Trustees of the Standen Estate

Land South of Clitheroe

Environmental Statement
Volume 2 – Appendix 1.1

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AMEC Environment & Infrastructure UK Limited

Appendix 1.1
Transport Assessment

552 Pages

SBA

part of the **WYG** group

Trustees of The Standen Estate

PROPOSED DEVELOPMENT AT STANDEN ESTATE CLITHEROE

Transport Assessment
A077038

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Transport Planning Specialists

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PLANS, FIGURES AND APPENDICES

1 INTRODUCTION

1.1 Preamble

1.1.1 SBA has been appointed by the Trustees of Standen Estate (TSE) to provide advice on the transport planning and highways matters associated with the delivery of a mixed use development at Higher Standen Farm. The development will form an urban extension to Clitheroe and will be connected to the existing town with high quality linkages through the site.

1.1.2 The proposed site forms part of the Standen Estate in Clitheroe, Lancashire. It is solely owned by TSE and comprises an area of 50.1 hectares.

1.1.3 The scale and mixed-use nature of the development allows for the development of local retail, services and community facilities on-site, thus reducing the need to travel.

1.2 Scope of Assessment

1.2.1 This assessment describes the key transport issues associated with the development of the site and demonstrates how the proposals present a unique opportunity to achieve sustainable mixed-use development. It therefore considers:-

- in Section 2, relevant transport policy and guidelines;
- in Section 3, the site in context setting out existing transport provision and surrounding land uses;
- in Section 4, the sustainable development opportunity including a description of the development proposals, the proposed sustainable travel enhancements, including Travel Plan and the likely travel movements that will be generated by the site;
- in Section 5, the likely impacts of traffic generated by the development.

1.2.2 The report concludes (Section 6) that in transportation terms, development on the site will function as a sustainable mixed-use extension to the local community with the need to travel minimised by the location of complementary land uses and sustainable travel facilities within the new development. The proposed access strategy and off site highway works will accommodate the quantum of development proposed. Overall, the proposal presents a unique and achievable opportunity for sustainable development and the delivery of new homes in Clitheroe.

1.3 Background

1.3.1 A wider Transport Appraisal was prepared by Royal Haskoning (RH) in November 2010 to provide an initial investigation into the transport implications of the significant development of Higher Standen Farm for a residential led mixed use scheme. The purpose of that study was to demonstrate to Ribble Valley Borough Council (RVBC) and Lancashire County Council (LCC), as the Local Highway Authority, that the TSE land was suitable for such a development.

1.3.2 The RH report considered that the development content would comprise 1377 residential units and 16,680 sqm of employment floor space and concluded that the site is an appropriate and deliverable location for significant future development, in terms of highways, traffic and sustainable transport.

1.3.3 Ribble Valley Borough Council has resolved to promote the proposal as its Strategic Site in the Submission version of the Draft Core Strategy (the site would provide 75% of the Council's housing requirement for Clitheroe (total requirement 1380) and 38% of the 4000 homes it needs to provide Borough wide, between 2008 and 2028 (Core Strategy plan period).

1.3.4 Hyder Consulting (UK) also undertook a Sustainability Appraisal of the Draft Core Strategy which concluded that the site would provide good access to amenities and jobs in Clitheroe, is close to the strategic transport network and would avoid the most environmentally sensitive areas of the borough.

1.4 The Proposed Development

1.4.1 This Transport Assessment is prepared in support of a planning application which proposes:

- 1,040 residential dwellings (including: 728 market homes, 312 affordable homes, 156 of the total (1040) would be for elderly people (i.e. over 55 years of age) of which 78 would be affordable)
- 0.8ha to be reserved for retirement living within the total of 1040 homes;

- 0.5ha for local retail, service and community facilities;
- 2.25ha for employment (Class B1) accommodating up to a maximum gross floorspace of 5,575m^2
- 2.1ha of land for a primary school site;
- Public open space including green corridors and areas for tree planting and landscaping

1.4.2 All matters are reserved including site access however details on likely principal points of access etc are presented later in this report for information and to facilitate testing and analysis of the proposals.

2 KEY TRANSPORT POLICY AND GUIDELINES CONTEXT

2.1 The National Planning Policy Framework (NPPF)

2.1.1 The Department for Communities and Local Government published its National Planning Policy Framework (NPPF) on 27th March 2012. The NPPF replaces all previous Planning Policy Guidance (PPG) Notes and Planning Policy Statements (PPS) with a single document. This is in line with the Government's 'Localism' reforms, to reduce the role of central guidance and rationalize planning policies nationally.

2.1.2 Local authorities are expected to grant permission, using the NPPF as policy, 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. However, NPPF provides for a 12-month window from 27 March 2012 for the implementation of its provisions.

2.1.3 The NPPF 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".*

2.1.4 The policies in the NPPF are based upon 12 core principles that underpin the planning process, specifically for transport. In paragraph 17 the document states that;

"actively manage patterns of growth to make the fullest possible use of public transport, walking and cycling, and focus significant development in locations which are or can be made sustainable".

2.1.5 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).*

2.1.6 Guidance in the NPPF clearly informs that a *"Development should only be prevented or refused on transport grounds where the residual cumulative impacts of development are severe".*

2.2 The North West of England Regional Spatial Strategy to 2021

2.2.1 The Regional Spatial Strategy (RSS) remains a material planning consideration. With particular reference to transport, Policy DP5 relates to "Managing Travel Demand", through reducing the need to travel and improving accessibility. It should be noted that the site is very well placed when compared to other locations in the Ribble Valley to minimise the length of journeys and promote the use of sustainable travel modes.

2.2.2 The development proposals would be genuinely accessible by public transport, walking and cycling.

2.3 The Core Strategy 2008 – 2028 'A Local Plan for Ribble Valley' Regulation 19 Consultation Draft'

2.3.1 The Ribble Valley Borough Council "Core Strategy 2008 – 2028, A Local Plan for Ribble Valley, Regulation 19 Consultation Draft" document (April 2012) confirms that the Standen Estate site is central to the delivery of the Core Strategy. At Section 9 it states:

> *"A strategic site at Standen, to the south east of Clitheroe will be developed in a comprehensive and sustainable manner as a mixed site to meet a significant proportion of the Borough's housing requirement for the plan period. The range of uses will include housing (including affordable housing), employment, community uses, local retail and service provision to serve the site, open space and recreational uses."*

2.3.2 The company Hyder Consulting have worked alongside the Council to provide advice for the preparation of the Core Strategy and have prepared a Sustainability Appraisal Report which tested the Core Strategy.

2.4 Ribble Valley Local Plan (1998) – Saved Policies (2007)

2.4.1 The Ribble Valley Local Plan set out detailed policies and specific proposals for the development and use of land in the area. However, the Local Plan was originally adopted by the Council in 1998, and a number of policies were 'saved' in 2007.

2.4.2 Policy T1 'Development Proposals' in the Local Plan has the same criteria as the 'Key Statement DMG3: Transport and Mobility' in Appendix 4 of the Core Strategy Consultation document. It states that the local planning authority will attach considerable weight to certain criteria when making decisions on development proposals. The eight points of the criteria are set out below:

- The availability and adequacy of public transport to serve those moving to and from the development;
- The relationship of the site to the primary route network;
- The provision made for access to the development by pedestrians, cyclists and those with reduced mobility;
- Proposals which promote development within existing developed areas at locations which are highly accessible by means other than the private car;
- Proposals which locate major generators of travel demand in existing centres which are highly accessible by means other than the private car;
- Proposals which strengthen existing town and village centres which offer a range of everyday community shopping and employment opportunities by protecting and enhancing their viability and vitality;
- Proposals which locate developments in areas which maintain and improve choice for people to walk, cycle or catch public transport rather than drive between homes and facilities which they need to visit regularly;

- Proposals which limit parking provision for developments and other on or off street parking provision to discourage reliance on the car for work and other journeys where there are effective alternatives.

The Ribble Valley Core Strategy Consultation Document and the Local Plan both state that the local planning authority will attach considerable weight to these criteria when making decisions on development proposals.

2.5 Compliance with Policy

2.5.1 Subsequent sections of this report describe the development proposals and surrounding existing facilities such as pedestrian footways, public transport services, cycle ways etc. Those subsequent sections set out how the development proposals comply with the guidelines and policies detailed above.

2.5.2 In particular the development will be well served by public transport and will provide high quality infrastructure which focuses on the needs of pedestrians and cyclists. Additionally the report tests the operational performance of the highway network to establish the extent of any highway impacts and evaluate compliance with the NPPF test of "severe".

3 THE SITE IN CONTEXT AND EXISTING CONDITIONS

3.1 Site Location

3.1.1 The land is situated on an area of 50.1 ha, comprising mainly farm land to the south east of Clitheroe, solely owned by the TSE. It abuts the existing built up area of the town. **Plan 1** shows the location of the land in a general context.

3.1.2 The site is located on the south east side of Clitheroe. It is bounded by the existing built-up area and Pendle Road to the north and Worston Old Road to the east. The western edge of the site abuts the existing residential areas at Littemoor and Littlemoor Road. To the south of the site is the Pendleton Brook valley, woodland and the extensive grounds of Standen Hall.

3.1.3 **Plan 2** illustrates the location of the land in relation to the local highway network.

3.2 Transport Provision and Services

Accessibility by Foot

3.2.1 It is generally accepted that walking is the most important mode of travel at the local level and walking offers the greatest potential to replace short car trips, particularly under two kilometres. The site currently has direct pedestrian access to the existing built area via the footways on Pendle Road, Littlemoor Road and via a footpath to Langshaw Drive.

3.2.2 With respect to the likely pedestrian catchment of the site, the Institution of Highways and Transportation (IHT) publication "Guidelines for Providing Journeys on Foot" provides relevant advice. It states that the general accepted walking distances for commuting, school and sight-seeing journeys is 1km with a preferred maximum of 2km.

3.2.3 **Plan 3** shows the approximate 1km (12 minutes) and 2km (24 minutes) walking catchments from the site access points. The catchments assume an average walking speed of 1.4 metres/second (source: Guidelines for Providing for Journeys on Foot - Institution of Highways and Transportation).

3.2.4 **Plan 3** shows that the majority of Clitheroe is accessible on foot from the site. The catchment includes Clitheroe transport interchange (train station and bus station), the Town Centre, a large number of schools and health facilities as well as job opportunities. **Plan 3** shows a number of key destinations within the town shopping area.

Accessibility by Cycle

3.2.5 It is generally accepted that cycling has the greatest potential to substitute short car trips, particularly those less than 5km and to form part of a longer journey by public transport.

3.2.6 **Plan 4** illustrates the 3km (15 minutes) and 5km (25 minutes) cycling catchment from the site, recognised as acceptable cycling distances at a speed of 3.3m/s. **Plan 4** illustrates that the 3km catchment includes all of Clitheroe. That includes the transport interchange, the town centre, the hospital and many shopping, job and educational opportunities. The 5km catchment extends to Waddington, West Bradford and Chatburn in the north and Whalley to the south.

3.2.7 **Plan 4** also illustrates the location of regional cycle routes 90 and 91 which are accessible from the site. Cycle Route 91 is located approximately 70m from the site and runs from Pendleton, along Worston Old Road and along Pendle Road from the A59 / Pendle Road / Clitheroe Road junction for a short distance before continuing north along a small unclassified road. The A59 / Pendle Road / Clitheroe Road junction benefits from formal cycle crossing facilities. Cycle Route 91 is part of the Lancashire Cycleway and it is a route from Ormskirk in the south to Colne via Blackburn.

3.2.8 It is considered that cycling for work and leisure trips and to local facilities would be a realistic choice of travel for residents and employees of the proposed development.

Accessibility by Public Transport

3.2.9 The Institution of Highways and Transportation (IHT) document 'Guidelines for Planning for Public Transport in Developments' (1999) recommends that new developments should be located so that public transport trips involve a walking distance of less than 400m from the nearest bus stop or 800m from the nearest rail station.

3.2.10 The nearest bus stops are located on Whalley Road, less than 400m from the West side of the site. Residents on the proposed site would be able to benefit from these bus stops. As shown in **Plan 5**, nine different bus services include this part of Whalley Road in their route during the week and others serve Pendle Road.

3.2.11 There are a large number of bus services running along Whalley Road and two circular bus services serving the adjacent residential areas. During the summer period a circular bus service also runs along Pendle Road. A summary of local existing bus services is presented below as Table 3.1.

Table 3.1: Existing Bus Services

Service Number	Route	Frequency Per Hour		
		Day	Eve	Sun
Services via Pendle Road				
70	Clitheroe, Barley, Nelson.	1	0	0
71	Clitheroe, Barley, Nelson.	1	0	every other hour
Services via Whalley Road				
5	Clitheroe, Whalley, Ribchester, Longridge, Chipping	every other hour	0	0
225	Clitheroe, Blackburn, Bolton.	4	1	1
331	Clitheroe, Whalley, Accrington.	1	0	0
241	Clitheroe, Accrington.	1	0	0
X80	Preston, Clitheroe, Gisburn, Skipton.	1	1	1
Services via Peel Park Estate				
C1	Low Moor, Clitheroe, Peel Park.	1	0	0
C4	Clitheroe, Peel Park.	1	0	0
Other services around Clitheroe				
C2	Sawley, Grindleton, Chatburn, Clitheroe, Low Moor.	1	0	4 services
C5	Clitheroe, Waddington, West Bradford, Clitheroe.	1	0	5 services
C15	Clitheroe, Waddington, West Bradford, Clitheroe.	1	0	0

3.2.12 The bus services run to nearby settlements such as Whalley and Wilpshire as well as further afield major urban areas such as Preston, Blackburn and Bolton. There is a good frequency of buses Monday to Saturday daytime. There are also bus services available during the evenings and on Sundays.

3.2.13 The proposals will enhance public transport facilities and encourage services into and through the site. A development of the scale proposed would encourage operators to serve the site.

3.2.14 The site is also well located for train travel, with the nearest railway station being within approximately 1.25km of the site. Clitheroe Railway Station offers an hourly service to Manchester Victoria. Along its route the train stops at destinations which include Whalley, Langho, Ramsgreave and Wilpshire.

3.3 Surrounding Local Highway Network

3.3.1 The A59 is a high capacity strategic route from Skipton, northeast of Clitheroe, to Preston which is southwest of Clitheroe. It runs to the east of and parallel to the eastern boundary of the TSE site. In the vicinity of the TSE site the A59 is named Clitheroe Bypass and is a two way single carriageway which is de-restricted (60 mph). Virtually all traffic between Clitheroe and external origins and destinations is focused on the A59.

3.3.2 Pendle Road terminates with the A59 at its eastern end where it forms a four arm staggered priority junction. There is a protected central gap for vehicles turning right out of Pendle Road with space for one vehicle. Travelling north along the A59 there is a deceleration lane for turning right into Clitheroe Road to the east.

3.3.3 The A59 / Pendle Road / Clitheroe Road junction also accommodates a cycle lane crossing. Regional Cycle Route #91 runs from Pendleton, along Pendle Road from the A59 / Pendle Road / Clitheroe Road junction for a short distance before continuing north along an unclassified minor road. The cycle route crosses the A59 approximately at the midpoint between the junctions with Pendle Road and Pimlico Link Road (A671).

3.3.4 South of the A59 / Pendle Road / Clitheroe Road junction, there are two ghost island priority junctions accessing unclassified roads leading to the east and west of the A59.

3.3.5 The A59 / A671 (Whalley Road) three arm roundabout junction is located approximately 1km south of Pendle Road. The A59 is dual carriageway to the south of the roundabout.

3.3.6 Whalley Road offers the main route into Clitheroe Town Centre from the A59 south and its northern end terminates at a mini-roundabout junction with Queensway and Moor Lane. Whalley Road is a wide single carriageway.

3.3.7 Immediately to the north of the site Pendle Road runs from the A59 to Clitheroe town centre. The road is a two way single carriageway road and derestricted from the junction with the A59 until approximately 230m east of the junction with Shays Drive. At this point Pendle Road is within the built up area and is subject to a 30mph speed limit.

3.3.8 There are footways along both sides of Pendle Road from its western end with Shaw Bridge Street to the junction with Goosebutts Lane to the east. The footway on the south side then extends further east to the Worston Old Road junction. Pendle Road has street lighting from its western end to the junction with Shays Drive. From this point, there is no further street lighting until the junction with the A59.

3.3.9 Clitheroe town centre is largely a one-way system around Parsons Lane, Castle Street and Moor Lane. The streets are narrow and routes for traffic are often not direct due to the one-way system. The part of Clitheroe which is west of the Town Centre is severed from the Town Centre by the railway line. There is a level crossing on Eshton Terrace and a number of bridges across the railway line such as the narrow bridge at Parsons Lane / Bawdlands.

3.4 Surrounding Land Uses

3.4.1 Existing local amenities are presented on **Plan 3**. The Plan demonstrates that the site is proximate to a large amount of local facilities and services that are all well within an acceptable walking distance (2km). A range of destinations are accessible on foot from the site which include food stores, post offices, medical services, sports and leisure clubs and libraries.

3.4.2 A key aspect of travel will be journey to work and that is described in detail later in this report. The A59 plays a vital role in accommodating journey to work trips and the site's location close to the A59 serves to minimise the traffic impact and journey length of such trips.

3.4.3 In conclusion the site is well located in terms of a range of local employment, schools and amenities which are all accessible by sustainable modes of transport. The majority of those identified are accessible by the most sustainable transport mode, i.e. on foot.

3.5 Existing Background Traffic Flows

3.5.1 In order to identify the study area over which local highway assessment work will be required (in order to examine development related traffic impacts), automatic traffic counter 'ATC' sites were installed across Clitheroe. The ATC surveys were carried out on twenty highway links and recorded traffic flows over seven days from Thursday 23rd February to Wednesday 29th February 2012. **Plan 6** shows the location of the ATC link counts.

3.5.2 SBA also commissioned a number of manual classified junction turning counts which were undertaken on Friday 6th July 2012. These locations were identified based upon forecast development traffic increases across Clitheroe at the 20 ATC sites referred to above. The junction traffic surveys were undertaken in the AM peak period between 0730 and 0930 and PM peak period between 1600 and 1800.

3.5.3 The surveys were undertaken at the following locations:

- Waterloo Road / Wellgate (priority junction)
- Shawbridge Street / Taylor Street (priority junction)
- Waterloo Road / Shawbridge Street (priority junction)
- Pendle Road / Goosebuttts Lane (priority junction)
- Pendle Road / Hayhurst Street (priority junction)

3.5.4 As part of the Transport Appraisal carried out previously by RH, manual traffic count surveys were undertaken on Thursday 23rd September 2010. The following junctions were surveyed in the morning and evening weekday peak periods (0730 - 0930 and 1630 -1830):

- A59 / Pendle Road / Clitheroe Road (staggered crossroad priority junction)
- A59 / Whalley Road (roundabout junction)

3.5.5 The morning and evening peak hours have been derived from these traffic counts and are 08:00-09:00 hours and 16:30-17:30 hours respectively. The existing morning and evening peak hour traffic flows are illustrated in **Figures 1 and 2**.

3.5.6 The local highway network defined by the above junctions forms the traffic impact assessment area examined in the context of the development proposals. A review of the historic 2010 traffic counts in the context of more recent 2012 link counts suggest that there has been effectively no traffic growth between 2010 and 2012. This is in line with general traffic patterns across the United Kingdom. For this reason it is considered appropriate to take the 2010 traffic counts as being representative of existing (2012) highway conditions.

3.6 Personal Injury Accident (PIA) Assessment

3.6.1 Through the Public Consultation event and through discussion with the Local Authority the A59/Pendle Road junction has been stated to be of concern in terms of road safety. The personal injury accident (PIA) records of the network in the vicinity of the site have been reviewed. PIA statistics for the most recent five year period available were obtained from Lancashire County Council and were analysed alongside their online MARIO mapping facility. The PIA data obtained is contained within **Appendix A**. The plan included at **Appendix A** illustrates the recorded personal injury accidents in Clitheroe over the past five years (1/5/2007 to 30/04/2012).

3.6.2 As would be expected, the focus for accidents in Clitheroe is typically in and around the town centre. In contrast there have been significantly fewer accidents in the vicinity of the site and the A59 corridor.

3.6.3 The locations which are considered appropriate for analysis are as follows:

- A59 / Pendle Road / Clitheroe Junction
- A59 / Worston Old Road
- A59 / A671 (Whalley Road) Roundabout

- Waterloo Road / Shawbridge Street junction
- Pendle Road (between Shawbridge Street and A59)
- A59 –Clitheroe By-pass

3.6.4 A review of the data shows there have been 35 reported PIA's in the vicinity of the site over the last five years. shows the spread and severity of each accident over the 5-year period between 2007 -2012.

Table 3.2: Review of PIA's by year and severity

	Year					
Severity	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**
Slight	6	3	4	9	5	2
Serious	1	3	0	1	0	0
Fatal	1	0	0	0	0	0
Total	**8**	**6**	**4**	**10**	**5**	**2**

3.6.5 Table 3.3 summarises all PIA's by severity and location. The statistics reveal that the majority (81%) of accidents were classified as slight with 16% (five accidents) being classified as serious. There was one fatal accident which occurred on the A59/Pendle Road/Clitheroe Road junction. These proportions are typical of accident severity countrywide.

Table 3.3: Review of PIA's by severity and location

Junction		Slight	Serious	Fatal	Σ
1	A59 / Pendle Road / Clitheroe Road	11	2	1	**14.00**
2	A59 / Worston Old Road	1	1	0	**2.00**
3	A59 / A671 Roundabout	7	1	0	**8.00**
4	Waterloo Road and Shawbridge Street	7	1	0	**8.00**
	Total	26	5	1	**32.00**
	Percentage	**81.25**	**15.63**	**3.13**	
Link					
1	Pendle Road leading to Shawbridge Street	2	0	0	2.00
2	A59	1	0	0	1.00
	Total	**3**	**0**	**0**	**3.00**
	Percentage	**100**	**0**	**0**	
Total accidents in the study area (Junctions and Links)					
	Total	**29**	**5**	**1**	**35**
	Percentage	**82.86**	**14.29**	**2.86**	

3.6.5 Table 3.4 presents the analysis of all records and types of junctions in the vicinity of the site. Accidents have been disaggregated by junction or link. Junction accidents are classified as those which have occurred within 20 metres of an intersection.

Table 3.4: Review of PIA's by type and Location

Junction		**A**	**B**	**C**	**D**	**E**	**F**	**Σ**	**%**
1	A59 / Pendle Road / Clitheroe Road	12	0	0	2	0	0	**14**	**40**
2	A59 / Worston Old Road	1	0	0	1	0	0	**2**	**5.7**
3	A59 / A671 Roundabout	3	0	0	5	0	0	**8**	**22.9**
4	Waterloo Road and Shawbridge Street	4	2	1	1	0	0	**8**	**22.9**
	Total	**20**	**2**	**1**	**9**	**0**	**0**	**32**	
	Percentage	**62.5**	**6.3**	**3.1**	**28.1**	**0**	**0**		
Link									
1	Pendle Road leading into Shawbridge Street	2	0	0	0	0	0	**2**	**5.7**
2	A59	1	0	0	0	0	0	**1**	**2.9**
	Total	3	0	0	0	0	0	**3**	
	Percentage	**100**	**0**	**0**	**0**	**0**	**0**		
Total accidents in the study area (Junctions and Links)									
	Total	**23**	**2**	**1**	**9**	**0**	**0**	**35**	
	Percentage	**65.7**	**5.7**	**2.9**	**25.7**	**0**	**0**		
Key									
A	vehicle to vehicle collision								
B	vehicle to pedestrian collision								
C	vehicle to cyclist accident								
D	single vehicle accident								
E	PSV (public service vehicle) / passenger incident								
F	Other								

3.6.6 The analysis reveals that overall, 65.7% of the PIA's that have been reported involve vehicle to vehicle collisions including rear-end shunts. Accidents involving pedestrians and cyclists account for a further 5.7% and 2.9% respectively with the remaining 25.7% of accidents involving a single vehicle.

3.6.7 Examination of the data by location reveals that 40% of all accidents occurred at the A59/Pendle Road junction, 22.9% at A59 / A671 roundabout and 22.9 % at Waterloo / Shawbridge Street Junction. A further 5.7% of accidents occurred at the A59 / Worston Old Road, with the remaining 5.7% and 2.9% split between Pendle Road and the A59 respectively.

3.6.8 Disaggregated, vehicle to vehicle collisions account for 62.5% of all junction-related accidents and 100% of all link-related accidents. Accidents involving a single vehicle account for 28% of all junction-related accidents with the majority of these occurring on the A59 /A671 roundabout.

3.6.9 Accidents involving a vehicle colliding with a pedestrian or cyclist account for 6% and 3% respectively of all junction-related accidents. There are no recorded PIA's involving pedestrians, cyclists or single vehicles on the links in the vicinity of the site.

3.6.10 In summary there are generally no trends to the personal injury accidents occurring in the area of interest and the majority of the accidents are focused around Clitheroe Town Centre. Importantly development generated out-of-town commuter traffic will avoid this area.

3.6.11 One fatal accident occurred at the A59 / Pendle Road / Clitheroe Road (staggered crossroad priority) junction. There are also perceived issues with regards to the suitability of the existing junction layout which have been voiced by the local community. In response to this, the development proposals include an upgrade of this junction to provide a roundabout.

4 THE SUSTAINABLE DEVELOPMENT OPPORTUNITY

4.1 The Development Proposals

4.1.1 The proposals will create an extension to a sustainable community, with new jobs on the site along with access to the existing local residential community, employment opportunities and amenities nearby. The provision of a range of local services and sustainable travel enhancements on-site with access to nearby facilities by foot, cycle and public transport, will ensure that this is a sustainable development. A number of pedestrian and cyclist access points will be provided to ensure that the development is permeable and fully connected to the wider area. Bus operators will be encouraged to include the development on appropriate bus routes. The proposed illustrative layout and parameters plan are included in **Appendix B**.

4.1.2 It is proposed that residential development of 1040 dwellings be located across the site within an extensive framework of open space, footpaths and cycleways. The homes will be bounded by existing residential uses to the west, the built up area and Pendle Road to the north, the Pendleton Brook valley, woods and the grounds of Standen Hall to the south and open fields to the east. The residential development will consist of an appropriate mix of affordable and market homes.

4.1.3 It is anticipated that a small ancillary local centre will also be provided which may typically include a local store, services and other community uses. A primary school site is also proposed in the northern part of the site adjacent to Pendle Road. These facilities will minimise the need for residents to travel off the site. An area of employment uses (a business centre for B1 use only) is also proposed in the south eastern part of the site.

4.1.4 The mixed use nature of the development will also assist in the creation of a sustainable extension with residents on the site or in nearby settlements able to work at the site close to their homes.

4.1.5 The development proposals will generate demands for movement, the assessment of which is based upon the proposed uses listed below:-

- Residential Development of 1040 mixed dwellings

- Business Uses (assumed to be B1 office) up to c. 5,575 sq m GFA
- Ancillary Local Centre Uses. Principally for use by the development site.
- Primary School (to accommodate c. 420 pupils)

4.1.6 It should be noted that planning consent is not sought for the primary school although the proposed layout makes provision for this land use to be brought forward within the layout plans.

Car Parking Provision

4.1.7 An appropriate level of car parking provision will be provided across the development. The specific level or car parking across the site will be subject to discussions with the local planning and highway authorities. Notwithstanding this, parking will generally be provided in accordance with Table 8.1 included in the North West of England Plan Regional Spatial Strategy to 2021.

4.2 Managing Demand

4.2.1 In order to further encourage sustainable travel and reduce reliance on the private car for travel to and from the site, appropriate travel plan initiatives will be implemented. A single 'travel plan strategy' which has already been prepared (and submitted as part of the planning application) will overarch future operational travel plans.

4.2.2 The travel plan will monitor the manner in which people travel to and from the site and will, where appropriate, set a number of targets in order to reduce the use of the private car. The targets and travel modal split associated with each site use would be reviewed and updated when required.

4.2.3 A summary of the Travel Plan Strategy and possible measures are included in **Appendix C**.

4.3 Enabling Highway Proposals

A59 Clitheroe Road – Proposed Roundabout Layout

4.3.1 As shown in the master plan, supplied by IBI Taylor Young, a new roundabout is proposed at the A59 / Pendle Road / Clitheroe Road junction to replace the current staggered priority arrangement. The preliminary design for the proposed roundabout is illustrated in **Plan 7.** As mentioned in Section 3 this is included not just to enhance vehicular capacity, but also in response to requests from the existing community to address concerns over road safety.

Proposed Vehicular Access Layout

4.3.2 The main vehicular access to the development land will be via Pendle Road to the north of the site and will be via a new roundabout. A preliminary mini-roundabout design for the access has been developed and is shown in **Plan 8.**

4.3.3 A secondary vehicular access will be provided to the west onto Littlemoor. It is intended that the use of that access will be restricted to emergency access, buses, pedestrians and cyclists. A layout of that access is attached as **Plan 9**.

Worston Old Road

4.3.4 It can be seen from the site Masterplan that the area identified for employment uses is someway distant from the main site access on Pendle Road. In order that this area of employment can potentially come forward as an early phase of development it is proposed that a temporary access be constructed into that area from Worston Old Road. Until such times as the main site highway infrastructure penetrates into the site and reaches the employment area, the Worston Old Road temporary access could service the employment area. Thereafter the access could be retained as an emergency access if thought beneficial by the local Highway Authority. The long term position may be to have that access serve as a pedestrian & cycle access on to WorstonOld Road.

4.4 Movement Networks

Access Strategy and Road Hierarchy

4.4.1 A primary route is envisaged from the access at Pendle Road with local routes branching off through the proposed development. The on-site highway infrastructure should be developed with a clear hierarchy in place and in accordance with the recommendations contained with the Manual for Streets (DfT, 2007), its companion guide Manual for Streets 2 - Wider Application of the Principles (DfT, 2010) and the

Lancashire County Council document 'Creating Civilised Streets, Policy and Design Guidance' (LCC, 2010).

4.4.2 The on-site secondary highway network should be considered as 'streets' and designed as such. There will be an emphasis on people and their movement and fulfil three key movement functions. These are:-

1. Pedestrian and vehicle circulation
2. Access to buildings
3. Public space for human interaction and sociability

4.4.3 It has long since been accepted that there is a short and long-term requirement to utilise more sustainable transport modes, including the most sustainable modes of walking and cycling. Greater utilisation of sustainable transport modes would result in reduced congestion levels, improved local environments and healthier and safer lifestyles. With this philosophy in mind, cycling will be established as a high profile mode of transport through the site and beyond. This will be achieved through the provision of direct, high quality facilities along the proposed principal road network. The cycle network would provide linkages between key on-site proposals, and on to other amenities in Clitheroe. The development layout will also be designed to accommodate bus routes through the site to maximise the potential for their use.

4.4.4 Safe and convenient access to the principal cycle and highway network from residences will be facilitated through the provision of secondary cycle facilities through the residential areas including cycle only linkages where appropriate. The introduction of 20 mph zones in new residential areas will be considered to promote the use of safe cycling. This will also often negate the need for segregated cycle facilities within residential areas.

4.4.5 The scale of the site means that the principal cycle route network will also form the backbone of the pedestrian network.

Cycle and Pedestrian Routes

4.4.6 The concept of development on the site and the design philosophy adopted are to create a mixed-use extension of Clitheroe to encourage the use of sustainable travel modes. Jobs, school places, shops, leisure uses and community facilities are accessible by walking and cycling.

4.4.7 The benefits of mixed-use development will be complemented by on-site high quality pedestrian and cycle networks.

4.4.8 Cycle routes will provide direct linkages and cycle stands/lockers will also be provided at the amenity centre and employment uses. The travel plan strategy (described previously) will promote further measures to encourage cycle use.

4.5 Trip Generation

4.5.1 As explained previously, the proposals for which planning consent is sought ('the Current Scheme'), are smaller than those considered by the historic RH work.

4.5.2 The traffic generation and corresponding trip rates for the current scheme are presented in Table 4.1. In the interests of both robustness and to provide an indication of the traffic generation associated with the whole site, the traffic generation makes provision for traffic associated with the primary school. Although the school is not being applied for, the land is proposed to be set aside for that use. Trip rates have been extracted from the TRICS database for similar type and characteristic developments. Daily trip rates have also been included. The relevant TRICS output is included at **Appendix D**.

Table 4.1: Development Traffic Generation – Current Scheme (No discounts)

Land Use	Time Period	Trip Rate			Vehicles		
		Arrive	Depart	Total	Arrive	Depart	Total
Residential (1040 Units)	0800–0900	0.148	0.453	0.601	154	471	625
	1700–1800	0.417	0.214	0.631	434	223	657
	Daily	3.991	3.850	7.841	4151	4004	8155
Employment (5,575 sq m)	0800–0900	2.313	0.210	2.523	129	12	141
	1700–1800	0.195	2.012	2.207	11	112	123
	Daily	6.463	6.056	12.519	360	338	698
Primary School (c. 420 Pupils)	0800–0900	0.358	0.268	0.626	150	113	263
	1700–1800	0.010	0.026	0.036	4	11	15
	Daily	0.798	0.792	1.590	335	333	668
Total Development	**AM Peak**				**433**	**596**	**1029**
	PM Peak				**449**	**346**	**794**
	Daily				**4846**	**4675**	**9521**

4.5.3 In order to reflect the benefits of the proposed travel plan and the presence of internalised trips (resultant from the proposed mixed land use and scale of proposals), discounts are proposed to the total traffic generation set out in Table 4.1.

4.5.4 The travel plan and internalised trip discounts are set out in Table 4.2. It has been estimated that half of the primary school pupils would originate from within the site with the remaining half originating from the existing residential areas of Clitheroe. That is in line with the EIA which confirms that an additional 1,040 homes could create a demand for about an additional 210 to 280 primary school places.

Table 4.2 also recognises that Travel Plans are generally more effective for employment uses than for residential uses.

Table 4.2: Traffic Generation Discounts

Proposed Land Use	Travel Plan Discount	Internalisation Discount
Residential	5%	7%
Employment	10%	10%
Primary School	-	50%

Overall Traffic Generation

4.5.5 The resultant traffic generation adopted in the highway capacity assessment work presented in Section 5 is summarised in Table 4.3.

Table 4.3: Combined Residential, School and Employment Vehicular Trip Generation

Land Use	Time Period	Vehicles		
		Arrive	Depart	Total
Residential (1040 Units)	0800–0900	136	416	552
	1700–1800	383	197	580
	Daily	3667	3538	7205
Employment (5,575 sq m)	0800–0900	104	9	114
	1700–1800	9	91	100
	Daily	292	273	565
Primary School (c. 420 Pupils)	0800–0900	75	56	131
	1700–1800	2	5	8
	Daily	168	166	334
Total Development	**AM Peak**	**316**	**482**	**798**
	PM Peak	**394**	**293**	**687**
	Daily	**4127**	**3977**	**8104**

Multi-Modal Travel Generation

4.5.6 Existing journey to work information has been extracted from the 2001 Census Special Workplace Statistics (Littlemoor Ward). The assessment has been undertaken on the basis that the future site residents (and workers) movement patterns will broadly mirror the existing commuter trends. The modal split has been applied to the most significant proposed land uses (residential and employment) traffic generations to provide an indication of total trip volumes.

4.5.7 Table 4.4 includes an estimate of total travel associated with the residential element of the development proposals.

Table 4.4: Residential Use Multi-Modal Trip Generation

		AM Peak Hour			PM Peak Hour			Daily		
	Census Modal Share	Arrivals	Departures	Total	Arrivals	Departures	Total	Arrivals	Departures	Total
Driving car or van	**58.10%**	**136**	**416**	**552**	**383**	**197**	**580**	**3667**	**3538**	**7205**
Passenger in a car or van	7.10%	17	51	**67**	47	24	**71**	448	432	**880**
Public Transport	4.00%	9	29	**38**	26	14	**40**	252	244	**496**
Taxi or Minicab	0.30%	1	2	**3**	2	1	**3**	19	18	**37**
Motorcycle, scooter or moped	1.20%	3	9	**11**	8	4	**12**	76	73	**149**
Bicycle	4.30%	10	31	**41**	28	15	**43**	271	262	**533**
On foot	25.00%	59	179	**238**	165	85	**250**	1578	1522	**3100**
Totals	**100%**	**234**	**716**	**950**	**659**	**339**	**998**	**6312**	**6090**	**12401**

4.5.8 Table 4.4 suggests that less than 60% of residential travel generation is car (or van) driver trips with more sustainable travel modes equating to the remaining c. 40%. These sustainable mode proportions demonstrate the importance of making adequate provision to accommodate such trips within the site layout.

4.5.9 Table 4.5 presents the corresponding estimate of employment total travel associated with the development proposals.

Table 4.5: Employment Use Multi-Modal Trip Generation

		AM Peak Hour			PM Peak Hour			Daily		
	Census Modal Share	**Arrivals**	**Departures**	**Total**	**Arrivals**	**Departures**	**Total**	**Arrivals**	**Departures**	**Total**
Driving car or van	**60.30%**	**104**	**9**	**114**	**9**	**91**	**100**	**292**	**273**	**565**
Passenger in a car or van	6.70%	12	1	**13**	1	10	**11**	32	30	**63**
Public Transport	6.30%	11	1	**12**	1	9	**10**	30	29	**59**
Taxi or Minicab	1.10%	2	0	**2**	0	2	**2**	5	5	**10**
Motorcycle, scooter or moped	0.00%	0	0	**0**	0	0	**0**	0	0	**0**
Bicycle	2.40%	4	0	**5**	0	4	**4**	12	11	**23**
On foot	23.30%	40	4	**44**	3	35	**39**	113	106	**218**
Totals	**100%**	**173**	**16**	**189**	**15**	**151**	**165**	**484**	**454**	**938**

4.5.10 Table 4.5 demonstrates that the modal share associated with proposed employment uses is broadly in line with the residential modal share presented previously in Table 4.5. Again approximately 60% of travel is expected to be car driver trips with more sustainable travel modes equating for the remaining 40%.

4.5.11 Table 4.1 shows that the school will generate 150 arriving vehicles in the AM peak hour. These vehicles have been added into the numerical assessments later in this report. It is not possible to obtain Multi Modal school trip splits from Journey to Work census statistics but clearly the remainder of the trips to school would be by sustainable modes. To reiterate, the school itself is not part of the proposal but its traffic has been included in the assessment to ensure adequate highway provision.

5 TRAFFIC IMPACT ASSESSMENT

5.1 Scope of Section

5.1.1 This section provides an assessment of traffic impact on the local highway in the vicinity of the site.

5.2 Local Highway Network Assessment Area

5.2.1 For the purpose of this Transport Assessment the junctions included in the assessment are as follows:

1. A59 / Pendle Road / Clitheroe Road (existing staggered crossroad / proposed roundabout junction)
2. A59 / Whalley Road (roundabout junction)
3. Proposed site access - Pendle Road (mini roundabout junction)
4. Waterloo Road / Wellgate (priority controlled junction)
5. Shawbridge Street / Taylor Street (priority controlled junction)
6. Waterloo Road / Shawbridge Street (mini-roundabout junction)
7. Pendle Road / Goosebutts Lane (priority controlled junction)
8. Pendle Road / Hayhurst Street (priority controlled junction)

5.3 Assessment Years

5.3.1 In order for the development proposals to be realised, the site will be taken through the planning application process and constructed on a phased basis. It is likely that the development may commence by 2015 and would be fully operational by 2028. The years of 2015 and 2030 have therefore been used as the basis for the highway capacity assessment work.

5.3.2 Background traffic has been calculated for 2015 and 2030 using TEMPRO and the National Traffic Model (NTM). TEMPRO includes information from the National Trip End

Model (NTEM) and makes the adjustment for local conditions within the program. The resultant growth rates are summarised in Table 5.1.

Table 5.1: TEMPRO Growth Factors

Year	TEMPRO Outputs	
	AM Peak Hour	PM Peak Hour
2010 – 2015	1.025135	1.027443
2010 – 2030	1.258844	1.271046

5.3.3 **Figures 3** to **6** show the resultant background AM and PM peak hour traffic flows for the 2015 opening year and 2030 future year. The TEMPRO calculations are included at **Appendix E**.

5.4 Committed Development Traffic

5.4.1 At the time of writing this report, SBA are aware of two recent planning consents for residential schemes in Clitheroe which may have a material leaning on traffic in the assessment area, one is the land off Primrose Road consisting of 170 residential units and the second is a further development comprising of 270 dwelling on the land off Henthorn Road.

5.4.2 The trip generation and trip distribution for the two developments is available from the Transport Assessments which were submitted with their respective planning applications. (Waterman Boreham KY/BD/J207709, Ashley Helme Associates 1222/3/B/TA). These have been used to establish the committed development traffic. These base year flows are illustrated in **Figures 7 to 10.**

5.4.3 The traffic associated with both of these committed developments has been included in all future year assessments. However it should be noted that TEMPRO growth rates include future traffic generation associated with land allocations and hence some future development. Therefore, committed development traffic will already be provided for in the highway assessments to some extent. The Primrose Road and Henthorn Road development traffic is the most relevant to the local highway study area and have been specifically taken into account on the basis that these developments would result in assessment period development traffic at the A59 / Whalley Road roundabout.

5.4.4 Other committed residential schemes have been deemed to be remote from the study area and would not result in any significant traffic increases on the local highway network examined in this transport assessment.

5.4.5 "Base including committed development" traffic flows for 2015 and 2030 are included as **Figures 11 - 14**.

5.5 Traffic Distribution of Residents of Clitheroe

5.5.1 The distribution of development traffic is in accordance with the historic RH report and the EIA which has been submitted in support of the proposals.

5.5.2 The RH Transport Appraisal used National Census Data from 2001 for the electoral wards that form Clitheroe. The data provides the ward that the person lives in and the area / ward that the person travels to for work. The mode of transport can also be selected. Travel by car has been examined to establish vehicle distribution on the network. For the purpose of this exercise, journeys made by car from Littlemoor, Primrose, Salthill, Edisford and Low Moor and St. Mary's wards have been selected, travelling to wards within the Ribble Valley, the North West and further afield areas such as Cumbria and Yorkshire.

5.5.3 The subsequent routes were worked out by using a route planner from a central point of the ward to the destination (e.g. those travelling to work in Blackburn would use the A59 southbound).

5.5.4 Table 5.2 presents the main routes and areas that are travelled to for people living in Clitheroe. This information has been used to calculate the trip distribution of the residential aspect of the development.

Table 5.2: Distribution of Trips

Area / Route	Littlemoor	Primrose	Salthill	St.Mary's	Edisford and Low Moor	Average
A59 South	53%	41%	48%	43%	42%	45%
A59 North	7%	6%	8%	10%	6%	7%
B6478	1%	3%	4%	3%	2%	3%
Littlemoor Ward	10%	4%	3%	4%	4%	5%
Salthill Ward	14%	18%	17%	15%	14%	16%
Primrose Ward	6%	11%	4%	4%	6%	6%
Edisford and Low Moor Ward	1%	2%	2%	1%	9%	3%
St Mary's Ward	8%	11%	8%	14%	11%	10%
Clitheroe Road	0%	1%	1%	0%	0%	0%
B6243	0%	1%	3%	3%	4%	2%

5.5.5 As the site is located in Littlemoor ward, the results for that ward have been taken as a proxy for journeys made by residents of the proposed development.

5.5.6 It can be seen from the journey to work data that the majority (60%) of trips to work use the A59 with very few passing through the town centre. Consequently locating the proposed development to the east of Clitheroe minimises the vehicular impact on the town as 60% of journeys to and from work trips would travel to the A59 without the need to pass through the town in both the morning and evening peaks.

5.5.7 It can therefore be concluded that a proposed site situated close to the A59 would be well located for journeys to work.

5.5.8 The residential distribution is shown on **Figure 15** and the census data is attached at **Appendix F.** AM and PM peak hour residential development traffic is shown on **Figures 16** and **17.**

5.6 Traffic Distribution to Employment in Clitheroe

5.6.1 The RH report used National Census Data from 2001 for people working in the Littlemoor ward in Clitheroe and travelling to work from the surrounding wards and local authorities. The distribution of trips to the site was calculated based on this census data.

5.6.2 The subsequent routes were worked out using a route planner from a central point of the ward to the destination (e.g. those living in Blackburn would use the A59 northbound to the Littlemoor ward).

5.6.3 Table 5.3 presents the main routes and areas that people travel to work in the Littlemoor ward. This information has been used to calculate the trip distribution of the employment aspect of the development.

Table 5.3: Distribution of Employment Trips

Area / Route	Littlemoor Ward
A59 South	39%
A59 North	12%
B6478	6%
Littlemoor Ward	12%
Salthill Ward	6%
Primrose Ward	7%
Edisford and Low Moor Ward	7%
St Mary's Ward	6%
Clitheroe Road	1%
B6243	4%

5.6.4 The above employment trip distributions have been applied to the employment generated trips.

5.6.5 It can be seen from the journey to work data that a high proportion of trips to the Littlemoor Ward would be travelling on the A59 north or south (51%). Only 12% of employment trips to Littlemoor would cross the town centre.

5.6.6 The employment distribution is shown on **Figure 18** and the census data is attached at **Appendix G.** AM and PM peak hour employment development traffic is shown on **Figures 19** and **20.** Primary school traffic is presented as **Figures 21** and **22.**

5.7 Material Impacts

Percentage Impact Assessment

5.7.1 Tables 5.4 and 5.5 below summarise the 2030 AM and PM peak hour percentage change to the two-way flow on various links on the surrounding highway network. They have been determined by comparison of the base traffic flows to the increases in traffic on these links arising from the (completed) development proposals.

Table 5.3: 2030 Percentage Impact Assessment - AM Peak Hour

	2030 Link Flow - AM Peak Hour			
Road	**No Development**	**With Development**	**Change**	**Percentage Change**
Whalley Road	1601	1601	0	0.0%
A59 South	3413	3800	388	10.2%
A59 North	1610	1678	68	4.0%
Clitheroe Road	490	492	2	0.5%
Pendle Road Adjacent to A59	811	1269	458	36.1%
Pendle Road West of Proposed Site Access	835	1173	338	28.8%
Shawbridge Street	891	1115	224	20.1%
Waterloo Road South	1022	1159	138	11.9%
Waterloo Road North	1368	1454	86	5.9%

Table 5.6: 2030 Percentage Impact Assessment - PM Peak Hour

	2030 Link Flow - PM Peak Hour			
Road	**No Development**	**With Development**	**Change**	**Percentage Change**
Whalley Road	1750	1750	0	0.0%
A59 South	3535	3884	349	9.0%
A59 North	1596	1650	53	3.2%
Clitheroe Road	441	442	1	0.2%
Pendle Road Adjacent to A59	754	1157	404	34.9%
Pendle Road West of Proposed Site Access	754	1037	283	27.3%
Shawbridge Street	924	1110	186	16.8%
Waterloo Road South	1189	1307	118	9.0%
Waterloo Road North	1542	1576	34	2.1%

5.7.2 The percentage increases are greatest on Pendle Road as a result of the proposed site access location.

5.7.3 Highway capacity assessments for the links and component junctions of the roads summarised in table 5.3 and 5.4 have been undertaken and are summarised in Section 5.7.

5.8 Highway Capacity Assessment

Junction Assessment

5.8.1 Junction assessments have been undertaken using the UK Department for Transport's, ARCADY (Assessment of Roundabout Capacity and Delay) and PICADY (Priority Intersection And Delay) program. The key junction performance indicators presented in subsequent sections are 'Ratio of Flow to Capacity' (RFC), values and queue lengths.

5.8.2 The RFC value determines the extent to which the level of traffic at a junction arm approaches capacity. An RFC value of 1.0 indicates that the arm of the junction is operating at capacity.

5.8.3 2015 base plus development assessment flows are included as **Figure 21** for the AM peak hour and **Figure 22** for the PM peak hour. The corresponding 2030 flows are presented as **Figures 23 and 24**.

5.8.4 A summary of the junction assessments is included at **Appendix H**. The junction assessment outputs for the junctions considered are included in the following appendices:

Appendix I - A59 / Pendle Road / Clitheroe Road (existing staggered crossroad / proposed roundabout junction)

Appendix J - A59 / Whalley Road (roundabout junction)

Appendix K - Proposed site access - Pendle Road (mini roundabout junction)

Appendix L - Waterloo Road / Wellgate (priority controlled junction)

Appendix M - Shawbridge Street / Taylor Street (priority controlled junction)

Appendix N - Waterloo Road / Shawbridge Street (mini-roundabout junction)

Appendix O - Pendle Road / Goosebutts Lane (priority controlled junction)

Appendix P - Pendle Road / Hayhurst Street (priority controlled junction)

5.8.5 Headline results for the busiest approaches at each junction are set out in table 5.7. The junction assessments indicate that all of the junctions within the study area would operate well within acceptable capacity limits following the development of the site with the exception of the Shawbridge Street / Waterloo Road mini-roundabout junction.

Table 5.7: Junction Performance Summary (Highest RFC / Queue)

Junction	Assessment Scenario	2015				2030			
		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
		RFC	Queue	RFC	Queue	RFC	Queue	RFC	Queue
A59 / Pendle Road / Clitheroe Road	Base	0.76	3	0.75	3	1.161	32	1.137	30
	Base + Development	0.77	3	0.58	1	0.94	11	0.73	3
A59 / Whalley Road	Base	0.64	2	0.72	2	0.79	4	0.88	7
	Base + Development	0.7	2	0.83	5	0.88	7	1	35
Proposed site access - Pendle Road	Base								
	Base + Development	0.86	6	0.64	2	0.94	12	0.74	3
Waterloo Road / Wellgate	Base	0.26	0	0.48	1	0.39	1	0.77	3
	Base + Development	0.28	0	0.49	1	0.42	1	0.81	4
Shawbridge Street / Taylor Street	Base	0.18	0	0.17	0	0.22	0	0.24	0
	Base + Development	0.32	1	0.26	0	0.37	1	0.32	0
Waterloo Road / Shawbridge Street	Base	0.71	2	0.73	3	0.95	13	1.01	21
	Base + Development	0.95	13	0.90	8	1.22	98	1.25	114
Pendle Road / Goosebutts Lane	Base	0.16	0	0.1	0	0.7	0	0.14	0
	Base + Development	0.26	0	0.12	0	0.33	0	0.16	0
Pendle Road / Hayhurst Street	Base	0.21	0	0.17	0	0.28	0	0.14	0
	Base + Development	0.24	0	0.2	0	0.31	0	0.27	0

5.8.6 This junction would be operating at capacity in 2030 even without the development proposals. The junction assessment forecasts that Shawbridge Street would be operating with an RFC of 1.01 and a corresponding queue of 21 vehicles during the PM Peak hour. The southbound approach of Waterloo Road is also predicted to be approaching capacity during the PM peak hour (RFC of 0.99, queue of 27 vehicles). In the "with development" tests the junction becomes overloaded by 22% i.e. an RFC of 1.22 in the AM peak and by 25% in the PM peak.

5.8.7 At this point of the planning process it is not known whether local Highway Authority and Planning Authority would deem that future level of operation could be acceptable. The NPPF places a test of "severe" as the test of acceptability. When one considers that many town centres across the UK experience congestion in the peak period, it is debateable whether this one overloaded junction constitutes a "severe impact" when one considers the quantum of development being delivered and the fact that if development was to be realised elsewhere within Clitheroe significantly greater town centre impacts would ensue.

5.8.8 As it is not known at this juncture whether the future operation of Shawbridge Street as assessed would be acceptable to the Highway Authority, this report sets out a potential improvement at that junction.

5.8.9 That possible improvement for the Shawbridge Street / Waterloo Road mini-roundabout has been prepared and included as **Plan 10** and is tested in the following section.

Shawbridge Street / Waterloo Road – Sensitivity Test

5.8.10 To model that potential improvement sensitivity test scenario has been undertaken for the existing and improved Shawbridge Street / Waterloo Road mini-roundabout junction (supporting information included at **Appendix Q)**. This is considered appropriate as it is likely that driver habit would alter in response to any localised traffic congestion. In particular route choice may alter. The sensitivity assessment assumes for development traffic that a flat traffic arrival profile would occur across the assessment hour to reflect congested highway conditions and in terms of just development traffic:

<u>Residential Distribution</u>

- 50% of development residential traffic travelling to/from Primrose Ward is routed via Hayhurst Street or Goosebutts Street.
- All residential traffic travelling to/from Littlemoor Ward routes via Hayhurst Street or Goosebutts Street.

<u>Employment Distribution</u>

- Employment Distribution - 50% of traffic travelling to Primrose Ward routes via Hayhurst Street or Goosebutts Street.

5.8.11 The results of the sensitivity assessments show that following improvement, junction operation would be broadly in line with the base 'no development' assessment scenario. The higher corresponding 2030, PM peak hour junction performance indicators for Shawbridge Street are an RFC of 1.05 and queue of 32 vehicles. The southbound approach of Waterloo Road is predicted to operate with a lower RFC and queue length than compared to the base scenario.

Link Assessment

5.8.12 At the public consultation, members of the public expressed concern over the ability of the roads (rather than the junctions) to accommodate the development traffic. The link capacity of the surrounding local highway network has therefore been assessed. The majority of the surrounding road network is subject to a speed limit of 30 mph and is therefore considered to be urban in terms of its link capacity. TA79/99 gives the capacity of urban roads. The one-way capacity would vary between approximately 1100-1500 veh/hour depending on the specific road classification, speed limit, number of accesses per km, crossing points etc.

5.8.13 A summary of the peak period and development traffic flows on the local highway network is included in Table 5.8 for the AM peak hour and in Table 5.9 for the PM peak hour. The higher 2030 flows have been presented.

Table 5.8: 2030 Link Flow Assessment - AM Peak Hour

		2030 Link Flow - AM Peak Hour	
Road	**Direction**	**No Development**	**With Development**
Whalley Road	Eastbound	838	838
	Westbound	807	807
Clitheroe Road	Eastbound	258	258
	Westbound	232	235
Pendle Road Adjacent to A59	Eastbound	370	635
	Westbound	441	686
Pendle Road West of Proposed Site Access	Eastbound	394	600
	Westbound	441	621
Shawbridge Street	Eastbound	436	575
	Westbound	456	573
Waterloo Road South	Northbound	497	577
	Southbound	525	601
Waterloo Road North	Northbound	667	667
	Southbound	701	760

Table 5.9: 2030 Link Flow Assessment - PM Peak Hour

Road	Direction	No Development	With Development
Whalley Road	Eastbound	788	788
	Westbound	1076	1076
Clitheroe Road	Eastbound	248	250
	Westbound	193	193
Pendle Road Adjacent to A59	Eastbound	365	603
	Westbound	389	634
Pendle Road West of Proposed Site Access	Eastbound	365	532
	Westbound	389	579
Shawbridge Street	Eastbound	496	605
	Westbound	428	556
Waterloo Road South	Northbound	486	556
	Southbound	703	778
Waterloo Road North	Northbound	696	696
	Southbound	846	851

5.8.14 The above tables clearly show that traffic flows will be well below the link capacity of the roads in the network. Put simply, local roads can accommodate the development traffic, even under peak conditions in the year 2030.

5.9 Highway Capacity Conclusion

5.9.1 The junction capacity assessments undertaken indicate that the junctions considered on the local highway network will operate within acceptable capacity limits following the development of the site. This is with the exception of the Shawbridge Street / Waterloo Road (A671) mini roundabout which is forecast to exceed capacity in the 2030 assessment scenarios. That may be deemed acceptable given that congestion is not a uncommon peak hour phenomenon and in the context of the NPPF test of acceptability i.e. is it severe?

5.9.2 It should be noted that by virtue of the site location which is proximate to the A59, significantly less traffic would travel through this junction than that associated with a similar level of proposed residential development anywhere further west within Clitheroe.

5.9.3 Nevertheless, for consideration, a possible junction improvement scheme in this location has been presented which mitigates the peak hour impact.

5.9.4 Therefore, it is concluded that the local highway network will accommodate the development proposals.

6 CONCLUSIONS

6.1.1 Ribble Valley Borough Council has resolved to promote the land as its Strategic Site in the Submission version of the Draft Core Strategy. The site would provide 75% of the Council's housing requirement for Clitheroe (total requirement 1380) and 38% of the 4000 homes it needs to provide Borough wide between 2008 and 2028 (Core Strategy plan period).

6.1.2 Royal Haskoning prepared a Transport Appraisal in November 2010 to provide an initial investigation into the transport implications of the development of Higher Standen Farm for a residential led mixed use scheme. Their work assumed that the development content would comprise 1377 residential units and 16,680 sq m of employment floor space (i.e. larger than the scheme for which planning consent is sought). The RH study report concluded that the site is an appropriate and deliverable location for significant future development, in terms of highways, traffic and sustainable transport.

6.1.3 Hyder Consulting (UK) also undertook a Sustainability Appraisal of the Draft Core Strategy which concludes that the site would provide good access to amenities and jobs in Clitheroe, is close to the strategic transport network and would avoid the most environmentally sensitive areas of the borough.

6.1.4 SBA has been instructed by the Trustees of the Standen Estate to advise on the traffic and transportation issues relating to proposals for a predominantly residential mixed-use development on land within the Standen Estate, Clitheroe, Lancashire. The site is all within their sole ownership.

6.1.5 This Transport Assessment is prepared in support of a planning application which comprises:

- 1,040 residential dwellings (including: 728 market homes, 312 affordable homes, 156 of the total (1040) would be for elderly people (i.e. over 55 years of age) of which 78 would be affordable)
- 0.8ha to be reserved for retirement living within the total of 1040 homes;
- 0.5ha for local retail, service and community facilities;

- 2.25ha for employment (Class B1) accommodating up to a maximum gross floorspace of 5,575m2
- 2.1ha of land for a primary school site;
- Public open space including green corridors and areas for tree planting and landscaping

6.1.6 The planning application does not seek approval for access although access options have been identified and assessed to demonstrate the manner in which the site could be delivered.

6.1.7 The scale of the development proposals is such that it presents the opportunity to internalise trips and hence minimise the need to travel off-site.

6.1.8 This report has demonstrated that the proposed development would be accessible by non-car travel modes including walking, cycling and by public transport. The site is within an acceptable walking distance of many existing facilities including much of Clitheroe town centre. Moreover the site, including the employment uses, will be accessible on foot for existing Clitheroe residents.

6.1.9 The development proposals will create a high quality environment for sustainable travel modes which will provide a network of connections into and within the site for pedestrians, cyclists and public transport services.

6.1.10 The implementation of a Travel Plan Strategy for the site will seek to further reduce trips by the private car and encourage sustainable modes of travel to and from the site.

6.1.11 The vehicular trip distribution from the proposed development demonstrates that the majority of generated traffic will travel on the A59 during the peak periods. The proposed site is ideally located for trips using this route as they can access the A59 without travelling through Clitheroe, thus limiting the traffic impact to the town centre.

6.1.12 With reference to the Council's housing requirement to provide 1380 homes in Clitheroe it is the case that the proposed location, proximate to the A59, would minimise traffic increases further west in Clitheroe.

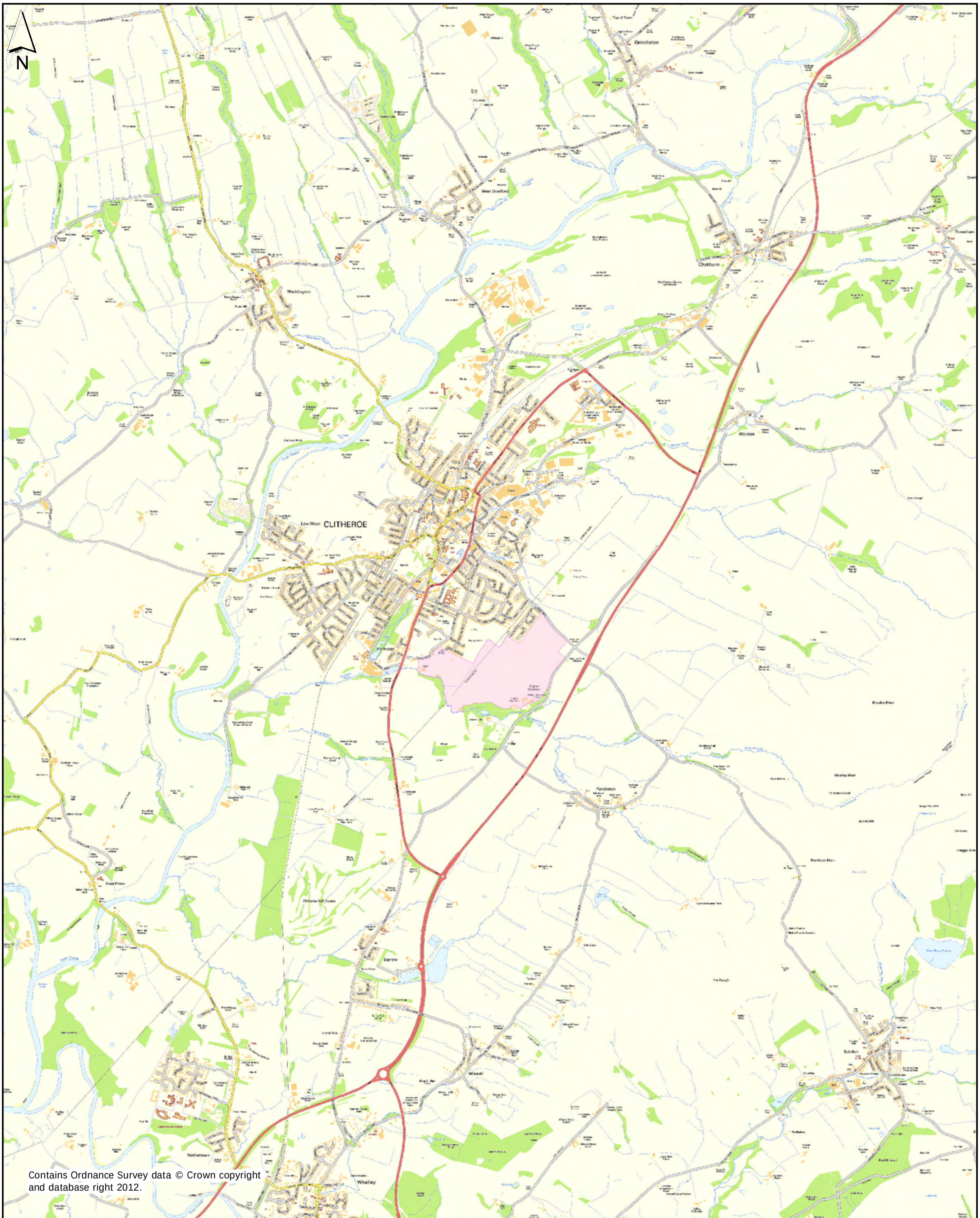
6.1.13 The junction capacity assessments undertaken indicate that all of the highway links and all but one of the junctions considered on the local highway network will operate within acceptable capacity limits in the year 2030 during peak period conditions following the development of the site. This exception is the Shawbridge Street / Waterloo Road (A671) mini roundabout which is forecast to exceed capacity in the year 2030 assessment scenarios. That peak hour congestion may be deemed to be acceptable given that peak hour congestion is a common town centre phenomenon and given the NPPF test of acceptability which is set at "severe". That said, a possible junction improvement scheme in this location has also been presented for consideration and mitigates the development impact.

6.1.14 The proposed development at Higher Standen Farm is well located to facilitate and promote sustainable travel, minimise traffic impact to Clitheroe town centre and is shown to have an acceptable traffic impact at junctions in the vicinity of the site.

6.1.15 The delivery of the development proposals would not give rise to any severe impacts. Therefore on the basis of the Government's NPPF there are no transport grounds on which the development should be prevented or refused.

