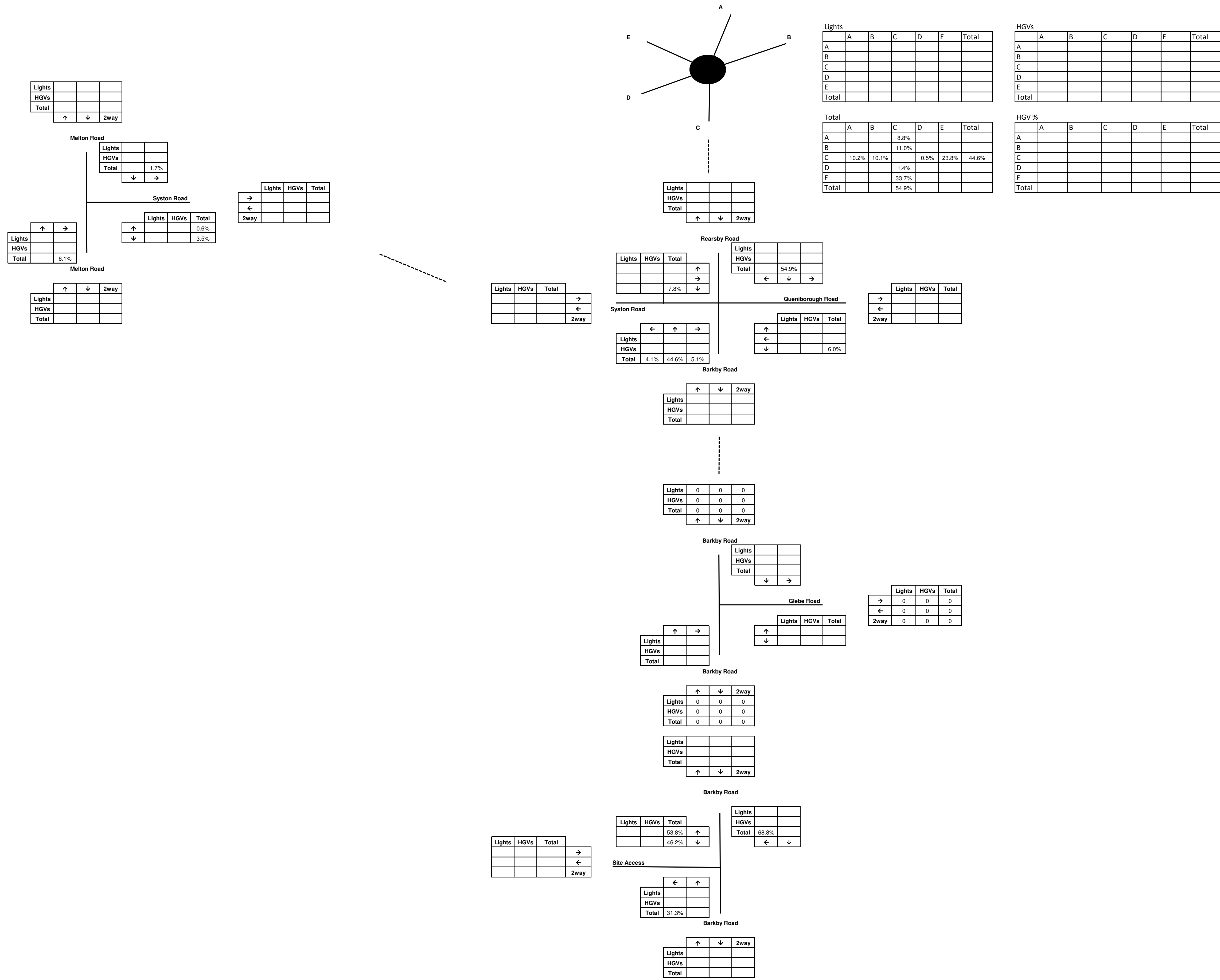


Diagram 4

Trip Distribution PM

Lights			
HGVs			
Total			
	↑	↓	2way

Melton Road

Lights		
HGVs		
Total	0	
	↓	→

System Road

Lights			
HGVs			
Total	1		
	↑	↓	2way

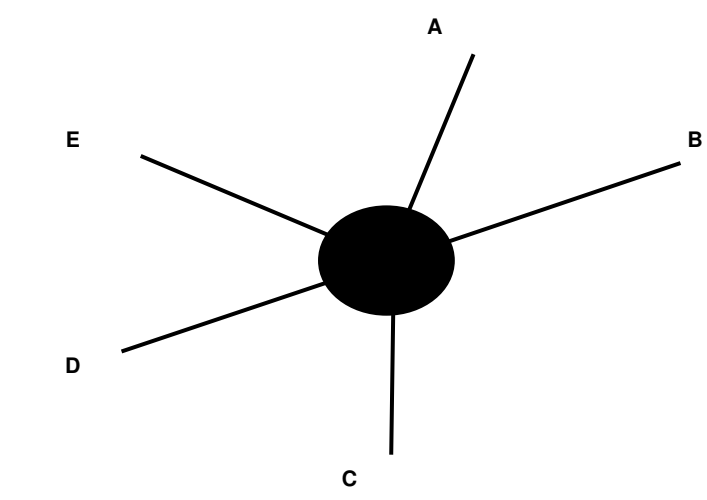
Lights			
HGVs			
Total	1		
	↑	↓	2way

Melton Road

Lights			
HGVs			
Total			
	↑	↓	2way

Lights			
HGVs			
Total			
	→	←	2way

Lights			
HGVs			
Total			
	→	←	2way



Lights

	A	B	C	D	E	Total
A						
B						
C						
D						
E						
Total						

HGVs

	A	B	C	D	E	Total
A						
B						
C						
D						
E						
Total						

Total

	A	B	C	D	E	Total
A			1			
B			1			
C	7	9		1	23	40
D			0			
E			3			
Total			5			

HGV %

	A	B	C	D	E	Total
A						
B						
C						
D						
E						
Total						

Lights			
HGVs			
Total			
	↑	↓	2way

Rearsby Road

Lights			
HGVs			
Total	5		
	←	↓	→

System Road

Lights			
HGVs			
Total	6	40	6
	←	↑	→

Queniborough Road

Lights			
HGVs			
Total			1
	↑	↓	→

Lights			
HGVs			
Total			
	→	←	2way

Barkby Road

Lights			
HGVs			
Total			
	↑	↓	2way

Lights	0	0	0
HGVs	0	0	0
Total	0	0	0
	↑	↓	2way

Barkby Road

Lights			
HGVs			
Total			
	↓	→	

Barkby Road

Lights			
HGVs			
Total			
	↑	↓	2way

Glebe Road

Lights			
HGVs			
Total			
	↑	↓	2way

Lights			
HGVs			
Total			
	→	←	2way

Barkby Road

Lights			
HGVs			
Total	0	0	0
	↑	↓	2way

Barkby Road

Lights			
HGVs			
Total			
	↑	↓	2way

Barkby Road

Lights			
HGVs			
Total	53		
	↑	↓	2way

Barkby Road

Lights			
HGVs			
Total	7		
	←	↓	

Lights			
HGVs			
Total			
	→	←	2way

Site Access

Lights			
HGVs			
Total	21		
	←	↑	

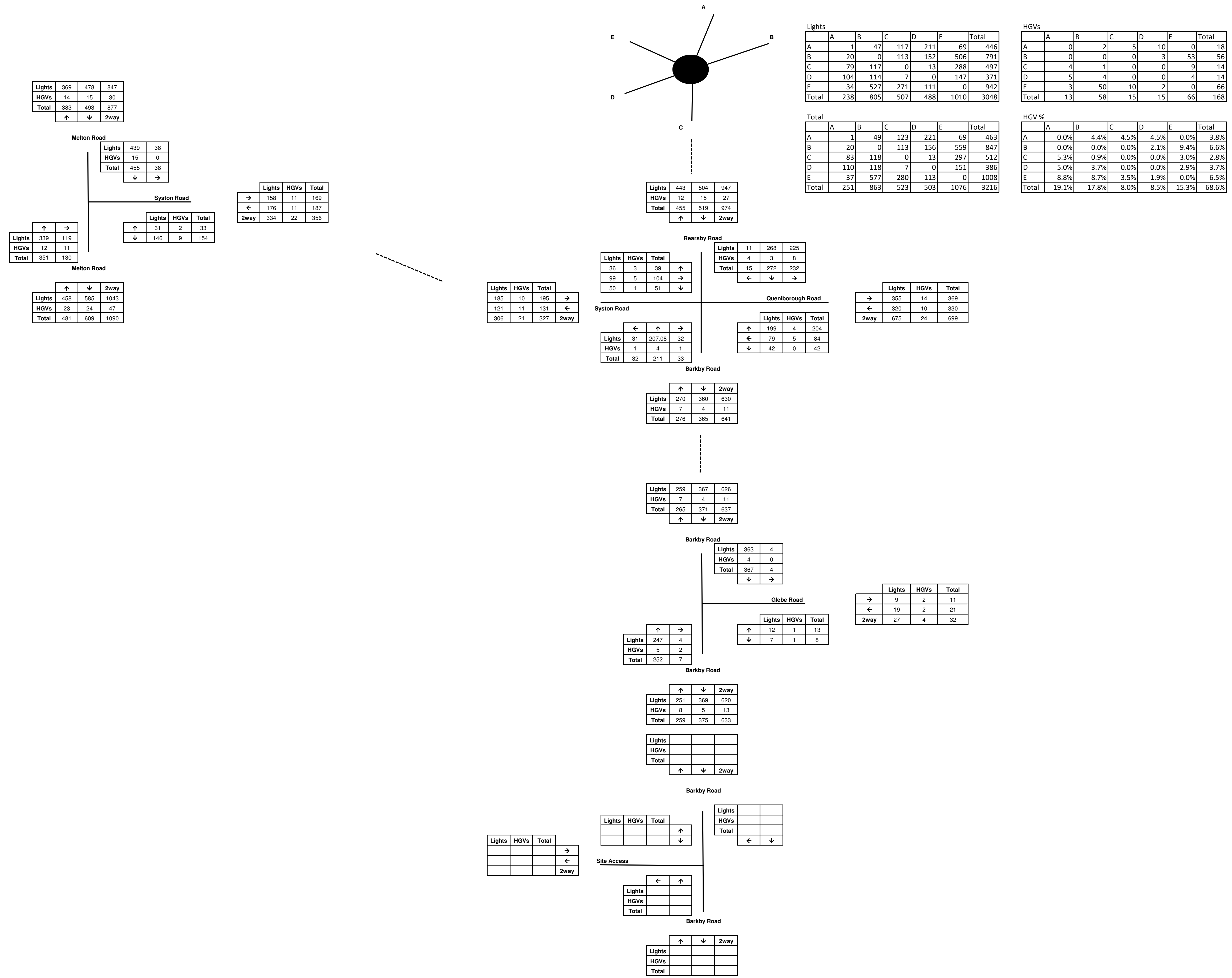
Barkby Road

Lights			
HGVs			
Total			
	↑	↓	2way

Diagram 5

Assignment AM





Lights	407	429	835
HGVs	5	7	12
Total	412	435	847
	↑	↓	2way

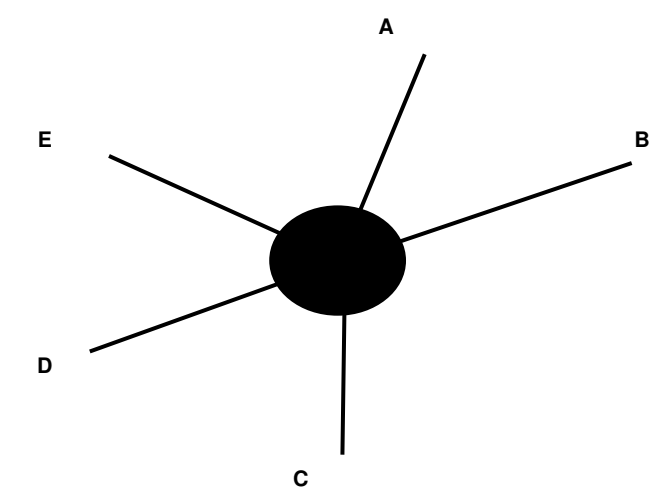
Lights	388	41
HGVs	7	0
Total	395	41
	↓	→

Lights	387	142
HGVs	5	4
Total	392	147
	↑	→

Lights	529	501	1030
HGVs	10	11	21
Total	539	512	1051
	↑	↓	2way

Lights	HGVs	Total	
↑	20	0	20
↓	113	4	117

Lights	HGVs	Total	
→	183	4	187
←	133	4	137
2way	316	9	324



Lights						
	A	B	C	D	E	Total
A	0	19	71	148	48	286
B	18	0	92	130	560	800
C	106	109	0	5	249	469
D	189	103	12	1,096	105	410
E	78	505	287	141.4	0	1,012
Total	390	736	463	426	962	2,977

HGVs						
	A	B	C	D	E	Total
A	0.0	0.0	4.4	3.3	1.1	8.8
B	0.0	0.0	2.2	1.1	29.6	32.9
C	4.4	1.1	0.0	0.0	9.9	15.3
D	4.4	1.1	0.0	0.0	0.0	5.5
E	0.0	14.2	2.2	2.2	0.0	18.6
Total	8.8	16.4	8.8	6.6	40.6	81.1

Total						
	A	B	C	D	E	Total
A	0	19	76	151	49	295
B	18	0	94	132	590	833
C	111	110	0	5	259	484
D	193	104	12	1	105	415
E	78	520	289	144	0	1,030
Total	399	752	471	433	1,003	3,058

HGV %						
	A	B	C	D	E	Total
A	0.0%	0.0%	5.8%	2.2%	2.2%	3.0%
B	0.0%	0.0%	2.3%	0.8%	5.0%	3.9%
C	4.0%	1.0%	0.0%	0.0%	3.8%	3.2%
D	2.3%	1.1%	0.0%	0.0%	0.0%	1.3%
E	0.0%	2.7%	0.8%	1.5%	0.0%	1.8%
Total	6.2%	4.8%	8.9%	4.5%	11.1%	35.5%

Lights	470	454	924
HGVs	14	9	23
Total	484	463	947
	↑	↓	2way

Lights	HGVs	Total		
↑	13	3	16	↑
↓	99	1	100	→
2way	33	0	33	↓

Lights	13	228	213
HGVs	4	2	2
Total	18	230	215
	←	↓	→

Lights	HGVs	Total	
→	343	3	346
←	290	9	299
2way	634	12	646

Lights	HGVs	Total	
←	24	273	32
↑	1	3	0
Total	25	276	32

Lights	HGVs	Total	
↑	184	8	192
←	82	0	82
↓	24	1	25

Lights	HGVs	Total	
↑	329	285	614
HGVs	4	3	8
Total	333	288	622
	↑	↓	2way

Lights	333	288	622
HGVs	4	3	8
Total	338	292	629
	↑	↓	2way

Lights	276	12
HGVs	3	0
Total	280	12
	↓	→

Lights	HGVs	Total	
→	18	0	18
←	14	0	14
2way	32	0	32

Lights	HGVs	Total	
↑	328	5	333
HGVs	4	0	4
Total	330	5	335

Lights	HGVs	Total	
↑	8	0	8
↓	7	0	7

Lights	HGVs	Total	
↑	331	283	614
HGVs	4	3	8
Total	335	286	622
	↑	↓	2way

Lights	HGVs	Total	
↑			
↓			
2way			

Lights	HGVs	Total	
↑			
↓			
2way			

Lights	HGVs	Total	
→			
←			
2way			

Lights	HGVs	Total	
←			
↑			
2way			

Lights	HGVs	Total	
↑			
↓			
2way			

Diagram 8





Lights	0	0	0
HGVs	0	0	0
Total	43	18	61
	↑	↓	2way

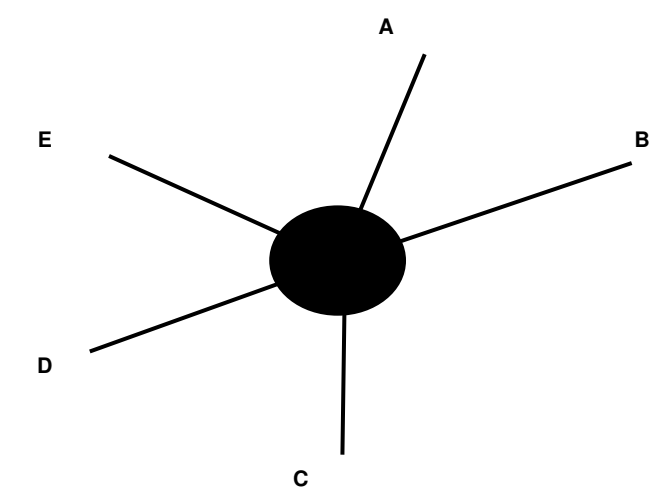
Lights		
HGVs		
Total	18	0
	↓	→

Lights		
HGVs		
Total	43	2
	↑	→

Lights			
HGVs			
Total	0	0	4
	↑	↓	2way

Lights			
HGVs			
Total	2	4	6
	→	←	2way

Lights			
HGVs			
Total	45	22	67
	↑	↓	2way



Lights						
	A	B	C	D	E	Total
A						
B						
C						
D						
E						
Total						

HGVs						
	A	B	C	D	E	Total
A						
B						
C						
D						
E						
Total						

Total						
	A	B	C	D	E	Total
A	0	0	1	1	0	2
B	0	0	5	0	0	5
C	1	34	0	0	24	59
D	2	0	1	0	40	43
E	0	0	9	17	0	26
Total	3	34	16	18	64	135

HGV %						
	A	B	C	D	E	Total
A						
B						
C						
D						
E						
Total						

Lights	0	0	0
HGVs	0	0	0
Total	60	15	75
	↑	↓	2way

Lights			
HGVs			
Total	0	15	0
	←	↓	→

Lights			
HGVs			
Total	0	0	18
	←	↑	→

Lights			
HGVs			
Total	0	0	4
	→	←	2way

Lights			
HGVs			
Total	35	60	4
	←	↑	→

Lights			
HGVs			
Total	99	35	134
	↑	↓	2way

Lights	0	0	0
HGVs	0	0	0
Total	0	0	0
	↑	↓	2way

Lights			
HGVs			
Total			
	↓	→	

Lights			
HGVs			
Total	0	0	0
	→	←	2way

Lights			
HGVs			
Total			
	↑	→	

Lights			
HGVs			
Total			
	↑	↓	

Lights			
HGVs			
Total	0	0	0
	↑	↓	2way

Lights			
HGVs			
Total			
	↑	↓	2way

Lights			
HGVs			
Total			
	←	↓	

Lights			
HGVs			
Total			
	←	↑	

Lights			
HGVs			
Total			
	←	↑	

Lights			
HGVs			
Total			
	↑	↓	2way

Diagram 9

Committed Development - AM





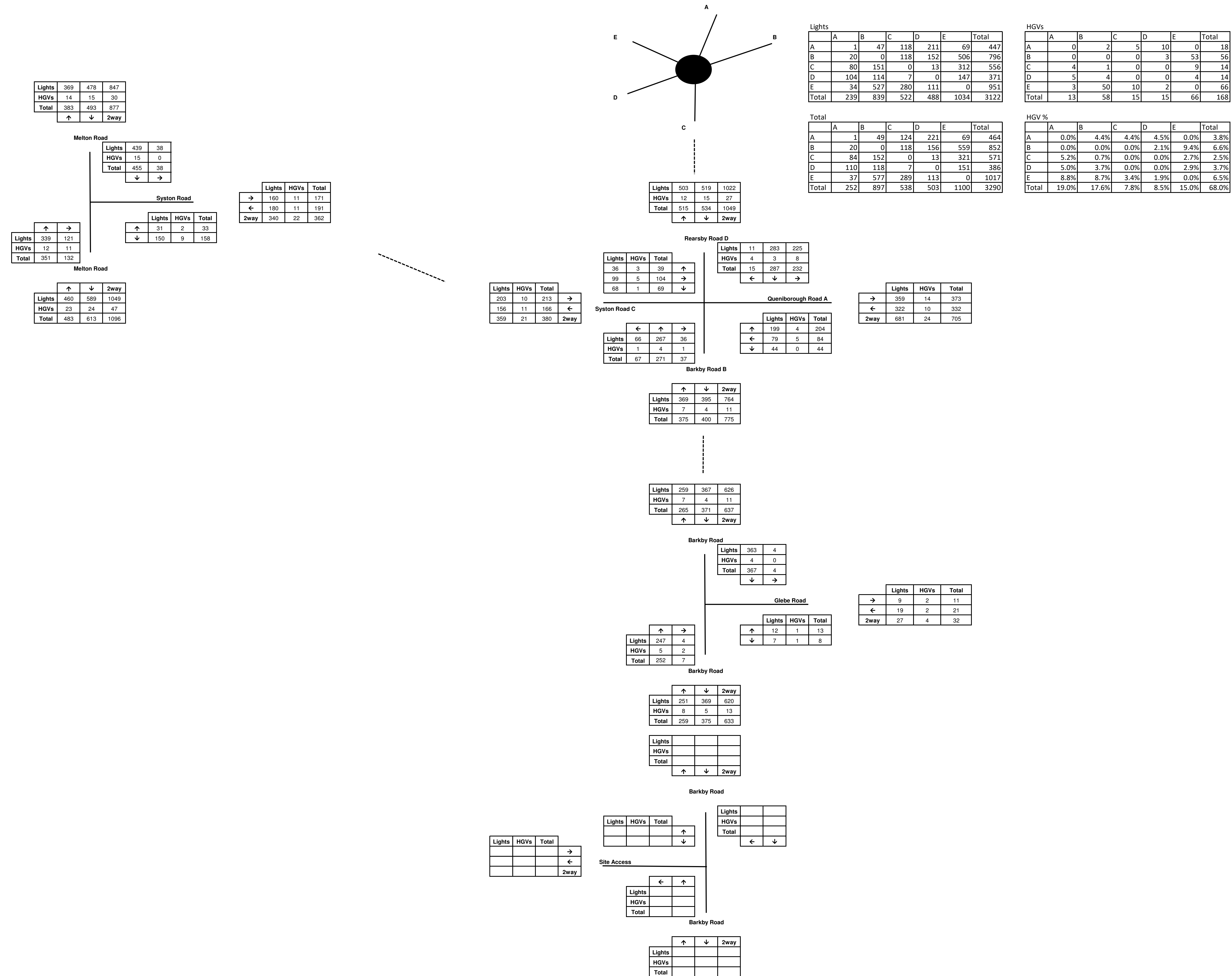


Diagram 11

2023 without development - AM

Lights	407	429	835
HGVs	5	7	12
Total	412	435	847
	↑	↓	2way

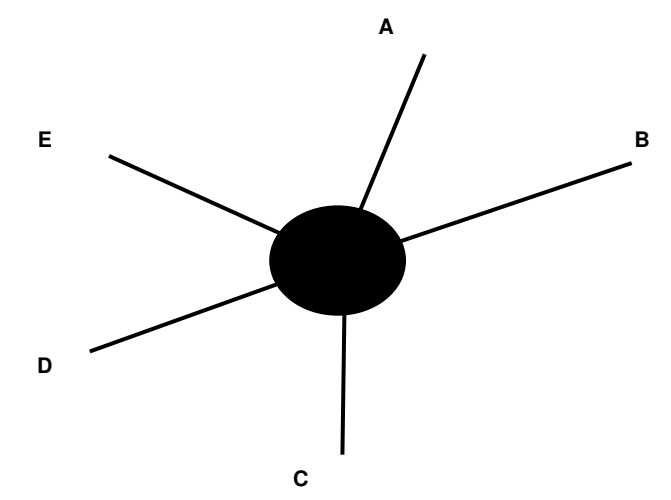
Lights	388	41
HGVs	7	0
Total	395	41
	↓	→

Lights	387	146
HGVs	5	4
Total	392	151

Lights	533	391	924
HGVs	10	11	21
Total	543	402	945

Lights	HGVs	Total	
↑	20	0	20
↓	3	4	7

Lights	HGVs	Total	
→	187	4	191
←	23	4	27
2way	210	9	219



Lights						
	A	B	C	D	E	Total
A	0	19	72	148	48	287
B	18	0	110	130	560	818
C	107	122	0	5	262	496
D	189	103	12	1,096	105	410
E	78	505	309	141.4	0	1034
Total	391	749	504	426	975	3045

HGVs						
	A	B	C	D	E	Total
A	0.0	0.0	4.4	3.3	1.1	8.8
B	0.0	0.0	2.2	1.1	29.6	32.9
C	4.4	1.1	0.0	0.0	9.9	15.3
D	4.4	1.1	0.0	0.0	0.0	5.5
E	0.0	14.2	2.2	2.2	0.0	18.6
Total	8.8	16.4	8.8	6.6	40.6	81.1

Total						
	A	B	C	D	E	Total
A	0	19	77	151	49	296
B	18	0	112	132	590	851
C	112	123	0	5	272	511
D	193	104	12	1	105	415
E	78	520	311	144	0	1052
Total	400	765	512	433	1016	3126

HGV %						
	A	B	C	D	E	Total
A	0.0%	0.0%	5.7%	2.2%	2.2%	3.0%
B	0.0%	0.0%	2.0%	0.8%	5.0%	3.9%
C	3.9%	0.9%	0.0%	0.0%	3.6%	3.0%
D	2.3%	1.1%	0.0%	0.0%	1.3%	1.3%
E	0.0%	2.7%	0.7%	1.5%	0.0%	1.8%
Total	6.2%	4.7%	8.4%	4.5%	10.9%	34.7%

