Network Space Ltd

Proposed Development (Plot 3), 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 an outline planning application for a site off Ashroyds Way in Hoyland.

1.1.2 The development site is located within Ashroyd Business Park, approximately 5.5km south of Barnsley town centre, and is known as 'Plot 3'. 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 proposals consist of industrial use (B1 (b), (c), B2 and B8) with a total GIA of up to 8,779m^2 (94,500ft^2). The planning application is submitted in outline with all matters to be reserved. All matters relating to access and design such as appearance, layout, scale and landscaping are reserved for subsequent consideration at a later date. To this end, a Parameters Plan has been created which sets out the maximum amount of the development that would be sought on the Site. The Parameters Plan seeks to secure permission for a maximum GEA floorspace of 9,180 m² (98,815 ft²). The Parameters Plan is attached at **Appendix A**.

1.1.5 At the time of writing, a separate planning application has been submitted for up to 5,200 sqm of B1 (b), (c), B2 and B8 industrial use within the same business park, on an adjacent plot of land known as 'Plot 5' (Application Ref: 2018/0420). Subsequent sections of this report take account of the likely traffic impacts relating to that current application as well as the likely traffic related impacts of this application.

1.1.6 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 development's 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** explains the development proposals.
- **Section 6** describes the proposed trip generation and assesses the traffic related impacts of the development.
- **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) Notes and Planning Policy Statements (PPS) with a single document.

2.2.2 Local authorities are expected to grant permission, using the NPPF where the Local Plan is absent, silent, indeterminate or where relevant policies are out of date, unless the adverse effects of granting planning permission significantly and demonstrably outweigh the benefits of the scheme.

2.2.3 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).

2.2.4 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).

2.2.5 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).

2.2.6 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).*

2.2.7 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*'.

2.2.8 It will be 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, detailed junction capacity assessments demonstrate that the proposals will not have a 'severe' 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' 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, a dual carriageway road which 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 thought 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 3', and is located on the western side of the business park.

3.2.5 The site is bordered to the to the north by existing industrial buildings, to the east by Ashroyds Way, and to the south and west by residential properties on Hawshaw Bank, Upper Hoyland Road and Stonehill Close.

3.2.6 The site is located on land allocated in the Barnsley Unitary Development Plan for employment use.

3.2.7 The site is currently undeveloped land and therefore does not generate traffic.

3.3 Current Application

3.3.1 A separate planning application at Ashroyd Business Park has recently been submitted for the erection of a total of 4 business units with a total GFA of up to 5,200 sqm of B1 (b), (c), B2 and B8 industrial uses on land known as 'Plot 5' (Application Ref: 2018/0420).

3.3.2 That application is for a site located to the east of the site considered in this TA, however, both sites will take their access from Ashroyds Way.

3.3.3 At the time of writing, the outcome of that application is yet to be determined. In order to provide a robust assessment of the impact of the development proposals, this report has taken the robust approach of assessing the trips associated with both the 'Plot 3' and 'Plot 5' applications.

3.4 Local Highway Network

3.4.1 The highway network local to the development site is shown on **Plan 2** and described below.

3.4.2 The site will be accessed from Ashroyds Way which extends along the site's eastern frontage and forms the entirety of the road network within the business park. Ashroyds Way consists of three arms, connected by a mini-roundabout junction which is located at the centre of the business park. The development site is served by the southern arm of Ashroyds Way.

3.4.3 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 extend along the entire length of Ashroyds Way.

3.4.4 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.

3.4.5 Ryecroft Bank is a single carriageway road which extends 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 extends along the western side of Ryecroft Bank over its entire

length, with a pedestrian footway on the opposite site of the road extending from the Hawshaw Lane junction to approximately 45m north of the Chambers Road junction.

3.4.6 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.

3.4.7 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.

3.4.8 Hawshaw Lane is a single carriageway road which is largely residential in nature, a speed limit of 30mph is in force across its entire length and street lighting and pedestrian footways are in place along both sides of the road.

3.4.9 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 in the west and Shafton in the north east, over a distance of approximately 17.6km. The national speed limit applies to the A6195 across its entire length (60mph).

3.5 Personal Injury Accident Review

3.5.1 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 14th May 2018)

3.5.2 A total of 12 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**.

Table 3.1: Summary of PIAs

Year	2013	2014	2015	2016	2017	Total
Slight	1	2	6	2	1	**12**
Serious	0	0	0	0	0	**0**
Fatal	0	0	0	0	0	**0**
Total	**1**	**2**	**6**	**2**	**1**	**12**

3.5.3 All of the 12 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 three PIAs have occurred within the study area since the end of 2015.

3.5.4 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.

3.5.5 It is evident that there is no existing highway safety 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.

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.

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					
		Weekend				Saturday	Sunday
		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	1	0	One service at 17:15	One service every 2 hours
Total		**1**	**3**	**3**	**2**	**3**	**3 services every 2 hours**

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, 3 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 considered that the proposed site will be accessible by bus in line with the NPPF and local policy.

Accessibility by Rail

4.4.6 The nearest rail station to the site is Elsecar rail station which is located approximately 1.75km 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 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 submitted in outline are for B1 (b), (c), B2 and B8 uses. As the end user's requirements are not known at this stage, two illustrative masterplan options have been drawn up for the application in accordance with a Parameters Plan which seeks to secure a maximum floor space and building heights. Each illustrative masterplan shows a different total GIA, these have been attached at **Appendix B**. In order to provide a robust assessment of the impact of the development, the proposal with the highest total GIA (8,779m^2) has been assessed.

5.2.3 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 illustrative masterplans attached at **Appendix B**. As this outline application does not seek to secure details on access, the proposed Parameters Plan identifies a site access zone identifying the broad location of the access into the site from the internal estate road.

5.3 Parking Provision

5.3.1 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

5.3.2 Given that the specific layout, end user(s) and use class of the buildings are currently unknown, the parking provision will be reviewed as necessary once this information is available.

5.3.3 Cycle parking will be provided within the units in line with Knowsley Borough Councils standards.

6. Traffic Impact Assessment

6.1 Introduction

6.1.1 The volume of traffic that could potentially be generated by the proposed development is considered in this section of the report.

6.2 Surveyed Traffic Flows

6.2.1 A manual classified junction turning count was undertaken at the Ashroyds Way / Ryecroft Bank (B6069) junction on Thursday 15th March 2018 between 0730 – 0930 and 1600 – 1830. The traffic survey data is attached at **Appendix C**.

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 The existing AM and PM peak hour traffic flows 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 Generation and Distribution

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 D.**

6.4.2 Whilst two indicative layouts have been prepared for the development, each with different total GIA, the robust approach has been taken to assess the layout with the greatest total floor area, and hence trip generating potential. The trip rates and the resulting traffic generation for the largest potential layout presented in **Table 6.1.**

Table 6.1: Proposed Development Vehicle Trip Rates and Trip Generation (8,779 sq m)

Time Period	Trip Rate (per 100m^2)			Vehicles		
	Arrive	Depart	Total	Arrive	Depart	Total
0730-0830	0.570	0.245	0.815	50	22	72
1600-1700	0.425	0.645	1.070	37	57	94
Daily	5.912	5.917	11.829	519	519	1038

6.4.3 **Table 6.1** shows that the proposed development could generate 72 two-way trips during the AM peak hour and 94 two-way trips during the PM peak hour. This equates to around one vehicle every 40 seconds 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 at this point would be entirely imperceptible.

6.4.4 The development traffic has been assigned to the Ashroyds Way / Ryecroft Bank junction based upon the existing distribution of traffic at the junction and the 2023 assessment flows (including base traffic) have been derived. The traffic flows are 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 that the junction is operating within its ultimate capacity.
- Mean max queues, which indicate the forecast length of traffic queues.

6.6 Assessment Scenarios

6.6.1 Junction Capacity assessments have been undertaken for the following scenarios:

- Baseline: 2023 Base flows derived from 2018 survey data
- 2023 With Development: Baseline + Development Traffic
- 2023 Sensitivity Test: Baseline + Development Traffic + 'Plot 5' Development Traffic.

6.7 Assessment Results

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

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	9.2	0	**0.4**	**0.1**
Ashroyds Way - Right Turn	0.010	14.0	0	0.030	14.7	0	**0.7**	**0.0**
B6096 (N)	0.070	6.6	0	0.140	7.2	0	**0.6**	**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	0.110	5.9	0	**0.5**	**0.1**
Ashroyds Way - Right Turn	0.020	9.6	0	0.060	10.2	0	**0.6**	**0.1**
B6096 (N)	0.020	5.9	0	0.060	6.2	0	**0.3**	**0.0**

6.7.2 The assessment results demonstrate that the junction would continue to operate with substantial spare capacity and with no queueing on any approach to the junction. The development traffic would have no material impact on junction operation. Full JUNCTIONS9 outputs are attached at **Appendix E**.

6.8 Sensitivity Test

6.8.1 As stated earlier in this report, a planning application is currently being considered for a total of up to 5,200 sq m of B1 (b), (c), B2 and B8 industrial floorspace on a site adjacent to the one considered within this application within Ashroyd Business Park.

6.8.2 In order to test the total potential traffic impact on the local highway network, an additional sensitivity test has been undertaken in which the impact of both the traffic generated by this proposal and the likely number of trips generated by the Plot 5 Application have been assessed at the Ashroyds Way / Ryecroft Bank junction.

6.8.3 The trip generation associated with the Plot 5 application is set out in **Table 6.4**. The sensitivity test traffic flows are shown on **Figures 11** and **12**.

Table 6.4: Plot 5 Application Trip Generation (5,200 sq m)

Time Period	Trip Rate (per 100m²)			Vehicles		
	Arrive	Depart	Total	Arrive	Depart	Total
0730-0830	0.570	0.245	0.815	30	13	43
1600-1700	0.425	0.645	1.070	22	34	56
Daily	5.912	5.917	11.829	307	308	615

6.8.4 The results of this assessment are presented in **Tables 6.5** and **6.6**.

Table 6.5: 2023 With Development + Plot 5 Application Trips – AM Peak Hour

Link Description	AM Peak							
	2023 Without Development			2023 With Development + Plot 5 Trips			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	0.050	9.3	0	**0.5**	**0.1**
Ashroyds Way - Right Turn	0.010	14.0	0	0.040	15.2	0	**1.2**	**0.0**
B6096 (N)	0.070	6.6	0	0.180	7.5	0	**0.9**	**0.0**

Table 6.6: 2023 With Development + Plot 5 Application Trips – PM Peak Hour

Link Description	PM Peak							
	2023 Without Development			2023 With Development + Plot 5 Trips			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	0.150	6.2	0	**0.8**	**0.1**
Ashroyds Way - Right Turn	0.020	9.6	0	0.080	10.6	0	**1.0**	**0.1**
B6096 (N)	0.020	5.9	0	0.080	6.3	0	**0.5**	**0.0**

6.8.5 The results of the sensitivity test demonstrate that both applications could be brought forward without any material impact upon the operation of the Ashroyds Way / Ryecroft Bank junction being experienced. No significant queueing or delays would occur.