Plans, Figures and Appendices

Plans



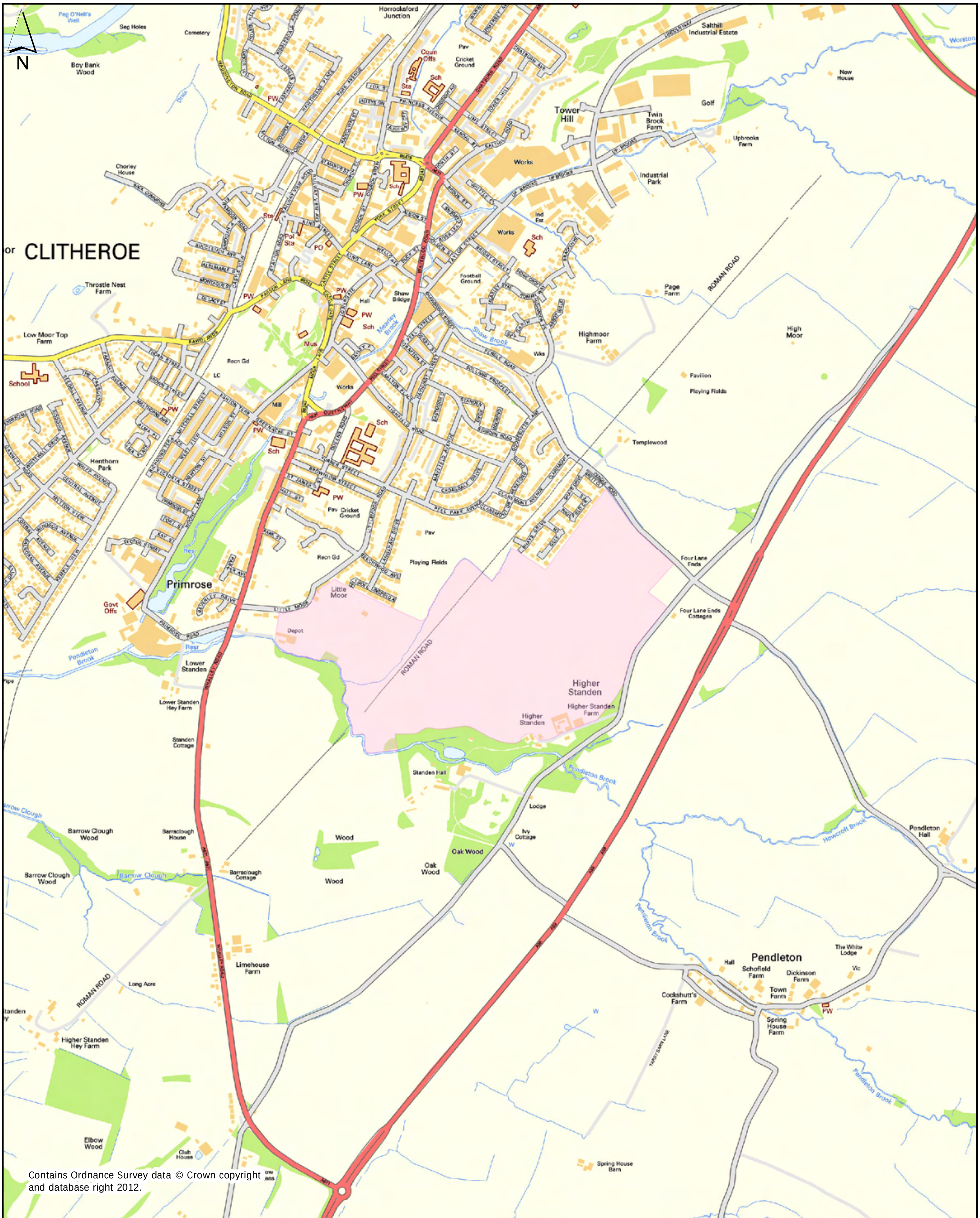
Proposed Development at Standen Estate Land Clitheroe

Site Location in General Context

Scale @ A4 1:40,000	Plan 1

Legend

Site Location



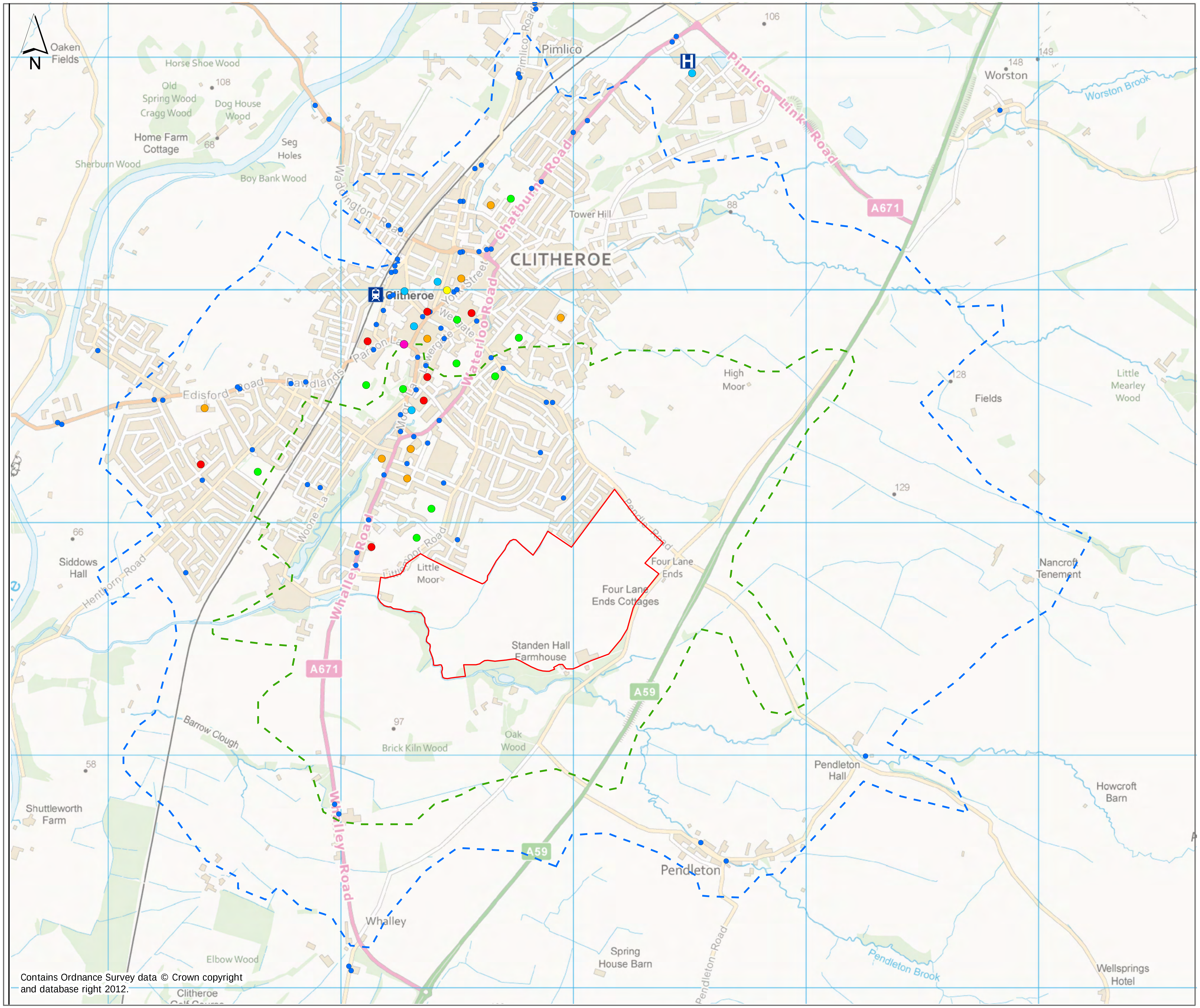
Proposed Development at Standen Estate Land Clitheroe

Site Location in Relation to Local Highway Network

Scale @ A4 1:15,000	Plan 2

Legend

Site Location



Legend

- Site Location
- 1km Pedestrian Catchment
- 2km Pedestrian Catchment
- Bus Stop
- Train Station
- Foodstores
- Sports and Leisure Facilities
- Library
- Post Office
- School
- Pharmacy
- Hospital

Note:
Distances are measured from site access points

Quay West at MediaCityUK
Trafford Wharf Road
Trafford Park
Manchester
M17 1HH

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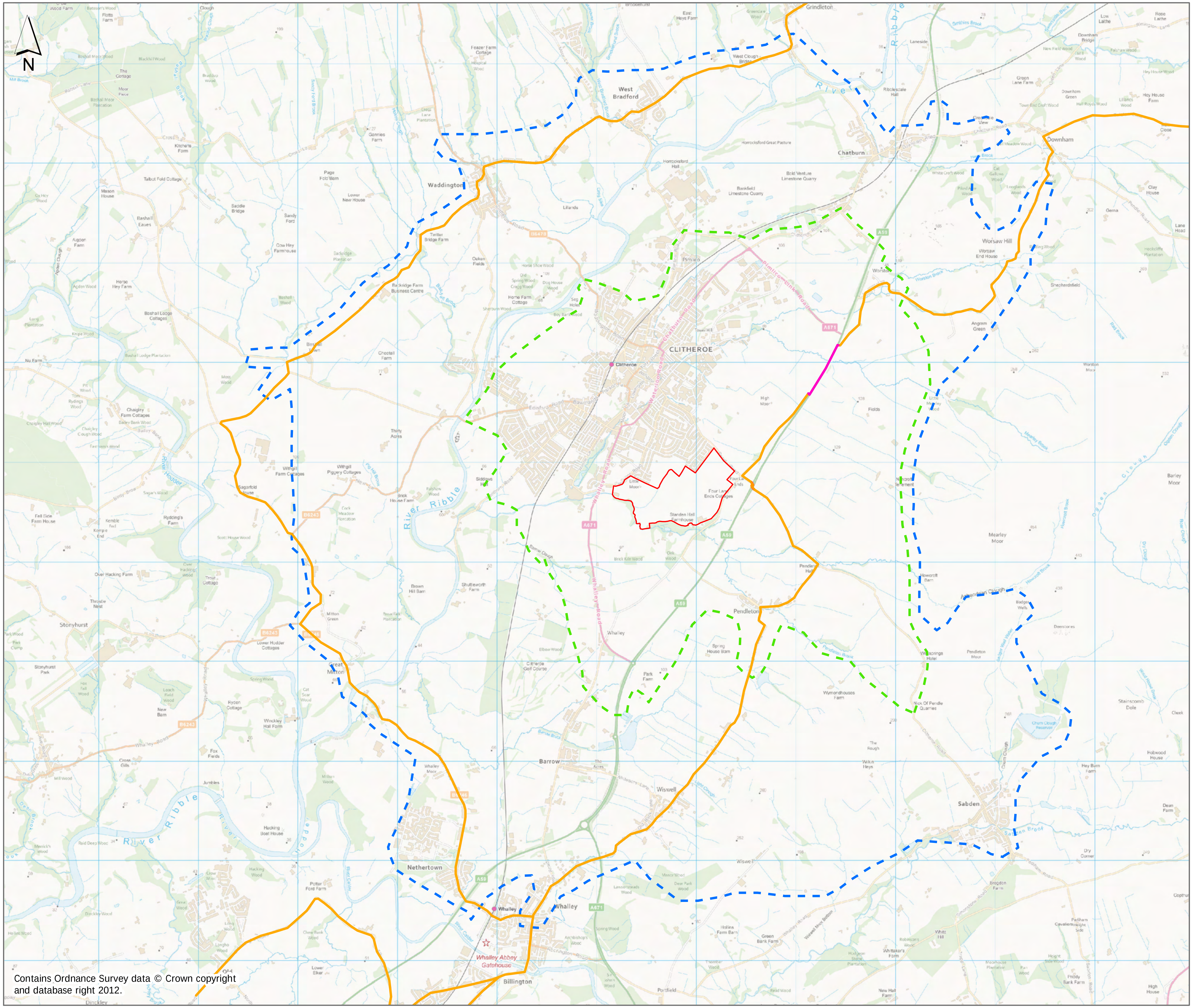
FAX: +44 (0)161 835 3400

Proposed Development at Standen Estate Land

Walking Catchments

Scale @ A3 1:15,000 | Plan 3



Legend

- Site Location
- 3km Cycle Catchment
- 5km Cycle Catchment
- On Road Cycle Route
- Traffic Free Cycle Route

Note:
Distances are measured from site access points

Quay West at MediaCityUK
Trafford Wharf Road
Trafford Park
Manchester
M17 1HH
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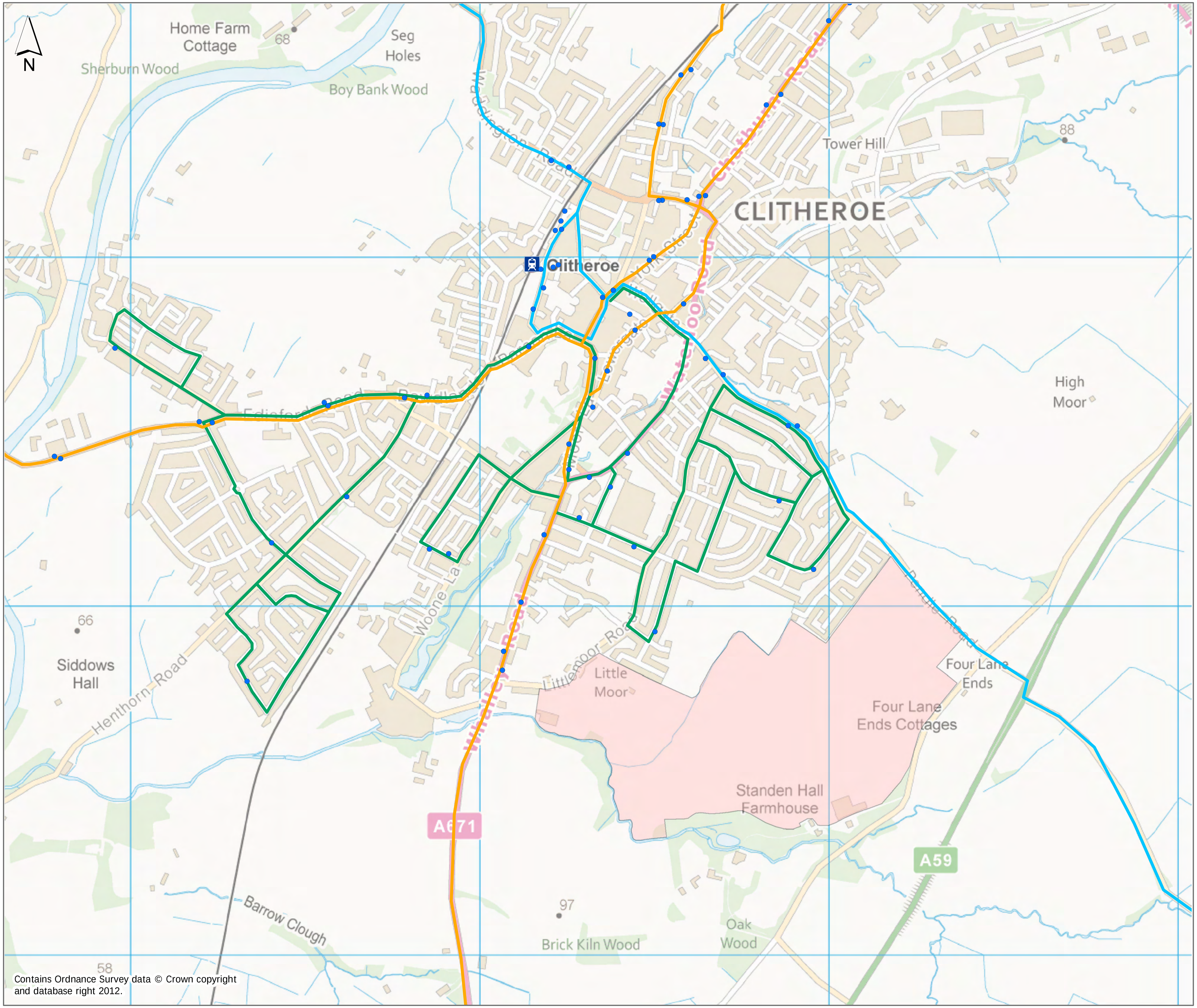
FAX: +44 (0)161 835 3400

Proposed Development at Standen Estate Land

Cycle Catchments

Scale @ A3 1:35,000	Plan 4



Legend

- Bus stop
- Train station
- C1, C4 bus route
- 70, 71 bus route
- Service Numbers: 5, 225, 331, 241, 280, X80, C2, C5, C15

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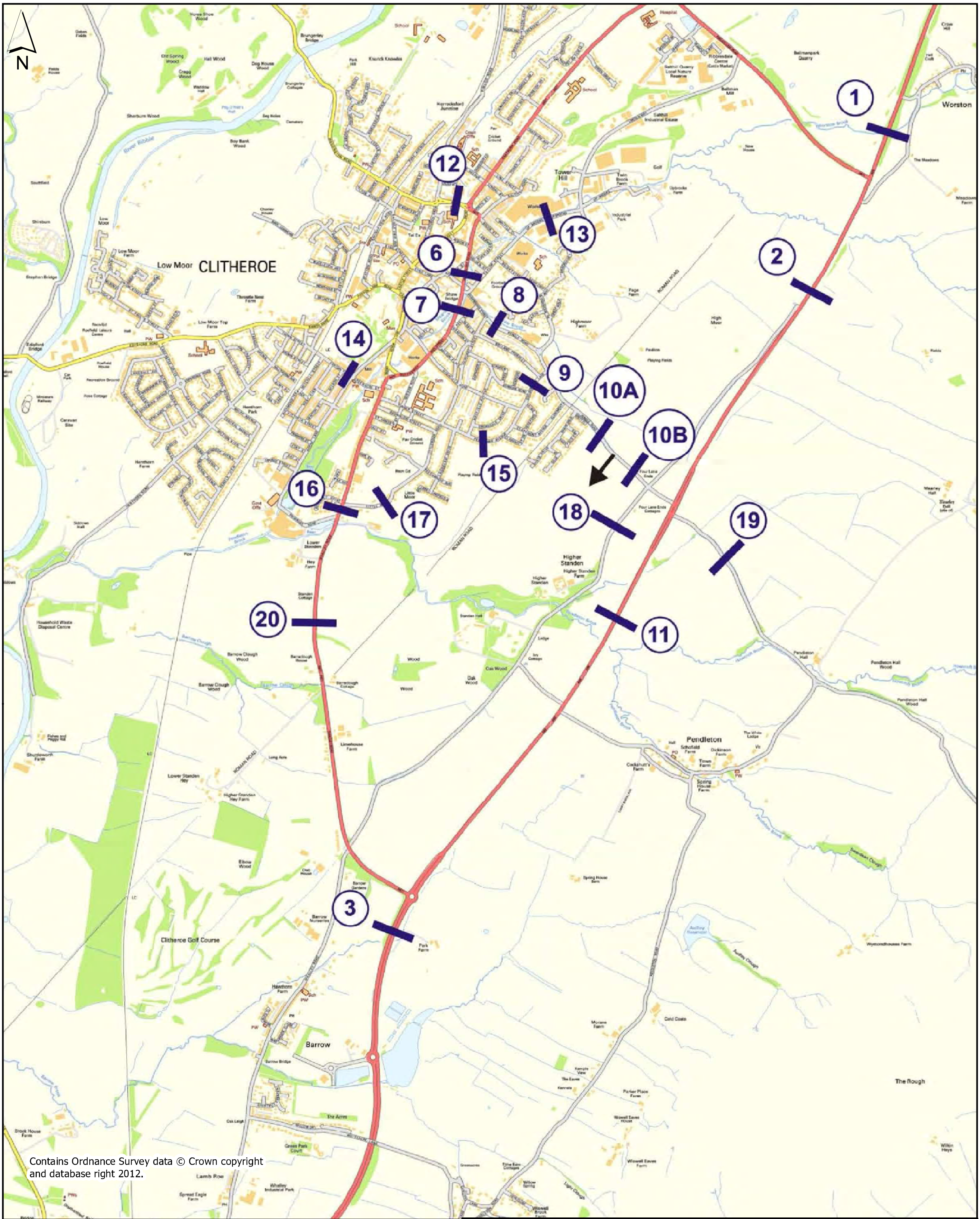
Proposed Development at Standen Estate Land

Existing Bus Services

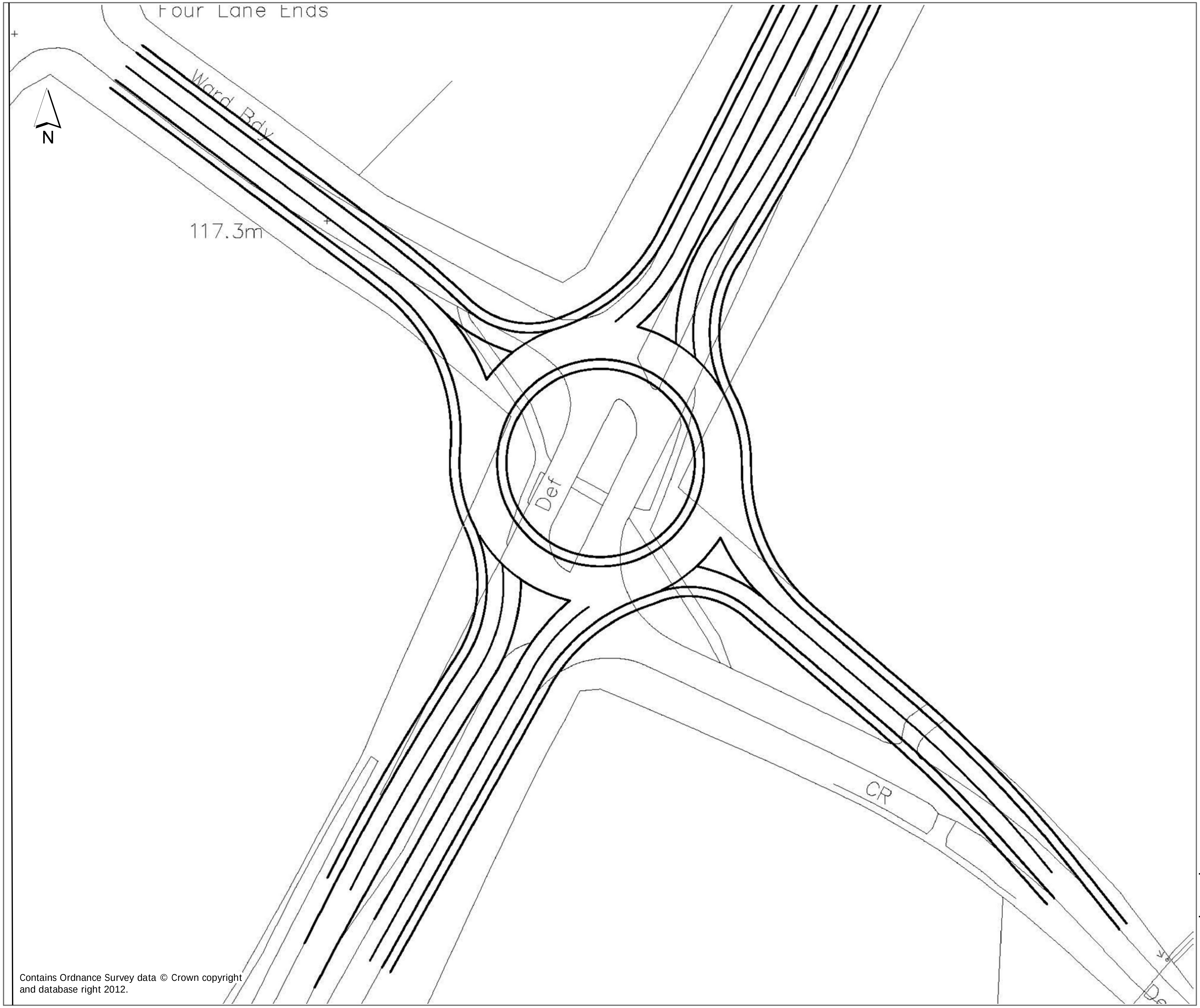
Scale @ A3 1:10,000	Plan 5



Proposed Development at Standen Estate Land

ATC Survey Locations

Scale @ A4 N.T.S.	Plan 6



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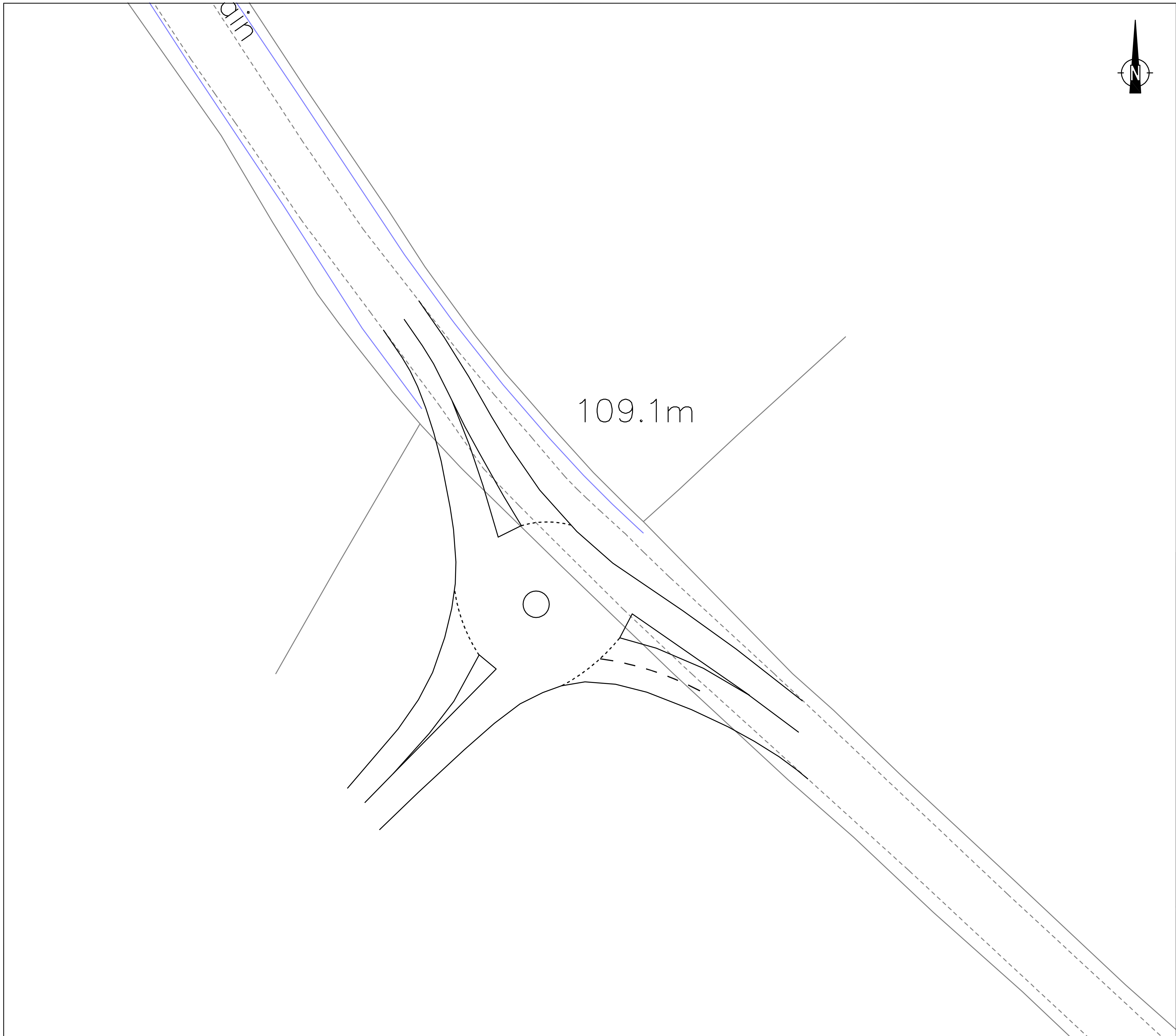
Proposed Development at Standen Estate Land

A59/Pendle Road Proposed Roundabout

N.T.S.	Plan 7



NOTES

REV	DETAILS	DRAWN	CHECKED	DATE

CLIENT:

Trustees of the Standen Estate

PROJECT:

Proposed Development at Standen Estate Land

DRAWING TITLE:

Proposed Site Access

SCALES:

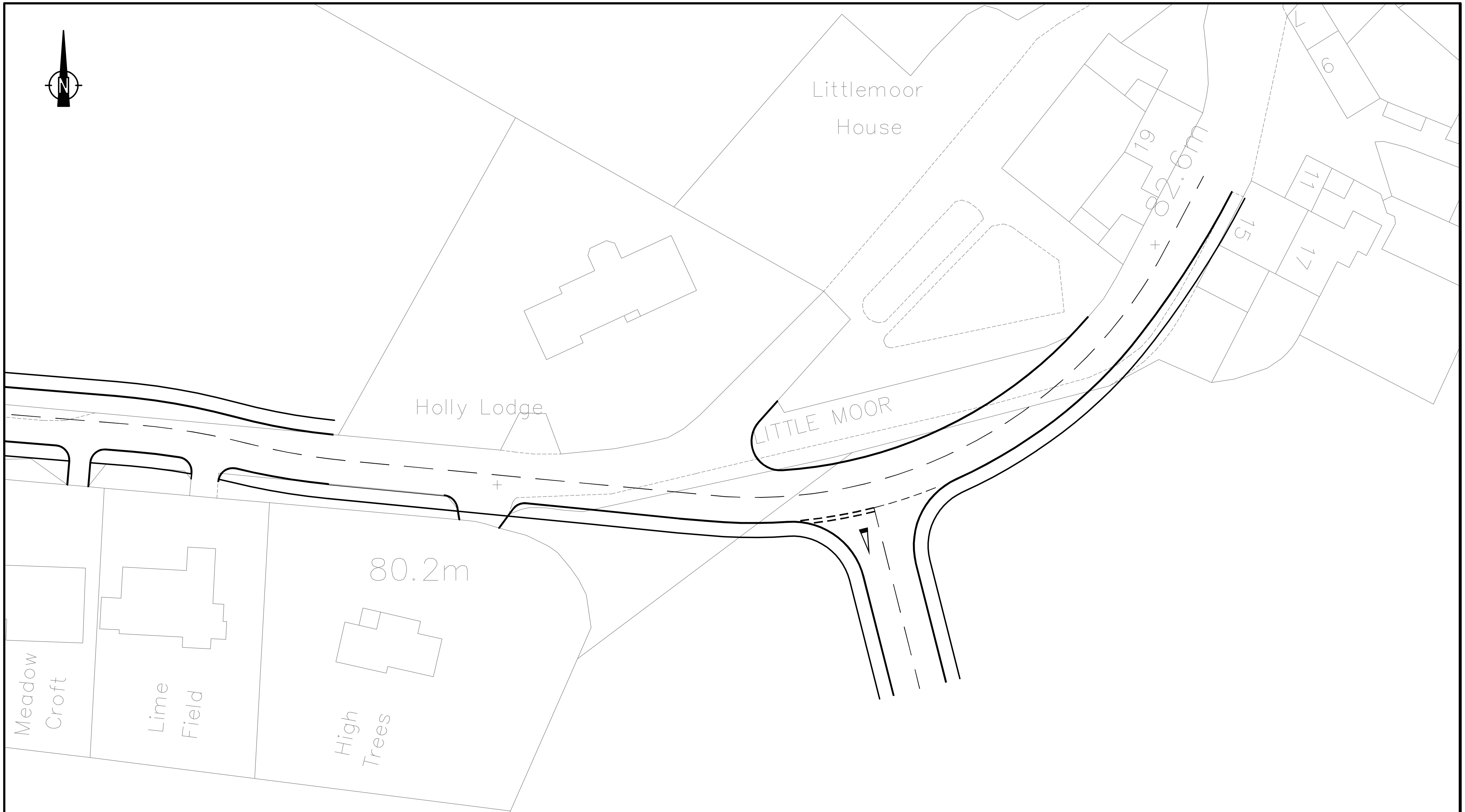
1:500 @ A3

DRAWN: SH	CHECKED: PB	DATE: 06.07.12

Savell Bird & Axon
part of the WYG group
Croxley House 14 Lloyd Street Manchester M2 5ND
t: 0161 835 2400 f: 0161 835 3400 e: sba@sbax.co.uk

DRAWING NUMBER: Plan 8

REVISION: A



REV.	DETAILS	DRAWN	CHECKED	DATE
A	FOR INFORMATION	AJJ	AJJ	SEPT 12

Notes:

STANDEN ESTATE, CLITHEROE

Trustees of the Standen Estate

Proposed Littlemoor (Public Transport / Emergency Access)

Quay West at MediaCityUK
Trafford Wharf Road
Trafford Park
Manchester
M17 1HH
TEL: +44 (0)161 835 2400
FAX: +44 (0)161 835 3400

SBA

DRAWN:	CHECKED:	DATE:	SCALES:	DRAWING NUMBER:	REVISION:
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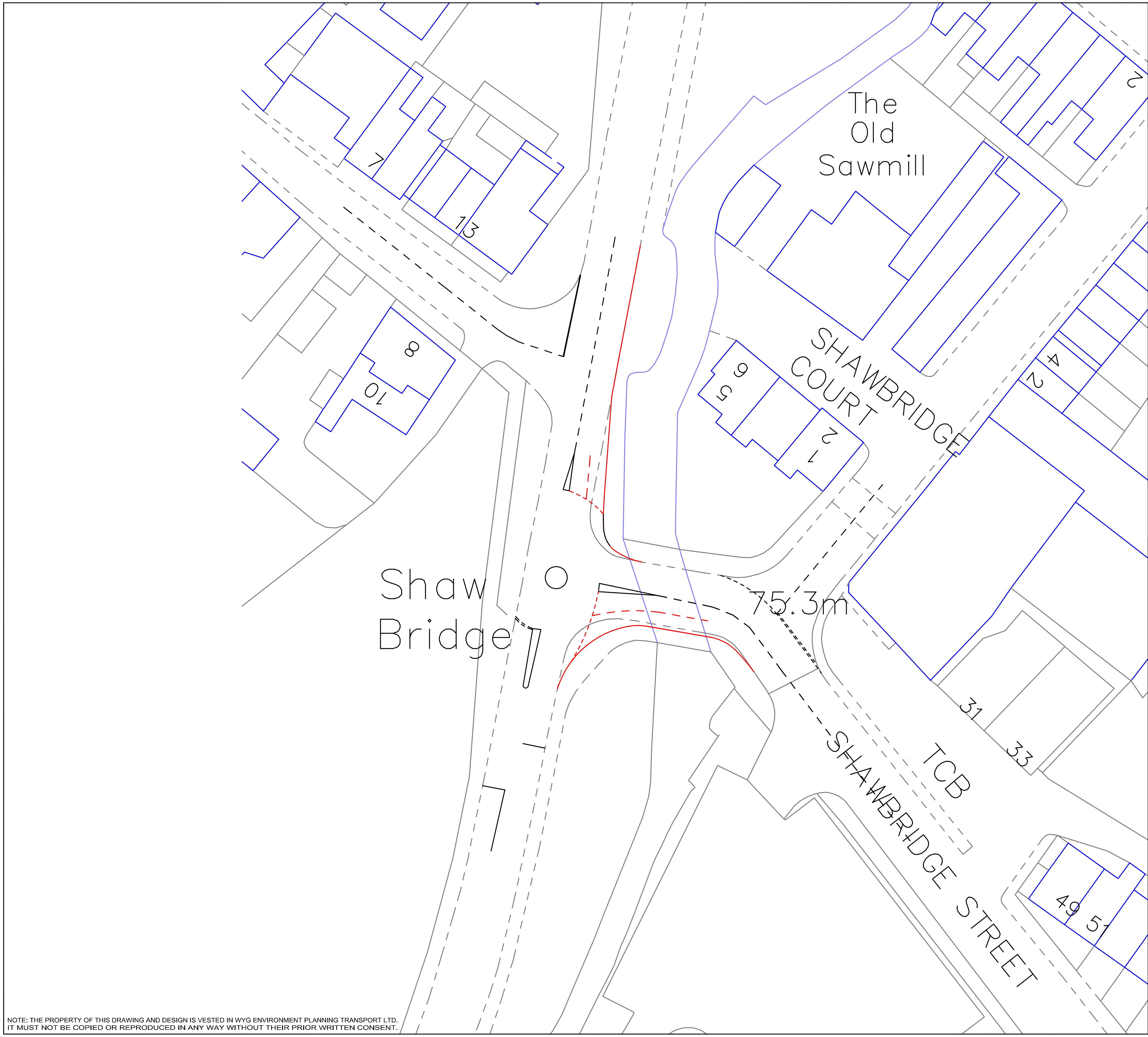

Notes:
1. This is not a construction drawing and is intended for illustrative purposes only.
2. White lining is indicative only.

REV.	DETAILS	DRAWN	CHECKED	DATE

CLIENT:
Trustees of the Standen Estate

PROJECT:
Proposed Development at Standen Estate, Clitheroe

Possible Improvements to Waterloo Road/Shawbridge Street Mini Roundabout

SCALES: 1:500@A3

DRAWN: SH | CHECKED: PB | DATE: 01/08/2012

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Trafford Park
Manchester
M17 1HH
TEL: +44 (0)161 835 2400
FAX: +44 (0)161 835 3400

DRAWING NUMBER: Plan 10
REVISION: B

Figures

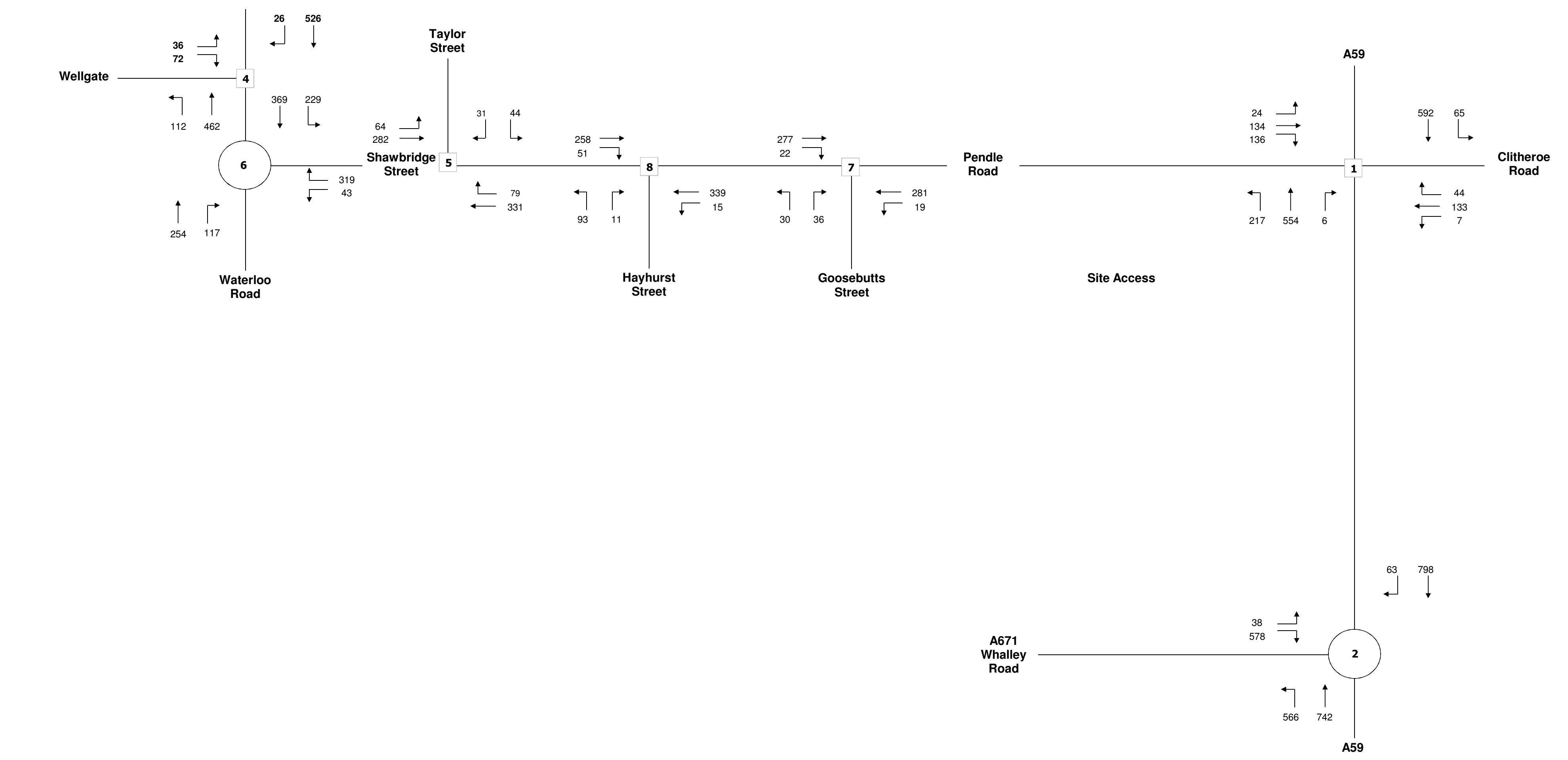


Fig 1 - 2012 Observed Flows
AM Peak Period (08:00 - 09:00)

Quay West at MediaCityUK, Trafford Wharf Road, Trafford Park, Manchester, M17 1HH
Tel: +44 (0)161 835 2400 Fax: +44 (0)161 872 3193 Email: sba@sbax.co.uk www.sbax.co.uk

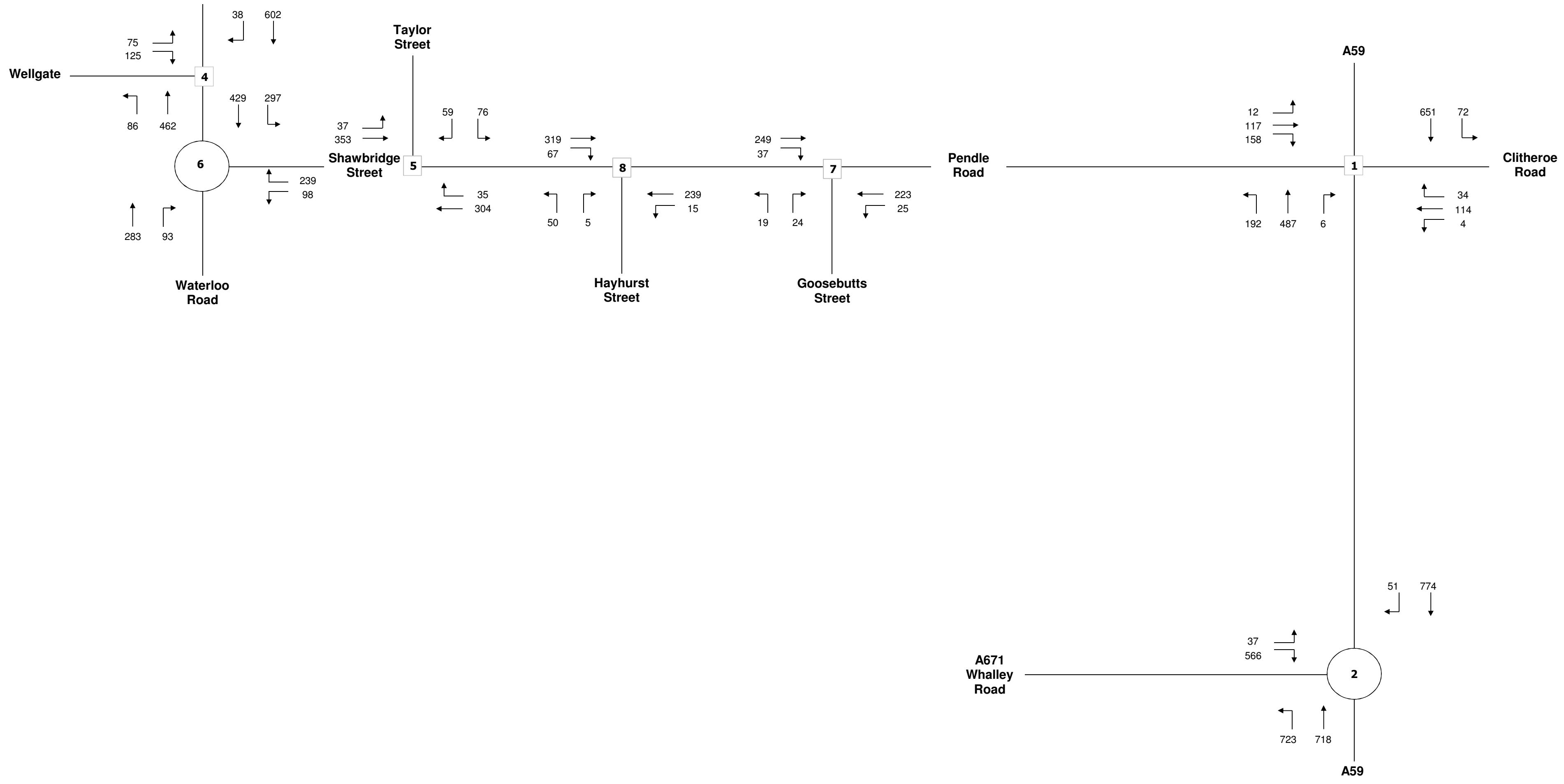
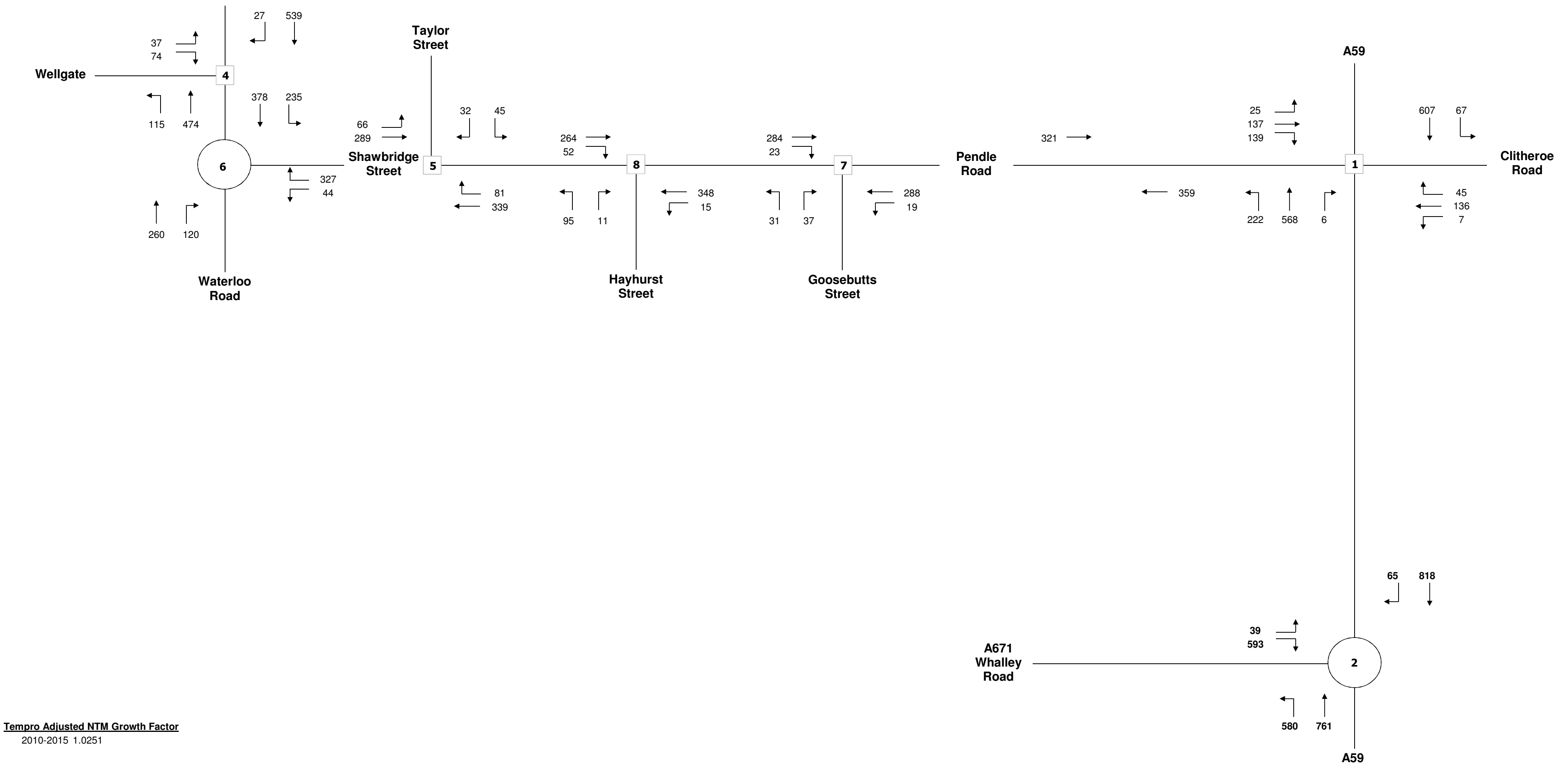


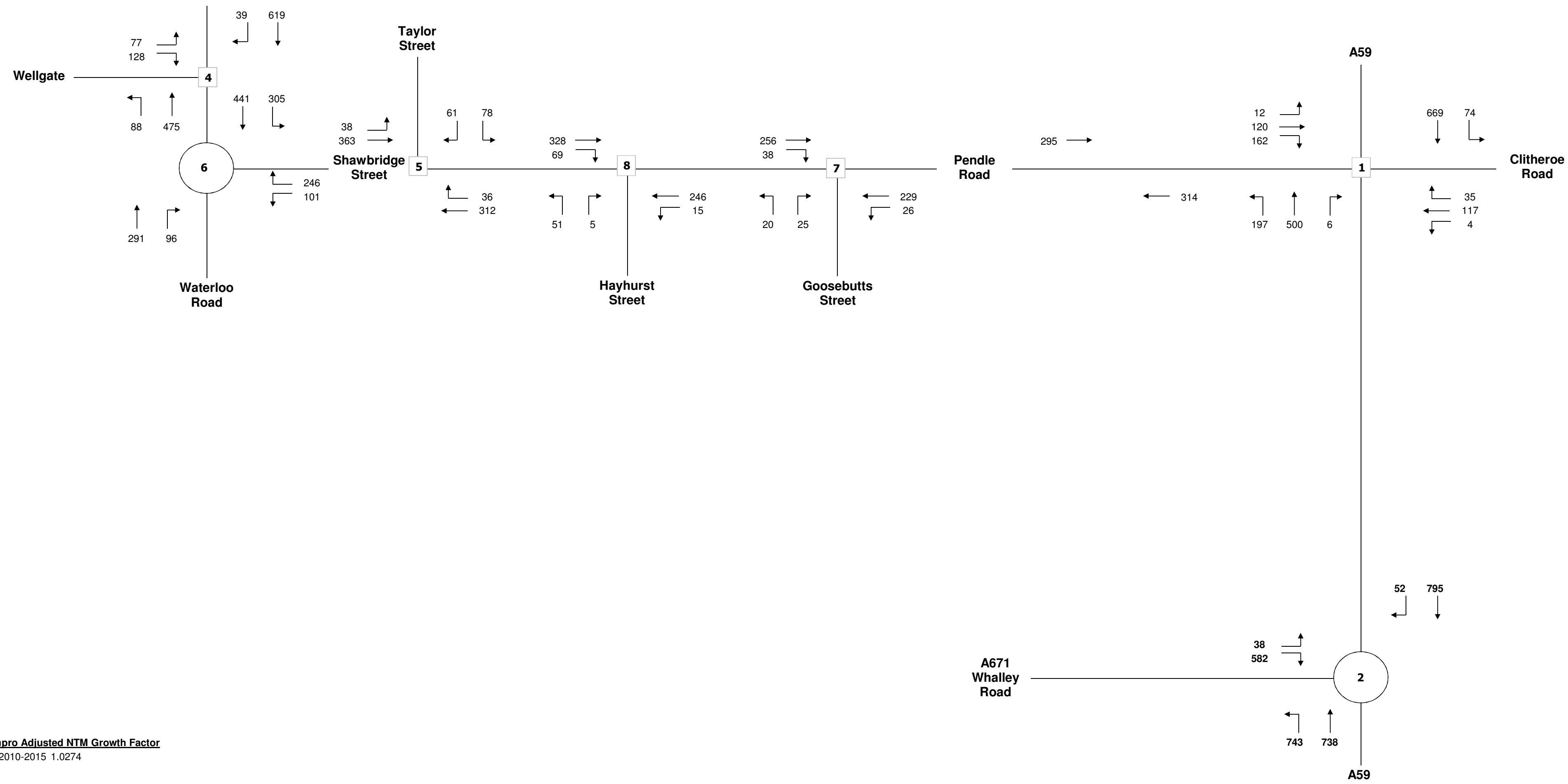
Fig 2 - 2012 Observed Flows
PM Peak Period (16:30 - 17:30)

Quay West at MediaCityUK, Trafford Wharf Road, Trafford Park, Manchester, M17 1HH
Tel: +44 (0)161 835 2400 Fax: +44 (0)161 872 3193 Email: sba@sbax.co.uk www.sbax.co.uk



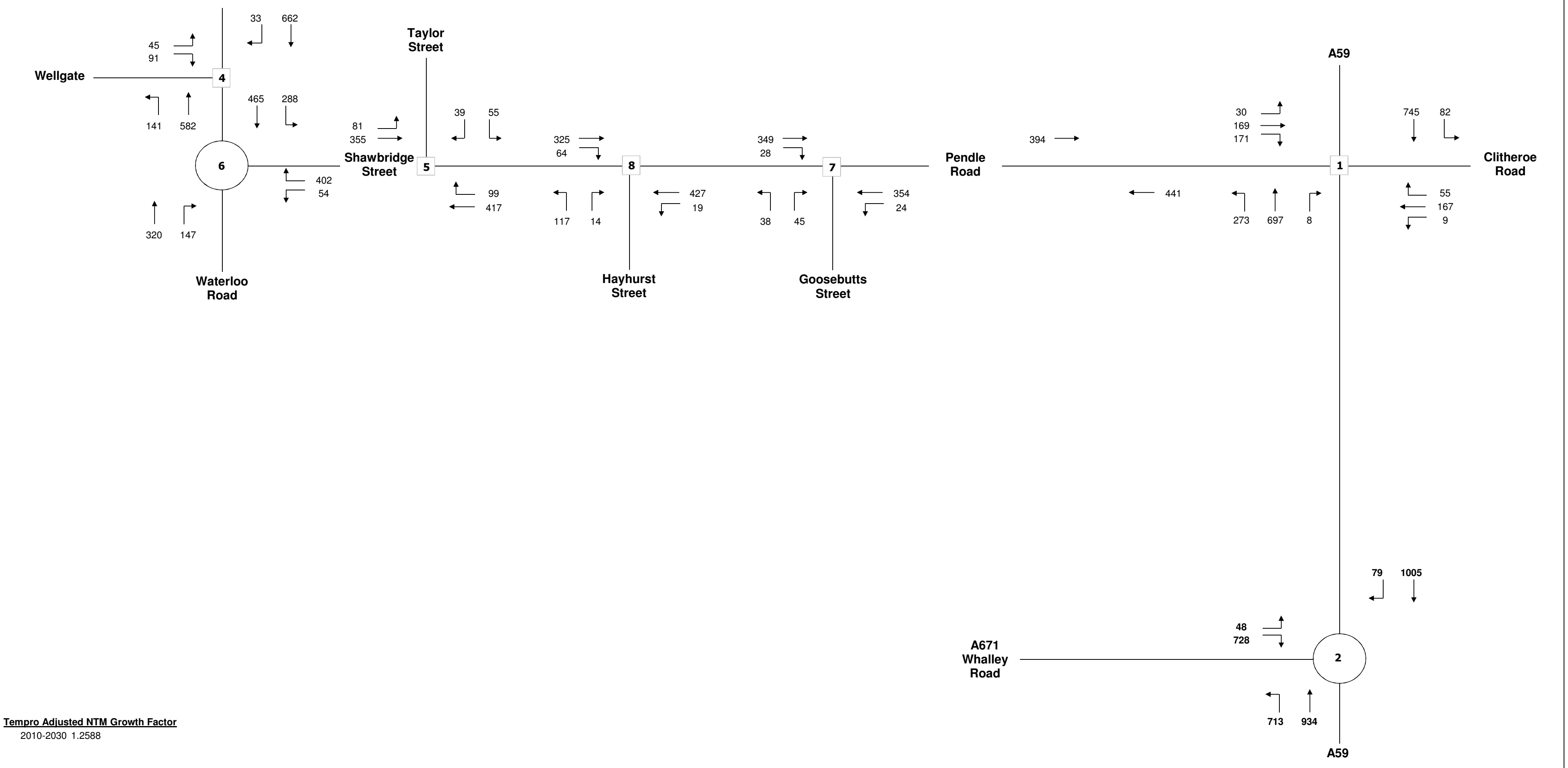
Tempro Adjusted NTM Growth Factor
2010-2015 1.0251

Fig 3 - 2015 Factored Flows
AM Peak Period (08:00 - 09:00)



Tempro Adjusted NTM Growth Factor
2010-2015 1.0274

Fig 4 - 2015 Factored Flows
PM Peak Period (16:30 - 17:30)



Tempro Adjusted NTM Growth Factor
2010-2030 1.2588

Fig 5 - 2030 Factored Flows
AM Peak Period (08:00 - 09:00)

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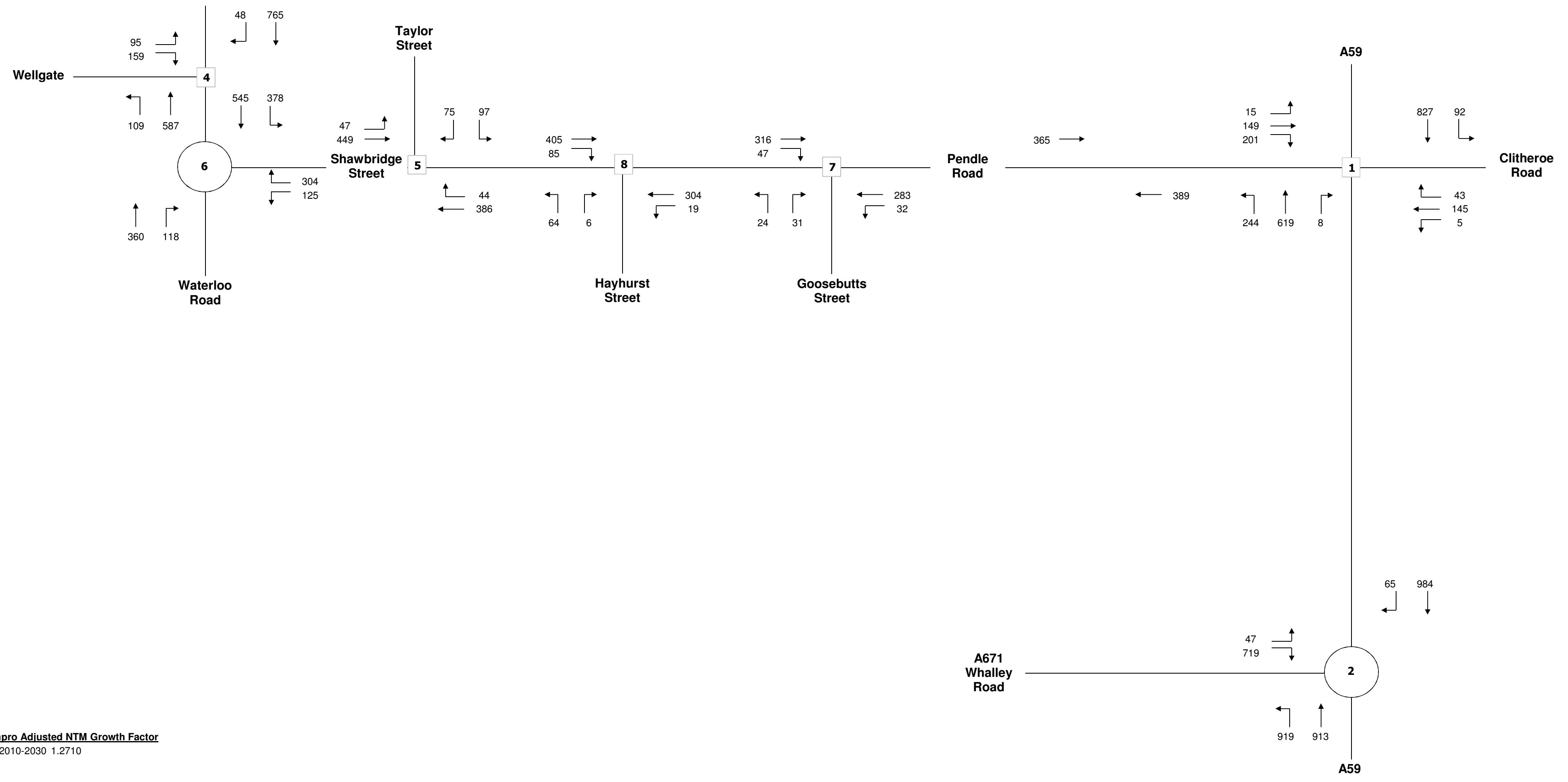

Fig 6 - 2030 Factored Flows
PM Peak Period (16:30 - 17:30)

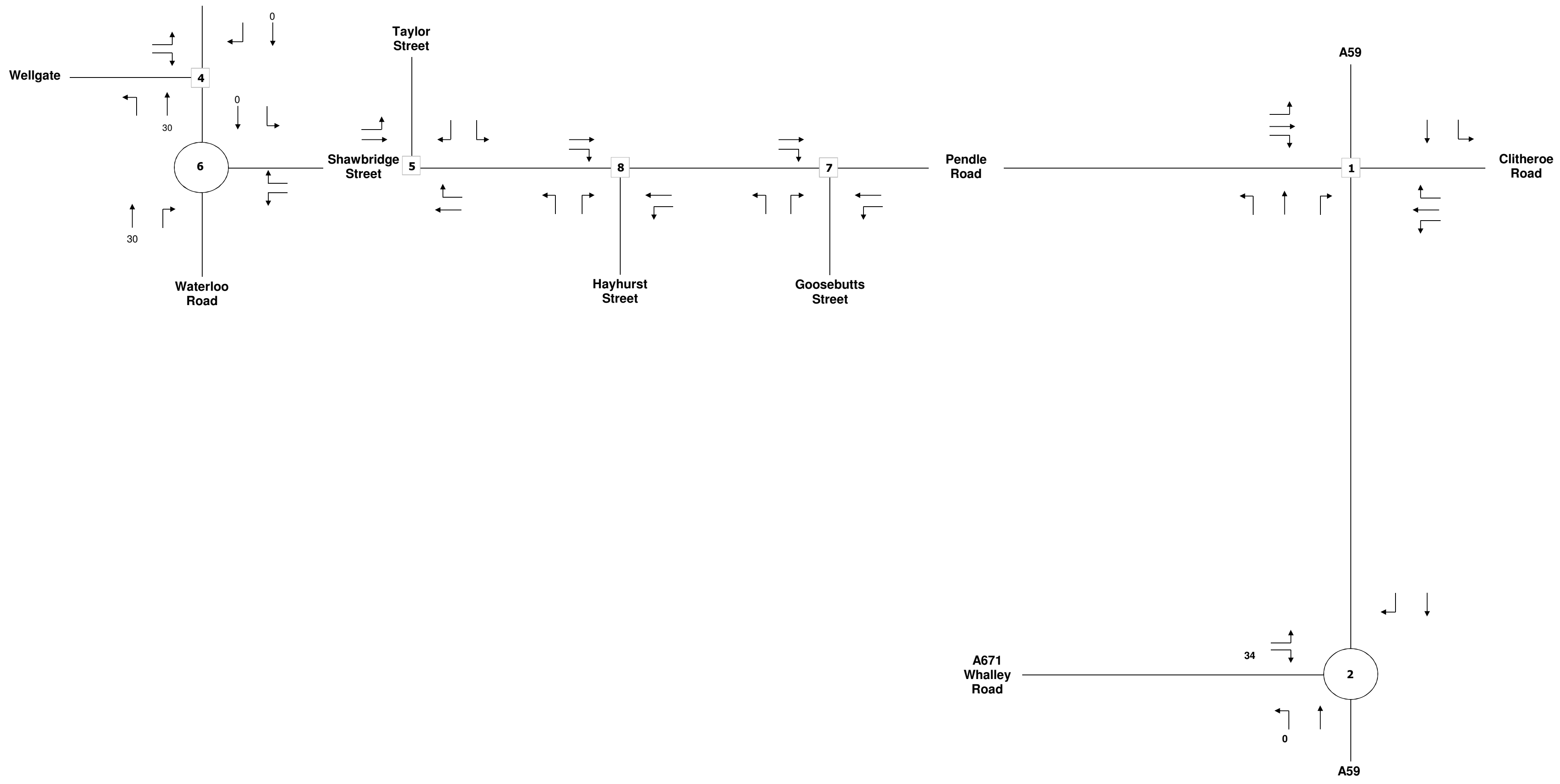

Fig 7 - Committed Primrose Development
AM Peak Period (08:00 - 09:00)

Quay West at MediaCityUK, Trafford Wharf Road, Trafford Park, Manchester, M17 1HH
Tel: +44 (0)161 835 2400 Fax: +44 (0)161 872 3193 Email: sba@sbax.co.uk www.sbax.co.uk

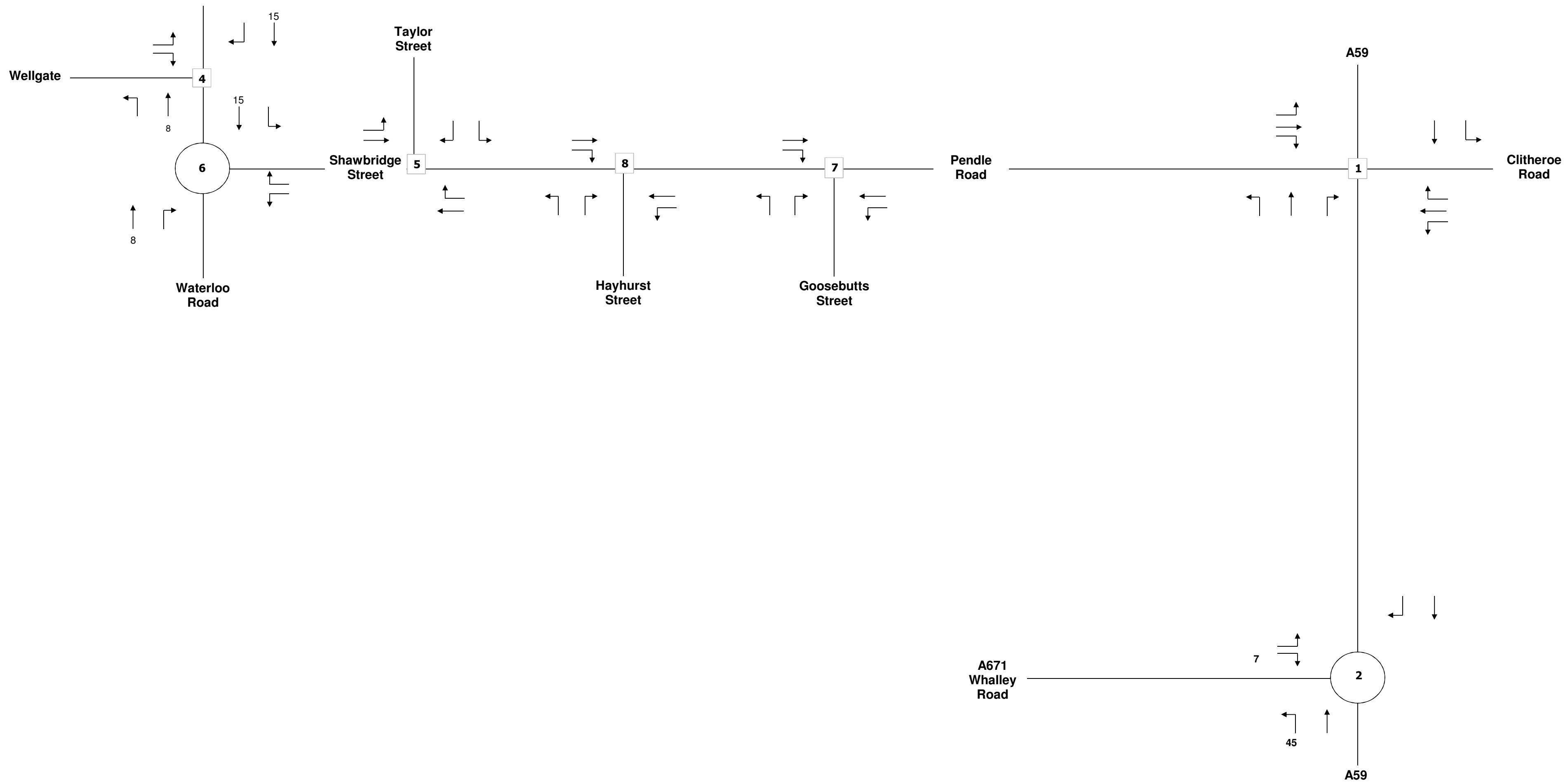

Fig 8 - Committed Primrose Development
PM Peak Period (16:30 - 17:30)

Quay West at MediaCityUK, Trafford Wharf Road, Trafford Park, Manchester, M17 1HH
Tel: +44 (0)161 835 2400 Fax: +44 (0)161 872 3193 Email: sba@sbax.co.uk www.sbax.co.uk

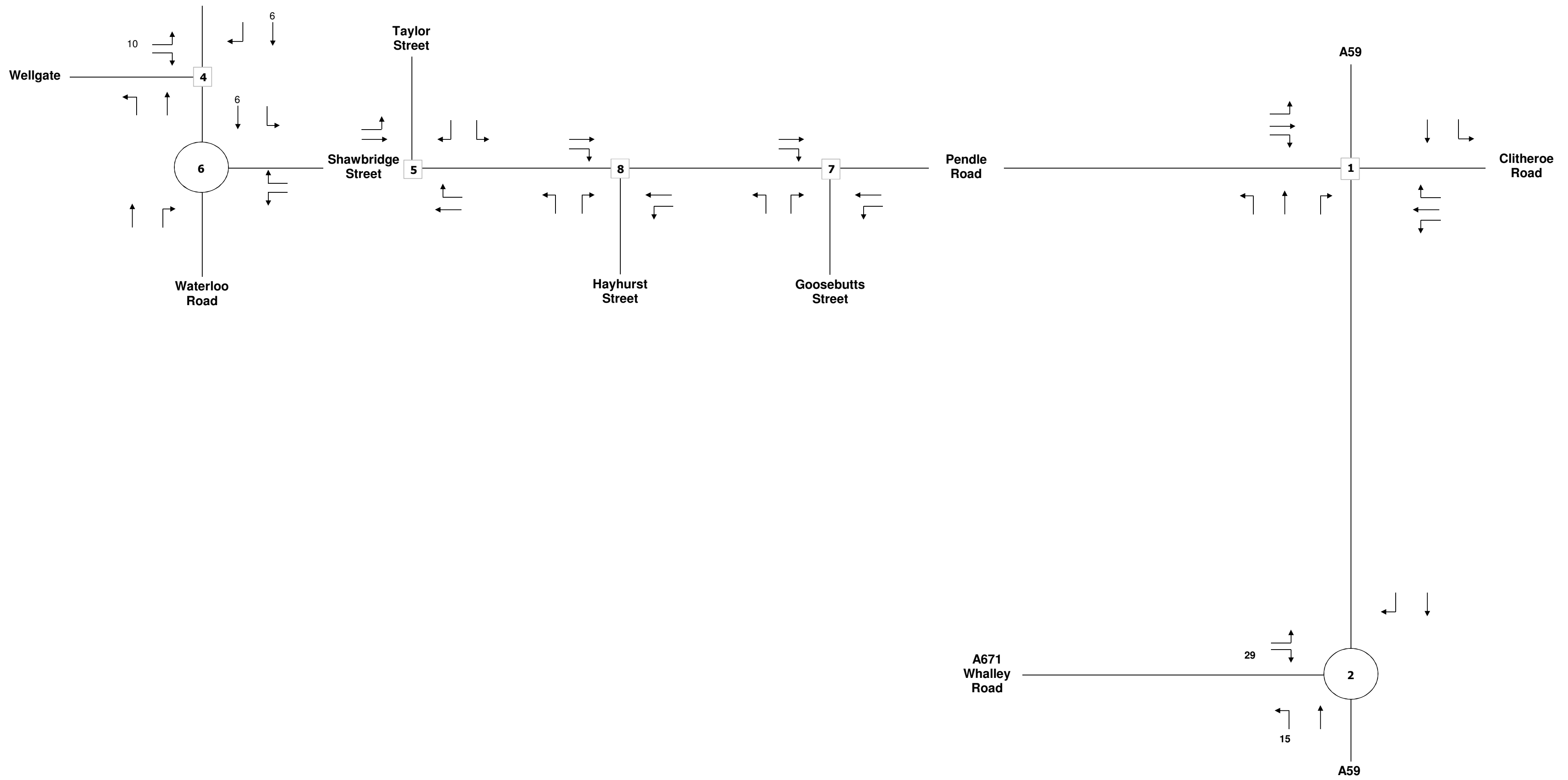

Fig 9 - Committed Henthorn Development
AM Peak Period (08:00 - 09:00)

Quay West at MediaCityUK, Trafford Wharf Road, Trafford Park, Manchester, M17 1HH
Tel: +44 (0)161 835 2400 Fax: +44 (0)161 872 3193 Email: sba@sbax.co.uk www.sbax.co.uk

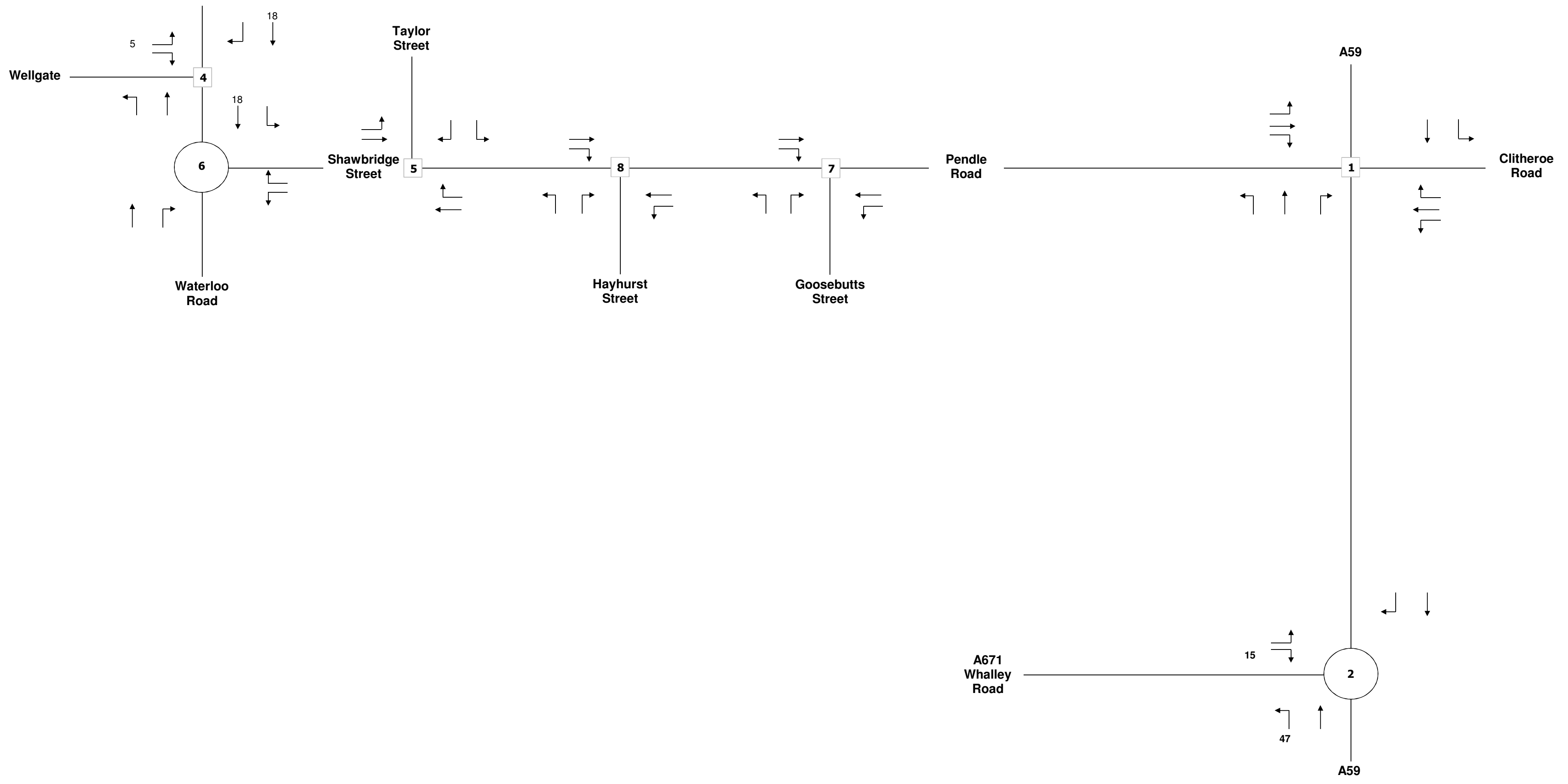

Fig 10 - Committed Henthorn Development
PM Peak Period (16:30 - 17:30)

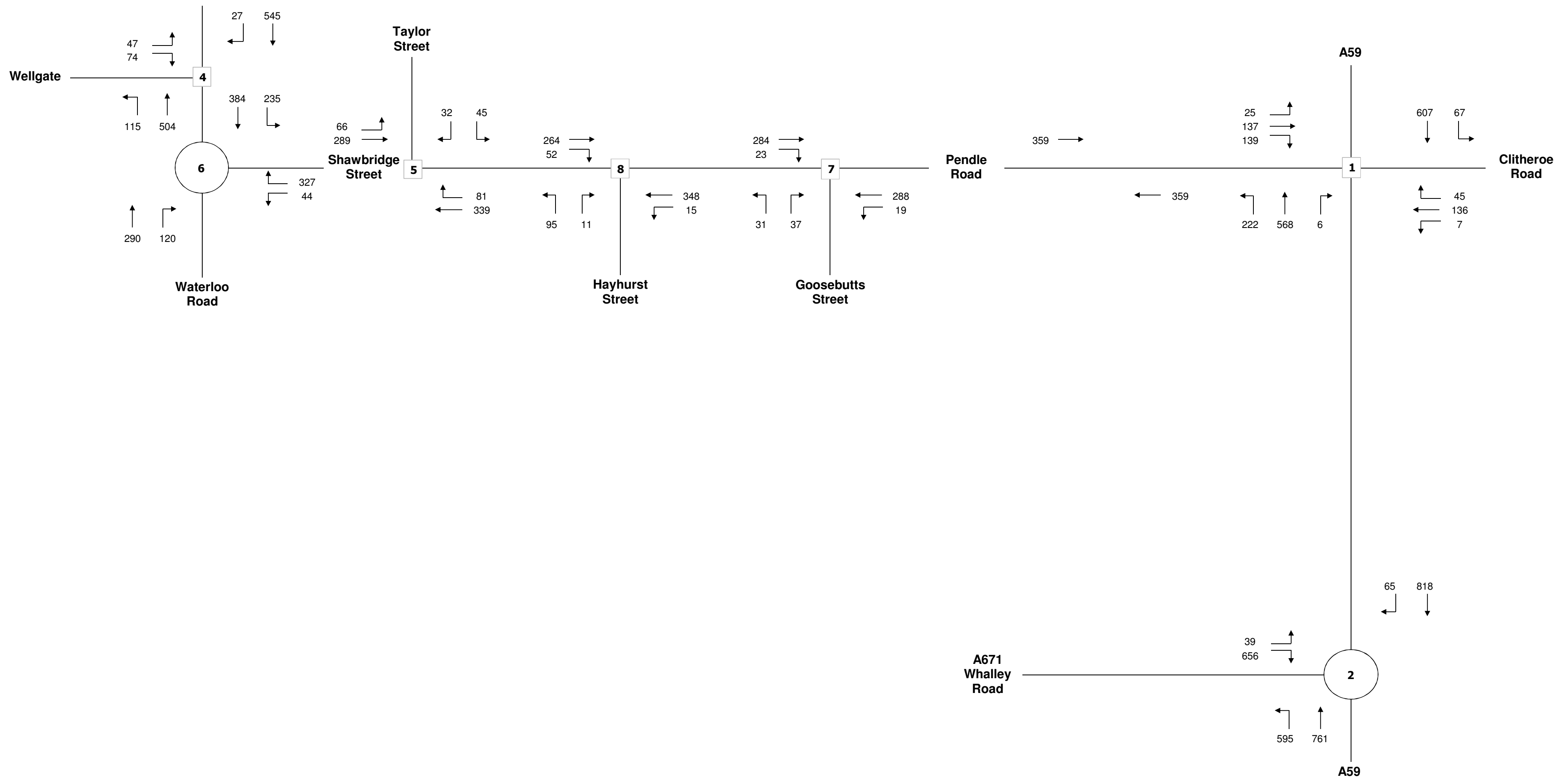

Fig 11 - 2015 Base Flows
AM Peak Period (08:00 - 09:00)

