



Network Space Ltd

Proposed Development (Plot 5), Ashroyd Business Park, Barnsley

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Transport Assessment

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1. Introduction

1.1 Background

- 1.1.1 WYG has been appointed by Network Space Ltd to prepare a Transport Assessment (TA) which examines non-car travel links, access to key services, and residual highway capacity implications associated with a proposed development of a site located adjacent to Ashroyds Way in Hoyland.
- 1.1.2 The development site is located within Ashroyd Business Park, approximately 5.5km south of Barnsley Town Centre. It is located around 400m south of the A6195 which is a dual-carriageway and connects to the M1 motorway to the west. The location of the site is shown on **Plan 1**.
- 1.1.3 It forms part of a wider site which comprises a number of existing industrial units, and benefits from existing infrastructure including a high quality road network which was delivered after a successful planning application in 1999 (Application Ref: B/99/0342/HN).
- 1.1.4 The development proposal consists of 4 units for B1 (b), (c), B2 and B8 industrial use with a total GIA of up to 5,200 sq m (55,972 sq ft).
- 1.1.5 This Transport Assessment (TA) provides information on the traffic and transport aspects of the development proposal. Barnsley Metropolitan Borough Council (BMBC) are the Local Highway Authority (LHA) and the Local Planning Authority (LPA).

1.2 Report Structure

- 1.2.1 Following this introduction, the report is set out as follows:
- **Section 2** sets out local and national policy context relevant to the development proposals.
 - **Section 3** describes the site location, the local highway network, and presents an analysis of recent accident data on the highway network in the vicinity of the site.
 - **Section 4** presents the sustainable transport options offered by the site.
 - **Section 5** describes the development proposals.
 - **Section 6** includes the traffic impact assessment.
 - **Section 7** summarises and concludes the findings of the TA.



2. National and Local Policy Context

2.1 Background

2.1.1 This section of the TA reviews the relevant transport planning policy and guidance documents in the context of the proposed development by reference to the following documents:

- National Planning Policy Framework
- Barnsley Local Development Framework Core Strategy

2.2 National Planning Policy Framework

2.2.1 The Department for Communities and Local Government published its National Planning Policy Framework (NPPF) in 2012. The NPPF replaces previous Planning Policy Guidance (PPG) and Planning Policy Statements (PPS) with a single document.

2.2.2 At the heart of NPPF is:

'a presumption in favour of sustainable development, which should be seen as a golden thread running through both plan-making and decision-taking' (Paragraph 14).

2.2.3 NPPF also states in Paragraph 15 that:

"policies in Local Plans should follow the approach of the presumption in favour of sustainable development so that it is clear that development which is sustainable can be approved without delay. All plans should be based upon and reflect the presumption in favour of sustainable development, with clear policies that will guide how the presumption should be applied locally" (Paragraph 29).

2.2.4 NPPF states that development planning should:

'...give people a real choice about how they travel' (Paragraph 29).

'ensure developments that generate significant movement are located where the need to travel will be minimised and the use of sustainable transport modes can be maximised' (Paragraph 34).

'developments should be located and designed where practical to give priority to pedestrians and cycle movements, and have access to high quality public transport facilities' (Paragraph 35).

2.2.5 NPPF sets out a key test in Paragraph 32 for the acceptability of planning applications in terms of highway impact. It states that:

'Development should only be prevented or refused on transport grounds where the residual cumulative impacts of development are severe' (Paragraph 32).

2.2.6 It is therefore clear from the NPPF that development:

- Should be capable of being accessed satisfactorily with safe and suitable access provided for all.
- Should be sustainable, with preference given to accessibility by sustainable modes of transport.
- Should not be prevented unless the residual cumulative impacts of the development are 'severe'.

2.2.7 It is demonstrated in the subsequent sections of this TA that the site is located close to pedestrian, cycle and public transport networks and is therefore accessible by sustainable modes of travel. Furthermore, a traffic impact assessment has been undertaken which demonstrate that the proposals would have an immaterial impact on the adjoining highway network.

2.3 Barnsley Local Development Framework Core Strategy

2.3.1 The Barnsley Local Development Framework Core Strategy was adopted in September 2011 and sets out the key elements of planning framework for Barnsley up to the year 2026.



2.3.2 Within this document, there are a number of policies which relate to development and transport as set out below:

"CSP 25: New Development and Sustainable Travel"

New development will be expected to:

- *Be located and designed to reduce the need to travel, be accessible to public transport and meet the needs of pedestrians and cyclists*
- *Provide at least the minimum levels of parking for cycles, motorbikes, scooters, mopeds and disabled people, and should not provide more than the maximum number of car parking spaces set out in a Supplementary Planning Document*
- *Provide a transport statement or assessment in line with the thresholds and guidance set out in Department for Transport 'Guidance on Transport Assessments' as published March 2007 (or any subsequent version)*
- *Provide a travel plan statement or travel plan in accordance with the thresholds and guidance set out in Department for Transport 'Good Practice Guidelines: Delivering Travel Plans through the Planning Process' as published April 2008 (or any subsequent version). Travel plans will be secured through a planning obligation or a planning condition.*

Where levels of accessibility through public transport, cycling and walking are unacceptable, we will expect developers to take action or make financial contributions in accordance with policy CSP 42.

If it is not possible or appropriate for the minimum amount of parking for cycles, motorbikes, scooters and mopeds to be met on site, the developer must provide, or contribute towards, off-site parking, or improve or provide other forms of travel.

"CSP 26: New Development and Highway Improvement"

New development will be expected to be designed and built to provide safe, secure and convenient access for all road users.

If a development is not suitably served by the existing highway, or would create or add to highway safety problems or the efficiency of the highway for all road users, we will expect developers to take



mitigating action or to make a financial contribution to make sure the necessary improvements go ahead. Any contributions will be secured through a planning obligation or planning condition."

2.4 Compliance with Policy

- 2.4.1 Subsequent sections of this report describe the development proposals and surrounding existing sustainable transport facilities such as pedestrian/cycle routes and existing public transport provision.
- 2.4.2 Additionally, this report assesses whether there are any significant highway impacts as a result of the development proposals. The report goes on to evaluate whether the proposals comply with the NPPF transport planning 'test' (Paragraph 32) which prevents refusal on transport grounds unless the residual impacts of development are 'severe'.



3. Existing Conditions

3.1 Introduction

- 3.1.1 This section describes the site location, existing land use and the highway network. It also provides analysis of accident data on the highway network in the vicinity of the site.

3.2 Site Location and Existing Land Use

- 3.2.1 The development site is located off Ashroyds Way within Ashroyd Business Park, approximately 5.5km south of Barnsley Town Centre.
- 3.2.2 The site is located just south of the A6195 which is a dual-carriageway and connects to the M1 motorway to the west. The site's location means that the strategic road network can be easily accessed without the need to route through built up residential areas.
- 3.2.3 **Plan 1** shows the location of the site in the context of the wider area, whilst **Plan 2** shows the location of the site in relation to the local highway network.
- 3.2.4 The development site comprises a development plot within an existing business park. The site is known as 'Plot 5', and is located at the southern boundary of the business park.
- 3.2.5 The site is bordered to the north by an existing industrial building, to the northeast by a plot of undeveloped land, to the east by another additional industrial unit and an office building, to the south by Hawshaw Lane and Hawshaw Bank, and to the west by Ashroyds Way.
- 3.2.6 The site is currently undeveloped land and therefore does not generate traffic.

3.3 Local Highway Network

- 3.3.1 The highway network local to the development site is shown on **Plan 2** and described below.
- 3.3.2 The site will be accessed from Ashroyds Way which extends along the site's western frontage and forms the entirety of the road network within the business park. Ashroyds Way consists of three arms,



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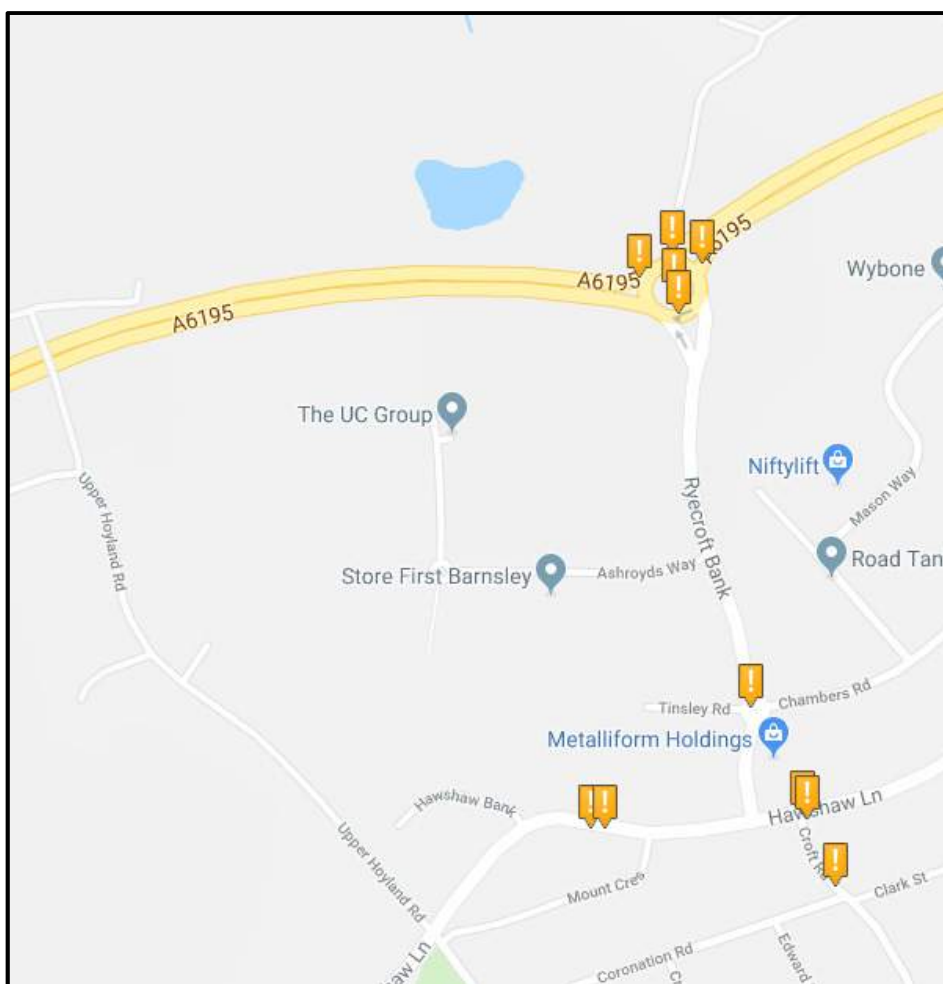
connected by a mini-roundabout junction which is located at the centre of the site. The development site is served by the southern arm of Ashroyds Way and lies approximately 95m south of the mini roundabout junction.

- 3.3.3 Ashroyds Way is a single-carriageway road which ranges from approximately 6.5m to approximately 7.5m in width. The road is subject to a 30mph speed limit across its entire length. Street lighting and pedestrian footways run along the entire length of Ashroyds Way.
- 3.3.4 Ashroyds Way forms a priority junction with Ryecroft Bank approximately 240m east of the mini roundabout junction. A right turn ghost island measuring approximately 3m in width is provided for vehicles turning onto Ashroyds Way from Ryecroft Bank.
- 3.3.5 To the north, Ryecroft Bank forms one arm of a three arm roundabout junction with Dearne Valley Parkway (A6195). Dearne Valley Parkway runs between the M1 motorway in the west and Shafton in the north east. It is subject to the national speed limit (60mph).
- 3.3.6 Ryecroft Bank is a single carriageway road which routes in a general north-south orientation between Dearne Valley Parkway (A6195) in the north and Hawshaw Lane in the south, a distance of approximately 450m. The road is approximately 6.5-7m wide and has a speed limit of 30mph across its entire length. A 2m wide footway runs along the western side of Ryecroft Bank over its entire length, with a pedestrian footway on the opposite side of the road extending from the Hawshaw Lane junction to approximately 45m north of the Chambers Road junction.
- 3.3.7 Approximately 140m south of the Ashroyds Way / Ryecroft Bank junction Ryecroft Bank forms a four-arm mini-roundabout junction with Tinsley Road and Chambers Road. These two roads provide access to a number of other industrial units.
- 3.3.8 Ryecroft Bank forms a simple priority junction with Hawshaw Lane at its southern end. Hawshaw Lane is a single carriageway road which runs in a general northeast – southwest orientation between a mini roundabout junction with Market Street approximately 230m east of the Ryecroft Bank junction to a cross road junction with Sheffield Road (A6135) and Tankersley Lane approximately 1.6km to the southwest. Hawshaw Lane becomes Hoyland Road approximately 600m from the Sheffield Road junction.

3.4 Personal Injury Accident Review

3.4.1 An interrogation of the Crashmap website has been undertaken to determine whether there are any existing highway safety issues within the vicinity of the site. The personal injury accidents for the most recent five year period between 2013 and 2017 have been assessed. The locations of which are illustrated by the yellow, red and black marker flags in **Figure 3.1**. The yellow makers indicate a 'slight' incident, the purple markers indicate multiple 'slight' incidents in one location, the red markers indicate a 'serious' incident, and the black markers indicate a 'fatal' accident.

Figure 3.1 – Map of PIA Locations



Source: crashmap.co.uk (Accessed 22nd February 2018)

- 3.4.2 A total of 11 PIAs occurred within the study area during the most recent five year period. These accidents have been summarised by year and severity in **Table 3.1** below.

Table 3.1: Summary of PIAs

Year	2013	2014	2015	2016	2017	Total
Slight	1	2	6	2	0	11
Serious	0	0	0	0	0	0
Fatal	0	0	0	0	0	0
Total	1	2	6	2	0	11

- 3.4.3 All of the 11 PIAs recorded within the study area over the most recent 5 year period were classified as 'slight'. No 'serious' or 'fatal' accidents were recorded. Only two PIAs have occurred within the study area since 2016.
- 3.4.4 No PIAs were recorded along Ashroyds Way, nor at the Ashroyds Way / Ryecroft Bank junction. The nearest PIA to the site occurred at the Ryecroft Bank / Tinsley Road / Chambers Road junction approximately 140m south of the Ashroyds Way / Ryecroft Bank junction on 19th September 2015. The collision involved two vehicles and resulted in a 'slight' injury to one casualty.
- 3.4.5 There is a small cluster of 5 PIAs present on the Ryecroft Bank / A6195 junction, however this is a major intersection on a dual carriageway which carries high traffic flows. The accident rate at this location equates to 1 per annum which is considered low and all PIAs were classified as slight.
- 3.4.6 It is evident that there is no untypical existing highway safety issues within the local highway network. Given the low level of vehicular traffic that the proposed development is likely to generate, it is considered that the development proposals will not have a material impact on the local highway network's safety record.



4. Sustainable Accessibility

4.1 Introduction

4.1.1 Paragraph 29 of the National Planning Policy Framework states that: “The transport system needs to be balanced in favour of sustainable transport modes, giving people real choice about how they travel”.

4.1.2 To demonstrate the site’s compliance with the above, this section of the report examines the accessibility of the site by non-car modes of transport and as such, the accessibility of the site has been considered in relation to the following modes of transport:

- Pedestrians
- Cycling
- Public Transport

4.2 Accessibility on Foot

4.2.1 Guidance contained in the Institution of Highways and Transportation’s (IHT) ‘Guidelines for Providing for Journeys on Foot’ states that 2km is the preferred maximum walking distance for commuting, school and sight-seeing trips. In addition, Planning Policy Guidance 13 (PPG13) now revoked, recognised that walking is the most important mode of travel at a local level and offers the most sustainable alternative to short car trips, particularly those under 2km. This recognition is still applicable and widely accepted.