6.9 Traffic Impact Summary

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

6.9.2 The development proposals could result in an additional 72 two-way vehicle movements in the AM peak hour and an additional 94 two-way vehicle movements in the PM peak hour. This equates to approximately an additional vehicle every 40 seconds 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.

6.9.3 A sensitivity test has also proven that both this scheme and the current application being considered for 'Plot 5' could be brought forward without resulting in any material impact to the operation of the Ashroyds Way / Ryecroft Bank junction.

6.9.4 The residual cumulative impacts of the development are clearly not severe and thus the development passes the test set out in paragraph 32 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 proposals consist of industrial use B1 (b), (c), B2 and B8 with a total GIA of up to 8,779m^2 (94,500ft^2) on land known as 'Plot 3'.

7.1.3 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).

7.1.4 Access to the proposed development will be via a new priority junction with Ashroyds Way.

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 Given that the specific layout, end user(s) and use class of the buildings are currently unknown, the parking provision will be reviewed as necessary once this information is available.

7.1.8 Cycle parking will be provided within the units in line with Knowsley Borough Councils standards.

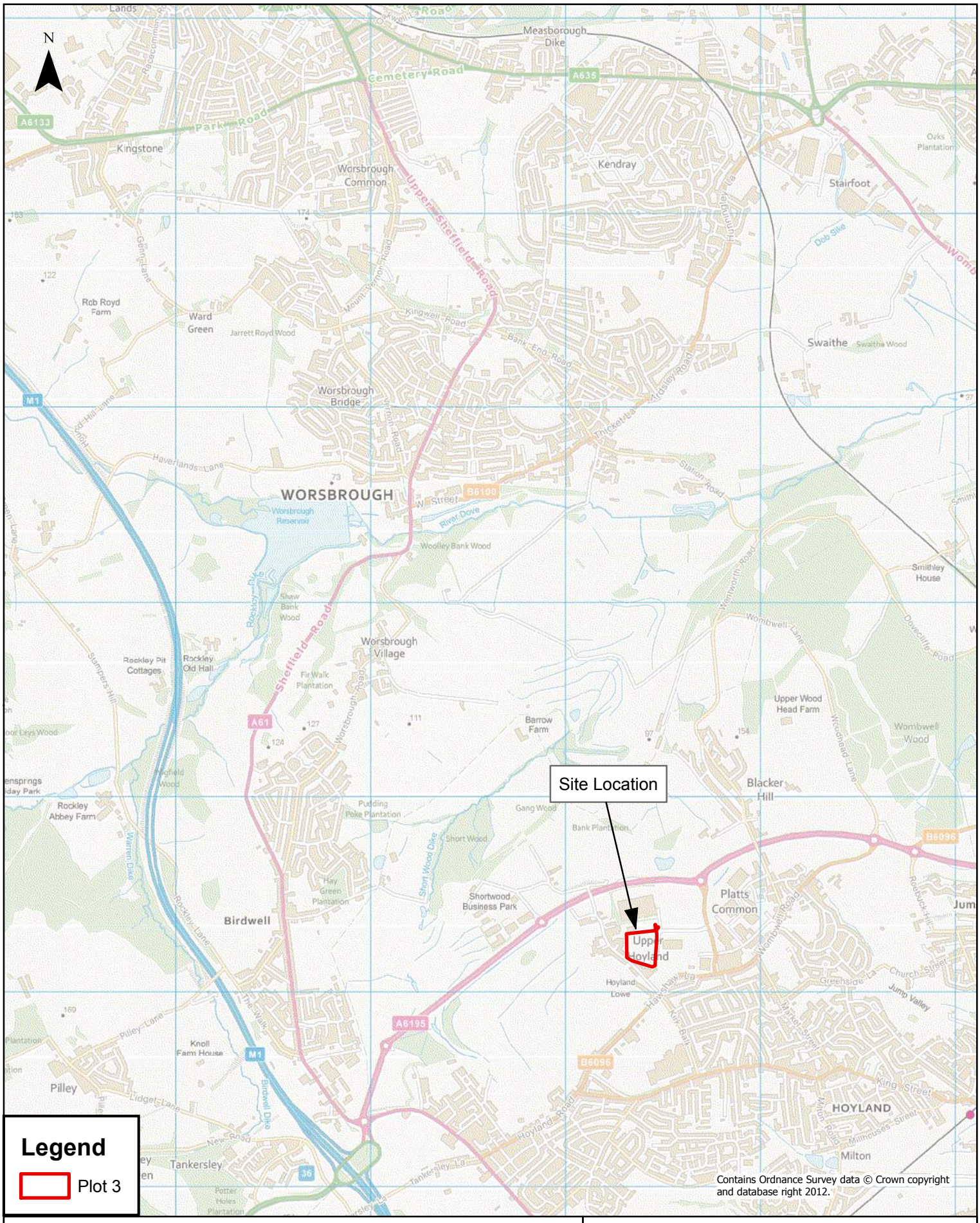
7.1.9 The proposed development has the potential to generate 72 two-way trips during the AM peak hour and 94 two-way trips during the PM peak hour. This equates to around one vehicle every 40 seconds in the peak hours, which cannot be considered to be a significant impact.

7.1.10 The residual cumulative impacts of the development are clearly not severe and thus the development passes the test set out in paragraph 32 of the NPPF.

7.1.11 A sensitivity test has also proven that both this scheme and the current application being considered for 'Plot 5' could be brought forward without resulting in any material impact to the operation of the Ashroyds Way / Ryecroft Bank junction.

7.1.12 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.

Plans



Legend

Plot 3

Plan 1: Site Location

Proposed Development, Ashroyd Business Park, Barnsley

Scale @ A4 1:25,000

Project No: A0990897

QUAY WEST AT MEDIACITY UK
TRAFFORD WHARF ROAD
TRAFFORD PARK
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Plan 2: Local Highway Network

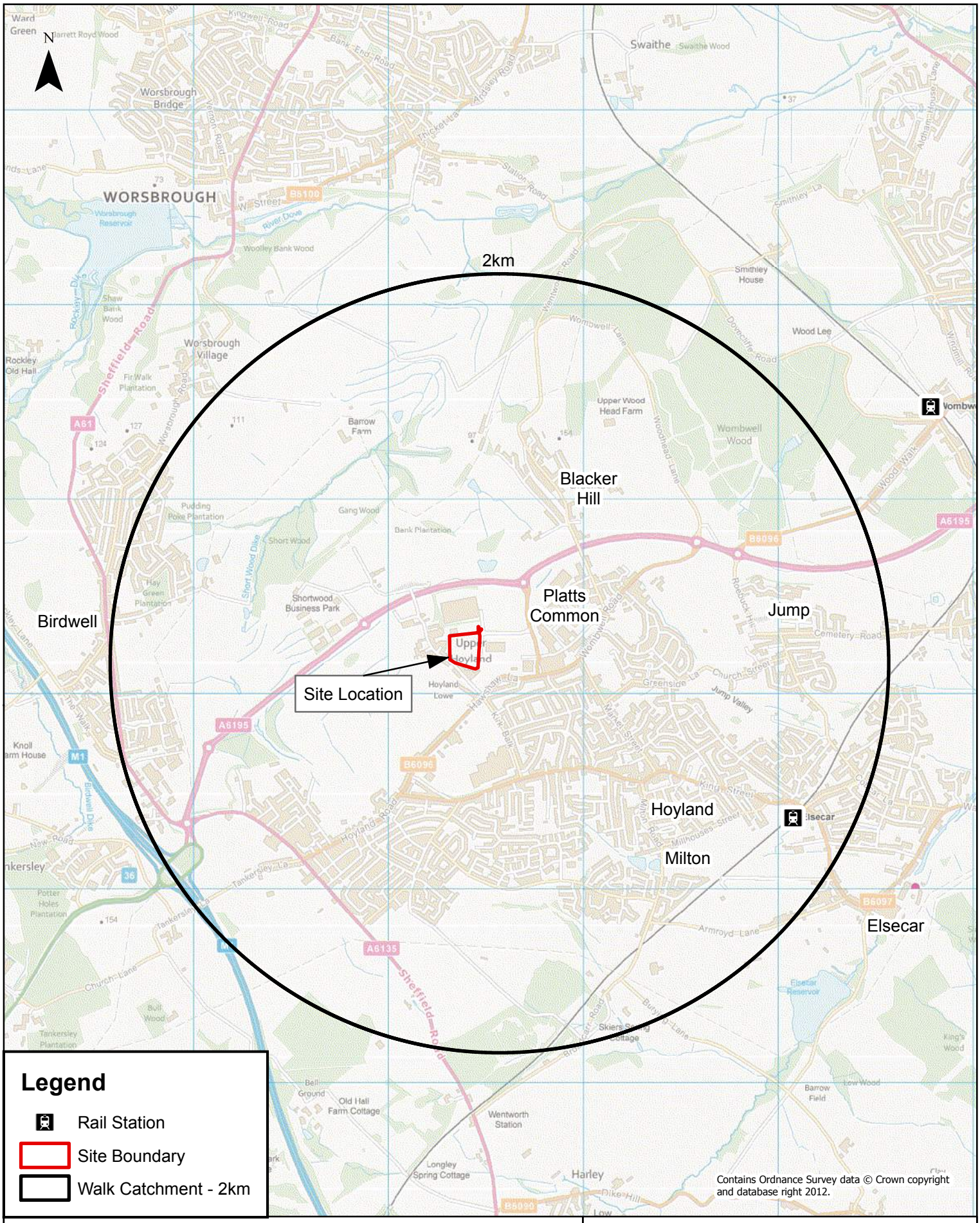
Proposed Development, Ashroyd Business Park, Barnsley