Quay West at MediaCityUK, Trafford Wharf Road, Trafford Park, Manchester, M17 1HH
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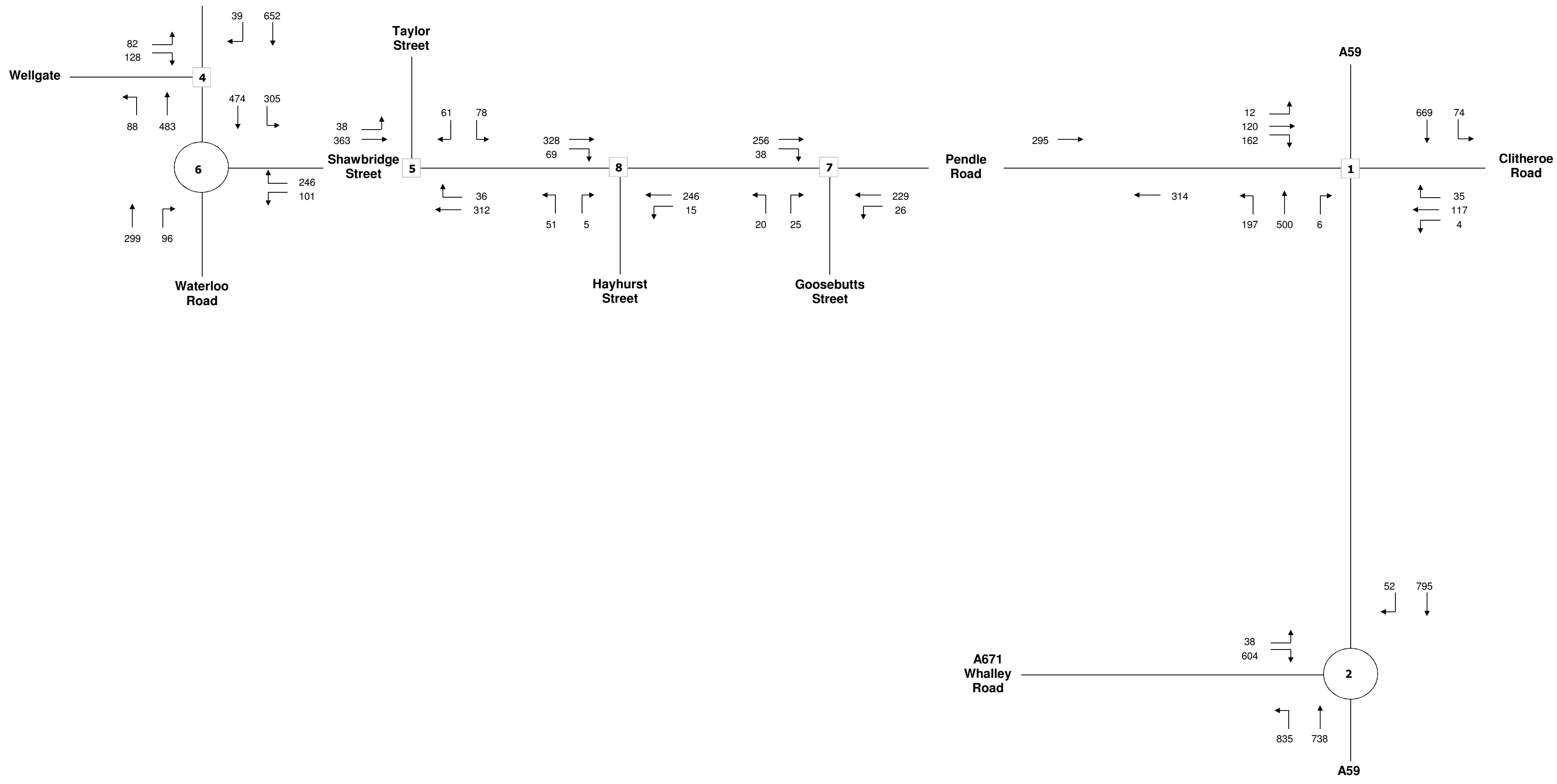

Fig 12 - 2015 Base Flows
PM Peak Period (16:30 - 17:30)

Quay West at MediaCityUK, Trafford Wharf Road, Trafford Park, Manchester, M17 1HH
Tel: +44 (0)161 835 2400 Fax: +44 (0)161 872 3193 Email: sba@sbax.co.uk www.sbax.co.uk

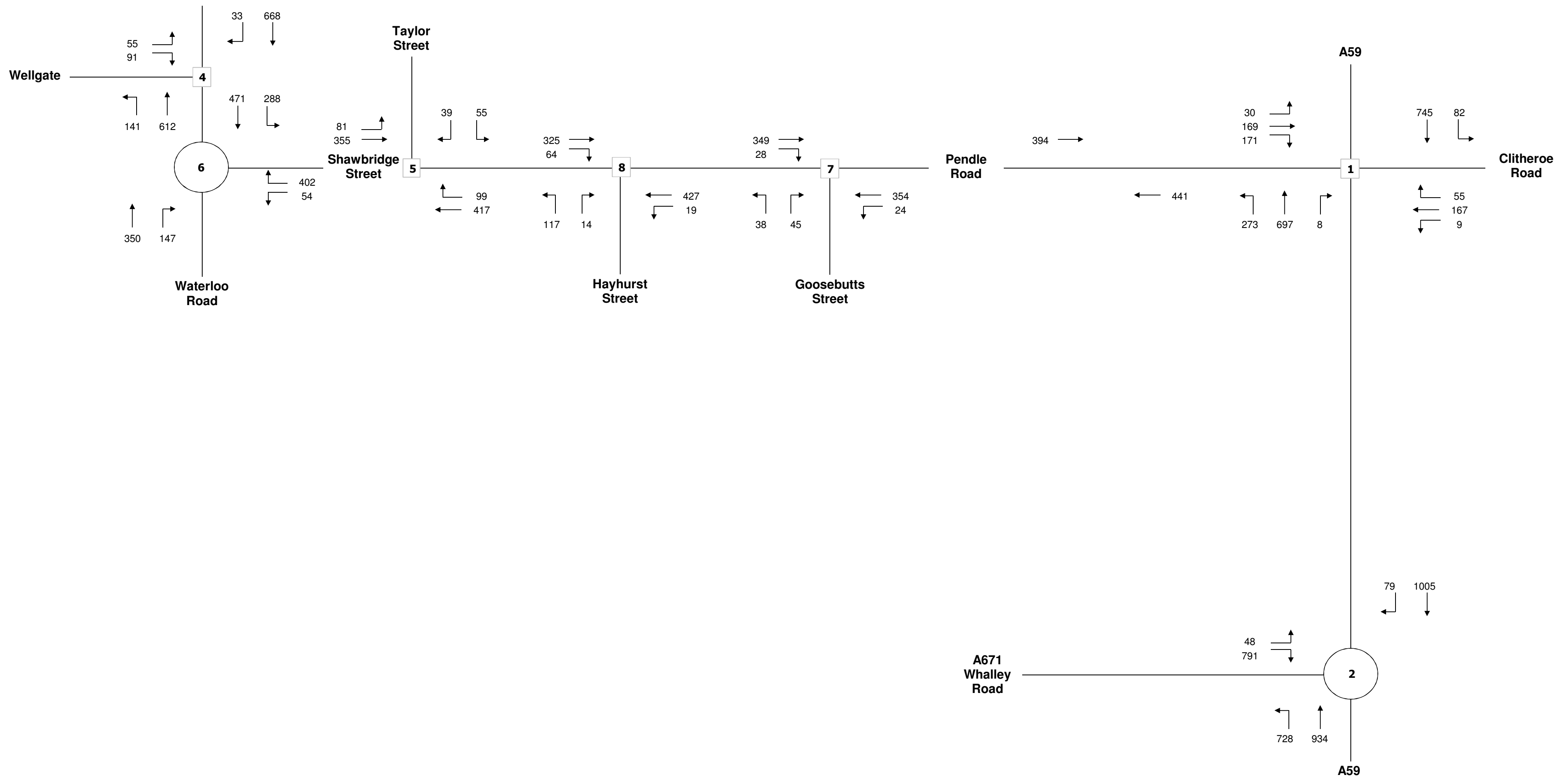

Fig 13 - 2030 Base Flows
AM Peak Period (08:00 - 09:00)

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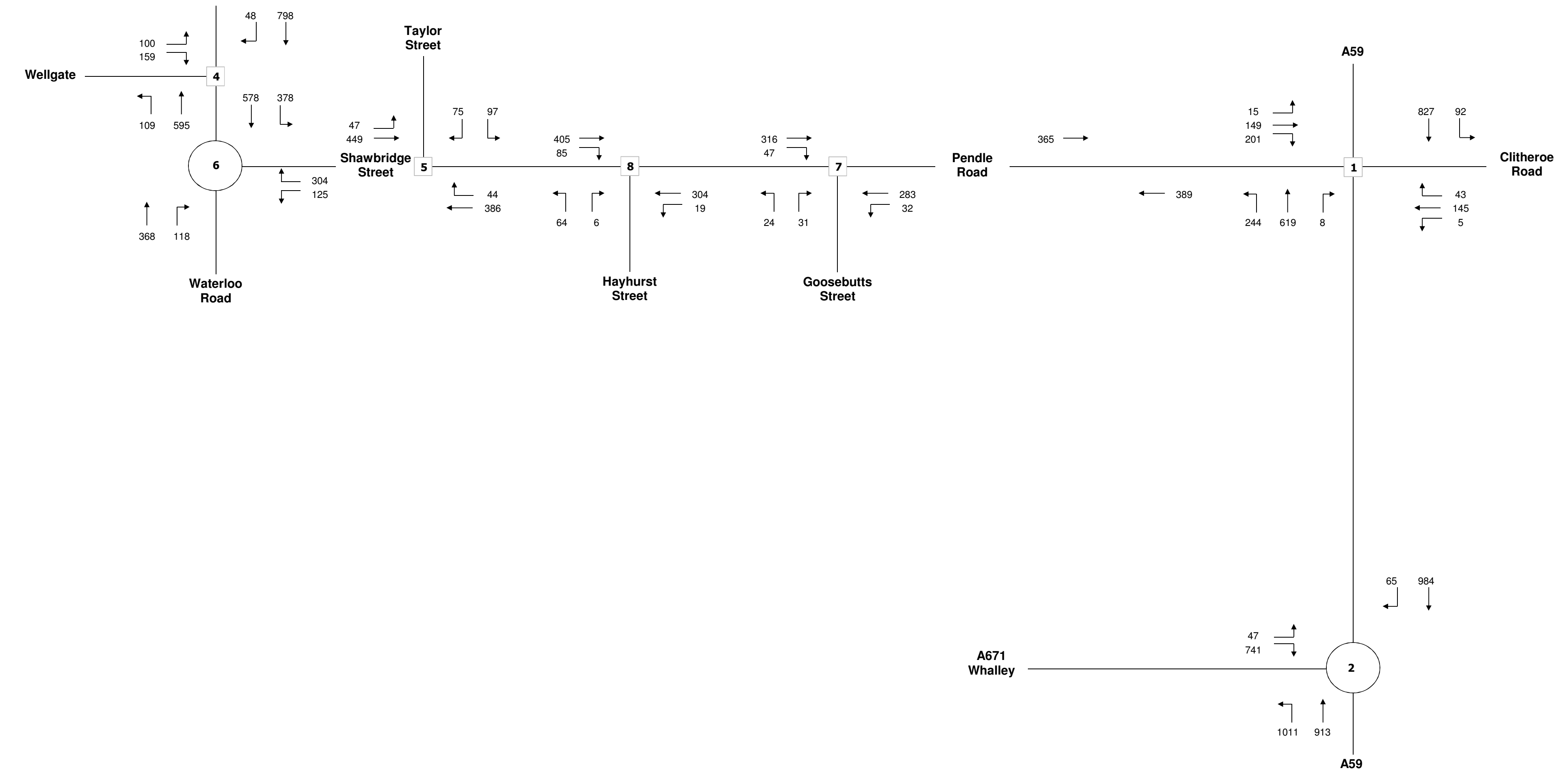


Fig 14 - 2030 Base Flows
PM Peak Period (16:30 - 17:30)

Quay West at MediaCityUK, Trafford Wharf Road, Trafford Park, Manchester, M17 1HH
Tel: +44 (0)161 835 2400 Fax: +44 (0)161 872 3193 Email: sba@sbax.co.uk www.sbax.co.uk

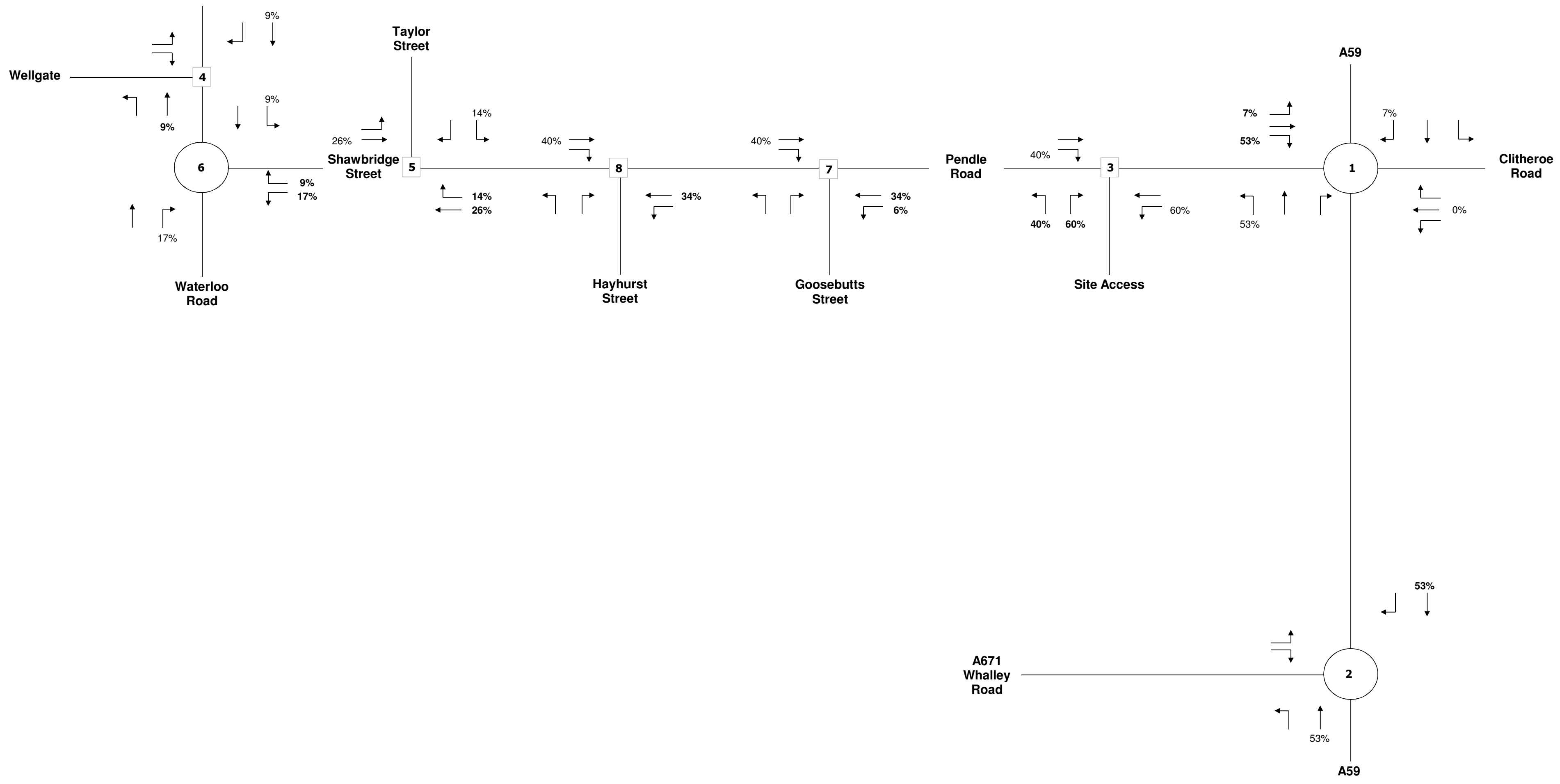
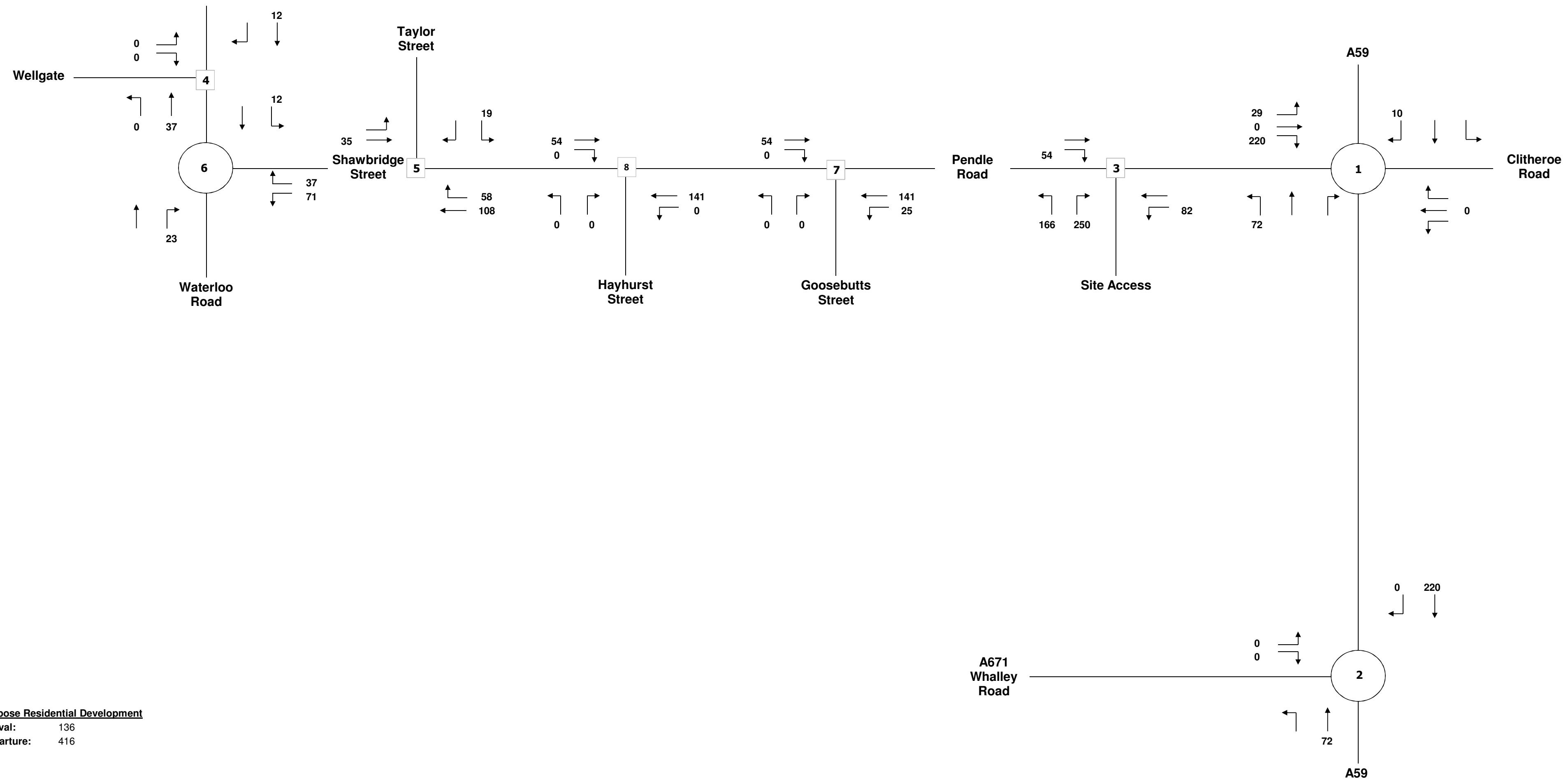
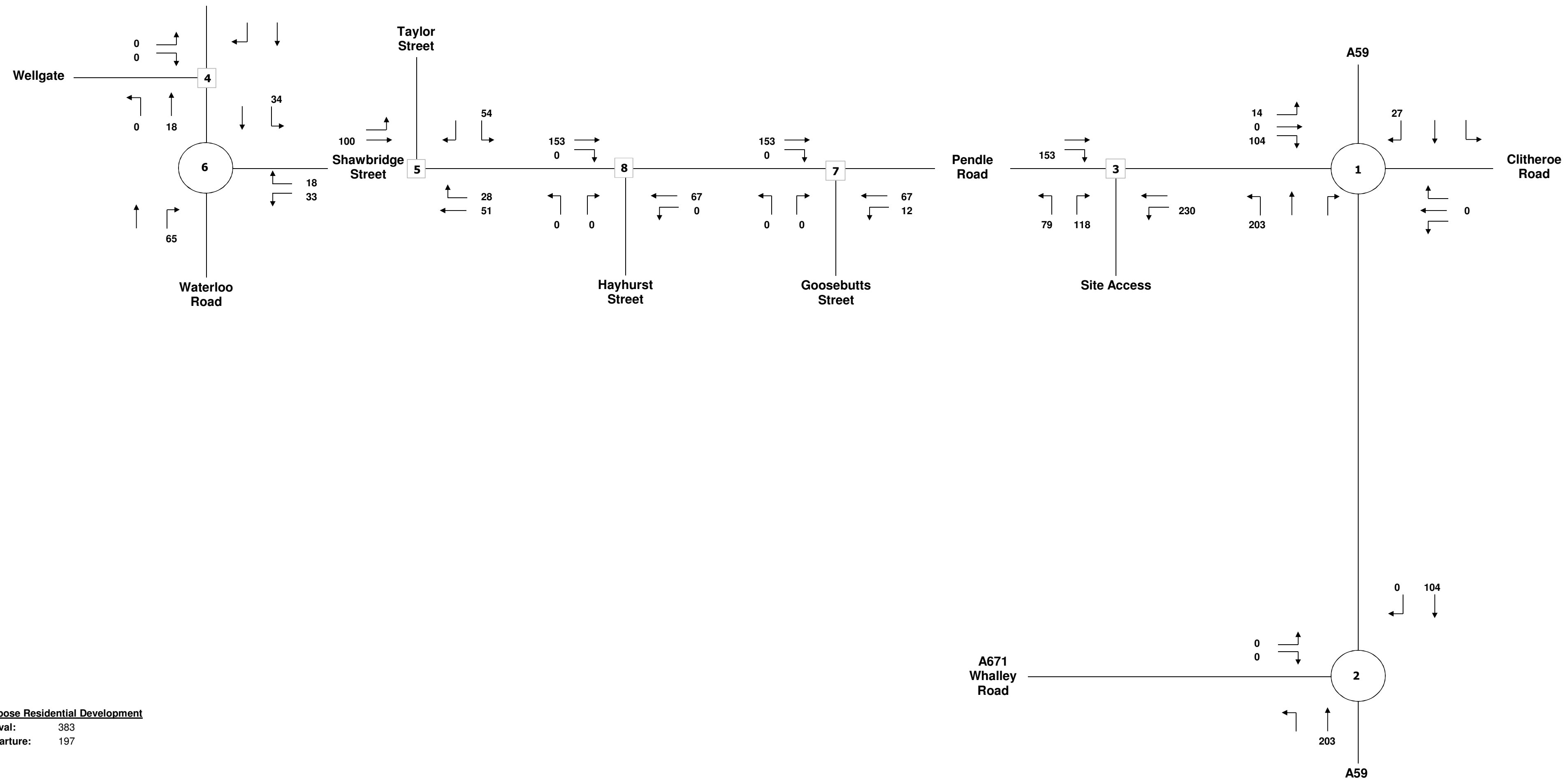


Fig 15 - Residential Distribution



Propose Residential Development
Arrival: 136
Departure: 416

Fig 16 - Residential Trips
AM Peak Period (08:00 - 09:00)



Propose Residential Development
Arrival: 383
Departure: 197

Fig 17 - Residential Trips
PM Peak Period (16:30 - 17:30)

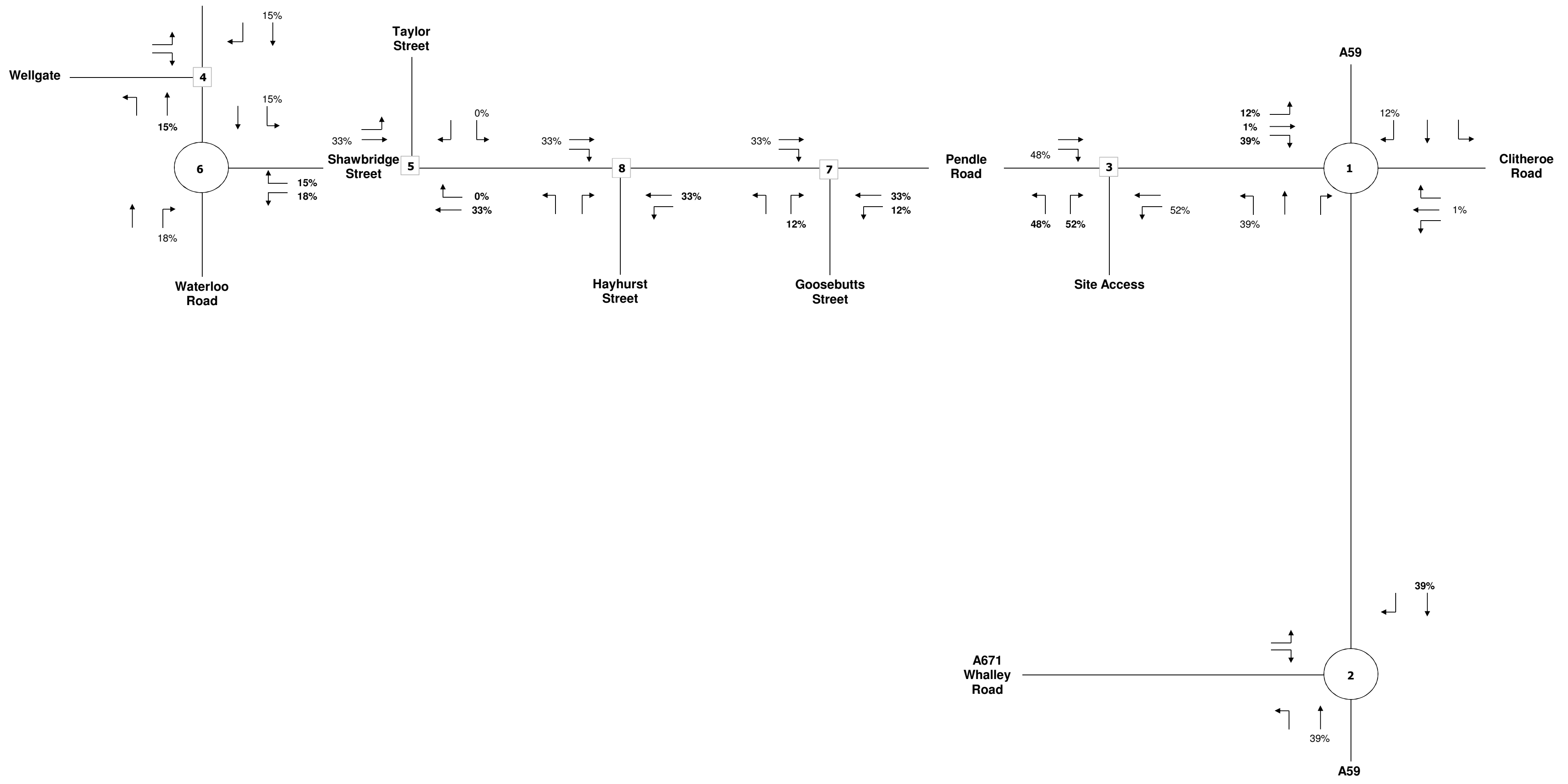
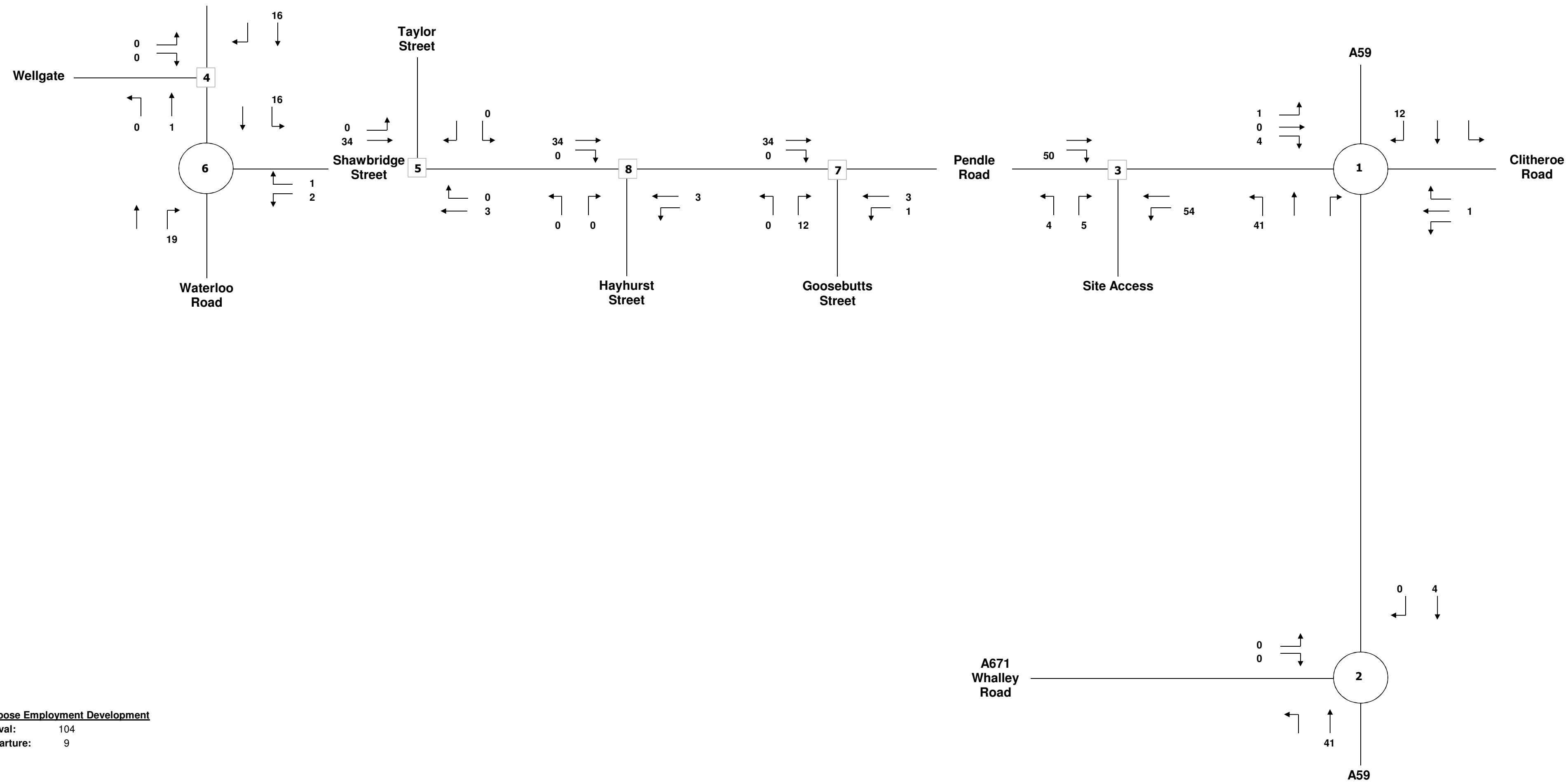
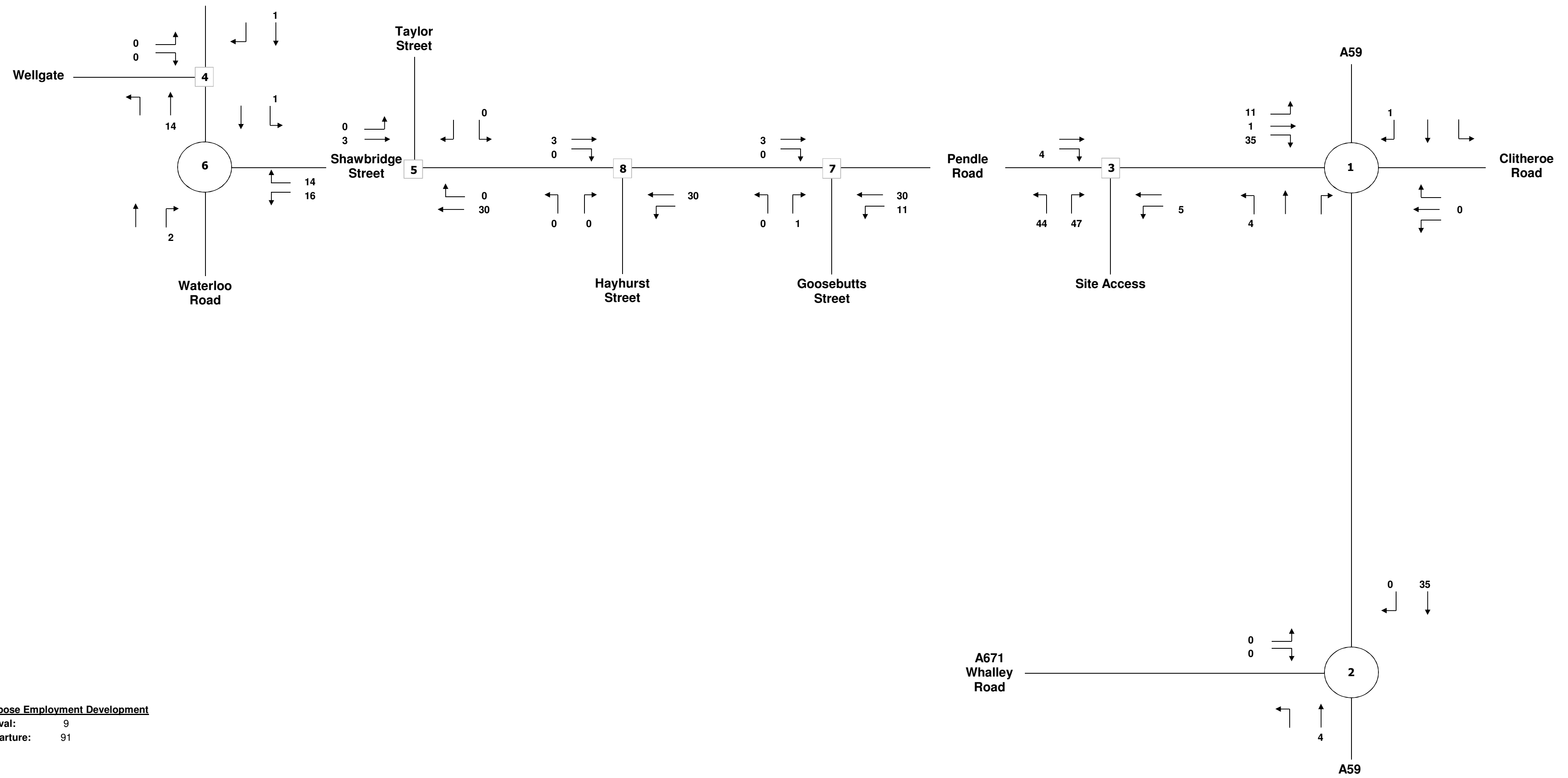


Fig 18 - Employment Distribution



Propose Employment Development
Arrival: 104
Departure: 9

Fig 19 - Employment Trips
AM Peak Period (08:00 - 09:00)



Propose Employment Development

Arrival: 9

Departure: 91

Fig 20 - Employment Trips
PM Peak Period (16:30 - 17:30)

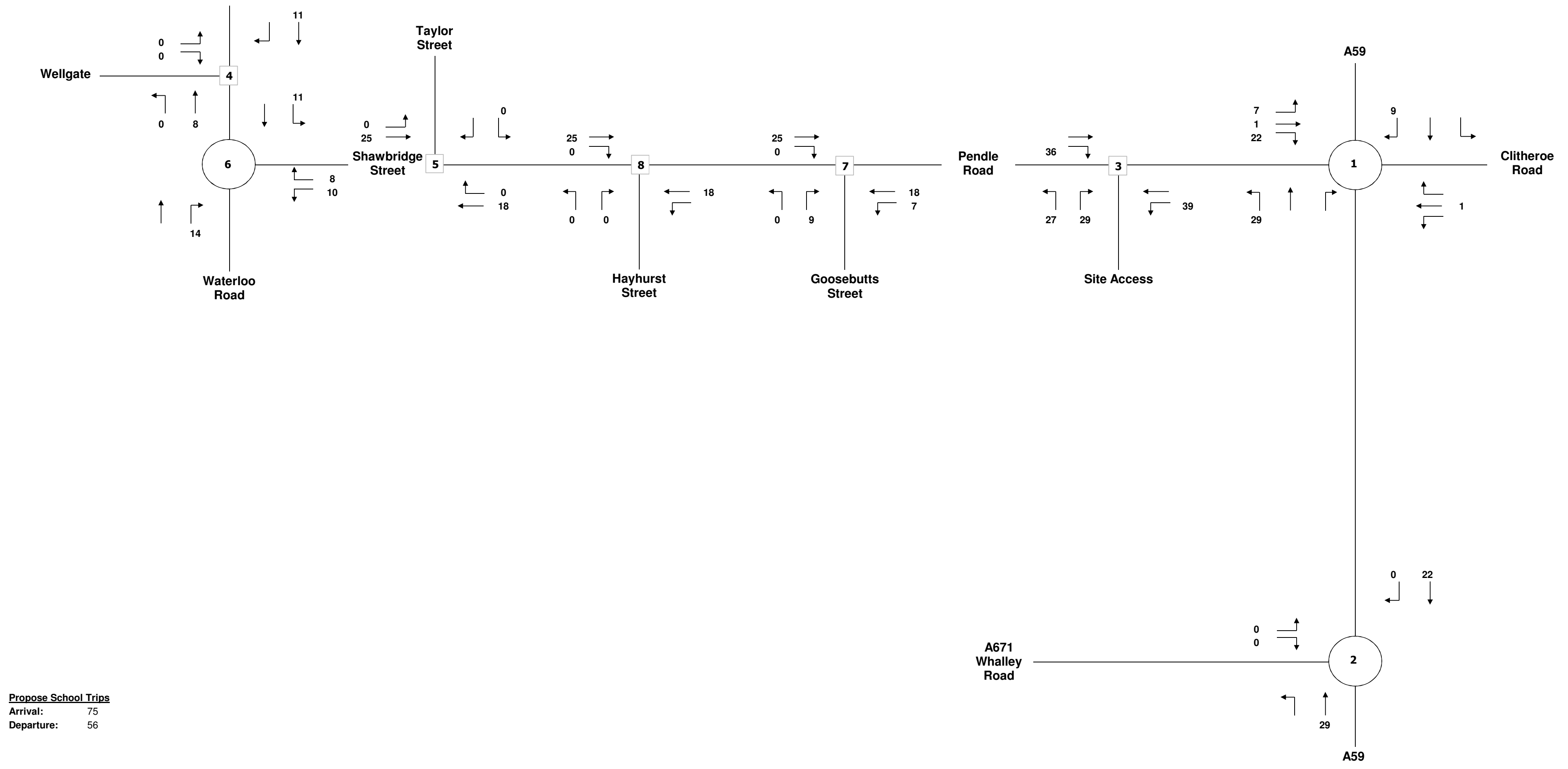
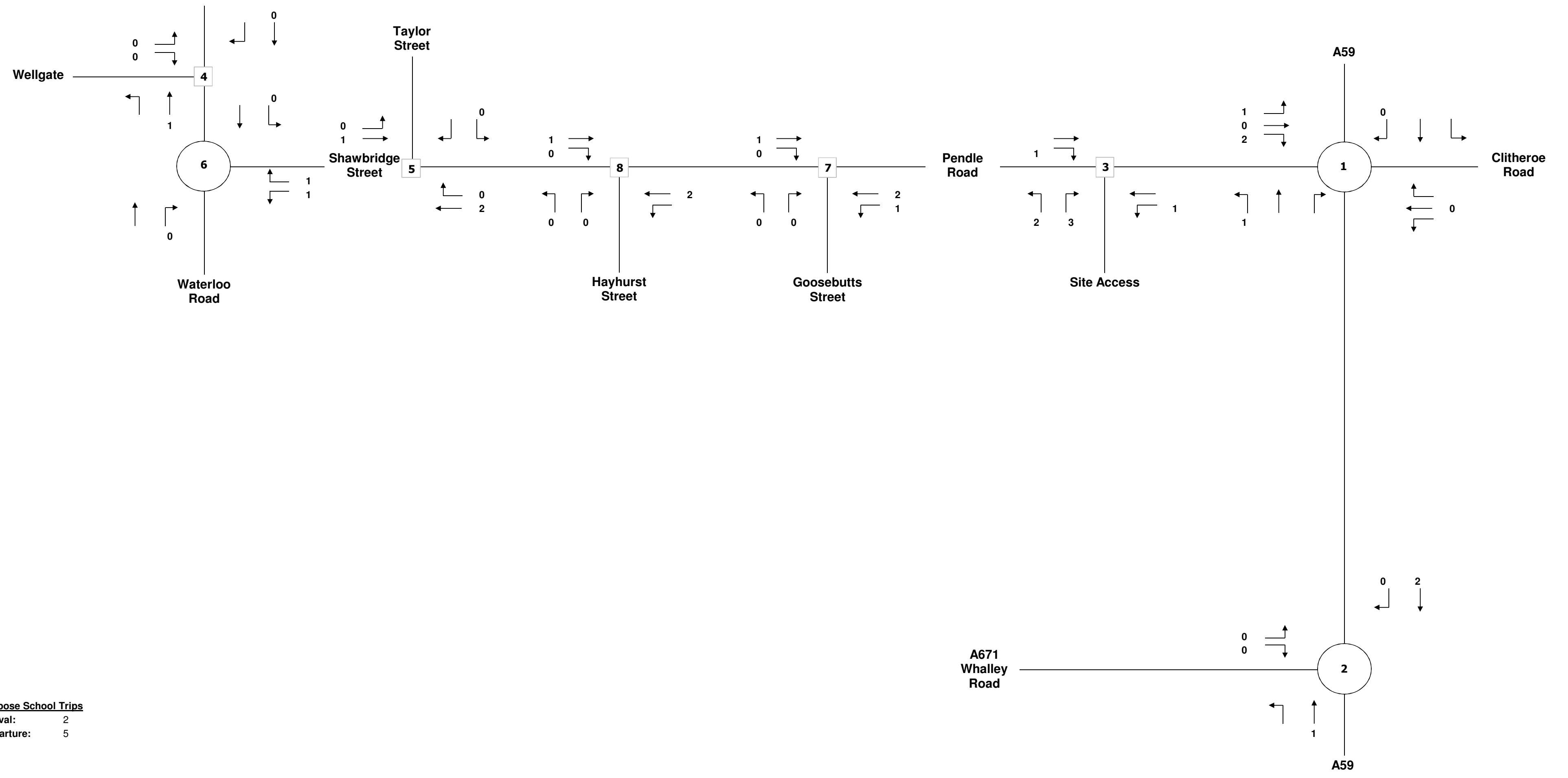


Fig 21 - School Trips
AM Peak Period (08:00 - 09:00)



Propose School Trips
Arrival: 2
Departure: 5

Fig 22 - School Trips
PM Peak Period (16:30 - 17:30)

Quay West at MediaCityUK, Trafford Wharf Road, Trafford Park, Manchester, M17 1HH
Tel: +44 (0)161 835 2400 Fax: +44 (0)161 872 3193 Email: sba@sbax.co.uk www.sbax.co.uk

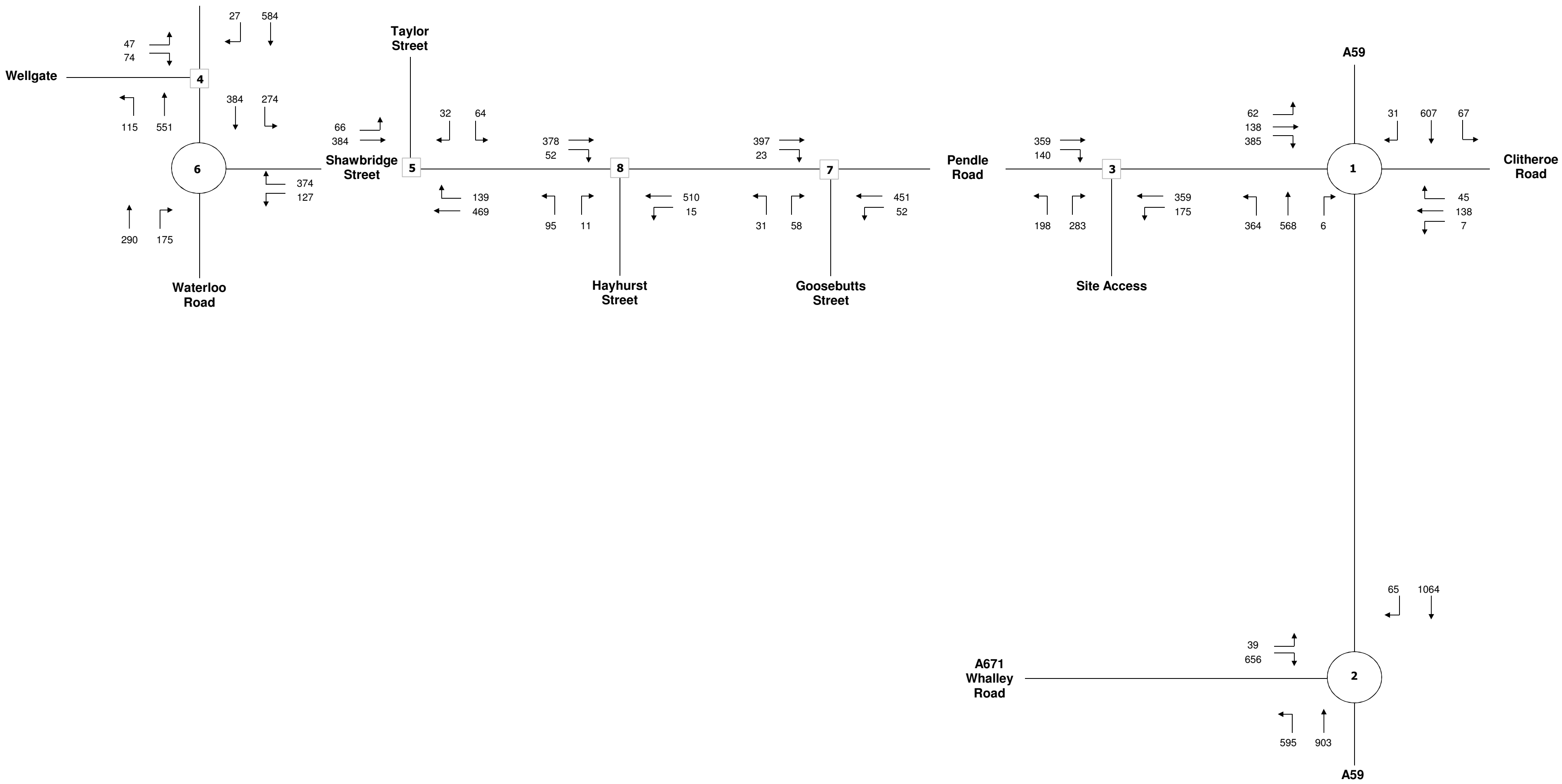


Fig 23 - 2015 Assessment Flows
AM Peak Period (08:00 - 09:00)

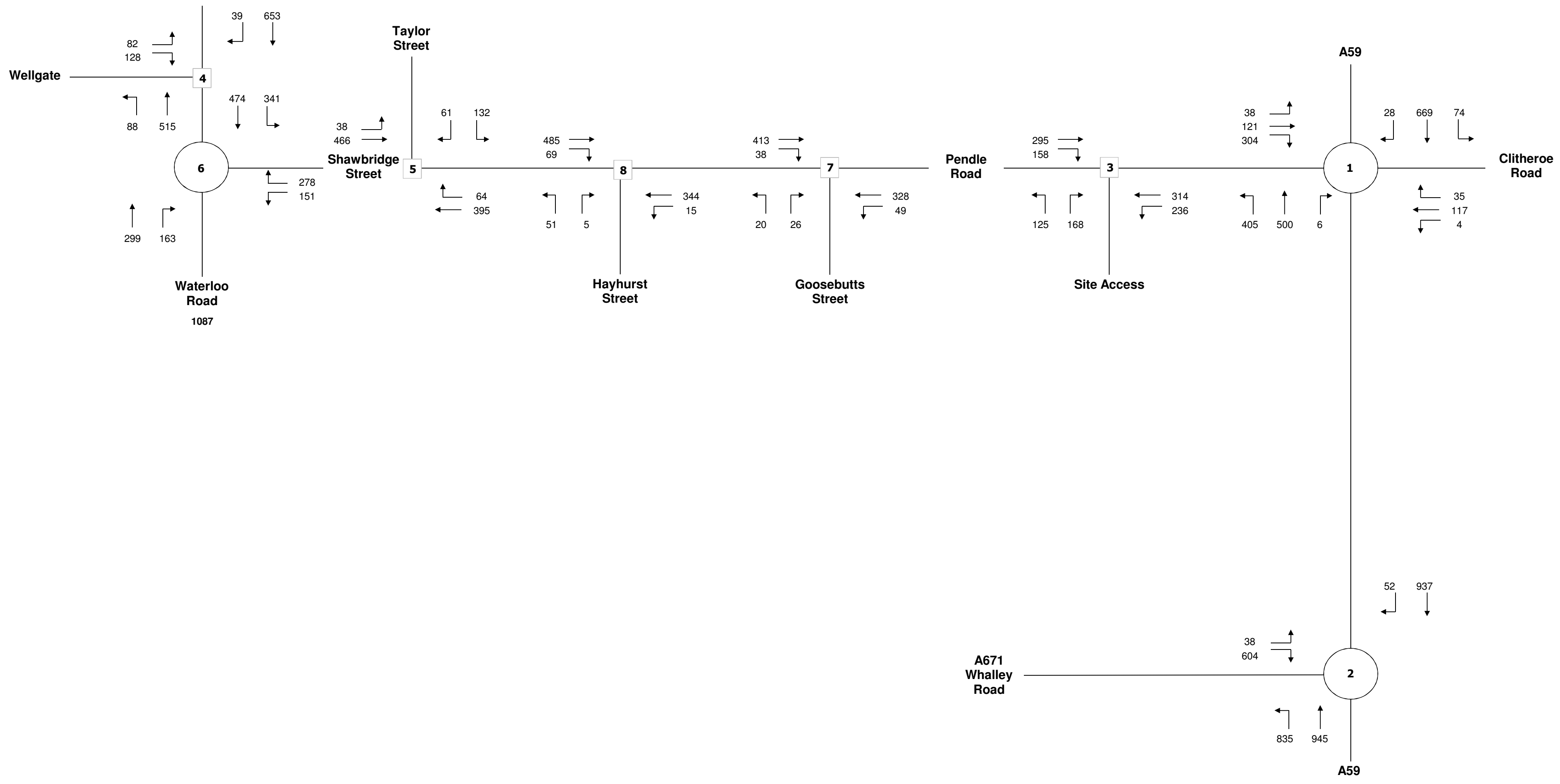


Fig 24 - 2015 Assessment Flows
PM Peak Period (16:30 - 17:30)

Quay West at MediaCityUK, Trafford Wharf Road, Trafford Park, Manchester, M17 1HH
Tel: +44 (0)161 835 2400 Fax: +44 (0)161 872 3193 Email: sba@sbax.co.uk www.sbax.co.uk

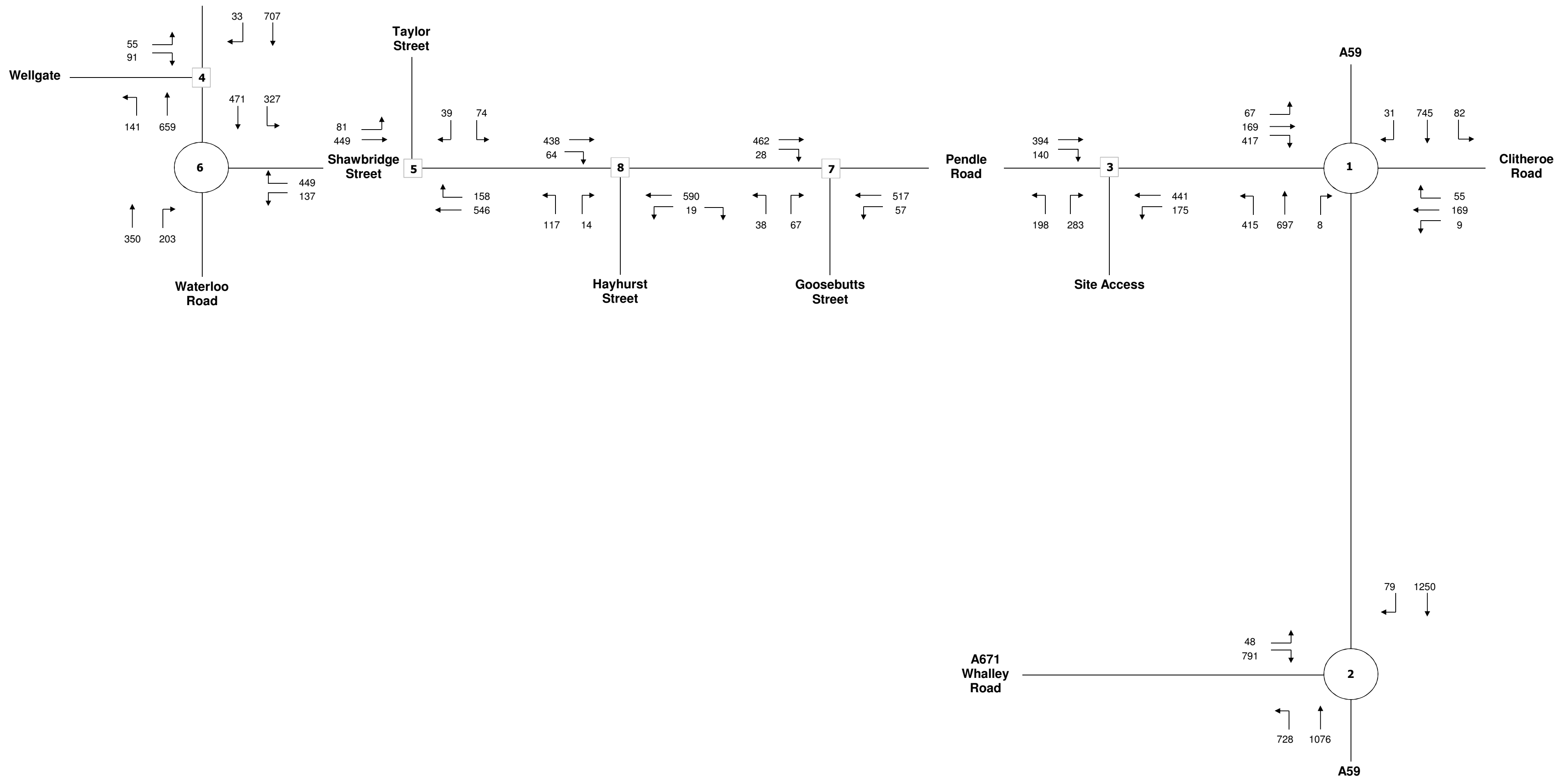


Fig 25 - 2030 Assessment Flows
AM Peak Period (08:00 - 09:00)

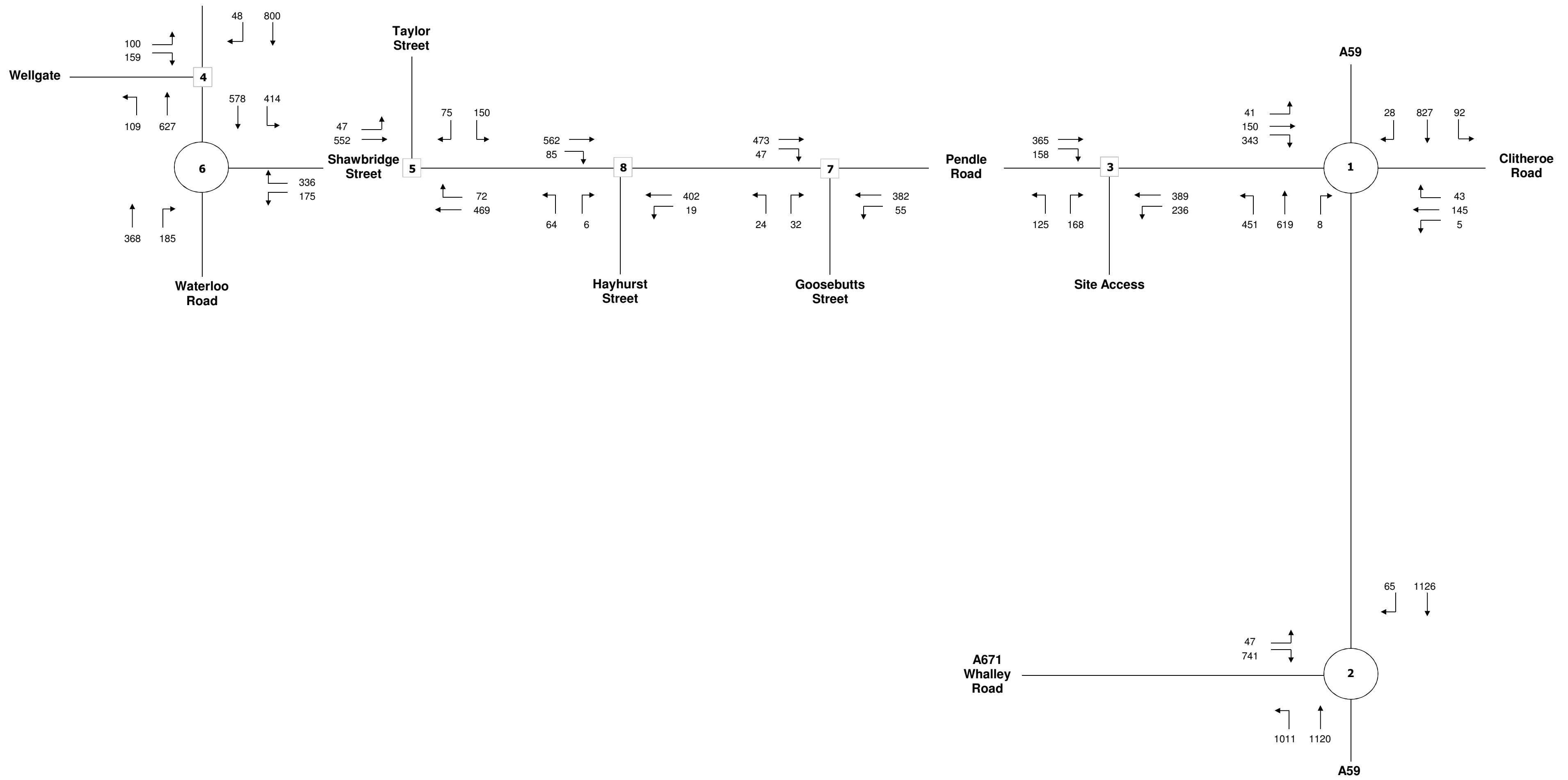
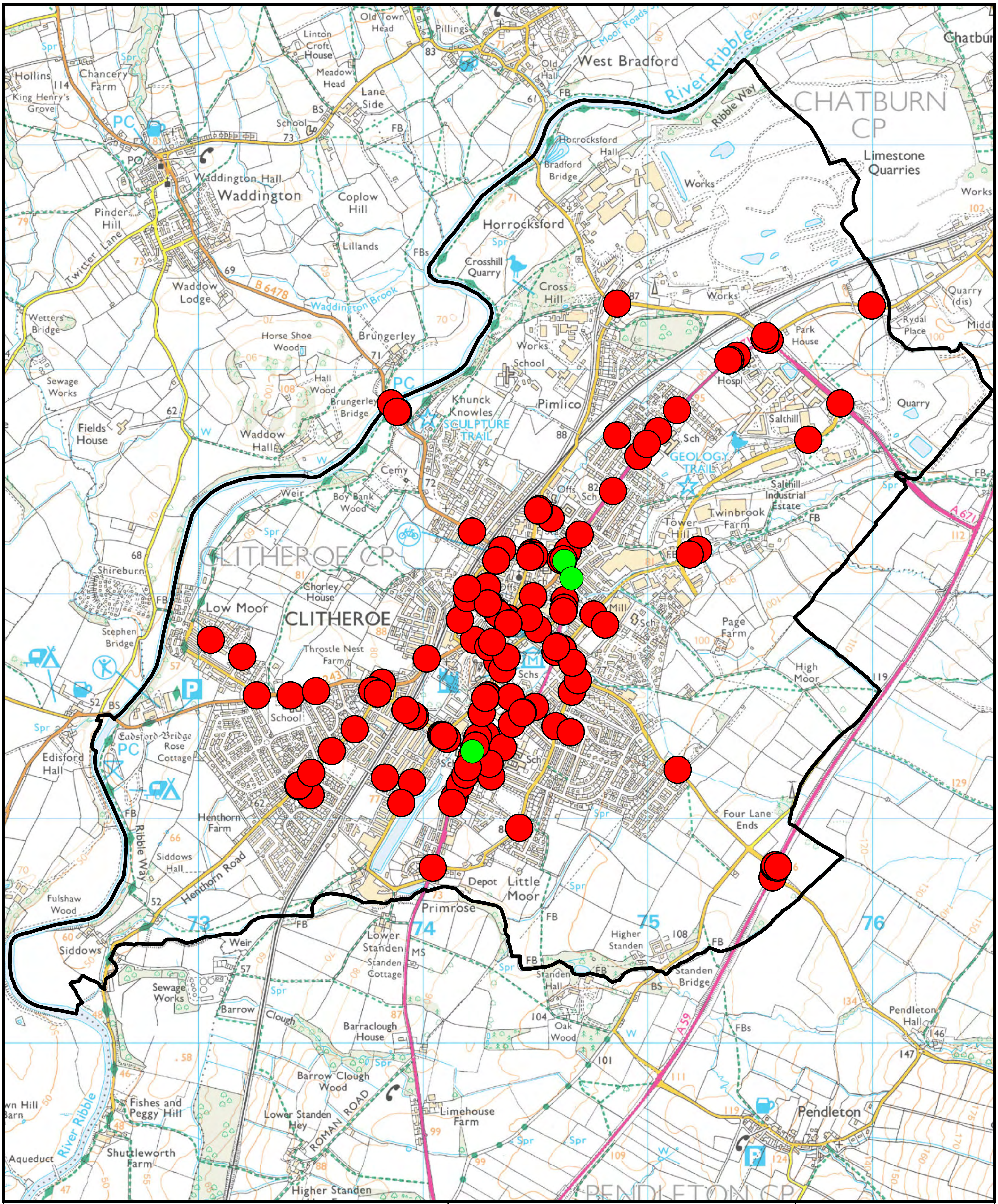
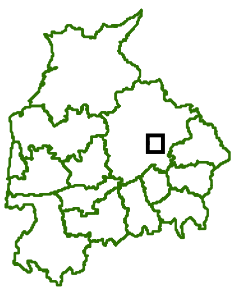


Fig 26 - 2030 Assessment Flows
PM Peak Period (16:30 - 17:30)

Appendix A
Personal Injury Accident Data



Accident Count
(most recent in Green)



Lancashire County Council

Accidents between 01 05 2007 and 30 04 2012
CLITHEROE Parish

1:15,900

Vehicle Classification	
A	Car
B	Pedestrian
C	Cyclist
D	Taxi
E	Morocycle
F	Motocycle - 50cc & under
G	Other motor vehicle
H	Goods Vehicle 7.5 tones mgw and over
I	Goods Vehicle over 3.5 tones and under 7.5 MGW
J	Bus or Coach (more than 17 passengers)
K	Goods Vehicle under 3.5 tones
U	Unknown Vehicle

Weather & Lighting Conditions	
A	Fine without high winds
B	Raining without high winds
D	Day light - street lights present
E	Darkness - street lights present & lit
F	Daylight No street lighting
G	Daylight, lighting unknown
H	Darkness - no street lighting
O	Other

Surface Conditions	
A	Dry
B	Frost & Ice
C	Wet / Damp

Number	Location	Date	Time	Grid Ref	Lighting conditions	Surface Conditions	Weather	Vehicles Involved	Vehicle Types	Casality type	Severity
1	U23221: Henton Road	17/07/2009	15:10	373504:441202	D	A	A	1	A & B	Ped	Slight
2	A671: Whalley Road	23/12/2010	09:00	374189: 441193	D	B	B	2	A	Driver and passenger	Slight
3	U23084: Brownlow Street	21/03/2008	08:50	374307:441187	D	A	A	2	D & E	driver / rider	Slight
4	U23194: Victoria Stree	13/11/2009	18:20	373833: 441181	E	C	B	2	A & D	driver / rider	Slight
5	U23225: Woone Lane	02/05/2009	07:20	373954:441158	D	A	A	2	D & F	driver / rider	Slight
6	A671: Whalley Road	02/12/2011	18:05	374167:441147	E	C	A	1	A	Ped	Slight
7	U23149: Garnet Road	16/05/2008	18:30	373447:441146	D	A	A	2	A	driver / rider	Slight
8	U23221: Henthorn Road	03/07/2008	19:45	373449:441145	E	C	A	2	A & F	driver / rider	
9	U23221: Henthorn Road	20/11/2010	08:10	373450:441145	E	A	A	3	2 A & 1 G	driver / rider	Slight
10	U23221: Henthorn Road	04/06/2008	16:08	373446:441143	D	A	A	2	G & C	driver / rider	serious
11	U23152: Mytton View	28/07/2007	18:42	373500:441102	D	C	A	1	A & B	ped	Slight
12	A671: Whalley Road	06/03/2009	19:20	374143:441093	E	A	A	2	A	driver / rider	Slight
13	U23200: Primrose Street	05/09/2009	19:15	373904: 441066	F	A	A	1	A & B	Ped	Slight
14	A671: Whalley Road	07/11/2007	10:21	374132:441066	D	C	B	3	A	driver / rider	serious
15	U23110: Littlemoor Road	13/10/2009	18:15	374431:440957	D	A	A	2	A	Drivers / rider	serious
16	A59 walley clitheroe by pass	01/12/2008	11:44	375570:440790	D	B	A	2	A	Driver / rider	Slight
17	A59 walley clitheroe by pass	22/09/2011	16:05	375569:440789	D	A	A	2	A	driver / rider	Slight
18	A59 walley clitheroe by pass	08/07/2008	09:00	375569:440788	D	A	A	2	A & H	driver / rider & Vehicle or pillion passenger	Slight
19	A59 walley clitheroe by pass	07/06/2009	14:30	375569:440788	D	A	A	2	A	driver / rider & Vehicle or pillion passenger	Slight
20	A59 walley clitheroe by pass	05/09/2011	17:15	375669:440788	D	A	A	2	A & F	driver / rider	Slight
21	A59 walley clitheroe by pass	20/04/2010	15:45	375568:440787	D	A	A	2	A	Vehicle or pillion passenger	Slight
22	A59 walley clitheroe by pass	05/12/2007	07:27	375569:440786	D	C	A		A	Driver / rider	serious
23	A59 walley clitheroe by pass	29/01/2010	08:28	375568:440785	D	A	A	2	A	Vehicle / rider	Slight
24	A59 walley clitheroe by pass	28/08/2007	19:58	375569?440785	D	A	A	2	A	2X driver / rider & 2X vehicle or Pillion passenger	Fatal, 2X serious, 1 slight
25	A59 walley clitheroe by pass	17/08/2011	12:50	375567:440784	D	A	A	2	A	Driver / rider & vehicle passenger or pillion passenger	Slight
26	A59 walley clitheroe by pass	23/03/2012	14:30	375581:440784	D	A	A	1	E	Driver . Rider	Slight
27	A59 walley clitheroe by pass	31/08/2010	07:35	375567:440783	D	A	A	2	A & E	Driver / rider	serious
28	A59 walley clitheroe by pass	28/11/2010	13:25	375573:440781	D	B	A	2	A	Driver / rider	slight
29	A59 walley clitheroe by pass	14/01/2010	16:54	375580:440780	E	C	A	2	A	Driver / rider	Slight
30	A671 : Walley Road	27/04/2011	12:20	374044:440778	D	A	A	2	A & E	Driver / rider	Slight
31	A59 walley clitheroe by pass	15/09/2011	16:40	375559:440736	D	A	A	2	A	Driver / Rider	Slight
32	C579: West Bradford Road	19/07/2008	12:40	374865:443291	D	A	A	2	A	Driver / rider	serious
33	C580 Chatburn Road	12/03/2011	23:15	375999:443283	E	C	B	1	A	Driver / rider	Slight
34	A671 Chatburn Road	04/11/2009	12:10	375526:443148	D	C	O	2	A & H	Driver / rider	slight
35	A671 charburn Road	11/05/2011	13:05	375522:443136	D	A	A	2	A	Vehicle or pillion passenger	Slight
36	A671: Chatburn Road	23/01/2008	08:15	375522:443135	D	C	A	2	A	driver / rider & Vehicle or pillion passenger	Slight
37	A671: Pimlico Link Road	12/01/2008	10:44	375543:443129	D	C	B	2	A	Driver / rider	Slight
38	A671: Chatburn Road	13/02/2012	11:45	375398:443059	E	C	A	1	A	driver / rider	Slight
39	A671: Chatburn Road	28/06/2009	14:57	375370:443040	D	A	A	3	3X E	driver / rider and vehicle or pillion passenger	slight
40	A671: Pimlico Link Road	23/01/2008	18:55	375860:442848	B	A	A	2	A	driver / rider	slight
41	B6478: Clitheroe Road	23/07/2011	14:45	373860:442846	F	A	A	2	A & C	driver / rider and vehicle or pillion passenger	Slight / serious
42	A671: Chatburn Road	19/06/2007	09:20	375132:442818	D	A	A	2	A & C	Driver ./ rider	serious
43	B6478: Waddington Road	14/09/2008	01:35	373886:442809	D	A	A	1	A	driver / rider and vehicle or pillion passenger	slight
44	B6478: Waddington Road	29/07/2007	15:00	373890:442809	D	A	A	2	A & U	driver / rider and vehicle or pillion passenger	slight
45	A671: Chatburn Road	30/09/2011	15:00	375048:442722	D	A	A	2	A & J	Vehicle or pillion passenger	slight
46	U22949: Dorset Drive	12/09/2009	11:15	374867:442704	D	A	A	1	A & B	Pedestrian	slight
47	U22937: Lincoln Way	05/09/2007	17:45	375716:442686	G	A	A	3	2xA and J	driver / rider	slight
48	A671: Chatburn Road	12/05/2007	22:12	374999:442667	E	C	B	3	A	driver / rider	slight
49	A671: Chatburn Road	04/05/2010	19:05	374960:442612	D	A	A	2	A	driver / rider	slight
50	A671: Chat burn Road	09/06/2010	17:10	374846:442456	D	A	A	2	A & C	Driver / rider	slight
51	C579: Pimlico Road	09/11/2010	15:55	374518:442375	D	C	A	3	A	Vehicle or pillion passenger	slight
52	C579: Pimlico Road	26/03/2008	05:39	374513:442369	D	A	A	2	A & F	Driver / rider	slight
53	U22962: Princess Avenue	20/10/2010	15:30	374569:442336	D	A	A	1	C & B	Pedestrian	slight
54	B6478: Waddington Road	07/09/2007	16:00	374221:442276	D	A	A	1	A & B	Pedestrian	slight
55	A671: Chatburn Road	18/05/2009	16:30	374700:442262	G	C	o	2	A & K	Driver / rider	slight
56	U23015: Up Brooks	18/01/2011	18:10	375227:442196	H	A	A	1	A & B	Pedestrian	Slight
57	B6478: Waddington Road	19/10/2008	19:32	374354:442194	E	C	B				

Appendix B
Proposed Masterplan & Parameters Plan

Application Boundary
New Pedestrian/ Cycle Route
Existing Public Right of Way
National Cycle Network
Activity/ Ecology Trail
Line of Roman Road
Youth Play
Children's Play
New Junction
Employment Uses
Site for Potential Primary School
Community Uses
Retirement Living
Wetland - Enhanced Ecology
Landscape Corridors
Residential Parcels
Built Up Area of Clitheroe
Key Frontages
Brook
Stream
Swale
Rill
Pond/ Suds Attenuation
Primary Access
Secondary Access - Emergency Bus and Cycle/ Pedestrian Route
Pedestrian Access - Cycle/ Pedestrian Route (and/or)
Littlemoor
Lingfield Avenue
Shays Drive
Pendle Road
Worston Road
A59
Higher Standen Farm
Pendleton Brook
Standen Hall
0
100m
200m
300m
STANDEN STRATEGIC SITE
Masterplan
Scale: 1:2500@A2
Job: 5381
Reviewed by: GP
Drawing: SP(90)09E
taylor young

Appendix C
Travel Plan Strategy

Proposed Development at Standen Estate, Clitheroe

Travel Plan (TP) Strategy Summary

1.1 Preamble

1.1.1 In order to reduce reliance on the private car for travel to and from the site, a site-based Travel Plan Strategy (TPS) will be operated. The TPS will consist of a number of individual travel plans that would be prepared for each major land use or developer phase. For example, there would be individual travel plans prepared for the residential and employment elements of the development proposal.