4.2.2 The Institute of Highways and Transportation (IHT) in their document ‘Guidelines for Providing Journeys on Foot’ state that *‘walking accounts for over a quarter of all journeys and four fifths of journeys of less than one mile’* (Paragraph 1.12).

4.2.3 This document also contains suggested walking distances to some common facilities which may be used for development planning purposes. It suggests walking distances of up to 2km for commuting. **Plan 3** has been prepared which illustrates the 2km catchment from the site and provides an indication of the areas which are within this distance.



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- 4.2.4 **Plan 3** shows that a number of residential areas fall within a 2km walk of the site, these include the entirety of Hoyland, Milton, Blacker Hill and Jump. Parts of Birdwell and Elsecar also fall within a 2km walk of the site.
- 4.2.5 The roads in the vicinity of the development site which connect the site with the existing built-up areas have good pedestrian facilities and benefit from street lighting and footways. The main pedestrian route from the site to Hoyland, the largest local settlement and surrounding residential areas is via Ryecroft Bank which has footways on the same side of the road as the site and has street lighting.
- 4.2.6 Based on the above, it is considered that the proposed development site is located in an area which has good pedestrian provision and where there is a wide selection of residential areas within a reasonable walking distance. It is therefore considered that the site is accessible by foot in line with the NPPF and local policy.

4.3 Accessibility by Cycle

- 4.3.1 It is generally accepted that cycling has the greatest potential to substitute for short car trips, particularly those less than 5km, and may form part of a longer journey which includes public transport modes.
- 4.3.2 A 5km catchment of the site has been prepared and is shown on **Plan 4**. The plan shows that as well as the areas stated above within a 2km walking catchment of the site, a number of other areas can be reached within a 5km cycle of the site. These include High Green, Hemingfield, Brampton, Wombwell, Ardsley, Kendray and Worsbrough.
- 4.3.3 National Route 62 is located approximately 2.2km north of the site. This provides a high quality cycle route between Fleetwood and Selby. National Cycle Route 67 also runs within a 5km cycle of the site.
- 4.3.4 In summary, there are a range of residential areas which are within a 5km cycle journey from the site. It is therefore considered that cycling to the site would be a realistic choice of travel for future users of the proposed development.

4.4 Accessibility by Public Transport

Accessibility by Bus

4.4.1 As can be seen in **Plan 2**, the closest bus stops to the site are located on Hawshaw Lane approximately 650m away from the site (equating to an approximately 8 minute walk).

4.4.2 The bus services that serve the stops closest to the site are summarised in **Table 4.2**.

Table 4.2 Summary of Bus Services

Service Number	Route	One-way Frequency Per Hour					
		Weekday				Sat	Sun
		AM Peak	Midday	PM Peak	Evening		
Hawshaw Lane							
7	Barnsley - Hoyland	0	1	1	0	1	0
Market Street							
67	Barnsley – Wombwell	0	1	0	1	1	One service every 2 hours between 18:51 & 23:51
67a	Barnsley – Wombwell	1	1	1	1	1	One service every 2 hours
67c	Barnsley – Wombwell	0	0	One service at 17:15	0	One service at 17:15	One service every 2 hours
Total		1	3	3	2	4	3 services every 2 hours



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- 4.4.3 **Table 4.2** shows that there are four bus services that currently stop at the bus stops closest to the site. These routes serve Barnsley, Hoyland and Wombwell.
- 4.4.4 In summary, the bus services in the vicinity of the site currently provide 1 bus per hour in the weekday AM peak, 3 services per hour at midday, and 3 services per hour in the PM peak. There are also 2 bus services per hour during weekday evenings, 4 bus services per hour on a Saturday and 3 services every 2 hours on a Sunday.
- 4.4.5 Given the above, it is therefore evident that there is opportunity to travel to / from the site by public transport.

Accessibility by Rail

- 4.4.6 The nearest rail station to the site is Elsecar rail station which is located approximately 1.8km from the site.
- 4.4.7 Elsecar rail station is served by between two and four services per hour, with services running to destinations including Leeds, Sheffield, Huddersfield and Wakefield.

4.5 Accessibility Summary

- 4.5.1 The above shows that the proposed development site is acceptably located in terms of access to sustainable travel modes, and thereby adheres to NPPF policy.



5. Development Proposals

5.1 Introduction

- 5.1.1 This section describes the development proposals, parking / service arrangements and the vehicular access strategy.

5.2 Overview of Proposals

- 5.2.1 The proposed development site is located on land within an existing industrial park, which benefits from existing road and pedestrian infrastructure.
- 5.2.2 The development proposals are for the creation of four industrial units comprising a total of 5,200 sq m (55,972 sq ft). of GIA. The units are to be used for a mixture of B1 (b), (c), B2 and B8 industrial uses. The development proposals are shown on the layout plan attached at **Appendix A**.
- 5.2.3 A total of 64 car parking spaces are proposed as part of the development.
- 5.2.4 Access to the proposed development site will be via a new priority junction onto the southern arm of Ashroyds Way. The site access arrangements can also be seen on the masterplan attached at **Appendix A**.
- 5.2.5 The four proposed units will be connected by a new internal road running in an east-west orientation. Each of the four units will connect to the link road via a simple priority junction.

5.3 Parking and Servicing Provision

- 5.3.1 A total of 64 car parking spaces, including 5 spaces exclusively for the use of disabled people are proposed.
- 5.3.2 Barnsley Metropolitan Borough Council's (BMBC) car parking standards, as set out in the Barnsley Local Development Framework Supplementary Planning Document 'Parking', are shown in **Table 6.1**.

Table 6.1: Barnsley Parking Standards

Class	Standard Spaces (Maximum)	Disabled Spaces (Minimum)	Cycle Spaces (Minimum)
B1	1 space per 30m ²	4% of total number of spaces (in addition to maximum parking standard)	1 long stay space per 400m ² 1 short stay space per 1000m ²
B2	1 space per 60m ²	4% of total number of spaces (in addition to maximum parking standard)	1 long stay space per 300m ²
B8	1 space per 3 staff or 1 space per 60m ² up to 300m ² then 1 space per 100m ² up to 1000m ² and 1 space per 150m ² thereafter	4% of total number of spaces (in addition to maximum parking standard)	1 short stay space per 1000m ² 1 long stay space per 40 staff

- 5.3.3 Applying the B2 parking standard to the total floor space of the detailed application (5,153m²) permits a maximum parking provision of 86 spaces. The proposed car parking provision is therefore within B2 use parking standards.
- 5.3.4 A total of 5 disabled parking spaces are proposed at the development, this provision exceeds the minimum standard of 4% of the total car parking provision.
- 5.3.5 Given that the end user(s) and hence use class of the buildings is currently unknown, the parking provision will be reviewed as necessary.
- 5.3.6 Cycle parking will be provided within the units in line with Barnsley Borough Councils standards.
- 5.3.7 Each of the four units will have their own HGV servicing area, with the servicing area in three of the four units (units 5A, 5B & 5C) large enough to allow a 16.5m HGV to complete a full turning circle in order to exit the site once servicing has been completed. The servicing area at unit 5D is large enough to allow for a 16.5m HGV to manoeuvre sufficiently so as to enter, service and exit the site safely and suitably.



6. Traffic Impact Assessment

6.1 Introduction

- 6.1.1 The volume of traffic that could potentially be generated by the proposed development and consequent impact is assessed in this section of the report.

6.2 Traffic Flows

- 6.2.1 A manual classified junction turning count was undertaken at the Ashroyds Way / Ryecroft Bank (B6096) junction. The survey was undertaken on Thursday 15th March 2018 between 0730 - 0930 and 1600 – 1830. The traffic survey is attached at **Appendix B**.
- 6.2.2 The survey demonstrated that the AM peak hour occurred between 0730-0830 and the PM peak hour between 1600-1700. Existing peak hour traffic flows on Ryecroft Bank are relatively low and equate to around 300 vehicles per hour (5 per minute on average).
- 6.2.3 Existing AM and PM traffic flows at the junction are attached as **Figures 1** and **2** respectively.

6.3 Traffic Growth

- 6.3.1 In line with best practice, assessments have been undertaken for a single assessment year of 2023, 5 years after the date of registration of the planning application.
- 6.3.2 The future year traffic flows have been estimated by applying growth factors derived from the TEMPRO database to the 2018 observed flows.
- 6.3.3 **Figure 3** and **Figure 4** show the 2023 Baseline AM and PM peak hour flows respectively.

6.4 Traffic Distribution and Generation

6.4.1 In order to determine the volume of traffic that could potentially be generated by the proposed development, the TRICS database has been interrogated for industrial estate (employment) uses. The full TRICS output is provided in **Appendix C** with trip rates and the resulting traffic generation presented in **Table 6.1**.

Table 6.1: Proposed Development Vehicle Trip Rates and Trip Generation

Time Period	Trip Rate (per 100m ²)			Vehicles		
	Arrive	Depart	Total	Arrive	Depart	Total
0800–0900	0.679	0.355	1.034	35	18	53
1700–1800	0.218	0.631	0.849	11	33	44
Daily	5.912	5.917	11.829	305	305	610

6.4.2 **Table 6.1** shows that the proposed development could generate 53 two-way trips during the AM peak hour and 44 two-way trips during the PM peak hour. This equates to around one vehicle every minute in the peak hours, which would be immaterial. It should be noted that this is the traffic impact at the site access point. Increases would be diminished further afield due to route choice etc and entirely imperceptible.

6.4.3 The development traffic has been assigned to the Ashroyds Way / Ryecroft Bank junction based upon the existing distribution of traffic at the junction and 2023 assessment flows (including base traffic) have been derived. The traffic flows are as shown on **Figures 5 – 10**.

6.5 Junction Capacity Assessments

6.5.1 The Ryecroft Bank Road / Ashroyds Way junction is a ghost island format and has therefore been assessed using the PICADY analysis software within the JUNCTIONS9 programme. The key operational output parameters of JUNCTIONS9 are:

- The ratio of flow to capacity (RFC), in which RFC values of less than 1.0 indicate the junction is operating within its ultimate capacity.
- Mean max queues, which indicate the forecast length of traffic queues.

6.6 Assessment Results

6.6.1 The results for the 2023 peak hour assessments are included as Tables 6.2 and 6.3 below.

Table 6.2: 2023 Junction Operation – AM Peak Hour

Link Description	AM Peak							
	2023 Without Development			2023 With Development			Difference	
	Max RFC	Average Delay (s/pcu)	Max Queue (PCU)	Max RFC	Average Delay (s/pcu)	Max Queue (PCU)	Average Delay (s/pcu)	Max Queue (PCU)
Ashroyds Way - Left Turn	0.020	8.8	0	0.040	9.1	0	0.3	0.1
Ashroyds Way - Right Turn	0.010	14.0	0	0.030	14.5	0	0.5	0.0
B6096 (N)	0.070	6.6	0	0.120	7.0	0	0.4	0.0

Table 6.3: 2023 Junction Operation – PM Peak Hour

Link Description	PM Peak							
	2023 Without Development			2023 With Development			Difference	
	Max RFC	Average Delay (s/pcu)	Max Queue (PCU)	Max RFC	Average Delay (s/pcu)	Max Queue (PCU)	Average Delay (s/pcu)	Max Queue (PCU)
Ashroyds Way - Left Turn	0.040	5.4	0	0.080	5.7	0	0.3	0.1
Ashroyds Way - Right Turn	0.020	9.6	0	0.050	9.8	0	0.3	0.1
B6096 (N)	0.020	5.9	0	0.030	5.9	0	0.1	0.0

6.6.2 The assessment results demonstrate that the junction would continue to operate with substantial spare capacity and no queuing predicted on any junction approach. The development traffic would not have any material impact on junction operation. Full junction outputs are included at **Appendix D**.

6.7 Traffic Impact Summary

6.7.1 The site is currently undeveloped and unoccupied and therefore currently generates no vehicle movements.

6.7.2 The development proposals could result in an additional 53 two-way vehicle movements in the AM peak hour and an additional 44 two-way vehicle movements in the PM peak hour. This equates to approximately an additional vehicle every minute during the peak hours. This impact cannot be considered to be significant, especially when one considers the high quality road infrastructure already present at the site and the spare capacity available at the Ashroyds Way / Ryecroft Bank junction.

6.7.3 The residual cumulative impacts of the development are clearly not severe and thus the development proposals accord with the transport planning requirements of the NPPF.



7. Summary and Conclusions

- 7.1.1 WYG has been appointed by Network Space Ltd to prepare a Transport Assessment (TA) which examines non-car travel links, access to key services, and residual highway capacity implications associated with a proposed development of a site off Ashroyds Way in Hoyland.
- 7.1.2 The development proposal consists of 4 units for B1 (b), (c), B2 and B8 industrial use with a total GIA of up to 5,200 sq m (55,972 sq ft). The site forms part of a wider site which comprises a number of existing industrial units, and benefits from existing infrastructure including a high quality road network which was delivered after a successful planning application in 1999 (Application Ref: B/99/0342/HN).
- 7.1.3 The site is located just south of the A6195 which a dual-carriageway and connects to the M1 motorway to the west. The site's location means that the strategic road network can be easily accessed without the need to route through built up residential areas.
- 7.1.4 Access to the proposed development will be via a new priority junction with Ashroyds Way. The four individual units will be accessed via a new internal link road to be installed at the site.
- 7.1.5 Recent road traffic (personal injury) accident data has been analysed and there is no evidence of an existing highway safety issue on the local highway network. It is considered therefore that the development traffic would have no material impact on the safety of the local highway network.
- 7.1.6 The site is accessible by sustainable modes of transport in compliance with NPPF and local transport policy.
- 7.1.7 A total of 64 car parking spaces, including 5 spaces exclusively for the use of disabled people are proposed. This provision falls within maximum (B2) standards. Given that the end user(s) and hence use class of the buildings is currently unknown, the parking provision will be reviewed as necessary.
- 7.1.8 The proposed development is expected to generate 53 two-way trips during the AM peak hour and 44 two-way trips during the PM peak hour. This equates to around one vehicle every minute in the peak hours (at the site access point, less further afield), which cannot be considered to be a significant impact.