Scale @ A4 NTS	Project No: A0990897

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Legend

- Rail Station
- Site Boundary
- Walk Catchment - 2km

Plan 3: Walk Catchment - 2km

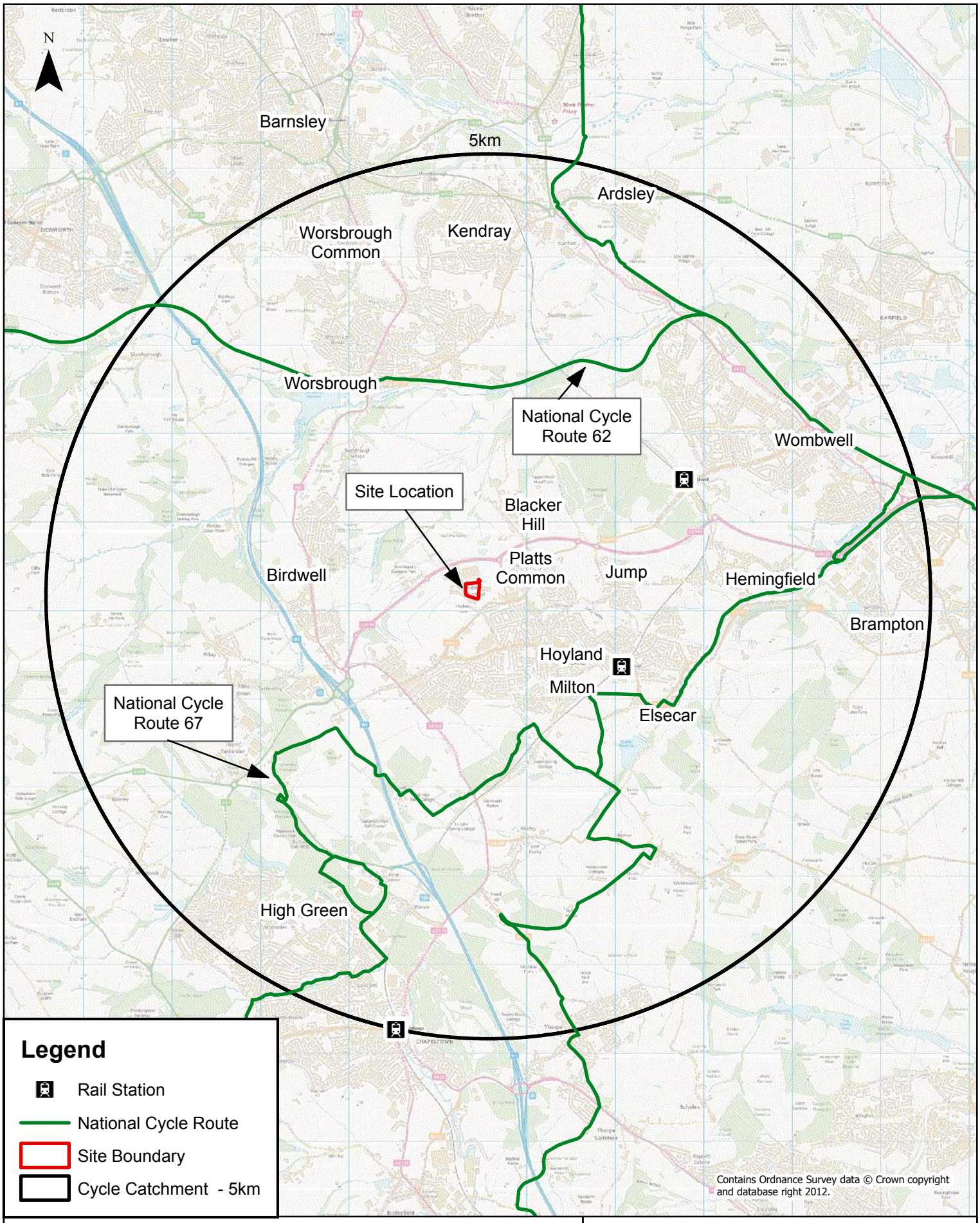
Proposed Development, Ashroyd Business Park, Barnsley

Scale @ A4 1:25,000	Project No: A0990897

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Legend

- Rail Station
- National Cycle Route
- Site Boundary
- Cycle Catchment - 5km

Plan 4: Cycle Catchment - 5km

Proposed Development, Ashroyd Business Park, Barnsley

Scale @ A4 NTS	Project No: A0990897

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Figures

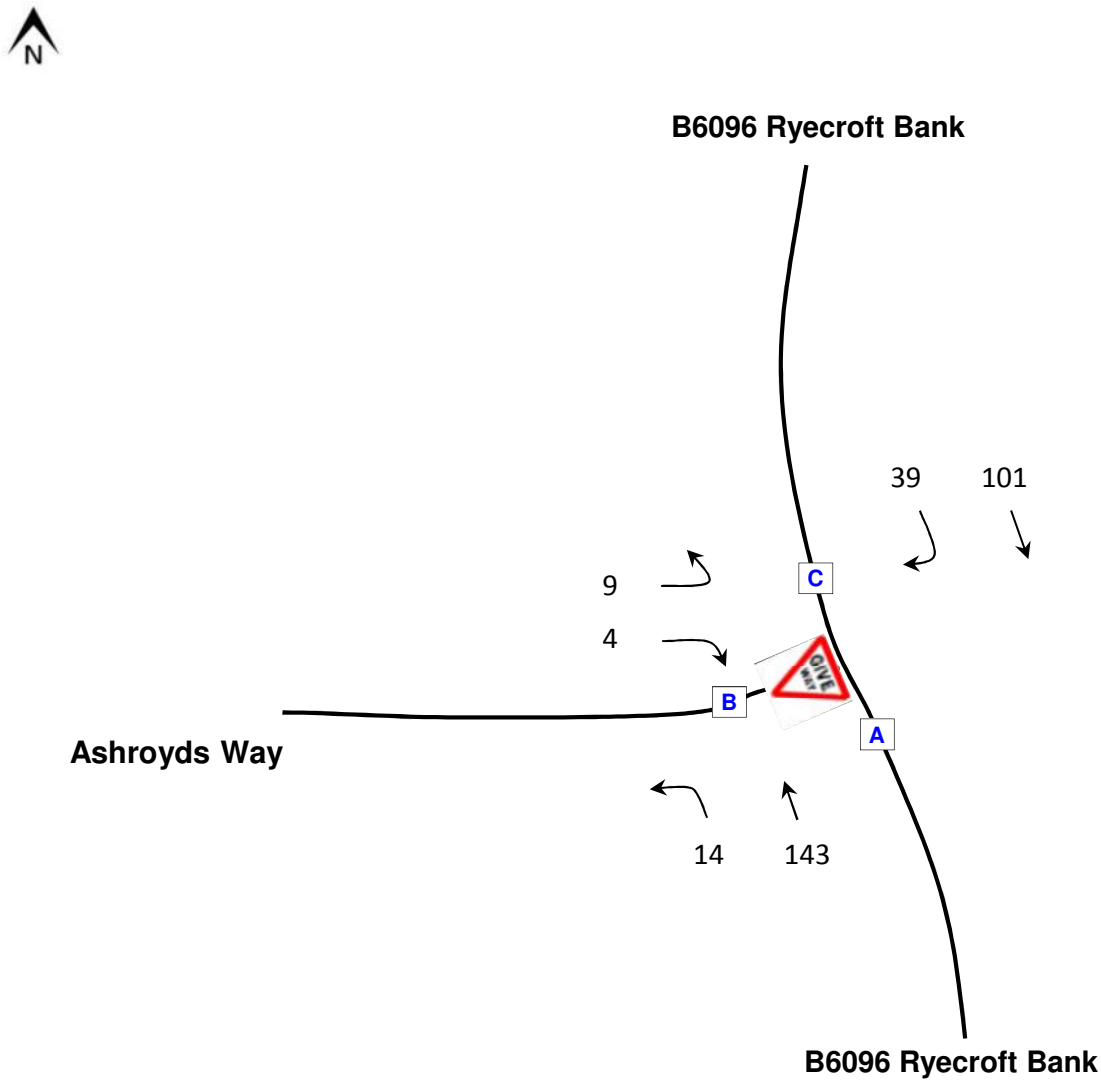


Fig 1: AM Peak Hour 2018 Surveyed Flows (07:30-08:30)

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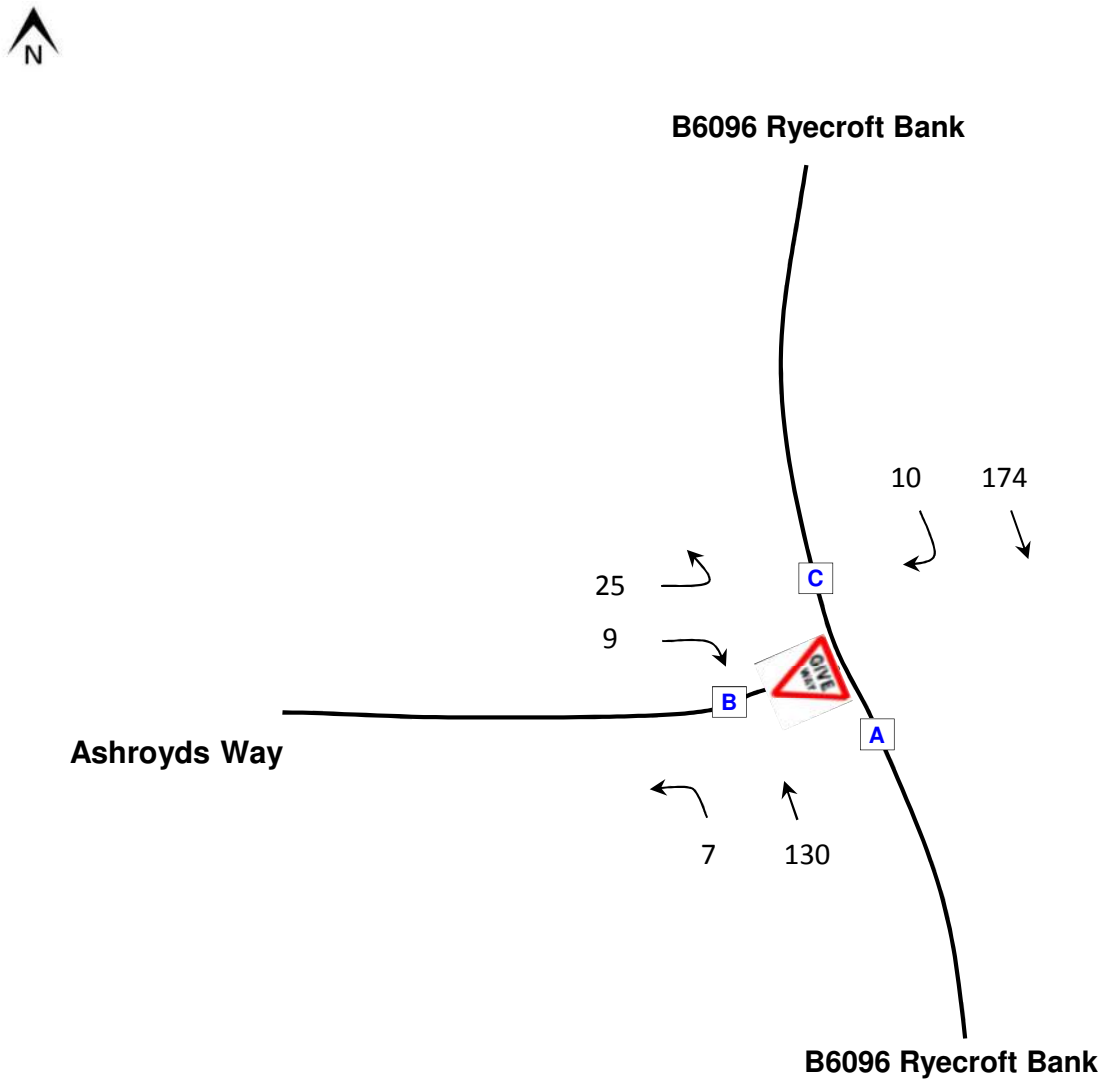


Fig 2: PM Peak Hour 2018 Surveyed Flows (16:00-17:00)

