
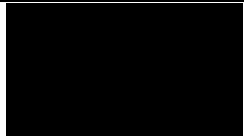
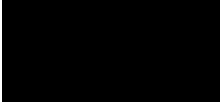


**Land at Rowley Lane, Lepton  
Proposed Residential Land Allocation  
Transport Addendum**

**September 2016 (Initial Issue)**

Prepared on behalf of  
**Redrow Homes Yorkshire/Portman Land Limited**

## Quality Management

Land at Rowley Lane, Lepton - Transport Addendum Project No: 13015				
<b>File reference</b>	O:\Rowley Lane, Lepton\TEXT\REPORTS\160915 Rowley Lane TA Addendum.docx			
<b>Issue/revision</b>	<b>Initial Issue</b>	<b>Revision 1</b>	<b>Revision 2</b>	<b>Revision 3</b>
<b>Remarks</b>				
<b>Date</b>	14 <sup>th</sup> September 2016			
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# 1. Introduction

This Transport Addendum supports Kirklees Council's proposed allocation of land to the south of Rowley Lane in Lepton for residential purposes.

The Site in question has a total gross area of circa 11 hectares (27 acres), and this addendum has been prepared on the basis that a total of up to 280 additional units can be accommodated on the site which will be served from Hermitage Park.

This Addendum provides an update on the previously submitted Access Appraisal regarding the Site prepared by Optima in January 2016 attached at Appendix K. It has been prepared in order to address the highways and transportation points for discussion raised through a meeting held with planning and highways officers on 7<sup>th</sup> June 2016 and also comments received from Highways Development Management dated 1<sup>st</sup> June 2016 (attached at Appendix B).

The document structure is as follows:

- Chapter 2 – response to HDM comments on local highway network and site accessibility;
- Chapter 3 – response to HDM comments on access strategy and traffic generation / distribution;
- Chapter 4 – details the revised capacity assessments; and
- Chapter 5 – summarises and concludes the report.



## 2. Response to HDM Comments on Local Highway Network and Site Accessibility

### 2.1 INTRODUCTION

This section addresses each point in turn raised by HDM in their correspondence dated 1<sup>st</sup> June 2016 as attached at Appendix B.

The section and paragraph numbers used in this section are retained from both the Access Appraisal attached at Appendix K and the HDM comments. The comments copied from the HDM response are provided in *red italics*.

### 2.2 LOCAL HIGHWAY NETWORK

#### *2.2.4 Although not stated, Hermitage Park has a steep rising gradient from its junction with Rowley Lane.*

Hermitage Park has a gradient of 1 in 10 along its length which accords with the design parameters set out in the West Yorkshire Design Guide.

The internal road layout will be designed to a maximum gradient 1 in 10 however a maximum desirable 1 in 12 gradient will be sought through the detailed design.

#### *2.2.6 HDM considers that there is a 'significant' degree of on-street/footway parking on Hermitage Park, at its junction with Rowley Lane, and within its vicinity along Rowley Lane at school start and finish times. A consequence of this is that highway efficiency and safety is compromised.*

HDM do not confirm what they consider to be a "significant" degree of on-street/footway parking on Hermitage Park at school start and finish times.

However, Optima have undertaken a detailed turning count at Hermitage Park which identified those trips associated with the school. The raw data is attached at Appendix C which is summarised in Table 2.1.

**Table 2.1 Trips Associated with School Drop Off**

Movement	AM Highway Peak	PM Highway Peak
Left into Hermitage Park	1	0
Right into Hermitage Park	10	0
Left out of Hermitage Park	8	0
Right out of Hermitage Park	3	0



The traffic survey undertaken in neutral conditions shows that there are a total of 11 vehicles in the AM peak hour associated with school drop off i.e. in the table above they are counted twice as an arrival and then again as a departure in a short period of time. This number of vehicles over a period of 30 minutes (the majority of movements occur between 8:30am and 9:00am) is not considered to be material and is certainly not “significant” at 1 vehicle every 2.7 minutes.

There are no parked cars associated with the school in the PM peak, because there is no overlap in the PM peak there is no need to consider this hence the reason for looking at the AM peak.

Image 2.1 below shows the peak number of vehicles parking around the Hermitage Park junction at 8:51am on the day of the survey.

**Image 2.1 Hermitage Park**



Traffic Data Collection who undertook the independent survey have confirmed that this parking cleared at 9am. Therefore it is clear that this is an existing occurrence in a very isolated location over a short period of time. The number of vehicles parking in this location will not be exacerbated by the proposed development.

HDM also state that highway efficiency and safety are compromised but have provided no evidence to support this assertion.

Accident data was procured to inform the original access appraisal. This raw accident data is included at Appendix L which shows that there have been no accidents associated with parking at Hermitage Park and there have also been no accidents associated with pedestrians accessing the school in the study period.

Notwithstanding the fact that there have been no accidents associated with pedestrians accessing the school on Rowley Lane between Hermitage Park and the school, should the site be allocated, the planning application that will follow will include the provision of a signalised pedestrian crossing – the exact details of which will be established through the planning process in order to safely accommodate development generated pedestrian movements to the school.

Furthermore, the capacity assessment of the Hermitage Park / Rowley Lane junction contained in the Site Access Appraisal show that in the 2016 design scenario the Hermitage Park junction is predicted to operate comfortably within capacity. Further design scenarios will be assessed in



subsequent sections of this report which demonstrate that the highway network is predicted to operate efficiently in future years and that any impact from the development can be mitigated.

Finally, the developer has confirmed that as part of the application process should it be considered necessary to relocate the parking associated with the school away from Hermitage Park they will enter into discussions with HDM and the school regarding the potential for suitable traffic regulation orders to prevent parking in this location. These discussions may also include measures to assist the school managing the parking demand as part of the school travel plan and potentially assistance in providing drop off area within the schools boundary if deemed necessary.

## 2.3 VEHICLE SPEED SURVEY

### ***2.3.2 To enable HDM to be satisfied with the submitted speed readings, a plan is required detailing the locations along Rowley Lane where the data was captured.***

Drawing IN/03 Rev A attached at Appendix D shows the locations of the speed surveys recording vehicles as they approached the Hermitage Park junction.

## 2.5 SITE ACCESSIBILITY

### ***2.5.2 Although the 400m walking distance from the centre of the development to Lepton Primary School is acknowledged, the route is considered to be of poor quality and convenience at school start and finish times.***

As stated by HDM the primary school is 400m walk from the centre of the Site. The developer has committed to the provision of a signalised pedestrian crossing to aid journeys on foot to the school.

Furthermore as part of the planning application the developer will enter discussions with HDM and the school regarding the potential for a TRO to prevent on street parking to be implemented on Hermitage Park and the potential need to accommodate school drop off trips elsewhere.

The existing footway provision is 1.8m to 2.0m in width and are lit and drained appropriately and are maintained by the highway authority.

Finally, the provision of the emergency link will also include an improvement to the pedestrian connection at this point.

Access to primary education meets the requirements set out in the Yorkshire and Humber Regional Spatial Strategy in Table 13.9 (attached at Appendix E) – it is accepted that while this guidance has been formally withdrawn it has not been superseded by any detailed guidance and therefore it is considered appropriate to assess the accessibility of the site on these grounds.

### ***2.5.3 Although not stated, the distance from the centre of the site to King James School is circa 3.5km with the most direct route along Rowley Lane, over Penistone Road and along Woodsome Road. This route has poor connectivity in the main in terms of having long steep gradients, being open to the elements, and has poor/no footways and segregated/delineated cycle facilities.***

Access to secondary education has been considered against the requirements set out in the RSS. For rural areas the RSS states that secondary education must be accessible by a 10 minute walk to a node offering 15 minute frequency to a major public transport interchange.

The bus services on Penistone Road as shown in Table 2.2 provide a 20 minute frequency throughout the day to Huddersfield Bus Station i.e. a major public transport interchange. However, there is also the 83A service that routes along Rowley Lane that provides a direct service to Scissett Middle School within a 60 minute journey. Therefore when all services within a 10 minute walk of





the centre of the Site are combined there is a 15 minute frequency that provides access secondary education within a 60 minute running at times appropriate for secondary education.



Table 2.2 Bus Service Summary

Service	Route	Service Frequency (One Way)	Days of Operation
<b>B6433 Rowley Lane - Stop ID: 45018786 (East-Bound)</b>			
80	Clayton West - Huddersfield	1 per hour	Weekday
		1 per hour	Saturday
		No Service	Sunday
84A	Denby Dale – Huddersfield	No Service	Weekday
		1 Service (07:36)	Saturday
		No Service	Sunday
Service	Route	Service Frequency (One Way)	Days of Operation
<b>B6433 Rowley Lane - Stop ID: 45018785 (West-Bound)</b>			
80	Huddersfield - Clayton West	1 per hour	Weekday
		1 per hour	Saturday
		No Service	Sunday
83A	Huddersfield – Scissett	1 Service (08:09)	Weekday
		per hour	Saturday
		per hour	Sunday



Table 2.2 continued

Service	Route	Service Frequency (One Way)	Days of Operation
<b>A629 Penistone Road - Stop ID: 45016775 (North-Bound)</b>			
80	Clayton West - Huddersfield	1 per hour	Weekday
		1 per hour	Saturday
		No Service	Sunday
81	Huddersfield - Clayton West	1 per hour	Weekday
		1 per hour	Saturday
		Every 2 Hours	Sunday
82	Huddersfield - Denby Dale	1 per hour	Weekday
		1 per hour	Saturday
		Every 2 Hours	Sunday
83	Huddersfield - Denby Dale	1 per hour	Weekday
		1 per hour	Saturday
		No Service	Sunday
84	Huddersfield - Denby Dale	1 per hour	Weekday
		1 per hour	Saturday
		No Service	Sunday



Table 2.2 continued

Service	Route	Service Frequency (One Way)	Days of Operation
<b>A629 Penistone Road - Stop ID: 45016774 (South-Bound)</b>			
80	Huddersfield - Clayton West	1 per hour	Weekday
		1 per hour	Saturday
		No Service	Sunday
81	Clayton West - Huddersfield	1 per hour	Weekday
		1 per hour	Saturday
		Every 2 Hours	Sunday
82	Denby Dale - Huddersfield	1 per hour	Weekday
		1 per hour	Saturday
		Every 2 Hours	Sunday
83	Denby Dale - Huddersfield	1 per hour	Weekday
		1 per hour	Saturday
		No Service	Sunday
84	Denby Dale - Huddersfield	1 per hour	Weekday
		1 per hour	Saturday
		No Service	Sunday

Furthermore there are 7 secondary schools within 30 minute cycle time and 3 secondary schools within a 15 minute cycle time meaning that secondary education is within a comfortable cycle distance.

**2.5.4 Although not stated, the distance from the centre of the site to the shopping and care facilities in Lepton is circa 1.5km.**

For access to local facilities the RSS states the residential development should be located within a 10 minute walk of a service offering an hourly frequency. Huddersfield Town Centre can be accessed from the services on Rowley Lane and Penistone Road which are within a 10 minute walk offering a frequency exceeding 1 an hour at 3 per hour during the day.

**2.5.5 to 2.5.7: The 300m walking distance to the Rowley Lane bus stops is noted together with the operational times of the 80 and 84A services which are limited from a 'commuting point of view' in terms of their days of operation, 60 minute frequency, and times of operation.**

**2.5.8 Although not stated, the distance from the centre of the site to the higher frequency bus routes (although not the recommended 4 per hour) on the A629 Penistone Road and A642 Wakefield Road are circa 1km and 1.5km respectively. Given the high walking distances, and nature of the routes in terms of footway provision/width, and continuous gradient of Rowley Lane the use of these public transport connections are considered to be unattractive to people wishing to commute on a regular basis.**



The RSS stipulates that employment should be within a 10 minute walk offering a service to major transport interchange and that there are sufficient facilities within a 40 minute journey time. The bus stops on Penistone Road are within a 10 minute walk as shown on Figure 2. These bus services offer a 6 per hour two way frequency at peak hours and throughout the day as shown in Table 2.2. There are three buses that access Huddersfield Town Centre which has a wealth of employment opportunities furthermore in the opposite direction services to Clayton West and Denby Dale are available.

The services from Rowley Lane offer an hourly frequency with facilities reachable within a 40 minute journey time as set out in the RSS.

***2.5.12 For clarity, HDM understands that facilities within 800m comfortable walking distance of residential areas is desirable with 2km being the upper limit. Bearing in mind the nature of Rowley Lane, the walk to the bus stops on Penistone Road and Wakefield Road are not considered to be 'comfortable' and/or fully inclusive to all pedestrians.***

The bus stops on Penistone Road are within 800m of the Site. Rowley Lane has a single sided footway as a minimum along its length which is sufficient to accommodate the pedestrian traffic utilising it. The route is generally between 1.8 and 2.0m in width. The route has street lighting with dropped crossings being provided over the side roads. The route is therefore considered to be suitable to accommodate the additional development generated by the development.

## 2.6 ACCESSIBILITY BY CYCLE

***2.6.5 It is unclear if the cycling times have taken into account the gradients and nature of the local highway network which in places is considered to be less than ideal in relation being comfortable for general cycling trips.***

***2.6.6 As per Para 2.6.5, it would be difficult for HDM to accept that the site will provide good accessibility for general cycling trips.***

No detail has been provided by HDM as to why the gradients and nature of the local highway network are "less than ideal".

The mapping is considered to accurately reflect the accessibility of the Site by cycle. It is based on average journey speeds.

The majority of the local road network is subject to a 30mph speed limit which is conducive to encouraging journeys by pedal cycle.

## 2.7 ACCESSIBILITY BY BUS

***2.7.1 As stated above, HDM considers that Rowley Lane does not provide convenient pedestrian routes given its nature and location of the higher frequency bus stops on Penistone Road and Wakefield Road, and its use at school start and finish times.***

The bus stops on Penistone Road are within 800m of the Site. Rowley Lane has a single sided footway as a minimum along its length which is sufficient to accommodate the pedestrian traffic utilising it. The route is generally between 1.8 and 2.0m in width. The route has street lighting with dropped crossings being provided over the side roads. The route is therefore considered acceptable.

## 2.8 ACCESSIBILITY BY RAIL

***2.8.2 Bus service 80 which stops at Stocksmoor rail station is a 60 minute service which does not operate before or during the 'am' commuter peak hour. As such, HDM considers that the option for residents to commute to and from the rail station by bus to be unattractive.***



In addition to Stocks Moor Rail Station train services can also be accessed at Shepley Station via the 83 and 83A services which provide three services that drop off at the station between 7:32am and 8:32am which serves the commuter peak.

Furthermore travelling north, services 81, 82, 83 and 84 provided connections to Huddersfield Bus Station which is approximately 200m from Huddersfield Rail Station. There are a total of 9 services that arrive in Huddersfield before 8:30.

#### **ADDITIONAL ACCESSIBILITY POINT**

It is not considered necessary at this stage in the local plan process to undertake full mode split projections. This would be considered within a full Transport Assessment should a planning application be forthcoming.



## 3. Proposed Development

### 3.1 PROPOSED DEVELOPMENT

#### **3.1.2 No illustrative masterplan indicating 300 dwellings has been provided.**

An illustrative schematic masterplan was previously included at Appendix C of the Access Appraisal. This has been updated and is included in this Addendum at Appendix A.

### 3.2 PROPOSED ACCESS STRATEGY

#### **3.2.2 HDM agree that a standard traditional estate road from its junction with the major road is capable in design terms of serving up to 300 evenly mixed size dwellings. However, it is the nature of the existing highway network and its operational characteristics that influences the acceptable number of dwellings.**

Further details have been provided in Section 2.2 regarding the suitability of Hermitage Park. Hermitage Park currently serves 20 dwellings. Therefore with the addition of up to 280 units proposed Hermitage Park will serve a maximum of 300 units.

Furthermore if the land to the south is developed this will reduce the number of units served by Hermitage Park as additional access provision will be provided.

At the planning application stage full consideration will be given to traffic regulation orders to prevent car parking at the junction bell mouth. In addition signalised pedestrian crossing will be provided to improve the pedestrian connectivity to the school.

### 3.5 TRAFFIC GENERATION

#### **3.5.2 HDM consider that given the proposed scale of development (300 dwellings) it is necessary to carry out 'capacity analysis' on the wider highway network i.e. Rowley Lane with Penistone Road; Wakefield Road; and Highgate Lane.**

#### **3.5.3 to 3.5.5: HDM consider the number and nature of the selected TRICS sites are not representative of the development site and as such the forecast 'am' and 'pm' development trip rates are not accepted.**

Optima consider that the trip rates are representative. However, sensitivity test has been undertaken based on the surveyed trip generation from the Hermitage Park traffic survey – full details are provided in Chapter 4 of this report.

### 3.6 TRIP DISTRIBUTION AND ASSIGNMENT

#### **3.6.2 HDM consider that the development should be distributed onto the junctions of Rowley Lane with Penistone Road; Wakefield Road; and Highgate Lane.**

This has been completed in Chapter 4 of this report. Distributions across the network have been predicted in accordance with existing turning manoeuvres within the 2016 traffic counts.



## 4. Traffic Impact and Capacity Assessment

### 4.3 DESIGN TRAFFIC FLOWS

#### **4.3.1 As per the above HDM comment para 3.5.4 to 3.5.5, the development flows are not agreed.**

A sensitivity test has now been completed using trip rates based on the Hermitage Park development including an assessment of the wider highway network.

### 4.4 OPERATIONAL ASSESSMENT

#### **4.4.1 to 4.4.10: HDM considers that, using trip rates to be agreed, the Hermitage Park junction modelling should be revisited together with the additional junctions of Rowley Lane with Penistone Road; Wakefield Road; and Highgate Lane.**

See below. The sensitivity assessment based on the Hermitage Park Trip Generations is included at the end of each junction assessment.

### TRAFFIC FLOWS

The traffic flow diagrams have been expanded against those included in the Access Appraisal and now includes the following junctions:

- Hermitage Park / Rowley Lane Priority Junction;
- Rowley Lane / Penistone Road Priority Junction;
- Rowley Lane / Wakefield Road Priority Junction; and
- Rowley Lane / Highgate Lane Mini Roundabout.

The junctions listed above have been modelled in the following scenarios in both the AM and PM peaks:

- 2016 Count
- 2021 Base
- 2021 Design (no mitigation)
- 2021 Design (with mitigation as appropriate)
- 2021 Design Sensitivity.

The existing 2016 count information is shown on Figures 100 and 101 for the AM and PM peaks respectively.

To arrive at the 2021 Base flows it has been necessary to growth the 2016 Count flows using TEMPRO. The following growth factors have been applied to the 2016 Count Data:

- AM Peak Hour 1.09; and
- PM Peak Hour 1.09.

The TEMPRO outputs are contained in Appendix F.

The distribution of the design flows through the network have been calculated in accordance with the turning movements as surveyed through the entire network. The distribution of the proposed development traffic is shown on the following Figures:

- Figure 104 AM Development Distribution





- Figure 105 PM Development Distribution

### HERMITAGE PARK ASSESSMENT

This section describes the junction capacity assessments which have been undertaken. Full software output data can be found at Appendix G.

The existing layout of the Hermitage Park/Rowley Lane the layout of which is shown on Drawing No. 13015/IN/02 attached at Appendix H has been modelled using the PICADY function in the JUNCTIONS 8 software.

The junction has been modelled for the AM and PM peak hours with the 2016 surveyed traffic flows and the results are summarised in Table 4.1.

**Table 4.1 Hermitage Park/Rowley Lane Priority Junction (Existing) 2016 Survey**

Movement	AM				PM			
	RFC	Delay (S)	Mean Q	Observed Q	RFC	Delay (S)	Mean Q	Observed Q
Hermitage Park Left Turn Out	0.01	6.12	0	0	0.00	0.00	0	0
Hermitage Park Right Turn Out	0.01	7.81	0	0	0.00	0.00	0	0
Rowley Lane	0.00	5.20	0	0	0.01	5.34	0	0

A Ratio of Flow to Capacity value below 0.85 indicates that a junction or arm operates within desirable operational parameters. An RFC value between 0.85 and 1.00 indicates that there may be occasions during the period modelled when queues will develop and delays will occur. An RFC value greater than 1.00 indicates that the junction or arm operates beyond its theoretical capacity.

The results in Table 4.1 show that the existing junction operates well within capacity in both the AM and PM peak hours with a maximum RFC value of 0.01 predicted on the Site access during the PM peak hour.

It can also be seen from the results in Table 4.1 that the modelled queue correlates with the observed queues (the results of the survey are attached at Appendix C)

The junction has then been modelled in the 2021 Base scenario to enable the comparison of the operation of the junction in the with and without development traffic in the 2021 design year.



**Table 4.2 Hermitage Park/Rowley Lane Priority Junction 2021 Base**

Movement	AM			PM		
	RFC	Delay (S)	Mean Q	RFC	Delay (S)	Mean Q
Hermitage Park Left Turn Out	0.01	6.18	0	0.00	0.00	0
Hermitage Park Right Turn Out	0.01	7.97	0	0.00	0.00	0
Rowley Lane	0.00	5.15	0	0.01	5.30	0

The results in Table 4.2 show that the Hermitage Park/Rowley Lane junction continues to operate comfortably within capacity in the 2021 base scenario in both the AM and PM peak hours with a maximum RFC value of 0.01 predicted on Hermitage Park during the AM peak hour. No queuing either on Hermitage Park or Rowley Lane is predicted.

Table 4.3 shows the predicted results of the junction operation in the 2021 design scenario. The traffic flows that have been modelled are shown on Figures 110 (AM) and 111 (PM). The results shown that the junction continues to operate well within capacity in the 2021 design scenario.

**Table 4.3 Hermitage Park/Rowley Lane Priority Junction (Proposed) 2021 Design**

Movement	AM			PM		
	RFC	Delay (S)	Mean Q	RFC	Delay (S)	Mean Q
Hermitage Park Left Turn Out	0.13	7.29	0	0.04	5.68	0
Hermitage Park Right Turn Out	0.13	9.23	0	0.06	9.56	0
Rowley Lane	0.03	5.27	0	0.09	5.66	0



## 2021 Design Sensitivity

A design sensitivity test has been undertaken utilising trip rates calculated based on the turning movements from Hermitage Park recorded in 2016. In order to calculate the trip rates the movements in the AM and PM peak hours have been divided by 20 (the number of houses accessed via Hermitage Park).

Table 4.4 shows the how the trip rates have been calculated.

**Table 4.4 Hermitage Park Trip Rates**

	Trip Gens			Trip Rates		
	Arr	Dep	Total	Arr	Dep	Tot
AM Peak	3	9	12	0.15	0.45	0.60
PM Peak	7	4	11	0.35	0.2	0.55

The trip rates shown in Table 4.4 have then been multiplied by 280 and distributed through the network before being added to the 2021 base flows to calculate the design sensitivity flows shown on Figure 112 (AM) and 113 (PM).

**Table 4.5 2021 Design Sensitivity**

Movement	AM			PM		
	RFC	Delay (S)	Mean Q	RFC	Delay (S)	Mean Q
Hermitage Park Left Turn Out	0.15	7.51	0	0.05	5.80	0
Hermitage Park Right Turn Out	0.15	9.49	0	0.08	9.87	0
Rowley Lane	0.03	5.29	0	0.10	5.74	0

It can be seen from the results in Table 4.5 that even in the design sensitivity scenario the junction will continue to operate comfortably within capacity.



## ROWLEY LANE / PENISTONE ROAD ASSESSMENT

The Rowley Lane / Penistone Road junction has been assessed using PICADY software. Table 4.6 shows the results of the 2016 count model.

**Table 4.6 2016 Count Results**

Movement	AM				PM			
	RFC	Delay (S)	Mean Q	Observed Q	RFC	Delay (S)	Mean Q	Observed Q
Rowley Lane Left Turn Out	0.56	18.10	1	1	1.00	119.27	10	3
Rowley Lane Right Turn Out	0.56	82.71	1	1	0.91	237.69	4	1
A629 Penistone Road	0.44	11.68	1	1	0.37	12.42	1	1

It can be seen from the results shown in Table 4.6 that the junction is predicted to operate within the desired capacity of 0.85 in the AM peak hour but it operates at capacity in the peak hour with a maximum RFC value of 1.00 it should be noted that minimal queuing is predicted (10 vehicles) which is considered to be acceptable.

The 2021 Base Flows have then been modelled i.e. with the addition of traffic growth.



**Table 4.7 2021 Base Results**

Movement	AM			PM		
	RFC	Delay (S)	Mean Q	RFC	Delay (S)	Mean Q
Rowley Lane Left Turn Out	1.05	143.01	12	1.45	552.93	54
Rowley Lane Right Turn Out	0.94	265.74	4	1.39	652.29	11
A629 Penistone Road	0.49	13.41	1	0.43	14.56	1

Table 4.7 shows that in the 2021 Base Scenario the junction operates beyond its theoretical capacity. Therefore with the addition of the development traffic it is expected that the junction operation will worsen and require mitigation.

Table 4.8 shows the results of modelling the traffic flows in the 2021 Design Scenario. This shows that the additional of the development traffic increases the RFC values and the queues. This results in a requirement to mitigate the impact of the additional traffic so that the junction operates no worse in the 2021 design scenario than in the 2021 base scenario.

**Table 4.8 2021 Design Results**

Movement	AM			PM		
	RFC	Delay (S)	Mean Q	RFC	Delay (S)	Mean Q
Rowley Lane Left Turn Out	1.24	336.46	34	1.75	808.99	77
Rowley Lane Right Turn Out	1.17	431.67	8	1.69	894.28	16
A629 Penistone Road	0.50	13.65	1	0.50	16.77	1

A mitigation scheme is proposed that includes the widening of the Rowley Lane approach to Penistone Road to ease movements through the junction. The proposed mitigation scheme is shown on the drawing attached at Appendix I.

The improvements to the junction have then been reflected in the PICADY software and modelled in the 2021 Design Scenario and the 2021 Design Sensitivity Scenario. Table 4.9 and 4.10 summarises the results each of these scenarios respectively.



**Table 4.9 2021 Design with Mitigation**

Movement	AM			PM		
	RFC	Delay (S)	Mean Q	RFC	Delay (S)	Mean Q
Rowley Lane Left Turn Out	0.89	69.74	6	1.18	312.11	32
Rowley Lane Right Turn Out	0.90	211.20	4	1.33	512.85	11
A629 Penistone Road	0.50	13.65	1	0.50	16.77	1

**Table 4.10 2021 Design Sensitivity with Mitigation**

Movement	AM			PM		
	RFC	Delay (S)	Mean Q	RFC	Delay (S)	Mean Q
Rowley Lane Left Turn Out	0.92	80.12	7	1.20	342.15	36
Rowley Lane Right Turn Out	0.91	220.87	4	1.41	558.14	12
A629 Penistone Road	0.50	13.71	1	0.51	17.24	1

It can be seen that even in the robust design sensitivity scenario (Table 4.10) the mitigation scheme brings the operation of the junction back to within a maximum RFC value of 1 in the AM peak which is better than the operation in the base scenario.

In the PM peak the mitigation scheme provides an overall improvement when the Design Sensitivity Flows are modelled against the pre mitigation 2021 Base Scenario. The left turn out queue is reduced from 54 to 36 with the right turn out queue increasing by just 1 from 11 to 12 i.e. an overall improvement.

The mitigation scheme therefore improves the overall operation of the junction in the 2021 design scenario when compared with the 2021 base scenario and mitigates the impact of the development.



## ROWLEY LANE / HIGHGATE LANE ASSESSMENT

The Rowley Lane / Highgate Lane mini roundabout junction has been assessed using ARCADY software. Table 4.11 shows the results of the 2016 count model.

**Table 4.11 2016 Count Results**

Movement	AM				PM			
	RFC	Delay (S)	Mean Q	Observed Q	RFC	Delay (S)	Mean Q	Observed Q
Rowley Lane (E)	0.23	5.09	0	0	0.40	6.53	1	1
Rowley Lane (W)	0.32	6.54	0	0	0.26	6.29	0	1
Highgate Lane	0.19	6.05	0	0	0.21	5.97	0	0

It can be seen from the results shown in Table 4.11 that the junction operates within capacity in the AM peak and PM peak hours with a maximum RFC value of 0.46.

The 2021 Base Flows have then been modelled i.e. with the addition of traffic growth.

**Table 4.12 2021 Base Results**

Movement	AM			PM		
	RFC	Delay (S)	Mean Q	RFC	Delay (S)	Mean Q
Rowley Lane (E)	0.25	5.24	0	0.44	7	1
Rowley Lane (W)	0.34	6.82	1	0.29	6.55	0
Highgate Lane	0.21	6.27	0	0.23	6.19	0

Table 4.12 shows that in the 2021 Base Scenario the roundabout continues to operate within capacity.

Table 4.13 shows the results of modelling the traffic flows in the 2021 Design Scenario. This shows that the junction continues to operate within capacity with the addition of development traffic.



**Table 4.13 2021 Design Results**

Movement	AM			PM		
	RFC	Delay (S)	Mean Q	RFC	Delay (S)	Mean Q
Rowley Lane (E)	0.27	5.42	0	0.49	7.71	1
Rowley Lane (W)	0.41	7.59	1	0.32	6.84	0
Highgate Lane	0.22	6.62	0	0.25	6.40	0

Table 4.14 shows the roundabout modelled with the robust sensitivity flows.

**Table 4.14 2021 Design Sensitivity Results**

Movement	AM			PM		
	RFC	Delay (S)	Mean Q	RFC	Delay (S)	Mean Q
Rowley Lane (E)	0.27	5.45	0	0.50	7.84	1
Rowley Lane (W)	0.42	7.72	1	0.33	6.94	0
Highgate Lane	0.23	6.68	0	0.25	6.45	0

Even when the roundabout is modelled using the robust sensitivity situation the roundabout continues to operate comfortably within capacity with minimal queuing predicted therefore no mitigation is required.

### ROWLEY LANE / WAKEFIELD ROAD ASSESSMENT

The Rowley Lane / Wakefield Road junction has been assessed using the PICADY software. Table 4.15 shows the results of the 2016 count model.

**Table 4.15 2016 Count Results**

Movement	AM				PM			
	RFC	Delay (S)	Mean Q	Observed Q	RFC	Delay (S)	Mean Q	Observed Q
Rowley Lane	0.80	53.67	0	4	0.78	56.18	3	6
A642 Wakefield Rd (E)	0.01	5.92	0	0	0.01	0.01	0	0
Knotty Lane	0.08	13.27	0	0	0.15	0.15	0	1
A642 Wakefield Rd (W)	0.02	6.21	0	0	0.06	0.06	0	0

It can be seen from the results shown in Table 4.15 that the junction to operate within the desired capacity 0.85 in both the AM and PM peak hours.





The 2021 Base Flows have then been modelled i.e. with the addition of traffic growth.

**Table 4.16 2021 Base Results**

Movement	AM			PM		
	RFC	Delay (S)	Mean Q	RFC	Delay (S)	Mean Q
Rowley Lane	0.92	102.96	7	0.93	114.94	7
A642 Wakefield Rd (E)	0.01	6.07	0	0.01	5.90	0
Knotty Lane	0.09	14.22	0	0.17	14.68	0
A642 Wakefield Rd (W)	0.02	6.43	0	0.07	7.88	0

Table 4.16 shows that in the 2021 Base Scenario the junction is predicted to operate in excess of the desired RFC of 0.85 on the Rowley Lane arm. Therefore with the addition of the development traffic it is expected that the junction operation will worsen and require mitigation.

**Table 4.17 2021 Design Results**

Movement	AM			PM		
	RFC	Delay (S)	Mean Q	RFC	Delay (S)	Mean Q
Rowley Lane	1.07	215.82	19	1.01	169.21	11
A642 Wakefield Rd (E)	0.01	6.07	0	0.01	5.92	0
Knotty Lane	0.10	14.59	0	0.18	15.43	0
A642 Wakefield Rd (W)	0.03	6.49	0	0.08	8.15	0

Table 4.17 shows the results of modelling the traffic flows in the 2021 Design Scenario. This shows that the additional of the development traffic further increases the RFC values and the queues. This results in a requirement to mitigate the impact of the additional traffic back to the 2021 base operation

A mitigation scheme is proposed that includes the widening of the Rowley Lane approach to Wakefield Road to ease movements through the junction by rationalising the arrangement at the give way line to give drivers more direction and minimise blocking. The proposed mitigation scheme is shown on the drawing attached at Appendix J.

The improvements to the junction have then been input to the PICADY software and modelled in the 2021 Design Scenario and the 2021 Design Sensitivity Scenario.



Table 4.18 and 4.19 summarise the results for the 2021 Design and 2021 Design Sensitivity Scenarios respectively.

**Table 4.18 2021 Design with Mitigation**

Movement	AM			PM		
	RFC	Delay (S)	Mean Q	RFC	Delay (S)	Mean Q
Rowley Lane (Left-Straight)	0.80	197.23	2	0.38	48.07	1
Rowley Lane (Right-Straight)	0.92	97.82	7	0.84	78.42	4
A642 Wakefield Rd (E)	0.01	6.07	0	0.01	5.92	0
Knotty Lane	0.10	14.55	0	0.18	15.41	0
A642 Wakefield Rd (W)	0.03	6.49	0	0.08	8.15	0

It can be seen from the results shown in Table 4.18 that the operation of the junction is predicted to result in worst cased AM RFC value of 0.92 i.e. the same as in the 2021 AM base scenario. The operation of the PM peak is improved such that the junction operates below 0.85 RFC.

**Table 4.19 2021 Design Sensitivity**

Movement	AM			PM		
	RFC	Delay (S)	Mean Q	RFC	Delay (S)	Mean Q
Rowley Lane (Left-Straight)	0.93	233.73	3	0.47	62.28	1
Rowley Lane (Right-Straight)	0.94	110.59	8	0.86	86.39	5
A642 Wakefield Rd (E)	0.01	6.07	0	0.01	5.92	0
Knotty Lane	0.10	14.59	0	0.19	15.68	0
A642 Wakefield Rd (W)	0.03	6.50	0	0.08	8.18	0

In the design sensitivity scenario the RFC value in the AM peak increases by 0.01 and has an overall predicted queue of 11 which is only marginally higher than the 2021 AM base queue of 7. This increase is not considered material and certainly cannot be considered severe in accordance with paragraph 32 of National Planning Policy Framework (NPPF).

In the PM peak the junction is predicted to operate more efficiently with the implementation of the mitigation measures than in the 2021 base scenario.

It is therefore considered that the implementation of the improvement works are sufficient to mitigate the impact of the development and result in an overall improvement in the operation of the junction even in the robust design sensitivity scenario when compared against the base 2021 scenarios.



## 5. Summary and Conclusions

This report has been prepared to provide additional evidence to Kirklees Council that the proposed allocation of land to the south of Rowley Lane for 280 residential units can be accommodated by the local highway network and that the site is appropriate for residential development with respect to access to services.

This report has comprehensively addressed the points raised by Highways Development Management.

This report provides additional information regarding school drop off and the perceived issues that this creates in relation to the ability of Hermitage Park to accommodate a total of 300 units:

- The gradient of Hermitage Park complies with the West Yorkshire Design Guide;
- Further evidence has been provided demonstrating that the school drop off occurs over a very short period of time in an isolated location;
- The PM development peak does not coincide with the PM school peak
- Accident data confirms that there are no highway safety issues associated with the school drop off;
- Capacity assessments have confirmed that there will be no operational issues at the Hermitage Park junction either in the existing or proposed scenarios;
- The proposed development is within a very short walk of the school and therefore will not exacerbate any on street parking in vicinity of the junction of Hermitage Park and Rowley Lane;
- Notwithstanding the above points should the development be allocated the developer commits to the provision of a signalised pedestrian crossing to facilitate movements between the development and the school – this will also benefit existing trips to the school;
- The developer will also assist with the implementation of parking controls to reduce footway parking and will investigate options to provide measures to accommodate any displaced parking or school travel planning measures.

A full review of the accessibility of the Site has been undertaken in response to the comments from HDM and this has concluded that the development is located in a sustainable location.

Sensitivity tests have been undertaken utilising trip rates based on the Hermitage Park traffic count.

The junction modelling (including the sensitivity testing) that has been undertaken on the wider highway network has demonstrated that the development can be accommodated without the need for highway improvement works at the following junctions:

- Hermitage Park / Rowley Lane Priority Junction; and
- Rowley Lane / Highgate Lane Mini Roundabout.

Mitigation measures to increase the capacity of the following junctions may be required in future design scenario – full details of preliminary mitigation schemes have been provided for the following junctions:

- Rowley Lane / Wakefield Road Priority Junction; and
- Rowley Lane / Penistone Road Priority Junction.



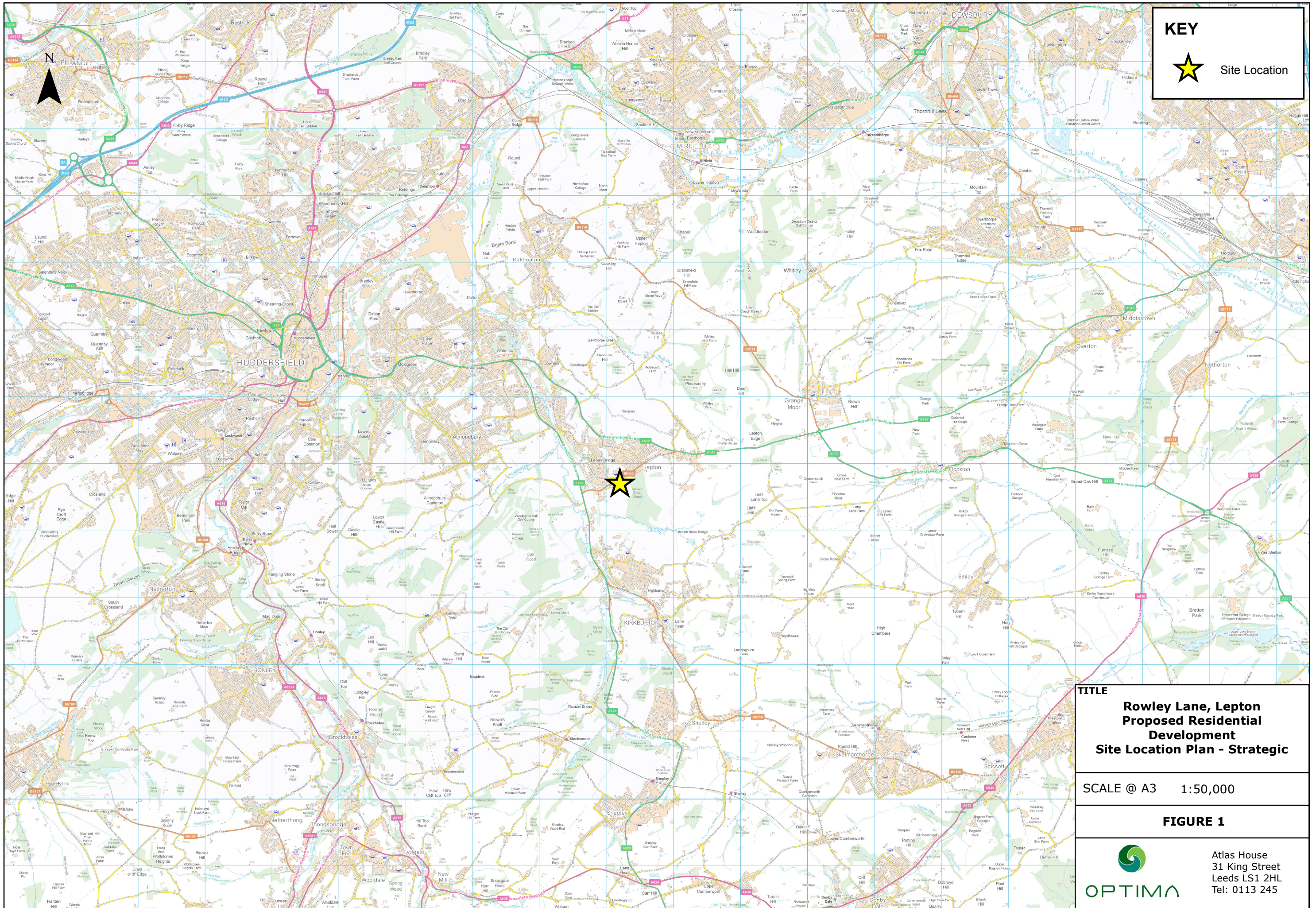
It should also be recognised that there are no accident concerns throughout the study network with only six accidents occurring along the Rowley Lane corridor in a five year period. There are no accident clusters in the area and only one of the accidents has been classified as serious. None of the accidents have resulted in injury to pedestrians.

Based on the content of this Addendum and the original access appraisal previously submitted in support of the allocation it is considered that there are no highway reasons that should prevent this land being allocated for residential purposes.




# Figures





**KEY**


 Site Location

**TITLE**

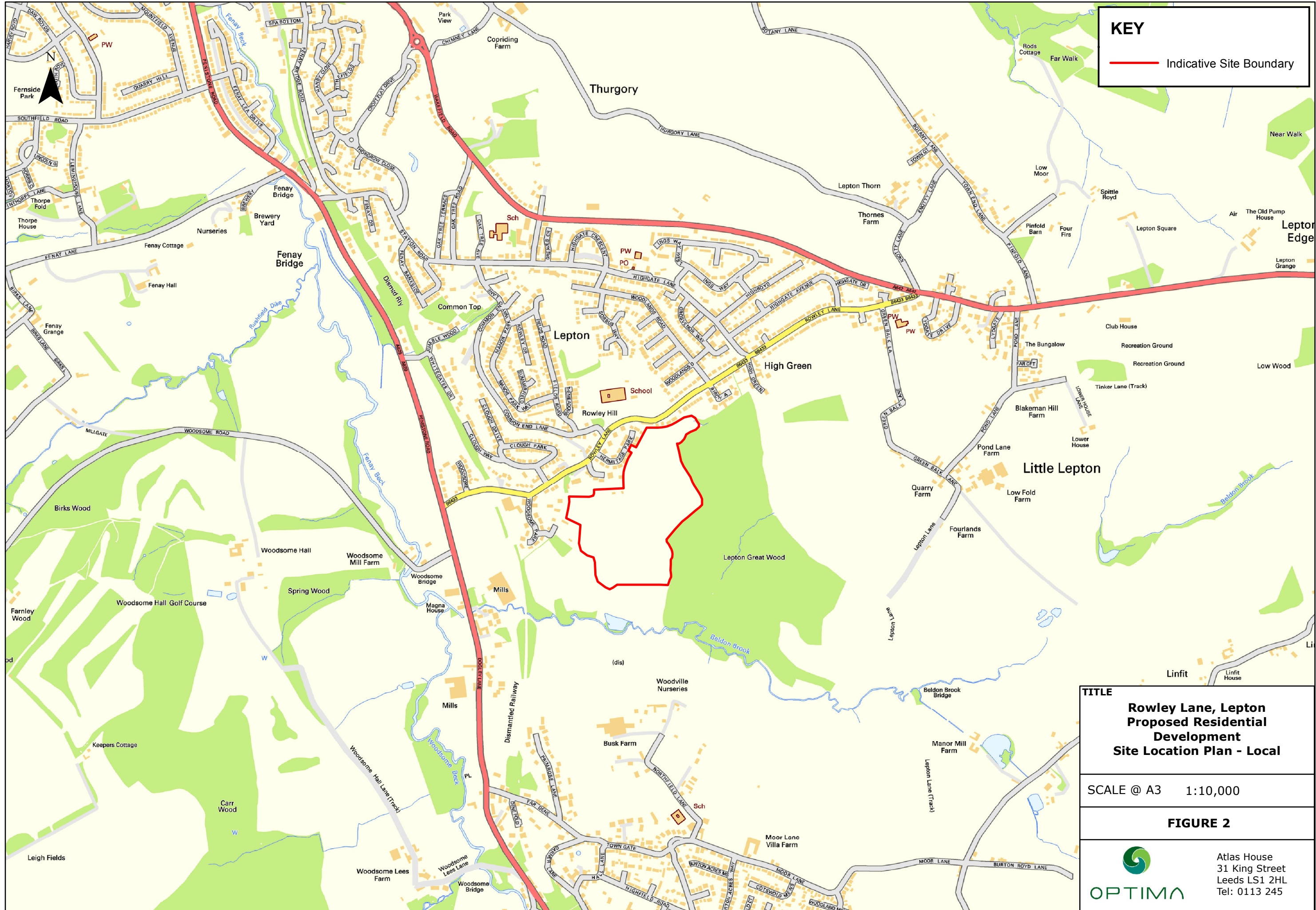
**Rowley Lane, Lepton  
Proposed Residential  
Development  
Site Location Plan - Strategic**

**SCALE @ A3 1:50,000**

**FIGURE 1**

 **OPTIMA**

Atlas House  
31 King Street  
Leeds LS1 2HL  
Tel: 0113 245



**KEY**


— Indicative Site Boundary

**TITLE**

**Rowley Lane, Lepton  
Proposed Residential  
Development  
Site Location Plan - Local**

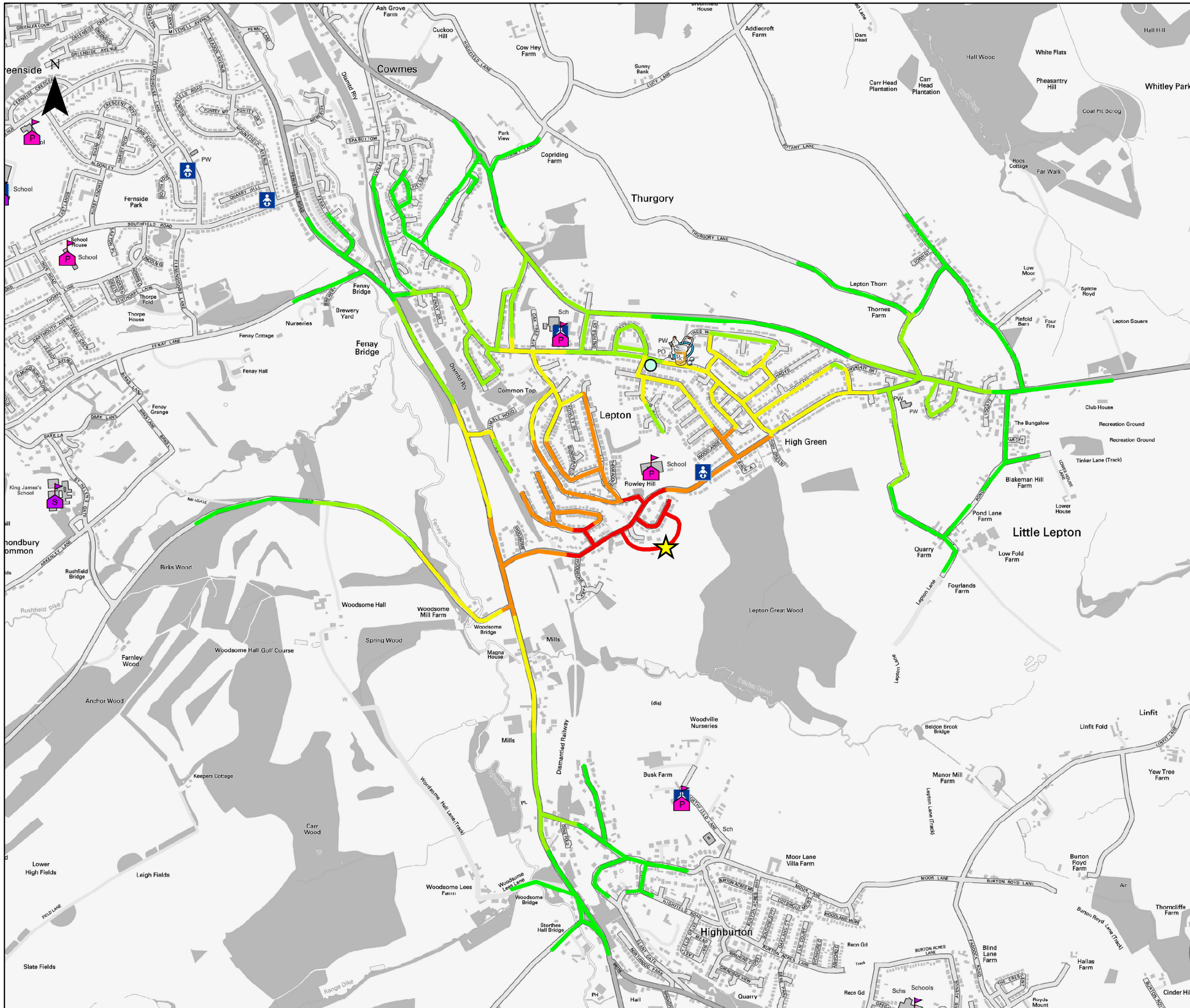
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**FIGURE 2**















Atlas House  
31 King Street  
Leeds LS1 2HL  
Tel: 0113 245

Path: C:\Rowley Lane, Lepton\DRAWINGS\GIS\ARCEDITOR\Site Location.mxd



**KEY**

-  Site Location
- Pedestrian Accessibility (Walk Speed 4.8kph)**
-  0-5 Minutes
-  5-10 Minutes
-  10-15 Minutes
-  15-20 Minutes
-  20-25 Minutes\*
-  Secondary School
-  Primary School
-  Pharmacies
-  Nurseries
-  Dentists
-  GPs

\*25 mins (2km) = IHT Standard in 'Providing for Journeys on Foot' Isochrones generated using Network Analyst 10.0 Copyright (C) 1999-2010 ESRI Inc. All Rights Reserved

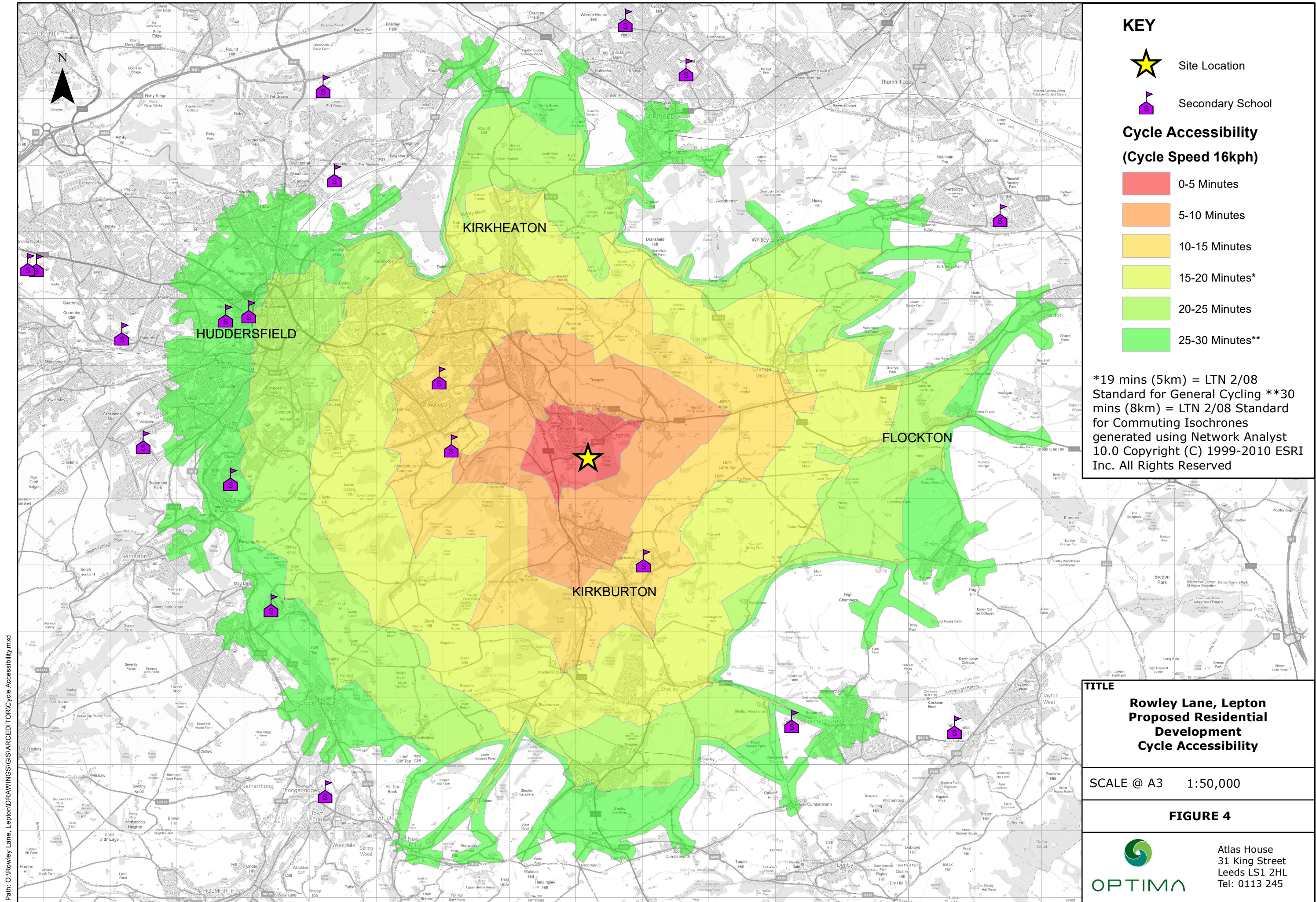
**TITLE**  
**Rowley Lane, Lepton  
 Proposed Residential  
 Development  
 Pedestrian Accessibility**

SCALE @ A3 1:12,500

**FIGURE 3**

 Atlas House  
 31 King Street  
 Leeds LS1 2HL  
 Tel: 0113 245





**KEY**



Site Location



Secondary School

**Cycle Accessibility  
(Cycle Speed 16kph)**

- 0-5 Minutes
- 5-10 Minutes
- 10-15 Minutes
- 15-20 Minutes\*
- 20-25 Minutes
- 25-30 Minutes\*\*

\*19 mins (5km) = LTN 2/08 Standard for General Cycling \*\*30 mins (8km) = LTN 2/08 Standard for Commuting Isochrones generated using Network Analyst 10.0 Copyright (C) 1999-2010 ESRI Inc. All Rights Reserved

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**TITLE**

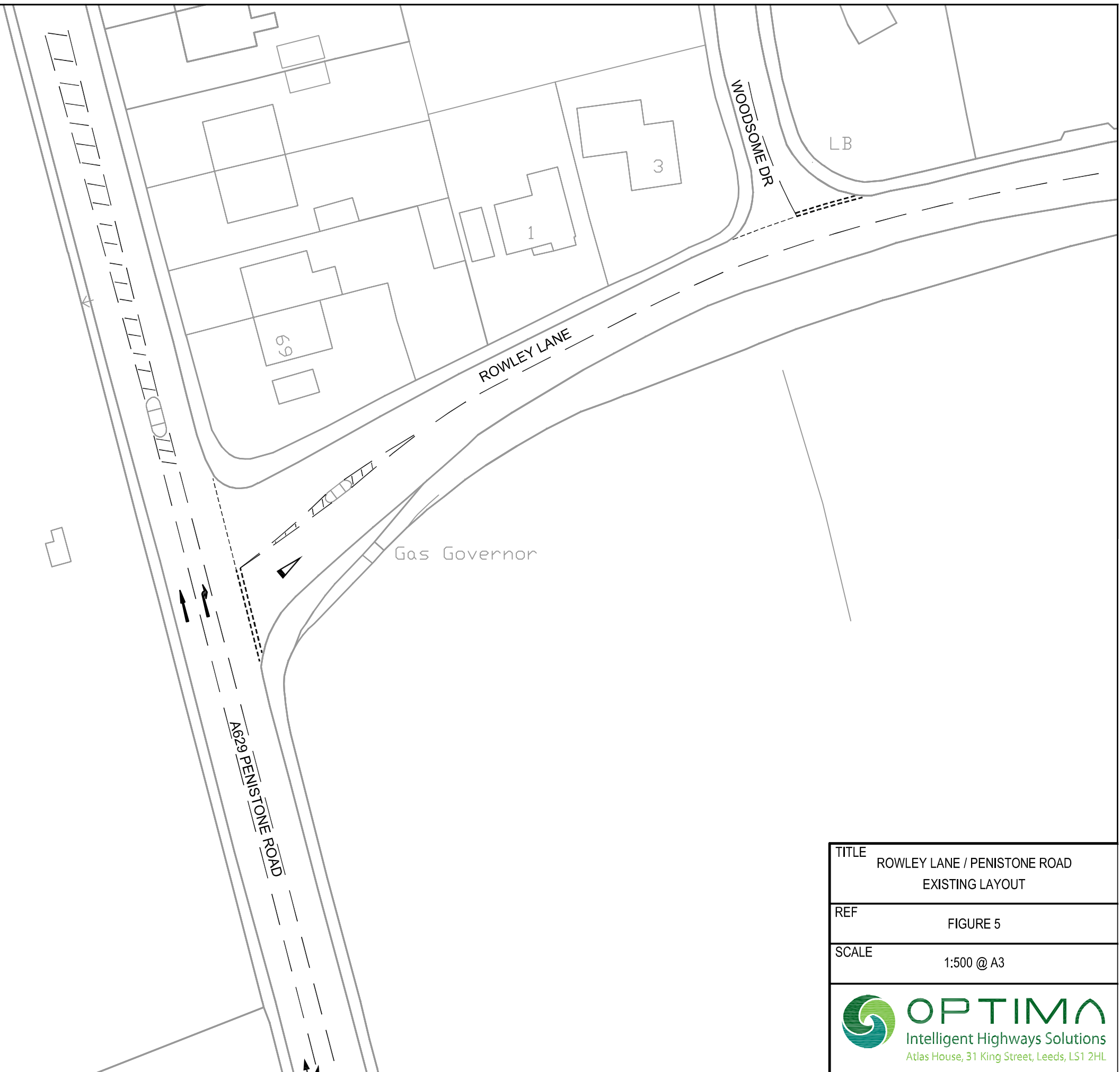
**Rowley Lane, Lepton  
Proposed Residential  
Development  
Cycle Accessibility**