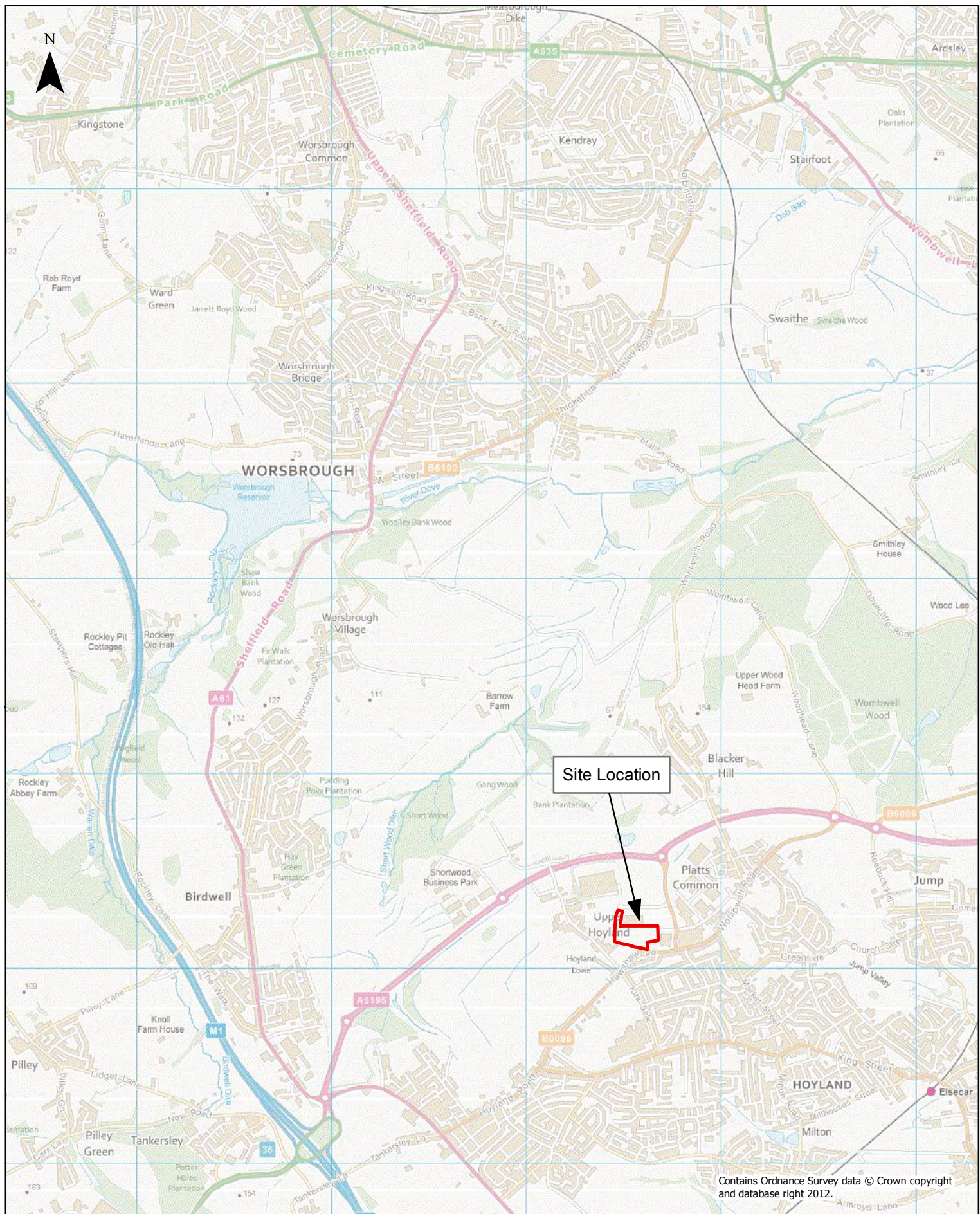
Proposed Development (Plot 5), Ashroyd Business Park, Barnsley

- 7.1.9 Junction capacity assessments have been undertaken for the Ryecroft Bank Road / Ashroyds Way junction. It would continue to operate with substantial spare capacity and no queuing predicted on any junction approach. The development traffic would not have any material impact on junction operation.
- 7.1.10 The residual cumulative impacts of the development are clearly not severe and thus the development proposals accord with the transport planning requirements of the NPPF.
- 7.1.11 Based on the above, it is considered that there are no highways and transport related reasons why this development should not be granted planning consent.



Proposed Development (Plot 5), Ashroyd Business Park, Barnsley

Plans



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Plan 1: Site Location

Proposed Development, Ashroyd Business Park, Barnsley

Scale @ A4 1:25,000

Project No: A0990897

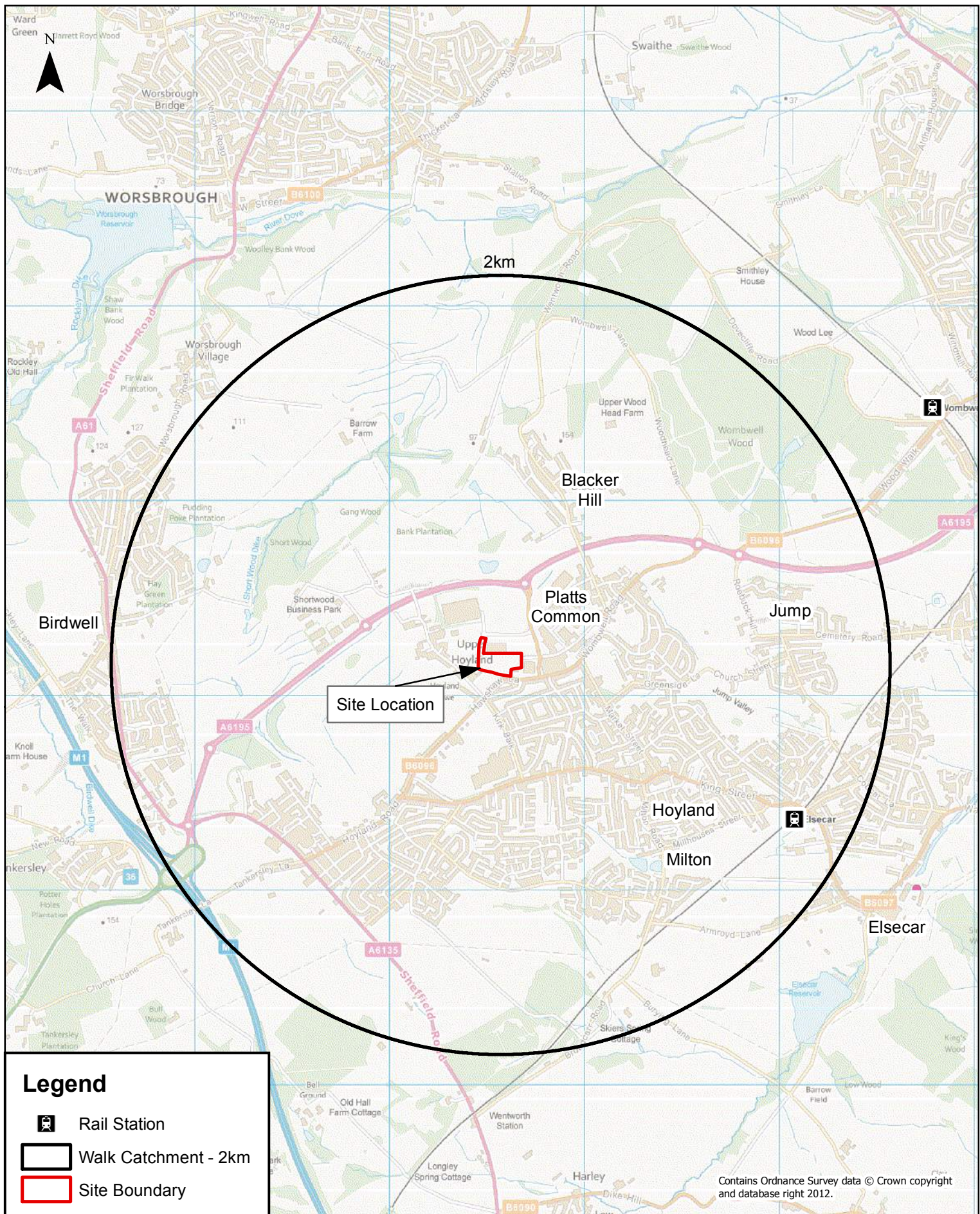
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e-mail: manchester@wyg.com



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Plan 3: Walk Catchment - 2km

Proposed Development, Ashroyd Business Park, Barnsley

Scale @ A4 1:25,000

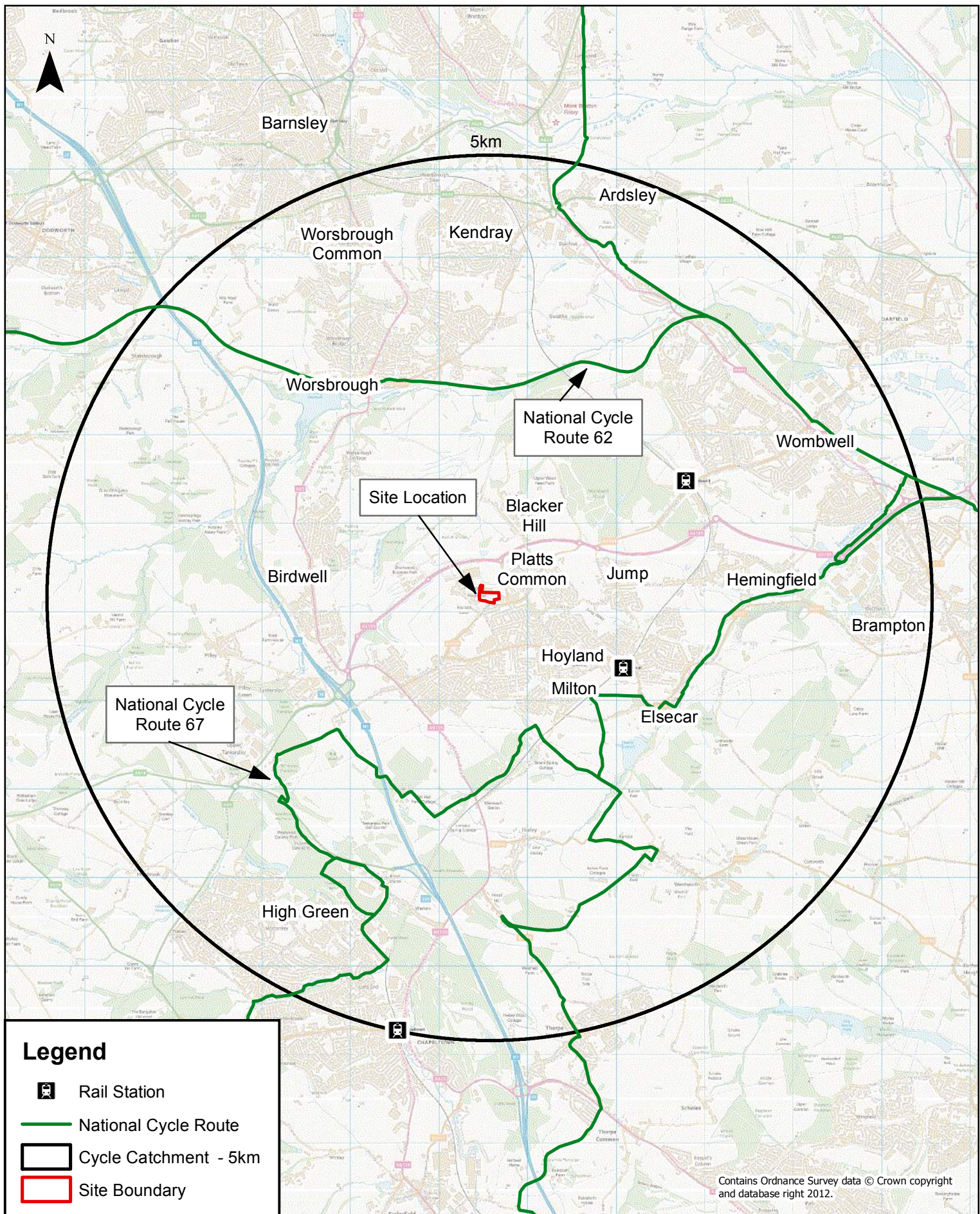
Project No: A0990897

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Proposed Development (Plot 5), Ashroyd Business Park, Barnsley

Figures

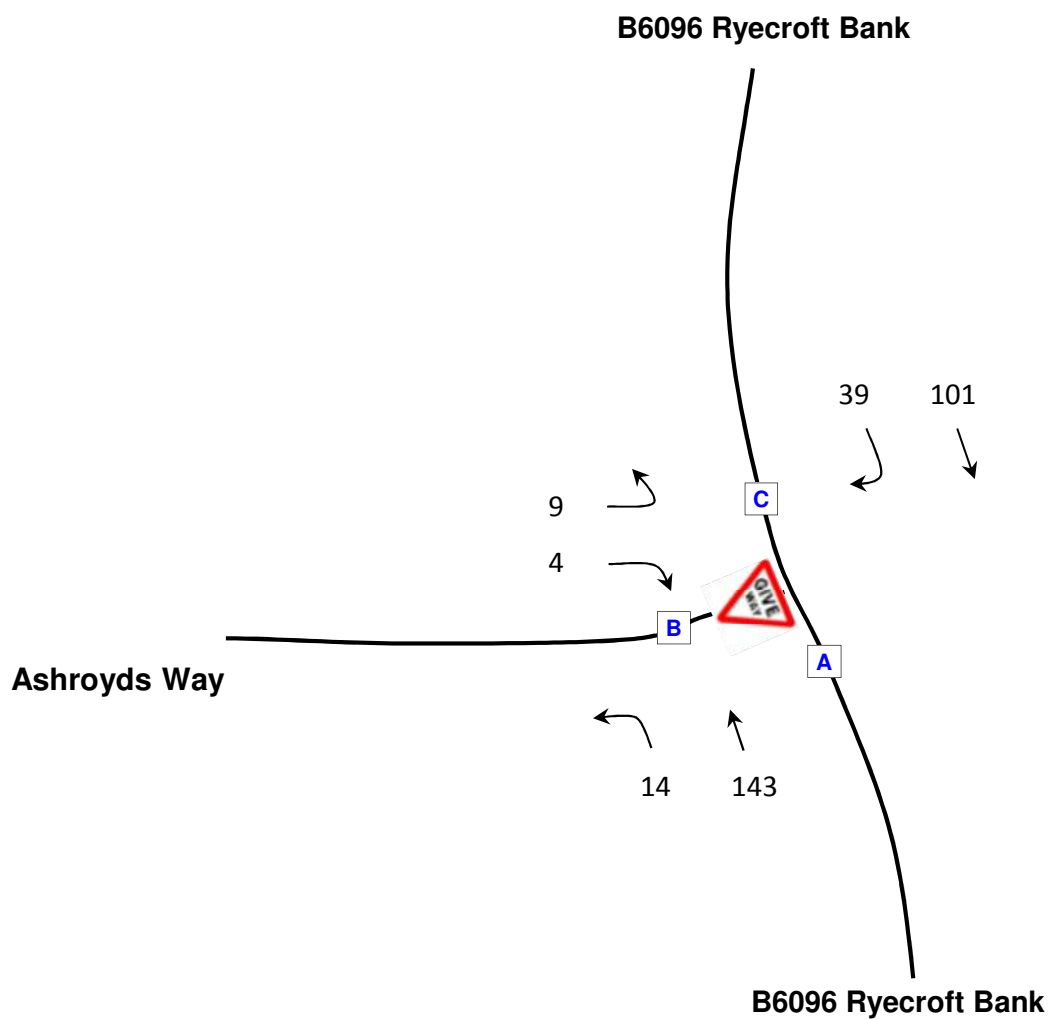


Fig 1: AM Peak Hour 2018 Surveyed Flows (07:30-08:30)