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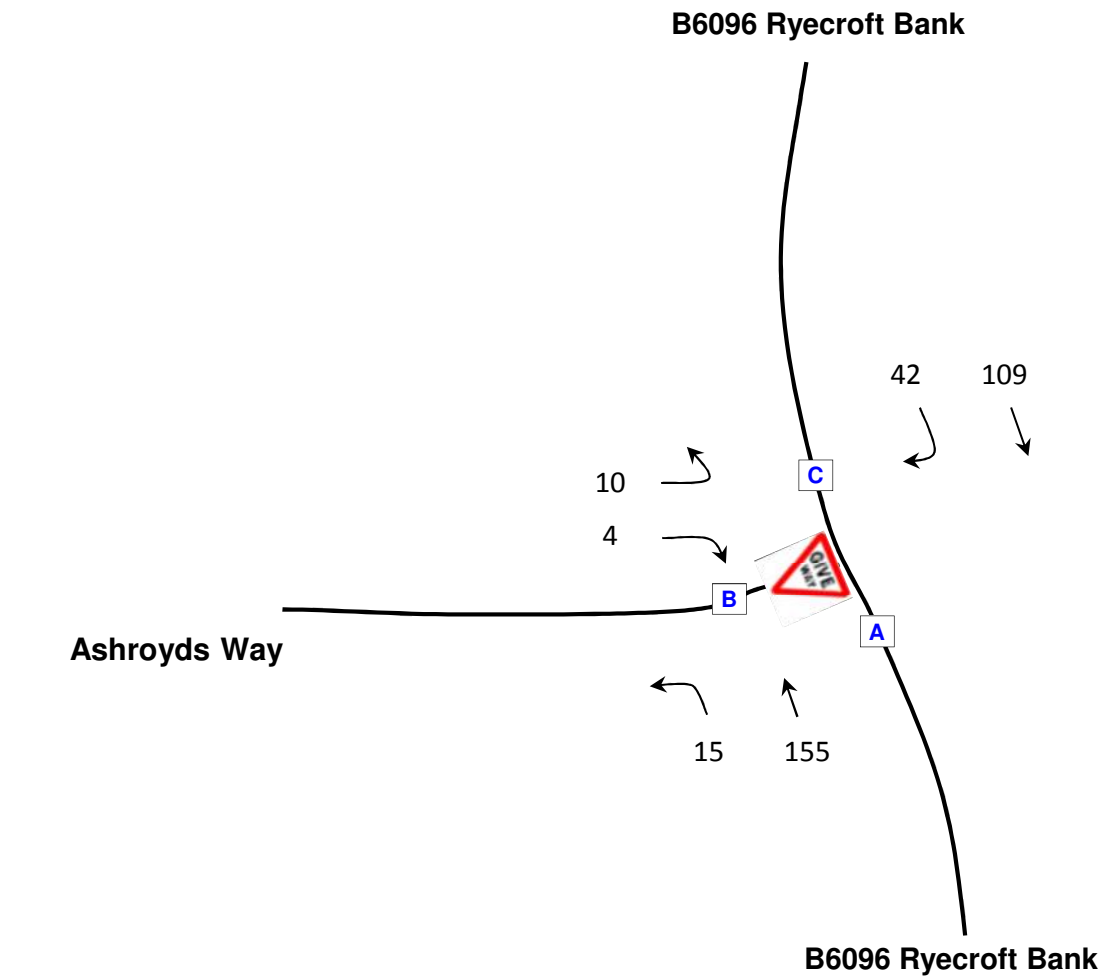


Fig 3: AM Peak Hour 2023 Growthed Surveyed Flow (07:30-08:30)

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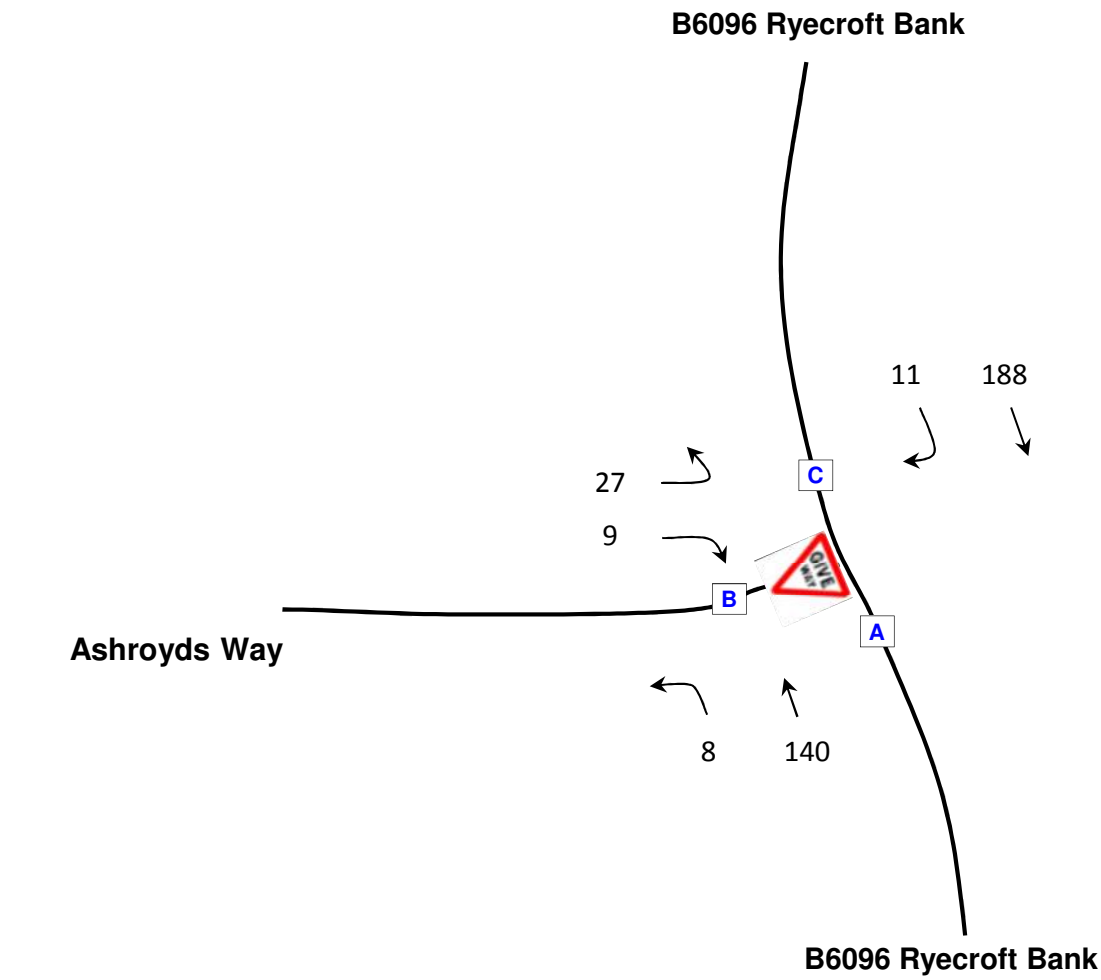


Fig 4: PM Peak Hour 2023 Growthed Surveyed Flows (16:00-17:00)

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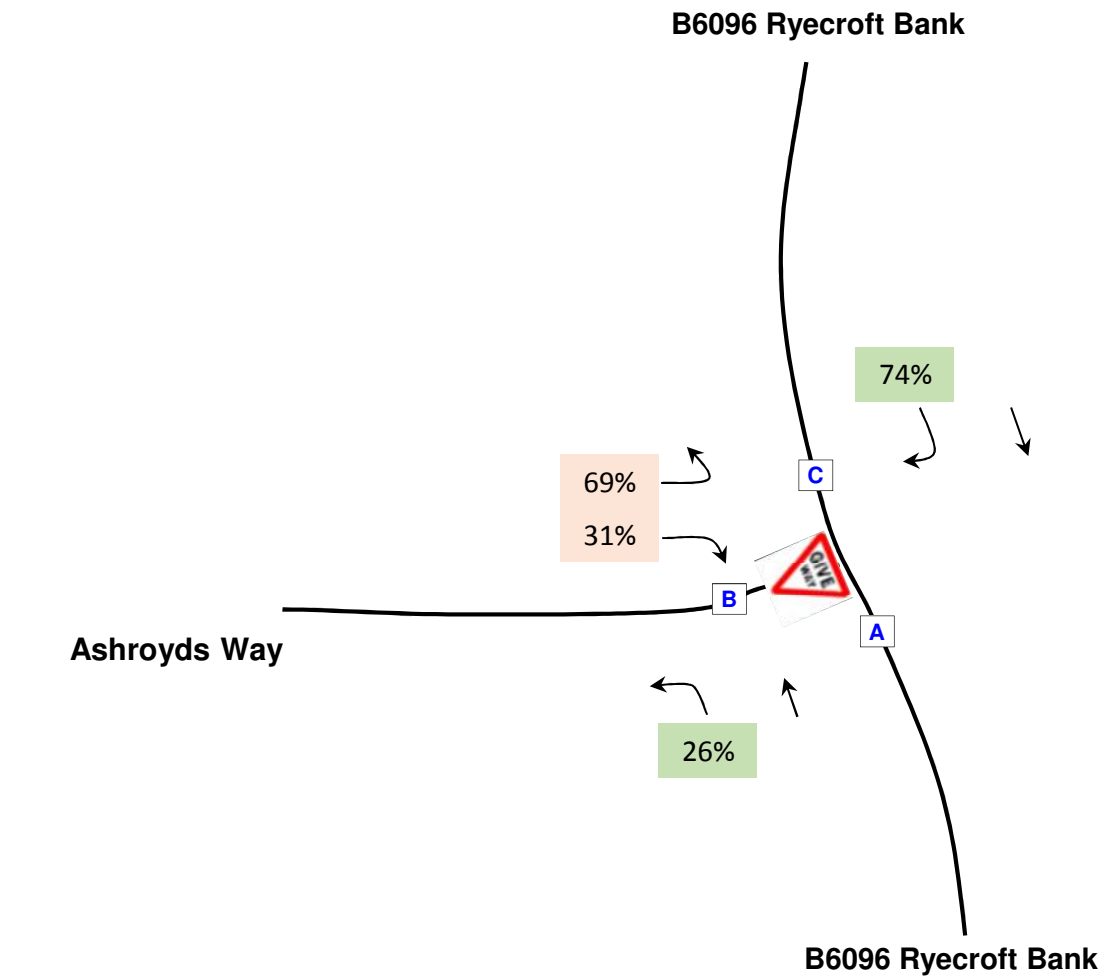


Fig 5: AM Peak Hour Trip Distribution (Based on Existing Flow Patterns)