SCALE @ A3 1:50,000

**FIGURE 4**

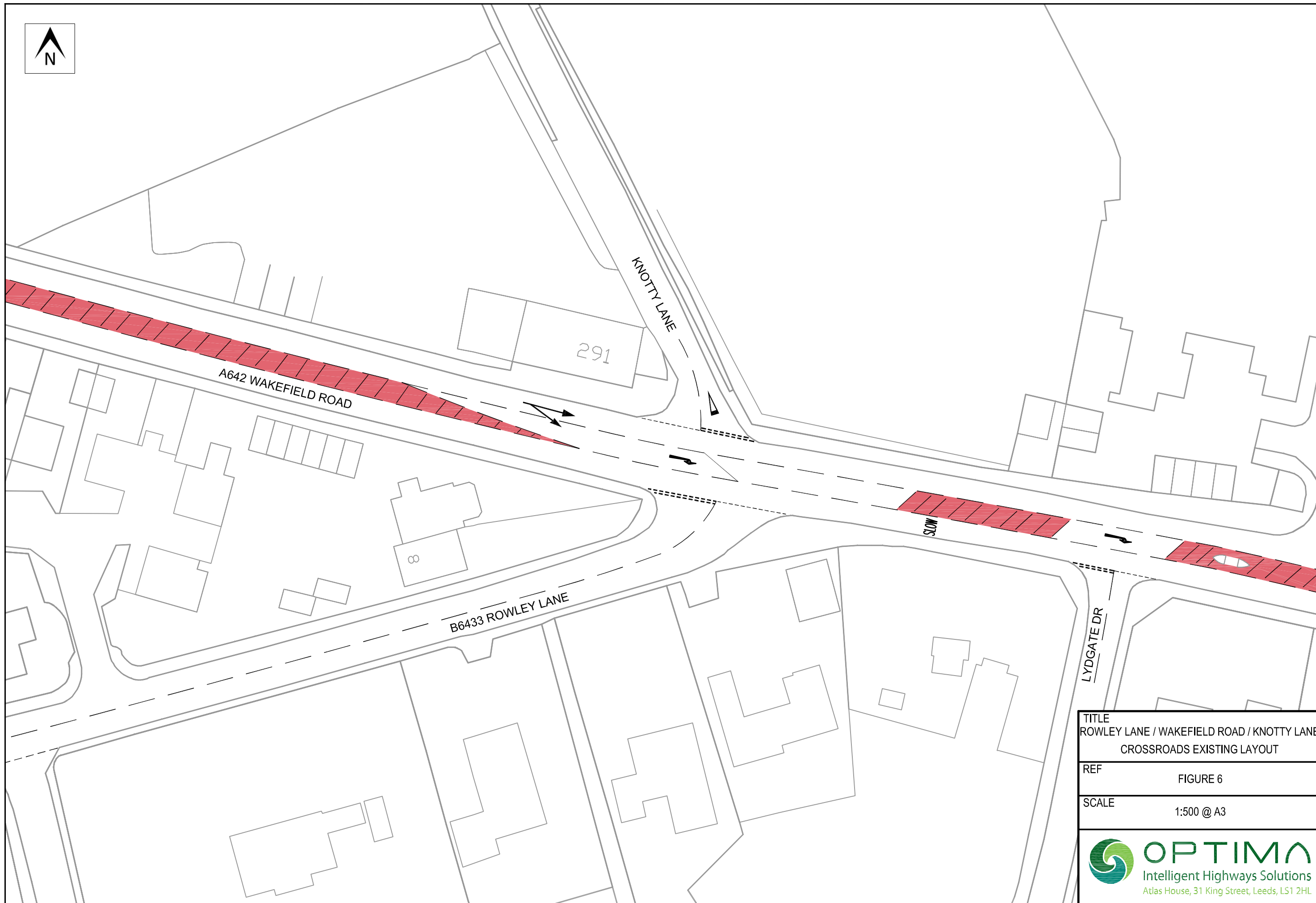


Atlas House  
31 King Street  
Leeds LS1 2HL  
Tel: 0113 245



TITLE	ROWLEY LANE / PENISTONE ROAD EXISTING LAYOUT
REF	FIGURE 5
SCALE	1:500 @ A3



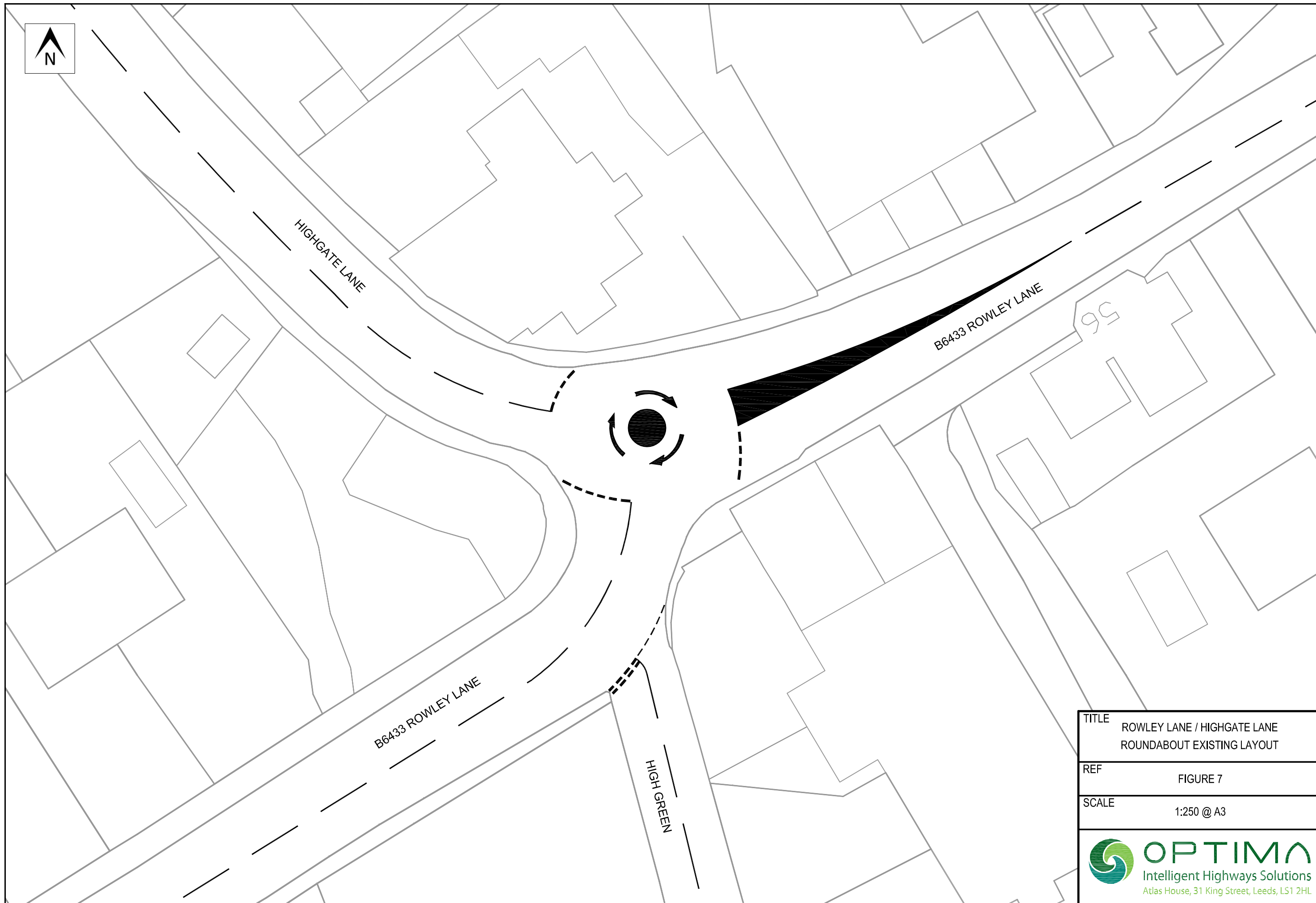


TITLE  
ROWLEY LANE / WAKEFIELD ROAD / KNOTTY LANE  
CROSSROADS EXISTING LAYOUT

REF  
FIGURE 6

SCALE  
1:500 @ A3



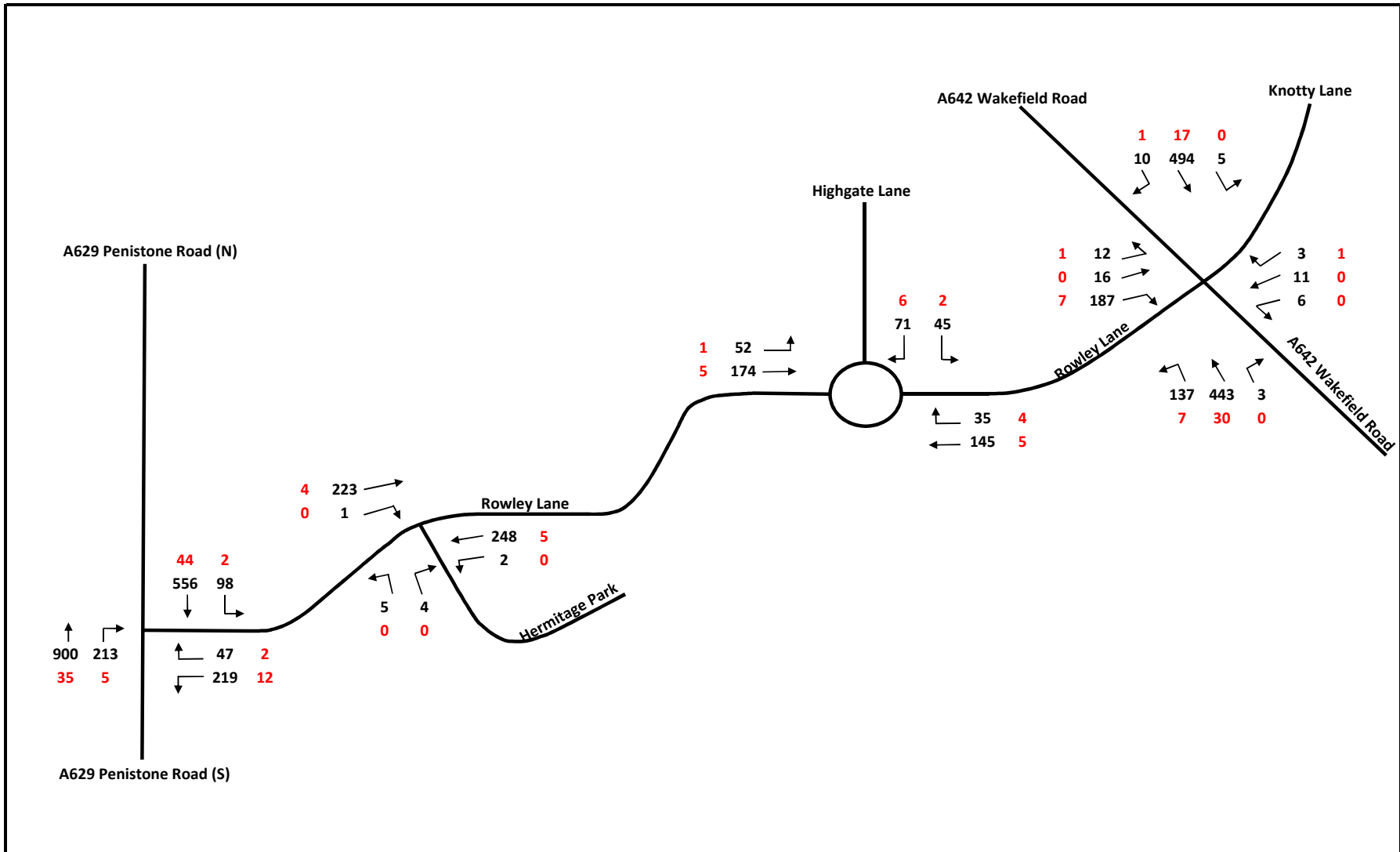


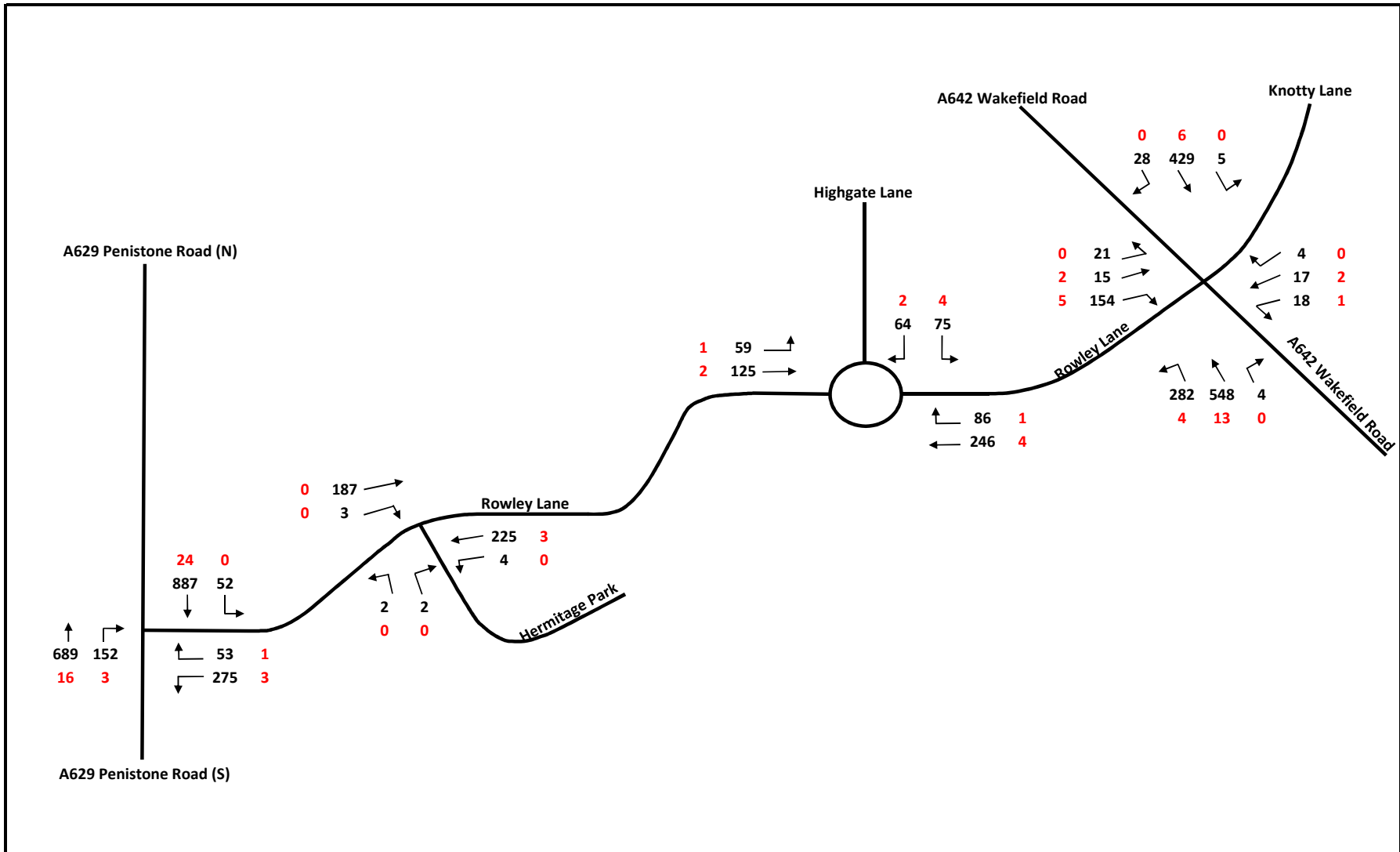
TITLE ROWLEY LANE / HIGHGATE LANE  
ROUNDBOUT EXISTING LAYOUT

REF FIGURE 7

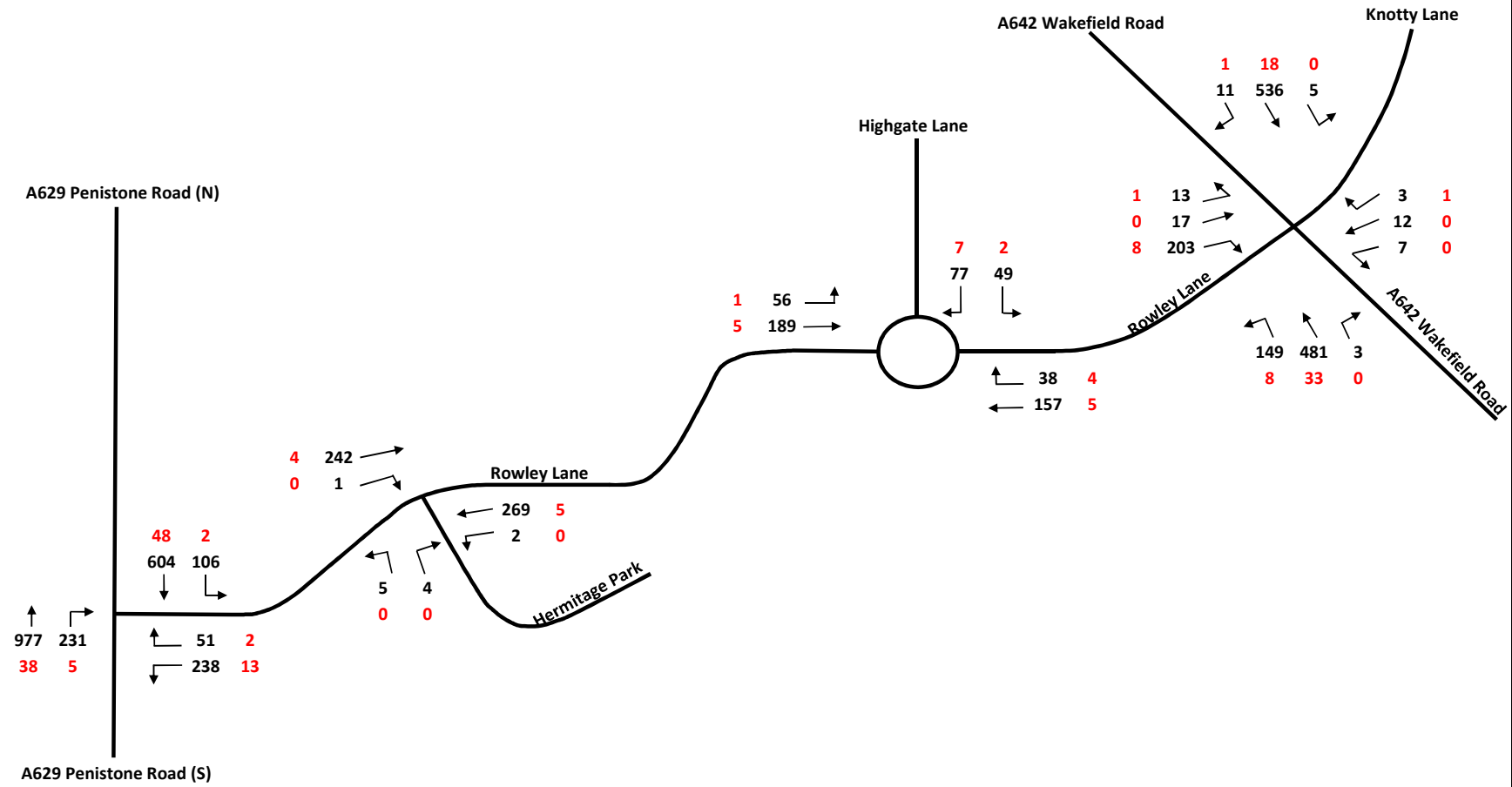
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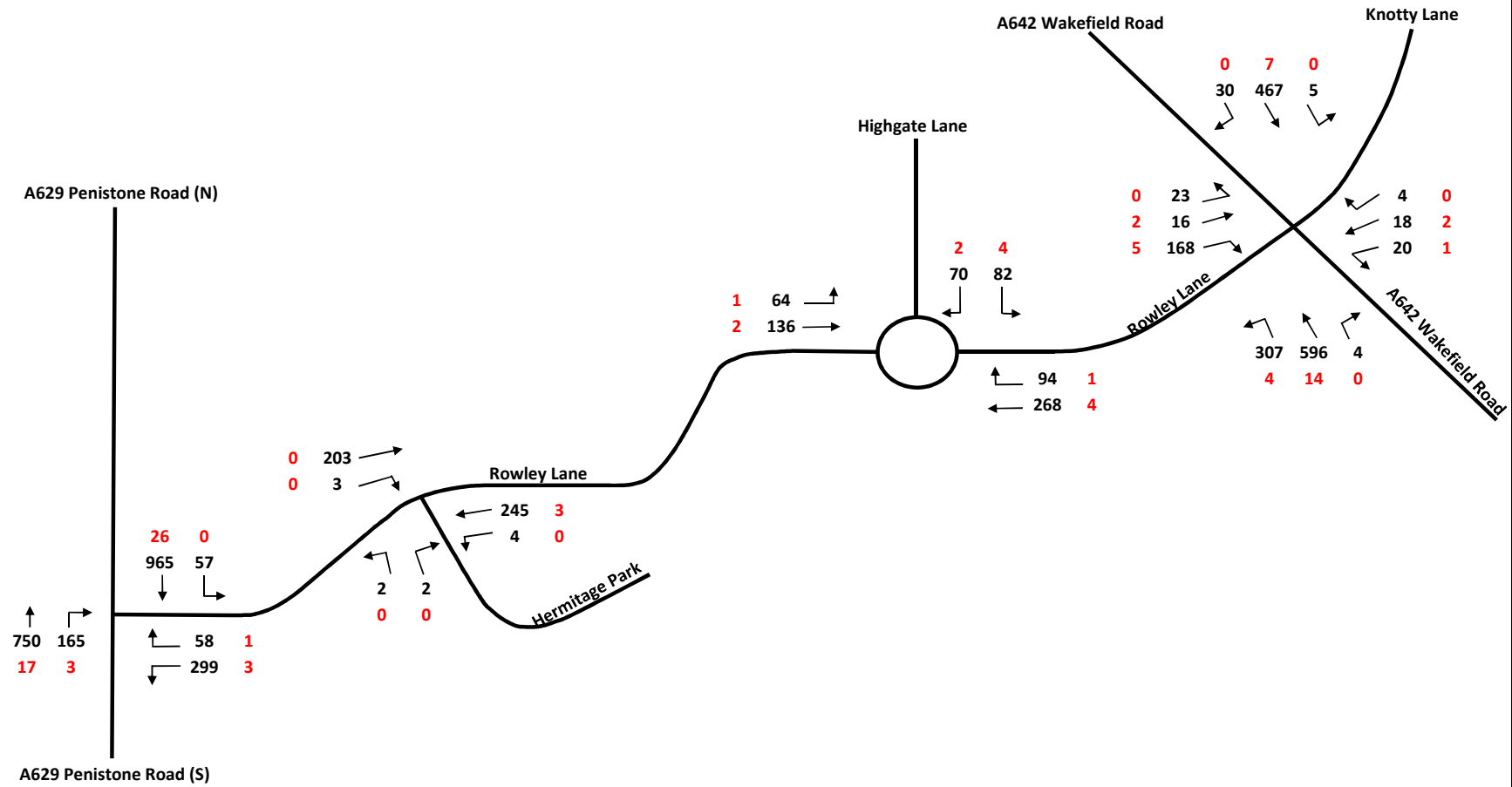




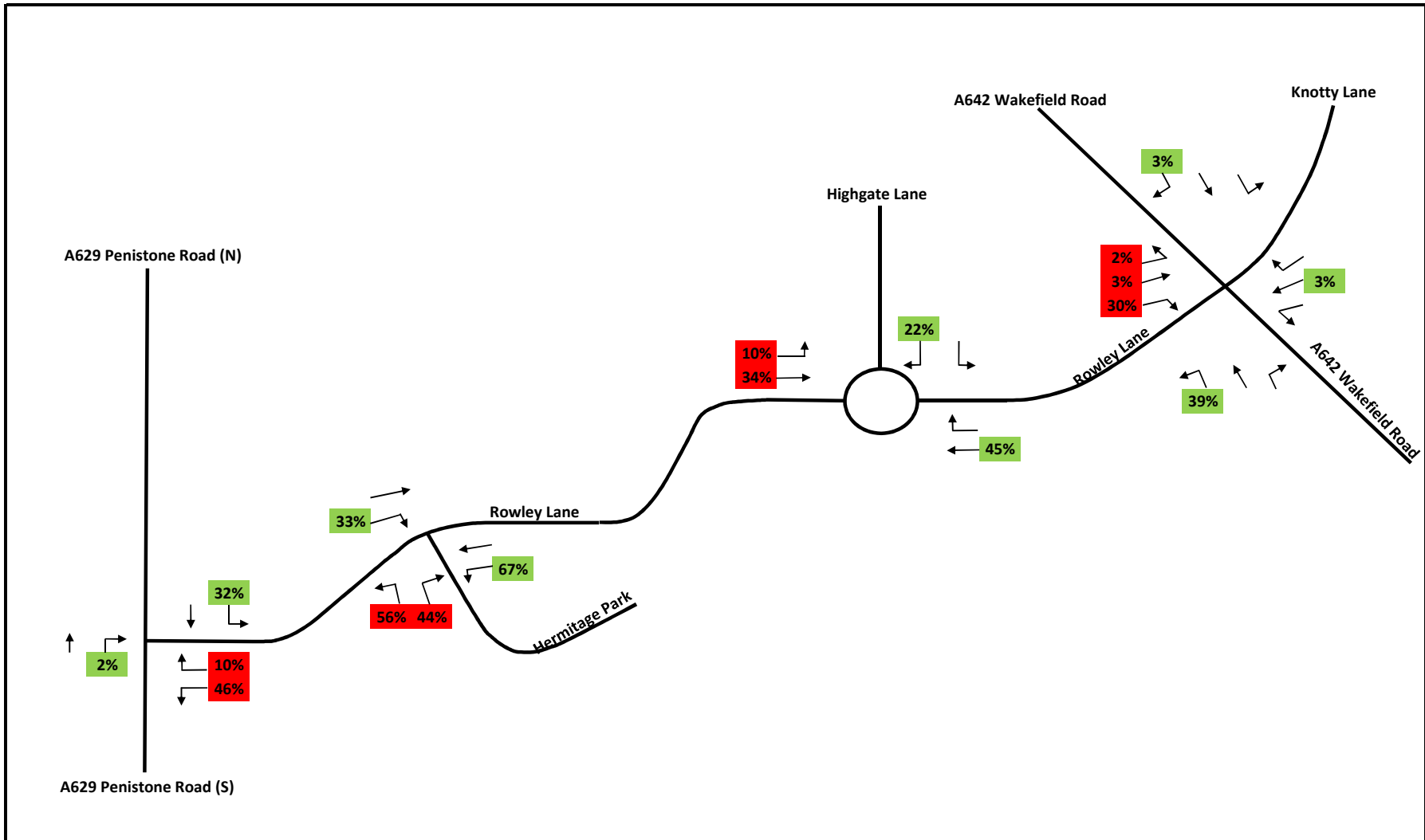
GROWTH FACTOR 1.09



GROWTH FACTOR 1.09







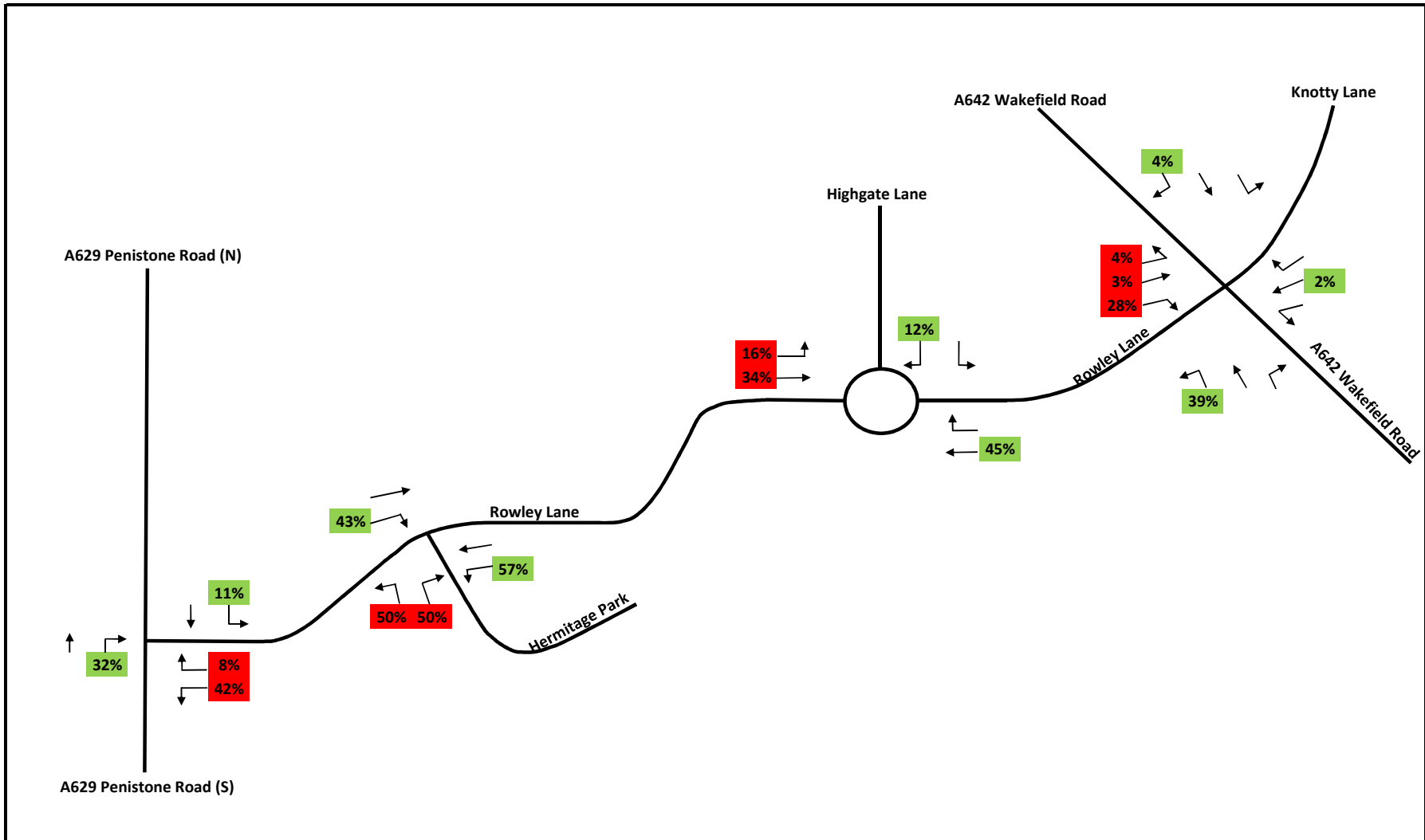
\*AM Distribution based on 2016 AM Count turning proportions



Rowley Lane, Lepton

**AM DISTRIBUTION**

Figure: 104



\*PM Distribution based on 2016 PM Count turning proportions

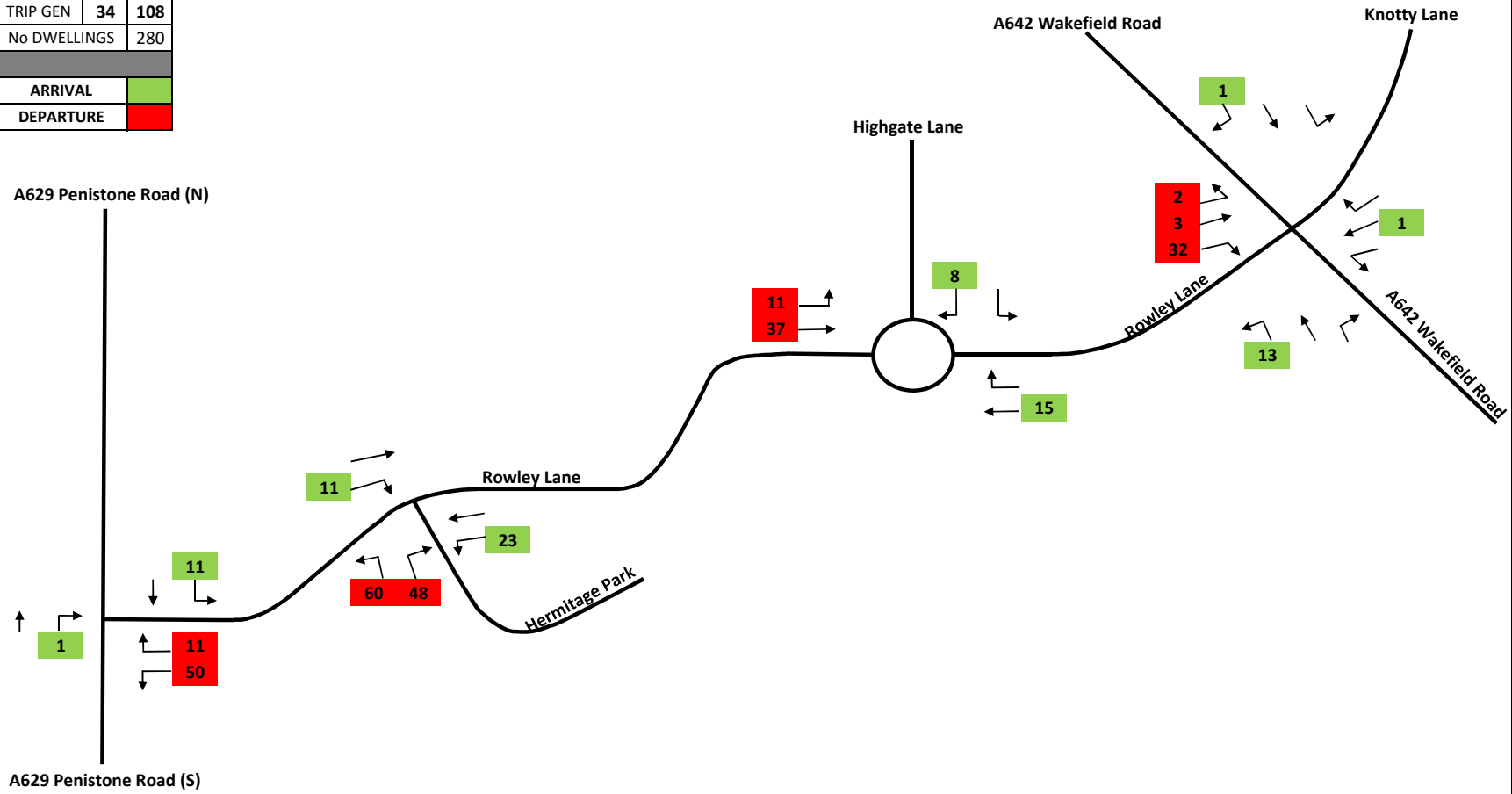


Rowley Lane, Lepton

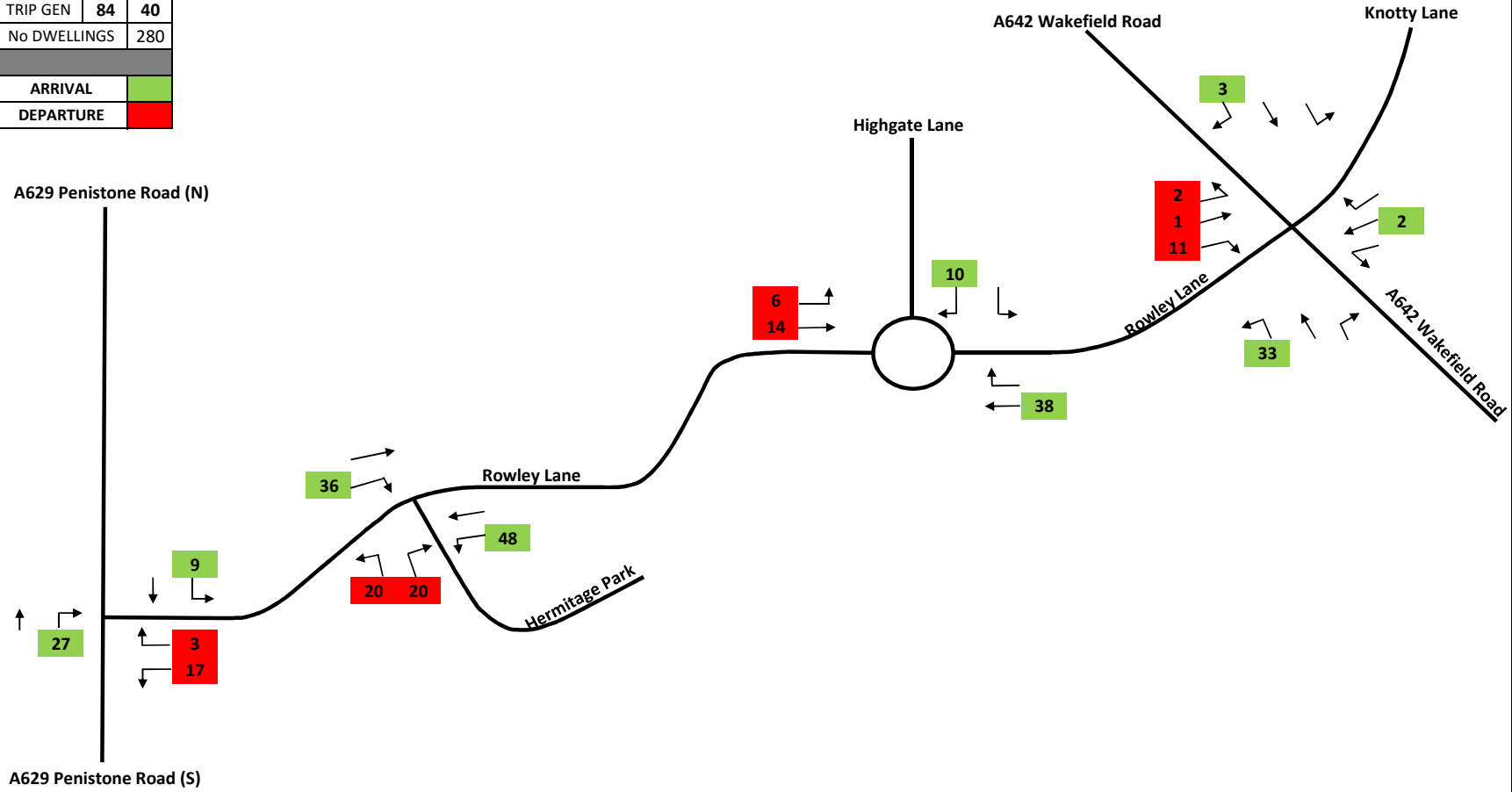
**PM DISTRIBUTION**

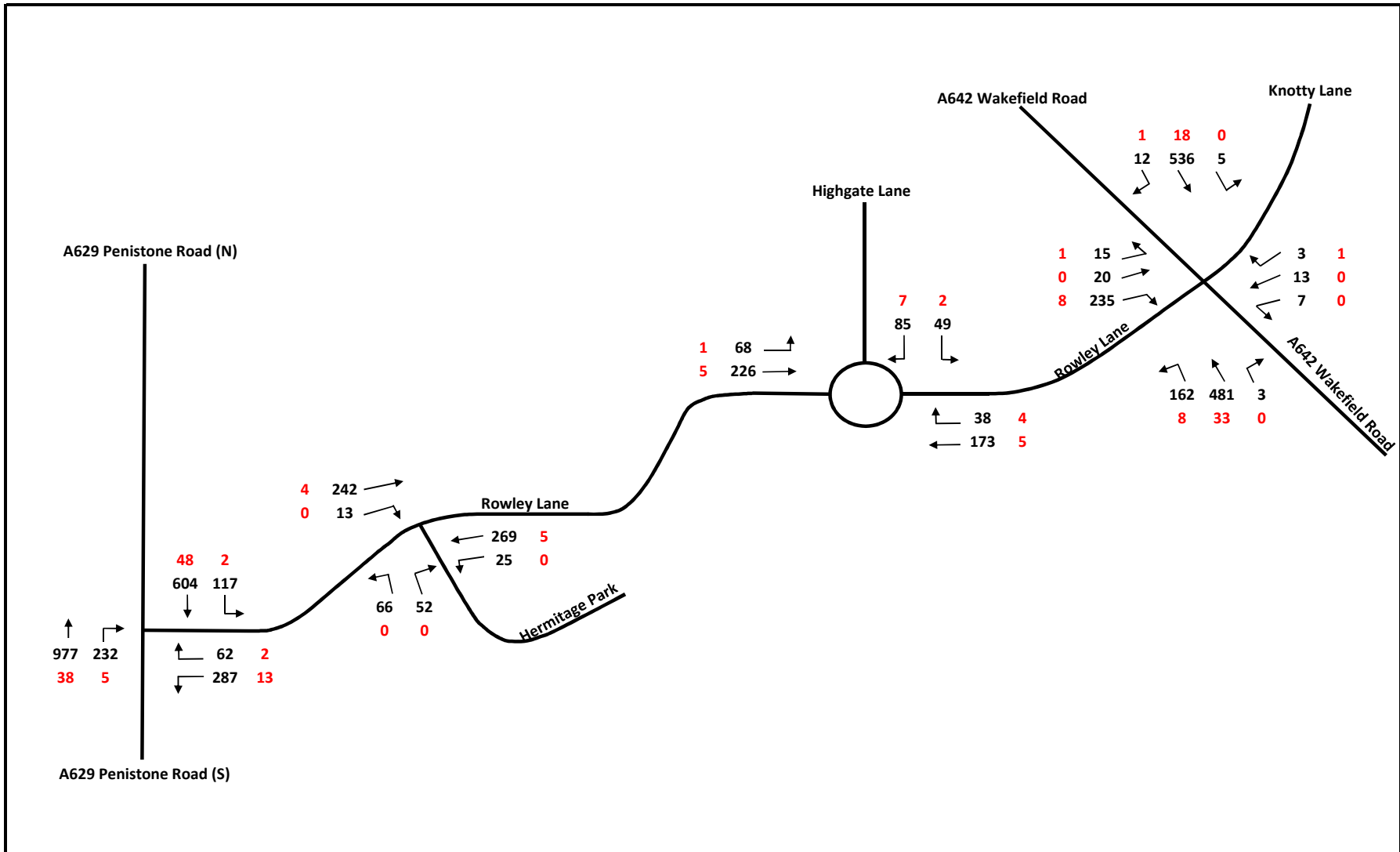
Figure: 105

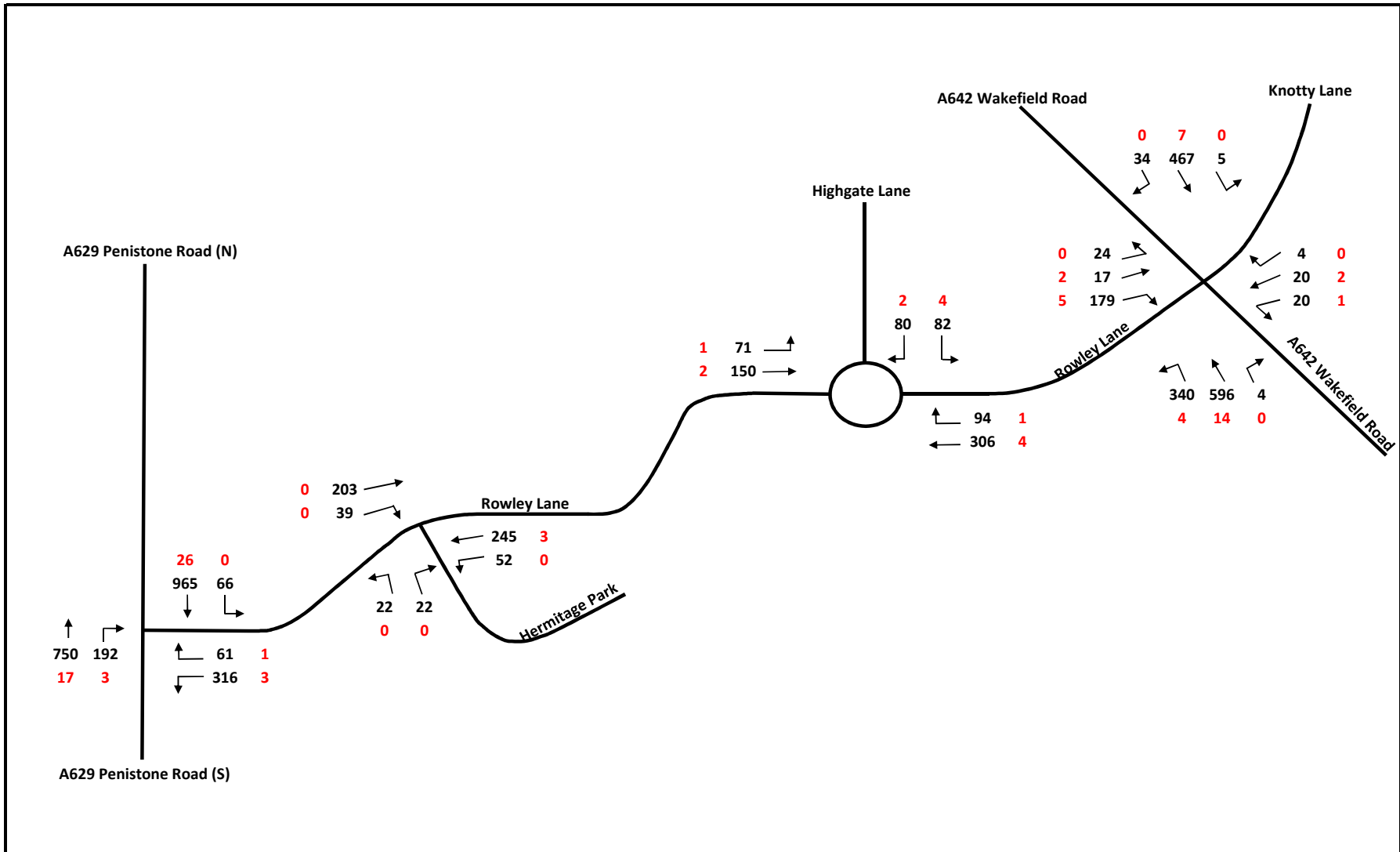
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TRIP GEN	34	108
No DWELLINGS	280	
ARRIVAL		
DEPARTURE		



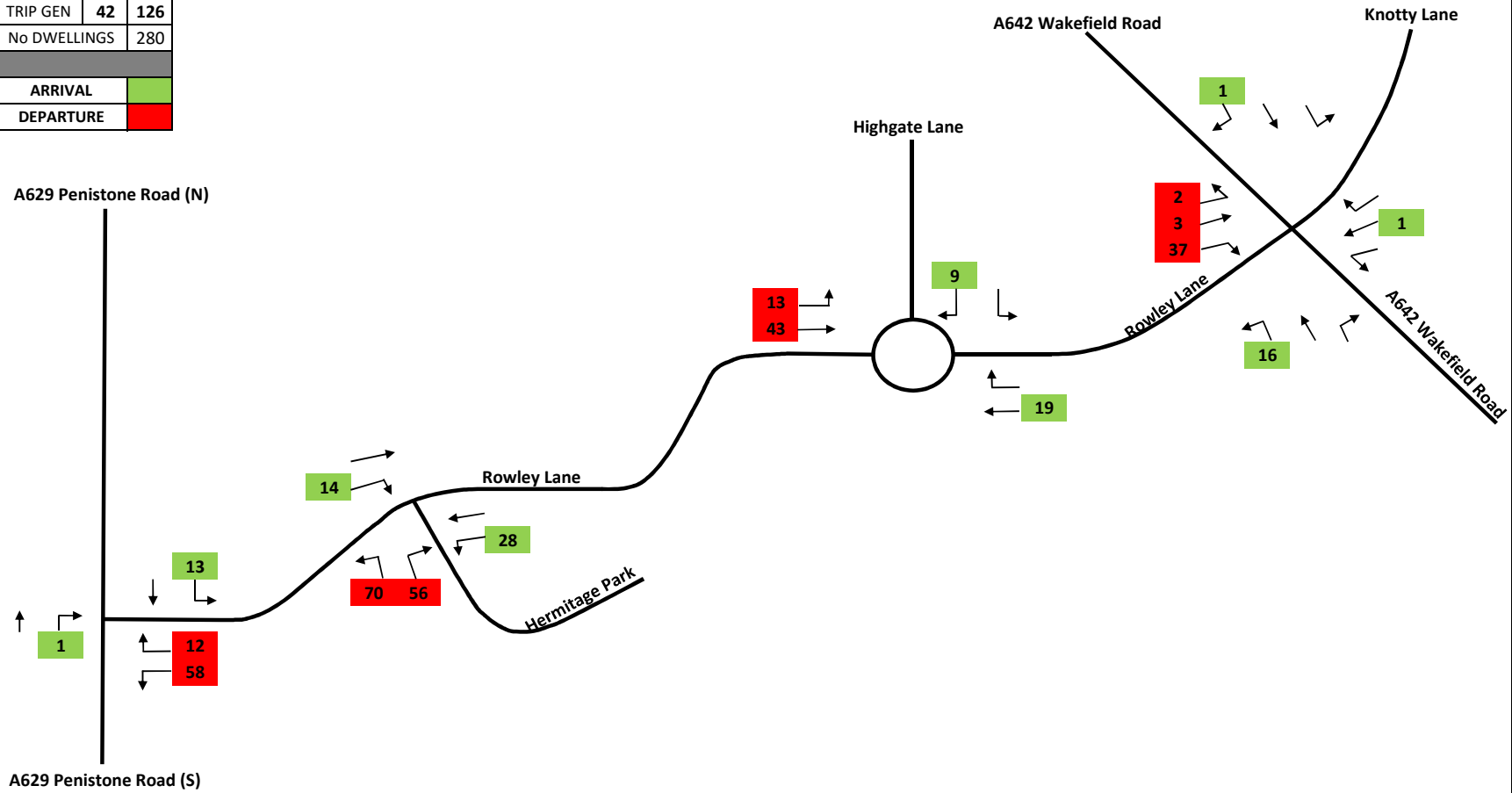
PM	ARR	DEP
TRIP RATE	0.3	0.14
TRIP GEN	84	40
No DWELLINGS	280	
ARRIVAL		
DEPARTURE		



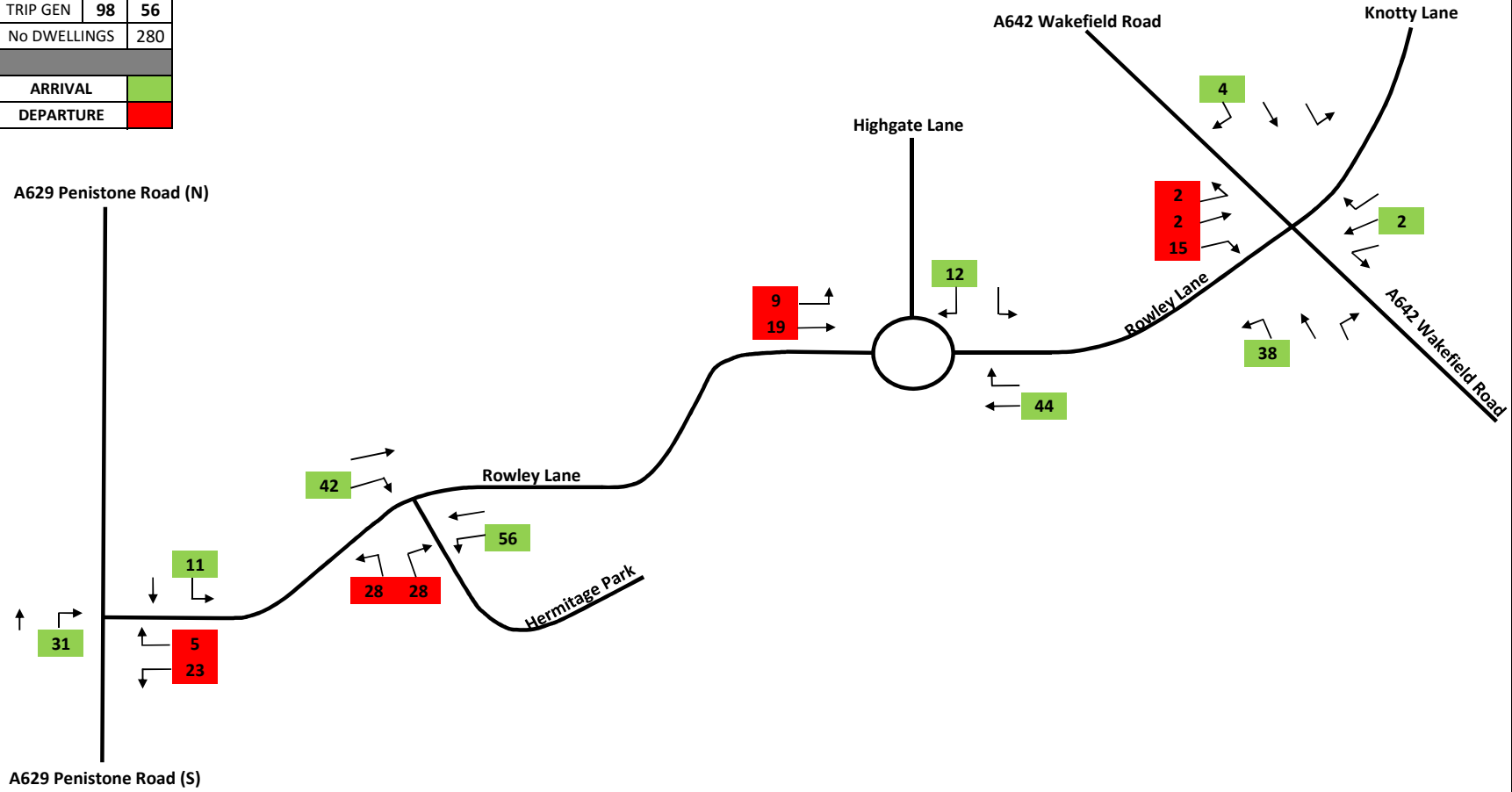




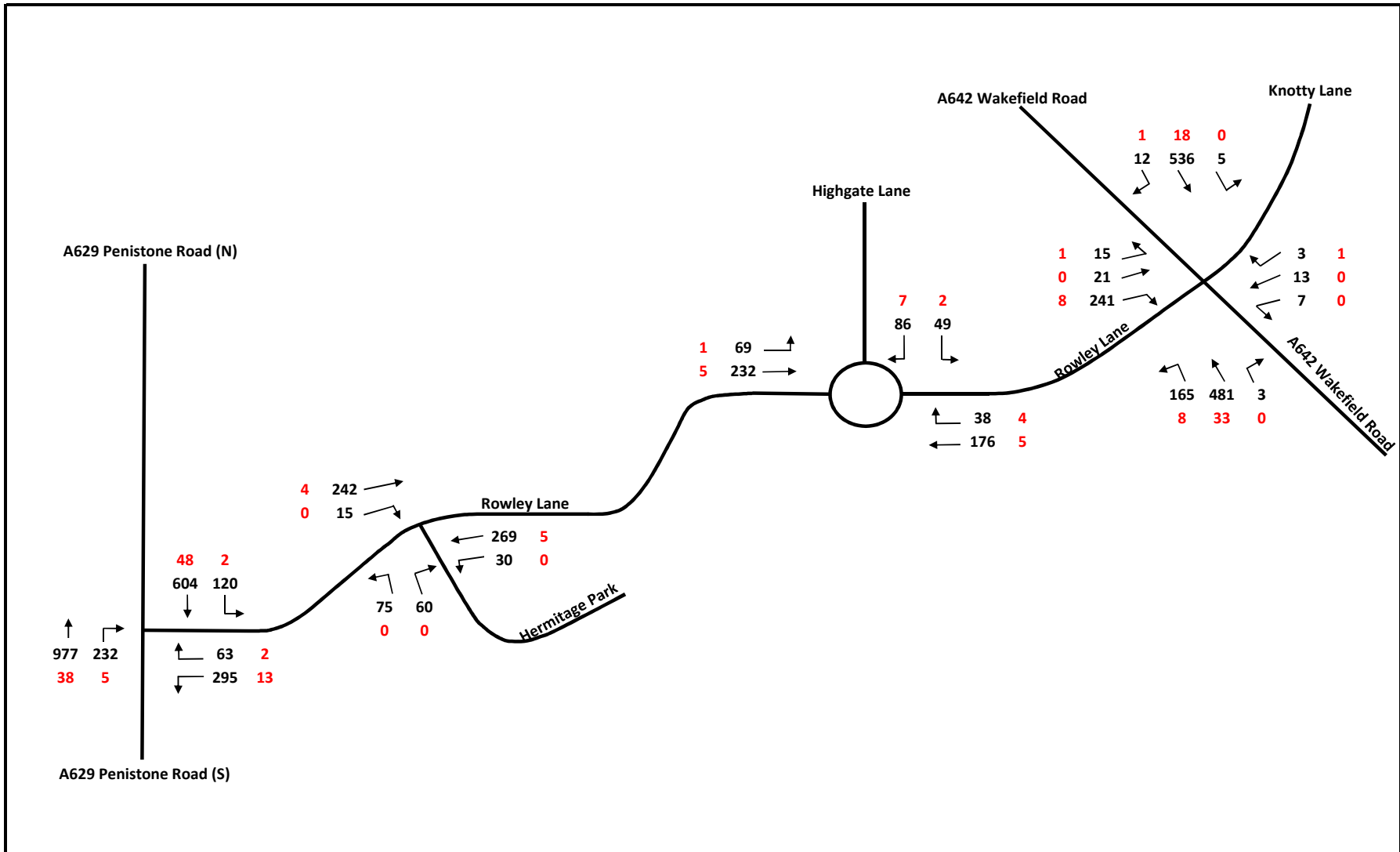
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TRIP GEN	42	126
No DWELLINGS	280	
ARRIVAL		
DEPARTURE		

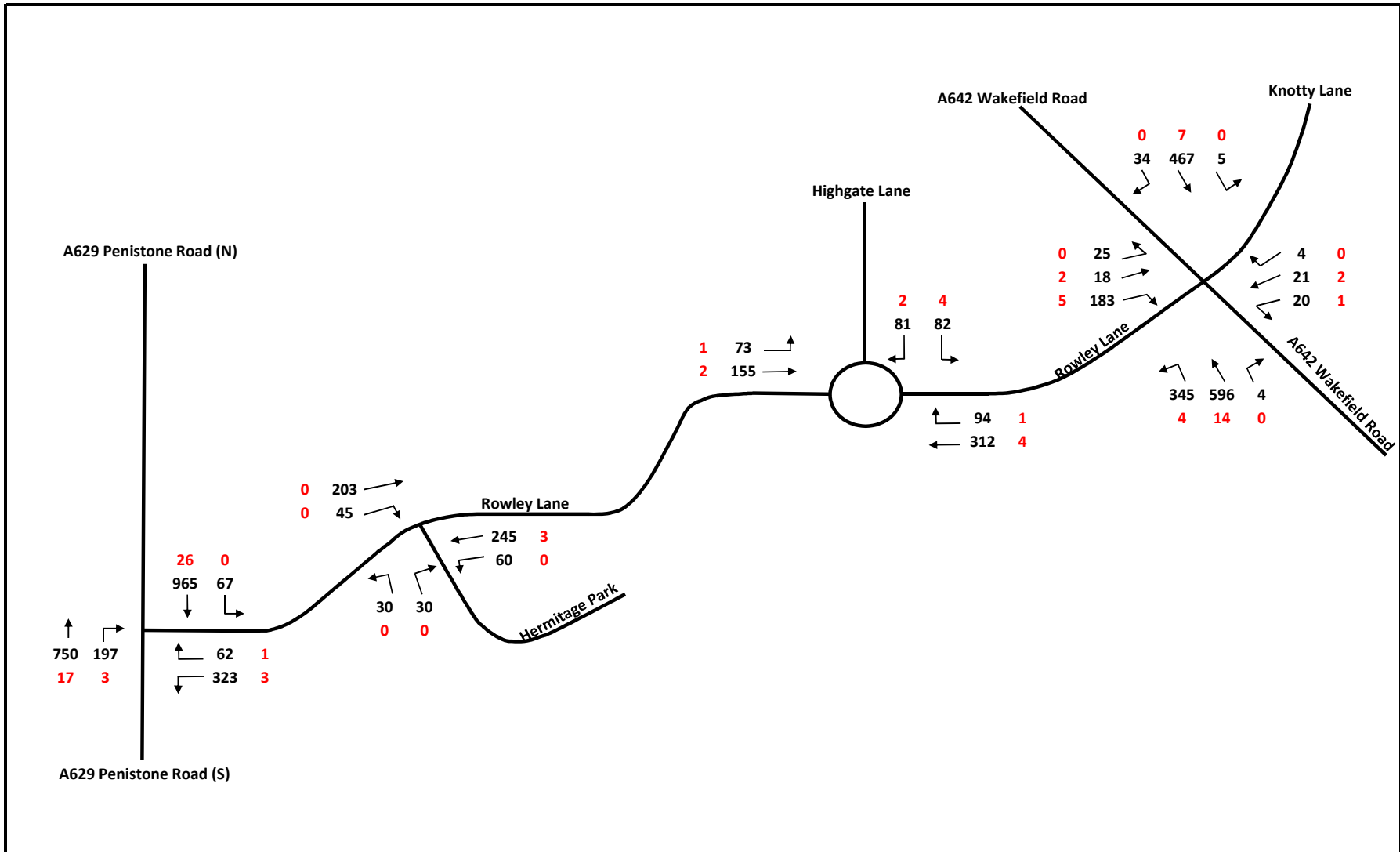


PM	ARR	DEP
TRIP RATE	0.35	0.2
TRIP GEN	98	56
No DWELLINGS	280	
<b>ARRIVAL</b>		
<b>DEPARTURE</b>		









# Appendices

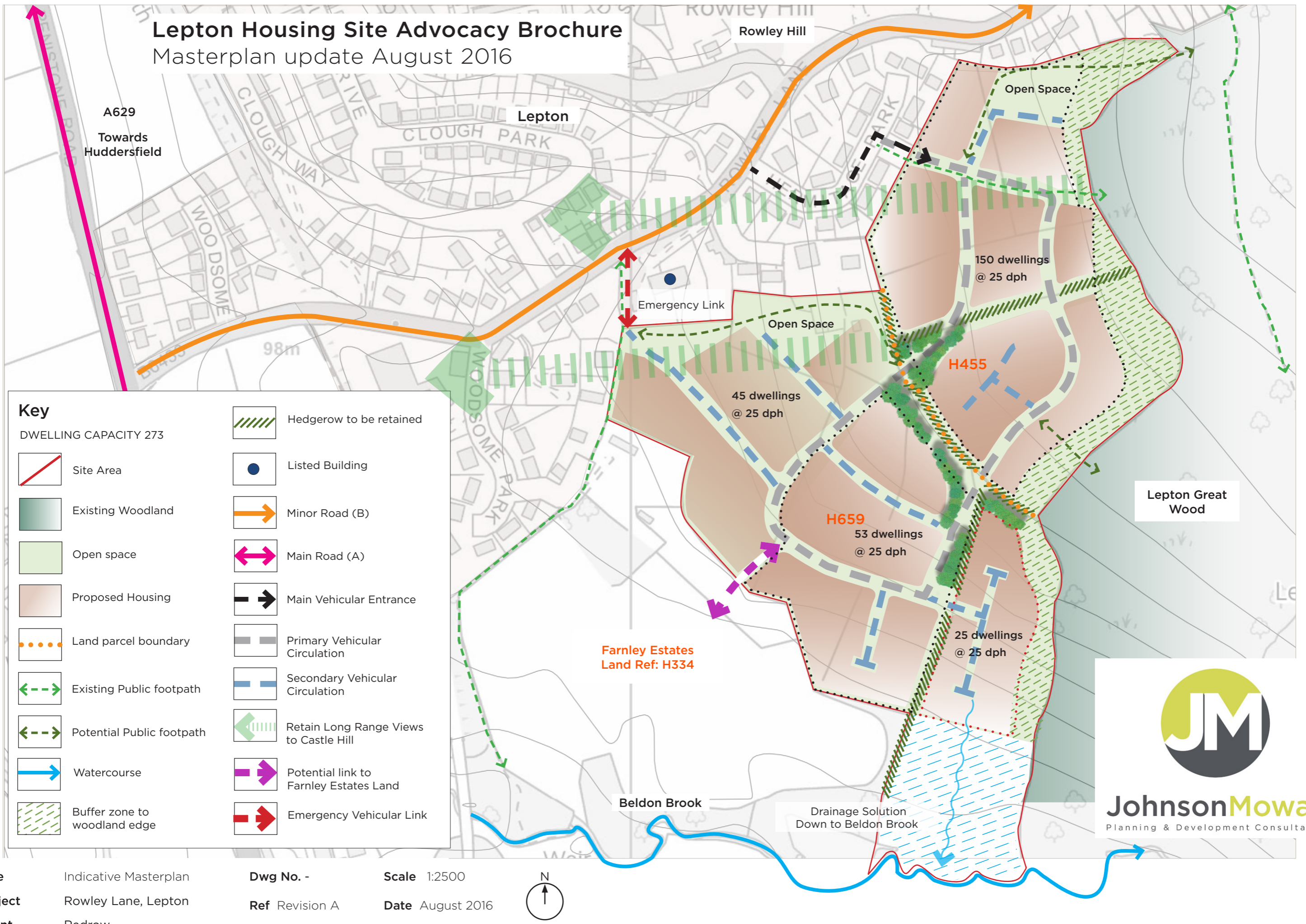


## Appendix A Masterplan






















# Lepton Housing Site Advocacy Brochure

## Masterplan update August 2016



### Key

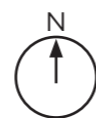
DWELLING CAPACITY 273

- |   |                              |   |  |
|---|------------------------------|---|--|
|  | Site Area                    |    | Hedgerow to be retained                |
|  | Existing Woodland            |  | Listed Building                        |
|  | Open space                   |  | Minor Road (B)                         |
|  | Proposed Housing             |  | Main Road (A)                          |
|  | Land parcel boundary         |  | Main Vehicular Entrance                |
|  | Existing Public footpath     |  | Primary Vehicular Circulation          |
|  | Potential Public footpath    |  | Secondary Vehicular Circulation        |
|  | Watercourse                  |  | Retain Long Range Views to Castle Hill |
|  | Buffer zone to woodland edge |  | Potential link to Farnley Estates Land |
|   |                              |  | Emergency Vehicular Link               |

**Title** Indicative Masterplan  
**Project** Rowley Lane, Lepton  
**Client** Redrow

**Dwg No. -**  
**Ref** Revision A

**Scale** 1:2500  
**Date** August 2016



**JohnsonMowat**  
 Planning & Development Consultants

## Appendix B HDM Comments



## **Site H659 (H458) Highways Development Management Comments 01<sup>st</sup> June 2016**

The following Highways Development Management (HDM) comments are based on the information provided within the Optima highways report dated 28<sup>th</sup> January 2016, and HDM on-site observations:

### **Section 2.2 Local Highways Network**

Para 2.2.4: Although not stated, Hermitage Park has a steep rising gradient from its junction with Rowley Lane.

Para 2.2.6: HDM considers that there is a 'significant' degree of on-street/footway parking on Hermitage Park, at its junction with Rowley Lane, and within its vicinity along Rowley Lane at school start and finish times. A consequence of this is that highway efficiency and safety is compromised.

### **Section 2.3 Vehicle Speed Survey**

Para 2.3.1: To enable HDM to be satisfied with the submitted speed readings, a plan is required detailing the locations along Rowley Lane where the data was captured.

### **Section 2.5 Site Accessibility**

Para 2.5.2: Although the 400m walking distance from the centre of the development to Lepton Primary School is acknowledged, the route is considered to be of poor quality and convenience at school start and finish times.

Para 2.5.3: Although not stated, the distance from the centre of the site to King James School is circa 3.5km with the most direct route along Rowley Lane, over Penistone Road and along Woodsome Road. This route has poor connectivity in the main in terms of having long steep gradients, being open to the elements, and has poor/no footways and segregated/delineated cycle facilities.

Para 2.5.4: Although not stated, the distance from the centre of the site to the shopping and care facilities in Lepton is circa 1.5km.

Para 2.5.5 to 2.5.7: The 300m walking distance to the Rowley Lane bus stops is noted together with the operational times of the 80 and 84A services which are limited from a 'commuting point of view' in terms of their days of operation, 60 minute frequency, and times of operation.

Para 2.5.8: Although not stated, the distance from the centre of the site to the higher frequency bus routes (although not the recommended 4 per hour) on the A629 Penistone Road and A642 Wakefield Road are circa 1km and 1.5km respectively. Given the high walking distances, and nature of the routes in terms of footway provision/width, and

continuous gradient of Rowley Lane the use of these public transport connections are considered to be unattractive to people wishing to commute on a regular basis.

Para 2.5.12: For clarity, HDM understands that facilities within 800m comfortable walking distance of residential areas is desirable with 2km being the upper limit. Bearing in mind the nature of Rowley Lane, the walk to the bus stops on Penistone Road and Wakefield Road are not considered to be 'comfortable' and/or fully inclusive to all pedestrians.

### **Section 2.6 Accessibility by Cycle**

Para 2.6.5: It is unclear if the cycling times have taken into account the gradients and nature of the local highway network which in places is considered to be less than ideal in relation being comfortable for general cycling trips.

Para 2.6.6: As per Para 2.6.5, it would be difficult for HDM to accept that the site will provide good accessibility for general cycling trips.

### **Section 2.7 Accessibility by Bus**

Para 2.7.1: As stated above, HDM considers that Rowley Lane does not provide convenient pedestrian routes given its nature and location of the higher frequency bus stops on Penistone Road and Wakefield Road, and its use at school start and finish times.

### **Section 2.8 Accessibility by Rail**

Para 2.8.2: Bus service 80 which stops at Stocks Moor rail station is a 60 minute service which does not operate before or during the 'am' commuter peak hour. As such, HDM considers that the option for residents to commute to and from the rail station by bus to be unattractive.

### **Additional Accessibility Point**

- **HDM note that the report does not provide forecast development modal splits.**

### **Section 3.1 Proposed Development**

Para 3.1.2: No illustrative masterplan indicating 300 dwellings has been provided.

### **Section 3.2 Proposed Access Strategy**

Para 3.2.5: HDM agree that a standard traditional estate road from its junction with the major road is capable in design terms of serving up to 300 evenly mixed size dwellings. However, it is the nature of the existing highway network and its operational characteristics that influences the acceptable number of dwellings.

Para 3.2.8: It is unclear from the report where the proposed 'emergency access' is located.

### **Section 3.5 Traffic Generation**



Para 3.5.2: HDM consider that given the proposed scale of development (300 dwellings) it is necessary to carry out 'capacity analysis' on the wider highway network i.e. Rowley Lane with Penistone Road; Wakefield Road; and Highgate Lane.

Para 3.5.4 to 3.5.5: HDM consider the number and nature of the selected TRICS sites are not representative of the development site and as such the forecast 'am' and 'pm' development trip rates are not accepted.

### **3.6 Trip Distribution and Assignment**

Para 3.6.1: HDM consider that the development should be distributed onto the junctions of Rowley Lane with Penistone Road; Wakefield Road; and Highgate Lane.

### **Section 4.3 Design Traffic Flows**

Para 4.3.1: As per the above HDM comment para 3.5.4 to 3.5.5, the development flows are not agreed.

### **Section 4.4 Operational Assessment**

Para 4.4.1 to 4.4.10: HDM considers that, using trip rates to be agreed, the Hermitage Park junction modelling should be revisited together with the additional junctions of Rowley Lane with Penistone Road; Wakefield Road; and Highgate Lane.

### **Section 5 Summary and Conclusions**

Para 5.1.2: Notwithstanding the submitted speed readings which require qualifying as per the HDM comment above (para 2.3.1), the recorded southwest 28mph reading would require a 'Y' visibility distance of 44.0m, contrary to the 33.0 detailed on plan ref: 13015/N/02.

In addition, a plan is also required demonstrating 25.0m driver forward visibility around the junction radii travelling into Hermitage Park from the northeast.

Para 5.1.3: See HDM comments above para 4.4.1 to 4.4.10.

Para 5.1.5: See HDM comments above para 2.5.2 to 2.8.2.

Para 5.1.7: Bearing in mind the above HDM comments it is generally considered that some residential development served off Hermitage Park is likely to be acceptable. However, HDM are sceptical that the proposed 300 dwellings and associated transportation movements (pedestrian, cyclist, public transport, and vehicles) could be confidently met safely and efficiently from Hermitage Park and the immediate local highway network.