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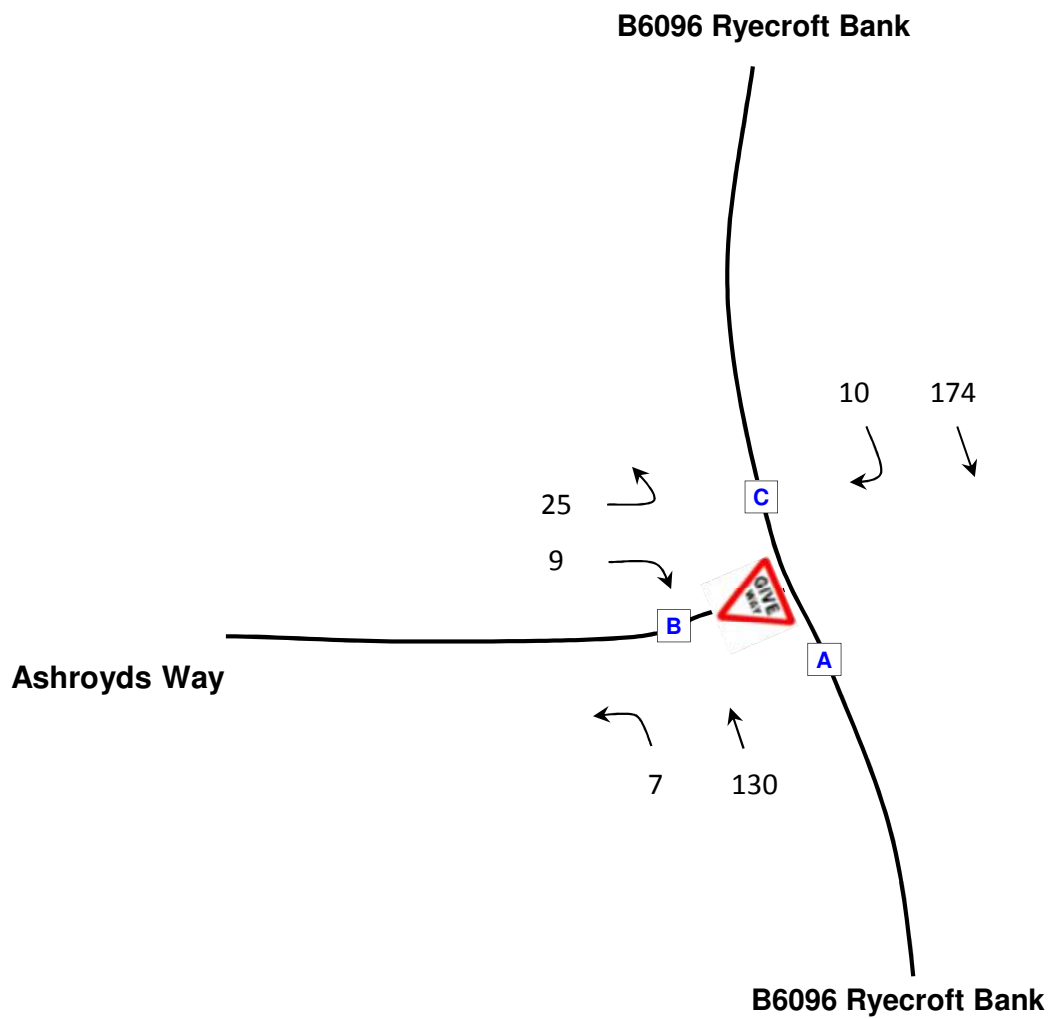


Fig 2: PM Peak Hour 2018 Surveyed Flows (16:00-17:00)

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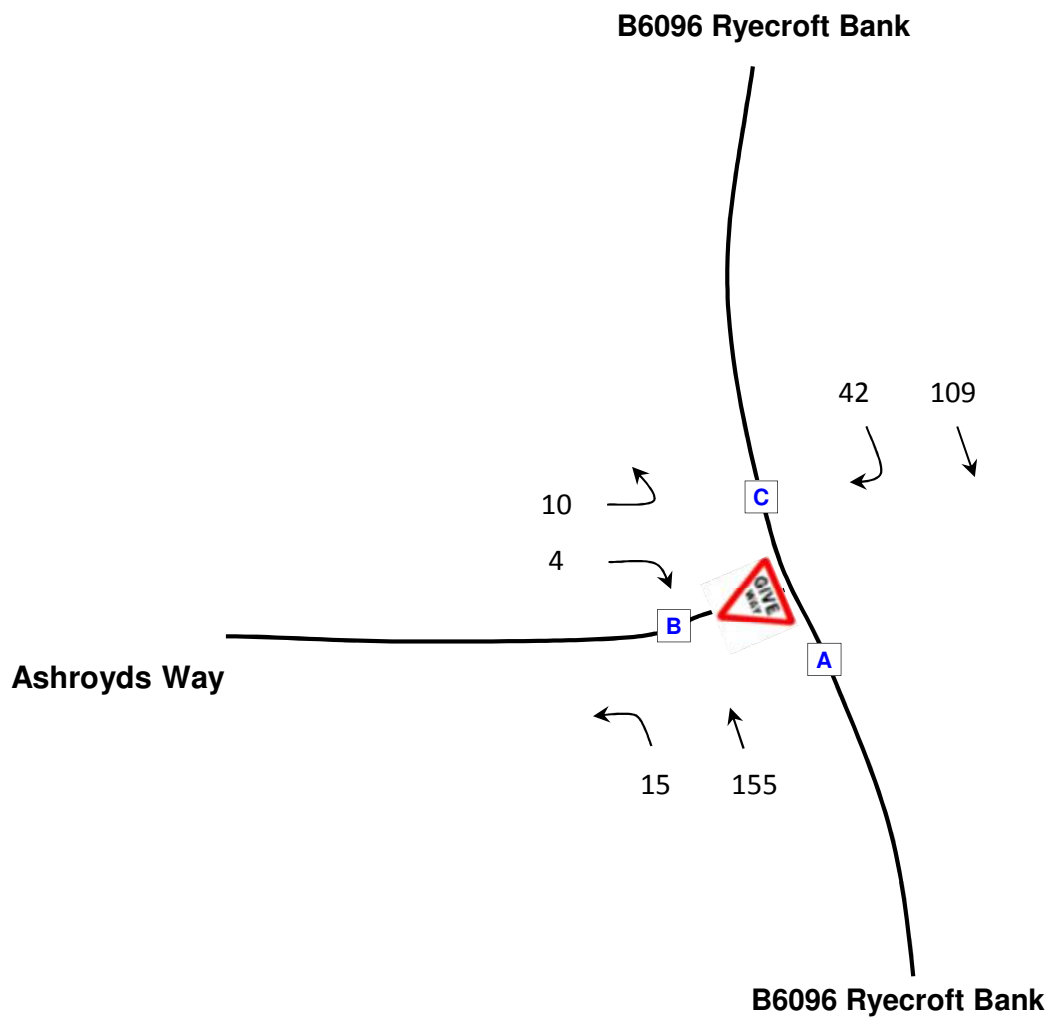


Fig 3: AM Peak Hour 2023 Growthed Surveyed Flow
(07:30-08:30)

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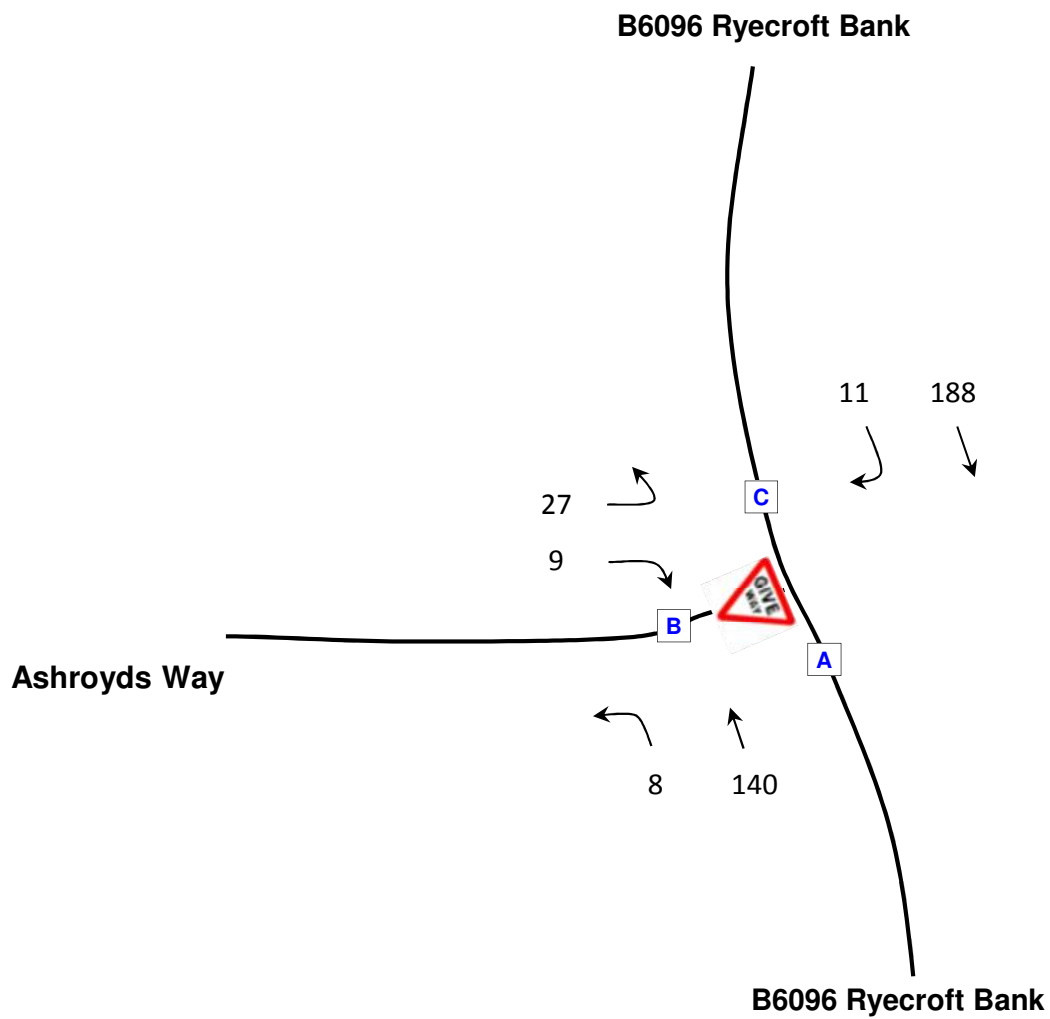


Fig 4: PM Peak Hour 2023 Growth Surveyed Flows (16:00-17:00)

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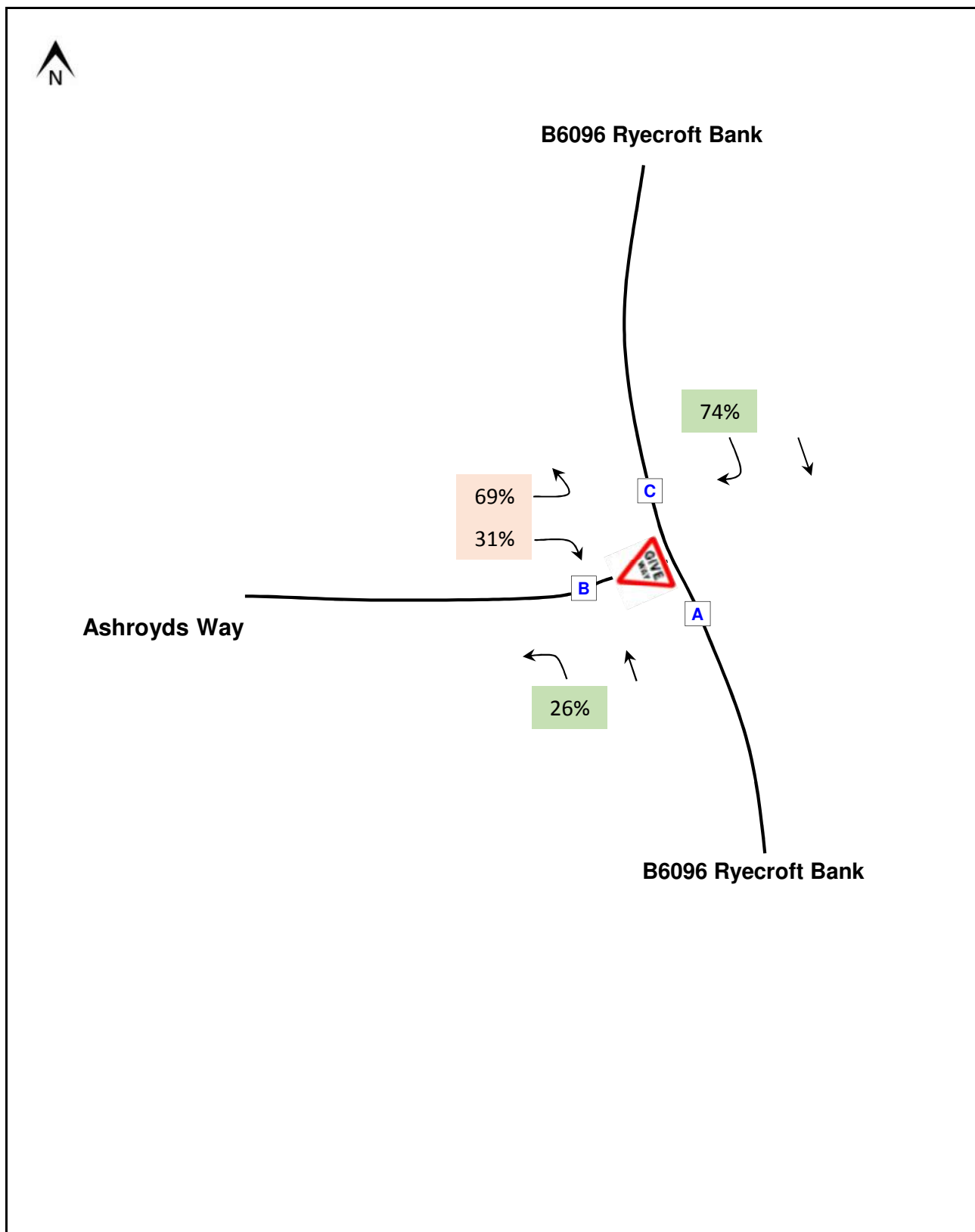


Fig 5: AM Peak Hour Trip Distribution (Based on Existing Flow Patterns)

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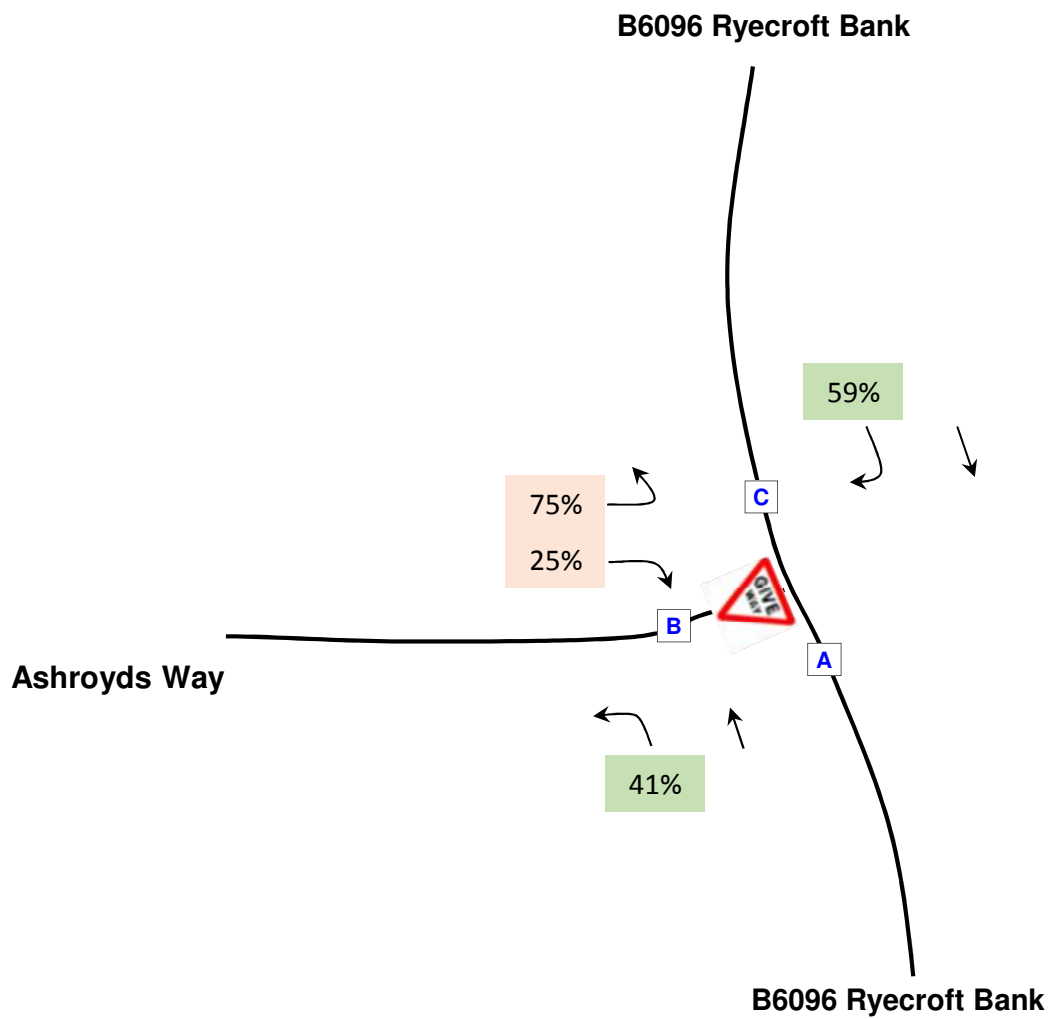