Lights	497	496	993
HGVs	14	9	23
Total	511	505	1016
	↑	↓	2way

Lights	HGVs	Total		
→	13	3	16	↑
←	99	1	100	→
2way	66	0	66	↓

Lights	13	270	213
HGVs	4	2	2
Total	18	272	215
	←	↓	→

Lights	HGVs	Total	
←	42	300	34
↑	1	3	0
Total	43	303	34

Lights	HGVs	Total	
↑	184	8	192
←	82	0	82
↓	28	1	29

Lights	HGVs	Total	
→	345	3	348
←	294	9	303
2way	640	12	652

Lights	HGVs	Total	
↑	376	364	740
↓	4	3	8
Total	380	367	748

Lights	HGVs	Total	
↑	333	288	622
↓	4	3	8
Total	338	292	629

Lights	HGVs	Total	
↑	276	12	288
↓	3	0	3
Total	280	12	292

Lights	HGVs	Total	
↑	326	5	331
↓	4	0	4
Total	330	5	335

Lights	HGVs	Total	
↑	8	0	8
↓	7	0	7

Lights	HGVs	Total	
→	18	0	18
←	14	0	14
2way	32	0	32

Lights	HGVs	Total	
↑	331	283	614
↓	4	3	8
Total	335	286	622

Lights	HGVs	Total	
↑			
↓			
Total			

Lights	HGVs	Total	
↑			
↓			
Total			

Lights	HGVs	Total	
←			
↑			
Total			

Lights	HGVs	Total	
↑			
↓			
Total			

Diagram 12

2023 without development PM



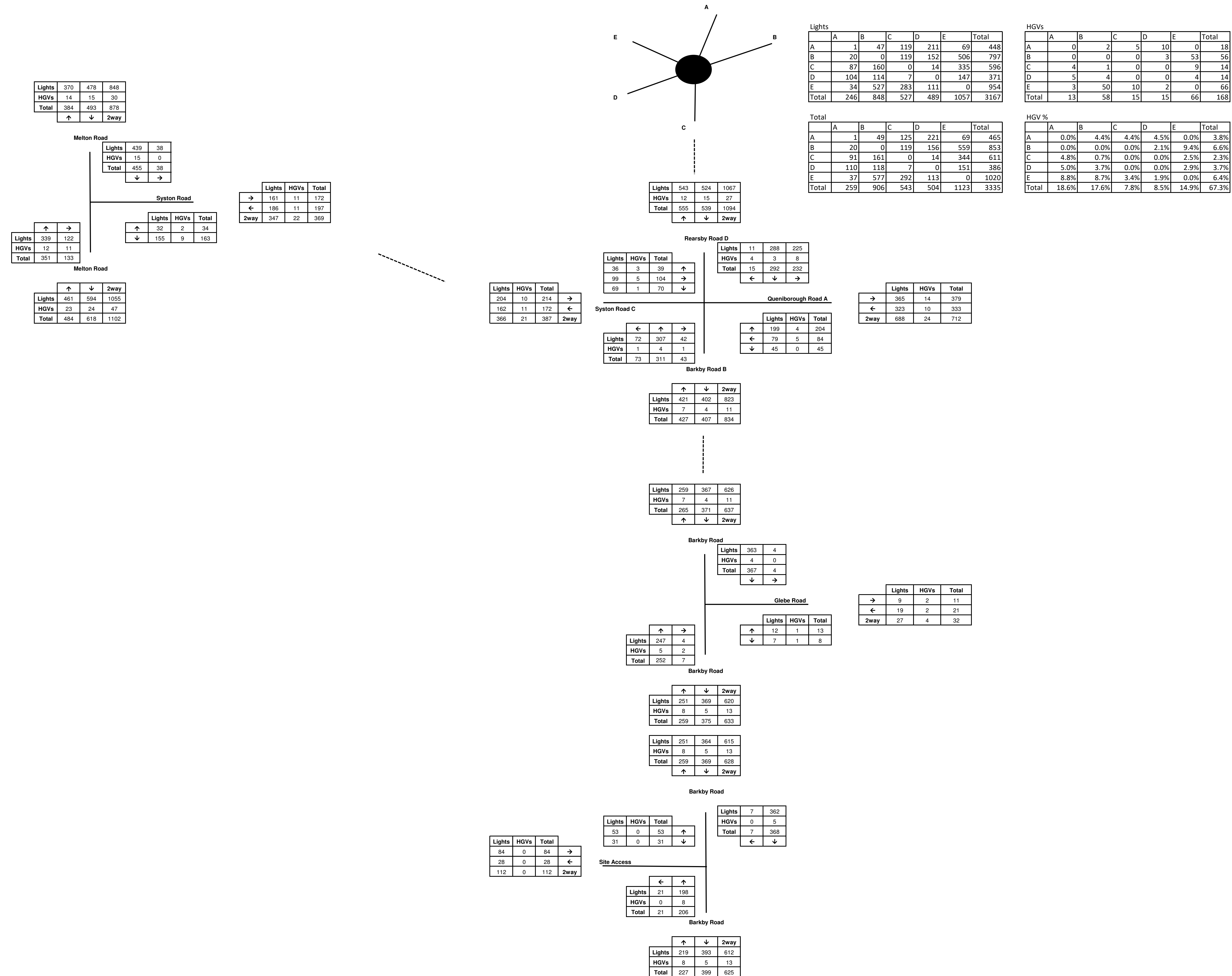


Diagram 13

2023 with development - AM

Lights	407	430	836
HGVs	5	7	12
Total	412	436	848

Lights	388	42
HGVs	7	0
Total	395	42

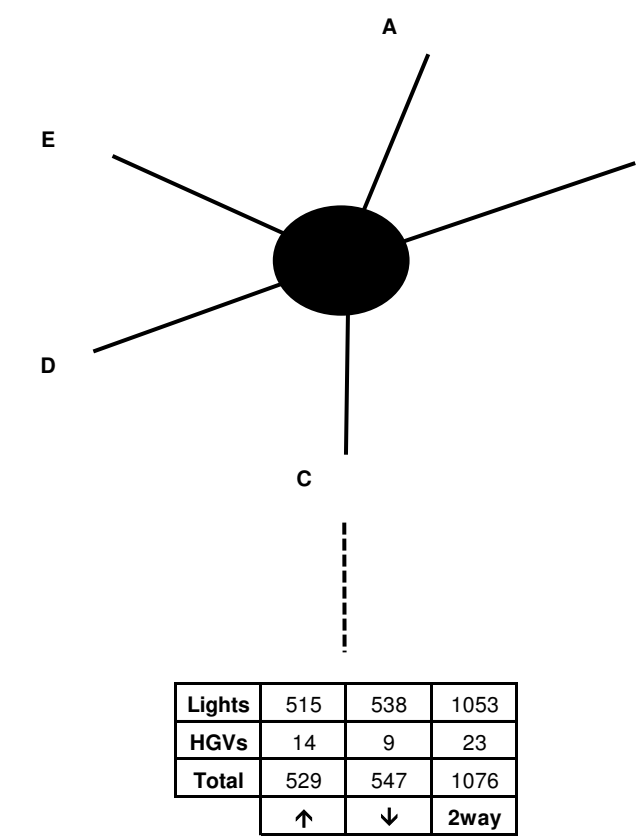
Lights	387	151
HGVs	5	4
Total	392	155

Lights	538	505	1043
HGVs	10	11	21
Total	548	516	1064

Lights	193	4	197
HGVs	137	4	141
Total	330	8	338

Lights	193	4	197
HGVs	137	4	141
Total	330	8	338

Lights	184	4	188
HGVs	139	5	144
Total	323	9	332



Lights						
	A	B	C	D	E	Total
A	0	19	78	148	48	293
B	18	0	118	130	560	826
C	111	126	0	5	271	513
D	189	103	13	1	105	411
E	78	505	334	141	0	1059
Total	395	753	544	426	984	3102

HGVs						
	A	B	C	D	E	Total
A	0	0	0	4	3	7
B	0	0	2	1	30	32.9
C	4	1	0	0	10	15.3
D	4	1	0	0	0	5.5
E	0	14	2	2	0	18.6
Total	8.8	16.4	8.8	6.6	40.6	81.1

Total						
	A	B	C	D	E	Total
A	0	19	83	151	49	302
B	18	0	120	132	590	859
C	116	127	0	5	281	528
D	193	104	13	1	105	416
E	78	520	336	144	0	1077
Total	404	769	552	433	1025	3183

HGV %						
	A	B	C	D	E	Total
A	0.0%	0.0%	5.3%	2.2%	2.2%	2.9%
B	0.0%	0.0%	1.8%	0.8%	5.0%	3.8%
C	3.8%	0.9%	0.0%	0.0%	3.5%	2.9%
D	2.3%	1.1%	0.0%	0.0%	0.0%	1.3%
E	0.0%	2.7%	0.7%	1.5%	0.0%	1.7%
Total	6.1%	4.7%	7.8%	4.5%	10.8%	33.8%

Lights	13	312	213
HGVs	4	2	2
Total	18	314	215

Lights	13	3	16
HGVs	99	1	100
Total	72	0	72

Lights	44	318	36
HGVs	1	3	0
Total	45	321	36

Lights	184	8	192
HGVs	82	0	82
Total	33	1	34

Lights	347	3	350
HGVs	299	9	308
Total	647	12	659

Lights	276	12
HGVs	3	0
Total	280	12

Lights	328	5
HGVs	4	0
Total	330	5

Lights	331	283	614
HGVs	4	3	8
Total	335	286	622

Lights	331	279	610
HGVs	4	3	8
Total	335	282	617

Lights	53	230
HGVs	0	3
Total	53	233

Lights	24	310
HGVs	0	4
Total	24	314

Lights	334	248	582
HGVs	4	3	8
Total	338	251	589

Lights	39	0	39
HGVs	77	0	77
Total	116	0	116

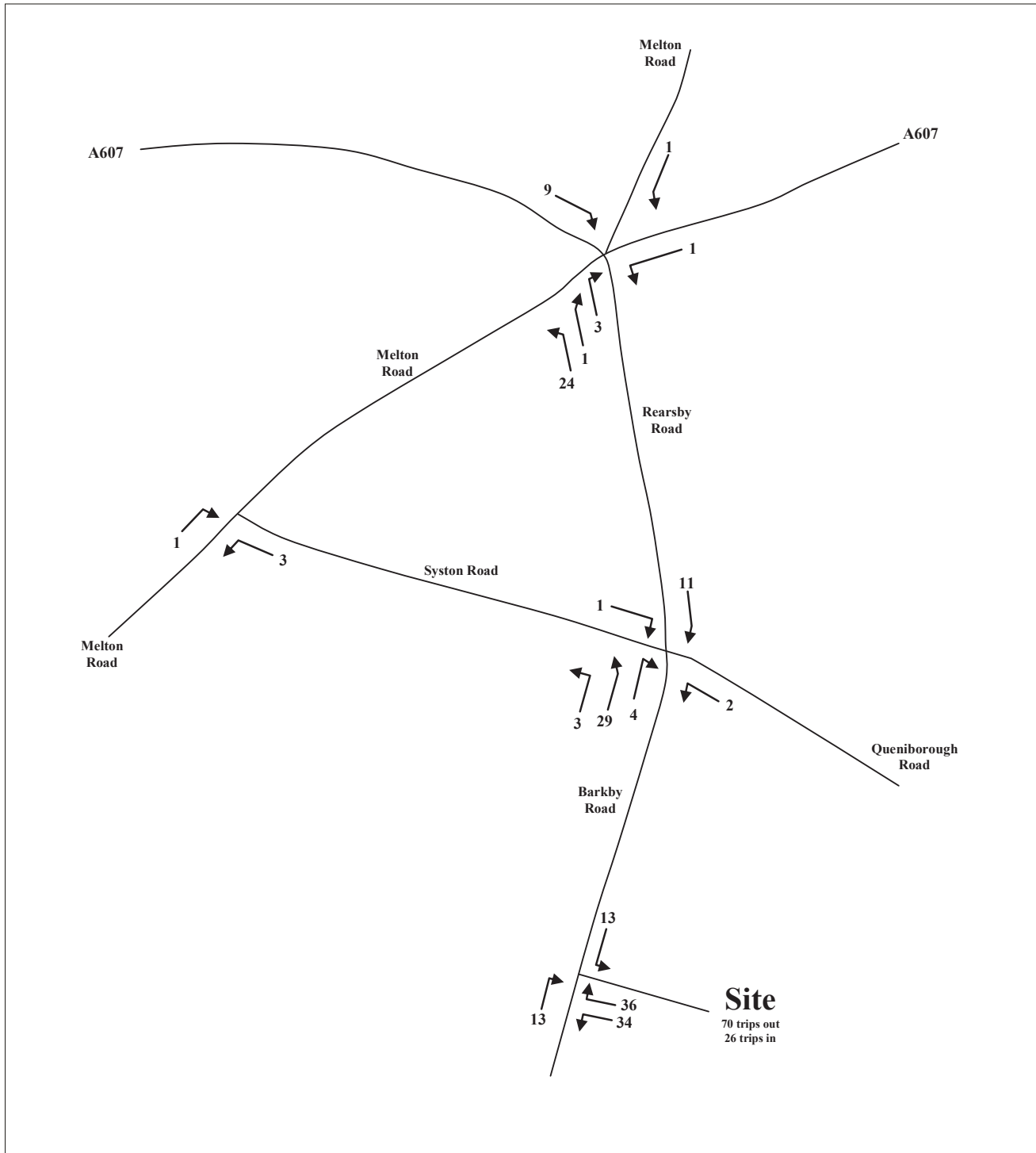
1.30%

Diagram 14

2023 with development - PM

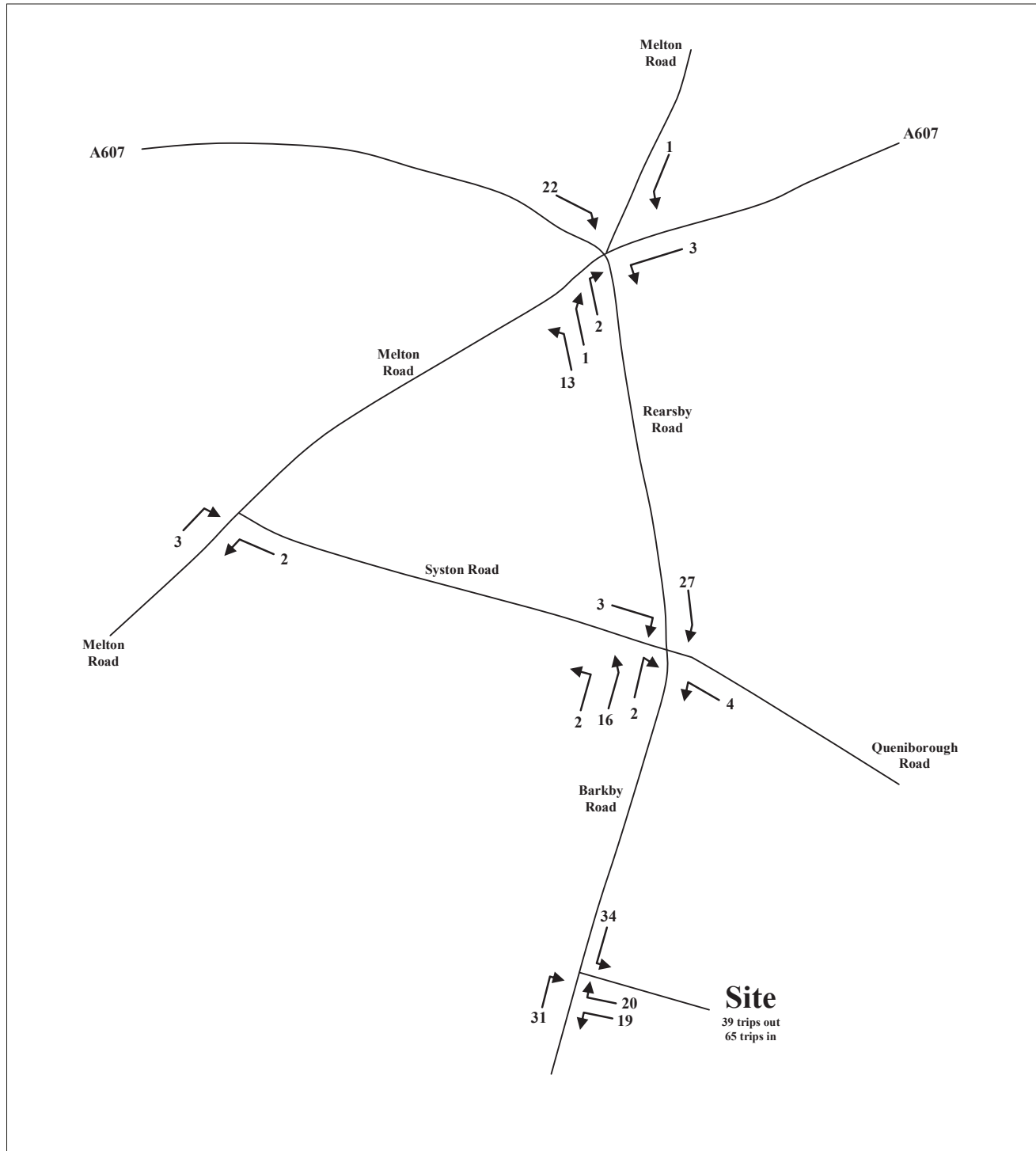
# APPENDIX E

## COMMITTED DEVELOPMENT TRAFFIC FLOWS



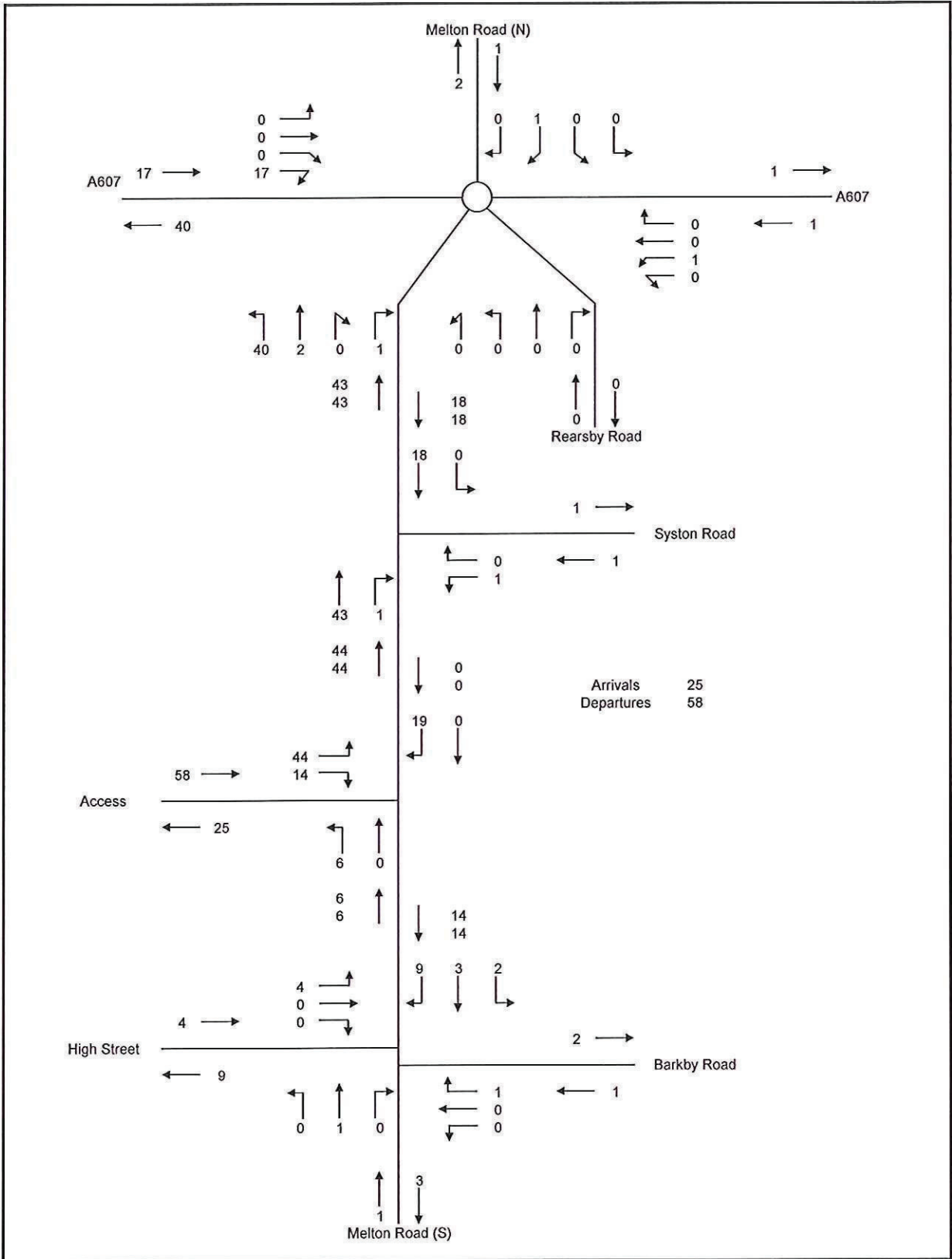
<p>Woolstone Centre 1-2 Mill Lane Woolstone Milton Keynes MK15 0AJ</p>	Drawing AM Proposed Development Flows		Figure No 12
	Project Barkby Road, Queniborough	Drawn HC	Checked NW
	Client Gladman Developments	Scale NTS	Date Mar 2014



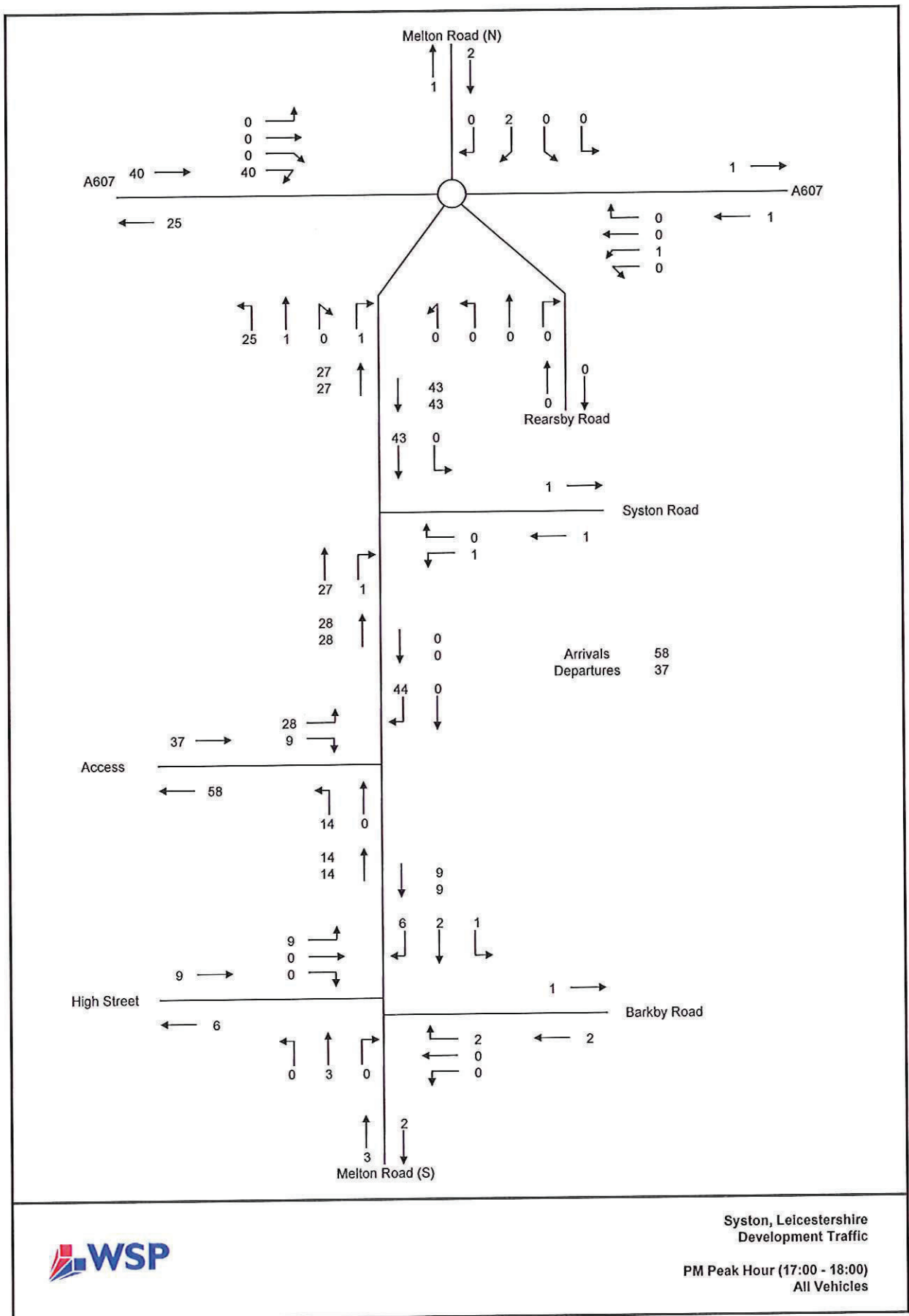


 Woolstone Centre 1-2 Mill Lane Woolstone Milton Keynes MK15 0AJ	Drawing PM Proposed Development Flows		Figure No 13
	Project Barkby Road, Queniborough	Drawn HC	Checked NW
	Client Gladman Developments	Scale NTS	Date Mar 2014





System, Leicestershire  
 Developemnt Traffic  
 AM Peak Hour (08:00-09:00)  
 All Vehicles



System, Leicestershire  
Development Traffic

PM Peak Hour (17:00 - 18:00)  
All Vehicles

## APPENDIX F

# PROPOSED SITE ACCESS PICADY OUTPUT

Junctions 8
PICADY 8 - Priority Intersection Module
Version: 8.0.4.487 [15039,24/03/2014] © Copyright TRL Limited, 2018
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
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

**Filename:** Site access PICADY.arc8  
**Path:** C:\Users\ADCteam\Dropbox\~ JN8 TEMP\ADC1659  
**Report generation date:** 24/01/2018 13:51:42

- » **Traffic Flows - 2023 WD, AM**
- » **Traffic Flows - 2023 WD, PM**

### Summary of junction performance

	AM			PM		
	Queue (Veh)	Delay (s)	RFC	Queue (Veh)	Delay (s)	RFC
Traffic Flows - 2023 WD						
<b>Stream B-C</b>	0.10	5.97	0.09	0.04	5.92	0.04
<b>Stream B-A</b>	0.08	7.96	0.07	0.04	8.03	0.04
<b>Stream C-A</b>	-	-	-	-	-	-
<b>Stream C-B</b>	0.01	6.07	0.01	0.11	7.04	0.10
<b>Stream A-B</b>	-	-	-	-	-	-
<b>Stream A-C</b>	-	-	-	-	-	-

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

"D1 - 2023 WD, AM " model duration: 07:45 - 09:15  
 "D2 - 2023 WD, PM" model duration: 16:45 - 18:15

Run using Junctions 8.0.4.487 at 24/01/2018 13:51:39

### File summary

<b>Title</b>	Site access
<b>Location</b>	Queniborough
<b>Site Number</b>	
<b>Date</b>	09/01/2018
<b>Version</b>	
<b>Status</b>	(new file)
<b>Identifier</b>	
<b>Client</b>	
<b>Jobnumber</b>	ADC1659
<b>Enumerator</b>	ADCteam
<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	Veh	Veh	perHour	s	-Min	perMin

# Traffic Flows - 2023 WD, AM

## Data Errors and Warnings

Severity	Area	Item	Description
Warning	Minor arm flare	Arm B - Minor Arm Geometry	Is flare very short? Estimated flare length is zero but has been increased to 1 because a zero flare length is not allowed.

## Analysis Set Details

Name	Roundabout Capacity Model	Description	Include In Report	Use Specific Demand Set(s)	Specific Demand Set (s)	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
Traffic Flows	N/A		✓				100.000	100.000	

## Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Results For Central Hour Only	Single Time Segment Only	Locked	Run Automatically	Use Relationship	Relationship
2023 WD, AM	2023 WD	AM		ONE HOUR	07:45	09:15	90	15				✓		

# Junction Network

## Junctions

Junction	Name	Junction Type	Major Road Direction	Arm Order	Do Geometric Delay	Junction Delay (s)	Junction LOS
1	Site access	T-Junction	Two-way	A,B,C		6.66	A

## Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

# Arms

## Arms

Arm	Arm	Name	Description	Arm Type
A	A	Barkby Road S		Major
B	B	Site access		Minor
C	C	Barkby Road N		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	6.00		0.00		2.20	161.00		

*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				8.90	2.90	2.80	2.80	2.80	✓	1.00	80	161

## Slope / Intercept / Capacity

### Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (Veh/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
1	B-A	637.467	0.116	0.293	0.185	0.419
1	B-C	744.171	0.114	0.288	-	-
1	C-B	667.200	0.259	0.259	-	-

*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 (Veh/hr)	Flow Scaling Factor (%)
A	ONE HOUR	✓	227.00	100.000
B	ONE HOUR	✓	84.00	100.000
C	ONE HOUR	✓	375.00	100.000



# Turning Proportions

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

		To		
		A	B	C
From	A	0.000	21.000	206.000
	B	31.000	0.000	53.000
	C	368.000	7.000	0.000

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

		To		
		A	B	C
From	A	0.00	0.09	0.91
	B	0.37	0.00	0.63
	C	0.98	0.02	0.00

# Vehicle Mix

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

		To		
		A	B	C
From	A	1.000	1.000	1.039
	B	1.000	1.000	1.000
	C	1.014	1.000	1.000

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

		To		
		A	B	C
From	A	0.0	0.0	3.9
	B	0.0	0.0	0.0
	C	1.4	0.0	0.0

# Results

## Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)	Total Queueing Delay (Veh-min)	Average Queueing Delay (s)	Rate Of Queueing Delay (Veh-min/min)	Inclusive Total Queueing Delay (Veh-min)	Inclusive Average Queueing Delay (s)
B-C	0.09	5.97	0.10	A	48.63	72.95	6.97	5.73	0.08	6.97	5.73
B-A	0.07	7.96	0.08	A	28.45	42.67	5.31	7.46	0.06	5.31	7.46
C-A	-	-	-	-	337.68	506.52	-	-	-	-	-
C-B	0.01	6.07	0.01	A	6.42	9.64	0.95	5.93	0.01	0.95	5.93
A-B	-	-	-	-	19.27	28.90	-	-	-	-	-
A-C	-	-	-	-	189.03	283.54	-	-	-	-	-

## Main Results for each time segment

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

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
B-C	39.90	9.98	39.66	0.00	688.24	0.058	0.00	0.06	5.549	A
B-A	23.34	5.83	23.16	0.00	534.17	0.044	0.00	0.05	7.043	A
C-A	277.05	69.26	277.05	0.00	-	-	-	-	-	-
C-B	5.27	1.32	5.24	0.00	621.47	0.008	0.00	0.01	5.841	A
A-B	15.81	3.95	15.81	0.00	-	-	-	-	-	-
A-C	155.09	38.77	155.09	0.00	-	-	-	-	-	-

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

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
B-C	47.65	11.91	47.59	0.00	677.04	0.070	0.06	0.08	5.719	A
B-A	27.87	6.97	27.82	0.00	514.05	0.054	0.05	0.06	7.403	A
C-A	330.82	82.71	330.82	0.00	-	-	-	-	-	-
C-B	6.29	1.57	6.29	0.00	612.59	0.010	0.01	0.01	5.937	A
A-B	18.88	4.72	18.88	0.00	-	-	-	-	-	-
A-C	185.19	46.30	185.19	0.00	-	-	-	-	-	-

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

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
B-C	58.35	14.59	58.27	0.00	661.41	0.088	0.08	0.10	5.968	A
B-A	34.13	8.53	34.06	0.00	486.19	0.070	0.06	0.07	7.961	A
C-A	405.18	101.29	405.18	0.00	-	-	-	-	-	-
C-B	7.71	1.93	7.70	0.00	600.32	0.013	0.01	0.01	6.074	A
A-B	23.12	5.78	23.12	0.00	-	-	-	-	-	-
A-C	226.81	56.70	226.81	0.00	-	-	-	-	-	-

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

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
B-C	58.35	14.59	58.35	0.00	661.38	0.088	0.10	0.10	5.969	A
B-A	34.13	8.53	34.13	0.00	486.18	0.070	0.07	0.08	7.963	A
C-A	405.18	101.29	405.18	0.00	-	-	-	-	-	-
C-B	7.71	1.93	7.71	0.00	600.32	0.013	0.01	0.01	6.074	A
A-B	23.12	5.78	23.12	0.00	-	-	-	-	-	-
A-C	226.81	56.70	226.81	0.00	-	-	-	-	-	-

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

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
B-C	47.65	11.91	47.73	0.00	677.00	0.070	0.10	0.08	5.721	A
B-A	27.87	6.97	27.94	0.00	514.04	0.054	0.08	0.06	7.406	A
C-A	330.82	82.71	330.82	0.00	-	-	-	-	-	-
C-B	6.29	1.57	6.30	0.00	612.59	0.010	0.01	0.01	5.939	A
A-B	18.88	4.72	18.88	0.00	-	-	-	-	-	-
A-C	185.19	46.30	185.19	0.00	-	-	-	-	-	-

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

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
B-C	39.90	9.98	39.96	0.00	688.16	0.058	0.08	0.06	5.553	A
B-A	23.34	5.83	23.39	0.00	534.15	0.044	0.06	0.05	7.050	A
C-A	277.05	69.26	277.05	0.00	-	-	-	-	-	-
C-B	5.27	1.32	5.28	0.00	621.47	0.008	0.01	0.01	5.844	A
A-B	15.81	3.95	15.81	0.00	-	-	-	-	-	-
A-C	155.09	38.77	155.09	0.00	-	-	-	-	-	-

**Queueing Delay Results for each time segment**
**Queueing Delay results: (07:45-08:00)**

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-C	0.89	0.06	5.549	A	A
B-A	0.66	0.04	7.043	A	A
C-A	-	-	-	-	-
C-B	0.12	0.01	5.841	A	A
A-B	-	-	-	-	-
A-C	-	-	-	-	-

**Queueing Delay results: (08:00-08:15)**

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-C	1.11	0.07	5.719	A	A
B-A	0.84	0.06	7.403	A	A
C-A	-	-	-	-	-
C-B	0.15	0.01	5.937	A	A
A-B	-	-	-	-	-
A-C	-	-	-	-	-

**Queueing Delay results: (08:15-08:30)**

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-C	1.42	0.09	5.968	A	A
B-A	1.10	0.07	7.961	A	A
C-A	-	-	-	-	-
C-B	0.19	0.01	6.074	A	A
A-B	-	-	-	-	-
A-C	-	-	-	-	-

**Queueing Delay results: (08:30-08:45)**

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-C	1.44	0.10	5.969	A	A
B-A	1.13	0.08	7.963	A	A
C-A	-	-	-	-	-
C-B	0.20	0.01	6.074	A	A
A-B	-	-	-	-	-
A-C	-	-	-	-	-

### Queueing Delay results: (08:45-09:00)

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-C	1.16	0.08	5.721	A	A
B-A	0.89	0.06	7.406	A	A
C-A	-	-	-	-	-
C-B	0.16	0.01	5.939	A	A
A-B	-	-	-	-	-
A-C	-	-	-	-	-

### Queueing Delay results: (09:00-09:15)

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-C	0.95	0.06	5.553	A	A
B-A	0.71	0.05	7.050	A	A
C-A	-	-	-	-	-
C-B	0.13	0.01	5.844	A	A
A-B	-	-	-	-	-
A-C	-	-	-	-	-

## Traffic Flows - 2023 WD, PM

### Data Errors and Warnings

Severity	Area	Item	Description
Warning	Minor arm flare	Arm B - Minor Arm Geometry	Is flare very short? Estimated flare length is zero but has been increased to 1 because a zero flare length is not allowed.