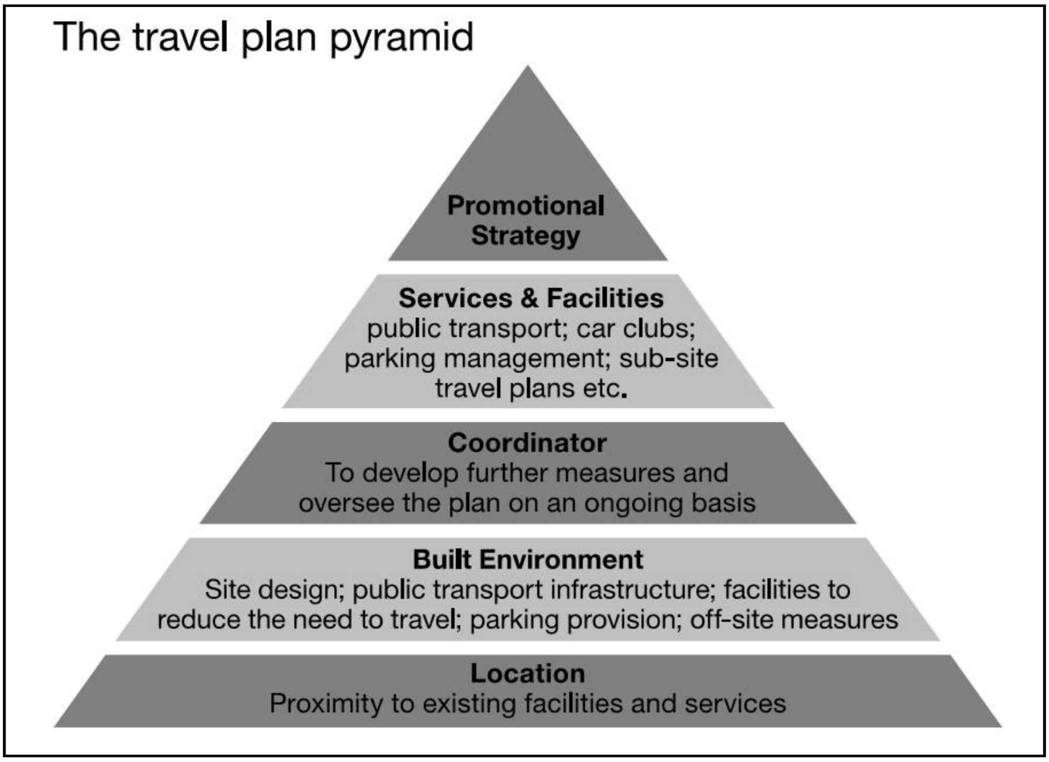
1.1.2 The TPS will be an overarching mechanism to coordinate the individual Travel Plans and would monitor the manner in which people travelled to and from the site. The TPS would, where appropriate, set a number of targets in order to reduce the use of the private car. The targets and travel modal split associated with the site components would be reviewed on an annual basis and updated if required.

1.1.3 A Travel Plan Coordinator (TPC) would be appointed for the whole development. They could also act for each sub-element of the overall site if required. Their role would be to encourage sustainable travel and coordinate the actions of the other TPC's who would be appointed on each of the elements of the development. The coordinator would liaise with the sub TPC's, staff and the local authority and will be responsible for travel plan monitoring. In order to establish travel patterns, a questionnaire would be undertaken after the opening of each element of the development. The questionnaire would obtain information including site staff home locations, current travel mode and seek opinions on car sharing and public transport use.

1.2 The Travel Plan Pyramid

1.2.1 The DfT's 'Making Residential Travel Plans Work', (June 2007) introduces the concept of a 'Travel Plan Pyramid'. This helps demonstrate how successful plans are built on the firm foundations of a good location and site design. The pyramid is presented in **Figure 1** overleaf;

Figure 1 - Travel Plan Pyramid from DfT's '*Making Travel Plans Work*'



1.2.2 The hierarchy of 5 tiers of measures and criteria are well illustrated in pyramid form since the concept presented within that "good practice" is that each higher layer builds upon the more important foundations of the criteria and initiatives below it.

1.2.3 The most important layer of the pyramid is considered to be the base, this shows the key to making TP's work is the actual location of the development and its proximity to local facilities and services essential to everyday life. The proposals fare well in this regard and even include such facilities within the site.

1.2.4 The development will be well served by public transport with buses travelling through the site. The site is also proximate to a range of local employment, schools and amenities which are all accessible by sustainable (non-car travel modes). The majority of those identified are accessible by the most sustainable transport mode, i.e. on foot.

1.2.5 The second layer of the pyramid refers to how the layout of the site can assist in reducing the need to travel. At this juncture, the site layout is not being applied for, but any detailed approval will require good quality pedestrian, cycle and bus facilities to be delivered.

1.2.6 The third most important aspect (level 3 of the pyramid) is the TPC. A TPC will be appointed and will be free to develop further measures to maximise the sustainably of the site.

1.2.7 The fourth layer of the pyramid looks at how parking management and public transport can influence travel choice. These aspects will be part of the final development.

1.2.8 The top layer of the pyramid relates to how the TP will be marketed and how the measures within are to be promoted. This is sometimes more easily achieved in commercial Travel Plans, but residents at the development will be made aware of the aims of the TP and will be provided with a Residential Travel Pack which sets out the travel choices and alternatives to car travel available. Each element of the development may have its own TPC and all will be coordinated by the main TPC.

1.3 Travel Plan Coordinator

1.3.1 The general responsibilities of the main and sub element TPC's will include:

- Implementing the TP measures outlined within the TP. They will be responsible for ensuring the measures are relevant, realistic and achievable and for continuing to review and assess their success.
- Developing the actual TP ensuring the most effective sustainable travel solutions are being achieved.
- Regularly reviewing and assessing the TP to determine if objectives are being achieved, and determining new measures if required. They will also be expected to continually update the TP's to ensure success.

- Ensuring that all residents, staff and visitors have the travel information they require, and that they are made aware of all the travel options available to them. This will help to maximise the levels of sustainable travel choices being used.

- Using effective awareness raising schemes and campaigns to promote the TP's and use of sustainable travel on the sites. Studies have shown that the proportion of car users reacting to travel awareness campaigns can reach 6% and that reduction in car use amongst those car users who change their travel behaviour could reach 20% (Smarter Choices - Changing the way we travel, DFT July 2004).

- The main TPC will also be responsible for:

  Undertaking discussions with local public transport operators to ascertain whether discounted bus / rail tickets could be purchased by residents. They may also need to seek public transport operator support for improved services if appropriate; and

  Managing and monitoring the TP's alongside the local planning authority and highway authority, to ensure they are being put into place efficiently and that all measures are relevant and up-to-date.

1.4 Possible TP Measures

1.4.1 The operational TP's will identify a number of measures which will aim to promote the use of sustainable travel. Examples of some possible measures that might form part of the TP are summarised below.

'Welcome' Packs

1.4.2 A 'welcome pack' could be distributed to residents in order to introduce the TP and its associated sustainable travel initiatives.

1.4.3 The welcome packs would include the following:

- Location map of the site highlighting the travel related facilities (on and off site) such as bus stops and cycle stands;

- Site specific public transport information including up to date local service timetables;

- Links to relevant local websites with travel information such as public transport operator information and cycling organisations;
- A local walking and cycling map;
- A feedback survey could also be enclosed which would assist the Travel Plan Coordinator's in gathering information about perceived transport choices and any ideas on ways to improve.

1.4.4 The welcome pack would continue to be distributed out to new residents and staff who move into the development. The packs would be kept up to date and contain the results of any monitoring and target achievements.

1.4.5 It is important to provide details of achievements as successes could further add to the promotion of the TP raising awareness and the desire to achieve further goals.

1.4.6 If appropriate this could be provided as a New Household or Business "Local Sustainable Travel Packs". An appropriate Section 106 contribution could be provided to cover the developer's costs associated with the same.

Managing Car Use

1.4.7 Despite the many alternatives to the private car, some people rely on their private car for certain trips. Shopping trips, for example with bulky or heavy goods could be where a car becomes a necessity in some cases. Car sharing should also be encouraged due to the environmental benefits of multiple car occupancy and this is something that could be advertised and coordinated through the TPC.

Reducing the Need to Travel

1.4.8 The welcome packs should have information on the benefits of online shopping. This can reduce the number of trips being made by car and reduce vehicle mileage for food shopping. A recent study estimated that one delivery van can replace 10 - 15 trips to a store.

1.4.9 Smarter working practices can reduce the need to travel. The welcome packs should describe smarter ways of working that reduce travel such as teleconferencing, working from home etc.

Car Sharing

1.4.10 A key measure for the site could be the promotion of a Car Sharing scheme for staff and residents due to the known environmental and financial benefits of car sharing versus single occupancy vehicle travel.

1.4.11 Car sharing involves two or more people travelling in the same car. It has been observed to work best where the sharers live in the same area, work consistent hours and commute a significant distance (between 5 and 13 miles). Some people may already share their journeys on an informal basis. However a TP has the potential to increase this practice through introducing and promoting a formal scheme.

1.4.12 A good example of a car sharing database can be found at www.liftshare.com.

1.5 Conclusion

1.5.1 An overarching TP strategy will guide or provide TP implementation for each element of the proposals. A main TPC will oversee or provide TP services monitoring and initiatives for each element of the proposals.

1.5.2 The entire development will benefit from an effective overarching TPS implemented right down through development phase specific TP's, to the level of the individual staff member or resident.

1.5.3 The adoption of this strategy in connection with the sustainable travel attributes of the site location and proposed provisions will ensure that sustainable travel will be encouraged effectively.

Appendix D
TRICS Output

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 03 - RESIDENTIAL
Category : A - HOUSES PRIVATELY OWNED
MULTI-MODAL VEHICLES

Selected regions and areas:

02	SOUTH EAST		
	EX	ESSEX	1 days
	SC	SURREY	1 days
04	EAST ANGLIA		
	SF	SUFFOLK	1 days
06	WEST MIDLANDS		
	WO	WORCESTERSHIRE	1 days
08	NORTH WEST		
	MS	MERSEYSIDE	1 days
09	NORTH		
	TV	TEES VALLEY	1 days
10	WALES		
	CF	CARDIFF	1 days

Filtering Stage 2 selection:

Parameter: Number of dwellings
Range: 222 to 372 (units:)

Public Transport Provision:
Selection by: Include all surveys

Date Range: 01/01/02 to 10/02/10

Selected survey days:

Tuesday	1 days
Wednesday	1 days
Thursday	5 days

Selected survey types:

Manual count	7 days
Directional ATC Count	0 days

Selected Locations:

Suburban Area (PPS6 Out of Centre)	2
Edge of Town	3
Neighbourhood Centre (PPS6 Local Centre)	2

Selected Location Sub Categories:

Residential Zone	3
Village	1
No Sub Category	3

LIST OF SITES relevant to selection parameters

1 CF-03-A-01 MIXED HOUSES, CARDIFF CARDIFF
VIRGIL STREET
NINIAN PARK
CARDIFF
Suburban Area (PPS6 Out of Centre)
No Sub Category
Total Number of dwellings: 222
Survey date: THURSDAY 17/10/02 Survey Type: MANUAL

2 EX-03-A-01 SEMI-DET., STANFORD-LE-HOPE ESSEX
MILTON ROAD
CORRINGHAM
STANFORD-LE-HOPE
Edge of Town
Residential Zone
Total Number of dwellings: 237
Survey date: TUESDAY 13/05/08 Survey Type: MANUAL

3 MS-03-A-01 TERRACED, RUNCORN MERSEYSIDE
PALACE FIELDS AVENUE

RUNCORN
Neighbourhood Centre (PPS6 Local Centre)
Residential Zone
Total Number of dwellings: 372
Survey date: THURSDAY 06/10/05 Survey Type: MANUAL

4 SC-03-A-04 HOUSES & FLATS,NEAR FRIMLEY SURREY
DEEPCUT BRIDGE ROAD
DEEPCUT
NEAR FRIMLEY
Neighbourhood Centre (PPS6 Local Centre)
Village
Total Number of dwellings: 288
Survey date: WEDNESDAY 10/02/10 Survey Type: MANUAL

5 SF-03-A-02 SEMI DET./TERRACED, IPSWICH SUFFOLK
STOKE PARK DRIVE
MAIDENHALL
IPSWICH
Edge of Town
Residential Zone
Total Number of dwellings: 230
Survey date: THURSDAY 24/05/07 Survey Type: MANUAL

6 TV-03-A-01 MIXED HOUSES/FLATS, HARTLEPL TEES VALLEY
POWLETT ROAD

HARTLEPOOL
Suburban Area (PPS6 Out of Centre)
No Sub Category
Total Number of dwellings: 225
Survey date: THURSDAY 14/04/05 Survey Type: MANUAL

7 WO-03-A-06 DET./TERRACED, BROMSGROVE WORCESTERSHIRE
ST GODWALDS ROAD
ASTON FIELDS
BROMSGROVE
Edge of Town
No Sub Category
Total Number of dwellings: 232
Survey date: THURSDAY 30/06/05 Survey Type: MANUAL

TRIP RATE for Land Use 03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED

MULTI-MODAL VEHICLES

Calculation factor: 1 DWELLS

BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00	0	0	0.000	0	0	0.000	0	0	0.000
01:00 - 02:00	0	0	0.000	0	0	0.000	0	0	0.000
02:00 - 03:00	0	0	0.000	0	0	0.000	0	0	0.000
03:00 - 04:00	0	0	0.000	0	0	0.000	0	0	0.000
04:00 - 05:00	0	0	0.000	0	0	0.000	0	0	0.000
05:00 - 06:00	0	0	0.000	0	0	0.000	0	0	0.000
06:00 - 07:00	0	0	0.000	0	0	0.000	0	0	0.000
07:00 - 08:00	7	258	0.078	7	258	0.265	7	258	0.343
08:00 - 09:00	7	258	0.148	7	**258**	**0.453**	7	258	0.601
09:00 - 10:00	7	258	0.160	7	258	0.208	7	258	0.368
10:00 - 11:00	7	258	0.140	7	258	0.177	7	258	0.317
11:00 - 12:00	7	258	0.151	7	258	0.173	7	258	0.324
12:00 - 13:00	7	258	0.164	7	258	0.169	7	258	0.333
13:00 - 14:00	7	258	0.178	7	258	0.171	7	258	0.349
14:00 - 15:00	7	258	0.187	7	258	0.193	7	258	0.380
15:00 - 16:00	7	258	0.308	7	258	0.218	7	258	0.526
16:00 - 17:00	7	258	0.309	7	258	0.193	7	258	0.502
17:00 - 18:00	7	**258**	**0.417**	7	258	0.214	7	**258**	**0.631**
18:00 - 19:00	7	258	0.301	7	258	0.206	7	258	0.507
19:00 - 20:00	0	0	0.000	0	0	0.000	0	0	0.000
20:00 - 21:00	0	0	0.000	0	0	0.000	0	0	0.000
21:00 - 22:00	0	0	0.000	0	0	0.000	0	0	0.000
22:00 - 23:00	0	0	0.000	0	0	0.000	0	0	0.000
23:00 - 24:00	0	0	0.000	0	0	0.000	0	0	0.000
Total Rates:			2.541			2.640			5.181

Parameter summary

Trip rate parameter range selected:	222 - 372 (units:)
Survey date date range:	01/01/02 - 10/02/10
Number of weekdays (Monday-Friday):	7
Number of Saturdays:	0
Number of Sundays:	0
Surveys manually removed from selection:	0

TRIP RATE for Land Use 03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED
MULTI-MODAL OGVS
Calculation factor: 1 DWELLS
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00	0	0	0.000	0	0	0.000	0	0	0.000
01:00 - 02:00	0	0	0.000	0	0	0.000	0	0	0.000
02:00 - 03:00	0	0	0.000	0	0	0.000	0	0	0.000
03:00 - 04:00	0	0	0.000	0	0	0.000	0	0	0.000
04:00 - 05:00	0	0	0.000	0	0	0.000	0	0	0.000
05:00 - 06:00	0	0	0.000	0	0	0.000	0	0	0.000
06:00 - 07:00	0	0	0.000	0	0	0.000	0	0	0.000
07:00 - 08:00	7	258	0.003	7	258	0.004	7	258	0.007
08:00 - 09:00	7	258	0.002	7	258	0.002	7	258	0.004
09:00 - 10:00	7	258	0.006	7	258	0.006	7	258	0.012
10:00 - 11:00	7	258	0.002	7	258	0.002	7	258	0.004
11:00 - 12:00	7	258	0.003	7	258	0.004	7	258	0.007
12:00 - 13:00	7	258	0.004	7	258	0.004	7	258	0.008
13:00 - 14:00	7	258	0.004	7	258	0.005	7	258	0.009
14:00 - 15:00	7	258	0.002	7	258	0.003	7	258	0.005
15:00 - 16:00	7	258	0.001	7	258	0.002	7	258	0.003
16:00 - 17:00	7	258	0.002	7	258	0.002	7	258	0.004
17:00 - 18:00	7	258	0.001	7	258	0.001	7	258	0.002
18:00 - 19:00	7	258	0.000	7	258	0.001	7	258	0.001
19:00 - 20:00	0	0	0.000	0	0	0.000	0	0	0.000
20:00 - 21:00	0	0	0.000	0	0	0.000	0	0	0.000
21:00 - 22:00	0	0	0.000	0	0	0.000	0	0	0.000
22:00 - 23:00	0	0	0.000	0	0	0.000	0	0	0.000
23:00 - 24:00	0	0	0.000	0	0	0.000	0	0	0.000
Total Rates:			0.030			0.036			0.066

Parameter summary

Trip rate parameter range selected: 222 - 372 (units:)
Survey date date range: 01/01/02 - 10/02/10
Number of weekdays (Monday-Friday): 7
Number of Saturdays: 0
Number of Sundays: 0
Surveys manually removed from selection: 0

TRIP RATE for Land Use 03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED

MULTI-MODAL CYCLISTS

Calculation factor: 1 DWELLS

BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00	0	0	0.000	0	0	0.000	0	0	0.000
01:00 - 02:00	0	0	0.000	0	0	0.000	0	0	0.000
02:00 - 03:00	0	0	0.000	0	0	0.000	0	0	0.000
03:00 - 04:00	0	0	0.000	0	0	0.000	0	0	0.000
04:00 - 05:00	0	0	0.000	0	0	0.000	0	0	0.000
05:00 - 06:00	0	0	0.000	0	0	0.000	0	0	0.000
06:00 - 07:00	0	0	0.000	0	0	0.000	0	0	0.000
07:00 - 08:00	7	258	0.002	7	258	0.006	7	258	0.008
08:00 - 09:00	7	258	0.002	7	258	0.005	7	258	0.007
09:00 - 10:00	7	258	0.001	7	258	0.003	7	258	0.004
10:00 - 11:00	7	258	0.002	7	258	0.002	7	258	0.004
11:00 - 12:00	7	258	0.003	7	258	0.003	7	258	0.006
12:00 - 13:00	7	258	0.006	7	258	0.004	7	258	0.010
13:00 - 14:00	7	258	0.002	7	258	0.003	7	258	0.005
14:00 - 15:00	7	258	0.002	7	258	0.003	7	258	0.005
15:00 - 16:00	7	258	0.011	**7**	**258**	**0.012**	**7**	**258**	**0.023**
16:00 - 17:00	7	258	0.008	7	258	0.006	7	258	0.014
17:00 - 18:00	7	258	0.009	7	258	0.008	7	258	0.017
18:00 - 19:00	**7**	**258**	**0.012**	7	258	0.009	7	258	0.021
19:00 - 20:00	0	0	0.000	0	0	0.000	0	0	0.000
20:00 - 21:00	0	0	0.000	0	0	0.000	0	0	0.000
21:00 - 22:00	0	0	0.000	0	0	0.000	0	0	0.000
22:00 - 23:00	0	0	0.000	0	0	0.000	0	0	0.000
23:00 - 24:00	0	0	0.000	0	0	0.000	0	0	0.000
Total Rates:			0.060			0.064			0.124

Parameter summary

Trip rate parameter range selected:	222 - 372 (units:)
Survey date date range:	01/01/02 - 10/02/10
Number of weekdays (Monday-Friday):	7
Number of Saturdays:	0
Number of Sundays:	0
Surveys manually removed from selection:	0

TRIP RATE for Land Use 03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED
MULTI-MODAL PEDESTRIANS
Calculation factor: 1 DWELLS
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00	0	0	0.000	0	0	0.000	0	0	0.000
01:00 - 02:00	0	0	0.000	0	0	0.000	0	0	0.000
02:00 - 03:00	0	0	0.000	0	0	0.000	0	0	0.000
03:00 - 04:00	0	0	0.000	0	0	0.000	0	0	0.000
04:00 - 05:00	0	0	0.000	0	0	0.000	0	0	0.000
05:00 - 06:00	0	0	0.000	0	0	0.000	0	0	0.000
06:00 - 07:00	0	0	0.000	0	0	0.000	0	0	0.000
07:00 - 08:00	7	258	0.019	7	258	0.047	7	258	0.066
08:00 - 09:00	7	258	0.034	7	**258**	**0.135**	7	258	0.169
09:00 - 10:00	7	258	0.029	7	258	0.054	7	258	0.083
10:00 - 11:00	7	258	0.024	7	258	0.028	7	258	0.052
11:00 - 12:00	7	258	0.027	7	258	0.032	7	258	0.059
12:00 - 13:00	7	258	0.037	7	258	0.033	7	258	0.070
13:00 - 14:00	7	258	0.030	7	258	0.027	7	258	0.057
14:00 - 15:00	7	258	0.025	7	258	0.028	7	258	0.053
15:00 - 16:00	7	**258**	**0.149**	7	258	0.049	7	**258**	**0.198**
16:00 - 17:00	7	258	0.054	7	258	0.042	7	258	0.096
17:00 - 18:00	7	258	0.059	7	258	0.051	7	258	0.110
18:00 - 19:00	7	258	0.047	7	258	0.039	7	258	0.086
19:00 - 20:00	0	0	0.000	0	0	0.000	0	0	0.000
20:00 - 21:00	0	0	0.000	0	0	0.000	0	0	0.000
21:00 - 22:00	0	0	0.000	0	0	0.000	0	0	0.000
22:00 - 23:00	0	0	0.000	0	0	0.000	0	0	0.000
23:00 - 24:00	0	0	0.000	0	0	0.000	0	0	0.000
Total Rates:			0.534			0.565			1.099

Parameter summary

Trip rate parameter range selected: 222 - 372 (units:)
Survey date date range: 01/01/02 - 10/02/10
Number of weekdays (Monday-Friday): 7
Number of Saturdays: 0
Number of Sundays: 0
Surveys manually removed from selection: 0

TRIP RATE for Land Use 03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED
MULTI-MODAL PUBLIC TRANSPORT USERS
Calculation factor: 1 DWELLS
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00	0	0	0.000	0	0	0.000	0	0	0.000
01:00 - 02:00	0	0	0.000	0	0	0.000	0	0	0.000
02:00 - 03:00	0	0	0.000	0	0	0.000	0	0	0.000
03:00 - 04:00	0	0	0.000	0	0	0.000	0	0	0.000
04:00 - 05:00	0	0	0.000	0	0	0.000	0	0	0.000
05:00 - 06:00	0	0	0.000	0	0	0.000	0	0	0.000
06:00 - 07:00	0	0	0.000	0	0	0.000	0	0	0.000
07:00 - 08:00	7	258	0.001	7	258	0.016	7	258	0.017
08:00 - 09:00	7	258	0.003	**7**	**258**	**0.023**	**7**	**258**	**0.026**
09:00 - 10:00	7	258	0.003	7	258	0.008	7	258	0.011
10:00 - 11:00	7	258	0.004	7	258	0.010	7	258	0.014
11:00 - 12:00	7	258	0.004	7	258	0.008	7	258	0.012
12:00 - 13:00	7	258	0.006	7	258	0.008	7	258	0.014
13:00 - 14:00	7	258	0.011	7	258	0.001	7	258	0.012
14:00 - 15:00	7	258	0.005	7	258	0.002	7	258	0.007
15:00 - 16:00	7	258	0.014	7	258	0.006	7	258	0.020
16:00 - 17:00	**7**	**258**	**0.019**	7	258	0.002	7	258	0.021
17:00 - 18:00	7	258	0.014	7	258	0.006	7	258	0.020
18:00 - 19:00	7	258	0.007	7	258	0.002	7	258	0.009
19:00 - 20:00	0	0	0.000	0	0	0.000	0	0	0.000
20:00 - 21:00	0	0	0.000	0	0	0.000	0	0	0.000
21:00 - 22:00	0	0	0.000	0	0	0.000	0	0	0.000
22:00 - 23:00	0	0	0.000	0	0	0.000	0	0	0.000
23:00 - 24:00	0	0	0.000	0	0	0.000	0	0	0.000
Total Rates:			0.091			0.092			0.183

Parameter summary

Trip rate parameter range selected:	222 - 372 (units:)
Survey date date range:	01/01/02 - 10/02/10
Number of weekdays (Monday-Friday):	7
Number of Saturdays:	0
Number of Sundays:	0
Surveys manually removed from selection:	0

TRIP RATE for Land Use 03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED

MULTI-MODAL TOTAL PEOPLE

Calculation factor: 1 DWELLS

BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00	0	0	0.000	0	0	0.000	0	0	0.000
01:00 - 02:00	0	0	0.000	0	0	0.000	0	0	0.000
02:00 - 03:00	0	0	0.000	0	0	0.000	0	0	0.000
03:00 - 04:00	0	0	0.000	0	0	0.000	0	0	0.000
04:00 - 05:00	0	0	0.000	0	0	0.000	0	0	0.000
05:00 - 06:00	0	0	0.000	0	0	0.000	0	0	0.000
06:00 - 07:00	0	0	0.000	0	0	0.000	0	0	0.000
07:00 - 08:00	7	258	0.108	7	258	0.380	7	258	0.488
08:00 - 09:00	7	258	0.224	7	**258**	**0.859**	7	**258**	**1.083**
09:00 - 10:00	7	258	0.227	7	258	0.334	7	258	0.561
10:00 - 11:00	7	258	0.204	7	258	0.272	7	258	0.476
11:00 - 12:00	7	258	0.219	7	258	0.257	7	258	0.476
12:00 - 13:00	7	258	0.254	7	258	0.251	7	258	0.505
13:00 - 14:00	7	258	0.268	7	258	0.249	7	258	0.517
14:00 - 15:00	7	258	0.279	7	258	0.269	7	258	0.548
15:00 - 16:00	7	**258**	**0.675**	7	258	0.367	7	258	1.042
16:00 - 17:00	7	258	0.486	7	258	0.327	7	258	0.813
17:00 - 18:00	7	258	0.604	7	258	0.355	7	258	0.959
18:00 - 19:00	7	258	0.441	7	258	0.342	7	258	0.783
19:00 - 20:00	0	0	0.000	0	0	0.000	0	0	0.000
20:00 - 21:00	0	0	0.000	0	0	0.000	0	0	0.000
21:00 - 22:00	0	0	0.000	0	0	0.000	0	0	0.000
22:00 - 23:00	0	0	0.000	0	0	0.000	0	0	0.000
23:00 - 24:00	0	0	0.000	0	0	0.000	0	0	0.000
Total Rates:			3.989			4.262			8.251

Parameter summary

Trip rate parameter range selected:	222 - 372 (units:)
Survey date date range:	01/01/02 - 10/02/10
Number of weekdays (Monday-Friday):	7
Number of Saturdays:	0
Number of Sundays:	0
Surveys manually removed from selection:	0

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 02 - EMPLOYMENT
Category : A - OFFICE
MULTI-MODAL VEHICLES

Selected regions and areas:

02	SOUTH EAST		
	HC	HAMPSHIRE	2 days
	SC	SURREY	1 days

Filtering Stage 2 selection:

Parameter: Gross floor area
Range: 15975 to 19974 (units: sqm)

Public Transport Provision:
Selection by: Include all surveys

Date Range: 01/01/02 to 10/03/09

Selected survey days:

Monday	2 days
Tuesday	1 days

Selected survey types:

Manual count	3 days
Directional ATC Count	0 days

Selected Locations:

Edge of Town	3

Selected Location Sub Categories:

Commercial Zone	3

LIST OF SITES relevant to selection parameters

1 HC-02-A-08 DIY CO. HQ, CHANDLER'S FORD HAMPSHIRE
TEMPLAR'S WAY
HAMPSHIRE CORP. PARK
CHANDLER'S FORD
Edge of Town
Commercial Zone
Total Gross floor area: 15975 sqm
Survey date: MONDAY 10/10/05 Survey Type: MANUAL

2 HC-02-A-10 DIY CO. HQ, CHANDLER'S FORD HAMPSHIRE
TEMPLAR'S WAY
HAMPSHIRE CORP. PARK
CHANDLER'S FORD
Edge of Town
Commercial Zone
Total Gross floor area: 15975 sqm
Survey date: MONDAY 20/10/08 Survey Type: MANUAL

3 SC-02-A-14 UNILEVER, LEATHERHEAD SURREY
SPRINGFIELD DRIVE

LEATHERHEAD
Edge of Town
Commercial Zone
Total Gross floor area: 19974 sqm
Survey date: TUESDAY 10/03/09 Survey Type: MANUAL

TRIP RATE for Land Use 02 - EMPLOYMENT/A - OFFICE

MULTI-MODAL 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 - 00:30	0	0	0.000	0	0	0.000	0	0	0.000
00:30 - 01:00	0	0	0.000	0	0	0.000	0	0	0.000
01:00 - 01:30	0	0	0.000	0	0	0.000	0	0	0.000
01:30 - 02:00	0	0	0.000	0	0	0.000	0	0	0.000
02:00 - 02:30	0	0	0.000	0	0	0.000	0	0	0.000
02:30 - 03:00	0	0	0.000	0	0	0.000	0	0	0.000
03:00 - 03:30	0	0	0.000	0	0	0.000	0	0	0.000
03:30 - 04:00	0	0	0.000	0	0	0.000	0	0	0.000
04:00 - 04:30	0	0	0.000	0	0	0.000	0	0	0.000
04:30 - 05:00	0	0	0.000	0	0	0.000	0	0	0.000
05:00 - 05:30	1	19974	0.000	1	19974	0.005	1	19974	0.005
05:30 - 06:00	1	19974	0.020	1	19974	0.005	1	19974	0.025
06:00 - 06:30	1	19974	0.070	1	19974	0.005	1	19974	0.075
06:30 - 07:00	1	19974	0.105	1	19974	0.025	1	19974	0.130
07:00 - 07:30	3	17308	0.335	3	17308	0.025	3	17308	0.360
07:30 - 08:00	3	17308	0.834	3	17308	0.075	3	17308	0.909
08:00 - 08:30	3	**17308**	**1.273**	3	17308	0.091	3	**17308**	**1.364**
08:30 - 09:00	3	17308	1.040	3	17308	0.119	3	17308	1.159
09:00 - 09:30	3	17308	0.514	3	17308	0.114	3	17308	0.628
09:30 - 10:00	3	17308	0.227	3	17308	0.089	3	17308	0.316
10:00 - 10:30	3	17308	0.156	3	17308	0.073	3	17308	0.229
10:30 - 11:00	3	17308	0.144	3	17308	0.083	3	17308	0.227
11:00 - 11:30	3	17308	0.089	3	17308	0.089	3	17308	0.178
11:30 - 12:00	3	17308	0.083	3	17308	0.096	3	17308	0.179
12:00 - 12:30	3	17308	0.116	3	17308	0.208	3	17308	0.324
12:30 - 13:00	3	17308	0.160	3	17308	0.189	3	17308	0.349
13:00 - 13:30	3	17308	0.183	3	17308	0.106	3	17308	0.289
13:30 - 14:00	3	17308	0.175	3	17308	0.129	3	17308	0.304
14:00 - 14:30	3	17308	0.150	3	17308	0.133	3	17308	0.283
14:30 - 15:00	3	17308	0.100	3	17308	0.121	3	17308	0.221
15:00 - 15:30	3	17308	0.116	3	17308	0.193	3	17308	0.309
15:30 - 16:00	3	17308	0.110	3	17308	0.239	3	17308	0.349
16:00 - 16:30	3	17308	0.102	3	17308	0.428	3	17308	0.530
16:30 - 17:00	3	17308	0.083	3	17308	0.505	3	17308	0.588
17:00 - 17:30	3	17308	0.135	3	**17308**	**1.190**	3	17308	1.325
17:30 - 18:00	3	17308	0.060	3	17308	0.822	3	17308	0.882
18:00 - 18:30	3	17308	0.054	3	17308	0.574	3	17308	0.628
18:30 - 19:00	3	17308	0.029	3	17308	0.325	3	17308	0.354
19:00 - 19:30	0	0	0.000	0	0	0.000	0	0	0.000
19:30 - 20:00	0	0	0.000	0	0	0.000	0	0	0.000
20:00 - 20:30	0	0	0.000	0	0	0.000	0	0	0.000
20:30 - 21:00	0	0	0.000	0	0	0.000	0	0	0.000
21:00 - 21:30	0	0	0.000	0	0	0.000	0	0	0.000
21:30 - 22:00	0	0	0.000	0	0	0.000	0	0	0.000
22:00 - 22:30	0	0	0.000	0	0	0.000	0	0	0.000
22:30 - 23:00	0	0	0.000	0	0	0.000	0	0	0.000
23:00 - 23:30	0	0	0.000	0	0	0.000	0	0	0.000
23:30 - 24:00	0	0	0.000	0	0	0.000	0	0	0.000
Total Rates:			6.463			6.056			12.519

Parameter summary

Trip rate parameter range selected:	15975 - 19974 (units: sqm)
Survey date date range:	01/01/02 - 10/03/09
Number of weekdays (Monday-Friday):	3
Number of Saturdays:	0
Number of Sundays:	0
Surveys manually removed from selection:	0

TRIP RATE for Land Use 02 - EMPLOYMENT/A - OFFICE

MULTI-MODAL 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 - 00:30	0	0	0.000	0	0	0.000	0	0	0.000
00:30 - 01:00	0	0	0.000	0	0	0.000	0	0	0.000
01:00 - 01:30	0	0	0.000	0	0	0.000	0	0	0.000
01:30 - 02:00	0	0	0.000	0	0	0.000	0	0	0.000
02:00 - 02:30	0	0	0.000	0	0	0.000	0	0	0.000
02:30 - 03:00	0	0	0.000	0	0	0.000	0	0	0.000
03:00 - 03:30	0	0	0.000	0	0	0.000	0	0	0.000
03:30 - 04:00	0	0	0.000	0	0	0.000	0	0	0.000
04:00 - 04:30	0	0	0.000	0	0	0.000	0	0	0.000
04:30 - 05:00	0	0	0.000	0	0	0.000	0	0	0.000
05:00 - 05:30	1	19974	0.000	1	19974	0.000	1	19974	0.000
05:30 - 06:00	1	19974	0.000	1	19974	0.000	1	19974	0.000
06:00 - 06:30	1	19974	0.005	1	19974	0.005	1	19974	0.010
06:30 - 07:00	1	19974	0.000	1	19974	0.000	1	19974	0.000
07:00 - 07:30	3	17308	0.004	3	17308	0.004	3	17308	0.008
07:30 - 08:00	3	17308	0.004	3	17308	0.004	3	17308	0.008
08:00 - 08:30	3	17308	0.017	3	17308	0.015	3	17308	0.032
08:30 - 09:00	3	17308	0.012	3	17308	0.012	3	17308	0.024
09:00 - 09:30	**3**	**17308**	**0.025**	**3**	**17308**	**0.025**	**3**	**17308**	**0.050**
09:30 - 10:00	3	17308	0.017	3	17308	0.017	3	17308	0.034
10:00 - 10:30	3	17308	0.008	3	17308	0.010	3	17308	0.018
10:30 - 11:00	3	17308	0.006	3	17308	0.004	3	17308	0.010
11:00 - 11:30	3	17308	0.006	3	17308	0.008	3	17308	0.014
11:30 - 12:00	3	17308	0.006	3	17308	0.008	3	17308	0.014
12:00 - 12:30	3	17308	0.010	3	17308	0.008	3	17308	0.018
12:30 - 13:00	3	17308	0.006	3	17308	0.006	3	17308	0.012
13:00 - 13:30	3	17308	0.008	3	17308	0.006	3	17308	0.014
13:30 - 14:00	3	17308	0.006	3	17308	0.008	3	17308	0.014
14:00 - 14:30	3	17308	0.006	3	17308	0.006	3	17308	0.012
14:30 - 15:00	3	17308	0.002	3	17308	0.002	3	17308	0.004
15:00 - 15:30	3	17308	0.008	3	17308	0.004	3	17308	0.012
15:30 - 16:00	3	17308	0.002	3	17308	0.006	3	17308	0.008
16:00 - 16:30	3	17308	0.010	3	17308	0.010	3	17308	0.020
16:30 - 17:00	3	17308	0.006	3	17308	0.006	3	17308	0.012
17:00 - 17:30	3	17308	0.012	3	17308	0.008	3	17308	0.020
17:30 - 18:00	3	17308	0.004	3	17308	0.006	3	17308	0.010
18:00 - 18:30	3	17308	0.013	3	17308	0.013	3	17308	0.026
18:30 - 19:00	3	17308	0.010	3	17308	0.010	3	17308	0.020
19:00 - 19:30	0	0	0.000	0	0	0.000	0	0	0.000
19:30 - 20:00	0	0	0.000	0	0	0.000	0	0	0.000
20:00 - 20:30	0	0	0.000	0	0	0.000	0	0	0.000
20:30 - 21:00	0	0	0.000	0	0	0.000	0	0	0.000
21:00 - 21:30	0	0	0.000	0	0	0.000	0	0	0.000
21:30 - 22:00	0	0	0.000	0	0	0.000	0	0	0.000
22:00 - 22:30	0	0	0.000	0	0	0.000	0	0	0.000
22:30 - 23:00	0	0	0.000	0	0	0.000	0	0	0.000
23:00 - 23:30	0	0	0.000	0	0	0.000	0	0	0.000
23:30 - 24:00	0	0	0.000	0	0	0.000	0	0	0.000
Total Rates:			0.213			0.211			0.424

Parameter summary

Trip rate parameter range selected:	15975 - 19974 (units: sqm)
Survey date date range:	01/01/02 - 10/03/09
Number of weekdays (Monday-Friday):	3
Number of Saturdays:	0
Number of Sundays:	0
Surveys manually removed from selection:	0

TRIP RATE for Land Use 02 - EMPLOYMENT/A - OFFICE
MULTI-MODAL 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 - 00:30	0	0	0.000	0	0	0.000	0	0	0.000
00:30 - 01:00	0	0	0.000	0	0	0.000	0	0	0.000
01:00 - 01:30	0	0	0.000	0	0	0.000	0	0	0.000
01:30 - 02:00	0	0	0.000	0	0	0.000	0	0	0.000
02:00 - 02:30	0	0	0.000	0	0	0.000	0	0	0.000
02:30 - 03:00	0	0	0.000	0	0	0.000	0	0	0.000
03:00 - 03:30	0	0	0.000	0	0	0.000	0	0	0.000
03:30 - 04:00	0	0	0.000	0	0	0.000	0	0	0.000
04:00 - 04:30	0	0	0.000	0	0	0.000	0	0	0.000
04:30 - 05:00	0	0	0.000	0	0	0.000	0	0	0.000
05:00 - 05:30	1	19974	0.000	1	19974	0.000	1	19974	0.000
05:30 - 06:00	1	19974	0.000	1	19974	0.000	1	19974	0.000
06:00 - 06:30	1	19974	0.000	1	19974	0.000	1	19974	0.000
06:30 - 07:00	1	19974	0.005	1	19974	0.005	1	**19974**	**0.010**
07:00 - 07:30	3	**17308**	**0.006**	3	17308	0.002	3	17308	0.008
07:30 - 08:00	3	17308	0.004	3	17308	0.004	3	17308	0.008
08:00 - 08:30	3	17308	0.004	3	17308	0.002	3	17308	0.006
08:30 - 09:00	3	17308	0.004	3	17308	0.004	3	17308	0.008
09:00 - 09:30	3	17308	0.000	3	17308	0.002	3	17308	0.002
09:30 - 10:00	3	17308	0.004	3	17308	0.004	3	17308	0.008
10:00 - 10:30	3	17308	0.000	3	17308	0.002	3	17308	0.002
10:30 - 11:00	3	17308	0.000	3	17308	0.000	3	17308	0.000
11:00 - 11:30	3	17308	0.002	3	17308	0.002	3	17308	0.004
11:30 - 12:00	3	17308	0.004	3	**17308**	**0.006**	3	17308	0.010
12:00 - 12:30	3	17308	0.002	3	17308	0.000	3	17308	0.002
12:30 - 13:00	3	17308	0.000	3	17308	0.002	3	17308	0.002
13:00 - 13:30	3	17308	0.000	3	17308	0.000	3	17308	0.000
13:30 - 14:00	3	17308	0.004	3	17308	0.002	3	17308	0.006
14:00 - 14:30	3	17308	0.000	3	17308	0.000	3	17308	0.000
14:30 - 15:00	3	17308	0.000	3	17308	0.002	3	17308	0.002
15:00 - 15:30	3	17308	0.000	3	17308	0.000	3	17308	0.000
15:30 - 16:00	3	17308	0.000	3	17308	0.000	3	17308	0.000
16:00 - 16:30	3	17308	0.000	3	17308	0.000	3	17308	0.000
16:30 - 17:00	3	17308	0.002	3	17308	0.000	3	17308	0.002
17:00 - 17:30	3	17308	0.000	3	17308	0.002	3	17308	0.002
17:30 - 18:00	3	17308	0.000	3	17308	0.000	3	17308	0.000
18:00 - 18:30	3	17308	0.000	3	17308	0.000	3	17308	0.000
18:30 - 19:00	3	17308	0.000	3	17308	0.000	3	17308	0.000
19:00 - 19:30	0	0	0.000	0	0	0.000	0	0	0.000
19:30 - 20:00	0	0	0.000	0	0	0.000	0	0	0.000
20:00 - 20:30	0	0	0.000	0	0	0.000	0	0	0.000
20:30 - 21:00	0	0	0.000	0	0	0.000	0	0	0.000
21:00 - 21:30	0	0	0.000	0	0	0.000	0	0	0.000
21:30 - 22:00	0	0	0.000	0	0	0.000	0	0	0.000
22:00 - 22:30	0	0	0.000	0	0	0.000	0	0	0.000
22:30 - 23:00	0	0	0.000	0	0	0.000	0	0	0.000
23:00 - 23:30	0	0	0.000	0	0	0.000	0	0	0.000
23:30 - 24:00	0	0	0.000	0	0	0.000	0	0	0.000
Total Rates:			0.041			0.041			0.082

Parameter summary

Trip rate parameter range selected:	15975 - 19974 (units: sqm)
Survey date date range:	01/01/02 - 10/03/09
Number of weekdays (Monday-Friday):	3
Number of Saturdays:	0
Number of Sundays:	0
Surveys manually removed from selection:	0

TRIP RATE for Land Use 02 - EMPLOYMENT/A - OFFICE
MULTI-MODAL 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 - 00:30	0	0	0.000	0	0	0.000	0	0	0.000
00:30 - 01:00	0	0	0.000	0	0	0.000	0	0	0.000
01:00 - 01:30	0	0	0.000	0	0	0.000	0	0	0.000
01:30 - 02:00	0	0	0.000	0	0	0.000	0	0	0.000
02:00 - 02:30	0	0	0.000	0	0	0.000	0	0	0.000
02:30 - 03:00	0	0	0.000	0	0	0.000	0	0	0.000
03:00 - 03:30	0	0	0.000	0	0	0.000	0	0	0.000
03:30 - 04:00	0	0	0.000	0	0	0.000	0	0	0.000
04:00 - 04:30	0	0	0.000	0	0	0.000	0	0	0.000
04:30 - 05:00	0	0	0.000	0	0	0.000	0	0	0.000
05:00 - 05:30	1	19974	0.000	1	19974	0.000	1	19974	0.000
05:30 - 06:00	1	19974	0.000	1	19974	0.000	1	19974	0.000
06:00 - 06:30	1	19974	0.005	1	19974	0.000	1	19974	0.005
06:30 - 07:00	1	19974	0.005	1	**19974**	**0.010**	1	19974	0.015
07:00 - 07:30	3	17308	0.002	3	17308	0.002	3	17308	0.004
07:30 - 08:00	3	17308	0.004	3	17308	0.002	3	17308	0.006
08:00 - 08:30	3	17308	0.008	3	17308	0.006	3	17308	0.014
08:30 - 09:00	3	17308	0.006	3	17308	0.006	3	17308	0.012
09:00 - 09:30	3	17308	0.008	3	17308	0.008	3	17308	0.016
09:30 - 10:00	3	17308	0.008	3	17308	0.006	3	17308	0.014
10:00 - 10:30	3	17308	0.008	3	17308	0.006	3	17308	0.014
10:30 - 11:00	3	17308	0.004	3	17308	0.006	3	17308	0.010
11:00 - 11:30	3	17308	0.004	3	17308	0.006	3	17308	0.010
11:30 - 12:00	3	17308	0.004	3	17308	0.002	3	17308	0.006
12:00 - 12:30	3	17308	0.008	3	17308	0.010	3	17308	0.018
12:30 - 13:00	3	17308	0.008	3	17308	0.006	3	17308	0.014
13:00 - 13:30	3	**17308**	**0.012**	3	17308	0.008	3	**17308**	**0.020**
13:30 - 14:00	3	17308	0.008	3	17308	0.010	3	17308	0.018
14:00 - 14:30	3	17308	0.008	3	17308	0.008	3	17308	0.016
14:30 - 15:00	3	17308	0.004	3	17308	0.006	3	17308	0.010
15:00 - 15:30	3	17308	0.010	3	17308	0.008	3	17308	0.018
15:30 - 16:00	3	17308	0.006	3	17308	0.008	3	17308	0.014
16:00 - 16:30	3	17308	0.006	3	17308	0.010	3	17308	0.016
16:30 - 17:00	3	17308	0.004	3	17308	0.006	3	17308	0.010
17:00 - 17:30	3	17308	0.006	3	17308	0.004	3	17308	0.010
17:30 - 18:00	3	17308	0.008	3	17308	0.006	3	17308	0.014
18:00 - 18:30	3	17308	0.002	3	17308	0.006	3	17308	0.008
18:30 - 19:00	3	17308	0.004	3	17308	0.004	3	17308	0.008
19:00 - 19:30	0	0	0.000	0	0	0.000	0	0	0.000
19:30 - 20:00	0	0	0.000	0	0	0.000	0	0	0.000
20:00 - 20:30	0	0	0.000	0	0	0.000	0	0	0.000
20:30 - 21:00	0	0	0.000	0	0	0.000	0	0	0.000
21:00 - 21:30	0	0	0.000	0	0	0.000	0	0	0.000
21:30 - 22:00	0	0	0.000	0	0	0.000	0	0	0.000
22:00 - 22:30	0	0	0.000	0	0	0.000	0	0	0.000
22:30 - 23:00	0	0	0.000	0	0	0.000	0	0	0.000
23:00 - 23:30	0	0	0.000	0	0	0.000	0	0	0.000
23:30 - 24:00	0	0	0.000	0	0	0.000	0	0	0.000
Total Rates:			0.160			0.160			0.320

Parameter summary

Trip rate parameter range selected:	15975 - 19974 (units: sqm)
Survey date date range:	01/01/02 - 10/03/09
Number of weekdays (Monday-Friday):	3
Number of Saturdays:	0
Number of Sundays:	0
Surveys manually removed from selection:	0

TRIP RATE for Land Use 02 - EMPLOYMENT/A - OFFICE
MULTI-MODAL 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 - 00:30	0	0	0.000	0	0	0.000	0	0	0.000
00:30 - 01:00	0	0	0.000	0	0	0.000	0	0	0.000
01:00 - 01:30	0	0	0.000	0	0	0.000	0	0	0.000
01:30 - 02:00	0	0	0.000	0	0	0.000	0	0	0.000
02:00 - 02:30	0	0	0.000	0	0	0.000	0	0	0.000
02:30 - 03:00	0	0	0.000	0	0	0.000	0	0	0.000
03:00 - 03:30	0	0	0.000	0	0	0.000	0	0	0.000
03:30 - 04:00	0	0	0.000	0	0	0.000	0	0	0.000
04:00 - 04:30	0	0	0.000	0	0	0.000	0	0	0.000
04:30 - 05:00	0	0	0.000	0	0	0.000	0	0	0.000
05:00 - 05:30	1	19974	0.000	1	19974	0.000	1	19974	0.000
05:30 - 06:00	1	19974	0.000	1	19974	0.000	1	19974	0.000
06:00 - 06:30	1	19974	0.005	1	19974	0.000	1	19974	0.005
06:30 - 07:00	1	19974	0.000	1	19974	0.000	1	19974	0.000
07:00 - 07:30	3	17308	0.004	3	17308	0.004	3	17308	0.008
07:30 - 08:00	3	17308	0.033	3	17308	0.004	3	17308	0.037
08:00 - 08:30	3	**17308**	**0.052**	3	17308	0.002	3	**17308**	**0.054**
08:30 - 09:00	3	17308	0.033	3	17308	0.000	3	17308	0.033
09:00 - 09:30	3	17308	0.004	3	17308	0.002	3	17308	0.006
09:30 - 10:00	3	17308	0.006	3	17308	0.004	3	17308	0.010
10:00 - 10:30	3	17308	0.002	3	17308	0.000	3	17308	0.002
10:30 - 11:00	3	17308	0.000	3	17308	0.000	3	17308	0.000
11:00 - 11:30	3	17308	0.000	3	17308	0.002	3	17308	0.002
11:30 - 12:00	3	17308	0.000	3	17308	0.000	3	17308	0.000
12:00 - 12:30	3	17308	0.000	3	17308	0.002	3	17308	0.002
12:30 - 13:00	3	17308	0.004	3	17308	0.004	3	17308	0.008
13:00 - 13:30	3	17308	0.008	3	17308	0.002	3	17308	0.010
13:30 - 14:00	3	17308	0.006	3	17308	0.004	3	17308	0.010
14:00 - 14:30	3	17308	0.000	3	17308	0.002	3	17308	0.002
14:30 - 15:00	3	17308	0.000	3	17308	0.000	3	17308	0.000
15:00 - 15:30	3	17308	0.000	3	17308	0.006	3	17308	0.006
15:30 - 16:00	3	17308	0.002	3	17308	0.004	3	17308	0.006
16:00 - 16:30	3	17308	0.000	3	17308	0.006	3	17308	0.006
16:30 - 17:00	3	17308	0.000	3	17308	0.006	3	17308	0.006
17:00 - 17:30	3	17308	0.002	3	**17308**	**0.044**	3	17308	0.046
17:30 - 18:00	3	17308	0.002	3	17308	0.027	3	17308	0.029
18:00 - 18:30	3	17308	0.000	3	17308	0.019	3	17308	0.019
18:30 - 19:00	3	17308	0.000	3	17308	0.008	3	17308	0.008
19:00 - 19:30	0	0	0.000	0	0	0.000	0	0	0.000
19:30 - 20:00	0	0	0.000	0	0	0.000	0	0	0.000
20:00 - 20:30	0	0	0.000	0	0	0.000	0	0	0.000
20:30 - 21:00	0	0	0.000	0	0	0.000	0	0	0.000
21:00 - 21:30	0	0	0.000	0	0	0.000	0	0	0.000
21:30 - 22:00	0	0	0.000	0	0	0.000	0	0	0.000
22:00 - 22:30	0	0	0.000	0	0	0.000	0	0	0.000
22:30 - 23:00	0	0	0.000	0	0	0.000	0	0	0.000
23:00 - 23:30	0	0	0.000	0	0	0.000	0	0	0.000
23:30 - 24:00	0	0	0.000	0	0	0.000	0	0	0.000
Total Rates:			0.163			0.152			0.315

Parameter summary

Trip rate parameter range selected:	15975 - 19974 (units: sqm)
Survey date date range:	01/01/02 - 10/03/09
Number of weekdays (Monday-Friday):	3
Number of Saturdays:	0
Number of Sundays:	0
Surveys manually removed from selection:	0

TRIP RATE for Land Use 02 - EMPLOYMENT/A - OFFICE
MULTI-MODAL VEHICLE OCCUPANTS
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 - 00:30	0	0	0.000	0	0	0.000	0	0	0.000
00:30 - 01:00	0	0	0.000	0	0	0.000	0	0	0.000
01:00 - 01:30	0	0	0.000	0	0	0.000	0	0	0.000
01:30 - 02:00	0	0	0.000	0	0	0.000	0	0	0.000
02:00 - 02:30	0	0	0.000	0	0	0.000	0	0	0.000
02:30 - 03:00	0	0	0.000	0	0	0.000	0	0	0.000
03:00 - 03:30	0	0	0.000	0	0	0.000	0	0	0.000
03:30 - 04:00	0	0	0.000	0	0	0.000	0	0	0.000
04:00 - 04:30	0	0	0.000	0	0	0.000	0	0	0.000
04:30 - 05:00	0	0	0.000	0	0	0.000	0	0	0.000
05:00 - 05:30	1	19974	0.000	1	19974	0.005	1	19974	0.005
05:30 - 06:00	1	19974	0.035	1	19974	0.010	1	19974	0.045
06:00 - 06:30	1	19974	0.070	1	19974	0.005	1	19974	0.075
06:30 - 07:00	1	19974	0.130	1	19974	0.025	1	19974	0.155
07:00 - 07:30	3	17308	0.362	3	17308	0.012	3	17308	0.374
07:30 - 08:00	3	17308	0.919	3	17308	0.054	3	17308	0.973
08:00 - 08:30	3	**17308**	**1.427**	3	17308	0.048	3	**17308**	**1.475**
08:30 - 09:00	3	17308	1.130	3	17308	0.071	3	17308	1.201
09:00 - 09:30	3	17308	0.545	3	17308	0.087	3	17308	0.632
09:30 - 10:00	3	17308	0.237	3	17308	0.073	3	17308	0.310
10:00 - 10:30	3	17308	0.189	3	17308	0.075	3	17308	0.264
10:30 - 11:00	3	17308	0.150	3	17308	0.085	3	17308	0.235
11:00 - 11:30	3	17308	0.096	3	17308	0.081	3	17308	0.177
11:30 - 12:00	3	17308	0.087	3	17308	0.096	3	17308	0.183
12:00 - 12:30	3	17308	0.108	3	17308	0.243	3	17308	0.351
12:30 - 13:00	3	17308	0.158	3	17308	0.202	3	17308	0.360
13:00 - 13:30	3	17308	0.206	3	17308	0.108	3	17308	0.314
13:30 - 14:00	3	17308	0.198	3	17308	0.125	3	17308	0.323
14:00 - 14:30	3	17308	0.166	3	17308	0.139	3	17308	0.305
14:30 - 15:00	3	17308	0.108	3	17308	0.123	3	17308	0.231
15:00 - 15:30	3	17308	0.121	3	17308	0.220	3	17308	0.341
15:30 - 16:00	3	17308	0.106	3	17308	0.268	3	17308	0.374
16:00 - 16:30	3	17308	0.096	3	17308	0.460	3	17308	0.556
16:30 - 17:00	3	17308	0.067	3	17308	0.537	3	17308	0.604
17:00 - 17:30	3	17308	0.067	3	**17308**	**1.327**	3	17308	1.394
17:30 - 18:00	3	17308	0.033	3	17308	0.917	3	17308	0.950
18:00 - 18:30	3	17308	0.031	3	17308	0.653	3	17308	0.684
18:30 - 19:00	3	17308	0.021	3	17308	0.364	3	17308	0.385
19:00 - 19:30	0	0	0.000	0	0	0.000	0	0	0.000
19:30 - 20:00	0	0	0.000	0	0	0.000	0	0	0.000
20:00 - 20:30	0	0	0.000	0	0	0.000	0	0	0.000
20:30 - 21:00	0	0	0.000	0	0	0.000	0	0	0.000
21:00 - 21:30	0	0	0.000	0	0	0.000	0	0	0.000
21:30 - 22:00	0	0	0.000	0	0	0.000	0	0	0.000
22:00 - 22:30	0	0	0.000	0	0	0.000	0	0	0.000
22:30 - 23:00	0	0	0.000	0	0	0.000	0	0	0.000
23:00 - 23:30	0	0	0.000	0	0	0.000	0	0	0.000
23:30 - 24:00	0	0	0.000	0	0	0.000	0	0	0.000
Total Rates:			6.863			6.413			13.276

Parameter summary

Trip rate parameter range selected:	15975 - 19974 (units: sqm)
Survey date date range:	01/01/02 - 10/03/09
Number of weekdays (Monday-Friday):	3
Number of Saturdays:	0
Number of Sundays:	0
Surveys manually removed from selection:	0

TRIP RATE for Land Use 02 - EMPLOYMENT/A - OFFICE
MULTI-MODAL PEDESTRIANS
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 - 00:30	0	0	0.000	0	0	0.000	0	0	0.000
00:30 - 01:00	0	0	0.000	0	0	0.000	0	0	0.000
01:00 - 01:30	0	0	0.000	0	0	0.000	0	0	0.000
01:30 - 02:00	0	0	0.000	0	0	0.000	0	0	0.000
02:00 - 02:30	0	0	0.000	0	0	0.000	0	0	0.000
02:30 - 03:00	0	0	0.000	0	0	0.000	0	0	0.000
03:00 - 03:30	0	0	0.000	0	0	0.000	0	0	0.000
03:30 - 04:00	0	0	0.000	0	0	0.000	0	0	0.000
04:00 - 04:30	0	0	0.000	0	0	0.000	0	0	0.000
04:30 - 05:00	0	0	0.000	0	0	0.000	0	0	0.000
05:00 - 05:30	1	19974	0.000	1	19974	0.000	1	19974	0.000
05:30 - 06:00	1	19974	0.000	1	19974	0.000	1	19974	0.000
06:00 - 06:30	1	19974	0.000	1	19974	0.000	1	19974	0.000
06:30 - 07:00	1	19974	0.020	1	19974	0.000	1	19974	0.020
07:00 - 07:30	3	17308	0.006	3	17308	0.000	3	17308	0.006
07:30 - 08:00	3	17308	0.039	3	17308	0.002	3	17308	0.041
08:00 - 08:30	3	17308	0.071	3	17308	0.000	3	17308	0.071
08:30 - 09:00	3	17308	0.050	3	17308	0.002	3	17308	0.052
09:00 - 09:30	3	17308	0.023	3	17308	0.006	3	17308	0.029
09:30 - 10:00	3	17308	0.010	3	17308	0.002	3	17308	0.012
10:00 - 10:30	3	17308	0.010	3	17308	0.019	3	17308	0.029
10:30 - 11:00	3	17308	0.015	3	17308	0.019	3	17308	0.034
11:00 - 11:30	3	17308	0.017	3	17308	0.027	3	17308	0.044
11:30 - 12:00	3	17308	0.012	3	17308	0.054	3	17308	0.066
12:00 - 12:30	3	17308	0.104	3	**17308**	**0.266**	3	17308	0.370
12:30 - 13:00	3	**17308**	**0.297**	3	17308	0.239	3	**17308**	**0.536**
13:00 - 13:30	3	17308	0.208	3	17308	0.131	3	17308	0.339
13:30 - 14:00	3	17308	0.196	3	17308	0.094	3	17308	0.290
14:00 - 14:30	3	17308	0.075	3	17308	0.042	3	17308	0.117
14:30 - 15:00	3	17308	0.039	3	17308	0.031	3	17308	0.070
15:00 - 15:30	3	17308	0.019	3	17308	0.033	3	17308	0.052
15:30 - 16:00	3	17308	0.019	3	17308	0.019	3	17308	0.038
16:00 - 16:30	3	17308	0.006	3	17308	0.067	3	17308	0.073
16:30 - 17:00	3	17308	0.004	3	17308	0.048	3	17308	0.052
17:00 - 17:30	3	17308	0.010	3	17308	0.085	3	17308	0.095
17:30 - 18:00	3	17308	0.004	3	17308	0.040	3	17308	0.044
18:00 - 18:30	3	17308	0.004	3	17308	0.008	3	17308	0.012
18:30 - 19:00	3	17308	0.006	3	17308	0.004	3	17308	0.010
19:00 - 19:30	0	0	0.000	0	0	0.000	0	0	0.000
19:30 - 20:00	0	0	0.000	0	0	0.000	0	0	0.000
20:00 - 20:30	0	0	0.000	0	0	0.000	0	0	0.000
20:30 - 21:00	0	0	0.000	0	0	0.000	0	0	0.000
21:00 - 21:30	0	0	0.000	0	0	0.000	0	0	0.000
21:30 - 22:00	0	0	0.000	0	0	0.000	0	0	0.000
22:00 - 22:30	0	0	0.000	0	0	0.000	0	0	0.000
22:30 - 23:00	0	0	0.000	0	0	0.000	0	0	0.000
23:00 - 23:30	0	0	0.000	0	0	0.000	0	0	0.000
23:30 - 24:00	0	0	0.000	0	0	0.000	0	0	0.000
Total Rates:			1.264			1.238			2.502

Parameter summary

Trip rate parameter range selected:	15975 - 19974 (units: sqm)
Survey date date range:	01/01/02 - 10/03/09
Number of weekdays (Monday-Friday):	3
Number of Saturdays:	0
Number of Sundays:	0
Surveys manually removed from selection:	0

TRIP RATE for Land Use 02 - EMPLOYMENT/A - OFFICE
MULTI-MODAL BUS/TRAM PASSENGERS
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 - 00:30	0	0	0.000	0	0	0.000	0	0	0.000
00:30 - 01:00	0	0	0.000	0	0	0.000	0	0	0.000
01:00 - 01:30	0	0	0.000	0	0	0.000	0	0	0.000
01:30 - 02:00	0	0	0.000	0	0	0.000	0	0	0.000
02:00 - 02:30	0	0	0.000	0	0	0.000	0	0	0.000
02:30 - 03:00	0	0	0.000	0	0	0.000	0	0	0.000
03:00 - 03:30	0	0	0.000	0	0	0.000	0	0	0.000
03:30 - 04:00	0	0	0.000	0	0	0.000	0	0	0.000
04:00 - 04:30	0	0	0.000	0	0	0.000	0	0	0.000
04:30 - 05:00	0	0	0.000	0	0	0.000	0	0	0.000
05:00 - 05:30	1	19974	0.000	1	19974	0.000	1	19974	0.000
05:30 - 06:00	1	19974	0.000	1	19974	0.000	1	19974	0.000
06:00 - 06:30	1	19974	0.000	1	19974	0.000	1	19974	0.000
06:30 - 07:00	1	19974	0.000	1	19974	0.000	1	19974	0.000
07:00 - 07:30	3	17308	0.006	3	17308	0.000	3	17308	0.006
07:30 - 08:00	3	17308	0.004	3	17308	0.000	3	17308	0.004
08:00 - 08:30	3	17308	0.027	3	17308	0.000	3	17308	0.027
08:30 - 09:00	3	**17308**	**0.033**	3	17308	0.000	3	17308	0.033
09:00 - 09:30	3	17308	0.008	3	17308	0.000	3	17308	0.008
09:30 - 10:00	3	17308	0.000	3	17308	0.000	3	17308	0.000
10:00 - 10:30	3	17308	0.000	3	17308	0.000	3	17308	0.000
10:30 - 11:00	3	17308	0.002	3	17308	0.000	3	17308	0.002
11:00 - 11:30	3	17308	0.000	3	17308	0.000	3	17308	0.000
11:30 - 12:00	3	17308	0.000	3	17308	0.000	3	17308	0.000
12:00 - 12:30	3	17308	0.000	3	17308	0.000	3	17308	0.000
12:30 - 13:00	3	17308	0.000	3	17308	0.002	3	17308	0.002
13:00 - 13:30	3	17308	0.000	3	17308	0.000	3	17308	0.000
13:30 - 14:00	3	17308	0.000	3	17308	0.000	3	17308	0.000
14:00 - 14:30	3	17308	0.000	3	17308	0.000	3	17308	0.000
14:30 - 15:00	3	17308	0.000	3	17308	0.000	3	17308	0.000
15:00 - 15:30	3	17308	0.000	3	17308	0.000	3	17308	0.000
15:30 - 16:00	3	17308	0.000	3	17308	0.000	3	17308	0.000
16:00 - 16:30	3	17308	0.000	3	17308	0.000	3	17308	0.000
16:30 - 17:00	3	17308	0.000	3	17308	0.006	3	17308	0.006
17:00 - 17:30	3	17308	0.000	3	**17308**	**0.044**	3	**17308**	**0.044**
17:30 - 18:00	3	17308	0.000	3	17308	0.027	3	17308	0.027
18:00 - 18:30	3	17308	0.000	3	17308	0.004	3	17308	0.004
18:30 - 19:00	3	17308	0.000	3	17308	0.000	3	17308	0.000
19:00 - 19:30	0	0	0.000	0	0	0.000	0	0	0.000
19:30 - 20:00	0	0	0.000	0	0	0.000	0	0	0.000
20:00 - 20:30	0	0	0.000	0	0	0.000	0	0	0.000
20:30 - 21:00	0	0	0.000	0	0	0.000	0	0	0.000
21:00 - 21:30	0	0	0.000	0	0	0.000	0	0	0.000
21:30 - 22:00	0	0	0.000	0	0	0.000	0	0	0.000
22:00 - 22:30	0	0	0.000	0	0	0.000	0	0	0.000
22:30 - 23:00	0	0	0.000	0	0	0.000	0	0	0.000
23:00 - 23:30	0	0	0.000	0	0	0.000	0	0	0.000
23:30 - 24:00	0	0	0.000	0	0	0.000	0	0	0.000
Total Rates:			0.080			0.083			0.163

Parameter summary

Trip rate parameter range selected:	15975 - 19974 (units: sqm)
Survey date date range:	01/01/02 - 10/03/09
Number of weekdays (Monday-Friday):	3
Number of Saturdays:	0
Number of Sundays:	0
Surveys manually removed from selection:	0

TRIP RATE for Land Use 02 - EMPLOYMENT/A - OFFICE
MULTI-MODAL TRAIN PASSENGERS
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 - 00:30	0	0	0.000	0	0	0.000	0	0	0.000
00:30 - 01:00	0	0	0.000	0	0	0.000	0	0	0.000
01:00 - 01:30	0	0	0.000	0	0	0.000	0	0	0.000
01:30 - 02:00	0	0	0.000	0	0	0.000	0	0	0.000
02:00 - 02:30	0	0	0.000	0	0	0.000	0	0	0.000
02:30 - 03:00	0	0	0.000	0	0	0.000	0	0	0.000
03:00 - 03:30	0	0	0.000	0	0	0.000	0	0	0.000
03:30 - 04:00	0	0	0.000	0	0	0.000	0	0	0.000
04:00 - 04:30	0	0	0.000	0	0	0.000	0	0	0.000
04:30 - 05:00	0	0	0.000	0	0	0.000	0	0	0.000
05:00 - 05:30	1	19974	0.000	1	19974	0.000	1	19974	0.000
05:30 - 06:00	1	19974	0.000	1	19974	0.000	1	19974	0.000
06:00 - 06:30	1	19974	0.000	1	19974	0.000	1	19974	0.000
06:30 - 07:00	1	19974	0.020	1	19974	0.000	1	19974	0.020
07:00 - 07:30	3	17308	0.029	3	17308	0.000	3	17308	0.029
07:30 - 08:00	3	17308	0.021	3	17308	0.000	3	17308	0.021
08:00 - 08:30	3	17308	0.104	3	17308	0.000	3	17308	0.104
08:30 - 09:00	3	**17308**	**0.116**	3	17308	0.000	3	**17308**	**0.116**
09:00 - 09:30	3	17308	0.102	3	17308	0.000	3	17308	0.102
09:30 - 10:00	3	17308	0.029	3	17308	0.000	3	17308	0.029
10:00 - 10:30	3	17308	0.008	3	17308	0.000	3	17308	0.008
10:30 - 11:00	3	17308	0.004	3	17308	0.000	3	17308	0.004
11:00 - 11:30	3	17308	0.006	3	17308	0.006	3	17308	0.012
11:30 - 12:00	3	17308	0.004	3	17308	0.000	3	17308	0.004
12:00 - 12:30	3	17308	0.010	3	17308	0.000	3	17308	0.010
12:30 - 13:00	3	17308	0.000	3	17308	0.000	3	17308	0.000
13:00 - 13:30	3	17308	0.000	3	17308	0.004	3	17308	0.004
13:30 - 14:00	3	17308	0.002	3	17308	0.000	3	17308	0.002
14:00 - 14:30	3	17308	0.000	3	17308	0.006	3	17308	0.006
14:30 - 15:00	3	17308	0.000	3	17308	0.012	3	17308	0.012
15:00 - 15:30	3	17308	0.000	3	17308	0.008	3	17308	0.008
15:30 - 16:00	3	17308	0.000	3	17308	0.012	3	17308	0.012
16:00 - 16:30	3	17308	0.000	3	17308	0.040	3	17308	0.040
16:30 - 17:00	3	17308	0.000	3	17308	0.058	3	17308	0.058
17:00 - 17:30	3	17308	0.002	3	17308	0.054	3	17308	0.056
17:30 - 18:00	3	17308	0.000	3	**17308**	**0.112**	3	17308	0.112
18:00 - 18:30	3	17308	0.000	3	17308	0.048	3	17308	0.048
18:30 - 19:00	3	17308	0.000	3	17308	0.062	3	17308	0.062
19:00 - 19:30	0	0	0.000	0	0	0.000	0	0	0.000
19:30 - 20:00	0	0	0.000	0	0	0.000	0	0	0.000
20:00 - 20:30	0	0	0.000	0	0	0.000	0	0	0.000
20:30 - 21:00	0	0	0.000	0	0	0.000	0	0	0.000
21:00 - 21:30	0	0	0.000	0	0	0.000	0	0	0.000
21:30 - 22:00	0	0	0.000	0	0	0.000	0	0	0.000
22:00 - 22:30	0	0	0.000	0	0	0.000	0	0	0.000
22:30 - 23:00	0	0	0.000	0	0	0.000	0	0	0.000
23:00 - 23:30	0	0	0.000	0	0	0.000	0	0	0.000
23:30 - 24:00	0	0	0.000	0	0	0.000	0	0	0.000
Total Rates:			0.457			0.422			0.879