Fig 6: PM Peak Hour Trip Distribution (Based on Existing Flow Patterns)

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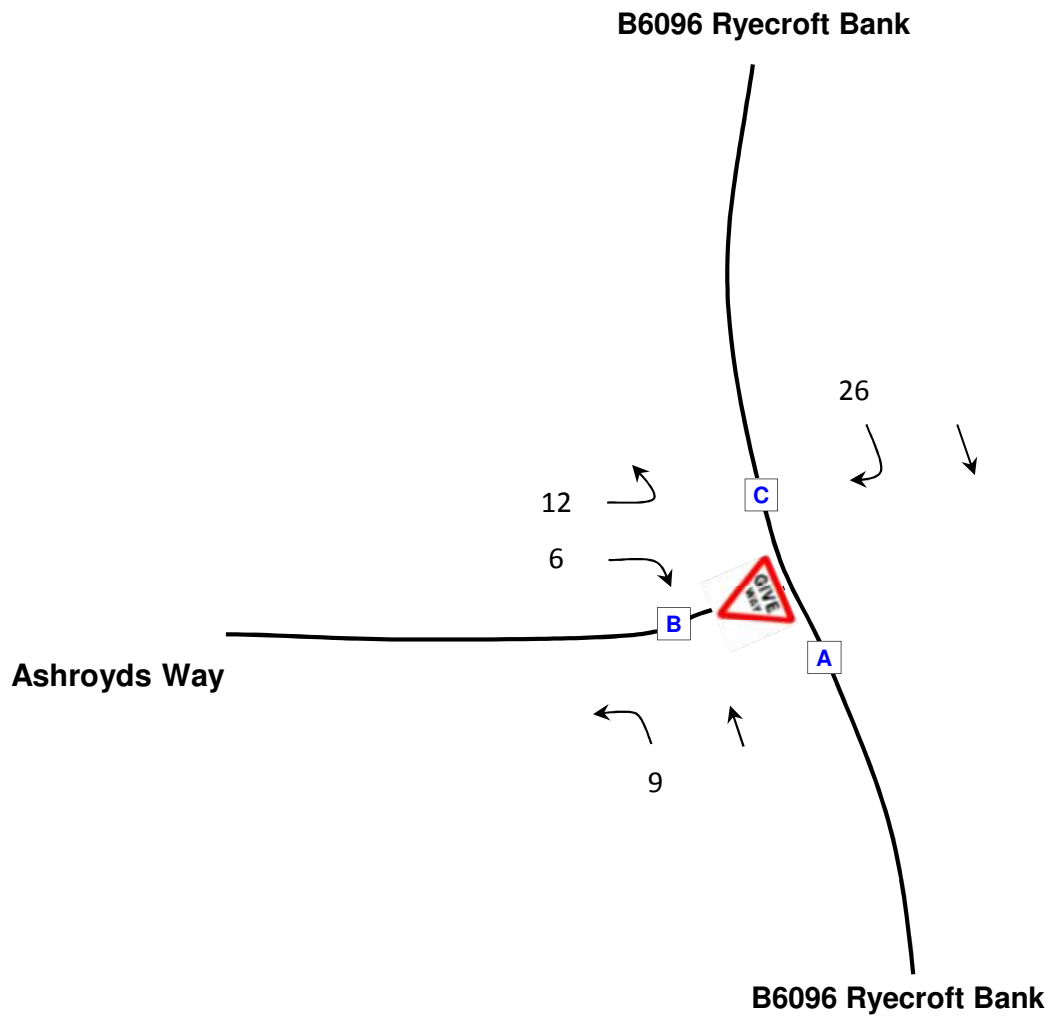


Fig 7: AM Peak Trip Generation - Proposed Residential Development

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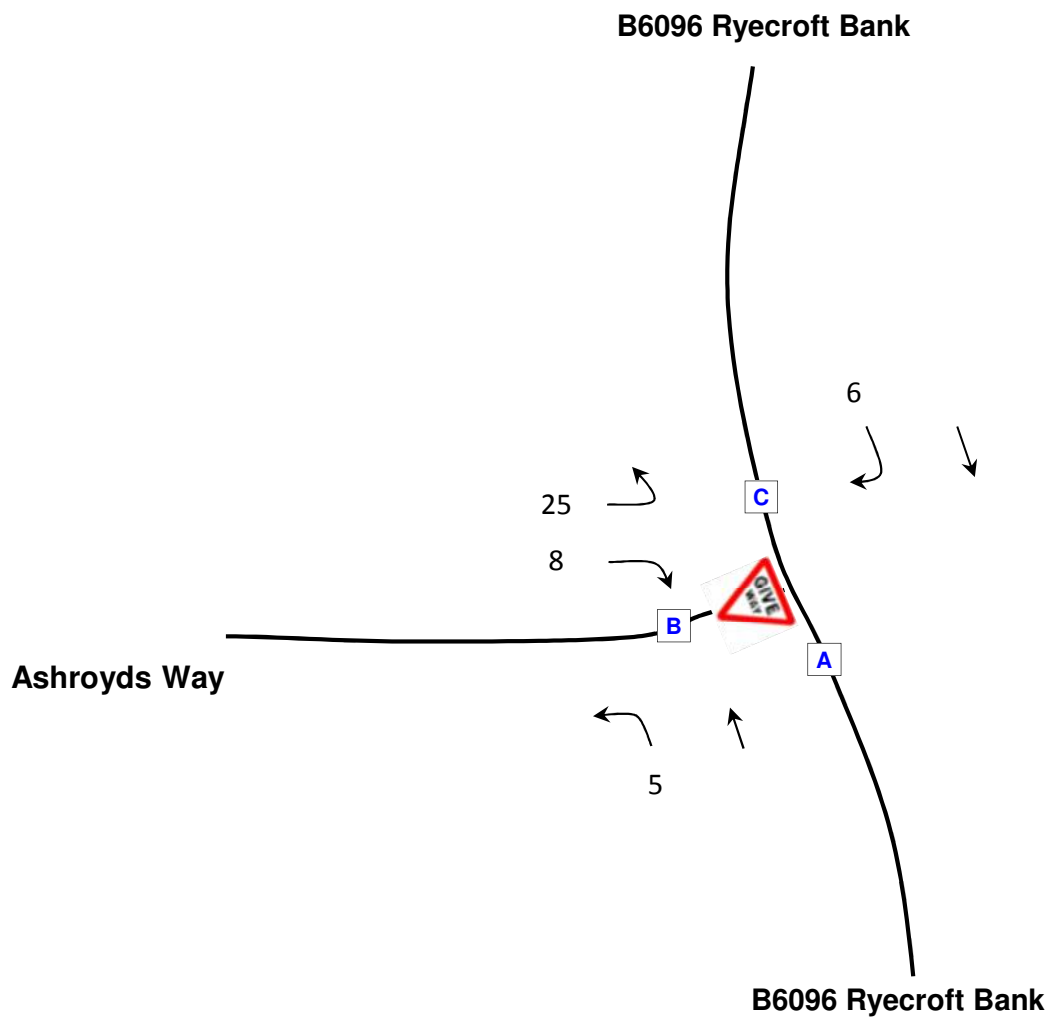


Fig 8: PM Peak Trip Generation - Proposed Residential Development

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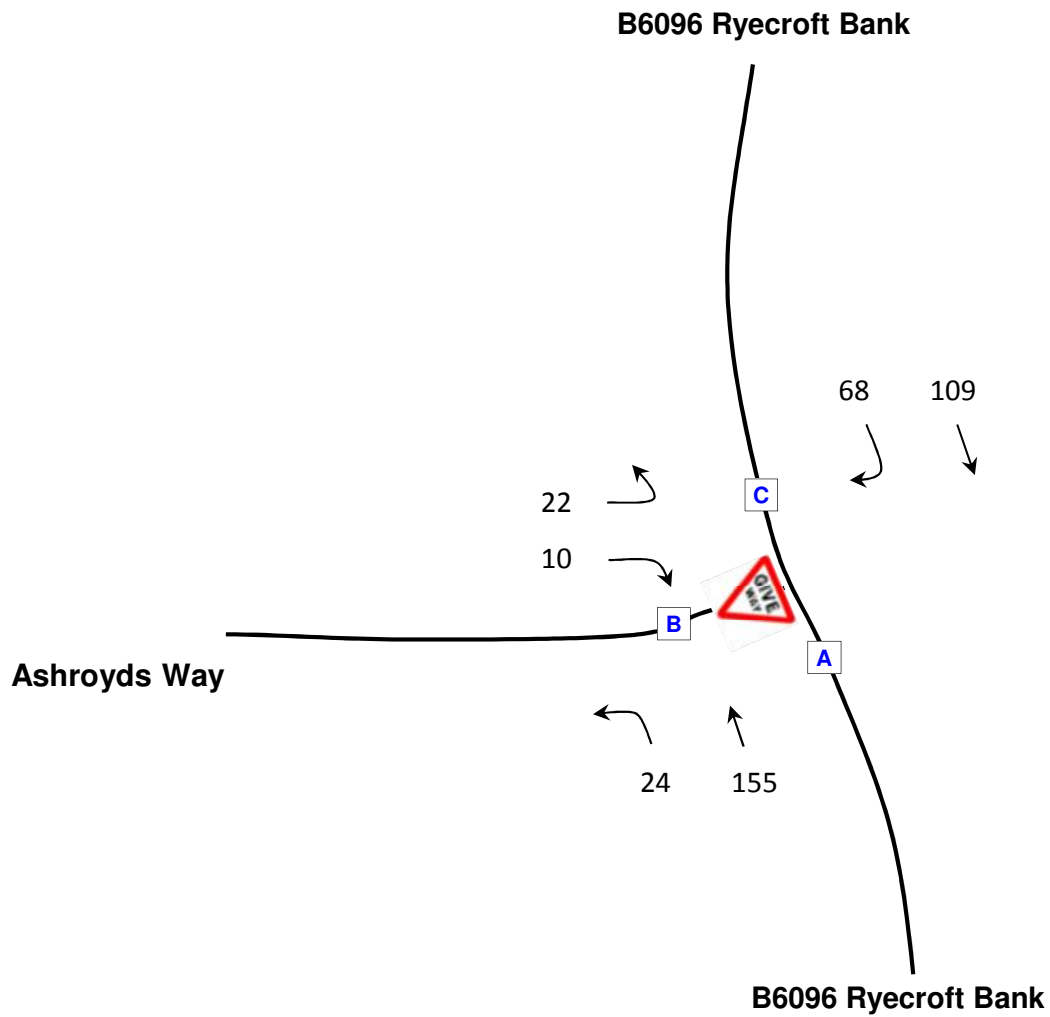


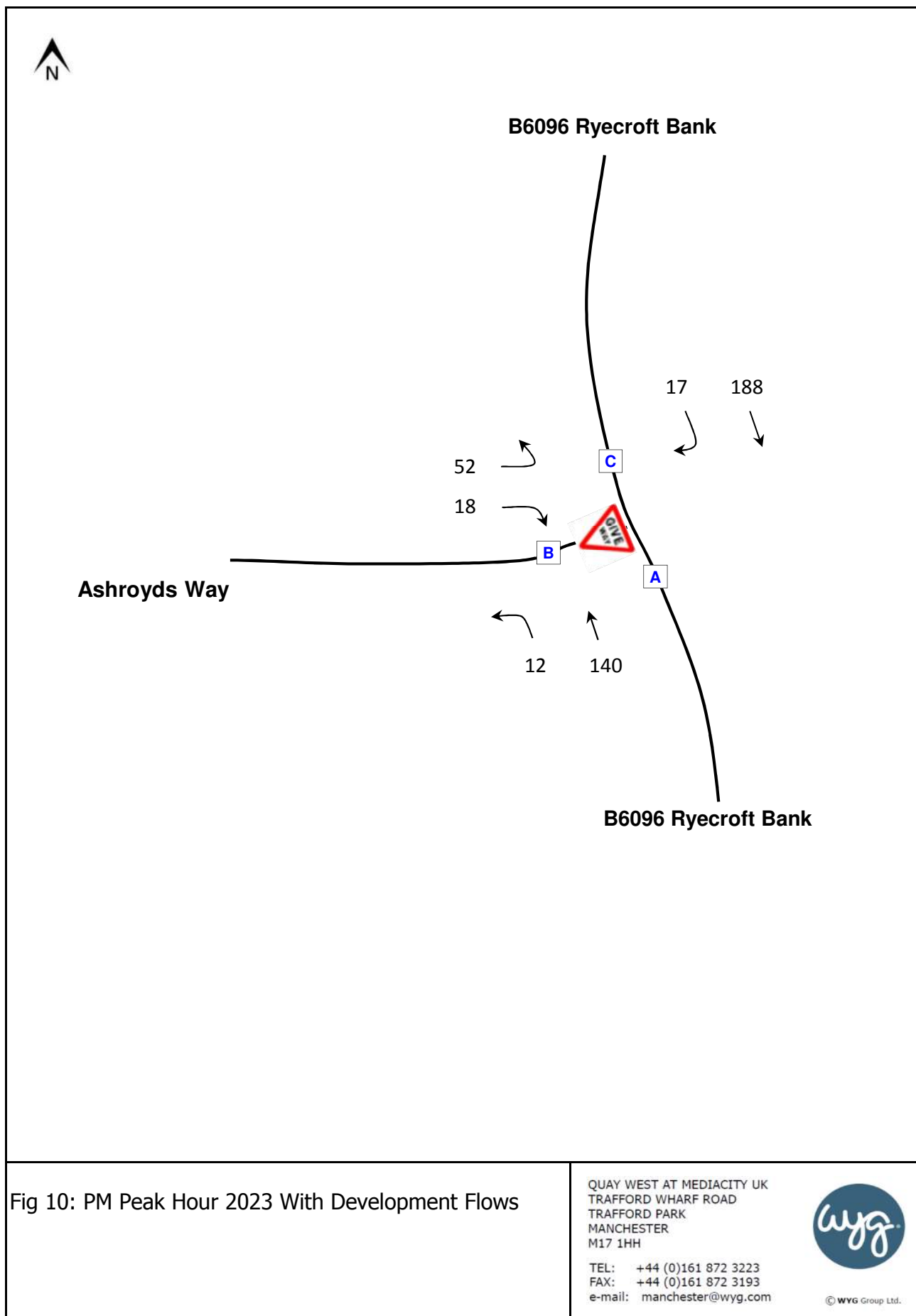
Fig 9: AM Peak Hour 2023 With Development Flows

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Proposed Development (Plot 5), Ashroyd Business Park, Barnsley

Appendices



Proposed Development (Plot 5), Ashroyd Business Park, Barnsley

Appendix A – Proposed Layout



Ownership Boundary Line

Plot 5 Application Boundary Line (5.49 Acres / 2.22 Ha)

LEVELS

+000.00 Existing levels
+157.50 Proposed levels

Note: For further details regarding levels, refer to William Sanden latest levels layout proposal.