### Analysis Set Details

Name	Roundabout Capacity Model	Description	Include In Report	Use Specific Demand Set(s)	Specific Demand Set (s)	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
Traffic Flows	N/A		✓				100.000	100.000	

### Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Results For Central Hour Only	Single Time Segment Only	Locked	Run Automatically	Use Relationship	Relationship
2023 WD, PM	2023 WD	PM		ONE HOUR	16:45	18:15	90	15				✓		

## Junction Network

### Junctions

Junction	Name	Junction Type	Major Road Direction	Arm Order	Do Geometric Delay	Junction Delay (s)	Junction LOS
1	Site access	T-Junction	Two-way	A,B,C		6.98	A

## Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

## Arms

### Arms

Arm	Arm	Name	Description	Arm Type
A	A	Barkby Road S		Major
B	B	Site access		Minor
C	C	Barkby Road N		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	6.00		0.00		2.20	161.00		

*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				8.90	2.90	2.80	2.80	2.80	✓	1.00	80	161

## Slope / Intercept / Capacity

### Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (Veh/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
1	B-A	649.627	0.118	0.299	0.188	0.427
1	B-C	741.155	0.114	0.287	-	-
1	C-B	667.200	0.259	0.259	-	-

*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 (Veh/hr)	Flow Scaling Factor (%)
A	ONE HOUR	✓	338.00	100.000
B	ONE HOUR	✓	39.00	100.000
C	ONE HOUR	✓	286.00	100.000

# Turning Proportions

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

		To		
		A	B	C
From	A	0.000	24.000	314.000
	B	18.000	0.000	21.000
	C	233.000	53.000	0.000

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

		To		
		A	B	C
From	A	0.00	0.07	0.93
	B	0.46	0.00	0.54
	C	0.81	0.19	0.00

# Vehicle Mix

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

		To		
		A	B	C
From	A	1.000	1.000	1.013
	B	1.000	1.000	1.000
	C	1.013	1.000	1.000

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

		To		
		A	B	C
From	A	0.0	0.0	1.3
	B	0.0	0.0	0.0
	C	1.3	0.0	0.0

# Results

## Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)	Total Queueing Delay (Veh-min)	Average Queueing Delay (s)	Rate Of Queueing Delay (Veh-min/min)	Inclusive Total Queueing Delay (Veh-min)	Inclusive Average Queueing Delay (s)
B-C	0.04	5.92	0.04	A	19.27	28.90	2.75	5.70	0.03	2.75	5.71
B-A	0.04	8.03	0.04	A	16.52	24.78	3.09	7.49	0.03	3.09	7.49
C-A	-	-	-	-	213.80	320.71	-	-	-	-	-
C-B	0.10	7.04	0.11	A	48.63	72.95	8.14	6.69	0.09	8.14	6.69
A-B	-	-	-	-	22.02	33.03	-	-	-	-	-
A-C	-	-	-	-	288.13	432.20	-	-	-	-	-

## Main Results for each time segment

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

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
B-C	15.81	3.95	15.71	0.00	666.00	0.024	0.00	0.02	5.536	A
B-A	13.55	3.39	13.45	0.00	525.38	0.026	0.00	0.03	7.029	A
C-A	175.41	43.85	175.41	0.00	-	-	-	-	-	-
C-B	39.90	9.98	39.62	0.00	600.62	0.066	0.00	0.07	6.414	A
A-B	18.07	4.52	18.07	0.00	-	-	-	-	-	-
A-C	236.40	59.10	236.40	0.00	-	-	-	-	-	-

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

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
B-C	18.88	4.72	18.86	0.00	651.19	0.029	0.02	0.03	5.692	A
B-A	16.18	4.05	16.15	0.00	501.28	0.032	0.03	0.03	7.420	A
C-A	209.46	52.37	209.46	0.00	-	-	-	-	-	-
C-B	47.65	11.91	47.58	0.00	587.70	0.081	0.07	0.09	6.665	A
A-B	21.58	5.39	21.58	0.00	-	-	-	-	-	-
A-C	282.28	70.57	282.28	0.00	-	-	-	-	-	-

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

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
B-C	23.12	5.78	23.09	0.00	630.69	0.037	0.03	0.04	5.924	A
B-A	19.82	4.95	19.78	0.00	467.90	0.042	0.03	0.04	8.033	A
C-A	256.54	64.13	256.54	0.00	-	-	-	-	-	-
C-B	58.35	14.59	58.25	0.00	569.84	0.102	0.09	0.11	7.034	A
A-B	26.42	6.61	26.42	0.00	-	-	-	-	-	-
A-C	345.72	86.43	345.72	0.00	-	-	-	-	-	-

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

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
B-C	23.12	5.78	23.12	0.00	630.66	0.037	0.04	0.04	5.924	A
B-A	19.82	4.95	19.82	0.00	467.93	0.042	0.04	0.04	8.033	A
C-A	256.54	64.13	256.54	0.00	-	-	-	-	-	-
C-B	58.35	14.59	58.35	0.00	569.84	0.102	0.11	0.11	7.037	A
A-B	26.42	6.61	26.42	0.00	-	-	-	-	-	-
A-C	345.72	86.43	345.72	0.00	-	-	-	-	-	-

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

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
B-C	18.88	4.72	18.91	0.00	651.13	0.029	0.04	0.03	5.693	A
B-A	16.18	4.05	16.22	0.00	501.35	0.032	0.04	0.03	7.420	A
C-A	209.46	52.37	209.46	0.00	-	-	-	-	-	-
C-B	47.65	11.91	47.74	0.00	587.70	0.081	0.11	0.09	6.667	A
A-B	21.58	5.39	21.58	0.00	-	-	-	-	-	-
A-C	282.28	70.57	282.28	0.00	-	-	-	-	-	-

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

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
B-C	15.81	3.95	15.83	0.00	665.89	0.024	0.03	0.02	5.539	A
B-A	13.55	3.39	13.58	0.00	525.47	0.026	0.03	0.03	7.035	A
C-A	175.41	43.85	175.41	0.00	-	-	-	-	-	-
C-B	39.90	9.98	39.97	0.00	600.62	0.066	0.09	0.07	6.423	A
A-B	18.07	4.52	18.07	0.00	-	-	-	-	-	-
A-C	236.40	59.10	236.40	0.00	-	-	-	-	-	-

**Queueing Delay Results for each time segment**
**Queueing Delay results: (16:45-17:00)**

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-C	0.35	0.02	5.536	A	A
B-A	0.38	0.03	7.029	A	A
C-A	-	-	-	-	-
C-B	1.03	0.07	6.414	A	A
A-B	-	-	-	-	-
A-C	-	-	-	-	-

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

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-C	0.44	0.03	5.692	A	A
B-A	0.49	0.03	7.420	A	A
C-A	-	-	-	-	-
C-B	1.29	0.09	6.665	A	A
A-B	-	-	-	-	-
A-C	-	-	-	-	-



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

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-C	0.56	0.04	5.924	A	A
B-A	0.64	0.04	8.033	A	A
C-A	-	-	-	-	-
C-B	1.66	0.11	7.034	A	A
A-B	-	-	-	-	-
A-C	-	-	-	-	-

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

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-C	0.57	0.04	5.924	A	A
B-A	0.66	0.04	8.033	A	A
C-A	-	-	-	-	-
C-B	1.70	0.11	7.037	A	A
A-B	-	-	-	-	-
A-C	-	-	-	-	-

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

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-C	0.46	0.03	5.693	A	A
B-A	0.52	0.03	7.420	A	A
C-A	-	-	-	-	-
C-B	1.36	0.09	6.667	A	A
A-B	-	-	-	-	-
A-C	-	-	-	-	-

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

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-C	0.37	0.02	5.539	A	A
B-A	0.41	0.03	7.035	A	A
C-A	-	-	-	-	-
C-B	1.10	0.07	6.423	A	A
A-B	-	-	-	-	-
A-C	-	-	-	-	-

## APPENDIX G

# REARSBY ROAD/QUENIBOROUGH ROAD/BARKBY ROAD/SYSTON ROAD CROSSROADS PICADY OUTPUT

Junctions 8
PICADY 8 - Priority Intersection Module
Version: 8.0.4.487 [15039,24/03/2014] © Copyright TRL Limited, 2018
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**Filename:** Crossroad junction - existing layout.arc8  
**Path:** C:\Users\ADCteam\Dropbox\~ JN8 TEMP\ADC1659  
**Report generation date:** 24/01/2018 17:56:27

- » Traffic Flows - 2023 without development, AM
- » Traffic Flows - 2023 without development, PM
- » Traffic Flows - 2023 with development, AM
- » Traffic Flows - 2023 with development, PM

### Summary of junction performance

	AM			PM		
	Queue (Veh)	Delay (s)	RFC	Queue (Veh)	Delay (s)	RFC
<b>Traffic Flows - 2023 with development</b>						
Stream B-CD	5.04	67.55	0.88	2.53	37.76	0.74
Stream B-AD	3.80	81.07	0.84	2.06	41.97	0.69
Stream A-BCD	0.69	9.78	0.40	0.63	9.55	0.38
Stream A-B	-	-	-	-	-	-
Stream A-C	-	-	-	-	-	-
Stream D-AB	22.47	181.25	1.08	21.89	178.79	1.07
Stream D-BC	10.15	235.95	1.05	10.62	227.64	1.04
Stream C-ABD	0.18	7.70	0.15	0.17	7.53	0.15
Stream C-D	-	-	-	-	-	-
Stream C-A	-	-	-	-	-	-
<b>Traffic Flows - 2023 without development</b>						
Stream B-CD	1.85	27.83	0.66	1.68	26.50	0.64
Stream B-AD	1.44	33.14	0.60	1.42	29.29	0.60
Stream A-BCD	0.69	9.77	0.40	0.62	9.51	0.38
Stream A-B	-	-	-	-	-	-
Stream A-C	-	-	-	-	-	-
Stream D-AB	20.04	164.56	1.06	8.86	83.66	0.95
Stream D-BC	9.32	219.03	1.03	5.37	127.34	0.93
Stream C-ABD	0.17	7.68	0.14	0.16	7.42	0.13
Stream C-D	-	-	-	-	-	-
Stream C-A	-	-	-	-	-	-

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

"D1 - 2023 without development, AM" model duration: 07:45 - 09:15

"D2 - 2023 without development, PM" model duration: 16:45 - 18:15

"D3 - 2023 with development, AM" model duration: 07:45 - 09:15

"D4 - 2023 with development, PM" model duration: 16:45 - 18:15

Run using Junctions 8.0.4.487 at 24/01/2018 17:56:13

## File summary

<b>Title</b>	Rearsby Rd-Queniborough Rd-Barkby Rd-Syston Rd PICADY
<b>Location</b>	Queniborough
<b>Site Number</b>	
<b>Date</b>	21/12/2017
<b>Version</b>	
<b>Status</b>	(new file)
<b>Identifier</b>	
<b>Client</b>	
<b>Jobnumber</b>	ADC1659
<b>Enumerator</b>	ADCteam
<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	Veh	Veh	perHour	s	-Min	perMin

# Traffic Flows - 2023 without development, AM

## Data Errors and Warnings

Severity	Area	Item	Description
Warning	Minor arm flare	Arm B - Minor Arm Geometry	Is flare very short? Estimated flare length is zero but has been increased to 1 because a zero flare length is not allowed.
Warning	Minor arm flare	Arm D - Minor Arm Geometry	Is flare very short? Estimated flare length is zero but has been increased to 1 because a zero flare length is not allowed.

## Analysis Set Details

Name	Roundabout Capacity Model	Description	Include In Report	Use Specific Demand Set(s)	Specific Demand Set (s)	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
Traffic Flows	N/A		✓				100.000	100.000	

## Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Results For Central Hour Only	Single Time Segment Only	Locked	Run Automatically	Use Relationship
2023 without development, AM	2023 without development	AM		ONE HOUR	07:45	09:15	90	15				✓	

# Junction Network

## Junctions

Junction	Name	Junction Type	Major Road Direction	Arm Order	Do Geometric Delay	Junction Delay (s)	Junction LOS
1	Rearsby Rd-Queniborough Rd-Barkby Rd-Syston Rd crossroads	Crossroads	Two-way	A,B,C,D		92.17	F

## Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

# Arms

## Arms

Arm	Arm	Name	Description	Arm Type
A	A	Queniborough Road		Major
B	B	Barkby Road		Minor
C	C	Syston Road		Major
D	D	Rearsby Road		Minor

## 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)
A	6.20		0.00		2.20	150.00	✓	1.00
C	6.20		0.00		2.20	150.00	✓	1.00

*Geometries for Arm C are measured opposite Arm B. Geometries for Arm A (if relevant) are measured opposite Arm D.*

## Minor Arm Geometry

Arm	Minor Arm Type	Lane Width (m)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
B	One lane plus flare				10.00	3.90	3.10	3.10	3.10	✓	1.00	21	52
D	One lane plus flare				10.00	3.80	3.20	3.00	3.00	✓	1.00	49	22

## Slope / Intercept / Capacity

### Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (Veh/hr)	Slope for A-B	Slope for A-C	Slope for A-D	Slope for B-A	Slope for B-C	Slope for B-D	Slope for C-A	Slope for C-B	Slope for C-D	Slope for D-A	Slope for D-B	Slope for D-C
1	A-D	660.830	-	-	-	-	-	-	0.254	0.363	0.254	-	-	-
1	B-A	542.557	0.098	0.248	0.248	-	-	-	0.156	0.354	-	0.248	0.248	0.124
1	B-C	788.161	0.120	0.303	-	-	-	-	-	-	-	-	-	-
1	B-D, nearside lane	611.983	0.110	0.279	0.279	-	-	-	0.176	0.399	0.176	-	-	-
1	B-D, offside lane	542.557	0.098	0.248	0.248	-	-	-	0.156	0.354	0.156	-	-	-
1	C-B	660.830	0.254	0.254	0.363	-	-	-	-	-	-	-	-	-
1	D-A	765.493	-	-	-	-	-	-	0.294	-	0.116	-	-	-
1	D-B, nearside lane	605.206	0.174	0.174	0.395	-	-	-	0.276	0.276	0.109	-	-	-
1	D-B, offside lane	534.530	0.153	0.153	0.348	-	-	-	0.244	0.244	0.097	-	-	-
1	D-C	534.530	-	0.153	0.348	0.122	0.244	0.244	0.244	0.244	0.097	-	-	-

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 (Veh/hr)	Flow Scaling Factor (%)
A	ONE HOUR	✓	332.00	100.000
B	ONE HOUR	✓	375.00	100.000
C	ONE HOUR	✓	212.00	100.000
D	ONE HOUR	✓	534.00	100.000

## Turning Proportions

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

		To			
		A	B	C	D
From	A	0.000	44.000	84.000	204.000
	B	37.000	0.000	67.000	271.000
	C	104.000	69.000	0.000	39.000
	D	232.000	287.000	15.000	0.000

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

		To			
		A	B	C	D
From	A	0.00	0.13	0.25	0.61
	B	0.10	0.00	0.18	0.72
	C	0.49	0.33	0.00	0.18
	D	0.43	0.54	0.03	0.00

## Vehicle Mix

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

		To			
		A	B	C	D
From	A	1.000	1.000	1.060	1.020
	B	1.028	1.000	1.015	1.015
	C	1.048	1.014	1.000	1.077
	D	1.034	1.010	1.267	1.000

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

		To			
		A	B	C	D
From	A	0.0	0.0	6.0	2.0
	B	2.8	0.0	1.5	1.5
	C	4.8	1.4	0.0	7.7
	D	3.4	1.0	26.7	0.0

## Results

### Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)	Total Queueing Delay (Veh-min)	Average Queueing Delay (s)	Rate Of Queueing Delay (Veh-min/min)	Inclusive Total Queueing Delay (Veh-min)	Inclusive Average Queueing Delay (s)
B-CD	0.66	27.83	1.85	D	201.90	302.85	87.13	17.26	0.97	87.14	17.26
B-AD	0.60	33.14	1.44	D	142.21	213.31	72.28	20.33	0.80	72.29	20.33
A-BCD	0.40	9.77	0.69	A	200.33	300.49	45.65	9.11	0.51	45.65	9.12
A-B	-	-	-	-	35.86	53.79	-	-	-	-	-
A-C	-	-	-	-	68.46	102.69	-	-	-	-	-
D-AB	1.06	164.56	20.04	F	352.81	529.21	603.79	68.46	6.71	603.88	68.47
D-BC	1.03	219.03	9.32	F	137.20	205.80	302.86	88.30	3.37	302.89	88.31
C-ABD	0.14	7.68	0.17	A	65.27	97.91	12.12	7.43	0.13	12.12	7.43
C-D	-	-	-	-	35.25	52.88	-	-	-	-	-
C-A	-	-	-	-	94.01	141.01	-	-	-	-	-

## Main Results for each time segment

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

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
B-CD	160.75	40.19	158.89	0.00	500.18	0.321	0.00	0.47	10.493	B
B-AD	121.57	30.39	119.85	0.00	399.66	0.304	0.00	0.43	12.790	B
A-BCD	160.05	40.01	158.64	0.00	617.15	0.259	0.00	0.35	7.829	A
A-B	30.90	7.73	30.90	0.00	-	-	-	-	-	-
A-C	59.00	14.75	59.00	0.00	-	-	-	-	-	-
D-AB	286.91	71.73	282.43	0.00	535.08	0.536	0.00	1.12	14.017	B
D-BC	115.12	28.78	113.23	0.00	353.56	0.326	0.00	0.47	14.869	B
C-ABD	52.87	13.22	52.46	0.00	577.32	0.092	0.00	0.10	6.855	A
C-D	29.11	7.28	29.11	0.00	-	-	-	-	-	-
C-A	77.63	19.41	77.63	0.00	-	-	-	-	-	-

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

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
B-CD	195.51	48.88	194.46	0.00	456.96	0.428	0.47	0.73	13.658	B
B-AD	141.61	35.40	140.78	0.00	358.74	0.395	0.43	0.63	16.450	C
A-BCD	194.71	48.68	194.24	0.00	615.04	0.317	0.35	0.47	8.545	A
A-B	35.67	8.92	35.67	0.00	-	-	-	-	-	-
A-C	68.09	17.02	68.09	0.00	-	-	-	-	-	-
D-AB	344.27	86.07	339.85	0.00	486.88	0.707	1.12	2.22	23.781	C
D-BC	135.79	33.95	134.10	0.00	280.65	0.484	0.47	0.89	24.278	C
C-ABD	63.69	15.92	63.58	0.00	564.20	0.113	0.10	0.13	7.187	A
C-D	34.61	8.65	34.61	0.00	-	-	-	-	-	-
C-A	92.29	23.07	92.29	0.00	-	-	-	-	-	-

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

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
B-CD	247.33	61.83	243.53	0.00	384.30	0.644	0.73	1.68	24.926	C
B-AD	165.55	41.39	162.84	0.00	282.94	0.585	0.63	1.31	29.322	D
A-BCD	246.22	61.55	245.37	0.00	614.71	0.401	0.47	0.68	9.725	A
A-B	41.02	10.25	41.02	0.00	-	-	-	-	-	-
A-C	78.30	19.58	78.30	0.00	-	-	-	-	-	-
D-AB	425.17	106.29	386.46	0.00	412.38	1.031	2.22	11.90	87.341	F
D-BC	162.78	40.69	139.87	0.00	158.04	1.030	0.89	6.62	133.225	F
C-ABD	79.26	19.82	79.09	0.00	547.95	0.145	0.13	0.17	7.674	A
C-D	42.04	10.51	42.04	0.00	-	-	-	-	-	-
C-A	112.11	28.03	112.11	0.00	-	-	-	-	-	-



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

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
B-CD	249.32	62.33	248.65	0.00	376.81	0.662	1.68	1.85	27.829	D
B-AD	163.56	40.89	163.05	0.00	270.73	0.604	1.31	1.44	33.142	D
A-BCD	246.22	61.56	246.19	0.00	614.81	0.400	0.68	0.69	9.769	A
A-B	41.01	10.25	41.01	0.00	-	-	-	-	-	-
A-C	78.30	19.58	78.30	0.00	-	-	-	-	-	-
D-AB	426.87	106.72	394.32	0.00	403.05	1.059	11.90	20.04	164.556	F
D-BC	161.07	40.27	150.28	0.00	159.32	1.011	6.62	9.32	219.026	F
C-ABD	79.27	19.82	79.26	0.00	547.82	0.145	0.17	0.17	7.683	A
C-D	42.04	10.51	42.04	0.00	-	-	-	-	-	-
C-A	112.11	28.03	112.11	0.00	-	-	-	-	-	-

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

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
B-CD	197.30	49.33	201.47	0.00	449.37	0.439	1.85	0.80	14.751	B
B-AD	139.82	34.95	142.75	0.00	343.80	0.407	1.44	0.71	18.155	C
A-BCD	194.71	48.68	195.52	0.00	615.22	0.316	0.69	0.48	8.601	A
A-B	35.66	8.92	35.66	0.00	-	-	-	-	-	-
A-C	68.09	17.02	68.09	0.00	-	-	-	-	-	-
D-AB	346.12	86.53	404.96	0.00	434.56	0.797	20.04	5.33	115.079	F
D-BC	133.93	33.48	156.01	0.00	180.81	0.741	9.32	3.80	148.984	F
C-ABD	63.69	15.92	63.86	0.00	564.03	0.113	0.17	0.13	7.205	A
C-D	34.61	8.65	34.61	0.00	-	-	-	-	-	-
C-A	92.29	23.07	92.29	0.00	-	-	-	-	-	-

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

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
B-CD	161.19	40.30	162.46	0.00	496.89	0.324	0.80	0.49	10.803	B
B-AD	121.13	30.28	122.15	0.00	394.84	0.307	0.71	0.45	13.251	B
A-BCD	160.05	40.01	160.54	0.00	617.07	0.259	0.48	0.36	7.896	A
A-B	30.90	7.73	30.90	0.00	-	-	-	-	-	-
A-C	58.99	14.75	58.99	0.00	-	-	-	-	-	-
D-AB	287.50	71.88	303.68	0.00	520.29	0.553	5.33	1.28	17.758	C
D-BC	114.52	28.63	127.59	0.00	337.04	0.340	3.80	0.53	18.208	C
C-ABD	52.87	13.22	52.98	0.00	576.74	0.092	0.13	0.10	6.878	A
C-D	29.11	7.28	29.11	0.00	-	-	-	-	-	-
C-A	77.62	19.41	77.62	0.00	-	-	-	-	-	-

## Queueing Delay Results for each time segment

### Queueing Delay results: (07:45-08:00)

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-CD	6.62	0.44	10.493	B	B
B-AD	6.05	0.40	12.790	B	B
A-BCD	5.23	0.35	7.829	A	A
A-B	-	-	-	-	-
A-C	-	-	-	-	-
D-AB	15.45	1.03	14.017	B	B
D-BC	6.60	0.44	14.869	B	B
C-ABD	1.50	0.10	6.855	A	A
C-D	-	-	-	-	-
C-A	-	-	-	-	-

### Queueing Delay results: (08:00-08:15)

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-CD	10.41	0.69	13.658	B	B
B-AD	9.04	0.60	16.450	C	B
A-BCD	7.05	0.47	8.545	A	A
A-B	-	-	-	-	-
A-C	-	-	-	-	-
D-AB	29.92	1.99	23.781	C	C
D-BC	12.34	0.82	24.278	C	C
C-ABD	1.93	0.13	7.187	A	A
C-D	-	-	-	-	-
C-A	-	-	-	-	-

### Queueing Delay results: (08:15-08:30)

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-CD	22.59	1.51	24.926	C	C
B-AD	17.72	1.18	29.322	D	C
A-BCD	10.19	0.68	9.725	A	A
A-B	-	-	-	-	-
A-C	-	-	-	-	-
D-AB	117.72	7.85	87.341	F	F
D-BC	64.62	4.31	133.225	F	F
C-ABD	2.58	0.17	7.674	A	A
C-D	-	-	-	-	-
C-A	-	-	-	-	-

**Queueing Delay results: (08:30-08:45)**

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-CD	26.82	1.79	27.829	D	C
B-AD	20.93	1.40	33.142	D	C
A-BCD	10.41	0.69	9.769	A	A
A-B	-	-	-	-	-
A-C	-	-	-	-	-
D-AB	241.33	16.09	164.556	F	F
D-BC	120.47	8.03	219.026	F	F
C-ABD	2.61	0.17	7.683	A	A
C-D	-	-	-	-	-
C-A	-	-	-	-	-

**Queueing Delay results: (08:45-09:00)**

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-CD	13.03	0.87	14.751	B	B
B-AD	11.43	0.76	18.155	C	B
A-BCD	7.31	0.49	8.601	A	A
A-B	-	-	-	-	-
A-C	-	-	-	-	-
D-AB	175.73	11.72	115.079	F	F
D-BC	88.24	5.88	148.984	F	F
C-ABD	1.96	0.13	7.205	A	A
C-D	-	-	-	-	-
C-A	-	-	-	-	-

**Queueing Delay results: (09:00-09:15)**

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-CD	7.66	0.51	10.803	B	B
B-AD	7.10	0.47	13.251	B	B
A-BCD	5.45	0.36	7.896	A	A
A-B	-	-	-	-	-
A-C	-	-	-	-	-
D-AB	23.67	1.58	17.758	C	B
D-BC	10.51	0.70	18.208	C	B
C-ABD	1.54	0.10	6.878	A	A
C-D	-	-	-	-	-
C-A	-	-	-	-	-

# Traffic Flows - 2023 without development, PM

## Data Errors and Warnings

Severity	Area	Item	Description
Warning	Minor arm flare	Arm B - Minor Arm Geometry	Is flare very short? Estimated flare length is zero but has been increased to 1 because a zero flare length is not allowed.
Warning	Minor arm flare	Arm D - Minor Arm Geometry	Is flare very short? Estimated flare length is zero but has been increased to 1 because a zero flare length is not allowed.