## Appendix C Raw Count Data



# Manual Speed Survey, Lepton

DATE : WEDNESDAY 13th JANUARY 2016

LOCATION: ROWLEY LANE APPROACHING HERMITAGE PARK JUNCTION

SINGLE CARRIAGEWAY

OFF PEAK			
DIRECTION : EASTBOUND		DIRECTION : WESTBOUND	
SPEED (MPH)	NUMBER OF VEHICLES	SPEED (MPH)	NUMBER OF VEHICLES
15	2	15	0
16	8	16	3
17	18	17	5
18	24	18	6
19	22	19	16
20	30	20	8
21	22	21	19
22	12	22	16
23	18	23	22
24	14	24	25
25	6	25	16
26	9	26	12
27	9	27	22
28	15	28	11
29	9	29	11
30	9	30	2
31	2	31	4
32	2	32	5
33	1	33	4
34	0	34	2
35	0	35	1
36	0	36	0
37	0	37	0
38	0	38	0
39	0	39	0
40	0	40	0
41	0	41	0
42	0	42	0
43	0	43	0
44	0	44	0
45	0	45	0
46	0	46	0
47	0	47	0
48	0	48	0
49	0	49	0
50	0	50	0
51	0	51	0
52	0	52	0
53	0	53	0
54	0	54	0
55	0	55	0
56	0	56	0
57	0	57	0
58	0	58	0
59	0	59	0
60	0	60	0
61	0	61	0
62	0	62	0
63	0	63	0
64	0	64	0
65	0	65	0
66	0	66	0
67	0	67	0
68	0	68	0
69	0	69	0
70	0	70	0
71	0	71	0
72	0	72	0
73	0	73	0
74	0	74	0
75	0	75	0



# Manual Speed Survey, Lepton

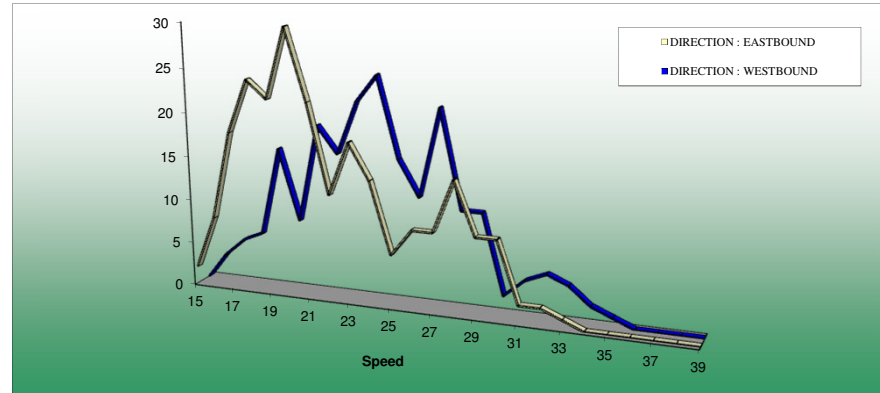
DATE : WEDNESDAY 13th JANUARY 2016

LOCATION: ROWLEY LANE APPROACHING APPROACHING JUNCTION

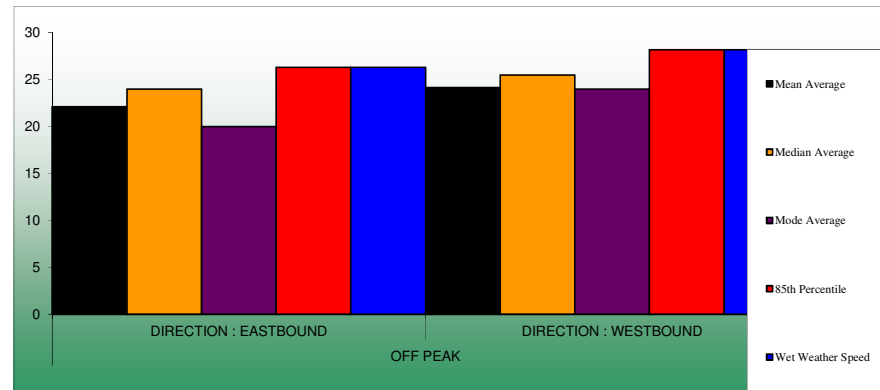
SINGLE CARRIAGEWAY

SPEED (MPH)	OFF PEAK	
	DIRECTION : EASTBOUND	DIRECTION : WESTBOUND
< 20	74	30
20 - 30	144	162
30 - 40	14	18
40 - 50	0	0
50 - 60	0	0
60 - 70	0	0
>70	0	0

ROAD CONDITIONS	WET
SPEED LIMIT	30



SPEED (MPH)	OFF PEAK	
	DIRECTION : EASTBOUND	DIRECTION : WESTBOUND
No of Readings	232	210
Mean Average	22	24
Median Average	24	26
Mode Average	20	24
Standard Deviation	4	4
85th Percentile	26	28
Wet Weather Speed	26	28









QUEUE LENGTH SURVEY - WEDNESDAY 13 JULY 2016

Arm	A	B	C	D
8:00	1	-	4	-
8:05	-	-	1	-
8:10	-	-	3	-
8:15	-	-	6	1
8:20	-	-	-	-
8:25	-	-	3	-
8:30	-	-	6	-
8:35	1	-	9	-
8:40	1	-	4	-
8:45	-	-	1	-
8:50	-	-	1	-
8:55	-	-	4	-
9:00	1	-	2	-
9:05	-	-	6	-
9:10	1	-	5	-
9:15	-	-	-	-
9:20	-	-	2	-
9:25	1	-	2	-
9:30	-	-	2	-
9:35	1	-	1	-
9:40	-	-	1	-
9:45	-	-	2	-
9:50	-	-	-	-
9:55	-	-	3	-

Arm	A	B	C	D
16:00	-	-	1	-
16:05	-	-	2	-
16:10	1	-	1	-
16:15	-	-	1	-
16:20	1	-	1	-
16:25	-	-	5	1
16:30	-	-	5	1
16:35	-	-	4	1
16:40	-	-	3	1
16:45	1	-	4	-
16:50	1	-	2	-
16:55	-	-	1	-
17:00	1	-	1	-
17:05	1	-	9	-
17:10	1	-	7	1
17:15	1	-	1	-
17:20	1	-	6	1
17:25	-	-	2	1
17:30	-	-	8	1
17:35	-	-	12	-
17:40	1	-	6	-
17:45	-	-	6	-
17:50	-	-	5	-
17:55	1	-	4	-

Site 3: A642 Wakefield Road B6433 Rowley Lane/Knotty Lane  
 Day: Wednesday  
 Date: 13 July 2016  
 Weather: Fine & Cloudy AM/Fine & Sunny Periods PM

A: Knotty Lane  
 B: A642 Wakefield  
 C: B6433 Rowley Lane  
 D: A642 Huddersfield

Time	A - B							A - C							A - D									
	Car	LGV	OGV1	OGV2	P/C	M/C	PSV	Total	Car	LGV	OGV1	OGV2	P/C	M/C	PSV	Total	Car	LGV	OGV1	OGV2	P/C	M/C	PSV	Total
8:00	0	1	0	0	0	0	0	1	1	1	1	0	0	0	0	3	1	0	1	0	0	0	0	2
8:15	1	1	0	0	0	0	0	2	2	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0
8:30	0	0	0	0	0	0	0	0	2	0	0	0	0	0	2	1	0	0	0	0	0	0	1	
8:45	3	0	0	0	0	0	0	3	3	1	0	0	0	0	4	0	0	0	0	0	0	0	0	
9:00	3	0	0	0	0	0	0	3	2	0	0	0	0	0	2	0	0	0	0	0	0	0	0	
9:15	1	0	0	0	0	0	0	1	2	0	0	0	0	0	2	0	0	0	0	0	0	0	0	
9:30	0	1	0	0	0	0	0	1	1	0	0	0	0	0	1	3	0	0	0	0	0	0	3	
9:45	1	0	0	0	0	0	0	1	1	0	0	0	0	0	1	1	0	0	0	0	0	0	1	
<b>Total</b>	<b>9</b>	<b>3</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>12</b>	<b>14</b>	<b>2</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>17</b>	<b>6</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>7</b>	

16:00	2	2	0	1	0	0	0	5	3	0	0	0	0	0	3	0	1	0	0	0	0	0	1
16:15	2	0	0	0	0	0	0	2	2	0	0	0	0	0	2	0	1	0	0	0	0	0	1
16:30	2	1	0	0	0	1	0	4	1	0	0	0	0	0	1	0	1	0	0	0	0	0	1
16:45	1	0	0	0	0	0	0	1	7	0	0	0	1	0	8	0	0	0	0	0	0	0	0
17:00	2	0	0	1	0	0	0	3	1	2	0	0	0	0	3	1	0	0	0	0	0	0	1
17:15	5	0	0	0	0	0	0	5	5	2	0	1	0	0	8	0	0	0	0	0	0	0	0
17:30	5	0	0	0	0	1	0	6	1	1	1	0	1	0	4	2	0	0	0	0	0	0	2
17:45	4	0	0	0	0	0	0	4	2	0	0	0	0	0	2	1	0	0	0	0	0	0	1
<b>Total</b>	<b>23</b>	<b>3</b>	<b>0</b>	<b>2</b>	<b>0</b>	<b>2</b>	<b>0</b>	<b>30</b>	<b>22</b>	<b>5</b>	<b>1</b>	<b>1</b>	<b>2</b>	<b>0</b>	<b>31</b>	<b>4</b>	<b>3</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>7</b>

Time	B - A							B - C							B - D									
	Car	LGV	OGV1	OGV2	P/C	M/C	PSV	Total	Car	LGV	OGV1	OGV2	P/C	M/C	PSV	Total	Car	LGV	OGV1	OGV2	P/C	M/C	PSV	Total
8:00	1	0	0	0	0	0	0	1	36	11	1	0	0	0	1	49	106	12	8	2	0	0	0	128
8:15	1	0	0	0	0	0	0	1	21	10	2	0	0	0	1	34	84	19	6	2	1	0	1	113
8:30	1	0	0	0	0	0	0	1	29	4	1	0	0	0	1	35	85	15	5	3	0	0	0	108
8:45	0	0	0	0	0	0	0	0	15	4	0	0	0	0	0	19	76	13	3	0	0	0	2	94
9:00	0	0	0	0	0	0	0	0	20	3	0	0	1	0	2	26	81	13	4	1	0	0	0	99
9:15	2	0	0	0	0	0	0	2	13	3	2	0	0	0	1	19	72	15	7	3	0	0	0	97
9:30	1	0	0	0	0	0	0	1	19	2	2	1	0	0	0	24	71	10	4	2	0	0	0	87
9:45	0	0	0	0	0	0	0	0	26	2	0	0	0	0	1	29	73	12	3	2	0	0	1	91
<b>Total</b>	<b>6</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>6</b>	<b>179</b>	<b>39</b>	<b>8</b>	<b>1</b>	<b>1</b>	<b>0</b>	<b>7</b>	<b>235</b>	<b>648</b>	<b>109</b>	<b>40</b>	<b>15</b>	<b>1</b>	<b>2</b>	<b>2</b>	<b>817</b>

16:00	1	0	0	0	0	0	0	1	26	4	0	0	1	0	1	32	80	8	0	1	0	1	0	90
16:15	2	0	0	0	0	0	0	2	44	12	2	0	0	1	4	63	92	25	1	0	0	0	0	118
16:30	0	0	0	0	0	0	0	0	43	9	0	0	1	0	0	53	112	20	3	2	0	2	0	139
16:45	0	0	0	0	0	0	0	0	54	1	0	0	0	0	1	56	101	18	2	0	0	1	1	123
17:00	3	0	0	0	0	0	0	3	63	7	0	0	0	0	0	70	109	21	3	1	1	0	1	136
17:15	0	0	0	0	0	0	0	0	59	7	0	0	0	0	2	68	128	9	1	0	0	3	2	143
17:30	1	0	0	0	0	0	0	1	68	8	1	1	0	0	0	78	117	16	1	2	0	0	0	136
17:45	0	0	0	0	0	0	0	0	62	4	0	0	0	0	0	66	119	12	0	0	0	0	2	133
<b>Total</b>	<b>7</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>7</b>	<b>419</b>	<b>52</b>	<b>3</b>	<b>1</b>	<b>2</b>	<b>1</b>	<b>8</b>	<b>486</b>	<b>858</b>	<b>129</b>	<b>11</b>	<b>6</b>	<b>1</b>	<b>7</b>	<b>6</b>	<b>1018</b>

Time	C - A							C - B							C - D									
	Car	LGV	OGV1	OGV2	P/C	M/C	PSV	Total	Car	LGV	OGV1	OGV2	P/C	M/C	PSV	Total	Car	LGV	OGV1	OGV2	P/C	M/C	PSV	Total
8:00	4	0	0	0	0	0	0	4	36	7	2	0	0	0	0	45	2	0	0	0	0	0	0	2
8:15	4	0	0	0	0	0	0	4	42	6	2	1	0	0	0	51	1	0	0	0	0	0	0	1
8:30	4	2	0	0	0	0	0	6	49	3	0	0	0	0	2	54	2	1	1	0	0	0	0	4
8:45	2	0	0	0	0	0	0	2	30	7	0	0	0	0	0	37	4	1	0	0	0	0	0	5
9:00	5	0	0	0	0	0	0	5	30	5	0	0	0	0	0	35	6	0	0	0	0	0	1	7
9:15	2	0	0	0	0	0	0	2	23	6	1	0	0	1	1	32	4	0	0	0	0	0	0	4
9:30	1	0	0	0	0	0	0	1	23	4	1	0	0	0	1	29	2	0	0	0	0	0	0	2
9:45	1	1	0	0	0	0	0	2	11	3	2	0	0	0	1	17	4	0	0	0	0	0	0	4
<b>Total</b>	<b>23</b>	<b>3</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>26</b>	<b>244</b>	<b>41</b>	<b>8</b>	<b>1</b>	<b>0</b>	<b>1</b>	<b>5</b>	<b>300</b>	<b>25</b>	<b>2</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>29</b>

16:00	4	1	0	0	0	0	0	5	19	12	0	0	0	0	1	32	5	0	0	0	0	0	0	5
16:15	3	0	0	0	0	0	0	3	8	5	1	0	0	1	0	15	4	0	0	0	0	0	0	4
16:30	5	0	0	0	0	0	0	5	28	6	1	0	0	0	1	36	3	0	0	0	0	0	0	3
16:45	3	1	0	0	0	0	0	4	24	8	1	0	0	0	1	34	3	0	0	0	0	0	0	3
17:00	2	1	1	0	0	0	0	4	25	3	0	0	0	0	1	29	4	2	0	0	0	0	0	6
17:15	1	1	1	0	0	0	0	3	28	6	0	0	0	0	1	35	1	0	0	0	0	0	0	1
17:30	4	0	0	0	0	0	0	4	38	4	0	0	0	0	1	43	7	0	0	0	0	0	0	7
17:45	3	1	0	0	0	0	0	4	41	4	0	0	0	0	2	47	7	0	0	0	0	0	0	7
<b>Total</b>	<b>25</b>	<b>5</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>32</b>	<b>211</b>	<b>48</b>	<b>3</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>8</b>	<b>271</b>	<b>34</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>36</b>

Time	D - A							D - B							D - C									
	Car	LGV	OGV1	OGV2	P/C	M/C	PSV	Total	Car	LGV	OGV1	OGV2	P/C	M/C	PSV	Total	Car	LGV	OGV1	OGV2	P/C	M/C	PSV	Total
8:00	0	0	0	0	0	0	0	0	138	15	0	2	0	1	1	155	2	1	0	0	0	0	0	3
8:15	2	0	0	0	0	0	0	2	99	10	5	0	0	0	0	114	1	0	1	0	0	0	0	2
8:30	2	0	0	0	0	0	0	2	113	14	3	1	0	1	1	133	0	1	0	0	0	0	0	1
8:45	1	0	0	0	0	0	0	1	82	6	2	2	0	0	0	92	4	0	0	0	0	0	0	4
9:00	1	0	0	0	0	0	0	1	70	14	5	2	0	0	0	91	0	0	0	0	0	0	0	0
9:15	2	1	0	0	0	0	0	3	55	5	2	0	0	1	0	63	2	1	0	0	0	0	0	3
9:30	0	0	0	0	0	0	0	0	58	13	5	1	0	0	0	77	2	0	0	0	0	0	0	2
9:45	2	0	0	0	0	0	0	2	55	6	2	2	0	0	3	68	6	0	0	0	0	0	0	6
<b>Total</b>	<b>10</b> </																							



Site 2: B6433 Rowley Lane/High Green/Highgate Lane  
 Day: Wednesday  
 Date: 13 July 2016  
 Weather: Fine & Cloudy AM/Fine & Sunny Periods PM

A: B6433 Rowley Lane (North)  
 B: High Green  
 C: B6433 Rowley Lane (South)  
 D: Highgate Lane

Time	A - B								A - C								A - D							
	Car	LGV	OGV1	OGV2	P/C	M/C	PSV	Total	Car	LGV	OGV1	OGV2	P/C	M/C	PSV	Total	Car	LGV	OGV1	OGV2	P/C	M/C	PSV	Total
8:00	0	0	0	0	0	0	0	0	45	9	3	0	0	0	0	57	5	4	0	0	0	0	1	10
8:15	0	0	0	0	0	0	0	0	24	7	1	0	0	0	0	32	4	2	1	0	0	0	1	8
8:30	0	0	0	0	0	0	0	0	33	4	1	0	0	0	0	38	6	1	0	0	0	0	1	8
8:45	0	0	0	0	0	0	0	0	13	5	0	0	0	0	0	18	9	0	0	0	0	0	0	9
9:00	0	0	0	0	0	0	0	0	18	3	0	0	0	0	1	22	7	0	0	0	0	0	1	8
9:15	0	0	0	0	0	0	0	0	15	3	2	0	1	0	0	21	6	1	0	0	0	0	1	8
9:30	0	0	0	0	0	0	0	0	12	2	2	0	0	0	0	16	5	1	0	0	0	0	0	6
9:45	0	0	0	0	0	0	0	0	12	1	0	1	0	0	0	14	6	0	0	0	0	0	1	7
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>172</b>	<b>34</b>	<b>9</b>	<b>1</b>	<b>1</b>	<b>0</b>	<b>1</b>	<b>218</b>	<b>48</b>	<b>9</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>6</b>	<b>64</b>

16:00	1	0	0	0	0	0	0	1	25	2	1	0	0	0	0	28	10	1	0	0	0	0	1	12
16:15	0	0	0	0	0	0	0	0	30	8	0	0	0	1	2	41	19	5	0	0	0	0	2	26
16:30	0	0	0	0	0	0	0	0	30	4	1	0	0	0	0	35	16	5	0	0	0	0	0	21
16:45	0	0	0	0	0	0	0	0	52	0	0	0	0	0	0	52	18	3	0	0	0	0	1	22
17:00	1	0	0	0	0	0	0	1	57	8	0	0	0	0	0	65	21	2	0	0	0	0	0	23
17:15	0	0	0	0	0	0	0	0	52	8	0	1	0	0	1	62	22	2	0	0	0	0	1	25
17:30	1	0	0	0	0	0	0	1	54	6	1	1	0	0	0	62	13	1	0	0	0	0	0	14
17:45	0	0	0	0	0	0	0	0	49	8	0	0	0	0	0	57	22	2	0	0	0	0	0	24
<b>Total</b>	<b>3</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>3</b>	<b>349</b>	<b>44</b>	<b>3</b>	<b>2</b>	<b>0</b>	<b>1</b>	<b>3</b>	<b>402</b>	<b>141</b>	<b>21</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>5</b>	<b>167</b>

Time	B - A								B - C								B - D							
	Car	LGV	OGV1	OGV2	P/C	M/C	PSV	Total	Car	LGV	OGV1	OGV2	P/C	M/C	PSV	Total	Car	LGV	OGV1	OGV2	P/C	M/C	PSV	Total
8:00	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0
8:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:45	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>Total</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>

16:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:15	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
16:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:00	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
17:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
17:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>2</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1</b>

Time	C - A								C - B								C - D							
	Car	LGV	OGV1	OGV2	P/C	M/C	PSV	Total	Car	LGV	OGV1	OGV2	P/C	M/C	PSV	Total	Car	LGV	OGV1	OGV2	P/C	M/C	PSV	Total
8:00	30	3	2	0	0	0	0	35	1	0	0	0	0	0	1	5	1	0	0	0	0	0	0	6
8:15	39	5	1	1	0	0	0	46	0	0	0	0	0	0	12	1	0	1	0	0	0	0	0	14
8:30	50	6	0	0	0	0	1	57	0	0	0	0	0	0	11	0	0	0	0	0	0	0	0	11
8:45	30	6	0	0	0	0	0	36	0	0	0	0	0	0	20	1	0	0	0	0	0	0	0	21
9:00	30	6	0	0	0	0	1	37	0	0	0	0	0	0	22	0	0	0	0	0	0	0	0	22
9:15	22	3	0	0	0	1	0	26	0	0	0	0	0	0	9	1	0	0	0	0	0	0	0	10
9:30	14	2	1	0	0	0	0	17	0	0	0	0	0	0	9	1	0	0	0	1	0	1	0	11
9:45	12	3	1	0	0	0	0	16	0	0	0	0	0	0	2	2	0	0	0	0	1	0	1	5
<b>Total</b>	<b>227</b>	<b>34</b>	<b>5</b>	<b>1</b>	<b>0</b>	<b>1</b>	<b>2</b>	<b>270</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>90</b>	<b>7</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>1</b>	<b>1</b>	<b>100</b>	

16:00	13	8	0	0	0	0	0	21	0	0	0	0	0	0	0	7	1	0	0	0	0	0	2	10
16:15	12	3	0	0	0	0	0	15	0	0	0	0	0	0	7	2	0	0	0	0	1	0	0	10
16:30	28	7	0	0	0	0	1	36	0	0	0	0	0	0	7	1	0	0	0	0	0	1	9	
16:45	24	8	1	0	0	0	0	33	0	0	0	0	0	0	10	4	0	0	0	0	0	0	0	14
17:00	28	4	1	0	0	0	0	33	0	0	0	0	0	0	7	2	0	0	0	1	0	0	10	
17:15	19	2	0	0	0	0	1	22	0	0	0	0	0	0	14	1	0	0	1	0	0	0	16	
17:30	39	2	0	0	0	0	0	41	0	0	0	0	0	0	16	0	0	0	0	0	1	1	17	
17:45	27	2	0	0	0	0	0	29	0	0	0	0	0	0	16	0	0	0	0	0	0	0	16	
<b>Total</b>	<b>190</b>	<b>36</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>2</b>	<b>230</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>84</b>	<b>11</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>2</b>	<b>4</b>	<b>102</b>		

Time	D - A								D - B								D - C							
	Car	LGV	OGV1	OGV2	P/C	M/C	PSV	Total	Car	LGV	OGV1	OGV2	P/C	M/C	PSV	Total	Car	LGV	OGV1	OGV2	P/C	M/C	PSV	Total
8:00	8	4	1	0	0	0	0	13	0	0	0	0	0	0	12	2	0	0	0	0	0	2	16	
8:15	7	1	0	0	0	0	1	9	0	0	0	0	0	0	16	1	0	0	0	0	0	1	18	
8:30	9	2	0	0	0	0	0	11	0	0	0	0	0	0	20	1	0	0	0	0	0	0	21	
8:45	11	1	0	0	0	0	0	12	0	0	0	0	0	0	13	0	1	0	0	0	0	2	16	
9:00	9	2	0	0	0	0	0	11	0	0	0	0	0	0	13	2	0	0	0	0	0	0	15	
9:15	6	2	1	0	0	0	1	10	0	0	0	0	0	0	7	1	1	0	0	0	0	0	9	
9:30	10	3	1	0	0	1	1	16	0	0	0	0	0	0	4	0	0	0	0	0	1	5	5	
9:45	5	1	0	0	0	0	1	7	0	0	0	0	0	0	3	1	1	0	0	0	0	0	5	
<b>Total</b>	<b>65</b>	<b>16</b>	<b>3</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>4</b>	<b>89</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>88</b>	<b>8</b>	<b>3</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>6</b>	<b>105</b>	

16:00	11	3	0	0	0	0	1	15	0	0	0	0	0	0	18	0	0	0	0	0	0	0	0	18
16:15	15	1	0	0	0	1	0	17	0	0	0	0	0	0	10									

**B6433 ROWLEY LANE/HIGH GREEN/HIGHGATE LANE, LEPTON**

**QUEUE LENGTH SURVEY - WEDNESDAY 13 JULY 2016**

Arm	A	B	C	D
8:00	-	-	-	-
8:05	-	-	-	-
8:10	-	-	-	-
8:15	-	-	-	-
8:20	-	-	-	-
8:25	-	-	-	1
8:30	-	-	-	-
8:35	-	-	-	-
8:40	2	-	1	2
8:45	-	-	-	-
8:50	-	-	-	1
8:55	-	-	3	-
9:00	-	-	-	-
9:05	-	-	-	-
9:10	-	-	-	-
9:15	-	-	-	-
9:20	-	-	-	-
9:25	-	-	-	-
9:30	-	-	-	-
9:35	-	-	-	-
9:40	-	-	-	-
9:45	-	-	-	-
9:50	-	-	-	-
9:55	-	-	-	-

Arm	A	B	C	D
16:00	-	-	3	-
16:05	-	-	-	1
16:10	-	-	-	-
16:15	-	-	-	-
16:20	1	-	-	-
16:25	-	-	-	1
16:30	1	-	2	2
16:35	-	-	-	-
16:40	-	-	-	1
16:45	1	-	1	2
16:50	-	-	-	-
16:55	-	-	-	-
17:00	-	-	-	2
17:05	2	-	1	-
17:10	2	-	3	2
17:15	-	-	-	1
17:20	2	-	-	-
17:25	-	-	-	-
17:30	-	-	-	2
17:35	1	-	-	1
17:40	1	-	2	-
17:45	-	-	-	-
17:50	1	-	-	1
17:55	-	-	-	2

# A629 PENISTONE ROAD/B6433 ROWLEY LANE, LEPTON

## QUEUE LENGTH SURVEY - WEDNESDAY 13 JULY 2016

Arm	A	B	B	C
Time	-	Inside	Outside	R/T
8:00	-	-	-	-
8:05	-	2	1	1
8:10	-	2	1	2
8:15	-	4	1	1
8:20	-	3	-	1
8:25	-	-	-	2
8:30	-	2	-	4
8:35	-	-	-	-
8:40	-	1	-	-
8:45	-	-	-	-
8:50	-	2	-	1
8:55	-	1	4	-
9:00	-	-	1	-
9:05	-	1	3	1
9:10	-	-	-	1
9:15	-	-	1	-
9:20	-	2	1	1
9:25	-	1	-	1
9:30	-	-	-	-
9:35	-	-	1	-
9:40	-	-	-	-
9:45	-	-	-	-
9:50	-	1	-	-
9:55	-	-	-	-

Arm	A	B	B	C
Time	-	Inside	Outside	R/T
16:00	-	1	1	2
16:05	-	1	-	-
16:10	-	-	-	-
16:15	-	1	2	-
16:20	-	3	1	1
16:25	-	-	-	-
16:30	-	1	1	-
16:35	-	-	-	-
16:40	-	-	-	3
16:45	-	1	-	-
16:50	-	3	3	2
16:55	-	-	-	-
17:00	-	1	-	-
17:05	-	1	-	-
17:10	-	2	1	2
17:15	-	-	-	-
17:20	-	3	-	1
17:25	-	3	1	2
17:30	-	7	-	-
17:35	-	5	2	-
17:40	-	7	-	1
17:45	-	4	2	-
17:50	-	-	-	1
17:55	-	2	1	1

Site 1: A629 Penistone Road/B6433 Rowley Lane A: A629 Huddersfield  
 Day: Wednesday B: B6433 Rowley Lane  
 Date: 13 July 2016 C: A629 Penistone  
 Weather: Fine & Cloudy AM/Fine & Sunny Periods PM

Time	A - B								A - C							
	Car	LGV	OGVI	OGV2	P/C	M/C	PSV	Total	Car	LGV	OGVI	OGV2	P/C	M/C	PSV	Total
8:00	14	0	0	0	0	0	0	14	113	24	9	1	0	0	6	153
8:15	11	2	0	0	0	0	0	13	126	16	4	2	0	0	0	148
8:30	30	2	1	0	0	0	1	34	91	18	8	2	0	2	3	124
8:45	32	5	0	0	0	0	0	37	102	20	7	1	0	0	1	131
9:00	6	0	0	0	0	0	0	6	64	25	7	2	0	0	2	100
9:15	8	3	0	0	0	0	0	11	91	17	2	1	0	0	3	114
9:30	4	1	0	0	0	0	0	5	80	17	4	4	0	0	4	109
9:45	3	1	0	0	0	0	0	4	74	9	4	2	0	1	2	92
<b>Total</b>	<b>108</b>	<b>14</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>124</b>	<b>741</b>	<b>146</b>	<b>45</b>	<b>15</b>	<b>0</b>	<b>3</b>	<b>21</b>	<b>971</b>

16:00	7	3	0	0	0	0	0	10	126	17	3	3	1	3	3	156
16:15	7	1	0	0	0	0	0	8	180	22	1	0	1	0	1	205
16:30	17	1	0	0	0	0	0	18	165	27	3	1	1	2	2	201
16:45	16	1	0	0	0	0	0	17	196	21	1	2	4	1	2	227
17:00	8	0	0	0	0	0	0	8	185	23	4	1	2	2	1	218
17:15	11	1	0	0	0	0	0	12	193	17	4	0	1	6	1	222
17:30	17	0	0	0	0	0	0	17	205	19	2	2	0	3	2	233
17:45	15	0	0	0	0	0	0	15	191	11	1	2	3	2	4	214
<b>Total</b>	<b>98</b>	<b>7</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>105</b>	<b>1441</b>	<b>157</b>	<b>19</b>	<b>11</b>	<b>13</b>	<b>19</b>	<b>16</b>	<b>1676</b>

Time	B - A								B - C							
	Car	LGV	OGVI	OGV2	P/C	M/C	PSV	Total	Car	LGV	OGVI	OGV2	P/C	M/C	PSV	Total
8:00	10	2	0	0	0	0	0	12	61	11	2	0	0	0	3	77
8:15	6	3	1	0	0	0	0	10	59	10	2	0	0	0	1	72
8:30	6	0	0	0	0	0	0	6	29	5	1	0	0	0	0	35
8:45	17	1	0	0	0	0	1	19	27	5	2	0	0	0	1	35
9:00	19	1	0	0	0	0	0	20	29	5	0	0	0	0	0	34
9:15	9	0	0	0	0	0	0	9	19	4	3	0	1	0	0	27
9:30	11	0	0	0	0	0	0	11	14	3	1	0	1	0	1	20
9:45	6	1	1	0	0	0	0	8	23	5	1	1	0	0	0	30
<b>Total</b>	<b>84</b>	<b>8</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>95</b>	<b>261</b>	<b>48</b>	<b>12</b>	<b>1</b>	<b>2</b>	<b>0</b>	<b>6</b>	<b>330</b>

16:00	9	0	0	0	0	0	0	9	32	1	2	0	0	0	0	35
16:15	9	3	0	0	0	0	2	14	34	9	0	0	0	1	0	44
16:30	10	2	0	0	0	0	0	12	31	5	1	0	0	0	1	38
16:45	13	3	0	0	0	0	0	16	42	2	0	0	0	0	0	44
17:00	9	0	0	0	0	0	0	9	54	7	0	0	0	0	0	61
17:15	12	0	0	0	0	0	1	13	53	12	0	1	0	0	0	66
17:30	17	1	0	0	0	0	0	18	69	3	0	1	0	0	1	74
17:45	12	1	0	0	0	0	0	13	67	7	0	0	0	0	0	74
<b>Total</b>	<b>91</b>	<b>10</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>3</b>	<b>104</b>	<b>382</b>	<b>46</b>	<b>3</b>	<b>2</b>	<b>0</b>	<b>1</b>	<b>2</b>	<b>436</b>

Time	C - A								C - B							
	Car	LGV	OGVI	OGV2	P/C	M/C	PSV	Total	Car	LGV	OGVI	OGV2	P/C	M/C	PSV	Total
8:00	221	13	2	1	0	1	2	240	32	6	2	0	0	0	0	40
8:15	202	20	5	2	0	0	7	236	50	5	1	2	0	0	0	58
8:30	193	28	5	0	3	2	3	234	66	6	0	0	0	0	0	72
8:45	169	12	2	1	1	0	5	190	37	6	0	0	0	0	0	43
9:00	222	13	5	1	0	2	4	247	28	5	1	0	0	0	0	34
9:15	180	8	1	0	1	0	5	195	28	3	1	0	0	1	0	33
9:30	124	17	4	1	1	1	2	150	15	3	1	0	0	1	1	21
9:45	137	15	3	1	2	0	4	162	10	5	1	0	0	0	0	16
<b>Total</b>	<b>1448</b>	<b>126</b>	<b>27</b>	<b>7</b>	<b>8</b>	<b>6</b>	<b>32</b>	<b>1654</b>	<b>266</b>	<b>39</b>	<b>7</b>	<b>2</b>	<b>0</b>	<b>2</b>	<b>1</b>	<b>317</b>

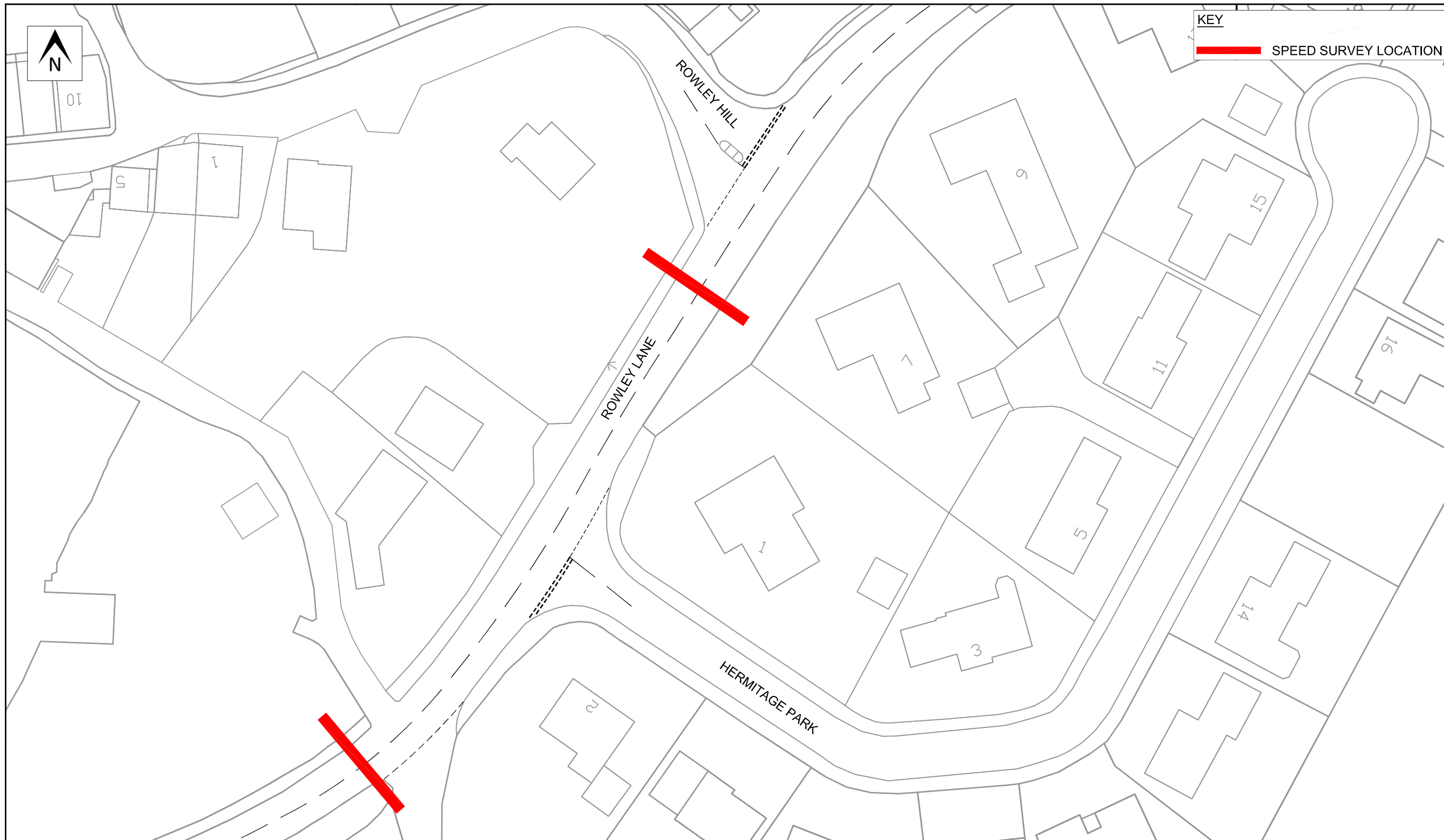
16:00	132	21	3	2	0	0	2	160	26	6	1	0	0	0	0	33
16:15	121	21	5	1	0	2	3	153	23	5	0	0	0	1	0	29
16:30	131	18	2	0	0	1	4	156	20	9	0	0	0	0	2	31
16:45	118	20	3	0	2	1	2	146	32	14	1	0	0	0	0	47
17:00	170	21	3	0	1	1	2	198	39	5	1	0	0	1	1	47
17:15	159	11	2	2	1	1	3	179	27	3	0	0	0	0	0	30
17:30	144	10	0	0	0	1	2	157	34	4	0	0	0	0	1	39
17:45	134	16	0	1	2	1	1	155	34	2	0	0	0	0	0	36
<b>Total</b>	<b>1109</b>	<b>138</b>	<b>18</b>	<b>6</b>	<b>6</b>	<b>8</b>	<b>19</b>	<b>1304</b>	<b>235</b>	<b>48</b>	<b>3</b>	<b>0</b>	<b>0</b>	<b>2</b>	<b>4</b>	<b>292</b>





## Appendix D Speed Survey Location





REV	DATE	BY	DESCRIPTION	CHK	APP
			PRELIMINARY		

PROJECT	ROWLEY LANE, LEPTON
DRAWING TITLE	LOCATION OF SPEED SURVEYS ON ROWLEY LANE

CLIENT	REDROW HOMES YORKSHIRE / PORTMAN LAND LIMITED		
CHECKED	APPROVED	DRG No.	
RAM	RAM	13015/IN/03	
DRAWN BY:	SCALE @ A3	DATE	REV.
TP	1:500	19/09/16	-



**OPTIMA**

Intelligent Highways Solutions  
 Atlas House, 31 King Street, Leeds, LS1 2HL  
 T 0113 245 1679 F 0113 245 9042



## Appendix E YHRSS Table 13.9



**TABLE 13.9: Origin accessibility: access from housing (10 dwellings or more)**

Housing site location	To local services	To employment	To primary health / primary education	To secondary health / secondary & tertiary education	To leisure and Retail
ORIGINS IN... Regional and Sub-Regional Cities and Towns and Principal Towns	No/size of facilities within 10 min walk	5 min walk to bus stop offering a 15 min frequency to a major public transport interchange. No/size of facilities within 30 min journey time	No/size of facilities within 20 min journey time	5 min walk to bus stop offering a 15 min frequency service to a major public transport interchange. No/size of facilities within 40 min journey time	5 min walk to bus stop offering a direct service. No/size of facilities within 30 min journey time
ORIGINS IN... Extensions to Regional and Sub-Regional Cities and Towns	No/size of facilities within 15 min walk	5 min walk to bus stop offering a 15 min frequency to a major public transport interchange. No/size of facilities within 40 min journey time	No/size of facilities within 30 min journey time	5 min walk to bus stop offering a 15 min frequency service to a major public transport interchange. No/size of facilities within 60 min journey time	5 min walk to bus stop offering a direct service. No/size of facilities within 30 min journey time.
ORIGINS IN... Extensions to Principal Towns	No/size of facilities within 20 min walk	5 min walk to bus stop offering a 30 min frequency service to a major public transport interchange. No/size of facilities within 40 min journey time	5 min walk to bus stop offering a direct service. No/size of facilities within 30 min journey time	5 min walk to bus stop offering a 30 min frequency service to a major public transport interchange. No/size of facilities within 60 min journey time. Ensure that arrival and departure of PT services coincide with visiting hours / start and finish times.	10 min walk to bus stop offering a direct service. No/size of facilities within 40 min journey time.

Continued

**TABLE 13.9: Origin accessibility: access from housing (10 dwellings or more) continued**

Housing site location	To local services	To employment	To primary health / primary education	To secondary health / secondary & tertiary education	To leisure and Retail
ORIGINS IN... Nodes in good quality public transport corridors radiating from Regional and Sub-Regional Cities and Towns	No/size of facilities within 15 min walk. No/size of facilities within 30 min journey time.	10 min walk to bus stop offering a 15 min frequency to a major public transport interchange. No/size of facilities within 30 min journey time.	5 min walk to bus stop offering a direct service. No/size of facilities within 30 min journey time	10 min walk to node offering a 15 min frequency service to a major public transport interchange. No/size of facilities within 60 min journey time.	5 min walk to node offering a direct service. No/size of facilities within 30 min journey time.
ORIGINS IN... Rural areas	10 min walk to a bus stop offering at least an hourly service	10 min walk to bus stop offering a service via a major transport interchange. Ensure that arrival and departure of PT services coincide with workstart and finish times. No/size of facilities within max 40 min journey time	10 min walk to bus stop offering a direct service. No/size of facilities within 40 min journey time. Ensure that arrival and departure of PT services coincide with appointments / start and finish times of schools	10 min walk to node offering a 15 min frequency service to a major public transport interchange. Ensure that arrival and departure of PT services coincide with visiting hours / start and finish times. No/size of facilities within 60 min journey time.	10 min walk to a bus stop offering a direct service. No/size of facilities within 40 min journey time.

## Appendix F TEMPRO Outputs



# TEMPRO – Rowley Lane, Lepton

AM

Level Area Local Growth Figure

00CZ0 rural (Kirklees) 1.08586253052464

The screenshot shows the TEMPRO main form interface. On the left, there are data selection options including 'Data selections', 'Trip end selections', and 'Select time period'. The 'Trip end type' is set to 'Origin/Destination'. The 'Select data type' section has 'Growth factors' selected. The 'Car Driver' is set to 'Car Driver' and 'Combined Modes' is selected. The main area displays a table with columns: Area Description, Name, Origin, All Purposes, and Destination. The table contains one row: Level: 00CZ0, Name: rural (Kirklees), Origin: 1.0527, Destination: 1.0427. A dialog box titled 'NTM Traffic Growth Calculations' is open, showing the following settings:

- 1. Select NTH Dataset: NTH AF09 Dataset (From: 2003, To: 2025), NTH AF08 Dataset (From: 2003, To: 2025)
- 2. Select Areas to make up the geographic region: rural (Kirklees) (00CZ0)
- 3. Select area type: Rural
- 4. Select road type: Motorway, Trunk, Principal, Minor, All
- 5. Select which area it serves: Region, England

The 'Results' section of the dialog box shows a table with columns: Level, Area, and Local Growth Figure. The table contains one row: Level: 00CZ0, Area: rural (Kirklees), Local Growth Figure: 1.0859.

PM

Level Area Local Growth Figure

00CZ0 rural (Kirklees) 1.08809084439372

The screenshot shows the TEMPRO main form interface. On the left, there are data selection options including 'Data selections', 'Trip end selections', and 'Select time period'. The 'Trip end type' is set to 'Origin/Destination'. The 'Select data type' section has 'Growth factors' selected. The 'Car Driver' is set to 'Car Driver' and 'Combined Modes' is selected. The main area displays a table with columns: Area Description, Name, Origin, All Purposes, and Destination. The table contains one row: Level: 00CZ0, Name: rural (Kirklees), Origin: 1.0465, Destination: 1.0532. A dialog box titled 'NTM Traffic Growth Calculations' is open, showing the following settings:

- 1. Select NTH Dataset: NTH AF09 Dataset (From: 2003, To: 2025), NTH AF08 Dataset (From: 2003, To: 2025)
- 2. Select Areas to make up the geographic region: rural (Kirklees) (00CZ0)
- 3. Select area type: Rural
- 4. Select road type: Motorway, Trunk, Principal, Minor, All
- 5. Select which area it serves: Region, England

The 'Results' section of the dialog box shows a table with columns: Level, Area, and Local Growth Figure. The table contains one row: Level: 00CZ0, Area: rural (Kirklees), Local Growth Figure: 1.0881.

## Appendix G Modelling Outputs



<b>Junctions 8</b>
<b>PICADY 8 - Priority Intersection Module</b>
Version: 8.0.5.523 [19102,19/06/2015] © Copyright TRL Limited, 2016
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:** Rowley Lane - Hermitage Park Junction Model.arc8  
**Path:** O:\Rowley Lane, Lepton\ANALYSIS\PICADY\Rowley Lane - Hermitage Park Junction  
**Report generation date:** 21/09/2016 14:11:28

- « (Default Analysis Set) - 2016 COUNT, AM
- » Junction Network
- » Arms
- » Traffic Flows
- » Entry Flows
- » Turning Proportions
- » Vehicle Mix
- » Results

### Summary of junction performance

	AM			
	Queue (PCU)	Delay (s)	RFC	LOS
	A1 - 2016 COUNT			
Stream B-C	0.01	6.12	0.01	A
Stream B-A	0.01	7.81	0.01	A
Stream C-AB	0.00	5.20	0.00	A
Stream C-A	-	-	-	-
Stream A-B	-	-	-	-
Stream A-C	-	-	-	-

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

- "D1 - 2016 COUNT, AM" model duration: 07:45 - 09:15
- "D2 - 2016 COUNT, PM" model duration: 16:30 - 18:00
- "D3 - 2021 BASE, AM" model duration: 07:45 - 09:15
- "D4 - 2021 BASE, PM" model duration: 16:30 - 18:00
- "D5 - 2021 DESIGN, AM" model duration: 07:45 - 09:15
- "D6 - 2021 DESIGN, PM" model duration: 16:30 - 18:00
- "D7 - 2016 DESIGN, AM" model duration: 07:45 - 09:15
- "D8 - 2016 DESIGN, PM" model duration: 16:30 - 18:00
- "D9 - 2021 DESIGN SENSITIVITY, AM" model duration: 07:45 - 09:15
- "D10 - 2021 DESIGN SENSITIVITY, PM" model duration: 16:30 - 18:00

Run using Junctions 8.0.5.523 at 21/09/2016 14:11:27

## File summary

<b>Title</b>	Rowley Lane - Hermitage Park Junction
<b>Location</b>	Lepton
<b>Site Number</b>	
<b>Date</b>	20/01/2016
<b>Version</b>	
<b>Status</b>	(new file)
<b>Identifier</b>	
<b>Client</b>	Portman Land Limited
<b>Jobnumber</b>	13015
<b>Enumerator</b>	Optima
<b>Description</b>	

## Analysis Options

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

## Units

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

# (Default Analysis Set) - 2016 COUNT, AM

## Data Errors and Warnings

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

## Analysis Set Details

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

## Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
2016 COUNT, AM	2016 COUNT	AM		ONE HOUR	07:45	09:15	90	15		

# Junction Network

## Junctions

Junction	Name	Junction Type	Major Road Direction	Arm Order	Junction Delay (s)	Junction LOS
1	(untitled)	T-Junction	Two-way	A,B,C	6.65	A



## Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

## Arms

### Arms

Name	Arm	Name	Description	Arm Type
Rowley Lane (N)	A	Rowley Lane (N)		Major
Hermitage Park	B	Hermitage Park		Minor
Rowley Lane (S)	C	Rowley Lane (S)		Major

### Major Arm Geometry

Name	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)
Rowley Lane (S)	6.96		0.00		2.20	85.00	✓	0.00

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

### Minor Arm Geometry

Name	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)
Hermitage Park	One lane plus flare				9.73	3.87	2.86	2.85	2.80	✓	1.00	20	15

## Slope / Intercept / Capacity

### Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
1	B-A	576.606	0.101	0.254	0.160	0.363
1	B-C	663.564	0.097	0.246	-	-
1	C-B	623.188	0.231	0.231	-	-

*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

Name	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
Rowley Lane (N)	ONE HOUR	✓	255.00	100.000
Hermitage Park	ONE HOUR	✓	9.00	100.000
Rowley Lane (S)	ONE HOUR	✓	228.00	100.000

# Turning Proportions

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

		To		
		Rowley Lane (N)	Hermitage Park	Rowley Lane (S)
From	Rowley Lane (N)	0.000	2.000	253.000
	Hermitage Park	4.000	0.000	5.000
	Rowley Lane (S)	227.000	1.000	0.000

## Turning Proportions (PCU) - (untitled) (for whole period)

		To		
		Rowley Lane (N)	Hermitage Park	Rowley Lane (S)
From	Rowley Lane (N)	0.00	0.01	0.99
	Hermitage Park	0.44	0.00	0.56
	Rowley Lane (S)	1.00	0.00	0.00

# Vehicle Mix

## Average PCU Per Vehicle - (untitled) (for whole period)

		To		
		Rowley Lane (N)	Hermitage Park	Rowley Lane (S)
From	Rowley Lane (N)	1.000	1.000	1.000
	Hermitage Park	1.000	1.000	1.000
	Rowley Lane (S)	1.000	1.000	1.000

## Heavy Vehicle Percentages - (untitled) (for whole period)

		To		
		Rowley Lane (N)	Hermitage Park	Rowley Lane (S)
From	Rowley Lane (N)	0.0	0.0	0.0
	Hermitage Park	0.0	0.0	0.0
	Rowley Lane (S)	0.0	0.0	0.0

# Results

## Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-C	0.01	6.12	0.01	A
B-A	0.01	7.81	0.01	A
C-AB	0.00	5.20	0.00	A
C-A	-	-	-	-
A-B	-	-	-	-
A-C	-	-	-	-

## Main Results for each time segment

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

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-C	3.76	3.74	0.00	615.56	0.006	0.01	5.883	A
B-A	3.01	2.99	0.00	500.38	0.006	0.01	7.237	A
C-AB	0.99	0.98	0.00	693.77	0.001	0.00	5.195	A
C-A	170.66	170.66	0.00	-	-	-	-	-
A-B	1.51	1.51	0.00	-	-	-	-	-
A-C	190.47	190.47	0.00	-	-	-	-	-

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

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-C	4.49	4.49	0.00	606.22	0.007	0.01	5.982	A
B-A	3.60	3.59	0.00	485.59	0.007	0.01	7.468	A
C-AB	1.24	1.24	0.00	707.99	0.002	0.00	5.093	A
C-A	203.72	203.72	0.00	-	-	-	-	-
A-B	1.80	1.80	0.00	-	-	-	-	-
A-C	227.44	227.44	0.00	-	-	-	-	-

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

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-C	5.51	5.50	0.00	593.31	0.009	0.01	6.123	A
B-A	4.40	4.40	0.00	465.13	0.009	0.01	7.813	A
C-AB	1.64	1.64	0.00	727.78	0.002	0.00	4.957	A
C-A	249.40	249.40	0.00	-	-	-	-	-
A-B	2.20	2.20	0.00	-	-	-	-	-
A-C	278.56	278.56	0.00	-	-	-	-	-

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

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-C	5.51	5.50	0.00	593.30	0.009	0.01	6.123	A
B-A	4.40	4.40	0.00	465.13	0.009	0.01	7.813	A
C-AB	1.64	1.64	0.00	727.78	0.002	0.00	4.959	A
C-A	249.39	249.39	0.00	-	-	-	-	-
A-B	2.20	2.20	0.00	-	-	-	-	-
A-C	278.56	278.56	0.00	-	-	-	-	-

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

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-C	4.49	4.50	0.00	606.22	0.007	0.01	5.982	A
B-A	3.60	3.60	0.00	485.59	0.007	0.01	7.471	A
C-AB	1.25	1.25	0.00	707.99	0.002	0.00	5.095	A
C-A	203.72	203.72	0.00	-	-	-	-	-
A-B	1.80	1.80	0.00	-	-	-	-	-
A-C	227.44	227.44	0.00	-	-	-	-	-

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

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-C	3.76	3.77	0.00	615.56	0.006	0.01	5.883	A
B-A	3.01	3.02	0.00	500.38	0.006	0.01	7.240	A
C-AB	0.99	0.99	0.00	693.77	0.001	0.00	5.195	A
C-A	170.66	170.66	0.00	-	-	-	-	-
A-B	1.51	1.51	0.00	-	-	-	-	-
A-C	190.47	190.47	0.00	-	-	-	-	-

<b>Junctions 8</b>
<b>PICADY 8 - Priority Intersection Module</b>
Version: 8.0.5.523 [19102,19/06/2015] © Copyright TRL Limited, 2016
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**Filename:** Rowley Lane - Hermitage Park Junction Model.arc8  
**Path:** O:\Rowley Lane, Lepton\ANALYSIS\PICADY\Rowley Lane - Hermitage Park Junction  
**Report generation date:** 21/09/2016 14:11:51

- « **(Default Analysis Set) - 2016 COUNT, PM**
- » **Junction Network**
- » **Arms**
- » **Traffic Flows**
- » **Entry Flows**
- » **Turning Proportions**
- » **Vehicle Mix**
- » **Results**

### Summary of junction performance

	PM			
	Queue (PCU)	Delay (s)	RFC	LOS
	<b>A1 - 2016 COUNT</b>			
Stream B-C	0.00	0.00	0.00	A
Stream B-A	0.00	0.00	0.00	A
Stream C-AB	0.01	5.34	0.01	A
Stream C-A	-	-	-	-
Stream A-B	-	-	-	-
Stream A-C	-	-	-	-

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

- "D1 - 2016 COUNT, AM" model duration: 07:45 - 09:15
- "D2 - 2016 COUNT, PM" model duration: 16:30 - 18:00
- "D3 - 2021 BASE, AM" model duration: 07:45 - 09:15
- "D4 - 2021 BASE, PM" model duration: 16:30 - 18:00
- "D5 - 2021 DESIGN, AM" model duration: 07:45 - 09:15
- "D6 - 2021 DESIGN, PM" model duration: 16:30 - 18:00
- "D7 - 2016 DESIGN, AM" model duration: 07:45 - 09:15
- "D8 - 2016 DESIGN, PM" model duration: 16:30 - 18:00
- "D9 - 2021 DESIGN SENSITIVITY, AM" model duration: 07:45 - 09:15
- "D10 - 2021 DESIGN SENSITIVITY, PM" model duration: 16:30 - 18:00

Run using Junctions 8.0.5.523 at 21/09/2016 14:11:51

## File summary

<b>Title</b>	Rowley Lane - Hermitage Park Junction
<b>Location</b>	Lepton
<b>Site Number</b>	
<b>Date</b>	20/01/2016
<b>Version</b>	
<b>Status</b>	(new file)
<b>Identifier</b>	
<b>Client</b>	Portman Land Limited
<b>Jobnumber</b>	13015
<b>Enumerator</b>	Optima
<b>Description</b>	

## Analysis Options

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

## Units

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

# (Default Analysis Set) - 2016 COUNT, PM

## Data Errors and Warnings

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

## Analysis Set Details

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

## Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
2016 COUNT, PM	2016 COUNT	PM		ONE HOUR	16:30	18:00	90	15		

# Junction Network

## Junctions

Junction	Name	Junction Type	Major Road Direction	Arm Order	Junction Delay (s)	Junction LOS
1	(untitled)	T-Junction	Two-way	A,B,C	5.34	A

## Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

## Arms

### Arms

Name	Arm	Name	Description	Arm Type
Rowley Lane (N)	A	Rowley Lane (N)		Major
Hermitage Park	B	Hermitage Park		Minor
Rowley Lane (S)	C	Rowley Lane (S)		Major

### Major Arm Geometry

Name	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)
Rowley Lane (S)	6.96		0.00		2.20	85.00	✓	0.00

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

### Minor Arm Geometry

Name	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)
Hermitage Park	One lane plus flare				9.73	3.87	2.86	2.85	2.80	✓	1.00	20	15

## Slope / Intercept / Capacity

### Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
1	B-A	513.574	0.090	0.227	0.143	0.324
1	B-C	751.643	0.110	0.279	-	-
1	C-B	623.188	0.231	0.231	-	-

*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

Name	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
Rowley Lane (N)	ONE HOUR	✓	232.00	100.000
Hermitage Park	ONE HOUR	✓	4.00	100.000
Rowley Lane (S)	ONE HOUR	✓	190.00	100.000

# Turning Proportions

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

		To		
		Rowley Lane (N)	Hermitage Park	Rowley Lane (S)
From	Rowley Lane (N)	0.000	4.000	228.000
	Hermitage Park	2.000	0.000	2.000
	Rowley Lane (S)	187.000	3.000	0.000

## Turning Proportions (PCU) - (untitled) (for whole period)

		To		
		Rowley Lane (N)	Hermitage Park	Rowley Lane (S)
From	Rowley Lane (N)	0.00	0.02	0.98
	Hermitage Park	0.50	0.00	0.50
	Rowley Lane (S)	0.98	0.02	0.00

# Vehicle Mix

## Average PCU Per Vehicle - (untitled) (for whole period)

		To		
		Rowley Lane (N)	Hermitage Park	Rowley Lane (S)
From	Rowley Lane (N)	1.000	1.000	1.000
	Hermitage Park	1.000	1.000	1.000
	Rowley Lane (S)	1.000	1.000	1.000

## Heavy Vehicle Percentages - (untitled) (for whole period)

		To		
		Rowley Lane (N)	Hermitage Park	Rowley Lane (S)
From	Rowley Lane (N)	0.0	0.0	0.0
	Hermitage Park	0.0	0.0	0.0
	Rowley Lane (S)	0.0	0.0	0.0



# Results

## Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-C	0.00	0.00	0.00	A
B-A	0.00	0.00	0.00	A
C-AB	0.01	5.34	0.01	A
C-A	-	-	-	-
A-B	-	-	-	-
A-C	-	-	-	-

## Main Results for each time segment

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

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-C	0.00	0.00	0.00	703.41	0.000	0.00	0.000	A
B-A	0.00	0.00	0.00	453.62	0.000	0.00	0.000	A
C-AB	2.83	2.81	0.00	677.44	0.004	0.00	5.335	A
C-A	140.21	140.21	0.00	-	-	-	-	-
A-B	3.01	3.01	0.00	-	-	-	-	-
A-C	171.65	171.65	0.00	-	-	-	-	-

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

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-C	0.00	0.00	0.00	694.05	0.000	0.00	0.000	A
B-A	0.00	0.00	0.00	441.98	0.000	0.00	0.000	A
C-AB	3.54	3.53	0.00	688.44	0.005	0.01	5.255	A
C-A	167.27	167.27	0.00	-	-	-	-	-
A-B	3.60	3.60	0.00	-	-	-	-	-
A-C	204.97	204.97	0.00	-	-	-	-	-

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

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-C	0.00	0.00	0.00	681.10	0.000	0.00	0.000	A
B-A	0.00	0.00	0.00	425.88	0.000	0.00	0.000	A
C-AB	4.60	4.59	0.00	703.82	0.007	0.01	5.148	A
C-A	204.59	204.59	0.00	-	-	-	-	-
A-B	4.40	4.40	0.00	-	-	-	-	-
A-C	251.03	251.03	0.00	-	-	-	-	-

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

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-C	0.00	0.00	0.00	681.10	0.000	0.00	0.000	A
B-A	0.00	0.00	0.00	425.88	0.000	0.00	0.000	A
C-AB	4.60	4.60	0.00	703.82	0.007	0.01	5.150	A
C-A	204.59	204.59	0.00	-	-	-	-	-
A-B	4.40	4.40	0.00	-	-	-	-	-
A-C	251.03	251.03	0.00	-	-	-	-	-

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

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-C	0.00	0.00	0.00	694.05	0.000	0.00	0.000	A
B-A	0.00	0.00	0.00	441.97	0.000	0.00	0.000	A
C-AB	3.54	3.54	0.00	688.45	0.005	0.01	5.257	A
C-A	167.27	167.27	0.00	-	-	-	-	-
A-B	3.60	3.60	0.00	-	-	-	-	-
A-C	204.97	204.97	0.00	-	-	-	-	-

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

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-C	0.00	0.00	0.00	703.41	0.000	0.00	0.000	A
B-A	0.00	0.00	0.00	453.61	0.000	0.00	0.000	A
C-AB	2.83	2.84	0.00	677.45	0.004	0.00	5.335	A
C-A	140.21	140.21	0.00	-	-	-	-	-
A-B	3.01	3.01	0.00	-	-	-	-	-
A-C	171.65	171.65	0.00	-	-	-	-	-

<b>Junctions 8</b>
<b>PICADY 8 - Priority Intersection Module</b>
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**Filename:** Rowley Lane - Hermitage Park Junction Model.arc8  
**Path:** O:\Rowley Lane, Lepton\ANALYSIS\PICADY\Rowley Lane - Hermitage Park Junction  
**Report generation date:** 21/09/2016 14:12:17

- « (Default Analysis Set) - 2021 BASE, AM
- » Junction Network
- » Arms
- » Traffic Flows
- » Entry Flows
- » Turning Proportions
- » Vehicle Mix
- » Results

### Summary of junction performance

	AM			
	Queue (PCU)	Delay (s)	RFC	LOS
	A1 - 2021 BASE			
Stream B-C	0.01	6.18	0.01	A
Stream B-A	0.01	7.97	0.01	A
Stream C-AB	0.00	5.15	0.00	A
Stream C-A	-	-	-	-
Stream A-B	-	-	-	-
Stream A-C	-	-	-	-

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

- "D1 - 2016 COUNT, AM" model duration: 07:45 - 09:15
- "D2 - 2016 COUNT, PM" model duration: 16:30 - 18:00
- "D3 - 2021 BASE, AM " model duration: 07:45 - 09:15
- "D4 - 2021 BASE, PM" model duration: 16:30 - 18:00
- "D5 - 2021 DESIGN, AM" model duration: 07:45 - 09:15
- "D6 - 2021 DESIGN, PM" model duration: 16:30 - 18:00
- "D7 - 2016 DESIGN, AM" model duration: 07:45 - 09:15
- "D8 - 2016 DESIGN, PM" model duration: 16:30 - 18:00
- "D9 - 2021 DESIGN SENSITIVITY, AM" model duration: 07:45 - 09:15
- "D10 - 2021 DESIGN SENSITIVITY, PM" model duration: 16:30 - 18:00

Run using Junctions 8.0.5.523 at 21/09/2016 14:12:17

## File summary

<b>Title</b>	Rowley Lane - Hermitage Park Junction
<b>Location</b>	Lepton
<b>Site Number</b>	
<b>Date</b>	20/01/2016
<b>Version</b>	
<b>Status</b>	(new file)
<b>Identifier</b>	
<b>Client</b>	Portman Land Limited
<b>Jobnumber</b>	13015
<b>Enumerator</b>	Optima
<b>Description</b>	

## Analysis Options

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

## Units

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

# (Default Analysis Set) - 2021 BASE, AM

## Data Errors and Warnings

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

## Analysis Set Details

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

## Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
2021 BASE, AM	2021 BASE	AM		ONE HOUR	07:45	09:15	90	15		

# Junction Network

## Junctions

Junction	Name	Junction Type	Major Road Direction	Arm Order	Junction Delay (s)	Junction LOS
1	(untitled)	T-Junction	Two-way	A,B,C	6.73	A

## Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

## Arms

### Arms

Name	Arm	Name	Description	Arm Type
Rowley Lane (N)	A	Rowley Lane (N)		Major
Hermitage Park	B	Hermitage Park		Minor
Rowley Lane (S)	C	Rowley Lane (S)		Major

### Major Arm Geometry

Name	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)
Rowley Lane (S)	6.96		0.00		2.20	85.00	✓	0.00

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

### Minor Arm Geometry

Name	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)
Hermitage Park	One lane plus flare				9.73	3.87	2.86	2.85	2.80	✓	1.00	20	15

## Slope / Intercept / Capacity

### Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
1	B-A	576.606	0.101	0.254	0.160	0.363
1	B-C	663.564	0.097	0.246	-	-
1	C-B	623.188	0.231	0.231	-	-

*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

Name	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
Rowley Lane (N)	ONE HOUR	✓	276.00	100.000
Hermitage Park	ONE HOUR	✓	9.00	100.000
Rowley Lane (S)	ONE HOUR	✓	247.00	100.000

# Turning Proportions

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

		To		
		Rowley Lane (N)	Hermitage Park	Rowley Lane (S)
From	Rowley Lane (N)	0.000	2.000	274.000
	Hermitage Park	4.000	0.000	5.000
	Rowley Lane (S)	246.000	1.000	0.000

## Turning Proportions (PCU) - (untitled) (for whole period)

		To		
		Rowley Lane (N)	Hermitage Park	Rowley Lane (S)
From	Rowley Lane (N)	0.00	0.01	0.99
	Hermitage Park	0.44	0.00	0.56
	Rowley Lane (S)	1.00	0.00	0.00

# Vehicle Mix

## Average PCU Per Vehicle - (untitled) (for whole period)

		To		
		Rowley Lane (N)	Hermitage Park	Rowley Lane (S)
From	Rowley Lane (N)	1.000	1.000	1.000
	Hermitage Park	1.000	1.000	1.000
	Rowley Lane (S)	1.000	1.000	1.000

## Heavy Vehicle Percentages - (untitled) (for whole period)

		To		
		Rowley Lane (N)	Hermitage Park	Rowley Lane (S)
From	Rowley Lane (N)	0.0	0.0	0.0
	Hermitage Park	0.0	0.0	0.0
	Rowley Lane (S)	0.0	0.0	0.0

# Results

## Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-C	0.01	6.18	0.01	A
B-A	0.01	7.97	0.01	A
C-AB	0.00	5.15	0.00	A
C-A	-	-	-	-
A-B	-	-	-	-
A-C	-	-	-	-

## Main Results for each time segment

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

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-C	3.76	3.74	0.00	611.66	0.006	0.01	5.921	A
B-A	3.01	2.99	0.00	494.07	0.006	0.01	7.330	A
C-AB	1.01	1.00	0.00	699.94	0.001	0.00	5.150	A
C-A	184.94	184.94	0.00	-	-	-	-	-
A-B	1.51	1.51	0.00	-	-	-	-	-
A-C	206.28	206.28	0.00	-	-	-	-	-

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

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-C	4.49	4.49	0.00	601.56	0.007	0.01	6.028	A
B-A	3.60	3.59	0.00	478.05	0.008	0.01	7.586	A
C-AB	1.28	1.28	0.00	715.41	0.002	0.00	5.040	A
C-A	220.77	220.77	0.00	-	-	-	-	-
A-B	1.80	1.80	0.00	-	-	-	-	-
A-C	246.32	246.32	0.00	-	-	-	-	-

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

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-C	5.51	5.50	0.00	587.59	0.009	0.01	6.183	A
B-A	4.40	4.40	0.00	455.90	0.010	0.01	7.973	A
C-AB	1.69	1.69	0.00	736.92	0.002	0.00	4.896	A
C-A	270.26	270.26	0.00	-	-	-	-	-
A-B	2.20	2.20	0.00	-	-	-	-	-
A-C	301.68	301.68	0.00	-	-	-	-	-

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

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-C	5.51	5.50	0.00	587.59	0.009	0.01	6.183	A
B-A	4.40	4.40	0.00	455.90	0.010	0.01	7.973	A
C-AB	1.69	1.69	0.00	736.92	0.002	0.00	4.896	A
C-A	270.26	270.26	0.00	-	-	-	-	-
A-B	2.20	2.20	0.00	-	-	-	-	-
A-C	301.68	301.68	0.00	-	-	-	-	-

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

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-C	4.49	4.50	0.00	601.56	0.007	0.01	6.028	A
B-A	3.60	3.60	0.00	478.05	0.008	0.01	7.589	A
C-AB	1.28	1.28	0.00	715.41	0.002	0.00	5.040	A
C-A	220.77	220.77	0.00	-	-	-	-	-
A-B	1.80	1.80	0.00	-	-	-	-	-
A-C	246.32	246.32	0.00	-	-	-	-	-

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

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-C	3.76	3.77	0.00	611.65	0.006	0.01	5.921	A
B-A	3.01	3.02	0.00	494.07	0.006	0.01	7.330	A
C-AB	1.01	1.01	0.00	699.94	0.001	0.00	5.152	A
C-A	184.94	184.94	0.00	-	-	-	-	-
A-B	1.51	1.51	0.00	-	-	-	-	-
A-C	206.28	206.28	0.00	-	-	-	-	-



<b>Junctions 8</b>
<b>PICADY 8 - Priority Intersection Module</b>
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**Filename:** Rowley Lane - Hermitage Park Junction Model.arc8  
**Path:** O:\Rowley Lane, Lepton\ANALYSIS\PICADY\Rowley Lane - Hermitage Park Junction  
**Report generation date:** 21/09/2016 14:12:38

- « (Default Analysis Set) - 2021 BASE, PM
- » Junction Network
- » Arms
- » Traffic Flows
- » Entry Flows
- » Turning Proportions
- » Vehicle Mix
- » Results

### Summary of junction performance

	PM			
	Queue (PCU)	Delay (s)	RFC	LOS
	A1 - 2021 BASE			
Stream B-C	0.00	0.00	0.00	A
Stream B-A	0.00	0.00	0.00	A
Stream C-AB	0.01	5.30	0.01	A
Stream C-A	-	-	-	-
Stream A-B	-	-	-	-
Stream A-C	-	-	-	-

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

- "D1 - 2016 COUNT, AM" model duration: 07:45 - 09:15
- "D2 - 2016 COUNT, PM" model duration: 16:30 - 18:00
- "D3 - 2021 BASE, AM" model duration: 07:45 - 09:15
- "D4 - 2021 BASE, PM " model duration: 16:30 - 18:00
- "D5 - 2021 DESIGN, AM" model duration: 07:45 - 09:15
- "D6 - 2021 DESIGN, PM" model duration: 16:30 - 18:00
- "D7 - 2016 DESIGN, AM" model duration: 07:45 - 09:15
- "D8 - 2016 DESIGN, PM" model duration: 16:30 - 18:00
- "D9 - 2021 DESIGN SENSITIVITY, AM" model duration: 07:45 - 09:15
- "D10 - 2021 DESIGN SENSITIVITY, PM" model duration: 16:30 - 18:00

Run using Junctions 8.0.5.523 at 21/09/2016 14:12:37

## File summary

<b>Title</b>	Rowley Lane - Hermitage Park Junction
<b>Location</b>	Lepton
<b>Site Number</b>	
<b>Date</b>	20/01/2016
<b>Version</b>	
<b>Status</b>	(new file)
<b>Identifier</b>	
<b>Client</b>	Portman Land Limited
<b>Jobnumber</b>	13015
<b>Enumerator</b>	Optima
<b>Description</b>	

## Analysis Options

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

## Units

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

# (Default Analysis Set) - 2021 BASE, PM

## Data Errors and Warnings

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

## Analysis Set Details

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

## Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
2021 BASE, PM	2021 BASE	PM		ONE HOUR	16:30	18:00	90	15		

# Junction Network

## Junctions

Junction	Name	Junction Type	Major Road Direction	Arm Order	Junction Delay (s)	Junction LOS
1	(untitled)	T-Junction	Two-way	A,B,C	5.30	A

## Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

## Arms

### Arms

Name	Arm	Name	Description	Arm Type
Rowley Lane (N)	A	Rowley Lane (N)		Major
Hermitage Park	B	Hermitage Park		Minor
Rowley Lane (S)	C	Rowley Lane (S)		Major

### Major Arm Geometry

Name	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)
Rowley Lane (S)	6.96		0.00		2.20	85.00	✓	0.00

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

### Minor Arm Geometry

Name	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)
Hermitage Park	One lane plus flare				9.73	3.87	2.86	2.85	2.80	✓	1.00	20	15

## Slope / Intercept / Capacity

### Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
1	B-A	513.574	0.090	0.227	0.143	0.324
1	B-C	751.643	0.110	0.279	-	-
1	C-B	623.188	0.231	0.231	-	-

*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

Name	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
Rowley Lane (N)	ONE HOUR	✓	252.00	100.000
Hermitage Park	ONE HOUR	✓	4.00	100.000
Rowley Lane (S)	ONE HOUR	✓	206.00	100.000

# Turning Proportions

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

		To		
		Rowley Lane (N)	Hermitage Park	Rowley Lane (S)
From	Rowley Lane (N)	0.000	4.000	248.000
	Hermitage Park	2.000	0.000	2.000
	Rowley Lane (S)	203.000	3.000	0.000

## Turning Proportions (PCU) - (untitled) (for whole period)

		To		
		Rowley Lane (N)	Hermitage Park	Rowley Lane (S)
From	Rowley Lane (N)	0.00	0.02	0.98
	Hermitage Park	0.50	0.00	0.50
	Rowley Lane (S)	0.99	0.01	0.00

# Vehicle Mix

## Average PCU Per Vehicle - (untitled) (for whole period)

		To		
		Rowley Lane (N)	Hermitage Park	Rowley Lane (S)
From	Rowley Lane (N)	1.000	1.000	1.000
	Hermitage Park	1.000	1.000	1.000
	Rowley Lane (S)	1.000	1.000	1.000

## Heavy Vehicle Percentages - (untitled) (for whole period)

		To		
		Rowley Lane (N)	Hermitage Park	Rowley Lane (S)
From	Rowley Lane (N)	0.0	0.0	0.0
	Hermitage Park	0.0	0.0	0.0
	Rowley Lane (S)	0.0	0.0	0.0

# Results

## Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-C	0.00	0.00	0.00	A
B-A	0.00	0.00	0.00	A
C-AB	0.01	5.30	0.01	A
C-A	-	-	-	-
A-B	-	-	-	-
A-C	-	-	-	-

## Main Results for each time segment

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

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-C	0.00	0.00	0.00	699.21	0.000	0.00	0.000	A
B-A	0.00	0.00	0.00	448.49	0.000	0.00	0.000	A
C-AB	2.89	2.87	0.00	682.25	0.004	0.00	5.298	A
C-A	152.20	152.20	0.00	-	-	-	-	-
A-B	3.01	3.01	0.00	-	-	-	-	-
A-C	186.71	186.71	0.00	-	-	-	-	-

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

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-C	0.00	0.00	0.00	689.03	0.000	0.00	0.000	A
B-A	0.00	0.00	0.00	435.85	0.000	0.00	0.000	A
C-AB	3.62	3.61	0.00	694.25	0.005	0.01	5.212	A
C-A	181.57	181.57	0.00	-	-	-	-	-
A-B	3.60	3.60	0.00	-	-	-	-	-
A-C	222.95	222.95	0.00	-	-	-	-	-

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

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-C	0.00	0.00	0.00	674.96	0.000	0.00	0.000	A
B-A	0.00	0.00	0.00	418.38	0.000	0.00	0.000	A
C-AB	4.73	4.72	0.00	711.01	0.007	0.01	5.096	A
C-A	222.08	222.08	0.00	-	-	-	-	-
A-B	4.40	4.40	0.00	-	-	-	-	-
A-C	273.05	273.05	0.00	-	-	-	-	-

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

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-C	0.00	0.00	0.00	674.96	0.000	0.00	0.000	A
B-A	0.00	0.00	0.00	418.38	0.000	0.00	0.000	A
C-AB	4.73	4.73	0.00	711.01	0.007	0.01	5.096	A
C-A	222.08	222.08	0.00	-	-	-	-	-
A-B	4.40	4.40	0.00	-	-	-	-	-
A-C	273.05	273.05	0.00	-	-	-	-	-

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

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-C	0.00	0.00	0.00	689.03	0.000	0.00	0.000	A
B-A	0.00	0.00	0.00	435.85	0.000	0.00	0.000	A
C-AB	3.62	3.63	0.00	694.25	0.005	0.01	5.214	A
C-A	181.57	181.57	0.00	-	-	-	-	-
A-B	3.60	3.60	0.00	-	-	-	-	-
A-C	222.95	222.95	0.00	-	-	-	-	-

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

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-C	0.00	0.00	0.00	699.21	0.000	0.00	0.000	A
B-A	0.00	0.00	0.00	448.48	0.000	0.00	0.000	A
C-AB	2.89	2.89	0.00	682.26	0.004	0.00	5.300	A
C-A	152.20	152.20	0.00	-	-	-	-	-
A-B	3.01	3.01	0.00	-	-	-	-	-
A-C	186.71	186.71	0.00	-	-	-	-	-

<h1>Junctions 8</h1>
<h2>PICADY 8 - Priority Intersection Module</h2>
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**Filename:** Rowley Lane - Hermitage Park Junction Model.arc8  
**Path:** O:\Rowley Lane, Lepton\ANALYSIS\PICADY\Rowley Lane - Hermitage Park Junction  
**Report generation date:** 21/09/2016 11:25:34

- « (Default Analysis Set) - 2021 DESIGN, AM
- » Junction Network
- » Arms
- » Traffic Flows
- » Entry Flows
- » Turning Proportions
- » Vehicle Mix
- » Results

### Summary of junction performance

	AM			
	Queue (PCU)	Delay (s)	RFC	LOS
	A1 - 2021 DESIGN			
Stream B-C	0.15	7.29	0.13	A
Stream B-A	0.15	9.23	0.13	A
Stream C-AB	0.04	5.27	0.03	A
Stream C-A	-	-	-	-
Stream A-B	-	-	-	-
Stream A-C	-	-	-	-