LANDSCAPING

Note: Landscape design shown indicatively, for further details regarding landscaping, refer to Vector Landscape Designers latest proposal.

Project Title: **Proposed Development Plot 5 Ashroyd Business Park Junction 36 M1 Barnsley S74 9SB**

Client: **Network Space Ltd**

Notes: **Planning**

Scale: **1:200** Drawing Size: **A0**

Date: **March 2018** Drawn By: **AT** Checked: **DT**

Drawing Title: **Proposed Site Masterplan**

Job/Client No: **14698C-115** Rev: **B**

200- John Street, Wakefield, WF1 3QA t: 01924 261000

Carver Warehouse, 77 Dale Street, Manchester, M1 2UG t: 0161 2380555

The Old Rectory, 79 High Street, Newport Pagnell, MK16 8AN t: 01908 211277

181 London Road, Reading, RG1 1PR t: 0118 5007700

18 Crayke Court, 30 Cloughmore Place, London, W12 1JF t: 0207 6091615

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Proposed Development (Plot 5), Ashroyd Business Park, Barnsley

Appendix B – Traffic Survey Data

Manual Classified Turning Counts, Barnsley

DATE: THURSDAY 15th MARCH 2018

LOCATION: B6096 / ASHROYDS WAY

ARM: B6096 SOUTH

TIME / CLASS	LEFT TO ASHROYDS WAY								STRAIGHT TO B6096 NORTH								TOTAL MOVEMENT FROM ARM
	PEDAL CYCLE	MOTOR CYCLE	CAR TAXI	LGV	OGV 1	OGV 2	BUS COACH	TOTAL	PEDAL CYCLE	MOTOR CYCLE	CAR TAXI	LGV	OGV 1	OGV 2	BUS COACH	TOTAL	
7:30 - 7:45	0	0	2	0	0	0	0	2	0	0	23	1	0	1	0	25	27
7:45 - 8:00	0	0	3	0	0	0	0	3	0	1	21	8	1	0	0	31	34
8:00 - 8:15	0	0	4	1	0	0	0	5	0	0	31	8	2	0	0	41	46
8:15 - 8:30	0	0	4	0	0	0	0	4	0	0	32	5	3	1	0	41	45
8:30 - 8:45	0	0	1	0	0	0	0	1	0	0	24	7	1	0	0	32	33
8:45 - 9:00	0	0	5	1	0	0	0	6	0	0	28	0	0	0	0	28	34
9:00 - 9:15	0	0	0	1	1	0	0	2	0	0	17	3	2	1	1	24	26
9:15 - 9:30	0	0	4	0	0	0	0	4	0	0	15	4	0	0	0	19	23

16:00 - 16:15	0	0	0	0	0	0	0	0	0	0	18	9	1	1	0	29	29
16:15 - 16:30	0	0	2	1	0	0	0	3	0	0	34	6	0	0	0	40	43
16:30 - 16:45	0	0	0	0	0	0	0	0	0	0	31	4	1	0	0	36	36
16:45 - 17:00	0	0	3	1	0	0	0	4	0	0	19	2	1	0	0	22	26
17:00 - 17:15	0	0	1	0	0	0	0	1	0	0	17	4	0	0	0	21	22
17:15 - 17:30	1	1	1	0	0	0	0	3	0	0	24	2	0	0	0	26	29
17:30 - 17:45	0	0	0	0	0	0	0	0	0	0	23	2	0	0	0	25	25
17:45 - 18:00	0	0	2	2	0	0	0	4	0	0	25	1	0	0	0	26	30
18:00 - 18:15	0	0	0	0	0	0	0	0	0	0	22	2	0	0	0	24	24
18:15 - 18:30	0	0	0	1	0	0	0	1	0	0	23	2	0	0	0	25	26

Manual Classified Turning Counts, Barnsley

DATE: THURSDAY 15th MARCH 2018

LOCATION: B6096 / ASHROYDS WAY

ARM: ASHROYDS WAY

TIME / CLASS	LEFT TO B6096 NORTH								RIGHT TO B6096 SOUTH								TOTAL MOVEMENT FROM ARM
	PEDAL CYCLE	MOTOR CYCLE	CAR TAXI	LGV	OGV 1	OGV 2	BUS COACH	TOTAL	PEDAL CYCLE	MOTOR CYCLE	CAR TAXI	LGV	OGV 1	OGV 2	BUS COACH	TOTAL	
7:30 - 7:45	0	0	1	0	0	0	0	1	0	0	1	0	0	0	0	1	2
7:45 - 8:00	0	0	0	0	1	1	0	2	0	0	0	0	0	0	0	0	2
8:00 - 8:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 - 8:30	0	0	0	1	2	0	0	3	0	0	0	0	2	0	0	2	5
8:30 - 8:45	0	0	1	1	0	0	0	2	0	0	1	1	0	0	0	2	4
8:45 - 9:00	0	0	0	3	0	0	0	3	0	0	1	0	0	0	0	1	4
9:00 - 9:15	0	0	2	2	0	0	0	4	0	0	0	1	1	0	0	2	6
9:15 - 9:30	0	0	2	2	1	2	0	7	0	0	0	1	0	0	0	1	8

16:00 - 16:15	0	0	10	2	0	0	0	12	0	0	3	1	0	0	0	4	16
16:15 - 16:30	0	0	1	2	0	0	0	3	0	0	1	0	1	0	0	2	5
16:30 - 16:45	0	0	2	1	0	0	0	3	0	0	1	0	0	0	0	1	4
16:45 - 17:00	0	0	5	2	0	0	0	7	0	0	1	0	0	0	0	1	8
17:00 - 17:15	0	0	17	0	0	0	0	17	0	0	10	0	0	0	0	10	27
17:15 - 17:30	0	0	6	2	0	0	0	8	0	0	3	0	0	0	0	3	11
17:30 - 17:45	0	0	6	0	0	0	0	6	0	0	1	0	0	0	0	1	7
17:45 - 18:00	0	0	1	1	0	0	0	2	0	0	2	1	0	0	0	3	5
18:00 - 18:15	0	0	6	1	0	0	0	7	0	0	1	1	0	0	0	2	9
18:15 - 18:30	0	0	3	1	0	0	0	4	0	0	2	0	0	0	0	2	6

survey and presentation by traffic**sense** Ltd.

Manual Classified Turning Counts, Barnsley

DATE: THURSDAY 15th MARCH 2018

LOCATION: B6096 / ASHROYDS WAY

ARM: B6096 NORTH

TIME / CLASS	STRAIGHT TO B6096 SOUTH								RIGHT TO ASHROYDS WAY								TOTAL MOVEMENT FROM ARM
	PEDAL CYCLE	MOTOR CYCLE	CAR TAXI	LGV	OGV 1	OGV 2	BUS COACH	TOTAL	PEDAL CYCLE	MOTOR CYCLE	CAR TAXI	LGV	OGV 1	OGV 2	BUS COACH	TOTAL	
7:30 - 7:45	0	0	18	4	3	0	0	25	0	0	6	1	1	0	0	8	33
7:45 - 8:00	0	0	22	4	1	2	0	29	0	0	6	0	0	0	0	6	35
8:00 - 8:15	0	0	17	5	0	0	0	22	0	0	7	1	1	0	0	9	31
8:15 - 8:30	0	0	12	3	2	1	0	18	0	0	13	2	0	0	0	15	33
8:30 - 8:45	0	0	18	3	1	0	0	22	0	0	4	1	0	0	0	5	27
8:45 - 9:00	0	0	20	7	0	0	0	27	0	0	4	2	1	0	0	7	34
9:00 - 9:15	0	0	19	4	1	0	0	24	0	0	1	2	0	3	0	6	30
9:15 - 9:30	0	0	16	5	1	0	0	22	0	1	5	1	0	0	0	7	29

310

309

306

298

271

310

16:00 - 16:15	0	0	37	9	0	0	0	46	0	0	2	1	0	0	0	3	49
16:15 - 16:30	0	0	40	4	0	2	0	46	0	0	1	3	0	0	0	4	50
16:30 - 16:45	1	0	34	6	0	0	0	41	0	0	1	1	0	0	0	2	43
16:45 - 17:00	0	0	34	5	0	0	0	39	0	0	1	0	0	0	0	1	40
17:00 - 17:15	0	0	26	2	0	0	0	28	0	0	1	2	0	1	0	4	32
17:15 - 17:30	0	0	42	4	0	0	0	46	0	0	0	2	0	0	0	2	48
17:30 - 17:45	0	0	29	5	1	0	0	35	0	0	0	1	0	0	0	1	36
17:45 - 18:00	0	1	39	3	0	0	0	43	0	0	1	0	0	0	0	1	44
18:00 - 18:15	0	1	28	2	0	0	0	31	0	0	0	0	0	1	0	1	32
18:15 - 18:30	0	0	30	2	0	0	0	32	0	0	0	0	0	0	0	0	32

354

341

326

312

316

299

277

354



Proposed Development (Plot 5), Ashroyd Business Park, Barnsley

Appendix C – TRICS Output

Calculation Reference: AUDIT-705118-180227-0215

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 02 - EMPLOYMENT
 Category : D - INDUSTRIAL ESTATE
 VEHICLES

Selected regions and areas:

02	SOUTH EAST	
	ES EAST SUSSEX	1 days
03	SOUTH WEST	
	DV DEVON	2 days
04	EAST ANGLIA	
	CA CAMBRIDGESHIRE	1 days
06	WEST MIDLANDS	
	WO WORCESTERSHIRE	2 days
07	YORKSHIRE & NORTH LINCOLNSHIRE	
	WY WEST YORKSHIRE	1 days
09	NORTH	
	TW TYNE & WEAR	1 days

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

Secondary Filtering selection:

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

Parameter: Gross floor area
 Actual Range: 1775 to 9500 (units: sqm)
 Range Selected by User: 708 to 10000 (units: sqm)

Public Transport Provision:

Selection by: Include all surveys

Date Range: 01/01/09 to 03/07/17

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

Selected survey days:

Monday	5 days
Tuesday	1 days
Friday	2 days

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

Selected survey types:

Manual count	8 days
Directional ATC Count	0 days

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

Selected Locations:

Edge of Town	8
--------------	---

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

Selected Location Sub Categories:

Industrial Zone	3
Commercial Zone	1
Development Zone	1
Residential Zone	3

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

Secondary Filtering selection:

Use Class:

B1	1 days
B2	5 days
B8	2 days

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

Population within 1 mile:

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

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

Population within 5 miles:

75,001 to 100,000	1 days
125,001 to 250,000	5 days
250,001 to 500,000	2 days

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

Car ownership within 5 miles:

0.6 to 1.0	3 days
1.1 to 1.5	5 days

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

Travel Plan:

No	8 days
----	--------

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

PTAL Rating:

No PTAL Present	8 days
-----------------	--------

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

LIST OF SITES relevant to selection parameters

1	CA-02-D-02	IND. ESTATE	CAMBRIDGESHIRE
	COLDHAM'S ROAD		
	COLDHAM'S COMMON		
	CAMBRIDGE		
	Edge of Town		
	Industrial Zone		
	Total Gross floor area:	2063 sqm	
	Survey date: MONDAY	19/10/09	Survey Type: MANUAL
2	DV-02-D-06	INDUSTRIAL ESTATE	DEVON
	ST MODWEN ROAD		
	PLYMOUTH		
	Edge of Town		
	Industrial Zone		
	Total Gross floor area:	1775 sqm	
	Survey date: TUESDAY	17/07/12	Survey Type: MANUAL
3	DV-02-D-07	INDUSTRIAL ESTATE	DEVON
	BITTERN ROAD		
	SOWTON IND. ESTATE		
	EXETER		
	Edge of Town		
	Industrial Zone		
	Total Gross floor area:	3600 sqm	
	Survey date: MONDAY	03/07/17	Survey Type: MANUAL
4	ES-02-D-06	INDUSTRIAL ESTATE	EAST SUSSEX
	COURTLANDS ROAD		
	EASTBOURNE		
	Edge of Town		
	Residential Zone		
	Total Gross floor area:	7525 sqm	
	Survey date: MONDAY	21/10/13	Survey Type: MANUAL
5	TW-02-D-07	INDUSTRIAL ESTATE	TYNE & WEAR
	SWALWELL BANK		
	WHICKHAM		
	GATESHEAD		
	Edge of Town		
	Residential Zone		
	Total Gross floor area:	6800 sqm	
	Survey date: FRIDAY	04/10/13	Survey Type: MANUAL
6	WO-02-D-01	INDUSTRIAL ESTATE	WORCESTERSHIRE
	SANDY LANE		
	STOURPORT-ON-SEVERN		
	Edge of Town		
	Commercial Zone		
	Total Gross floor area:	2758 sqm	
	Survey date: FRIDAY	23/05/14	Survey Type: MANUAL
7	WO-02-D-02	INDUSTRIAL ESTATE	WORCESTERSHIRE
	WEIR LANE		
	WORCESTER		
	Edge of Town		
	Residential Zone		
	Total Gross floor area:	9500 sqm	
	Survey date: MONDAY	14/11/16	Survey Type: MANUAL
8	WY-02-D-05	INDUSTRIAL ESTATE	WEST YORKSHIRE
	CARR WOOD ROAD		
	CASTLEFORD		
	Edge of Town		
	Development Zone		
	Total Gross floor area:	1776 sqm	
	Survey date: MONDAY	22/05/17	Survey Type: MANUAL

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

WYG Group Quay West Salford Quays

Licence No: 705118

TRIP RATE for Land Use 02 - EMPLOYMENT/D - INDUSTRIAL ESTATE

VEHICLES

Calculation factor: 100 sqm

BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	8	4475	0.461	8	4475	0.134	8	4475	0.595
08:00 - 09:00	8	4475	0.679	8	4475	0.355	8	4475	1.034
09:00 - 10:00	8	4475	0.598	8	4475	0.467	8	4475	1.065
10:00 - 11:00	8	4475	0.514	8	4475	0.480	8	4475	0.994
11:00 - 12:00	8	4475	0.623	8	4475	0.637	8	4475	1.260
12:00 - 13:00	8	4475	0.609	8	4475	0.679	8	4475	1.288
13:00 - 14:00	8	4475	0.536	8	4475	0.573	8	4475	1.109
14:00 - 15:00	8	4475	0.615	8	4475	0.550	8	4475	1.165
15:00 - 16:00	8	4475	0.522	8	4475	0.531	8	4475	1.053
16:00 - 17:00	8	4475	0.425	8	4475	0.645	8	4475	1.070
17:00 - 18:00	8	4475	0.218	8	4475	0.631	8	4475	0.849
18:00 - 19:00	8	4475	0.112	8	4475	0.235	8	4475	0.347
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:		5.912			5.917			11.829	

This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are three sub-columns. These display the number of survey days where count data is included (per time period), the average value of the selected trip rate calculation parameter (per time period), and the trip rate result (per time period). Total trip rates (the sum of the column) are also displayed at the foot of the table.