## Analysis Set Details

Name	Roundabout Capacity Model	Description	Include In Report	Use Specific Demand Set(s)	Specific Demand Set (s)	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
Traffic Flows	N/A		✓				100.000	100.000	

## Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Results For Central Hour Only	Single Time Segment Only	Locked	Run Automatically	Use Relationship
2023 without development, PM	2023 without development	PM		ONE HOUR	16:45	18:15	90	15				✓	

# Junction Network

## Junctions

Junction	Name	Junction Type	Major Road Direction	Arm Order	Do Geometric Delay	Junction Delay (s)	Junction LOS
1	Rearsby Rd-Queniborough Rd-Barkby Rd-Syston Rd crossroads	Crossroads	Two-way	A,B,C,D		53.24	F

## Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

# Arms

## Arms

Arm	Arm	Name	Description	Arm Type
A	A	Queniborough Road		Major
B	B	Barkby Road		Minor
C	C	Syston Road		Major
D	D	Rearsby Road		Minor

## 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)
A	6.20		0.00		2.20	150.00	✓	1.00
C	6.20		0.00		2.20	150.00	✓	1.00

Geometries for Arm C are measured opposite Arm B. Geometries for Arm A (if relevant) are measured opposite Arm D.

## Minor Arm Geometry

Arm	Minor Arm Type	Lane Width (m)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
B	One lane plus flare				10.00	3.90	3.10	3.10	3.10	✓	1.00	21	52
D	One lane plus flare				10.00	3.80	3.20	3.00	3.00	✓	1.00	49	22

## Slope / Intercept / Capacity

### Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (Veh/hr)	Slope for A-B	Slope for A-C	Slope for A-D	Slope for B-A	Slope for B-C	Slope for B-D	Slope for C-A	Slope for C-B	Slope for C-D	Slope for D-A	Slope for D-B	Slope for D-C
1	A-D	660.830	-	-	-	-	-	-	0.254	0.363	0.254	-	-	-
1	B-A	542.557	0.098	0.248	0.248	-	-	-	0.156	0.354	-	0.248	0.248	0.124
1	B-C	788.161	0.120	0.303	-	-	-	-	-	-	-	-	-	-
1	B-D, nearside lane	611.983	0.110	0.279	0.279	-	-	-	0.176	0.399	0.176	-	-	-
1	B-D, offside lane	542.557	0.098	0.248	0.248	-	-	-	0.156	0.354	0.156	-	-	-
1	C-B	660.830	0.254	0.254	0.363	-	-	-	-	-	-	-	-	-
1	D-A	765.493	-	-	-	-	-	-	0.294	-	0.116	-	-	-
1	D-B, nearside lane	605.206	0.174	0.174	0.395	-	-	-	0.276	0.276	0.109	-	-	-
1	D-B, offside lane	534.530	0.153	0.153	0.348	-	-	-	0.244	0.244	0.097	-	-	-
1	D-C	534.530	-	0.153	0.348	0.122	0.244	0.244	0.244	0.244	0.097	-	-	-

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 (Veh/hr)	Flow Scaling Factor (%)
A	ONE HOUR	✓	303.00	100.000
B	ONE HOUR	✓	380.00	100.000
C	ONE HOUR	✓	182.00	100.000
D	ONE HOUR	✓	505.00	100.000

# Turning Proportions

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

		To			
		A	B	C	D
From	A	0.000	29.000	82.000	192.000
	B	34.000	0.000	43.000	303.000
	C	100.000	66.000	0.000	16.000
	D	215.000	272.000	18.000	0.000

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

		To			
		A	B	C	D
From	A	0.00	0.10	0.27	0.63
	B	0.09	0.00	0.11	0.80
	C	0.55	0.36	0.00	0.09
	D	0.43	0.54	0.04	0.00

# Vehicle Mix

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

		To			
		A	B	C	D
From	A	1.000	1.034	1.000	1.042
	B	1.000	1.000	1.023	1.010
	C	1.010	1.000	1.000	1.188
	D	1.009	1.007	1.222	1.000

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

		To			
		A	B	C	D
From	A	0.0	3.4	0.0	4.2
	B	0.0	0.0	2.3	1.0
	C	1.0	0.0	0.0	18.8
	D	0.9	0.7	22.2	0.0

# Results

## Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)	Total Queueing Delay (Veh-min)	Average Queueing Delay (s)	Rate Of Queueing Delay (Veh-min/min)	Inclusive Total Queueing Delay (Veh-min)	Inclusive Average Queueing Delay (s)
B-CD	0.64	26.50	1.68	D	193.31	289.96	82.41	17.05	0.92	82.42	17.05
B-AD	0.60	29.29	1.42	D	155.39	233.08	73.66	18.96	0.82	73.67	18.97
A-BCD	0.38	9.51	0.62	A	186.65	279.97	41.69	8.93	0.46	41.69	8.93
A-B	-	-	-	-	23.88	35.82	-	-	-	-	-
A-C	-	-	-	-	67.51	101.27	-	-	-	-	-
D-AB	0.95	83.66	8.86	F	330.51	495.76	282.85	34.23	3.14	282.90	34.24
D-BC	0.93	127.34	5.37	F	132.89	199.34	144.15	43.39	1.60	144.16	43.39
C-ABD	0.13	7.42	0.16	A	61.90	92.85	11.07	7.15	0.12	11.07	7.15
C-D	-	-	-	-	14.50	21.75	-	-	-	-	-
C-A	-	-	-	-	90.61	135.92	-	-	-	-	-

## Main Results for each time segment

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

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
B-CD	154.43	38.61	152.61	0.00	487.96	0.316	0.00	0.46	10.679	B
B-AD	131.65	32.91	129.84	0.00	417.44	0.315	0.00	0.45	12.443	B
A-BCD	149.77	37.44	148.46	0.00	609.05	0.246	0.00	0.33	7.795	A
A-B	20.47	5.12	20.47	0.00	-	-	-	-	-	-
A-C	57.88	14.47	57.88	0.00	-	-	-	-	-	-
D-AB	268.80	67.20	265.13	0.00	554.02	0.485	0.00	0.92	12.312	B
D-BC	111.39	27.85	109.73	0.00	372.76	0.299	0.00	0.42	13.603	B
C-ABD	50.32	12.58	49.95	0.00	589.73	0.085	0.00	0.09	6.665	A
C-D	11.96	2.99	11.96	0.00	-	-	-	-	-	-
C-A	74.74	18.69	74.74	0.00	-	-	-	-	-	-

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

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
B-CD	187.67	46.92	186.66	0.00	446.12	0.421	0.46	0.71	13.819	B
B-AD	153.94	38.49	153.10	0.00	379.66	0.405	0.45	0.66	15.827	C
A-BCD	181.66	45.42	181.25	0.00	607.60	0.299	0.33	0.43	8.439	A
A-B	23.70	5.93	23.70	0.00	-	-	-	-	-	-
A-C	67.02	16.76	67.02	0.00	-	-	-	-	-	-
D-AB	322.73	80.68	319.90	0.00	511.09	0.631	0.92	1.63	18.548	C
D-BC	131.25	32.81	130.14	0.00	313.25	0.419	0.42	0.70	19.533	C
C-ABD	60.46	15.12	60.37	0.00	576.78	0.105	0.09	0.12	6.970	A
C-D	14.23	3.56	14.23	0.00	-	-	-	-	-	-
C-A	88.92	22.23	88.92	0.00	-	-	-	-	-	-

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

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
B-CD	236.79	59.20	233.31	0.00	376.99	0.628	0.71	1.58	24.484	C
B-AD	181.60	45.40	178.93	0.00	309.21	0.587	0.66	1.33	27.087	D
A-BCD	228.50	57.13	227.77	0.00	607.54	0.376	0.43	0.61	9.470	A
A-B	27.46	6.87	27.46	0.00	-	-	-	-	-	-
A-C	77.65	19.41	77.65	0.00	-	-	-	-	-	-
D-AB	398.90	99.73	380.60	0.00	435.81	0.915	1.63	6.20	53.312	F
D-BC	157.11	39.28	147.65	0.00	192.70	0.815	0.70	3.06	69.468	F
C-ABD	74.90	18.73	74.75	0.00	560.39	0.134	0.12	0.16	7.410	A
C-D	17.31	4.33	17.31	0.00	-	-	-	-	-	-
C-A	108.17	27.04	108.17	0.00	-	-	-	-	-	-

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

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
B-CD	237.72	59.43	237.29	0.00	372.26	0.639	1.58	1.68	26.502	D
B-AD	180.67	45.17	180.33	0.00	302.53	0.597	1.33	1.42	29.290	D
A-BCD	228.51	57.13	228.48	0.00	607.29	0.376	0.61	0.62	9.507	A
A-B	27.46	6.86	27.46	0.00	-	-	-	-	-	-
A-C	77.64	19.41	77.64	0.00	-	-	-	-	-	-
D-AB	399.72	99.93	389.10	0.00	421.27	0.949	6.20	8.86	83.662	F
D-BC	156.29	39.07	147.05	0.00	167.25	0.935	3.06	5.37	127.338	F
C-ABD	74.91	18.73	74.90	0.00	560.23	0.134	0.16	0.16	7.416	A
C-D	17.31	4.33	17.31	0.00	-	-	-	-	-	-
C-A	108.17	27.04	108.17	0.00	-	-	-	-	-	-



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

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
B-CD	188.55	47.14	192.23	0.00	441.17	0.427	1.68	0.77	14.663	B
B-AD	153.06	38.27	155.85	0.00	372.38	0.411	1.42	0.72	16.828	C
A-BCD	181.67	45.42	182.37	0.00	607.12	0.299	0.62	0.44	8.485	A
A-B	23.70	5.93	23.70	0.00	-	-	-	-	-	-
A-C	67.02	16.76	67.02	0.00	-	-	-	-	-	-
D-AB	323.90	80.98	350.77	0.00	487.12	0.665	8.86	2.14	30.629	D
D-BC	130.08	32.52	147.94	0.00	281.17	0.463	5.37	0.91	30.258	D
C-ABD	60.47	15.12	60.61	0.00	576.54	0.105	0.16	0.12	6.980	A
C-D	14.23	3.56	14.23	0.00	-	-	-	-	-	-
C-A	88.92	22.23	88.92	0.00	-	-	-	-	-	-

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

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
B-CD	154.69	38.67	155.86	0.00	485.19	0.319	0.77	0.48	10.970	B
B-AD	131.39	32.85	132.37	0.00	414.93	0.317	0.72	0.47	12.783	B
A-BCD	149.77	37.44	150.21	0.00	608.74	0.246	0.44	0.34	7.856	A
A-B	20.47	5.12	20.47	0.00	-	-	-	-	-	-
A-C	57.87	14.47	57.87	0.00	-	-	-	-	-	-
D-AB	268.97	67.24	273.60	0.00	550.14	0.489	2.14	0.98	13.223	B
D-BC	111.22	27.80	113.07	0.00	367.39	0.303	0.91	0.44	14.259	B
C-ABD	50.32	12.58	50.42	0.00	589.14	0.085	0.12	0.09	6.683	A
C-D	11.96	2.99	11.96	0.00	-	-	-	-	-	-
C-A	74.74	18.69	74.74	0.00	-	-	-	-	-	-

**Queueing Delay Results for each time segment**
**Queueing Delay results: (16:45-17:00)**

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-CD	6.47	0.43	10.679	B	B
B-AD	6.38	0.43	12.443	B	B
A-BCD	4.86	0.32	7.795	A	A
A-B	-	-	-	-	-
A-C	-	-	-	-	-
D-AB	12.83	0.86	12.312	B	B
D-BC	5.88	0.39	13.603	B	B
C-ABD	1.39	0.09	6.665	A	A
C-D	-	-	-	-	-
C-A	-	-	-	-	-

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

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-CD	10.11	0.67	13.819	B	B
B-AD	9.47	0.63	15.827	C	B
A-BCD	6.49	0.43	8.439	A	A
A-B	-	-	-	-	-
A-C	-	-	-	-	-
D-AB	22.52	1.50	18.548	C	B
D-BC	9.81	0.65	19.533	C	B
C-ABD	1.77	0.12	6.970	A	A
C-D	-	-	-	-	-
C-A	-	-	-	-	-

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

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-CD	21.32	1.42	24.484	C	C
B-AD	18.07	1.20	27.087	D	C
A-BCD	9.20	0.61	9.470	A	A
A-B	-	-	-	-	-
A-C	-	-	-	-	-
D-AB	70.32	4.69	53.312	F	D
D-BC	35.51	2.37	69.468	F	E
C-ABD	2.34	0.16	7.410	A	A
C-D	-	-	-	-	-
C-A	-	-	-	-	-

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

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-CD	24.68	1.65	26.502	D	C
B-AD	20.76	1.38	29.290	D	C
A-BCD	9.38	0.63	9.507	A	A
A-B	-	-	-	-	-
A-C	-	-	-	-	-
D-AB	115.32	7.69	83.662	F	F
D-BC	65.70	4.38	127.338	F	F
C-ABD	2.36	0.16	7.416	A	A
C-D	-	-	-	-	-
C-A	-	-	-	-	-

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

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-CD	12.36	0.82	14.663	B	B
B-AD	11.55	0.77	16.828	C	B
A-BCD	6.70	0.45	8.485	A	A
A-B	-	-	-	-	-
A-C	-	-	-	-	-
D-AB	46.03	3.07	30.629	D	C
D-BC	20.14	1.34	30.258	D	C
C-ABD	1.80	0.12	6.980	A	A
C-D	-	-	-	-	-
C-A	-	-	-	-	-

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

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-CD	7.46	0.50	10.970	B	B
B-AD	7.42	0.49	12.783	B	B
A-BCD	5.06	0.34	7.856	A	A
A-B	-	-	-	-	-
A-C	-	-	-	-	-
D-AB	15.83	1.06	13.223	B	B
D-BC	7.07	0.47	14.259	B	B
C-ABD	1.42	0.09	6.683	A	A
C-D	-	-	-	-	-
C-A	-	-	-	-	-

## Traffic Flows - 2023 with development, AM

### Data Errors and Warnings

Severity	Area	Item	Description
Warning	Minor arm flare	Arm B - Minor Arm Geometry	Is flare very short? Estimated flare length is zero but has been increased to 1 because a zero flare length is not allowed.
Warning	Minor arm flare	Arm D - Minor Arm Geometry	Is flare very short? Estimated flare length is zero but has been increased to 1 because a zero flare length is not allowed.

### Analysis Set Details

Name	Roundabout Capacity Model	Description	Include In Report	Use Specific Demand Set(s)	Specific Demand Set (s)	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
Traffic Flows	N/A		✓				100.000	100.000	

## Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Results For Central Hour Only	Single Time Segment Only	Locked	Run Automatically	Use Relationship
2023 with development, AM	2023 with development	AM		ONE HOUR	07:45	09:15	90	15				✓	

## Junction Network

### Junctions

Junction	Name	Junction Type	Major Road Direction	Arm Order	Do Geometric Delay	Junction Delay (s)	Junction LOS
1	Rearsby Rd-Queniborough Rd-Barkby Rd-Syston Rd crossroads	Crossroads	Two-way	A,B,C,D		111.70	F

### Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

## Arms

### Arms

Arm	Arm	Name	Description	Arm Type
A	A	Queniborough Road		Major
B	B	Barkby Road		Minor
C	C	Syston Road		Major
D	D	Rearsby Road		Minor

### 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)
A	6.20		0.00		2.20	150.00	✓	1.00
C	6.20		0.00		2.20	150.00	✓	1.00

*Geometries for Arm C are measured opposite Arm B. Geometries for Arm A (if relevant) are measured opposite Arm D.*

### Minor Arm Geometry

Arm	Minor Arm Type	Lane Width (m)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
B	One lane plus flare				10.00	3.90	3.10	3.10	3.10	✓	1.00	21	52
D	One lane plus flare				10.00	3.80	3.20	3.00	3.00	✓	1.00	49	22

## Slope / Intercept / Capacity

### Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (Veh/hr)	Slope for A-B	Slope for A-C	Slope for A-D	Slope for B-A	Slope for B-C	Slope for B-D	Slope for C-A	Slope for C-B	Slope for C-D	Slope for D-A	Slope for D-B	Slope for D-C
1	A-D	660.830	-	-	-	-	-	-	0.254	0.363	0.254	-	-	-
1	B-A	542.557	0.098	0.248	0.248	-	-	-	0.156	0.354	-	0.248	0.248	0.124
1	B-C	788.161	0.120	0.303	-	-	-	-	-	-	-	-	-	-
1	B-D, nearside lane	611.983	0.110	0.279	0.279	-	-	-	0.176	0.399	0.176	-	-	-
1	B-D, offside lane	542.557	0.098	0.248	0.248	-	-	-	0.156	0.354	0.156	-	-	-
1	C-B	660.830	0.254	0.254	0.363	-	-	-	-	-	-	-	-	-
1	D-A	765.493	-	-	-	-	-	-	0.294	-	0.116	-	-	-
1	D-B, nearside lane	605.206	0.174	0.174	0.395	-	-	-	0.276	0.276	0.109	-	-	-
1	D-B, offside lane	534.530	0.153	0.153	0.348	-	-	-	0.244	0.244	0.097	-	-	-
1	D-C	534.530	-	0.153	0.348	0.122	0.244	0.244	0.244	0.244	0.097	-	-	-

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 (Veh/hr)	Flow Scaling Factor (%)
A	ONE HOUR	✓	333.00	100.000
B	ONE HOUR	✓	427.00	100.000
C	ONE HOUR	✓	213.00	100.000
D	ONE HOUR	✓	539.00	100.000

## Turning Proportions

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

		To			
		A	B	C	D
From	A	0.000	45.000	84.000	204.000
	B	43.000	0.000	73.000	311.000
	C	104.000	70.000	0.000	39.000
	D	232.000	292.000	15.000	0.000

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

		To			
		A	B	C	D
From	A	0.00	0.14	0.25	0.61
	B	0.10	0.00	0.17	0.73
	C	0.49	0.33	0.00	0.18
	D	0.43	0.54	0.03	0.00

## Vehicle Mix

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

		To			
		A	B	C	D
From	A	1.000	1.000	1.060	1.020
	B	1.023	1.000	1.014	1.013
	C	1.048	1.014	1.000	1.077
	D	1.034	1.010	1.267	1.000

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

		To			
		A	B	C	D
From	A	0.0	0.0	6.0	2.0
	B	2.3	0.0	1.4	1.3
	C	4.8	1.4	0.0	7.7
	D	3.4	1.0	26.7	0.0

## Results

### Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)	Total Queueing Delay (Veh-min)	Average Queueing Delay (s)	Rate Of Queueing Delay (Veh-min/min)	Inclusive Total Queueing Delay (Veh-min)	Inclusive Average Queueing Delay (s)
B-CD	0.88	67.55	5.04	F	231.62	347.43	167.10	28.86	1.86	167.13	28.86
B-AD	0.84	81.07	3.80	F	160.20	240.30	130.59	32.61	1.45	130.62	32.61
A-BCD	0.40	9.78	0.69	A	200.45	300.67	45.72	9.12	0.51	45.72	9.12
A-B	-	-	-	-	36.67	55.01	-	-	-	-	-
A-C	-	-	-	-	68.45	102.68	-	-	-	-	-
D-AB	1.08	181.25	22.47	F	355.72	533.58	690.32	77.62	7.67	690.43	77.64
D-BC	1.05	235.95	10.15	F	138.87	208.31	341.42	98.34	3.79	341.45	98.35
C-ABD	0.15	7.70	0.18	A	66.25	99.38	12.33	7.44	0.14	12.33	7.44
C-D	-	-	-	-	35.24	52.86	-	-	-	-	-
C-A	-	-	-	-	93.96	140.95	-	-	-	-	-

## Main Results for each time segment

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

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
B-CD	183.08	45.77	180.71	0.00	485.33	0.377	0.00	0.59	11.730	B
B-AD	138.39	34.60	136.26	0.00	392.23	0.353	0.00	0.53	13.954	B
A-BCD	160.10	40.03	158.69	0.00	617.01	0.259	0.00	0.35	7.832	A
A-B	31.60	7.90	31.60	0.00	-	-	-	-	-	-
A-C	58.99	14.75	58.99	0.00	-	-	-	-	-	-
D-AB	288.97	72.24	284.38	0.00	532.12	0.543	0.00	1.15	14.284	B
D-BC	116.82	29.20	114.87	0.00	350.59	0.333	0.00	0.49	15.150	C
C-ABD	53.65	13.41	53.24	0.00	577.23	0.093	0.00	0.10	6.866	A
C-D	29.10	7.28	29.10	0.00	-	-	-	-	-	-
C-A	77.61	19.40	77.61	0.00	-	-	-	-	-	-

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

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
B-CD	223.40	55.85	221.69	0.00	434.35	0.514	0.59	1.02	16.790	C
B-AD	160.46	40.12	159.19	0.00	342.36	0.469	0.53	0.85	19.513	C
A-BCD	194.81	48.70	194.34	0.00	614.91	0.317	0.35	0.47	8.550	A
A-B	36.47	9.12	36.47	0.00	-	-	-	-	-	-
A-C	68.08	17.02	68.08	0.00	-	-	-	-	-	-
D-AB	346.87	86.72	342.11	0.00	482.50	0.719	1.15	2.34	24.822	C
D-BC	137.68	34.42	135.83	0.00	275.35	0.500	0.49	0.95	25.461	D
C-ABD	64.64	16.16	64.53	0.00	564.12	0.115	0.10	0.13	7.202	A
C-D	34.59	8.65	34.59	0.00	-	-	-	-	-	-
C-A	92.25	23.06	92.25	0.00	-	-	-	-	-	-

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

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
B-CD	284.27	71.07	274.01	0.00	345.82	0.822	1.02	3.59	45.016	E
B-AD	185.86	46.47	178.63	0.00	241.77	0.769	0.85	2.66	52.089	F
A-BCD	246.42	61.60	245.57	0.00	614.63	0.401	0.47	0.68	9.732	A
A-B	41.94	10.48	41.94	0.00	-	-	-	-	-	-
A-C	78.28	19.57	78.28	0.00	-	-	-	-	-	-
D-AB	428.74	107.19	386.15	0.00	409.29	1.048	2.34	12.99	93.427	F
D-BC	164.71	41.18	140.45	0.00	157.42	1.046	0.95	7.01	139.120	F
C-ABD	80.46	20.12	80.29	0.00	547.90	0.147	0.13	0.17	7.694	A
C-D	42.01	10.50	42.01	0.00	-	-	-	-	-	-
C-A	112.04	28.01	112.04	0.00	-	-	-	-	-	-

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

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
B-CD	287.94	71.98	282.14	0.00	328.61	0.876	3.59	5.04	67.547	F
B-AD	182.20	45.55	177.65	0.00	216.80	0.840	2.66	3.79	81.069	F
A-BCD	246.42	61.61	246.39	0.00	614.72	0.401	0.68	0.69	9.776	A
A-B	41.94	10.48	41.94	0.00	-	-	-	-	-	-
A-C	78.28	19.57	78.28	0.00	-	-	-	-	-	-
D-AB	430.79	107.70	392.85	0.00	399.82	1.077	12.99	22.47	181.249	F
D-BC	162.66	40.66	150.15	0.00	157.96	1.030	7.01	10.14	235.951	F
C-ABD	80.47	20.12	80.46	0.00	547.77	0.147	0.17	0.18	7.703	A
C-D	42.01	10.50	42.01	0.00	-	-	-	-	-	-
C-A	112.04	28.01	112.04	0.00	-	-	-	-	-	-

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

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
B-CD	227.18	56.79	242.22	0.00	413.91	0.549	5.04	1.28	22.606	C
B-AD	156.69	39.17	167.68	0.00	314.18	0.499	3.79	1.05	26.201	D
A-BCD	194.81	48.70	195.62	0.00	615.09	0.317	0.69	0.49	8.606	A
A-B	36.47	9.12	36.47	0.00	-	-	-	-	-	-
A-C	68.08	17.02	68.08	0.00	-	-	-	-	-	-
D-AB	349.12	87.28	411.29	0.00	428.55	0.815	22.47	6.93	140.016	F
D-BC	135.43	33.86	154.85	0.00	171.79	0.788	10.14	5.28	183.448	F
C-ABD	64.64	16.16	64.81	0.00	563.95	0.115	0.18	0.13	7.217	A
C-D	34.59	8.65	34.59	0.00	-	-	-	-	-	-
C-A	92.25	23.06	92.25	0.00	-	-	-	-	-	-

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

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
B-CD	183.87	45.97	186.43	0.00	480.23	0.383	1.28	0.63	12.355	B
B-AD	137.60	34.40	139.51	0.00	385.01	0.357	1.05	0.57	14.776	B
A-BCD	160.11	40.03	160.60	0.00	616.94	0.260	0.49	0.36	7.901	A
A-B	31.60	7.90	31.60	0.00	-	-	-	-	-	-
A-C	58.99	14.75	58.99	0.00	-	-	-	-	-	-
D-AB	289.83	72.46	312.09	0.00	511.12	0.567	6.93	1.37	19.942	C
D-BC	115.95	28.99	134.83	0.00	327.80	0.354	5.28	0.56	20.412	C
C-ABD	53.65	13.41	53.76	0.00	576.65	0.093	0.13	0.10	6.887	A
C-D	29.10	7.28	29.10	0.00	-	-	-	-	-	-
C-A	77.60	19.40	77.60	0.00	-	-	-	-	-	-



## Queueing Delay Results for each time segment

### Queueing Delay results: (07:45-08:00)

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-CD	8.37	0.56	11.730	B	B
B-AD	7.47	0.50	13.954	B	B
A-BCD	5.23	0.35	7.832	A	A
A-B	-	-	-	-	-
A-C	-	-	-	-	-
D-AB	15.83	1.06	14.284	B	B
D-BC	6.82	0.45	15.150	C	B
C-ABD	1.53	0.10	6.866	A	A
C-D	-	-	-	-	-
C-A	-	-	-	-	-

### Queueing Delay results: (08:00-08:15)

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-CD	14.36	0.96	16.790	C	B
B-AD	11.96	0.80	19.513	C	B
A-BCD	7.06	0.47	8.550	A	A
A-B	-	-	-	-	-
A-C	-	-	-	-	-
D-AB	31.30	2.09	24.822	C	C
D-BC	13.05	0.87	25.461	D	C
C-ABD	1.96	0.13	7.202	A	A
C-D	-	-	-	-	-
C-A	-	-	-	-	-

### Queueing Delay results: (08:15-08:30)

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-CD	43.46	2.90	45.016	E	D
B-AD	32.65	2.18	52.089	F	D
A-BCD	10.21	0.68	9.732	A	A
A-B	-	-	-	-	-
A-C	-	-	-	-	-
D-AB	126.34	8.42	93.427	F	F
D-BC	67.82	4.52	139.120	F	F
C-ABD	2.63	0.18	7.694	A	A
C-D	-	-	-	-	-
C-A	-	-	-	-	-

**Queueing Delay results: (08:30-08:45)**

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-CD	66.88	4.46	67.547	F	E
B-AD	50.22	3.35	81.069	F	F
A-BCD	10.44	0.70	9.776	A	A
A-B	-	-	-	-	-
A-C	-	-	-	-	-
D-AB	267.53	17.84	181.249	F	F
D-BC	129.59	8.64	235.951	F	F
C-ABD	2.65	0.18	7.703	A	A
C-D	-	-	-	-	-
C-A	-	-	-	-	-

**Queueing Delay results: (08:45-09:00)**

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-CD	23.97	1.60	22.606	C	C
B-AD	19.22	1.28	26.201	D	C
A-BCD	7.32	0.49	8.606	A	A
A-B	-	-	-	-	-
A-C	-	-	-	-	-
D-AB	221.66	14.78	140.016	F	F
D-BC	110.88	7.39	183.448	F	F
C-ABD	2.00	0.13	7.217	A	A
C-D	-	-	-	-	-
C-A	-	-	-	-	-

**Queueing Delay results: (09:00-09:15)**

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-CD	10.07	0.67	12.355	B	B
B-AD	9.07	0.60	14.776	B	B
A-BCD	5.45	0.36	7.901	A	A
A-B	-	-	-	-	-
A-C	-	-	-	-	-
D-AB	27.69	1.85	19.942	C	B
D-BC	13.16	0.88	20.412	C	C
C-ABD	1.57	0.10	6.887	A	A
C-D	-	-	-	-	-
C-A	-	-	-	-	-

# Traffic Flows - 2023 with development, PM

## Data Errors and Warnings

Severity	Area	Item	Description
Warning	Minor arm flare	Arm B - Minor Arm Geometry	Is flare very short? Estimated flare length is zero but has been increased to 1 because a zero flare length is not allowed.
Warning	Minor arm flare	Arm D - Minor Arm Geometry	Is flare very short? Estimated flare length is zero but has been increased to 1 because a zero flare length is not allowed.