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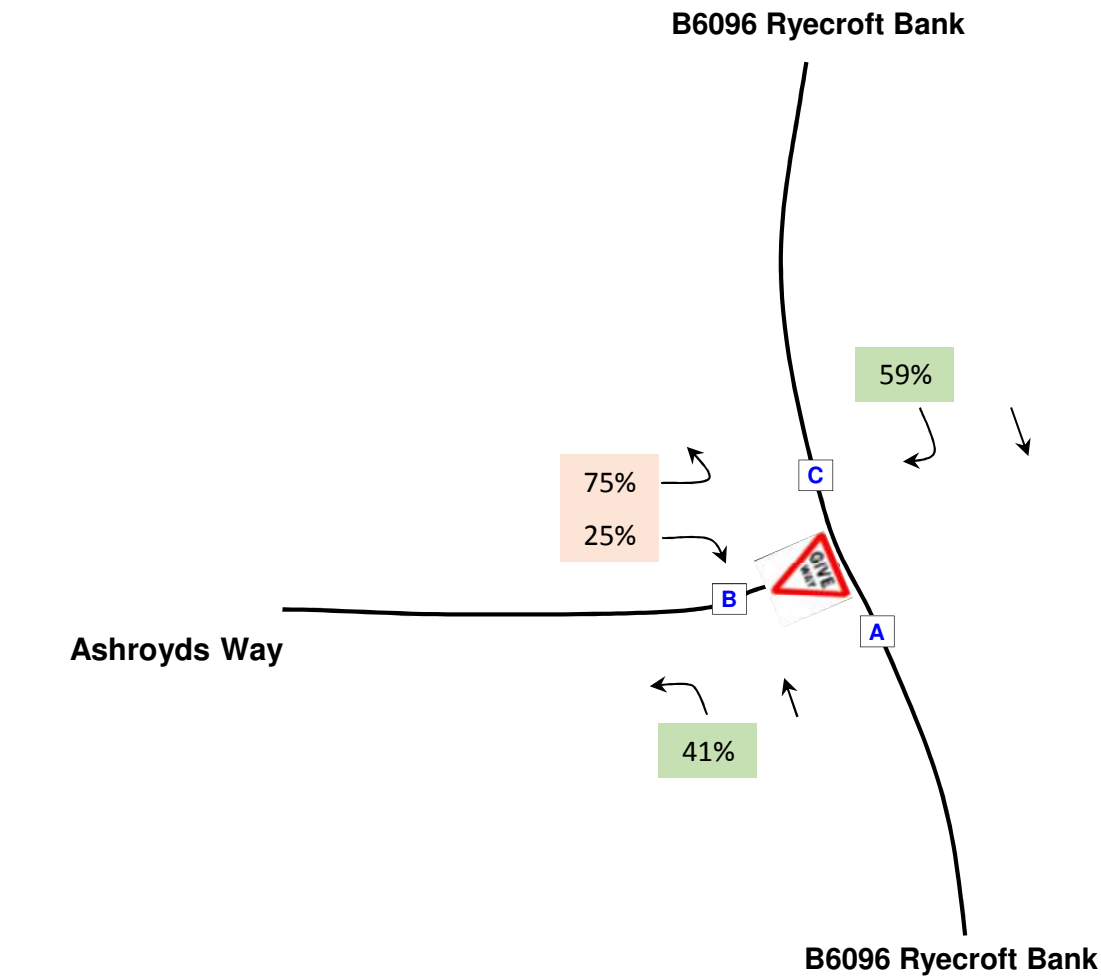


Fig 6: PM Peak Hour Trip Distribution (Based on Existing Flow Patterns)

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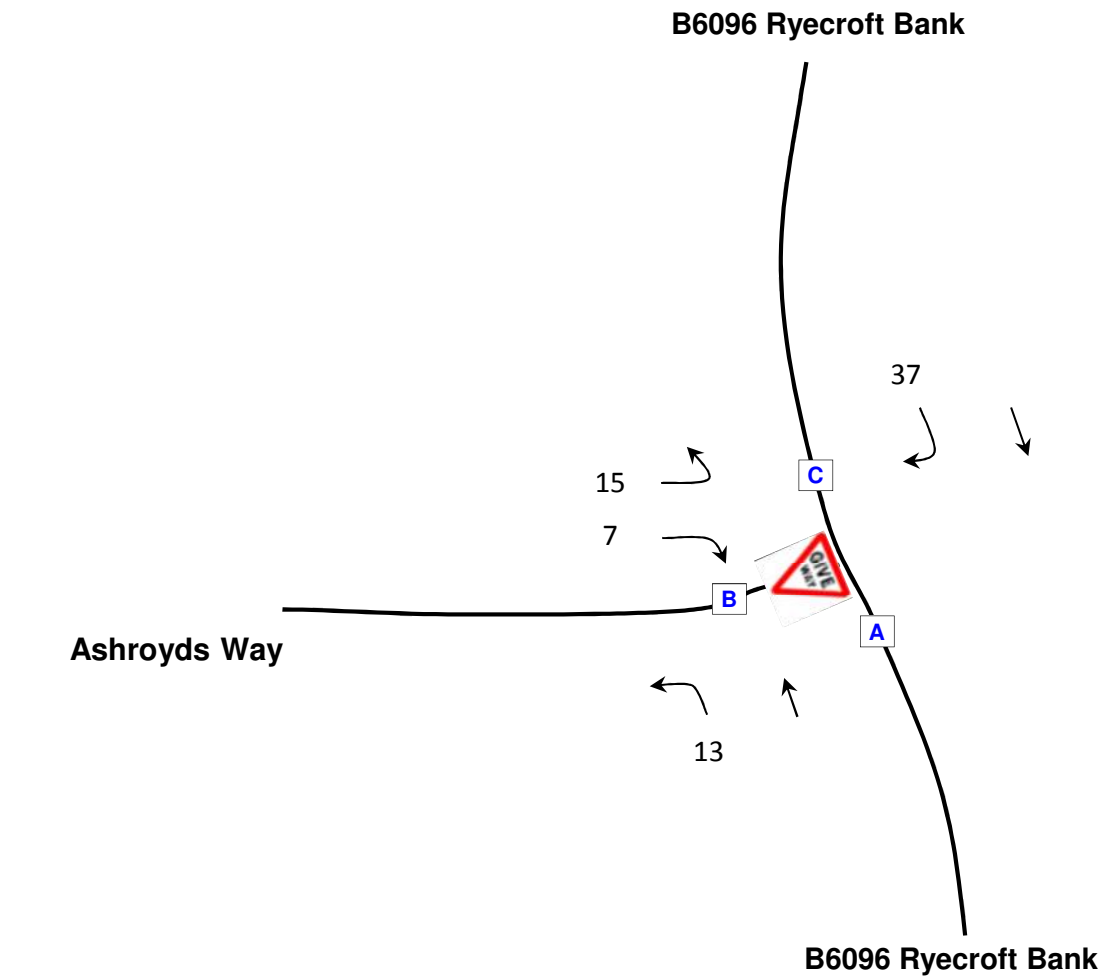


Fig 7: AM Peak Trip Generation - Proposed Employment Development

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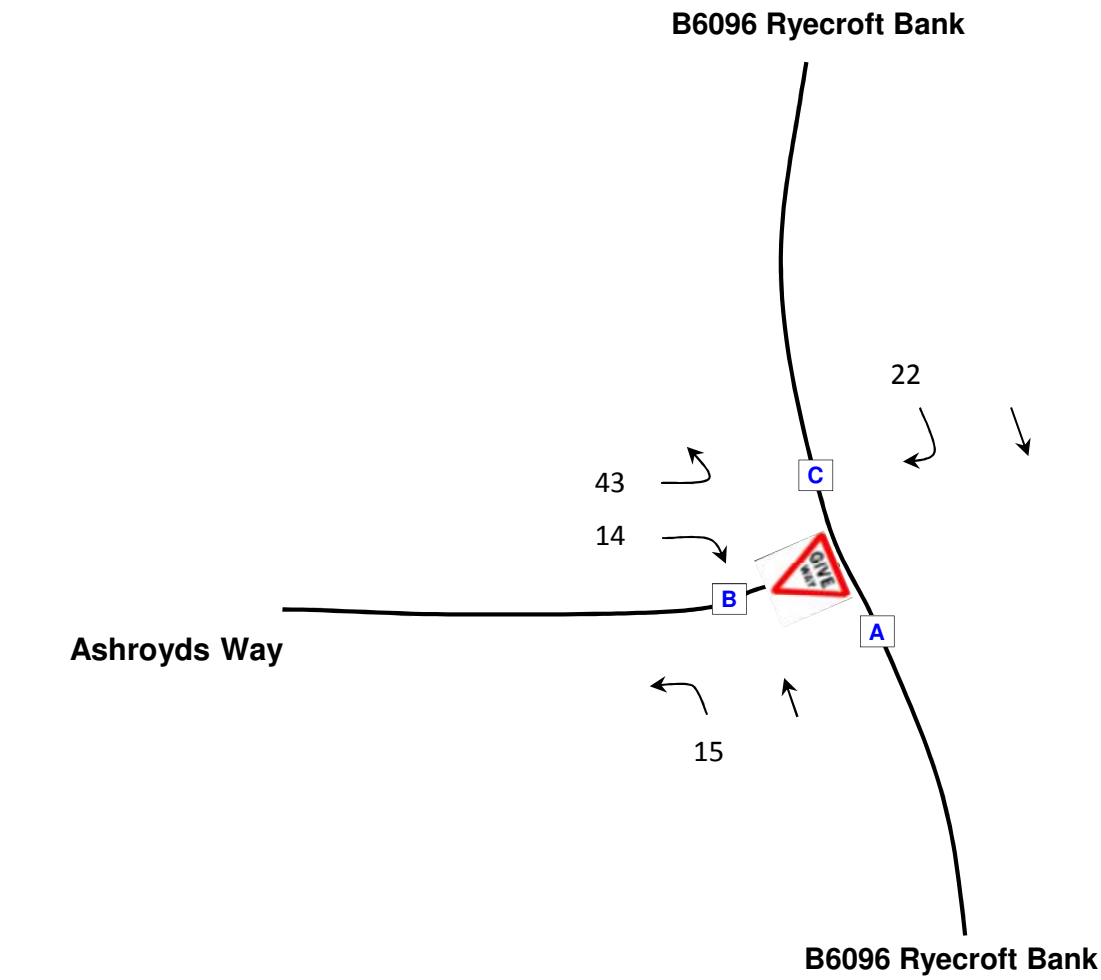