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Parameter summary

Trip rate parameter range selected:	1775 - 9500 (units: sqm)
Survey date range:	01/01/09 - 03/07/17
Number of weekdays (Monday-Friday):	8
Number of Saturdays:	0
Number of Sundays:	0
Surveys automatically removed from selection:	1
Surveys manually removed from selection:	0

This section displays a quick summary of some of the data filtering selections made by the TRICS® user. The trip rate calculation parameter range of all selected surveys is displayed first, followed by the range of minimum and maximum survey dates selected by the user. Then, the total number of selected weekdays and weekend days in the selected set of surveys are shown. Finally, the number of survey days that have been manually removed from the selected set outside of the standard filtering procedure are displayed.

WYG Group Quay West Salford Quays

Licence No: 705118

TRIP RATE for Land Use 02 - EMPLOYMENT/D - INDUSTRIAL ESTATE

TAXIS

Calculation factor: 100 sqm

BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	8	4475	0.000	8	4475	0.000	8	4475	0.000
08:00 - 09:00	8	4475	0.006	8	4475	0.003	8	4475	0.009
09:00 - 10:00	8	4475	0.003	8	4475	0.003	8	4475	0.006
10:00 - 11:00	8	4475	0.000	8	4475	0.000	8	4475	0.000
11:00 - 12:00	8	4475	0.003	8	4475	0.003	8	4475	0.006
12:00 - 13:00	8	4475	0.000	8	4475	0.000	8	4475	0.000
13:00 - 14:00	8	4475	0.003	8	4475	0.003	8	4475	0.006
14:00 - 15:00	8	4475	0.000	8	4475	0.000	8	4475	0.000
15:00 - 16:00	8	4475	0.000	8	4475	0.000	8	4475	0.000
16:00 - 17:00	8	4475	0.000	8	4475	0.000	8	4475	0.000
17:00 - 18:00	8	4475	0.003	8	4475	0.006	8	4475	0.009
18:00 - 19:00	8	4475	0.000	8	4475	0.000	8	4475	0.000
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.018			0.018			0.036

This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are three sub-columns. These display the number of survey days where count data is included (per time period), the average value of the selected trip rate calculation parameter (per time period), and the trip rate result (per time period). Total trip rates (the sum of the column) are also displayed at the foot of the table.

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Parameter summary

Trip rate parameter range selected:	1775 - 9500 (units: sqm)
Survey date range:	01/01/09 - 03/07/17
Number of weekdays (Monday-Friday):	8
Number of Saturdays:	0
Number of Sundays:	0
Surveys automatically removed from selection:	1
Surveys manually removed from selection:	0

This section displays a quick summary of some of the data filtering selections made by the TRICS® user. The trip rate calculation parameter range of all selected surveys is displayed first, followed by the range of minimum and maximum survey dates selected by the user. Then, the total number of selected weekdays and weekend days in the selected set of surveys are shown. Finally, the number of survey days that have been manually removed from the selected set outside of the standard filtering procedure are displayed.

TRIP RATE for Land Use 02 - EMPLOYMENT/D - INDUSTRIAL ESTATE

OGVS

Calculation factor: 100 sqm

BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	8	4475	0.014	8	4475	0.022	8	4475	0.036
08:00 - 09:00	8	4475	0.020	8	4475	0.020	8	4475	0.040
09:00 - 10:00	8	4475	0.028	8	4475	0.031	8	4475	0.059
10:00 - 11:00	8	4475	0.017	8	4475	0.014	8	4475	0.031
11:00 - 12:00	8	4475	0.036	8	4475	0.042	8	4475	0.078
12:00 - 13:00	8	4475	0.025	8	4475	0.028	8	4475	0.053
13:00 - 14:00	8	4475	0.025	8	4475	0.014	8	4475	0.039
14:00 - 15:00	8	4475	0.022	8	4475	0.028	8	4475	0.050
15:00 - 16:00	8	4475	0.031	8	4475	0.025	8	4475	0.056
16:00 - 17:00	8	4475	0.014	8	4475	0.006	8	4475	0.020
17:00 - 18:00	8	4475	0.003	8	4475	0.003	8	4475	0.006
18:00 - 19:00	8	4475	0.003	8	4475	0.000	8	4475	0.003
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.238			0.233			0.471

This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are three sub-columns. These display the number of survey days where count data is included (per time period), the average value of the selected trip rate calculation parameter (per time period), and the trip rate result (per time period). Total trip rates (the sum of the column) are also displayed at the foot of the table.

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Parameter summary

Trip rate parameter range selected:	1775 - 9500 (units: sqm)
Survey date range:	01/01/09 - 03/07/17
Number of weekdays (Monday-Friday):	8
Number of Saturdays:	0
Number of Sundays:	0
Surveys automatically removed from selection:	1
Surveys manually removed from selection:	0

This section displays a quick summary of some of the data filtering selections made by the TRICS® user. The trip rate calculation parameter range of all selected surveys is displayed first, followed by the range of minimum and maximum survey dates selected by the user. Then, the total number of selected weekdays and weekend days in the selected set of surveys are shown. Finally, the number of survey days that have been manually removed from the selected set outside of the standard filtering procedure are displayed.

TRIP RATE for Land Use 02 - EMPLOYMENT/D - INDUSTRIAL ESTATE

PSVS

Calculation factor: 100 sqm

BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	8	4475	0.000	8	4475	0.000	8	4475	0.000
08:00 - 09:00	8	4475	0.003	8	4475	0.000	8	4475	0.003
09:00 - 10:00	8	4475	0.000	8	4475	0.003	8	4475	0.003
10:00 - 11:00	8	4475	0.000	8	4475	0.000	8	4475	0.000
11:00 - 12:00	8	4475	0.000	8	4475	0.000	8	4475	0.000
12:00 - 13:00	8	4475	0.000	8	4475	0.003	8	4475	0.003
13:00 - 14:00	8	4475	0.000	8	4475	0.000	8	4475	0.000
14:00 - 15:00	8	4475	0.000	8	4475	0.000	8	4475	0.000
15:00 - 16:00	8	4475	0.000	8	4475	0.000	8	4475	0.000
16:00 - 17:00	8	4475	0.000	8	4475	0.000	8	4475	0.000
17:00 - 18:00	8	4475	0.000	8	4475	0.000	8	4475	0.000
18:00 - 19:00	8	4475	0.000	8	4475	0.000	8	4475	0.000
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.003			0.006			0.009

This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are three sub-columns. These display the number of survey days where count data is included (per time period), the average value of the selected trip rate calculation parameter (per time period), and the trip rate result (per time period). Total trip rates (the sum of the column) are also displayed at the foot of the table.

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Number of Saturdays:	0
Number of Sundays:	0
Surveys automatically removed from selection:	1
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TRIP RATE for Land Use 02 - EMPLOYMENT/D - INDUSTRIAL ESTATE

CYCLISTS

Calculation factor: 100 sqm

BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	8	4475	0.025	8	4475	0.006	8	4475	0.031
08:00 - 09:00	8	4475	0.017	8	4475	0.014	8	4475	0.031
09:00 - 10:00	8	4475	0.014	8	4475	0.008	8	4475	0.022
10:00 - 11:00	8	4475	0.003	8	4475	0.008	8	4475	0.011
11:00 - 12:00	8	4475	0.011	8	4475	0.011	8	4475	0.022
12:00 - 13:00	8	4475	0.003	8	4475	0.000	8	4475	0.003
13:00 - 14:00	8	4475	0.003	8	4475	0.000	8	4475	0.003
14:00 - 15:00	8	4475	0.008	8	4475	0.006	8	4475	0.014
15:00 - 16:00	8	4475	0.008	8	4475	0.008	8	4475	0.016
16:00 - 17:00	8	4475	0.020	8	4475	0.014	8	4475	0.034
17:00 - 18:00	8	4475	0.008	8	4475	0.036	8	4475	0.044
18:00 - 19:00	8	4475	0.000	8	4475	0.008	8	4475	0.008
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.120			0.119			0.239

This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are three sub-columns. These display the number of survey days where count data is included (per time period), the average value of the selected trip rate calculation parameter (per time period), and the trip rate result (per time period). Total trip rates (the sum of the column) are also displayed at the foot of the table.

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Proposed Development (Plot 5), Ashroyd Business Park, Barnsley

Appendix D – JUNCTIONS8 Output

Junctions 9			
PICADY 9 - Priority Intersection Module			
Version: 9.0.2.5947			
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+44 (0)1344 770558 software@trl.co.uk 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: Ashroyds Way_B6059.j9

Path: J:\2018\A099897 Ashroyd, Barnsley (Network Space)\Picady

Report generation date: 28/03/2018 10:24:06

- »2018 Surveyed Flows, AM
- »2018 Surveyed Flows, PM
- »2023 Baseline Flows, AM
- »2023 Baseline Flows, PM
- »2023 with Dev. Flows, AM
- »2023 with Dev. Flows, PM

Summary of junction performance

	AM				PM			
	Queue (PCU)	Delay (s)	RFC	Junction Delay (s)	Queue (PCU)	Delay (s)	RFC	Junction Delay (s)
	2018 Surveyed Flows							
Stream B-C	0.0	8.80	0.01	1.25	0.0	5.35	0.04	0.78
Stream B-A	0.0	13.73	0.01		0.0	9.41	0.02	
Stream C-AB	0.1	6.51	0.07		0.0	5.82	0.02	
	2023 Baseline Flows							
Stream B-C	0.0	8.83	0.02	1.26	0.0	5.38	0.04	0.77
Stream B-A	0.0	13.96	0.01		0.0	9.56	0.02	
Stream C-AB	0.1	6.59	0.07		0.0	5.86	0.02	
	2023 with Dev. Flows							
Stream B-C	0.1	9.10	0.04	2.11	0.1	5.66	0.08	1.34
Stream B-A	0.0	14.48	0.03		0.1	9.83	0.05	
Stream C-AB	0.1	6.97	0.12		0.0	5.94	0.03	

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

File summary

File Description

Title	(untitled)
Location	
Site number	
Date	14/02/2018
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	WYGlyujing.liu
Description	

Units

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

Analysis Options

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

Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D1	2018 Surveyed Flows	AM	ONE HOUR	07:15	08:45	15	✓
D2	2018 Surveyed Flows	PM	ONE HOUR	15:45	17:15	15	✓
D3	2023 Baseline Flows	AM	ONE HOUR	07:15	08:45	15	✓
D4	2023 Baseline Flows	PM	ONE HOUR	15:45	17:15	15	✓
D5	2023 with Dev. Flows	AM	ONE HOUR	07:15	08:45	15	✓
D6	2023 with Dev. Flows	PM	ONE HOUR	15:45	17:15	15	✓

Analysis Set Details

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

2018 Surveyed Flows, AM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction Type	Major road direction	Junction Delay (s)	Junction LOS
1	Ashroyds Way/B6096 Priority Jun.	T-Junction	Two-way	1.25	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Name	Description	Arm type
A	B6096 (S)		Major
B	Ashroyds Way		Minor
C	B6096 (N)		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Has right turn bay	Width for right turn (m)	Visibility for right turn (m)	Blocks?	Blocking queue (PCU)
C - B6096 (N)	6.00		✓	3.00	70.0	✓	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

Arm	Minor arm type	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate flare length	Flare length (PCU)	Visibility to left (m)	Visibility to right (m)
B - Ashroyds Way	One lane plus flare	10.00	7.50	5.00	4.20	4.20	✓	2.00	50	35

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	512	0.093	0.236	0.148	0.337
1	B-C	742	0.114	0.288	-	-
1	C-B	668	0.259	0.259	-	-

The slopes and intercepts shown above do NOT include any corrections or adjustments.

Streams may be combined, in which case capacity will be adjusted.

Values are shown for the first time segment only; they may differ for subsequent time segments.

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D1	2018 Surveyed Flows	AM	ONE HOUR	07:15	08:45	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - B6096 (S)		ONE HOUR	✓	157	100.000
B - Ashroyds Way		ONE HOUR	✓	13	100.000
C - B6096 (N)		ONE HOUR	✓	140	100.000

Origin-Destination Data

Demand (PCU/hr)

	To			
		A - B6096 (S)	B - Ashroyds Way	C - B6096 (N)
	From			
	A - B6096 (S)	0	14	143
	B - Ashroyds Way	4	0	9
	C - B6096 (N)	101	39	0

Vehicle Mix

Heavy Vehicle Percentages

	To			
		A - B6096 (S)	B - Ashroyds Way	C - B6096 (N)
	From			
	A - B6096 (S)	0	0	6
	B - Ashroyds Way	67	0	67
	C - B6096 (N)	10	5	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)
B-C	0.01	8.80	0.0	A	8	12
B-A	0.01	13.73	0.0	B	4	6
C-AB	0.07	6.51	0.1	A	36	54
C-A					93	139
A-B					13	19
A-C					131	197

Main Results for each time segment

07:15 - 07:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-C	7	2	709	0.010	7	0.0	0.0	8.562	A
B-A	3	0.75	464	0.006	3	0.0	0.0	13.035	B
C-AB	29	7	637	0.046	29	0.0	0.1	6.213	A
C-A	76	19			76				
A-B	11	3			11				
A-C	108	27			108				

07:30 - 07:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-C	8	2	702	0.012	8	0.0	0.0	8.660	A
B-A	4	0.90	455	0.008	4	0.0	0.0	13.318	B
C-AB	35	9	631	0.056	35	0.1	0.1	6.337	A
C-A	91	23			91				
A-B	13	3			13				
A-C	129	32			129				

07:45 - 08:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-C	10	2	693	0.014	10	0.0	0.0	8.797	A
B-A	4	1	442	0.010	4	0.0	0.0	13.731	B
C-AB	43	11	623	0.069	43	0.1	0.1	6.512	A
C-A	111	28			111				
A-B	15	4			15				
A-C	157	39			157				

08:00 - 08:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-C	10	2	693	0.014	10	0.0	0.0	8.797	A
B-A	4	1	442	0.010	4	0.0	0.0	13.731	B
C-AB	43	11	623	0.069	43	0.1	0.1	6.512	A
C-A	111	28			111				
A-B	15	4			15				
A-C	157	39			157				

08:15 - 08:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-C	8	2	702	0.012	8	0.0	0.0	8.661	A
B-A	4	0.90	455	0.008	4	0.0	0.0	13.318	B
C-AB	35	9	631	0.056	35	0.1	0.1	6.338	A
C-A	91	23			91				
A-B	13	3			13				
A-C	129	32			129				

08:30 - 08:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-C	7	2	709	0.010	7	0.0	0.0	8.566	A
B-A	3	0.75	464	0.006	3	0.0	0.0	13.035	B
C-AB	29	7	637	0.046	29	0.1	0.1	6.219	A
C-A	76	19			76				
AB	11	3			11				
AC	108	27			108				

2018 Surveyed Flows, PM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction Type	Major road direction	Junction Delay (s)	Junction LOS
1	Ashroyds Way/B6096 Priority Jun.	T-Junction	Two-way	0.78	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D2	2018 Surveyed Flows	PM	ONE HOUR	15:45	17:15	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - B6096 (S)		ONE HOUR	✓	137	100.000
B - Ashroyds Way		ONE HOUR	✓	34	100.000
C - B6096 (N)		ONE HOUR	✓	184	100.000

Origin-Destination Data

Demand (PCU/hr)