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

- "D1 - 2016 COUNT, AM" model duration: 07:45 - 09:15
- "D2 - 2016 COUNT, PM" model duration: 16:30 - 18:00
- "D3 - 2021 BASE, AM" model duration: 07:45 - 09:15
- "D4 - 2021 BASE, PM" model duration: 16:30 - 18:00
- "D5 - 2021 DESIGN, AM " model duration: 07:45 - 09:15
- "D6 - 2021 DESIGN, PM" model duration: 16:30 - 18:00
- "D7 - 2016 DESIGN, AM" model duration: 07:45 - 09:15
- "D8 - 2016 DESIGN, PM" model duration: 16:30 - 18:00
- "D9 - 2021 DESIGN SENSITIVITY, AM" model duration: 07:45 - 09:15
- "D10 - 2021 DESIGN SENSITIVITY, PM" model duration: 16:30 - 18:00

Run using Junctions 8.0.5.523 at 21/09/2016 11:25:34

## File summary

<b>Title</b>	Rowley Lane - Hermitage Park Junction
<b>Location</b>	Lepton
<b>Site Number</b>	
<b>Date</b>	20/01/2016
<b>Version</b>	
<b>Status</b>	(new file)
<b>Identifier</b>	
<b>Client</b>	Portman Land Limited
<b>Jobnumber</b>	13015
<b>Enumerator</b>	Optima
<b>Description</b>	

## Analysis Options

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

## Units

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

# (Default Analysis Set) - 2021 DESIGN, AM

## Data Errors and Warnings

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

## Analysis Set Details

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

## Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
2021 DESIGN, AM	2021 DESIGN	AM		ONE HOUR	07:45	09:15	90	15		

# Junction Network

## Junctions

Junction	Name	Junction Type	Major Road Direction	Arm Order	Junction Delay (s)	Junction LOS
1	(untitled)	T-Junction	Two-way	A,B,C	7.75	A



## Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

## Arms

### Arms

Name	Arm	Name	Description	Arm Type
Rowley Lane (N)	A	Rowley Lane (N)		Major
Hermitage Park	B	Hermitage Park		Minor
Rowley Lane (S)	C	Rowley Lane (S)		Major

### Major Arm Geometry

Name	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)
Rowley Lane (S)	6.96		0.00		2.20	85.00	✓	0.00

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

### Minor Arm Geometry

Name	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)
Hermitage Park	One lane plus flare				9.73	3.87	2.86	2.85	2.80	✓	1.00	20	15

## Slope / Intercept / Capacity

### Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
1	B-A	576.606	0.101	0.254	0.160	0.363
1	B-C	663.564	0.097	0.246	-	-
1	C-B	623.188	0.231	0.231	-	-

*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

Name	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
Rowley Lane (N)	ONE HOUR	✓	299.00	100.000
Hermitage Park	ONE HOUR	✓	118.00	100.000
Rowley Lane (S)	ONE HOUR	✓	259.00	100.000

# Turning Proportions

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

		To		
		Rowley Lane (N)	Hermitage Park	Rowley Lane (S)
From	Rowley Lane (N)	0.000	25.000	274.000
	Hermitage Park	52.000	0.000	66.000
	Rowley Lane (S)	246.000	13.000	0.000

## Turning Proportions (PCU) - (untitled) (for whole period)

		To		
		Rowley Lane (N)	Hermitage Park	Rowley Lane (S)
From	Rowley Lane (N)	0.00	0.08	0.92
	Hermitage Park	0.44	0.00	0.56
	Rowley Lane (S)	0.95	0.05	0.00

# Vehicle Mix

## Average PCU Per Vehicle - (untitled) (for whole period)

		To		
		Rowley Lane (N)	Hermitage Park	Rowley Lane (S)
From	Rowley Lane (N)	1.000	1.000	1.000
	Hermitage Park	1.000	1.000	1.000
	Rowley Lane (S)	1.000	1.000	1.000

## Heavy Vehicle Percentages - (untitled) (for whole period)

		To		
		Rowley Lane (N)	Hermitage Park	Rowley Lane (S)
From	Rowley Lane (N)	0.0	0.0	0.0
	Hermitage Park	0.0	0.0	0.0
	Rowley Lane (S)	0.0	0.0	0.0

# Results

## Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-C	0.13	7.29	0.15	A
B-A	0.13	9.23	0.15	A
C-AB	0.03	5.27	0.04	A
C-A	-	-	-	-
A-B	-	-	-	-
A-C	-	-	-	-

## Main Results for each time segment

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

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-C	49.69	49.33	0.00	598.33	0.083	0.09	6.553	A
B-A	39.15	38.80	0.00	488.74	0.080	0.09	7.996	A
C-AB	13.16	13.07	0.00	696.34	0.019	0.02	5.268	A
C-A	181.83	181.83	0.00	-	-	-	-	-
A-B	18.82	18.82	0.00	-	-	-	-	-
A-C	206.28	206.28	0.00	-	-	-	-	-

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

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-C	59.33	59.24	0.00	585.05	0.101	0.11	6.847	A
B-A	46.75	46.66	0.00	471.47	0.099	0.11	8.472	A
C-AB	16.66	16.64	0.00	711.22	0.023	0.03	5.182	A
C-A	216.17	216.17	0.00	-	-	-	-	-
A-B	22.47	22.47	0.00	-	-	-	-	-
A-C	246.32	246.32	0.00	-	-	-	-	-

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

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-C	72.67	72.53	0.00	566.34	0.128	0.15	7.288	A
B-A	57.25	57.11	0.00	447.44	0.128	0.15	9.220	A
C-AB	22.08	22.04	0.00	731.94	0.030	0.04	5.070	A
C-A	263.09	263.09	0.00	-	-	-	-	-
A-B	27.53	27.53	0.00	-	-	-	-	-
A-C	301.68	301.68	0.00	-	-	-	-	-

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

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-C	72.67	72.66	0.00	566.28	0.128	0.15	7.292	A
B-A	57.25	57.25	0.00	447.43	0.128	0.15	9.226	A
C-AB	22.09	22.09	0.00	731.96	0.030	0.04	5.073	A
C-A	263.08	263.08	0.00	-	-	-	-	-
A-B	27.53	27.53	0.00	-	-	-	-	-
A-C	301.68	301.68	0.00	-	-	-	-	-

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

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-C	59.33	59.46	0.00	584.96	0.101	0.11	6.851	A
B-A	46.75	46.89	0.00	471.44	0.099	0.11	8.481	A
C-AB	16.68	16.72	0.00	711.24	0.023	0.03	5.183	A
C-A	216.16	216.16	0.00	-	-	-	-	-
A-B	22.47	22.47	0.00	-	-	-	-	-
A-C	246.32	246.32	0.00	-	-	-	-	-

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

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-C	49.69	49.78	0.00	598.18	0.083	0.09	6.564	A
B-A	39.15	39.24	0.00	488.69	0.080	0.09	8.012	A
C-AB	13.19	13.22	0.00	696.37	0.019	0.02	5.269	A
C-A	181.80	181.80	0.00	-	-	-	-	-
A-B	18.82	18.82	0.00	-	-	-	-	-
A-C	206.28	206.28	0.00	-	-	-	-	-

<b>Junctions 8</b>
<b>PICADY 8 - Priority Intersection Module</b>
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**Filename:** Rowley Lane - Hermitage Park Junction Model.arc8  
**Path:** O:\Rowley Lane, Lepton\ANALYSIS\PICADY\Rowley Lane - Hermitage Park Junction  
**Report generation date:** 21/09/2016 11:25:57

- « (Default Analysis Set) - 2021 DESIGN, PM
- » Junction Network
- » Arms
- » Traffic Flows
- » Entry Flows
- » Turning Proportions
- » Vehicle Mix
- » Results

### Summary of junction performance

	PM			
	Queue (PCU)	Delay (s)	RFC	LOS
	A1 - 2021 DESIGN			
Stream B-C	0.04	5.68	0.04	A
Stream B-A	0.06	9.56	0.06	A
Stream C-AB	0.15	5.66	0.09	A
Stream C-A	-	-	-	-
Stream A-B	-	-	-	-
Stream A-C	-	-	-	-

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

- "D1 - 2016 COUNT, AM" model duration: 07:45 - 09:15
- "D2 - 2016 COUNT, PM" model duration: 16:30 - 18:00
- "D3 - 2021 BASE, AM" model duration: 07:45 - 09:15
- "D4 - 2021 BASE, PM" model duration: 16:30 - 18:00
- "D5 - 2021 DESIGN, AM" model duration: 07:45 - 09:15
- "D6 - 2021 DESIGN, PM" model duration: 16:30 - 18:00
- "D7 - 2016 DESIGN, AM" model duration: 07:45 - 09:15
- "D8 - 2016 DESIGN, PM" model duration: 16:30 - 18:00
- "D9 - 2021 DESIGN SENSITIVITY, AM" model duration: 07:45 - 09:15
- "D10 - 2021 DESIGN SENSITIVITY, PM" model duration: 16:30 - 18:00

Run using Junctions 8.0.5.523 at 21/09/2016 11:25:56

## File summary

<b>Title</b>	Rowley Lane - Hermitage Park Junction
<b>Location</b>	Lepton
<b>Site Number</b>	
<b>Date</b>	20/01/2016
<b>Version</b>	
<b>Status</b>	(new file)
<b>Identifier</b>	
<b>Client</b>	Portman Land Limited
<b>Jobnumber</b>	13015
<b>Enumerator</b>	Optima
<b>Description</b>	

## Analysis Options

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

## Units

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

# (Default Analysis Set) - 2021 DESIGN, PM

## Data Errors and Warnings

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

## Analysis Set Details

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

## Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
2021 DESIGN, PM	2021 DESIGN	PM		ONE HOUR	16:30	18:00	90	15		

# Junction Network

## Junctions

Junction	Name	Junction Type	Major Road Direction	Arm Order	Junction Delay (s)	Junction LOS
1	(untitled)	T-Junction	Two-way	A,B,C	6.54	A

## Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

## Arms

### Arms

Name	Arm	Name	Description	Arm Type
Rowley Lane (N)	A	Rowley Lane (N)		Major
Hermitage Park	B	Hermitage Park		Minor
Rowley Lane (S)	C	Rowley Lane (S)		Major

### Major Arm Geometry

Name	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)
Rowley Lane (S)	6.96		0.00		2.20	85.00	✓	0.00

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

### Minor Arm Geometry

Name	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)
Hermitage Park	One lane plus flare				9.73	3.87	2.86	2.85	2.80	✓	1.00	20	15

## Slope / Intercept / Capacity

### Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
1	B-A	513.574	0.090	0.227	0.143	0.324
1	B-C	751.643	0.110	0.279	-	-
1	C-B	623.188	0.231	0.231	-	-

*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

Name	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
Rowley Lane (N)	ONE HOUR	✓	300.00	100.000
Hermitage Park	ONE HOUR	✓	44.00	100.000
Rowley Lane (S)	ONE HOUR	✓	242.00	100.000

# Turning Proportions

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

		To		
		Rowley Lane (N)	Hermitage Park	Rowley Lane (S)
From	Rowley Lane (N)	0.000	52.000	248.000
	Hermitage Park	22.000	0.000	22.000
	Rowley Lane (S)	203.000	39.000	0.000

## Turning Proportions (PCU) - (untitled) (for whole period)

		To		
		Rowley Lane (N)	Hermitage Park	Rowley Lane (S)
From	Rowley Lane (N)	0.00	0.17	0.83
	Hermitage Park	0.50	0.00	0.50
	Rowley Lane (S)	0.84	0.16	0.00

# Vehicle Mix

## Average PCU Per Vehicle - (untitled) (for whole period)

		To		
		Rowley Lane (N)	Hermitage Park	Rowley Lane (S)
From	Rowley Lane (N)	1.000	1.000	1.000
	Hermitage Park	1.000	1.000	1.000
	Rowley Lane (S)	1.000	1.000	1.000

## Heavy Vehicle Percentages - (untitled) (for whole period)

		To		
		Rowley Lane (N)	Hermitage Park	Rowley Lane (S)
From	Rowley Lane (N)	0.0	0.0	0.0
	Hermitage Park	0.0	0.0	0.0
	Rowley Lane (S)	0.0	0.0	0.0



# Results

## Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-C	0.04	5.68	0.04	A
B-A	0.06	9.56	0.06	A
C-AB	0.09	5.66	0.15	A
C-A	-	-	-	-
A-B	-	-	-	-
A-C	-	-	-	-

## Main Results for each time segment

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

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-C	16.56	16.46	0.00	688.59	0.024	0.02	5.356	A
B-A	16.56	16.41	0.00	436.47	0.038	0.04	8.567	A
C-AB	37.64	37.30	0.00	674.60	0.056	0.08	5.649	A
C-A	144.55	144.55	0.00	-	-	-	-	-
A-B	39.15	39.15	0.00	-	-	-	-	-
A-C	186.71	186.71	0.00	-	-	-	-	-

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

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-C	19.78	19.76	0.00	675.70	0.029	0.03	5.487	A
B-A	19.78	19.74	0.00	421.46	0.047	0.05	8.960	A
C-AB	47.28	47.18	0.00	685.31	0.069	0.11	5.644	A
C-A	170.28	170.28	0.00	-	-	-	-	-
A-B	46.75	46.75	0.00	-	-	-	-	-
A-C	222.95	222.95	0.00	-	-	-	-	-

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

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-C	24.22	24.19	0.00	658.38	0.037	0.04	5.676	A
B-A	24.22	24.16	0.00	400.73	0.060	0.06	9.559	A
C-AB	61.97	61.80	0.00	700.35	0.088	0.15	5.641	A
C-A	204.48	204.48	0.00	-	-	-	-	-
A-B	57.25	57.25	0.00	-	-	-	-	-
A-C	273.05	273.05	0.00	-	-	-	-	-

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

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-C	24.22	24.22	0.00	658.20	0.037	0.04	5.677	A
B-A	24.22	24.22	0.00	400.71	0.060	0.06	9.561	A
C-AB	62.01	62.00	0.00	700.40	0.089	0.15	5.642	A
C-A	204.44	204.44	0.00	-	-	-	-	-
A-B	57.25	57.25	0.00	-	-	-	-	-
A-C	273.05	273.05	0.00	-	-	-	-	-

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

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-C	19.78	19.81	0.00	675.35	0.029	0.03	5.491	A
B-A	19.78	19.83	0.00	421.44	0.047	0.05	8.964	A
C-AB	47.33	47.49	0.00	685.39	0.069	0.11	5.646	A
C-A	170.22	170.22	0.00	-	-	-	-	-
A-B	46.75	46.75	0.00	-	-	-	-	-
A-C	222.95	222.95	0.00	-	-	-	-	-

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

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-C	16.56	16.58	0.00	687.85	0.024	0.02	5.362	A
B-A	16.56	16.60	0.00	436.44	0.038	0.04	8.575	A
C-AB	37.73	37.83	0.00	674.67	0.056	0.09	5.657	A
C-A	144.46	144.46	0.00	-	-	-	-	-
A-B	39.15	39.15	0.00	-	-	-	-	-
A-C	186.71	186.71	0.00	-	-	-	-	-

<h1>Junctions 8</h1>
<h2>PICADY 8 - Priority Intersection Module</h2>
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**Filename:** Rowley Lane - Hermitage Park Junction Model.arc8  
**Path:** O:\Rowley Lane, Lepton\ANALYSIS\PICADY\Rowley Lane - Hermitage Park Junction  
**Report generation date:** 21/09/2016 11:26:54

- « (Default Analysis Set) - 2021 DESIGN SENSITIVITY, AM
- » Junction Network
- » Arms
- » Traffic Flows
- » Entry Flows
- » Turning Proportions
- » Vehicle Mix
- » Results

### Summary of junction performance

	AM			
	Queue (PCU)	Delay (s)	RFC	LOS
	A1 - 2021 DESIGN SENSITIVITY			
Stream B-C	0.17	7.51	0.15	A
Stream B-A	0.17	9.49	0.15	A
Stream C-AB	0.05	5.29	0.03	A
Stream C-A	-	-	-	-
Stream A-B	-	-	-	-
Stream A-C	-	-	-	-

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

- "D1 - 2016 COUNT, AM" model duration: 07:45 - 09:15
- "D2 - 2016 COUNT, PM" model duration: 16:30 - 18:00
- "D3 - 2021 BASE, AM" model duration: 07:45 - 09:15
- "D4 - 2021 BASE, PM" model duration: 16:30 - 18:00
- "D5 - 2021 DESIGN, AM" model duration: 07:45 - 09:15
- "D6 - 2021 DESIGN, PM" model duration: 16:30 - 18:00
- "D7 - 2016 DESIGN, AM" model duration: 07:45 - 09:15
- "D8 - 2016 DESIGN, PM" model duration: 16:30 - 18:00
- "D9 - 2021 DESIGN SENSITIVITY, AM " model duration: 07:45 - 09:15
- "D10 - 2021 DESIGN SENSITIVITY, PM" model duration: 16:30 - 18:00

Run using Junctions 8.0.5.523 at 21/09/2016 11:26:53

## File summary

<b>Title</b>	Rowley Lane - Hermitage Park Junction
<b>Location</b>	Lepton
<b>Site Number</b>	
<b>Date</b>	20/01/2016
<b>Version</b>	
<b>Status</b>	(new file)
<b>Identifier</b>	
<b>Client</b>	Portman Land Limited
<b>Jobnumber</b>	13015
<b>Enumerator</b>	Optima
<b>Description</b>	

## Analysis Options

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

## Units

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

# (Default Analysis Set) - 2021 DESIGN SENSITIVITY, AM

## Data Errors and Warnings

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

## Analysis Set Details

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

## Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
2021 DESIGN SENSITIVITY, AM	2021 DESIGN SENSITIVITY	AM		ONE HOUR	07:45	09:15	90	15		

# Junction Network

## Junctions

Junction	Name	Junction Type	Major Road Direction	Arm Order	Junction Delay (s)	Junction LOS
1	(untitled)	T-Junction	Two-way	A,B,C	7.96	A

## Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

## Arms

### Arms

Name	Arm	Name	Description	Arm Type
Rowley Lane (N)	A	Rowley Lane (N)		Major
Hermitage Park	B	Hermitage Park		Minor
Rowley Lane (S)	C	Rowley Lane (S)		Major

### Major Arm Geometry

Name	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)
Rowley Lane (S)	6.96		0.00		2.20	85.00	✓	0.00

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

### Minor Arm Geometry

Name	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)
Hermitage Park	One lane plus flare				9.73	3.87	2.86	2.85	2.80	✓	1.00	20	15

## Slope / Intercept / Capacity

### Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
1	B-A	576.606	0.101	0.254	0.160	0.363
1	B-C	663.564	0.097	0.246	-	-
1	C-B	623.188	0.231	0.231	-	-

*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

Name	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
Rowley Lane (N)	ONE HOUR	✓	304.00	100.000
Hermitage Park	ONE HOUR	✓	135.00	100.000
Rowley Lane (S)	ONE HOUR	✓	261.00	100.000

# Turning Proportions

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

		To		
		Rowley Lane (N)	Hermitage Park	Rowley Lane (S)
From	Rowley Lane (N)	0.000	30.000	274.000
	Hermitage Park	60.000	0.000	75.000
	Rowley Lane (S)	246.000	15.000	0.000

## Turning Proportions (PCU) - (untitled) (for whole period)

		To		
		Rowley Lane (N)	Hermitage Park	Rowley Lane (S)
From	Rowley Lane (N)	0.00	0.10	0.90
	Hermitage Park	0.44	0.00	0.56
	Rowley Lane (S)	0.94	0.06	0.00

# Vehicle Mix

## Average PCU Per Vehicle - (untitled) (for whole period)

		To		
		Rowley Lane (N)	Hermitage Park	Rowley Lane (S)
From	Rowley Lane (N)	1.000	1.000	1.000
	Hermitage Park	1.000	1.000	1.000
	Rowley Lane (S)	1.000	1.000	1.000

## Heavy Vehicle Percentages - (untitled) (for whole period)

		To		
		Rowley Lane (N)	Hermitage Park	Rowley Lane (S)
From	Rowley Lane (N)	0.0	0.0	0.0
	Hermitage Park	0.0	0.0	0.0
	Rowley Lane (S)	0.0	0.0	0.0

# Results

## Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-C	0.15	7.51	0.17	A
B-A	0.15	9.49	0.17	A
C-AB	0.03	5.29	0.05	A
C-A	-	-	-	-
A-B	-	-	-	-
A-C	-	-	-	-

## Main Results for each time segment

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

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-C	56.46	56.05	0.00	595.88	0.095	0.10	6.665	A
B-A	45.17	44.77	0.00	487.66	0.093	0.10	8.121	A
C-AB	15.19	15.09	0.00	695.56	0.022	0.03	5.290	A
C-A	181.30	181.30	0.00	-	-	-	-	-
A-B	22.59	22.59	0.00	-	-	-	-	-
A-C	206.28	206.28	0.00	-	-	-	-	-

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

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-C	67.42	67.32	0.00	581.92	0.116	0.13	6.993	A
B-A	53.94	53.83	0.00	470.08	0.115	0.13	8.647	A
C-AB	19.24	19.21	0.00	710.31	0.027	0.03	5.208	A
C-A	215.39	215.39	0.00	-	-	-	-	-
A-B	26.97	26.97	0.00	-	-	-	-	-
A-C	246.32	246.32	0.00	-	-	-	-	-

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

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-C	82.58	82.41	0.00	562.13	0.147	0.17	7.503	A
B-A	66.06	65.89	0.00	445.54	0.148	0.17	9.478	A
C-AB	25.50	25.45	0.00	730.86	0.035	0.05	5.103	A
C-A	261.87	261.87	0.00	-	-	-	-	-
A-B	33.03	33.03	0.00	-	-	-	-	-
A-C	301.68	301.68	0.00	-	-	-	-	-

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

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-C	82.58	82.57	0.00	562.05	0.147	0.17	7.507	A
B-A	66.06	66.06	0.00	445.52	0.148	0.17	9.486	A
C-AB	25.51	25.51	0.00	730.88	0.035	0.05	5.105	A
C-A	261.86	261.86	0.00	-	-	-	-	-
A-B	33.03	33.03	0.00	-	-	-	-	-
A-C	301.68	301.68	0.00	-	-	-	-	-

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

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-C	67.42	67.58	0.00	581.81	0.116	0.13	7.002	A
B-A	53.94	54.11	0.00	470.05	0.115	0.13	8.659	A
C-AB	19.26	19.31	0.00	710.33	0.027	0.03	5.211	A
C-A	215.38	215.38	0.00	-	-	-	-	-
A-B	26.97	26.97	0.00	-	-	-	-	-
A-C	246.32	246.32	0.00	-	-	-	-	-

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

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-C	56.46	56.57	0.00	595.70	0.095	0.11	6.678	A
B-A	45.17	45.28	0.00	487.60	0.093	0.10	8.140	A
C-AB	15.23	15.26	0.00	695.59	0.022	0.03	5.291	A
C-A	181.27	181.27	0.00	-	-	-	-	-
A-B	22.59	22.59	0.00	-	-	-	-	-
A-C	206.28	206.28	0.00	-	-	-	-	-



<h1>Junctions 8</h1>
<h2>PICADY 8 - Priority Intersection Module</h2>
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**Filename:** Rowley Lane - Hermitage Park Junction Model.arc8  
**Path:** O:\Rowley Lane, Lepton\ANALYSIS\PICADY\Rowley Lane - Hermitage Park Junction  
**Report generation date:** 21/09/2016 11:27:16

- « (Default Analysis Set) - 2021 DESIGN SENSITIVITY, PM
- » Junction Network
- » Arms
- » Traffic Flows
- » Entry Flows
- » Turning Proportions
- » Vehicle Mix
- » Results

### Summary of junction performance

	PM			
	Queue (PCU)	Delay (s)	RFC	LOS
	A1 - 2021 DESIGN SENSITIVITY			
Stream B-C	0.05	5.80	0.05	A
Stream B-A	0.09	9.87	0.08	A
Stream C-AB	0.18	5.74	0.10	A
Stream C-A	-	-	-	-
Stream A-B	-	-	-	-
Stream A-C	-	-	-	-

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

- "D1 - 2016 COUNT, AM" model duration: 07:45 - 09:15
- "D2 - 2016 COUNT, PM" model duration: 16:30 - 18:00
- "D3 - 2021 BASE, AM" model duration: 07:45 - 09:15
- "D4 - 2021 BASE, PM" model duration: 16:30 - 18:00
- "D5 - 2021 DESIGN, AM" model duration: 07:45 - 09:15
- "D6 - 2021 DESIGN, PM" model duration: 16:30 - 18:00
- "D7 - 2016 DESIGN, AM" model duration: 07:45 - 09:15
- "D8 - 2016 DESIGN, PM" model duration: 16:30 - 18:00
- "D9 - 2021 DESIGN SENSITIVITY, AM" model duration: 07:45 - 09:15
- "D10 - 2021 DESIGN SENSITIVITY, PM " model duration: 16:30 - 18:00

Run using Junctions 8.0.5.523 at 21/09/2016 11:27:15

## File summary

<b>Title</b>	Rowley Lane - Hermitage Park Junction
<b>Location</b>	Lepton
<b>Site Number</b>	
<b>Date</b>	20/01/2016
<b>Version</b>	
<b>Status</b>	(new file)
<b>Identifier</b>	
<b>Client</b>	Portman Land Limited
<b>Jobnumber</b>	13015
<b>Enumerator</b>	Optima
<b>Description</b>	

## Analysis Options

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

## Units

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

# (Default Analysis Set) - 2021 DESIGN SENSITIVITY, PM

## Data Errors and Warnings

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

## Analysis Set Details

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

## Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
2021 DESIGN SENSITIVITY, PM	2021 DESIGN SENSITIVITY	PM		ONE HOUR	16:30	18:00	90	15		

# Junction Network

## Junctions

Junction	Name	Junction Type	Major Road Direction	Arm Order	Junction Delay (s)	Junction LOS
1	(untitled)	T-Junction	Two-way	A,B,C	6.77	A

## Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

## Arms

### Arms

Name	Arm	Name	Description	Arm Type
Rowley Lane (N)	A	Rowley Lane (N)		Major
Hermitage Park	B	Hermitage Park		Minor
Rowley Lane (S)	C	Rowley Lane (S)		Major

### Major Arm Geometry

Name	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)
Rowley Lane (S)	6.96		0.00		2.20	85.00	✓	0.00

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

### Minor Arm Geometry

Name	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)
Hermitage Park	One lane plus flare				9.73	3.87	2.86	2.85	2.80	✓	1.00	20	15

## Slope / Intercept / Capacity

### Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
1	B-A	513.574	0.090	0.227	0.143	0.324
1	B-C	751.643	0.110	0.279	-	-
1	C-B	623.188	0.231	0.231	-	-

*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

Name	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
Rowley Lane (N)	ONE HOUR	✓	308.00	100.000
Hermitage Park	ONE HOUR	✓	60.00	100.000
Rowley Lane (S)	ONE HOUR	✓	248.00	100.000

# Turning Proportions

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

		To		
		Rowley Lane (N)	Hermitage Park	Rowley Lane (S)
From	Rowley Lane (N)	0.000	60.000	248.000
	Hermitage Park	30.000	0.000	30.000
	Rowley Lane (S)	203.000	45.000	0.000

## Turning Proportions (PCU) - (untitled) (for whole period)

		To		
		Rowley Lane (N)	Hermitage Park	Rowley Lane (S)
From	Rowley Lane (N)	0.00	0.19	0.81
	Hermitage Park	0.50	0.00	0.50
	Rowley Lane (S)	0.82	0.18	0.00

# Vehicle Mix

## Average PCU Per Vehicle - (untitled) (for whole period)

		To		
		Rowley Lane (N)	Hermitage Park	Rowley Lane (S)
From	Rowley Lane (N)	1.000	1.000	1.000
	Hermitage Park	1.000	1.000	1.000
	Rowley Lane (S)	1.000	1.000	1.000

## Heavy Vehicle Percentages - (untitled) (for whole period)

		To		
		Rowley Lane (N)	Hermitage Park	Rowley Lane (S)
From	Rowley Lane (N)	0.0	0.0	0.0
	Hermitage Park	0.0	0.0	0.0
	Rowley Lane (S)	0.0	0.0	0.0

# Results

## Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-C	0.05	5.80	0.05	A
B-A	0.08	9.87	0.09	A
C-AB	0.10	5.74	0.18	A
C-A	-	-	-	-
A-B	-	-	-	-
A-C	-	-	-	-

## Main Results for each time segment

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

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-C	22.59	22.45	0.00	685.44	0.033	0.03	5.428	A
B-A	22.59	22.37	0.00	434.45	0.052	0.05	8.731	A
C-AB	43.45	43.07	0.00	673.32	0.065	0.10	5.710	A
C-A	143.26	143.26	0.00	-	-	-	-	-
A-B	45.17	45.17	0.00	-	-	-	-	-
A-C	186.71	186.71	0.00	-	-	-	-	-

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

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-C	26.97	26.94	0.00	671.80	0.040	0.04	5.582	A
B-A	26.97	26.91	0.00	419.03	0.064	0.07	9.180	A
C-AB	54.59	54.48	0.00	683.82	0.080	0.12	5.723	A
C-A	168.35	168.35	0.00	-	-	-	-	-
A-B	53.94	53.94	0.00	-	-	-	-	-
A-C	222.95	222.95	0.00	-	-	-	-	-

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

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-C	33.03	32.99	0.00	653.38	0.051	0.05	5.802	A
B-A	33.03	32.94	0.00	397.74	0.083	0.09	9.866	A
C-AB	72.76	72.57	0.00	700.42	0.104	0.17	5.735	A
C-A	200.29	200.29	0.00	-	-	-	-	-
A-B	66.06	66.06	0.00	-	-	-	-	-
A-C	273.05	273.05	0.00	-	-	-	-	-

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

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-C	33.03	33.03	0.00	653.18	0.051	0.05	5.804	A
B-A	33.03	33.03	0.00	397.71	0.083	0.09	9.871	A
C-AB	72.81	72.81	0.00	700.49	0.104	0.18	5.739	A
C-A	200.24	200.24	0.00	-	-	-	-	-
A-B	66.06	66.06	0.00	-	-	-	-	-
A-C	273.05	273.05	0.00	-	-	-	-	-

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

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-C	26.97	27.01	0.00	671.40	0.040	0.04	5.586	A
B-A	26.97	27.05	0.00	419.00	0.064	0.07	9.188	A
C-AB	54.65	54.84	0.00	683.92	0.080	0.13	5.726	A
C-A	168.29	168.29	0.00	-	-	-	-	-
A-B	53.94	53.94	0.00	-	-	-	-	-
A-C	222.95	222.95	0.00	-	-	-	-	-

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

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-C	22.59	22.62	0.00	684.64	0.033	0.03	5.439	A
B-A	22.59	22.64	0.00	434.41	0.052	0.06	8.745	A
C-AB	43.56	43.68	0.00	673.41	0.065	0.10	5.719	A
C-A	143.15	143.15	0.00	-	-	-	-	-
A-B	45.17	45.17	0.00	-	-	-	-	-
A-C	186.71	186.71	0.00	-	-	-	-	-

Junctions 8
PICADY 8 - Priority Intersection Module
Version: 8.0.5.523 [19102,19/06/2015] © Copyright TRL Limited, 2016
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**Filename:** 160914 Rowley Lane - Penistone Road Model.arc8  
**Path:** O:\Rowley Lane, Lepton\ANALYSIS\PICADY\Rowley Ln - Penistone Rd Junction\Rowley Ln - Penistone Rd Model  
**Report generation date:** 21/09/2016 14:16:46

- « (Default Analysis Set) - 2016 COUNT, AM
- » Junction Network
- » Arms
- » Traffic Flows
- » Entry Flows
- » Turning Proportions
- » Vehicle Mix
- » Results

### Summary of junction performance

	AM			
	Queue (PCU)	Delay (s)	RFC	LOS
	A1 - 2016 COUNT			
Stream B-C	1.25	18.10	0.56	C
Stream B-A	1.16	82.71	0.56	F
Stream C-AB	0.77	11.68	0.44	B
Stream C-A	-	-	-	-
Stream A-B	-	-	-	-
Stream A-C	-	-	-	-

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

- "D1 - 2016 COUNT, AM" model duration: 07:45 - 09:15
- "D2 - 2016 COUNT, PM" model duration: 16:45 - 18:15
- "D3 - 2021 GROWTHED COUNT, AM" model duration: 07:45 - 09:15
- "D4 - 2021 GROWTHED COUNT, PM" model duration: 16:45 - 18:15
- "D5 - 2016 DESIGN, AM" model duration: 07:45 - 09:15
- "D6 - 2016 DESIGN, PM" model duration: 16:45 - 18:15
- "D7 - 2021 DESIGN, AM" model duration: 07:45 - 09:15
- "D8 - 2021 DESIGN, PM" model duration: 16:45 - 18:15

Run using Junctions 8.0.5.523 at 21/09/2016 14:16:45

## File summary

Title	(untitled)
Location	
Site Number	
Date	03/08/2016
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	Optima
Description	

## Analysis Options

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

## Units

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

# (Default Analysis Set) - 2016 COUNT, AM

## Data Errors and Warnings

*No errors or warnings*

## Analysis Set Details

Name	Roundabout Capacity Model	Description	Include In Report	Use Specific Demand Set(s)	Specific Demand Set (s)	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)	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
2016 COUNT, AM	2016 COUNT	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	(untitled)	T-Junction	Two-way	A,B,C		21.65	C



## Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

## Arms

### Arms

Name	Arm	Name	Description	Arm Type
A629 Penistone Road (N)	A	A629 Penistone Road (N)		Major
Rowley Lane	B	Rowley Lane		Minor
A629 Penistone Road (S)	C	A629 Penistone Road (S)		Major

### Major Arm Geometry

Name	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)
A629 Penistone Road (S)	6.00		0.00	✓	3.00	250.00	✓	13.00

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

### Minor Arm Geometry

Name	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)
Rowley Lane	One lane plus flare				10.00	6.90	6.48	6.00	5.65	✓	3.00	39	23

## Slope / Intercept / Capacity

### Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
1	B-A	455.509	0.083	0.210	0.132	0.300
1	B-C	761.279	0.117	0.295	-	-
1	C-B	781.320	0.303	0.303	-	-

*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

Name	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
A629 Penistone Road (N)	ONE HOUR	✓	700.00	100.000
Rowley Lane	ONE HOUR	✓	280.00	100.000
A629 Penistone Road (S)	ONE HOUR	✓	1153.00	100.000

# Turning Proportions

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

		To		
		A629 Penistone Road (N)	Rowley Lane	A629 Penistone Road (S)
From	A629 Penistone Road (N)	0.000	100.000	600.000
	Rowley Lane	49.000	0.000	231.000
	A629 Penistone Road (S)	935.000	218.000	0.000

## Turning Proportions (PCU) - (untitled) (for whole period)

		To		
		A629 Penistone Road (N)	Rowley Lane	A629 Penistone Road (S)
From	A629 Penistone Road (N)	0.00	0.14	0.86
	Rowley Lane	0.18	0.00	0.83
	A629 Penistone Road (S)	0.81	0.19	0.00

# Vehicle Mix

## Average PCU Per Vehicle - (untitled) (for whole period)

		To		
		A629 Penistone Road (N)	Rowley Lane	A629 Penistone Road (S)
From	A629 Penistone Road (N)	1.000	1.000	1.000
	Rowley Lane	1.000	1.000	1.000
	A629 Penistone Road (S)	1.000	1.000	1.000

## Heavy Vehicle Percentages - (untitled) (for whole period)

		To		
		A629 Penistone Road (N)	Rowley Lane	A629 Penistone Road (S)
From	A629 Penistone Road (N)	0.0	0.0	0.0
	Rowley Lane	0.0	0.0	0.0
	A629 Penistone Road (S)	0.0	0.0	0.0

# Results

## Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)	Total Queueing Delay (PCU-min)	Average Queueing Delay (s)	Rate Of Queueing Delay (PCU-min/min)	Inclusive Total Queueing Delay (PCU-min)	Inclusive Average Queueing Delay (s)
B-C	0.56	18.10	1.25	C	211.97	317.95	65.73	12.40	0.73	65.74	12.41
B-A	0.56	82.71	1.16	F	44.96	67.44	47.90	42.61	0.53	47.91	42.62
C-AB	0.44	11.68	0.77	B	200.04	300.07	48.72	9.74	0.54	48.72	9.74
C-A	-	-	-	-	857.97	1286.95	-	-	-	-	-
A-B	-	-	-	-	91.76	137.64	-	-	-	-	-
A-C	-	-	-	-	550.57	825.86	-	-	-	-	-

## Main Results for each time segment

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

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
B-C	173.91	43.48	172.27	0.00	592.29	0.294	0.00	0.41	8.538	A
B-A	36.89	9.22	36.07	0.00	212.24	0.174	0.00	0.20	20.345	C
C-AB	164.12	41.03	162.70	0.00	621.79	0.264	0.00	0.35	7.818	A
C-A	703.92	175.98	703.92	0.00	-	-	-	-	-	-
A-B	75.29	18.82	75.29	0.00	-	-	-	-	-	-
A-C	451.71	112.93	451.71	0.00	-	-	-	-	-	-

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

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
B-C	207.66	51.92	206.93	0.00	550.65	0.377	0.41	0.59	10.450	B
B-A	44.05	11.01	43.46	0.00	164.24	0.268	0.20	0.35	29.654	D
C-AB	195.98	48.99	195.44	0.00	590.82	0.332	0.35	0.49	9.092	A
C-A	840.55	210.14	840.55	0.00	-	-	-	-	-	-
A-B	89.90	22.47	89.90	0.00	-	-	-	-	-	-
A-C	539.39	134.85	539.39	0.00	-	-	-	-	-	-

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

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
B-C	254.34	63.58	251.99	0.00	461.24	0.551	0.59	1.18	17.015	C
B-A	53.95	13.49	51.10	0.00	96.79	0.557	0.35	1.06	74.812	F
C-AB	240.03	60.01	238.94	0.00	548.02	0.438	0.49	0.76	11.605	B
C-A	1029.44	257.36	1029.44	0.00	-	-	-	-	-	-
A-B	110.10	27.53	110.10	0.00	-	-	-	-	-	-
A-C	660.61	165.15	660.61	0.00	-	-	-	-	-	-

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

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
B-C	254.34	63.58	254.08	0.00	452.53	0.562	1.18	1.25	18.095	C
B-A	53.95	13.49	53.58	0.00	96.29	0.560	1.06	1.16	82.713	F
C-AB	240.03	60.01	240.00	0.00	548.02	0.438	0.76	0.77	11.683	B
C-A	1029.44	257.36	1029.44	0.00	-	-	-	-	-	-
A-B	110.10	27.53	110.10	0.00	-	-	-	-	-	-
A-C	660.61	165.15	660.61	0.00	-	-	-	-	-	-

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

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
B-C	207.66	51.92	210.15	0.00	545.90	0.380	1.25	0.63	10.800	B
B-A	44.05	11.01	47.14	0.00	164.06	0.269	1.16	0.38	31.511	D
C-AB	195.98	48.99	197.05	0.00	590.82	0.332	0.77	0.50	9.168	A
C-A	840.55	210.14	840.55	0.00	-	-	-	-	-	-
A-B	89.90	22.47	89.90	0.00	-	-	-	-	-	-
A-C	539.39	134.85	539.39	0.00	-	-	-	-	-	-

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

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
B-C	173.91	43.48	174.72	0.00	590.66	0.294	0.63	0.42	8.671	A
B-A	36.89	9.22	37.56	0.00	211.82	0.174	0.38	0.22	20.736	C
C-AB	164.12	41.03	164.69	0.00	621.79	0.264	0.50	0.36	7.885	A
C-A	703.92	175.98	703.92	0.00	-	-	-	-	-	-
A-B	75.29	18.82	75.29	0.00	-	-	-	-	-	-
A-C	451.71	112.93	451.71	0.00	-	-	-	-	-	-

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

Stream	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-C	5.88	0.39	8.538	A	A
B-A	2.85	0.19	20.345	C	C
C-AB	5.26	0.35	7.818	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

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

Stream	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-C	8.59	0.57	10.450	B	B
B-A	4.91	0.33	29.654	D	C
C-AB	7.34	0.49	9.092	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

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

Stream	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-C	16.45	1.10	17.015	C	B
B-A	13.32	0.89	74.812	F	E
C-AB	11.38	0.76	11.605	B	B
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

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

Stream	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-C	18.36	1.22	18.095	C	B
B-A	16.78	1.12	82.713	F	F
C-AB	11.68	0.78	11.683	B	B
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

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

Stream	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-C	9.88	0.66	10.800	B	B
B-A	6.58	0.44	31.511	D	C
C-AB	7.61	0.51	9.168	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

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

Stream	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-C	6.57	0.44	8.671	A	A
B-A	3.46	0.23	20.736	C	C
C-AB	5.46	0.36	7.885	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

Junctions 8
PICADY 8 - Priority Intersection Module
Version: 8.0.5.523 [19102,19/06/2015] © Copyright TRL Limited, 2016
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**Filename:** 160914 Rowley Lane - Penistone Road Model.arc8  
**Path:** O:\Rowley Lane, Lepton\ANALYSIS\PICADY\Rowley Ln - Penistone Rd Junction\Rowley Ln - Penistone Rd Model  
**Report generation date:** 21/09/2016 14:17:12

- « (Default Analysis Set) - 2016 COUNT, PM
- » Junction Network
- » Arms
- » Traffic Flows
- » Entry Flows
- » Turning Proportions
- » Vehicle Mix
- » Results

### Summary of junction performance

	PM			
	Queue (PCU)	Delay (s)	RFC	LOS
	A1 - 2016 COUNT			
Stream B-C	10.24	119.27	1.00	F
Stream B-A	3.75	237.69	0.91	F
Stream C-AB	0.58	12.42	0.37	B
Stream C-A	-	-	-	-
Stream A-B	-	-	-	-
Stream A-C	-	-	-	-

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

- "D1 - 2016 COUNT, AM" model duration: 07:45 - 09:15
- "D2 - 2016 COUNT, PM" model duration: 16:45 - 18:15
- "D3 - 2021 GROWTHED COUNT, AM" model duration: 07:45 - 09:15
- "D4 - 2021 GROWTHED COUNT, PM" model duration: 16:45 - 18:15
- "D5 - 2016 DESIGN, AM" model duration: 07:45 - 09:15
- "D6 - 2016 DESIGN, PM" model duration: 16:45 - 18:15
- "D7 - 2021 DESIGN, AM" model duration: 07:45 - 09:15
- "D8 - 2021 DESIGN, PM" model duration: 16:45 - 18:15

Run using Junctions 8.0.5.523 at 21/09/2016 14:17:11

## File summary

Title	(untitled)
Location	
Site Number	
Date	03/08/2016
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	Optima
Description	

## Analysis Options

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

## Units

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

# (Default Analysis Set) - 2016 COUNT, PM

## Data Errors and Warnings

*No errors or warnings*

## Analysis Set Details

Name	Roundabout Capacity Model	Description	Include In Report	Use Specific Demand Set(s)	Specific Demand Set (s)	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)	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
2016 COUNT, PM	2016 COUNT	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	(untitled)	T-Junction	Two-way	A,B,C		98.39	F

## Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

## Arms

### Arms

Name	Arm	Name	Description	Arm Type
A629 Penistone Road (N)	A	A629 Penistone Road (N)		Major
Rowley Lane	B	Rowley Lane		Minor
A629 Penistone Road (S)	C	A629 Penistone Road (S)		Major

### Major Arm Geometry

Name	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)
A629 Penistone Road (S)	6.00		0.00	✓	3.00	250.00	✓	13.00

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

### Minor Arm Geometry

Name	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)
Rowley Lane	One lane plus flare				10.00	6.90	6.48	6.00	5.65	✓	3.00	39	23

## Slope / Intercept / Capacity

### Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
1	B-A	454.306	0.083	0.209	0.132	0.299
1	B-C	762.810	0.117	0.296	-	-
1	C-B	781.320	0.303	0.303	-	-

*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

Name	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
A629 Penistone Road (N)	ONE HOUR	✓	963.00	100.000
Rowley Lane	ONE HOUR	✓	332.00	100.000
A629 Penistone Road (S)	ONE HOUR	✓	860.00	100.000

# Turning Proportions

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

		To		
		A629 Penistone Road (N)	Rowley Lane	A629 Penistone Road (S)
From	A629 Penistone Road (N)	0.000	52.000	911.000
	Rowley Lane	54.000	0.000	278.000
	A629 Penistone Road (S)	705.000	155.000	0.000

## Turning Proportions (PCU) - (untitled) (for whole period)

		To		
		A629 Penistone Road (N)	Rowley Lane	A629 Penistone Road (S)
From	A629 Penistone Road (N)	0.00	0.05	0.95
	Rowley Lane	0.16	0.00	0.84
	A629 Penistone Road (S)	0.82	0.18	0.00

# Vehicle Mix

## Average PCU Per Vehicle - (untitled) (for whole period)

		To		
		A629 Penistone Road (N)	Rowley Lane	A629 Penistone Road (S)
From	A629 Penistone Road (N)	1.000	1.000	1.000
	Rowley Lane	1.000	1.000	1.000
	A629 Penistone Road (S)	1.000	1.000	1.000

## Heavy Vehicle Percentages - (untitled) (for whole period)

		To		
		A629 Penistone Road (N)	Rowley Lane	A629 Penistone Road (S)
From	A629 Penistone Road (N)	0.0	0.0	0.0
	Rowley Lane	0.0	0.0	0.0
	A629 Penistone Road (S)	0.0	0.0	0.0

# Results

## Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)	Total Queueing Delay (PCU-min)	Average Queueing Delay (s)	Rate Of Queueing Delay (PCU-min/min)	Inclusive Total Queueing Delay (PCU-min)	Inclusive Average Queueing Delay (s)
B-C	1.00	119.27	10.24	F	255.10	382.65	256.98	40.29	2.86	257.00	40.30
B-A	0.91	237.69	3.75	F	49.55	74.33	104.24	84.14	1.16	104.25	84.15
C-AB	0.37	12.42	0.58	B	142.23	213.35	36.32	10.21	0.40	36.32	10.21
C-A	-	-	-	-	646.92	970.38	-	-	-	-	-
A-B	-	-	-	-	47.72	71.57	-	-	-	-	-
A-C	-	-	-	-	835.95	1253.92	-	-	-	-	-

## Main Results for each time segment

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

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
B-C	209.29	52.32	206.72	0.00	527.50	0.397	0.00	0.64	11.119	B
B-A	40.65	10.16	39.67	0.00	201.71	0.202	0.00	0.24	22.091	C
C-AB	116.69	29.17	115.66	0.00	561.85	0.208	0.00	0.26	8.050	A
C-A	530.76	132.69	530.76	0.00	-	-	-	-	-	-
A-B	39.15	9.79	39.15	0.00	-	-	-	-	-	-
A-C	685.85	171.46	685.85	0.00	-	-	-	-	-	-

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

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
B-C	249.92	62.48	248.15	0.00	472.20	0.529	0.64	1.09	15.940	C
B-A	48.54	12.14	47.71	0.00	150.02	0.324	0.24	0.45	34.902	D
C-AB	139.34	34.84	138.93	0.00	519.25	0.268	0.26	0.36	9.455	A
C-A	633.78	158.45	633.78	0.00	-	-	-	-	-	-
A-B	46.75	11.69	46.75	0.00	-	-	-	-	-	-
A-C	818.97	204.74	818.97	0.00	-	-	-	-	-	-

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

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
B-C	306.08	76.52	287.15	0.00	332.27	0.921	1.09	5.82	63.687	F
B-A	59.46	14.86	50.56	0.00	67.62	0.879	0.45	2.68	166.747	F
C-AB	170.66	42.66	169.80	0.00	460.35	0.371	0.36	0.58	12.353	B
C-A	776.22	194.05	776.22	0.00	-	-	-	-	-	-
A-B	57.25	14.31	57.25	0.00	-	-	-	-	-	-
A-C	1003.03	250.76	1003.03	0.00	-	-	-	-	-	-

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

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
B-C	306.08	76.52	288.39	0.00	306.42	0.999	5.82	10.24	119.269	F
B-A	59.46	14.86	55.15	0.00	65.28	0.911	2.68	3.75	237.692	F
C-AB	170.66	42.66	170.64	0.00	460.35	0.371	0.58	0.58	12.423	B
C-A	776.22	194.05	776.22	0.00	-	-	-	-	-	-
A-B	57.25	14.31	57.25	0.00	-	-	-	-	-	-
A-C	1003.03	250.76	1003.03	0.00	-	-	-	-	-	-

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

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
B-C	249.92	62.48	285.80	0.00	456.00	0.548	10.24	1.27	25.378	D
B-A	48.54	12.14	61.41	0.00	145.20	0.334	3.75	0.54	48.475	E
C-AB	139.34	34.84	140.19	0.00	519.25	0.268	0.58	0.37	9.519	A
C-A	633.78	158.45	633.78	0.00	-	-	-	-	-	-
A-B	46.75	11.69	46.75	0.00	-	-	-	-	-	-
A-C	818.97	204.74	818.97	0.00	-	-	-	-	-	-

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

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
B-C	209.29	52.32	211.68	0.00	525.74	0.398	1.27	0.67	11.548	B
B-A	40.65	10.16	41.76	0.00	201.20	0.202	0.54	0.26	22.726	C
C-AB	116.69	29.17	117.12	0.00	561.85	0.208	0.37	0.27	8.104	A
C-A	530.76	132.69	530.76	0.00	-	-	-	-	-	-
A-B	39.15	9.79	39.15	0.00	-	-	-	-	-	-
A-C	685.85	171.46	685.85	0.00	-	-	-	-	-	-

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

Stream	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-C	9.10	0.61	11.119	B	B
B-A	3.39	0.23	22.091	C	C
C-AB	3.85	0.26	8.050	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

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

Stream	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-C	15.28	1.02	15.940	C	B
B-A	6.25	0.42	34.902	D	C
C-AB	5.43	0.36	9.455	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

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

Stream	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-C	63.70	4.25	63.687	F	E
B-A	28.03	1.87	166.747	F	F
C-AB	8.61	0.57	12.353	B	B
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

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

Stream	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-C	123.36	8.22	119.269	F	F
B-A	48.95	3.26	237.692	F	F
C-AB	8.83	0.59	12.423	B	B
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

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

Stream	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-C	34.84	2.32	25.378	D	C
B-A	13.40	0.89	48.475	E	D
C-AB	5.62	0.37	9.519	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

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

Stream	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-C	10.68	0.71	11.548	B	B
B-A	4.22	0.28	22.726	C	C
C-AB	3.99	0.27	8.104	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-



<h1>Junctions 8</h1>
<h2>PICADY 8 - Priority Intersection Module</h2>
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**Filename:** 160914 Rowley Lane - Penistone Road Model.arc8  
**Path:** O:\Rowley Lane, Lepton\ANALYSIS\PICADY\Rowley Ln - Penistone Rd Junction\Rowley Ln - Penistone Rd Model  
**Report generation date:** 21/09/2016 14:17:37

- « (Default Analysis Set) - 2021 GROWTED COUNT, AM
- » Junction Network
- » Arms
- » Traffic Flows
- » Entry Flows
- » Turning Proportions
- » Vehicle Mix
- » Results

### Summary of junction performance

	AM			
	Queue (PCU)	Delay (s)	RFC	LOS
	A1 - 2021 GROWTED COUNT			
Stream B-C	11.75	143.01	1.05	F
Stream B-A	4.16	265.74	0.94	F
Stream C-AB	0.96	13.41	0.49	B
Stream C-A	-	-	-	-
Stream A-B	-	-	-	-
Stream A-C	-	-	-	-

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

- "D1 - 2016 COUNT, AM" model duration: 07:45 - 09:15
- "D2 - 2016 COUNT, PM" model duration: 16:45 - 18:15
- "D3 - 2021 GROWTHED COUNT, AM " model duration: 07:45 - 09:15
- "D4 - 2021 GROWTHED COUNT, PM" model duration: 16:45 - 18:15
- "D5 - 2016 DESIGN, AM" model duration: 07:45 - 09:15
- "D6 - 2016 DESIGN, PM" model duration: 16:45 - 18:15
- "D7 - 2021 DESIGN, AM" model duration: 07:45 - 09:15
- "D8 - 2021 DESIGN, PM" model duration: 16:45 - 18:15

Run using Junctions 8.0.5.523 at 21/09/2016 14:17:37

## File summary

Title	(untitled)
Location	
Site Number	
Date	03/08/2016
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	Optima
Description	

## Analysis Options

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

## Units

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

# (Default Analysis Set) - 2021 GROWTED COUNT, AM

## Data Errors and Warnings

*No errors or warnings*

## Analysis Set Details

Name	Roundabout Capacity Model	Description	Include In Report	Use Specific Demand Set(s)	Specific Demand Set (s)	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)	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	Relati
2021 GROWTED COUNT, AM	2021 GROWTED COUNT	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	(untitled)	T-Junction	Two-way	A,B,C		98.42	F

## Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

## Arms

### Arms

Name	Arm	Name	Description	Arm Type
A629 Penistone Road (N)	A	A629 Penistone Road (N)		Major
Rowley Lane	B	Rowley Lane		Minor
A629 Penistone Road (S)	C	A629 Penistone Road (S)		Major

### Major Arm Geometry

Name	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)
A629 Penistone Road (S)	6.00		0.00	✓	3.00	250.00	✓	13.00

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

### Minor Arm Geometry

Name	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)
Rowley Lane	One lane plus flare				10.00	6.90	6.48	6.00	5.65	✓	3.00	39	23

## Slope / Intercept / Capacity

### Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
1	B-A	455.432	0.083	0.210	0.132	0.300
1	B-C	761.377	0.117	0.295	-	-
1	C-B	781.320	0.303	0.303	-	-

*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

Name	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
A629 Penistone Road (N)	ONE HOUR	✓	760.00	100.000
Rowley Lane	ONE HOUR	✓	304.00	100.000
A629 Penistone Road (S)	ONE HOUR	✓	1251.00	100.000

# Turning Proportions

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

		To		
		A629 Penistone Road (N)	Rowley Lane	A629 Penistone Road (S)
From	A629 Penistone Road (N)	0.000	108.000	652.000
	Rowley Lane	53.000	0.000	251.000
	A629 Penistone Road (S)	1015.000	236.000	0.000

## Turning Proportions (PCU) - (untitled) (for whole period)

		To		
		A629 Penistone Road (N)	Rowley Lane	A629 Penistone Road (S)
From	A629 Penistone Road (N)	0.00	0.14	0.86
	Rowley Lane	0.17	0.00	0.83
	A629 Penistone Road (S)	0.81	0.19	0.00

# Vehicle Mix

## Average PCU Per Vehicle - (untitled) (for whole period)

		To		
		A629 Penistone Road (N)	Rowley Lane	A629 Penistone Road (S)
From	A629 Penistone Road (N)	1.000	1.000	1.000
	Rowley Lane	1.000	1.000	1.000
	A629 Penistone Road (S)	1.000	1.000	1.000

## Heavy Vehicle Percentages - (untitled) (for whole period)

		To		
		A629 Penistone Road (N)	Rowley Lane	A629 Penistone Road (S)
From	A629 Penistone Road (N)	0.0	0.0	0.0
	Rowley Lane	0.0	0.0	0.0
	A629 Penistone Road (S)	0.0	0.0	0.0



# Results

## Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)	Total Queueing Delay (PCU-min)	Average Queueing Delay (s)	Rate Of Queueing Delay (PCU-min/min)	Inclusive Total Queueing Delay (PCU-min)	Inclusive Average Queueing Delay (s)
B-C	1.05	143.01	11.75	F	230.32	345.48	248.03	43.08	2.76	248.05	43.08
B-A	0.94	265.74	4.16	F	48.63	72.95	115.42	94.93	1.28	115.44	94.94
C-AB	0.49	13.41	0.96	B	216.58	324.86	58.52	10.81	0.65	58.52	10.81
C-A	-	-	-	-	931.36	1397.04	-	-	-	-	-
A-B	-	-	-	-	99.10	148.65	-	-	-	-	-
A-C	-	-	-	-	598.29	897.43	-	-	-	-	-

## Main Results for each time segment

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

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
B-C	188.97	47.24	187.04	0.00	575.30	0.328	0.00	0.48	9.228	A
B-A	39.90	9.98	38.88	0.00	191.34	0.209	0.00	0.26	23.470	C
C-AB	177.67	44.42	176.04	0.00	608.11	0.292	0.00	0.41	8.303	A
C-A	764.15	191.04	764.15	0.00	-	-	-	-	-	-
A-B	81.31	20.33	81.31	0.00	-	-	-	-	-	-
A-C	490.86	122.71	490.86	0.00	-	-	-	-	-	-

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

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
B-C	225.64	56.41	224.62	0.00	524.96	0.430	0.48	0.74	11.944	B
B-A	47.65	11.91	46.70	0.00	138.96	0.343	0.26	0.49	38.628	E
C-AB	212.16	53.04	211.49	0.00	574.49	0.369	0.41	0.58	9.898	A
C-A	912.46	228.12	912.46	0.00	-	-	-	-	-	-
A-B	97.09	24.27	97.09	0.00	-	-	-	-	-	-
A-C	586.13	146.53	586.13	0.00	-	-	-	-	-	-

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

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
B-C	276.36	69.09	256.66	0.00	299.06	0.924	0.74	5.66	67.275	F
B-A	58.35	14.59	48.25	0.00	62.41	0.935	0.49	3.02	192.034	F
C-AB	259.90	64.97	258.43	0.00	528.09	0.492	0.58	0.94	13.275	B
C-A	1117.48	279.37	1117.48	0.00	-	-	-	-	-	-
A-B	118.91	29.73	118.91	0.00	-	-	-	-	-	-
A-C	717.87	179.47	717.87	0.00	-	-	-	-	-	-

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

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
B-C	276.36	69.09	251.98	0.00	264.40	1.045	5.66	11.75	143.012	F
B-A	58.35	14.59	53.79	0.00	62.28	0.937	3.02	4.16	265.738	F
C-AB	259.90	64.97	259.84	0.00	528.09	0.492	0.94	0.96	13.414	B
C-A	1117.48	279.37	1117.48	0.00	-	-	-	-	-	-
A-B	118.91	29.73	118.91	0.00	-	-	-	-	-	-
A-C	717.87	179.47	717.87	0.00	-	-	-	-	-	-

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

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
B-C	225.64	56.41	269.30	0.00	502.26	0.449	11.75	0.84	18.444	C
B-A	47.65	11.91	61.98	0.00	136.47	0.349	4.16	0.58	55.835	F
C-AB	212.16	53.04	213.60	0.00	574.49	0.369	0.96	0.60	10.014	B
C-A	912.46	228.12	912.46	0.00	-	-	-	-	-	-
A-B	97.09	24.27	97.09	0.00	-	-	-	-	-	-
A-C	586.13	146.53	586.13	0.00	-	-	-	-	-	-

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

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
B-C	188.97	47.24	190.33	0.00	572.71	0.330	0.84	0.50	9.449	A
B-A	39.90	9.98	41.12	0.00	190.86	0.209	0.58	0.27	24.226	C
C-AB	177.67	44.42	178.38	0.00	608.11	0.292	0.60	0.42	8.392	A
C-A	764.15	191.04	764.15	0.00	-	-	-	-	-	-
A-B	81.31	20.33	81.31	0.00	-	-	-	-	-	-
A-C	490.86	122.71	490.86	0.00	-	-	-	-	-	-

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

Stream	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-C	6.88	0.46	9.228	A	A
B-A	3.51	0.23	23.470	C	C
C-AB	6.03	0.40	8.303	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

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

Stream	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-C	10.57	0.70	11.944	B	B
B-A	6.72	0.45	38.628	E	D
C-AB	8.63	0.58	9.898	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

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

Stream	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-C	60.78	4.05	67.275	F	E
B-A	30.74	2.05	192.034	F	F
C-AB	14.03	0.94	13.275	B	B
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

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

Stream	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-C	133.65	8.91	143.012	F	F
B-A	54.46	3.63	265.738	F	F
C-AB	14.51	0.97	13.414	B	B
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

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

Stream	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-C	28.33	1.89	18.444	C	B
B-A	15.55	1.04	55.835	F	E
C-AB	9.02	0.60	10.014	B	B
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

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

Stream	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-C	7.82	0.52	9.449	A	A
B-A	4.44	0.30	24.226	C	C
C-AB	6.30	0.42	8.392	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

Junctions 8
PICADY 8 - Priority Intersection Module
Version: 8.0.5.523 [19102,19/06/2015] © Copyright TRL Limited, 2016
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**Filename:** 160914 Rowley Lane - Penistone Road Model.arc8  
**Path:** O:\Rowley Lane, Lepton\ANALYSIS\PICADY\Rowley Ln - Penistone Rd Junction\Rowley Ln - Penistone Rd Model  
**Report generation date:** 21/09/2016 14:18:03

- « (Default Analysis Set) - 2021 GROWTHED COUNT, PM
- » Junction Network
- » Arms
- » Traffic Flows
- » Entry Flows
- » Turning Proportions
- » Vehicle Mix
- » Results

### Summary of junction performance

	PM			
	Queue (PCU)	Delay (s)	RFC	LOS
	A1 - 2021 GROWTHED COUNT			
Stream B-C	53.52	552.93	1.45	F
Stream B-A	11.27	652.29	1.39	F
Stream C-AB	0.74	14.56	0.43	B
Stream C-A	-	-	-	-
Stream A-B	-	-	-	-
Stream A-C	-	-	-	-

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

- "D1 - 2016 COUNT, AM" model duration: 07:45 - 09:15
- "D2 - 2016 COUNT, PM" model duration: 16:45 - 18:15
- "D3 - 2021 GROWTHED COUNT, AM" model duration: 07:45 - 09:15
- "D4 - 2021 GROWTHED COUNT, PM" model duration: 16:45 - 18:15
- "D5 - 2016 DESIGN, AM" model duration: 07:45 - 09:15
- "D6 - 2016 DESIGN, PM" model duration: 16:45 - 18:15
- "D7 - 2021 DESIGN, AM" model duration: 07:45 - 09:15
- "D8 - 2021 DESIGN, PM" model duration: 16:45 - 18:15

Run using Junctions 8.0.5.523 at 21/09/2016 14:18:03

## File summary

Title	(untitled)
Location	
Site Number	
Date	03/08/2016
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	Optima
Description	

## Analysis Options

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

## Units

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

# (Default Analysis Set) - 2021 GROWTHED COUNT, PM

## Data Errors and Warnings

*No errors or warnings*

## Analysis Set Details

Name	Roundabout Capacity Model	Description	Include In Report	Use Specific Demand Set(s)	Specific Demand Set (s)	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)	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	Re
2021 GROWTHED COUNT, PM	2021 GROWTHED COUNT	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	(untitled)	T-Junction	Two-way	A,B,C		393.04	F

## Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

## Arms

### Arms

Name	Arm	Name	Description	Arm Type
A629 Penistone Road (N)	A	A629 Penistone Road (N)		Major
Rowley Lane	B	Rowley Lane		Minor
A629 Penistone Road (S)	C	A629 Penistone Road (S)		Major

### Major Arm Geometry

Name	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)
A629 Penistone Road (S)	6.00		0.00	✓	3.00	250.00	✓	13.00

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

### Minor Arm Geometry

Name	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)
Rowley Lane	One lane plus flare				10.00	6.90	6.48	6.00	5.65	✓	3.00	39	23

## Slope / Intercept / Capacity

### Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
1	B-A	454.350	0.083	0.209	0.132	0.299
1	B-C	762.754	0.117	0.296	-	-
1	C-B	781.320	0.303	0.303	-	-

*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

Name	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
A629 Penistone Road (N)	ONE HOUR	✓	1048.00	100.000
Rowley Lane	ONE HOUR	✓	361.00	100.000
A629 Penistone Road (S)	ONE HOUR	✓	935.00	100.000

# Turning Proportions

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

		To		
		A629 Penistone Road (N)	Rowley Lane	A629 Penistone Road (S)
From	A629 Penistone Road (N)	0.000	57.000	991.000
	Rowley Lane	59.000	0.000	302.000
	A629 Penistone Road (S)	767.000	168.000	0.000

## Turning Proportions (PCU) - (untitled) (for whole period)

		To		
		A629 Penistone Road (N)	Rowley Lane	A629 Penistone Road (S)
From	A629 Penistone Road (N)	0.00	0.05	0.95
	Rowley Lane	0.16	0.00	0.84
	A629 Penistone Road (S)	0.82	0.18	0.00

# Vehicle Mix

## Average PCU Per Vehicle - (untitled) (for whole period)

		To		
		A629 Penistone Road (N)	Rowley Lane	A629 Penistone Road (S)
From	A629 Penistone Road (N)	1.000	1.000	1.000
	Rowley Lane	1.000	1.000	1.000
	A629 Penistone Road (S)	1.000	1.000	1.000

## Heavy Vehicle Percentages - (untitled) (for whole period)

		To		
		A629 Penistone Road (N)	Rowley Lane	A629 Penistone Road (S)
From	A629 Penistone Road (N)	0.0	0.0	0.0
	Rowley Lane	0.0	0.0	0.0
	A629 Penistone Road (S)	0.0	0.0	0.0

# Results

## Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)	Total Queueing Delay (PCU-min)	Average Queueing Delay (s)	Rate Of Queueing Delay (PCU-min/min)	Inclusive Total Queueing Delay (PCU-min)	Inclusive Average Queueing Delay (s)
B-C	1.45	552.93	53.52	F	277.12	415.68	1617.04	233.41	17.97	1617.09	233.41
B-A	1.39	652.29	11.27	F	54.14	81.21	364.73	269.47	4.05	364.76	269.49
C-AB	0.43	14.56	0.74	B	154.16	231.24	44.34	11.50	0.49	44.34	11.51
C-A	-	-	-	-	703.81	1055.72	-	-	-	-	-
A-B	-	-	-	-	52.30	78.46	-	-	-	-	-
A-C	-	-	-	-	909.36	1364.04	-	-	-	-	-

## Main Results for each time segment

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

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
B-C	227.36	56.84	224.16	0.00	503.79	0.451	0.00	0.80	12.735	B
B-A	44.42	11.10	43.15	0.00	178.96	0.248	0.00	0.32	26.277	D
C-AB	126.48	31.62	125.28	0.00	542.47	0.233	0.00	0.30	8.604	A
C-A	577.44	144.36	577.44	0.00	-	-	-	-	-	-
A-B	42.91	10.73	42.91	0.00	-	-	-	-	-	-
A-C	746.08	186.52	746.08	0.00	-	-	-	-	-	-

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

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
B-C	271.49	67.87	268.46	0.00	435.76	0.623	0.80	1.56	21.132	C
B-A	53.04	13.26	51.45	0.00	120.76	0.439	0.32	0.71	50.832	F
C-AB	151.03	37.76	150.51	0.00	496.11	0.304	0.30	0.43	10.401	B
C-A	689.52	172.38	689.52	0.00	-	-	-	-	-	-
A-B	51.24	12.81	51.24	0.00	-	-	-	-	-	-
A-C	890.89	222.72	890.89	0.00	-	-	-	-	-	-

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

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
B-C	332.51	83.13	228.39	0.00	233.84	1.422	1.56	27.59	257.852	F
B-A	64.96	16.24	41.88	0.00	46.81	1.388	0.71	6.48	393.476	F
C-AB	184.98	46.24	183.78	0.00	432.03	0.428	0.43	0.73	14.431	B
C-A	844.48	211.12	844.48	0.00	-	-	-	-	-	-
A-B	62.76	15.69	62.76	0.00	-	-	-	-	-	-
A-C	1091.11	272.78	1091.11	0.00	-	-	-	-	-	-



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

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
B-C	332.51	83.13	228.78	0.00	229.21	1.451	27.59	53.52	552.935	F
B-A	64.96	16.24	45.83	0.00	47.04	1.381	6.48	11.27	652.285	F
C-AB	184.98	46.24	184.94	0.00	432.03	0.428	0.73	0.74	14.562	B
C-A	844.48	211.12	844.48	0.00	-	-	-	-	-	-
A-B	62.76	15.69	62.76	0.00	-	-	-	-	-	-
A-C	1091.11	272.78	1091.11	0.00	-	-	-	-	-	-

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

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
B-C	271.49	67.87	365.15	0.00	371.97	0.730	53.52	30.11	401.814	F
B-A	53.04	13.26	69.02	0.00	75.15	0.706	11.27	7.27	440.118	F
C-AB	151.03	37.76	152.20	0.00	496.11	0.304	0.74	0.44	10.504	B
C-A	689.52	172.38	689.52	0.00	-	-	-	-	-	-
A-B	51.24	12.81	51.24	0.00	-	-	-	-	-	-
A-C	890.89	222.72	890.89	0.00	-	-	-	-	-	-

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

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
B-C	227.36	56.84	343.93	0.00	476.21	0.477	30.11	0.96	58.323	F
B-A	44.42	11.10	71.87	0.00	160.03	0.278	7.27	0.41	52.771	F
C-AB	126.48	31.62	127.03	0.00	542.47	0.233	0.44	0.31	8.678	A
C-A	577.44	144.36	577.44	0.00	-	-	-	-	-	-
A-B	42.91	10.73	42.91	0.00	-	-	-	-	-	-
A-C	746.08	186.52	746.08	0.00	-	-	-	-	-	-

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

Stream	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-C	11.22	0.75	12.735	B	B
B-A	4.33	0.29	26.277	D	C
C-AB	4.45	0.30	8.604	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

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

Stream	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-C	21.38	1.43	21.132	C	C
B-A	9.47	0.63	50.832	F	D
C-AB	6.46	0.43	10.401	B	B
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