Fig 8: PM Peak Trip Generation - Proposed Employment Development

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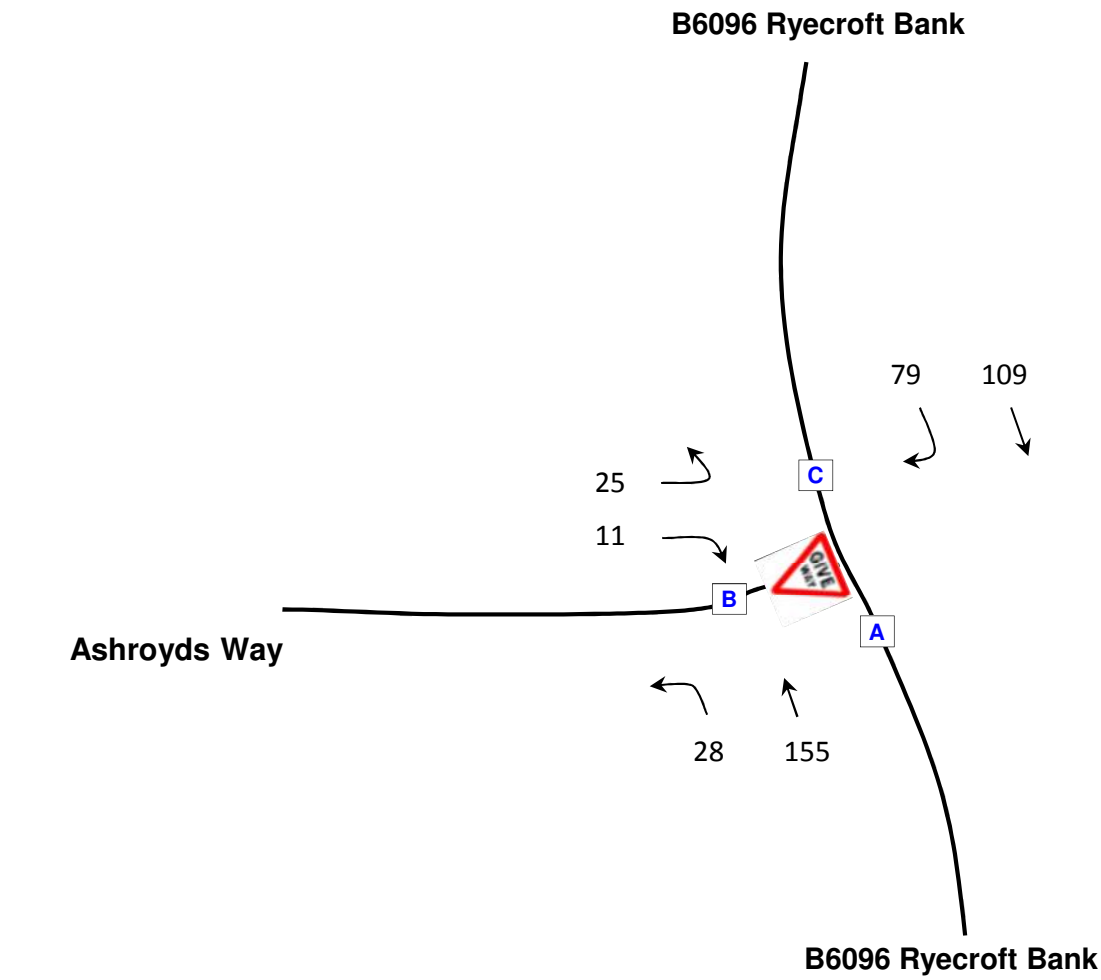


Fig 9: AM Peak Hour 2023 With Development Flows

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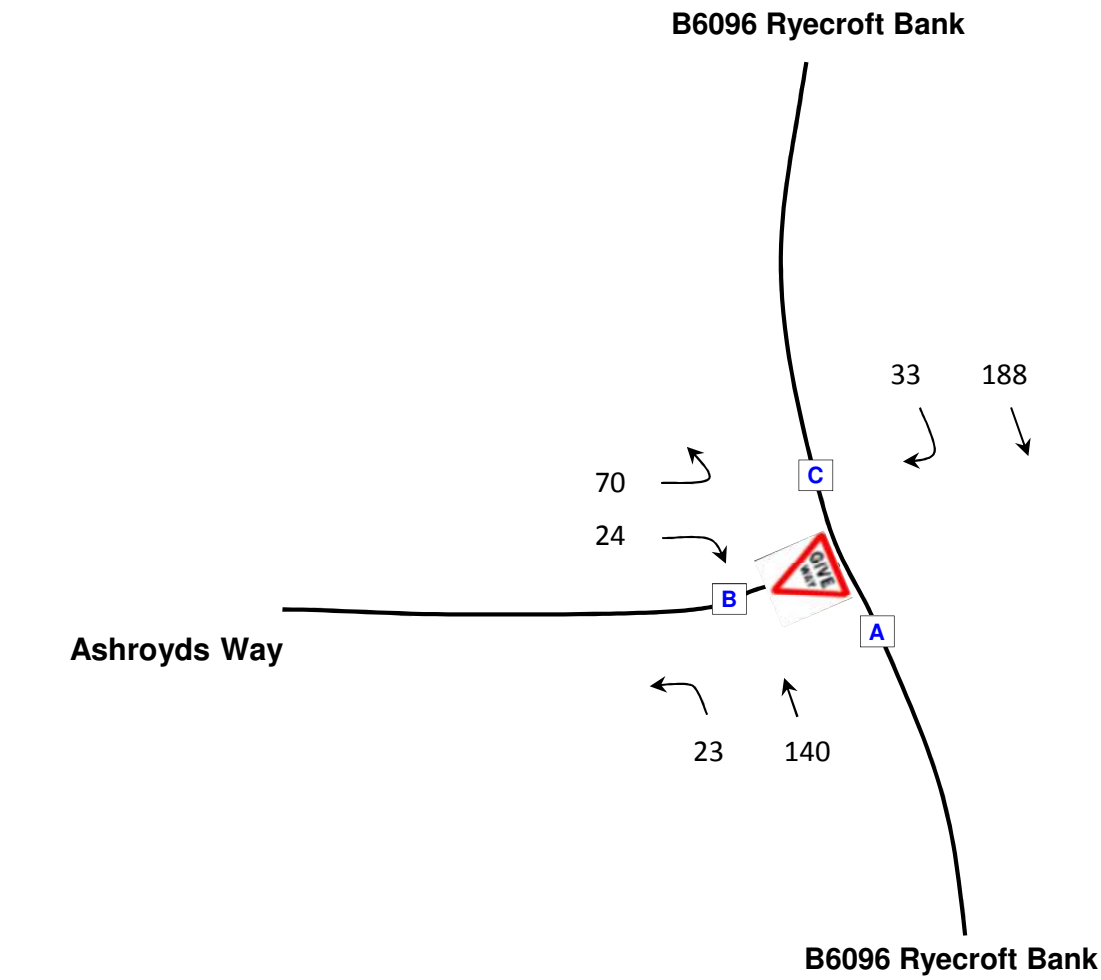


Fig 10: PM Peak Hour 2023 With Development Flows

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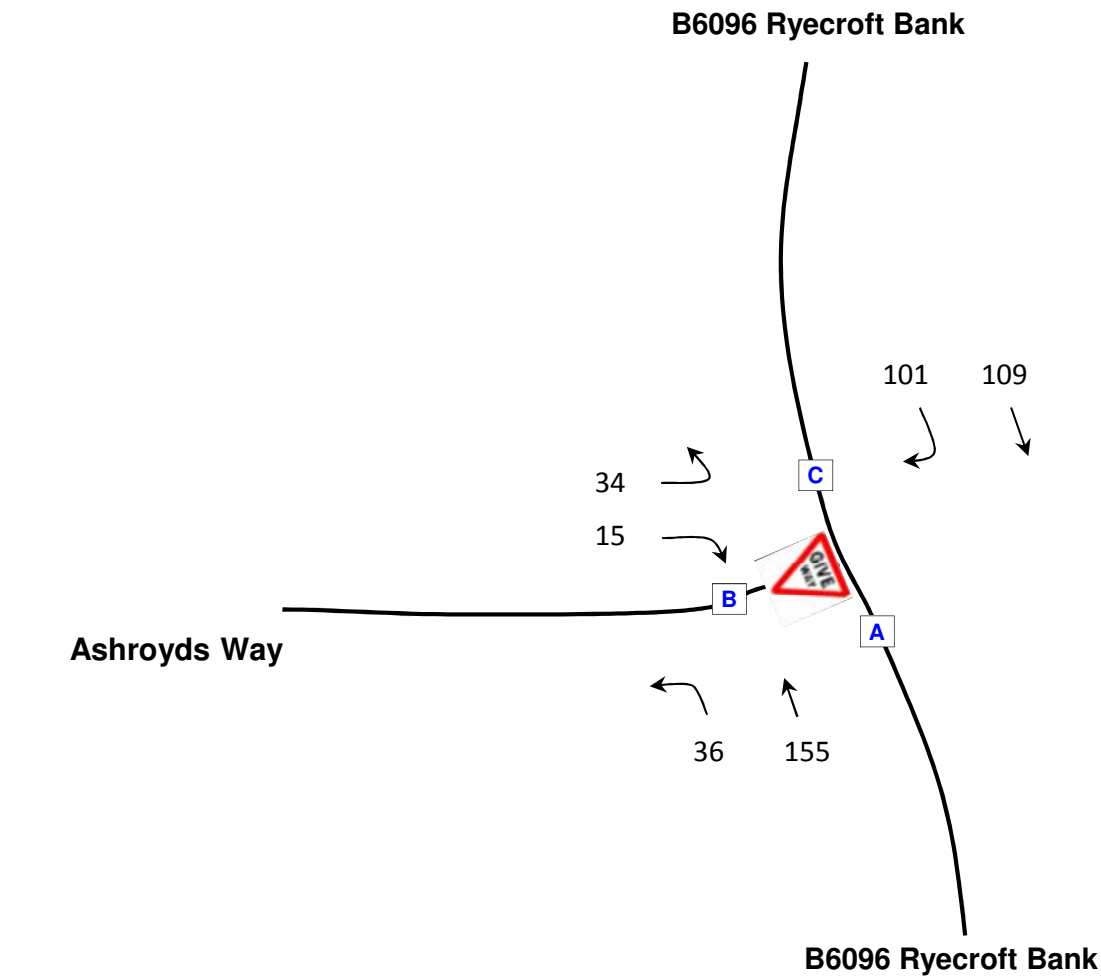