Parameter summary

Trip rate parameter range selected:	15975 - 19974 (units: sqm)
Survey date date range:	01/01/02 - 10/03/09
Number of weekdays (Monday-Friday):	3
Number of Saturdays:	0
Number of Sundays:	0
Surveys manually removed from selection:	0

TRIP RATE for Land Use 02 - EMPLOYMENT/A - OFFICE

MULTI-MODAL COACH PASSENGERS

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 - 00:30	0	0	0.000	0	0	0.000	0	0	0.000
00:30 - 01:00	0	0	0.000	0	0	0.000	0	0	0.000
01:00 - 01:30	0	0	0.000	0	0	0.000	0	0	0.000
01:30 - 02:00	0	0	0.000	0	0	0.000	0	0	0.000
02:00 - 02:30	0	0	0.000	0	0	0.000	0	0	0.000
02:30 - 03:00	0	0	0.000	0	0	0.000	0	0	0.000
03:00 - 03:30	0	0	0.000	0	0	0.000	0	0	0.000
03:30 - 04:00	0	0	0.000	0	0	0.000	0	0	0.000
04:00 - 04:30	0	0	0.000	0	0	0.000	0	0	0.000
04:30 - 05:00	0	0	0.000	0	0	0.000	0	0	0.000
05:00 - 05:30	1	19974	0.000	1	19974	0.000	1	19974	0.000
05:30 - 06:00	1	19974	0.000	1	19974	0.000	1	19974	0.000
06:00 - 06:30	1	19974	0.005	1	19974	0.000	1	19974	0.005
06:30 - 07:00	1	19974	0.000	1	19974	0.005	1	19974	0.005
07:00 - 07:30	3	17308	0.000	3	17308	0.000	3	17308	0.000
07:30 - 08:00	3	17308	0.000	3	17308	0.000	3	17308	0.000
08:00 - 08:30	3	17308	0.000	3	17308	0.000	3	17308	0.000
08:30 - 09:00	3	17308	0.000	3	17308	0.000	3	17308	0.000
09:00 - 09:30	3	17308	0.000	3	17308	0.002	3	17308	0.002
09:30 - 10:00	3	17308	0.000	3	17308	0.000	3	17308	0.000
10:00 - 10:30	3	17308	0.000	3	17308	0.000	3	17308	0.000
10:30 - 11:00	3	17308	0.000	3	17308	0.000	3	17308	0.000
11:00 - 11:30	3	17308	0.002	3	17308	0.000	3	17308	0.002
11:30 - 12:00	3	17308	0.000	3	17308	0.000	3	17308	0.000
12:00 - 12:30	3	17308	0.004	3	**17308**	**0.040**	3	17308	0.044
12:30 - 13:00	3	17308	0.013	3	17308	0.004	3	17308	0.017
13:00 - 13:30	3	17308	0.031	3	17308	0.015	3	**17308**	**0.046**
13:30 - 14:00	3	17308	0.021	3	17308	0.004	3	17308	0.025
14:00 - 14:30	3	17308	0.004	3	17308	0.000	3	17308	0.004
14:30 - 15:00	3	17308	0.004	3	17308	0.002	3	17308	0.006
15:00 - 15:30	3	**17308**	**0.033**	3	17308	0.000	3	17308	0.033
15:30 - 16:00	3	17308	0.000	3	17308	0.002	3	17308	0.002
16:00 - 16:30	3	17308	0.000	3	17308	0.008	3	17308	0.008
16:30 - 17:00	3	17308	0.000	3	17308	0.027	3	17308	0.027
17:00 - 17:30	3	17308	0.000	3	17308	0.012	3	17308	0.012
17:30 - 18:00	3	17308	0.000	3	17308	0.006	3	17308	0.006
18:00 - 18:30	3	17308	0.000	3	17308	0.000	3	17308	0.000
18:30 - 19:00	3	17308	0.000	3	17308	0.002	3	17308	0.002
19:00 - 19:30	0	0	0.000	0	0	0.000	0	0	0.000
19:30 - 20:00	0	0	0.000	0	0	0.000	0	0	0.000
20:00 - 20:30	0	0	0.000	0	0	0.000	0	0	0.000
20:30 - 21:00	0	0	0.000	0	0	0.000	0	0	0.000
21:00 - 21:30	0	0	0.000	0	0	0.000	0	0	0.000
21:30 - 22:00	0	0	0.000	0	0	0.000	0	0	0.000
22:00 - 22:30	0	0	0.000	0	0	0.000	0	0	0.000
22:30 - 23:00	0	0	0.000	0	0	0.000	0	0	0.000
23:00 - 23:30	0	0	0.000	0	0	0.000	0	0	0.000
23:30 - 24:00	0	0	0.000	0	0	0.000	0	0	0.000
Total Rates:			0.117			0.129			0.246

Parameter summary

Trip rate parameter range selected:	15975 - 19974 (units: sqm)
Survey date date range:	01/01/02 - 10/03/09
Number of weekdays (Monday-Friday):	3
Number of Saturdays:	0
Number of Sundays:	0
Surveys manually removed from selection:	0

TRIP RATE for Land Use 02 - EMPLOYMENT/A - OFFICE

MULTI-MODAL PUBLIC TRANSPORT USERS

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 - 00:30	0	0	0.000	0	0	0.000	0	0	0.000
00:30 - 01:00	0	0	0.000	0	0	0.000	0	0	0.000
01:00 - 01:30	0	0	0.000	0	0	0.000	0	0	0.000
01:30 - 02:00	0	0	0.000	0	0	0.000	0	0	0.000
02:00 - 02:30	0	0	0.000	0	0	0.000	0	0	0.000
02:30 - 03:00	0	0	0.000	0	0	0.000	0	0	0.000
03:00 - 03:30	0	0	0.000	0	0	0.000	0	0	0.000
03:30 - 04:00	0	0	0.000	0	0	0.000	0	0	0.000
04:00 - 04:30	0	0	0.000	0	0	0.000	0	0	0.000
04:30 - 05:00	0	0	0.000	0	0	0.000	0	0	0.000
05:00 - 05:30	1	19974	0.000	1	19974	0.000	1	19974	0.000
05:30 - 06:00	1	19974	0.000	1	19974	0.000	1	19974	0.000
06:00 - 06:30	1	19974	0.005	1	19974	0.000	1	19974	0.005
06:30 - 07:00	1	19974	0.020	1	19974	0.005	1	19974	0.025
07:00 - 07:30	3	17308	0.035	3	17308	0.000	3	17308	0.035
07:30 - 08:00	3	17308	0.025	3	17308	0.000	3	17308	0.025
08:00 - 08:30	3	17308	0.131	3	17308	0.000	3	17308	0.131
08:30 - 09:00	3	**17308**	**0.148**	3	17308	0.000	3	**17308**	**0.148**
09:00 - 09:30	3	17308	0.110	3	17308	0.002	3	17308	0.112
09:30 - 10:00	3	17308	0.029	3	17308	0.000	3	17308	0.029
10:00 - 10:30	3	17308	0.008	3	17308	0.000	3	17308	0.008
10:30 - 11:00	3	17308	0.006	3	17308	0.000	3	17308	0.006
11:00 - 11:30	3	17308	0.008	3	17308	0.006	3	17308	0.014
11:30 - 12:00	3	17308	0.004	3	17308	0.000	3	17308	0.004
12:00 - 12:30	3	17308	0.013	3	17308	0.040	3	17308	0.053
12:30 - 13:00	3	17308	0.013	3	17308	0.006	3	17308	0.019
13:00 - 13:30	3	17308	0.031	3	17308	0.019	3	17308	0.050
13:30 - 14:00	3	17308	0.023	3	17308	0.004	3	17308	0.027
14:00 - 14:30	3	17308	0.004	3	17308	0.006	3	17308	0.010
14:30 - 15:00	3	17308	0.004	3	17308	0.013	3	17308	0.017
15:00 - 15:30	3	17308	0.033	3	17308	0.008	3	17308	0.041
15:30 - 16:00	3	17308	0.000	3	17308	0.013	3	17308	0.013
16:00 - 16:30	3	17308	0.000	3	17308	0.048	3	17308	0.048
16:30 - 17:00	3	17308	0.000	3	17308	0.091	3	17308	0.091
17:00 - 17:30	3	17308	0.002	3	17308	0.110	3	17308	0.112
17:30 - 18:00	3	17308	0.000	3	**17308**	**0.144**	3	17308	0.144
18:00 - 18:30	3	17308	0.000	3	17308	0.052	3	17308	0.052
18:30 - 19:00	3	17308	0.000	3	17308	0.064	3	17308	0.064
19:00 - 19:30	0	0	0.000	0	0	0.000	0	0	0.000
19:30 - 20:00	0	0	0.000	0	0	0.000	0	0	0.000
20:00 - 20:30	0	0	0.000	0	0	0.000	0	0	0.000
20:30 - 21:00	0	0	0.000	0	0	0.000	0	0	0.000
21:00 - 21:30	0	0	0.000	0	0	0.000	0	0	0.000
21:30 - 22:00	0	0	0.000	0	0	0.000	0	0	0.000
22:00 - 22:30	0	0	0.000	0	0	0.000	0	0	0.000
22:30 - 23:00	0	0	0.000	0	0	0.000	0	0	0.000
23:00 - 23:30	0	0	0.000	0	0	0.000	0	0	0.000
23:30 - 24:00	0	0	0.000	0	0	0.000	0	0	0.000
Total Rates:			0.652			0.631			1.283

Parameter summary

Trip rate parameter range selected:	15975 - 19974 (units: sqm)
Survey date date range:	01/01/02 - 10/03/09
Number of weekdays (Monday-Friday):	3
Number of Saturdays:	0
Number of Sundays:	0
Surveys manually removed from selection:	0

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 04 - EDUCATION
Category : A - PRIMARY
VEHICLES

Selected regions and areas:

05	EAST MIDLANDS		
	NR	NORTHAMPTONSHIRE	2 days
06	WEST MIDLANDS		
	WO	WORCESTERSHIRE	1 days
11	SCOTLAND		
	FA	FALKIRK	1 days

Filtering Stage 2 selection:

Parameter: Number of pupils
Actual Range: 304 to 447 (units:)
Range Selected by User: 300 to 600 (units:)

Public Transport Provision:
Selection by: Include all surveys

Date Range: 01/01/04 to 26/11/08

Selected survey days:

Monday	1 days
Wednesday	3 days

Selected survey types:

Manual count	4 days
Directional ATC Count	0 days

Selected Locations:

Suburban Area (PPS6 Out of Centre)	3
Neighbourhood Centre (PPS6 Local Centre)	1

Selected Location Sub Categories:

Residential Zone	2
Village	1
No Sub Category	1

Filtering Stage 3 selection:

Use Class:

C2	1 days
D1	3 days

Population within 1 mile:

10,001 to 15,000	1 days
15,001 to 20,000	2 days
25,001 to 50,000	1 days

Population within 5 miles:

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

Car ownership within 5 miles:

0.6 to 1.0	2 days
1.1 to 1.5	2 days

Filtering Stage 3 selection (Cont.):

Travel Plan:

No	4 days

LIST OF SITES relevant to selection parameters

1 FA-04-A-02 PRIMARY SCHOOL, NEAR FALKIRK FALKIRK
NEW HALLGLEN ROAD
HALLGLEN
NEAR FALKIRK
Neighbourhood Centre (PPS6 Local Centre)
Village
Total Number of pupils: 304
Survey date: WEDNESDAY 25/04/07 Survey Type: MANUAL

2 NR-04-A-01 PRIMARY SCH., NORTHAMPTON NORTHAMPTONSHIRE
GRANGE ROAD
EASTFIELD PARK
NORTHAMPTON
Suburban Area (PPS6 Out of Centre)
No Sub Category
Total Number of pupils: 376
Survey date: WEDNESDAY 23/05/07 Survey Type: MANUAL

3 NR-04-A-02 PRIMARY SCHOOL, N'HAMTON NORTHAMPTONSHIRE
DAYRELL ROAD

NORTHAMPTON
Suburban Area (PPS6 Out of Centre)
Residential Zone
Total Number of pupils: 400
Survey date: WEDNESDAY 26/11/08 Survey Type: MANUAL

4 WO-04-A-01 PRIMARY SCHOOL, DROITWICH WORCESTERSHIRE
ST PETERS CHURCH LANE

DROITWICH SPA
Suburban Area (PPS6 Out of Centre)
Residential Zone
Total Number of pupils: 447
Survey date: MONDAY 13/06/05 Survey Type: MANUAL

TRIP RATE for Land Use 04 - EDUCATION/A - PRIMARY
VEHICLES
Calculation factor: 1 PUPILS
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. PUPILS	Trip Rate	No. Days	Ave. PUPILS	Trip Rate	No. Days	Ave. PUPILS	Trip Rate
00:00 - 01:00	0	0	0.000	0	0	0.000	0	0	0.000
01:00 - 02:00	0	0	0.000	0	0	0.000	0	0	0.000
02:00 - 03:00	0	0	0.000	0	0	0.000	0	0	0.000
03:00 - 04:00	0	0	0.000	0	0	0.000	0	0	0.000
04:00 - 05:00	0	0	0.000	0	0	0.000	0	0	0.000
05:00 - 06:00	0	0	0.000	0	0	0.000	0	0	0.000
06:00 - 07:00	0	0	0.000	0	0	0.000	0	0	0.000
07:00 - 08:00	4	382	0.024	4	382	0.011	4	382	0.035
08:00 - 09:00	4	**382**	**0.358**	4	**382**	**0.268**	4	**382**	**0.626**
09:00 - 10:00	4	382	0.021	4	382	0.044	4	382	0.065
10:00 - 11:00	4	382	0.011	4	382	0.012	4	382	0.023
11:00 - 12:00	4	382	0.034	4	382	0.032	4	382	0.066
12:00 - 13:00	4	382	0.043	4	382	0.057	4	382	0.100
13:00 - 14:00	4	382	0.016	4	382	0.016	4	382	0.032
14:00 - 15:00	4	382	0.063	4	382	0.013	4	382	0.076
15:00 - 16:00	4	382	0.191	4	382	0.259	4	382	0.450
16:00 - 17:00	4	382	0.018	4	382	0.039	4	382	0.057
17:00 - 18:00	4	382	0.010	4	382	0.026	4	382	0.036
18:00 - 19:00	2	412	0.009	2	412	0.015	2	412	0.024
19:00 - 20:00	0	0	0.000	0	0	0.000	0	0	0.000
20:00 - 21:00	0	0	0.000	0	0	0.000	0	0	0.000
21:00 - 22:00	0	0	0.000	0	0	0.000	0	0	0.000
22:00 - 23:00	0	0	0.000	0	0	0.000	0	0	0.000
23:00 - 24:00	0	0	0.000	0	0	0.000	0	0	0.000
Total Rates:			0.798			0.792			1.590

Parameter summary

Trip rate parameter range selected:	304 - 447 (units:)
Survey date date range:	01/01/04 - 26/11/08
Number of weekdays (Monday-Friday):	4
Number of Saturdays:	0
Number of Sundays:	0
Surveys manually removed from selection:	0

Appendix E
TEMPRO Calculations

2015

Dataset Version:	62		
Result Type:	Trip ends by time period		
Base Year:	2010		
Future Year:	2015		
Trip Purpose Group:	All purposes		
Time Period:	Weekday AM peak period (0700 - 0959)		
Trip End Type:	Origin/Destination		
Alternative Assumptions applied:	No		
Growth Factor			
Area Description		All purposes	
Level	Name	Origin	Destination
30UL2	Clitheroe	1.0283	1.0588
Base Year - Future Year			
Area Description		All purposes	
Level	Name	Origin	Destination
30UL2	Clitheroe	130	281
Base Year			
Area Description		All purposes	
Level	Name	Origin	Destination
30UL2	Clitheroe	4591	4777
Future Year			
Area Description		All purposes	
Level	Name	Origin	Destination
30UL2	Clitheroe	4722	5058
Level	Area	Local Growth Figure	
30UL2	Clitheroe	1.025135	

2015

Dataset Version:	62		
Result Type:	Trip ends by time period		
Base Year:	2010		
Future Year:	2015		
Trip Purpose Group:	All purposes		
Time Period:	Weekday PM peak period (1600 - 1859)		
Trip End Type:	Origin/Destination		
Alternative Assumptions applied:	No		
Growth Factor			
Area Description		All purposes	
Level	Name	Origin	Destination
30UL2	Clitheroe	1.0557	1.0361
Base Year - Future Year			
Area Description		All purposes	
Level	Name	Origin	Destination
30UL2	Clitheroe	310	195
Base Year			
Area Description		All purposes	
Level	Name	Origin	Destination
30UL2	Clitheroe	5560	5384
Future Year			
Area Description		All purposes	
Level	Name	Origin	Destination
30UL2	Clitheroe	5870	5579
Level	Area	Local Growth Figure	
30UL2	Clitheroe	1.027443	

2030

Dataset Version:	62		
Result Type:	Trip ends by time period		
Base Year:	2010		
Future Year:	2030		
Trip Purpose Group:	All purposes		
Time Period:	Weekday AM peak period (0700 - 0959)		
Trip End Type:	Origin/Destination		
Alternative Assumptions appli	No		
Growth Factor			
Area Description		All purposes	
Level	Name	Origin	Destination
30UL2	Clitheroe	1.0751	1.1635
Base Year - Future Year			
Area Description		All purposes	
Level	Name	Origin	Destination
30UL2	Clitheroe	345	781
Base Year			
Area Description		All purposes	
Level	Name	Origin	Destination
30UL2	Clitheroe	4591	4777
Future Year			
Area Description		All purposes	
Level	Name	Origin	Destination
30UL2	Clitheroe	4936	5558
Level	Area	Local Growth Figure	
30UL2	Clitheroe	1.258843781	

2030

Dataset Version:	62		
Result Type:	Trip ends by time period		
Base Year:	2010		
Future Year:	2030		
Trip Purpose Group:	All purposes		
Time Period:	Weekday PM peak period (1600 - 1859)		
Trip End Type:	Origin/Destination		
Alternative Assumptions appli	No		
Growth Factor			
Area Description		All purposes	
Level	Name	Origin	Destination
30UL2	Clitheroe	1.1581	1.1022
Base Year - Future Year			
Area Description		All purposes	
Level	Name	Origin	Destination
30UL2	Clitheroe	879	550
Base Year			
Area Description		All purposes	
Level	Name	Origin	Destination
30UL2	Clitheroe	5560	5384
Future Year			
Area Description		All purposes	
Level	Name	Origin	Destination
30UL2	Clitheroe	6439	5935
Level	Area	Local Growth Figure	
30UL2	Clitheroe	1.271046457	

Appendix F
Census Output – Residential Distribution

Trip Distribution

Area	Residential Peak	Residential Off-Peak
A59 South	53%	53%
A59 North	7%	7%
B6478	1%	1%
Littlemoor Ward	10%	10%
Salthill Ward	14%	14%
Primrose Ward	6%	6%
Edisford and Low Moor Ward	1%	1%
St Mary's Ward	8%	8%
Clitheroe Road	0%	0%
B6243	0%	0%
Total	**100%**	**100%**

Route Assumptions

Residential

A59 South

100% via Pendle Road east of access then onto A59 South
62% diverts to A671
38% remains on A59

A59 North

100% via Pendle Road east of access then onto A59 North

B6478

100% via Pendle Road west of access and A671 North

Littlemoor Ward

100% via Pendle Road west then A671 South

Salthill Ward

100% via Pendle Road west of access then Taylor Street
50% continues to Lincoln Way

Primrose Ward

100% via Pendle Road west of access, A671 south and Primrose Road

Edisford and Low Moor Ward

100% via Pendle Road west of access, A671 south, Eshton Terrace then Edisford Road

St Mary's Ward

100% via Pendle Road west of access, A671 north and Pimlico Road

Clitheroe Road

100% via Pendle Road east of access then Clitheroe Road

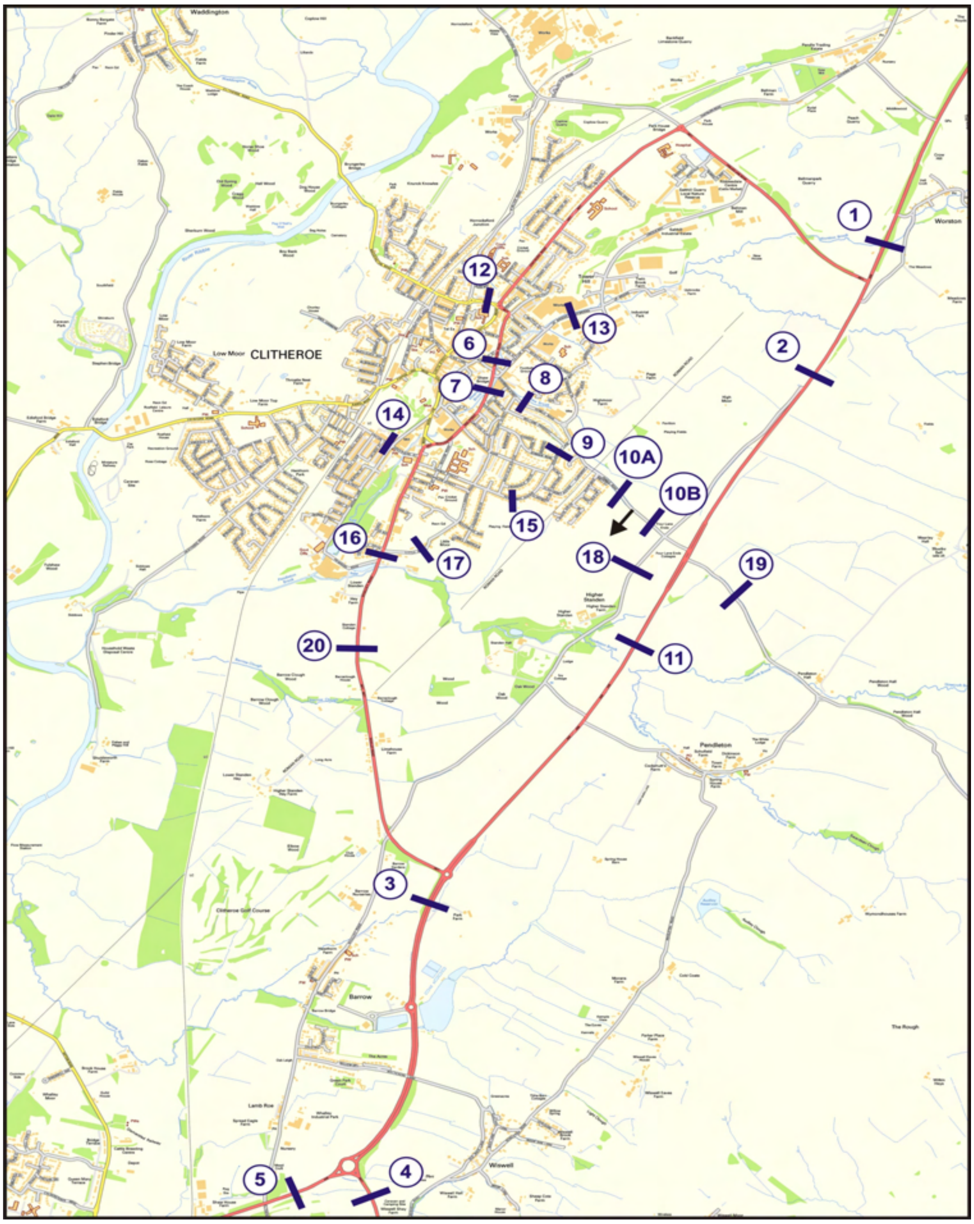
B6243

100% via Pendle Road west of access, A671 south, Eshton Terrace then Edisford Road

Traffic Assignment

Link Ref	Name	Residential Peak In	Peak Out	Peak 2-Way	Off-Peak In	Off-Peak Out	Off-Peak 2-Way
2	A59 North of Pendle Road	7%	7%	7%	7%	7%	7%
19	Clitheroe Road	0%	0%	0%	0%	0%	0%
11	A59 South of Pendle Road	53%	53%	53%	53%	53%	53%
3	A59 South of Walley Road	53%	53%	53%	53%	53%	53%
4	A671 South	33%	33%	33%	33%	33%	33%
5	A59 South of A671	20%	20%	20%	20%	20%	20%
NS	B6243	1%	1%	1%	1%	1%	1%
NS	B6478	1%	1%	1%	1%	1%	1%
NS	Pimlico Road	8%	8%	8%	8%	8%	8%
NS	Lincoln Way	7%	7%	7%	7%	7%	7%
NS	Chatburn Road	0%	0%	0%	0%	0%	0%
6	A671 Waterloo Road	9%	9%	9%	9%	9%	9%
13	Taylor Street	14%	14%	14%	14%	14%	14%
7	A671 Peel Street	17%	17%	17%	17%	17%	17%
8	Shawbridge Street	40%	40%	40%	40%	40%	40%
NS	Highmoor Park	0%	0%	0%	0%	0%	0%
14	Eshton Terrace	1%	1%	1%	1%	1%	1%
NS	Highfield Road	0%	0%	0%	0%	0%	0%
9	Goosebutts Lane	0%	0%	0%	0%	0%	0%
16	A671 North of Primrose Road	6%	6%	6%	6%	6%	6%
15	Peel Park Avenue	0%	0%	0%	0%	0%	0%
10A	Pendle Road west of access	40%	40%	40%	40%	40%	40%
10B	Pendle Road east of access	60%	60%	60%	60%	60%	60%
NS	Primrose Road	6%	6%	6%	6%	6%	6%
12	Well Terrace	9%	9%	9%	9%	9%	9%
1	A59 North of Chatburn Road	7%	7%	7%	7%	7%	7%
17	Littlemoor	0%	0%	0%	0%	0%	0%
18	Unnamed Road	0%	0%	0%	0%	0%	0%
20	Whalley Road	0%	0%	0%	0%	0%	0%

Notes:
NS = Not Surveyed
Links 10A and 10B use the same ATC for the base flows



Waddington
CLITHEROE
Low Moor
Worston
Higher Standen
Pendleton
Barrow
Wiswell
Clitheroe Golf Course
The Rough
1
2
3
4
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6
7
8
9
10A
10B
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20

2001 census - UK travel flows (ward)

cell	T203:25 (Car - driver : All people)
date	2001

area of residence2003 CAS ward	**Allerdale**	**Barrow-in-Furness**	**Blackburn with Darwen**	**Blackpool**	**Bolton**	**Burnley**	**Bury**	**Carlisle**	**Cheshire East**
30ULGL : Edisford and Low Mo	0	0	94	9	3	29	0	0	0
30ULGP : Littlemoor	0	0	79	3	3	41	0	0	0
30ULGR : Primrose	0	0	71	3	6	50	12	0	0
30ULGX : Salthill	0	0	89	0	9	40	9	0	0
30ULGW : St Mary's	0	0	86	6	6	38	9	0	3
Column Total	**0**	**0**	**419**	**21**	**27**	**198**	**30**	**0**	**3**

- These figures are missing.

2001 census - UK travel t

cell
date

area of residence2003 CAS ward	Cheshire West & Chester	Chorley	Copeland	Eden	Fylde	Halton	Hyndburn	Knowsley	Lancaster	Liverpool
30ULGL : Edisford and Low Mo	0	6	0	0	13	0	85	3	0	3
30ULGP : Littlemoor	0	3	0	0	7	0	59	0	0	0
30ULGR : Primrose	0	3	0	0	6	0	57	0	0	0
30ULGX : Salthill	0	6	0	0	10	0	67	0	9	0
30ULGW : St Mary's	0	0	0	0	6	0	72	0	3	0
Column Total	**0**	**18**	**0**	**0**	**42**	**0**	**340**	**3**	**12**	**3**

- These figures are missing.

2001 census - UK travel f

cell
date

area of residence2003 CAS ward	Manchester	Oldham	Pendle	Preston	Ribble Valley	Rochdale	Rossendale	Salford	Sefton	South Lakeland
30ULGL : Edisford and Low Mo	0	0	22	30	450	0	9	0	0	0
30ULGP : Littlemoor	6	0	12	32	313	0	3	0	0	0
30ULGR : Primrose	9	0	23	25	497	3	15	6	0	0
30ULGX : Salthill	12	0	36	25	415	9	18	12	0	6
30ULGW : St Mary's	6	0	34	29	406	0	9	0	0	0
Column Total	**33**	**0**	**127**	**141**	**2,081**	**12**	**54**	**18**	**0**	**6**

- These figures are missing.

2001 census - UK travel f

cell
date

							area of workplace				
area of residence2003 CAS ward	**South Ribble**	**St. Helens**	**Stockport**	**Tameside**	**Trafford**	**Warrington**	**West Lancashire**	**Wigan**	**Wirral**	**Wyre**	**County Durham**
30ULGL : Edisford and Low Mo	10	0	0	0	3	0	0	0	0	6	-
30ULGP : Littlemoor	15	0	0	0	3	0	0	3	0	0	-
30ULGR : Primrose	6	0	3	0	0	0	6	0	0	0	-
30ULGX : Salthill	18	3	6	0	9	0	0	0	0	15	-
30ULGW : St Mary's	19	0	0	0	0	6	3	0	0	6	-
Column Total	**68**	**3**	**9**	**0**	**15**	**6**	**9**	**3**	**0**	**27**	**-**

- These figures are missing.

2001 census - UK travel t

cell
date

area of residence2003 CAS ward	**Darlington**	**Gateshead**	**Hartlepool**	**Middlesbrough**	**Newcastle upon Tyne**	**North Tyneside**	**Northumber land**	**Redcar and Cleveland**
30ULGL : Edisford and Low Mo	0	0	0	0	0	0	-	0
30ULGP : Littlemoor	0	0	0	0	0	0	-	0
30ULGR : Primrose	0	0	0	0	0	0	-	0
30ULGX : Salthill	0	0	0	0	3	0	-	0
30ULGW : St Mary's	0	0	0	0	0	0	-	0
Column Total	**0**	**0**	**0**	**0**	**3**	**0**	**-**	**0**

- These figures are missing.

2001 census - UK travel f

cell
date

area of residence2003 CAS ward	South Tyneside	Stockton-on-Tees	Sunderland	Barnsley	Bradford	Calderdale	Craven	Doncaster	East Riding of Yorkshire
30ULGL : Edisford and Low Mo	0	0	0	0	0	0	0	0	0
30ULGP : Littlemoor	0	0	0	0	9	0	0	0	0
30ULGR : Primrose	0	0	0	0	0	0	9	0	0
30ULGX : Salthill	0	0	0	0	3	0	18	0	0
30ULGW : St Mary's	0	0	0	0	0	0	12	3	0
Column Total	**0**	**0**	**0**	**0**	**12**	**0**	**39**	**3**	**0**

- These figures are missing.

2001 census - UK travel f

cell
date

area of residence2003 CAS ward	Hambleton	Harrogate	Kingston upon Hull, City of	Kirklees	Leeds	North East Lincolnshire	North Lincolnshire	Richmondshire	Rotherham
30ULGL : Edisford and Low Mo	0	0	0	0	0	0	0	0	0
30ULGP : Littlemoor	0	6	0	0	0	0	0	0	0
30ULGR : Primrose	0	0	0	0	3	0	0	0	3
30ULGX : Salthill	0	0	0	0	0	0	0	0	0
30ULGW : St Mary's	0	0	0	0	0	0	0	0	0
Column Total	**0**	**6**	**0**	**0**	**3**	**0**	**0**	**0**	**3**

- These figures are missing.

2001 census - UK travel t

cell
date

area of residence2003 CAS ward	**Ryedale**	**Scarborough**	**Selby**	**Sheffield**	**Wakefield**	**York**
30ULGL : Edisford and Low Mo	0	0	0	0	0	0
30ULGP : Littlemoor	0	0	0	0	0	0
30ULGR : Primrose	0	0	0	0	0	0
30ULGX : Salthill	0	0	0	0	0	0
30ULGW : St Mary's	0	0	0	0	0	0
Column Total	**0**	**0**	**0**	**0**	**0**	**0**

- These figures are missing.

Appendix G
Census Output – Employment Distribution

Trip Distribution

	B1 Employment	
Area	**Peak**	**Off-Peak**
A59 South	39%	39%
A59 North	12%	12%
B6478	6%	6%
Littlemoor Ward	12%	12%
Salthill Ward	6%	6%
Primrose Ward	7%	7%
Edisford and Low Moor Ward	7%	7%
St Mary's Ward	6%	6%
Clitheroe Road	1%	1%
B6243	4%	4%
Total	**100%**	**100%**

Route Assumptions

Employment

A59 South

100% via Pendle Road east of access then onto A59 South
77% diverts to A671
23% remains on A59

A59 North

100% via Pendle Road east of access then onto A59 North

B6478

100% via Pendle Road west of access and A671 North

Littlemoor Ward

100% via Pendle Road west of access and Goosebutts Lane, then
50% via Highfield Road
50% via Peel Park Avenue

Salthill Ward

100% via Pendle Road west of access, then
50% via Highmoor Park
50% via Chatburn Road

Primrose Ward

100% via Pendle Road west of access, A671 south and Eshton Terrace

Edisford and Low Moor Ward

100% via Pendle Road west of access, A671 south, Eshton Terrace then Edisford Road

St Mary's Ward

100% via Pendle Road west of access, A671 North and B6478

Clitheroe Road

100% via Pendle Road east of access then Clitheroe Road

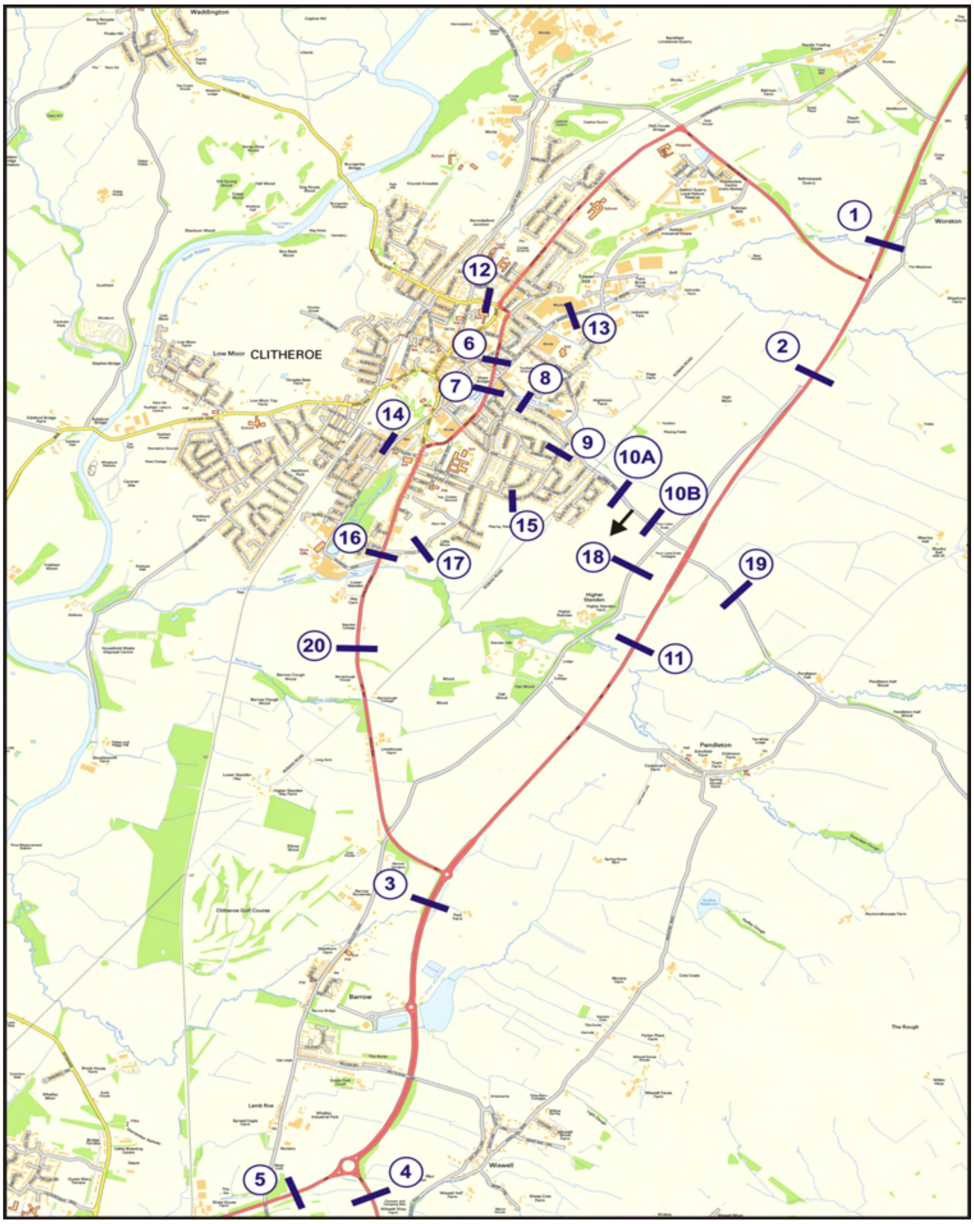
B6243

100% via Pendle Road west of access, A671 south, Eshton Terrace then Edisford Road

Traffic Assignment

		B1 Employment					
Link			**Peak**			**Off-Peak**	
Ref	**Name**	**In**	**Out**	**2-Way**	**In**	**Out**	**2-Way**
2	A59 North of Pendle Road	12%	12%	12%	12%	12%	12%
19	Clitheroe Road	1%	1%	1%	1%	1%	1%
11	A59 South of Pendle Road	39%	39%	39%	39%	39%	39%
3	A59 South of Walley Road	39%	39%	39%	39%	39%	39%
4	A671 South	30%	30%	30%	30%	30%	30%
5	A59 South of A671	9%	9%	9%	9%	9%	9%
NS	B6243	11%	11%	11%	11%	11%	11%
NS	B6478	12%	12%	12%	12%	12%	12%
NS	Pimlico Road	0%	0%	0%	0%	0%	0%
NS	Lincoln Way	0%	0%	0%	0%	0%	0%
NS	Chatburn Road	3%	3%	3%	3%	3%	3%
6	A671 Waterloo Road	15%	15%	15%	15%	15%	15%
13	Taylor Street	0%	0%	0%	0%	0%	0%
7	A671 Peel Street	18%	18%	18%	18%	18%	18%
8	Shawbridge Street	33%	33%	33%	33%	33%	33%
NS	Highmoor Park	3%	3%	3%	3%	3%	3%
14	Eshton Terrace	18%	18%	18%	18%	18%	18%
NS	Highfield Road	6%	6%	6%	6%	6%	6%
9	Goosebutts Lane	12%	12%	12%	12%	12%	12%
16	A671 North of Primrose Road	0%	0%	0%	0%	0%	0%
15	Peel Park Avenue	6%	6%	6%	6%	6%	6%
10A	Pendle Road west of access	48%	48%	48%	48%	48%	48%
10B	Pendle Road east of access	52%	52%	52%	52%	52%	52%
NS	Primrose Road	0%	0%	0%	0%	0%	0%
12	Well Terrace	12%	12%	12%	12%	12%	12%
1	A59 North of Chatburn Road	12%	12%	12%	12%	12%	12%
17	Littlemoor	0%	0%	0%	0%	0%	0%
18	Unnamed Road	0%	0%	0%	0%	0%	0%
20	Whalley Road	0%	0%	0%	0%	0%	0%

Notes:
NS = Not Surveyed
Links 10A and 10B use the same ATC for the base flows



CLITHEROE
Low Moor
Waddington
Worston
Barrow
Pendleton
Wiswell
1
2
3
4
5
6
7
8
9
10A
10B
11
12
13
14
15
16
17
18
19
20

2001 census - UK travel flows (ward)

area of residence	30ULGL : Edisford and Low Moor (2003 CAS wa
date	2001

area of workplace : 2003 CAS ward	**T203:25 (Car - driver : All people)**
30ULGB : Aighton, Bailey and Chaigley	14
30ULGC : Alston and Hothersall	6
30ULGD : Billington and Old Langho	3
30ULGE : Bowland, Newton and Slaidburn	6
30ULGF : Chatburn	13
30ULGG : Chipping	0
30ULGH : Clayton-le-Dale with Ramsgreave	0
30ULGJ : Derby and Thornley	3
30ULGK : Dilworth	0
30ULGL : Edisford and Low Moor	68
30ULGM : Gisburn, Rimington	9
30ULGN : Langho	3
30ULGP : Littlemoor	34
30ULGQ : Mellor	11
30ULGR : Primrose	45
30ULGS : Read and Simonstone	3
30ULGT : Ribchester	0
30ULGU : Sabden	0
30ULGX : Salthill	109
30ULGW : St Mary's	83
30ULGY : Waddington and West Bradford	11
30ULGZ : Whalley	25
30ULHA : Wilpshire	0
30ULHB : Wiswell and Pendleton	4
Column Total	**450**

2001 census - UK travel flows (ward)

area of residence	30ULGP : Littlemoor (2003 CAS ward)
date	2001

area of workplace : 2003 CAS ward	**T203:25 (Car - driver : All people)**
30ULGB : Aighton, Bailey and Chaigley	3
30ULGC : Alston and Hothersall	3
30ULGD : Billington and Old Langho	5
30ULGE : Bowland, Newton and Slaidburn	3
30ULGF : Chatburn	7
30ULGG : Chipping	0
30ULGH : Clayton-le-Dale with Ramsgreave	0
30ULGJ : Derby and Thornley	0
30ULGK : Dilworth	0
30ULGL : Edisford and Low Moor	8
30ULGM : Gisburn, Rimington	9
30ULGN : Langho	4
30ULGP : Littlemoor	59
30ULGQ : Mellor	0
30ULGR : Primrose	37
30ULGS : Read and Simonstone	3
30ULGT : Ribchester	0
30ULGU : Sabden	3
30ULGX : Salthill	84
30ULGW : St Mary's	48
30ULGY : Waddington and West Bradford	6
30ULGZ : Whalley	20
30ULHA : Wilpshire	0
30ULHB : Wiswell and Pendleton	11
Column Total	**313**

2001 census - UK travel flows (ward)

area of residence	30ULGR : Primrose (2003 CAS ward)
date	2001

area of workplace : 2003 CAS ward	**T203:25 (Car - driver : All people)**
30ULGB : Aighton, Bailey and Chaigley	10
30ULGC : Alston and Hothersall	3
30ULGD : Billington and Old Langho	5
30ULGE : Bowland, Newton and Slaidburn	6
30ULGF : Chatburn	12
30ULGG : Chipping	3
30ULGH : Clayton-le-Dale with Ramsgreave	3
30ULGJ : Derby and Thornley	0
30ULGK : Dilworth	0
30ULGL : Edisford and Low Moor	13
30ULGM : Gisburn, Rimington	9
30ULGN : Langho	6
30ULGP : Littlemoor	36
30ULGQ : Mellor	3
30ULGR : Primrose	87
30ULGS : Read and Simonstone	3
30ULGT : Ribchester	0
30ULGU : Sabden	7
30ULGX : Salthill	143
30ULGW : St Mary's	93
30ULGY : Waddington and West Bradford	15
30ULGZ : Whalley	33
30ULHA : Wilpshire	0
30ULHB : Wiswell and Pendleton	7
Column Total	**497**

2001 census - UK travel flows (ward)

area of residence	30ULGW : St Mary's (2003 CAS ward)
date	2001

area of workplace : 2003 CAS ward	**T203:25 (Car - driver : All people)**
30ULGB : Aighton, Bailey and Chaigley	6
30ULGC : Alston and Hothersall	6
30ULGD : Billington and Old Langho	3
30ULGE : Bowland, Newton and Slaidburn	9
30ULGF : Chatburn	22
30ULGG : Chipping	3
30ULGH : Clayton-le-Dale with Ramsgreave	0
30ULGJ : Derby and Thornley	0
30ULGK : Dilworth	3
30ULGL : Edisford and Low Moor	9
30ULGM : Gisburn, Rimington	9
30ULGN : Langho	6
30ULGP : Littlemoor	29
30ULGQ : Mellor	6
30ULGR : Primrose	31
30ULGS : Read and Simonstone	0
30ULGT : Ribchester	0
30ULGU : Sabden	0
30ULGX : Salthill	112
30ULGW : St Mary's	111
30ULGY : Waddington and West Bradford	16
30ULGZ : Whalley	22
30ULHA : Wilpshire	0
30ULHB : Wiswell and Pendleton	3
Column Total	**406**

2001 census - UK travel flows (ward)

area of residence	30ULGX : Salthill (2003 CAS ward)
date	2001

area of workplace : 2003 CAS ward	**T203:25 (Car - driver : All people)**
30ULGB : Aighton, Bailey and Chaigley	7
30ULGC : Alston and Hothersall	0
30ULGD : Billington and Old Langho	6
30ULGE : Bowland, Newton and Slaidburn	4
30ULGF : Chatburn	12
30ULGG : Chipping	0
30ULGH : Clayton-le-Dale with Ramsgreave	3
30ULGJ : Derby and Thornley	0
30ULGK : Dilworth	0
30ULGL : Edisford and Low Moor	13
30ULGM : Gisburn, Rimington	6
30ULGN : Langho	0
30ULGP : Littlemoor	29
30ULGQ : Mellor	7
30ULGR : Primrose	32
30ULGS : Read and Simonstone	9
30ULGT : Ribchester	0
30ULGU : Sabden	7
30ULGX : Salthill	147
30ULGW : St Mary's	68
30ULGY : Waddington and West Bradford	17
30ULGZ : Whalley	45
30ULHA : Wilpshire	0
30ULHB : Wiswell and Pendleton	3
Column Total	**415**

2001 census - UK travel flows (ward)

cell	T203:25 (Car - driver : All people)
date	2001

	area of workplace
area of residence	**30ULGP : Littlemoor**
Allerdale	0
Barrow-in-Furness	0
Blackburn with Darwen	20
Blackpool	6
Bolton	0
Burnley	37
Bury	0
Carlisle	0
Cheshire East	0
Cheshire West & Chester	0
Chorley	3
Copeland	0
Eden	0
Fylde	0
Halton	0
Hyndburn	52
Knowsley	0
Lancaster	0
Liverpool	0
Manchester	0
Oldham	0
Pendle	27
Preston	6
Ribble Valley	335
Rochdale	0
Rossendale	0
Salford	0
Sefton	0
South Lakeland	0
South Ribble	3
St. Helens	0
Stockport	0
Tameside	0
Trafford	0
Warrington	0
West Lancashire	0
Wigan	0
Wirral	0
Wyre	0
30ULGB : Aighton, Bailey and Chaigley	8
30ULGC : Alston and Hothersall	3
30ULGD : Billington and Old Langho	10
30ULGE : Bowland, Newton and Slaidburn	6
30ULGF : Chatburn	25
30ULGG : Chipping	0
30ULGH : Clayton-le-Dale with Ramsgreave	0
30ULGJ : Derby and Thornley	0
30ULGK : Dilworth	3
30ULGL : Edisford and Low Moor	34
30ULGM : Gisburn, Rimington	6
30ULGN : Langho	7
30ULGP : Littlemoor	59
30ULGQ : Mellor	0
30ULGR : Primrose	36
30ULGS : Read and Simonstone	7
30ULGT : Ribchester	0
30ULGU : Sabden	7
30ULGX : Salthill	29
30ULGW : St Mary's	29
30ULGY : Waddington and West Bradford	25
30ULGZ : Whalley	12
30ULHA : Wilpshire	10
30ULHB : Wiswell and Pendleton	19

Appendix H
Junction Assessment Summary

A59 / Pendle Road / Clitheroe Road Staggered Junction

Scenario 1 2012 Observed Flows

Arm	Link Description			
A	A59 (SB)			
B	Clitheroe Road			
C	A59 (NB)			
D	Pendle Road			
Peak Hour	Weekday AM		Weekday PM	
Movement	RFC	Queue	RFC	Queue
B – C	0.022	0	0.012	0
B – AD	0.549	1	0.466	1
C – B	0.014	0	0.014	0
D – A	0.092	0	0.043	0
D - BC	0.725	2	0.712	2
RFC	Ratio Flow to Capacity			
Queue	Queue Length Passenger Car Units (PCU's)			

Scenario 2 2015 Base (Existing Layout)

Arm	Link Description			
A	A59 (SB)			
B	Clitheroe Road			
C	A59 (NB)			
D	Pendle Road			
Peak Hour	Weekday AM		Weekday PM	
Movement	RFC	Queue	RFC	Queue
B – C	0.023	0	0.013	0
B – AD	0.576	1	0.492	1
C – B	0.014	0	0.015	0
D – A	0.106	0	0.048	0
D - BC	0.756	3	0.745	3
RFC	Ratio Flow to Capacity			
Queue	Queue Length Passenger Car Units (PCU's)			

Scenario 4 2030 Base (Existing Layout)

Arm	Link Description			
A	A59 (NORTH)			
B	CLITHEROE ROAD			
C	A59 (SOUTH)			
D	PENDLE ROAD			
Peak Hour	Weekday AM		Weekday PM	
Movement	RFC	Queue	RFC	Queue
B – C	0.992	1	0.067	0
B – AD	0.972	8	0.863	5
C – B	0.022	0	0.024	0
D – A	1.015	4	0.929	2
D - BC	1.161	32	1.137	30
RFC	Ratio Flow to Capacity			
Queue	Queue Length Passenger Car Units (PCU's)			

A59 / Pendle Road / Clitheroe Road Proposed Roundabout

Scenario 2 2015 Base (Proposed Layout)

Arm	Link Description			
A	A59 (SB)			
B	Clitheroe Road			
C	A59 (NB)			
D	Pendle Road			
Peak Hour	Weekday AM		Weekday PM	
Approach	RFC	Queue	RFC	Queue
A	0.39	1	0.43	1
B	0.26	0	0.23	0
C	0.44	1	0.38	1
D	0.4	1	0.37	1
RFC	Ratio Flow to Capacity			
Queue	Queue Length Passenger Car Units (PCU's)			

Scenario 3 2015 Base + Dev (Proposed Layout)

Arm	Link Description			
A	A59 (SB)			
B	Clitheroe Road			
C	A59 (NB)			
D	Pendle Road			
Peak Hour	Weekday AM		Weekday PM	
Approach	RFC	Queue	RFC	Queue
A	0.46	1	0.49	1
B	0.32	0	0.27	0
C	0.55	1	0.5	1
D	0.75	3	0.67	2
RFC	Ratio Flow to Capacity			
Queue	Queue Length Passenger Car Units (PCU's)			

Scenario 4 2030 Base (Proposed Layout)

Arm	Link Description			
A	A59 (SB)			
B	Clitheroe Road			
C	A59 (NB)			
D	Pendle Road			
Peak Hour	Weekday AM		Weekday PM	
Approach	RFC	Queue	RFC	Queue
A	0.49	1	0.55	1
B	0.36	1	0.33	0
C	0.54	1	0.48	1
D	0.53	1	0.5	1
RFC	Ratio Flow to Capacity			
Queue	Queue Length Passenger Car Units (PCU's)			

Scenario 5 2030 Base + Dev (Proposed Layout)

Arm	Link Description			
A	A59 (NORTH)			
B	CLITHEROE ROAD			
C	A59 (SOUTH)			
D	PENDLE ROAD			
Peak Hour	Weekday AM		Weekday PM	
Approach	RFC	Queue	RFC	Queue
A	0.57	1	0.61	2
B	0.46	1	0.4	1
C	0.66	2	0.6	2
D	0.92	8	0.82	4
RFC	Ratio Flow to Capacity			
Queue	Queue Length Passenger Car Units (PCU's)			

A59 / Whalley Road Roudabout

Scenario 1 2012 Observed Flows

Arm	Link Description			
A	A59 (SB)			
B	A59 (NB)			
C	Whalley Road			
Peak Hour	Weekday AM		Weekday PM	
Approach	RFC	Queue	RFC	Queue
A	0.52	1	0.49	1
B	0.61	2	0.67	2
C	0.52	1	0.5	1
RFC	Ratio Flow to Capacity			
Queue	Queue Length Passenger Car Units (PCU's)			

Scenario 2 2015 Base (Existing Layout)

Arm	Link Description			
A	A59 (SB)			
B	A59 (NB)			
C	Whalley Road			
Scenario	Weekday AM		Weekday PM	
Movement	RFC	Queue	RFC	Queue
A	0.55	1	0.51	1
B	0.64	2	0.72	2
C	0.59	1	0.54	1
RFC	Ratio Flow to Capacity			
Queue	Queue Length Passenger Car Units (PCU's)			

Scenario 3 2015 Base + Dev (Existing Layout)

Arm	Link Description			
A	A59 (SB)			
B	A59 (NB)			
C	Whalley Road			
Scenario	Weekday AM		Weekday PM	
Movement	RFC	Queue	RFC	Queue
A	0.7	2	0.6	2
B	0.7	2	0.83	5
C	0.64	2	0.61	2
RFC	Ratio Flow to Capacity			
Queue	Queue Length Passenger Car Units (PCU's)			

Scenario 4 2030 Base (Existing Layout)

Arm	Link Description			
A	A59 (SB)			
B	A59 (NB)			
C	Whalley Road			
Scenario	Weekday AM		Weekday PM	
Movement	RFC	Queue	RFC	Queue
A	0.72	3	0.68	2
B	0.79	4	0.88	7
C	0.79	4	0.73	3
RFC	Ratio Flow to Capacity			
Queue	Queue Length Passenger Car Units (PCU's)			

Scenario 5 2030 Base + Dev (Existing Layout)

Arm	Link Description			
A	A59 (SB)			
B	A59 (NB)			
C	Whalley Road			
Scenario	Weekday AM		Weekday PM	
Movement	RFC	Queue	RFC	Queue
A	0.88	7	0.77	3
B	0.85	6	1	35
C	0.86	6	0.82	4
RFC	Ratio Flow to Capacity			
Queue	Queue Length Passenger Car Units (PCU's)			

Pendle Road Site Access (Mini Roundabout)

Scenario 3 2015 Base + Dev

Arm	Link Description			
A	Pendle Road (WB)			
B	Site Access			
C	Pendle Road (EB)			
Scenario	**Weekday AM**		**Weekday PM**	
Movement	**RFC**	**Queue**	**RFC**	**Queue**
A	0.58	1	0.6	2
B	0.86	6	0.5	1
C	0.78	3	0.64	2
RFC	**Ratio Flow to Capacity**			
Queue	**Queue Length Passenger Car Units (PCU's)**			

Scenario 5 2030 Base + Dev

Arm	Link Description			
A	Pendle Road (WB)			
B	Site Access			
C	Pendle Road (EB)			
Scenario	**Weekday AM**		**Weekday PM**	
Movement	**RFC**	**Queue**	**RFC**	**Queue**
A	0.67	2	0.69	2
B	0.94	12	0.54	1
C	0.83	5	0.74	3
RFC	**Ratio Flow to Capacity**			
Queue	**Queue Length Passenger Car Units (PCU's)**			

Shawbridge / Taylor Street

Scenario 1 2012 Observed Flows

Arm	Link Description			
A	Shawbridge Street (EB)			
B	Taylor Street			
C	Shawbridge Street (WB)			
Peak Hour	Weekday AM		Weekday PM	
Movement	RFC	Queue	RFC	Queue
B – C	0.079	0	0.143	0
B – A	0.088	0	0.165	0
C - AB	0.171	0	0.077	0
RFC	Ratio Flow to Capacity			
Queue	Queue Length Passenger Car Units (PCU's)			

Scenario 2 2015 Base (Existing Layout)

Arm	Link Description			
A	Shawbridge Street (EB)			
B	Taylor Street			
C	Shawbridge Street (WB)			
Peak Hour	Weekday AM		Weekday PM	
Movement	RFC	Queue	RFC	Queue
B – C	0.081	0	0.148	0
B – A	0.092	0	0.173	0
C – AB	0.176	0	0.08	0
RFC	Ratio Flow to Capacity			
Queue	Queue Length Passenger Car Units (PCU's)			

Scenario 3 2015 Base + Dev (Existing Layout)

Arm	Link Description			
A	Shawbridge Street (EB)			
B	Taylor Street			
C	Shawbridge Street (WB)			
Peak Hour	Weekday AM		Weekday PM	
Movement	RFC	Queue	RFC	Queue
B – C	0.121	0	0.265	0
B – A	0.112	0	0.2	0
C - AB	0.316	1	0.15	0
RFC	Ratio Flow to Capacity			
Queue	Queue Length Passenger Car Units (PCU's)			

Scenario 4 2030 Base (Existing Layout)

Arm	Link Description			
A	Shawbridge Street (EB)			
B	Taylor Street			
C	Shawbridge Street (WB)			
Peak Hour	Weekday AM		Weekday PM	
Movement	RFC	Queue	RFC	Queue
B – C	0.104	0	0.196	0
B – A	0.125	0	0.235	0
C - AB	0.224	0	0.102	0
RFC	Ratio Flow to Capacity			
Queue	Queue Length Passenger Car Units (PCU's)			

Scenario 5 2030 Base + Dev (Existing Layout)

Arm	Link Description			
A	Shawbridge Street (EB)			
B	Taylor Street			
C	Shawbridge Street (WB)			
Peak Hour	Weekday AM		Weekday PM	
Movement	RFC	Queue	RFC	Queue
B – C	0.147	0	0.323	0
B – A	0.156	0	0.278	0
C – AB	0.374	1	0.177	0
RFC	Ratio Flow to Capacity			
Queue	Queue Length Passenger Car Units (PCU's)			

Waterloo Road / Shawbridge Street Mini-Roundabout

Scenario 1 2012 Observed Flows

Arm	Link Description			
A	Waterloo Road (NB)			
B	Waterloo Road (SB)			
C	Shawbridge Street			
Peak Hour	Weekday AM		Weekday PM	
Approach	RFC	Queue	RFC	Queue
A	0.6	2	0.56	1
B	0.62	2	0.74	3
C	0.68	2	0.67	2
RFC	Ratio Flow to Capacity			
Queue	Queue Length Passenger Car Units (PCU's)			

2030 Base + Dev (Existing Layout)

Arm	Link Description			
A	Waterloo Road (NB)			
B	Waterloo Road (SB)			
C	Shawbridge Street			
Peak Hour	Weekday AM		Weekday PM	
Approach	RFC	Queue	RFC	Queue
A	0.95	13	0.87	6
B	0.87	6	1.07	76
C	1.22	110	1.16	73
RFC	Ratio Flow to Capacity			
Queue	Queue Length Passenger Car Units (PCU's)			

Scenario 2 2015 Base (Existing Layout)

Arm	Link Description			
A	Waterloo Road (NB)			
B	Waterloo Road (SB)			
C	Shawbridge Street			
Peak Hour	Weekday AM		Weekday PM	
Approach	RFC	Queue	RFC	Queue
A	0.67	2	0.59	1
B	0.64	2	0.8	4
C	0.71	2	0.73	3
RFC	Ratio Flow to Capacity			
Queue	Queue Length Passenger Car Units (PCU's)			

Proposed Layout With Road Widening

Revised proposd layout with road widening on Shawbridge Street and Waterloo Road Southbound appraoches.

Scenario 3 2015 Base + Dev (Existing Layout)

Arm	Link Description			
A	Waterloo Road (NB)			
B	Waterloo Road (SB)			
C	Shawbridge Street			
Peak Hour	Weekday AM		Weekday PM	
Approach	RFC	Queue	RFC	Queue
A	0.81	4	0.71	2
B	0.71	2	0.87	6
C	0.95	13	0.9	8
RFC	Ratio Flow to Capacity			
Queue	Queue Length Passenger Car Units (PCU's)			

Scenario 3 2015 Base + Dev (**Sentivity Test**, Existing Layout)

Arm	Link Description			
A	Waterloo Road (NB)			
B	Waterloo Road (SB)			
C	Shawbridge Street			
Peak Hour	Weekday AM		Weekday PM	
Approach	RFC	Queue	RFC	Queue
A	0.75	3	0.63	2
B	0.69	2	0.84	5
C	0.83	5	0.83	4
RFC	Ratio Flow to Capacity			
Queue	Queue Length Passenger Car Units (PCU's)			

Scenario 3 2015 Base + Dev (Proposed Layout)

Arm	Link Description			
A	Waterloo Road (NB)			
B	Waterloo Road (SB)			
C	Shawbridge Street			
Peak Hour	Weekday AM		Weekday PM	
Approach	RFC	Queue	RFC	Queue
A	0.84	5	0.74	3
B	0.66	2	0.81	4
C	0.89	7	0.84	5
RFC	Ratio Flow to Capacity			
Queue	Queue Length Passenger Car Units (PCU's)			

Scenario 3 2015 Base + Dev (**Sentivity Test**, Proposed Layout)

Arm	Link Description			
A	Waterloo Road (NB)			
B	Waterloo Road (SB)			
C	Shawbridge Street			
Peak Hour	Weekday AM		Weekday PM	
Approach	RFC	Queue	RFC	Queue
A	0.78	3	0.65	2
B	0.65	2	0.79	4
C	0.78	3	0.77	3
RFC	Ratio Flow to Capacity			
Queue	Queue Length Passenger Car Units (PCU's)			

Scenario 4 2030 Base (Existing Layout)

Arm	Link Description			
A	Waterloo Road (NB)			
B	Waterloo Road (SB)			
C	Shawbridge Street			
Peak Hour	Weekday AM		Weekday PM	
Approach	RFC	Queue	RFC	Queue
A	0.89	7	0.77	3
B	0.8	4	0.99	27
C	0.95	13	1.01	21
RFC	Ratio Flow to Capacity			
Queue	Queue Length Passenger Car Units (PCU's)			

Scenario 5 2030 Base + Dev (**Sentivity Test**, Existing Layout)

Arm	Link Description			
A	Waterloo Road (NB)			
B	Waterloo Road (SB)			
C	Shawbridge Street			
Peak Hour	Weekday AM		Weekday PM	
Approach	RFC	Queue	RFC	Queue
A	0.94	12	0.8	4
B	0.85	5	1.04	54
C	1.1	53	1.1	48
RFC	Ratio Flow to Capacity			
Queue	Queue Length Passenger Car Units (PCU's)			

Scenario 5 2030 Base + Dev (Proposed Layout)

Arm	Link Description			
A	Waterloo Road (NB)			
B	Waterloo Road (SB)			
C	Shawbridge Street			
Peak Hour	Weekday AM		Weekday PM	
Approach	RFC	Queue	RFC	Queue
A	1.02	29	0.91	8
B	0.81	4	1	29
C	1.14	78	1.12	58
RFC	Ratio Flow to Capacity			
Queue	Queue Length Passenger Car Units (PCU's)			

Scenario 5 2030 Base + Dev (**Sentivity Test**, Proposed Layout)

Arm	Link Description			
A	Waterloo Road (NB)			
B	Waterloo Road (SB)			
C	Shawbridge Street			
Peak Hour	Weekday AM		Weekday PM	
Approach	RFC	Queue	RFC	Queue
A	1.01	24	0.84	5
B	0.79	4	0.97	19
C	1.02	28	1.05	32
RFC	Ratio Flow to Capacity			
Queue	Queue Length Passenger Car Units (PCU's)			

Waterloo Road / Wellgate

Scenario 1 2012 Observed Flows

Arm	Link Description			
A	Waterloo Road (NB)			
B	Wellgate			
C	Waterloo Road (SB)			
Peak Hour	Weekday AM		Weekday PM	
Movement	RFC	Queue	RFC	Queue
B – C	0.79	0	0.183	0
B – A	0.237	0	0.439	1
C - AB	0.062	0	0.09	0
RFC	Ratio Flow to Capacity			
Queue	Queue Length Passenger Car Units (PCU's)			

Scenario 2 2015 Base (Existing Layout)

Arm	Link Description			
A	Waterloo Road (NB)			
B	Wellgate			
C	Waterloo Road (SB)			
Peak Hour	Weekday AM		Weekday PM	
Movement	RFC	Queue	RFC	Queue
B – C	0.105	0	0.208	0
B – A	0.259	0	0.476	1
C – AB	0.066	0	0.093	0
RFC	Ratio Flow to Capacity			
Queue	Queue Length Passenger Car Units (PCU's)			

Scenario 3 2015 Base + Dev (Existing Layout)

Arm	Link Description			
A	Waterloo Road (NB)			
B	Wellgate			
C	Waterloo Road (SB)			
Peak Hour	Weekday AM		Weekday PM	
Movement	RFC	Queue	RFC	Queue
B – C	0.109	0	0.215	0
B – A	0.276	0	0.491	1
C - AB	0.068	0	0.095	0
RFC	Ratio Flow to Capacity			
Queue	Queue Length Passenger Car Units (PCU's)			

Scenario 4 2030 Base (Existing Layout)

Arm	Link Description			
A	Waterloo Road (NB)			
B	Wellgate			
C	Waterloo Road (SB)			
Peak Hour	Weekday AM		Weekday PM	
Movement	RFC	Queue	RFC	Queue
B – C	0.142	0	0.451	1
B – A	0.388	1	0.772	3
C - AB	0.087	0	0.124	0
RFC	Ratio Flow to Capacity			
Queue	Queue Length Passenger Car Units (PCU's)			

Scenario 5 2030 Base + Dev (Existing Layout)

Arm	Link Description			
A	Waterloo Road (NB)			
B	Wellgate			
C	Waterloo Road (SB)			
Peak Hour	Weekday AM		Weekday PM	
Movement	RFC	Queue	RFC	Queue
B – C	0.149	0	0.52	1
B – A	0.42	1	0.808	3
C – AB	0.09	0	0.126	0
RFC	Ratio Flow to Capacity			
Queue	Queue Length Passenger Car Units (PCU's)			

Pendle Road / Goosebutts lane

Scenario 1 2012 Observed Flows

Arm	Link Description			
A	Pendle Road (WB)			
B	Goosebutts Lane			
C	Pendle Road (EB)			
Peak Hour	Weekday AM		Weekday PM	
Approach	RFC	Queue	RFC	Queue
B-AC	0.157	0	0.099	0
C-AB	0.049	0	0.081	0
A-BC	-	-	-	-
RFC	Ratio Flow to Capacity			
Queue	Queue Length Passenger Car Units (PCU's)			

Scenario 2 2015 Base (Existing Layout)

Arm	Link Description			
A	Pendle Road (WB)			
B	Goosebutts Lane			
C	Pendle Road (EB)			
Scenario	Weekday AM		Weekday PM	
Movement	RFC	Queue	RFC	Queue
B-AC	0.162	0	0.105	0
C-AB	0.052	0	0.084	0
A-BC	-	-	-	-
RFC	Ratio Flow to Capacity			
Queue	Queue Length Passenger Car Units (PCU's)			

Scenario 3 2015 Base + Dev (Existing Layout)

Arm	Link Description			
A	Pendle Road (WB)			
B	Goosebutts Lane			
C	Pendle Road (EB)			
Scenario	Weekday AM		Weekday PM	
Movement	RFC	Queue	RFC	Queue
B-AC	0.259	0	0.12	0
C-AB	0.063	0	0.099	0
A-BC	-	-	-	-
RFC	Ratio Flow to Capacity			
Queue	Queue Length Passenger Car Units (PCU's)			

Scenario 4 2030 Base (Existing Layout)

Arm	Link Description			
A	Pendle Road (WB)			
B	Goosebutts Lane			
C	Pendle Road (EB)			
Scenario	Weekday AM		Weekday PM	
Movement	RFC	Queue	RFC	Queue
B-AC	0.211	0	0.136	0
C-AB	0.07	0	0.111	0
A-BC	-	-	-	-
RFC	Ratio Flow to Capacity			
Queue	Queue Length Passenger Car Units (PCU's)			

Scenario 5 2030 Base + Dev (Existing Layout)

Arm	Link Description			
A	Pendle Road (WB)			
B	Goosebutts Lane			
C	Pendle Road (EB)			
Scenario	Weekday AM		Weekday PM	
Movement	RFC	Queue	RFC	Queue
B-AC	0.33	0	0.157	0
C-AB	0.084	0	0.132	0
A-BC	-	-	-	-
RFC	Ratio Flow to Capacity			
Queue	Queue Length Passenger Car Units (PCU's)			

Shawbridge Street / Hayhurst Street

Scenario 1 2012 Observed Flows

Arm	Link Description			
A	Shawbridge Street (WB)			
B	Hayhurst Street			
C	Shawbridge Street (EB)			
Peak Hour	Weekday AM		Weekday PM	
Approach	RFC	Queue	RFC	Queue
B-AC	0.208	0	0.104	0
C-AB	0.125	0	0.164	0
A-BC	-	-	-	-
RFC	Ratio Flow to Capacity			
Queue	Queue Length Passenger Car Units (PCU's)			

Scenario 5 2030 Base + Dev (Existing Layout)

Arm	Link Description			
A	Shawbridge Street (WB)			
B	Hayhurst Street			
C	Shawbridge Street (EB)			
Scenario	Weekday AM		Weekday PM	
Movement	RFC	Queue	RFC	Queue
B-AC	0.31	0	0.148	0
C-AB	0.208	1	0.272	1
A-BC	-	-	-	-
RFC	Ratio Flow to Capacity			
Queue	Queue Length Passenger Car Units (PCU's)			

Scenario 2 2015 Base (Existing Layout)

Arm	Link Description			
A	Shawbridge Street (WB)			
B	Hayhurst Street			
C	Shawbridge Street (EB)			
Scenario	Weekday AM		Weekday PM	
Movement	RFC	Queue	RFC	Queue
B-AC	0.213	0	0.107	0
C-AB	0.129	0	0.17	0
A-BC	-	-	-	-
RFC	Ratio Flow to Capacity			
Queue	Queue Length Passenger Car Units (PCU's)			

Scenario 3 2015 Base + Dev (Existing Layout)

Arm	Link Description			
A	Shawbridge Street (WB)			
B	Hayhurst Street			
C	Shawbridge Street (EB)			
Scenario	Weekday AM		Weekday PM	
Movement	RFC	Queue	RFC	Queue
B-AC	0.236	0	0.114	0
C-AB	0.152	0	0.203	1
A-BC	-	-	-	-
RFC	Ratio Flow to Capacity			
Queue	Queue Length Passenger Car Units (PCU's)			

Scenario 4 2030 Base (Existing Layout)

Arm	Link Description			
A	Shawbridge Street (WB)			
B	Hayhurst Street			
C	Shawbridge Street (EB)			
Scenario	Weekday AM		Weekday PM	
Movement	RFC	Queue	RFC	Queue
B-AC	0.278	0	0.138	0
C-AB	0.178	0	0.231	1
A-BC	-	-	-	-
RFC	Ratio Flow to Capacity			
Queue	Queue Length Passenger Car Units (PCU's)			

Appendix I
A59 / Pendle Road / Clitheroe Road (existing staggered crossroad / proposed roundabout junction)

CAPACITIES, QUEUES, AND DELAYS AT 3 OR 4-ARM MAJOR/MINOR PRIORITY JUNCTIONS

PICADY 5.1 ANALYSIS PROGRAM
RELEASE 4.0 (SEPT 2008)

FOR SALES AND DISTRIBUTION INFORMATION,
PROGRAM ADVICE AND MAINTENANCE CONTACT:
TRL SOFTWARE BUREAU
TEL: CROWTHORNE (01344) 770758, FAX: 770356
EMAIL: Software@trl.co.uk

Run with file:-
"J:\2012\A077038 Standen Estates\Picady\Pendle Road Stagger JN\
Existing A59_Pendle Rd_Clitheroe Rd - Stagger Jn (AM Peak).vpi"
(drive-on-the-left) at 09:45:41 on Thursday, 20 September 2012

.RUN INFORMATION

```
RUN TITLE       : Existing A59/Pendle Road/Clitheroe Road Stagger Junction
LOCATION        : A59/Pendle Road/Clitheroe Road Stagger Junction, Clitheroe
DATE            : 03/07/12
CLIENT          : Standen Estate
ENUMERATOR      : steven.ho [27-WRK-SBA-021]
JOB NUMBER      : A077038
STATUS          :
DESCRIPTION     :
```

.MAJOR/MINOR JUNCTION CAPACITY AND DELAY

INPUT DATA

```
                                    MINOR ROAD (ARM D)
                                                I
                                                I
                                                I
                                                I
                                                I
                                                I
              MAJOR ROAD (ARM C) -------------------- MAJOR ROAD (ARM A)
                                      I
                                      I
                                      I
                                      I
                                      I
                                      I
                                    MINOR ROAD (ARM B)
```

ARM A IS A59 South Bound
ARM B IS Clitheroe Road
ARM C IS A59 North Bound
ARM D IS Pendle Road

.STREAM LABELLING CONVENTION

STREAM A-B CONTAINS TRAFFIC GOING FROM ARM A TO ARM B
STREAM B-AC CONTAINS TRAFFIC GOING FROM ARM B TO ARM A AND TO ARM C
ETC.