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

Stream	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-C	224.56	14.97	257.852	F	F
B-A	57.25	3.82	393.476	F	F
C-AB	10.84	0.72	14.431	B	B
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

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

Stream	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-C	608.49	40.57	552.935	F	F
B-A	133.43	8.90	652.285	F	F
C-AB	11.21	0.75	14.562	B	B
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

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

Stream	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-C	627.20	41.81	401.814	F	F
B-A	139.01	9.27	440.118	F	F
C-AB	6.74	0.45	10.504	B	B
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

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

Stream	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-C	124.19	8.28	58.323	F	E
B-A	21.23	1.42	52.771	F	D
C-AB	4.63	0.31	8.678	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

<b>Junctions 8</b>
<b>PICADY 8 - Priority Intersection Module</b>
Version: 8.0.5.523 [19102,19/06/2015] © Copyright TRL Limited, 2016
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**Filename:** 160914 Rowley Lane - Penistone Road Model.arc8  
**Path:** O:\Rowley Lane, Lepton\ANALYSIS\PICADY\Rowley Ln - Penistone Rd Junction\Rowley Ln - Penistone Rd Model  
**Report generation date:** 21/09/2016 11:11:22

- « (Default Analysis Set) - 2021 DESIGN, AM
- » Junction Network
- » Arms
- » Traffic Flows
- » Entry Flows
- » Turning Proportions
- » Vehicle Mix
- » Results

### Summary of junction performance

	AM			
	Queue (PCU)	Delay (s)	RFC	LOS
	A1 - 2021 DESIGN			
Stream B-C	34.14	336.46	1.24	F
Stream B-A	8.42	431.67	1.17	F
Stream C-AB	0.98	13.65	0.50	B
Stream C-A	-	-	-	-
Stream A-B	-	-	-	-
Stream A-C	-	-	-	-

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

- "D1 - 2016 COUNT, AM" model duration: 07:45 - 09:15
- "D2 - 2016 COUNT, PM" model duration: 16:45 - 18:15
- "D3 - 2021 GROWTHED COUNT, AM" model duration: 07:45 - 09:15
- "D4 - 2021 GROWTHED COUNT, PM" model duration: 16:45 - 18:15
- "D5 - 2016 DESIGN, AM" model duration: 07:45 - 09:15
- "D6 - 2016 DESIGN, PM" model duration: 16:45 - 18:15
- "D7 - 2021 DESIGN, AM " model duration: 07:45 - 09:15
- "D8 - 2021 DESIGN, PM" model duration: 16:45 - 18:15

Run using Junctions 8.0.5.523 at 21/09/2016 11:11:22

## File summary

Title	(untitled)
Location	
Site Number	
Date	03/08/2016
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	Optima
Description	

## Analysis Options

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

## Units

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

# (Default Analysis Set) - 2021 DESIGN, AM

## Data Errors and Warnings

*No errors or warnings*

## Analysis Set Details

Name	Roundabout Capacity Model	Description	Include In Report	Use Specific Demand Set(s)	Specific Demand Set (s)	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)	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	Relationsh
2021 DESIGN, AM	2021 DESIGN	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	(untitled)	T-Junction	Two-way	A,B,C		219.29	F

## Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

## Arms

### Arms

Name	Arm	Name	Description	Arm Type
A629 Penistone Road (N)	A	A629 Penistone Road (N)		Major
Rowley Lane	B	Rowley Lane		Minor
A629 Penistone Road (S)	C	A629 Penistone Road (S)		Major

### Major Arm Geometry

Name	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)
A629 Penistone Road (S)	6.00		0.00	✓	3.00	250.00	✓	13.00

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

### Minor Arm Geometry

Name	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)
Rowley Lane	One lane plus flare				10.00	6.90	6.48	6.00	5.65	✓	3.00	39	23

## Slope / Intercept / Capacity

### Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
1	B-A	455.605	0.083	0.210	0.132	0.300
1	B-C	761.156	0.117	0.295	-	-
1	C-B	781.320	0.303	0.303	-	-

*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

Name	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
A629 Penistone Road (N)	ONE HOUR	✓	771.00	100.000
Rowley Lane	ONE HOUR	✓	364.00	100.000
A629 Penistone Road (S)	ONE HOUR	✓	1252.00	100.000

# Turning Proportions

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

		To		
		A629 Penistone Road (N)	Rowley Lane	A629 Penistone Road (S)
From	A629 Penistone Road (N)	0.000	119.000	652.000
	Rowley Lane	64.000	0.000	300.000
	A629 Penistone Road (S)	1015.000	237.000	0.000

## Turning Proportions (PCU) - (untitled) (for whole period)

		To		
		A629 Penistone Road (N)	Rowley Lane	A629 Penistone Road (S)
From	A629 Penistone Road (N)	0.00	0.15	0.85
	Rowley Lane	0.18	0.00	0.82
	A629 Penistone Road (S)	0.81	0.19	0.00

# Vehicle Mix

## Average PCU Per Vehicle - (untitled) (for whole period)

		To		
		A629 Penistone Road (N)	Rowley Lane	A629 Penistone Road (S)
From	A629 Penistone Road (N)	1.000	1.000	1.000
	Rowley Lane	1.000	1.000	1.000
	A629 Penistone Road (S)	1.000	1.000	1.000

## Heavy Vehicle Percentages - (untitled) (for whole period)

		To		
		A629 Penistone Road (N)	Rowley Lane	A629 Penistone Road (S)
From	A629 Penistone Road (N)	0.0	0.0	0.0
	Rowley Lane	0.0	0.0	0.0
	A629 Penistone Road (S)	0.0	0.0	0.0

# Results

## Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)	Total Queueing Delay (PCU-min)	Average Queueing Delay (s)	Rate Of Queueing Delay (PCU-min/min)	Inclusive Total Queueing Delay (PCU-min)	Inclusive Average Queueing Delay (s)
B-C	1.24	336.46	34.14	F	275.29	412.93	808.32	117.45	8.98	808.34	117.46
B-A	1.17	431.67	8.42	F	58.73	88.09	235.41	160.34	2.62	235.43	160.35
C-AB	0.50	13.65	0.98	B	217.50	326.25	59.55	10.95	0.66	59.56	10.95
C-A	-	-	-	-	931.36	1397.04	-	-	-	-	-
A-B	-	-	-	-	109.20	163.79	-	-	-	-	-
A-C	-	-	-	-	598.29	897.43	-	-	-	-	-

## Main Results for each time segment

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

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
B-C	225.86	56.46	223.26	0.00	567.19	0.398	0.00	0.65	10.391	B
B-A	48.18	12.05	46.87	0.00	189.83	0.254	0.00	0.33	24.974	C
C-AB	178.43	44.61	176.78	0.00	605.60	0.295	0.00	0.41	8.364	A
C-A	764.15	191.04	764.15	0.00	-	-	-	-	-	-
A-B	89.59	22.40	89.59	0.00	-	-	-	-	-	-
A-C	490.86	122.71	490.86	0.00	-	-	-	-	-	-

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

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
B-C	269.69	67.42	267.94	0.00	509.77	0.529	0.65	1.09	14.777	B
B-A	57.53	14.38	56.13	0.00	135.83	0.424	0.33	0.68	44.399	E
C-AB	213.06	53.26	212.37	0.00	571.50	0.373	0.41	0.58	10.000	A
C-A	912.46	228.12	912.46	0.00	-	-	-	-	-	-
A-B	106.98	26.74	106.98	0.00	-	-	-	-	-	-
A-C	586.13	146.53	586.13	0.00	-	-	-	-	-	-

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

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
B-C	330.31	82.58	263.45	0.00	275.37	1.200	1.09	17.80	155.937	F
B-A	70.47	17.62	52.15	0.00	60.22	1.170	0.68	5.26	274.348	F
C-AB	261.01	65.25	259.49	0.00	524.43	0.498	0.58	0.96	13.510	B
C-A	1117.47	279.37	1117.47	0.00	-	-	-	-	-	-
A-B	131.02	32.76	131.02	0.00	-	-	-	-	-	-
A-C	717.87	179.47	717.87	0.00	-	-	-	-	-	-

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

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
B-C	330.31	82.58	264.94	0.00	266.50	1.239	17.80	34.14	336.457	F
B-A	70.47	17.62	57.81	0.00	60.73	1.160	5.26	8.42	431.669	F
C-AB	261.01	65.25	260.95	0.00	524.43	0.498	0.96	0.98	13.654	B
C-A	1117.47	279.37	1117.47	0.00	-	-	-	-	-	-
A-B	131.02	32.76	131.02	0.00	-	-	-	-	-	-
A-C	717.87	179.47	717.87	0.00	-	-	-	-	-	-

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

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
B-C	269.69	67.42	398.46	0.00	437.14	0.617	34.14	1.95	142.974	F
B-A	57.53	14.38	84.78	0.00	104.58	0.550	8.42	1.61	199.564	F
C-AB	213.06	53.26	214.55	0.00	571.50	0.373	0.98	0.60	10.126	B
C-A	912.46	228.12	912.46	0.00	-	-	-	-	-	-
A-B	106.98	26.74	106.98	0.00	-	-	-	-	-	-
A-C	586.13	146.53	586.13	0.00	-	-	-	-	-	-

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

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
B-C	225.86	56.46	230.91	0.00	560.19	0.403	1.95	0.69	11.092	B
B-A	48.18	12.05	53.21	0.00	189.50	0.254	1.61	0.35	27.291	D
C-AB	178.43	44.61	179.15	0.00	605.60	0.295	0.60	0.42	8.457	A
C-A	764.15	191.04	764.15	0.00	-	-	-	-	-	-
A-B	89.59	22.40	89.59	0.00	-	-	-	-	-	-
A-C	490.86	122.71	490.86	0.00	-	-	-	-	-	-

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

Stream	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-C	9.20	0.61	10.391	B	B
B-A	4.49	0.30	24.974	C	C
C-AB	6.10	0.41	8.364	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

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

Stream	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-C	15.35	1.02	14.777	B	B
B-A	9.13	0.61	44.399	E	D
C-AB	8.76	0.58	10.000	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-



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

Stream	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-C	152.12	10.14	155.937	F	F
B-A	48.79	3.25	274.348	F	F
C-AB	14.32	0.95	13.510	B	B
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

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

Stream	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-C	390.12	26.01	336.457	F	F
B-A	103.15	6.88	431.669	F	F
C-AB	14.83	0.99	13.654	B	B
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

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

Stream	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-C	230.40	15.36	142.974	F	F
B-A	63.48	4.23	199.564	F	F
C-AB	9.17	0.61	10.126	B	B
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

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

Stream	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-C	11.13	0.74	11.092	B	B
B-A	6.38	0.43	27.291	D	C
C-AB	6.37	0.42	8.457	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

<b>Junctions 8</b>
<b>PICADY 8 - Priority Intersection Module</b>
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**Filename:** 160914 Rowley Lane - Penistone Road Model.arc8  
**Path:** O:\Rowley Lane, Lepton\ANALYSIS\PICADY\Rowley Ln - Penistone Rd Junction\Rowley Ln - Penistone Rd Model  
**Report generation date:** 21/09/2016 11:11:46

- « **(Default Analysis Set) - 2021 DESIGN, PM**
- » **Junction Network**
- » **Arms**
- » **Traffic Flows**
- » **Entry Flows**
- » **Turning Proportions**
- » **Vehicle Mix**
- » **Results**

### Summary of junction performance

	PM			
	Queue (PCU)	Delay (s)	RFC	LOS
	<b>A1 - 2021 DESIGN</b>			
Stream B-C	77.37	808.99	1.75	F
Stream B-A	15.67	894.28	1.69	F
Stream C-AB	0.98	16.77	0.50	C
Stream C-A	-	-	-	-
Stream A-B	-	-	-	-
Stream A-C	-	-	-	-

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

- "D1 - 2016 COUNT, AM" model duration: 07:45 - 09:15
- "D2 - 2016 COUNT, PM" model duration: 16:45 - 18:15
- "D3 - 2021 GROWTHED COUNT, AM" model duration: 07:45 - 09:15
- "D4 - 2021 GROWTHED COUNT, PM" model duration: 16:45 - 18:15
- "D5 - 2016 DESIGN, AM" model duration: 07:45 - 09:15
- "D6 - 2016 DESIGN, PM" model duration: 16:45 - 18:15
- "D7 - 2021 DESIGN, AM" model duration: 07:45 - 09:15
- "D8 - 2021 DESIGN, PM " model duration: 16:45 - 18:15

Run using Junctions 8.0.5.523 at 21/09/2016 11:11:45

## File summary

Title	(untitled)
Location	
Site Number	
Date	03/08/2016
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	Optima
Description	

## Analysis Options

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

## Units

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

# (Default Analysis Set) - 2021 DESIGN, PM

## Data Errors and Warnings

*No errors or warnings*

## Analysis Set Details

Name	Roundabout Capacity Model	Description	Include In Report	Use Specific Demand Set(s)	Specific Demand Set (s)	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)	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	Relationsh
2021 DESIGN, PM	2021 DESIGN	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	(untitled)	T-Junction	Two-way	A,B,C		549.95	F

## Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

## Arms

### Arms

Name	Arm	Name	Description	Arm Type
A629 Penistone Road (N)	A	A629 Penistone Road (N)		Major
Rowley Lane	B	Rowley Lane		Minor
A629 Penistone Road (S)	C	A629 Penistone Road (S)		Major

### Major Arm Geometry

Name	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)
A629 Penistone Road (S)	6.00		0.00	✓	3.00	250.00	✓	13.00

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

### Minor Arm Geometry

Name	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)
Rowley Lane	One lane plus flare				10.00	6.90	6.48	6.00	5.65	✓	3.00	39	23

## Slope / Intercept / Capacity

### Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
1	B-A	454.310	0.083	0.209	0.132	0.299
1	B-C	762.805	0.117	0.296	-	-
1	C-B	781.320	0.303	0.303	-	-

*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

Name	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
A629 Penistone Road (N)	ONE HOUR	✓	1057.00	100.000
Rowley Lane	ONE HOUR	✓	381.00	100.000
A629 Penistone Road (S)	ONE HOUR	✓	962.00	100.000

# Turning Proportions

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

		To		
		A629 Penistone Road (N)	Rowley Lane	A629 Penistone Road (S)
From	A629 Penistone Road (N)	0.000	66.000	991.000
	Rowley Lane	62.000	0.000	319.000
	A629 Penistone Road (S)	767.000	195.000	0.000

## Turning Proportions (PCU) - (untitled) (for whole period)

		To		
		A629 Penistone Road (N)	Rowley Lane	A629 Penistone Road (S)
From	A629 Penistone Road (N)	0.00	0.06	0.94
	Rowley Lane	0.16	0.00	0.84
	A629 Penistone Road (S)	0.80	0.20	0.00

# Vehicle Mix

## Average PCU Per Vehicle - (untitled) (for whole period)

		To		
		A629 Penistone Road (N)	Rowley Lane	A629 Penistone Road (S)
From	A629 Penistone Road (N)	1.000	1.000	1.000
	Rowley Lane	1.000	1.000	1.000
	A629 Penistone Road (S)	1.000	1.000	1.000

## Heavy Vehicle Percentages - (untitled) (for whole period)

		To		
		A629 Penistone Road (N)	Rowley Lane	A629 Penistone Road (S)
From	A629 Penistone Road (N)	0.0	0.0	0.0
	Rowley Lane	0.0	0.0	0.0
	A629 Penistone Road (S)	0.0	0.0	0.0

# Results

## Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)	Total Queueing Delay (PCU-min)	Average Queueing Delay (s)	Rate Of Queueing Delay (PCU-min/min)	Inclusive Total Queueing Delay (PCU-min)	Inclusive Average Queueing Delay (s)
B-C	1.75	808.99	77.37	F	292.72	439.08	2875.30	392.91	31.95	2890.72	395.02
B-A	1.69	894.28	15.67	F	56.89	85.34	622.11	437.40	6.91	628.21	441.68
C-AB	0.50	16.77	0.98	C	178.95	268.43	57.08	12.76	0.63	57.08	12.76
C-A	-	-	-	-	703.80	1055.69	-	-	-	-	-
A-B	-	-	-	-	60.56	90.84	-	-	-	-	-
A-C	-	-	-	-	909.36	1364.04	-	-	-	-	-

## Main Results for each time segment

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

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
B-C	240.16	60.04	236.57	0.00	499.85	0.480	0.00	0.90	13.499	B
B-A	46.68	11.67	45.25	0.00	171.70	0.272	0.00	0.36	28.174	D
C-AB	146.81	36.70	145.33	0.00	540.42	0.272	0.00	0.37	9.079	A
C-A	577.44	144.36	577.44	0.00	-	-	-	-	-	-
A-B	49.69	12.42	49.69	0.00	-	-	-	-	-	-
A-C	746.08	186.52	746.08	0.00	-	-	-	-	-	-

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

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
B-C	286.77	71.69	282.69	0.00	425.01	0.675	0.90	1.92	24.610	C
B-A	55.74	13.93	53.57	0.00	110.43	0.505	0.36	0.90	61.179	F
C-AB	175.30	43.83	174.61	0.00	493.67	0.355	0.37	0.54	11.258	B
C-A	689.52	172.38	689.52	0.00	-	-	-	-	-	-
A-B	59.33	14.83	59.33	0.00	-	-	-	-	-	-
A-C	890.89	222.72	890.89	0.00	-	-	-	-	-	-

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

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
B-C	351.23	87.81	200.23	0.00	202.94	1.731	1.92	39.67	402.484	F
B-A	68.26	17.07	37.64	0.00	40.64	1.680	0.90	8.56	548.973	F
C-AB	214.75	53.69	213.04	0.00	429.10	0.500	0.54	0.97	16.531	C
C-A	844.43	211.11	844.43	0.00	-	-	-	-	-	-
A-B	72.67	18.17	72.67	0.00	-	-	-	-	-	-
A-C	1091.11	272.78	1091.11	0.00	-	-	-	-	-	-

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

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
B-C	351.23	87.81	200.44	0.00	200.58	1.751	39.67	77.37	808.987	F
B-A	68.26	17.07	39.81	0.00	40.32	1.693	8.56	15.67	894.280	F
C-AB	214.75	53.69	214.69	0.00	429.10	0.500	0.97	0.98	16.775	C
C-A	844.43	211.11	844.43	0.00	-	-	-	-	-	-
A-B	72.67	18.17	72.67	0.00	-	-	-	-	-	-
A-C	1091.11	272.78	1091.11	0.00	-	-	-	-	-	-

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

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
B-C	286.77	71.69	342.69	0.00	347.12	0.826	77.37	63.39	678.620	F
B-A	55.74	13.93	64.80	0.00	68.94	0.809	15.67	13.40	732.237	F
C-AB	175.30	43.83	176.99	0.00	493.67	0.355	0.98	0.56	11.426	B
C-A	689.52	172.38	689.52	0.00	-	-	-	-	-	-
A-B	59.33	14.83	59.33	0.00	-	-	-	-	-	-
A-C	890.89	222.72	890.89	0.00	-	-	-	-	-	-

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

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
B-C	240.16	60.04	433.51	0.00	440.35	0.545	63.39	15.05	332.847	F
B-A	46.68	11.67	83.24	0.00	89.45	0.522	13.40	4.26	408.769	F
C-AB	146.81	36.70	147.54	0.00	540.42	0.272	0.56	0.38	9.179	A
C-A	577.44	144.36	577.44	0.00	-	-	-	-	-	-
A-B	49.69	12.42	49.69	0.00	-	-	-	-	-	-
A-C	746.08	186.52	746.08	0.00	-	-	-	-	-	-

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

Stream	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-C	12.51	0.83	13.499	B	B
B-A	4.85	0.32	28.174	D	C
C-AB	5.44	0.36	9.079	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

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

Stream	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-C	25.81	1.72	24.610	C	C
B-A	11.64	0.78	61.179	F	E
C-AB	8.09	0.54	11.258	B	B
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

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

Stream	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-C	315.28	21.02	402.484	F	F
B-A	73.27	4.88	548.973	F	F
C-AB	14.32	0.95	16.531	C	B
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

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

Stream	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-C	877.81	58.52	808.987	F	F
B-A	181.84	12.12	894.280	F	F
C-AB	14.98	1.00	16.775	C	B
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

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

Stream	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-C	1055.63	70.38	678.620	F	F
B-A	218.03	14.54	732.237	F	F
C-AB	8.54	0.57	11.426	B	B
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

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

Stream	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-C	588.25	39.22	332.847	F	F
B-A	132.48	8.83	408.769	F	F
C-AB	5.70	0.38	9.179	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-



<h1>Junctions 8</h1>
<h2>PICADY 8 - Priority Intersection Module</h2>
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**Filename:** 160914 Rowley Lane - Penistone Road Model - Mitigation.arc8

**Path:** O:\Rowley Lane, Lepton\ANALYSIS\PICADY\Rowley Ln - Penistone Rd Junction\Rowley Ln - Penistone Rd Model - Mitigation

**Report generation date:** 21/09/2016 11:16:42

« **(Default Analysis Set) - 2021 DESIGN, AM**

- » **Junction Network**
- » **Arms**
- » **Traffic Flows**
- » **Entry Flows**
- » **Turning Proportions**
- » **Vehicle Mix**
- » **Results**

**Summary of junction performance**

	AM			
	Queue (PCU)	Delay (s)	RFC	LOS
	<b>A1 - 2021 DESIGN</b>			
Stream B-C	5.94	69.74	0.89	F
Stream B-A	3.92	211.20	0.90	F
Stream C-AB	0.98	13.65	0.50	B
Stream C-A	-	-	-	-
Stream A-B	-	-	-	-
Stream A-C	-	-	-	-

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

- "D3 - 2021 GROWTHED COUNT, AM" model duration: 07:45 - 09:15
- "D4 - 2021 GROWTHED COUNT, PM" model duration: 16:45 - 18:15
- "D7 - 2021 DESIGN, AM " model duration: 07:45 - 09:15
- "D8 - 2021 DESIGN, PM" model duration: 16:45 - 18:15
- "D9 - 2021 DESIGN SENSITIVITY, AM" model duration: 07:45 - 09:15
- "D10 - 2021 DESIGN SENSITIVITY, PM" model duration: 16:45 - 18:15

Run using Junctions 8.0.5.523 at 21/09/2016 11:16:41

## File summary

Title	(untitled)
Location	
Site Number	
Date	03/08/2016
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	Optima
Description	

## Analysis Options

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

## Units

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

# (Default Analysis Set) - 2021 DESIGN, AM

## Data Errors and Warnings

*No errors or warnings*

## Analysis Set Details

Name	Roundabout Capacity Model	Description	Include In Report	Use Specific Demand Set(s)	Specific Demand Set (s)	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)	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	Relationsh
2021 DESIGN, AM	2021 DESIGN	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	(untitled)	T-Junction	Two-way	A,B,C		62.69	F

## Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

## Arms

### Arms

Name	Arm	Name	Description	Arm Type
A629 Penistone Road (N)	A	A629 Penistone Road (N)		Major
Rowley Lane	B	Rowley Lane		Minor
A629 Penistone Road (S)	C	A629 Penistone Road (S)		Major

### Major Arm Geometry

Name	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)
A629 Penistone Road (S)	6.00		0.00	✓	3.00	250.00	✓	13.00

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

### Minor Arm Geometry

Name	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)
Rowley Lane	Two lanes		4.00	3.61						✓		39	23

## Slope / Intercept / Capacity

### Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
1	B-A	532.142	0.097	0.245	0.154	0.350
1	B-C	702.332	0.108	0.272	-	-
1	C-B	781.320	0.303	0.303	-	-

*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

Name	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
A629 Penistone Road (N)	ONE HOUR	✓	771.00	100.000
Rowley Lane	ONE HOUR	✓	364.00	100.000
A629 Penistone Road (S)	ONE HOUR	✓	1252.00	100.000

# Turning Proportions

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

		To		
		A629 Penistone Road (N)	Rowley Lane	A629 Penistone Road (S)
From	A629 Penistone Road (N)	0.000	119.000	652.000
	Rowley Lane	64.000	0.000	300.000
	A629 Penistone Road (S)	1015.000	237.000	0.000

## Turning Proportions (PCU) - (untitled) (for whole period)

		To		
		A629 Penistone Road (N)	Rowley Lane	A629 Penistone Road (S)
From	A629 Penistone Road (N)	0.00	0.15	0.85
	Rowley Lane	0.18	0.00	0.82
	A629 Penistone Road (S)	0.81	0.19	0.00

# Vehicle Mix

## Average PCU Per Vehicle - (untitled) (for whole period)

		To		
		A629 Penistone Road (N)	Rowley Lane	A629 Penistone Road (S)
From	A629 Penistone Road (N)	1.000	1.000	1.000
	Rowley Lane	1.000	1.000	1.000
	A629 Penistone Road (S)	1.000	1.000	1.000

## Heavy Vehicle Percentages - (untitled) (for whole period)

		To		
		A629 Penistone Road (N)	Rowley Lane	A629 Penistone Road (S)
From	A629 Penistone Road (N)	0.0	0.0	0.0
	Rowley Lane	0.0	0.0	0.0
	A629 Penistone Road (S)	0.0	0.0	0.0

# Results

## Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)	Total Queueing Delay (PCU-min)	Average Queueing Delay (s)	Rate Of Queueing Delay (PCU-min/min)	Inclusive Total Queueing Delay (PCU-min)	Inclusive Average Queueing Delay (s)
B-C	0.89	69.74	5.94	F	275.29	412.93	201.52	29.28	2.24	201.55	29.29
B-A	0.90	211.20	3.92	F	58.73	88.09	112.95	76.93	1.26	112.96	76.94
C-AB	0.50	13.65	0.98	B	217.50	326.25	59.55	10.95	0.66	59.56	10.95
C-A	-	-	-	-	931.36	1397.04	-	-	-	-	-
A-B	-	-	-	-	109.20	163.79	-	-	-	-	-
A-C	-	-	-	-	598.29	897.43	-	-	-	-	-

## Main Results for each time segment

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

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
B-C	225.86	56.46	222.94	0.00	528.91	0.427	0.00	0.73	11.660	B
B-A	48.18	12.05	47.11	0.00	222.99	0.216	0.00	0.27	20.352	C
C-AB	178.43	44.61	176.78	0.00	605.60	0.295	0.00	0.41	8.364	A
C-A	764.15	191.04	764.15	0.00	-	-	-	-	-	-
A-B	89.59	22.40	89.59	0.00	-	-	-	-	-	-
A-C	490.86	122.71	490.86	0.00	-	-	-	-	-	-

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

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
B-C	269.69	67.42	267.75	0.00	483.38	0.558	0.73	1.21	16.542	C
B-A	57.53	14.38	56.53	0.00	162.41	0.354	0.27	0.52	33.681	D
C-AB	213.06	53.26	212.37	0.00	571.50	0.373	0.41	0.58	10.000	A
C-A	912.46	228.12	912.46	0.00	-	-	-	-	-	-
A-B	106.98	26.74	106.98	0.00	-	-	-	-	-	-
A-C	586.13	146.53	586.13	0.00	-	-	-	-	-	-

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

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
B-C	330.31	82.58	316.65	0.00	380.02	0.869	1.21	4.63	49.038	E
B-A	70.47	17.62	60.72	0.00	79.20	0.890	0.52	2.96	153.075	F
C-AB	261.01	65.25	259.49	0.00	524.43	0.498	0.58	0.96	13.510	B
C-A	1117.47	279.37	1117.47	0.00	-	-	-	-	-	-
A-B	131.02	32.76	131.02	0.00	-	-	-	-	-	-
A-C	717.87	179.47	717.87	0.00	-	-	-	-	-	-

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

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
B-C	330.31	82.58	325.08	0.00	369.66	0.894	4.63	5.94	69.742	F
B-A	70.47	17.62	66.62	0.00	78.67	0.896	2.96	3.92	211.199	F
C-AB	261.01	65.25	260.95	0.00	524.43	0.498	0.96	0.98	13.654	B
C-A	1117.47	279.37	1117.47	0.00	-	-	-	-	-	-
A-B	131.02	32.76	131.02	0.00	-	-	-	-	-	-
A-C	717.87	179.47	717.87	0.00	-	-	-	-	-	-

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

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
B-C	269.69	67.42	287.83	0.00	471.15	0.572	5.94	1.40	21.385	C
B-A	57.53	14.38	70.86	0.00	161.62	0.356	3.92	0.59	44.583	E
C-AB	213.06	53.26	214.55	0.00	571.50	0.373	0.98	0.60	10.126	B
C-A	912.46	228.12	912.46	0.00	-	-	-	-	-	-
A-B	106.98	26.74	106.98	0.00	-	-	-	-	-	-
A-C	586.13	146.53	586.13	0.00	-	-	-	-	-	-

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

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
B-C	225.86	56.46	228.40	0.00	527.32	0.428	1.40	0.77	12.142	B
B-A	48.18	12.05	49.40	0.00	222.14	0.217	0.59	0.28	20.979	C
C-AB	178.43	44.61	179.15	0.00	605.60	0.295	0.60	0.42	8.457	A
C-A	764.15	191.04	764.15	0.00	-	-	-	-	-	-
A-B	89.59	22.40	89.59	0.00	-	-	-	-	-	-
A-C	490.86	122.71	490.86	0.00	-	-	-	-	-	-

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

Stream	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-C	10.25	0.68	11.660	B	B
B-A	3.72	0.25	20.352	C	C
C-AB	6.10	0.41	8.364	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

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

Stream	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-C	17.04	1.14	16.542	C	B
B-A	7.14	0.48	33.681	D	C
C-AB	8.76	0.58	10.000	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

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

Stream	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-C	54.26	3.62	49.038	E	D
B-A	31.07	2.07	153.075	F	F
C-AB	14.32	0.95	13.510	B	B
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

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

Stream	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-C	80.81	5.39	69.742	F	E
B-A	52.22	3.48	211.199	F	F
C-AB	14.83	0.99	13.654	B	B
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

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

Stream	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-C	27.00	1.80	21.385	C	C
B-A	14.20	0.95	44.583	E	D
C-AB	9.17	0.61	10.126	B	B
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

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

Stream	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-C	12.15	0.81	12.142	B	B
B-A	4.59	0.31	20.979	C	C
C-AB	6.37	0.42	8.457	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

<h1>Junctions 8</h1>
<h2>PICADY 8 - Priority Intersection Module</h2>
Version: 8.0.5.523 [19102,19/06/2015] © Copyright TRL Limited, 2016
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**Filename:** 160914 Rowley Lane - Penistone Road Model - Mitigation.arc8

**Path:** O:\Rowley Lane, Lepton\ANALYSIS\PICADY\Rowley Ln - Penistone Rd Junction\Rowley Ln - Penistone Rd Model - Mitigation

**Report generation date:** 21/09/2016 11:17:26

« **(Default Analysis Set) - 2021 DESIGN, PM**

- » **Junction Network**
- » **Arms**
- » **Traffic Flows**
- » **Entry Flows**
- » **Turning Proportions**
- » **Vehicle Mix**
- » **Results**

**Summary of junction performance**

	PM			
	Queue (PCU)	Delay (s)	RFC	LOS
	<b>A1 - 2021 DESIGN</b>			
Stream B-C	31.95	312.11	1.18	F
Stream B-A	10.87	512.85	1.33	F
Stream C-AB	0.98	16.77	0.50	C
Stream C-A	-	-	-	-
Stream A-B	-	-	-	-
Stream A-C	-	-	-	-

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

- "D3 - 2021 GROWTHED COUNT, AM" model duration: 07:45 - 09:15
- "D4 - 2021 GROWTHED COUNT, PM" model duration: 16:45 - 18:15
- "D7 - 2021 DESIGN, AM" model duration: 07:45 - 09:15
- "D8 - 2021 DESIGN, PM " model duration: 16:45 - 18:15
- "D9 - 2021 DESIGN SENSITIVITY, AM" model duration: 07:45 - 09:15
- "D10 - 2021 DESIGN SENSITIVITY, PM" model duration: 16:45 - 18:15

Run using Junctions 8.0.5.523 at 21/09/2016 11:17:25



## File summary

Title	(untitled)
Location	
Site Number	
Date	03/08/2016
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	Optima
Description	

## Analysis Options

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

## Units

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

# (Default Analysis Set) - 2021 DESIGN, PM

## Data Errors and Warnings

*No errors or warnings*

## Analysis Set Details

Name	Roundabout Capacity Model	Description	Include In Report	Use Specific Demand Set(s)	Specific Demand Set (s)	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)	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	Relationsh
2021 DESIGN, PM	2021 DESIGN	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	(untitled)	T-Junction	Two-way	A,B,C		233.73	F

## Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

## Arms

### Arms

Name	Arm	Name	Description	Arm Type
A629 Penistone Road (N)	A	A629 Penistone Road (N)		Major
Rowley Lane	B	Rowley Lane		Minor
A629 Penistone Road (S)	C	A629 Penistone Road (S)		Major

### Major Arm Geometry

Name	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)
A629 Penistone Road (S)	6.00		0.00	✓	3.00	250.00	✓	13.00

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

### Minor Arm Geometry

Name	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)
Rowley Lane	Two lanes		4.00	3.61						✓		39	23

## Slope / Intercept / Capacity

### Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
1	B-A	532.142	0.097	0.245	0.154	0.350
1	B-C	702.332	0.108	0.272	-	-
1	C-B	781.320	0.303	0.303	-	-

*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

Name	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
A629 Penistone Road (N)	ONE HOUR	✓	1057.00	100.000
Rowley Lane	ONE HOUR	✓	381.00	100.000
A629 Penistone Road (S)	ONE HOUR	✓	962.00	100.000

# Turning Proportions

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

		To		
		A629 Penistone Road (N)	Rowley Lane	A629 Penistone Road (S)
From	A629 Penistone Road (N)	0.000	66.000	991.000
	Rowley Lane	62.000	0.000	319.000
	A629 Penistone Road (S)	767.000	195.000	0.000

## Turning Proportions (PCU) - (untitled) (for whole period)

		To		
		A629 Penistone Road (N)	Rowley Lane	A629 Penistone Road (S)
From	A629 Penistone Road (N)	0.00	0.06	0.94
	Rowley Lane	0.16	0.00	0.84
	A629 Penistone Road (S)	0.80	0.20	0.00

# Vehicle Mix

## Average PCU Per Vehicle - (untitled) (for whole period)

		To		
		A629 Penistone Road (N)	Rowley Lane	A629 Penistone Road (S)
From	A629 Penistone Road (N)	1.000	1.000	1.000
	Rowley Lane	1.000	1.000	1.000
	A629 Penistone Road (S)	1.000	1.000	1.000

## Heavy Vehicle Percentages - (untitled) (for whole period)

		To		
		A629 Penistone Road (N)	Rowley Lane	A629 Penistone Road (S)
From	A629 Penistone Road (N)	0.0	0.0	0.0
	Rowley Lane	0.0	0.0	0.0
	A629 Penistone Road (S)	0.0	0.0	0.0

# Results

## Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)	Total Queueing Delay (PCU-min)	Average Queueing Delay (s)	Rate Of Queueing Delay (PCU-min/min)	Inclusive Total Queueing Delay (PCU-min)	Inclusive Average Queueing Delay (s)
B-C	1.18	312.11	31.95	F	292.72	439.08	960.41	131.24	10.67	960.49	131.25
B-A	1.33	512.85	10.87	F	56.89	85.34	255.73	179.80	2.84	255.75	179.81
C-AB	0.50	16.77	0.98	C	178.95	268.43	57.08	12.76	0.63	57.08	12.76
C-A	-	-	-	-	703.80	1055.69	-	-	-	-	-
A-B	-	-	-	-	60.56	90.84	-	-	-	-	-
A-C	-	-	-	-	909.36	1364.04	-	-	-	-	-

## Main Results for each time segment

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

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
B-C	240.16	60.04	236.05	0.00	465.73	0.516	0.00	1.03	15.416	C
B-A	46.68	11.67	45.53	0.00	204.18	0.229	0.00	0.29	22.539	C
C-AB	146.81	36.70	145.33	0.00	540.42	0.272	0.00	0.37	9.079	A
C-A	577.44	144.36	577.44	0.00	-	-	-	-	-	-
A-B	49.69	12.42	49.69	0.00	-	-	-	-	-	-
A-C	746.08	186.52	746.08	0.00	-	-	-	-	-	-

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

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
B-C	286.77	71.69	282.24	0.00	407.45	0.704	1.03	2.16	27.777	D
B-A	55.74	13.93	54.42	0.00	140.00	0.398	0.29	0.62	41.444	E
C-AB	175.30	43.83	174.61	0.00	493.67	0.355	0.37	0.54	11.258	B
C-A	689.52	172.38	689.52	0.00	-	-	-	-	-	-
A-B	59.33	14.83	59.33	0.00	-	-	-	-	-	-
A-C	890.89	222.72	890.89	0.00	-	-	-	-	-	-

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

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
B-C	351.23	87.81	287.25	0.00	298.20	1.178	2.16	18.15	153.562	F
B-A	68.26	17.07	45.84	0.00	51.75	1.319	0.62	6.22	347.589	F
C-AB	214.75	53.69	213.04	0.00	429.10	0.500	0.54	0.97	16.531	C
C-A	844.43	211.11	844.43	0.00	-	-	-	-	-	-
A-B	72.67	18.17	72.67	0.00	-	-	-	-	-	-
A-C	1091.11	272.78	1091.11	0.00	-	-	-	-	-	-

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

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
B-C	351.23	87.81	296.05	0.00	298.20	1.178	18.15	31.95	312.107	F
B-A	68.26	17.07	49.69	0.00	51.15	1.335	6.22	10.87	512.845	F
C-AB	214.75	53.69	214.69	0.00	429.10	0.500	0.97	0.98	16.775	C
C-A	844.43	211.11	844.43	0.00	-	-	-	-	-	-
A-B	72.67	18.17	72.67	0.00	-	-	-	-	-	-
A-C	1091.11	272.78	1091.11	0.00	-	-	-	-	-	-

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

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
B-C	286.77	71.69	361.37	0.00	372.68	0.769	31.95	13.30	230.444	F
B-A	55.74	13.93	96.15	0.00	139.14	0.401	10.87	0.76	128.122	F
C-AB	175.30	43.83	176.99	0.00	493.67	0.355	0.98	0.56	11.426	B
C-A	689.52	172.38	689.52	0.00	-	-	-	-	-	-
A-B	59.33	14.83	59.33	0.00	-	-	-	-	-	-
A-C	890.89	222.72	890.89	0.00	-	-	-	-	-	-

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

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
B-C	240.16	60.04	288.87	0.00	463.77	0.518	13.30	1.12	26.392	D
B-A	46.68	11.67	48.49	0.00	203.39	0.229	0.76	0.31	23.491	C
C-AB	146.81	36.70	147.54	0.00	540.42	0.272	0.56	0.38	9.179	A
C-A	577.44	144.36	577.44	0.00	-	-	-	-	-	-
A-B	49.69	12.42	49.69	0.00	-	-	-	-	-	-
A-C	746.08	186.52	746.08	0.00	-	-	-	-	-	-

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

Stream	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-C	14.16	0.94	15.416	C	B
B-A	3.96	0.26	22.539	C	C
C-AB	5.44	0.36	9.079	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

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

Stream	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-C	28.77	1.92	27.777	D	C
B-A	8.32	0.55	41.444	E	D
C-AB	8.09	0.54	11.258	B	B
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

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

Stream	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-C	160.63	10.71	153.562	F	F
B-A	55.11	3.67	347.589	F	F
C-AB	14.32	0.95	16.531	C	B
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

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

Stream	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-C	376.40	25.09	312.107	F	F
B-A	128.52	8.57	512.845	F	F
C-AB	14.98	1.00	16.775	C	B
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

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

Stream	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-C	339.37	22.62	230.444	F	F
B-A	54.78	3.65	128.122	F	F
C-AB	8.54	0.57	11.426	B	B
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

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

Stream	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-C	41.08	2.74	26.392	D	C
B-A	5.05	0.34	23.491	C	C
C-AB	5.70	0.38	9.179	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

<b>Junctions 8</b>
<b>PICADY 8 - Priority Intersection Module</b>
Version: 8.0.5.523 [19102,19/06/2015] © Copyright TRL Limited, 2016
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**Filename:** 160914 Rowley Lane - Penistone Road Model - Mitigation.arc8

**Path:** O:\Rowley Lane, Lepton\ANALYSIS\PICADY\Rowley Ln - Penistone Rd Junction\Rowley Ln - Penistone Rd Model - Mitigation

**Report generation date:** 21/09/2016 11:18:00

« **(Default Analysis Set) - 2021 DESIGN SENSITIVITY, AM**

- » **Junction Network**
- » **Arms**
- » **Traffic Flows**
- » **Entry Flows**
- » **Turning Proportions**
- » **Vehicle Mix**
- » **Results**

**Summary of junction performance**

	AM			
	Queue (PCU)	Delay (s)	RFC	LOS
A1 - 2021 DESIGN SENSITIVITY				
Stream B-C	7.02	80.12	0.92	F
Stream B-A	4.19	220.87	0.91	F
Stream C-AB	0.98	13.71	0.50	B
Stream C-A	-	-	-	-
Stream A-B	-	-	-	-
Stream A-C	-	-	-	-

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

- "D3 - 2021 GROWTHED COUNT, AM" model duration: 07:45 - 09:15
- "D4 - 2021 GROWTHED COUNT, PM" model duration: 16:45 - 18:15
- "D7 - 2021 DESIGN, AM" model duration: 07:45 - 09:15
- "D8 - 2021 DESIGN, PM" model duration: 16:45 - 18:15
- "D9 - 2021 DESIGN SENSITIVITY, AM " model duration: 07:45 - 09:15
- "D10 - 2021 DESIGN SENSITIVITY, PM" model duration: 16:45 - 18:15

Run using Junctions 8.0.5.523 at 21/09/2016 11:17:59

## File summary

Title	(untitled)
Location	
Site Number	
Date	03/08/2016
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	Optima
Description	

## Analysis Options

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

## Units

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

# (Default Analysis Set) - 2021 DESIGN SENSITIVITY, AM

## Data Errors and Warnings

*No errors or warnings*

## Analysis Set Details

Name	Roundabout Capacity Model	Description	Include In Report	Use Specific Demand Set(s)	Specific Demand Set (s)	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)	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
2021 DESIGN SENSITIVITY, AM	2021 DESIGN SENSITIVITY	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	(untitled)	T-Junction	Two-way	A,B,C		69.31	F



## Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

## Arms

### Arms

Name	Arm	Name	Description	Arm Type
A629 Penistone Road (N)	A	A629 Penistone Road (N)		Major
Rowley Lane	B	Rowley Lane		Minor
A629 Penistone Road (S)	C	A629 Penistone Road (S)		Major

### Major Arm Geometry

Name	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)
A629 Penistone Road (S)	6.00		0.00	✓	3.00	250.00	✓	13.00

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

### Minor Arm Geometry

Name	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)
Rowley Lane	Two lanes		4.00	3.61						✓		39	23

## Slope / Intercept / Capacity

### Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
1	B-A	532.142	0.097	0.245	0.154	0.350
1	B-C	702.332	0.108	0.272	-	-
1	C-B	781.320	0.303	0.303	-	-

*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

Name	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
A629 Penistone Road (N)	ONE HOUR	✓	774.00	100.000
Rowley Lane	ONE HOUR	✓	373.00	100.000
A629 Penistone Road (S)	ONE HOUR	✓	1252.00	100.000

# Turning Proportions

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

		To		
		A629 Penistone Road (N)	Rowley Lane	A629 Penistone Road (S)
From	A629 Penistone Road (N)	0.000	122.000	652.000
	Rowley Lane	65.000	0.000	308.000
	A629 Penistone Road (S)	1015.000	237.000	0.000

## Turning Proportions (PCU) - (untitled) (for whole period)

		To		
		A629 Penistone Road (N)	Rowley Lane	A629 Penistone Road (S)
From	A629 Penistone Road (N)	0.00	0.16	0.84
	Rowley Lane	0.17	0.00	0.83
	A629 Penistone Road (S)	0.81	0.19	0.00

# Vehicle Mix

## Average PCU Per Vehicle - (untitled) (for whole period)

		To		
		A629 Penistone Road (N)	Rowley Lane	A629 Penistone Road (S)
From	A629 Penistone Road (N)	1.000	1.000	1.000
	Rowley Lane	1.000	1.000	1.000
	A629 Penistone Road (S)	1.000	1.000	1.000

## Heavy Vehicle Percentages - (untitled) (for whole period)

		To		
		A629 Penistone Road (N)	Rowley Lane	A629 Penistone Road (S)
From	A629 Penistone Road (N)	0.0	0.0	0.0
	Rowley Lane	0.0	0.0	0.0
	A629 Penistone Road (S)	0.0	0.0	0.0

# Results

## Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)	Total Queueing Delay (PCU-min)	Average Queueing Delay (s)	Rate Of Queueing Delay (PCU-min/min)	Inclusive Total Queueing Delay (PCU-min)	Inclusive Average Queueing Delay (s)
B-C	0.92	80.12	7.02	F	282.63	423.94	228.72	32.37	2.54	228.76	32.38
B-A	0.91	220.87	4.19	F	59.65	89.47	118.82	79.68	1.32	118.83	79.69
C-AB	0.50	13.71	0.98	B	217.50	326.25	59.72	10.98	0.66	59.73	10.99
C-A	-	-	-	-	931.36	1397.04	-	-	-	-	-
A-B	-	-	-	-	111.95	167.92	-	-	-	-	-
A-C	-	-	-	-	598.29	897.43	-	-	-	-	-

## Main Results for each time segment

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

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
B-C	231.88	57.97	228.82	0.00	528.18	0.439	0.00	0.76	11.909	B
B-A	48.94	12.23	47.84	0.00	222.77	0.220	0.00	0.27	20.462	C
C-AB	178.43	44.61	176.77	0.00	604.92	0.295	0.00	0.41	8.377	A
C-A	764.15	191.04	764.15	0.00	-	-	-	-	-	-
A-B	91.85	22.96	91.85	0.00	-	-	-	-	-	-
A-C	490.86	122.71	490.86	0.00	-	-	-	-	-	-

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

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
B-C	276.89	69.22	274.77	0.00	482.29	0.574	0.76	1.29	17.168	C
B-A	58.43	14.61	57.39	0.00	162.15	0.360	0.27	0.53	34.031	D
C-AB	213.06	53.26	212.37	0.00	570.68	0.373	0.41	0.59	10.026	B
C-A	912.46	228.12	912.46	0.00	-	-	-	-	-	-
A-B	109.68	27.42	109.68	0.00	-	-	-	-	-	-
A-C	586.13	146.53	586.13	0.00	-	-	-	-	-	-

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

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
B-C	339.11	84.78	322.73	0.00	377.48	0.898	1.29	5.39	54.654	F
B-A	71.57	17.89	61.25	0.00	78.88	0.907	0.53	3.11	158.140	F
C-AB	261.01	65.25	259.48	0.00	523.43	0.499	0.59	0.97	13.559	B
C-A	1117.47	279.37	1117.47	0.00	-	-	-	-	-	-
A-B	134.32	33.58	134.32	0.00	-	-	-	-	-	-
A-C	717.87	179.47	717.87	0.00	-	-	-	-	-	-

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

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
B-C	339.11	84.78	332.58	0.00	369.39	0.918	5.39	7.02	80.122	F
B-A	71.57	17.89	67.26	0.00	78.35	0.913	3.11	4.19	220.874	F
C-AB	261.01	65.25	260.95	0.00	523.43	0.499	0.97	0.98	13.706	B
C-A	1117.47	279.37	1117.47	0.00	-	-	-	-	-	-
A-B	134.32	33.58	134.32	0.00	-	-	-	-	-	-
A-C	717.87	179.47	717.87	0.00	-	-	-	-	-	-

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

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
B-C	276.89	69.22	298.92	0.00	469.16	0.590	7.02	1.52	23.579	C
B-A	58.43	14.61	72.77	0.00	161.35	0.362	4.19	0.61	46.177	E
C-AB	213.06	53.26	214.56	0.00	570.68	0.373	0.98	0.61	10.150	B
C-A	912.46	228.12	912.46	0.00	-	-	-	-	-	-
A-B	109.68	27.42	109.68	0.00	-	-	-	-	-	-
A-C	586.13	146.53	586.13	0.00	-	-	-	-	-	-

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

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
B-C	231.88	57.97	234.72	0.00	526.54	0.440	1.52	0.81	12.454	B
B-A	48.94	12.23	50.19	0.00	221.92	0.221	0.61	0.29	21.109	C
C-AB	178.43	44.61	179.16	0.00	604.92	0.295	0.61	0.42	8.471	A
C-A	764.15	191.04	764.15	0.00	-	-	-	-	-	-
A-B	91.85	22.96	91.85	0.00	-	-	-	-	-	-
A-C	490.86	122.71	490.86	0.00	-	-	-	-	-	-

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

Stream	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-C	10.74	0.72	11.909	B	B
B-A	3.79	0.25	20.462	C	C
C-AB	6.11	0.41	8.377	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

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

Stream	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-C	18.09	1.21	17.168	C	B
B-A	7.32	0.49	34.031	D	C
C-AB	8.78	0.59	10.026	B	B
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

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

Stream	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-C	61.33	4.09	54.654	F	D
B-A	32.39	2.16	158.140	F	F
C-AB	14.37	0.96	13.559	B	B
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

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

Stream	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-C	94.74	6.32	80.122	F	F
B-A	55.44	3.70	220.874	F	F
C-AB	14.89	0.99	13.706	B	B
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

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

Stream	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-C	31.02	2.07	23.579	C	C
B-A	15.17	1.01	46.177	E	D
C-AB	9.19	0.61	10.150	B	B
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

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

Stream	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-C	12.80	0.85	12.454	B	B
B-A	4.70	0.31	21.109	C	C
C-AB	6.38	0.43	8.471	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-



<b>Junctions 8</b>
<b>PICADY 8 - Priority Intersection Module</b>
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**Filename:** 160914 Rowley Lane - Penistone Road Model - Mitigation.arc8

**Path:** O:\Rowley Lane, Lepton\ANALYSIS\PICADY\Rowley Ln - Penistone Rd Junction\Rowley Ln - Penistone Rd Model - Mitigation

**Report generation date:** 21/09/2016 11:18:32

« **(Default Analysis Set) - 2021 DESIGN SENSITIVITY, PM**

- » **Junction Network**
- » **Arms**
- » **Traffic Flows**
- » **Entry Flows**
- » **Turning Proportions**
- » **Vehicle Mix**
- » **Results**

**Summary of junction performance**

	PM			
	Queue (PCU)	Delay (s)	RFC	LOS
A1 - 2021 DESIGN SENSITIVITY				
Stream B-C	35.56	342.15	1.20	F
Stream B-A	12.20	558.14	1.41	F
Stream C-AB	1.04	17.24	0.51	C
Stream C-A	-	-	-	-
Stream A-B	-	-	-	-
Stream A-C	-	-	-	-

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

- "D3 - 2021 GROWTHED COUNT, AM" model duration: 07:45 - 09:15
- "D4 - 2021 GROWTHED COUNT, PM" model duration: 16:45 - 18:15
- "D7 - 2021 DESIGN, AM" model duration: 07:45 - 09:15
- "D8 - 2021 DESIGN, PM" model duration: 16:45 - 18:15
- "D9 - 2021 DESIGN SENSITIVITY, AM" model duration: 07:45 - 09:15
- "D10 - 2021 DESIGN SENSITIVITY, PM " model duration: 16:45 - 18:15

Run using Junctions 8.0.5.523 at 21/09/2016 11:18:31

## File summary

Title	(untitled)
Location	
Site Number	
Date	03/08/2016
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	Optima
Description	

## Analysis Options

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

## Units

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

# (Default Analysis Set) - 2021 DESIGN SENSITIVITY, PM

## Data Errors and Warnings

*No errors or warnings*

## Analysis Set Details

Name	Roundabout Capacity Model	Description	Include In Report	Use Specific Demand Set(s)	Specific Demand Set (s)	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)	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
2021 DESIGN SENSITIVITY, PM	2021 DESIGN SENSITIVITY	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	(untitled)	T-Junction	Two-way	A,B,C		254.92	F

## Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

## Arms

### Arms

Name	Arm	Name	Description	Arm Type
A629 Penistone Road (N)	A	A629 Penistone Road (N)		Major
Rowley Lane	B	Rowley Lane		Minor
A629 Penistone Road (S)	C	A629 Penistone Road (S)		Major

### Major Arm Geometry

Name	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)
A629 Penistone Road (S)	6.00		0.00	✓	3.00	250.00	✓	13.00

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

### Minor Arm Geometry

Name	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)
Rowley Lane	Two lanes		4.00	3.61						✓		39	23

## Slope / Intercept / Capacity

### Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
1	B-A	532.142	0.097	0.245	0.154	0.350
1	B-C	702.332	0.108	0.272	-	-
1	C-B	781.320	0.303	0.303	-	-

*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

Name	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
A629 Penistone Road (N)	ONE HOUR	✓	1058.00	100.000
Rowley Lane	ONE HOUR	✓	389.00	100.000
A629 Penistone Road (S)	ONE HOUR	✓	967.00	100.000

# Turning Proportions

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

		To		
		A629 Penistone Road (N)	Rowley Lane	A629 Penistone Road (S)
From	A629 Penistone Road (N)	0.000	67.000	991.000
	Rowley Lane	63.000	0.000	326.000
	A629 Penistone Road (S)	767.000	200.000	0.000

## Turning Proportions (PCU) - (untitled) (for whole period)

		To		
		A629 Penistone Road (N)	Rowley Lane	A629 Penistone Road (S)
From	A629 Penistone Road (N)	0.00	0.06	0.94
	Rowley Lane	0.16	0.00	0.84
	A629 Penistone Road (S)	0.79	0.21	0.00

# Vehicle Mix

## Average PCU Per Vehicle - (untitled) (for whole period)

		To		
		A629 Penistone Road (N)	Rowley Lane	A629 Penistone Road (S)
From	A629 Penistone Road (N)	1.000	1.000	1.000
	Rowley Lane	1.000	1.000	1.000
	A629 Penistone Road (S)	1.000	1.000	1.000

## Heavy Vehicle Percentages - (untitled) (for whole period)

		To		
		A629 Penistone Road (N)	Rowley Lane	A629 Penistone Road (S)
From	A629 Penistone Road (N)	0.0	0.0	0.0
	Rowley Lane	0.0	0.0	0.0
	A629 Penistone Road (S)	0.0	0.0	0.0

# Results

## Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)	Total Queueing Delay (PCU-min)	Average Queueing Delay (s)	Rate Of Queueing Delay (PCU-min/min)	Inclusive Total Queueing Delay (PCU-min)	Inclusive Average Queueing Delay (s)
B-C	1.20	342.15	35.56	F	299.14	448.71	1123.07	150.17	12.48	1123.17	150.18
B-A	1.41	558.14	12.20	F	57.81	86.71	288.78	199.81	3.21	288.80	199.82
C-AB	0.51	17.24	1.04	C	183.55	275.32	59.71	13.01	0.66	59.72	13.02
C-A	-	-	-	-	703.79	1055.68	-	-	-	-	-
A-B	-	-	-	-	61.48	92.22	-	-	-	-	-
A-C	-	-	-	-	909.36	1364.04	-	-	-	-	-

## Main Results for each time segment

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

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
B-C	245.43	61.36	241.12	0.00	465.00	0.528	0.00	1.08	15.798	C
B-A	47.43	11.86	46.25	0.00	202.79	0.234	0.00	0.30	22.837	C
C-AB	150.57	37.64	149.05	0.00	540.19	0.279	0.00	0.38	9.168	A
C-A	577.44	144.36	577.44	0.00	-	-	-	-	-	-
A-B	50.44	12.61	50.44	0.00	-	-	-	-	-	-
A-C	746.08	186.52	746.08	0.00	-	-	-	-	-	-

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

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
B-C	293.07	73.27	288.05	0.00	406.04	0.722	1.08	2.33	29.308	D
B-A	56.64	14.16	55.24	0.00	138.32	0.409	0.30	0.64	42.638	E
C-AB	179.80	44.95	179.07	0.00	493.39	0.364	0.38	0.56	11.417	B
C-A	689.52	172.38	689.52	0.00	-	-	-	-	-	-
A-B	60.23	15.06	60.23	0.00	-	-	-	-	-	-
A-C	890.89	222.72	890.89	0.00	-	-	-	-	-	-

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

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
B-C	358.93	89.73	288.54	0.00	298.11	1.204	2.33	19.93	164.996	F
B-A	69.36	17.34	44.58	0.00	49.68	1.396	0.64	6.84	384.166	F
C-AB	220.28	55.07	218.46	0.00	428.79	0.514	0.56	1.02	16.967	C
C-A	844.41	211.10	844.41	0.00	-	-	-	-	-	-
A-B	73.77	18.44	73.77	0.00	-	-	-	-	-	-
A-C	1091.11	272.78	1091.11	0.00	-	-	-	-	-	-

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

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
B-C	358.93	89.73	296.42	0.00	298.11	1.204	19.93	35.56	342.150	F
B-A	69.36	17.34	47.94	0.00	49.04	1.414	6.84	12.20	558.137	F
C-AB	220.28	55.07	220.21	0.00	428.79	0.514	1.02	1.04	17.242	C
C-A	844.41	211.10	844.41	0.00	-	-	-	-	-	-
A-B	73.77	18.44	73.77	0.00	-	-	-	-	-	-
A-C	1091.11	272.78	1091.11	0.00	-	-	-	-	-	-

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

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
B-C	293.07	73.27	356.43	0.00	366.45	0.800	35.56	19.72	278.756	F
B-A	56.64	14.16	102.14	0.00	137.41	0.412	12.20	0.82	156.531	F
C-AB	179.80	44.95	181.60	0.00	493.39	0.364	1.04	0.58	11.613	B
C-A	689.52	172.38	689.52	0.00	-	-	-	-	-	-
A-B	60.23	15.06	60.23	0.00	-	-	-	-	-	-
A-C	890.89	222.72	890.89	0.00	-	-	-	-	-	-

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

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
B-C	245.43	61.36	319.54	0.00	462.88	0.530	19.72	1.19	39.148	E
B-A	47.43	11.86	49.44	0.00	201.97	0.235	0.82	0.32	23.889	C
C-AB	150.57	37.64	151.34	0.00	540.19	0.279	0.58	0.39	9.277	A
C-A	577.44	144.36	577.44	0.00	-	-	-	-	-	-
A-B	50.44	12.61	50.44	0.00	-	-	-	-	-	-
A-C	746.08	186.52	746.08	0.00	-	-	-	-	-	-

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

Stream	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-C	14.79	0.99	15.798	C	B
B-A	4.07	0.27	22.837	C	C
C-AB	5.64	0.38	9.168	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

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

Stream	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-C	30.80	2.05	29.308	D	C
B-A	8.66	0.58	42.638	E	D
C-AB	8.42	0.56	11.417	B	B
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

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

Stream	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-C	174.57	11.64	164.996	F	F
B-A	59.69	3.98	384.166	F	F
C-AB	15.05	1.00	16.967	C	B
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

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

Stream	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-C	416.70	27.78	342.150	F	F
B-A	143.08	9.54	558.137	F	F
C-AB	15.79	1.05	17.242	C	B
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

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

Stream	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-C	414.60	27.64	278.756	F	F
B-A	68.05	4.54	156.531	F	F
C-AB	8.90	0.59	11.613	B	B
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

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

Stream	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-C	71.61	4.77	39.148	E	D
B-A	5.23	0.35	23.889	C	C
C-AB	5.91	0.39	9.277	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-



<b>Junctions 8</b>
<b>ARCADY 8 - Roundabout Module</b>
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**Filename:** Rowley Lane - Highgate Lane Rbout Model.arc8  
**Path:** O:\Rowley Lane, Lepton\ANALYSIS\ARCADY\Rowley Lane - Highgate Lane Rbout  
**Report generation date:** 21/09/2016 14:18:52

- « (Default Analysis Set) - 2016 COUNT, AM
- » Junction Network
- » Arms
- » Traffic Flows
- » Entry Flows
- » Turning Proportions
- » Vehicle Mix
- » Results

### Summary of junction performance

	AM			
	Queue (PCU)	Delay (s)	RFC	LOS
	A1 - 2016 COUNT			
Rowley Lane (E)	0.29	5.09	0.23	A
Rowley Lane (W)	0.46	6.54	0.32	A
Highgate Lane	0.23	6.05	0.19	A

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

- "D1 - 2016 COUNT, AM" model duration: 07:45 - 09:15
- "D2 - 2016 COUNT, PM" model duration: 16:45 - 18:15
- "D3 - 2021 GROWTHED COUNT, AM" model duration: 07:45 - 09:15
- "D4 - 2021 GROWTHED COUNT, PM" model duration: 16:45 - 18:15
- "D5 - 2016 DESIGN, AM" model duration: 07:45 - 09:15
- "D6 - 2016 DESIGN, PM" model duration: 16:45 - 18:15
- "D7 - 2021 DESIGN, AM" model duration: 07:45 - 09:15
- "D8 - 2021 DESIGN, PM" model duration: 16:45 - 18:15
- "D9 - 2021 DESIGN SENSITIVITY, AM" model duration: 07:45 - 09:15
- "D10 - 2021 DESIGN SENSITIVITY, PM" model duration: 16:45 - 18:15

Run using Junctions 8.0.5.523 at 21/09/2016 14:18:51

## File summary

Title	(untitled)
Location	
Site Number	
Date	03/08/2016
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	Optima
Description	

## Analysis Options

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

## Units

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

# (Default Analysis Set) - 2016 COUNT, AM

## Data Errors and Warnings

*No errors or warnings*

## Analysis Set Details

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

## Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
2016 COUNT, AM	2016 COUNT	AM		ONE HOUR	07:45	09:15	90	15		

# Junction Network

## Junctions

Junction	Name	Junction Type	Arm Order	Junction Delay (s)	Junction LOS
1	(untitled)	Mini-roundabout	1,2,3	5.92	A

## Junction Network Options

Driving Side	Lighting	Road Surface	In London
Left	Normal/unknown	Normal/unknown	

# Arms

## Arms

Name	Arm	Name	Description
Rowley Lane (E)	1	Rowley Lane (E)	
Rowley Lane (W)	2	Rowley Lane (W)	
Highgate Lane	3	Highgate Lane	

## Capacity Options

Name	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)
Rowley Lane (E)	0.00	99999.00
Rowley Lane (W)	0.00	99999.00
Highgate Lane	0.00	99999.00

## Mini Roundabout Geometry

Name	Approach road half-width (m)	Minimum approach road half-width (m)	Entry width (m)	Effective flare length (m)	Distance to next arm (m)	Entry corner kerb line distance (m)	Gradient over 50m (%)	Kerbed central island
Rowley Lane (E)	2.56	2.55	3.85	15.50	9.84	5.95	0.00	
Rowley Lane (W)	3.25	3.24	4.77	1.70	7.40	4.42	0.00	
Highgate Lane	3.42	3.41	3.60	1.00	11.63	10.60	0.00	

## Slope / Intercept / Capacity

### Roundabout Slope and Intercept used in model

Name	Enter slope and intercept directly	Entered slope	Entered intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
Rowley Lane (E)		(calculated)	(calculated)	0.533	960.580
Rowley Lane (W)		(calculated)	(calculated)	0.536	829.179
Highgate Lane		(calculated)	(calculated)	0.536	837.051

*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

Name	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
Rowley Lane (E)	ONE HOUR	✓	189.00	100.000
Rowley Lane (W)	ONE HOUR	✓	232.00	100.000
Highgate Lane	ONE HOUR	✓	124.00	100.000

# Turning Proportions

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

		To		
		Rowley Lane (E)	Rowley Lane (W)	Highgate Lane
From	Rowley Lane (E)	0.000	150.000	39.000
	Rowley Lane (W)	179.000	0.000	53.000
	Highgate Lane	47.000	77.000	0.000

## Turning Proportions (PCU) - (untitled) (for whole period)

		To		
		Rowley Lane (E)	Rowley Lane (W)	Highgate Lane
From	Rowley Lane (E)	0.00	0.79	0.21
	Rowley Lane (W)	0.77	0.00	0.23
	Highgate Lane	0.38	0.62	0.00

# Vehicle Mix

## Average PCU Per Vehicle - (untitled) (for whole period)

		To		
		Rowley Lane (E)	Rowley Lane (W)	Highgate Lane
From	Rowley Lane (E)	1.000	1.000	1.000
	Rowley Lane (W)	1.000	1.000	1.000
	Highgate Lane	1.000	1.000	1.000

## Heavy Vehicle Percentages - (untitled) (for whole period)

		To		
		Rowley Lane (E)	Rowley Lane (W)	Highgate Lane
From	Rowley Lane (E)	0.0	0.0	0.0
	Rowley Lane (W)	0.0	0.0	0.0
	Highgate Lane	0.0	0.0	0.0



# Results

## Results Summary for whole modelled period

Name	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
Rowley Lane (E)	0.23	5.09	0.29	A
Rowley Lane (W)	0.32	6.54	0.46	A
Highgate Lane	0.19	6.05	0.23	A

## Main Results for each time segment

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

Name	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
Rowley Lane (E)	142.29	141.57	57.63	0.00	929.85	0.153	0.18	4.563	A
Rowley Lane (W)	174.66	173.58	29.21	0.00	813.52	0.215	0.27	5.616	A
Highgate Lane	93.35	92.80	133.92	0.00	765.31	0.122	0.14	5.348	A

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

Name	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
Rowley Lane (E)	169.91	169.73	69.13	0.00	923.71	0.184	0.22	4.773	A
Rowley Lane (W)	208.56	208.27	35.02	0.00	810.41	0.257	0.34	5.976	A
Highgate Lane	111.47	111.33	160.69	0.00	750.97	0.148	0.17	5.626	A

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

Name	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
Rowley Lane (E)	208.09	207.82	84.64	0.00	915.44	0.227	0.29	5.083	A
Rowley Lane (W)	255.44	254.97	42.88	0.00	806.20	0.317	0.46	6.525	A
Highgate Lane	136.53	136.31	196.73	0.00	731.67	0.187	0.23	6.045	A

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

Name	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
Rowley Lane (E)	208.09	208.09	84.78	0.00	915.37	0.227	0.29	5.089	A
Rowley Lane (W)	255.44	255.43	42.94	0.00	806.17	0.317	0.46	6.536	A
Highgate Lane	136.53	136.52	197.08	0.00	731.49	0.187	0.23	6.050	A

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

Name	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
Rowley Lane (E)	169.91	170.17	69.35	0.00	923.60	0.184	0.23	4.781	A
Rowley Lane (W)	208.56	209.01	35.11	0.00	810.36	0.257	0.35	5.992	A
Highgate Lane	111.47	111.68	161.26	0.00	750.67	0.149	0.18	5.637	A

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

Name	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
Rowley Lane (E)	142.29	142.47	58.06	0.00	929.62	0.153	0.18	4.574	A
Rowley Lane (W)	174.66	174.96	29.40	0.00	813.42	0.215	0.28	5.640	A
Highgate Lane	93.35	93.50	134.99	0.00	764.74	0.122	0.14	5.363	A

<h1>Junctions 8</h1>
<h2>ARCADY 8 - Roundabout Module</h2>
Version: 8.0.5.523 [19102,19/06/2015] © Copyright TRL Limited, 2016
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**Filename:** Rowley Lane - Highgate Lane Rbout Model.arc8  
**Path:** O:\Rowley Lane, Lepton\ANALYSIS\ARCADY\Rowley Lane - Highgate Lane Rbout  
**Report generation date:** 21/09/2016 14:19:10

- « **(Default Analysis Set) - 2016 COUNT, PM**
- » **Junction Network**
- » **Arms**
- » **Traffic Flows**
- » **Entry Flows**
- » **Turning Proportions**
- » **Vehicle Mix**
- » **Results**

### Summary of junction performance

	PM			
	Queue (PCU)	Delay (s)	RFC	LOS
	<b>A1 - 2016 COUNT</b>			
<b>Rowley Lane (E)</b>	0.67	6.53	0.40	A
<b>Rowley Lane (W)</b>	0.36	6.29	0.26	A
<b>Highgate Lane</b>	0.26	5.97	0.21	A

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

- "D1 - 2016 COUNT, AM" model duration: 07:45 - 09:15
- "D2 - 2016 COUNT, PM" model duration: 16:45 - 18:15
- "D3 - 2021 GROWTHED COUNT, AM" model duration: 07:45 - 09:15
- "D4 - 2021 GROWTHED COUNT, PM" model duration: 16:45 - 18:15
- "D5 - 2016 DESIGN, AM" model duration: 07:45 - 09:15
- "D6 - 2016 DESIGN, PM" model duration: 16:45 - 18:15
- "D7 - 2021 DESIGN, AM" model duration: 07:45 - 09:15
- "D8 - 2021 DESIGN, PM" model duration: 16:45 - 18:15
- "D9 - 2021 DESIGN SENSITIVITY, AM" model duration: 07:45 - 09:15
- "D10 - 2021 DESIGN SENSITIVITY, PM" model duration: 16:45 - 18:15

Run using Junctions 8.0.5.523 at 21/09/2016 14:19:09

## File summary

Title	(untitled)
Location	
Site Number	
Date	03/08/2016
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	Optima
Description	

## Analysis Options

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

## Units

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

# (Default Analysis Set) - 2016 COUNT, PM

## Data Errors and Warnings

*No errors or warnings*

## Analysis Set Details

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

## Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
2016 COUNT, PM	2016 COUNT	PM		ONE HOUR	16:45	18:15	90	15		