Fig 11: AM Peak Hour 2023 With Development + Plot 5 Development Flows

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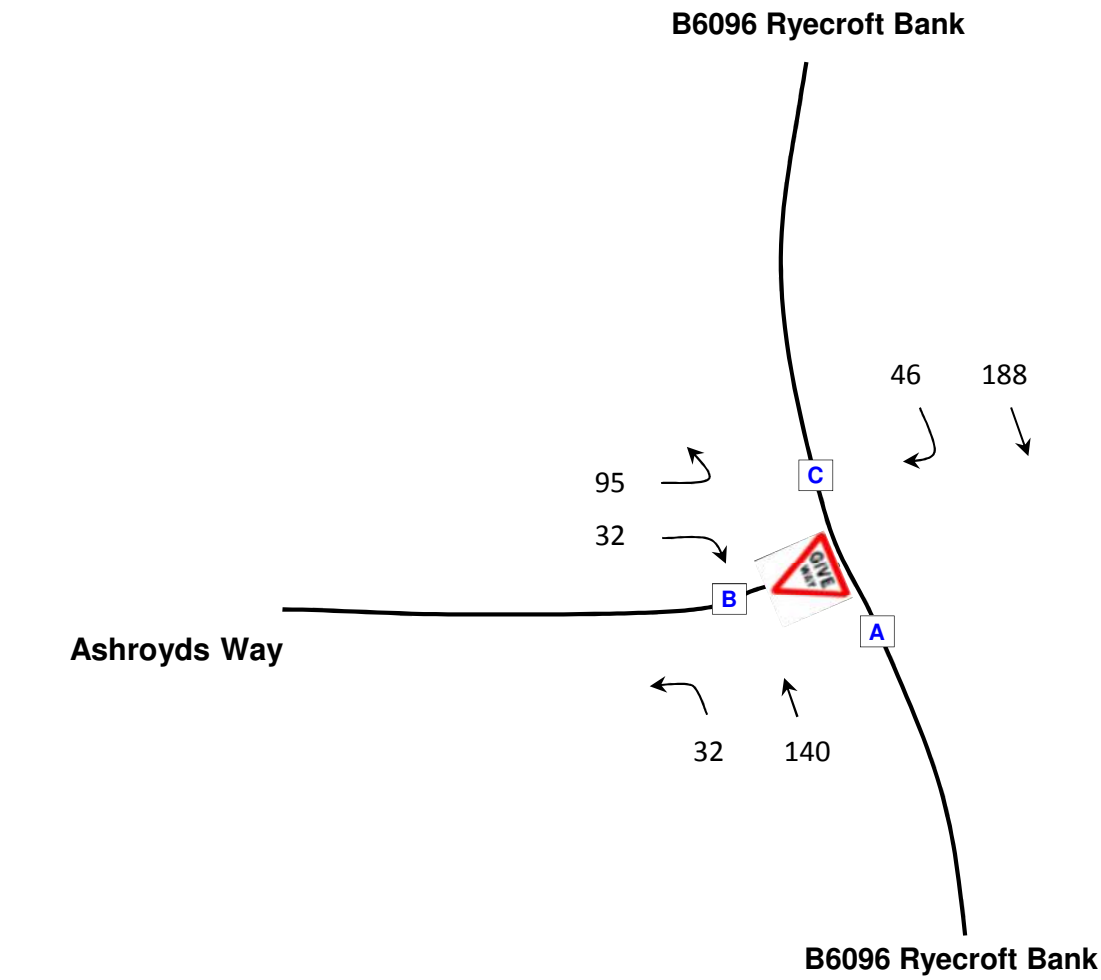


Fig 12: PM Peak Hour 2023 With Development + Plot 5 Development Flows

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Appendices

Appendix A – Parameters Plan

INSERT PARAMETERS PLAN

07 June 2018

Appendix B – Illustrative Masterplans

Note:
Assumed site boundary and site constraints subject to confirmation.
All Legal easements and extent of existing underground services locations are subject to confirmation.

0 5 10 15 20 25 m
SCALE 1:500

BOUNDARIES
- Ownership Boundary Line
- Plot 3 Application Boundary Line (6.84 Acres / 2.77 Ha)

Proposed Unit 3B
25,000 sq.ft / 2,323 sq.m
Ground Floor Footprint
Plus
1,700 sq.ft / 158sq.m
First Floor Offices

TOTAL GIA
26,700 sq.ft / 2,481 sq.m

Offices

25m diameter HGV turning circle

Proposed Unit 3A
16,000 sq.ft /1,487 sq.m
Ground Floor Footprint
Plus
1,200 sq.ft / 111sq.m
First Floor Offices

TOTAL GIA
17,200 sq.ft / 1,598 sq.m

Offices

33No. Parking Spaces (2.4 x 4.8m)

19No. Parking Spaces (2.4 x 4.8m)

25m diameter HGV turning circle

New soft landscaping

New soft landscaping

28No. Parking Spaces (2.4 x 4.8m)

Proposed Unit 3C
22,000 sq.ft / 2,044 sq.m
Ground Floor Footprint
Plus
1,700 sq.ft / 158sq.m
First Floor Offices

TOTAL GIA
23,700 sq.ft / 2,202 sq.m

Offices

New soft landscaping

24No. Parking Spaces (2.4 x 4.8m)

New soft landscaping

25m diameter HGV turning circle

25m diameter HGV turning circle

Offices

Proposed Unit 3D
20,000 sq.ft / 1,858 sq.m
Ground Floor Footprint
Plus
1,700 sq.ft / 158sq.m
First Floor Offices

TOTAL GIA
21,700 sq.ft / 1,016 sq.m

New retaining wall

New site access (subject to detail design and engineer's input)

Unit 5A
10,000 sq.ft / 929 sq.m
Ground Floor Footprint
Plus
900 sq.ft / 83.6sq.m
First Floor Offices
TOTAL GIA
10,900 sq.ft / 1,013 sq.m
(FFL +157.50)

LEVELS
+157.50 Existing levels
+157.50 Proposed levels

DRAFT

Rev	Date	Description	Rev By	Chk'd By
-	---	---	---	---

Project Title	Proposed Development Plot 3 Ashroyd Business Park Junction 36 M1 Barnsley S74 9SB
Client	Network Space Ltd
Status	Planning
Scale	1:500 — Drawing Size A2
Date	May 2018 — Drawn By AT — Checked DT
Drawing Title	Proposed Site Plan - Option A
Job-Dwg No	14698A-105 — Rev -

2 St. Johns North, Wakefield, WF1 3QA t. 01924 291800
Carvers Warehouse, 77 Dale Street, Manchester, M1 2HG t. 0161 2388555
The Old Rectory, 79 High Street, Newport Pagnell, MK16 8AB t. 01908 211577
101 London Road, Reading, RG1 5BY t. 0118 9507700
10 Gees Court, St Christophers Place, London, W1U 1JJ t. 0207 4091215

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Note:
Assumed site boundary and site constraints subject to confirmation.
All Legal easements and extent of existing underground services locations are subject to confirmation.

0 5 10 15 20 25 m
SCALE 1:500

BOUNDARIES
Ownership Boundary Line
Plot 3 Application Boundary Line (6.84 Acres / 2.77 Ha)

83650
100000
Proposed Unit 3B
90,000 sq.ft / 8,361sq.m
Ground Floor Footprint
Plus
4,500 sq.ft / 418sq.m
First Floor Offices
TOTAL GIA
94,500 sq.ft / 8,779 sq.m
25m diameter HGV turning circle
Offices
Cycles
Sprinkler tank
120No. Parking Spaces (2.4 x 4.8m)
Motor cycles
Unit 5A
10,000 sq.ft / 929 sq.m
Ground Floor Footprint
Plus
900 sq.ft / 83.6sq.m
First Floor Offices
TOTAL GIA
10,900 sq.ft / 1,013 sq.m
(FFL +157.50)

LEVELS
+157.50 Existing levels
+157.50 Proposed levels

DRAFT

Rev	Date	Description	Rev By	Chk'd By
-	---	---	---	---

Project Title	Proposed Development Plot 3 Ashroyd Business Park Junction 36 M1 Barnsley S74 9SB
Client	Network Space Ltd
Status	Planning
Scale	1:500 — Drawing Size A2
Date	May 2018 — Drawn By AT — Checked DT
Drawing Title	Proposed Site Plan - Option B
Job-Dwg No	14698A-106 — Rev -

2 St. Johns North, Wakefield, WF1 3QA t. 01924 291800
Carvers Warehouse, 77 Dale Street, Manchester, M1 2HG t. 0161 2388555
The Old Rectory, 79 High Street, Newport Pagnell, MK16 8AB t. 01908 211577
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Appendix C - 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 trafficsense 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	310
8:30 - 8:45	0	0	18	3	1	0	0	22	0	0	4	1	0	0	0	5	27	309
8:45 - 9:00	0	0	20	7	0	0	0	27	0	0	4	2	1	0	0	7	34	306
9:00 - 9:15	0	0	19	4	1	0	0	24	0	0	1	2	0	3	0	6	30	298
9:15 - 9:30	0	0	16	5	1	0	0	22	0	1	5	1	0	0	0	7	29	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	354
17:00 - 17:15	0	0	26	2	0	0	0	28	0	0	1	2	0	1	0	4	32	341
17:15 - 17:30	0	0	42	4	0	0	0	46	0	0	0	2	0	0	0	2	48	326
17:30 - 17:45	0	0	29	5	1	0	0	35	0	0	0	1	0	0	0	1	36	312
17:45 - 18:00	0	1	39	3	0	0	0	43	0	0	1	0	0	0	0	1	44	316
18:00 - 18:15	0	1	28	2	0	0	0	31	0	0	0	0	0	1	0	1	32	299
18:15 - 18:30	0	0	30	2	0	0	0	32	0	0	0	0	0	0	0	0	32	277
																		354

survey and presentation by trafficsense Ltd.

Appendix D – 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 undertaking 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.

TRIP RATE for Land Use 02 - EMPLOYMENT/D - INDUSTRIAL ESTATE
VEHICLES
Calculation factor: 100 sqm
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	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.

*To obtain a trip rate, the average (mean) trip rate parameter value (TRP) is first calculated for all selected survey days that have count data available for the stated time period. The average (mean) number of arrivals, departures or totals (whichever applies) is also calculated (COUNT) for all selected survey days that have count data available for the stated time period. Then, the average count is divided by the average trip rate parameter value, and multiplied by the stated calculation factor (shown just above the table and abbreviated here as FACT). So, the method is: COUNT/TRP*FACT. Trip rates are then rounded to 3 decimal places.*

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Parameter summary

Trip rate parameter range selected:	1775 - 9500 (units: sqm)
Survey date 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 show. 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
TAXIS
Calculation factor: 100 sqm
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	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.

*To obtain a trip rate, the average (mean) trip rate parameter value (TRP) is first calculated for all selected survey days that have count data available for the stated time period. The average (mean) number of arrivals, departures or totals (whichever applies) is also calculated (COUNT) for all selected survey days that have count data available for the stated time period. Then, the average count is divided by the average trip rate parameter value, and multiplied by the stated calculation factor (shown just above the table and abbreviated here as FACT). So, the method is: COUNT/TRP*FACT. Trip rates are then rounded to 3 decimal places.*

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Parameter summary

Trip rate parameter range selected:	1775 - 9500 (units: sqm)
Survey date 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 show. 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

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	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.

*To obtain a trip rate, the average (mean) trip rate parameter value (TRP) is first calculated for all selected survey days that have count data available for the stated time period. The average (mean) number of arrivals, departures or totals (whichever applies) is also calculated (COUNT) for all selected survey days that have count data available for the stated time period. Then, the average count is divided by the average trip rate parameter value, and multiplied by the stated calculation factor (shown just above the table and abbreviated here as FACT). So, the method is: COUNT/TRP*FACT. Trip rates are then rounded to 3 decimal places.*

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Parameter summary

Trip rate parameter range selected:	1775 - 9500 (units: sqm)
Survey date 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 show. 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

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	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.

*To obtain a trip rate, the average (mean) trip rate parameter value (TRP) is first calculated for all selected survey days that have count data available for the stated time period. The average (mean) number of arrivals, departures or totals (whichever applies) is also calculated (COUNT) for all selected survey days that have count data available for the stated time period. Then, the average count is divided by the average trip rate parameter value, and multiplied by the stated calculation factor (shown just above the table and abbreviated here as FACT). So, the method is: COUNT/TRP*FACT. Trip rates are then rounded to 3 decimal places.*

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Parameter summary

Trip rate parameter range selected:	1775 - 9500 (units: sqm)
Survey date 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 show. 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
CYCLISTS
Calculation factor: 100 sqm
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	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.