.GEOMETRIC DATA

DATA ITEM	MINOR ROAD B	MINOR ROAD D
TOTAL MAJOR ROAD CARRIAGEWAY WIDTH	(W) 8.00 M.	(W) 8.00 M.
CENTRAL RESERVE WIDTH	(WCR) 9.00 M.	(WCR) 8.75 M.
MAJOR ROAD RIGHT TURN - WIDTH	(WC-B) 3.30 M.	(WA-D) 2.20 M.
- VISIBILITY	(VC-B)180.00 M.	(VA-D) 0.00 M.
- BLOCKS TRAFFIC	YES	NO
MINOR ROAD - VISIBILITY TO LEFT	(VB-C) 65.0 M.	(VD-A) 90.0 M.
- VISIBILITY TO RIGHT	(VB-A) 45.0 M.	(VD-C) 65.0 M.
- LANE 1 WIDTH	(WB-C) -	(WD-A) -
- LANE 2 WIDTH	(WB-A) -	(WD-C) -
WIDTH AT 0 M FROM JUNCTION	10.00 M.	10.00 M.
WIDTH AT 5 M FROM JUNCTION	8.50 M.	10.00 M.
WIDTH AT 10 M FROM JUNCTION	5.30 M.	5.50 M.
WIDTH AT 15 M FROM JUNCTION	3.65 M.	3.80 M.
WIDTH AT 20 M FROM JUNCTION	3.50 M.	3.60 M.
- LENGTH OF FLARED SECTION	DERIVED: 2 PCU	DERIVED: 2 PCU

.SLOPES AND INTERCEPT

(NB:Streams may be combined, in which case capacity will be adjusted)

B-C Stream

Intercept For STREAM B-C	Slope For Opposing STREAM A-C	Slope For Opposing STREAM D-C	Slope For Opposing STREAM A-B	Slope For Opposing STREAM D-B
0.00	0.00	0.00	0.00	0.00

* Due to the presence of a flare, data is not available

B-AD Stream

I Intercept For STREAM B-AD	Slope For Opposing STREAM A-C	Slope For Opposing STREAM A-D	Slope For Opposing STREAM D-A	Slope For Opposing STREAM D-B I
I 0.00	0.00	0.00	0.00	0.00 I

* Due to the presence of a flare, data is not available

I	Slope For Opposing STREAM C-A	Slope For Opposing STREAM C-B	Slope For Opposing STREAM C-D	Slope For Opposing I
I	0.00	0.00	0.00	I

* Due to the presence of a flare, data is not available

D-A Stream

I Intercept For STREAM D-A	Slope For Opposing STREAM C-A	Slope For Opposing STREAM D-C	Slope For Opposing STREAM A-B	Slope For Opposing STREAM D-B I
I 0.00	0.00	0.00	0.00	0.00 I

* Due to the presence of a flare, data is not available

D-BC Stream

I Intercept For STREAM D-BC	Slope For Opposing STREAM C-A	Slope For Opposing STREAM B-A	Slope For Opposing STREAM C-D	Slope For Opposing STREAM B-D I
I 0.00	0.00	0.00	0.00	0.00 I

* Due to the presence of a flare, data is not available

I	Slope For Opposing STREAM A-C	Slope For Opposing STREAM A-B	Slope For Opposing STREAM A-D	Slope For Opposing I
I	0.00	0.00	0.00	I

* Due to the presence of a flare, data is not available

C-B Stream

I Intercept For STREAM C-B	Slope For Opposing STREAM A-C	Slope For Opposing STREAM A-B	Slope For Opposing STREAM D-C	Slope For Opposing STREAM D-B I
I 759.40	0.27	0.27	0.27	0.27 I

A-D Stream

I Intercept For STREAM A-D	Slope For Opposing STREAM C-A	Slope For Opposing STREAM C-D	Slope For Opposing STREAM B-A	Slope For Opposing STREAM B-D I
I 759.40	0.20	0.20	0.20	0.20 I

.GEOMETRIC DELAY DATA

I	ARM SPEED (KPH) ENTRY	EXIT	ENTRY RADIUS ER (M)	EXIT RADIUS EXR (M)	STAGGER DISTANCE DST (M)
ARM A	48.0	48.0	20.0		
ARM B	32.0	25.0	20.0	12.0	47.0
ARM C	48.0	48.0	12.0		
ARM D	32.0	25.0	14.0	1.0	47.0

JUNCTION VISIBILITIES DO NOT CONFORM TO STANDARDS LAID DOWN IN TD42/95

.TRAFFIC DEMAND DATA

ARM	FLOW SCALE(%)
A	100
B	100
C	100
D	100

.Demand set: 2010 Survey

TIME PERIOD BEGINS 07.45 AND ENDS 09.15

LENGTH OF TIME PERIOD - 90 MIN.
LENGTH OF TIME SEGMENT - 15 MIN.

.DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

ARM	NUMBER OF MINUTES FROM START WHEN FLOW STARTS TO RISE	TOP OF PEAK IS REACHED	FLOW STOPS FALLING	RATE OF FLOW (VEH/MIN) BEFORE PEAK	AT TOP OF PEAK	AFTER PEAK
ARM A	15.00	45.00	75.00	8.21	12.32	8.21
ARM B	15.00	45.00	75.00	2.30	3.45	2.30
ARM C	15.00	45.00	75.00	9.71	14.57	9.71
ARM D	15.00	45.00	75.00	3.67	5.51	3.67

.Demand set: 2010 Survey

TIME	FROM/TO	ARM A	ARM B	ARM C	ARM D
		TURNING PROPORTIONS TURNING COUNTS (PERCENTAGE OF H.V.S)			
07.45 - 08.00	ARM A	0.000	0.099	0.901	0.000
		0.0	65.0	592.0	0.0
		(0.0)	(0.0)	(0.0)	(0.0)
	ARM B	0.239	0.000	0.038	0.723
		44.0	0.0	7.0	133.0
		(0.0)	(0.0)	(0.0)	(0.0)
	ARM C	0.713	0.008	0.000	0.279
		554.0	6.0	0.0	217.0
		(0.0)	(0.0)	(0.0)	(0.0)
	ARM D	0.082	0.456	0.463	0.000
		24.0	134.0	136.0	0.0
		(0.0)	(0.0)	(0.0)	(0.0)

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA

. QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

FOR DEMAND SET 2010 Survey
AND FOR TIME PERIOD 1

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
07.45-08.00									
B-C	0.09	7.83	0.011		0.00	0.01	0.2	0.1	0.13
B-AD	2.22	7.84	0.283		0.00	0.39	5.5	7.1	0.18
A-B	0.82							0.7	
A-C	7.43							0.0	
A-D	0.00	6.50	0.000		0.00	0.00	0.0	0.0	
D-A	0.30	8.24	0.037		0.00	0.04	0.5	0.4	0.13
D-BC	3.39	8.58	0.395		0.00	0.64	9.0	8.8	0.19
C-ABD	0.08	9.53	0.008		0.00	0.01	0.1	0.1	0.11

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
08.00-08.15									
B-C	0.10	7.11	0.015		0.01	0.01	0.2	0.1	0.14
B-AD	2.65	7.04	0.377		0.39	0.59	8.5	8.6	0.23
A-B	0.97							0.8	
A-C	8.87							0.0	
A-D	0.00	6.07	0.000		0.00	0.00	0.0	0.0	
D-A	0.36	7.23	0.050		0.04	0.05	0.8	0.5	0.15
D-BC	4.05	7.85	0.515		0.64	1.03	14.5	10.5	0.26
C-ABD	0.09	8.91	0.010		0.01	0.01	0.2	0.1	0.11

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
08.15-08.30									
B-C	0.13	5.79	0.022		0.01	0.02	0.3	0.1	0.18
B-AD	3.25	5.94	0.547		0.59	1.15	15.9	10.4	0.36
A-B	1.19							1.0	
A-C	10.86							0.0	
A-D	0.00	5.48	0.000		0.00	0.00	0.0	0.0	
D-A	0.44	4.97	0.089		0.05	0.10	1.4	0.6	0.22
D-BC	4.95	6.84	0.724		1.03	2.36	31.0	12.7	0.49
C-ABD	0.11	8.07	0.014		0.01	0.01	0.2	0.1	0.13

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
08.30-08.45									
B-C	0.13	5.74	0.022		0.02	0.02	0.3	0.1	0.18
B-AD	3.25	5.92	0.549		1.15	1.18	17.5	10.6	0.37
A-B	1.19							1.0	
A-C	10.86							0.0	
A-D	0.00	5.47	0.000		0.00	0.00	0.0	0.0	
D-A	0.44	4.81	0.092		0.10	0.10	1.5	0.6	0.23
D-BC	4.95	6.83	0.725		2.36	2.48	36.5	13.0	0.52
C-ABD	0.11	8.04	0.014		0.01	0.01	0.2	0.1	0.13

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
08.45-09.00									
B-C	0.10	7.06	0.015		0.02	0.02	0.2	0.1	0.14
B-AD	2.65	7.01	0.378		1.18	0.62	9.9	8.8	0.23
A-B	0.97							0.8	
A-C	8.87							0.0	
A-D	0.00	6.06	0.000		0.00	0.00	0.0	0.0	
D-A	0.36	7.12	0.051		0.10	0.05	0.8	0.5	0.15
D-BC	4.05	7.84	0.516		2.48	1.10	18.1	10.8	0.28
C-ABD	0.09	8.88	0.010		0.01	0.01	0.2	0.1	0.11

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
09.00-09.15									
B-C	0.09	7.80	0.011		0.02	0.01	0.2	0.1	0.13
B-AD	2.22	7.82	0.284		0.62	0.40	6.3	7.3	0.18
A-B	0.82							0.7	
A-C	7.43							0.0	
A-D	0.00	6.49	0.000		0.00	0.00	0.0	0.0	
D-A	0.30	8.20	0.037		0.05	0.04	0.6	0.4	0.13
D-BC	3.39	8.58	0.395		1.10	0.67	10.5	8.9	0.19
C-ABD	0.08	9.51	0.008		0.01	0.01	0.1	0.1	0.11

WARNING NO MARGINAL ANALYSIS OF CAPACITIES AS MAJOR ROAD BLOCKING MAY OCCUR

QUEUE FOR STREAM B-C

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
08.00	0.0
08.15	0.0
08.30	0.0
08.45	0.0
09.00	0.0
09.15	0.0

QUEUE FOR STREAM B-AD

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
08.00	0.4	
08.15	0.6	*
08.30	1.1	*
08.45	1.2	*
09.00	0.6	*
09.15	0.4	

QUEUE FOR STREAM A-D

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
08.00	0.0
08.15	0.0
08.30	0.0
08.45	0.0
09.00	0.0
09.15	0.0

QUEUE FOR STREAM D-A

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
08.00	0.0
08.15	0.1
08.30	0.1
08.45	0.1
09.00	0.1
09.15	0.0

QUEUE FOR STREAM D-BC

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
08.00	0.6	*
08.15	1.0	*
08.30	2.4	**
08.45	2.5	**
09.00	1.1	*
09.15	0.7	*

QUEUE FOR STREAM C-ABD

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
08.00	0.0
08.15	0.0
08.30	0.0
08.45	0.0
09.00	0.0
09.15	0.0

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

STREAM	TOTAL DEMAND		* QUEUEING * * DELAY *		* INCLUSIVE QUEUEING * * DELAY *	
	(VEH)	(VEH/H)	(MIN)	(MIN/VEH)	(MIN)	(MIN/VEH)
B-C	9.6	6.4	1.5	0.15	1.5	0.15
B-AD	243.6	162.4	63.6	0.26	63.6	0.26
A-B	89.5	59.6				
A-C	814.8	543.2				
A-D	0.0	0.0	0.0	0.00	0.0	0.00
D-A	33.0	22.0	5.6	0.17	5.6	0.17
D-BC	371.6	247.8	119.7	0.32	119.7	0.32
C-ABD	8.3	5.5	1.0	0.12	1.0	0.12
ALL	2631.7	1754.5	191.3	0.07	191.3	0.07

* DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD
* INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES
WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD
* THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS
A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.

INCLUSIVE GEOMETRIC DELAY

ARM	TOTAL DEMAND (VEH)	TOTAL DEMAND (VEH/H)	GEOMETRIC DELAY BY TURN (VEH MIN) (GEOMETRIC DELAY PER LIGHT VEHICLE (SEC)) ARM A	ARM B	ARM C	ARM D	TOTAL GEOM. DELAY VEH MIN
A	904.3	602.9	0.0 (0.0)	4.9 (3.3)	0.0 (0.0)	0.0 (8.1)	4.9
B	253.3	168.8	8.1 (8.0)	0.0 (0.0)	0.7 (4.2)	44.7 (14.7)	53.5
C	1069.5	713.0	0.0 (0.0)	0.6 (4.4)	0.0 (0.0)	22.1 (4.4)	22.7
D	404.7	269.8	2.9 (5.2)	39.8 (12.9)	25.1 (8.0)	0.0 (0.0)	67.7
ALL	2631.7	1754.5					148.9

WARNING IN THE CALCULATION OF GEOMETRIC DELAYS THE APPROACH/DEPARTURE SPEED ON ARM B IS LESS THAN THE CALCULATED JUNCTION SPEED.(AG23 REF. 8.4.2(vii)).

. POINT TO POINT JOURNEY TIME TABLE

Point to Point journey times From (entry point) / To (exit point)	Arm A	Arm B	Arm C	Arm D
ARM A	0.0	45.4	29.7	50.2
ARM B	59.5	0.0	49.1	81.6
ARM C	31.4	53.5	0.0	46.6
ARM D	51.2	83.6	63.2	0.0

* JOURNEY TIME CALCULATION STARTING/ENDING ON ARM A BEGINS/ENDS 200.0M FROM STOP LINE/AFTER EXIT
* JOURNEY TIME CALCULATION STARTING/ENDING ON ARM B BEGINS/ENDS 200.0M FROM STOP LINE/AFTER EXIT
* JOURNEY TIME CALCULATION STARTING/ENDING ON ARM C BEGINS/ENDS 200.0M FROM STOP LINE/AFTER EXIT
* JOURNEY TIME CALCULATION STARTING/ENDING ON ARM D BEGINS/ENDS 200.0M FROM STOP LINE/AFTER EXIT

*******END OF RUN*******

.SLOPES AND INTERCEPT

(NB:Streams may be combined, in which case capacity will be adjusted)

B-C Stream

Intercept For STREAM B-C	Slope For Opposing STREAM A-C	Slope For Opposing STREAM D-C	Slope For Opposing STREAM A-B	Slope For Opposing STREAM D-B
0.00	0.00	0.00	0.00	0.00

* Due to the presence of a flare, data is not available

B-AD Stream

Intercept For STREAM B-AD	Slope For Opposing STREAM A-C	Slope For Opposing STREAM A-D	Slope For Opposing STREAM D-A	Slope For Opposing STREAM D-B
0.00	0.00	0.00	0.00	0.00

* Due to the presence of a flare, data is not available

	Slope For Opposing STREAM C-A	Slope For Opposing STREAM C-B	Slope For Opposing STREAM C-D	Slope For Opposing
	0.00	0.00	0.00	

* Due to the presence of a flare, data is not available

D-A Stream

Intercept For STREAM D-A	Slope For Opposing STREAM C-A	Slope For Opposing STREAM D-C	Slope For Opposing STREAM A-B	Slope For Opposing STREAM D-B
0.00	0.00	0.00	0.00	0.00

* Due to the presence of a flare, data is not available

D-BC Stream

Intercept For STREAM D-BC	Slope For Opposing STREAM C-A	Slope For Opposing STREAM B-A	Slope For Opposing STREAM C-D	Slope For Opposing STREAM B-D
0.00	0.00	0.00	0.00	0.00

* Due to the presence of a flare, data is not available

	Slope For Opposing STREAM A-C	Slope For Opposing STREAM A-B	Slope For Opposing STREAM A-D	Slope For Opposing
	0.00	0.00	0.00	

* Due to the presence of a flare, data is not available

C-B Stream

Intercept For STREAM C-B	Slope For Opposing STREAM A-C	Slope For Opposing STREAM A-B	Slope For Opposing STREAM D-C	Slope For Opposing STREAM D-B

759.40	0.27	0.27	0.27	0.27	

A-D Stream

Intercept For STREAM A-D	Slope For Opposing STREAM C-A	Slope For Opposing STREAM C-D	Slope For Opposing STREAM B-A	Slope For Opposing STREAM B-D
759.40	0.20	0.20	0.20	0.20

.GEOMETRIC DELAY DATA

	ARM SPEED (KPH) ENTRY	EXIT	ENTRY RADIUS ER (M)	EXIT RADIUS EXR (M)	STAGGER DISTANCE DST (M)
ARM A	48.0	48.0	20.0		
ARM B	32.0	25.0	20.0	12.0	47.0
ARM C	48.0	48.0	12.0		
ARM D	32.0	25.0	14.0	1.0	47.0

JUNCTION VISIBILITIES DO NOT CONFORM TO STANDARDS LAID DOWN IN TD42/95

.TRAFFIC DEMAND DATA

ARM	FLOW SCALE(%)
A	100
B	100
C	100
D	100

.Demand set: 2015 Base

TIME PERIOD BEGINS 07.45 AND ENDS 09.15

LENGTH OF TIME PERIOD - 90 MIN.
LENGTH OF TIME SEGMENT - 15 MIN.

.DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

ARM	NUMBER OF MINUTES FROM START WHEN FLOW STARTS TO RISE	TOP OF PEAK IS REACHED	FLOW STOPS FALLING	RATE OF FLOW (VEH/MIN) BEFORE PEAK	AT TOP OF PEAK	AFTER PEAK
ARM A	15.00	45.00	75.00	8.43	12.64	8.43
ARM B	15.00	45.00	75.00	2.35	3.52	2.35
ARM C	15.00	45.00	75.00	9.95	14.92	9.95
ARM D	15.00	45.00	75.00	3.76	5.64	3.76

.Demand set: 2015 Base

TIME	TURNING PROPORTIONS / TURNING COUNTS / (PERCENTAGE OF H.V.S) FROM/TO	ARM A	ARM B	ARM C	ARM D
07.45 - 08.00					
	ARM A	0.000	0.099	0.901	0.000
		0.0	67.0	607.0	0.0
		(0.0)	(0.0)	(0.0)	(0.0)
	ARM B	0.239	0.000	0.037	0.723
		45.0	0.0	7.0	136.0
		(0.0)	(0.0)	(0.0)	(0.0)
	ARM C	0.714	0.008	0.000	0.279
		568.0	6.0	0.0	222.0
		(0.0)	(0.0)	(0.0)	(0.0)
	ARM D	0.083	0.455	0.462	0.000
		25.0	137.0	139.0	0.0
		(0.0)	(0.0)	(0.0)	(0.0)

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA

. QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

FOR DEMAND SET 2015 Base
AND FOR TIME PERIOD 1

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
07.45-08.00									
B-C	0.09	7.75	0.011		0.00	0.01	0.2	0.1	0.13
B-AD	2.27	7.74	0.294		0.00	0.41	5.8	7.3	0.18
A-B	0.84							0.7	
A-C	7.62							0.0	
A-D	0.00	6.45	0.000		0.00	0.00	0.0	0.0	
D-A	0.31	8.14	0.039		0.00	0.04	0.6	0.4	0.13
D-BC	3.46	8.49	0.408		0.00	0.67	9.5	9.0	0.20
C-ABD	0.08	9.45	0.008		0.00	0.01	0.1	0.1	0.11

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)

08.00-08.15										
B-C	0.10	7.00	0.015		0.01	0.02	0.2	0.1	0.15	
B-AD	2.71	6.92	0.392		0.41	0.63	9.0	8.8	0.24	
A-B	1.00							0.8		
A-C	9.09							0.0		
A-D	0.00	6.01	0.000		0.00	0.00	0.0	0.0		
D-A	0.37	7.05	0.053		0.04	0.06	0.8	0.5	0.15	
D-BC	4.14	7.74	0.534		0.67	1.11	15.6	10.8	0.27	
C-ABD	0.09	8.82	0.010		0.01	0.01	0.2	0.1	0.11	

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
08.15-08.30									
B-C	0.13	5.56	0.023		0.02	0.02	0.3	0.1	0.18
B-AD	3.32	5.79	0.574		0.63	1.27	17.4	10.7	0.39
A-B	1.23							1.0	
A-C	11.14							0.0	
A-D	0.00	5.40	0.000		0.00	0.00	0.0	0.0	
D-A	0.46	4.55	0.101		0.06	0.11	1.6	0.6	0.24
D-BC	5.06	6.70	0.756		1.11	2.71	35.0	13.0	0.54
C-ABD	0.11	7.95	0.014		0.01	0.01	0.2	0.1	0.13

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
08.30-08.45									
B-C	0.13	5.49	0.023		0.02	0.02	0.4	0.1	0.19
B-AD	3.32	5.77	0.576		1.27	1.31	19.5	10.8	0.41
A-B	1.23							1.0	
A-C	11.14							0.0	
A-D	0.00	5.39	0.000		0.00	0.00	0.0	0.0	
D-A	0.46	4.33	0.106		0.11	0.12	1.7	0.6	0.26
D-BC	5.06	6.69	0.756		2.71	2.88	42.1	13.2	0.60
C-ABD	0.11	7.93	0.014		0.01	0.01	0.2	0.1	0.13

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
08.45-09.00									
B-C	0.10	6.94	0.015		0.02	0.02	0.2	0.1	0.15
B-AD	2.71	6.89	0.394		1.31	0.67	10.6	9.0	0.24
A-B	1.00							0.8	
A-C	9.09							0.0	
A-D	0.00	5.99	0.000		0.00	0.00	0.0	0.0	
D-A	0.37	6.91	0.054		0.12	0.06	0.9	0.5	0.15
D-BC	4.14	7.73	0.535		2.88	1.20	19.8	11.1	0.30
C-ABD	0.09	8.78	0.010		0.01	0.01	0.2	0.1	0.12

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
09.00-09.15									
B-C	0.09	7.72	0.011		0.02	0.01	0.2	0.1	0.13
B-AD	2.27	7.72	0.294		0.67	0.42	6.6	7.4	0.18
A-B	0.84							0.7	
A-C	7.62							0.0	
A-D	0.00	6.44	0.000		0.00	0.00	0.0	0.0	
D-A	0.31	8.09	0.039		0.06	0.04	0.6	0.4	0.13
D-BC	3.46	8.48	0.408		1.20	0.70	11.1	9.2	0.20
C-ABD	0.08	9.43	0.008		0.01	0.01	0.1	0.1	0.11

WARNING NO MARGINAL ANALYSIS OF CAPACITIES AS MAJOR ROAD BLOCKING MAY OCCUR

QUEUE FOR STREAM B-C

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
08.00	0.0
08.15	0.0
08.30	0.0
08.45	0.0
09.00	0.0
09.15	0.0

QUEUE FOR STREAM B-AD

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
08.00	0.4	
08.15	0.6	*
08.30	1.3	*
08.45	1.3	*
09.00	0.7	*
09.15	0.4	

QUEUE FOR STREAM A-D

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
08.00	0.0
08.15	0.0
08.30	0.0
08.45	0.0
09.00	0.0
09.15	0.0

QUEUE FOR STREAM D-A

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
08.00	0.0
08.15	0.1
08.30	0.1
08.45	0.1
09.00	0.1
09.15	0.0

QUEUE FOR STREAM D-BC

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
08.00	0.7	*
08.15	1.1	*
08.30	2.7	***
08.45	2.9	***
09.00	1.2	*
09.15	0.7	*

QUEUE FOR STREAM C-ABD

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
08.00	0.0
08.15	0.0
08.30	0.0
08.45	0.0
09.00	0.0
09.15	0.0

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

STREAM	TOTAL DEMAND		* QUEUEING * * DELAY *		* INCLUSIVE QUEUEING * * DELAY *	
	(VEH)	(VEH/H)	(MIN)	(MIN/VEH)	(MIN)	(MIN/VEH)
B-C	9.6	6.4	1.5	0.16	1.5	0.16
B-AD	249.1	166.1	69.0	0.28	69.0	0.28
A-B	92.2	61.5				
A-C	835.5	557.0				
A-D	0.0	0.0	0.0	0.00	0.0	0.00
D-A	34.4	22.9	6.2	0.18	6.2	0.18
D-BC	379.9	253.3	133.2	0.35	133.2	0.35
C-ABD	8.3	5.5	1.0	0.12	1.0	0.12
ALL	2696.4	1797.6	210.8	0.08	210.9	0.08

* DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD
* INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES
WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD
* THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS
A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.

INCLUSIVE GEOMETRIC DELAY

ARM	TOTAL DEMAND		GEOMETRIC DELAY BY TURN (VEH MIN) (GEOMETRIC DELAY PER LIGHT VEHICLE (SEC))				TOTAL GEOM. DELAY
	(VEH)	(VEH/H)	ARM A	ARM B	ARM C	ARM D	VEH MIN
A	927.7	618.5	0.0 (0.0)	5.0 (3.3)	0.0 (0.0)	0.0 (8.1)	5.0
B	258.8	172.5	8.3 (8.0)	0.0 (0.0)	0.7 (4.2)	45.7 (14.7)	54.7
C	1095.6	730.4	0.0 (0.0)	0.6 (4.4)	0.0 (0.0)	22.6 (4.4)	23.3
D	414.3	276.2	3.0 (5.2)	40.7 (12.9)	25.6 (8.0)	0.0 (0.0)	69.3
ALL	2696.4	1797.6					152.3

WARNING IN THE CALCULATION OF GEOMETRIC DELAYS THE APPROACH/DEPARTURE SPEED ON ARM B
IS LESS THAN THE CALCULATED JUNCTION SPEED.(AG23 REF. 8.4.2(vii)).

. POINT TO POINT JOURNEY TIME TABLE

Point to Point journey times From / To (entry point) (exit point)	Arm A	Arm B	Arm C	Arm D
ARM A	0.0	45.4	29.7	50.2
ARM B	60.5	0.0	49.4	82.6
ARM C	31.4	53.6	0.0	46.6
ARM D	51.9	85.3	64.9	0.0

* JOURNEY TIME CALCULATION STARTING/ENDING ON ARM A BEGINS/ENDS 200.0M FROM STOP LINE/AFTER EXIT
* JOURNEY TIME CALCULATION STARTING/ENDING ON ARM B BEGINS/ENDS 200.0M FROM STOP LINE/AFTER EXIT
* JOURNEY TIME CALCULATION STARTING/ENDING ON ARM C BEGINS/ENDS 200.0M FROM STOP LINE/AFTER EXIT
* JOURNEY TIME CALCULATION STARTING/ENDING ON ARM D BEGINS/ENDS 200.0M FROM STOP LINE/AFTER EXIT

*******END OF RUN*******

.SLOPES AND INTERCEPT

(NB:Streams may be combined, in which case capacity will be adjusted)

B-C Stream

Intercept For STREAM B-C	Slope For Opposing STREAM A-C	Slope For Opposing STREAM D-C	Slope For Opposing STREAM A-B	Slope For Opposing STREAM D-B
0.00	0.00	0.00	0.00	0.00

* Due to the presence of a flare, data is not available

B-AD Stream

Intercept For STREAM B-AD	Slope For Opposing STREAM A-C	Slope For Opposing STREAM A-D	Slope For Opposing STREAM D-A	Slope For Opposing STREAM D-B
0.00	0.00	0.00	0.00	0.00

* Due to the presence of a flare, data is not available

	Slope For Opposing STREAM C-A	Slope For Opposing STREAM C-B	Slope For Opposing STREAM C-D	Slope For Opposing
	0.00	0.00	0.00	

* Due to the presence of a flare, data is not available

D-A Stream

Intercept For STREAM D-A	Slope For Opposing STREAM C-A	Slope For Opposing STREAM D-C	Slope For Opposing STREAM A-B	Slope For Opposing STREAM D-B
0.00	0.00	0.00	0.00	0.00

* Due to the presence of a flare, data is not available

D-BC Stream

Intercept For STREAM D-BC	Slope For Opposing STREAM C-A	Slope For Opposing STREAM B-A	Slope For Opposing STREAM C-D	Slope For Opposing STREAM B-D
0.00	0.00	0.00	0.00	0.00

* Due to the presence of a flare, data is not available

	Slope For Opposing STREAM A-C	Slope For Opposing STREAM A-B	Slope For Opposing STREAM A-D	Slope For Opposing
	0.00	0.00	0.00	

* Due to the presence of a flare, data is not available

C-B Stream

Intercept For STREAM C-B	Slope For Opposing STREAM A-C	Slope For Opposing STREAM A-B	Slope For Opposing STREAM D-C	Slope For Opposing STREAM D-B
759.40	0.27	0.27	0.27	0.27

A-D Stream

Intercept For STREAM A-D	Slope For Opposing STREAM C-A	Slope For Opposing STREAM C-D	Slope For Opposing STREAM B-A	Slope For Opposing STREAM B-D
759.40	0.20	0.20	0.20	0.20

.GEOMETRIC DELAY DATA

	ARM SPEED (KPH) ENTRY	EXIT	ENTRY RADIUS ER (M)	EXIT RADIUS EXR (M)	STAGGER DISTANCE DST (M)
ARM A	48.0	48.0	20.0		
ARM B	32.0	25.0	20.0	12.0	47.0
ARM C	48.0	48.0	12.0		
ARM D	32.0	25.0	14.0	1.0	47.0

JUNCTION VISIBILITIES DO NOT CONFORM TO STANDARDS LAID DOWN IN TD42/95

.TRAFFIC DEMAND DATA

ARM	FLOW SCALE(%)
A	100
B	100
C	100
D	100

.Demand set: 2030 Base

TIME PERIOD BEGINS 07.45 AND ENDS 09.15

LENGTH OF TIME PERIOD - 90 MIN.
LENGTH OF TIME SEGMENT - 15 MIN.

.DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

ARM	NUMBER OF MINUTES FROM START WHEN FLOW STARTS	TOP OF PEAK	FLOW STOPS	RATE OF FLOW (VEH/MIN) BEFORE	AT TOP	AFTER

	TO RISE	IS REACHED	FALLING	PEAK	OF PEAK	PEAK
ARM A	15.00	45.00	75.00	10.34	15.51	10.34
ARM B	15.00	45.00	75.00	2.89	4.33	2.89
ARM C	15.00	45.00	75.00	12.23	18.34	12.23
ARM D	15.00	45.00	75.00	4.63	6.94	4.63

.Demand set: 2030 Base

TURNING PROPORTIONS
TURNING COUNTS
(PERCENTAGE OF H.V.S)

TIME	FROM/TO	ARM A	ARM B	ARM C	ARM D
07.45 - 08.00					
	ARM A	0.000	0.099	0.901	0.000
		0.0	82.0	745.0	0.0
		(0.0)	(0.0)	(0.0)	(0.0)
	ARM B	0.238	0.000	0.039	0.723
		55.0	0.0	9.0	167.0
		(0.0)	(0.0)	(0.0)	(0.0)
	ARM C	0.713	0.008	0.000	0.279
		697.0	8.0	0.0	273.0
		(0.0)	(0.0)	(0.0)	(0.0)
	ARM D	0.081	0.457	0.462	0.000
		30.0	169.0	171.0	0.0
		(0.0)	(0.0)	(0.0)	(0.0)

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA

. QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

FOR DEMAND SET 2030 Base
AND FOR TIME PERIOD 1

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
07.45-08.00									
B-C	0.11	6.88	0.016		0.00	0.02	0.2	0.1	0.15
B-AD	2.79	6.78	0.411		0.00	0.68	9.5	8.9	0.25
A-B	1.03							0.8	
A-C	9.35							0.0	
A-D	0.00	5.94	0.000		0.00	0.00	0.0	0.0	
D-A	0.38	6.86	0.055		0.00	0.06	0.8	0.5	0.15
D-BC	4.27	7.61	0.560		0.00	1.22	16.6	11.0	0.29
C-ABD	0.10	8.72	0.012		0.00	0.01	0.2	0.1	0.12

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
08.00-08.15									
B-C	0.13	5.53	0.024		0.02	0.02	0.4	0.1	0.19
B-AD	3.33	5.77	0.577		0.68	1.29	17.7	10.7	0.40
A-B	1.23							1.0	
A-C	11.16							0.0	
A-D	0.00	5.39	0.000		0.00	0.00	0.0	0.0	
D-A	0.45	4.45	0.101		0.06	0.11	1.6	0.6	0.25
D-BC	5.09	6.69	0.761		1.22	2.78	36.0	13.1	0.56
C-ABD	0.12	7.94	0.015		0.01	0.02	0.2	0.1	0.13

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
08.15-08.30									
B-C	0.17	1.02	0.161		0.02	0.18	2.3	0.2	1.14
B-AD	4.07	4.37	0.933		1.29	5.68	61.6	12.3	1.32
A-B	1.50							1.2	
A-C	13.67							0.0	
A-D	0.00	4.64	0.000		0.00	0.00	0.0	0.0	
D-A	0.55	0.47	1.171		0.11	3.01	26.9	0.5	6.00
D-BC	6.24	5.41	1.152		2.78	18.00	163.6	13.7	2.42
C-ABD	0.15	6.85	0.021		0.02	0.02	0.3	0.2	0.15

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
08.30-08.45									
B-C	0.17	0.17	0.992		0.18	1.21	11.5	0.1	6.63
B-AD	4.07	4.19	0.972		5.68	8.49	108.1	12.7	2.16
A-B	1.50							1.2	
A-C	13.67							0.0	
A-D	0.00	4.59	0.000		0.00	0.00	0.0	0.0	
D-A	0.55	0.54	1.015		3.01	4.11	53.7	0.6	8.57
D-BC	6.24	5.37	1.161		18.00	31.64	373.0	14.0	4.81
C-ABD	0.15	6.58	0.022		0.02	0.02	0.3	0.2	0.16

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
08.45-09.00									
B-C	0.13	4.27	0.032		1.21	0.03	0.8	0.2	0.25
B-AD	3.33	5.41	0.615		8.49	1.74	42.9	12.3	0.74
A-B	1.23							1.0	
A-C	11.16							0.0	

A-D	0.00	5.30	0.000		0.00	0.00	0.0	0.0		
D-A	0.45	0.66	0.677		4.11	2.95	49.7	0.7	5.81	
D-BC	5.09	6.61	0.771		31.64	11.94	326.8	16.8	3.52	
C-ABD	0.12	7.39	0.016		0.02	0.02	0.2	0.1	0.14	

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
09.00-09.15									
B-C	0.11	6.66	0.017		0.03	0.02	0.3	0.1	0.15
B-AD	2.79	6.64	0.420		1.74	0.74	12.1	9.3	0.27
A-B	1.03							0.8	
A-C	9.35							0.0	
A-D	0.00	5.91	0.000		0.00	0.00	0.0	0.0	
D-A	0.38	6.02	0.063		2.95	0.07	2.1	0.7	0.19
D-BC	4.27	7.60	0.562		11.94	1.35	41.9	13.0	0.48
C-ABD	0.10	8.51	0.012		0.02	0.01	0.2	0.1	0.12

WARNING NO MARGINAL ANALYSIS OF CAPACITIES AS MAJOR ROAD BLOCKING MAY OCCUR

QUEUE FOR STREAM B-C

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
08.00	0.0	
08.15	0.0	
08.30	0.2	
08.45	1.2	*
09.00	0.0	
09.15	0.0	

QUEUE FOR STREAM B-AD

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
08.00	0.7	*
08.15	1.3	*
08.30	5.7	******
08.45	8.5	********
09.00	1.7	**
09.15	0.7	*

QUEUE FOR STREAM A-D

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
08.00	0.0
08.15	0.0
08.30	0.0
08.45	0.0
09.00	0.0
09.15	0.0

QUEUE FOR STREAM D-A

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
08.00	0.1	
08.15	0.1	
08.30	3.0	***
08.45	4.1	****
09.00	3.0	***
09.15	0.1	

QUEUE FOR STREAM D-BC

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
08.00	1.2	*
08.15	2.8	***
08.30	18.0	******************
08.45	31.6	********************************
09.00	11.9	************
09.15	1.4	*

QUEUE FOR STREAM C-ABD

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
08.00	0.0
08.15	0.0
08.30	0.0
08.45	0.0
09.00	0.0
09.15	0.0

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

STREAM	TOTAL DEMAND		* QUEUEING * * DELAY *		* INCLUSIVE QUEUEING * * DELAY *	
	(VEH)	(VEH/H)	(MIN)	(MIN/VEH)	(MIN)	(MIN/VEH)
B-C	12.4	8.3	15.5	1.25	15.5	1.25
B-AD	305.6	203.7	251.9	0.82	251.9	0.82
A-B	112.9	75.2				
A-C	1025.4	683.6				
A-D	0.0	0.0	0.0	0.00	0.0	0.00
D-A	41.3	27.5	134.8	3.26	134.8	3.26
D-BC	468.0	312.0	958.0	2.05	958.1	2.05
C-ABD	11.0	7.3	1.5	0.14	1.5	0.14
ALL	3311.7	2207.8	1361.6	0.41	1361.8	0.41

* DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD
* INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES
WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD
* THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS
A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.

INCLUSIVE GEOMETRIC DELAY

ARM	TOTAL DEMAND (VEH)	TOTAL DEMAND (VEH/H)	GEOMETRIC DELAY BY TURN (VEH MIN) (GEOMETRIC DELAY PER LIGHT VEHICLE (SEC)) ARM A	ARM B	ARM C	ARM D	TOTAL GEOM. DELAY VEH MIN
A	1138.3	758.9	0.0 (0.0)	6.1 (3.3)	0.0 (0.0)	0.0 (8.1)	6.1
B	318.0	212.0	10.1 (8.0)	0.0 (0.0)	0.9 (4.2)	56.2 (14.7)	67.2
C	1346.1	897.4	0.0 (0.0)	0.8 (4.4)	0.0 (0.0)	27.8 (4.4)	28.7
D	509.3	339.5	3.6 (5.2)	50.2 (12.9)	31.5 (8.0)	0.0 (0.0)	85.3
ALL	3311.7	2207.8					187.3

WARNING IN THE CALCULATION OF GEOMETRIC DELAYS THE APPROACH/DEPARTURE SPEED ON ARM B
IS LESS THAN THE CALCULATED JUNCTION SPEED.(AG23 REF. 8.4.2(vii)).

. POINT TO POINT JOURNEY TIME TABLE

Point to Point journey times From (entry point) / To (exit point)	Arm A	Arm B	Arm C	Arm D
ARM A	0.0	45.4	29.7	50.2
ARM B	93.3	0.0	115.0	115.4
ARM C	31.4	54.7	0.0	46.6
ARM D	236.9	187.1	166.7	0.0

* JOURNEY TIME CALCULATION STARTING/ENDING ON ARM A BEGINS/ENDS 200.0M FROM STOP LINE/AFTER EXIT
* JOURNEY TIME CALCULATION STARTING/ENDING ON ARM B BEGINS/ENDS 200.0M FROM STOP LINE/AFTER EXIT
* JOURNEY TIME CALCULATION STARTING/ENDING ON ARM C BEGINS/ENDS 200.0M FROM STOP LINE/AFTER EXIT
* JOURNEY TIME CALCULATION STARTING/ENDING ON ARM D BEGINS/ENDS 200.0M FROM STOP LINE/AFTER EXIT

*******END OF RUN*******

== end of file ==

TRL LIMITED

CAPACITIES, QUEUES, AND DELAYS AT 3 OR 4-ARM MAJOR/MINOR PRIORITY JUNCTIONS

PICADY 5.1 ANALYSIS PROGRAM
RELEASE 4.0 (SEPT 2008)

FOR SALES AND DISTRIBUTION INFORMATION,
PROGRAM ADVICE AND MAINTENANCE CONTACT:
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THE USER OF THIS COMPUTER PROGRAM FOR THE SOLUTION OF AN ENGINEERING PROBLEM IS
IN NO WAY RELIEVED OF HIS/HER RESPONSIBILITY FOR THE CORRECTNESS OF THE SOLUTION

Run with file:-
"J:\2012\A077038 Standen Estates\Picady\Pendle Road Stagger JN\
Existing A59_Pendle Rd_Clitheroe Rd - Stagger Jn (PM Peak).vpi"
(drive-on-the-left) at 09:52:03 on Thursday, 20 September 2012

.RUN INFORMATION

```
RUN TITLE       : Existing A59/Pendle Road/Clitheroe Road Stagger Junction
LOCATION        : A59/Pendle Road/Clitheroe Road Stagger Junction, Clitheroe
DATE            : 03/07/12
CLIENT          : Standen Estate
ENUMERATOR      : steven.ho [27-WRK-SBA-021]
JOB NUMBER      : A077038
STATUS          :
DESCRIPTION     :
```

.MAJOR/MINOR JUNCTION CAPACITY AND DELAY

INPUT DATA

```
                                    MINOR ROAD (ARM D)
                                                I
                                                I
                                                I
                                                I
                                                I
                                                I
              MAJOR ROAD (ARM C) -------------------- MAJOR ROAD (ARM A)
                                      I
                                      I
                                      I
                                      I
                                      I
                                      I
                                    MINOR ROAD (ARM B)
```

ARM A IS A59 South Bound
ARM B IS Clitheroe Road
ARM C IS A59 North Bound
ARM D IS Pendle Road

.STREAM LABELLING CONVENTION

STREAM A-B CONTAINS TRAFFIC GOING FROM ARM A TO ARM B
STREAM B-AC CONTAINS TRAFFIC GOING FROM ARM B TO ARM A AND TO ARM C
ETC.

.GEOMETRIC DATA

DATA ITEM	MINOR ROAD B	MINOR ROAD D
TOTAL MAJOR ROAD CARRIAGEWAY WIDTH	(W) 8.00 M.	(W) 8.00 M.
CENTRAL RESERVE WIDTH	(WCR) 9.00 M.	(WCR) 8.75 M.
MAJOR ROAD RIGHT TURN - WIDTH	(WC-B) 3.30 M.	(WA-D) 2.20 M.
- VISIBILITY	(VC-B)180.00 M.	(VA-D) 0.00 M.
- BLOCKS TRAFFIC	YES	NO
MINOR ROAD - VISIBILITY TO LEFT	(VB-C) 65.0 M.	(VD-A) 90.0 M.
- VISIBILITY TO RIGHT	(VB-A) 45.0 M.	(VD-C) 65.0 M.
- LANE 1 WIDTH	(WB-C) -	(WD-A) -
- LANE 2 WIDTH	(WB-A) -	(WD-C) -
WIDTH AT 0 M FROM JUNCTION	10.00 M.	10.00 M.
WIDTH AT 5 M FROM JUNCTION	8.50 M.	10.00 M.
WIDTH AT 10 M FROM JUNCTION	5.30 M.	5.50 M.
WIDTH AT 15 M FROM JUNCTION	3.65 M.	3.80 M.
WIDTH AT 20 M FROM JUNCTION	3.50 M.	3.60 M.
- LENGTH OF FLARED SECTION	DERIVED: 2 PCU	DERIVED: 2 PCU

.SLOPES AND INTERCEPT

(NB:Streams may be combined, in which case capacity will be adjusted)

B-C Stream

Intercept For STREAM B-C	Slope For Opposing STREAM A-C	Slope For Opposing STREAM D-C	Slope For Opposing STREAM A-B	Slope For Opposing STREAM D-B
0.00	0.00	0.00	0.00	0.00

* Due to the presence of a flare, data is not available

B-AD Stream

I Intercept For STREAM B-AD	Slope For Opposing STREAM A-C	Slope For Opposing STREAM A-D	Slope For Opposing STREAM D-A	Slope For Opposing STREAM D-B I
0.00	0.00	0.00	0.00	0.00

* Due to the presence of a flare, data is not available

I	Slope For Opposing STREAM C-A	Slope For Opposing STREAM C-B	Slope For Opposing STREAM C-D	Slope For Opposing I
	0.00	0.00	0.00	

* Due to the presence of a flare, data is not available

D-A Stream

I Intercept For STREAM D-A	Slope For Opposing STREAM C-A	Slope For Opposing STREAM D-C	Slope For Opposing STREAM A-B	Slope For Opposing STREAM D-B I
0.00	0.00	0.00	0.00	0.00

* Due to the presence of a flare, data is not available

D-BC Stream

I Intercept For STREAM D-BC	Slope For Opposing STREAM C-A	Slope For Opposing STREAM B-A	Slope For Opposing STREAM C-D	Slope For Opposing STREAM B-D I
0.00	0.00	0.00	0.00	0.00

* Due to the presence of a flare, data is not available

I	Slope For Opposing STREAM A-C	Slope For Opposing STREAM A-B	Slope For Opposing STREAM A-D	Slope For Opposing I
	0.00	0.00	0.00	

* Due to the presence of a flare, data is not available

C-B Stream

I Intercept For STREAM C-B	Slope For Opposing STREAM A-C	Slope For Opposing STREAM A-B	Slope For Opposing STREAM D-C	Slope For Opposing STREAM D-B I
759.40	0.27	0.27	0.27	0.27

A-D Stream

I Intercept For STREAM A-D	Slope For Opposing STREAM C-A	Slope For Opposing STREAM C-D	Slope For Opposing STREAM B-A	Slope For Opposing STREAM B-D I
759.40	0.20	0.20	0.20	0.20

.GEOMETRIC DELAY DATA

I	ARM SPEED (KPH) ENTRY	EXIT	ENTRY RADIUS ER (M)	EXIT RADIUS EXR (M)	STAGGER DISTANCE DST (M) I
ARM A	48.0	48.0	20.0		
ARM B	32.0	25.0	20.0	12.0	47.0
ARM C	48.0	48.0	12.0		
ARM D	32.0	25.0	14.0	1.0	47.0

JUNCTION VISIBILITIES DO NOT CONFORM TO STANDARDS LAID DOWN IN TD42/95

.TRAFFIC DEMAND DATA

I ARM	I FLOW SCALE(%) I
A	100
B	100
C	100
D	100

.Demand set: 2010 Survey

TIME PERIOD BEGINS 16.15 AND ENDS 17.45

LENGTH OF TIME PERIOD - 90 MIN.
LENGTH OF TIME SEGMENT - 15 MIN.

.DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

I ARM	NUMBER OF MINUTES FROM START WHEN: FLOW STARTS TO RISE	TOP OF PEAK IS REACHED	FLOW STOPS FALLING	RATE OF FLOW (VEH/MIN): BEFORE PEAK	AT TOP OF PEAK	AFTER PEAK I
ARM A	15.00	45.00	75.00	9.04	13.56	9.04
ARM B	15.00	45.00	75.00	1.90	2.85	1.90
ARM C	15.00	45.00	75.00	8.56	12.84	8.56
ARM D	15.00	45.00	75.00	3.59	5.38	3.59

.Demand set: 2010 Survey

TIME	FROM/TO	ARM A	ARM B	ARM C	ARM D
		TURNING PROPORTIONS TURNING COUNTS (PERCENTAGE OF H.V.S)			
16.15 - 16.30	ARM A	0.000	0.100	0.900	0.000
		0.0	72.0	651.0	0.0
		(0.0)	(0.0)	(0.0)	(0.0)
	ARM B	0.224	0.000	0.026	0.750
		34.0	0.0	4.0	114.0
		(0.0)	(0.0)	(0.0)	(0.0)
	ARM C	0.711	0.009	0.000	0.280
		487.0	6.0	0.0	192.0
		(0.0)	(0.0)	(0.0)	(0.0)
	ARM D	0.042	0.408	0.551	0.000
		12.0	117.0	158.0	0.0
		(0.0)	(0.0)	(0.0)	(0.0)

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA

. QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

FOR DEMAND SET 2010 Survey
AND FOR TIME PERIOD 1

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
16.15-16.30									
B-C	0.05	7.74	0.006		0.00	0.01	0.1	0.1	0.13
B-AD	1.86	7.78	0.239		0.00	0.31	4.4	6.0	0.17
A-B	0.90							0.7	
A-C	8.17							0.0	
A-D	0.00	6.78	0.000		0.00	0.00	0.0	0.0	
D-A	0.15	8.50	0.018		0.00	0.02	0.3	0.2	0.12
D-BC	3.45	8.76	0.394		0.00	0.64	9.0	8.6	0.19
C-ABD	0.08	9.29	0.008		0.00	0.01	0.1	0.1	0.11

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
16.30-16.45									
B-C	0.06	7.06	0.008		0.01	0.01	0.1	0.1	0.14
B-AD	2.22	6.96	0.318		0.31	0.46	6.6	7.3	0.21
A-B	1.08							0.9	
A-C	9.75							0.0	
A-D	0.00	6.41	0.000		0.00	0.00	0.0	0.0	
D-A	0.18	7.51	0.024		0.02	0.02	0.4	0.2	0.14
D-BC	4.12	8.06	0.511		0.64	1.01	14.4	10.4	0.25
C-ABD	0.09	8.63	0.010		0.01	0.01	0.2	0.1	0.12

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
16.45-17.00									
B-C	0.07	5.94	0.012		0.01	0.01	0.2	0.1	0.17
B-AD	2.72	5.85	0.465		0.46	0.84	11.7	8.8	0.31
A-B	1.32							1.1	
A-C	11.95							0.0	
A-D	0.00	5.89	0.000		0.00	0.00	0.0	0.0	
D-A	0.22	5.30	0.042		0.02	0.04	0.6	0.3	0.20
D-BC	5.05	7.09	0.711		1.01	2.24	29.7	12.6	0.45
C-ABD	0.11	7.72	0.014		0.01	0.01	0.2	0.1	0.13

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
17.00-17.15									
B-C	0.07	5.91	0.012		0.01	0.01	0.2	0.1	0.17
B-AD	2.72	5.83	0.466		0.84	0.85	12.7	8.9	0.32
A-B	1.32							1.1	
A-C	11.95							0.0	
A-D	0.00	5.89	0.000		0.00	0.00	0.0	0.0	
D-A	0.22	5.16	0.043		0.04	0.04	0.7	0.3	0.20
D-BC	5.05	7.09	0.712		2.24	2.34	34.5	12.8	0.48
C-ABD	0.11	7.70	0.014		0.01	0.01	0.2	0.1	0.13

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
17.15-17.30									
B-C	0.06	7.02	0.009		0.01	0.01	0.1	0.1	0.14
B-AD	2.22	6.94	0.319		0.85	0.48	7.6	7.4	0.21
A-B	1.08							0.9	
A-C	9.75							0.0	
A-D	0.00	6.40	0.000		0.00	0.00	0.0	0.0	
D-A	0.18	7.41	0.024		0.04	0.03	0.4	0.2	0.14
D-BC	4.12	8.05	0.512		2.34	1.08	17.6	10.6	0.27
C-ABD	0.09	8.60	0.010		0.01	0.01	0.2	0.1	0.12

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
17.30-17.45									
B-C	0.05	7.72	0.007		0.01	0.01	0.1	0.1	0.13
B-AD	1.86	7.76	0.239		0.48	0.32	5.0	6.1	0.17
A-B	0.90							0.7	
A-C	8.17							0.0	
A-D	0.00	6.78	0.000		0.00	0.00	0.0	0.0	
D-A	0.15	8.45	0.018		0.03	0.02	0.3	0.2	0.12
D-BC	3.45	8.75	0.394		1.08	0.66	10.5	8.8	0.19
C-ABD	0.08	9.27	0.008		0.01	0.01	0.1	0.1	0.11

WARNING NO MARGINAL ANALYSIS OF CAPACITIES AS MAJOR ROAD BLOCKING MAY OCCUR

QUEUE FOR STREAM B-C

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
16.30	0.0	
16.45	0.0	
17.00	0.0	
17.15	0.0	
17.30	0.0	
17.45	0.0	

QUEUE FOR STREAM B-AD

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
16.30	0.3	
16.45	0.5	
17.00	0.8	*
17.15	0.9	*
17.30	0.5	
17.45	0.3	

QUEUE FOR STREAM A-D

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
16.30	0.0	
16.45	0.0	
17.00	0.0	
17.15	0.0	
17.30	0.0	
17.45	0.0	

QUEUE FOR STREAM D-A

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
16.30	0.0	
16.45	0.0	
17.00	0.0	
17.15	0.0	
17.30	0.0	
17.45	0.0	

QUEUE FOR STREAM D-BC

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
16.30	0.6	*
16.45	1.0	*
17.00	2.2	**
17.15	2.3	**
17.30	1.1	*
17.45	0.7	*

QUEUE FOR STREAM C-ABD

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
16.30	0.0	
16.45	0.0	
17.00	0.0	
17.15	0.0	
17.30	0.0	
17.45	0.0	

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

STREAM	TOTAL DEMAND		* QUEUEING * * DELAY *		* INCLUSIVE QUEUEING * * DELAY *	
	(VEH)	(VEH/H)	(MIN)	(MIN/VEH)	(MIN)	(MIN/VEH)
B-C	5.5	3.7	0.8	0.15	0.8	0.15
B-AD	203.7	135.8	48.0	0.24	48.0	0.24
A-B	99.1	66.1				
A-C	896.1	597.4				
A-D	0.0	0.0	0.0	0.00	0.0	0.00
D-A	16.5	11.0	2.6	0.16	2.6	0.16
D-BC	378.5	252.3	115.6	0.31	115.7	0.31
C-ABD	8.3	5.5	1.0	0.12	1.0	0.12
ALL	2542.3	1694.8	168.0	0.07	168.0	0.07

* DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD
* INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES
WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD
* THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS
A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.

INCLUSIVE GEOMETRIC DELAY

ARM	TOTAL DEMAND (VEH)	TOTAL DEMAND (VEH/H)	GEOMETRIC DELAY BY TURN (VEH MIN) (GEOMETRIC DELAY PER LIGHT VEHICLE (SEC)) ARM A	ARM B	ARM C	ARM D	TOTAL GEOM. DELAY VEH MIN
A	995.2	663.4	0.0 (0.0)	5.4 (3.3)	0.0 (0.0)	0.0 (8.1)	5.4
B	209.2	139.5	6.3 (8.0)	0.0 (0.0)	0.4 (4.2)	38.3 (14.7)	45.0
C	942.9	628.6	0.0 (0.0)	0.6 (4.4)	0.0 (0.0)	19.6 (4.4)	20.2
D	395.0	263.4	1.4 (5.2)	34.7 (12.9)	29.1 (8.0)	0.0 (0.0)	65.3
ALL	2542.3	1694.8					135.9

WARNING IN THE CALCULATION OF GEOMETRIC DELAYS THE APPROACH/DEPARTURE SPEED ON ARM B
IS LESS THAN THE CALCULATED JUNCTION SPEED.(AG23 REF. 8.4.2(vii)).

. POINT TO POINT JOURNEY TIME TABLE

Point to Point journey times From / To (entry point) (exit point)	Arm A	Arm B	Arm C	Arm D
ARM A	0.0	45.4	29.7	50.2
ARM B	58.0	0.0	49.0	80.1
ARM C	31.4	53.8	0.0	46.6
ARM D	50.3	82.6	62.2	0.0

* JOURNEY TIME CALCULATION STARTING/ENDING ON ARM A BEGINS/ENDS 200.0M FROM STOP LINE/AFTER EXIT
* JOURNEY TIME CALCULATION STARTING/ENDING ON ARM B BEGINS/ENDS 200.0M FROM STOP LINE/AFTER EXIT
* JOURNEY TIME CALCULATION STARTING/ENDING ON ARM C BEGINS/ENDS 200.0M FROM STOP LINE/AFTER EXIT
* JOURNEY TIME CALCULATION STARTING/ENDING ON ARM D BEGINS/ENDS 200.0M FROM STOP LINE/AFTER EXIT

*******END OF RUN*******

.SLOPES AND INTERCEPT

(NB:Streams may be combined, in which case capacity will be adjusted)

B-C Stream

Intercept For STREAM B-C	Slope For Opposing STREAM A-C	Slope For Opposing STREAM D-C	Slope For Opposing STREAM A-B	Slope For Opposing STREAM D-B
0.00	0.00	0.00	0.00	0.00

* Due to the presence of a flare, data is not available

B-AD Stream

Intercept For STREAM B-AD	Slope For Opposing STREAM A-C	Slope For Opposing STREAM A-D	Slope For Opposing STREAM D-A	Slope For Opposing STREAM D-B
0.00	0.00	0.00	0.00	0.00

* Due to the presence of a flare, data is not available

	Slope For Opposing STREAM C-A	Slope For Opposing STREAM C-B	Slope For Opposing STREAM C-D	Slope For Opposing
	0.00	0.00	0.00	

* Due to the presence of a flare, data is not available

D-A Stream

Intercept For STREAM D-A	Slope For Opposing STREAM C-A	Slope For Opposing STREAM D-C	Slope For Opposing STREAM A-B	Slope For Opposing STREAM D-B
0.00	0.00	0.00	0.00	0.00

* Due to the presence of a flare, data is not available

D-BC Stream

Intercept For STREAM D-BC	Slope For Opposing STREAM C-A	Slope For Opposing STREAM B-A	Slope For Opposing STREAM C-D	Slope For Opposing STREAM B-D
0.00	0.00	0.00	0.00	0.00

* Due to the presence of a flare, data is not available

	Slope For Opposing STREAM A-C	Slope For Opposing STREAM A-B	Slope For Opposing STREAM A-D	Slope For Opposing
	0.00	0.00	0.00	

* Due to the presence of a flare, data is not available

C-B Stream

Intercept For STREAM C-B	Slope For Opposing STREAM A-C	Slope For Opposing STREAM A-B	Slope For Opposing STREAM D-C	Slope For Opposing STREAM D-B

759.40	0.27	0.27	0.27	0.27

A-D Stream

Intercept For STREAM A-D	Slope For Opposing STREAM C-A	Slope For Opposing STREAM C-D	Slope For Opposing STREAM B-A	Slope For Opposing STREAM B-D
759.40	0.20	0.20	0.20	0.20

.GEOMETRIC DELAY DATA

	ARM SPEED (KPH) ENTRY	EXIT	ENTRY RADIUS ER (M)	EXIT RADIUS EXR (M)	STAGGER DISTANCE DST (M)
ARM A	48.0	48.0	20.0		
ARM B	32.0	25.0	20.0	12.0	47.0
ARM C	48.0	48.0	12.0		
ARM D	32.0	25.0	14.0	1.0	47.0

JUNCTION VISIBILITIES DO NOT CONFORM TO STANDARDS LAID DOWN IN TD42/95

.TRAFFIC DEMAND DATA

ARM	FLOW SCALE(%)
A	100
B	100
C	100
D	100

.Demand set: 2015 Base

TIME PERIOD BEGINS 16.15 AND ENDS 17.45

LENGTH OF TIME PERIOD - 90 MIN.
LENGTH OF TIME SEGMENT - 15 MIN.

.DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

ARM	NUMBER OF MINUTES FROM START WHEN FLOW STARTS TO RISE	TOP OF PEAK IS REACHED	FLOW STOPS FALLING	RATE OF FLOW (VEH/MIN) BEFORE PEAK	AT TOP OF PEAK	AFTER PEAK
ARM A	15.00	45.00	75.00	9.29	13.93	9.29
ARM B	15.00	45.00	75.00	1.95	2.93	1.95
ARM C	15.00	45.00	75.00	8.79	13.18	8.79
ARM D	15.00	45.00	75.00	3.67	5.51	3.67

.Demand set: 2015 Base

TURNING PROPORTIONS / TURNING COUNTS / (PERCENTAGE OF H.V.S)

TIME	FROM/TO	ARM A	ARM B	ARM C	ARM D
16.15 - 16.30					
	ARM A	0.000	0.100	0.900	0.000
		0.0	74.0	669.0	0.0
		(0.0)	(0.0)	(0.0)	(0.0)
	ARM B	0.224	0.000	0.026	0.750
		35.0	0.0	4.0	117.0
		(0.0)	(0.0)	(0.0)	(0.0)
	ARM C	0.711	0.009	0.000	0.280
		500.0	6.0	0.0	197.0
		(0.0)	(0.0)	(0.0)	(0.0)
	ARM D	0.041	0.408	0.551	0.000
		12.0	120.0	162.0	0.0
		(0.0)	(0.0)	(0.0)	(0.0)

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA

. QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

FOR DEMAND SET 2015 Base
AND FOR TIME PERIOD 1

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
16.15-16.30									
B-C	0.05	7.65	0.007		0.00	0.01	0.1	0.1	0.13
B-AD	1.91	7.67	0.249		0.00	0.33	4.7	6.2	0.17
A-B	0.93							0.8	
A-C	8.39							0.0	
A-D	0.00	6.73	0.000		0.00	0.00	0.0	0.0	
D-A	0.15	8.38	0.018		0.00	0.02	0.3	0.2	0.12
D-BC	3.54	8.66	0.409		0.00	0.68	9.5	8.8	0.19
C-ABD	0.08	9.20	0.008		0.00	0.01	0.1	0.1	0.11

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
16.30-16.45									
B-C	0.06	6.94	0.009		0.01	0.01	0.1	0.1	0.15
B-AD	2.28	6.83	0.333		0.33	0.49	7.0	7.4	0.22
A-B	1.11							0.9	
A-C	10.02							0.0	
A-D	0.00	6.34	0.000		0.00	0.00	0.0	0.0	
D-A	0.18	7.32	0.025		0.02	0.02	0.4	0.2	0.14
D-BC	4.23	7.94	0.532		0.68	1.10	15.5	10.6	0.27
C-ABD	0.09	8.52	0.011		0.01	0.01	0.2	0.1	0.12

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
16.45-17.00									
B-C	0.07	5.74	0.013		0.01	0.01	0.2	0.1	0.18
B-AD	2.79	5.68	0.491		0.49	0.92	12.9	9.1	0.34
A-B	1.36							1.1	
A-C	12.28							0.0	
A-D	0.00	5.81	0.000		0.00	0.00	0.0	0.0	
D-A	0.22	4.83	0.046		0.02	0.05	0.7	0.3	0.22
D-BC	5.17	6.95	0.744		1.10	2.58	33.7	12.9	0.51
C-ABD	0.11	7.58	0.015		0.01	0.01	0.2	0.1	0.13

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
17.00-17.15									
B-C	0.07	5.70	0.013		0.01	0.01	0.2	0.1	0.18
B-AD	2.79	5.66	0.492		0.92	0.95	14.1	9.2	0.35
A-B	1.36							1.1	
A-C	12.28							0.0	
A-D	0.00	5.81	0.000		0.00	0.00	0.0	0.0	
D-A	0.22	4.63	0.048		0.05	0.05	0.7	0.3	0.23
D-BC	5.17	6.95	0.745		2.58	2.73	40.0	13.1	0.55
C-ABD	0.11	7.56	0.015		0.01	0.01	0.2	0.1	0.13

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
17.15-17.30									
B-C	0.06	6.90	0.009		0.01	0.01	0.1	0.1	0.15
B-AD	2.28	6.80	0.335		0.95	0.51	8.1	7.6	0.22
A-B	1.11							0.9	
A-C	10.02							0.0	
A-D	0.00	6.34	0.000		0.00	0.00	0.0	0.0	
D-A	0.18	7.19	0.025		0.05	0.03	0.4	0.2	0.14
D-BC	4.23	7.94	0.532		2.73	1.18	19.5	11.0	0.28
C-ABD	0.09	8.48	0.011		0.01	0.01	0.2	0.1	0.12

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
17.30-17.45									
B-C	0.05	7.63	0.007		0.01	0.01	0.1	0.1	0.13
B-AD	1.91	7.65	0.249		0.51	0.34	5.3	6.3	0.17
A-B	0.93							0.8	
A-C	8.39							0.0	
A-D	0.00	6.72	0.000		0.00	0.00	0.0	0.0	
D-A	0.15	8.34	0.018		0.03	0.02	0.3	0.2	0.12
D-BC	3.54	8.65	0.409		1.18	0.71	11.2	9.0	0.20
C-ABD	0.08	9.18	0.008		0.01	0.01	0.1	0.1	0.11

WARNING NO MARGINAL ANALYSIS OF CAPACITIES AS MAJOR ROAD BLOCKING MAY OCCUR

QUEUE FOR STREAM B-C

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
16.30	0.0
16.45	0.0
17.00	0.0
17.15	0.0
17.30	0.0
17.45	0.0

QUEUE FOR STREAM B-AD

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
16.30	0.3	
16.45	0.5	
17.00	0.9	*
17.15	0.9	*
17.30	0.5	*
17.45	0.3	

QUEUE FOR STREAM A-D

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
16.30	0.0
16.45	0.0
17.00	0.0
17.15	0.0
17.30	0.0
17.45	0.0

QUEUE FOR STREAM D-A

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
16.30	0.0
16.45	0.0
17.00	0.0
17.15	0.0
17.30	0.0
17.45	0.0

.

QUEUE FOR STREAM D-BC

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
16.30	0.7	*
16.45	1.1	*
17.00	2.6	***
17.15	2.7	***
17.30	1.2	*
17.45	0.7	*

.

QUEUE FOR STREAM C-ABD

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
16.30	0.0
16.45	0.0
17.00	0.0
17.15	0.0
17.30	0.0
17.45	0.0

.

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

STREAM	TOTAL DEMAND (VEH)	TOTAL DEMAND (VEH/H)	* QUEUEING * * DELAY * (MIN)	* QUEUEING * * DELAY * (MIN/VEH)	* INCLUSIVE QUEUEING * * DELAY * (MIN)	* INCLUSIVE QUEUEING * * DELAY * (MIN/VEH)
B-C	5.5	3.7	0.8	0.15	0.8	0.15
B-AD	209.2	139.5	52.0	0.25	52.1	0.25
A-B	101.9	67.9				
A-C	920.8	613.9				
A-D	0.0	0.0	0.0	0.00	0.0	0.00
D-A	16.5	11.0	2.7	0.16	2.7	0.16
D-BC	388.2	258.8	129.3	0.33	129.4	0.33
C-ABD	8.3	5.5	1.0	0.12	1.0	0.12
ALL	2609.7	1739.8	185.9	0.07	186.0	0.07

* DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD
* INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES
WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD
* THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS
A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.

INCLUSIVE GEOMETRIC DELAY

ARM	TOTAL DEMAND (VEH)	TOTAL DEMAND (VEH/H)	GEOMETRIC DELAY BY TURN (VEH MIN) (GEOMETRIC DELAY PER LIGHT VEHICLE (SEC)) ARM A	ARM B	ARM C	ARM D	TOTAL GEOM. DELAY VEH MIN
A	1022.7	681.8	0.0 (0.0)	5.5 (3.3)	0.0 (0.0)	0.0 (8.1)	5.5
B	214.7	143.1	6.5 (8.0)	0.0 (0.0)	0.4 (4.2)	39.4 (14.7)	46.2
C	967.6	645.1	0.0 (0.0)	0.6 (4.4)	0.0 (0.0)	20.1 (4.4)	20.7
D	404.7	269.8	1.4 (5.2)	35.6 (12.9)	29.9 (8.0)	0.0 (0.0)	67.0
ALL	2609.7	1739.8					139.4

WARNING IN THE CALCULATION OF GEOMETRIC DELAYS THE APPROACH/DEPARTURE SPEED ON ARM B IS LESS THAN THE CALCULATED JUNCTION SPEED.(AG23 REF. 8.4.2(vii)).

. POINT TO POINT JOURNEY TIME TABLE

Point to Point journey times From / To (entry point) (exit point)	Arm A	Arm B	Arm C	Arm D
ARM A	0.0	45.4	29.7	50.2
ARM B	58.8	0.0	49.2	80.9
ARM C	31.4	53.9	0.0	46.6
ARM D	50.9	84.2	63.9	0.0

* JOURNEY TIME CALCULATION STARTING/ENDING ON ARM A BEGINS/ENDS 200.0M FROM STOP LINE/AFTER EXIT
* JOURNEY TIME CALCULATION STARTING/ENDING ON ARM B BEGINS/ENDS 200.0M FROM STOP LINE/AFTER EXIT
* JOURNEY TIME CALCULATION STARTING/ENDING ON ARM C BEGINS/ENDS 200.0M FROM STOP LINE/AFTER EXIT
* JOURNEY TIME CALCULATION STARTING/ENDING ON ARM D BEGINS/ENDS 200.0M FROM STOP LINE/AFTER EXIT

*******END OF RUN*******

.SLOPES AND INTERCEPT

(NB:Streams may be combined, in which case capacity will be adjusted)

B-C Stream

I Intercept For STREAM B-C	Slope For Opposing STREAM A-C	Slope For Opposing STREAM D-C	Slope For Opposing STREAM A-B	Slope For Opposing STREAM D-B I
0.00	0.00	0.00	0.00	0.00

* Due to the presence of a flare, data is not available

B-AD Stream

I Intercept For STREAM B-AD	Slope For Opposing STREAM A-C	Slope For Opposing STREAM A-D	Slope For Opposing STREAM D-A	Slope For Opposing STREAM D-B I
0.00	0.00	0.00	0.00	0.00

* Due to the presence of a flare, data is not available

I	Slope For Opposing STREAM C-A	Slope For Opposing STREAM C-B	Slope For Opposing STREAM C-D	Slope For Opposing I
	0.00	0.00	0.00	

* Due to the presence of a flare, data is not available

D-A Stream

I Intercept For STREAM D-A	Slope For Opposing STREAM C-A	Slope For Opposing STREAM D-C	Slope For Opposing STREAM A-B	Slope For Opposing STREAM D-B I
0.00	0.00	0.00	0.00	0.00

* Due to the presence of a flare, data is not available

D-BC Stream

I Intercept For STREAM D-BC	Slope For Opposing STREAM C-A	Slope For Opposing STREAM B-A	Slope For Opposing STREAM C-D	Slope For Opposing STREAM B-D I
0.00	0.00	0.00	0.00	0.00

* Due to the presence of a flare, data is not available

I	Slope For Opposing STREAM A-C	Slope For Opposing STREAM A-B	Slope For Opposing STREAM A-D	Slope For Opposing I
	0.00	0.00	0.00	

* Due to the presence of a flare, data is not available

C-B Stream

I Intercept For STREAM C-B	Slope For Opposing STREAM A-C	Slope For Opposing STREAM A-B	Slope For Opposing STREAM D-C	Slope For Opposing STREAM D-B I
759.40	0.27	0.27	0.27	0.27

A-D Stream

I Intercept For STREAM A-D	Slope For Opposing STREAM C-A	Slope For Opposing STREAM C-D	Slope For Opposing STREAM B-A	Slope For Opposing STREAM B-D I
759.40	0.20	0.20	0.20	0.20

.GEOMETRIC DELAY DATA

I	ARM SPEED (KPH) ENTRY	EXIT	ENTRY RADIUS ER (M)	EXIT RADIUS EXR (M)	STAGGER DISTANCE DST (M)
ARM A	48.0	48.0	20.0		
ARM B	32.0	25.0	20.0	12.0	47.0
ARM C	48.0	48.0	12.0		
ARM D	32.0	25.0	14.0	1.0	47.0

JUNCTION VISIBILITIES DO NOT CONFORM TO STANDARDS LAID DOWN IN TD42/95

.TRAFFIC DEMAND DATA

ARM	FLOW SCALE(%)
A	100
B	100
C	100
D	100

.Demand set: 2030 Base

TIME PERIOD BEGINS 16.15 AND ENDS 17.45

LENGTH OF TIME PERIOD - 90 MIN.
LENGTH OF TIME SEGMENT - 15 MIN.

.DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

ARM	NUMBER OF MINUTES FROM START WHEN FLOW STARTS	TOP OF PEAK	FLOW STOPS	RATE OF FLOW (VEH/MIN) BEFORE	AT TOP	AFTER

	TO RISE	IS REACHED	FALLING	PEAK	OF PEAK	PEAK
ARM A	15.00	45.00	75.00	11.49	17.23	11.49
ARM B	15.00	45.00	75.00	2.41	3.62	2.41
ARM C	15.00	45.00	75.00	10.89	16.33	10.89
ARM D	15.00	45.00	75.00	4.56	6.84	4.56

.Demand set: 2030 Base

TURNING PROPORTIONS / TURNING COUNTS / (PERCENTAGE OF H.V.S)

TIME	FROM/TO	ARM A	ARM B	ARM C	ARM D
16.15 - 16.30					
	ARM A	0.000	0.100	0.900	0.000
		0.0	92.0	827.0	0.0
		(0.0)	(0.0)	(0.0)	(0.0)
	ARM B	0.223	0.000	0.026	0.751
		43.0	0.0	5.0	145.0
		(0.0)	(0.0)	(0.0)	(0.0)
	ARM C	0.711	0.009	0.000	0.280
		619.0	8.0	0.0	244.0
		(0.0)	(0.0)	(0.0)	(0.0)
	ARM D	0.041	0.408	0.551	0.000
		15.0	149.0	201.0	0.0
		(0.0)	(0.0)	(0.0)	(0.0)

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA

. QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

FOR DEMAND SET 2030 Base
AND FOR TIME PERIOD 1

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
16.15-16.30									
B-C	0.06	6.79	0.009		0.00	0.01	0.1	0.1	0.15
B-AD	2.36	6.65	0.355		0.00	0.54	7.5	7.6	0.23
A-B	1.15							0.9	
A-C	10.38							0.0	
A-D	0.00	6.26	0.000		0.00	0.00	0.0	0.0	
D-A	0.19	7.06	0.027		0.00	0.03	0.4	0.2	0.15
D-BC	4.39	7.79	0.564		0.00	1.24	16.9	10.9	0.28
C-ABD	0.10	8.38	0.012		0.00	0.01	0.2	0.1	0.12

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
16.30-16.45									
B-C	0.07	5.65	0.013		0.01	0.01	0.2	0.1	0.18
B-AD	2.82	5.61	0.502		0.54	0.96	13.4	9.2	0.35
A-B	1.38							1.1	
A-C	12.39							0.0	
A-D	0.00	5.78	0.000		0.00	0.00	0.0	0.0	
D-A	0.22	4.58	0.049		0.03	0.05	0.7	0.3	0.23
D-BC	5.24	6.90	0.760		1.24	2.77	36.0	13.0	0.54
C-ABD	0.12	7.53	0.016		0.01	0.02	0.2	0.1	0.13

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
16.45-17.00									
B-C	0.09	2.44	0.038		0.01	0.04	0.5	0.1	0.43
B-AD	3.45	4.18	0.825		0.96	3.41	40.4	10.8	0.98
A-B	1.69							1.4	
A-C	15.18							0.0	
A-D	0.00	5.12	0.000		0.00	0.00	0.0	0.0	
D-A	0.28	0.24	1.151		0.05	1.83	16.2	0.2	8.42
D-BC	6.42	5.67	1.133		2.77	17.25	158.4	13.8	2.25
C-ABD	0.15	6.35	0.023		0.02	0.02	0.4	0.2	0.16

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
17.00-17.15									
B-C	0.09	1.37	0.067		0.04	0.07	0.9	0.1	0.78
B-AD	3.45	4.00	0.863		3.41	4.47	60.5	11.1	1.41
A-B	1.69							1.4	
A-C	15.18							0.0	
A-D	0.00	5.09	0.000		0.00	0.00	0.0	0.0	
D-A	0.28	0.30	0.929		1.83	2.42	32.1	0.3	10.42
D-BC	6.42	5.65	1.137		17.25	29.65	352.6	14.2	4.39
C-ABD	0.15	6.09	0.024		0.02	0.02	0.4	0.2	0.17

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
17.15-17.30									
B-C	0.07	4.95	0.015		0.07	0.02	0.2	0.1	0.21
B-AD	2.82	5.26	0.536		4.47	1.22	23.2	10.0	0.49
A-B	1.38							1.1	
A-C	12.39							0.0	

STREAM	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
A-D	0.00	5.73	0.000		0.00	0.00	0.0	0.0	
D-A	0.22	0.37	0.613		2.42	2.14	33.9	0.3	6.59
D-BC	5.24	6.86	0.765		29.65	8.78	288.2	16.8	3.05
C-ABD	0.12	7.02	0.017		0.02	0.02	0.3	0.1	0.14

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
17.30-17.45									
B-C	0.06	6.64	0.009		0.02	0.01	0.1	0.1	0.15
B-AD	2.36	6.54	0.361		1.22	0.58	9.3	7.9	0.24
A-B	1.15							0.9	
A-C	10.38							0.0	
A-D	0.00	6.25	0.000		0.00	0.00	0.0	0.0	
D-A	0.19	6.44	0.029		2.14	0.03	1.0	0.4	0.17
D-BC	4.39	7.77	0.565		8.78	1.36	32.4	12.4	0.40
C-ABD	0.10	8.22	0.012		0.02	0.01	0.2	0.1	0.12

WARNING NO MARGINAL ANALYSIS OF CAPACITIES AS MAJOR ROAD BLOCKING MAY OCCUR

QUEUE FOR STREAM B-C

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
16.30	0.0	
16.45	0.0	
17.00	0.0	
17.15	0.1	
17.30	0.0	
17.45	0.0	

QUEUE FOR STREAM B-AD

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
16.30	0.5	*
16.45	1.0	*
17.00	3.4	***
17.15	4.5	****
17.30	1.2	*
17.45	0.6	*

QUEUE FOR STREAM A-D

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
16.30	0.0	
16.45	0.0	
17.00	0.0	
17.15	0.0	
17.30	0.0	
17.45	0.0	

QUEUE FOR STREAM D-A

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
16.30	0.0	
16.45	0.1	
17.00	1.8	**
17.15	2.4	**
17.30	2.1	**
17.45	0.0	

QUEUE FOR STREAM D-BC

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
16.30	1.2	*
16.45	2.8	***
17.00	17.3	*****************
17.15	29.7	******************************
17.30	8.8	*********
17.45	1.4	*

QUEUE FOR STREAM C-ABD

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
16.30	0.0	
16.45	0.0	
17.00	0.0	
17.15	0.0	
17.30	0.0	
17.45	0.0	

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

STREAM	TOTAL DEMAND (VEH)	TOTAL DEMAND (VEH/H)	* QUEUEING * * DELAY * (MIN)	* QUEUEING * * DELAY * (MIN/VEH)	* INCLUSIVE QUEUEING * * DELAY * (MIN)	* INCLUSIVE QUEUEING * * DELAY * (MIN/VEH)
B-C	6.9	4.6	2.2	0.32	2.2	0.32
B-AD	258.8	172.5	154.2	0.60	154.3	0.60
A-B	126.6	84.4				
A-C	1138.3	758.9				
A-D	0.0	0.0	0.0	0.00	0.0	0.00
D-A	20.6	13.8	84.4	4.09	84.4	4.09
D-BC	481.7	321.2	884.6	1.84	884.7	1.84
C-ABD	11.0	7.3	1.6	0.14	1.6	0.14
ALL	3231.8	2154.6	1127.0	0.35	1127.1	0.35

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* DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD
* INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES
WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD
* THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS
A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.

INCLUSIVE GEOMETRIC DELAY

ARM	TOTAL DEMAND (VEH)	TOTAL DEMAND (VEH/H)	GEOMETRIC DELAY BY TURN (VEH MIN) (GEOMETRIC DELAY PER LIGHT VEHICLE (SEC)) ARM A	ARM B	ARM C	ARM D	TOTAL GEOM. DELAY VEH MIN
A	1264.9	843.3	0.0	6.9	0.0	0.0	6.9
			(0.0)	(3.3)	(0.0)	(8.1)	
B	265.7	177.1	7.9	0.0	0.5	48.8	57.2
			(8.0)	(0.0)	(4.2)	(14.7)	
C	1198.9	799.2	0.0	0.8	0.0	24.9	25.7
			(0.0)	(4.4)	(0.0)	(4.4)	
D	502.4	334.9	1.8	44.2	37.1	0.0	83.1
			(5.2)	(12.9)	(8.0)	(0.0)	
ALL	3231.8	2154.6					172.9

WARNING IN THE CALCULATION OF GEOMETRIC DELAYS THE APPROACH/DEPARTURE SPEED ON ARM B
IS LESS THAN THE CALCULATED JUNCTION SPEED.(AG23 REF. 8.4.2(vii)).

. POINT TO POINT JOURNEY TIME TABLE

Point to Point journey times From / To (entry point) (exit point)	Arm A	Arm B	Arm C	Arm D
ARM A	0.0	45.4	29.7	50.2
ARM B	79.6	0.0	59.2	101.7
ARM C	31.4	55.2	0.0	46.6
ARM D	286.3	174.4	154.0	0.0

* JOURNEY TIME CALCULATION STARTING/ENDING ON ARM A BEGINS/ENDS 200.0M FROM STOP LINE/AFTER EXIT
* JOURNEY TIME CALCULATION STARTING/ENDING ON ARM B BEGINS/ENDS 200.0M FROM STOP LINE/AFTER EXIT
* JOURNEY TIME CALCULATION STARTING/ENDING ON ARM C BEGINS/ENDS 200.0M FROM STOP LINE/AFTER EXIT
* JOURNEY TIME CALCULATION STARTING/ENDING ON ARM D BEGINS/ENDS 200.0M FROM STOP LINE/AFTER EXIT

*******END OF RUN*******

== end of file ==

ARCADY 7

File: J:\2012\A077038 Standen Estates\Arcady\Proposed A59_Pendle Rd_Clitheroe Rd Rdabt.arc7
Report generation date: 09/10/2012 10:15:47

A1 - Propose layout - D3 - 2015 Base, AM

Data Errors and Warnings

Severity	Area	Description
Warning	Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.

Analysis Set Details

Name	Description	Include In Report	Use Specific Demand Set	Demand Set	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
Propose layout		Yes		(D1)		100.000	100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Locked	Run Automatically	Use Relationship	Relationship	Start Time (HH:mm)	Finish Time (HH:mm)	Time Period Length (min)	Time Segment Length (min)	Traffic Profile Type
2015 Base, AM	2015 Base	AM			Yes			07:45	09:15	90	15	ONE HOUR

Roundabout Network

Roundabout Type(s)

ID	Name	Arm Order	Roundabout Type	Grade Separated	Large Roundabout	Do Geometric Delay
1	(untitled)	1,2,3,4	Standard			

Roundabout Network Options

Driving Side	Lighting	Road Surface	In London
Left	Normal/unknown	((Mini-roundabouts only))	

Arms

Arms

ID	Name	Description
1	A59 SB	
2	Clitheroe Road	
3	A59 NB	
4	Pendle Road	

Capacity Options

Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)	Assume Flat Start Profile	Initial Queue (PCU)
A59 SB	0.00	99999.00		0.00

Clitheroe Road	0.00	99999.00		0.00
A59 NB	0.00	99999.00		0.00
Pendle Road	0.00	99999.00		0.00

Standard Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	l' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only
A59 SB	6.10	7.00	7.00	28.50	58.00	26.00	
Clitheroe Road	3.50	4.10	2.00	19.00	58.00	16.50	
A59 NB	6.00	7.00	50.00	30.00	58.00	29.00	
Pendle Road	3.50	4.10	1.00	19.00	58.00	17.50	

Pedestrian Crossings

Arm	Crossing Type
A59 SB	None
Clitheroe Road	None
A59 NB	None
Pendle Road	None

Arm Slope/ Intercept and Capacity

Slope and Intercept used in model

Arm	Enter Directly	Slope	Intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
A59 SB		((calculated))	((calculated))	0.646	2099.618
Clitheroe Road		((calculated))	((calculated))	0.492	1204.311
A59 NB		((calculated))	((calculated))	0.652	2144.346
Pendle Road		((calculated))	((calculated))	0.485	1168.570

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

Traffic Flows

Demand Set Data Options

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

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)	PHF
A59 SB	ONE HOUR	Yes	674.00	100.000	N/A
Clitheroe Road	ONE HOUR	Yes	188.00	100.000	N/A
A59 NB	ONE HOUR	Yes	796.00	100.000	N/A
Pendle Road	ONE HOUR	Yes	301.00	100.000	N/A

Results

Results Summary

Arm	Max RFC	Max Delay (min)	Max Queue (PCU)	Max LOS	Total Demand (PCU/hr)	Total Arrivals (PCU)	Total Queueing Delay (PCU-min)	Average Queueing Delay (min)	Rate Of Queueing Delay (PCU-min/min)	Inclusive Queueing Total Delay (PCU-min)	Inclusive Queueing Average Delay (min)	Slope	Intercept (PCU/hr)
A59 SB	0.39	0.05	0.64	A	618.47	927.71	43.11	0.05	0.48	43.11	0.05	0.646	2099.618
Clitheroe Road	0.26	0.10	0.35	A	172.51	258.77	22.85	0.09	0.25	22.85	0.09	0.492	1204.311
A59 NB	0.44	0.05	0.77	A	730.42	1095.64	51.34	0.05	0.57	51.35	0.05	0.652	2144.346
Pendle Road	0.40	0.12	0.65	A	276.20	414.30	41.54	0.10	0.46	41.54	0.10	0.485	1168.570

A1 - Propose layout - D4 - 2015 Base, PM

Data Errors and Warnings

Severity	Area	Description
Warning	Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.

Analysis Set Details

Name	Description	Include In Report	Use Specific Demand Set	Demand Set	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
Propose layout		Yes		(D1)		100.000	100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Locked	Run Automatically	Use Relationship	Relationship	Start Time (HH:mm)	Finish Time (HH:mm)	Time Period Length (min)	Time Segment Length (min)	Traffic Profile Type
2015 Base, PM	2015 Base	PM			Yes			16:15	17:45	90	15	ONE HOUR

Roundabout Network

Roundabout Type(s)

ID	Name	Arm Order	Roundabout Type	Grade Separated	Large Roundabout	Do Geometric Delay
1	(untitled)	1,2,3,4	Standard			

Roundabout Network Options

Driving Side	Lighting	Road Surface	In London
Left	Normal/unknown	((Mini-roundabouts only))	

Arms

Arms

ID	Name	Description
1	A59 SB	
2	Clitheroe Road	
3	A59 NB	
4	Pendle Road	

Capacity Options

Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)	Assume Flat Start Profile	Initial Queue (PCU)
A59 SB	0.00	99999.00		0.00
Clitheroe Road	0.00	99999.00		0.00
A59 NB	0.00	99999.00		0.00
Pendle Road	0.00	99999.00		0.00

Standard Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	l' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only
A59 SB	6.10	7.00	7.00	28.50	58.00	26.00	
Clitheroe Road	3.50	4.10	2.00	19.00	58.00	16.50	
A59 NB	6.00	7.00	50.00	30.00	58.00	29.00	
Pendle Road	3.50	4.10	1.00	19.00	58.00	17.50	

Pedestrian Crossings

Arm	Crossing Type
A59 SB	None
Clitheroe Road	None
A59 NB	None

Pendle Road	None

Arm Slope/ Intercept and Capacity

Slope and Intercept used in model

Arm	Enter Directly	Slope	Intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
A59 SB		((calculated))	((calculated))	0.646	2099.618
Clitheroe Road		((calculated))	((calculated))	0.492	1204.311
A59 NB		((calculated))	((calculated))	0.652	2144.346
Pendle Road		((calculated))	((calculated))	0.485	1168.570

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

Traffic Flows

Demand Set Data Options

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

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)	PHF
A59 SB	ONE HOUR	Yes	743.00	100.000	N/A
Clitheroe Road	ONE HOUR	Yes	156.00	100.000	N/A
A59 NB	ONE HOUR	Yes	703.00	100.000	N/A
Pendle Road	ONE HOUR	Yes	294.00	100.000	N/A

Results

Results Summary

Arm	Max RFC	Max Delay (min)	Max Queue (PCU)	Max LOS	Total Demand (PCU/hr)	Total Arrivals (PCU)	Total Queueing Delay (PCU-min)	Average Queueing Delay (min)	Rate Of Queueing Delay (PCU-min/min)	Inclusive Queueing Total Delay (PCU-min)	Inclusive Queueing Average Delay (min)	Slope	Intercept (PCU/hr)
A59 SB	0.43	0.06	0.76	A	681.79	1022.68	50.28	0.05	0.56	50.28	0.05	0.646	2099.618
Clitheroe Road	0.23	0.10	0.29	A	143.15	214.72	19.24	0.09	0.21	19.24	0.09	0.492	1204.311
A59 NB	0.38	0.05	0.61	A	645.09	967.63	41.81	0.04	0.46	41.81	0.04	0.652	2144.346
Pendle Road	0.37	0.11	0.58	A	269.78	404.67	37.78	0.09	0.42	37.78	0.09	0.485	1168.570

A1 - Propose layout - D5 - 2030 Base, AM

Data Errors and Warnings

Severity	Area	Description
Warning	Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.

Analysis Set Details

Name	Description	Include In Report	Use Specific Demand Set	Demand Set	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
Propose layout		Yes		(D1)		100.000	100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Locked	Run Automatically	Use Relationship	Relationship	Start Time (HH:mm)	Finish Time (HH:mm)	Time Period Length (min)	Time Segment Length (min)	Traffic Profile Type
2030	2030 Base	AM			Yes			07:45	09:15	90	15	ONE HOUR

Base, AM												

Roundabout Network

Roundabout Type(s)

ID	Name	Arm Order	Roundabout Type	Grade Separated	Large Roundabout	Do Geometric Delay
1	(untitled)	1,2,3,4	Standard			

Roundabout Network Options

Driving Side	Lighting	Road Surface	In London
Left	Normal/unknown	((Mini-roundabouts only))	

Arms

Arms

ID	Name	Description
1	A59 SB	
2	Clitheroe Road	
3	A59 NB	
4	Pendle Road	

Capacity Options

Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)	Assume Flat Start Profile	Initial Queue (PCU)
A59 SB	0.00	99999.00		0.00
Clitheroe Road	0.00	99999.00		0.00
A59 NB	0.00	99999.00		0.00
Pendle Road	0.00	99999.00		0.00

Standard Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	l' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only
A59 SB	6.10	7.00	7.00	28.50	58.00	26.00	
Clitheroe Road	3.50	4.10	2.00	19.00	58.00	16.50	
A59 NB	6.00	7.00	50.00	30.00	58.00	29.00	
Pendle Road	3.50	4.10	1.00	19.00	58.00	17.50	

Pedestrian Crossings

Arm	Crossing Type
A59 SB	None
Clitheroe Road	None
A59 NB	None
Pendle Road	None

Arm Slope/ Intercept and Capacity

Slope and Intercept used in model

Arm	Enter Directly	Slope	Intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
A59 SB		((calculated))	((calculated))	0.646	2099.618
Clitheroe Road		((calculated))	((calculated))	0.492	1204.311
A59 NB		((calculated))	((calculated))	0.652	2144.346
Pendle Road		((calculated))	((calculated))	0.485	1168.570

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

Traffic Flows

Demand Set Data Options

Default	Vehicle Mix	Vehicle Mix	Vehicle Mix	Vehicle Mix	PCU Factor	Default Turning	Estimate from	Turning	Turning	Turning

Vehicle Mix	Varies Over Time	Varies Over Turn	Varies Over Entry	Source	for a HV (PCU)	Proportions	entry/exit counts	Proportions Vary Over Time	Proportions Vary Over Turn	Proportions Vary Over Entry
		Yes	Yes	HV Percentages	2.00				Yes	Yes

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)	PHF
A59 SB	ONE HOUR	Yes	827.00	100.000	N/A
Clitheroe Road	ONE HOUR	Yes	231.00	100.000	N/A
A59 NB	ONE HOUR	Yes	978.00	100.000	N/A
Pendle Road	ONE HOUR	Yes	370.00	100.000	N/A

Results

Results Summary

Arm	Max RFC	Max Delay (min)	Max Queue (PCU)	Max LOS	Total Demand (PCU/hr)	Total Arrivals (PCU)	Total Queueing Delay (PCU-min)	Average Queueing Delay (min)	Rate Of Queueing Delay (PCU-min/min)	Inclusive Queueing Total Delay (PCU-min)	Inclusive Queueing Average Delay (min)	Slope	Intercept (PCU/hr)
A59 SB	0.49	0.06	0.96	A	758.87	1138.30	62.08	0.05	0.69	62.08	0.05	0.646	2099.618
Clitheroe Road	0.36	0.13	0.56	A	211.97	317.95	34.44	0.11	0.38	34.44	0.11	0.492	1204.311
A59 NB	0.54	0.07	1.18	A	897.43	1346.14	75.08	0.06	0.83	75.08	0.06	0.652	2144.346
Pendle Road	0.53	0.17	1.13	B	339.52	509.28	66.36	0.13	0.74	66.37	0.13	0.485	1168.570

A1 - Propose layout - D6 - 2030 Base, PM

Data Errors and Warnings

Severity	Area	Description
Warning	Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.

Analysis Set Details

Name	Description	Include In Report	Use Specific Demand Set	Demand Set	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
Propose layout		Yes		(D1)		100.000	100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Locked	Run Automatically	Use Relationship	Relationship	Start Time (HH:mm)	Finish Time (HH:mm)	Time Period Length (min)	Time Segment Length (min)	Traffic Profile Type
2030 Base, PM	2030 Base	PM			Yes			16:15	17:45	90	15	ONE HOUR

Roundabout Network

Roundabout Type(s)

ID	Name	Arm Order	Roundabout Type	Grade Separated	Large Roundabout	Do Geometric Delay
1	(untitled)	1,2,3,4	Standard			

Roundabout Network Options

Driving Side	Lighting	Road Surface	In London
Left	Normal/unknown	((Mini-roundabouts only))	

Arms

Arms

ID	Name	Description
1	A59 SB	
2	Clitheroe Road	
3	A59 NB	
4	Pendle Road	

Capacity Options

Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)	Assume Flat Start Profile	Initial Queue (PCU)
A59 SB	0.00	99999.00		0.00
Clitheroe Road	0.00	99999.00		0.00
A59 NB	0.00	99999.00		0.00
Pendle Road	0.00	99999.00		0.00

Standard Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	l' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only
A59 SB	6.10	7.00	7.00	28.50	58.00	26.00	
Clitheroe Road	3.50	4.10	2.00	19.00	58.00	16.50	
A59 NB	6.00	7.00	50.00	30.00	58.00	29.00	
Pendle Road	3.50	4.10	1.00	19.00	58.00	17.50	

Pedestrian Crossings

Arm	Crossing Type
A59 SB	None
Clitheroe Road	None
A59 NB	None
Pendle Road	None

Arm Slope/ Intercept and Capacity

Slope and Intercept used in model

Arm	Enter Directly	Slope	Intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
A59 SB		((calculated))	((calculated))	0.646	2099.618
Clitheroe Road		((calculated))	((calculated))	0.492	1204.311
A59 NB		((calculated))	((calculated))	0.652	2144.346
Pendle Road		((calculated))	((calculated))	0.485	1168.570

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

Traffic Flows

Demand Set Data Options

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

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)	PHF
A59 SB	ONE HOUR	Yes	919.00	100.000	N/A
Clitheroe Road	ONE HOUR	Yes	193.00	100.000	N/A
A59 NB	ONE HOUR	Yes	871.00	100.000	N/A
Pendle Road	ONE HOUR	Yes	365.00	100.000	N/A

Results

Results Summary

Arm	Max RFC	Max Delay (min)	Max Queue (PCU)	Max LOS	Total Demand (PCU/hr)	Total Arrivals (PCU)	Total Queueing Delay (PCU-min)	Average Queueing Delay (min)	Rate Of Queueing Delay (PCU-min/min)	Inclusive Queueing Total Delay (PCU-min)	Inclusive Queueing Average Delay (min)	Slope	Intercept (PCU/hr)
A59 SB	0.55	0.07	1.21	A	843.29	1264.94	75.70	0.06	0.84	75.71	0.06	0.646	2099.618
Clitheroe Road	0.33	0.14	0.49	A	177.10	265.65	29.72	0.11	0.33	29.72	0.11	0.492	1204.311
A59 NB	0.48	0.06	0.91	A	799.24	1198.87	59.80	0.05	0.66	59.80	0.05	0.652	2144.346
Pendle Road	0.50	0.15	0.97	A	334.93	502.40	59.10	0.12	0.66	59.10	0.12	0.485	1168.570

A1 - Propose layout - D7 - 2015 Assessment, AM

Data Errors and Warnings

Severity	Area	Description
Warning	Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.

Analysis Set Details

Name	Description	Include In Report	Use Specific Demand Set	Demand Set	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
Propose layout		Yes		(D1)		100.000	100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Locked	Run Automatically	Use Relationship	Relationship	Start Time (HH:mm)	Finish Time (HH:mm)	Time Period Length (min)	Time Segment Length (min)	Traffic Profile Type
2015 Assessment, AM	2015 Assessment	AM			Yes			07:45	09:15	90	15	ONE HOUR

Roundabout Network

Roundabout Type(s)

ID	Name	Arm Order	Roundabout Type	Grade Separated	Large Roundabout	Do Geometric Delay
1	(untitled)	1,2,3,4	Standard			

Roundabout Network Options

Driving Side	Lighting	Road Surface	In London
Left	Normal/unknown	((Mini-roundabouts only))	

Arms

Arms

ID	Name	Description
1	A59 SB	
2	Clitheroe Road	
3	A59 NB	
4	Pendle Road	

Capacity Options

Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)	Assume Flat Start Profile	Initial Queue (PCU)
A59 SB	0.00	99999.00		0.00
Clitheroe Road	0.00	99999.00		0.00
A59 NB	0.00	99999.00		0.00
Pendle Road	0.00	99999.00		0.00

Standard Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	l' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only
A59 SB	6.10	7.00	7.00	28.50	58.00	26.00	
Clitheroe Road	3.50	4.10	2.00	19.00	58.00	16.50	

A59 NB	6.00	7.00	50.00	30.00	58.00	29.00	
Pendle Road	3.50	4.10	1.00	19.00	58.00	17.50	

Pedestrian Crossings

Arm	Crossing Type
A59 SB	None
Clitheroe Road	None
A59 NB	None
Pendle Road	None

Arm Slope/ Intercept and Capacity

Slope and Intercept used in model

Arm	Enter Directly	Slope	Intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
A59 SB		((calculated))	((calculated))	0.646	2099.618
Clitheroe Road		((calculated))	((calculated))	0.492	1204.311
A59 NB		((calculated))	((calculated))	0.652	2144.346
Pendle Road		((calculated))	((calculated))	0.485	1168.570

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

Traffic Flows

Demand Set Data Options

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

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)	PHF
A59 SB	ONE HOUR	Yes	705.00	100.000	N/A
Clitheroe Road	ONE HOUR	Yes	190.00	100.000	N/A
A59 NB	ONE HOUR	Yes	938.00	100.000	N/A
Pendle Road	ONE HOUR	Yes	585.00	100.000	N/A

Results

Results Summary

Arm	Max RFC	Max Delay (min)	Max Queue (PCU)	Max LOS	Total Demand (PCU/hr)	Total Arrivals (PCU)	Total Queueing Delay (PCU-min)	Average Queueing Delay (min)	Rate Of Queueing Delay (PCU-min/min)	Inclusive Queueing Total Delay (PCU-min)	Inclusive Queueing Average Delay (min)	Slope	Intercept (PCU/hr)
A59 SB	0.45	0.06	0.82	A	646.92	970.38	52.68	0.05	0.59	52.68	0.05	0.646	2099.618
Clitheroe Road	0.32	0.14	0.47	A	174.35	261.52	28.94	0.11	0.32	28.94	0.11	0.492	1204.311
A59 NB	0.52	0.06	1.07	A	860.73	1291.09	69.14	0.05	0.77	69.14	0.05	0.652	2144.346
Pendle Road	0.77	0.31	3.19	C	536.81	805.21	157.47	0.20	1.75	157.50	0.20	0.485	1168.570

A1 - Propose layout - D8 - 2015 Assessment, PM

Data Errors and Warnings

Severity	Area	Description
Warning	Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.

Analysis Set Details

Name	Description	Include In Report	Use Specific Demand Set	Demand Set	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
Propose layout		Yes		(D1)		100.000	100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Locked	Run Automatically	Use Relationship	Relationship	Start Time (HH:mm)	Finish Time (HH:mm)	Time Period Length (min)	Time Segment Length (min)	Traffic Profile Type
2015 Assessment, PM	2015 Assessment	PM			Yes			16:15	17:45	90	15	ONE HOUR

Roundabout Network

Roundabout Type(s)

ID	Name	Arm Order	Roundabout Type	Grade Separated	Large Roundabout	Do Geometric Delay
1	(untitled)	1,2,3,4	Standard			

Roundabout Network Options

Driving Side	Lighting	Road Surface	In London
Left	Normal/unknown	((Mini-roundabouts only))	

Arms

Arms

ID	Name	Description
1	A59 SB	
2	Clitheroe Road	
3	A59 NB	

4	Pendle Road	

Capacity Options

Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)	Assume Flat Start Profile	Initial Queue (PCU)
A59 SB	0.00	99999.00		0.00
Clitheroe Road	0.00	99999.00		0.00
A59 NB	0.00	99999.00		0.00
Pendle Road	0.00	99999.00		0.00

Standard Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	l' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only
A59 SB	6.10	7.00	7.00	28.50	58.00	26.00	
Clitheroe Road	3.50	4.10	2.00	19.00	58.00	16.50	
A59 NB	6.00	7.00	50.00	30.00	58.00	29.00	
Pendle Road	3.50	4.10	1.00	19.00	58.00	17.50	

Pedestrian Crossings

Arm	Crossing Type
A59 SB	None
Clitheroe Road	None
A59 NB	None
Pendle Road	None

Arm Slope/ Intercept and Capacity

Slope and Intercept used in model

Arm	Enter Directly	Slope	Intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
A59 SB		((calculated))	((calculated))	0.646	2099.618

Clitheroe Road		((calculated))	((calculated))	0.492	1204.311
A59 NB		((calculated))	((calculated))	0.652	2144.346
Pendle Road		((calculated))	((calculated))	0.485	1168.570

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

Traffic Flows

Demand Set Data Options

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

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)	PHF
A59 SB	ONE HOUR	Yes	771.00	100.000	N/A
Clitheroe Road	ONE HOUR	Yes	156.00	100.000	N/A
A59 NB	ONE HOUR	Yes	911.00	100.000	N/A
Pendle Road	ONE HOUR	Yes	463.00	100.000	N/A

Results

Results Summary

Arm	Max RFC	Max Delay (min)	Max Queue (PCU)	Max LOS	Total Demand (PCU/hr)	Total Arrivals (PCU)	Total Queueing Delay (PCU-	Average Queueing Delay (min)	Rate Of Queueing Delay (PCU-min/min)	Inclusive Queueing Total Delay (PCU-min)	Inclusive Queueing Average Delay	Slope	Intercept (PCU/hr)

							min)				(min)		
A59 SB	0.47	0.06	0.90	A	707.48	1061.22	57.76	0.05	0.64	57.77	0.05	0.646	2099.618
Clitheroe Road	0.26	0.12	0.35	A	143.15	214.72	21.96	0.10	0.24	21.96	0.10	0.492	1204.311
A59 NB	0.50	0.06	0.99	A	835.95	1253.92	64.37	0.05	0.72	64.37	0.05	0.652	2144.346
Pendle Road	0.58	0.16	1.36	A	424.86	637.29	80.52	0.13	0.89	80.53	0.13	0.485	1168.570

A1 - Propose layout - D9 - 2030 Assessment, AM

Data Errors and Warnings

Severity	Area	Description
Warning	Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.

Analysis Set Details

Name	Description	Include In Report	Use Specific Demand Set	Demand Set	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
Propose layout		Yes		(D1)		100.000	100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Locked	Run Automatically	Use Relationship	Relationship	Start Time (HH:mm)	Finish Time (HH:mm)	Time Period Length (min)	Time Segment Length (min)	Traffic Profile Type
2030 Assessment, AM	2030 Assessment	AM			Yes			07:45	09:15	90	15	ONE HOUR

Roundabout Network

Roundabout Type(s)

ID	Name	Arm Order	Roundabout Type	Grade Separated	Large Roundabout	Do Geometric Delay

1	(untitled)	1,2,3,4	Standard			

Roundabout Network Options

Driving Side	Lighting	Road Surface	In London
Left	Normal/unknown	((Mini-roundabouts only))	

Arms

Arms

ID	Name	Description
1	A59 SB	
2	Clitheroe Road	
3	A59 NB	
4	Pendle Road	

Capacity Options

Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)	Assume Flat Start Profile	Initial Queue (PCU)
A59 SB	0.00	99999.00		0.00
Clitheroe Road	0.00	99999.00		0.00
A59 NB	0.00	99999.00		0.00
Pendle Road	0.00	99999.00		0.00

Standard Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	l' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only
A59 SB	6.10	7.00	7.00	28.50	58.00	26.00	
Clitheroe Road	3.50	4.10	2.00	19.00	58.00	16.50	
A59 NB	6.00	7.00	50.00	30.00	58.00	29.00	
Pendle Road	3.50	4.10	1.00	19.00	58.00	17.50	

Pedestrian Crossings

Arm	Crossing Type
A59 SB	None
Clitheroe Road	None
A59 NB	None
Pendle Road	None

Arm Slope/ Intercept and Capacity

Slope and Intercept used in model

Arm	Enter Directly	Slope	Intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
A59 SB		((calculated))	((calculated))	0.646	2099.618
Clitheroe Road		((calculated))	((calculated))	0.492	1204.311
A59 NB		((calculated))	((calculated))	0.652	2144.346
Pendle Road		((calculated))	((calculated))	0.485	1168.570

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

Traffic Flows

Demand Set Data Options

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

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)	PHF
A59 SB	ONE HOUR	Yes	858.00	100.000	N/A
Clitheroe Road	ONE HOUR	Yes	233.00	100.000	N/A
A59 NB	ONE HOUR	Yes	1120.00	100.000	N/A
Pendle Road	ONE HOUR	Yes	653.00	100.000	N/A

Results

Results Summary

Arm	Max RFC	Max Delay (min)	Max Queue (PCU)	Max LOS	Total Demand (PCU/hr)	Total Arrivals (PCU)	Total Queueing Delay (PCU-min)	Average Queueing Delay (min)	Rate Of Queueing Delay (PCU-min/min)	Inclusive Queueing Total Delay (PCU-min)	Inclusive Queueing Average Delay (min)	Slope	Intercept (PCU/hr)
A59 SB	0.56	0.08	1.27	A	787.32	1180.97	77.56	0.07	0.86	77.56	0.07	0.646	2099.618
Clitheroe Road	0.46	0.20	0.83	B	213.80	320.71	46.54	0.15	0.52	46.54	0.15	0.492	1204.311
A59 NB	0.63	0.08	1.68	A	1027.73	1541.60	101.40	0.07	1.13	101.41	0.07	0.652	2144.346
Pendle Road	0.94	0.96	10.75	F	599.20	898.81	365.91	0.41	4.07	365.97	0.41	0.485	1168.570

A1 - Propose layout - D10 - 2030 Assessment, PM

Data Errors and Warnings

Severity	Area	Description
Warning	Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.

Analysis Set Details

Name	Description	Include In Report	Use Specific Demand Set	Demand Set	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
Propose layout		Yes		(D1)		100.000	100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Locked	Run Automatically	Use Relationship	Relationship	Start Time (HH:mm)	Finish Time (HH:mm)	Time Period Length (min)	Time Segment Length (min)	Traffic Profile Type
2030 Assessment, PM	2030 Assessment	PM			Yes			16:15	17:45	90	15	ONE HOUR

Roundabout Network

Roundabout Type(s)

ID	Name	Arm Order	Roundabout Type	Grade Separated	Large Roundabout	Do Geometric Delay
1	(untitled)	1,2,3,4	Standard			

Roundabout Network Options

Driving Side	Lighting	Road Surface	In London
Left	Normal/unknown	((Mini-roundabouts only))	

Arms

Arms

ID	Name	Description
1	A59 SB	
2	Clitheroe Road	
3	A59 NB	
4	Pendle Road	

Capacity Options

Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)	Assume Flat Start Profile	Initial Queue (PCU)

A59 SB	0.00	99999.00		0.00
Clitheroe Road	0.00	99999.00		0.00
A59 NB	0.00	99999.00		0.00
Pendle Road	0.00	99999.00		0.00

Standard Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	l' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only
A59 SB	6.10	7.00	7.00	28.50	58.00	26.00	
Clitheroe Road	3.50	4.10	2.00	19.00	58.00	16.50	
A59 NB	6.00	7.00	50.00	30.00	58.00	29.00	
Pendle Road	3.50	4.10	1.00	19.00	58.00	17.50	

Pedestrian Crossings

Arm	Crossing Type
A59 SB	None
Clitheroe Road	None
A59 NB	None
Pendle Road	None

Arm Slope/ Intercept and Capacity

Slope and Intercept used in model

Arm	Enter Directly	Slope	Intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
A59 SB		((calculated))	((calculated))	0.646	2099.618
Clitheroe Road		((calculated))	((calculated))	0.492	1204.311
A59 NB		((calculated))	((calculated))	0.652	2144.346
Pendle Road		((calculated))	((calculated))	0.485	1168.570

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

Traffic Flows

Demand Set Data Options

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

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)	PHF
A59 SB	ONE HOUR	Yes	947.00	100.000	N/A
Clitheroe Road	ONE HOUR	Yes	193.00	100.000	N/A
A59 NB	ONE HOUR	Yes	1078.00	100.000	N/A
Pendle Road	ONE HOUR	Yes	534.00	100.000	N/A

Results

Results Summary

Arm	Max RFC	Max Delay (min)	Max Queue (PCU)	Max LOS	Total Demand (PCU/hr)	Total Arrivals (PCU)	Total Queueing Delay (PCU-min)	Average Queueing Delay (min)	Rate Of Queueing Delay (PCU-min/min)	Inclusive Queueing Total Delay (PCU-min)	Inclusive Queueing Average Delay (min)	Slope	Intercept (PCU/hr)
A59 SB	0.60	0.09	1.48	A	868.98	1303.48	88.71	0.07	0.99	88.72	0.07	0.646	2099.618
Clitheroe Road	0.38	0.18	0.61	B	177.10	265.65	35.38	0.13	0.39	35.38	0.13	0.492	1204.311
A59 NB	0.60	0.07	1.47	A	989.19	1483.79	90.83	0.06	1.01	90.83	0.06	0.652	2144.346
Pendle Road	0.73	0.27	2.56	C	490.01	735.01	131.61	0.18	1.46	131.63	0.18	0.485	1168.570

Appendix J
A59 / Whalley Road (roundabout junction)

ARCADY 7

Version: 7.0.0.99 [10 July 2009]

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File: J:\2012\A077038 Standen Estates\Arcady\Existing A59_A671 Whalley Road Rdabt.arc7
Report generation date: 09/10/2012 10:19:01

A1 - Existing Layout - D1 - 2012 Survey, AM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Description	Include In Report	Use Specific Demand Set	Demand Set	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
Existing Layout		Yes		(D1)		100.000	100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Locked	Run Automatically	Use Relationship	Relationship	Start Time (HH:mm)	Finish Time (HH:mm)	Time Period Length (min)	Time Segment Length (min)	Traffic Profile Type
2012 Survey, AM	2012 Survey	AM			Yes			07:45	09:15	90	15	ONE HOUR

Roundabout Network

Roundabout Type(s)

ID	Name	Arm Order	Roundabout Type	Grade Separated	Large Roundabout	Do Geometric Delay
1	(untitled)	1,2,3	Standard			

Roundabout Network Options

Driving Side	Lighting	Road Surface	In London
Left	Normal/unknown	((Mini-roundabouts only))	

Arms

Arms

ID	Name	Description
1	A59 NB	
2	A671 Whalley Road	
3	A59 SB	

Capacity Options

Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)	Assume Flat Start Profile	Initial Queue (PCU)
A59 NB	0.00	99999.00		0.00
A671 Whalley Road	0.00	99999.00		0.00

A59 SB	0.00	99999.00		0.00

Standard Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	l' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only
A59 NB	7.00	7.80	7.50	28.00	52.00	22.50	
A671 Whalley Road	4.75	7.00	6.50	18.00	52.00	19.50	
A59 SB	7.25	7.70	0.10	38.00	52.00	26.00	

Pedestrian Crossings

Arm	Crossing Type
A59 NB	None
A671 Whalley Road	None
A59 SB	None

Arm Slope/ Intercept and Capacity

Slope and Intercept used in model

Arm	Enter Directly	Slope	Intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
A59 NB		((calculated))	((calculated))	0.740	2393.776
A671 Whalley Road		((calculated))	((calculated))	0.630	1817.355
A59 SB		((calculated))	((calculated))	0.719	2287.306

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

Traffic Flows

Demand Set Data Options

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

		Yes	Yes	HV Percentages	2.00				Yes	Yes

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)	PHF
A59 NB	ONE HOUR	Yes	1308.00	100.000	N/A
A671 Whalley Road	ONE HOUR	Yes	616.00	100.000	N/A
A59 SB	ONE HOUR	Yes	861.00	100.000	N/A

Results

Results Summary

Arm	Max RFC	Max Delay (min)	Max Queue (PCU)	Max LOS	Total Demand (PCU/hr)	Total Arrivals (PCU)	Total Queueing Delay (PCU-min)	Average Queueing Delay (min)	Rate Of Queueing Delay (PCU-min/min)	Inclusive Queueing Total Delay (PCU-min)	Inclusive Queueing Average Delay (min)	Slope	Intercept (PCU/hr)
A59 NB	0.61	0.07	1.59	A	1200.24	1800.37	98.26	0.05	1.09	98.26	0.05	0.740	2393.776
A671 Whalley Road	0.52	0.10	1.08	A	565.25	847.88	65.28	0.08	0.73	65.29	0.08	0.630	1817.355
A59 SB	0.52	0.07	1.07	A	790.07	1185.10	66.63	0.06	0.74	66.63	0.06	0.719	2287.306

A1 - Existing Layout - D2 - 2012 Survey, PM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Description	Include In	Use Specific Demand	Demand	Locked	Network Flow Scaling Factor	Network Capacity Scaling Factor	Reason For Scaling

		Report	Set	Set		(%)	(%)	Factors
Existing Layout		Yes		(D1)		100.000	100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Locked	Run Automatically	Use Relationship	Relationship	Start Time (HH:mm)	Finish Time (HH:mm)	Time Period Length (min)	Time Segment Length (min)	Traffic Profile Type
2012 Survey, PM	2012 Survey	PM			Yes			16:15	17:45	90	15	ONE HOUR

Roundabout Network

Roundabout Type(s)

ID	Name	Arm Order	Roundabout Type	Grade Separated	Large Roundabout	Do Geometric Delay
1	(untitled)	1,2,3	Standard			

Roundabout Network Options

Driving Side	Lighting	Road Surface	In London
Left	Normal/unknown	((Mini-roundabouts only))	

Arms

Arms

ID	Name	Description
1	A59 NB	
2	A671 Whalley Road	
3	A59 SB	

Capacity Options

Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)	Assume Flat Start Profile	Initial Queue (PCU)
A59 NB	0.00	99999.00		0.00
A671 Whalley Road	0.00	99999.00		0.00
A59 SB	0.00	99999.00		0.00

Standard Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	l' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only
A59 NB	7.00	7.80	7.50	28.00	52.00	22.50	
A671 Whalley Road	4.75	7.00	6.50	18.00	52.00	19.50	
A59 SB	7.25	7.70	0.10	38.00	52.00	26.00	

Pedestrian Crossings

Arm	Crossing Type
A59 NB	None
A671 Whalley Road	None
A59 SB	None

Arm Slope/ Intercept and Capacity

Slope and Intercept used in model

Arm	Enter Directly	Slope	Intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
A59 NB		((calculated))	((calculated))	0.740	2393.776
A671 Whalley Road		((calculated))	((calculated))	0.630	1817.355
A59 SB		((calculated))	((calculated))	0.719	2287.306

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

Traffic Flows

Demand Set Data Options

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

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)	PHF
A59 NB	ONE HOUR	Yes	1441.00	100.000	N/A
A671 Whalley Road	ONE HOUR	Yes	603.00	100.000	N/A
A59 SB	ONE HOUR	Yes	825.00	100.000	N/A

Results

Results Summary

Arm	Max RFC	Max Delay (min)	Max Queue (PCU)	Max LOS	Total Demand (PCU/hr)	Total Arrivals (PCU)	Total Queueing Delay (PCU-min)	Average Queueing Delay (min)	Rate Of Queueing Delay (PCU-min/min)	Inclusive Queueing Total Delay (PCU-min)	Inclusive Queueing Average Delay (min)	Slope	Intercept (PCU/hr)
A59 NB	0.67	0.08	2.06	A	1322.29	1983.43	122.20	0.06	1.36	122.21	0.06	0.740	2393.776
A671 Whalley Road	0.50	0.09	1.01	A	553.32	829.99	61.65	0.07	0.68	61.65	0.07	0.630	1817.355
A59 SB	0.49	0.06	0.97	A	757.03	1135.55	61.28	0.05	0.68	61.29	0.05	0.719	2287.306

A1 - Existing Layout - D3 - 2015 Base, AM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Description	Include In Report	Use Specific Demand Set	Demand Set	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
Existing Layout		Yes		(D1)		100.000	100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Locked	Run Automatically	Use Relationship	Relationship	Start Time (HH:mm)	Finish Time (HH:mm)	Time Period Length (min)	Time Segment Length (min)	Traffic Profile Type
2015 Base, AM	2015 Base	AM			Yes			07:45	09:15	90	15	ONE HOUR

Roundabout Network

Roundabout Type(s)

ID	Name	Arm Order	Roundabout Type	Grade Separated	Large Roundabout	Do Geometric Delay
1	(untitled)	1,2,3	Standard			

Roundabout Network Options

Driving Side	Lighting	Road Surface	In London
Left	Normal/unknown	((Mini-roundabouts only))	

Arms

Arms

ID	Name	Description
1	A59 NB	

2	A671 Whalley Road	
3	A59 SB	

Capacity Options

Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)	Assume Flat Start Profile	Initial Queue (PCU)
A59 NB	0.00	99999.00		0.00
A671 Whalley Road	0.00	99999.00		0.00
A59 SB	0.00	99999.00		0.00

Standard Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	l' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only
A59 NB	7.00	7.80	7.50	28.00	52.00	22.50	
A671 Whalley Road	4.75	7.00	6.50	18.00	52.00	19.50	
A59 SB	7.25	7.70	0.10	38.00	52.00	26.00	

Pedestrian Crossings

Arm	Crossing Type
A59 NB	None
A671 Whalley Road	None
A59 SB	None

Arm Slope/ Intercept and Capacity

Slope and Intercept used in model

Arm	Enter Directly	Slope	Intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
A59 NB		((calculated))	((calculated))	0.740	2393.776
A671 Whalley Road		((calculated))	((calculated))	0.630	1817.355
A59 SB		((calculated))	((calculated))	0.719	2287.306

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

Traffic Flows

Demand Set Data Options

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

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)	PHF
A59 NB	ONE HOUR	Yes	1356.00	100.000	N/A
A671 Whalley Road	ONE HOUR	Yes	695.00	100.000	N/A
A59 SB	ONE HOUR	Yes	883.00	100.000	N/A

Results

Results Summary

Arm	Max RFC	Max Delay (min)	Max Queue (PCU)	Max LOS	Total Demand (PCU/hr)	Total Arrivals (PCU)	Total Queueing Delay (PCU-min)	Average Queueing Delay (min)	Rate Of Queueing Delay (PCU-min/min)	Inclusive Queueing Total Delay (PCU-min)	Inclusive Queueing Average Delay (min)	Slope	Intercept (PCU/hr)
A59 NB	0.64	0.07	1.75	A	1244.29	1866.43	106.69	0.06	1.19	106.70	0.06	0.740	2393.776
A671 Whalley Road	0.59	0.11	1.45	A	637.74	956.62	83.66	0.09	0.93	83.66	0.09	0.630	1817.355
A59 SB	0.55	0.08	1.21	A	810.26	1215.38	73.78	0.06	0.82	73.78	0.06	0.719	2287.306

A1 - Existing Layout - D4 - 2015 Base, PM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Description	Include In Report	Use Specific Demand Set	Demand Set	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
Existing Layout		Yes		(D1)		100.000	100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Locked	Run Automatically	Use Relationship	Relationship	Start Time (HH:mm)	Finish Time (HH:mm)	Time Period Length (min)	Time Segment Length (min)	Traffic Profile Type
2015 Base, PM	2015 Base	PM			Yes			16:15	17:45	90	15	ONE HOUR

Roundabout Network

Roundabout Type(s)

ID	Name	Arm Order	Roundabout Type	Grade Separated	Large Roundabout	Do Geometric Delay
1	(untitled)	1,2,3	Standard			

Roundabout Network Options

Driving Side	Lighting	Road Surface	In London
Left	Normal/unknown	((Mini-roundabouts only))	

Arms

Arms

ID	Name	Description
1	A59 NB	
2	A671 Whalley Road	
3	A59 SB	

Capacity Options

Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)	Assume Flat Start Profile	Initial Queue (PCU)
A59 NB	0.00	99999.00		0.00
A671 Whalley Road	0.00	99999.00		0.00
A59 SB	0.00	99999.00		0.00

Standard Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	l' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only
A59 NB	7.00	7.80	7.50	28.00	52.00	22.50	
A671 Whalley Road	4.75	7.00	6.50	18.00	52.00	19.50	
A59 SB	7.25	7.70	0.10	38.00	52.00	26.00	

Pedestrian Crossings

Arm	Crossing Type
A59 NB	None
A671 Whalley Road	None
A59 SB	None

Arm Slope/ Intercept and Capacity

Slope and Intercept used in model

Arm	Enter Directly	Slope	Intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)

A59 NB		((calculated))	((calculated))	0.740	2393.776
A671 Whalley Road		((calculated))	((calculated))	0.630	1817.355
A59 SB		((calculated))	((calculated))	0.719	2287.306

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

Traffic Flows

Demand Set Data Options

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

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)	PHF
A59 NB	ONE HOUR	Yes	1528.00	100.000	N/A
A671 Whalley Road	ONE HOUR	Yes	637.00	100.000	N/A
A59 SB	ONE HOUR	Yes	847.00	100.000	N/A

Results

Results Summary

Arm	Max RFC	Max Delay (min)	Max Queue (PCU)	Max LOS	Total Demand (PCU/hr)	Total Arrivals (PCU)	Total Queueing Delay (PCU-min)	Average Queueing Delay (min)	Rate Of Queueing Delay (PCU-min/min)	Inclusive Queueing Total Delay (PCU-min)	Inclusive Queueing Average Delay (min)	Slope	Intercept (PCU/hr)

A59 NB	0.72	0.09	2.49	A	1402.12	2103.18	142.82	0.07	1.59	142.83	0.07	0.740	2393.776
A671 Whalley Road	0.54	0.10	1.15	A	584.52	876.78	69.16	0.08	0.77	69.16	0.08	0.630	1817.355
A59 SB	0.51	0.07	1.05	A	777.22	1165.83	65.62	0.06	0.73	65.62	0.06	0.719	2287.306

A1 - Existing Layout - D5 - 2030 Base, AM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Description	Include In Report	Use Specific Demand Set	Demand Set	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
Existing Layout		Yes		(D1)		100.000	100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Locked	Run Automatically	Use Relationship	Relationship	Start Time (HH:mm)	Finish Time (HH:mm)	Time Period Length (min)	Time Segment Length (min)	Traffic Profile Type
2030 Base, AM	2030 Base	AM			Yes			07:45	09:15	90	15	ONE HOUR

Roundabout Network

Roundabout Type(s)

ID	Name	Arm Order	Roundabout Type	Grade Separated	Large Roundabout	Do Geometric Delay
1	(untitled)	1,2,3	Standard			

Roundabout Network Options

Driving Side	Lighting	Road Surface	In London

Left	Normal/unknown	((Mini-roundabouts only))	

Arms

Arms

ID	Name	Description
1	A59 NB	
2	A671 Whalley Road	
3	A59 SB	

Capacity Options

Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)	Assume Flat Start Profile	Initial Queue (PCU)
A59 NB	0.00	99999.00		0.00
A671 Whalley Road	0.00	99999.00		0.00
A59 SB	0.00	99999.00		0.00

Standard Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	l' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only
A59 NB	7.00	7.80	7.50	28.00	52.00	22.50	
A671 Whalley Road	4.75	7.00	6.50	18.00	52.00	19.50	
A59 SB	7.25	7.70	0.10	38.00	52.00	26.00	

Pedestrian Crossings

Arm	Crossing Type
A59 NB	None
A671 Whalley Road	None
A59 SB	None

Arm Slope/ Intercept and Capacity

Slope and Intercept used in model

Arm	Enter Directly	Slope	Intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
A59 NB		((calculated))	((calculated))	0.740	2393.776
A671 Whalley Road		((calculated))	((calculated))	0.630	1817.355
A59 SB		((calculated))	((calculated))	0.719	2287.306

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

Traffic Flows

Demand Set Data Options

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

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)	PHF
A59 NB	ONE HOUR	Yes	1662.00	100.000	N/A
A671 Whalley Road	ONE HOUR	Yes	839.00	100.000	N/A
A59 SB	ONE HOUR	Yes	1084.00	100.000	N/A

Results

Results Summary

Arm	Max RFC	Max Delay (min)	Max Queue (PCU)	Max LOS	Total Demand (PCU/hr)	Total Arrivals (PCU)	Total Queueing Delay (PCU-min)	Average Queueing Delay (min)	Rate Of Queueing Delay (PCU-min/min)	Inclusive Queueing Total Delay (PCU-min)	Inclusive Queueing Average Delay (min)	Slope	Intercept (PCU/hr)
A59 NB	0.79	0.12	3.60	A	1525.08	2287.62	190.47	0.08	2.12	190.48	0.08	0.740	2393.776
A671 Whalley Road	0.79	0.24	3.62	B	769.88	1154.82	168.81	0.15	1.88	168.83	0.15	0.630	1817.355
A59 SB	0.72	0.13	2.51	A	994.70	1492.05	132.19	0.09	1.47	132.20	0.09	0.719	2287.306

A1 - Existing Layout - D6 - 2030 Base, PM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Description	Include In Report	Use Specific Demand Set	Demand Set	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
Existing Layout		Yes		(D1)		100.000	100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Locked	Run Automatically	Use Relationship	Relationship	Start Time (HH:mm)	Finish Time (HH:mm)	Time Period Length (min)	Time Segment Length (min)	Traffic Profile Type
2030 Base, PM	2030 Base	PM			Yes			16:15	17:45	90	15	ONE HOUR

Roundabout Network

Roundabout Type(s)

ID	Name	Arm Order	Roundabout Type	Grade Separated	Large Roundabout	Do Geometric Delay

1	(untitled)	1,2,3	Standard			

Roundabout Network Options

Driving Side	Lighting	Road Surface	In London
Left	Normal/unknown	((Mini-roundabouts only))	

Arms

Arms

ID	Name	Description
1	A59 NB	
2	A671 Whalley Road	
3	A59 SB	

Capacity Options

Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)	Assume Flat Start Profile	Initial Queue (PCU)
A59 NB	0.00	99999.00		0.00
A671 Whalley Road	0.00	99999.00		0.00
A59 SB	0.00	99999.00		0.00

Standard Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	l' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only
A59 NB	7.00	7.80	7.50	28.00	52.00	22.50	
A671 Whalley Road	4.75	7.00	6.50	18.00	52.00	19.50	
A59 SB	7.25	7.70	0.10	38.00	52.00	26.00	

Pedestrian Crossings

Arm	Crossing Type

A59 NB	None
A671 Whalley Road	None
A59 SB	None

Arm Slope/ Intercept and Capacity

Slope and Intercept used in model

Arm	Enter Directly	Slope	Intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
A59 NB		((calculated))	((calculated))	0.740	2393.776
A671 Whalley Road		((calculated))	((calculated))	0.630	1817.355
A59 SB		((calculated))	((calculated))	0.719	2287.306

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

Traffic Flows

Demand Set Data Options

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

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)	PHF
A59 NB	ONE HOUR	Yes	1879.00	100.000	N/A
A671 Whalley Road	ONE HOUR	Yes	783.00	100.000	N/A
A59 SB	ONE HOUR	Yes	1049.00	100.000	N/A

Results

Results Summary

Arm	Max RFC	Max Delay (min)	Max Queue (PCU)	Max LOS	Total Demand (PCU/hr)	Total Arrivals (PCU)	Total Queueing Delay (PCU-min)	Average Queueing Delay (min)	Rate Of Queueing Delay (PCU-min/min)	Inclusive Queueing Total Delay (PCU-min)	Inclusive Queueing Average Delay (min)	Slope	Intercept (PCU/hr)
A59 NB	0.88	0.22	7.18	B	1724.20	2586.30	318.35	0.12	3.54	318.38	0.12	0.740	2393.776
A671 Whalley Road	0.73	0.19	2.61	B	718.49	1077.74	131.82	0.12	1.46	131.83	0.12	0.630	1817.355
A59 SB	0.68	0.11	2.08	A	962.58	1443.87	114.42	0.08	1.27	114.43	0.08	0.719	2287.306

A1 - Existing Layout - D7 - 2015 Assessment, AM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Description	Include In Report	Use Specific Demand Set	Demand Set	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
Existing Layout		Yes		(D1)		100.000	100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Locked	Run Automatically	Use Relationship	Relationship	Start Time (HH:mm)	Finish Time (HH:mm)	Time Period Length (min)	Time Segment Length (min)	Traffic Profile Type
2015 Assessment, AM	2015 Assessment	AM			Yes			07:45	09:15	90	15	ONE HOUR

Roundabout Network

Roundabout Type(s)

ID	Name	Arm Order	Roundabout Type	Grade Separated	Large Roundabout	Do Geometric Delay
1	(untitled)	1,2,3	Standard			

Roundabout Network Options

Driving Side	Lighting	Road Surface	In London
Left	Normal/unknown	((Mini-roundabouts only))	

Arms

Arms

ID	Name	Description
1	A59 NB	
2	A671 Whalley Road	
3	A59 SB	

Capacity Options

Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)	Assume Flat Start Profile	Initial Queue (PCU)
A59 NB	0.00	99999.00		0.00
A671 Whalley Road	0.00	99999.00		0.00
A59 SB	0.00	99999.00		0.00

Standard Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	l' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only
A59 NB	7.00	7.80	7.50	28.00	52.00	22.50	

A671 Whalley Road	4.75	7.00	6.50	18.00	52.00	19.50	
A59 SB	7.25	7.70	0.10	38.00	52.00	26.00	

Pedestrian Crossings

Arm	Crossing Type
A59 NB	None
A671 Whalley Road	None
A59 SB	None

Arm Slope/ Intercept and Capacity

Slope and Intercept used in model

Arm	Enter Directly	Slope	Intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
A59 NB		((calculated))	((calculated))	0.740	2393.776
A671 Whalley Road		((calculated))	((calculated))	0.630	1817.355
A59 SB		((calculated))	((calculated))	0.719	2287.306

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

Traffic Flows

Demand Set Data Options

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

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)	PHF
A59 NB	ONE HOUR	Yes	1498.00	100.000	N/A
A671 Whalley Road	ONE HOUR	Yes	695.00	100.000	N/A
A59 SB	ONE HOUR	Yes	1129.00	100.000	N/A

Results

Results Summary

Arm	Max RFC	Max Delay (min)	Max Queue (PCU)	Max LOS	Total Demand (PCU/hr)	Total Arrivals (PCU)	Total Queueing Delay (PCU-min)	Average Queueing Delay (min)	Rate Of Queueing Delay (PCU-min/min)	Inclusive Queueing Total Delay (PCU-min)	Inclusive Queueing Average Delay (min)	Slope	Intercept (PCU/hr)
A59 NB	0.70	0.09	2.36	A	1374.59	2061.89	136.75	0.07	1.52	136.76	0.07	0.740	2393.776
A671 Whalley Road	0.64	0.14	1.77	A	637.74	956.62	97.01	0.10	1.08	97.02	0.10	0.630	1817.355
A59 SB	0.70	0.11	2.34	A	1035.99	1553.99	127.19	0.08	1.41	127.20	0.08	0.719	2287.306

A1 - Existing Layout - D8 - 2015 Assessment, PM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Description	Include In Report	Use Specific Demand Set	Demand Set	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
Existing Layout		Yes		(D1)		100.000	100.000	

Demand Set Details

Name	Scenario	Time	Description	Locked	Run	Use	Relationship	Start Time	Finish Time	Time Period	Time Segment	Traffic

	Name	Period Name			Automatically	Relationship		(HH:mm)	(HH:mm)	Length (min)	Length (min)	Profile Type
2015 Assessment, PM	2015 Assessment	PM			Yes			16:15	17:45	90	15	ONE HOUR

Roundabout Network

Roundabout Type(s)

ID	Name	Arm Order	Roundabout Type	Grade Separated	Large Roundabout	Do Geometric Delay
1	(untitled)	1,2,3	Standard			

Roundabout Network Options

Driving Side	Lighting	Road Surface	In London
Left	Normal/unknown	((Mini-roundabouts only))	

Arms

Arms

ID	Name	Description
1	A59 NB	
2	A671 Whalley Road	
3	A59 SB	

Capacity Options

Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)	Assume Flat Start Profile	Initial Queue (PCU)
A59 NB	0.00	99999.00		0.00
A671 Whalley Road	0.00	99999.00		0.00
A59 SB	0.00	99999.00		0.00

Standard Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	l' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only
A59 NB	7.00	7.80	7.50	28.00	52.00	22.50	
A671 Whalley Road	4.75	7.00	6.50	18.00	52.00	19.50	
A59 SB	7.25	7.70	0.10	38.00	52.00	26.00	

Pedestrian Crossings

Arm	Crossing Type
A59 NB	None
A671 Whalley Road	None
A59 SB	None

Arm Slope/ Intercept and Capacity

Slope and Intercept used in model

Arm	Enter Directly	Slope	Intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
A59 NB		((calculated))	((calculated))	0.740	2393.776
A671 Whalley Road		((calculated))	((calculated))	0.630	1817.355
A59 SB		((calculated))	((calculated))	0.719	2287.306

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

Traffic Flows

Demand Set Data Options

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

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)	PHF
A59 NB	ONE HOUR	Yes	1780.00	100.000	N/A
A671 Whalley Road	ONE HOUR	Yes	642.00	100.000	N/A
A59 SB	ONE HOUR	Yes	989.00	100.000	N/A

Results

Results Summary

Arm	Max RFC	Max Delay (min)	Max Queue (PCU)	Max LOS	Total Demand (PCU/hr)	Total Arrivals (PCU)	Total Queueing Delay (PCU-min)	Average Queueing Delay (min)	Rate Of Queueing Delay (PCU-min/min)	Inclusive Queueing Total Delay (PCU-min)	Inclusive Queueing Average Delay (min)	Slope	Intercept (PCU/hr)
A59 NB	0.83	0.15	4.86	A	1633.36	2450.04	239.93	0.10	2.67	239.95	0.10	0.740	2393.776
A671 Whalley Road	0.61	0.13	1.53	A	589.11	883.67	85.48	0.10	0.95	85.48	0.10	0.630	1817.355
A59 SB	0.60	0.08	1.50	A	907.52	1361.29	88.90	0.07	0.99	88.91	0.07	0.719	2287.306

A1 - Existing Layout - D9 - 2030 Assessment, AM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Description	Include In Report	Use Specific Demand Set	Demand Set	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
Existing Layout		Yes		(D1)		100.000	100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Locked	Run Automatically	Use Relationship	Relationship	Start Time (HH:mm)	Finish Time (HH:mm)	Time Period Length (min)	Time Segment Length (min)	Traffic Profile Type
2030 Assessment, AM	2030 Assessment	AM			Yes			07:45	09:15	90	15	ONE HOUR

Roundabout Network

Roundabout Type(s)

ID	Name	Arm Order	Roundabout Type	Grade Separated	Large Roundabout	Do Geometric Delay
1	(untitled)	1,2,3	Standard			

Roundabout Network Options

Driving Side	Lighting	Road Surface	In London
Left	Normal/unknown	((Mini-roundabouts only))	

Arms

Arms

ID	Name	Description
1	A59 NB	
2	A671 Whalley Road	
3	A59 SB	

Capacity Options

Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)	Assume Flat Start Profile	Initial Queue (PCU)
A59 NB	0.00	99999.00		0.00

A671 Whalley Road	0.00	99999.00		0.00
A59 SB	0.00	99999.00		0.00

Standard Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	I' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only
A59 NB	7.00	7.80	7.50	28.00	52.00	22.50	
A671 Whalley Road	4.75	7.00	6.50	18.00	52.00	19.50	
A59 SB	7.25	7.70	0.10	38.00	52.00	26.00	

Pedestrian Crossings

Arm	Crossing Type
A59 NB	None
A671 Whalley Road	None
A59 SB	None

Arm Slope/ Intercept and Capacity

Slope and Intercept used in model

Arm	Enter Directly	Slope	Intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
A59 NB		((calculated))	((calculated))	0.740	2393.776
A671 Whalley Road		((calculated))	((calculated))	0.630	1817.355
A59 SB		((calculated))	((calculated))	0.719	2287.306

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

Traffic Flows

Demand Set Data Options

Default	Vehicle Mix	Vehicle Mix	Vehicle Mix	Vehicle Mix	PCU Factor	Default Turning	Estimate from	Turning	Turning	Turning

Vehicle Mix	Varies Over Time	Varies Over Turn	Varies Over Entry	Source	for a HV (PCU)	Proportions	entry/exit counts	Proportions Vary Over Time	Proportions Vary Over Turn	Proportions Vary Over Entry
		Yes	Yes	HV Percentages	2.00				Yes	Yes

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)	PHF
A59 NB	ONE HOUR	Yes	1804.00	100.000	N/A
A671 Whalley Road	ONE HOUR	Yes	839.00	100.000	N/A
A59 SB	ONE HOUR	Yes	1329.00	100.000	N/A

Results

Results Summary

Arm	Max RFC	Max Delay (min)	Max Queue (PCU)	Max LOS	Total Demand (PCU/hr)	Total Arrivals (PCU)	Total Queueing Delay (PCU-min)	Average Queueing Delay (min)	Rate Of Queueing Delay (PCU-min/min)	Inclusive Queueing Total Delay (PCU-min)	Inclusive Queueing Average Delay (min)	Slope	Intercept (PCU/hr)
A59 NB	0.85	0.17	5.57	B	1655.38	2483.07	264.67	0.11	2.94	264.70	0.11	0.740	2393.776
A671 Whalley Road	0.86	0.39	5.71	C	769.88	1154.82	229.36	0.20	2.55	229.38	0.20	0.630	1817.355
A59 SB	0.88	0.29	6.77	C	1219.51	1829.27	277.35	0.15	3.08	277.37	0.15	0.719	2287.306

A1 - Existing Layout - D10 - 2030 Assessment, PM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Description	Include In Report	Use Specific Demand Set	Demand Set	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
Existing Layout		Yes		(D1)		100.000	100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Locked	Run Automatically	Use Relationship	Relationship	Start Time (HH:mm)	Finish Time (HH:mm)	Time Period Length (min)	Time Segment Length (min)	Traffic Profile Type
2030 Assessment, PM	2030 Assessment	PM			Yes			16:15	17:45	90	15	ONE HOUR

Roundabout Network

Roundabout Type(s)

ID	Name	Arm Order	Roundabout Type	Grade Separated	Large Roundabout	Do Geometric Delay
1	(untitled)	1,2,3	Standard			

Roundabout Network Options

Driving Side	Lighting	Road Surface	In London
Left	Normal/unknown	((Mini-roundabouts only))	

Arms

Arms

ID	Name	Description
1	A59 NB	
2	A671 Whalley Road	

3	A59 SB	

Capacity Options

Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)	Assume Flat Start Profile	Initial Queue (PCU)
A59 NB	0.00	99999.00		0.00
A671 Whalley Road	0.00	99999.00		0.00
A59 SB	0.00	99999.00		0.00

Standard Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	l' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only
A59 NB	7.00	7.80	7.50	28.00	52.00	22.50	
A671 Whalley Road	4.75	7.00	6.50	18.00	52.00	19.50	
A59 SB	7.25	7.70	0.10	38.00	52.00	26.00	

Pedestrian Crossings

Arm	Crossing Type
A59 NB	None
A671 Whalley Road	None
A59 SB	None

Arm Slope/ Intercept and Capacity

Slope and Intercept used in model

Arm	Enter Directly	Slope	Intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
A59 NB		((calculated))	((calculated))	0.740	2393.776
A671 Whalley Road		((calculated))	((calculated))	0.630	1817.355
A59 SB		((calculated))	((calculated))	0.719	2287.306

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

Traffic Flows

Demand Set Data Options

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

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)	PHF
A59 NB	ONE HOUR	Yes	2131.00	100.000	N/A
A671 Whalley Road	ONE HOUR	Yes	788.00	100.000	N/A
A59 SB	ONE HOUR	Yes	1191.00	100.000	N/A

Results

Results Summary

Arm	Max RFC	Max Delay (min)	Max Queue (PCU)	Max LOS	Total Demand (PCU/hr)	Total Arrivals (PCU)	Total Queueing Delay (PCU-min)	Average Queueing Delay (min)	Rate Of Queueing Delay (PCU-min/min)	Inclusive Queueing Total Delay (PCU-min)	Inclusive Queueing Average Delay (min)	Slope	Intercept (PCU/hr)
A59 NB	1.00	0.89	35.44	F	1955.44	2933.16	980.84	0.33	10.90	980.90	0.33	0.740	2393.776
A671 Whalley Road	0.82	0.31	4.33	C	723.08	1084.62	188.86	0.17	2.10	188.88	0.17	0.630	1817.355
A59 SB	0.77	0.15	3.28	A	1092.88	1639.32	164.06	0.10	1.82	164.07	0.10	0.719	2287.306