# Junction Network

## Junctions

Junction	Name	Junction Type	Arm Order	Junction Delay (s)	Junction LOS
1	(untitled)	Mini-roundabout	1,2,3	6.35	A

## Junction Network Options

Driving Side	Lighting	Road Surface	In London
Left	Normal/unknown	Normal/unknown	

# Arms

## Arms

Name	Arm	Name	Description
Rowley Lane (E)	1	Rowley Lane (E)	
Rowley Lane (W)	2	Rowley Lane (W)	
Highgate Lane	3	Highgate Lane	

## Capacity Options

Name	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)
Rowley Lane (E)	0.00	99999.00
Rowley Lane (W)	0.00	99999.00
Highgate Lane	0.00	99999.00

## Mini Roundabout Geometry

Name	Approach road half-width (m)	Minimum approach road half-width (m)	Entry width (m)	Effective flare length (m)	Distance to next arm (m)	Entry corner kerb line distance (m)	Gradient over 50m (%)	Kerbed central island
Rowley Lane (E)	2.56	2.55	3.85	15.50	9.84	5.95	0.00	
Rowley Lane (W)	3.25	3.24	4.77	1.70	7.40	4.42	0.00	
Highgate Lane	3.42	3.41	3.60	1.00	11.63	10.60	0.00	

## Slope / Intercept / Capacity

### Roundabout Slope and Intercept used in model

Name	Enter slope and intercept directly	Entered slope	Entered intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
Rowley Lane (E)		(calculated)	(calculated)	0.533	960.580
Rowley Lane (W)		(calculated)	(calculated)	0.536	829.179
Highgate Lane		(calculated)	(calculated)	0.536	837.051

*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

Name	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
Rowley Lane (E)	ONE HOUR	✓	337.00	100.000
Rowley Lane (W)	ONE HOUR	✓	187.00	100.000
Highgate Lane	ONE HOUR	✓	145.00	100.000

# Turning Proportions

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

		To		
		Rowley Lane (E)	Rowley Lane (W)	Highgate Lane
From	Rowley Lane (E)	0.000	250.000	87.000
	Rowley Lane (W)	127.000	0.000	60.000
	Highgate Lane	79.000	66.000	0.000

## Turning Proportions (PCU) - (untitled) (for whole period)

		To		
		Rowley Lane (E)	Rowley Lane (W)	Highgate Lane
From	Rowley Lane (E)	0.00	0.74	0.26
	Rowley Lane (W)	0.68	0.00	0.32
	Highgate Lane	0.54	0.46	0.00

# Vehicle Mix

## Average PCU Per Vehicle - (untitled) (for whole period)

		To		
		Rowley Lane (E)	Rowley Lane (W)	Highgate Lane
From	Rowley Lane (E)	1.000	1.000	1.000
	Rowley Lane (W)	1.000	1.000	1.000
	Highgate Lane	1.000	1.000	1.000

## Heavy Vehicle Percentages - (untitled) (for whole period)

		To		
		Rowley Lane (E)	Rowley Lane (W)	Highgate Lane
From	Rowley Lane (E)	0.0	0.0	0.0
	Rowley Lane (W)	0.0	0.0	0.0
	Highgate Lane	0.0	0.0	0.0

# Results

## Results Summary for whole modelled period

Name	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
Rowley Lane (E)	0.40	6.53	0.67	A
Rowley Lane (W)	0.26	6.29	0.36	A
Highgate Lane	0.21	5.97	0.26	A

## Main Results for each time segment

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

Name	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
Rowley Lane (E)	253.71	252.23	49.40	0.00	934.24	0.272	0.37	5.268	A
Rowley Lane (W)	140.78	139.93	65.12	0.00	794.28	0.177	0.21	5.495	A
Highgate Lane	109.16	108.52	95.03	0.00	786.15	0.139	0.16	5.308	A

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

Name	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
Rowley Lane (E)	302.96	302.52	59.26	0.00	928.98	0.326	0.48	5.743	A
Rowley Lane (W)	168.11	167.89	78.10	0.00	787.32	0.214	0.27	5.810	A
Highgate Lane	130.35	130.19	114.02	0.00	775.98	0.168	0.20	5.573	A

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

Name	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
Rowley Lane (E)	371.04	370.30	72.55	0.00	921.89	0.402	0.67	6.516	A
Rowley Lane (W)	205.89	205.54	95.60	0.00	777.94	0.265	0.36	6.285	A
Highgate Lane	159.65	159.40	139.59	0.00	762.28	0.209	0.26	5.968	A

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

Name	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
Rowley Lane (E)	371.04	371.03	72.67	0.00	921.83	0.403	0.67	6.535	A
Rowley Lane (W)	205.89	205.88	95.78	0.00	777.84	0.265	0.36	6.293	A
Highgate Lane	159.65	159.64	139.83	0.00	762.15	0.209	0.26	5.974	A

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

Name	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
Rowley Lane (E)	302.96	303.68	59.44	0.00	928.88	0.326	0.49	5.764	A
Rowley Lane (W)	168.11	168.45	78.40	0.00	787.16	0.214	0.27	5.823	A
Highgate Lane	130.35	130.59	114.40	0.00	775.77	0.168	0.20	5.581	A

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

Name	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
Rowley Lane (E)	253.71	254.16	49.76	0.00	934.04	0.272	0.38	5.298	A
Rowley Lane (W)	140.78	141.01	65.61	0.00	794.01	0.177	0.22	5.514	A
Highgate Lane	109.16	109.33	95.77	0.00	785.75	0.139	0.16	5.324	A



<b>Junctions 8</b>
<b>ARCADY 8 - Roundabout Module</b>
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**Filename:** Rowley Lane - Highgate Lane Rbout Model.arc8  
**Path:** O:\Rowley Lane, Lepton\ANALYSIS\ARCADY\Rowley Lane - Highgate Lane Rbout  
**Report generation date:** 21/09/2016 14:19:33

- « (Default Analysis Set) - 2021 GROWTHED COUNT, AM
- » Junction Network
- » Arms
- » Traffic Flows
- » Entry Flows
- » Turning Proportions
- » Vehicle Mix
- » Results

### Summary of junction performance

	AM			
	Queue (PCU)	Delay (s)	RFC	LOS
	<b>A1 - 2021 GROWTHED COUNT</b>			
Rowley Lane (E)	0.33	5.24	0.25	A
Rowley Lane (W)	0.52	6.82	0.34	A
Highgate Lane	0.26	6.27	0.21	A

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

- "D1 - 2016 COUNT, AM" model duration: 07:45 - 09:15
- "D2 - 2016 COUNT, PM" model duration: 16:45 - 18:15
- "D3 - 2021 GROWTHED COUNT, AM" model duration: 07:45 - 09:15
- "D4 - 2021 GROWTHED COUNT, PM" model duration: 16:45 - 18:15
- "D5 - 2016 DESIGN, AM" model duration: 07:45 - 09:15
- "D6 - 2016 DESIGN, PM" model duration: 16:45 - 18:15
- "D7 - 2021 DESIGN, AM" model duration: 07:45 - 09:15
- "D8 - 2021 DESIGN, PM" model duration: 16:45 - 18:15
- "D9 - 2021 DESIGN SENSITIVITY, AM" model duration: 07:45 - 09:15
- "D10 - 2021 DESIGN SENSITIVITY, PM" model duration: 16:45 - 18:15

Run using Junctions 8.0.5.523 at 21/09/2016 14:19:33

## File summary

Title	(untitled)
Location	
Site Number	
Date	03/08/2016
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	Optima
Description	

## Analysis Options

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

## Units

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

# (Default Analysis Set) - 2021 GROWTHED COUNT, AM

## Data Errors and Warnings

*No errors or warnings*

## Analysis Set Details

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

## Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
2021 GROWTHED COUNT, AM	2021 GROWTHED COUNT	AM		ONE HOUR	07:45	09:15	90	15		

# Junction Network

## Junctions

Junction	Name	Junction Type	Arm Order	Junction Delay (s)	Junction LOS
1	(untitled)	Mini-roundabout	1,2,3	6.15	A

## Junction Network Options

Driving Side	Lighting	Road Surface	In London
Left	Normal/unknown	Normal/unknown	

# Arms

## Arms

Name	Arm	Name	Description
Rowley Lane (E)	1	Rowley Lane (E)	
Rowley Lane (W)	2	Rowley Lane (W)	
Highgate Lane	3	Highgate Lane	

## Capacity Options

Name	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)
Rowley Lane (E)	0.00	99999.00
Rowley Lane (W)	0.00	99999.00
Highgate Lane	0.00	99999.00

## Mini Roundabout Geometry

Name	Approach road half-width (m)	Minimum approach road half-width (m)	Entry width (m)	Effective flare length (m)	Distance to next arm (m)	Entry corner kerb line distance (m)	Gradient over 50m (%)	Kerbed central island
Rowley Lane (E)	2.56	2.55	3.85	15.50	9.84	5.95	0.00	
Rowley Lane (W)	3.25	3.24	4.77	1.70	7.40	4.42	0.00	
Highgate Lane	3.42	3.41	3.60	1.00	11.63	10.60	0.00	

## Slope / Intercept / Capacity

### Roundabout Slope and Intercept used in model

Name	Enter slope and intercept directly	Entered slope	Entered intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
Rowley Lane (E)		(calculated)	(calculated)	0.533	960.580
Rowley Lane (W)		(calculated)	(calculated)	0.536	829.179
Highgate Lane		(calculated)	(calculated)	0.536	837.051

*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

Name	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
Rowley Lane (E)	ONE HOUR	✓	204.00	100.000
Rowley Lane (W)	ONE HOUR	✓	251.00	100.000
Highgate Lane	ONE HOUR	✓	135.00	100.000

# Turning Proportions

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

		To		
		Rowley Lane (E)	Rowley Lane (W)	Highgate Lane
From	Rowley Lane (E)	0.000	162.000	42.000
	Rowley Lane (W)	194.000	0.000	57.000
	Highgate Lane	51.000	84.000	0.000

## Turning Proportions (PCU) - (untitled) (for whole period)

		To		
		Rowley Lane (E)	Rowley Lane (W)	Highgate Lane
From	Rowley Lane (E)	0.00	0.79	0.21
	Rowley Lane (W)	0.77	0.00	0.23
	Highgate Lane	0.38	0.62	0.00

# Vehicle Mix

## Average PCU Per Vehicle - (untitled) (for whole period)

		To		
		Rowley Lane (E)	Rowley Lane (W)	Highgate Lane
From	Rowley Lane (E)	1.000	1.000	1.000
	Rowley Lane (W)	1.000	1.000	1.000
	Highgate Lane	1.000	1.000	1.000

## Heavy Vehicle Percentages - (untitled) (for whole period)

		To		
		Rowley Lane (E)	Rowley Lane (W)	Highgate Lane
From	Rowley Lane (E)	0.0	0.0	0.0
	Rowley Lane (W)	0.0	0.0	0.0
	Highgate Lane	0.0	0.0	0.0

# Results

## Results Summary for whole modelled period

Name	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
Rowley Lane (E)	0.25	5.24	0.33	A
Rowley Lane (W)	0.34	6.82	0.52	A
Highgate Lane	0.21	6.27	0.26	A

## Main Results for each time segment

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

Name	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
Rowley Lane (E)	153.58	152.79	62.86	0.00	927.06	0.166	0.20	4.644	A
Rowley Lane (W)	188.97	187.76	31.46	0.00	812.32	0.233	0.30	5.754	A
Highgate Lane	101.64	101.02	145.12	0.00	759.31	0.134	0.15	5.464	A

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

Name	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
Rowley Lane (E)	183.39	183.19	75.41	0.00	920.36	0.199	0.25	4.882	A
Rowley Lane (W)	225.64	225.31	37.72	0.00	808.96	0.279	0.38	6.166	A
Highgate Lane	121.36	121.20	174.15	0.00	743.77	0.163	0.19	5.781	A

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

Name	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
Rowley Lane (E)	224.61	224.30	92.33	0.00	911.34	0.246	0.32	5.237	A
Rowley Lane (W)	276.36	275.82	46.18	0.00	804.43	0.344	0.52	6.803	A
Highgate Lane	148.64	148.39	213.18	0.00	722.86	0.206	0.26	6.263	A

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

Name	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
Rowley Lane (E)	224.61	224.60	92.48	0.00	911.26	0.246	0.33	5.242	A
Rowley Lane (W)	276.36	276.34	46.24	0.00	804.40	0.344	0.52	6.816	A
Highgate Lane	148.64	148.63	213.59	0.00	722.64	0.206	0.26	6.271	A

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

Name	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
Rowley Lane (E)	183.39	183.69	75.67	0.00	920.23	0.199	0.25	4.891	A
Rowley Lane (W)	225.64	226.16	37.82	0.00	808.91	0.279	0.39	6.184	A
Highgate Lane	121.36	121.61	174.80	0.00	743.42	0.163	0.20	5.791	A

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

Name	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
Rowley Lane (E)	153.58	153.78	63.34	0.00	926.80	0.166	0.20	4.657	A
Rowley Lane (W)	188.97	189.31	31.66	0.00	812.21	0.233	0.31	5.784	A
Highgate Lane	101.64	101.80	146.32	0.00	758.68	0.134	0.16	5.483	A

<b>Junctions 8</b>
<b>ARCADY 8 - Roundabout Module</b>
Version: 8.0.5.523 [19102,19/06/2015] © Copyright TRL Limited, 2016
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**Filename:** Rowley Lane - Highgate Lane Rbout Model.arc8  
**Path:** O:\Rowley Lane, Lepton\ANALYSIS\ARCADY\Rowley Lane - Highgate Lane Rbout  
**Report generation date:** 21/09/2016 14:19:54

- « (Default Analysis Set) - 2021 GROWTHED COUNT, PM
- » Junction Network
- » Arms
- » Traffic Flows
- » Entry Flows
- » Turning Proportions
- » Vehicle Mix
- » Results

### Summary of junction performance

	PM			
	Queue (PCU)	Delay (s)	RFC	LOS
	<b>A1 - 2021 GROWTHED COUNT</b>			
Rowley Lane (E)	0.78	7.00	0.44	A
Rowley Lane (W)	0.40	6.55	0.29	A
Highgate Lane	0.30	6.19	0.23	A

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

- "D1 - 2016 COUNT, AM" model duration: 07:45 - 09:15
- "D2 - 2016 COUNT, PM" model duration: 16:45 - 18:15
- "D3 - 2021 GROWTHED COUNT, AM" model duration: 07:45 - 09:15
- "D4 - 2021 GROWTHED COUNT, PM" model duration: 16:45 - 18:15
- "D5 - 2016 DESIGN, AM" model duration: 07:45 - 09:15
- "D6 - 2016 DESIGN, PM" model duration: 16:45 - 18:15
- "D7 - 2021 DESIGN, AM" model duration: 07:45 - 09:15
- "D8 - 2021 DESIGN, PM" model duration: 16:45 - 18:15
- "D9 - 2021 DESIGN SENSITIVITY, AM" model duration: 07:45 - 09:15
- "D10 - 2021 DESIGN SENSITIVITY, PM" model duration: 16:45 - 18:15

Run using Junctions 8.0.5.523 at 21/09/2016 14:19:54

## File summary

Title	(untitled)
Location	
Site Number	
Date	03/08/2016
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	Optima
Description	

## Analysis Options

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

## Units

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

# (Default Analysis Set) - 2021 GROWTHED COUNT, PM

## Data Errors and Warnings

*No errors or warnings*

## Analysis Set Details

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

## Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
2021 GROWTHED COUNT, PM	2021 GROWTHED COUNT	PM		ONE HOUR	16:45	18:15	90	15		

# Junction Network

## Junctions

Junction	Name	Junction Type	Arm Order	Junction Delay (s)	Junction LOS
1	(untitled)	Mini-roundabout	1,2,3	6.70	A

## Junction Network Options

Driving Side	Lighting	Road Surface	In London
Left	Normal/unknown	Normal/unknown	



# Arms

## Arms

Name	Arm	Name	Description
Rowley Lane (E)	1	Rowley Lane (E)	
Rowley Lane (W)	2	Rowley Lane (W)	
Highgate Lane	3	Highgate Lane	

## Capacity Options

Name	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)
Rowley Lane (E)	0.00	99999.00
Rowley Lane (W)	0.00	99999.00
Highgate Lane	0.00	99999.00

## Mini Roundabout Geometry

Name	Approach road half-width (m)	Minimum approach road half-width (m)	Entry width (m)	Effective flare length (m)	Distance to next arm (m)	Entry corner kerb line distance (m)	Gradient over 50m (%)	Kerbed central island
Rowley Lane (E)	2.56	2.55	3.85	15.50	9.84	5.95	0.00	
Rowley Lane (W)	3.25	3.24	4.77	1.70	7.40	4.42	0.00	
Highgate Lane	3.42	3.41	3.60	1.00	11.63	10.60	0.00	

## Slope / Intercept / Capacity

### Roundabout Slope and Intercept used in model

Name	Enter slope and intercept directly	Entered slope	Entered intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
Rowley Lane (E)		(calculated)	(calculated)	0.533	960.580
Rowley Lane (W)		(calculated)	(calculated)	0.536	829.179
Highgate Lane		(calculated)	(calculated)	0.536	837.051

*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

Name	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
Rowley Lane (E)	ONE HOUR	✓	367.00	100.000
Rowley Lane (W)	ONE HOUR	✓	203.00	100.000
Highgate Lane	ONE HOUR	✓	158.00	100.000

# Turning Proportions

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

		To		
		Rowley Lane (E)	Rowley Lane (W)	Highgate Lane
From	Rowley Lane (E)	0.000	272.000	95.000
	Rowley Lane (W)	138.000	0.000	65.000
	Highgate Lane	86.000	72.000	0.000

## Turning Proportions (PCU) - (untitled) (for whole period)

		To		
		Rowley Lane (E)	Rowley Lane (W)	Highgate Lane
From	Rowley Lane (E)	0.00	0.74	0.26
	Rowley Lane (W)	0.68	0.00	0.32
	Highgate Lane	0.54	0.46	0.00

# Vehicle Mix

## Average PCU Per Vehicle - (untitled) (for whole period)

		To		
		Rowley Lane (E)	Rowley Lane (W)	Highgate Lane
From	Rowley Lane (E)	1.000	1.000	1.000
	Rowley Lane (W)	1.000	1.000	1.000
	Highgate Lane	1.000	1.000	1.000

## Heavy Vehicle Percentages - (untitled) (for whole period)

		To		
		Rowley Lane (E)	Rowley Lane (W)	Highgate Lane
From	Rowley Lane (E)	0.0	0.0	0.0
	Rowley Lane (W)	0.0	0.0	0.0
	Highgate Lane	0.0	0.0	0.0

# Results

## Results Summary for whole modelled period

Name	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
Rowley Lane (E)	0.44	7.00	0.78	A
Rowley Lane (W)	0.29	6.55	0.40	A
Highgate Lane	0.23	6.19	0.30	A

## Main Results for each time segment

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

Name	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
Rowley Lane (E)	276.30	274.63	53.88	0.00	931.85	0.297	0.42	5.465	A
Rowley Lane (W)	152.83	151.88	71.09	0.00	791.08	0.193	0.24	5.624	A
Highgate Lane	118.95	118.24	103.25	0.00	781.75	0.152	0.18	5.420	A

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

Name	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
Rowley Lane (E)	329.93	329.41	64.64	0.00	926.11	0.356	0.55	6.028	A
Rowley Lane (W)	182.49	182.24	85.27	0.00	783.48	0.233	0.30	5.984	A
Highgate Lane	142.04	141.85	123.89	0.00	770.69	0.184	0.22	5.723	A

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

Name	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
Rowley Lane (E)	404.07	403.16	79.14	0.00	918.38	0.440	0.78	6.974	A
Rowley Lane (W)	223.51	223.10	104.36	0.00	773.25	0.289	0.40	6.540	A
Highgate Lane	173.96	173.67	151.66	0.00	755.81	0.230	0.30	6.181	A

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

Name	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
Rowley Lane (E)	404.07	404.05	79.27	0.00	918.31	0.440	0.78	6.999	A
Rowley Lane (W)	223.51	223.50	104.59	0.00	773.12	0.289	0.40	6.549	A
Highgate Lane	173.96	173.96	151.94	0.00	755.67	0.230	0.30	6.188	A

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

Name	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
Rowley Lane (E)	329.93	330.81	64.85	0.00	926.00	0.356	0.56	6.056	A
Rowley Lane (W)	182.49	182.89	85.63	0.00	783.28	0.233	0.31	5.999	A
Highgate Lane	142.04	142.32	124.33	0.00	770.45	0.184	0.23	5.735	A

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

Name	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
Rowley Lane (E)	276.30	276.83	54.29	0.00	931.63	0.297	0.43	5.501	A
Rowley Lane (W)	152.83	153.09	71.66	0.00	790.77	0.193	0.24	5.649	A
Highgate Lane	118.95	119.14	104.07	0.00	781.30	0.152	0.18	5.439	A

Junctions 8
ARCADY 8 - Roundabout Module
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**Filename:** Rowley Lane - Highgate Lane Rbout Model.arc8  
**Path:** O:\Rowley Lane, Lepton\ANALYSIS\ARCADY\Rowley Lane - Highgate Lane Rbout  
**Report generation date:** 21/09/2016 11:33:25

- « (Default Analysis Set) - 2021 DESIGN, AM
- » Junction Network
- » Arms
- » Traffic Flows
- » Entry Flows
- » Turning Proportions
- » Vehicle Mix
- » Results

### Summary of junction performance

	AM			
	Queue (PCU)	Delay (s)	RFC	LOS
	A1 - 2021 DESIGN			
Rowley Lane (E)	0.36	5.42	0.27	A
Rowley Lane (W)	0.69	7.59	0.41	A
Highgate Lane	0.29	6.62	0.22	A

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

- "D1 - 2016 COUNT, AM" model duration: 07:45 - 09:15
- "D2 - 2016 COUNT, PM" model duration: 16:45 - 18:15
- "D3 - 2021 GROWTHED COUNT, AM" model duration: 07:45 - 09:15
- "D4 - 2021 GROWTHED COUNT, PM" model duration: 16:45 - 18:15
- "D5 - 2016 DESIGN, AM" model duration: 07:45 - 09:15
- "D6 - 2016 DESIGN, PM" model duration: 16:45 - 18:15
- "D7 - 2021 DESIGN, AM " model duration: 07:45 - 09:15
- "D8 - 2021 DESIGN, PM" model duration: 16:45 - 18:15
- "D9 - 2021 DESIGN SENSITIVITY, AM" model duration: 07:45 - 09:15
- "D10 - 2021 DESIGN SENSITIVITY, PM" model duration: 16:45 - 18:15

Run using Junctions 8.0.5.523 at 21/09/2016 11:33:24

## File summary

Title	(untitled)
Location	
Site Number	
Date	03/08/2016
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	Optima
Description	

## Analysis Options

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

## Units

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

# (Default Analysis Set) - 2021 DESIGN, AM

## Data Errors and Warnings

*No errors or warnings*

## Analysis Set Details

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

## Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
2021 DESIGN, AM	2021 DESIGN	AM		ONE HOUR	07:45	09:15	90	15		

# Junction Network

## Junctions

Junction	Name	Junction Type	Arm Order	Junction Delay (s)	Junction LOS
1	(untitled)	Mini-roundabout	1,2,3	6.66	A

## Junction Network Options

Driving Side	Lighting	Road Surface	In London
Left	Normal/unknown	Normal/unknown	

# Arms

## Arms

Name	Arm	Name	Description
Rowley Lane (E)	1	Rowley Lane (E)	
Rowley Lane (W)	2	Rowley Lane (W)	
Highgate Lane	3	Highgate Lane	

## Capacity Options

Name	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)
Rowley Lane (E)	0.00	99999.00
Rowley Lane (W)	0.00	99999.00
Highgate Lane	0.00	99999.00

## Mini Roundabout Geometry

Name	Approach road half-width (m)	Minimum approach road half-width (m)	Entry width (m)	Effective flare length (m)	Distance to next arm (m)	Entry corner kerb line distance (m)	Gradient over 50m (%)	Kerbed central island
Rowley Lane (E)	2.56	2.55	3.85	15.50	9.84	5.95	0.00	
Rowley Lane (W)	3.25	3.24	4.77	1.70	7.40	4.42	0.00	
Highgate Lane	3.42	3.41	3.60	1.00	11.63	10.60	0.00	

## Slope / Intercept / Capacity

### Roundabout Slope and Intercept used in model

Name	Enter slope and intercept directly	Entered slope	Entered intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
Rowley Lane (E)		(calculated)	(calculated)	0.533	960.580
Rowley Lane (W)		(calculated)	(calculated)	0.536	829.179
Highgate Lane		(calculated)	(calculated)	0.536	837.051

*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

Name	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
Rowley Lane (E)	ONE HOUR	✓	220.00	100.000
Rowley Lane (W)	ONE HOUR	✓	300.00	100.000
Highgate Lane	ONE HOUR	✓	143.00	100.000

# Turning Proportions

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

		To		
		Rowley Lane (E)	Rowley Lane (W)	Highgate Lane
From	Rowley Lane (E)	0.000	178.000	42.000
	Rowley Lane (W)	231.000	0.000	69.000
	Highgate Lane	51.000	92.000	0.000

## Turning Proportions (PCU) - (untitled) (for whole period)

		To		
		Rowley Lane (E)	Rowley Lane (W)	Highgate Lane
From	Rowley Lane (E)	0.00	0.81	0.19
	Rowley Lane (W)	0.77	0.00	0.23
	Highgate Lane	0.36	0.64	0.00

# Vehicle Mix

## Average PCU Per Vehicle - (untitled) (for whole period)

		To		
		Rowley Lane (E)	Rowley Lane (W)	Highgate Lane
From	Rowley Lane (E)	1.000	1.000	1.000
	Rowley Lane (W)	1.000	1.000	1.000
	Highgate Lane	1.000	1.000	1.000

## Heavy Vehicle Percentages - (untitled) (for whole period)

		To		
		Rowley Lane (E)	Rowley Lane (W)	Highgate Lane
From	Rowley Lane (E)	0.0	0.0	0.0
	Rowley Lane (W)	0.0	0.0	0.0
	Highgate Lane	0.0	0.0	0.0



# Results

## Results Summary for whole modelled period

Name	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
Rowley Lane (E)	0.27	5.42	0.36	A
Rowley Lane (W)	0.41	7.59	0.69	A
Highgate Lane	0.22	6.62	0.29	A

## Main Results for each time segment

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

Name	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
Rowley Lane (E)	165.63	164.76	68.83	0.00	923.88	0.179	0.22	4.738	A
Rowley Lane (W)	225.86	224.33	31.45	0.00	812.32	0.278	0.38	6.106	A
Highgate Lane	107.66	106.99	172.73	0.00	744.52	0.145	0.17	5.641	A

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

Name	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
Rowley Lane (E)	197.78	197.55	82.59	0.00	916.54	0.216	0.27	5.006	A
Rowley Lane (W)	269.69	269.24	37.71	0.00	808.97	0.333	0.49	6.664	A
Highgate Lane	128.55	128.37	207.32	0.00	726.00	0.177	0.21	6.022	A

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

Name	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
Rowley Lane (E)	242.22	241.87	101.10	0.00	906.66	0.267	0.36	5.413	A
Rowley Lane (W)	330.31	329.54	46.18	0.00	804.43	0.411	0.69	7.568	A
Highgate Lane	157.45	157.15	253.74	0.00	701.13	0.225	0.29	6.615	A

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

Name	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
Rowley Lane (E)	242.22	242.22	101.29	0.00	906.57	0.267	0.36	5.418	A
Rowley Lane (W)	330.31	330.29	46.24	0.00	804.40	0.411	0.69	7.592	A
Highgate Lane	157.45	157.44	254.32	0.00	700.82	0.225	0.29	6.624	A

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

Name	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
Rowley Lane (E)	197.78	198.12	82.89	0.00	916.38	0.216	0.28	5.014	A
Rowley Lane (W)	269.69	270.44	37.82	0.00	808.91	0.333	0.51	6.696	A
Highgate Lane	128.55	128.84	208.24	0.00	725.51	0.177	0.22	6.035	A

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

Name	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
Rowley Lane (E)	165.63	165.86	69.38	0.00	923.58	0.179	0.22	4.753	A
Rowley Lane (W)	225.86	226.32	31.66	0.00	812.21	0.278	0.39	6.148	A
Highgate Lane	107.66	107.84	174.27	0.00	743.70	0.145	0.17	5.662	A

Junctions 8
ARCADY 8 - Roundabout Module
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**Filename:** Rowley Lane - Highgate Lane Rbout Model.arc8  
**Path:** O:\Rowley Lane, Lepton\ANALYSIS\ARCADY\Rowley Lane - Highgate Lane Rbout  
**Report generation date:** 21/09/2016 11:33:49

- « (Default Analysis Set) - 2021 DESIGN, PM
- » Junction Network
- » Arms
- » Traffic Flows
- » Entry Flows
- » Turning Proportions
- » Vehicle Mix
- » Results

### Summary of junction performance

	PM			
	Queue (PCU)	Delay (s)	RFC	LOS
A1 - 2021 DESIGN				
Rowley Lane (E)	0.95	7.71	0.49	A
Rowley Lane (W)	0.47	6.84	0.32	A
Highgate Lane	0.33	6.40	0.25	A

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

- "D1 - 2016 COUNT, AM" model duration: 07:45 - 09:15
- "D2 - 2016 COUNT, PM" model duration: 16:45 - 18:15
- "D3 - 2021 GROWTHED COUNT, AM" model duration: 07:45 - 09:15
- "D4 - 2021 GROWTHED COUNT, PM" model duration: 16:45 - 18:15
- "D5 - 2016 DESIGN, AM" model duration: 07:45 - 09:15
- "D6 - 2016 DESIGN, PM" model duration: 16:45 - 18:15
- "D7 - 2021 DESIGN, AM" model duration: 07:45 - 09:15
- "D8 - 2021 DESIGN, PM" model duration: 16:45 - 18:15
- "D9 - 2021 DESIGN SENSITIVITY, AM" model duration: 07:45 - 09:15
- "D10 - 2021 DESIGN SENSITIVITY, PM" model duration: 16:45 - 18:15

Run using Junctions 8.0.5.523 at 21/09/2016 11:33:48

## File summary

Title	(untitled)
Location	
Site Number	
Date	03/08/2016
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	Optima
Description	

## Analysis Options

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

## Units

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

# (Default Analysis Set) - 2021 DESIGN, PM

## Data Errors and Warnings

*No errors or warnings*

## Analysis Set Details

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

## Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
2021 DESIGN, PM	2021 DESIGN	PM		ONE HOUR	16:45	18:15	90	15		

# Junction Network

## Junctions

Junction	Name	Junction Type	Arm Order	Junction Delay (s)	Junction LOS
1	(untitled)	Mini-roundabout	1,2,3	7.19	A

## Junction Network Options

Driving Side	Lighting	Road Surface	In London
Left	Normal/unknown	Normal/unknown	

# Arms

## Arms

Name	Arm	Name	Description
Rowley Lane (E)	1	Rowley Lane (E)	
Rowley Lane (W)	2	Rowley Lane (W)	
Highgate Lane	3	Highgate Lane	

## Capacity Options

Name	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)
Rowley Lane (E)	0.00	99999.00
Rowley Lane (W)	0.00	99999.00
Highgate Lane	0.00	99999.00

## Mini Roundabout Geometry

Name	Approach road half-width (m)	Minimum approach road half-width (m)	Entry width (m)	Effective flare length (m)	Distance to next arm (m)	Entry corner kerb line distance (m)	Gradient over 50m (%)	Kerbed central island
Rowley Lane (E)	2.56	2.55	3.85	15.50	9.84	5.95	0.00	
Rowley Lane (W)	3.25	3.24	4.77	1.70	7.40	4.42	0.00	
Highgate Lane	3.42	3.41	3.60	1.00	11.63	10.60	0.00	

## Slope / Intercept / Capacity

### Roundabout Slope and Intercept used in model

Name	Enter slope and intercept directly	Entered slope	Entered intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
Rowley Lane (E)		(calculated)	(calculated)	0.533	960.580
Rowley Lane (W)		(calculated)	(calculated)	0.536	829.179
Highgate Lane		(calculated)	(calculated)	0.536	837.051

*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

Name	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
Rowley Lane (E)	ONE HOUR	✓	405.00	100.000
Rowley Lane (W)	ONE HOUR	✓	224.00	100.000
Highgate Lane	ONE HOUR	✓	168.00	100.000

# Turning Proportions

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

		To		
		Rowley Lane (E)	Rowley Lane (W)	Highgate Lane
From	Rowley Lane (E)	0.000	310.000	95.000
	Rowley Lane (W)	152.000	0.000	72.000
	Highgate Lane	86.000	82.000	0.000

## Turning Proportions (PCU) - (untitled) (for whole period)

		To		
		Rowley Lane (E)	Rowley Lane (W)	Highgate Lane
From	Rowley Lane (E)	0.00	0.77	0.23
	Rowley Lane (W)	0.68	0.00	0.32
	Highgate Lane	0.51	0.49	0.00

# Vehicle Mix

## Average PCU Per Vehicle - (untitled) (for whole period)

		To		
		Rowley Lane (E)	Rowley Lane (W)	Highgate Lane
From	Rowley Lane (E)	1.000	1.000	1.000
	Rowley Lane (W)	1.000	1.000	1.000
	Highgate Lane	1.000	1.000	1.000

## Heavy Vehicle Percentages - (untitled) (for whole period)

		To		
		Rowley Lane (E)	Rowley Lane (W)	Highgate Lane
From	Rowley Lane (E)	0.0	0.0	0.0
	Rowley Lane (W)	0.0	0.0	0.0
	Highgate Lane	0.0	0.0	0.0

# Results

## Results Summary for whole modelled period

Name	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
Rowley Lane (E)	0.49	7.71	0.95	A
Rowley Lane (W)	0.32	6.84	0.47	A
Highgate Lane	0.25	6.40	0.33	A

## Main Results for each time segment

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

Name	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
Rowley Lane (E)	304.91	302.97	61.36	0.00	927.86	0.329	0.48	5.744	A
Rowley Lane (W)	168.64	167.56	71.07	0.00	791.09	0.213	0.27	5.764	A
Highgate Lane	126.48	125.71	113.70	0.00	776.14	0.163	0.19	5.526	A

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

Name	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
Rowley Lane (E)	364.09	363.44	73.62	0.00	921.32	0.395	0.65	6.444	A
Rowley Lane (W)	201.37	201.07	85.25	0.00	783.49	0.257	0.34	6.178	A
Highgate Lane	151.03	150.82	136.44	0.00	763.96	0.198	0.24	5.870	A

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

Name	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
Rowley Lane (E)	445.91	444.74	90.12	0.00	912.52	0.489	0.94	7.675	A
Rowley Lane (W)	246.63	246.15	104.32	0.00	773.27	0.319	0.46	6.824	A
Highgate Lane	184.97	184.65	167.03	0.00	747.58	0.247	0.33	6.390	A

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

Name	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
Rowley Lane (E)	445.91	445.88	90.28	0.00	912.44	0.489	0.95	7.714	A
Rowley Lane (W)	246.63	246.62	104.59	0.00	773.12	0.319	0.47	6.836	A
Highgate Lane	184.97	184.97	167.35	0.00	747.41	0.247	0.33	6.399	A

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

Name	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
Rowley Lane (E)	364.09	365.23	73.87	0.00	921.19	0.395	0.66	6.490	A
Rowley Lane (W)	201.37	201.84	85.67	0.00	783.26	0.257	0.35	6.196	A
Highgate Lane	151.03	151.34	136.96	0.00	763.69	0.198	0.25	5.883	A

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

Name	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
Rowley Lane (E)	304.91	305.57	61.84	0.00	927.61	0.329	0.49	5.793	A
Rowley Lane (W)	168.64	168.94	71.68	0.00	790.76	0.213	0.27	5.793	A
Highgate Lane	126.48	126.69	114.64	0.00	775.64	0.163	0.20	5.550	A



<b>Junctions 8</b>
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**Filename:** Rowley Lane - Highgate Lane Rbout Model.arc8  
**Path:** O:\Rowley Lane, Lepton\ANALYSIS\ARCADY\Rowley Lane - Highgate Lane Rbout  
**Report generation date:** 21/09/2016 11:34:11

- « (Default Analysis Set) - 2021 DESIGN SENSITIVITY, AM
- » Junction Network
- » Arms
- » Traffic Flows
- » Entry Flows
- » Turning Proportions
- » Vehicle Mix
- » Results

### Summary of junction performance

	AM			
	Queue (PCU)	Delay (s)	RFC	LOS
	<b>A1 - 2021 DESIGN SENSITIVITY</b>			
Rowley Lane (E)	0.37	5.45	0.27	A
Rowley Lane (W)	0.72	7.72	0.42	A
Highgate Lane	0.29	6.68	0.23	A

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

- "D1 - 2016 COUNT, AM" model duration: 07:45 - 09:15
- "D2 - 2016 COUNT, PM" model duration: 16:45 - 18:15
- "D3 - 2021 GROWTHED COUNT, AM" model duration: 07:45 - 09:15
- "D4 - 2021 GROWTHED COUNT, PM" model duration: 16:45 - 18:15
- "D5 - 2016 DESIGN, AM" model duration: 07:45 - 09:15
- "D6 - 2016 DESIGN, PM" model duration: 16:45 - 18:15
- "D7 - 2021 DESIGN, AM" model duration: 07:45 - 09:15
- "D8 - 2021 DESIGN, PM" model duration: 16:45 - 18:15
- "D9 - 2021 DESIGN SENSITIVITY, AM " model duration: 07:45 - 09:15
- "D10 - 2021 DESIGN SENSITIVITY, PM" model duration: 16:45 - 18:15

Run using Junctions 8.0.5.523 at 21/09/2016 11:34:11

## File summary

Title	(untitled)
Location	
Site Number	
Date	03/08/2016
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	Optima
Description	

## Analysis Options

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

## Units

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

# (Default Analysis Set) - 2021 DESIGN SENSITIVITY, AM

## Data Errors and Warnings

*No errors or warnings*

## Analysis Set Details

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

## Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
2021 DESIGN SENSITIVITY, AM	2021 DESIGN SENSITIVITY	AM		ONE HOUR	07:45	09:15	90	15		

# Junction Network

## Junctions

Junction	Name	Junction Type	Arm Order	Junction Delay (s)	Junction LOS
1	(untitled)	Mini-roundabout	1,2,3	6.75	A

## Junction Network Options

Driving Side	Lighting	Road Surface	In London
Left	Normal/unknown	Normal/unknown	

# Arms

## Arms

Name	Arm	Name	Description
Rowley Lane (E)	1	Rowley Lane (E)	
Rowley Lane (W)	2	Rowley Lane (W)	
Highgate Lane	3	Highgate Lane	

## Capacity Options

Name	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)
Rowley Lane (E)	0.00	99999.00
Rowley Lane (W)	0.00	99999.00
Highgate Lane	0.00	99999.00

## Mini Roundabout Geometry

Name	Approach road half-width (m)	Minimum approach road half-width (m)	Entry width (m)	Effective flare length (m)	Distance to next arm (m)	Entry corner kerb line distance (m)	Gradient over 50m (%)	Kerbed central island
Rowley Lane (E)	2.56	2.55	3.85	15.50	9.84	5.95	0.00	
Rowley Lane (W)	3.25	3.24	4.77	1.70	7.40	4.42	0.00	
Highgate Lane	3.42	3.41	3.60	1.00	11.63	10.60	0.00	

## Slope / Intercept / Capacity

### Roundabout Slope and Intercept used in model

Name	Enter slope and intercept directly	Entered slope	Entered intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
Rowley Lane (E)		(calculated)	(calculated)	0.533	960.580
Rowley Lane (W)		(calculated)	(calculated)	0.536	829.179
Highgate Lane		(calculated)	(calculated)	0.536	837.051

*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

Name	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
Rowley Lane (E)	ONE HOUR	✓	223.00	100.000
Rowley Lane (W)	ONE HOUR	✓	307.00	100.000
Highgate Lane	ONE HOUR	✓	144.00	100.000

# Turning Proportions

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

		To		
		Rowley Lane (E)	Rowley Lane (W)	Highgate Lane
From	Rowley Lane (E)	0.000	181.000	42.000
	Rowley Lane (W)	237.000	0.000	70.000
	Highgate Lane	51.000	93.000	0.000

## Turning Proportions (PCU) - (untitled) (for whole period)

		To		
		Rowley Lane (E)	Rowley Lane (W)	Highgate Lane
From	Rowley Lane (E)	0.00	0.81	0.19
	Rowley Lane (W)	0.77	0.00	0.23
	Highgate Lane	0.35	0.65	0.00

# Vehicle Mix

## Average PCU Per Vehicle - (untitled) (for whole period)

		To		
		Rowley Lane (E)	Rowley Lane (W)	Highgate Lane
From	Rowley Lane (E)	1.000	1.000	1.000
	Rowley Lane (W)	1.000	1.000	1.000
	Highgate Lane	1.000	1.000	1.000

## Heavy Vehicle Percentages - (untitled) (for whole period)

		To		
		Rowley Lane (E)	Rowley Lane (W)	Highgate Lane
From	Rowley Lane (E)	0.0	0.0	0.0
	Rowley Lane (W)	0.0	0.0	0.0
	Highgate Lane	0.0	0.0	0.0

# Results

## Results Summary for whole modelled period

Name	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
Rowley Lane (E)	0.27	5.45	0.37	A
Rowley Lane (W)	0.42	7.72	0.72	A
Highgate Lane	0.23	6.68	0.29	A

## Main Results for each time segment

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

Name	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
Rowley Lane (E)	167.89	167.00	69.58	0.00	923.48	0.182	0.22	4.754	A
Rowley Lane (W)	231.13	229.55	31.45	0.00	812.32	0.285	0.39	6.161	A
Highgate Lane	108.41	107.73	177.21	0.00	742.13	0.146	0.17	5.669	A

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

Name	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
Rowley Lane (E)	200.47	200.24	83.48	0.00	916.06	0.219	0.28	5.028	A
Rowley Lane (W)	275.99	275.51	37.71	0.00	808.97	0.341	0.51	6.743	A
Highgate Lane	129.45	129.27	212.69	0.00	723.12	0.179	0.22	6.060	A

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

Name	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
Rowley Lane (E)	245.53	245.17	102.20	0.00	906.08	0.271	0.37	5.445	A
Rowley Lane (W)	338.01	337.20	46.17	0.00	804.43	0.420	0.71	7.690	A
Highgate Lane	158.55	158.25	260.32	0.00	697.61	0.227	0.29	6.672	A

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

Name	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
Rowley Lane (E)	245.53	245.52	102.39	0.00	905.98	0.271	0.37	5.450	A
Rowley Lane (W)	338.01	337.99	46.24	0.00	804.40	0.420	0.72	7.718	A
Highgate Lane	158.55	158.54	260.93	0.00	697.28	0.227	0.29	6.681	A

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

Name	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
Rowley Lane (E)	200.47	200.82	83.79	0.00	915.90	0.219	0.28	5.036	A
Rowley Lane (W)	275.99	276.77	37.82	0.00	808.91	0.341	0.52	6.774	A
Highgate Lane	129.45	129.74	213.66	0.00	722.60	0.179	0.22	6.077	A

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

Name	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
Rowley Lane (E)	167.89	168.12	70.14	0.00	923.18	0.182	0.22	4.768	A
Rowley Lane (W)	231.13	231.61	31.66	0.00	812.21	0.285	0.40	6.207	A
Highgate Lane	108.41	108.60	178.80	0.00	741.27	0.146	0.17	5.691	A

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**Filename:** Rowley Lane - Highgate Lane Rbout Model.arc8  
**Path:** O:\Rowley Lane, Lepton\ANALYSIS\ARCADY\Rowley Lane - Highgate Lane Rbout  
**Report generation date:** 21/09/2016 11:34:28

- « (Default Analysis Set) - 2021 DESIGN SENSITIVITY, PM
- » Junction Network
- » Arms
- » Traffic Flows
- » Entry Flows
- » Turning Proportions
- » Vehicle Mix
- » Results

### Summary of junction performance

	PM			
	Queue (PCU)	Delay (s)	RFC	LOS
	A1 - 2021 DESIGN SENSITIVITY			
Rowley Lane (E)	0.98	7.84	0.50	A
Rowley Lane (W)	0.49	6.94	0.33	A
Highgate Lane	0.33	6.45	0.25	A

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

- "D1 - 2016 COUNT, AM" model duration: 07:45 - 09:15
- "D2 - 2016 COUNT, PM" model duration: 16:45 - 18:15
- "D3 - 2021 GROWTHED COUNT, AM" model duration: 07:45 - 09:15
- "D4 - 2021 GROWTHED COUNT, PM" model duration: 16:45 - 18:15
- "D5 - 2016 DESIGN, AM" model duration: 07:45 - 09:15
- "D6 - 2016 DESIGN, PM" model duration: 16:45 - 18:15
- "D7 - 2021 DESIGN, AM" model duration: 07:45 - 09:15
- "D8 - 2021 DESIGN, PM" model duration: 16:45 - 18:15
- "D9 - 2021 DESIGN SENSITIVITY, AM" model duration: 07:45 - 09:15
- "D10 - 2021 DESIGN SENSITIVITY, PM" model duration: 16:45 - 18:15

Run using Junctions 8.0.5.523 at 21/09/2016 11:34:28

## File summary

Title	(untitled)
Location	
Site Number	
Date	03/08/2016
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	Optima
Description	

## Analysis Options

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

## Units

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

# (Default Analysis Set) - 2021 DESIGN SENSITIVITY, PM

## Data Errors and Warnings

*No errors or warnings*

## Analysis Set Details

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

## Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
2021 DESIGN SENSITIVITY, PM	2021 DESIGN SENSITIVITY	PM		ONE HOUR	16:45	18:15	90	15		

# Junction Network

## Junctions

Junction	Name	Junction Type	Arm Order	Junction Delay (s)	Junction LOS
1	(untitled)	Mini-roundabout	1,2,3	7.29	A

## Junction Network Options

Driving Side	Lighting	Road Surface	In London
Left	Normal/unknown	Normal/unknown	



# Arms

## Arms

Name	Arm	Name	Description
Rowley Lane (E)	1	Rowley Lane (E)	
Rowley Lane (W)	2	Rowley Lane (W)	
Highgate Lane	3	Highgate Lane	

## Capacity Options

Name	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)
Rowley Lane (E)	0.00	99999.00
Rowley Lane (W)	0.00	99999.00
Highgate Lane	0.00	99999.00

## Mini Roundabout Geometry

Name	Approach road half-width (m)	Minimum approach road half-width (m)	Entry width (m)	Effective flare length (m)	Distance to next arm (m)	Entry corner kerb line distance (m)	Gradient over 50m (%)	Kerbed central island
Rowley Lane (E)	2.56	2.55	3.85	15.50	9.84	5.95	0.00	
Rowley Lane (W)	3.25	3.24	4.77	1.70	7.40	4.42	0.00	
Highgate Lane	3.42	3.41	3.60	1.00	11.63	10.60	0.00	

## Slope / Intercept / Capacity

### Roundabout Slope and Intercept used in model

Name	Enter slope and intercept directly	Entered slope	Entered intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
Rowley Lane (E)		(calculated)	(calculated)	0.533	960.580
Rowley Lane (W)		(calculated)	(calculated)	0.536	829.179
Highgate Lane		(calculated)	(calculated)	0.536	837.051

*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

Name	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
Rowley Lane (E)	ONE HOUR	✓	411.00	100.000
Rowley Lane (W)	ONE HOUR	✓	231.00	100.000
Highgate Lane	ONE HOUR	✓	169.00	100.000

# Turning Proportions

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

		To		
		Rowley Lane (E)	Rowley Lane (W)	Highgate Lane
From	Rowley Lane (E)	0.000	316.000	95.000
	Rowley Lane (W)	157.000	0.000	74.000
	Highgate Lane	86.000	83.000	0.000

## Turning Proportions (PCU) - (untitled) (for whole period)

		To		
		Rowley Lane (E)	Rowley Lane (W)	Highgate Lane
From	Rowley Lane (E)	0.00	0.77	0.23
	Rowley Lane (W)	0.68	0.00	0.32
	Highgate Lane	0.51	0.49	0.00

# Vehicle Mix

## Average PCU Per Vehicle - (untitled) (for whole period)

		To		
		Rowley Lane (E)	Rowley Lane (W)	Highgate Lane
From	Rowley Lane (E)	1.000	1.000	1.000
	Rowley Lane (W)	1.000	1.000	1.000
	Highgate Lane	1.000	1.000	1.000

## Heavy Vehicle Percentages - (untitled) (for whole period)

		To		
		Rowley Lane (E)	Rowley Lane (W)	Highgate Lane
From	Rowley Lane (E)	0.0	0.0	0.0
	Rowley Lane (W)	0.0	0.0	0.0
	Highgate Lane	0.0	0.0	0.0

# Results

## Results Summary for whole modelled period

Name	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
Rowley Lane (E)	0.50	7.84	0.98	A
Rowley Lane (W)	0.33	6.94	0.49	A
Highgate Lane	0.25	6.45	0.33	A

## Main Results for each time segment

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

Name	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
Rowley Lane (E)	309.42	307.44	62.10	0.00	927.46	0.334	0.50	5.787	A
Rowley Lane (W)	173.91	172.79	71.06	0.00	791.09	0.220	0.28	5.811	A
Highgate Lane	127.23	126.45	117.44	0.00	774.14	0.164	0.20	5.551	A

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

Name	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
Rowley Lane (E)	369.48	368.81	74.51	0.00	920.84	0.401	0.66	6.513	A
Rowley Lane (W)	207.66	207.35	85.25	0.00	783.49	0.265	0.36	6.246	A
Highgate Lane	151.93	151.72	140.93	0.00	761.56	0.199	0.25	5.902	A

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

Name	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
Rowley Lane (E)	452.52	451.29	91.22	0.00	911.93	0.496	0.97	7.794	A
Rowley Lane (W)	254.34	253.83	104.31	0.00	773.27	0.329	0.48	6.922	A
Highgate Lane	186.07	185.74	172.51	0.00	744.64	0.250	0.33	6.436	A

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

Name	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
Rowley Lane (E)	452.52	452.49	91.38	0.00	911.85	0.496	0.98	7.835	A
Rowley Lane (W)	254.34	254.32	104.59	0.00	773.12	0.329	0.49	6.938	A
Highgate Lane	186.07	186.07	172.85	0.00	744.46	0.250	0.33	6.446	A

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

Name	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
Rowley Lane (E)	369.48	370.68	74.77	0.00	920.71	0.401	0.68	6.558	A
Rowley Lane (W)	207.66	208.16	85.68	0.00	783.26	0.265	0.36	6.266	A
Highgate Lane	151.93	152.25	141.48	0.00	761.27	0.200	0.25	5.915	A

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

Name	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
Rowley Lane (E)	309.42	310.11	62.59	0.00	927.20	0.334	0.51	5.842	A
Rowley Lane (W)	173.91	174.23	71.68	0.00	790.76	0.220	0.28	5.841	A
Highgate Lane	127.23	127.44	118.42	0.00	773.62	0.164	0.20	5.572	A

Junctions 8
PICADY 8 - Priority Intersection Module
Version: 8.0.5.523 [19102,19/06/2015] © Copyright TRL Limited, 2016
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**Filename:** Rowley Lane - A642 - Knotty Lane Crossroads Model.arc8  
**Path:** O:\Rowley Lane, Lepton\ANALYSIS\PICADY\Rowley Ln - A642 - Knotty Ln Crossroads\Crossroads Jnct  
**Report generation date:** 21/09/2016 14:14:26

« (Default Analysis Set) - 2016 COUNT, AM

- » Junction Network
- » Arms
- » Traffic Flows
- » Entry Flows
- » Turning Proportions
- » Vehicle Mix
- » Results

**Summary of junction performance**

	AM			
	Queue (PCU)	Delay (s)	RFC	LOS
	A1 - 2016 COUNT			
Stream B-ACD	3.42	53.67	0.80	F
Stream A-BCD	0.01	5.92	0.01	A
Stream A-B	-	-	-	-
Stream A-C	-	-	-	-
Stream D-ABC	0.08	13.27	0.08	B
Stream C-ABD	0.02	6.21	0.02	A
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 - 2016 COUNT, AM" model duration: 07:45 - 09:15
- "D2 - 2016 COUNT, PM" model duration: 16:45 - 18:15
- "D3 - 2021 GROWTHED COUNT, AM" model duration: 07:45 - 09:15
- "D4 - 2021 GROWTHED COUNT, PM" model duration: 16:45 - 18:15
- "D5 - 2016 DESIGN, AM" model duration: 07:45 - 09:15
- "D6 - 2016 DESIGN, PM" model duration: 16:45 - 18:15
- "D7 - 2021 DESIGN, AM" model duration: 07:45 - 09:15
- "D8 - 2021 DESIGN, PM" model duration: 16:45 - 18:15

Run using Junctions 8.0.5.523 at 21/09/2016 14:14:25

## File summary

Title	(untitled)
Location	
Site Number	
Date	03/08/2016
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	Optima
Description	

## Analysis Options

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

## Units

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

# (Default Analysis Set) - 2016 COUNT, AM

## Data Errors and Warnings

*No errors or warnings*

## Analysis Set Details

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

## Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
2016 COUNT, AM	2016 COUNT	AM		ONE HOUR	07:45	09:15	90	15		

# Junction Network

## Junctions

Junction	Name	Junction Type	Major Road Direction	Arm Order	Junction Delay (s)	Junction LOS
1	(untitled)	Crossroads	Two-way	A,B,C,D	47.81	E

## Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

# Arms

## Arms

Name	Arm	Name	Description	Arm Type
A642 Wakefield Road (E)	A	A642 Wakefield Road (E)		Major
Rowley Lane	B	Rowley Lane		Minor
A642 Wakefield Road (W)	C	A642 Wakefield Road (W)		Major
Knotty Lane	D	Knotty Lane		Minor

## Major Arm Geometry

Name	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)
A642 Wakefield Road (E)	6.60		0.00	✓	3.20	230.00	✓	4.00
A642 Wakefield Road (W)	6.60		0.00	✓	3.20	250.00	✓	4.00

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

## Minor Arm Geometry

Name	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)
Rowley Lane	One lane	3.50										22	52
Knotty Lane	One lane	2.50										23	22

## Slope / Intercept / Capacity

### Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for A-D	Slope for B-A	Slope for B-C	Slope for B-D	Slope for C-A	Slope for C-B	Slope for C-D	Slope for D-A	Slope for D-B	Slope for D-C
1	A-D	784.122	-	-	-	-	-	-	0.296	0.423	0.296	-	-	-
1	B-A	535.759	0.095	0.240	0.240	-	-	-	0.151	0.343	-	0.240	0.240	0.120
1	B-C	689.544	0.103	0.260	-	-	-	-	-	-	-	-	-	-
1	B-D, nearside lane	535.759	0.095	0.240	0.240	-	-	-	0.151	0.343	0.151	-	-	-
1	B-D, offside lane	535.759	0.095	0.240	0.240	-	-	-	0.151	0.343	0.151	-	-	-
1	C-B	796.964	0.301	0.301	0.430	-	-	-	-	-	-	-	-	-
1	D-A	605.860	-	-	-	-	-	-	0.229	-	0.090	-	-	-
1	D-B, nearside lane	471.044	0.133	0.133	0.302	-	-	-	0.211	0.211	0.084	-	-	-
1	D-B, offside lane	471.044	0.133	0.133	0.302	-	-	-	0.211	0.211	0.084	-	-	-
1	D-C	471.044	-	0.133	0.302	0.106	0.211	0.211	0.211	0.211	0.084	-	-	-

*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

Name	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
A642 Wakefield Road (E)	ONE HOUR	✓	620.00	100.000
Rowley Lane	ONE HOUR	✓	223.00	100.000
A642 Wakefield Road (W)	ONE HOUR	✓	527.00	100.000
Knotty Lane	ONE HOUR	✓	21.00	100.000

# Turning Proportions

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

		To			
		A642 Wakefield Road (E)	Rowley Lane	A642 Wakefield Road (W)	Knotty Lane
From	A642 Wakefield Road (E)	0.000	144.000	473.000	3.000
	Rowley Lane	194.000	0.000	13.000	16.000
	A642 Wakefield Road (W)	511.000	11.000	0.000	5.000
	Knotty Lane	6.000	11.000	4.000	0.000

## Turning Proportions (PCU) - (untitled) (for whole period)

		To			
		A642 Wakefield Road (E)	Rowley Lane	A642 Wakefield Road (W)	Knotty Lane
From	A642 Wakefield Road (E)	0.00	0.23	0.76	0.00
	Rowley Lane	0.87	0.00	0.06	0.07
	A642 Wakefield Road (W)	0.97	0.02	0.00	0.01
	Knotty Lane	0.29	0.52	0.19	0.00

# Vehicle Mix

## Average PCU Per Vehicle - (untitled) (for whole period)

		To			
		A642 Wakefield Road (E)	Rowley Lane	A642 Wakefield Road (W)	Knotty Lane
From	A642 Wakefield Road (E)	1.000	1.000	1.000	1.000
	Rowley Lane	1.000	1.000	1.000	1.000
	A642 Wakefield Road (W)	1.000	1.000	1.000	1.000
	Knotty Lane	1.000	1.000	1.000	1.000



### Heavy Vehicle Percentages - (untitled) (for whole period)

		To			
From		A642 Wakefield Road (E)	Rowley Lane	A642 Wakefield Road (W)	Knotty Lane
	A642 Wakefield Road (E)	0.0	0.0	0.0	0.0
	Rowley Lane	0.0	0.0	0.0	0.0
	A642 Wakefield Road (W)	0.0	0.0	0.0	0.0
	Knotty Lane	0.0	0.0	0.0	0.0

## Results

### Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-ACD	0.80	53.67	3.42	F
A-BCD	0.01	5.92	0.01	A
A-B	-	-	-	-
A-C	-	-	-	-
D-ABC	0.08	13.27	0.08	B
C-ABD	0.02	6.21	0.02	A
C-D	-	-	-	-
C-A	-	-	-	-

### Main Results for each time segment

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

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-ACD	167.89	164.87	0.00	383.21	0.438	0.76	16.276	C
A-BCD	2.26	2.25	0.00	665.68	0.003	0.00	5.425	A
A-B	108.41	108.41	0.00	-	-	-	-	-
A-C	356.10	356.10	0.00	-	-	-	-	-
D-ABC	15.81	15.63	0.00	362.60	0.044	0.05	10.370	B
C-ABD	8.28	8.23	0.00	656.30	0.013	0.01	5.554	A
C-D	3.76	3.76	0.00	-	-	-	-	-
C-A	384.71	384.71	0.00	-	-	-	-	-

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

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-ACD	200.47	198.48	0.00	351.99	0.570	1.25	23.138	C
A-BCD	2.70	2.69	0.00	642.67	0.004	0.00	5.624	A
A-B	129.45	129.45	0.00	-	-	-	-	-
A-C	425.22	425.22	0.00	-	-	-	-	-
D-ABC	18.88	18.82	0.00	334.30	0.056	0.06	11.410	B
C-ABD	9.89	9.88	0.00	629.00	0.016	0.02	5.814	A
C-D	4.49	4.49	0.00	-	-	-	-	-
C-A	459.38	459.38	0.00	-	-	-	-	-

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

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-ACD	245.53	238.06	0.00	308.77	0.795	3.12	46.625	E
A-BCD	3.30	3.30	0.00	610.88	0.005	0.01	5.924	A
A-B	158.55	158.55	0.00	-	-	-	-	-
A-C	520.78	520.78	0.00	-	-	-	-	-
D-ABC	23.12	23.02	0.00	294.57	0.078	0.08	13.253	B
C-ABD	12.11	12.09	0.00	591.25	0.020	0.02	6.215	A
C-D	5.51	5.51	0.00	-	-	-	-	-
C-A	562.62	562.62	0.00	-	-	-	-	-

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

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-ACD	245.53	244.33	0.00	308.74	0.795	3.42	53.672	F
A-BCD	3.30	3.30	0.00	610.87	0.005	0.01	5.924	A
A-B	158.55	158.55	0.00	-	-	-	-	-
A-C	520.78	520.78	0.00	-	-	-	-	-
D-ABC	23.12	23.12	0.00	294.32	0.079	0.08	13.273	B
C-ABD	12.11	12.11	0.00	591.24	0.020	0.02	6.215	A
C-D	5.51	5.51	0.00	-	-	-	-	-
C-A	562.62	562.62	0.00	-	-	-	-	-

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

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-ACD	200.47	208.55	0.00	351.95	0.570	1.40	26.335	D
A-BCD	2.70	2.70	0.00	642.66	0.004	0.00	5.627	A
A-B	129.45	129.45	0.00	-	-	-	-	-
A-C	425.22	425.22	0.00	-	-	-	-	-
D-ABC	18.88	18.97	0.00	333.97	0.057	0.06	11.431	B
C-ABD	9.89	9.91	0.00	628.99	0.016	0.02	5.816	A
C-D	4.49	4.49	0.00	-	-	-	-	-
C-A	459.38	459.38	0.00	-	-	-	-	-

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

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-ACD	167.89	170.27	0.00	383.13	0.438	0.80	17.095	C
A-BCD	2.26	2.26	0.00	665.65	0.003	0.00	5.428	A
A-B	108.41	108.41	0.00	-	-	-	-	-
A-C	356.10	356.10	0.00	-	-	-	-	-
D-ABC	15.81	15.87	0.00	362.42	0.044	0.05	10.389	B
C-ABD	8.28	8.29	0.00	656.30	0.013	0.01	5.555	A
C-D	3.76	3.76	0.00	-	-	-	-	-
C-A	384.71	384.71	0.00	-	-	-	-	-

<b>Junctions 8</b>
<b>PICADY 8 - Priority Intersection Module</b>
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**Filename:** Rowley Lane - A642 - Knotty Lane Crossroads Model.arc8  
**Path:** O:\Rowley Lane, Lepton\ANALYSIS\PICADY\Rowley Ln - A642 - Knotty Ln Crossroads\Crossroads Jnct  
**Report generation date:** 21/09/2016 14:14:53

- « **(Default Analysis Set) - 2016 COUNT, PM**
- » **Junction Network**
- » **Arms**
- » **Traffic Flows**
- » **Entry Flows**
- » **Turning Proportions**
- » **Vehicle Mix**
- » **Results**

### Summary of junction performance

	PM			
	Queue (PCU)	Delay (s)	RFC	LOS
	<b>A1 - 2016 COUNT</b>			
Stream B-ACD	3.16	56.18	0.78	F
Stream A-BCD	0.01	5.78	0.01	A
Stream A-B	-	-	-	-
Stream A-C	-	-	-	-
Stream D-ABC	0.17	13.50	0.15	B
Stream C-ABD	0.06	7.44	0.06	A
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 - 2016 COUNT, AM" model duration: 07:45 - 09:15
- "D2 - 2016 COUNT, PM" model duration: 16:45 - 18:15
- "D3 - 2021 GROWTHED COUNT, AM" model duration: 07:45 - 09:15
- "D4 - 2021 GROWTHED COUNT, PM" model duration: 16:45 - 18:15
- "D5 - 2016 DESIGN, AM" model duration: 07:45 - 09:15
- "D6 - 2016 DESIGN, PM" model duration: 16:45 - 18:15
- "D7 - 2021 DESIGN, AM" model duration: 07:45 - 09:15
- "D8 - 2021 DESIGN, PM" model duration: 16:45 - 18:15

Run using Junctions 8.0.5.523 at 21/09/2016 14:14:52

## File summary

Title	(untitled)
Location	
Site Number	
Date	03/08/2016
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	Optima
Description	

## Analysis Options

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

## Units

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

# (Default Analysis Set) - 2016 COUNT, PM

## Data Errors and Warnings

*No errors or warnings*

## Analysis Set Details

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

## Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
2016 COUNT, PM	2016 COUNT	PM		ONE HOUR	16:45	18:15	90	15		

# Junction Network

## Junctions

Junction	Name	Junction Type	Major Road Direction	Arm Order	Junction Delay (s)	Junction LOS
1	(untitled)	Crossroads	Two-way	A,B,C,D	43.79	E

## Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

# Arms

## Arms

Name	Arm	Name	Description	Arm Type
A642 Wakefield Road (E)	A	A642 Wakefield Road (E)		Major
Rowley Lane	B	Rowley Lane		Minor
A642 Wakefield Road (W)	C	A642 Wakefield Road (W)		Major
Knotty Lane	D	Knotty Lane		Minor

## Major Arm Geometry

Name	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)
A642 Wakefield Road (E)	6.60		0.00	✓	3.20	230.00	✓	4.00
A642 Wakefield Road (W)	6.60		0.00	✓	3.20	250.00	✓	4.00

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

## Minor Arm Geometry

Name	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)
Rowley Lane	One lane	3.50										22	52
Knotty Lane	One lane	2.50										23	22

## Slope / Intercept / Capacity

### Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for A-D	Slope for B-A	Slope for B-C	Slope for B-D	Slope for C-A	Slope for C-B	Slope for C-D	Slope for D-A	Slope for D-B	Slope for D-C
1	A-D	784.122	-	-	-	-	-	-	0.296	0.423	0.296	-	-	-
1	B-A	535.759	0.095	0.240	0.240	-	-	-	0.151	0.343	-	0.240	0.240	0.120
1	B-C	689.544	0.103	0.260	-	-	-	-	-	-	-	-	-	-
1	B-D, nearside lane	535.759	0.095	0.240	0.240	-	-	-	0.151	0.343	0.151	-	-	-
1	B-D, offside lane	535.759	0.095	0.240	0.240	-	-	-	0.151	0.343	0.151	-	-	-
1	C-B	796.964	0.301	0.301	0.430	-	-	-	-	-	-	-	-	-
1	D-A	605.860	-	-	-	-	-	-	0.229	-	0.090	-	-	-
1	D-B, nearside lane	471.044	0.133	0.133	0.302	-	-	-	0.211	0.211	0.084	-	-	-
1	D-B, offside lane	471.044	0.133	0.133	0.302	-	-	-	0.211	0.211	0.084	-	-	-
1	D-C	471.044	-	0.133	0.302	0.106	0.211	0.211	0.211	0.211	0.084	-	-	-

*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

Name	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
A642 Wakefield Road (E)	ONE HOUR	✓	851.00	100.000
Rowley Lane	ONE HOUR	✓	197.00	100.000
A642 Wakefield Road (W)	ONE HOUR	✓	468.00	100.000
Knotty Lane	ONE HOUR	✓	42.00	100.000

# Turning Proportions

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

		To			
		A642 Wakefield Road (E)	Rowley Lane	A642 Wakefield Road (W)	Knotty Lane
From	A642 Wakefield Road (E)	0.000	286.000	561.000	4.000
	Rowley Lane	159.000	0.000	21.000	17.000
	A642 Wakefield Road (W)	435.000	28.000	0.000	5.000
	Knotty Lane	19.000	19.000	4.000	0.000

## Turning Proportions (PCU) - (untitled) (for whole period)

		To			
		A642 Wakefield Road (E)	Rowley Lane	A642 Wakefield Road (W)	Knotty Lane
From	A642 Wakefield Road (E)	0.00	0.34	0.66	0.00
	Rowley Lane	0.81	0.00	0.11	0.09
	A642 Wakefield Road (W)	0.93	0.06	0.00	0.01
	Knotty Lane	0.45	0.45	0.10	0.00

# Vehicle Mix

## Average PCU Per Vehicle - (untitled) (for whole period)

		To			
		A642 Wakefield Road (E)	Rowley Lane	A642 Wakefield Road (W)	Knotty Lane
From	A642 Wakefield Road (E)	1.000	1.000	1.000	1.000
	Rowley Lane	1.000	1.000	1.000	1.000
	A642 Wakefield Road (W)	1.000	1.000	1.000	1.000
	Knotty Lane	1.000	1.000	1.000	1.000

### Heavy Vehicle Percentages - (untitled) (for whole period)

		To			
From		A642 Wakefield Road (E)	Rowley Lane	A642 Wakefield Road (W)	Knotty Lane
	A642 Wakefield Road (E)	0.0	0.0	0.0	0.0
	Rowley Lane	0.0	0.0	0.0	0.0
	A642 Wakefield Road (W)	0.0	0.0	0.0	0.0
	Knotty Lane	0.0	0.0	0.0	0.0

## Results

### Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-ACD	0.78	56.18	3.16	F
A-BCD	0.01	5.78	0.01	A
A-B	-	-	-	-
A-C	-	-	-	-
D-ABC	0.15	13.50	0.17	B
C-ABD	0.06	7.44	0.06	A
C-D	-	-	-	-
C-A	-	-	-	-

### Main Results for each time segment

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

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-ACD	148.31	145.65	0.00	364.26	0.407	0.67	16.281	C
A-BCD	3.01	2.99	0.00	677.20	0.004	0.00	5.339	A
A-B	215.32	215.32	0.00	-	-	-	-	-
A-C	422.35	422.35	0.00	-	-	-	-	-
D-ABC	31.62	31.27	0.00	384.44	0.082	0.09	10.183	B
C-ABD	21.08	20.94	0.00	603.91	0.035	0.04	6.173	A
C-D	3.76	3.76	0.00	-	-	-	-	-
C-A	327.49	327.49	0.00	-	-	-	-	-