## Analysis Set Details

Name	Roundabout Capacity Model	Description	Include In Report	Use Specific Demand Set(s)	Specific Demand Set (s)	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
Traffic Flows	N/A		✓				100.000	100.000	

## Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Results For Central Hour Only	Single Time Segment Only	Locked	Run Automatically	Use Relationship
2023 with development, PM	2023 with development	PM		ONE HOUR	16:45	18:15	90	15				✓	

# Junction Network

## Junctions

Junction	Name	Junction Type	Major Road Direction	Arm Order	Do Geometric Delay	Junction Delay (s)	Junction LOS
1	Rearsby Rd-Queniborough Rd-Barkby Rd-Syston Rd crossroads	Crossroads	Two-way	A,B,C,D		101.14	F

## Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

# Arms

## Arms

Arm	Arm	Name	Description	Arm Type
A	A	Queniborough Road		Major
B	B	Barkby Road		Minor
C	C	Syston Road		Major
D	D	Rearsby Road		Minor

## 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)
A	6.20		0.00		2.20	150.00	✓	1.00
C	6.20		0.00		2.20	150.00	✓	1.00

Geometries for Arm C are measured opposite Arm B. Geometries for Arm A (if relevant) are measured opposite Arm D.

## Minor Arm Geometry

Arm	Minor Arm Type	Lane Width (m)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
B	One lane plus flare				10.00	3.90	3.10	3.10	3.10	✓	1.00	21	52
D	One lane plus flare				10.00	3.80	3.20	3.00	3.00	✓	1.00	49	22

## Slope / Intercept / Capacity

### Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (Veh/hr)	Slope for A-B	Slope for A-C	Slope for A-D	Slope for B-A	Slope for B-C	Slope for B-D	Slope for C-A	Slope for C-B	Slope for C-D	Slope for D-A	Slope for D-B	Slope for D-C
1	A-D	660.830	-	-	-	-	-	-	0.254	0.363	0.254	-	-	-
1	B-A	542.557	0.098	0.248	0.248	-	-	-	0.156	0.354	-	0.248	0.248	0.124
1	B-C	788.161	0.120	0.303	-	-	-	-	-	-	-	-	-	-
1	B-D, nearside lane	611.983	0.110	0.279	0.279	-	-	-	0.176	0.399	0.176	-	-	-
1	B-D, offside lane	542.557	0.098	0.248	0.248	-	-	-	0.156	0.354	0.156	-	-	-
1	C-B	660.830	0.254	0.254	0.363	-	-	-	-	-	-	-	-	-
1	D-A	765.493	-	-	-	-	-	-	0.294	-	0.116	-	-	-
1	D-B, nearside lane	605.206	0.174	0.174	0.395	-	-	-	0.276	0.276	0.109	-	-	-
1	D-B, offside lane	534.530	0.153	0.153	0.348	-	-	-	0.244	0.244	0.097	-	-	-
1	D-C	534.530	-	0.153	0.348	0.122	0.244	0.244	0.244	0.244	0.097	-	-	-

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 (Veh/hr)	Flow Scaling Factor (%)
A	ONE HOUR	✓	308.00	100.000
B	ONE HOUR	✓	402.00	100.000
C	ONE HOUR	✓	188.00	100.000
D	ONE HOUR	✓	547.00	100.000

# Turning Proportions

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

		To			
		A	B	C	D
From	A	0.000	34.000	82.000	192.000
	B	36.000	0.000	45.000	321.000
	C	100.000	72.000	0.000	16.000
	D	215.000	314.000	18.000	0.000

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

		To			
		A	B	C	D
From	A	0.00	0.11	0.27	0.62
	B	0.09	0.00	0.11	0.80
	C	0.53	0.38	0.00	0.09
	D	0.39	0.57	0.03	0.00

# Vehicle Mix

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

		To			
		A	B	C	D
From	A	1.000	1.029	1.000	1.042
	B	1.000	1.000	1.023	1.009
	C	1.010	1.000	1.000	1.188
	D	1.009	1.006	1.222	1.000

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

		To			
		A	B	C	D
From	A	0.0	2.9	0.0	4.2
	B	0.0	0.0	2.3	0.9
	C	1.0	0.0	0.0	18.8
	D	0.9	0.6	22.2	0.0

# Results

## Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)	Total Queueing Delay (Veh-min)	Average Queueing Delay (s)	Rate Of Queueing Delay (Veh-min/min)	Inclusive Total Queueing Delay (Veh-min)	Inclusive Average Queueing Delay (s)
B-CD	0.74	37.76	2.53	E	206.47	309.71	107.58	20.84	1.20	107.60	20.84
B-AD	0.69	41.97	2.06	E	162.41	243.61	93.30	22.98	1.04	93.32	22.98
A-BCD	0.38	9.55	0.63	A	187.20	280.79	42.02	8.98	0.47	42.03	8.98
A-B	-	-	-	-	27.97	41.96	-	-	-	-	-
A-C	-	-	-	-	67.46	101.19	-	-	-	-	-
D-AB	1.07	178.79	21.89	F	351.83	527.74	672.18	76.42	7.47	672.29	76.43
D-BC	1.04	227.64	10.62	F	150.11	225.17	356.10	94.89	3.96	356.13	94.90
C-ABD	0.15	7.53	0.17	A	67.66	101.50	12.27	7.25	0.14	12.27	7.25
C-D	-	-	-	-	14.46	21.69	-	-	-	-	-
C-A	-	-	-	-	90.39	135.58	-	-	-	-	-

## Main Results for each time segment

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

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
B-CD	163.94	40.98	161.90	0.00	480.18	0.341	0.00	0.51	11.243	B
B-AD	138.71	34.68	136.71	0.00	410.52	0.338	0.00	0.50	13.057	B
A-BCD	150.04	37.51	148.71	0.00	608.17	0.247	0.00	0.33	7.814	A
A-B	23.99	6.00	23.99	0.00	-	-	-	-	-	-
A-C	57.86	14.46	57.86	0.00	-	-	-	-	-	-
D-AB	285.38	71.34	280.91	0.00	532.68	0.536	0.00	1.12	14.064	B
D-BC	126.43	31.61	124.33	0.00	361.19	0.350	0.00	0.52	15.073	C
C-ABD	54.96	13.74	54.55	0.00	589.23	0.093	0.00	0.10	6.729	A
C-D	11.94	2.99	11.94	0.00	-	-	-	-	-	-
C-A	74.64	18.66	74.64	0.00	-	-	-	-	-	-

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

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
B-CD	199.67	49.92	198.40	0.00	434.28	0.460	0.51	0.83	15.179	C
B-AD	161.72	40.43	160.68	0.00	367.87	0.440	0.50	0.76	17.285	C
A-BCD	182.13	45.53	181.71	0.00	606.71	0.300	0.33	0.43	8.466	A
A-B	27.77	6.94	27.77	0.00	-	-	-	-	-	-
A-C	66.98	16.75	66.98	0.00	-	-	-	-	-	-
D-AB	342.88	85.72	338.25	0.00	481.28	0.712	1.12	2.27	24.397	C
D-BC	148.86	37.21	146.90	0.00	287.88	0.517	0.52	1.01	25.178	D
C-ABD	66.08	16.52	65.97	0.00	576.31	0.115	0.10	0.13	7.051	A
C-D	14.20	3.55	14.20	0.00	-	-	-	-	-	-
C-A	88.73	22.18	88.73	0.00	-	-	-	-	-	-

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

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
B-CD	253.16	63.29	247.72	0.00	356.73	0.710	0.83	2.19	31.583	D
B-AD	189.45	47.36	185.35	0.00	284.86	0.665	0.76	1.79	34.828	D
A-BCD	229.42	57.35	228.67	0.00	606.78	0.378	0.43	0.62	9.511	A
A-B	32.15	8.04	32.15	0.00	-	-	-	-	-	-
A-C	77.55	19.39	77.55	0.00	-	-	-	-	-	-
D-AB	424.39	106.10	382.51	0.00	406.02	1.045	2.27	12.74	92.688	F
D-BC	177.87	44.47	152.73	0.00	170.40	1.044	1.01	7.30	133.397	F
C-ABD	81.95	20.49	81.78	0.00	560.05	0.146	0.13	0.17	7.524	A
C-D	17.25	4.31	17.25	0.00	-	-	-	-	-	-
C-A	107.79	26.95	107.79	0.00	-	-	-	-	-	-

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

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
B-CD	255.60	63.90	254.23	0.00	347.28	0.736	2.19	2.53	37.761	E
B-AD	187.01	46.75	185.93	0.00	269.92	0.693	1.79	2.06	41.967	E
A-BCD	229.42	57.35	229.39	0.00	606.50	0.378	0.62	0.63	9.550	A
A-B	32.15	8.04	32.15	0.00	-	-	-	-	-	-
A-C	77.54	19.39	77.54	0.00	-	-	-	-	-	-
D-AB	426.59	106.65	390.02	0.00	397.27	1.074	12.74	21.89	178.793	F
D-BC	175.67	43.92	162.41	0.00	170.42	1.031	7.30	10.61	227.644	F
C-ABD	81.95	20.49	81.95	0.00	559.90	0.146	0.17	0.17	7.531	A
C-D	17.25	4.31	17.25	0.00	-	-	-	-	-	-
C-A	107.79	26.95	107.79	0.00	-	-	-	-	-	-

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

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
B-CD	201.96	50.49	208.32	0.00	424.43	0.476	2.53	0.94	17.112	C
B-AD	159.43	39.86	164.20	0.00	350.90	0.454	2.06	0.86	19.735	C
A-BCD	182.13	45.53	182.85	0.00	606.21	0.300	0.63	0.45	8.514	A
A-B	27.77	6.94	27.77	0.00	-	-	-	-	-	-
A-C	66.98	16.74	66.98	0.00	-	-	-	-	-	-
D-AB	345.36	86.34	406.00	0.00	424.37	0.814	21.89	6.73	137.415	F
D-BC	146.38	36.59	167.41	0.00	185.11	0.791	10.61	5.36	176.211	F
C-ABD	66.08	16.52	66.25	0.00	576.08	0.115	0.17	0.13	7.064	A
C-D	14.20	3.55	14.20	0.00	-	-	-	-	-	-
C-A	88.73	22.18	88.73	0.00	-	-	-	-	-	-

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

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
B-CD	164.52	41.13	166.12	0.00	476.29	0.345	0.94	0.54	11.666	B
B-AD	138.13	34.53	139.47	0.00	404.87	0.341	0.86	0.53	13.629	B
A-BCD	150.04	37.51	150.48	0.00	607.83	0.247	0.45	0.34	7.878	A
A-B	23.99	6.00	23.99	0.00	-	-	-	-	-	-
A-C	57.85	14.46	57.85	0.00	-	-	-	-	-	-
D-AB	286.35	71.59	307.95	0.00	511.23	0.560	6.73	1.33	19.444	C
D-BC	125.46	31.37	144.47	0.00	339.30	0.370	5.36	0.61	20.209	C
C-ABD	54.96	13.74	55.07	0.00	588.64	0.093	0.13	0.10	6.748	A
C-D	11.94	2.99	11.94	0.00	-	-	-	-	-	-
C-A	74.63	18.66	74.63	0.00	-	-	-	-	-	-

**Queueing Delay Results for each time segment**
**Queueing Delay results: (16:45-17:00)**

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-CD	7.21	0.48	11.243	B	B
B-AD	7.03	0.47	13.057	B	B
A-BCD	4.89	0.33	7.814	A	A
A-B	-	-	-	-	-
A-C	-	-	-	-	-
D-AB	15.42	1.03	14.064	B	B
D-BC	7.34	0.49	15.073	C	B
C-ABD	1.53	0.10	6.729	A	A
C-D	-	-	-	-	-
C-A	-	-	-	-	-



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

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-CD	11.72	0.78	15.179	C	B
B-AD	10.78	0.72	17.285	C	B
A-BCD	6.53	0.44	8.466	A	A
A-B	-	-	-	-	-
A-C	-	-	-	-	-
D-AB	30.48	2.03	24.397	C	C
D-BC	13.95	0.93	25.178	D	C
C-ABD	1.95	0.13	7.051	A	A
C-D	-	-	-	-	-
C-A	-	-	-	-	-

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

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-CD	28.48	1.90	31.583	D	C
B-AD	23.48	1.57	34.828	D	C
A-BCD	9.29	0.62	9.511	A	A
A-B	-	-	-	-	-
A-C	-	-	-	-	-
D-AB	124.15	8.28	92.688	F	F
D-BC	70.75	4.72	133.397	F	F
C-ABD	2.60	0.17	7.524	A	A
C-D	-	-	-	-	-
C-A	-	-	-	-	-

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

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-CD	36.08	2.41	37.761	E	D
B-AD	29.38	1.96	41.967	E	D
A-BCD	9.48	0.63	9.550	A	A
A-B	-	-	-	-	-
A-C	-	-	-	-	-
D-AB	261.35	17.42	178.793	F	F
D-BC	135.34	9.02	227.644	F	F
C-ABD	2.63	0.18	7.531	A	A
C-D	-	-	-	-	-
C-A	-	-	-	-	-

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

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-CD	15.62	1.04	17.112	C	B
B-AD	14.27	0.95	19.735	C	B
A-BCD	6.75	0.45	8.514	A	A
A-B	-	-	-	-	-
A-C	-	-	-	-	-
D-AB	214.16	14.28	137.415	F	F
D-BC	114.78	7.65	176.211	F	F
C-ABD	1.99	0.13	7.064	A	A
C-D	-	-	-	-	-
C-A	-	-	-	-	-

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

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-CD	8.47	0.56	11.666	B	B
B-AD	8.36	0.56	13.629	B	B
A-BCD	5.09	0.34	7.878	A	A
A-B	-	-	-	-	-
A-C	-	-	-	-	-
D-AB	26.64	1.78	19.444	C	B
D-BC	13.85	0.92	20.209	C	C
C-ABD	1.57	0.10	6.748	A	A
C-D	-	-	-	-	-
C-A	-	-	-	-	-



<b>Junctions 8</b>
<b>PICADY 8 - Priority Intersection Module</b>
Version: 8.0.4.487 [15039,24/03/2014] © Copyright TRL Limited, 2018
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**Filename:** Rearsby Road-Queniborough Road-Barkby Road-Syston Road committed development x 4.arc8

**Path:** C:\Users\ADCteam\Dropbox\~ JN8 TEMP\ADC1659

**Report generation date:** 24/01/2018 14:36:11

- » Traffic Flows - 2023 without development, AM
- » Traffic Flows - 2023 without development, PM
- » Traffic Flows - 2023 with development, AM
- » Traffic Flows - 2023 with development, PM

### Summary of junction performance

	AM			PM		
	Queue (Veh)	Delay (s)	RFC	Queue (Veh)	Delay (s)	RFC
<b>Traffic Flows - 2023 with development</b>						
<b>Stream B-CD</b>	4.97	66.78	0.87	2.50	37.41	0.73
<b>Stream B-AD</b>	3.74	79.81	0.84	2.03	41.42	0.69
<b>Stream A-BCD</b>	0.69	9.78	0.40	0.63	9.55	0.38
<b>Stream A-B</b>	-	-	-	-	-	-
<b>Stream A-C</b>	-	-	-	-	-	-
<b>Stream D-AB</b>	18.13	149.30	1.04	16.12	135.77	1.02
<b>Stream D-BC</b>	8.73	198.96	1.03	8.54	179.84	1.01
<b>Stream C-ABD</b>	0.18	7.70	0.15	0.17	7.53	0.15
<b>Stream C-D</b>	-	-	-	-	-	-
<b>Stream C-A</b>	-	-	-	-	-	-
<b>Traffic Flows - 2023 without development</b>						
<b>Stream B-CD</b>	1.84	27.70	0.66	1.68	26.42	0.64
<b>Stream B-AD</b>	1.43	32.89	0.60	1.41	29.14	0.60
<b>Stream A-BCD</b>	0.69	9.77	0.40	0.62	9.51	0.38
<b>Stream A-B</b>	-	-	-	-	-	-
<b>Stream A-C</b>	-	-	-	-	-	-
<b>Stream D-AB</b>	16.11	135.73	1.02	6.99	67.94	0.91
<b>Stream D-BC</b>	8.05	185.19	1.01	2.12	51.80	0.71
<b>Stream C-ABD</b>	0.17	7.68	0.14	0.16	7.42	0.13
<b>Stream C-D</b>	-	-	-	-	-	-
<b>Stream C-A</b>	-	-	-	-	-	-

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

"D1 - 2023 without development, AM" model duration: 07:45 - 09:15

"D2 - 2023 without development, PM" model duration: 16:45 - 18:15

"D3 - 2023 with development, AM" model duration: 07:45 - 09:15

"D4 - 2023 with development, PM" model duration: 16:45 - 18:15

Run using Junctions 8.0.4.487 at 24/01/2018 14:35:57

## File summary

<b>Title</b>	Rearsby Rd-Queniborough Rd-Barkby Rd-Syston Rd PICADY
<b>Location</b>	Queniborough
<b>Site Number</b>	
<b>Date</b>	21/12/2017
<b>Version</b>	
<b>Status</b>	(new file)
<b>Identifier</b>	
<b>Client</b>	
<b>Jobnumber</b>	ADC1659
<b>Enumerator</b>	ADCteam
<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	Veh	Veh	perHour	s	-Min	perMin

# Traffic Flows - 2023 without development, AM

## Data Errors and Warnings

Severity	Area	Item	Description
Warning	Minor arm flare	Arm B - Minor Arm Geometry	Is flare very short? Estimated flare length is zero but has been increased to 1 because a zero flare length is not allowed.

## Analysis Set Details

Name	Roundabout Capacity Model	Description	Include In Report	Use Specific Demand Set(s)	Specific Demand Set (s)	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
Traffic Flows	N/A		✓				100.000	100.000	

## Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Results For Central Hour Only	Single Time Segment Only	Locked	Run Automatically	Use Relationship
2023 without development, AM	2023 without development	AM		ONE HOUR	07:45	09:15	90	15				✓	

# Junction Network

## Junctions

Junction	Name	Junction Type	Major Road Direction	Arm Order	Do Geometric Delay	Junction Delay (s)	Junction LOS
1	Rearsby Rd-Queniborough Rd-Barkby Rd-Syston Rd crossroads	Crossroads	Two-way	A,B,C,D		78.57	F

## Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

# Arms

## Arms

Arm	Arm	Name	Description	Arm Type
A	A	Queniborough Road		Major
B	B	Barkby Road		Minor
C	C	Syston Road		Major
D	D	Rearsby Road		Minor

## 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)
A	6.20		0.00		2.20	150.00	✓	1.00
C	6.20		0.00		2.20	150.00	✓	1.00

*Geometries for Arm C are measured opposite Arm B. Geometries for Arm A (if relevant) are measured opposite Arm D.*

## Minor Arm Geometry

Arm	Minor Arm Type	Lane Width (m)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
B	One lane plus flare				10.00	3.90	3.10	3.10	3.10	✓	1.00	21	52
D	One lane plus flare				10.00	6.40	6.00	6.00	6.00		6.00	49	22

## Slope / Intercept / Capacity

### Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (Veh/hr)	Slope for A-B	Slope for A-C	Slope for A-D	Slope for B-A	Slope for B-C	Slope for B-D	Slope for C-A	Slope for C-B	Slope for C-D	Slope for D-A	Slope for D-B	Slope for D-C
1	A-D	660.830	-	-	-	-	-	-	0.254	0.363	0.254	-	-	-
1	B-A	542.557	0.098	0.248	0.248	-	-	-	0.156	0.354	-	0.248	0.248	0.124
1	B-C	788.161	0.120	0.303	-	-	-	-	-	-	-	-	-	-
1	B-D, nearside lane	611.983	0.110	0.279	0.279	-	-	-	0.176	0.399	0.176	-	-	-
1	B-D, offside lane	542.557	0.098	0.248	0.248	-	-	-	0.156	0.354	0.156	-	-	-
1	C-B	660.830	0.254	0.254	0.363	-	-	-	-	-	-	-	-	-
1	D-A	665.882	-	-	-	-	-	-	0.256	-	0.101	-	-	-
1	D-B, nearside lane	526.452	0.151	0.151	0.343	-	-	-	0.240	0.240	0.095	-	-	-
1	D-B, offside lane	526.452	0.151	0.151	0.343	-	-	-	0.240	0.240	0.095	-	-	-
1	D-C	526.452	-	0.151	0.343	0.120	0.240	0.240	0.240	0.240	0.095	-	-	-

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 (Veh/hr)	Flow Scaling Factor (%)
A	ONE HOUR	✓	332.00	100.000
B	ONE HOUR	✓	375.00	100.000
C	ONE HOUR	✓	212.00	100.000
D	ONE HOUR	✓	534.00	100.000

## Turning Proportions

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

		To			
		A	B	C	D
From	A	0.000	44.000	84.000	204.000
	B	37.000	0.000	67.000	271.000
	C	104.000	69.000	0.000	39.000
	D	232.000	287.000	15.000	0.000

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

		To			
		A	B	C	D
From	A	0.00	0.13	0.25	0.61
	B	0.10	0.00	0.18	0.72
	C	0.49	0.33	0.00	0.18
	D	0.43	0.54	0.03	0.00

## Vehicle Mix

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

		To			
		A	B	C	D
From	A	1.000	1.000	1.060	1.020
	B	1.028	1.000	1.015	1.015
	C	1.048	1.014	1.000	1.077
	D	1.034	1.010	1.267	1.000

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

		To			
		A	B	C	D
From	A	0.0	0.0	6.0	2.0
	B	2.8	0.0	1.5	1.5
	C	4.8	1.4	0.0	7.7
	D	3.4	1.0	26.7	0.0

## Results

### Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)	Total Queueing Delay (Veh-min)	Average Queueing Delay (s)	Rate Of Queueing Delay (Veh-min/min)	Inclusive Total Queueing Delay (Veh-min)	Inclusive Average Queueing Delay (s)
B-CD	0.66	27.70	1.84	D	201.81	302.71	86.95	17.24	0.97	86.97	17.24
B-AD	0.60	32.89	1.43	D	142.30	213.45	72.08	20.26	0.80	72.09	20.26
A-BCD	0.40	9.77	0.69	A	200.33	300.49	45.65	9.11	0.51	45.65	9.12
A-B	-	-	-	-	35.86	53.79	-	-	-	-	-
A-C	-	-	-	-	68.46	102.69	-	-	-	-	-
D-AB	1.02	135.73	16.11	F	352.78	529.17	508.30	57.63	5.65	508.45	57.65
D-BC	1.01	185.19	8.05	F	137.23	205.84	217.87	63.51	2.42	217.89	63.51
C-ABD	0.14	7.68	0.17	A	65.27	97.91	12.12	7.43	0.13	12.12	7.43
C-D	-	-	-	-	35.25	52.88	-	-	-	-	-
C-A	-	-	-	-	94.01	141.01	-	-	-	-	-

## Main Results for each time segment

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

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
B-CD	160.75	40.19	158.89	0.00	500.18	0.321	0.00	0.47	10.493	B
B-AD	121.57	30.39	119.85	0.00	399.66	0.304	0.00	0.43	12.790	B
A-BCD	160.05	40.01	158.64	0.00	617.15	0.259	0.00	0.35	7.829	A
A-B	30.90	7.73	30.90	0.00	-	-	-	-	-	-
A-C	59.00	14.75	59.00	0.00	-	-	-	-	-	-
D-AB	286.97	71.74	281.41	0.00	484.08	0.593	0.00	1.39	17.328	C
D-BC	115.05	28.76	113.45	0.00	396.28	0.290	0.00	0.40	12.660	B
C-ABD	52.87	13.22	52.46	0.00	577.32	0.092	0.00	0.10	6.855	A
C-D	29.11	7.28	29.11	0.00	-	-	-	-	-	-
C-A	77.63	19.41	77.63	0.00	-	-	-	-	-	-

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

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
B-CD	195.52	48.88	194.47	0.00	456.94	0.428	0.47	0.73	13.660	B
B-AD	141.60	35.40	140.77	0.00	358.66	0.395	0.43	0.63	16.456	C
A-BCD	194.71	48.68	194.24	0.00	615.04	0.317	0.35	0.47	8.545	A
A-B	35.67	8.92	35.67	0.00	-	-	-	-	-	-
A-C	68.09	17.02	68.09	0.00	-	-	-	-	-	-
D-AB	344.36	86.09	339.26	0.00	459.98	0.749	1.39	2.66	28.624	D
D-BC	135.70	33.92	134.88	0.00	353.80	0.384	0.40	0.61	16.377	C
C-ABD	63.69	15.92	63.58	0.00	564.20	0.113	0.10	0.13	7.187	A
C-D	34.61	8.65	34.61	0.00	-	-	-	-	-	-
C-A	92.29	23.07	92.29	0.00	-	-	-	-	-	-

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

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
B-CD	247.35	61.84	243.55	0.00	384.27	0.644	0.73	1.68	24.935	C
B-AD	165.54	41.38	162.83	0.00	282.86	0.585	0.63	1.31	29.242	D
A-BCD	246.22	61.55	245.37	0.00	614.71	0.401	0.47	0.68	9.725	A
A-B	41.02	10.25	41.02	0.00	-	-	-	-	-	-
A-C	78.30	19.58	78.30	0.00	-	-	-	-	-	-
D-AB	425.26	106.32	394.75	0.00	425.23	1.000	2.66	10.29	79.291	F
D-BC	162.68	40.67	140.45	0.00	161.05	1.010	0.60	6.16	122.129	F
C-ABD	79.26	19.82	79.09	0.00	547.95	0.145	0.13	0.17	7.674	A
C-D	42.04	10.51	42.04	0.00	-	-	-	-	-	-
C-A	112.11	28.03	112.11	0.00	-	-	-	-	-	-



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

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
B-CD	249.10	62.27	248.47	0.00	377.30	0.660	1.68	1.84	27.696	D
B-AD	163.78	40.95	163.30	0.00	271.87	0.602	1.31	1.43	32.888	D
A-BCD	246.22	61.56	246.19	0.00	614.81	0.400	0.68	0.69	9.769	A
A-B	41.01	10.25	41.01	0.00	-	-	-	-	-	-
A-C	78.30	19.58	78.30	0.00	-	-	-	-	-	-
D-AB	426.95	106.74	403.67	0.00	417.02	1.024	10.29	16.11	135.730	F
D-BC	161.00	40.25	153.46	0.00	165.38	0.974	6.16	8.05	185.189	F
C-ABD	79.27	19.82	79.26	0.00	547.82	0.145	0.17	0.17	7.683	A
C-D	42.04	10.51	42.04	0.00	-	-	-	-	-	-
C-A	112.11	28.03	112.11	0.00	-	-	-	-	-	-

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

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
B-CD	197.02	49.26	201.17	0.00	450.06	0.438	1.84	0.80	14.693	B
B-AD	140.09	35.02	143.02	0.00	346.11	0.405	1.43	0.70	17.970	C
A-BCD	194.71	48.68	195.52	0.00	615.22	0.316	0.69	0.48	8.601	A
A-B	35.66	8.92	35.66	0.00	-	-	-	-	-	-
A-C	68.09	17.02	68.09	0.00	-	-	-	-	-	-
D-AB	345.99	86.50	393.99	0.00	448.46	0.772	16.11	4.11	79.800	F
D-BC	134.06	33.52	162.28	0.00	277.68	0.483	8.05	0.99	38.031	E
C-ABD	63.69	15.92	63.86	0.00	564.03	0.113	0.17	0.13	7.205	A
C-D	34.61	8.65	34.61	0.00	-	-	-	-	-	-
C-A	92.29	23.07	92.29	0.00	-	-	-	-	-	-

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

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
B-CD	161.09	40.27	162.34	0.00	497.16	0.324	0.80	0.49	10.791	B
B-AD	121.23	30.31	122.23	0.00	396.19	0.306	0.70	0.45	13.188	B
A-BCD	160.05	40.01	160.54	0.00	617.07	0.259	0.48	0.36	7.898	A
A-B	30.90	7.73	30.90	0.00	-	-	-	-	-	-
A-C	58.99	14.75	58.99	0.00	-	-	-	-	-	-
D-AB	287.15	71.79	297.42	0.00	482.16	0.596	4.11	1.54	20.449	C
D-BC	114.88	28.72	117.16	0.00	393.07	0.292	0.99	0.42	13.158	B
C-ABD	52.87	13.22	52.98	0.00	576.74	0.092	0.13	0.10	6.875	A
C-D	29.11	7.28	29.11	0.00	-	-	-	-	-	-
C-A	77.62	19.41	77.62	0.00	-	-	-	-	-	-

## Queueing Delay Results for each time segment

### Queueing Delay results: (07:45-08:00)

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-CD	6.62	0.44	10.493	B	B
B-AD	6.05	0.40	12.790	B	B
A-BCD	5.23	0.35	7.829	A	A
A-B	-	-	-	-	-
A-C	-	-	-	-	-
D-AB	18.81	1.25	17.328	C	B
D-BC	5.67	0.38	12.660	B	B
C-ABD	1.50	0.10	6.855	A	A
C-D	-	-	-	-	-
C-A	-	-	-	-	-

### Queueing Delay results: (08:00-08:15)

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-CD	10.41	0.69	13.660	B	B
B-AD	9.04	0.60	16.456	C	B
A-BCD	7.05	0.47	8.545	A	A
A-B	-	-	-	-	-
A-C	-	-	-	-	-
D-AB	35.35	2.36	28.624	D	C
D-BC	8.63	0.58	16.377	C	B
C-ABD	1.93	0.13	7.187	A	A
C-D	-	-	-	-	-
C-A	-	-	-	-	-

### Queueing Delay results: (08:15-08:30)

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-CD	22.60	1.51	24.935	C	C
B-AD	17.73	1.18	29.242	D	C
A-BCD	10.19	0.68	9.725	A	A
A-B	-	-	-	-	-
A-C	-	-	-	-	-
D-AB	107.59	7.17	79.291	F	E
D-BC	60.25	4.02	122.129	F	F
C-ABD	2.58	0.17	7.674	A	A
C-D	-	-	-	-	-
C-A	-	-	-	-	-

**Queueing Delay results: (08:30-08:45)**

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-CD	26.72	1.78	27.696	D	C
B-AD	20.84	1.39	32.888	D	C
A-BCD	10.41	0.69	9.769	A	A
A-B	-	-	-	-	-
A-C	-	-	-	-	-
D-AB	200.07	13.34	135.730	F	F
D-BC	107.39	7.16	185.189	F	F
C-ABD	2.61	0.17	7.683	A	A
C-D	-	-	-	-	-
C-A	-	-	-	-	-

**Queueing Delay results: (08:45-09:00)**

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-CD	12.95	0.86	14.693	B	B
B-AD	11.34	0.76	17.970	C	B
A-BCD	7.31	0.49	8.601	A	A
A-B	-	-	-	-	-
A-C	-	-	-	-	-
D-AB	119.95	8.00	79.800	F	E
D-BC	29.13	1.94	38.031	E	D
C-ABD	1.96	0.13	7.205	A	A
C-D	-	-	-	-	-
C-A	-	-	-	-	-

**Queueing Delay results: (09:00-09:15)**

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-CD	7.65	0.51	10.791	B	B
B-AD	7.07	0.47	13.188	B	B
A-BCD	5.45	0.36	7.898	A	A
A-B	-	-	-	-	-
A-C	-	-	-	-	-
D-AB	26.56	1.77	20.449	C	C
D-BC	6.73	0.45	13.158	B	B
C-ABD	1.54	0.10	6.875	A	A
C-D	-	-	-	-	-
C-A	-	-	-	-	-

# Traffic Flows - 2023 without development, PM

## Data Errors and Warnings

Severity	Area	Item	Description
Warning	Minor arm flare	Arm B - Minor Arm Geometry	Is flare very short? Estimated flare length is zero but has been increased to 1 because a zero flare length is not allowed.