*To obtain a trip rate, the average (mean) trip rate parameter value (TRP) is first calculated for all selected survey days that have count data available for the stated time period. The average (mean) number of arrivals, departures or totals (whichever applies) is also calculated (COUNT) for all selected survey days that have count data available for the stated time period. Then, the average count is divided by the average trip rate parameter value, and multiplied by the stated calculation factor (shown just above the table and abbreviated here as FACT). So, the method is: COUNT/TRP*FACT. Trip rates are then rounded to 3 decimal places.*

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Parameter summary

Trip rate parameter range selected:	1775 - 9500 (units: sqm)
Survey date 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 show. Finally, the number of survey days that have been manually removed from the selected set outside of the standard filtering procedure are displayed.

Appendix E - JUNCTIONS9 Output

Junctions 9

PICADY 9 - Priority Intersection Module

Version: 9.0.2.5947
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Filename: Ashroyds Way_B6059.j9
Path: J:\2018\A099897 Ashroyd, Barnsley (Network Space)\Picady
Report generation date: 15/05/2018 17:13:18

»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
»2023 with Dev. Flows + Plot 5 Trips, AM
»2023 with Dev. Flows + Plot 5 Trips, 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	9.15	0.04	2.35	0.1	5.88	0.11	1.80
Stream B-A	0.0	14.69	0.03		0.1	10.17	0.06	
Stream C-AB	0.2	7.15	0.14		0.1	6.15	0.06	
2023 with Dev. Flows + Plot 5 Trips								
Stream B-C	0.1	9.33	0.05	2.90	0.2	6.21	0.15	2.29
Stream B-A	0.1	15.19	0.04		0.1	10.57	0.08	
Stream C-AB	0.2	7.52	0.18		0.1	6.33	0.08	

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	WYG\yujing.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	✓
D7	2023 with Dev. Flows + Plot 5 Trips	AM	ONE HOUR	07:15	08:45	15	✓
D8	2023 with Dev. Flows + Plot 5 Trips	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				
A-B	11	3			11				
A-C	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	2.35	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	✓	183	100.000
B - Ashroyds Way		ONE HOUR	✓	36	100.000
C - B6096 (N)		ONE HOUR	✓	188	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A - B6096 (S)	B - Ashroyds Way	C - B6096 (N)
From	A - B6096 (S)	0	28	155
	B - Ashroyds Way	11	0	25
	C - B6096 (N)	109	79	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	9.15	0.1	A	23	34
B-A	0.03	14.69	0.0	B	10	15
C-AB	0.14	7.15	0.2	A	72	109
C-A					100	150
A-B					26	39
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	19	5	703	0.027	19	0.0	0.0	8.781	A
B-A	8	2	450	0.018	8	0.0	0.0	13.607	B
C-AB	59	15	632	0.094	59	0.0	0.1	6.589	A
C-A	82	21			82				
A-B	21	5			21				
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	22	6	695	0.032	22	0.0	0.1	8.934	A
B-A	10	2	438	0.023	10	0.0	0.0	14.046	B
C-AB	71	18	625	0.114	71	0.1	0.1	6.817	A
C-A	98	24			98				
A-B	25	6			25				
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	28	7	685	0.040	27	0.1	0.1	9.148	A
B-A	12	3	421	0.029	12	0.0	0.0	14.689	B
C-AB	87	22	616	0.141	87	0.1	0.2	7.142	A
C-A	120	30			120				
A-B	31	8			31				
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	28	7	685	0.040	28	0.1	0.1	9.149	A
B-A	12	3	421	0.029	12	0.0	0.0	14.693	B
C-AB	87	22	616	0.141	87	0.2	0.2	7.145	A
C-A	120	30			120				
A-B	31	8			31				
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	22	6	695	0.032	23	0.1	0.1	8.938	A
B-A	10	2	438	0.023	10	0.0	0.0	14.053	B
C-AB	71	18	625	0.114	71	0.2	0.1	6.823	A
C-A	98	24			98				
A-B	25	6			25				
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	19	5	703	0.027	19	0.1	0.0	8.788	A
B-A	8	2	450	0.018	8	0.0	0.0	13.616	B
C-AB	59	15	632	0.094	60	0.1	0.1	6.599	A
C-A	82	21			82				
A-B	21	5			21				
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	1.80	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	✓	163	100.000
B - Ashroyds Way		ONE HOUR	✓	94	100.000
C - B6096 (N)		ONE HOUR	✓	221	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A - B6096 (S)	B - Ashroyds Way	C - B6096 (N)
From	A - B6096 (S)	0	23	140
	B - Ashroyds Way	24	0	70
	C - B6096 (N)	188	33	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	0.11	5.88	0.1	A	64	96
B-A	0.06	10.17	0.1	B	22	33
C-AB	0.06	6.15	0.1	A	30	45
C-A					173	259
A-B					21	32
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	53	13	708	0.074	52	0.0	0.1	5.487	A
B-A	18	5	452	0.040	18	0.0	0.0	9.368	A
C-AB	25	6	636	0.039	25	0.0	0.0	5.885	A
C-A	142	35			142				
A-B	17	4			17				
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	63	16	700	0.090	63	0.1	0.1	5.648	A
B-A	22	5	441	0.049	22	0.0	0.1	9.692	A
C-AB	30	7	630	0.047	30	0.0	0.0	5.995	A
C-A	169	42			169				
A-B	21	5			21				
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	77	19	689	0.112	77	0.1	0.1	5.880	A
B-A	26	7	426	0.062	26	0.1	0.1	10.170	B
C-AB	36	9	622	0.058	36	0.0	0.1	6.150	A
C-A	207	52			207				
A-B	25	6			25				
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	77	19	689	0.112	77	0.1	0.1	5.880	A
B-A	26	7	426	0.062	26	0.1	0.1	10.172	B
C-AB	36	9	622	0.058	36	0.1	0.1	6.150	A
C-A	207	52			207				
A-B	25	6			25				
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	63	16	700	0.090	63	0.1	0.1	5.651	A
B-A	22	5	441	0.049	22	0.1	0.1	9.697	A
C-AB	30	7	630	0.047	30	0.1	0.0	5.996	A
C-A	169	42			169				
A-B	21	5			21				
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	53	13	708	0.074	53	0.1	0.1	5.497	A
B-A	18	5	452	0.040	18	0.1	0.0	9.377	A
C-AB	25	6	636	0.039	25	0.0	0.0	5.888	A
C-A	142	35			142				
A-B	17	4			17				
A-C	105	26			105				

2023 with Dev. Flows + Plot 5 Trips, 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	2.90	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
D7	2023 with Dev. Flows + Plot 5 Trips	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	✓	191	100.000
B - Ashroyds Way		ONE HOUR	✓	49	100.000
C - B6096 (N)		ONE HOUR	✓	210	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A - B6096 (S)	B - Ashroyds Way	C - B6096 (N)
From	A - B6096 (S)	0	36	155
	B - Ashroyds Way	15	0	34
	C - B6096 (N)	109	101	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	0.05	9.33	0.1	A	31	47
B-A	0.04	15.19	0.1	C	14	21
C-AB	0.18	7.52	0.2	A	93	139
C-A					100	150
A-B					33	50
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	26	6	701	0.037	25	0.0	0.1	8.893	A
B-A	11	3	444	0.025	11	0.0	0.0	13.895	B
C-AB	76	19	631	0.121	75	0.0	0.1	6.799	A
C-A	82	21			82				
A-B	27	7			27				
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	31	8	693	0.044	31	0.1	0.1	9.076	A
B-A	13	3	431	0.031	13	0.0	0.1	14.412	B
C-AB	91	23	624	0.146	91	0.1	0.2	7.090	A
C-A	98	24			98				
A-B	32	8			32				
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	37	9	682	0.055	37	0.1	0.1	9.330	A
B-A	17	4	412	0.040	16	0.1	0.1	15.187	C
C-AB	111	28	614	0.181	111	0.2	0.2	7.515	A
C-A	120	30			120				
A-B	40	10			40				
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	37	9	682	0.055	37	0.1	0.1	9.333	A
B-A	17	4	412	0.040	17	0.1	0.1	15.191	C
C-AB	111	28	614	0.181	111	0.2	0.2	7.521	A
C-A	120	30			120				
A-B	40	10			40				
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	31	8	693	0.044	31	0.1	0.1	9.080	A
B-A	13	3	430	0.031	14	0.1	0.1	14.424	B
C-AB	91	23	624	0.146	91	0.2	0.2	7.098	A
C-A	98	24			98				
A-B	32	8			32				
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	26	6	701	0.037	26	0.1	0.1	8.903	A
B-A	11	3	444	0.025	11	0.1	0.0	13.906	B
C-AB	76	19	631	0.121	76	0.2	0.1	6.816	A
C-A	82	21			82				
A-B	27	7			27				
A-C	117	29			117				

2023 with Dev. Flows + Plot 5 Trips, 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	2.29	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
D8	2023 with Dev. Flows + Plot 5 Trips	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	✓	172	100.000
B - Ashroyds Way		ONE HOUR	✓	127	100.000
C - B6096 (N)		ONE HOUR	✓	234	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A - B6096 (S)	B - Ashroyds Way	C - B6096 (N)
From	A - B6096 (S)	0	32	140
	B - Ashroyds Way	32	0	95
	C - B6096 (N)	188	46	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	0.15	6.21	0.2	A	87	131
B-A	0.08	10.57	0.1	B	29	44
C-AB	0.08	6.33	0.1	A	42	63
C-A					173	259
A-B					29	44
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	72	18	705	0.101	71	0.0	0.1	5.673	A
B-A	24	6	448	0.054	24	0.0	0.1	9.589	A
C-AB	35	9	634	0.055	34	0.0	0.1	5.998	A
C-A	142	35			142				
A-B	24	6			24				
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	85	21	697	0.123	85	0.1	0.1	5.890	A
B-A	29	7	436	0.066	29	0.1	0.1	9.981	A
C-AB	41	10	628	0.066	41	0.1	0.1	6.136	A
C-A	169	42			169				
A-B	29	7			29				
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	105	26	685	0.153	104	0.1	0.2	6.204	A
B-A	35	9	420	0.084	35	0.1	0.1	10.561	B
C-AB	51	13	619	0.082	51	0.1	0.1	6.333	A
C-A	207	52			207				
A-B	35	9			35				
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	105	26	684	0.153	105	0.2	0.2	6.207	A
B-A	35	9	420	0.084	35	0.1	0.1	10.566	B
C-AB	51	13	619	0.082	51	0.1	0.1	6.333	A
C-A	207	52			207				
A-B	35	9			35				
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	85	21	696	0.123	86	0.2	0.1	5.896	A
B-A	29	7	436	0.066	29	0.1	0.1	9.988	A
C-AB	41	10	628	0.066	41	0.1	0.1	6.139	A
C-A	169	42			169				
A-B	29	7			29				
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	72	18	705	0.101	72	0.1	0.1	5.684	A
B-A	24	6	448	0.054	24	0.1	0.1	9.606	A
C-AB	35	9	634	0.055	35	0.1	0.1	6.001	A
C-A	142	35			142				
A-B	24	6			24				
A-C	105	26			105				