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

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-ACD	177.10	175.30	0.00	327.92	0.540	1.12	23.304	C
A-BCD	3.60	3.59	0.00	656.39	0.005	0.01	5.514	A
A-B	257.11	257.11	0.00	-	-	-	-	-
A-C	504.33	504.33	0.00	-	-	-	-	-
D-ABC	37.76	37.64	0.00	355.15	0.106	0.12	11.335	B
C-ABD	25.17	25.13	0.00	566.43	0.044	0.05	6.650	A
C-D	4.49	4.49	0.00	-	-	-	-	-
C-A	391.06	391.06	0.00	-	-	-	-	-

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

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-ACD	216.90	209.82	0.00	277.49	0.782	2.88	48.803	E
A-BCD	4.40	4.40	0.00	627.67	0.007	0.01	5.775	A
A-B	314.89	314.89	0.00	-	-	-	-	-
A-C	617.67	617.67	0.00	-	-	-	-	-
D-ABC	46.24	46.03	0.00	313.04	0.148	0.17	13.471	B
C-ABD	30.83	30.76	0.00	514.62	0.060	0.06	7.440	A
C-D	5.51	5.51	0.00	-	-	-	-	-
C-A	478.94	478.94	0.00	-	-	-	-	-

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

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-ACD	216.90	215.79	0.00	277.42	0.782	3.16	56.184	F
A-BCD	4.40	4.40	0.00	627.65	0.007	0.01	5.775	A
A-B	314.89	314.89	0.00	-	-	-	-	-
A-C	617.67	617.67	0.00	-	-	-	-	-
D-ABC	46.24	46.24	0.00	312.90	0.148	0.17	13.499	B
C-ABD	30.83	30.83	0.00	514.62	0.060	0.06	7.440	A
C-D	5.51	5.51	0.00	-	-	-	-	-
C-A	478.94	478.94	0.00	-	-	-	-	-

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

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-ACD	177.10	184.78	0.00	327.81	0.540	1.24	26.353	D
A-BCD	3.60	3.60	0.00	656.34	0.005	0.01	5.516	A
A-B	257.11	257.11	0.00	-	-	-	-	-
A-C	504.33	504.33	0.00	-	-	-	-	-
D-ABC	37.76	37.96	0.00	354.95	0.106	0.12	11.365	B
C-ABD	25.17	25.24	0.00	566.43	0.044	0.05	6.652	A
C-D	4.49	4.49	0.00	-	-	-	-	-
C-A	391.06	391.06	0.00	-	-	-	-	-

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

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-ACD	148.31	150.44	0.00	364.10	0.407	0.71	17.012	C
A-BCD	3.01	3.02	0.00	677.12	0.004	0.00	5.341	A
A-B	215.32	215.32	0.00	-	-	-	-	-
A-C	422.35	422.35	0.00	-	-	-	-	-
D-ABC	31.62	31.74	0.00	384.32	0.082	0.09	10.215	B
C-ABD	21.08	21.12	0.00	603.90	0.035	0.04	6.177	A
C-D	3.76	3.76	0.00	-	-	-	-	-
C-A	327.49	327.49	0.00	-	-	-	-	-



<b>Junctions 8</b>
<b>PICADY 8 - Priority Intersection Module</b>
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**Filename:** Rowley Lane - A642 - Knotty Lane Crossroads Model.arc8  
**Path:** O:\Rowley Lane, Lepton\ANALYSIS\PICADY\Rowley Ln - A642 - Knotty Ln Crossroads\Crossroads Jnct  
**Report generation date:** 21/09/2016 14:15:29

- « **(Default Analysis Set) - 2021 GROWTHED COUNT, AM**
- » **Junction Network**
- » **Arms**
- » **Traffic Flows**
- » **Entry Flows**
- » **Turning Proportions**
- » **Vehicle Mix**
- » **Results**

### Summary of junction performance

	AM			
	Queue (PCU)	Delay (s)	RFC	LOS
	A1 - 2021 GROWTHED COUNT			
Stream B-ACD	7.11	102.96	0.92	F
Stream A-BCD	0.01	6.07	0.01	A
Stream A-B	-	-	-	-
Stream A-C	-	-	-	-
Stream D-ABC	0.10	14.22	0.09	B
Stream C-ABD	0.02	6.43	0.02	A
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 - 2016 COUNT, AM" model duration: 07:45 - 09:15
- "D2 - 2016 COUNT, PM" model duration: 16:45 - 18:15
- "D3 - 2021 GROWTHED COUNT, AM " model duration: 07:45 - 09:15
- "D4 - 2021 GROWTHED COUNT, PM" model duration: 16:45 - 18:15
- "D5 - 2016 DESIGN, AM" model duration: 07:45 - 09:15
- "D6 - 2016 DESIGN, PM" model duration: 16:45 - 18:15
- "D7 - 2021 DESIGN, AM" model duration: 07:45 - 09:15
- "D8 - 2021 DESIGN, PM" model duration: 16:45 - 18:15

Run using Junctions 8.0.5.523 at 21/09/2016 14:15:28

## File summary

Title	(untitled)
Location	
Site Number	
Date	03/08/2016
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	Optima
Description	

## Analysis Options

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

## Units

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

# (Default Analysis Set) - 2021 GROWTHED COUNT, AM

## Data Errors and Warnings

*No errors or warnings*

## Analysis Set Details

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

## Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
2021 GROWTHED COUNT, AM	2021 GROWTHED COUNT	AM		ONE HOUR	07:45	09:15	90	15		

# Junction Network

## Junctions

Junction	Name	Junction Type	Major Road Direction	Arm Order	Junction Delay (s)	Junction LOS
1	(untitled)	Crossroads	Two-way	A,B,C,D	90.50	F

## Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

# Arms

## Arms

Name	Arm	Name	Description	Arm Type
A642 Wakefield Road (E)	A	A642 Wakefield Road (E)		Major
Rowley Lane	B	Rowley Lane		Minor
A642 Wakefield Road (W)	C	A642 Wakefield Road (W)		Major
Knotty Lane	D	Knotty Lane		Minor

## Major Arm Geometry

Name	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)
A642 Wakefield Road (E)	6.60		0.00	✓	3.20	230.00	✓	4.00
A642 Wakefield Road (W)	6.60		0.00	✓	3.20	250.00	✓	4.00

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

## Minor Arm Geometry

Name	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)
Rowley Lane	One lane	3.50										22	52
Knotty Lane	One lane	2.50										23	22

## Slope / Intercept / Capacity

### Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for A-D	Slope for B-A	Slope for B-C	Slope for B-D	Slope for C-A	Slope for C-B	Slope for C-D	Slope for D-A	Slope for D-B	Slope for D-C
1	A-D	784.122	-	-	-	-	-	-	0.296	0.423	0.296	-	-	-
1	B-A	535.759	0.095	0.240	0.240	-	-	-	0.151	0.343	-	0.240	0.240	0.120
1	B-C	689.544	0.103	0.260	-	-	-	-	-	-	-	-	-	-
1	B-D, nearside lane	535.759	0.095	0.240	0.240	-	-	-	0.151	0.343	0.151	-	-	-
1	B-D, offside lane	535.759	0.095	0.240	0.240	-	-	-	0.151	0.343	0.151	-	-	-
1	C-B	796.964	0.301	0.301	0.430	-	-	-	-	-	-	-	-	-
1	D-A	605.860	-	-	-	-	-	-	0.229	-	0.090	-	-	-
1	D-B, nearside lane	471.044	0.133	0.133	0.302	-	-	-	0.211	0.211	0.084	-	-	-
1	D-B, offside lane	471.044	0.133	0.133	0.302	-	-	-	0.211	0.211	0.084	-	-	-
1	D-C	471.044	-	0.133	0.302	0.106	0.211	0.211	0.211	0.211	0.084	-	-	-

*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

Name	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
A642 Wakefield Road (E)	ONE HOUR	✓	674.00	100.000
Rowley Lane	ONE HOUR	✓	242.00	100.000
A642 Wakefield Road (W)	ONE HOUR	✓	571.00	100.000
Knotty Lane	ONE HOUR	✓	23.00	100.000

# Turning Proportions

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

		To			
		A642 Wakefield Road (E)	Rowley Lane	A642 Wakefield Road (W)	Knotty Lane
From	A642 Wakefield Road (E)	0.000	157.000	514.000	3.000
	Rowley Lane	211.000	0.000	14.000	17.000
	A642 Wakefield Road (W)	554.000	12.000	0.000	5.000
	Knotty Lane	7.000	12.000	4.000	0.000

## Turning Proportions (PCU) - (untitled) (for whole period)

		To			
		A642 Wakefield Road (E)	Rowley Lane	A642 Wakefield Road (W)	Knotty Lane
From	A642 Wakefield Road (E)	0.00	0.23	0.76	0.00
	Rowley Lane	0.87	0.00	0.06	0.07
	A642 Wakefield Road (W)	0.97	0.02	0.00	0.01
	Knotty Lane	0.30	0.52	0.17	0.00

# Vehicle Mix

## Average PCU Per Vehicle - (untitled) (for whole period)

		To			
		A642 Wakefield Road (E)	Rowley Lane	A642 Wakefield Road (W)	Knotty Lane
From	A642 Wakefield Road (E)	1.000	1.000	1.000	1.000
	Rowley Lane	1.000	1.000	1.000	1.000
	A642 Wakefield Road (W)	1.000	1.000	1.000	1.000
	Knotty Lane	1.000	1.000	1.000	1.000

### Heavy Vehicle Percentages - (untitled) (for whole period)

		To			
From		A642 Wakefield Road (E)	Rowley Lane	A642 Wakefield Road (W)	Knotty Lane
	A642 Wakefield Road (E)	0.0	0.0	0.0	0.0
	Rowley Lane	0.0	0.0	0.0	0.0
	A642 Wakefield Road (W)	0.0	0.0	0.0	0.0
	Knotty Lane	0.0	0.0	0.0	0.0

## Results

### Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-ACD	0.92	102.96	7.11	F
A-BCD	0.01	6.07	0.01	A
A-B	-	-	-	-
A-C	-	-	-	-
D-ABC	0.09	14.22	0.10	B
C-ABD	0.02	6.43	0.02	A
C-D	-	-	-	-
C-A	-	-	-	-

### Main Results for each time segment

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

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-ACD	182.19	178.45	0.00	369.32	0.493	0.93	18.525	C
A-BCD	2.26	2.24	0.00	655.78	0.003	0.00	5.508	A
A-B	118.20	118.20	0.00	-	-	-	-	-
A-C	386.97	386.97	0.00	-	-	-	-	-
D-ABC	17.32	17.11	0.00	353.31	0.049	0.05	10.701	B
C-ABD	9.03	8.98	0.00	644.08	0.014	0.01	5.668	A
C-D	3.76	3.76	0.00	-	-	-	-	-
C-A	417.08	417.08	0.00	-	-	-	-	-

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

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-ACD	217.55	214.49	0.00	335.38	0.649	1.70	29.037	D
A-BCD	2.70	2.69	0.00	630.85	0.004	0.00	5.730	A
A-B	141.14	141.14	0.00	-	-	-	-	-
A-C	462.08	462.08	0.00	-	-	-	-	-
D-ABC	20.68	20.61	0.00	322.48	0.064	0.07	11.923	B
C-ABD	10.79	10.77	0.00	614.40	0.018	0.02	5.963	A
C-D	4.49	4.49	0.00	-	-	-	-	-
C-A	498.03	498.03	0.00	-	-	-	-	-

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

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-ACD	266.45	250.44	0.00	288.35	0.924	5.70	74.720	F
A-BCD	3.30	3.30	0.00	596.40	0.006	0.01	6.069	A
A-B	172.86	172.86	0.00	-	-	-	-	-
A-C	565.92	565.92	0.00	-	-	-	-	-
D-ABC	25.32	25.20	0.00	278.98	0.091	0.10	14.177	B
C-ABD	13.21	13.19	0.00	573.37	0.023	0.02	6.426	A
C-D	5.51	5.51	0.00	-	-	-	-	-
C-A	609.97	609.97	0.00	-	-	-	-	-

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

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-ACD	266.45	260.82	0.00	288.32	0.924	7.11	102.962	F
A-BCD	3.30	3.30	0.00	596.39	0.006	0.01	6.069	A
A-B	172.86	172.86	0.00	-	-	-	-	-
A-C	565.92	565.92	0.00	-	-	-	-	-
D-ABC	25.32	25.32	0.00	278.49	0.091	0.10	14.219	B
C-ABD	13.21	13.21	0.00	573.36	0.023	0.02	6.426	A
C-D	5.51	5.51	0.00	-	-	-	-	-
C-A	609.97	609.97	0.00	-	-	-	-	-

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

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-ACD	217.55	237.87	0.00	335.32	0.649	2.03	42.553	E
A-BCD	2.70	2.70	0.00	630.83	0.004	0.00	5.730	A
A-B	141.14	141.14	0.00	-	-	-	-	-
A-C	462.08	462.08	0.00	-	-	-	-	-
D-ABC	20.68	20.79	0.00	321.75	0.064	0.07	11.968	B
C-ABD	10.79	10.81	0.00	614.39	0.018	0.02	5.963	A
C-D	4.49	4.49	0.00	-	-	-	-	-
C-A	498.03	498.03	0.00	-	-	-	-	-

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

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-ACD	182.19	186.26	0.00	369.24	0.493	1.01	20.081	C
A-BCD	2.26	2.26	0.00	655.75	0.003	0.00	5.508	A
A-B	118.20	118.20	0.00	-	-	-	-	-
A-C	386.97	386.97	0.00	-	-	-	-	-
D-ABC	17.32	17.39	0.00	353.06	0.049	0.05	10.726	B
C-ABD	9.03	9.05	0.00	644.07	0.014	0.01	5.668	A
C-D	3.76	3.76	0.00	-	-	-	-	-
C-A	417.08	417.08	0.00	-	-	-	-	-

<b>Junctions 8</b>
<b>PICADY 8 - Priority Intersection Module</b>
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**Filename:** Rowley Lane - A642 - Knotty Lane Crossroads Model.arc8

**Path:** O:\Rowley Lane, Lepton\ANALYSIS\PICADY\Rowley Ln - A642 - Knotty Ln Crossroads\Crossroads Jnct

**Report generation date:** 21/09/2016 14:15:58

**« (Default Analysis Set) - 2021 GROWTHED COUNT, PM**

- » Junction Network
- » Arms
- » Traffic Flows
- » Entry Flows
- » Turning Proportions
- » Vehicle Mix
- » Results

**Summary of junction performance**

	PM			
	Queue (PCU)	Delay (s)	RFC	LOS
	<b>A1 - 2021 GROWTHED COUNT</b>			
Stream B-ACD	7.04	114.94	0.93	F
Stream A-BCD	0.01	5.90	0.01	A
Stream A-B	-	-	-	-
Stream A-C	-	-	-	-
Stream D-ABC	0.20	14.68	0.17	B
Stream C-ABD	0.07	7.88	0.07	A
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 - 2016 COUNT, AM" model duration: 07:45 - 09:15

"D2 - 2016 COUNT, PM" model duration: 16:45 - 18:15

"D3 - 2021 GROWTHED COUNT, AM" model duration: 07:45 - 09:15

"D4 - 2021 GROWTHED COUNT, PM" model duration: 16:45 - 18:15

"D5 - 2016 DESIGN, AM" model duration: 07:45 - 09:15

"D6 - 2016 DESIGN, PM" model duration: 16:45 - 18:15

"D7 - 2021 DESIGN, AM" model duration: 07:45 - 09:15

"D8 - 2021 DESIGN, PM" model duration: 16:45 - 18:15

Run using Junctions 8.0.5.523 at 21/09/2016 14:15:57

## File summary

Title	(untitled)
Location	
Site Number	
Date	03/08/2016
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	Optima
Description	

## Analysis Options

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

## Units

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

# (Default Analysis Set) - 2021 GROWTHED COUNT, PM

## Data Errors and Warnings

*No errors or warnings*

## Analysis Set Details

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

## Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
2021 GROWTHED COUNT, PM	2021 GROWTHED COUNT	PM		ONE HOUR	16:45	18:15	90	15		

# Junction Network

## Junctions

Junction	Name	Junction Type	Major Road Direction	Arm Order	Junction Delay (s)	Junction LOS
1	(untitled)	Crossroads	Two-way	A,B,C,D	87.09	F

## Junction Network Options

Driving Side	Lighting
Left	Normal/unknown



# Arms

## Arms

Name	Arm	Name	Description	Arm Type
A642 Wakefield Road (E)	A	A642 Wakefield Road (E)		Major
Rowley Lane	B	Rowley Lane		Minor
A642 Wakefield Road (W)	C	A642 Wakefield Road (W)		Major
Knotty Lane	D	Knotty Lane		Minor

## Major Arm Geometry

Name	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)
A642 Wakefield Road (E)	6.60		0.00	✓	3.20	230.00	✓	4.00
A642 Wakefield Road (W)	6.60		0.00	✓	3.20	250.00	✓	4.00

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

## Minor Arm Geometry

Name	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)
Rowley Lane	One lane	3.50										22	52
Knotty Lane	One lane	2.50										23	22

## Slope / Intercept / Capacity

### Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for A-D	Slope for B-A	Slope for B-C	Slope for B-D	Slope for C-A	Slope for C-B	Slope for C-D	Slope for D-A	Slope for D-B	Slope for D-C
1	A-D	784.122	-	-	-	-	-	-	0.296	0.423	0.296	-	-	-
1	B-A	535.759	0.095	0.240	0.240	-	-	-	0.151	0.343	-	0.240	0.240	0.120
1	B-C	689.544	0.103	0.260	-	-	-	-	-	-	-	-	-	-
1	B-D, nearside lane	535.759	0.095	0.240	0.240	-	-	-	0.151	0.343	0.151	-	-	-
1	B-D, offside lane	535.759	0.095	0.240	0.240	-	-	-	0.151	0.343	0.151	-	-	-
1	C-B	796.964	0.301	0.301	0.430	-	-	-	-	-	-	-	-	-
1	D-A	605.860	-	-	-	-	-	-	0.229	-	0.090	-	-	-
1	D-B, nearside lane	471.044	0.133	0.133	0.302	-	-	-	0.211	0.211	0.084	-	-	-
1	D-B, offside lane	471.044	0.133	0.133	0.302	-	-	-	0.211	0.211	0.084	-	-	-
1	D-C	471.044	-	0.133	0.302	0.106	0.211	0.211	0.211	0.211	0.084	-	-	-

*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

Name	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
A642 Wakefield Road (E)	ONE HOUR	✓	925.00	100.000
Rowley Lane	ONE HOUR	✓	214.00	100.000
A642 Wakefield Road (W)	ONE HOUR	✓	509.00	100.000
Knotty Lane	ONE HOUR	✓	45.00	100.000

# Turning Proportions

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

		To			
		A642 Wakefield Road (E)	Rowley Lane	A642 Wakefield Road (W)	Knotty Lane
From	A642 Wakefield Road (E)	0.000	311.000	610.000	4.000
	Rowley Lane	173.000	0.000	23.000	18.000
	A642 Wakefield Road (W)	474.000	30.000	0.000	5.000
	Knotty Lane	21.000	20.000	4.000	0.000

## Turning Proportions (PCU) - (untitled) (for whole period)

		To			
		A642 Wakefield Road (E)	Rowley Lane	A642 Wakefield Road (W)	Knotty Lane
From	A642 Wakefield Road (E)	0.00	0.34	0.66	0.00
	Rowley Lane	0.81	0.00	0.11	0.08
	A642 Wakefield Road (W)	0.93	0.06	0.00	0.01
	Knotty Lane	0.47	0.44	0.09	0.00

# Vehicle Mix

## Average PCU Per Vehicle - (untitled) (for whole period)

		To			
		A642 Wakefield Road (E)	Rowley Lane	A642 Wakefield Road (W)	Knotty Lane
From	A642 Wakefield Road (E)	1.000	1.000	1.000	1.000
	Rowley Lane	1.000	1.000	1.000	1.000
	A642 Wakefield Road (W)	1.000	1.000	1.000	1.000
	Knotty Lane	1.000	1.000	1.000	1.000

### Heavy Vehicle Percentages - (untitled) (for whole period)

		To			
From		A642 Wakefield Road (E)	Rowley Lane	A642 Wakefield Road (W)	Knotty Lane
	A642 Wakefield Road (E)	0.0	0.0	0.0	0.0
	Rowley Lane	0.0	0.0	0.0	0.0
	A642 Wakefield Road (W)	0.0	0.0	0.0	0.0
	Knotty Lane	0.0	0.0	0.0	0.0

## Results

### Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-ACD	0.93	114.94	7.04	F
A-BCD	0.01	5.90	0.01	A
A-B	-	-	-	-
A-C	-	-	-	-
D-ABC	0.17	14.68	0.20	B
C-ABD	0.07	7.88	0.07	A
C-D	-	-	-	-
C-A	-	-	-	-

### Main Results for each time segment

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

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-ACD	161.11	157.80	0.00	348.24	0.463	0.83	18.602	C
A-BCD	3.01	2.99	0.00	667.88	0.005	0.00	5.414	A
A-B	234.14	234.14	0.00	-	-	-	-	-
A-C	459.24	459.24	0.00	-	-	-	-	-
D-ABC	33.88	33.49	0.00	374.17	0.091	0.10	10.555	B
C-ABD	22.59	22.43	0.00	587.16	0.038	0.04	6.373	A
C-D	3.76	3.76	0.00	-	-	-	-	-
C-A	356.85	356.85	0.00	-	-	-	-	-

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

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-ACD	192.38	189.58	0.00	308.64	0.623	1.53	29.535	D
A-BCD	3.60	3.59	0.00	645.25	0.006	0.01	5.609	A
A-B	279.58	279.58	0.00	-	-	-	-	-
A-C	548.38	548.38	0.00	-	-	-	-	-
D-ABC	40.45	40.32	0.00	341.92	0.118	0.13	11.931	B
C-ABD	26.97	26.92	0.00	546.43	0.049	0.05	6.929	A
C-D	4.49	4.49	0.00	-	-	-	-	-
C-A	426.12	426.12	0.00	-	-	-	-	-

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

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-ACD	235.62	219.52	0.00	253.64	0.929	5.55	81.906	F
A-BCD	4.40	4.40	0.00	614.03	0.007	0.01	5.904	A
A-B	342.42	342.42	0.00	-	-	-	-	-
A-C	671.62	671.62	0.00	-	-	-	-	-
D-ABC	49.55	49.28	0.00	295.14	0.168	0.20	14.625	B
C-ABD	33.03	32.95	0.00	490.12	0.067	0.07	7.874	A
C-D	5.51	5.51	0.00	-	-	-	-	-
C-A	521.88	521.88	0.00	-	-	-	-	-

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

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-ACD	235.62	229.68	0.00	253.56	0.929	7.04	114.941	F
A-BCD	4.40	4.40	0.00	614.00	0.007	0.01	5.904	A
A-B	342.42	342.42	0.00	-	-	-	-	-
A-C	671.62	671.62	0.00	-	-	-	-	-
D-ABC	49.55	49.54	0.00	294.83	0.168	0.20	14.675	B
C-ABD	33.03	33.03	0.00	490.12	0.067	0.07	7.875	A
C-D	5.51	5.51	0.00	-	-	-	-	-
C-A	521.88	521.88	0.00	-	-	-	-	-

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

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-ACD	192.38	213.28	0.00	308.51	0.624	1.82	43.935	E
A-BCD	3.60	3.60	0.00	645.19	0.006	0.01	5.610	A
A-B	279.58	279.58	0.00	-	-	-	-	-
A-C	548.38	548.38	0.00	-	-	-	-	-
D-ABC	40.45	40.71	0.00	341.46	0.118	0.14	11.979	B
C-ABD	26.97	27.05	0.00	546.42	0.049	0.05	6.931	A
C-D	4.49	4.49	0.00	-	-	-	-	-
C-A	426.12	426.12	0.00	-	-	-	-	-

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

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-ACD	161.11	164.80	0.00	348.05	0.463	0.89	20.011	C
A-BCD	3.01	3.02	0.00	667.79	0.005	0.00	5.416	A
A-B	234.14	234.14	0.00	-	-	-	-	-
A-C	459.24	459.24	0.00	-	-	-	-	-
D-ABC	33.88	34.02	0.00	374.01	0.091	0.10	10.592	B
C-ABD	22.59	22.63	0.00	587.15	0.038	0.04	6.377	A
C-D	3.76	3.76	0.00	-	-	-	-	-
C-A	356.85	356.85	0.00	-	-	-	-	-

<b>Junctions 8</b>
<b>PICADY 8 - Priority Intersection Module</b>
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**Filename:** Rowley Lane - A642 - Knotty Lane Crossroads Model.arc8  
**Path:** O:\Rowley Lane, Lepton\ANALYSIS\PICADY\Rowley Ln - A642 - Knotty Ln Crossroads\Crossroads Jnct  
**Report generation date:** 21/09/2016 10:52:11

- « (Default Analysis Set) - 2021 DESIGN, AM
- » Junction Network
- » Arms
- » Traffic Flows
- » Entry Flows
- » Turning Proportions
- » Vehicle Mix
- » Results

### Summary of junction performance

	AM			
	Queue (PCU)	Delay (s)	RFC	LOS
	A1 - 2021 DESIGN			
Stream B-ACD	18.66	215.82	1.07	F
Stream A-BCD	0.01	6.07	0.01	A
Stream A-B	-	-	-	-
Stream A-C	-	-	-	-
Stream D-ABC	0.11	14.59	0.10	B
Stream C-ABD	0.03	6.49	0.03	A
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 - 2016 COUNT, AM" model duration: 07:45 - 09:15
- "D2 - 2016 COUNT, PM" model duration: 16:45 - 18:15
- "D3 - 2021 GROWTHED COUNT, AM" model duration: 07:45 - 09:15
- "D4 - 2021 GROWTHED COUNT, PM" model duration: 16:45 - 18:15
- "D5 - 2016 DESIGN, AM" model duration: 07:45 - 09:15
- "D6 - 2016 DESIGN, PM" model duration: 16:45 - 18:15
- "D7 - 2021 DESIGN, AM " model duration: 07:45 - 09:15
- "D8 - 2021 DESIGN, PM" model duration: 16:45 - 18:15

Run using Junctions 8.0.5.523 at 21/09/2016 10:52:10

## File summary

Title	(untitled)
Location	
Site Number	
Date	03/08/2016
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	Optima
Description	

## Analysis Options

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

## Units

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

# (Default Analysis Set) - 2021 DESIGN, AM

## Data Errors and Warnings

*No errors or warnings*

## Analysis Set Details

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

## Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
2021 DESIGN, AM	2021 DESIGN	AM		ONE HOUR	07:45	09:15	90	15		

# Junction Network

## Junctions

Junction	Name	Junction Type	Major Road Direction	Arm Order	Junction Delay (s)	Junction LOS
1	(untitled)	Crossroads	Two-way	A,B,C,D	190.18	F

## Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

# Arms

## Arms

Name	Arm	Name	Description	Arm Type
A642 Wakefield Road (E)	A	A642 Wakefield Road (E)		Major
Rowley Lane	B	Rowley Lane		Minor
A642 Wakefield Road (W)	C	A642 Wakefield Road (W)		Major
Knotty Lane	D	Knotty Lane		Minor

## Major Arm Geometry

Name	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)
A642 Wakefield Road (E)	6.60		0.00	✓	3.20	230.00	✓	4.00
A642 Wakefield Road (W)	6.60		0.00	✓	3.20	250.00	✓	4.00

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

## Minor Arm Geometry

Name	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)
Rowley Lane	One lane	3.50										22	52
Knotty Lane	One lane	2.50										23	22

## Slope / Intercept / Capacity

### Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for A-D	Slope for B-A	Slope for B-C	Slope for B-D	Slope for C-A	Slope for C-B	Slope for C-D	Slope for D-A	Slope for D-B	Slope for D-C
1	A-D	784.122	-	-	-	-	-	-	0.296	0.423	0.296	-	-	-
1	B-A	535.759	0.095	0.240	0.240	-	-	-	0.151	0.343	-	0.240	0.240	0.120
1	B-C	689.544	0.103	0.260	-	-	-	-	-	-	-	-	-	-
1	B-D, nearside lane	535.759	0.095	0.240	0.240	-	-	-	0.151	0.343	0.151	-	-	-
1	B-D, offside lane	535.759	0.095	0.240	0.240	-	-	-	0.151	0.343	0.151	-	-	-
1	C-B	796.964	0.301	0.301	0.430	-	-	-	-	-	-	-	-	-
1	D-A	605.860	-	-	-	-	-	-	0.229	-	0.090	-	-	-
1	D-B, nearside lane	471.044	0.133	0.133	0.302	-	-	-	0.211	0.211	0.084	-	-	-
1	D-B, offside lane	471.044	0.133	0.133	0.302	-	-	-	0.211	0.211	0.084	-	-	-
1	D-C	471.044	-	0.133	0.302	0.106	0.211	0.211	0.211	0.211	0.084	-	-	-

*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

Name	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
A642 Wakefield Road (E)	ONE HOUR	✓	687.00	100.000
Rowley Lane	ONE HOUR	✓	279.00	100.000
A642 Wakefield Road (W)	ONE HOUR	✓	572.00	100.000
Knotty Lane	ONE HOUR	✓	24.00	100.000

# Turning Proportions

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

		To			
		A642 Wakefield Road (E)	Rowley Lane	A642 Wakefield Road (W)	Knotty Lane
From	A642 Wakefield Road (E)	0.000	170.000	514.000	3.000
	Rowley Lane	243.000	0.000	16.000	20.000
	A642 Wakefield Road (W)	554.000	13.000	0.000	5.000
	Knotty Lane	7.000	13.000	4.000	0.000

## Turning Proportions (PCU) - (untitled) (for whole period)

		To			
		A642 Wakefield Road (E)	Rowley Lane	A642 Wakefield Road (W)	Knotty Lane
From	A642 Wakefield Road (E)	0.00	0.25	0.75	0.00
	Rowley Lane	0.87	0.00	0.06	0.07
	A642 Wakefield Road (W)	0.97	0.02	0.00	0.01
	Knotty Lane	0.29	0.54	0.17	0.00

# Vehicle Mix

## Average PCU Per Vehicle - (untitled) (for whole period)

		To			
		A642 Wakefield Road (E)	Rowley Lane	A642 Wakefield Road (W)	Knotty Lane
From	A642 Wakefield Road (E)	1.000	1.000	1.000	1.000
	Rowley Lane	1.000	1.000	1.000	1.000
	A642 Wakefield Road (W)	1.000	1.000	1.000	1.000
	Knotty Lane	1.000	1.000	1.000	1.000



### Heavy Vehicle Percentages - (untitled) (for whole period)

		To			
From		A642 Wakefield Road (E)	Rowley Lane	A642 Wakefield Road (W)	Knotty Lane
	A642 Wakefield Road (E)	0.0	0.0	0.0	0.0
	Rowley Lane	0.0	0.0	0.0	0.0
	A642 Wakefield Road (W)	0.0	0.0	0.0	0.0
	Knotty Lane	0.0	0.0	0.0	0.0

## Results

### Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-ACD	1.07	215.82	18.66	F
A-BCD	0.01	6.07	0.01	A
A-B	-	-	-	-
A-C	-	-	-	-
D-ABC	0.10	14.59	0.11	B
C-ABD	0.03	6.49	0.03	A
C-D	-	-	-	-
C-A	-	-	-	-

### Main Results for each time segment

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

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-ACD	210.05	205.01	0.00	367.90	0.571	1.26	21.502	C
A-BCD	2.26	2.24	0.00	655.47	0.003	0.00	5.510	A
A-B	127.98	127.98	0.00	-	-	-	-	-
A-C	386.97	386.97	0.00	-	-	-	-	-
D-ABC	18.07	17.85	0.00	349.65	0.052	0.05	10.843	B
C-ABD	9.79	9.73	0.00	641.14	0.015	0.02	5.701	A
C-D	3.76	3.76	0.00	-	-	-	-	-
C-A	417.08	417.08	0.00	-	-	-	-	-

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

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-ACD	250.82	245.43	0.00	333.68	0.752	2.61	38.551	E
A-BCD	2.70	2.69	0.00	630.47	0.004	0.00	5.733	A
A-B	152.83	152.83	0.00	-	-	-	-	-
A-C	462.08	462.08	0.00	-	-	-	-	-
D-ABC	21.58	21.50	0.00	318.36	0.068	0.07	12.124	B
C-ABD	11.69	11.67	0.00	610.88	0.019	0.02	6.007	A
C-D	4.49	4.49	0.00	-	-	-	-	-
C-A	498.03	498.03	0.00	-	-	-	-	-

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

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-ACD	307.18	270.03	0.00	286.29	1.073	11.89	123.876	F
A-BCD	3.30	3.30	0.00	595.93	0.006	0.01	6.073	A
A-B	187.17	187.17	0.00	-	-	-	-	-
A-C	565.92	565.92	0.00	-	-	-	-	-
D-ABC	26.42	26.29	0.00	274.20	0.096	0.10	14.514	B
C-ABD	14.31	14.29	0.00	569.06	0.025	0.03	6.488	A
C-D	5.51	5.51	0.00	-	-	-	-	-
C-A	609.97	609.97	0.00	-	-	-	-	-

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

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-ACD	307.18	280.12	0.00	286.25	1.073	18.66	215.821	F
A-BCD	3.30	3.30	0.00	595.92	0.006	0.01	6.074	A
A-B	187.17	187.17	0.00	-	-	-	-	-
A-C	565.92	565.92	0.00	-	-	-	-	-
D-ABC	26.42	26.42	0.00	273.07	0.097	0.11	14.594	B
C-ABD	14.31	14.31	0.00	569.06	0.025	0.03	6.488	A
C-D	5.51	5.51	0.00	-	-	-	-	-
C-A	609.97	609.97	0.00	-	-	-	-	-

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

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-ACD	250.82	308.82	0.00	333.62	0.752	4.16	136.137	F
A-BCD	2.70	2.70	0.00	630.45	0.004	0.00	5.734	A
A-B	152.83	152.83	0.00	-	-	-	-	-
A-C	462.08	462.08	0.00	-	-	-	-	-
D-ABC	21.58	21.70	0.00	316.38	0.068	0.07	12.223	B
C-ABD	11.69	11.71	0.00	610.88	0.019	0.02	6.010	A
C-D	4.49	4.49	0.00	-	-	-	-	-
C-A	498.03	498.03	0.00	-	-	-	-	-

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

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-ACD	210.05	221.06	0.00	367.81	0.571	1.41	26.120	D
A-BCD	2.26	2.26	0.00	655.43	0.003	0.00	5.511	A
A-B	127.98	127.98	0.00	-	-	-	-	-
A-C	386.97	386.97	0.00	-	-	-	-	-
D-ABC	18.07	18.14	0.00	349.19	0.052	0.06	10.876	B
C-ABD	9.79	9.80	0.00	641.13	0.015	0.02	5.704	A
C-D	3.76	3.76	0.00	-	-	-	-	-
C-A	417.08	417.08	0.00	-	-	-	-	-

<b>Junctions 8</b>
<b>PICADY 8 - Priority Intersection Module</b>
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**Filename:** Rowley Lane - A642 - Knotty Lane Crossroads Model.arc8  
**Path:** O:\Rowley Lane, Lepton\ANALYSIS\PICADY\Rowley Ln - A642 - Knotty Ln Crossroads\Crossroads Jnct  
**Report generation date:** 21/09/2016 10:52:41

- « **(Default Analysis Set) - 2021 DESIGN, PM**
- » **Junction Network**
- » **Arms**
- » **Traffic Flows**
- » **Entry Flows**
- » **Turning Proportions**
- » **Vehicle Mix**
- » **Results**

### Summary of junction performance

	PM			
	Queue (PCU)	Delay (s)	RFC	LOS
	<b>A1 - 2021 DESIGN</b>			
Stream B-ACD	11.47	169.21	1.01	F
Stream A-BCD	0.01	5.92	0.01	A
Stream A-B	-	-	-	-
Stream A-C	-	-	-	-
Stream D-ABC	0.22	15.43	0.18	C
Stream C-ABD	0.08	8.15	0.08	A
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 - 2016 COUNT, AM" model duration: 07:45 - 09:15
- "D2 - 2016 COUNT, PM" model duration: 16:45 - 18:15
- "D3 - 2021 GROWTHED COUNT, AM" model duration: 07:45 - 09:15
- "D4 - 2021 GROWTHED COUNT, PM" model duration: 16:45 - 18:15
- "D5 - 2016 DESIGN, AM" model duration: 07:45 - 09:15
- "D6 - 2016 DESIGN, PM" model duration: 16:45 - 18:15
- "D7 - 2021 DESIGN, AM" model duration: 07:45 - 09:15
- "D8 - 2021 DESIGN, PM " model duration: 16:45 - 18:15

Run using Junctions 8.0.5.523 at 21/09/2016 10:52:40

## File summary

Title	(untitled)
Location	
Site Number	
Date	03/08/2016
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	Optima
Description	

## Analysis Options

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

## Units

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

# (Default Analysis Set) - 2021 DESIGN, PM

## Data Errors and Warnings

*No errors or warnings*

## Analysis Set Details

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

## Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
2021 DESIGN, PM	2021 DESIGN	PM		ONE HOUR	16:45	18:15	90	15		

# Junction Network

## Junctions

Junction	Name	Junction Type	Major Road Direction	Arm Order	Junction Delay (s)	Junction LOS
1	(untitled)	Crossroads	Two-way	A,B,C,D	126.40	F

## Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

# Arms

## Arms

Name	Arm	Name	Description	Arm Type
A642 Wakefield Road (E)	A	A642 Wakefield Road (E)		Major
Rowley Lane	B	Rowley Lane		Minor
A642 Wakefield Road (W)	C	A642 Wakefield Road (W)		Major
Knotty Lane	D	Knotty Lane		Minor

## Major Arm Geometry

Name	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)
A642 Wakefield Road (E)	6.60		0.00	✓	3.20	230.00	✓	4.00
A642 Wakefield Road (W)	6.60		0.00	✓	3.20	250.00	✓	4.00

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

## Minor Arm Geometry

Name	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)
Rowley Lane	One lane	3.50										22	52
Knotty Lane	One lane	2.50										23	22

## Slope / Intercept / Capacity

### Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for A-D	Slope for B-A	Slope for B-C	Slope for B-D	Slope for C-A	Slope for C-B	Slope for C-D	Slope for D-A	Slope for D-B	Slope for D-C
1	A-D	784.122	-	-	-	-	-	-	0.296	0.423	0.296	-	-	-
1	B-A	535.759	0.095	0.240	0.240	-	-	-	0.151	0.343	-	0.240	0.240	0.120
1	B-C	689.544	0.103	0.260	-	-	-	-	-	-	-	-	-	-
1	B-D, nearside lane	535.759	0.095	0.240	0.240	-	-	-	0.151	0.343	0.151	-	-	-
1	B-D, offside lane	535.759	0.095	0.240	0.240	-	-	-	0.151	0.343	0.151	-	-	-
1	C-B	796.964	0.301	0.301	0.430	-	-	-	-	-	-	-	-	-
1	D-A	605.860	-	-	-	-	-	-	0.229	-	0.090	-	-	-
1	D-B, nearside lane	471.044	0.133	0.133	0.302	-	-	-	0.211	0.211	0.084	-	-	-
1	D-B, offside lane	471.044	0.133	0.133	0.302	-	-	-	0.211	0.211	0.084	-	-	-
1	D-C	471.044	-	0.133	0.302	0.106	0.211	0.211	0.211	0.211	0.084	-	-	-

*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

Name	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
A642 Wakefield Road (E)	ONE HOUR	✓	958.00	100.000
Rowley Lane	ONE HOUR	✓	227.00	100.000
A642 Wakefield Road (W)	ONE HOUR	✓	513.00	100.000
Knotty Lane	ONE HOUR	✓	47.00	100.000

# Turning Proportions

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

		To			
		A642 Wakefield Road (E)	Rowley Lane	A642 Wakefield Road (W)	Knotty Lane
From	A642 Wakefield Road (E)	0.000	344.000	610.000	4.000
	Rowley Lane	184.000	0.000	24.000	19.000
	A642 Wakefield Road (W)	474.000	34.000	0.000	5.000
	Knotty Lane	21.000	22.000	4.000	0.000

## Turning Proportions (PCU) - (untitled) (for whole period)

		To			
		A642 Wakefield Road (E)	Rowley Lane	A642 Wakefield Road (W)	Knotty Lane
From	A642 Wakefield Road (E)	0.00	0.36	0.64	0.00
	Rowley Lane	0.81	0.00	0.11	0.08
	A642 Wakefield Road (W)	0.92	0.07	0.00	0.01
	Knotty Lane	0.45	0.47	0.09	0.00

# Vehicle Mix

## Average PCU Per Vehicle - (untitled) (for whole period)

		To			
		A642 Wakefield Road (E)	Rowley Lane	A642 Wakefield Road (W)	Knotty Lane
From	A642 Wakefield Road (E)	1.000	1.000	1.000	1.000
	Rowley Lane	1.000	1.000	1.000	1.000
	A642 Wakefield Road (W)	1.000	1.000	1.000	1.000
	Knotty Lane	1.000	1.000	1.000	1.000

### Heavy Vehicle Percentages - (untitled) (for whole period)

		To			
From		A642 Wakefield Road (E)	Rowley Lane	A642 Wakefield Road (W)	Knotty Lane
	A642 Wakefield Road (E)	0.0	0.0	0.0	0.0
	Rowley Lane	0.0	0.0	0.0	0.0
	A642 Wakefield Road (W)	0.0	0.0	0.0	0.0
	Knotty Lane	0.0	0.0	0.0	0.0

## Results

### Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-ACD	1.01	169.21	11.47	F
A-BCD	0.01	5.92	0.01	A
A-B	-	-	-	-
A-C	-	-	-	-
D-ABC	0.18	15.43	0.22	C
C-ABD	0.08	8.15	0.08	A
C-D	-	-	-	-
C-A	-	-	-	-

### Main Results for each time segment

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

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-ACD	170.90	167.12	0.00	344.25	0.496	0.94	19.932	C
A-BCD	3.01	2.99	0.00	666.60	0.005	0.00	5.424	A
A-B	258.98	258.98	0.00	-	-	-	-	-
A-C	459.24	459.24	0.00	-	-	-	-	-
D-ABC	35.38	34.96	0.00	367.03	0.096	0.11	10.828	B
C-ABD	25.60	25.41	0.00	579.68	0.044	0.05	6.493	A
C-D	3.76	3.76	0.00	-	-	-	-	-
C-A	356.85	356.85	0.00	-	-	-	-	-

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

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-ACD	204.07	200.46	0.00	303.90	0.672	1.85	33.645	D
A-BCD	3.60	3.59	0.00	643.72	0.006	0.01	5.623	A
A-B	309.25	309.25	0.00	-	-	-	-	-
A-C	548.38	548.38	0.00	-	-	-	-	-
D-ABC	42.25	42.10	0.00	333.75	0.127	0.14	12.337	B
C-ABD	30.57	30.51	0.00	537.50	0.057	0.06	7.100	A
C-D	4.49	4.49	0.00	-	-	-	-	-
C-A	426.12	426.12	0.00	-	-	-	-	-

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

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-ACD	249.93	225.27	0.00	247.84	1.008	8.01	106.523	F
A-BCD	4.40	4.40	0.00	612.15	0.007	0.01	5.922	A
A-B	378.75	378.75	0.00	-	-	-	-	-
A-C	671.62	671.62	0.00	-	-	-	-	-
D-ABC	51.75	51.45	0.00	285.46	0.181	0.22	15.364	C
C-ABD	37.44	37.34	0.00	479.20	0.078	0.08	8.145	A
C-D	5.51	5.51	0.00	-	-	-	-	-
C-A	521.88	521.88	0.00	-	-	-	-	-

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

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-ACD	249.93	236.10	0.00	247.74	1.009	11.47	169.210	F
A-BCD	4.40	4.40	0.00	612.11	0.007	0.01	5.923	A
A-B	378.75	378.75	0.00	-	-	-	-	-
A-C	671.62	671.62	0.00	-	-	-	-	-
D-ABC	51.75	51.74	0.00	285.03	0.182	0.22	15.430	C
C-ABD	37.44	37.43	0.00	479.20	0.078	0.08	8.148	A
C-D	5.51	5.51	0.00	-	-	-	-	-
C-A	521.88	521.88	0.00	-	-	-	-	-

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

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-ACD	204.07	240.51	0.00	303.75	0.672	2.36	73.086	F
A-BCD	3.60	3.60	0.00	643.65	0.006	0.01	5.624	A
A-B	309.25	309.25	0.00	-	-	-	-	-
A-C	548.38	548.38	0.00	-	-	-	-	-
D-ABC	42.25	42.54	0.00	333.04	0.127	0.15	12.403	B
C-ABD	30.57	30.66	0.00	537.50	0.057	0.06	7.103	A
C-D	4.49	4.49	0.00	-	-	-	-	-
C-A	426.12	426.12	0.00	-	-	-	-	-

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

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-ACD	170.90	176.22	0.00	344.05	0.497	1.03	22.068	C
A-BCD	3.01	3.02	0.00	666.50	0.005	0.00	5.427	A
A-B	258.98	258.98	0.00	-	-	-	-	-
A-C	459.24	459.24	0.00	-	-	-	-	-
D-ABC	35.38	35.54	0.00	366.84	0.096	0.11	10.871	B
C-ABD	25.60	25.65	0.00	579.67	0.044	0.05	6.500	A
C-D	3.76	3.76	0.00	-	-	-	-	-
C-A	356.85	356.85	0.00	-	-	-	-	-



<b>Junctions 8</b>
<b>PICADY 8 - Priority Intersection Module</b>
Version: 8.0.5.523 [19102,19/06/2015] © Copyright TRL Limited, 2016
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**Filename:** Rowley Lane - A642 - Knotty Lane Crossroads Model - MITIGATION.arc8

**Path:** O:\Rowley Lane, Lepton\ANALYSIS\PICADY\Rowley Ln - A642 - Knotty Ln Crossroads\Crossroads Jnct - Mitigation

**Report generation date:** 21/09/2016 11:03:09

« **(Default Analysis Set) - 2021 DESIGN, AM**

- » Junction Network
- » Arms
- » Traffic Flows
- » Entry Flows
- » Turning Proportions
- » Vehicle Mix
- » Results

**Summary of junction performance**

	AM			
	Queue (PCU)	Delay (s)	RFC	LOS
	A1 - 2021 DESIGN			
Stream B-CD	1.94	197.23	0.80	F
Stream B-AD	6.77	97.82	0.92	F
Stream A-BCD	0.01	6.07	0.01	A
Stream A-B	-	-	-	-
Stream A-C	-	-	-	-
Stream D-ABC	0.11	14.55	0.10	B
Stream C-ABD	0.03	6.49	0.03	A
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.

"D3 - 2021 GROWTHED COUNT, AM" model duration: 07:45 - 09:15

"D4 - 2021 GROWTHED COUNT, PM" model duration: 16:45 - 18:15

"D7 - 2021 DESIGN, AM " model duration: 07:45 - 09:15

"D8 - 2021 DESIGN, PM" model duration: 16:45 - 18:15

"D9 - 2021 DESIGN SENSITIVITY, AM" model duration: 07:45 - 09:15

"D10 - 2021 DESIGN SENSITIVITY, PM" model duration: 16:45 - 18:15

Run using Junctions 8.0.5.523 at 21/09/2016 11:03:08

## File summary

Title	(untitled)
Location	
Site Number	
Date	03/08/2016
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	Optima
Description	

## Analysis Options

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

## Units

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

# (Default Analysis Set) - 2021 DESIGN, AM

## Data Errors and Warnings

*No errors or warnings*

## Analysis Set Details

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

## Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
2021 DESIGN, AM	2021 DESIGN	AM		ONE HOUR	07:45	09:15	90	15		

# Junction Network

## Junctions

Junction	Name	Junction Type	Major Road Direction	Arm Order	Junction Delay (s)	Junction LOS
1	(untitled)	Crossroads	Two-way	A,B,C,D	97.38	F

## Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

# Arms

## Arms

Name	Arm	Name	Description	Arm Type
A642 Wakefield Road (E)	A	A642 Wakefield Road (E)		Major
Rowley Lane	B	Rowley Lane		Minor
A642 Wakefield Road (W)	C	A642 Wakefield Road (W)		Major
Knotty Lane	D	Knotty Lane		Minor

## Major Arm Geometry

Name	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)
A642 Wakefield Road (E)	6.60		0.00	✓	3.20	230.00	✓	4.00
A642 Wakefield Road (W)	6.60		0.00	✓	3.20	250.00	✓	4.00

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

## Minor Arm Geometry

Name	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)
Rowley Lane	One lane plus flare				10.00	7.00	5.00	3.10	2.95	✓	2.00	22	52
Knotty Lane	One lane	2.50										23	22

## Slope / Intercept / Capacity

### Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for A-D	Slope for B-A	Slope for B-C	Slope for B-D	Slope for C-A	Slope for C-B	Slope for C-D	Slope for D-A	Slope for D-B	Slope for D-C
1	A-D	784.122	-	-	-	-	-	-	0.296	0.423	0.296	-	-	-
1	B-A	565.436	0.100	0.254	0.254	-	-	-	0.159	0.362	-	0.254	0.254	0.127
1	B-C	626.981	0.094	0.237	-	-	-	-	-	-	-	-	-	-
1	B-D, nearside lane	487.149	0.086	0.218	0.218	-	-	-	0.137	0.312	0.137	-	-	-
1	B-D, offside lane	565.436	0.100	0.254	0.254	-	-	-	0.159	0.362	0.159	-	-	-
1	C-B	796.964	0.301	0.301	0.430	-	-	-	-	-	-	-	-	-
1	D-A	605.860	-	-	-	-	-	-	0.229	-	0.090	-	-	-
1	D-B, nearside lane	471.044	0.133	0.133	0.302	-	-	-	0.211	0.211	0.084	-	-	-
1	D-B, offside lane	471.044	0.133	0.133	0.302	-	-	-	0.211	0.211	0.084	-	-	-
1	D-C	471.044	-	0.133	0.302	0.106	0.211	0.211	0.211	0.211	0.084	-	-	-

*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

Name	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
A642 Wakefield Road (E)	ONE HOUR	✓	687.00	100.000
Rowley Lane	ONE HOUR	✓	279.00	100.000
A642 Wakefield Road (W)	ONE HOUR	✓	572.00	100.000
Knotty Lane	ONE HOUR	✓	24.00	100.000

# Turning Proportions

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

		To			
		A642 Wakefield Road (E)	Rowley Lane	A642 Wakefield Road (W)	Knotty Lane
From	A642 Wakefield Road (E)	0.000	170.000	514.000	3.000
	Rowley Lane	243.000	0.000	16.000	20.000
	A642 Wakefield Road (W)	554.000	13.000	0.000	5.000
	Knotty Lane	7.000	13.000	4.000	0.000

## Turning Proportions (PCU) - (untitled) (for whole period)

		To			
		A642 Wakefield Road (E)	Rowley Lane	A642 Wakefield Road (W)	Knotty Lane
From	A642 Wakefield Road (E)	0.00	0.25	0.75	0.00
	Rowley Lane	0.87	0.00	0.06	0.07
	A642 Wakefield Road (W)	0.97	0.02	0.00	0.01
	Knotty Lane	0.29	0.54	0.17	0.00

# Vehicle Mix

## Average PCU Per Vehicle - (untitled) (for whole period)

		To			
		A642 Wakefield Road (E)	Rowley Lane	A642 Wakefield Road (W)	Knotty Lane
From	A642 Wakefield Road (E)	1.000	1.000	1.000	1.000
	Rowley Lane	1.000	1.000	1.000	1.000
	A642 Wakefield Road (W)	1.000	1.000	1.000	1.000
	Knotty Lane	1.000	1.000	1.000	1.000

### Heavy Vehicle Percentages - (untitled) (for whole period)

		To			
From		A642 Wakefield Road (E)	Rowley Lane	A642 Wakefield Road (W)	Knotty Lane
	A642 Wakefield Road (E)	0.0	0.0	0.0	0.0
	Rowley Lane	0.0	0.0	0.0	0.0
	A642 Wakefield Road (W)	0.0	0.0	0.0	0.0
	Knotty Lane	0.0	0.0	0.0	0.0

## Results

### Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-CD	0.80	197.23	1.94	F
B-AD	0.92	97.82	6.77	F
A-BCD	0.01	6.07	0.01	A
A-B	-	-	-	-
A-C	-	-	-	-
D-ABC	0.10	14.55	0.11	B
C-ABD	0.03	6.49	0.03	A
C-D	-	-	-	-
C-A	-	-	-	-

### Main Results for each time segment

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

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-CD	23.20	22.91	0.00	339.86	0.068	0.07	11.348	B
B-AD	186.84	183.12	0.00	379.69	0.492	0.93	17.998	C
A-BCD	2.26	2.24	0.00	655.47	0.003	0.00	5.510	A
A-B	127.98	127.98	0.00	-	-	-	-	-
A-C	386.97	386.97	0.00	-	-	-	-	-
D-ABC	18.07	17.85	0.00	349.65	0.052	0.05	10.843	B
C-ABD	9.79	9.73	0.00	641.14	0.015	0.02	5.701	A
C-D	3.76	3.76	0.00	-	-	-	-	-
C-A	417.08	417.08	0.00	-	-	-	-	-

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

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-CD	29.19	28.98	0.00	262.86	0.111	0.12	15.380	C
B-AD	221.63	218.63	0.00	343.44	0.645	1.68	28.158	D
A-BCD	2.70	2.69	0.00	630.47	0.004	0.00	5.733	A
A-B	152.83	152.83	0.00	-	-	-	-	-
A-C	462.08	462.08	0.00	-	-	-	-	-
D-ABC	21.58	21.50	0.00	318.39	0.068	0.07	12.123	B
C-ABD	11.69	11.67	0.00	610.88	0.019	0.02	6.007	A
C-D	4.49	4.49	0.00	-	-	-	-	-
C-A	498.03	498.03	0.00	-	-	-	-	-

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

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-CD	38.91	36.57	0.00	87.22	0.446	0.71	68.446	F
B-AD	268.28	252.94	0.00	292.77	0.916	5.52	72.080	F
A-BCD	3.30	3.30	0.00	595.93	0.006	0.01	6.073	A
A-B	187.17	187.17	0.00	-	-	-	-	-
A-C	565.92	565.92	0.00	-	-	-	-	-
D-ABC	26.42	26.29	0.00	274.30	0.096	0.10	14.508	B
C-ABD	14.31	14.29	0.00	569.06	0.025	0.03	6.488	A
C-D	5.51	5.51	0.00	-	-	-	-	-
C-A	609.97	609.97	0.00	-	-	-	-	-

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

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-CD	39.48	34.56	0.00	49.64	0.795	1.94	197.231	F
B-AD	267.70	262.67	0.00	292.37	0.916	6.77	97.824	F
A-BCD	3.30	3.30	0.00	595.92	0.006	0.01	6.074	A
A-B	187.17	187.17	0.00	-	-	-	-	-
A-C	565.92	565.92	0.00	-	-	-	-	-
D-ABC	26.42	26.42	0.00	273.77	0.097	0.11	14.553	B
C-ABD	14.31	14.31	0.00	569.06	0.025	0.03	6.488	A
C-D	5.51	5.51	0.00	-	-	-	-	-
C-A	609.97	609.97	0.00	-	-	-	-	-

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

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-CD	29.81	36.96	0.00	234.32	0.127	0.15	18.865	C
B-AD	221.01	240.16	0.00	342.76	0.645	1.99	39.986	E
A-BCD	2.70	2.70	0.00	630.45	0.004	0.00	5.734	A
A-B	152.83	152.83	0.00	-	-	-	-	-
A-C	462.08	462.08	0.00	-	-	-	-	-
D-ABC	21.58	21.70	0.00	317.44	0.068	0.07	12.180	B
C-ABD	11.69	11.71	0.00	610.88	0.019	0.02	6.010	A
C-D	4.49	4.49	0.00	-	-	-	-	-
C-A	498.03	498.03	0.00	-	-	-	-	-

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

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-CD	23.36	23.65	0.00	333.83	0.070	0.08	11.616	B
B-AD	186.69	190.61	0.00	379.64	0.492	1.00	19.413	C
A-BCD	2.26	2.26	0.00	655.43	0.003	0.00	5.511	A
A-B	127.98	127.98	0.00	-	-	-	-	-
A-C	386.97	386.97	0.00	-	-	-	-	-
D-ABC	18.07	18.14	0.00	349.42	0.052	0.06	10.869	B
C-ABD	9.79	9.80	0.00	641.13	0.015	0.02	5.704	A
C-D	3.76	3.76	0.00	-	-	-	-	-
C-A	417.08	417.08	0.00	-	-	-	-	-

<b>Junctions 8</b>
<b>PICADY 8 - Priority Intersection Module</b>
Version: 8.0.5.523 [19102,19/06/2015] © Copyright TRL Limited, 2016
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**Filename:** Rowley Lane - A642 - Knotty Lane Crossroads Model - MITIGATION.arc8

**Path:** O:\Rowley Lane, Lepton\ANALYSIS\PICADY\Rowley Ln - A642 - Knotty Ln Crossroads\Crossroads Jnct - Mitigation

**Report generation date:** 21/09/2016 11:04:00

« **(Default Analysis Set) - 2021 DESIGN, PM**

- » Junction Network
- » Arms
- » Traffic Flows
- » Entry Flows
- » Turning Proportions
- » Vehicle Mix
- » Results

**Summary of junction performance**

	PM			
	Queue (PCU)	Delay (s)	RFC	LOS
	<b>A1 - 2021 DESIGN</b>			
Stream B-CD	0.58	48.07	0.38	E
Stream B-AD	4.09	78.42	0.84	F
Stream A-BCD	0.01	5.92	0.01	A
Stream A-B	-	-	-	-
Stream A-C	-	-	-	-
Stream D-ABC	0.22	15.41	0.18	C
Stream C-ABD	0.08	8.15	0.08	A
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.

"D3 - 2021 GROWTHED COUNT, AM" model duration: 07:45 - 09:15

"D4 - 2021 GROWTHED COUNT, PM" model duration: 16:45 - 18:15

"D7 - 2021 DESIGN, AM" model duration: 07:45 - 09:15

"D8 - 2021 DESIGN, PM " model duration: 16:45 - 18:15

"D9 - 2021 DESIGN SENSITIVITY, AM" model duration: 07:45 - 09:15

"D10 - 2021 DESIGN SENSITIVITY, PM" model duration: 16:45 - 18:15

Run using Junctions 8.0.5.523 at 21/09/2016 11:03:59



## File summary

Title	(untitled)
Location	
Site Number	
Date	03/08/2016
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	Optima
Description	

## Analysis Options

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

## Units

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

# (Default Analysis Set) - 2021 DESIGN, PM

## Data Errors and Warnings

*No errors or warnings*

## Analysis Set Details

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

## Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
2021 DESIGN, PM	2021 DESIGN	PM		ONE HOUR	16:45	18:15	90	15		

# Junction Network

## Junctions

Junction	Name	Junction Type	Major Road Direction	Arm Order	Junction Delay (s)	Junction LOS
1	(untitled)	Crossroads	Two-way	A,B,C,D	56.48	F

## Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

# Arms

## Arms

Name	Arm	Name	Description	Arm Type
A642 Wakefield Road (E)	A	A642 Wakefield Road (E)		Major
Rowley Lane	B	Rowley Lane		Minor
A642 Wakefield Road (W)	C	A642 Wakefield Road (W)		Major
Knotty Lane	D	Knotty Lane		Minor

## Major Arm Geometry

Name	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)
A642 Wakefield Road (E)	6.60		0.00	✓	3.20	230.00	✓	4.00
A642 Wakefield Road (W)	6.60		0.00	✓	3.20	250.00	✓	4.00

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

## Minor Arm Geometry

Name	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)
Rowley Lane	One lane plus flare				10.00	7.00	5.00	3.10	2.95	✓	2.00	22	52
Knotty Lane	One lane	2.50										23	22

## Slope / Intercept / Capacity

### Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for A-D	Slope for B-A	Slope for B-C	Slope for B-D	Slope for C-A	Slope for C-B	Slope for C-D	Slope for D-A	Slope for D-B	Slope for D-C
1	A-D	784.122	-	-	-	-	-	-	0.296	0.423	0.296	-	-	-
1	B-A	562.350	0.100	0.252	0.252	-	-	-	0.159	0.360	-	0.252	0.252	0.126
1	B-C	633.599	0.095	0.239	-	-	-	-	-	-	-	-	-	-
1	B-D, nearside lane	492.291	0.087	0.221	0.221	-	-	-	0.139	0.315	0.139	-	-	-
1	B-D, offside lane	562.350	0.100	0.252	0.252	-	-	-	0.159	0.360	0.159	-	-	-
1	C-B	796.964	0.301	0.301	0.430	-	-	-	-	-	-	-	-	-
1	D-A	605.860	-	-	-	-	-	-	0.229	-	0.090	-	-	-
1	D-B, nearside lane	471.044	0.133	0.133	0.302	-	-	-	0.211	0.211	0.084	-	-	-
1	D-B, offside lane	471.044	0.133	0.133	0.302	-	-	-	0.211	0.211	0.084	-	-	-
1	D-C	471.044	-	0.133	0.302	0.106	0.211	0.211	0.211	0.211	0.084	-	-	-

*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

Name	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
A642 Wakefield Road (E)	ONE HOUR	✓	958.00	100.000
Rowley Lane	ONE HOUR	✓	227.00	100.000
A642 Wakefield Road (W)	ONE HOUR	✓	513.00	100.000
Knotty Lane	ONE HOUR	✓	47.00	100.000

# Turning Proportions

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

		To			
		A642 Wakefield Road (E)	Rowley Lane	A642 Wakefield Road (W)	Knotty Lane
From	A642 Wakefield Road (E)	0.000	344.000	610.000	4.000
	Rowley Lane	184.000	0.000	24.000	19.000
	A642 Wakefield Road (W)	474.000	34.000	0.000	5.000
	Knotty Lane	21.000	22.000	4.000	0.000

## Turning Proportions (PCU) - (untitled) (for whole period)

		To			
		A642 Wakefield Road (E)	Rowley Lane	A642 Wakefield Road (W)	Knotty Lane
From	A642 Wakefield Road (E)	0.00	0.36	0.64	0.00
	Rowley Lane	0.81	0.00	0.11	0.08
	A642 Wakefield Road (W)	0.92	0.07	0.00	0.01
	Knotty Lane	0.45	0.47	0.09	0.00

# Vehicle Mix

## Average PCU Per Vehicle - (untitled) (for whole period)

		To			
		A642 Wakefield Road (E)	Rowley Lane	A642 Wakefield Road (W)	Knotty Lane
From	A642 Wakefield Road (E)	1.000	1.000	1.000	1.000
	Rowley Lane	1.000	1.000	1.000	1.000
	A642 Wakefield Road (W)	1.000	1.000	1.000	1.000
	Knotty Lane	1.000	1.000	1.000	1.000

### Heavy Vehicle Percentages - (untitled) (for whole period)

		To			
From		A642 Wakefield Road (E)	Rowley Lane	A642 Wakefield Road (W)	Knotty Lane
	A642 Wakefield Road (E)	0.0	0.0	0.0	0.0
	Rowley Lane	0.0	0.0	0.0	0.0
	A642 Wakefield Road (W)	0.0	0.0	0.0	0.0
	Knotty Lane	0.0	0.0	0.0	0.0

## Results

### Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-CD	0.38	48.07	0.58	E
B-AD	0.84	78.42	4.09	F
A-BCD	0.01	5.92	0.01	A
A-B	-	-	-	-
A-C	-	-	-	-
D-ABC	0.18	15.41	0.22	C
C-ABD	0.08	8.15	0.08	A
C-D	-	-	-	-
C-A	-	-	-	-

### Main Results for each time segment

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

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-CD	28.09	27.75	0.00	358.50	0.078	0.08	10.873	B
B-AD	142.81	140.09	0.00	345.78	0.413	0.68	17.287	C
A-BCD	3.01	2.99	0.00	666.60	0.005	0.00	5.424	A
A-B	258.98	258.98	0.00	-	-	-	-	-
A-C	459.24	459.24	0.00	-	-	-	-	-
D-ABC	35.38	34.96	0.00	367.03	0.096	0.11	10.828	B
C-ABD	25.60	25.41	0.00	579.68	0.044	0.05	6.493	A
C-D	3.76	3.76	0.00	-	-	-	-	-
C-A	356.85	356.85	0.00	-	-	-	-	-

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

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-CD	34.85	34.65	0.00	291.09	0.120	0.13	14.016	B
B-AD	169.22	167.19	0.00	303.40	0.558	1.19	26.034	D
A-BCD	3.60	3.59	0.00	643.72	0.006	0.01	5.623	A
A-B	309.25	309.25	0.00	-	-	-	-	-
A-C	548.38	548.38	0.00	-	-	-	-	-
D-ABC	42.25	42.10	0.00	333.77	0.127	0.14	12.336	B
C-ABD	30.57	30.51	0.00	537.50	0.057	0.06	7.100	A
C-D	4.49	4.49	0.00	-	-	-	-	-
C-A	426.12	426.12	0.00	-	-	-	-	-

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

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-CD	45.73	44.45	0.00	141.31	0.324	0.45	36.717	E
B-AD	204.21	194.65	0.00	244.14	0.836	3.58	63.370	F
A-BCD	4.40	4.40	0.00	612.15	0.007	0.01	5.922	A
A-B	378.75	378.75	0.00	-	-	-	-	-
A-C	671.62	671.62	0.00	-	-	-	-	-
D-ABC	51.75	51.45	0.00	285.50	0.181	0.22	15.361	C
C-ABD	37.44	37.34	0.00	479.20	0.078	0.08	8.145	A
C-D	5.51	5.51	0.00	-	-	-	-	-
C-A	521.88	521.88	0.00	-	-	-	-	-

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

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-CD	46.13	45.60	0.00	119.83	0.385	0.58	48.072	E
B-AD	203.80	201.74	0.00	243.83	0.836	4.09	78.417	F
A-BCD	4.40	4.40	0.00	612.11	0.007	0.01	5.923	A
A-B	378.75	378.75	0.00	-	-	-	-	-
A-C	671.62	671.62	0.00	-	-	-	-	-
D-ABC	51.75	51.74	0.00	285.31	0.181	0.22	15.411	C
C-ABD	37.44	37.43	0.00	479.20	0.078	0.08	8.148	A
C-D	5.51	5.51	0.00	-	-	-	-	-
C-A	521.88	521.88	0.00	-	-	-	-	-

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

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-CD	35.23	36.97	0.00	276.45	0.127	0.15	15.134	C
B-AD	168.84	179.84	0.00	303.24	0.557	1.34	31.356	D
A-BCD	3.60	3.60	0.00	643.65	0.006	0.01	5.624	A
A-B	309.25	309.25	0.00	-	-	-	-	-
A-C	548.38	548.38	0.00	-	-	-	-	-
D-ABC	42.25	42.54	0.00	333.50	0.127	0.15	12.386	B
C-ABD	30.57	30.66	0.00	537.50	0.057	0.06	7.103	A
C-D	4.49	4.49	0.00	-	-	-	-	-
C-A	426.12	426.12	0.00	-	-	-	-	-

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

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-CD	28.20	28.44	0.00	354.81	0.079	0.09	11.040	B
B-AD	142.70	145.15	0.00	345.61	0.413	0.73	18.169	C
A-BCD	3.01	3.02	0.00	666.50	0.005	0.00	5.427	A
A-B	258.98	258.98	0.00	-	-	-	-	-
A-C	459.24	459.24	0.00	-	-	-	-	-
D-ABC	35.38	35.54	0.00	366.89	0.096	0.11	10.869	B
C-ABD	25.60	25.65	0.00	579.67	0.044	0.05	6.500	A
C-D	3.76	3.76	0.00	-	-	-	-	-
C-A	356.85	356.85	0.00	-	-	-	-	-

<b>Junctions 8</b>
<b>PICADY 8 - Priority Intersection Module</b>
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**Filename:** Rowley Lane - A642 - Knotty Lane Crossroads Model - MITIGATION.arc8  
**Path:** O:\Rowley Lane, Lepton\ANALYSIS\PICADY\Rowley Ln - A642 - Knotty Ln Crossroads\Crossroads Jnct - Mitigation  
**Report generation date:** 21/09/2016 11:04:37

- « (Default Analysis Set) - 2021 DESIGN SENSITIVITY, AM
- » Junction Network
- » Arms
- » Traffic Flows
- » Entry Flows
- » Turning Proportions
- » Vehicle Mix
- » Results

### Summary of junction performance

	AM			
	Queue (PCU)	Delay (s)	RFC	LOS
	<b>A1 - 2021 DESIGN SENSITIVITY</b>			
Stream B-CD	2.69	233.73	0.93	F
Stream B-AD	7.91	110.59	0.94	F
Stream A-BCD	0.01	6.07	0.01	A
Stream A-B	-	-	-	-
Stream A-C	-	-	-	-
Stream D-ABC	0.11	14.59	0.10	B
Stream C-ABD	0.03	6.50	0.03	A
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.