	To			
		A - B6096 (S)	B - Ashroyds Way	C - B6096 (N)
From	A - B6096 (S)	0	7	130
	B - Ashroyds Way	9	0	25
	C - B6096 (N)	174	10	0

Vehicle Mix

Heavy Vehicle Percentages

	To			
		A - B6096 (S)	B - Ashroyds Way	C - B6096 (N)
From	A - B6096 (S)	0	0	3
	B - Ashroyds Way	13	0	0
	C - B6096 (N)	1	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)
B-C	0.04	5.35	0.0	A	23	34
B-A	0.02	9.41	0.0	A	8	12
C-AB	0.02	5.82	0.0	A	9	14
C-A					160	239
A-B					6	10
A-C					119	179

Main Results for each time segment

15:45 - 16:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-C	19	5	715	0.026	19	0.0	0.0	5.168	A
B-A	7	2	463	0.015	7	0.0	0.0	8.917	A
C-AB	8	2	641	0.012	7	0.0	0.0	5.679	A
C-A	131	33			131				
A-B	5	1			5				
A-C	98	24			98				

16:00 - 16:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-C	22	6	709	0.032	22	0.0	0.0	5.243	A
B-A	8	2	454	0.018	8	0.0	0.0	9.119	A
C-AB	9	2	636	0.014	9	0.0	0.0	5.739	A
C-A	156	39			156				
A-B	6	2			6				
A-C	117	29			117				

16:15 - 16:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-C	28	7	700	0.039	27	0.0	0.0	5.349	A
B-A	10	2	442	0.022	10	0.0	0.0	9.414	A
C-AB	11	3	629	0.018	11	0.0	0.0	5.825	A
C-A	192	48			192				
A-B	8	2			8				
A-C	143	36			143				

16:30 - 16:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-C	28	7	700	0.039	28	0.0	0.0	5.349	A
B-A	10	2	442	0.022	10	0.0	0.0	9.414	A
C-AB	11	3	629	0.018	11	0.0	0.0	5.825	A
C-A	192	48			192				
A-B	8	2			8				
A-C	143	36			143				

16:45 - 17:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-C	22	6	709	0.032	23	0.0	0.0	5.244	A
B-A	8	2	454	0.018	8	0.0	0.0	9.120	A
C-AB	9	2	636	0.014	9	0.0	0.0	5.739	A
C-A	156	39			156				
A-B	6	2			6				
A-C	117	29			117				

17:00 - 17:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-C	19	5	715	0.026	19	0.0	0.0	5.170	A
B-A	7	2	463	0.015	7	0.0	0.0	8.918	A
C-AB	8	2	641	0.012	8	0.0	0.0	5.679	A
C-A	131	33			131				
A-B	5	1			5				
A-C	98	24			98				

2023 Baseline Flows, AM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction Type	Major road direction	Junction Delay (s)	Junction LOS
1	Ashroyds Way/B6096 Priority Jun.	T-Junction	Two-way	1.26	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D3	2023 Baseline Flows	AM	ONE HOUR	07:15	08:45	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - B6096 (S)		ONE HOUR	✓	170	100.000
B - Ashroyds Way		ONE HOUR	✓	14	100.000
C - B6096 (N)		ONE HOUR	✓	151	100.000

Origin-Destination Data

Demand (PCU/hr)

	To			
		A - B6096 (S)	B - Ashroyds Way	C - B6096 (N)
From	A - B6096 (S)	0	15	155
	B - Ashroyds Way	4	0	10
	C - B6096 (N)	109	42	0

Vehicle Mix

Heavy Vehicle Percentages

	To			
		A - B6096 (S)	B - Ashroyds Way	C - B6096 (N)
From	A - B6096 (S)	0	0	6
	B - Ashroyds Way	67	0	67
	C - B6096 (N)	10	5	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)
B-C	0.02	8.83	0.0	A	9	14
B-A	0.01	13.96	0.0	B	4	6
C-AB	0.07	6.59	0.1	A	39	58
C-A					100	150
A-B					14	21
A-C					142	213

Main Results for each time segment

07:15 - 07:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-C	8	2	708	0.011	7	0.0	0.0	8.575	A
B-A	3	0.75	459	0.007	3	0.0	0.0	13.193	B
C-AB	32	8	635	0.050	31	0.0	0.1	6.262	A
C-A	82	21			82				
A-B	11	3			11				
A-C	117	29			117				

07:30 - 07:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-C	9	2	701	0.013	9	0.0	0.0	8.683	A
B-A	4	0.90	449	0.008	4	0.0	0.0	13.505	B
C-AB	38	9	628	0.060	38	0.1	0.1	6.398	A
C-A	98	24			98				
A-B	13	3			13				
A-C	139	35			139				

07:45 - 08:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-C	11	3	692	0.016	11	0.0	0.0	8.833	A
B-A	4	1	435	0.010	4	0.0	0.0	13.961	B
C-AB	46	12	620	0.075	46	0.1	0.1	6.592	A
C-A	120	30			120				
A-B	17	4			17				
A-C	171	43			171				

08:00 - 08:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-C	11	3	692	0.016	11	0.0	0.0	8.834	A
B-A	4	1	435	0.010	4	0.0	0.0	13.962	B
C-AB	46	12	620	0.075	46	0.1	0.1	6.592	A
C-A	120	30			120				
A-B	17	4			17				
A-C	171	43			171				

08:15 - 08:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-C	9	2	701	0.013	9	0.0	0.0	8.685	A
B-A	4	0.90	449	0.008	4	0.0	0.0	13.506	B
C-AB	38	9	628	0.060	38	0.1	0.1	6.402	A
C-A	98	24			98				
A-B	13	3			13				
A-C	139	35			139				

08:30 - 08:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-C	8	2	708	0.011	8	0.0	0.0	8.579	A
B-A	3	0.75	459	0.007	3	0.0	0.0	13.193	B
C-AB	32	8	635	0.050	32	0.1	0.1	6.268	A
C-A	82	21			82				
A-B	11	3			11				
A-C	117	29			117				

2023 Baseline Flows, PM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction Type	Major road direction	Junction Delay (s)	Junction LOS
1	Ashroyds Way/B6096 Priority Jun.	T-Junction	Two-way	0.77	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D4	2023 Baseline Flows	PM	ONE HOUR	15:45	17:15	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - B6096 (S)		ONE HOUR	✓	148	100.000
B - Ashroyds Way		ONE HOUR	✓	36	100.000
C - B6096 (N)		ONE HOUR	✓	199	100.000

Origin-Destination Data

Demand (PCU/hr)

	To			
		A - B6096 (S)	B - Ashroyds Way	C - B6096 (N)
From	A - B6096 (S)	0	8	140
	B - Ashroyds Way	9	0	27
	C - B6096 (N)	188	11	0

Vehicle Mix

Heavy Vehicle Percentages

	To			
		A - B6096 (S)	B - Ashroyds Way	C - B6096 (N)
From	A - B6096 (S)	0	0	3
	B - Ashroyds Way	13	0	0
	C - B6096 (N)	1	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)
B-C	0.04	5.38	0.0	A	25	37
B-A	0.02	9.56	0.0	A	8	12
C-AB	0.02	5.86	0.0	A	10	15
C-A					173	259
A-B					7	11
A-C					128	193

Main Results for each time segment

15:45 - 16:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-C	20	5	714	0.028	20	0.0	0.0	5.185	A
B-A	7	2	458	0.015	7	0.0	0.0	9.011	A
C-AB	8	2	639	0.013	8	0.0	0.0	5.705	A
C-A	142	35			142				
A-B	6	2			6				
A-C	105	26			105				

16:00 - 16:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-C	24	6	708	0.034	24	0.0	0.0	5.266	A
B-A	8	2	449	0.018	8	0.0	0.0	9.232	A
C-AB	10	2	634	0.016	10	0.0	0.0	5.771	A
C-A	169	42			169				
A-B	7	2			7				
A-C	126	31			126				

16:15 - 16:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-C	30	7	699	0.043	30	0.0	0.0	5.381	A
B-A	10	2	436	0.023	10	0.0	0.0	9.555	A
C-AB	12	3	626	0.019	12	0.0	0.0	5.865	A
C-A	207	52			207				
A-B	9	2			9				
A-C	154	39			154				

16:30 - 16:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-C	30	7	699	0.043	30	0.0	0.0	5.382	A
B-A	10	2	436	0.023	10	0.0	0.0	9.555	A
C-AB	12	3	626	0.019	12	0.0	0.0	5.865	A
C-A	207	52			207				
A-B	9	2			9				
A-C	154	39			154				

16:45 - 17:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-C	24	6	708	0.034	24	0.0	0.0	5.267	A
B-A	8	2	449	0.018	8	0.0	0.0	9.233	A
C-AB	10	2	634	0.016	10	0.0	0.0	5.774	A
C-A	169	42			169				
A-B	7	2			7				
A-C	126	31			126				

17:00 - 17:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-C	20	5	714	0.028	20	0.0	0.0	5.189	A
B-A	7	2	458	0.015	7	0.0	0.0	9.014	A
C-AB	8	2	639	0.013	8	0.0	0.0	5.708	A
C-A	142	35			142				
A-B	6	2			6				
A-C	105	26			105				

2023 with Dev. Flows, AM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction Type	Major road direction	Junction Delay (s)	Junction LOS
1	Ashroyds Way/B6096 Priority Jun.	T-Junction	Two-way	2.11	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D5	2023 with Dev. Flows	AM	ONE HOUR	07:15	08:45	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - B6096 (S)		ONE HOUR	✓	179	100.000
B - Ashroyds Way		ONE HOUR	✓	32	100.000
C - B6096 (N)		ONE HOUR	✓	177	100.000

Origin-Destination Data

Demand (PCU/hr)

	To			
		A - B6096 (S)	B - Ashroyds Way	C - B6096 (N)
From	A - B6096 (S)	0	24	155
	B - Ashroyds Way	10	0	22
	C - B6096 (N)	109	68	0

Vehicle Mix

Heavy Vehicle Percentages

	To			
		A - B6096 (S)	B - Ashroyds Way	C - B6096 (N)
From	A - B6096 (S)	0	0	6
	B - Ashroyds Way	67	0	67
	C - B6096 (N)	10	5	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)
B-C	0.04	9.10	0.1	A	20	30
B-A	0.03	14.48	0.0	B	9	14
C-AB	0.12	6.97	0.1	A	62	94
C-A					100	150
A-B					22	33
A-C					142	213

Main Results for each time segment

07:15 - 07:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-C	17	4	703	0.024	16	0.0	0.0	8.753	A
B-A	8	2	453	0.017	7	0.0	0.0	13.474	B
C-AB	51	13	633	0.081	51	0.0	0.1	6.487	A
C-A	82	21			82				
A-B	18	5			18				
A-C	117	29			117				

07:30 - 07:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-C	20	5	695	0.028	20	0.0	0.0	8.897	A
B-A	9	2	442	0.020	9	0.0	0.0	13.881	B
C-AB	61	15	626	0.098	61	0.1	0.1	6.686	A
C-A	98	24			98				
A-B	22	5			22				
A-C	139	35			139				

07:45 - 08:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-C	24	6	685	0.035	24	0.0	0.1	9.098	A
B-A	11	3	426	0.026	11	0.0	0.0	14.475	B
C-AB	75	19	617	0.121	75	0.1	0.1	6.968	A
C-A	120	30			120				
A-B	26	7			26				
A-C	171	43			171				

08:00 - 08:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-C	24	6	685	0.035	24	0.1	0.1	9.098	A
B-A	11	3	426	0.026	11	0.0	0.0	14.476	B
C-AB	75	19	617	0.121	75	0.1	0.1	6.971	A
C-A	120	30			120				
A-B	26	7			26				
A-C	171	43			171				

08:15 - 08:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-C	20	5	695	0.028	20	0.1	0.0	8.901	A
B-A	9	2	442	0.020	9	0.0	0.0	13.884	B
C-AB	61	15	626	0.098	61	0.1	0.1	6.689	A
C-A	98	24			98				
A-B	22	5			22				
A-C	139	35			139				

08:30 - 08:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-C	17	4	703	0.024	17	0.0	0.0	8.759	A
B-A	8	2	453	0.017	8	0.0	0.0	13.483	B
C-AB	51	13	633	0.081	51	0.1	0.1	6.499	A
C-A	82	21			82				
A-B	18	5			18				
A-C	117	29			117				

2023 with Dev. Flows, PM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction Type	Major road direction	Junction Delay (s)	Junction LOS
1	Ashroyds Way/B6096 Priority Jun.	T-Junction	Two-way	1.34	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D6	2023 with Dev. Flows	PM	ONE HOUR	15:45	17:15	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - B6096 (S)		ONE HOUR	✓	152	100.000
B - Ashroyds Way		ONE HOUR	✓	70	100.000
C - B6096 (N)		ONE HOUR	✓	205	100.000

Origin-Destination Data

Demand (PCU/hr)

	To			
		A - B6096 (S)	B - Ashroyds Way	C - B6096 (N)
From	A - B6096 (S)	0	12	140
	B - Ashroyds Way	18	0	52
	C - B6096 (N)	188	17	0

Vehicle Mix

Heavy Vehicle Percentages

	To			
		A - B6096 (S)	B - Ashroyds Way	C - B6096 (N)
From	A - B6096 (S)	0	0	3
	B - Ashroyds Way	13	0	0
	C - B6096 (N)	1	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)
B-C	0.08	5.66	0.1	A	48	72
B-A	0.05	9.83	0.1	A	17	25
C-AB	0.03	5.94	0.0	A	16	23
C-A					173	259
A-B					11	17
A-C					128	193

Main Results for each time segment

15:45 - 16:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-C	39	10	711	0.055	39	0.0	0.1	5.357	A
B-A	14	3	457	0.030	13	0.0	0.0	9.170	A
C-AB	13	3	638	0.020	13	0.0	0.0	5.753	A
C-A	142	35			142				
A-B	9	2			9				
A-C	105	26			105				

16:00 - 16:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-C	47	12	703	0.066	47	0.1	0.1	5.482	A
B-A	16	4	447	0.036	16	0.0	0.0	9.440	A
C-AB	15	4	633	0.024	15	0.0	0.0	5.830	A
C-A	169	42			169				
A-B	11	3			11				
A-C	126	31			126				

16:15 - 16:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-C	57	14	693	0.083	57	0.1	0.1	5.659	A
B-A	20	5	433	0.046	20	0.0	0.1	9.831	A
C-AB	19	5	625	0.030	19	0.0	0.0	5.940	A
C-A	207	52			207				
A-B	13	3			13				
A-C	154	39			154				

16:30 - 16:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-C	57	14	693	0.083	57	0.1	0.1	5.659	A
B-A	20	5	433	0.046	20	0.1	0.1	9.833	A
C-AB	19	5	625	0.030	19	0.0	0.0	5.940	A
C-A	207	52			207				
A-B	13	3			13				
A-C	154	39			154				

16:45 - 17:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-C	47	12	703	0.066	47	0.1	0.1	5.486	A
B-A	16	4	447	0.036	16	0.1	0.0	9.442	A
C-AB	15	4	633	0.024	15	0.0	0.0	5.831	A
C-A	169	42			169				
A-B	11	3			11				
A-C	126	31			126				

17:00 - 17:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-C	39	10	711	0.055	39	0.1	0.1	5.364	A
B-A	14	3	457	0.030	14	0.0	0.0	9.178	A
C-AB	13	3	638	0.020	13	0.0	0.0	5.756	A
C-A	142	35			142				
A-B	9	2			9				
A-C	105	26			105				