## Analysis Set Details

Name	Roundabout Capacity Model	Description	Include In Report	Use Specific Demand Set(s)	Specific Demand Set (s)	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
Traffic Flows	N/A		✓				100.000	100.000	

## Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Results For Central Hour Only	Single Time Segment Only	Locked	Run Automatically	Use Relationship
2023 without development, PM	2023 without development	PM		ONE HOUR	16:45	18:15	90	15				✓	

# Junction Network

## Junctions

Junction	Name	Junction Type	Major Road Direction	Arm Order	Do Geometric Delay	Junction Delay (s)	Junction LOS
1	Rearsby Rd-Queniborough Rd-Barkby Rd-Syston Rd crossroads	Crossroads	Two-way	A,B,C,D		38.73	E

## Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

# Arms

## Arms

Arm	Arm	Name	Description	Arm Type
A	A	Queniborough Road		Major
B	B	Barkby Road		Minor
C	C	Syston Road		Major
D	D	Rearsby Road		Minor

## 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)
A	6.20		0.00		2.20	150.00	✓	1.00
C	6.20		0.00		2.20	150.00	✓	1.00

Geometries for Arm C are measured opposite Arm B. Geometries for Arm A (if relevant) are measured opposite Arm D.

## Minor Arm Geometry

Arm	Minor Arm Type	Lane Width (m)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
B	One lane plus flare				10.00	3.90	3.10	3.10	3.10	✓	1.00	21	52
D	One lane plus flare				10.00	6.40	6.00	6.00	6.00		6.00	49	22

## Slope / Intercept / Capacity

### Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (Veh/hr)	Slope for A-B	Slope for A-C	Slope for A-D	Slope for B-A	Slope for B-C	Slope for B-D	Slope for C-A	Slope for C-B	Slope for C-D	Slope for D-A	Slope for D-B	Slope for D-C
1	A-D	660.830	-	-	-	-	-	-	0.254	0.363	0.254	-	-	-
1	B-A	542.557	0.098	0.248	0.248	-	-	-	0.156	0.354	-	0.248	0.248	0.124
1	B-C	788.161	0.120	0.303	-	-	-	-	-	-	-	-	-	-
1	B-D, nearside lane	611.983	0.110	0.279	0.279	-	-	-	0.176	0.399	0.176	-	-	-
1	B-D, offside lane	542.557	0.098	0.248	0.248	-	-	-	0.156	0.354	0.156	-	-	-
1	C-B	660.830	0.254	0.254	0.363	-	-	-	-	-	-	-	-	-
1	D-A	665.882	-	-	-	-	-	-	0.256	-	0.101	-	-	-
1	D-B, nearside lane	526.452	0.151	0.151	0.343	-	-	-	0.240	0.240	0.095	-	-	-
1	D-B, offside lane	526.452	0.151	0.151	0.343	-	-	-	0.240	0.240	0.095	-	-	-
1	D-C	526.452	-	0.151	0.343	0.120	0.240	0.240	0.240	0.240	0.095	-	-	-

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 (Veh/hr)	Flow Scaling Factor (%)
A	ONE HOUR	✓	303.00	100.000
B	ONE HOUR	✓	380.00	100.000
C	ONE HOUR	✓	182.00	100.000
D	ONE HOUR	✓	505.00	100.000

# Turning Proportions

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

		To			
		A	B	C	D
From	A	0.000	29.000	82.000	192.000
	B	34.000	0.000	43.000	303.000
	C	100.000	66.000	0.000	16.000
	D	215.000	272.000	18.000	0.000

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

		To			
		A	B	C	D
From	A	0.00	0.10	0.27	0.63
	B	0.09	0.00	0.11	0.80
	C	0.55	0.36	0.00	0.09
	D	0.43	0.54	0.04	0.00

# Vehicle Mix

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

		To			
		A	B	C	D
From	A	1.000	1.034	1.000	1.042
	B	1.000	1.000	1.023	1.010
	C	1.010	1.000	1.000	1.188
	D	1.009	1.007	1.222	1.000

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

		To			
		A	B	C	D
From	A	0.0	3.4	0.0	4.2
	B	0.0	0.0	2.3	1.0
	C	1.0	0.0	0.0	18.8
	D	0.9	0.7	22.2	0.0

# Results

## Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)	Total Queueing Delay (Veh-min)	Average Queueing Delay (s)	Rate Of Queueing Delay (Veh-min/min)	Inclusive Total Queueing Delay (Veh-min)	Inclusive Average Queueing Delay (s)
B-CD	0.64	26.42	1.68	D	193.25	289.87	82.31	17.04	0.91	82.33	17.04
B-AD	0.60	29.14	1.41	D	155.45	233.17	73.55	18.93	0.82	73.57	18.93
A-BCD	0.38	9.51	0.62	A	186.65	279.97	41.69	8.93	0.46	41.69	8.93
A-B	-	-	-	-	23.88	35.82	-	-	-	-	-
A-C	-	-	-	-	67.51	101.27	-	-	-	-	-
D-AB	0.91	67.94	6.99	F	330.40	495.61	272.78	33.02	3.03	272.87	33.03
D-BC	0.71	51.80	2.12	F	132.99	199.49	75.58	22.73	0.84	75.59	22.73
C-ABD	0.13	7.42	0.16	A	61.90	92.85	11.07	7.15	0.12	11.07	7.15
C-D	-	-	-	-	14.50	21.75	-	-	-	-	-
C-A	-	-	-	-	90.61	135.92	-	-	-	-	-

## Main Results for each time segment

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

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
B-CD	154.43	38.61	152.61	0.00	487.96	0.316	0.00	0.46	10.679	B
B-AD	131.65	32.91	129.84	0.00	417.44	0.315	0.00	0.45	12.443	B
A-BCD	149.77	37.44	148.46	0.00	609.05	0.246	0.00	0.33	7.795	A
A-B	20.47	5.12	20.47	0.00	-	-	-	-	-	-
A-C	57.88	14.47	57.88	0.00	-	-	-	-	-	-
D-AB	268.87	67.22	264.33	0.00	497.39	0.541	0.00	1.13	15.171	C
D-BC	111.33	27.83	109.84	0.00	405.03	0.275	0.00	0.37	12.136	B
C-ABD	50.32	12.58	49.95	0.00	589.73	0.085	0.00	0.09	6.665	A
C-D	11.96	2.99	11.96	0.00	-	-	-	-	-	-
C-A	74.74	18.69	74.74	0.00	-	-	-	-	-	-

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

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
B-CD	187.68	46.92	186.66	0.00	446.11	0.421	0.46	0.71	13.820	B
B-AD	153.94	38.48	153.09	0.00	379.61	0.406	0.45	0.66	15.831	C
A-BCD	181.66	45.42	181.25	0.00	607.60	0.299	0.33	0.43	8.439	A
A-B	23.70	5.93	23.70	0.00	-	-	-	-	-	-
A-C	67.02	16.76	67.02	0.00	-	-	-	-	-	-
D-AB	322.83	80.71	319.45	0.00	474.63	0.680	1.13	1.98	22.691	C
D-BC	131.15	32.79	130.54	0.00	374.77	0.350	0.37	0.53	14.697	B
C-ABD	60.46	15.12	60.37	0.00	576.78	0.105	0.09	0.12	6.970	A
C-D	14.23	3.56	14.23	0.00	-	-	-	-	-	-
C-A	88.92	22.23	88.92	0.00	-	-	-	-	-	-

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

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
B-CD	236.80	59.20	233.33	0.00	376.96	0.628	0.71	1.58	24.490	C
B-AD	181.58	45.40	178.92	0.00	309.13	0.587	0.66	1.33	27.098	D
A-BCD	228.50	57.13	227.77	0.00	607.54	0.376	0.43	0.61	9.470	A
A-B	27.46	6.87	27.46	0.00	-	-	-	-	-	-
A-C	77.65	19.41	77.65	0.00	-	-	-	-	-	-
D-AB	399.04	99.76	383.66	0.00	442.16	0.902	1.98	5.82	51.509	F
D-BC	156.98	39.24	153.48	0.00	259.74	0.604	0.53	1.40	32.849	D
C-ABD	74.90	18.73	74.75	0.00	560.39	0.134	0.12	0.16	7.410	A
C-D	17.31	4.33	17.31	0.00	-	-	-	-	-	-
C-A	108.17	27.04	108.17	0.00	-	-	-	-	-	-

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

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
B-CD	237.55	59.39	237.15	0.00	372.56	0.638	1.58	1.68	26.419	D
B-AD	180.83	45.21	180.51	0.00	303.36	0.596	1.33	1.41	29.143	D
A-BCD	228.51	57.13	228.48	0.00	607.29	0.376	0.61	0.62	9.505	A
A-B	27.46	6.86	27.46	0.00	-	-	-	-	-	-
A-C	77.64	19.41	77.64	0.00	-	-	-	-	-	-
D-AB	399.39	99.85	394.72	0.00	440.47	0.907	5.82	6.99	67.942	F
D-BC	156.62	39.15	153.73	0.00	219.98	0.712	1.40	2.12	51.801	F
C-ABD	74.91	18.73	74.90	0.00	560.23	0.134	0.16	0.16	7.416	A
C-D	17.31	4.33	17.31	0.00	-	-	-	-	-	-
C-A	108.17	27.04	108.17	0.00	-	-	-	-	-	-



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

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
B-CD	188.34	47.08	192.00	0.00	441.61	0.426	1.68	0.76	14.624	B
B-AD	153.27	38.32	156.06	0.00	374.06	0.410	1.41	0.71	16.712	C
A-BCD	181.67	45.42	182.37	0.00	607.12	0.299	0.62	0.44	8.485	A
A-B	23.70	5.93	23.70	0.00	-	-	-	-	-	-
A-C	67.02	16.76	67.02	0.00	-	-	-	-	-	-
D-AB	323.29	80.82	341.82	0.00	471.71	0.685	6.99	2.36	30.822	D
D-BC	130.70	32.67	136.89	0.00	364.77	0.358	2.12	0.57	16.207	C
C-ABD	60.47	15.12	60.61	0.00	576.54	0.105	0.16	0.12	6.980	A
C-D	14.23	3.56	14.23	0.00	-	-	-	-	-	-
C-A	88.92	22.23	88.92	0.00	-	-	-	-	-	-

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

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
B-CD	154.69	38.67	155.84	0.00	485.21	0.319	0.76	0.48	10.966	B
B-AD	131.39	32.85	132.36	0.00	414.96	0.317	0.71	0.47	12.781	B
A-BCD	149.77	37.44	150.21	0.00	608.74	0.246	0.44	0.34	7.858	A
A-B	20.47	5.12	20.47	0.00	-	-	-	-	-	-
A-C	57.87	14.47	57.87	0.00	-	-	-	-	-	-
D-AB	268.99	67.25	273.52	0.00	496.08	0.542	2.36	1.23	16.486	C
D-BC	111.20	27.80	111.95	0.00	403.47	0.276	0.57	0.39	12.383	B
C-ABD	50.32	12.58	50.42	0.00	589.14	0.085	0.12	0.09	6.686	A
C-D	11.96	2.99	11.96	0.00	-	-	-	-	-	-
C-A	74.74	18.69	74.74	0.00	-	-	-	-	-	-

**Queueing Delay Results for each time segment**
**Queueing Delay results: (16:45-17:00)**

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-CD	6.47	0.43	10.679	B	B
B-AD	6.38	0.43	12.443	B	B
A-BCD	4.86	0.32	7.795	A	A
A-B	-	-	-	-	-
A-C	-	-	-	-	-
D-AB	15.59	1.04	15.171	C	B
D-BC	5.27	0.35	12.136	B	B
C-ABD	1.39	0.09	6.665	A	A
C-D	-	-	-	-	-
C-A	-	-	-	-	-

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

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-CD	10.11	0.67	13.820	B	B
B-AD	9.47	0.63	15.831	C	B
A-BCD	6.49	0.43	8.439	A	A
A-B	-	-	-	-	-
A-C	-	-	-	-	-
D-AB	27.06	1.80	22.691	C	C
D-BC	7.55	0.50	14.697	B	B
C-ABD	1.77	0.12	6.970	A	A
C-D	-	-	-	-	-
C-A	-	-	-	-	-

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

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-CD	21.33	1.42	24.490	C	C
B-AD	18.08	1.21	27.098	D	C
A-BCD	9.20	0.61	9.470	A	A
A-B	-	-	-	-	-
A-C	-	-	-	-	-
D-AB	68.16	4.54	51.509	F	D
D-BC	18.53	1.24	32.849	D	C
C-ABD	2.34	0.16	7.410	A	A
C-D	-	-	-	-	-
C-A	-	-	-	-	-

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

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-CD	24.63	1.64	26.419	D	C
B-AD	20.72	1.38	29.143	D	C
A-BCD	9.38	0.63	9.505	A	A
A-B	-	-	-	-	-
A-C	-	-	-	-	-
D-AB	97.28	6.49	67.942	F	E
D-BC	28.45	1.90	51.801	F	D
C-ABD	2.36	0.16	7.416	A	A
C-D	-	-	-	-	-
C-A	-	-	-	-	-

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

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-CD	12.31	0.82	14.624	B	B
B-AD	11.49	0.77	16.712	C	B
A-BCD	6.70	0.45	8.485	A	A
A-B	-	-	-	-	-
A-C	-	-	-	-	-
D-AB	44.84	2.99	30.822	D	C
D-BC	9.69	0.65	16.207	C	B
C-ABD	1.80	0.12	6.980	A	A
C-D	-	-	-	-	-
C-A	-	-	-	-	-

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

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-CD	7.46	0.50	10.966	B	B
B-AD	7.42	0.49	12.781	B	B
A-BCD	5.06	0.34	7.858	A	A
A-B	-	-	-	-	-
A-C	-	-	-	-	-
D-AB	19.85	1.32	16.486	C	B
D-BC	6.06	0.40	12.383	B	B
C-ABD	1.42	0.09	6.686	A	A
C-D	-	-	-	-	-
C-A	-	-	-	-	-

## Traffic Flows - 2023 with development, AM

### Data Errors and Warnings

Severity	Area	Item	Description
Warning	Minor arm flare	Arm B - Minor Arm Geometry	Is flare very short? Estimated flare length is zero but has been increased to 1 because a zero flare length is not allowed.

### Analysis Set Details

Name	Roundabout Capacity Model	Description	Include In Report	Use Specific Demand Set(s)	Specific Demand Set (s)	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
Traffic Flows	N/A		✓				100.000	100.000	

### Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Results For Central Hour Only	Single Time Segment Only	Locked	Run Automatically	Use Relationship
2023 with development, AM	2023 with development	AM		ONE HOUR	07:45	09:15	90	15				✓	

# Junction Network

## Junctions

Junction	Name	Junction Type	Major Road Direction	Arm Order	Do Geometric Delay	Junction Delay (s)	Junction LOS
1	Rearsby Rd-Queniborough Rd-Barkby Rd-Syston Rd crossroads	Crossroads	Two-way	A,B,C,D		96.98	F

## Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

# Arms

## Arms

Arm	Arm	Name	Description	Arm Type
A	A	Queniborough Road		Major
B	B	Barkby Road		Minor
C	C	Syston Road		Major
D	D	Rearsby Road		Minor

## 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)
A	6.20		0.00		2.20	150.00	✓	1.00
C	6.20		0.00		2.20	150.00	✓	1.00

*Geometries for Arm C are measured opposite Arm B. Geometries for Arm A (if relevant) are measured opposite Arm D.*

## Minor Arm Geometry

Arm	Minor Arm Type	Lane Width (m)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
B	One lane plus flare				10.00	3.90	3.10	3.10	3.10	✓	1.00	21	52
D	One lane plus flare				10.00	6.40	6.00	6.00	6.00		6.00	49	22

## Slope / Intercept / Capacity

### Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (Veh/hr)	Slope for A-B	Slope for A-C	Slope for A-D	Slope for B-A	Slope for B-C	Slope for B-D	Slope for C-A	Slope for C-B	Slope for C-D	Slope for D-A	Slope for D-B	Slope for D-C
1	A-D	660.830	-	-	-	-	-	-	0.254	0.363	0.254	-	-	-
1	B-A	542.557	0.098	0.248	0.248	-	-	-	0.156	0.354	-	0.248	0.248	0.124
1	B-C	788.161	0.120	0.303	-	-	-	-	-	-	-	-	-	-
1	B-D, nearside lane	611.983	0.110	0.279	0.279	-	-	-	0.176	0.399	0.176	-	-	-
1	B-D, offside lane	542.557	0.098	0.248	0.248	-	-	-	0.156	0.354	0.156	-	-	-
1	C-B	660.830	0.254	0.254	0.363	-	-	-	-	-	-	-	-	-
1	D-A	665.882	-	-	-	-	-	-	0.256	-	0.101	-	-	-
1	D-B, nearside lane	526.452	0.151	0.151	0.343	-	-	-	0.240	0.240	0.095	-	-	-
1	D-B, offside lane	526.452	0.151	0.151	0.343	-	-	-	0.240	0.240	0.095	-	-	-
1	D-C	526.452	-	0.151	0.343	0.120	0.240	0.240	0.240	0.240	0.095	-	-	-

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 (Veh/hr)	Flow Scaling Factor (%)
A	ONE HOUR	✓	333.00	100.000
B	ONE HOUR	✓	427.00	100.000
C	ONE HOUR	✓	213.00	100.000
D	ONE HOUR	✓	539.00	100.000

## Turning Proportions

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

		To			
		A	B	C	D
From	A	0.000	45.000	84.000	204.000
	B	43.000	0.000	73.000	311.000
	C	104.000	70.000	0.000	39.000
	D	232.000	292.000	15.000	0.000

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

		To			
		A	B	C	D
From	A	0.00	0.14	0.25	0.61
	B	0.10	0.00	0.17	0.73
	C	0.49	0.33	0.00	0.18
	D	0.43	0.54	0.03	0.00

## Vehicle Mix

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

		To			
		A	B	C	D
From	A	1.000	1.000	1.060	1.020
	B	1.023	1.000	1.014	1.013
	C	1.048	1.014	1.000	1.077
	D	1.034	1.010	1.267	1.000

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

		To			
		A	B	C	D
From	A	0.0	0.0	6.0	2.0
	B	2.3	0.0	1.4	1.3
	C	4.8	1.4	0.0	7.7
	D	3.4	1.0	26.7	0.0

## Results

### Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)	Total Queueing Delay (Veh-min)	Average Queueing Delay (s)	Rate Of Queueing Delay (Veh-min/min)	Inclusive Total Queueing Delay (Veh-min)	Inclusive Average Queueing Delay (s)
B-CD	0.87	66.78	4.97	F	231.46	347.18	166.09	28.70	1.85	166.12	28.71
B-AD	0.84	79.81	3.74	F	160.37	240.55	129.72	32.36	1.44	129.75	32.36
A-BCD	0.40	9.78	0.69	A	200.45	300.67	45.72	9.12	0.51	45.72	9.12
A-B	-	-	-	-	36.67	55.01	-	-	-	-	-
A-C	-	-	-	-	68.45	102.68	-	-	-	-	-
D-AB	1.04	149.30	18.13	F	355.66	533.48	566.01	63.66	6.29	566.17	63.68
D-BC	1.03	198.96	8.73	F	138.94	208.41	240.75	69.31	2.67	240.76	69.32
C-ABD	0.15	7.70	0.18	A	66.25	99.38	12.33	7.44	0.14	12.33	7.44
C-D	-	-	-	-	35.24	52.86	-	-	-	-	-
C-A	-	-	-	-	93.96	140.95	-	-	-	-	-

## Main Results for each time segment

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

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
B-CD	183.08	45.77	180.71	0.00	485.33	0.377	0.00	0.59	11.730	B
B-AD	138.39	34.60	136.26	0.00	392.23	0.353	0.00	0.53	13.954	B
A-BCD	160.10	40.03	158.69	0.00	617.01	0.259	0.00	0.35	7.832	A
A-B	31.60	7.90	31.60	0.00	-	-	-	-	-	-
A-C	58.99	14.75	58.99	0.00	-	-	-	-	-	-
D-AB	289.04	72.26	283.34	0.00	482.37	0.599	0.00	1.42	17.627	C
D-BC	116.75	29.19	115.10	0.00	394.64	0.296	0.00	0.41	12.807	B
C-ABD	53.65	13.41	53.24	0.00	577.23	0.093	0.00	0.10	6.866	A
C-D	29.10	7.28	29.10	0.00	-	-	-	-	-	-
C-A	77.61	19.40	77.61	0.00	-	-	-	-	-	-

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

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
B-CD	223.41	55.85	221.70	0.00	434.33	0.514	0.59	1.02	16.793	C
B-AD	160.45	40.11	159.18	0.00	342.27	0.469	0.53	0.85	19.521	C
A-BCD	194.81	48.70	194.34	0.00	614.91	0.317	0.35	0.47	8.550	A
A-B	36.47	9.12	36.47	0.00	-	-	-	-	-	-
A-C	68.08	17.02	68.08	0.00	-	-	-	-	-	-
D-AB	346.96	86.74	341.56	0.00	457.93	0.758	1.42	2.78	29.588	D
D-BC	137.58	34.40	136.71	0.00	349.81	0.393	0.41	0.63	16.818	C
C-ABD	64.64	16.16	64.53	0.00	564.12	0.115	0.10	0.13	7.202	A
C-D	34.59	8.65	34.59	0.00	-	-	-	-	-	-
C-A	92.25	23.06	92.25	0.00	-	-	-	-	-	-

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

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
B-CD	284.29	71.07	274.02	0.00	345.79	0.822	1.02	3.59	45.045	E
B-AD	185.84	46.46	178.60	0.00	241.69	0.769	0.85	2.66	52.126	F
A-BCD	246.42	61.60	245.57	0.00	614.63	0.401	0.47	0.68	9.732	A
A-B	41.94	10.48	41.94	0.00	-	-	-	-	-	-
A-C	78.28	19.57	78.28	0.00	-	-	-	-	-	-
D-AB	428.84	107.21	395.20	0.00	422.66	1.015	2.78	11.18	84.384	F
D-BC	164.61	41.15	141.10	0.00	160.56	1.025	0.63	6.51	126.818	F
C-ABD	80.46	20.12	80.29	0.00	547.90	0.147	0.13	0.17	7.694	A
C-D	42.01	10.50	42.01	0.00	-	-	-	-	-	-
C-A	112.04	28.01	112.04	0.00	-	-	-	-	-	-

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

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
B-CD	287.59	71.90	282.08	0.00	329.35	0.873	3.59	4.97	66.775	F
B-AD	182.54	45.64	178.22	0.00	218.22	0.837	2.66	3.74	79.813	F
A-BCD	246.42	61.61	246.39	0.00	614.72	0.401	0.68	0.69	9.778	A
A-B	41.94	10.48	41.94	0.00	-	-	-	-	-	-
A-C	78.28	19.57	78.28	0.00	-	-	-	-	-	-
D-AB	430.86	107.72	403.08	0.00	413.90	1.041	11.18	18.13	149.296	F
D-BC	162.59	40.65	153.70	0.00	164.15	0.991	6.51	8.73	198.956	F
C-ABD	80.47	20.12	80.46	0.00	547.77	0.147	0.17	0.18	7.705	A
C-D	42.01	10.50	42.01	0.00	-	-	-	-	-	-
C-A	112.04	28.01	112.04	0.00	-	-	-	-	-	-

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

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
B-CD	226.70	56.68	241.54	0.00	415.22	0.546	4.97	1.26	22.311	C
B-AD	157.16	39.29	168.00	0.00	317.18	0.495	3.74	1.03	25.683	D
A-BCD	194.81	48.70	195.62	0.00	615.09	0.317	0.69	0.49	8.605	A
A-B	36.47	9.12	36.47	0.00	-	-	-	-	-	-
A-C	68.08	17.02	68.08	0.00	-	-	-	-	-	-
D-AB	348.96	87.24	403.00	0.00	445.10	0.784	18.13	4.62	95.578	F
D-BC	135.59	33.90	165.12	0.00	246.07	0.551	8.73	1.35	56.633	F
C-ABD	64.64	16.16	64.81	0.00	563.95	0.115	0.18	0.13	7.219	A
C-D	34.59	8.65	34.59	0.00	-	-	-	-	-	-
C-A	92.25	23.06	92.25	0.00	-	-	-	-	-	-

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

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
B-CD	183.65	45.91	186.16	0.00	480.77	0.382	1.26	0.63	12.321	B
B-AD	137.82	34.45	139.68	0.00	387.23	0.356	1.03	0.57	14.651	B
A-BCD	160.11	40.03	160.60	0.00	616.94	0.260	0.49	0.36	7.901	A
A-B	31.60	7.90	31.60	0.00	-	-	-	-	-	-
A-C	58.99	14.75	58.99	0.00	-	-	-	-	-	-
D-AB	289.29	72.32	301.38	0.00	479.94	0.603	4.62	1.60	21.364	C
D-BC	116.50	29.12	120.16	0.00	390.75	0.298	1.35	0.43	13.479	B
C-ABD	53.65	13.41	53.76	0.00	576.65	0.093	0.13	0.10	6.889	A
C-D	29.10	7.28	29.10	0.00	-	-	-	-	-	-
C-A	77.60	19.40	77.60	0.00	-	-	-	-	-	-



## Queueing Delay Results for each time segment

### Queueing Delay results: (07:45-08:00)

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-CD	8.37	0.56	11.730	B	B
B-AD	7.47	0.50	13.954	B	B
A-BCD	5.23	0.35	7.832	A	A
A-B	-	-	-	-	-
A-C	-	-	-	-	-
D-AB	19.25	1.28	17.627	C	B
D-BC	5.82	0.39	12.807	B	B
C-ABD	1.53	0.10	6.866	A	A
C-D	-	-	-	-	-
C-A	-	-	-	-	-

### Queueing Delay results: (08:00-08:15)

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-CD	14.36	0.96	16.793	C	B
B-AD	11.96	0.80	19.521	C	B
A-BCD	7.06	0.47	8.550	A	A
A-B	-	-	-	-	-
A-C	-	-	-	-	-
D-AB	36.65	2.44	29.588	D	C
D-BC	8.96	0.60	16.818	C	B
C-ABD	1.96	0.13	7.202	A	A
C-D	-	-	-	-	-
C-A	-	-	-	-	-

### Queueing Delay results: (08:15-08:30)

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-CD	43.48	2.90	45.045	E	D
B-AD	32.67	2.18	52.126	F	D
A-BCD	10.21	0.68	9.732	A	A
A-B	-	-	-	-	-
A-C	-	-	-	-	-
D-AB	114.97	7.66	84.384	F	F
D-BC	62.94	4.20	126.818	F	F
C-ABD	2.63	0.18	7.694	A	A
C-D	-	-	-	-	-
C-A	-	-	-	-	-

**Queueing Delay results: (08:30-08:45)**

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-CD	66.27	4.42	66.775	F	E
B-AD	49.73	3.32	79.813	F	E
A-BCD	10.44	0.70	9.778	A	A
A-B	-	-	-	-	-
A-C	-	-	-	-	-
D-AB	221.77	14.78	149.296	F	F
D-BC	115.12	7.67	198.956	F	F
C-ABD	2.65	0.18	7.705	A	A
C-D	-	-	-	-	-
C-A	-	-	-	-	-

**Queueing Delay results: (08:45-09:00)**

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-CD	23.59	1.57	22.311	C	C
B-AD	18.88	1.26	25.683	D	C
A-BCD	7.32	0.49	8.605	A	A
A-B	-	-	-	-	-
A-C	-	-	-	-	-
D-AB	145.36	9.69	95.578	F	F
D-BC	40.76	2.72	56.633	F	E
C-ABD	2.00	0.13	7.219	A	A
C-D	-	-	-	-	-
C-A	-	-	-	-	-

**Queueing Delay results: (09:00-09:15)**

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-CD	10.02	0.67	12.321	B	B
B-AD	9.00	0.60	14.651	B	B
A-BCD	5.45	0.36	7.901	A	A
A-B	-	-	-	-	-
A-C	-	-	-	-	-
D-AB	28.04	1.87	21.364	C	C
D-BC	7.06	0.47	13.479	B	B
C-ABD	1.57	0.10	6.889	A	A
C-D	-	-	-	-	-
C-A	-	-	-	-	-

# Traffic Flows - 2023 with development, PM

## Data Errors and Warnings

Severity	Area	Item	Description
Warning	Minor arm flare	Arm B - Minor Arm Geometry	Is flare very short? Estimated flare length is zero but has been increased to 1 because a zero flare length is not allowed.