"D3 - 2021 GROWTHED COUNT, AM" model duration: 07:45 - 09:15

"D4 - 2021 GROWTHED COUNT, PM" model duration: 16:45 - 18:15

"D7 - 2021 DESIGN, AM" model duration: 07:45 - 09:15

"D8 - 2021 DESIGN, PM" model duration: 16:45 - 18:15

"D9 - 2021 DESIGN SENSITIVITY, AM " model duration: 07:45 - 09:15

"D10 - 2021 DESIGN SENSITIVITY, PM" model duration: 16:45 - 18:15

Run using Junctions 8.0.5.523 at 21/09/2016 11:04:36

## File summary

Title	(untitled)
Location	
Site Number	
Date	03/08/2016
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	Optima
Description	

## Analysis Options

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

## Units

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

# (Default Analysis Set) - 2021 DESIGN SENSITIVITY, AM

## Data Errors and Warnings

*No errors or warnings*

## Analysis Set Details

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

## Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
2021 DESIGN SENSITIVITY, AM	2021 DESIGN SENSITIVITY	AM		ONE HOUR	07:45	09:15	90	15		

# Junction Network

## Junctions

Junction	Name	Junction Type	Major Road Direction	Arm Order	Junction Delay (s)	Junction LOS
1	(untitled)	Crossroads	Two-way	A,B,C,D	111.44	F

## Junction Network Options

Driving Side	Lighting
Left	Normal/unknown



# Arms

## Arms

Name	Arm	Name	Description	Arm Type
A642 Wakefield Road (E)	A	A642 Wakefield Road (E)		Major
Rowley Lane	B	Rowley Lane		Minor
A642 Wakefield Road (W)	C	A642 Wakefield Road (W)		Major
Knotty Lane	D	Knotty Lane		Minor

## Major Arm Geometry

Name	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)
A642 Wakefield Road (E)	6.60		0.00	✓	3.20	230.00	✓	4.00
A642 Wakefield Road (W)	6.60		0.00	✓	3.20	250.00	✓	4.00

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

## Minor Arm Geometry

Name	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)
Rowley Lane	One lane plus flare				10.00	7.00	5.00	3.10	2.95	✓	2.00	22	52
Knotty Lane	One lane	2.50										23	22

## Slope / Intercept / Capacity

### Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for A-D	Slope for B-A	Slope for B-C	Slope for B-D	Slope for C-A	Slope for C-B	Slope for C-D	Slope for D-A	Slope for D-B	Slope for D-C
1	A-D	784.122	-	-	-	-	-	-	0.296	0.423	0.296	-	-	-
1	B-A	565.418	0.100	0.254	0.254	-	-	-	0.159	0.362	-	0.254	0.254	0.127
1	B-C	627.018	0.094	0.237	-	-	-	-	-	-	-	-	-	-
1	B-D, nearside lane	487.178	0.086	0.218	0.218	-	-	-	0.137	0.312	0.137	-	-	-
1	B-D, offside lane	565.418	0.100	0.254	0.254	-	-	-	0.159	0.362	0.159	-	-	-
1	C-B	796.964	0.301	0.301	0.430	-	-	-	-	-	-	-	-	-
1	D-A	605.860	-	-	-	-	-	-	0.229	-	0.090	-	-	-
1	D-B, nearside lane	471.044	0.133	0.133	0.302	-	-	-	0.211	0.211	0.084	-	-	-
1	D-B, offside lane	471.044	0.133	0.133	0.302	-	-	-	0.211	0.211	0.084	-	-	-
1	D-C	471.044	-	0.133	0.302	0.106	0.211	0.211	0.211	0.211	0.084	-	-	-

*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

Name	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
A642 Wakefield Road (E)	ONE HOUR	✓	690.00	100.000
Rowley Lane	ONE HOUR	✓	286.00	100.000
A642 Wakefield Road (W)	ONE HOUR	✓	572.00	100.000
Knotty Lane	ONE HOUR	✓	24.00	100.000

# Turning Proportions

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

		To			
		A642 Wakefield Road (E)	Rowley Lane	A642 Wakefield Road (W)	Knotty Lane
From	A642 Wakefield Road (E)	0.000	173.000	514.000	3.000
	Rowley Lane	249.000	0.000	16.000	21.000
	A642 Wakefield Road (W)	554.000	13.000	0.000	5.000
	Knotty Lane	7.000	13.000	4.000	0.000

## Turning Proportions (PCU) - (untitled) (for whole period)

		To			
		A642 Wakefield Road (E)	Rowley Lane	A642 Wakefield Road (W)	Knotty Lane
From	A642 Wakefield Road (E)	0.00	0.25	0.74	0.00
	Rowley Lane	0.87	0.00	0.06	0.07
	A642 Wakefield Road (W)	0.97	0.02	0.00	0.01
	Knotty Lane	0.29	0.54	0.17	0.00

# Vehicle Mix

## Average PCU Per Vehicle - (untitled) (for whole period)

		To			
		A642 Wakefield Road (E)	Rowley Lane	A642 Wakefield Road (W)	Knotty Lane
From	A642 Wakefield Road (E)	1.000	1.000	1.000	1.000
	Rowley Lane	1.000	1.000	1.000	1.000
	A642 Wakefield Road (W)	1.000	1.000	1.000	1.000
	Knotty Lane	1.000	1.000	1.000	1.000

### Heavy Vehicle Percentages - (untitled) (for whole period)

		To			
From		A642 Wakefield Road (E)	Rowley Lane	A642 Wakefield Road (W)	Knotty Lane
	A642 Wakefield Road (E)	0.0	0.0	0.0	0.0
	Rowley Lane	0.0	0.0	0.0	0.0
	A642 Wakefield Road (W)	0.0	0.0	0.0	0.0
	Knotty Lane	0.0	0.0	0.0	0.0

## Results

### Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-CD	0.93	233.73	2.69	F
B-AD	0.94	110.59	7.91	F
A-BCD	0.01	6.07	0.01	A
A-B	-	-	-	-
A-C	-	-	-	-
D-ABC	0.10	14.59	0.11	B
C-ABD	0.03	6.50	0.03	A
C-D	-	-	-	-
C-A	-	-	-	-

### Main Results for each time segment

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

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-CD	23.86	23.55	0.00	334.43	0.071	0.08	11.570	B
B-AD	191.46	187.55	0.00	379.45	0.505	0.98	18.412	C
A-BCD	2.26	2.24	0.00	655.47	0.003	0.00	5.510	A
A-B	130.24	130.24	0.00	-	-	-	-	-
A-C	386.97	386.97	0.00	-	-	-	-	-
D-ABC	18.07	17.85	0.00	349.31	0.052	0.05	10.855	B
C-ABD	9.79	9.73	0.00	640.46	0.015	0.02	5.707	A
C-D	3.76	3.76	0.00	-	-	-	-	-
C-A	417.08	417.08	0.00	-	-	-	-	-

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

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-CD	30.08	29.86	0.00	254.32	0.118	0.13	16.022	C
B-AD	227.02	223.76	0.00	343.14	0.662	1.79	29.346	D
A-BCD	2.70	2.69	0.00	630.47	0.004	0.00	5.733	A
A-B	155.52	155.52	0.00	-	-	-	-	-
A-C	462.08	462.08	0.00	-	-	-	-	-
D-ABC	21.58	21.50	0.00	317.96	0.068	0.07	12.140	B
C-ABD	11.69	11.67	0.00	610.07	0.019	0.02	6.015	A
C-D	4.49	4.49	0.00	-	-	-	-	-
C-A	498.03	498.03	0.00	-	-	-	-	-

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

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-CD	40.26	36.46	0.00	69.28	0.581	1.08	101.254	F
B-AD	274.63	256.98	0.00	292.25	0.940	6.21	78.183	F
A-BCD	3.30	3.30	0.00	595.93	0.006	0.01	6.073	A
A-B	190.48	190.48	0.00	-	-	-	-	-
A-C	565.92	565.92	0.00	-	-	-	-	-
D-ABC	26.42	26.29	0.00	273.74	0.097	0.11	14.541	B
C-ABD	14.31	14.29	0.00	568.07	0.025	0.03	6.500	A
C-D	5.51	5.51	0.00	-	-	-	-	-
C-A	609.97	609.97	0.00	-	-	-	-	-

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

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-CD	40.74	34.29	0.00	43.97	0.926	2.69	233.731	F
B-AD	274.15	267.36	0.00	291.74	0.940	7.91	110.592	F
A-BCD	3.30	3.30	0.00	595.92	0.006	0.01	6.074	A
A-B	190.48	190.48	0.00	-	-	-	-	-
A-C	565.92	565.92	0.00	-	-	-	-	-
D-ABC	26.42	26.42	0.00	273.06	0.097	0.11	14.595	B
C-ABD	14.31	14.31	0.00	568.07	0.025	0.03	6.500	A
C-D	5.51	5.51	0.00	-	-	-	-	-
C-A	609.97	609.97	0.00	-	-	-	-	-

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

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-CD	30.86	40.96	0.00	219.33	0.141	0.17	21.264	C
B-AD	226.25	249.23	0.00	342.10	0.661	2.16	45.473	E
A-BCD	2.70	2.70	0.00	630.45	0.004	0.00	5.734	A
A-B	155.52	155.52	0.00	-	-	-	-	-
A-C	462.08	462.08	0.00	-	-	-	-	-
D-ABC	21.58	21.70	0.00	316.74	0.068	0.07	12.208	B
C-ABD	11.69	11.71	0.00	610.07	0.019	0.02	6.018	A
C-D	4.49	4.49	0.00	-	-	-	-	-
C-A	498.03	498.03	0.00	-	-	-	-	-

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

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-CD	24.03	24.39	0.00	327.68	0.073	0.08	11.884	B
B-AD	191.28	195.69	0.00	379.40	0.504	1.06	20.031	C
A-BCD	2.26	2.26	0.00	655.43	0.003	0.00	5.513	A
A-B	130.24	130.24	0.00	-	-	-	-	-
A-C	386.97	386.97	0.00	-	-	-	-	-
D-ABC	18.07	18.14	0.00	349.05	0.052	0.06	10.883	B
C-ABD	9.79	9.80	0.00	640.45	0.015	0.02	5.707	A
C-D	3.76	3.76	0.00	-	-	-	-	-
C-A	417.08	417.08	0.00	-	-	-	-	-

<b>Junctions 8</b>
<b>PICADY 8 - Priority Intersection Module</b>
Version: 8.0.5.523 [19102,19/06/2015] © Copyright TRL Limited, 2016
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**Filename:** Rowley Lane - A642 - Knotty Lane Crossroads Model - MITIGATION.arc8  
**Path:** O:\Rowley Lane, Lepton\ANALYSIS\PICADY\Rowley Ln - A642 - Knotty Ln Crossroads\Crossroads Jnct - Mitigation  
**Report generation date:** 21/09/2016 11:06:30

« (Default Analysis Set) - 2021 DESIGN SENSITIVITY, PM

- » Junction Network
- » Arms
- » Traffic Flows
- » Entry Flows
- » Turning Proportions
- » Vehicle Mix
- » Results

**Summary of junction performance**

	PM			
	Queue (PCU)	Delay (s)	RFC	LOS
	<b>A1 - 2021 DESIGN SENSITIVITY</b>			
Stream B-CD	0.79	62.28	0.47	F
Stream B-AD	4.59	86.39	0.86	F
Stream A-BCD	0.01	5.92	0.01	A
Stream A-B	-	-	-	-
Stream A-C	-	-	-	-
Stream D-ABC	0.23	15.68	0.19	C
Stream C-ABD	0.08	8.18	0.08	A
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.

"D3 - 2021 GROWTHED COUNT, AM" model duration: 07:45 - 09:15  
 "D4 - 2021 GROWTHED COUNT, PM" model duration: 16:45 - 18:15  
 "D7 - 2021 DESIGN, AM" model duration: 07:45 - 09:15  
 "D8 - 2021 DESIGN, PM" model duration: 16:45 - 18:15  
 "D9 - 2021 DESIGN SENSITIVITY, AM" model duration: 07:45 - 09:15  
 "D10 - 2021 DESIGN SENSITIVITY, PM " model duration: 16:45 - 18:15

Run using Junctions 8.0.5.523 at 21/09/2016 11:06:29

## File summary

Title	(untitled)
Location	
Site Number	
Date	03/08/2016
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	Optima
Description	

## Analysis Options

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

## Units

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

# (Default Analysis Set) - 2021 DESIGN SENSITIVITY, PM

## Data Errors and Warnings

*No errors or warnings*

## Analysis Set Details

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

## Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
2021 DESIGN SENSITIVITY, PM	2021 DESIGN SENSITIVITY	PM		ONE HOUR	16:45	18:15	90	15		

# Junction Network

## Junctions

Junction	Name	Junction Type	Major Road Direction	Arm Order	Junction Delay (s)	Junction LOS
1	(untitled)	Crossroads	Two-way	A,B,C,D	63.26	F

## Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

# Arms

## Arms

Name	Arm	Name	Description	Arm Type
A642 Wakefield Road (E)	A	A642 Wakefield Road (E)		Major
Rowley Lane	B	Rowley Lane		Minor
A642 Wakefield Road (W)	C	A642 Wakefield Road (W)		Major
Knotty Lane	D	Knotty Lane		Minor

## Major Arm Geometry

Name	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)
A642 Wakefield Road (E)	6.60		0.00	✓	3.20	230.00	✓	4.00
A642 Wakefield Road (W)	6.60		0.00	✓	3.20	250.00	✓	4.00

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

## Minor Arm Geometry

Name	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)
Rowley Lane	One lane plus flare				10.00	7.00	5.00	3.10	2.95	✓	2.00	22	52
Knotty Lane	One lane	2.50										23	22

## Slope / Intercept / Capacity

### Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for A-D	Slope for B-A	Slope for B-C	Slope for B-D	Slope for C-A	Slope for C-B	Slope for C-D	Slope for D-A	Slope for D-B	Slope for D-C
1	A-D	784.122	-	-	-	-	-	-	0.296	0.423	0.296	-	-	-
1	B-A	562.161	0.100	0.252	0.252	-	-	-	0.159	0.360	-	0.252	0.252	0.126
1	B-C	634.005	0.095	0.239	-	-	-	-	-	-	-	-	-	-
1	B-D, nearside lane	492.606	0.087	0.221	0.221	-	-	-	0.139	0.316	0.139	-	-	-
1	B-D, offside lane	562.161	0.100	0.252	0.252	-	-	-	0.159	0.360	0.159	-	-	-
1	C-B	796.964	0.301	0.301	0.430	-	-	-	-	-	-	-	-	-
1	D-A	605.860	-	-	-	-	-	-	0.229	-	0.090	-	-	-
1	D-B, nearside lane	471.044	0.133	0.133	0.302	-	-	-	0.211	0.211	0.084	-	-	-
1	D-B, offside lane	471.044	0.133	0.133	0.302	-	-	-	0.211	0.211	0.084	-	-	-
1	D-C	471.044	-	0.133	0.302	0.106	0.211	0.211	0.211	0.211	0.084	-	-	-

*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

Name	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
A642 Wakefield Road (E)	ONE HOUR	✓	963.00	100.000
Rowley Lane	ONE HOUR	✓	233.00	100.000
A642 Wakefield Road (W)	ONE HOUR	✓	513.00	100.000
Knotty Lane	ONE HOUR	✓	48.00	100.000

# Turning Proportions

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

		To			
		A642 Wakefield Road (E)	Rowley Lane	A642 Wakefield Road (W)	Knotty Lane
From	A642 Wakefield Road (E)	0.000	349.000	610.000	4.000
	Rowley Lane	188.000	0.000	25.000	20.000
	A642 Wakefield Road (W)	474.000	34.000	0.000	5.000
	Knotty Lane	21.000	23.000	4.000	0.000

## Turning Proportions (PCU) - (untitled) (for whole period)

		To			
		A642 Wakefield Road (E)	Rowley Lane	A642 Wakefield Road (W)	Knotty Lane
From	A642 Wakefield Road (E)	0.00	0.36	0.63	0.00
	Rowley Lane	0.81	0.00	0.11	0.09
	A642 Wakefield Road (W)	0.92	0.07	0.00	0.01
	Knotty Lane	0.44	0.48	0.08	0.00

# Vehicle Mix

## Average PCU Per Vehicle - (untitled) (for whole period)

		To			
		A642 Wakefield Road (E)	Rowley Lane	A642 Wakefield Road (W)	Knotty Lane
From	A642 Wakefield Road (E)	1.000	1.000	1.000	1.000
	Rowley Lane	1.000	1.000	1.000	1.000
	A642 Wakefield Road (W)	1.000	1.000	1.000	1.000
	Knotty Lane	1.000	1.000	1.000	1.000

### Heavy Vehicle Percentages - (untitled) (for whole period)

		To			
From		A642 Wakefield Road (E)	Rowley Lane	A642 Wakefield Road (W)	Knotty Lane
	A642 Wakefield Road (E)	0.0	0.0	0.0	0.0
	Rowley Lane	0.0	0.0	0.0	0.0
	A642 Wakefield Road (W)	0.0	0.0	0.0	0.0
	Knotty Lane	0.0	0.0	0.0	0.0

## Results

### Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-CD	0.47	62.28	0.79	F
B-AD	0.86	86.39	4.59	F
A-BCD	0.01	5.92	0.01	A
A-B	-	-	-	-
A-C	-	-	-	-
D-ABC	0.19	15.68	0.23	C
C-ABD	0.08	8.18	0.08	A
C-D	-	-	-	-
C-A	-	-	-	-

### Main Results for each time segment

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

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-CD	29.44	29.08	0.00	355.86	0.083	0.09	11.006	B
B-AD	145.98	143.14	0.00	345.10	0.423	0.71	17.594	C
A-BCD	3.01	2.99	0.00	666.60	0.005	0.00	5.424	A
A-B	262.75	262.75	0.00	-	-	-	-	-
A-C	459.24	459.24	0.00	-	-	-	-	-
D-ABC	36.14	35.70	0.00	364.68	0.099	0.11	10.929	B
C-ABD	25.60	25.41	0.00	578.55	0.044	0.05	6.507	A
C-D	3.76	3.76	0.00	-	-	-	-	-
C-A	356.85	356.85	0.00	-	-	-	-	-

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

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-CD	36.57	36.35	0.00	286.42	0.128	0.14	14.382	B
B-AD	172.90	170.73	0.00	302.59	0.571	1.25	26.851	D
A-BCD	3.60	3.59	0.00	643.72	0.006	0.01	5.623	A
A-B	313.74	313.74	0.00	-	-	-	-	-
A-C	548.38	548.38	0.00	-	-	-	-	-
D-ABC	43.15	42.99	0.00	331.21	0.130	0.15	12.484	B
C-ABD	30.57	30.51	0.00	536.15	0.057	0.06	7.119	A
C-D	4.49	4.49	0.00	-	-	-	-	-
C-A	426.12	426.12	0.00	-	-	-	-	-

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

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-CD	48.09	46.46	0.00	129.53	0.371	0.55	42.580	E
B-AD	208.45	197.72	0.00	242.97	0.858	3.93	67.783	F
A-BCD	4.40	4.40	0.00	612.15	0.007	0.01	5.922	A
A-B	384.26	384.26	0.00	-	-	-	-	-
A-C	671.62	671.62	0.00	-	-	-	-	-
D-ABC	52.85	52.54	0.00	282.68	0.187	0.23	15.618	C
C-ABD	37.44	37.34	0.00	477.55	0.078	0.08	8.176	A
C-D	5.51	5.51	0.00	-	-	-	-	-
C-A	521.88	521.88	0.00	-	-	-	-	-

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

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-CD	48.57	47.62	0.00	104.33	0.466	0.79	62.280	F
B-AD	207.97	205.35	0.00	242.54	0.857	4.59	86.393	F
A-BCD	4.40	4.40	0.00	612.11	0.007	0.01	5.923	A
A-B	384.26	384.26	0.00	-	-	-	-	-
A-C	671.62	671.62	0.00	-	-	-	-	-
D-ABC	52.85	52.84	0.00	282.47	0.187	0.23	15.676	C
C-ABD	37.44	37.43	0.00	477.55	0.078	0.08	8.179	A
C-D	5.51	5.51	0.00	-	-	-	-	-
C-A	521.88	521.88	0.00	-	-	-	-	-

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

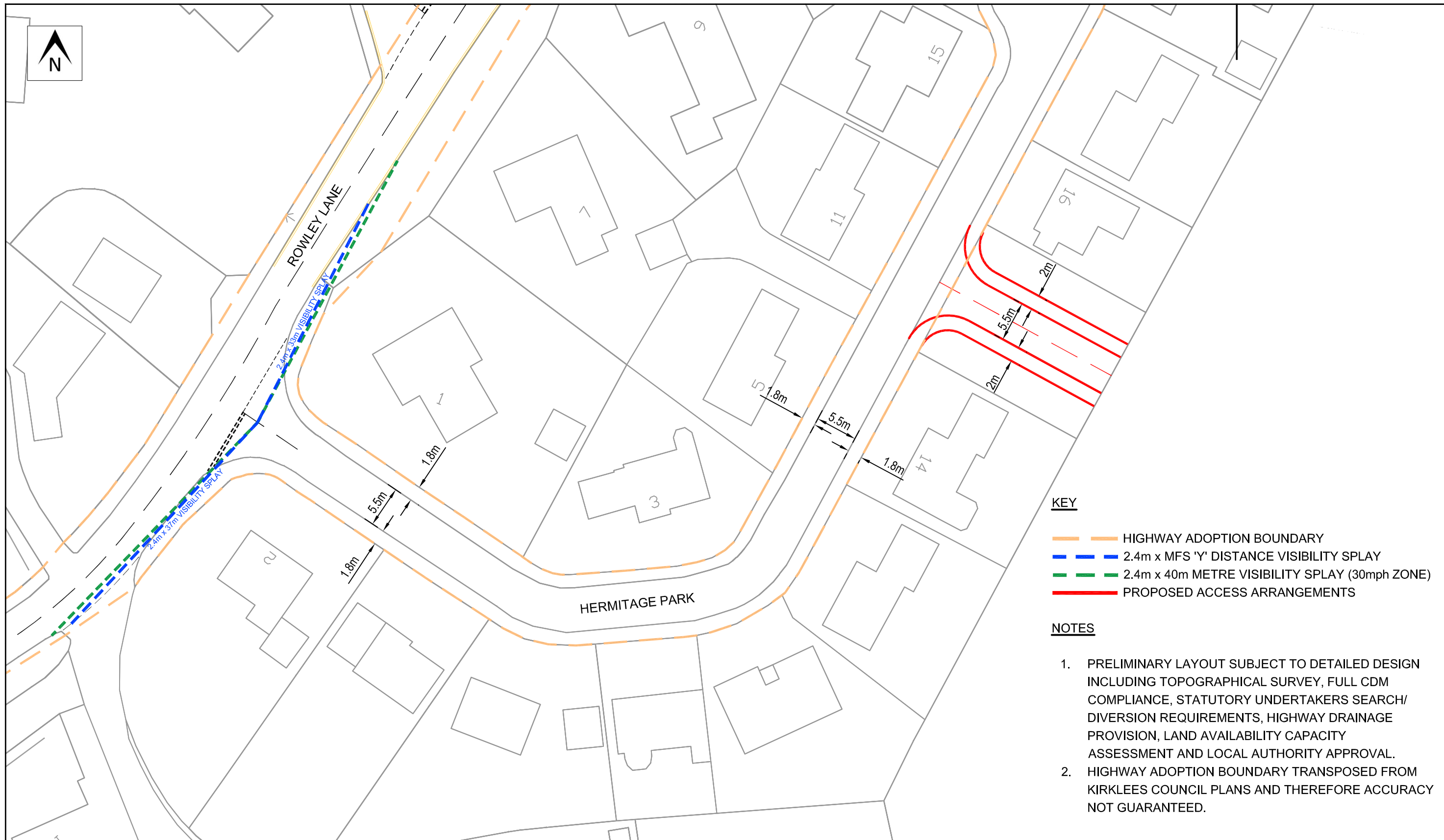
Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-CD	37.03	39.52	0.00	269.18	0.138	0.16	15.835	C
B-AD	172.43	185.10	0.00	302.35	0.570	1.42	33.432	D
A-BCD	3.60	3.60	0.00	643.65	0.006	0.01	5.626	A
A-B	313.74	313.74	0.00	-	-	-	-	-
A-C	548.38	548.38	0.00	-	-	-	-	-
D-ABC	43.15	43.45	0.00	330.90	0.130	0.15	12.536	B
C-ABD	30.57	30.66	0.00	536.15	0.057	0.06	7.122	A
C-D	4.49	4.49	0.00	-	-	-	-	-
C-A	426.12	426.12	0.00	-	-	-	-	-

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

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-CD	29.56	29.84	0.00	351.86	0.084	0.09	11.188	B
B-AD	145.85	148.51	0.00	344.93	0.423	0.76	18.564	C
A-BCD	3.01	3.02	0.00	666.50	0.005	0.00	5.425	A
A-B	262.75	262.75	0.00	-	-	-	-	-
A-C	459.24	459.24	0.00	-	-	-	-	-
D-ABC	36.14	36.30	0.00	364.54	0.099	0.11	10.972	B
C-ABD	25.60	25.65	0.00	578.54	0.044	0.05	6.511	A
C-D	3.76	3.76	0.00	-	-	-	-	-
C-A	356.85	356.85	0.00	-	-	-	-	-

## Appendix H Hermitage Park / Rowley Lane





**KEY**

- HIGHWAY ADOPTION BOUNDARY
- 2.4m x MFS 'Y' DISTANCE VISIBILITY SPLAY
- 2.4m x 40m METRE VISIBILITY SPLAY (30mph ZONE)
- PROPOSED ACCESS ARRANGEMENTS

**NOTES**

1. PRELIMINARY LAYOUT SUBJECT TO DETAILED DESIGN INCLUDING TOPOGRAPHICAL SURVEY, FULL CDM COMPLIANCE, STATUTORY UNDERTAKERS SEARCH/ DIVERSION REQUIREMENTS, HIGHWAY DRAINAGE PROVISION, LAND AVAILABILITY CAPACITY ASSESSMENT AND LOCAL AUTHORITY APPROVAL.
2. HIGHWAY ADOPTION BOUNDARY TRANSPOSED FROM KIRKLEES COUNCIL PLANS AND THEREFORE ACCURACY NOT GUARANTEED.

PROJECT		CLIENT	
ROWLEY LANE, LEPTON		REDROW HOMES YORKSHIRE / PORTMAN LAND LIMITED	
REV	DATE	BY	DESCRIPTION
A	20/01/16	TP	INITIAL ISSUE
STATUS	PRELIMINARY		
CHK	APP	DRAWING TITLE	
RAM	RAM	PROPOSED ACCESS ARRANGEMENTS	
DRAWN BY:		SCALE @ A3	DATE
TP		1:500	20/01/16
CHECKED		APPROVED	DRG No.
RAM		RAM	13015/IN/02
DATE		REV.	
20/01/16		A	

**OPTIMA**  
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# Appendix I Rowley Lane / Penistone Road Mitigation Proposals



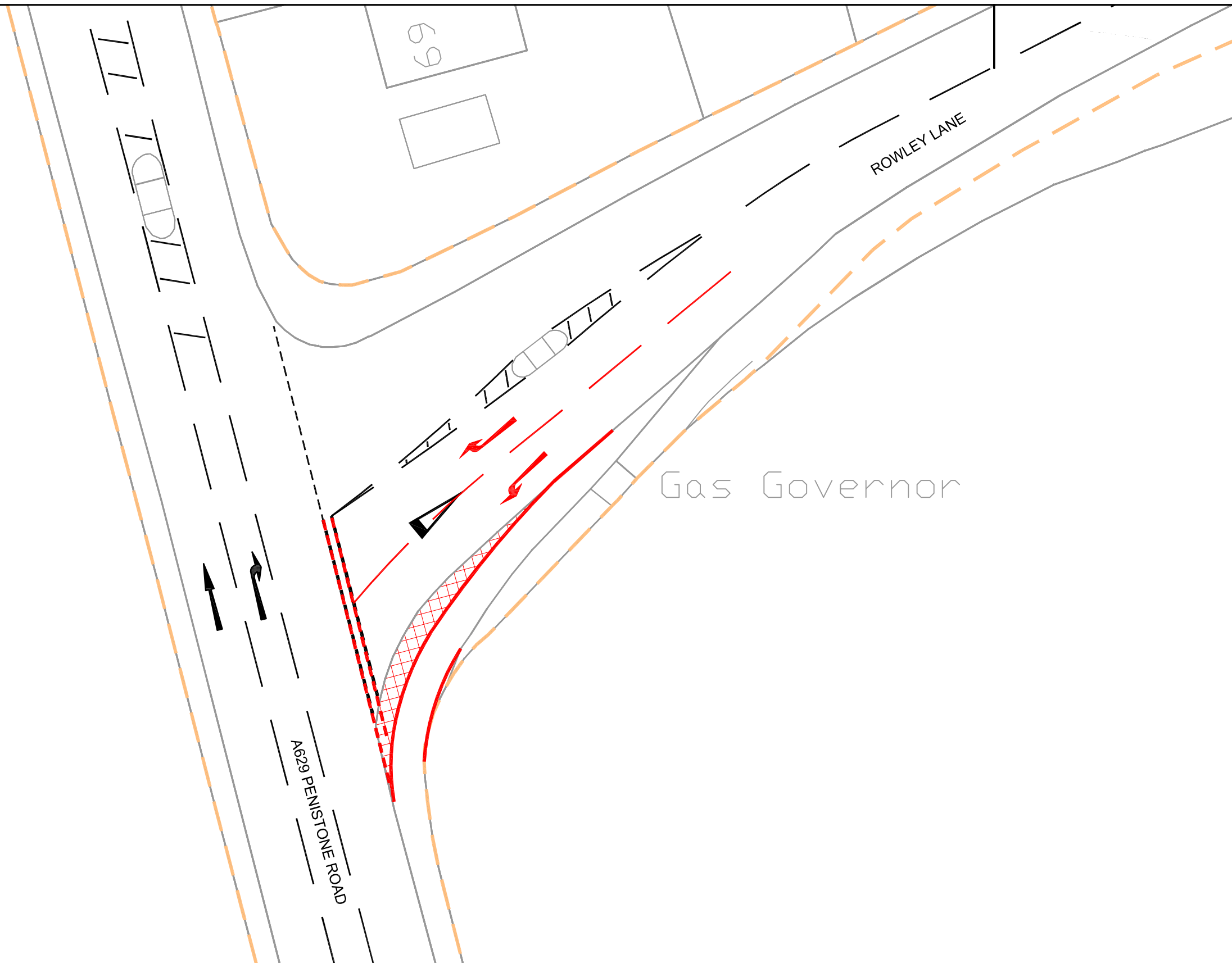


**KEY**

- PROPOSED HIGHWAY WORKS
- XXXXXX PROPOSED WIDENING
- - - - HIGHWAY ADOPTION BOUNDARY

**NOTES**

1. PRELIMINARY LAYOUT SUBJECT TO DETAILED DESIGN INCLUDING TOPOGRAPHICAL SURVEY, FULL CDM COMPLIANCE, STATUTORY UNDERTAKERS SEARCH/ DIVERSION REQUIREMENTS, HIGHWAY DRAINAGE PROVISION, LAND AVAILABILITY CAPACITY ASSESSMENT AND LOCAL AUTHORITY APPROVAL.



PRELIMINARY  
FOR DISCUSSION  
PURPOSES ONLY

						PROJECT ROWLEY LANE, LEPTON	CLIENT REDROW HOMES YORKSHIRE / PORTMAN LAND LIMITED		
REV	DATE	BY	DESCRIPTION	CHK	APP	DRAWING TITLE PROPOSED IMPROVEMENTS TO ROWLEY LANE / PENISTONE RD JUNCTION	CHECKED RAM	APPROVED RAM	DRG No. 13015/GA/01
STATUS PRELIMINARY						DRAWN BY: TP	SCALE @ A3 1:250	DATE 19/09/16	REV. -

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## Appendix J Rowley Lane / Wakefield Road Mitigation Proposals





291




NOTTY LANE

A642 WAKEFIELD ROAD

B6433 ROWLEY LANE

SLOW

**KEY**

-  PROPOSED HIGHWAY WORKS
-  PROPOSED WIDENING
-  HIGHWAY ADOPTION BOUNDARY

**NOTES**

1. PRELIMINARY LAYOUT SUBJECT TO DETAILED DESIGN INCLUDING TOPOGRAPHICAL SURVEY, FULL CDM COMPLIANCE, STATUTORY UNDERTAKERS SEARCH/ DIVERSION REQUIREMENTS, HIGHWAY DRAINAGE PROVISION, LAND AVAILABILITY CAPACITY ASSESSMENT AND LOCAL AUTHORITY APPROVAL.

**PRELIMINARY  
FOR DISCUSSION  
PURPOSES ONLY**

						PROJECT ROWLEY LANE, LEPTON		CLIENT REDROW HOMES YORKSHIRE / PORTMAN LAND LIMITED			
						DRAWING TITLE PROPOSED IMPROVEMENTS TO ROWLEY LANE / WAKEFIELD RD JUNCTION		CHECKED RAM	APPROVED RAM	DRG No. 13015/GA/02	
REV	DATE	BY	DESCRIPTION	CHK	APP	DRAWN BY: TP		SCALE @ A3 1:250	DATE 19/09/16	REV. -	
STATUS PRELIMINARY											






## Appendix K Previously Submitted Access Appraisal (Text Only)





Land at Rowley Lane, Lepton  
Proposed Residential Land Allocation  
Site Access Appraisal  
Redrow Homes Yorkshire/Portman Land Limited  
January 2016 (Final)

QM

Land at Rowley Lane, Lepton - 13015				
File reference	O:\Rowley Lane, Lepton\TEXT\REPORTS\160120 Rowley Lane Appraisal Final.Doc			
Issue/revision	Initial Issue	Revision 1	Revision 2	Revision 3
Remarks	Draft	Final – Minor Amendments		
Date	20 <sup>th</sup> January 2016	28 <sup>th</sup> January 2016		
Prepared by	R Murphy	R Murphy		
Signature				
Checked by	M Whittaker	M Whittaker		
Signature				
Authorised by	R Murphy	R Murphy		
Signature				

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2	Existing Site Conditions	<b>5</b>
3	Development Proposals & Access Strategy	<b>13</b>
4	Traffic Impact and Capacity Assessment	<b>16</b>
5	Summary and Conclusions	<b>18</b>

## Appendices

Appendix A	Radar Speed Survey
Appendix B	Accident Data
Appendix C	Proposed Masterplan Schematic
Appendix D	TRICS Outputs
Appendix E	Capacity Assessments
Appendix F	Hermitage Park/Rowley Lane Existing Highway Layout
Appendix G	Manual Classified Traffic Count and Queue Length Survey

## Figures (General)

Figure 1	Strategic Site Location Plan
Figure 2	Local Site Location Plan
Figure 3	Pedestrian Accessibility
Figure 4	Cycle Accessibility

## Figures (Traffic Flows)

Figure 10	AM Count
Figure 11	PM Count
Figure 12	Distribution
Figure 13	AM Development Flows
Figure 14	PM Development Flows
Figure 15	AM Design Flows
Figure 16	PM Design Flows



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# 1 Introduction

1.1.1 This Access Appraisal supports Kirklees Council's proposed allocation on land to the south of Rowley Lane in Lepton for residential purposes. The Site has a total gross area of circa 11 hectares (27 acres) and an estimated capacity of up to 300 dwellings.

1.1.2 This report focuses on assessing the Site's potential for development in relation to the local highway network as well as reviewing the proposed site access arrangements.

1.1.3 In arriving at our findings we have:

- Undertaken a Site visit and obtained a photographic record;
- Obtained measurements of the local highway network;
- Observed the operation of the existing highway network during peak periods;
- Commissioned an independent radar speed survey;
- Commissioned a manual classified turning count including queue lengths; and
- Obtained highway adoption information for the local highway network.

1.1.4 The document structure is as follows:

- Chapter 2 – describes the Site, the existing transport conditions and the accessibility of the Site by non-car modes including accessibility to local facilities/services;
- Chapter 3 – defines the development proposals including the access strategy and sets out the trip generation methodologies;
- Chapter 4 - assesses the capacity of the Hermitage Park/Rowley Lane priority junction ; and
- Chapter 5 – summarises and concludes the report.



## 2 Existing Site Conditions

### 2.1 EXISTING SITE

2.1.1 The Site has an overall area of approximately 11 hectares (27 acres) and is located in Lepton some 5.1km southwest of Huddersfield Town Centre and 2.3km north of Kirkburton. The Site is located on land to the south of the B6433 Rowley Lane, approximately midway along its length.

2.1.2 The Site in relation to the strategic and local transport networks is shown on Figures 1 and 2 respectively. Image 2.1 below shows the site in relation to its local surroundings.

**Image 2.1 – Site Location Plan**



2.1.3 The Site incorporates several agricultural fields and is bound by Lepton Great Wood to the east, further agricultural land to the south and west and existing housing served from Rowley Lane and Hermitage Park to the north.





2.1.4 The Site is relatively level and forms an 18m wide frontage onto Hermitage Park between existing properties.

2.1.5 The Site is capable of accommodating in the region of 300 residential dwellings

## 2.2 LOCAL HIGHWAY NETWORK

2.2.1 The B6433 Rowley Lane runs west to the east from a priority T junction with the A629 Penistone Road for approximately 1.6km where it meets the A642 Wakefield Road at a further priority T junction.

2.2.2 In the vicinity of the Site, Rowley Lane is subject to a 30mph speed limit with Traffic Regulation Orders in the form of double yellow lines associated with the nearby primary school extending up to its junction with Hermitage Park.

2.2.3 Rowley Lane is approximately 5.9m wide with a footway of some 1.9m along its northern flank in the vicinity of the Site.

2.2.4 Hermitage Park is a short residential cul-de-sac serving 20 detached properties. It is laid out as a traditional estate road with a 5.5m wide carriageway and 1.8m wide footways along both flanks. It forms a priority T junction with Rowley Lane, is approximately 160m in length and has a turning facility at the head of the cu-de-sac.

2.2.5 Traffic volumes and speeds were observed to be low due to residential nature of the road and the level of development it currently serves.

2.2.6 A degree of on street car parking occurs in the vicinity of the Rowley Lane/Hermitage Park junction associated with parents dropping off/picking up children at the nearby primary school. On site observations confirm that, as it typical in the vicinity of schools, this on-street parking is relatively short lived.

## 2.3 VEHICLE SPEED SURVEY

2.3.1 A vehicle speed survey following the guidance contained in the Departmental Advice Note TA 22/81 'Vehicle Speed Measurements on All Purpose Roads' has been undertaken along Rowley Lane on the approaches to the Hermitage Park junction on Wednesday 13<sup>th</sup> January 2016 when the road surface was wet.

2.3.2 Full details of the speed survey are contained within Appendix A with a summary given in Table 2.1.

**Table 2.1 - 2016 Vehicle Speed Survey**

<b>Rowley Lane</b>	<b>Eastbound 232 readings</b>	<b>Westbound 210 readings</b>
Mean Speed	22 mph	24 mph
85 <sup>th</sup> percentile speed	26 mph	28 mph



## 2.4 PERSONAL INJURY ACCIDENT DATA

2.4.1 Personal injury accident data has been obtained for the highway network in the vicinity of the Site for the most recently available five year period between 2010 and 2015. The study area includes the full length of Rowley Lane including its junctions with the A629 Penistone Road and the A642 Wakefield Road.

2.4.2 For the five year period, there have been a total of seven accidents, of which six were classified as being slight in severity and one was serious. Full details of the accidents can be found at Appendix B and an analysis of the accidents can be found below in Tables 2.2 to 2.7.

**Table 2.2 – Personal Injury Accident Analysis – Severity**

Severity	No. of accidents	Percentage
Slight	6	86%
Serious	1	14%
Fatal	0	0%
Total	7	100%

**Table 2.3 – Personal Injury Accident Analysis – Severity by year**

	2010	2011	2012	2013	2014	2015	Total
Slight	0	2	1	1	1	1	6
Serious	0	0	0	0	0	1	1
Fatal	0	0	0	0	0	0	0
Total	0	2	1	1	1	2	7

**Table 2.4 – Personal Injury Accident Analysis – Lighting conditions**

Lighting	No. of accidents	Percentage
Dark	4	57%
Light	3	43%

**Table 2.5 – Personal Injury Accident Analysis – Road Surface**

Surface	No. of accidents	Percentage
Dry	4	57%
Wet	3	43%



**Table 2.6 – Personal Injury Accident Analysis – Vulnerable Road Users**

VRU	No. of accidents	Percentage
Pedestrians	0	0%
Cyclist	0	0%
Motorcycle	1	14%(of total accidents)

**Table 2.7 – Personal Injury Accident Analysis – Causation**

	2010	2011	2012	2013	2014	2015	Total
Loss of control	-	1	1	-	-	-	2
Failed to give way	-	-	-	-	1	1	2
Rear shunt	-	1	-	-	-	-	1
Motorcycle	-	-	-	1	-	-	1
Misc	-	-	-	-	-	1	1
Total	0	2	1	1	1	2	7

2.4.3 The following conclusions can be made:

- Total of 7 accidents over 5 years;
- Average of 1.4 accidents per year;
- 6 slight accidents (86%) and 1 serious accident (14%);
- No accidents have occurred involving pedestrian (adults or children);
- No accidents have occurred involving cyclists (adults or children);
- No fatal accidents have been recorded;
- No accidents have been recorded at the Rowley Lane/Hermitage Park junction;
- No accidents have been recorded along Hermitage Park;
- No accident clusters have been identified; and
- No accident trends have been identified.

2.4.4 Whilst any accident is regrettable, having reviewed the accidents in detail there is no evidence to suggest that any of the accidents can be attributed to problems with junction or highway layout based upon the information available.



## 2.5 SITE ACCESSIBILITY

2.5.1 The Site is located on the fringe of the built up area of Lepton and there is a range of local facilities and services within close proximity which would help to minimise the need to travel by private car.

2.5.2 The nearest primary school (Lepton Primary School) is located within 400m of the centre of the Site which equates to less than a five minute walk.

2.5.3 The nearest secondary school (King James School) is located within a 34 minute walk or a 13 minute cycle journey.

2.5.4 The Site is within comfortable walking distance of Lepton which includes a small range of shops and health care.

2.5.5 The closest bus services to the Site operate along Rowley Lane and bus stops can be found at the Rowley Lane/Hermitage Park junction within 300m of the centre of the Site.

2.5.6 A summary of the existing services within the vicinity of the Site can be found at Tables 2.8 and 2.9.

**Table 2.8 – Rowley Lane Bus Service Summary**

Service	Route	Operator	Days of Operation	Approx. Frequency (one way)	Time of Operation
80	Clayton West - Huddersfield	Yorkshire Tiger Ltd	Mon – Fri	60 mins	09:41-18:39
			Saturday	60 mins	07:34-18:35
			Sunday	No service	-
84A	Denby Dale - Huddersfield	Yorkshire Tiger Ltd	Mon – Fri	No service	-
			Saturday	1 service	07:34
			Sunday	No service	-

2.5.7 Huddersfield Town Centre can be accessed within a 22 minute journey time via both the 80 and 84A service. Further retail offerings such as the Morrison's foodstore within Waterloo can be accessed within a 7 minute bus journey via both the 80 and 84A.

2.5.8 Further bus stops are located along the A629 and A642 offering additional high frequency services. These stops are within a ten minute walk of the site and serve to provide connection to Almondbury High School.



**Table 2.9 – Penistone Road Bus Service Summary**

Service	Route	Operator	Days of Operation	Approx. Frequency (one way)	Time of Operation
81	Clayton West - Huddersfield	Yorkshire Tiger Ltd	Mon – Fri	60 mins	08:17-23:01
			Saturday	60 mins	08:40-23:03
			Sunday	120 mins	10:17-23:08
82	Denby Dale - Huddersfield	Yorkshire Tiger Ltd	Mon – Fri	60 mins	07:36-23:01
			Saturday	60 mins	08:07-00:01
			Sunday	120 mins	10:17-23:08
83	Denby Dale - Huddersfield	Yorkshire Tiger Ltd	Mon – Fri	60 mins	06:22-18:19
			Saturday	120 mins	09:12-18:15
			Sunday	No service	No Service

**ACCESSIBILITY BY FOOT**

2.5.9 The residential design guide “Manual for Streets” (MfS) advises that “*walkable neighbourhoods are typically characterised by having a range of facilities within ten minutes (up to about 800m) walking distance of residential areas...*” (ref para 4.4.1).

2.5.10 However, this is not regarded as an upper limit in MfS and reference is also made to walking offering “*the greatest potential to replace short car trips, particularly those under 2km*”. The acceptability of walking trips up to 2km (an approximate 25 minute walk time, which is a preferred maximum) is also supported in the IHT document “Providing for Journeys on Foot” as shown in Table 2.9 below:

**Table 2.9 – Accessibility by Foot**

	Town Centre’s (m)	School / Work (m)	Elsewhere (m)
Desirable	200	500	400
Acceptable	400	1000	800
Preferred Maximum	800	2000	1200

Notes - Source Table 3.2 in ‘Guidelines for Providing for Journeys on Foot’ published by IHT

2.5.11 Figure 3 illustrates the key facilities in the vicinity of the Site within a 2km (25 minute) walk distance and Figure 4 illustrates a 5km (19 minute) cycle distance produced using Network Analyst 10.0 software.



2.5.12 Figure 3 demonstrates that the Site is located within 2km (as referred to within MfS) of the centre of Lepton. Lepton includes key facilities such as a post office, pharmacy, dentist and GP surgery along with a hot food takeaway.

- Shops and facilities within Lepton can be walked within 14 mins;
- Rowley Hill Primary school can be walked in under 5 minutes;
- Lepton CE Junior and Infant School can be walked in 14 minutes;
- Bus stops along Rowley Lane can be walked in under 5 minutes;
- Bus stops along the A629 Penistone Road can be walked within 10 minutes; and
- Bus stops along the A642 Wakefield Road can be walked within 20 minutes.

2.5.13 As described in the previous chapter the measures proposed which will positively influence trips by foot include:

- Potential boundary connections with existing public rights of way; and
- Internal links and pedestrian routes.

2.5.14 In addition to the proposals described above further measures within the Travel Plan will also have a positive influence on the sustainable travel choices made by residents of the development Site.

## **2.6 ACCESSIBILITY BY CYCLE**

2.6.1 As described in the previous chapter the measures proposed which will positively influence cycle trips include:

- Potential boundary connections with existing public rights of way; and

2.6.2 Internal links and pedestrian routes.

2.6.3 In addition to the proposals described above further measures within the Travel Plan will also have a positive influence on the choice of residents to travel by cycle.

2.6.4 An acceptable and comfortable distance for general cycling trips is considered to be up to 5km as referred to in Local Transport Note 2/08 (published by the DfT). However, the same guidance also refers to commuting cycle trips of up to 8km.

2.6.5 As shown in Figure 4, the following key facilities are located within a 8km cycle distance:

- Shops and facilities within Lepton can be cycled within a 4 minute journey time;
- Primary Schools can be cycled within 2 minutes;
- Secondary Schools can be cycled within a 13 minute journey time;
- Primary Health Care Facilities can be cycled within a 4 minute journey time;
- Employment opportunities within Huddersfield can be cycled within 30 minutes;
- Stocksmoor railway station can be cycled within 23 minutes; and
- From the development Site the 8km cycle catchment area extends to include Huddersfield, Kirkburton, Flockton and Kirkheaton amongst others.



2.6.6 It is therefore concluded that the proposed Site will provide good accessibility by cycle to a range of local services and facilities within a five to ten minute cycle ride as well as employment opportunities within the local area.

## **2.7 ACCESSIBILITY BY BUS**

2.7.1 The Site will provide pedestrian connections to the existing pedestrian infrastructure along Hermitage Park and Rowley Lane providing direct, convenient walking routes to the nearby bus stops.

2.7.2 In summary it is therefore concluded that the bus provision fully complies with the following criteria which jointly contribute to providing a good level of bus accessibility to/from the development Site:

- Acceptable walk distance to bus stops; and
- Desirable local destinations served offering a multitude of land uses and activities including employment, retail, leisure and education.

## **2.8 ACCESSIBILITY BY RAIL**

2.8.1 Stocksmoor Railway Station is located approximately 4.7km to the south of the development off Station Road. Stocksmoor Railway Station is located on the Penistone line which provides regular connections to major destinations such as Huddersfield, Penistone, Barnsley and Sheffield.

2.8.2 Stocksmoor railway station can be accessed by bus (service 80) which or a 23 minute cycle journey.



## 3 Development Proposals & Access Strategy

### 3.1 PROPOSED DEVELOPMENT

3.1.1 The development proposals comprise the following:

- Circa 300 residential dwellings; and
- Associated access, parking, landscaping and infrastructure works.

3.1.2 An illustrative masterplan schematic indicating a development of 300 dwellings has been produced by Johnson Brook and is attached at Appendix C.

3.1.3 The following section describes how access to the Site can be achieved.

### 3.2 PROPOSED ACCESS STRATEGY

3.2.1 The Site connects to the existing residential road Hermitage Park which then connects to Rowley Lane via a priority junction. Chapter 2 describes the existing road network and its suitability to accommodate the traffic generated by the proposed allocation, elements of which are repeated in this chapter for completeness.

3.2.2 Between the proposed site and Rowley Lane, Hermitage Park runs south west from the site connection for 50m before turning through 90 degrees and travelling north west for 60m before connecting to Rowley Lane via a priority junction.

3.2.3 Hermitage Park is a traditional residential estate road. The carriageway measures 5.5m in width along its length with lit footways measuring some 1.8m along its length.

3.2.4 Hermitage Park then joins Rowley Lane via a simple priority junction as shown 13015/IN/02 attached at Appendix A.

3.2.5 A traditional estate road is entirely appropriate to serve the quantum of development for which allocation is sought.

3.2.6 Chapter 4 goes on to demonstrate that the traffic generated by the proposed allocation could be comfortably accommodated by the Hermitage Park/Rowley Avenue priority junction.

3.2.7 The proposed internal layout can be design to ensure that it meets the requirements set out in relevant local and national guidance.

3.2.8 In addition to the primary access that is proposed along the existing Hermitage Park an emergency access with a 3.0m corridor can be provided between the northern boundary of the site and Rowley Lane. At this stage the exact alignment of the emergency link has not been clarified however it should be noted that the proposed allocation benefits from an unfettered right of access meaning that there are no concerns over the ability to deliver the emergency access.

### 3.3 INTERNAL LAYOUT

3.3.1 The Masterplan contained at Appendix A is indicative; however it provides an indication of how the development could be delivered and in particular the design ethos of promoting sustainable travel and connectivity. The layout provided would form the basis of more detailed work to develop the layout as part of a reserved matters planning application.





### 3.4 PARKING

3.4.1 Appropriate provision for car parking in accordance with the Council's standards will be designed should a planning permission be forthcoming

### 3.5 TRAFFIC GENERATION

3.5.1 Based upon the scale of development, any forthcoming planning application would be supported by a Transport Assessment. The scope of capacity assessments required to support a planning application would need to be agreed with highway officers at Kirklees Council at the time of an application.

3.5.2 At this stage, given the level of traffic generated and scale of the development it is not necessary to include a detailed capacity analysis of the wider local highway network. However capacity assessments of the Site access point (i.e. the Hermitage Park/Rowley Lane priority junction) has been undertaken to demonstrate satisfactory operation.

3.5.3 The TRICS database has been utilised in order to calculate representative and appropriate vehicular trip rates for the residential use. The following time periods have been selected (morning peak hour of 08:00-09:00) and evening peak hour of 17:00-18:00).

3.5.4 Survey sites within the database for have been chosen using the following parameters:

#### Land use: 03 Residential A Houses Privately Owned

- Calculation options: Vehicular trip rates selected;
- Regions selected: Yorkshire and North Lincolnshire, North West and North;
- Trip Rate Parameters: Number of dwellings;
- Parameter range: 11 - 585 selected;
- Date range: 1st January 2009 and 20<sup>th</sup> May 2014;
- Days included: Monday to Friday; and
- Location Type: Suburban locations.

3.5.5 The 2015 TRICS outputs are contained within Appendix D with a summary of the trip rates shown in Table 4.1 and the resultant generated traffic shown in Table 4.2.

**Table 4.1 – TRICS Vehicle Trip Rates – Residential per unit**

Land Use	AM Vehicle Trips			PM Vehicle Trips		
	Arr	Dep	Total	Arr	Dep	Total
Residential Dwellings	0.123	0.387	0.510	0.299	0.144	0.443

**Table 4.2– Vehicle Trip Generations – Residential**

Land Use	AM Vehicle Trips			PM Vehicle Trips		
	Arr	Dep	Total	Arr	Dep	Total
300 Dwellings	37	116	153	90	43	133



### **3.6 TRIP DISTRIBUTION AND ASSIGNMENT**

3.6.1 Traffic has been distributed at the Site access based upon the proportion of eastbound and westbound through traffic on Rowley Lane. The proposed traffic distribution is illustrated on Figure 12.

3.6.2 It is then possible to determine the predicted number of development trips at the Site access by multiplying the traffic distributions shown on Figure 12 by the proposed peak hour vehicular trip generations shown in Table 4.2. Figures 13 to 14 show the resulting development trip generations on the highway network in the AM and PM peaks respectively.



## 4 Traffic Impact and Capacity Assessment

4.1.1 This chapter describes the impact of the development trips and identifies if any potential mitigation works that would be required at the Hermitage Park/Rowley Lane priority junction should a development of up to 300 dwellings be brought forward.

### 4.2 PEAK HOUR TRAFFIC COUNT

4.2.1 As referred to in Chapter 2, the 2016 traffic surveys identified the following existing weekday peak hour periods:

- Weekday AM Peak - 08:00 to 09:00; and
- Weekday PM Peak - 16:45 to 17:45.

4.2.2 The traffic survey flows for these periods are shown on Figures 10 and 11 for the morning and evening peak hours respectively.

### 4.3 DESIGN TRAFFIC FLOWS

4.3.1 Adding the proposed development trips described in Chapter 3 to the 2016 Count flows produces the 2016 design traffic flows and these are shown diagrammatically on Figures 15 and 16 for the morning and evening peak hours respectively.

### 4.4 OPERATIONAL ASSESSMENT

4.4.1 This section describes the junction capacity assessments which have been undertaken. Full software output data can be found at Appendix E.

#### Hermitage Park/Rowley Lane Priority Junction

4.4.2 The existing layout of the Hermitage Park/Rowley Lane the layout of which is shown on Drawing No. 13015/IN/02 attached at Appendix F has been modelled using the PICADY function in the JUNCTIONS 8 software.

4.4.3 The junction has been modelled for the AM and PM peak hours with the 2016 surveyed traffic flows and the results are summarised in Table 4.1.

**Table 4.1 Hermitage Park/Rowley Lane Priority Junction (Existing) 2016 Survey**

Movement	AM				PM			
	RFC	Delay (S)	Mean Q	Observed Q	RFC	Delay (S)	Mean Q	Observed Q
Hermitage Park Left Turn Out	0.01	6.16	0	0	0.00	0.00	0	0
Hermitage Park Right Turn Out	0.01	7.87	0	0	0.00	0.00	0	0
Rowley Lane	0.01	5.21	0	0	0.01	5.37	0	0



4.4.4 A Ratio of Flow to Capacity value below 0.85 indicates that a junction or arm operates within its predicted capacity. An RFC value between 0.85 and 1.00 indicates that there may be occasions during the period modelled when queues will develop and delays will occur. An RFC value greater than 1.00 indicates that the junction or arm operates beyond its theoretical capacity.

4.4.5 The results in Table 4.1 show that the existing junction operates well within capacity in both the AM and PM peak hours with a maximum RFC value of 0.01 predicted on the Site access during the PM peak hour.

4.4.6 It can also be seen from the results in Table 4.1 that the modelled queue correlates very strongly with the observed queues (the results of the survey are attached at Appendix G)

4.4.7 The junction has then been modelled to include the traffic generated by 300 dwellings in order to understand the impact of the development proposals. The 2016 Design Flows are shown on Figures 15 and 16 for the AM and PM peaks respectively.

4.4.8 The results of the 2016 Design situation assessment for the AM and PM peak periods are summarised in Table 4.2.

**Table 4.2 Hermitage Park/Rowley Lane Priority Junction (Proposed) 2016 Design**

Movement	AM			PM		
	RFC	Delay (S)	Mean Q	RFC	Delay (S)	Mean Q
Hermitage Park Left Turn Out	0.10	6.40	0	0.04	5.71	0
Hermitage Park Right Turn Out	0.20	11.02	0	0.07	9.52	0
Rowley Lane	0.04	5.36	0	0.10	5.80	0

4.4.9 The results in Table 4.2 show that the Hermitage Park/Rowley Lane junction is predicted to operate comfortably within capacity in the design scenario in both the AM and PM peak hours with a maximum RFC value of 0.20 predicted on the Site access during the AM peak hour. No queuing either on Hermitage Park or Rowley Lane is predicted.

4.4.10 It is therefore concluded that the Hermitage Park/Rowley Lane junction is of an appropriate scale and form to accommodate the proposed site allocation for up to 300 residential units.



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## 5 Summary and Conclusions

5.1.1 It has been concluded that a suitable access via Hermitage Park can be achieved to serve the Site which complies with the prevailing national guidance (Manual for Streets) and the West Yorkshire Design Guide.

5.1.2 The Hermitage Park/Rowley Lane junction is of an appropriate scale and form to accommodate the proposed site allocation. A speed survey has confirmed that the appropriate visibility standards can be met.

5.1.3 Detailed capacity assessments have been undertaken as part of this access appraisal and these have demonstrated that the hermitage Park/Rowley Lane junction would continue to operate efficiently in a scenario with the development traffic added to the existing traffic using the network.

5.1.4 A supplementary emergency access link will be provided as part of the development.

5.1.5 The Site is within a sustainable location with good access to public transport and local amenities and facilities.

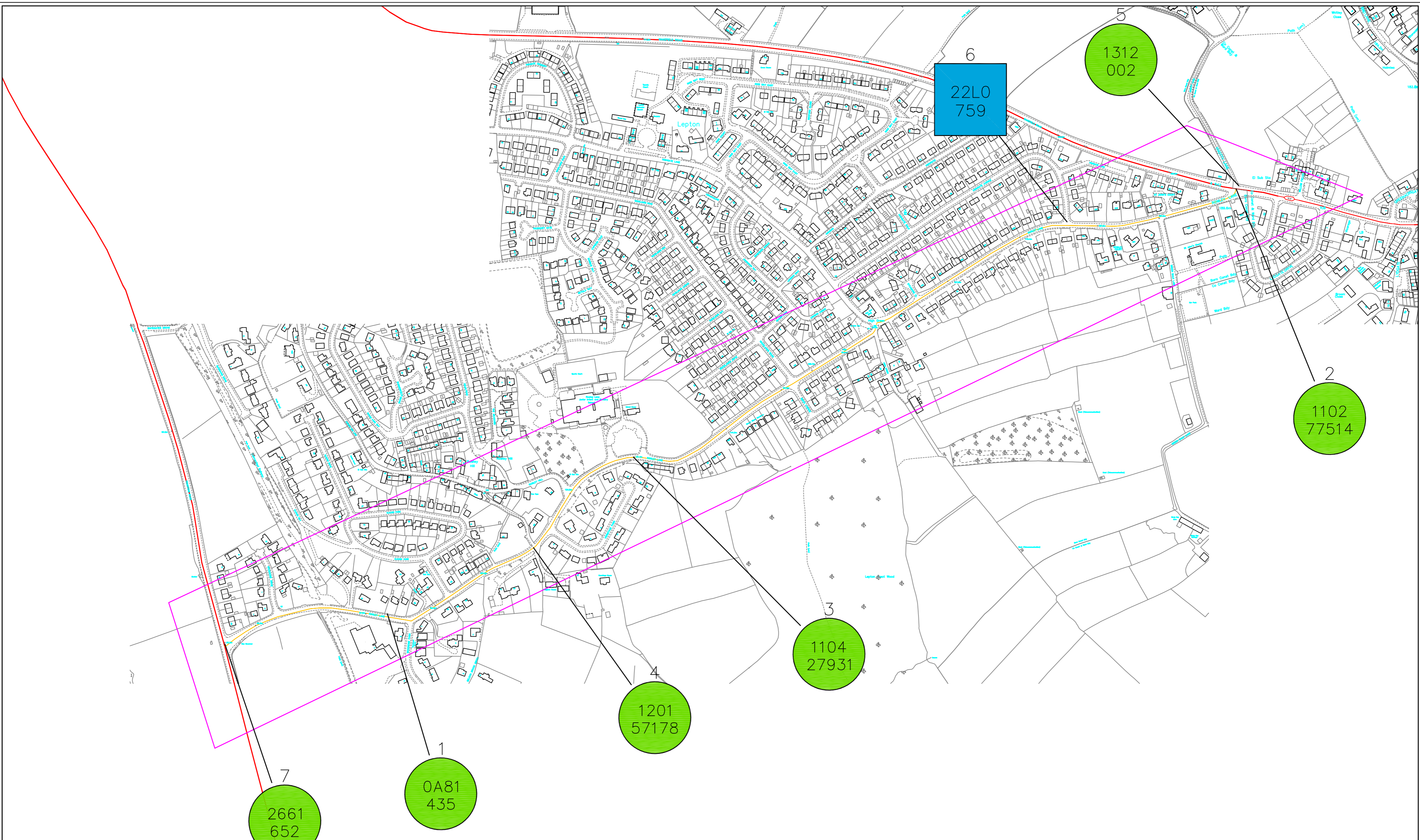
5.1.6 An assessment of the personal injury accident records has been undertaken and this has established that there are no existing safety concerns associated with the local highway network.

5.1.7 Based on the findings of this report it is considered that there are no highways and transportation reasons why this site should not be allocated for the purposes of residential development.



## Appendix L Accident Data





Vicinity of Rowley Lane, Kirklees district Wards. Leeds District  
 RTC five years prior to 06.12.2015  
 10.11.2015 N.T.S.

▲	Fatal
■	Serious
●	Slight
P	Indicates pedestrian

For reference purposes only. No further copies may be made

Vicinity of Rowley Lane, Kirklees , RTC five years prior to 06.12.2015

**0A81435** SLIGHT 08/10/2013 08:15 418858 /414597 Rowley Lane

Both vehicles are travelling through a set of roadworks when V1 (a car) runs into the the rear of V1 (a motorcycle). Both vehicles sustain minor damage and the rider of V2 receives a slight injury. Both parties demand each others details but refuse to provide their own and leave the scene with each others registration details.

Vehicles	From	To	Driver	Breath Test	Casualties	Veh	Sex	Age	Ped direction to
1 Car	W	E	Male	47 Not contacted	1 Driver/Rider	2	Male	22	
2 M/cycle 50 - 125cc	W	E	Male	22 Not contacted					

**Contributory Factors**

Fail to judge other person path or speed V001 V.likely Distraction outside vehicle V001 Possible

**110277514** SLIGHT 17/06/2011 09:00 420038 /415188 Wakefield Road at Junction with Rowley Lane, Lepton

V1 Travels on Rowley Lane Towards J/W Wakefield Road and Comes to a Stop. V2 Travels on Knotty Lane Toward Junction with Wakefield Road and Also Comes to a Stop. V2 then Pulls onto Wakefield Road with the Intention of turning Left. V1 Pulls out into Wakefield Road and Turns Right. V1 Collides with Rear Offside of V2.

Vehicles	From	To	Driver	Breath Test	Casualties	Veh	Sex	Age	Ped direction to
1 Car	S	E	Female	65 Not requested	1 Driver/Rider	2	Male	40	
2 Car	N	E	Male	40 Not requested					

**Contributory Factors**

Failed to look properly V001 V.likely

**110427931** SLIGHT 16/09/2011 02:45 419200 /414815 Rowley Lane, 90 Metres Ne of Common End Lane, Lepton

V1 was Travelling on Rowley Lane with Four Passengers when Road Surface was Damp & Having Completed a right Hand Bend Loses Traction & Due to Over-Correcting Collides with Fencing & Stone Wall to the N/S.

Vehicles	From	To	Driver	Breath Test	Casualties	Veh	Sex	Age	Ped direction to
1 Car	E	W	Male	17 Negative	1 Driver/Rider	1	Male	17	
					2 Passenger	1	Female	17	
					3 Passenger	1	Female	17	

**Contributory Factors**

Dazzling headlights V001 V.likely Passing too close V001 V.likely



Vicinity of Rowley Lane, Kirklees , RTC five years prior to 06.12.2015

**120157178** SLIGHT 09/04/2012 04:5:20 419061 /414689 Rowley Lane Jw Un Named Road, 30 Metres Sw of Hermitage Park, Huddersfield

V1 Travels Along Rowley Lane in Direction of Penistone Road Negotiating Slight R/H Bend on Downhill Gradient. V1 Driver Locked Brakes and Skidded. V1 Went Round an Unknown Vehicle That Pulled over to N/S. V2 Travels in Opposite Direction and was Passing Parked Vehicles. V1 and V2 Collided in Centre of Carriageway.

Vehicles	From	To	Driver	Breath Test	Casualties	Veh	Sex	Age	Ped direction to
1 Car	NE	SW	Female	37 Negative	1 Driver/Rider	SLIGHT	1	Female	37
2 Car	SW	NE	Male	59 Negative	2 Driver/Rider	SLIGHT	2	Male	59

**Contributory Factors**

Sudden braking	V001 V.likely	Loss of control	V001 V.likely	Poor turn or manoeuvre	V001 Possible
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**1312002** SLIGHT 01/03/2014 023:17 420042 /415192 Junction of A642 Wakefield Road and B6433 Rowley Lane

THIS COLLISION INVOLVES TWO VEHICLES , SLIGHT INJURY TO DRIVER OF V1 . CIRCS ARE THAT V1 WAS TRAVELLING DOWN ROWLEY LANE TOWARDS WAKEFIELD ROAD INTENDING TO TURN RIGHT INTO WAKEFIELD ROAD TOWARDS HUDDERSFIELD . V2 WAS TRAVELLING ON WAKEFIELD ROAD AWAY FROM HUDDERSFIELD . AS V2 APPROACHES JUNC WITH ROWLEY LANE V1 PULLS AWAY FROM GIVE WAY JUNCTION INTO WAKEFIELD ROAD AND INTO PATH OF V2. DRIVER OF V2 SWERVES TO AVOID COLLISION BUT COLLIDES WITH REAR OFFSIDE OF V1 . V2 THEN MOUNTS KERB TO NEARSIDE AND COLLIDES WITH WALL .

Vehicles	From	To	Driver	Breath Test	Casualties	Veh	Sex	Age	Ped direction to
1 Car	N	W	Female	45 Negative	1 Driver/Rider	SLIGHT	1	Female	45
2 Car	W	E	Male	43 Negative					

**Contributory Factors**

**22L0759** SERIOUS 21/02/2015 000:00 419803 /415142 Junction of B6433 Rowley Lane and Highgate Avenue

THIS COLLISION INVOLVES TWO VEHICLES , OFFENDING VEHICLE , V1 IS OFF ROAD QUAD BIKE.....V1 IS TRAVELLING ON HIGHGATE AVENUE TOWARDS ROWLEY LANE , V2 IS TRAVELLING UP ROWLEY LANE TOWARDS WAKEFIELD ROAD .... V1 EXITS HIGHGATE AVENUE ATTEMPTING TO MAKE A U TURN IN ROWLEY LANE AND THEN BACK INTO HIGHGATE , RIDER FAILS TO GIVE WAY AT JUNCTION AND COLLIDES WITH V2 TRAVELLING UP ROWLEY LANE , FRONT OF QUAD BIKE COLLIDES WITH NEARSIDE OF V2 , RIDER IS THROWN FROM V1 INTO ROAD FRACTURING COLLAR BONE.

Vehicles	From	To	Driver	Breath Test	Casualties	Veh	Sex	Age	Ped direction to
1 Other: OFF ROAD QUAD U Turn	W	E	Male	15 Negative	1 Driver/Rider	SERIOUS	1	Male	15
2 Car	N	S	Female	52 Negative					

**Contributory Factors**

Vicinity of Rowley Lane, Kirklees , RTC five years prior to 06.12.2015

**2661652** SLIGHT 06/06/2015 02:05 418632 /414555 Junction of A629 Penistone Road and B6433 Rowley Lane

V1 (Audi) has turned right into Penistone Road from the junction of Rowley Lane in Lepton, Huddersfield. V2 has been travelling along Penistone Road towards the junction of Rowley Lane and collides with V1. Upon impact V1 is spun around 180 degrees and comes to rest facing back into the junction of Rowley Lane. V2 then collides with V3, which was waiting in the junction mouth of Rowley Lane. All vehicles are extensively damaged and the occupants of V1+V2 sustain minor injuries. V2 driver taken to Huddersfield Royal.

Vehicles		From	To	Driver	Breath Test	Casualties		Veh	Sex	Age	Ped direction to
1	Car					1	Driver/Rider	SLIGHT	1	Male	49
	Turning right	S	E	Male	49	Negative					
2	Car					2	Passenger	SLIGHT	1	Male	16
	Going ahead other	E	W	Male	22	Negative					
3	Car					3	Driver/Rider	SLIGHT	2	Male	22
	Waiting to turn left	S	W	Male	60	Negative					
						4	Passenger	SLIGHT	2	Male	20

**Contributory Factors**

Failed to look properly V001 V.likely Fail to judge other person path or speed V001 Possible Exceeding speed limit V002 V.likely