## Analysis Set Details

Name	Roundabout Capacity Model	Description	Include In Report	Use Specific Demand Set(s)	Specific Demand Set (s)	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
Traffic Flows	N/A		✓				100.000	100.000	

## Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Results For Central Hour Only	Single Time Segment Only	Locked	Run Automatically	Use Relationship
2023 with development, PM	2023 with development	PM		ONE HOUR	16:45	18:15	90	15				✓	

# Junction Network

## Junctions

Junction	Name	Junction Type	Major Road Direction	Arm Order	Do Geometric Delay	Junction Delay (s)	Junction LOS
1	Rearsby Rd-Queniborough Rd-Barkby Rd-Syston Rd crossroads	Crossroads	Two-way	A,B,C,D		81.21	F

## Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

# Arms

## Arms

Arm	Arm	Name	Description	Arm Type
A	A	Queniborough Road		Major
B	B	Barkby Road		Minor
C	C	Syston Road		Major
D	D	Rearsby Road		Minor

## 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)
A	6.20		0.00		2.20	150.00	✓	1.00
C	6.20		0.00		2.20	150.00	✓	1.00

Geometries for Arm C are measured opposite Arm B. Geometries for Arm A (if relevant) are measured opposite Arm D.

## Minor Arm Geometry

Arm	Minor Arm Type	Lane Width (m)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
B	One lane plus flare				10.00	3.90	3.10	3.10	3.10	✓	1.00	21	52
D	One lane plus flare				10.00	6.40	6.00	6.00	6.00		6.00	49	22

## Slope / Intercept / Capacity

### Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (Veh/hr)	Slope for A-B	Slope for A-C	Slope for A-D	Slope for B-A	Slope for B-C	Slope for B-D	Slope for C-A	Slope for C-B	Slope for C-D	Slope for D-A	Slope for D-B	Slope for D-C
1	A-D	660.830	-	-	-	-	-	-	0.254	0.363	0.254	-	-	-
1	B-A	542.557	0.098	0.248	0.248	-	-	-	0.156	0.354	-	0.248	0.248	0.124
1	B-C	788.161	0.120	0.303	-	-	-	-	-	-	-	-	-	-
1	B-D, nearside lane	611.983	0.110	0.279	0.279	-	-	-	0.176	0.399	0.176	-	-	-
1	B-D, offside lane	542.557	0.098	0.248	0.248	-	-	-	0.156	0.354	0.156	-	-	-
1	C-B	660.830	0.254	0.254	0.363	-	-	-	-	-	-	-	-	-
1	D-A	665.882	-	-	-	-	-	-	0.256	-	0.101	-	-	-
1	D-B, nearside lane	526.452	0.151	0.151	0.343	-	-	-	0.240	0.240	0.095	-	-	-
1	D-B, offside lane	526.452	0.151	0.151	0.343	-	-	-	0.240	0.240	0.095	-	-	-
1	D-C	526.452	-	0.151	0.343	0.120	0.240	0.240	0.240	0.240	0.095	-	-	-

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 (Veh/hr)	Flow Scaling Factor (%)
A	ONE HOUR	✓	308.00	100.000
B	ONE HOUR	✓	402.00	100.000
C	ONE HOUR	✓	188.00	100.000
D	ONE HOUR	✓	547.00	100.000

# Turning Proportions

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

		To			
		A	B	C	D
From	A	0.000	34.000	82.000	192.000
	B	36.000	0.000	45.000	321.000
	C	100.000	72.000	0.000	16.000
	D	215.000	314.000	18.000	0.000

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

		To			
		A	B	C	D
From	A	0.00	0.11	0.27	0.62
	B	0.09	0.00	0.11	0.80
	C	0.53	0.38	0.00	0.09
	D	0.39	0.57	0.03	0.00

# Vehicle Mix

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

		To			
		A	B	C	D
From	A	1.000	1.029	1.000	1.042
	B	1.000	1.000	1.023	1.009
	C	1.010	1.000	1.000	1.188
	D	1.009	1.006	1.222	1.000

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

		To			
		A	B	C	D
From	A	0.0	2.9	0.0	4.2
	B	0.0	0.0	2.3	0.9
	C	1.0	0.0	0.0	18.8
	D	0.9	0.6	22.2	0.0

# Results

## Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)	Total Queueing Delay (Veh-min)	Average Queueing Delay (s)	Rate Of Queueing Delay (Veh-min/min)	Inclusive Total Queueing Delay (Veh-min)	Inclusive Average Queueing Delay (s)
B-CD	0.73	37.41	2.50	E	206.30	309.45	107.14	20.77	1.19	107.16	20.78
B-AD	0.69	41.42	2.03	E	162.58	243.87	92.86	22.85	1.03	92.88	22.85
A-BCD	0.38	9.55	0.63	A	187.20	280.79	42.02	8.98	0.47	42.03	8.98
A-B	-	-	-	-	27.97	41.96	-	-	-	-	-
A-C	-	-	-	-	67.46	101.19	-	-	-	-	-
D-AB	1.02	135.77	16.12	F	351.71	527.56	505.79	57.52	5.62	505.93	57.54
D-BC	1.01	179.84	8.54	F	150.23	225.34	232.11	61.80	2.58	232.13	61.81
C-ABD	0.15	7.53	0.17	A	67.66	101.50	12.27	7.25	0.14	12.27	7.25
C-D	-	-	-	-	14.46	21.69	-	-	-	-	-
C-A	-	-	-	-	90.39	135.58	-	-	-	-	-

## Main Results for each time segment

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

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
B-CD	163.94	40.98	161.90	0.00	480.18	0.341	0.00	0.51	11.243	B
B-AD	138.71	34.68	136.71	0.00	410.52	0.338	0.00	0.50	13.057	B
A-BCD	150.04	37.51	148.71	0.00	608.17	0.247	0.00	0.33	7.814	A
A-B	23.99	6.00	23.99	0.00	-	-	-	-	-	-
A-C	57.86	14.46	57.86	0.00	-	-	-	-	-	-
D-AB	285.46	71.36	279.99	0.00	484.72	0.589	0.00	1.37	17.163	C
D-BC	126.35	31.59	124.57	0.00	404.17	0.313	0.00	0.45	12.797	B
C-ABD	54.96	13.74	54.55	0.00	589.23	0.093	0.00	0.10	6.729	A
C-D	11.94	2.99	11.94	0.00	-	-	-	-	-	-
C-A	74.64	18.66	74.64	0.00	-	-	-	-	-	-

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

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
B-CD	199.68	49.92	198.41	0.00	434.27	0.460	0.51	0.83	15.180	C
B-AD	161.71	40.43	160.67	0.00	367.81	0.440	0.50	0.76	17.288	C
A-BCD	182.13	45.53	181.71	0.00	606.71	0.300	0.33	0.43	8.466	A
A-B	27.77	6.94	27.77	0.00	-	-	-	-	-	-
A-C	66.98	16.75	66.98	0.00	-	-	-	-	-	-
D-AB	343.00	85.75	337.97	0.00	460.15	0.745	1.37	2.62	28.308	D
D-BC	148.75	37.19	147.85	0.00	364.20	0.408	0.45	0.67	16.564	C
C-ABD	66.08	16.52	65.97	0.00	576.31	0.115	0.10	0.13	7.051	A
C-D	14.20	3.55	14.20	0.00	-	-	-	-	-	-
C-A	88.73	22.18	88.73	0.00	-	-	-	-	-	-

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

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
B-CD	253.16	63.29	247.72	0.00	356.72	0.710	0.83	2.19	31.585	D
B-AD	189.45	47.36	185.34	0.00	284.85	0.665	0.76	1.79	34.831	D
A-BCD	229.42	57.35	228.67	0.00	606.78	0.378	0.43	0.62	9.511	A
A-B	32.15	8.04	32.15	0.00	-	-	-	-	-	-
A-C	77.55	19.39	77.55	0.00	-	-	-	-	-	-
D-AB	424.50	106.13	394.05	0.00	424.71	1.000	2.62	10.24	78.969	F
D-BC	177.76	44.44	154.62	0.00	176.17	1.009	0.67	6.45	116.585	F
C-ABD	81.95	20.49	81.78	0.00	560.05	0.146	0.13	0.17	7.524	A
C-D	17.25	4.31	17.25	0.00	-	-	-	-	-	-
C-A	107.79	26.95	107.79	0.00	-	-	-	-	-	-

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

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
B-CD	255.21	63.80	253.94	0.00	347.99	0.733	2.19	2.50	37.412	E
B-AD	187.40	46.85	186.40	0.00	271.60	0.690	1.79	2.03	41.420	E
A-BCD	229.42	57.35	229.39	0.00	606.50	0.378	0.62	0.63	9.550	A
A-B	32.15	8.04	32.15	0.00	-	-	-	-	-	-
A-C	77.54	19.39	77.54	0.00	-	-	-	-	-	-
D-AB	426.57	106.64	403.05	0.00	416.35	1.025	10.24	16.12	135.766	F
D-BC	175.69	43.92	167.34	0.00	179.45	0.979	6.45	8.54	179.844	F
C-ABD	81.95	20.49	81.95	0.00	559.90	0.146	0.17	0.17	7.534	A
C-D	17.25	4.31	17.25	0.00	-	-	-	-	-	-
C-A	107.79	26.95	107.79	0.00	-	-	-	-	-	-

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

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
B-CD	201.50	50.37	207.79	0.00	425.41	0.474	2.50	0.93	16.983	C
B-AD	159.89	39.97	164.62	0.00	354.04	0.452	2.03	0.85	19.440	C
A-BCD	182.13	45.53	182.85	0.00	606.21	0.300	0.63	0.45	8.514	A
A-B	27.77	6.94	27.77	0.00	-	-	-	-	-	-
A-C	66.98	16.74	66.98	0.00	-	-	-	-	-	-
D-AB	345.03	86.26	393.18	0.00	447.91	0.770	16.12	4.08	79.644	F
D-BC	146.71	36.68	176.52	0.00	290.71	0.505	8.54	1.09	38.830	E
C-ABD	66.08	16.52	66.25	0.00	576.08	0.115	0.17	0.13	7.064	A
C-D	14.20	3.55	14.20	0.00	-	-	-	-	-	-
C-A	88.73	22.18	88.73	0.00	-	-	-	-	-	-

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

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
B-CD	164.33	41.08	165.90	0.00	476.71	0.345	0.93	0.54	11.638	B
B-AD	138.32	34.58	139.63	0.00	406.91	0.340	0.85	0.53	13.534	B
A-BCD	150.04	37.51	150.48	0.00	607.83	0.247	0.45	0.34	7.878	A
A-B	23.99	6.00	23.99	0.00	-	-	-	-	-	-
A-C	57.85	14.46	57.85	0.00	-	-	-	-	-	-
D-AB	285.69	71.42	295.93	0.00	482.65	0.592	4.08	1.52	20.224	C
D-BC	126.12	31.53	128.59	0.00	401.18	0.314	1.09	0.47	13.326	B
C-ABD	54.96	13.74	55.07	0.00	588.64	0.093	0.13	0.10	6.748	A
C-D	11.94	2.99	11.94	0.00	-	-	-	-	-	-
C-A	74.63	18.66	74.63	0.00	-	-	-	-	-	-

**Queueing Delay Results for each time segment**
**Queueing Delay results: (16:45-17:00)**

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-CD	7.21	0.48	11.243	B	B
B-AD	7.03	0.47	13.057	B	B
A-BCD	4.89	0.33	7.814	A	A
A-B	-	-	-	-	-
A-C	-	-	-	-	-
D-AB	18.55	1.24	17.163	C	B
D-BC	6.29	0.42	12.797	B	B
C-ABD	1.53	0.10	6.729	A	A
C-D	-	-	-	-	-
C-A	-	-	-	-	-



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

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-CD	11.72	0.78	15.180	C	B
B-AD	10.78	0.72	17.288	C	B
A-BCD	6.53	0.44	8.466	A	A
A-B	-	-	-	-	-
A-C	-	-	-	-	-
D-AB	34.87	2.32	28.308	D	C
D-BC	9.55	0.64	16.564	C	B
C-ABD	1.95	0.13	7.051	A	A
C-D	-	-	-	-	-
C-A	-	-	-	-	-

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

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-CD	28.48	1.90	31.585	D	C
B-AD	23.48	1.57	34.831	D	C
A-BCD	9.29	0.62	9.511	A	A
A-B	-	-	-	-	-
A-C	-	-	-	-	-
D-AB	106.98	7.13	78.969	F	E
D-BC	63.28	4.22	116.585	F	F
C-ABD	2.60	0.17	7.524	A	A
C-D	-	-	-	-	-
C-A	-	-	-	-	-

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

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-CD	35.82	2.39	37.412	E	D
B-AD	29.17	1.94	41.420	E	D
A-BCD	9.48	0.63	9.550	A	A
A-B	-	-	-	-	-
A-C	-	-	-	-	-
D-AB	199.73	13.32	135.766	F	F
D-BC	113.34	7.56	179.844	F	F
C-ABD	2.63	0.18	7.534	A	A
C-D	-	-	-	-	-
C-A	-	-	-	-	-

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

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-CD	15.46	1.03	16.983	C	B
B-AD	14.09	0.94	19.440	C	B
A-BCD	6.75	0.45	8.514	A	A
A-B	-	-	-	-	-
A-C	-	-	-	-	-
D-AB	119.52	7.97	79.644	F	E
D-BC	32.08	2.14	38.830	E	D
C-ABD	1.99	0.13	7.064	A	A
C-D	-	-	-	-	-
C-A	-	-	-	-	-

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

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-CD	8.45	0.56	11.638	B	B
B-AD	8.31	0.55	13.534	B	B
A-BCD	5.09	0.34	7.878	A	A
A-B	-	-	-	-	-
A-C	-	-	-	-	-
D-AB	26.14	1.74	20.224	C	C
D-BC	7.49	0.50	13.326	B	B
C-ABD	1.57	0.10	6.748	A	A
C-D	-	-	-	-	-
C-A	-	-	-	-	-

## APPENDIX H

# QUENIBOROUGH ROUNDABOUT ARCADY OUTPUT

Junctions 8
ARCADY 8 - Roundabout Module
Version: 8.0.4.487 [15039,24/03/2014] © Copyright TRL Limited, 2018
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**Filename:** Queniborough Roundabout - committed development x 4.arc8  
**Path:** C:\Users\ADCteam\Dropbox\~ JN8 TEMP\ADC1659  
**Report generation date:** 24/01/2018 14:06:12

- » Traffic Flows - 2023 without development, AM
- » Traffic Flows - 2023 without development, PM
- » Traffic Flows - 2023 with development, AM
- » Traffic Flows - 2023 with development, PM

### Summary of junction performance

	AM			PM		
	Queue (Veh)	Delay (s)	RFC	Queue (Veh)	Delay (s)	RFC
Traffic Flows - 2023 with development						
<b>Arm 1</b>	1.09	7.77	0.52	0.48	5.23	0.33
<b>Arm 2</b>	1.39	5.36	0.58	1.26	4.82	0.56
<b>Arm 3</b>	2.73	15.05	0.74	1.57	9.86	0.61
<b>Arm 4</b>	0.47	4.03	0.32	0.48	3.81	0.33
<b>Arm 5</b>	1.88	6.09	0.66	2.06	6.33	0.68
Traffic Flows - 2023 without development						
<b>Arm 1</b>	1.07	7.65	0.52	0.46	5.07	0.31
<b>Arm 2</b>	1.38	5.33	0.58	1.20	4.64	0.55
<b>Arm 3</b>	2.18	12.79	0.69	1.45	9.39	0.60
<b>Arm 4</b>	0.46	3.92	0.32	0.48	3.76	0.32
<b>Arm 5</b>	1.84	5.97	0.65	1.91	5.98	0.66

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

"D1 - 2023 without development, AM " model duration: 07:45 - 09:15  
 "D2 - 2023 without development, PM" model duration: 16:45 - 18:15  
 "D3 - 2023 with development, AM" model duration: 07:45 - 09:15  
 "D4 - 2023 with development, PM" model duration: 16:45 - 18:15

Run using Junctions 8.0.4.487 at 24/01/2018 14:06:05

## File summary

<b>Title</b>	Queniborough roundabout
<b>Location</b>	Queniborough
<b>Site Number</b>	
<b>Date</b>	09/01/2018
<b>Version</b>	
<b>Status</b>	(new file)
<b>Identifier</b>	
<b>Client</b>	
<b>Jobnumber</b>	ADC1659
<b>Enumerator</b>	ADCteam
<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	Veh	Veh	perHour	s	-Min	perMin

# Traffic Flows - 2023 without development, AM

## Data Errors and Warnings

*No errors or warnings*

## Analysis Set Details

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

## Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Results For Central Hour Only	Single Time Segment Only	Locked	Run Automatically	Use Relationship
2023 without development, AM	2023 without development	AM		ONE HOUR	07:45	09:15	90	15				✓	

# Junction Network

## Junctions

Junction	Name	Junction Type	Arm Order	Grade Separated	Large Roundabout	Do Geometric Delay	Junction Delay (s)	Junction LOS
1	Queniborough roundabout	Roundabout	1,2,3,4,5				6.95	A

## Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

## Arms

### Arms

Arm	Arm	Name	Description
1	1	Melton Road N	
2	2	A607 E	
3	3	Rearsby Road	
4	4	Melton Road S	
5	5	A607 W	

### Capacity Options

Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)	Assume Flat Start Profile	Initial Queue (PCU)
1	0.00	99999.00		0.00
2	0.00	99999.00		0.00
3	0.00	99999.00		0.00
4	0.00	99999.00		0.00
5	0.00	99999.00		0.00

### Roundabout Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	I' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only
1	3.65	6.70	30.00	20.00	72.00	40.00	
2	3.65	10.20	30.00	50.00	73.00	40.00	
3	3.20	6.50	18.00	25.00	71.00	40.00	
4	3.40	10.40	25.00	25.00	72.00	25.00	
5	3.65	9.30	30.00	35.00	73.00	40.00	

### Slope / Intercept / Capacity

#### Roundabout Slope and Intercept used in model

Arm	Enter slope and intercept directly	Entered slope	Entered intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
1		(calculated)	(calculated)	0.495	1740.674
2		(calculated)	(calculated)	0.578	2262.117
3		(calculated)	(calculated)	0.474	1559.922
4		(calculated)	(calculated)	0.582	2207.170
5		(calculated)	(calculated)	0.558	2144.260

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

# Traffic Flows

## Demand Set Data Options

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

# Entry Flows

## General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (Veh/hr)	Flow Scaling Factor (%)
1	ONE HOUR	✓	464.00	100.000
2	ONE HOUR	✓	853.00	100.000
3	ONE HOUR	✓	570.00	100.000
4	ONE HOUR	✓	386.00	100.000
5	ONE HOUR	✓	1016.00	100.000

# Turning Proportions

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

		To				
		1	2	3	4	5
From	1	1.000	49.000	124.000	221.000	69.000
	2	20.000	0.000	118.000	156.000	559.000
	3	84.000	152.000	0.000	13.000	321.000
	4	110.000	118.000	7.000	0.000	151.000
	5	37.000	577.000	289.000	113.000	0.000

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

		To				
		1	2	3	4	5
From	1	0.00	0.11	0.27	0.48	0.15
	2	0.02	0.00	0.14	0.18	0.66
	3	0.15	0.27	0.00	0.02	0.56
	4	0.28	0.31	0.02	0.00	0.39
	5	0.04	0.57	0.28	0.11	0.00

# Vehicle Mix

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

		To				
		1	2	3	4	5
From	1	1.000	1.044	1.044	1.045	1.000
	2	1.000	1.000	1.000	1.021	1.094
	3	1.052	1.007	1.000	1.000	1.027
	4	1.050	1.037	1.000	1.000	1.029
	5	1.088	1.087	1.034	1.019	1.000

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

		To				
		1	2	3	4	5
From	1	0.0	4.4	4.4	4.5	0.0
	2	0.0	0.0	0.0	2.1	9.4
	3	5.2	0.7	0.0	0.0	2.7
	4	5.0	3.7	0.0	0.0	2.9
	5	8.8	8.7	3.4	1.9	0.0

# Results

## Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)	Total Queueing Delay (Veh-min)	Average Queueing Delay (s)	Rate Of Queueing Delay (Veh-min/min)	Inclusive Total Queueing Delay (Veh-min)	Inclusive Average Queueing Delay (s)
1	0.52	7.65	1.07	A	425.77	638.66	61.76	5.80	0.69	61.77	5.80
2	0.58	5.33	1.38	A	782.73	1174.09	81.97	4.19	0.91	81.97	4.19
3	0.69	12.79	2.18	B	523.04	784.56	111.60	8.54	1.24	111.62	8.54
4	0.32	3.92	0.46	A	354.20	531.30	29.51	3.33	0.33	29.51	3.33
5	0.65	5.97	1.84	A	932.30	1398.45	107.33	4.60	1.19	107.33	4.61

## Main Results for each time segment

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

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	349.32	87.33	347.70	188.93	941.84	0.00	1203.45	691.85	0.290	0.00	0.41	4.199	A
2	642.18	160.55	639.93	671.80	617.73	0.00	1776.70	1435.50	0.361	0.00	0.56	3.160	A
3	429.12	107.28	426.60	403.45	854.22	0.00	1103.96	622.15	0.389	0.00	0.63	5.296	A
4	290.60	72.65	289.71	377.12	903.70	0.00	1593.32	1123.58	0.182	0.00	0.22	2.760	A
5	764.90	191.22	762.00	824.66	368.76	0.00	1815.07	1483.97	0.421	0.00	0.72	3.411	A



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

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	417.13	104.28	416.37	226.17	1127.37	0.00	1110.13	691.85	0.376	0.41	0.60	5.184	A
2	766.83	191.71	765.85	804.18	739.56	0.00	1708.37	1435.50	0.449	0.56	0.81	3.816	A
3	512.42	128.10	510.97	482.94	1022.47	0.00	1021.57	622.15	0.502	0.63	0.99	7.030	A
4	347.01	86.75	346.69	451.47	1081.98	0.00	1487.73	1123.58	0.233	0.22	0.30	3.155	A
5	913.36	228.34	912.06	987.18	441.48	0.00	1775.74	1483.97	0.514	0.72	1.05	4.162	A

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

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	510.87	127.72	509.01	276.44	1378.50	0.00	983.79	691.85	0.519	0.60	1.06	7.551	A
2	939.17	234.79	936.93	983.17	904.35	0.00	1615.94	1435.50	0.581	0.81	1.37	5.285	A
3	627.58	156.89	623.02	590.65	1250.62	0.00	909.85	622.15	0.690	0.99	2.13	12.356	B
4	425.00	106.25	424.37	552.07	1321.58	0.00	1345.77	1123.58	0.316	0.30	0.46	3.904	A
5	1118.63	279.66	1115.56	1206.56	539.38	0.00	1722.78	1483.97	0.649	1.05	1.82	5.899	A

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

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	510.87	127.72	510.82	277.42	1382.75	0.00	981.67	691.85	0.520	1.06	1.07	7.645	A
2	939.17	234.79	939.13	986.41	907.17	0.00	1614.36	1435.50	0.582	1.37	1.38	5.331	A
3	627.58	156.89	627.37	592.31	1253.98	0.00	908.21	622.15	0.691	2.13	2.18	12.792	B
4	425.00	106.25	424.98	553.77	1327.58	0.00	1342.26	1123.58	0.317	0.46	0.46	3.924	A
5	1118.63	279.66	1118.56	1210.96	541.61	0.00	1721.59	1483.97	0.650	1.82	1.84	5.967	A

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

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	417.13	104.28	418.98	227.57	1133.51	0.00	1107.06	691.85	0.377	1.07	0.61	5.245	A
2	766.83	191.71	769.06	808.85	743.65	0.00	1706.07	1435.50	0.449	1.38	0.82	3.850	A
3	512.42	128.10	517.05	485.34	1027.37	0.00	1019.18	622.15	0.503	2.18	1.03	7.235	A
4	347.01	86.75	347.63	453.92	1090.49	0.00	1482.75	1123.58	0.234	0.46	0.31	3.174	A
5	913.36	228.34	916.43	993.47	444.65	0.00	1774.04	1483.97	0.515	1.84	1.07	4.213	A

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

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	349.32	87.33	350.11	190.11	947.40	0.00	1200.66	691.85	0.291	0.61	0.41	4.236	A
2	642.18	160.55	643.19	675.91	621.60	0.00	1774.53	1435.50	0.362	0.82	0.57	3.186	A
3	429.12	107.28	430.65	405.77	859.01	0.00	1101.62	622.15	0.390	1.03	0.64	5.377	A
4	290.60	72.65	290.93	379.43	910.24	0.00	1589.48	1123.58	0.183	0.31	0.22	2.774	A
5	764.90	191.22	766.25	829.91	371.26	0.00	1813.72	1483.97	0.422	1.07	0.73	3.440	A

## Queueing Delay Results for each time segment

### Queueing Delay results: (07:45-08:00)

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	5.94	0.40	4.199	A	A
2	8.26	0.55	3.160	A	A
3	9.13	0.61	5.296	A	A
4	3.28	0.22	2.760	A	A
5	10.58	0.71	3.411	A	A

### Queueing Delay results: (08:00-08:15)

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	8.73	0.58	5.184	A	A
2	11.87	0.79	3.816	A	A
3	14.34	0.96	7.030	A	A
4	4.48	0.30	3.155	A	A
5	15.35	1.02	4.162	A	A

### Queueing Delay results: (08:15-08:30)

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	15.28	1.02	7.551	A	A
2	19.83	1.32	5.285	A	A
3	29.56	1.97	12.356	B	B
4	6.75	0.45	3.904	A	A
5	26.14	1.74	5.899	A	A

### Queueing Delay results: (08:30-08:45)

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	16.05	1.07	7.645	A	A
2	20.64	1.38	5.331	A	A
3	32.46	2.16	12.792	B	B
4	6.91	0.46	3.924	A	A
5	27.45	1.83	5.967	A	A

### Queueing Delay results: (08:45-09:00)

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	9.43	0.63	5.245	A	A
2	12.66	0.84	3.850	A	A
3	16.17	1.08	7.235	A	A
4	4.68	0.31	3.174	A	A
5	16.56	1.10	4.213	A	A

### Queueing Delay results: (09:00-09:15)

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	6.33	0.42	4.236	A	A
2	8.71	0.58	3.186	A	A
3	9.95	0.66	5.377	A	A
4	3.41	0.23	2.774	A	A
5	11.24	0.75	3.440	A	A

## Traffic Flows - 2023 without development, PM

### Data Errors and Warnings

*No errors or warnings*

### Analysis Set Details

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

### Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Results For Central Hour Only	Single Time Segment Only	Locked	Run Automatically	Use Relationship
2023 without development, PM	2023 without development	PM		ONE HOUR	16:45	18:15	90	15				✓	

## Junction Network

### Junctions

Junction	Name	Junction Type	Arm Order	Grade Separated	Large Roundabout	Do Geometric Delay	Junction Delay (s)	Junction LOS
1	Queniborough roundabout	Roundabout	1,2,3,4,5				5.80	A

### Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

# Arms

## Arms

Arm	Arm	Name	Description
1	1	Melton Road N	
2	2	A607 E	
3	3	Rearsby Road	
4	4	Melton Road S	
5	5	A607 W	

## Capacity Options

Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)	Assume Flat Start Profile	Initial Queue (PCU)
1	0.00	99999.00		0.00
2	0.00	99999.00		0.00
3	0.00	99999.00		0.00
4	0.00	99999.00		0.00
5	0.00	99999.00		0.00

## Roundabout Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	I' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only
1	3.65	6.70	30.00	20.00	72.00	40.00	
2	3.65	10.20	30.00	50.00	73.00	40.00	
3	3.20	6.50	18.00	25.00	71.00	40.00	
4	3.40	10.40	25.00	25.00	72.00	25.00	
5	3.65	9.30	30.00	35.00	73.00	40.00	

## Slope / Intercept / Capacity

### Roundabout Slope and Intercept used in model

Arm	Enter slope and intercept directly	Entered slope	Entered intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
1		(calculated)	(calculated)	0.495	1740.674
2		(calculated)	(calculated)	0.578	2262.117
3		(calculated)	(calculated)	0.474	1559.922
4		(calculated)	(calculated)	0.582	2207.170
5		(calculated)	(calculated)	0.558	2144.260

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

# Traffic Flows

## Demand Set Data Options

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

# Entry Flows

## General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (Veh/hr)	Flow Scaling Factor (%)
1	ONE HOUR	✓	296.00	100.000
2	ONE HOUR	✓	852.00	100.000
3	ONE HOUR	✓	512.00	100.000
4	ONE HOUR	✓	415.00	100.000
5	ONE HOUR	✓	1053.00	100.000

# Turning Proportions

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

		To				
		1	2	3	4	5
From	1	0.000	19.000	77.000	151.000	49.000
	2	18.000	0.000	112.000	132.000	590.000
	3	112.000	123.000	0.000	5.000	272.000
	4	193.000	104.000	12.000	1.000	105.000
	5	78.000	520.000	311.000	144.000	0.000

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

		To				
		1	2	3	4	5
From	1	0.00	0.06	0.26	0.51	0.17
	2	0.02	0.00	0.13	0.15	0.69
	3	0.22	0.24	0.00	0.01	0.53
	4	0.47	0.25	0.03	0.00	0.25
	5	0.07	0.49	0.30	0.14	0.00

# Vehicle Mix

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

		To				
		1	2	3	4	5
From	1	1.000	1.000	1.057	1.022	1.022
	2	1.000	1.000	1.020	1.008	1.050
	3	1.039	1.009	1.000	1.000	1.036
	4	1.023	1.011	1.000	1.000	1.000
	5	1.000	1.027	1.007	1.015	1.000

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

		To				
From		1	2	3	4	5
	1	0.0	0.0	5.7	2.2	2.2
	2	0.0	0.0	2.0	0.8	5.0
	3	3.9	0.9	0.0	0.0	3.6
	4	2.3	1.1	0.0	0.0	0.0
	5	0.0	2.7	0.7	1.5	0.0

## Results

### Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)	Total Queueing Delay (Veh-min)	Average Queueing Delay (s)	Rate Of Queueing Delay (Veh-min/min)	Inclusive Total Queueing Delay (Veh-min)	Inclusive Average Queueing Delay (s)
1	0.31	5.07	0.46	A	271.62	407.42	29.02	4.27	0.32	29.02	4.27
2	0.55	4.64	1.20	A	781.81	1172.72	73.45	3.76	0.82	73.46	3.76
3	0.60	9.39	1.45	A	469.82	704.73	81.12	6.91	0.90	81.12	6.91
4	0.32	3.76	0.48	A	380.81	571.22	30.58	3.21	0.34	30.58	3.21
5	0.66	5.98	1.91	A	966.25	1449.38	110.16	4.56	1.22	110.17	4.56

### Main Results for each time segment

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

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	222.84	55.71	221.98	300.75	911.25	0.00	1244.64	802.33	0.179	0.00	0.22	3.516	A
2	641.43	160.36	639.34	574.46	558.77	0.00	1861.59	1373.42	0.345	0.00	0.52	2.940	A
3	385.46	96.36	383.40	384.07	814.04	0.00	1127.61	594.72	0.342	0.00	0.52	4.822	A
4	312.43	78.11	311.51	324.80	872.65	0.00	1656.98	1161.36	0.189	0.00	0.23	2.674	A
5	792.76	198.19	789.83	761.97	422.17	0.00	1871.26	1453.64	0.424	0.00	0.73	3.321	A

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

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	266.10	66.52	265.78	360.00	1090.67	0.00	1156.86	802.33	0.230	0.22	0.30	4.039	A
2	765.93	191.48	765.08	687.60	668.85	0.00	1799.20	1373.42	0.426	0.52	0.74	3.477	A
3	460.28	115.07	459.26	459.67	974.25	0.00	1051.42	594.72	0.438	0.52	0.77	6.070	A
4	373.08	93.27	372.75	388.77	1044.74	0.00	1554.25	1161.36	0.240	0.23	0.31	3.047	A
5	946.63	236.66	945.28	912.10	505.39	0.00	1824.70	1453.64	0.519	0.73	1.07	4.088	A

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

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	325.90	81.48	325.27	440.35	1333.88	0.00	1037.86	802.33	0.314	0.30	0.45	5.048	A
2	938.07	234.52	936.24	840.92	818.24	0.00	1714.54	1373.42	0.547	0.74	1.19	4.614	A
3	563.72	140.93	561.07	562.33	1192.14	0.00	947.80	594.72	0.595	0.77	1.43	9.246	A
4	456.92	114.23	456.29	475.66	1277.55	0.00	1415.28	1161.36	0.323	0.31	0.47	3.752	A
5	1159.38	289.84	1156.09	1115.70	618.14	0.00	1761.61	1453.64	0.658	1.07	1.89	5.914	A

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

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	325.90	81.48	325.89	441.48	1337.64	0.00	1036.02	802.33	0.315	0.45	0.46	5.069	A
2	938.07	234.52	938.04	843.32	820.22	0.00	1713.41	1373.42	0.547	1.19	1.20	4.642	A
3	563.72	140.93	563.64	563.69	1194.56	0.00	946.65	594.72	0.595	1.43	1.45	9.393	A
4	456.92	114.23	456.92	476.72	1281.48	0.00	1412.94	1161.36	0.323	0.47	0.48	3.764	A
5	1159.38	289.84	1159.30	1118.57	619.83	0.00	1760.66	1453.64	0.658	1.89	1.91	5.984	A

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

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	266.10	66.52	266.72	361.65	1096.11	0.00	1154.20	802.33	0.231	0.46	0.30	4.060	A
2	765.93	191.48	767.75	691.07	671.76	0.00	1797.55	1373.42	0.426	1.20	0.75	3.501	A
3	460.28	115.07	462.93	461.67	977.84	0.00	1049.71	594.72	0.438	1.45	0.79	6.161	A
4	373.08	93.27	373.71	390.33	1050.44	0.00	1550.86	1161.36	0.241	0.48	0.32	3.059	A
5	946.63	236.66	949.90	916.30	507.85	0.00	1823.32	1453.64	0.519	1.91	1.09	4.136	A

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

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	222.84	55.71	223.17	302.40	916.36	0.00	1242.14	802.33	0.179	0.30	0.22	3.536	A
2	641.43	160.36	642.31	577.73	561.79	0.00	1859.88	1373.42	0.345	0.75	0.53	2.958	A
3	385.46	96.36	386.52	386.08	818.01	0.00	1125.72	594.72	0.342	0.79	0.52	4.878	A
4	312.43	78.11	312.77	326.49	878.05	0.00	1653.76	1161.36	0.189	0.32	0.23	2.686	A
5	792.76	198.19	794.15	766.21	424.61	0.00	1869.89	1453.64	0.424	1.09	0.74	3.352	A

**Queueing Delay Results for each time segment**
**Queueing Delay results: (16:45-17:00)**

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	3.19	0.21	3.516	A	A
2	7.68	0.51	2.940	A	A
3	7.49	0.50	4.822	A	A
4	3.42	0.23	2.674	A	A
5	10.68	0.71	3.321	A	A

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

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	4.38	0.29	4.039	A	A
2	10.84	0.72	3.477	A	A
3	11.21	0.75	6.070	A	A
4	4.65	0.31	3.047	A	A
5	15.63	1.04	4.088	A	A

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

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	6.65	0.44	5.048	A	A
2	17.40	1.16	4.614	A	A
3	20.37	1.36	9.246	A	A
4	6.97	0.47	3.752	A	A
5	27.13	1.81	5.914	A	A

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

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	6.84	0.46	5.069	A	A
2	18.00	1.20	4.642	A	A
3	21.67	1.44	9.393	A	A
4	7.13	0.48	3.764	A	A
5	28.52	1.90	5.984	A	A

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

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	4.61	0.31	4.060	A	A
2	11.47	0.76	3.501	A	A
3	12.30	0.82	6.161	A	A
4	4.85	0.32	3.059	A	A
5	16.85	1.12	4.136	A	A

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

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	3.35	0.22	3.536	A	A
2	8.07	0.54	2.958	A	A
3	8.07	0.54	4.878	A	A
4	3.55	0.24	2.686	A	A
5	11.34	0.76	3.352	A	A



# Traffic Flows - 2023 with development, AM

## Data Errors and Warnings

No errors or warnings

## Analysis Set Details

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

## Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Results For Central Hour Only	Single Time Segment Only	Locked	Run Automatically	Use Relationship
2023 with development, AM	2023 with development	AM		ONE HOUR	07:45	09:15	90	15				✓	

# Junction Network

## Junctions

Junction	Name	Junction Type	Arm Order	Grade Separated	Large Roundabout	Do Geometric Delay	Junction Delay (s)	Junction LOS
1	Queniborough roundabout	Roundabout	1,2,3,4,5				7.49	A

## Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

# Arms

## Arms

Arm	Arm	Name	Description
1	1	Melton Road N	
2	2	A607 E	
3	3	Rearsby Road	
4	4	Melton Road S	
5	5	A607 W	

## Capacity Options

Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)	Assume Flat Start Profile	Initial Queue (PCU)
1	0.00	99999.00		0.00
2	0.00	99999.00		0.00
3	0.00	99999.00		0.00
4	0.00	99999.00		0.00
5	0.00	99999.00		0.00

## Roundabout Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	I' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only
1	3.65	6.70	30.00	20.00	72.00	40.00	
2	3.65	10.20	30.00	50.00	73.00	40.00	
3	3.20	6.50	18.00	25.00	71.00	40.00	
4	3.40	10.40	25.00	25.00	72.00	25.00	
5	3.65	9.30	30.00	35.00	73.00	40.00	

## Slope / Intercept / Capacity

### Roundabout Slope and Intercept used in model

Arm	Enter slope and intercept directly	Entered slope	Entered intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
1		(calculated)	(calculated)	0.495	1740.674
2		(calculated)	(calculated)	0.578	2262.117
3		(calculated)	(calculated)	0.474	1559.922
4		(calculated)	(calculated)	0.582	2207.170
5		(calculated)	(calculated)	0.558	2144.260

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

## Traffic Flows

### Demand Set Data Options

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

## Entry Flows

### General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (Veh/hr)	Flow Scaling Factor (%)
1	ONE HOUR	✓	465.00	100.000
2	ONE HOUR	✓	854.00	100.000
3	ONE HOUR	✓	610.00	100.000
4	ONE HOUR	✓	386.00	100.000
5	ONE HOUR	✓	1019.00	100.000

# Turning Proportions

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

		To				
		1	2	3	4	5
From	1	1.000	49.000	125.000	221.000	69.000
	2	20.000	0.000	119.000	156.000	559.000
	3	91.000	161.000	0.000	14.000	344.000
	4	110.000	118.000	7.000	0.000	151.000
	5	37.000	577.000	292.000	113.000	0.000

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

		To				
		1	2	3	4	5
From	1	0.00	0.11	0.27	0.48	0.15
	2	0.02	0.00	0.14	0.18	0.65
	3	0.15	0.26	0.00	0.02	0.56
	4	0.28	0.31	0.02	0.00	0.39
	5	0.04	0.57	0.29	0.11	0.00

# Vehicle Mix

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

		To				
		1	2	3	4	5
From	1	1.000	1.044	1.044	1.045	1.000
	2	1.000	1.000	1.000	1.021	1.094
	3	1.048	1.007	1.000	1.000	1.025
	4	1.050	1.037	1.000	1.000	1.029
	5	1.088	1.087	1.034	1.019	1.000

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

		To				
		1	2	3	4	5
From	1	0.0	4.4	4.4	4.5	0.0
	2	0.0	0.0	0.0	2.1	9.4
	3	4.8	0.7	0.0	0.0	2.5
	4	5.0	3.7	0.0	0.0	2.9
	5	8.8	8.7	3.4	1.9	0.0

# Results

## Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)	Total Queueing Delay (Veh-min)	Average Queueing Delay (s)	Rate Of Queueing Delay (Veh-min/min)	Inclusive Total Queueing Delay (Veh-min)	Inclusive Average Queueing Delay (s)
1	0.52	7.77	1.09	A	426.69	640.04	62.61	5.87	0.70	62.62	5.87
2	0.58	5.36	1.39	A	783.64	1175.46	82.37	4.20	0.92	82.38	4.20
3	0.74	15.05	2.73	C	559.74	839.62	133.00	9.50	1.48	133.01	9.51
4	0.32	4.03	0.47	A	354.20	531.30	30.11	3.40	0.33	30.11	3.40
5	0.66	6.09	1.88	A	935.05	1402.58	109.26	4.67	1.21	109.27	4.67

## Main Results for each time segment

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

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	350.08	87.52	348.44	194.15	950.76	0.00	1199.12	692.27	0.292	0.00	0.41	4.224	A
2	642.93	160.73	640.67	678.49	620.72	0.00	1775.13	1433.83	0.362	0.00	0.56	3.166	A
3	459.24	114.81	456.43	407.19	854.21	0.00	1105.73	625.13	0.415	0.00	0.70	5.522	A
4	290.60	72.65	289.70	377.86	932.77	0.00	1577.00	1124.00	0.184	0.00	0.23	2.795	A
5	767.16	191.79	764.23	841.79	380.68	0.00	1808.95	1483.81	0.424	0.00	0.73	3.435	A

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

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	418.03	104.51	417.25	232.41	1138.06	0.00	1104.94	692.27	0.378	0.41	0.60	5.230	A
2	767.73	191.93	766.74	812.18	743.12	0.00	1706.47	1433.83	0.450	0.56	0.81	3.827	A
3	548.38	137.09	546.65	487.41	1022.46	0.00	1023.21	625.13	0.536	0.70	1.13	7.527	A
4	347.01	86.75	346.68	452.35	1116.75	0.00	1468.21	1124.00	0.236	0.23	0.31	3.210	A
5	916.06	229.01	914.73	1007.69	455.74	0.00	1768.38	1483.81	0.518	0.73	1.06	4.210	A

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

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	511.98	127.99	510.07	283.90	1391.22	0.00	977.63	692.27	0.524	0.60	1.08	7.668	A
2	940.27	235.07	938.01	992.63	908.66	0.00	1613.62	1433.83	0.583	0.81	1.38	5.310	A
3	671.62	167.91	665.58	596.10	1250.56	0.00	911.33	625.13	0.737	1.13	2.64	14.307	B
4	425.00	106.25	424.35	553.10	1363.04	0.00	1322.51	1124.00	0.321	0.31	0.47	4.006	A
5	1121.94	280.48	1118.76	1231.02	556.37	0.00	1713.99	1483.81	0.655	1.06	1.86	6.015	A

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

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	511.98	127.99	511.92	285.10	1395.91	0.00	975.29	692.27	0.525	1.08	1.09	7.766	A
2	940.27	235.07	940.22	996.28	911.56	0.00	1611.99	1433.83	0.583	1.38	1.39	5.358	A
3	671.62	167.91	671.27	597.81	1253.97	0.00	909.66	625.13	0.738	2.64	2.73	15.045	C
4	425.00	106.25	424.98	554.86	1370.39	0.00	1318.23	1124.00	0.322	0.47	0.47	4.030	A
5	1121.94	280.48	1121.85	1236.21	559.16	0.00	1712.48	1483.81	0.655	1.86	1.88	6.092	A

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

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	418.03	104.51	419.93	234.12	1144.81	0.00	1101.58	692.27	0.379	1.09	0.62	5.297	A
2	767.73	191.93	769.98	817.40	747.33	0.00	1704.11	1433.83	0.451	1.39	0.83	3.864	A
3	548.38	137.09	554.58	489.89	1027.42	0.00	1020.78	625.13	0.537	2.73	1.18	7.822	A
4	347.01	86.75	347.65	454.90	1127.11	0.00	1462.19	1124.00	0.237	0.47	0.31	3.231	A
5	916.06	229.01	919.23	1015.06	459.69	0.00	1766.26	1483.81	0.519	1.88	1.09	4.267	A

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

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	350.08	87.52	350.88	195.44	956.55	0.00	1196.22	692.27	0.293	0.62	0.42	4.264	A
2	642.93	160.73	643.95	682.79	624.63	0.00	1772.94	1433.83	0.363	0.83	0.57	3.190	A
3	459.24	114.81	461.08	409.56	859.03	0.00	1103.37	625.13	0.416	1.18	0.72	5.620	A
4	290.60	72.65	290.94	380.20	939.91	0.00	1572.82	1124.00	0.185	0.31	0.23	2.808	A
5	767.16	191.79	768.54	847.41	383.44	0.00	1807.46	1483.81	0.424	1.09	0.74	3.468	A

**Queueing Delay Results for each time segment**
**Queueing Delay results: (07:45-08:00)**

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	5.98	0.40	4.224	A	A
2	8.28	0.55	3.166	A	A
3	10.16	0.68	5.522	A	A
4	3.32	0.22	2.795	A	A
5	10.69	0.71	3.435	A	A

**Queueing Delay results: (08:00-08:15)**

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	8.82	0.59	5.230	A	A
2	11.92	0.79	3.827	A	A
3	16.36	1.09	7.527	A	A
4	4.55	0.30	3.210	A	A
5	15.57	1.04	4.210	A	A

**Queueing Delay results: (08:15-08:30)**

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	15.54	1.04	7.668	A	A
2	19.94	1.33	5.310	A	A
3	36.07	2.40	14.307	B	B
4	6.92	0.46	4.006	A	A
5	26.70	1.78	6.015	A	A

**Queueing Delay results: (08:30-08:45)**

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	16.33	1.09	7.766	A	A
2	20.77	1.38	5.358	A	A
3	40.47	2.70	15.045	C	B
4	7.09	0.47	4.030	A	A
5	28.09	1.87	6.092	A	A

**Queueing Delay results: (08:45-09:00)**

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	9.55	0.64	5.297	A	A
2	12.72	0.85	3.864	A	A
3	18.78	1.25	7.822	A	A
4	4.77	0.32	3.231	A	A
5	16.83	1.12	4.267	A	A

**Queueing Delay results: (09:00-09:15)**

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	6.38	0.43	4.264	A	A
2	8.74	0.58	3.190	A	A
3	11.16	0.74	5.620	A	A
4	3.46	0.23	2.808	A	A
5	11.37	0.76	3.468	A	A

# Traffic Flows - 2023 with development, PM

## Data Errors and Warnings

*No errors or warnings*

## Analysis Set Details

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

## Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Results For Central Hour Only	Single Time Segment Only	Locked	Run Automatically	Use Relationship
2023 with development, FM	2023 with development	FM		ONE HOUR	16:45	18:15	90	15				✓	

## Junction Network

### Junctions

Junction	Name	Junction Type	Arm Order	Grade Separated	Large Roundabout	Do Geometric Delay	Junction Delay (s)	Junction LOS
1	Queniborough roundabout	Roundabout	1,2,3,4,5				6.07	A

### Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

## Arms

### Arms

Arm	Arm	Name	Description
1	1	Melton Road N	
2	2	A607 E	
3	3	Rearsby Road	
4	4	Melton Road S	
5	5	A607 W	

### Capacity Options

Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)	Assume Flat Start Profile	Initial Queue (PCU)
1	0.00	99999.00		0.00
2	0.00	99999.00		0.00
3	0.00	99999.00		0.00
4	0.00	99999.00		0.00
5	0.00	99999.00		0.00

### Roundabout Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	I' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only
1	3.65	6.70	30.00	20.00	72.00	40.00	
2	3.65	10.20	30.00	50.00	73.00	40.00	
3	3.20	6.50	18.00	25.00	71.00	40.00	
4	3.40	10.40	25.00	25.00	72.00	25.00	
5	3.65	9.30	30.00	35.00	73.00	40.00	

## Slope / Intercept / Capacity

### Roundabout Slope and Intercept used in model

Arm	Enter slope and intercept directly	Entered slope	Entered intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
1		(calculated)	(calculated)	0.495	1740.674
2		(calculated)	(calculated)	0.578	2262.117
3		(calculated)	(calculated)	0.474	1559.922
4		(calculated)	(calculated)	0.582	2207.170
5		(calculated)	(calculated)	0.558	2144.260

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

## Traffic Flows

### Demand Set Data Options

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

## Entry Flows

### General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (Veh/hr)	Flow Scaling Factor (%)
1	ONE HOUR	✓	302.00	100.000
2	ONE HOUR	✓	860.00	100.000
3	ONE HOUR	✓	529.00	100.000
4	ONE HOUR	✓	416.00	100.000
5	ONE HOUR	✓	1078.00	100.000

## Turning Proportions

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

		To				
		1	2	3	4	5
From	1	0.000	19.000	83.000	151.000	49.000
	2	18.000	0.000	120.000	132.000	590.000
	3	116.000	127.000	0.000	5.000	281.000
	4	193.000	104.000	13.000	1.000	105.000
	5	78.000	520.000	336.000	144.000	0.000



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

		To				
		1	2	3	4	5
From	1	0.00	0.06	0.27	0.50	0.16
	2	0.02	0.00	0.14	0.15	0.69
	3	0.22	0.24	0.00	0.01	0.53
	4	0.46	0.25	0.03	0.00	0.25
	5	0.07	0.48	0.31	0.13	0.00

## Vehicle Mix

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

		To				
		1	2	3	4	5
From	1	1.000	1.000	1.053	1.022	1.022
	2	1.000	1.000	1.018	1.008	1.050
	3	1.038	1.009	1.000	1.000	1.035
	4	1.023	1.011	1.000	1.000	1.000
	5	1.000	1.027	1.007	1.015	1.000

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

		To				
		1	2	3	4	5
From	1	0.0	0.0	5.3	2.2	2.2
	2	0.0	0.0	1.8	0.8	5.0
	3	3.8	0.9	0.0	0.0	3.5
	4	2.3	1.1	0.0	0.0	0.0
	5	0.0	2.7	0.7	1.5	0.0

## Results

### Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)	Total Queueing Delay (Veh-min)	Average Queueing Delay (s)	Rate Of Queueing Delay (Veh-min/min)	Inclusive Total Queueing Delay (Veh-min)	Inclusive Average Queueing Delay (s)
1	0.33	5.23	0.48	A	277.12	415.68	30.33	4.38	0.34	30.33	4.38
2	0.56	4.82	1.26	A	789.15	1183.73	76.17	3.86	0.85	76.18	3.86
3	0.61	9.86	1.57	A	485.42	728.13	86.66	7.14	0.96	86.67	7.14
4	0.33	3.81	0.48	A	381.73	572.59	30.94	3.24	0.34	30.95	3.24
5	0.68	6.33	2.06	A	989.19	1483.79	117.34	4.75	1.30	117.35	4.75

## Main Results for each time segment

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

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	227.36	56.84	226.46	303.73	933.68	0.00	1234.31	800.72	0.184	0.00	0.22	3.568	A
2	647.45	161.86	645.31	577.41	582.73	0.00	1848.96	1363.49	0.350	0.00	0.54	2.986	A
3	398.26	99.56	396.09	414.05	813.99	0.00	1128.42	612.54	0.353	0.00	0.54	4.902	A
4	313.19	78.30	312.25	324.78	885.31	0.00	1649.70	1162.52	0.190	0.00	0.23	2.690	A
5	811.57	202.89	808.52	768.67	428.90	0.00	1867.98	1448.74	0.434	0.00	0.76	3.388	A

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

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	271.49	67.87	271.15	363.57	1117.52	0.00	1144.35	800.72	0.237	0.22	0.31	4.120	A
2	773.12	193.28	772.23	691.15	697.53	0.00	1783.89	1363.49	0.433	0.54	0.76	3.555	A
3	475.56	118.89	474.46	495.56	974.20	0.00	1052.18	612.54	0.452	0.54	0.81	6.220	A
4	373.98	93.49	373.64	388.75	1059.93	0.00	1545.52	1162.52	0.242	0.23	0.32	3.072	A
5	969.10	242.27	967.64	920.12	513.44	0.00	1820.67	1448.74	0.532	0.76	1.13	4.213	A

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

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	332.51	83.13	331.83	444.66	1366.49	0.00	1022.51	800.72	0.325	0.31	0.48	5.206	A
2	946.88	236.72	944.92	845.11	853.21	0.00	1695.66	1363.49	0.558	0.76	1.25	4.782	A
3	582.44	145.61	579.50	606.14	1191.98	0.00	948.53	612.54	0.614	0.81	1.55	9.679	A
4	458.02	114.51	457.37	475.59	1295.90	0.00	1404.71	1162.52	0.326	0.32	0.48	3.798	A
5	1186.90	296.72	1183.25	1125.37	627.91	0.00	1756.62	1448.74	0.676	1.13	2.04	6.239	A

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

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	332.51	83.13	332.49	445.88	1370.65	0.00	1020.47	800.72	0.326	0.48	0.48	5.232	A
2	946.88	236.72	946.84	847.72	855.44	0.00	1694.40	1363.49	0.559	1.25	1.26	4.815	A
3	582.44	145.61	582.34	607.73	1194.55	0.00	947.30	612.54	0.615	1.55	1.57	9.856	A
4	458.02	114.51	458.01	476.72	1300.18	0.00	1402.17	1162.52	0.327	0.48	0.48	3.811	A
5	1186.90	296.72	1186.81	1128.46	629.73	0.00	1755.60	1448.74	0.676	2.04	2.06	6.327	A

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

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	271.49	67.87	272.16	365.34	1123.50	0.00	1141.42	800.72	0.238	0.48	0.31	4.144	A
2	773.12	193.28	775.07	694.89	700.78	0.00	1782.05	1363.49	0.434	1.26	0.77	3.583	A
3	475.56	118.89	478.50	497.85	978.00	0.00	1050.37	612.54	0.453	1.57	0.84	6.328	A
4	373.98	93.49	374.62	390.41	1066.10	0.00	1541.85	1162.52	0.243	0.48	0.32	3.085	A
5	969.10	242.27	972.75	924.62	516.09	0.00	1819.19	1448.74	0.533	2.06	1.15	4.270	A

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

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	227.36	56.84	227.71	305.44	939.07	0.00	1231.68	800.72	0.185	0.31	0.23	3.588	A
2	647.45	161.86	648.37	580.81	585.97	0.00	1847.12	1363.49	0.351	0.77	0.54	3.007	A
3	398.26	99.56	399.40	416.28	818.07	0.00	1126.49	612.54	0.354	0.84	0.55	4.960	A
4	313.19	78.30	313.53	326.51	890.96	0.00	1646.34	1162.52	0.190	0.32	0.24	2.703	A
5	811.57	202.89	813.08	773.05	431.43	0.00	1866.56	1448.74	0.435	1.15	0.77	3.423	A

**Queueing Delay Results for each time segment**
**Queueing Delay results: (16:45-17:00)**

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	3.30	0.22	3.568	A	A
2	7.87	0.52	2.986	A	A
3	7.86	0.52	4.902	A	A
4	3.44	0.23	2.690	A	A
5	11.15	0.74	3.388	A	A

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

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	4.56	0.30	4.120	A	A
2	11.17	0.74	3.555	A	A
3	11.85	0.79	6.220	A	A
4	4.70	0.31	3.072	A	A
5	16.47	1.10	4.213	A	A

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

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	7.00	0.47	5.206	A	A
2	18.17	1.21	4.782	A	A
3	21.95	1.46	9.679	A	A
4	7.08	0.47	3.798	A	A
5	29.20	1.95	6.239	A	A

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

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	7.20	0.48	5.232	A	A
2	18.83	1.26	4.815	A	A
3	23.46	1.56	9.856	A	A
4	7.24	0.48	3.811	A	A
5	30.83	2.06	6.327	A	A

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

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	4.81	0.32	4.144	A	A
2	11.85	0.79	3.583	A	A
3	13.06	0.87	6.328	A	A
4	4.91	0.33	3.085	A	A
5	17.83	1.19	4.270	A	A

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

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	3.47	0.23	3.588	A	A
2	8.28	0.55	3.007	A	A
3	8.49	0.57	4.960	A	A
4	3.58	0.24	2.703	A	A
5	11.87	0.79	3.423	A	A