Appendix K
Proposed site access – Pendle Road (mini roundabout junction)

ARCADY 7

File: J:\2012\A077038 Standen Estates\Arcady\Proposed Pendle Rd Site Access.arc7
Report generation date: 26/09/2012 14:09:27

File summary

File Description

Title	Propose Pendle Road Site Access
Location	Pendle Road, Clitheroe
Date	06/07/2012
Status	(new file)
Jobnumber	A077038
Enumerator	MANCHESTER\steven.ho
Results Upto Date	True

Analysis Options

RFC Threshold	Vehicle Length (m)	Do Queue Variations

0.85	5.75	

Sorting and Display

Show Arm Names	Arm Grouping	Sorting Direction	Sorting Type	Data Matrix Style	Time Style
Yes	Order	Ascending	Numerical	By Destination	Absolute Time

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	min	-Min	perMin

A1 - Propose Site Access - D1 - 2015 Assessment, AM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Description	Include In Report	Use Specific Demand Set	Demand Set	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
Propose Site Access		Yes		(D1)		100.000	100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Locked	Run Automatically	Use Relationship	Relationship	Start Time (HH:mm)	Finish Time (HH:mm)	Time Period Length (min)	Time Segment Length (min)	Traffic Profile Type
2015 Assessment, AM	2015 Assessment	AM			Yes			07:45	09:15	90	15	DIRECT

Roundabout Network

Roundabout Type(s)

ID	Name	Arm Order	Roundabout Type	Grade Separated	Large Roundabout	Do Geometric Delay
1	Propose Pendle Road Site Access	1,2,3	Mini-roundabout			

Roundabout Network Options

Driving Side	Lighting	Road Surface	In London
Left	Normal/unknown	Normal/unknown	

Arms

Arms

ID	Name	Description
1	Pendle Road East	
2	Access	
3	Pendle Road West	

Capacity Options

Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)	Assume Flat Start Profile	Initial Queue (PCU)
Pendle Road East	0.00	99999.00		0.00
Access	0.00	99999.00		0.00
Pendle Road West	0.00	99999.00		0.00

Mini Roundabout Geometry

Arm	Approach road half-width (m)	Minimum approach road half-width (m)	Entry width (m)	Effective flare length (m)	Distance to next arm (m)	Entry corner kerb line distance (m)	Gradient over 50m (%)	Kerbed central island
Pendle Road East	3.50	3.50	6.00	18.00	19.00	4.50	0.00	
Access	3.00	3.00	5.00	7.00	18.20	5.50	0.00	
Pendle Road West	3.00	3.00	5.00	7.50	20.00	13.20	0.00	

Pedestrian Crossings

Arm	Crossing Type
Pendle Road East	None
Access	None
Pendle Road West	None

Arm Slope/ Intercept and Capacity

Slope and Intercept used in model

Arm	Enter Directly	Slope	Intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
Pendle Road East		((calculated))	((calculated))	0.616	1006.697
Access		((calculated))	((calculated))	0.557	757.085
Pendle Road West		((calculated))	((calculated))	0.577	805.722

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

Traffic Flows

Demand Set Data Options

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

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)	PHF
Pendle Road East	DIRECT	Yes		100.000	N/A
Access	DIRECT	Yes		100.000	N/A
Pendle Road West	DIRECT	Yes		100.000	N/A

Direct/Resultant Flows

Direct Flows Data

Time Segment	Arm	Direct Demand Entry Flow (PCU/hr)	DirectDemandEntryFlowInPCU (PCU/hr)	Direct Demand Exit Flow (PCU/hr)	Direct Demand Pedestrian Flow (Ped/hr)
07:45-08:00	Pendle Road East	534.00	534.00	N/A	N/A
07:45-08:00	Access	481.00	481.00	N/A	N/A
07:45-08:00	Pendle Road West	499.00	499.00	N/A	N/A
08:00-08:15	Pendle Road East	534.00	534.00	N/A	N/A
08:00-08:15	Access	481.00	481.00	N/A	N/A
08:00-08:15	Pendle Road West	499.00	499.00	N/A	N/A
08:15-08:30	Pendle Road East	534.00	534.00	N/A	N/A
08:15-08:30	Access	481.00	481.00	N/A	N/A
08:15-08:30	Pendle Road West	499.00	499.00	N/A	N/A
08:30-08:45	Pendle Road East	534.00	534.00	N/A	N/A
08:30-08:45	Access	481.00	481.00	N/A	N/A
08:30-08:45	Pendle Road West	499.00	499.00	N/A	N/A
08:45-09:00	Pendle Road East	534.00	534.00	N/A	N/A
08:45-09:00	Access	481.00	481.00	N/A	N/A
08:45-09:00	Pendle Road West	499.00	499.00	N/A	N/A
09:00-09:15	Pendle Road East	534.00	534.00	N/A	N/A
09:00-09:15	Access	481.00	481.00	N/A	N/A
09:00-09:15	Pendle Road West	499.00	499.00	N/A	N/A

Results

Results Summary

Arm	Max RFC	Max Delay (min)	Max Queue (PCU)	Max LOS	Total Demand (PCU/hr)	Total Arrivals (PCU)	Total Queueing Delay (PCU-	Average Queueing Delay (min)	Rate Of Queueing Delay (PCU-min/min)	Inclusive Queueing Total Delay (PCU-min)	Inclusive Queueing Average Delay	Slope	Intercept (PCU/hr)

							min)				(min)		
Pendle Road East	0.58	0.16	1.38	A	534.00	801.00	121.50	0.15	1.35	121.56	0.15	0.616	1006.697
Access	0.86	0.77	5.94	E	481.00	721.50	477.40	0.66	5.30	479.31	0.66	0.557	757.085
Pendle Road West	0.78	0.42	3.40	C	499.00	748.50	286.96	0.38	3.19	287.50	0.38	0.577	805.722

ARCADY 7

Version: 7.0.0.99 [10 July 2009]

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File: J:\2012\A077038 Standen Estates\Arcady\Proposed Pendle Rd Site Access.arc7
Report generation date: 26/09/2012 14:09:42

File summary

File Description

Title	Propose Pendle Road Site Access
Location	Pendle Road, Clitheroe
Date	06/07/2012
Status	(new file)
Jobnumber	A077038
Enumerator	MANCHESTER\steven.ho
Results Upto Date	True

Analysis Options

RFC Threshold	Vehicle Length (m)	Do Queue Variations

0.85	5.75	

Sorting and Display

Show Arm Names	Arm Grouping	Sorting Direction	Sorting Type	Data Matrix Style	Time Style
Yes	Order	Ascending	Numerical	By Destination	Absolute Time

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	min	-Min	perMin

A1 - Propose Site Access - D2 - 2015 Assessment, PM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Description	Include In Report	Use Specific Demand Set	Demand Set	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
Propose Site Access		Yes		(D1)		100.000	100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Locked	Run Automatically	Use Relationship	Relationship	Start Time (HH:mm)	Finish Time (HH:mm)	Time Period Length (min)	Time Segment Length (min)	Traffic Profile Type
2015 Assessment, PM	2015 Assessment	PM			Yes			16:15	17:45	90	15	DIRECT

Roundabout Network

Roundabout Type(s)

ID	Name	Arm Order	Roundabout Type	Grade Separated	Large Roundabout	Do Geometric Delay
1	Propose Pendle Road Site Access	1,2,3	Mini-roundabout			

Roundabout Network Options

Driving Side	Lighting	Road Surface	In London
Left	Normal/unknown	Normal/unknown	

Arms

Arms

ID	Name	Description
1	Pendle Road East	
2	Access	
3	Pendle Road West	

Capacity Options

Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)	Assume Flat Start Profile	Initial Queue (PCU)
Pendle Road East	0.00	99999.00		0.00
Access	0.00	99999.00		0.00
Pendle Road West	0.00	99999.00		0.00

Mini Roundabout Geometry

Arm	Approach road half-width (m)	Minimum approach road half-width (m)	Entry width (m)	Effective flare length (m)	Distance to next arm (m)	Entry corner kerb line distance (m)	Gradient over 50m (%)	Kerbed central island
Pendle Road East	3.50	3.50	6.00	18.00	19.00	4.50	0.00	
Access	3.00	3.00	5.00	7.00	18.20	5.50	0.00	
Pendle Road West	3.00	3.00	5.00	7.50	20.00	13.20	0.00	

Pedestrian Crossings

Arm	Crossing Type

Pendle Road East	None
Access	None
Pendle Road West	None

Arm Slope/ Intercept and Capacity

Slope and Intercept used in model

Arm	Enter Directly	Slope	Intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
Pendle Road East		((calculated))	((calculated))	0.616	1006.697
Access		((calculated))	((calculated))	0.557	757.085
Pendle Road West		((calculated))	((calculated))	0.577	805.722

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

Traffic Flows

Demand Set Data Options

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

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)	PHF
Pendle Road East	DIRECT	Yes		100.000	N/A
Access	DIRECT	Yes		100.000	N/A
Pendle Road West	DIRECT	Yes		100.000	N/A

Direct/Resultant Flows

Direct Flows Data

Time Segment	Arm	Direct Demand Entry Flow (PCU/hr)	DirectDemandEntryFlowInPCU (PCU/hr)	Direct Demand Exit Flow (PCU/hr)	Direct Demand Pedestrian Flow (Ped/hr)
16:15-16:30	Pendle Road East	550.00	550.00	N/A	N/A
16:15-16:30	Access	293.00	293.00	N/A	N/A
16:15-16:30	Pendle Road West	453.00	453.00	N/A	N/A
16:30-16:45	Pendle Road East	550.00	550.00	N/A	N/A
16:30-16:45	Access	293.00	293.00	N/A	N/A
16:30-16:45	Pendle Road West	453.00	453.00	N/A	N/A
16:45-17:00	Pendle Road East	550.00	550.00	N/A	N/A
16:45-17:00	Access	293.00	293.00	N/A	N/A
16:45-17:00	Pendle Road West	453.00	453.00	N/A	N/A
17:00-17:15	Pendle Road East	550.00	550.00	N/A	N/A
17:00-17:15	Access	293.00	293.00	N/A	N/A
17:00-17:15	Pendle Road West	453.00	453.00	N/A	N/A
17:15-17:30	Pendle Road East	550.00	550.00	N/A	N/A
17:15-17:30	Access	293.00	293.00	N/A	N/A
17:15-17:30	Pendle Road West	453.00	453.00	N/A	N/A
17:30-17:45	Pendle Road East	550.00	550.00	N/A	N/A
17:30-17:45	Access	293.00	293.00	N/A	N/A
17:30-17:45	Pendle Road West	453.00	453.00	N/A	N/A

Results

Results Summary

Arm	Max RFC	Max Delay (min)	Max Queue (PCU)	Max LOS	Total Demand (PCU/hr)	Total Arrivals (PCU)	Total Queueing Delay (PCU-	Average Queueing Delay (min)	Rate Of Queueing Delay (PCU-min/min)	Inclusive Queueing Total Delay (PCU-min)	Inclusive Queueing Average Delay	Slope	Intercept (PCU/hr)

						min)				(min)		
Pendle Road East	0.60	0.17	1.52	B	550.00	825.00	134.30	0.16	1.49	134.38	0.16	0.616	1006.697
Access	0.50	0.21	1.01	B	293.00	439.50	88.83	0.20	0.99	88.88	0.20	0.557	757.085
Pendle Road West	0.64	0.23	1.76	B	453.00	679.50	153.88	0.23	1.71	154.01	0.23	0.577	805.722

ARCADY 7

Version: 7.0.0.99 [10 July 2009]

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File: J:\2012\A077038 Standen Estates\Arcady\Proposed Pendle Rd Site Access.arc7
Report generation date: 26/09/2012 14:10:05

File summary

File Description

Title	Propose Pendle Road Site Access
Location	Pendle Road, Clitheroe
Date	06/07/2012
Status	(new file)
Jobnumber	A077038
Enumerator	MANCHESTER\steven.ho
Results Upto Date	True

Analysis Options

RFC Threshold	Vehicle Length (m)	Do Queue Variations

0.85	5.75	

Sorting and Display

Show Arm Names	Arm Grouping	Sorting Direction	Sorting Type	Data Matrix Style	Time Style
Yes	Order	Ascending	Numerical	By Destination	Absolute Time

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	min	-Min	perMin

A1 - Propose Site Access - D3 - 2030 Assessment, AM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Description	Include In Report	Use Specific Demand Set	Demand Set	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
Propose Site Access		Yes		(D1)		100.000	100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Locked	Run Automatically	Use Relationship	Relationship	Start Time (HH:mm)	Finish Time (HH:mm)	Time Period Length (min)	Time Segment Length (min)	Traffic Profile Type
2030 Assessment, AM	2030 Assessment	AM			Yes			07:45	09:15	90	15	DIRECT

Roundabout Network

Roundabout Type(s)

ID	Name	Arm Order	Roundabout Type	Grade Separated	Large Roundabout	Do Geometric Delay
1	Propose Pendle Road Site Access	1,2,3	Mini-roundabout			

Roundabout Network Options

Driving Side	Lighting	Road Surface	In London
Left	Normal/unknown	Normal/unknown	

Arms

Arms

ID	Name	Description
1	Pendle Road East	
2	Access	
3	Pendle Road West	

Capacity Options

Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)	Assume Flat Start Profile	Initial Queue (PCU)
Pendle Road East	0.00	99999.00		0.00
Access	0.00	99999.00		0.00
Pendle Road West	0.00	99999.00		0.00

Mini Roundabout Geometry

Arm	Approach road half-width (m)	Minimum approach road half-width (m)	Entry width (m)	Effective flare length (m)	Distance to next arm (m)	Entry corner kerb line distance (m)	Gradient over 50m (%)	Kerbed central island
Pendle Road East	3.50	3.50	6.00	18.00	19.00	4.50	0.00	
Access	3.00	3.00	5.00	7.00	18.20	5.50	0.00	
Pendle Road West	3.00	3.00	5.00	7.50	20.00	13.20	0.00	

Pedestrian Crossings

Arm	Crossing Type

Pendle Road East	None
Access	None
Pendle Road West	None

Arm Slope/ Intercept and Capacity

Slope and Intercept used in model

Arm	Enter Directly	Slope	Intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
Pendle Road East		((calculated))	((calculated))	0.616	1006.697
Access		((calculated))	((calculated))	0.557	757.085
Pendle Road West		((calculated))	((calculated))	0.577	805.722

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

Traffic Flows

Demand Set Data Options

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

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)	PHF
Pendle Road East	DIRECT	Yes		100.000	N/A
Access	DIRECT	Yes		100.000	N/A
Pendle Road West	DIRECT	Yes		100.000	N/A

Direct/Resultant Flows

Direct Flows Data

Time Segment	Arm	Direct Demand Entry Flow (PCU/hr)	DirectDemandEntryFlowInPCU (PCU/hr)	Direct Demand Exit Flow (PCU/hr)	Direct Demand Pedestrian Flow (Ped/hr)
07:45-08:00	Pendle Road East	616.00	616.00	N/A	N/A
07:45-08:00	Access	481.00	481.00	N/A	N/A
07:45-08:00	Pendle Road West	534.00	534.00	N/A	N/A
08:00-08:15	Pendle Road East	616.00	616.00	N/A	N/A
08:00-08:15	Access	481.00	481.00	N/A	N/A
08:00-08:15	Pendle Road West	534.00	534.00	N/A	N/A
08:15-08:30	Pendle Road East	616.00	616.00	N/A	N/A
08:15-08:30	Access	481.00	481.00	N/A	N/A
08:15-08:30	Pendle Road West	534.00	534.00	N/A	N/A
08:30-08:45	Pendle Road East	616.00	616.00	N/A	N/A
08:30-08:45	Access	481.00	481.00	N/A	N/A
08:30-08:45	Pendle Road West	534.00	534.00	N/A	N/A
08:45-09:00	Pendle Road East	616.00	616.00	N/A	N/A
08:45-09:00	Access	481.00	481.00	N/A	N/A
08:45-09:00	Pendle Road West	534.00	534.00	N/A	N/A
09:00-09:15	Pendle Road East	616.00	616.00	N/A	N/A
09:00-09:15	Access	481.00	481.00	N/A	N/A
09:00-09:15	Pendle Road West	534.00	534.00	N/A	N/A

Results

Results Summary

Arm	Max RFC	Max Delay (min)	Max Queue (PCU)	Max LOS	Total Demand (PCU/hr)	Total Arrivals (PCU)	Total Queueing Delay (PCU-	Average Queueing Delay (min)	Rate Of Queueing Delay (PCU-min/min)	Inclusive Queueing Total Delay (PCU-min)	Inclusive Queueing Average Delay	Slope	Intercept (PCU/hr)

							min)				(min)		
Pendle Road East	0.67	0.20	2.01	B	616.00	924.00	175.99	0.19	1.96	176.12	0.19	0.616	1006.697
Access	0.94	1.60	12.17	F	481.00	721.50	864.04	1.20	9.60	872.73	1.21	0.557	757.085
Pendle Road West	0.83	0.54	4.71	D	534.00	801.00	385.20	0.48	4.28	386.23	0.48	0.577	805.722

ARCADY 7

Version: 7.0.0.99 [10 July 2009]

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File: J:\2012\A077038 Standen Estates\Arcady\Proposed Pendle Rd Site Access.arc7
Report generation date: 26/09/2012 14:10:25

File summary

File Description

Title	Propose Pendle Road Site Access
Location	Pendle Road, Clitheroe
Date	06/07/2012
Status	(new file)
Jobnumber	A077038
Enumerator	MANCHESTER\steven.ho
Results Upto Date	True

Analysis Options

RFC Threshold	Vehicle Length (m)	Do Queue Variations

0.85	5.75	

Sorting and Display

Show Arm Names	Arm Grouping	Sorting Direction	Sorting Type	Data Matrix Style	Time Style
Yes	Order	Ascending	Numerical	By Destination	Absolute Time

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	min	-Min	perMin

A1 - Propose Site Access - D4 - 2030 Assessment, PM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Description	Include In Report	Use Specific Demand Set	Demand Set	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
Propose Site Access		Yes		(D1)		100.000	100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Locked	Run Automatically	Use Relationship	Relationship	Start Time (HH:mm)	Finish Time (HH:mm)	Time Period Length (min)	Time Segment Length (min)	Traffic Profile Type
2030 Assessment, PM	2030 Assessment	PM			Yes			16:15	17:45	90	15	DIRECT

Roundabout Network

Roundabout Type(s)

ID	Name	Arm Order	Roundabout Type	Grade Separated	Large Roundabout	Do Geometric Delay
1	Propose Pendle Road Site Access	1,2,3	Mini-roundabout			

Roundabout Network Options

Driving Side	Lighting	Road Surface	In London
Left	Normal/unknown	Normal/unknown	

Arms

Arms

ID	Name	Description
1	Pendle Road East	
2	Access	
3	Pendle Road West	

Capacity Options

Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)	Assume Flat Start Profile	Initial Queue (PCU)
Pendle Road East	0.00	99999.00		0.00
Access	0.00	99999.00		0.00
Pendle Road West	0.00	99999.00		0.00

Mini Roundabout Geometry

Arm	Approach road half-width (m)	Minimum approach road half-width (m)	Entry width (m)	Effective flare length (m)	Distance to next arm (m)	Entry corner kerb line distance (m)	Gradient over 50m (%)	Kerbed central island
Pendle Road East	3.50	3.50	6.00	18.00	19.00	4.50	0.00	
Access	3.00	3.00	5.00	7.00	18.20	5.50	0.00	
Pendle Road West	3.00	3.00	5.00	7.50	20.00	13.20	0.00	

Pedestrian Crossings

Arm	Crossing Type

Pendle Road East	None
Access	None
Pendle Road West	None

Arm Slope/ Intercept and Capacity

Slope and Intercept used in model

Arm	Enter Directly	Slope	Intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
Pendle Road East		((calculated))	((calculated))	0.616	1006.697
Access		((calculated))	((calculated))	0.557	757.085
Pendle Road West		((calculated))	((calculated))	0.577	805.722

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

Traffic Flows

Demand Set Data Options

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

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)	PHF
Pendle Road East	DIRECT	Yes		100.000	N/A
Access	DIRECT	Yes		100.000	N/A
Pendle Road West	DIRECT	Yes		100.000	N/A

Direct/Resultant Flows

Direct Flows Data

Time Segment	Arm	Direct Demand Entry Flow (PCU/hr)	DirectDemandEntryFlowInPCU (PCU/hr)	Direct Demand Exit Flow (PCU/hr)	Direct Demand Pedestrian Flow (Ped/hr)
16:15-16:30	Pendle Road East	625.00	625.00	N/A	N/A
16:15-16:30	Access	293.00	293.00	N/A	N/A
16:15-16:30	Pendle Road West	523.00	523.00	N/A	N/A
16:30-16:45	Pendle Road East	625.00	625.00	N/A	N/A
16:30-16:45	Access	293.00	293.00	N/A	N/A
16:30-16:45	Pendle Road West	523.00	523.00	N/A	N/A
16:45-17:00	Pendle Road East	625.00	625.00	N/A	N/A
16:45-17:00	Access	293.00	293.00	N/A	N/A
16:45-17:00	Pendle Road West	523.00	523.00	N/A	N/A
17:00-17:15	Pendle Road East	625.00	625.00	N/A	N/A
17:00-17:15	Access	293.00	293.00	N/A	N/A
17:00-17:15	Pendle Road West	523.00	523.00	N/A	N/A
17:15-17:30	Pendle Road East	625.00	625.00	N/A	N/A
17:15-17:30	Access	293.00	293.00	N/A	N/A
17:15-17:30	Pendle Road West	523.00	523.00	N/A	N/A
17:30-17:45	Pendle Road East	625.00	625.00	N/A	N/A
17:30-17:45	Access	293.00	293.00	N/A	N/A
17:30-17:45	Pendle Road West	523.00	523.00	N/A	N/A

Results

Results Summary

Arm	Max RFC	Max Delay (min)	Max Queue (PCU)	Max LOS	Total Demand (PCU/hr)	Total Arrivals (PCU)	Total Queueing Delay (PCU-	Average Queueing Delay (min)	Rate Of Queueing Delay (PCU-min/min)	Inclusive Queueing Total Delay (PCU-min)	Inclusive Queueing Average Delay	Slope	Intercept (PCU/hr)

						min)				(min)		
Pendle Road East	0.69	0.21	2.18	B	625.00	937.50	190.67	0.20	2.12	190.83	0.20	0.616	1006.697
Access	0.54	0.24	1.18	B	293.00	439.50	103.16	0.23	1.15	103.23	0.23	0.557	757.085
Pendle Road West	0.74	0.32	2.78	C	523.00	784.50	239.24	0.30	2.66	239.57	0.31	0.577	805.722

Appendix L
Waterloo Road / Wellgate (priority controlled junction)

```
                                TRL LIMITED

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   CAPACITIES, QUEUES, AND DELAYS AT 3 OR 4-ARM MAJOR/MINOR PRIORITY JUNCTIONS

                         PICADY 5.1  ANALYSIS PROGRAM
                            RELEASE 4.0 (SEPT 2008)

                ADAPTED FROM PICADY/3 WHICH IS CROWN COPYRIGHT
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                   FOR SALES AND DISTRIBUTION INFORMATION,
                   PROGRAM ADVICE AND MAINTENANCE CONTACT:
                             TRL SOFTWARE BUREAU
                 TEL: CROWTHORNE (01344) 770758, FAX: 770356
                       EMAIL: Software@trl.co.uk
            --------------------------------------------------------



 THE USER OF THIS COMPUTER PROGRAM FOR THE SOLUTION OF AN ENGINEERING PROBLEM IS
 IN NO WAY RELIEVED OF HIS/HER RESPONSIBILITY  FOR THE CORRECTNESS  OF THE SOLUTION

 Run with file:-
 "J:\2012\A077038 Standen Estates\Picady\Waterloo_Wellgate T-JN\
  Existing Waterloo Rd_Wellgate - T-Jn (AM Peak).vpi"
(drive-on-the-left) at 15:09:06 on Tuesday, 25 September 2012



 RUN INFORMATION
 ***************

 RUN TITLE       : Wellgate/Waterloo Road T-Junction
 LOCATION        : Wellgate/Waterloo Road, Clitheroe
 DATE            : 09/07/12
 CLIENT          :
 ENUMERATOR      : steven.ho [27-WRK-SBA-021]
 JOB NUMBER      : A077038
 STATUS          :
 DESCRIPTION     :


 MAJOR/MINOR JUNCTION CAPACITY AND DELAY
  ***************************************

  INPUT DATA
  ----------

                     MAJOR ROAD (ARM C) --------------------- MAJOR ROAD (ARM A)
                                                I
                                                I
                                                I
                                                I
                                                I
                                                I
                                          MINOR ROAD (ARM B)

 ARM A IS Waterloo Road NB
 ARM B IS Wellgate
 ARM C IS Waterloo Road SB


 STREAM LABELLING CONVENTION
 ---------------------------
         STREAM  A-B  CONTAINS TRAFFIC GOING FROM ARM  A TO ARM B
         STREAM  B-AC CONTAINS TRAFFIC GOING FROM ARM  B TO ARM A AND TO ARM  C
         ETC.
```

GEOMETRIC DATA

DATA ITEM	MINOR ROAD B
TOTAL MAJOR ROAD CARRIAGEWAY WIDTH	(W) 7.20 M.
CENTRAL RESERVE WIDTH	(WCR) 0.00 M.
MAJOR ROAD RIGHT TURN - WIDTH	(WC-B) 2.20 M.
- VISIBILITY	(VC-B) 40.00 M.
- BLOCKS TRAFFIC	YES
MINOR ROAD - VISIBILITY TO LEFT	(VB-C) 40.0 M.
- VISIBILITY TO RIGHT	(VB-A) 40.0 M.
- LANE 1 WIDTH	(WB-C) -
- LANE 2 WIDTH	(WB-A) -
WIDTH AT 0 M FROM JUNCTION	10.00 M.
WIDTH AT 5 M FROM JUNCTION	5.50 M.
WIDTH AT 10 M FROM JUNCTION	3.75 M.
WIDTH AT 15 M FROM JUNCTION	3.25 M.
WIDTH AT 20 M FROM JUNCTION	3.25 M.
- LENGTH OF FLARED SECTION	DERIVED: 1 PCU

.SLOPES AND INTERCEPT

(NB:Streams may be combined, in which case capacity will be adjusted)

Intercept For STREAM B-C	Slope For Opposing STREAM A-C	Slope For Opposing STREAM A-B
0.00	0.00	0.00

* Due to the presence of a flare, data is not available

Intercept For STREAM B-A	Slope For Opposing STREAM A-C	Slope For Opposing STREAM A-B	Slope For Opposing STREAM C-A	Slope For Opposing STREAM C-B
0.00	0.00	0.00	0.00	0.00

* Due to the presence of a flare, data is not available

Intercept For STREAM C-B	Slope For Opposing STREAM A-C	Slope For Opposing STREAM A-B
597.13	0.22	0.22

(NB These values do not allow for any site specific corrections)

TRAFFIC DEMAND DATA

ARM	FLOW SCALE(%)
A	100
B	100
C	100

Demand set: 2012 Observed Base Flows

TIME PERIOD BEGINS 07.45 AND ENDS 09.15

LENGTH OF TIME PERIOD - 90 MIN.
LENGTH OF TIME SEGMENT - 15 MIN.

DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

ARM	NUMBER OF MINUTES FROM START WHEN FLOW STARTS TO RISE	TOP OF PEAK IS REACHED	FLOW STOPS FALLING	RATE OF FLOW (VEH/MIN) BEFORE PEAK	AT TOP OF PEAK	AFTER PEAK
ARM A	15.00	45.00	75.00	7.18	10.76	7.18
ARM B	15.00	45.00	75.00	1.35	2.03	1.35
ARM C	15.00	45.00	75.00	6.90	10.35	6.90

Demand set: 2012 Observed Base Flows

TURNING PROPORTIONS / TURNING COUNTS / (PERCENTAGE OF H.V.S)

TIME	FROM/TO	ARM A	ARM B	ARM C
07.45 - 08.00				
	ARM A	0.000	0.195	0.805
		0.0	112.0	462.0
		(0.0)	(0.0)	(0.0)
	ARM B	0.667	0.000	0.333
		72.0	0.0	36.0
		(0.0)	(0.0)	(0.0)
	ARM C	0.953	0.047	0.000
		526.0	26.0	0.0
		(0.0)	(0.0)	(0.0)

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

FOR DEMAND SET 2012 Observed Base Flows
AND FOR TIME PERIOD 1

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
07.45-08.00									
B-C	0.45	9.36	0.048		0.00	0.05	0.7		0.11
B-A	0.90	6.87	0.132		0.00	0.15	2.1		0.17
C-AB	0.33	8.37	0.039		0.00	0.04	0.6		0.12
A-B	1.41								
A-C	5.80								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
08.00-08.15									
B-C	0.54	8.94	0.060		0.05	0.06	0.9		0.12
B-A	1.08	6.33	0.170		0.15	0.20	2.9		0.19
C-AB	0.39	8.07	0.048		0.04	0.05	0.8		0.13
A-B	1.68								
A-C	6.92								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
08.15-08.30									
B-C	0.66	8.33	0.079		0.06	0.09	1.3		0.13
B-A	1.32	5.58	0.237		0.20	0.30	4.4		0.23
C-AB	0.48	7.64	0.062		0.05	0.07	1.1		0.14
A-B	2.06								
A-C	8.48								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
08.30-08.45									
B-C	0.66	8.33	0.079		0.09	0.09	1.3		0.13
B-A	1.32	5.58	0.237		0.30	0.31	4.6		0.23
C-AB	0.48	7.64	0.062		0.07	0.07	1.1		0.14
A-B	2.06								
A-C	8.48								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
08.45-09.00									
B-C	0.54	8.94	0.060		0.09	0.06	1.0		0.12
B-A	1.08	6.33	0.170		0.31	0.21	3.2		0.19
C-AB	0.39	8.07	0.048		0.07	0.05	0.8		0.13
A-B	1.68								
A-C	6.92								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
09.00-09.15									
B-C	0.45	9.35	0.048		0.06	0.05	0.8		0.11
B-A	0.90	6.87	0.132		0.21	0.15	2.4		0.17
C-AB	0.33	8.37	0.039		0.05	0.04	0.6		0.12
A-B	1.41								
A-C	5.80								

WARNING NO MARGINAL ANALYSIS OF CAPACITIES AS MAJOR ROAD BLOCKING MAY OCCUR

QUEUE FOR STREAM B-C

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
08.00	0.1
08.15	0.1
08.30	0.1
08.45	0.1
09.00	0.1
09.15	0.1

QUEUE FOR STREAM B-A

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
08.00	0.1
08.15	0.2
08.30	0.3
08.45	0.3
09.00	0.2
09.15	0.2

QUEUE FOR STREAM C-AB

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
08.00	0.0
08.15	0.1
08.30	0.1
08.45	0.1
09.00	0.1
09.15	0.0

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

STREAM	TOTAL DEMAND (VEH)	TOTAL DEMAND (VEH/H)	* QUEUEING * * DELAY * (MIN)	* QUEUEING * * DELAY * (MIN/VEH)	* INCLUSIVE QUEUEING * * DELAY * (MIN)	* INCLUSIVE QUEUEING * * DELAY * (MIN/VEH)
B-C	49.6	33.0	6.0	0.12	6.0	0.12
B-A	99.1	66.1	19.7	0.20	19.7	0.20
C-AB	35.8	23.9	5.0	0.14	5.0	0.14
A-B	154.2	102.8				
A-C	635.9	423.9				
ALL	1698.5	1132.3	30.6	0.02	30.6	0.02

* DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD
* INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD
* THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.

*******END OF RUN*******

.SLOPES AND INTERCEPT

(NB:Streams may be combined, in which case capacity will be adjusted)

Intercept For STREAM B-C	Slope For Opposing STREAM A-C	Slope For Opposing STREAM A-B
0.00	0.00	0.00

* Due to the presence of a flare, data is not available

Intercept For STREAM B-A	Slope For Opposing STREAM A-C	Slope For Opposing STREAM A-B	Slope For Opposing STREAM C-A	Slope For Opposing STREAM C-B
0.00	0.00	0.00	0.00	0.00

* Due to the presence of a flare, data is not available

Intercept For STREAM C-B	Slope For Opposing STREAM A-C	Slope For Opposing STREAM A-B
597.13	0.22	0.22

(NB These values do not allow for any site specific corrections)

TRAFFIC DEMAND DATA

ARM	FLOW SCALE(%)
A	100
B	100
C	100

Demand set: 2015 Base flows

TIME PERIOD BEGINS 07.45 AND ENDS 09.15

LENGTH OF TIME PERIOD - 90 MIN.
LENGTH OF TIME SEGMENT - 15 MIN.

DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

ARM	NUMBER OF MINUTES FROM START WHEN FLOW STARTS TO RISE	TOP OF PEAK IS REACHED	FLOW STOPS FALLING	RATE OF FLOW (VEH/MIN) BEFORE PEAK	AT TOP OF PEAK	AFTER PEAK
ARM A	15.00	45.00	75.00	7.74	11.61	7.74
ARM B	15.00	45.00	75.00	1.51	2.27	1.51
ARM C	15.00	45.00	75.00	7.15	10.73	7.15

Demand set: 2015 Base flows

TURNING PROPORTIONS / TURNING COUNTS / (PERCENTAGE OF H.V.S)

TIME	FROM/TO	ARM A	ARM B	ARM C
07.45 - 08.00				
	ARM A	0.000	0.186	0.814
		0.0	115.0	504.0
		(0.0)	(0.0)	(0.0)
	ARM B	0.612	0.000	0.388
		74.0	0.0	47.0
		(0.0)	(0.0)	(0.0)
	ARM C	0.953	0.047	0.000
		545.0	27.0	0.0
		(0.0)	(0.0)	(0.0)

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

FOR DEMAND SET 2015 Base flows
AND FOR TIME PERIOD 1

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
07.45-08.00									
B-C	0.59	9.33	0.063		0.00	0.07	1.0		0.11
B-A	0.93	6.60	0.141		0.00	0.16	2.3		0.18
C-AB	0.34	8.25	0.041		0.00	0.04	0.7		0.13
A-B	1.44								
A-C	6.32								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
08.00-08.15									
B-C	0.70	8.88	0.079		0.07	0.09	1.3		0.12
B-A	1.11	6.03	0.184		0.16	0.22	3.2		0.20
C-AB	0.40	7.92	0.051		0.04	0.06	0.8		0.13
A-B	1.72								
A-C	7.55								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
08.15-08.30									
B-C	0.86	8.19	0.105		0.09	0.12	1.7		0.14
B-A	1.36	5.24	0.259		0.22	0.34	4.9		0.26
C-AB	0.50	7.46	0.066		0.06	0.08	1.1		0.14
A-B	2.11								
A-C	9.25								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
08.30-08.45									
B-C	0.86	8.18	0.105		0.12	0.12	1.8		0.14
B-A	1.36	5.24	0.259		0.34	0.35	5.2		0.26
C-AB	0.50	7.46	0.066		0.08	0.08	1.2		0.14
A-B	2.11								
A-C	9.25								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
08.45-09.00									
B-C	0.70	8.87	0.079		0.12	0.09	1.3		0.12
B-A	1.11	6.03	0.184		0.35	0.23	3.6		0.20
C-AB	0.40	7.92	0.051		0.08	0.06	0.9		0.13
A-B	1.72								
A-C	7.55								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
09.00-09.15									
B-C	0.59	9.33	0.063		0.09	0.07	1.0		0.11
B-A	0.93	6.60	0.141		0.23	0.17	2.6		0.18
C-AB	0.34	8.25	0.041		0.06	0.04	0.7		0.13
A-B	1.44								
A-C	6.32								

WARNING NO MARGINAL ANALYSIS OF CAPACITIES AS MAJOR ROAD BLOCKING MAY OCCUR

QUEUE FOR STREAM B-C

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
08.00	0.1
08.15	0.1
08.30	0.1
08.45	0.1
09.00	0.1
09.15	0.1

QUEUE FOR STREAM B-A

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
08.00	0.2
08.15	0.2
08.30	0.3
08.45	0.3
09.00	0.2
09.15	0.2

QUEUE FOR STREAM C-AB

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
08.00	0.0
08.15	0.1
08.30	0.1
08.45	0.1
09.00	0.1
09.15	0.0

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

STREAM	TOTAL DEMAND (VEH)	TOTAL DEMAND (VEH/H)	* QUEUEING * * DELAY * (MIN)	* QUEUEING * * DELAY * (MIN/VEH)	* INCLUSIVE QUEUEING * * DELAY * (MIN)	* INCLUSIVE QUEUEING * * DELAY * (MIN/VEH)
B-C	64.7	43.1	8.1	0.12	8.1	0.12
B-A	101.9	67.9	21.7	0.21	21.7	0.21
C-AB	37.2	24.8	5.3	0.14	5.3	0.14
A-B	158.3	105.5				
A-C	693.7	462.5				
ALL	1805.9	1203.9	35.1	0.02	35.1	0.02

* DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD
* INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD
* THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.

*******END OF RUN*******

.SLOPES AND INTERCEPT

(NB:Streams may be combined, in which case capacity will be adjusted)

Intercept For STREAM B-C	Slope For Opposing STREAM A-C	Slope For Opposing STREAM A-B
0.00	0.00	0.00

* Due to the presence of a flare, data is not available

Intercept For STREAM B-A	Slope For Opposing STREAM A-C	Slope For Opposing STREAM A-B	Slope For Opposing STREAM C-A	Slope For Opposing STREAM C-B
0.00	0.00	0.00	0.00	0.00

* Due to the presence of a flare, data is not available

Intercept For STREAM C-B	Slope For Opposing STREAM A-C	Slope For Opposing STREAM A-B
597.13	0.22	0.22

(NB These values do not allow for any site specific corrections)

TRAFFIC DEMAND DATA

ARM	FLOW SCALE(%)
A	100
B	100
C	100

Demand set: 2030 Base Flows

TIME PERIOD BEGINS 07.45 AND ENDS 09.15

LENGTH OF TIME PERIOD - 90 MIN.
LENGTH OF TIME SEGMENT - 15 MIN.

DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

ARM	NUMBER OF MINUTES FROM START WHEN: FLOW STARTS TO RISE	TOP OF PEAK IS REACHED	FLOW STOPS FALLING	RATE OF FLOW (VEH/MIN): BEFORE PEAK	AT TOP OF PEAK	AFTER PEAK
ARM A	15.00	45.00	75.00	9.41	14.12	9.41
ARM B	15.00	45.00	75.00	1.83	2.74	1.83
ARM C	15.00	45.00	75.00	8.76	13.14	8.76

Demand set: 2030 Base Flows

TURNING PROPORTIONS / TURNING COUNTS / (PERCENTAGE OF H.V.S)

TIME	FROM/TO	ARM A	ARM B	ARM C
07.45 - 08.00				
	ARM A	0.000	0.187	0.813
		0.0	141.0	612.0
		(0.0)	(0.0)	(0.0)
	ARM B	0.623	0.000	0.377
		91.0	0.0	55.0
		(0.0)	(0.0)	(0.0)
	ARM C	0.953	0.047	0.000
		668.0	33.0	0.0
		(0.0)	(0.0)	(0.0)

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

FOR DEMAND SET 2030 Base Flows
AND FOR TIME PERIOD 1

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
07.45-08.00									
B-C	0.69	8.80	0.078		0.00	0.08	1.2		0.12
B-A	1.14	5.97	0.191		0.00	0.23	3.3		0.21
C-AB	0.41	7.88	0.053		0.00	0.06	0.9		0.13
A-B	1.77								
A-C	7.68								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
08.00-08.15									
B-C	0.82	8.18	0.101		0.08	0.11	1.6		0.14
B-A	1.36	5.28	0.258		0.23	0.34	4.9		0.25
C-AB	0.49	7.48	0.066		0.06	0.08	1.1		0.14
A-B	2.11								
A-C	9.17								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
08.15-08.30									
B-C	1.01	7.13	0.142		0.11	0.16	2.4		0.16
B-A	1.67	4.31	0.388		0.34	0.61	8.5		0.37
C-AB	0.61	6.92	0.087		0.08	0.11	1.6		0.16
A-B	2.59								
A-C	11.23								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
08.30-08.45									
B-C	1.01	7.11	0.142		0.16	0.16	2.5		0.16
B-A	1.67	4.31	0.388		0.61	0.62	9.2		0.38
C-AB	0.61	6.92	0.087		0.11	0.11	1.7		0.16
A-B	2.59								
A-C	11.23								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
08.45-09.00									
B-C	0.82	8.17	0.101		0.16	0.11	1.7		0.14
B-A	1.36	5.28	0.258		0.62	0.36	5.6		0.26
C-AB	0.49	7.48	0.066		0.11	0.08	1.2		0.14
A-B	2.11								
A-C	9.17								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
09.00-09.15									
B-C	0.69	8.79	0.079		0.11	0.09	1.3		0.12
B-A	1.14	5.97	0.191		0.36	0.24	3.8		0.21
C-AB	0.41	7.88	0.053		0.08	0.06	0.9		0.13
A-B	1.77								
A-C	7.68								

WARNING NO MARGINAL ANALYSIS OF CAPACITIES AS MAJOR ROAD BLOCKING MAY OCCUR

QUEUE FOR STREAM B-C

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
08.00	0.1
08.15	0.1
08.30	0.2
08.45	0.2
09.00	0.1
09.15	0.1

QUEUE FOR STREAM B-A

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
08.00	0.2	
08.15	0.3	
08.30	0.6	*
08.45	0.6	*
09.00	0.4	
09.15	0.2	

QUEUE FOR STREAM C-AB

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
08.00	0.1
08.15	0.1
08.30	0.1
08.45	0.1
09.00	0.1
09.15	0.1

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

STREAM	TOTAL DEMAND		* QUEUEING * * DELAY *		* INCLUSIVE QUEUEING * * DELAY *	
	(VEH)	(VEH/H)	(MIN)	(MIN/VEH)	(MIN)	(MIN/VEH)
B-C	75.7	50.5	10.7	0.14	10.7	0.14
B-A	125.3	83.5	35.4	0.28	35.4	0.28
C-AB	45.4	30.3	7.4	0.16	7.4	0.16
A-B	194.1	129.4				
A-C	842.4	561.6				
ALL	2202.3	1468.2	53.5	0.02	53.5	0.02

* DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD
* INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD
* THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.

*******END OF RUN*******

=== end of file ===

Printed at 15:10:08 on 25/09/2012]

CAPACITIES, QUEUES, AND DELAYS AT 3 OR 4-ARM MAJOR/MINOR PRIORITY JUNCTIONS

PICADY 5.1 ANALYSIS PROGRAM
RELEASE 4.0 (SEPT 2008)

FOR SALES AND DISTRIBUTION INFORMATION,
PROGRAM ADVICE AND MAINTENANCE CONTACT:
TRL SOFTWARE BUREAU
TEL: CROWTHORNE (01344) 770758, FAX: 770356
EMAIL: Software@trl.co.uk

Run with file:-
"J:\2012\A077038 Standen Estates\Picady\Waterloo_Wellgate T-JN\
Existing Waterloo Rd_Wellgate - T-Jn (PM Peak).vpi"
(drive-on-the-left) at 15:12:42 on Tuesday, 25 September 2012

RUN INFORMATION
****

RUN TITLE	: Wellgate/Waterloo Road T-Junction
LOCATION	: Wellgate/Waterloo Road, Clitheroe
DATE	: 09/07/12
CLIENT	:
ENUMERATOR	: steven.ho [27-WRK-SBA-021]
JOB NUMBER	: A077038
STATUS	:
DESCRIPTION	:

MAJOR/MINOR JUNCTION CAPACITY AND DELAY
****

INPUT DATA

```
MAJOR ROAD (ARM C) --------------------- MAJOR ROAD (ARM A)
                             I
                             I
                             I
                             I
                             I
                             I
                     MINOR ROAD (ARM B)
```

ARM A IS Waterloo Road NB
ARM B IS Wellgate
ARM C IS Waterloo Road SB

STREAM LABELLING CONVENTION

STREAM A-B CONTAINS TRAFFIC GOING FROM ARM A TO ARM B
STREAM B-AC CONTAINS TRAFFIC GOING FROM ARM B TO ARM A AND TO ARM C
ETC.

GEOMETRIC DATA

DATA ITEM	MINOR ROAD B
TOTAL MAJOR ROAD CARRIAGEWAY WIDTH	(W) 7.20 M.
CENTRAL RESERVE WIDTH	(WCR) 0.00 M.
MAJOR ROAD RIGHT TURN - WIDTH	(WC-B) 2.20 M.
- VISIBILITY	(VC-B) 40.00 M.
- BLOCKS TRAFFIC	YES
MINOR ROAD - VISIBILITY TO LEFT	(VB-C) 40.0 M.
- VISIBILITY TO RIGHT	(VB-A) 40.0 M.
- LANE 1 WIDTH	(WB-C) -
- LANE 2 WIDTH	(WB-A) -
WIDTH AT 0 M FROM JUNCTION	10.00 M.
WIDTH AT 5 M FROM JUNCTION	5.50 M.
WIDTH AT 10 M FROM JUNCTION	3.75 M.
WIDTH AT 15 M FROM JUNCTION	3.25 M.
WIDTH AT 20 M FROM JUNCTION	3.25 M.
- LENGTH OF FLARED SECTION	DERIVED: 1 PCU

.SLOPES AND INTERCEPT

(NB:Streams may be combined, in which case capacity will be adjusted)

Intercept For STREAM B-C	Slope For Opposing STREAM A-C	Slope For Opposing STREAM A-B
0.00	0.00	0.00

* Due to the presence of a flare, data is not available

Intercept For STREAM B-A	Slope For Opposing STREAM A-C	Slope For Opposing STREAM A-B	Slope For Opposing STREAM C-A	Slope For Opposing STREAM C-B
0.00	0.00	0.00	0.00	0.00

* Due to the presence of a flare, data is not available

Intercept For STREAM C-B	Slope For Opposing STREAM A-C	Slope For Opposing STREAM A-B
597.13	0.22	0.22

(NB These values do not allow for any site specific corrections)

TRAFFIC DEMAND DATA

ARM	FLOW SCALE(%)
A	100
B	100
C	100

Demand set: 2012 Observed Base Flows

TIME PERIOD BEGINS 16.45 AND ENDS 18.15

LENGTH OF TIME PERIOD - 90 MIN.
LENGTH OF TIME SEGMENT - 15 MIN.

DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

ARM	NUMBER OF MINUTES FROM START WHEN: FLOW STARTS TO RISE	TOP OF PEAK IS REACHED	FLOW STOPS FALLING	RATE OF FLOW (VEH/MIN): BEFORE PEAK	AT TOP OF PEAK	AFTER PEAK
ARM A	15.00	45.00	75.00	6.85	10.27	6.85
ARM B	15.00	45.00	75.00	2.50	3.75	2.50
ARM C	15.00	45.00	75.00	8.00	12.00	8.00

Demand set: 2012 Observed Base Flows

TIME	FROM/TO	ARM A	ARM B	ARM C
16.45 - 17.00				
	ARM A	0.000	0.157	0.843
		0.0	86.0	462.0
		(0.0)	(0.0)	(0.0)
	ARM B	0.625	0.000	0.375
		125.0	0.0	75.0
		(0.0)	(0.0)	(0.0)
	ARM C	0.941	0.059	0.000
		602.0	38.0	0.0
		(0.0)	(0.0)	(0.0)

TURNING PROPORTIONS / TURNING COUNTS / (PERCENTAGE OF H.V.S)

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

FOR DEMAND SET 2012 Observed Base Flows
AND FOR TIME PERIOD 1

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
16.45-17.00									
B-C	0.94	9.15	0.103		0.00	0.11	1.6		0.12
B-A	1.57	6.62	0.237		0.00	0.31	4.3		0.20
C-AB	0.48	8.44	0.056		0.00	0.06	0.9		0.13
A-B	1.08								
A-C	5.80								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
17.00-17.15									
B-C	1.12	8.56	0.131		0.11	0.15	2.2		0.13
B-A	1.87	6.04	0.310		0.31	0.44	6.3		0.24
C-AB	0.57	8.15	0.070		0.06	0.08	1.2		0.13
A-B	1.29								
A-C	6.92								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
17.15-17.30									
B-C	1.38	7.53	0.183		0.15	0.22	3.2		0.16
B-A	2.29	5.22	0.439		0.44	0.75	10.6		0.34
C-AB	0.70	7.75	0.090		0.08	0.11	1.7		0.14
A-B	1.58								
A-C	8.48								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
17.30-17.45									
B-C	1.38	7.50	0.183		0.22	0.22	3.3		0.16
B-A	2.29	5.22	0.439		0.75	0.77	11.4		0.34
C-AB	0.70	7.75	0.090		0.11	0.11	1.7		0.14
A-B	1.58								
A-C	8.48								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
17.45-18.00									
B-C	1.12	8.54	0.132		0.22	0.15	2.4		0.14
B-A	1.87	6.03	0.310		0.77	0.46	7.3		0.24
C-AB	0.57	8.15	0.070		0.11	0.08	1.2		0.13
A-B	1.29								
A-C	6.92								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
18.00-18.15									
B-C	0.94	9.13	0.103		0.15	0.12	1.8		0.12
B-A	1.57	6.61	0.237		0.46	0.32	4.9		0.20
C-AB	0.48	8.44	0.056		0.08	0.06	1.0		0.13
A-B	1.08								
A-C	5.80								

WARNING NO MARGINAL ANALYSIS OF CAPACITIES AS MAJOR ROAD BLOCKING MAY OCCUR

QUEUE FOR STREAM B-C

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
17.00	0.1
17.15	0.1
17.30	0.2
17.45	0.2
18.00	0.2
18.15	0.1

QUEUE FOR STREAM B-A

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
17.00	0.3	
17.15	0.4	
17.30	0.8	*
17.45	0.8	*
18.00	0.5	
18.15	0.3	

QUEUE FOR STREAM C-AB

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
17.00	0.1
17.15	0.1
17.30	0.1
17.45	0.1
18.00	0.1
18.15	0.1

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

STREAM	TOTAL DEMAND (VEH)	TOTAL DEMAND (VEH/H)	* QUEUEING * * DELAY * (MIN)	* QUEUEING * * DELAY * (MIN/VEH)	* INCLUSIVE QUEUEING * * DELAY * (MIN)	* INCLUSIVE QUEUEING * * DELAY * (MIN/VEH)
B-C	103.2	68.8	14.5	0.14	14.5	0.14
B-A	172.1	114.7	44.9	0.26	44.9	0.26
C-AB	52.3	34.9	7.6	0.15	7.6	0.15
A-B	118.4	78.9				
A-C	635.9	423.9				
ALL	1910.5	1273.7	67.1	0.04	67.1	0.04

* DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD
* INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD
* THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.

*******END OF RUN*******

.SLOPES AND INTERCEPT

(NB:Streams may be combined, in which case capacity will be adjusted)

Intercept For STREAM B-C	Slope For Opposing STREAM A-C	Slope For Opposing STREAM A-B
0.00	0.00	0.00

* Due to the presence of a flare, data is not available

Intercept For STREAM B-A	Slope For Opposing STREAM A-C	Slope For Opposing STREAM A-B	Slope For Opposing STREAM C-A	Slope For Opposing STREAM C-B
0.00	0.00	0.00	0.00	0.00

* Due to the presence of a flare, data is not available

Intercept For STREAM C-B	Slope For Opposing STREAM A-C	Slope For Opposing STREAM A-B
597.13	0.22	0.22

(NB These values do not allow for any site specific corrections)

TRAFFIC DEMAND DATA

ARM	FLOW SCALE(%)
A	100
B	100
C	100

Demand set: 2015 Base Flows

TIME PERIOD BEGINS 16.45 AND ENDS 18.15

LENGTH OF TIME PERIOD - 90 MIN.
LENGTH OF TIME SEGMENT - 15 MIN.

DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

ARM	NUMBER OF MINUTES FROM START WHEN FLOW STARTS TO RISE	TOP OF PEAK IS REACHED	FLOW STOPS FALLING	RATE OF FLOW (VEH/MIN) BEFORE PEAK	AT TOP OF PEAK	AFTER PEAK
ARM A	15.00	45.00	75.00	7.14	10.71	7.14
ARM B	15.00	45.00	75.00	2.63	3.94	2.63
ARM C	15.00	45.00	75.00	8.64	12.96	8.64

Demand set: 2015 Base Flows

TURNING PROPORTIONS / TURNING COUNTS / (PERCENTAGE OF H.V.S)

TIME	FROM/TO	ARM A	ARM B	ARM C
16.45 - 17.00				
	ARM A	0.000	0.154	0.846
		0.0	88.0	483.0
		(0.0)	(0.0)	(0.0)
	ARM B	0.610	0.000	0.390
		128.0	0.0	82.0
		(0.0)	(0.0)	(0.0)
	ARM C	0.944	0.056	0.000
		652.0	39.0	0.0
		(0.0)	(0.0)	(0.0)

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

FOR DEMAND SET 2015 Base Flows
AND FOR TIME PERIOD 1

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
16.45-17.00									
B-C	1.03	9.07	0.113		0.00	0.13	1.8		0.12
B-A	1.61	6.42	0.250		0.00	0.33	4.6		0.21
C-AB	0.49	8.38	0.058		0.00	0.06	1.0		0.13
A-B	1.10								
A-C	6.06								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
17.00-17.15									
B-C	1.23	8.43	0.146		0.13	0.17	2.5		0.14
B-A	1.92	5.80	0.331		0.33	0.48	6.9		0.26
C-AB	0.58	8.08	0.072		0.06	0.08	1.3		0.13
A-B	1.32								
A-C	7.24								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
17.15-17.30									
B-C	1.50	7.25	0.207		0.17	0.26	3.7		0.17
B-A	2.35	4.93	0.476		0.48	0.87	12.1		0.38
C-AB	0.72	7.65	0.093		0.08	0.12	1.7		0.14
A-B	1.61								
A-C	8.86								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
17.30-17.45									
B-C	1.50	7.22	0.208		0.26	0.26	3.9		0.17
B-A	2.35	4.93	0.476		0.87	0.89	13.2		0.39
C-AB	0.72	7.65	0.093		0.12	0.12	1.8		0.14
A-B	1.61								
A-C	8.86								

```
 -------------------------------------------------------------------------------------------------------------------
 I  TIME       DEMAND  CAPACITY  DEMAND/    PEDESTRIAN  START   END       DELAY      GEOMETRIC DELAY   AVERAGE DELAY I
 I           (VEH/MIN) (VEH/MIN) CAPACITY     FLOW      QUEUE  QUEUE    (VEH.MIN/     (VEH.MIN/       PER ARRIVING  I
 I                                 (RFC)    (PEDS/MIN) (VEHS)  (VEHS)  TIME SEGMENT)  TIME SEGMENT)    VEHICLE (MIN) I
 I 17.45-18.00                                                                                                      I
 I   B-C        1.23      8.40    0.146                 0.26    0.17        2.7                             0.14      I
 I   B-A        1.92      5.80    0.331                 0.89    0.51        8.1                             0.26      I
 I   C-AB       0.58      8.08    0.072                 0.12    0.09        1.3                             0.13      I
 I   A-B        1.32                                                                                                I
 I   A-C        7.24                                                                                                I
 I                                                                                                                  I
 -------------------------------------------------------------------------------------------------------------------


 -------------------------------------------------------------------------------------------------------------------
 I  TIME       DEMAND  CAPACITY  DEMAND/    PEDESTRIAN  START   END       DELAY      GEOMETRIC DELAY   AVERAGE DELAY I
 I           (VEH/MIN) (VEH/MIN) CAPACITY     FLOW      QUEUE  QUEUE    (VEH.MIN/     (VEH.MIN/       PER ARRIVING  I
 I                                 (RFC)    (PEDS/MIN) (VEHS)  (VEHS)  TIME SEGMENT)  TIME SEGMENT)    VEHICLE (MIN) I
 I 18.00-18.15                                                                                                      I
 I   B-C        1.03      9.05    0.114                 0.17    0.13        2.0                             0.12      I
 I   B-A        1.61      6.41    0.250                 0.51    0.34        5.3                             0.21      I
 I   C-AB       0.49      8.38    0.058                 0.09    0.07        1.0                             0.13      I
 I   A-B        1.10                                                                                                I
 I   A-C        6.06                                                                                                I
 I                                                                                                                  I
 -------------------------------------------------------------------------------------------------------------------
*WARNING* NO MARGINAL ANALYSIS OF CAPACITIES AS MAJOR ROAD BLOCKING MAY OCCUR

 QUEUE FOR STREAM    B-C
 -------------------------
  TIME          NO. OF
  SEGMENT       VEHICLES
  ENDING        IN QUEUE
   17.00           0.1
   17.15           0.2
   17.30           0.3
   17.45           0.3
   18.00           0.2
   18.15           0.1

 QUEUE FOR STREAM    B-A
 -------------------------
  TIME          NO. OF
  SEGMENT       VEHICLES
  ENDING        IN QUEUE
   17.00           0.3
   17.15           0.5
   17.30           0.9    *
   17.45           0.9    *
   18.00           0.5    *
   18.15           0.3

 QUEUE FOR STREAM    C-AB
 -------------------------
  TIME          NO. OF
  SEGMENT       VEHICLES
  ENDING        IN QUEUE
   17.00           0.1
   17.15           0.1
   17.30           0.1
   17.45           0.1
   18.00           0.1
   18.15           0.1
```

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

STREAM	TOTAL DEMAND (VEH)	TOTAL DEMAND (VEH/H)	* QUEUEING * * DELAY * (MIN)	* QUEUEING * * DELAY * (MIN/VEH)	* INCLUSIVE QUEUEING * * DELAY * (MIN)	* INCLUSIVE QUEUEING * * DELAY * (MIN/VEH)
B-C	112.9	75.2	16.6	0.15	16.6	0.15
B-A	176.2	117.5	50.2	0.28	50.2	0.29
C-AB	53.7	35.8	8.0	0.15	8.0	0.15
A-B	121.1	80.8				
A-C	664.8	443.2				
ALL	2026.1	1350.7	74.8	0.04	74.9	0.04

* DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD
* INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD
* THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.

*******END OF RUN*******

.SLOPES AND INTERCEPT

(NB:Streams may be combined, in which case capacity will be adjusted)

Intercept For STREAM B-C	Slope For Opposing STREAM A-C	Slope For Opposing STREAM A-B
0.00	0.00	0.00

* Due to the presence of a flare, data is not available

Intercept For STREAM B-A	Slope For Opposing STREAM A-C	Slope For Opposing STREAM A-B	Slope For Opposing STREAM C-A	Slope For Opposing STREAM C-B
0.00	0.00	0.00	0.00	0.00

* Due to the presence of a flare, data is not available

Intercept For STREAM C-B	Slope For Opposing STREAM A-C	Slope For Opposing STREAM A-B
597.13	0.22	0.22

(NB These values do not allow for any site specific corrections)

TRAFFIC DEMAND DATA

ARM	FLOW SCALE(%)
A	100
B	100
C	100

Demand set: 2030 Base Flows

TIME PERIOD BEGINS 16.45 AND ENDS 18.15

LENGTH OF TIME PERIOD - 90 MIN.
LENGTH OF TIME SEGMENT - 15 MIN.

DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

ARM	NUMBER OF MINUTES FROM START WHEN: FLOW STARTS TO RISE	TOP OF PEAK IS REACHED	FLOW STOPS FALLING	RATE OF FLOW (VEH/MIN): BEFORE PEAK	AT TOP OF PEAK	AFTER PEAK
ARM A	15.00	45.00	75.00	8.80	13.20	8.80
ARM B	15.00	45.00	75.00	3.24	4.86	3.24
ARM C	15.00	45.00	75.00	10.57	15.86	10.57

Demand set: 2030 Base Flows

TURNING PROPORTIONS
TURNING COUNTS
(PERCENTAGE OF H.V.S)

TIME	FROM/TO	ARM A	ARM B	ARM C
16.45 - 17.00				
	ARM A	0.000	0.155	0.845
		0.0	109.0	595.0
		(0.0)	(0.0)	(0.0)
	ARM B	0.614	0.000	0.386
		159.0	0.0	100.0
		(0.0)	(0.0)	(0.0)
	ARM C	0.943	0.057	0.000
		798.0	48.0	0.0
		(0.0)	(0.0)	(0.0)

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

FOR DEMAND SET 2030 Base Flows
AND FOR TIME PERIOD 1

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
16.45-17.00									
B-C	1.25	8.29	0.151		0.00	0.18	2.5		0.14
B-A	2.00	5.70	0.350		0.00	0.52	7.3		0.27
C-AB	0.60	8.02	0.075		0.00	0.09	1.3		0.13
A-B	1.37								
A-C	7.47								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
17.00-17.15									
B-C	1.50	7.18	0.209		0.18	0.26	3.8		0.18
B-A	2.38	4.92	0.484		0.52	0.89	12.5		0.39
C-AB	0.72	7.64	0.094		0.09	0.12	1.8		0.14
A-B	1.63								
A-C	8.91								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
17.15-17.30									
B-C	1.84	4.42	0.415		0.26	0.68	9.4		0.38
B-A	2.92	3.80	0.768		0.89	2.63	32.3		0.91
C-AB	0.88	7.12	0.124		0.12	0.17	2.6		0.16
A-B	2.00								
A-C	10.92								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
17.30-17.45									
B-C	1.84	4.07	0.451		0.68	0.79	11.4		0.44
B-A	2.92	3.78	0.772		2.63	2.93	42.1		1.08
C-AB	0.88	7.12	0.124		0.17	0.18	2.7		0.16
A-B	2.00								
A-C	10.92								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
17.45-18.00									
B-C	1.50	6.95	0.216		0.79	0.28	4.4		0.19
B-A	2.38	4.91	0.485		2.93	0.99	17.3		0.44
C-AB	0.72	7.64	0.094		0.18	0.12	1.8		0.14
A-B	1.63								
A-C	8.91								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
18.00-18.15									
B-C	1.25	8.24	0.152		0.28	0.18	2.8		0.14
B-A	2.00	5.69	0.350		0.99	0.55	8.8		0.27
C-AB	0.60	8.02	0.075		0.12	0.09	1.4		0.13
A-B	1.37								
A-C	7.47								

WARNING NO MARGINAL ANALYSIS OF CAPACITIES AS MAJOR ROAD BLOCKING MAY OCCUR

QUEUE FOR STREAM B-C

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
17.00	0.2	
17.15	0.3	
17.30	0.7	*
17.45	0.8	*
18.00	0.3	
18.15	0.2	

QUEUE FOR STREAM B-A

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
17.00	0.5	*
17.15	0.9	*
17.30	2.6	***
17.45	2.9	***
18.00	1.0	*
18.15	0.6	*

QUEUE FOR STREAM C-AB

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
17.00	0.1
17.15	0.1
17.30	0.2
17.45	0.2
18.00	0.1
18.15	0.1

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

STREAM	TOTAL DEMAND		* QUEUEING * * DELAY *		* INCLUSIVE QUEUEING * * DELAY *	
	(VEH)	(VEH/H)	(MIN)	(MIN/VEH)	(MIN)	(MIN/VEH)
B-C	137.6	91.8	34.4	0.25	34.4	0.25
B-A	218.9	145.9	120.4	0.55	120.4	0.55
C-AB	66.1	44.0	11.5	0.17	11.5	0.17
A-B	150.0	100.0				
A-C	819.0	546.0				
ALL	2490.0	1660.0	166.2	0.07	166.2	0.07

* DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD
* INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES
WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD
* THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS
A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.

*******END OF RUN*******

=== end of file ==

Printed at 15:14:34 on 25/09/2012]

CAPACITIES, QUEUES, AND DELAYS AT 3 OR 4-ARM MAJOR/MINOR PRIORITY JUNCTIONS

PICADY 5.1 ANALYSIS PROGRAM
RELEASE 4.0 (SEPT 2008)

FOR SALES AND DISTRIBUTION INFORMATION,
PROGRAM ADVICE AND MAINTENANCE CONTACT:
TRL SOFTWARE BUREAU
TEL: CROWTHORNE (01344) 770758, FAX: 770356
EMAIL: Software@trl.co.uk

Run with file:-
"J:\2012\A077038 Standen Estates\Picady\Waterloo_Wellgate T-JN\
Existing Waterloo Rd_Wellgate - T-Jn (AM Peak).vpi"
(drive-on-the-left) at 11:09:07 on Tuesday, 25 September 2012

RUN INFORMATION
****

```
RUN TITLE       : Wellgate/Waterloo Road T-Junction
LOCATION        : Wellgate/Waterloo Road, Clitheroe
DATE            : 09/07/12
CLIENT          :
ENUMERATOR      : steven.ho [27-WRK-SBA-021]
JOB NUMBER      : A077038
STATUS          :
DESCRIPTION     :
```

MAJOR/MINOR JUNCTION CAPACITY AND DELAY
****

INPUT DATA

```
                    MAJOR ROAD (ARM C) --------------------- MAJOR ROAD (ARM A)
                                                 I
                                                 I
                                                 I
                                                 I
                                                 I
                                                 I
                                         MINOR ROAD (ARM B)
```

ARM A IS Waterloo Road NB
ARM B IS Wellgate
ARM C IS Waterloo Road SB

STREAM LABELLING CONVENTION

```
        STREAM  A-B  CONTAINS TRAFFIC GOING FROM ARM  A TO ARM B
        STREAM  B-AC CONTAINS TRAFFIC GOING FROM ARM  B TO ARM A AND TO ARM  C
        ETC.
```

GEOMETRIC DATA

DATA ITEM	MINOR ROAD B
TOTAL MAJOR ROAD CARRIAGEWAY WIDTH	(W) 7.20 M.
CENTRAL RESERVE WIDTH	(WCR) 0.00 M.
MAJOR ROAD RIGHT TURN - WIDTH	(WC-B) 2.20 M.
- VISIBILITY	(VC-B) 40.00 M.
- BLOCKS TRAFFIC	YES
MINOR ROAD - VISIBILITY TO LEFT	(VB-C) 40.0 M.
- VISIBILITY TO RIGHT	(VB-A) 40.0 M.
- LANE 1 WIDTH	(WB-C) -
- LANE 2 WIDTH	(WB-A) -
WIDTH AT 0 M FROM JUNCTION	10.00 M.
WIDTH AT 5 M FROM JUNCTION	5.50 M.
WIDTH AT 10 M FROM JUNCTION	3.75 M.
WIDTH AT 15 M FROM JUNCTION	3.25 M.
WIDTH AT 20 M FROM JUNCTION	3.25 M.
- LENGTH OF FLARED SECTION	DERIVED: 1 PCU

.SLOPES AND INTERCEPT

(NB:Streams may be combined, in which case capacity will be adjusted)

Intercept For STREAM B-C	Slope For Opposing STREAM A-C	Slope For Opposing STREAM A-B
0.00	0.00	0.00

* Due to the presence of a flare, data is not available

Intercept For STREAM B-A	Slope For Opposing STREAM A-C	Slope For Opposing STREAM A-B	Slope For Opposing STREAM C-A	Slope For Opposing STREAM C-B
0.00	0.00	0.00	0.00	0.00

* Due to the presence of a flare, data is not available

Intercept For STREAM C-B	Slope For Opposing STREAM A-C	Slope For Opposing STREAM A-B
597.13	0.22	0.22

(NB These values do not allow for any site specific corrections)

TRAFFIC DEMAND DATA

ARM	FLOW SCALE(%)
A	100
B	100
C	100

Demand set: 2015 Assessment Flows

TIME PERIOD BEGINS 07.45 AND ENDS 09.15

LENGTH OF TIME PERIOD - 90 MIN.
LENGTH OF TIME SEGMENT - 15 MIN.

DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

ARM	NUMBER OF MINUTES FROM START WHEN FLOW STARTS TO RISE	TOP OF PEAK IS REACHED	FLOW STOPS FALLING	RATE OF FLOW (VEH/MIN) BEFORE PEAK	AT TOP OF PEAK	AFTER PEAK
ARM A	15.00	45.00	75.00	8.32	12.49	8.32
ARM B	15.00	45.00	75.00	1.51	2.27	1.51
ARM C	15.00	45.00	75.00	7.64	11.46	7.64

Demand set: 2015 Assessment Flows

TIME	FROM/TO	ARM A	ARM B	ARM C
		TURNING PROPORTIONS / TURNING COUNTS / (PERCENTAGE OF H.V.S)		
07.45 - 08.00	ARM A	0.000	0.173	0.827
		0.0	115.0	551.0
		(0.0)	(0.0)	(0.0)
	ARM B	0.612	0.000	0.388
		74.0	0.0	47.0
		(0.0)	(0.0)	(0.0)
	ARM C	0.956	0.044	0.000
		584.0	27.0	0.0
		(0.0)	(0.0)	(0.0)

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

FOR DEMAND SET 2015 Assessment Flows
AND FOR TIME PERIOD 1

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
07.45-08.00									
B-C	0.59	9.18	0.064		0.00	0.07	1.0		0.12
B-A	0.93	6.38	0.146		0.00	0.17	2.4		0.18
C-AB	0.34	8.12	0.042		0.00	0.04	0.7		0.13
A-B	1.44								
A-C	6.91								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
08.00-08.15									
B-C	0.70	8.68	0.081		0.07	0.09	1.3		0.13
B-A	1.11	5.76	0.192		0.17	0.23	3.4		0.21
C-AB	0.40	7.76	0.052		0.04	0.06	0.9		0.14
A-B	1.72								
A-C	8.26								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
08.15-08.30									
B-C	0.86	7.93	0.109		0.09	0.12	1.8		0.14
B-A	1.36	4.91	0.276		0.23	0.37	5.3		0.28
C-AB	0.50	7.27	0.068		0.06	0.08	1.2		0.15
A-B	2.11								
A-C	10.11								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
08.30-08.45									
B-C	0.86	7.92	0.109		0.12	0.12	1.8		0.14
B-A	1.36	4.91	0.276		0.37	0.38	5.6		0.28
C-AB	0.50	7.27	0.068		0.08	0.08	1.2		0.15
A-B	2.11								
A-C	10.11								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
08.45-09.00									
B-C	0.70	8.68	0.081		0.12	0.09	1.4		0.13
B-A	1.11	5.76	0.192		0.38	0.24	3.8		0.22
C-AB	0.40	7.76	0.052		0.08	0.06	0.9		0.14
A-B	1.72								
A-C	8.26								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
09.00-09.15									
B-C	0.59	9.17	0.064		0.09	0.07	1.1		0.12
B-A	0.93	6.37	0.146		0.24	0.17	2.7		0.18
C-AB	0.34	8.12	0.042		0.06	0.05	0.7		0.13
A-B	1.44								
A-C	6.91								

WARNING NO MARGINAL ANALYSIS OF CAPACITIES AS MAJOR ROAD BLOCKING MAY OCCUR

QUEUE FOR STREAM B-C

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
08.00	0.1
08.15	0.1
08.30	0.1
08.45	0.1
09.00	0.1
09.15	0.1

QUEUE FOR STREAM B-A

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
08.00	0.2
08.15	0.2
08.30	0.4
08.45	0.4
09.00	0.2
09.15	0.2

QUEUE FOR STREAM C-AB

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
08.00	0.0
08.15	0.1
08.30	0.1
08.45	0.1
09.00	0.1
09.15	0.0

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

STREAM	TOTAL DEMAND (VEH)	TOTAL DEMAND (VEH/H)	* QUEUEING * * DELAY * (MIN)	* QUEUEING * * DELAY * (MIN/VEH)	* INCLUSIVE QUEUEING * * DELAY * (MIN)	* INCLUSIVE QUEUEING * * DELAY * (MIN/VEH)
B-C	64.7	43.1	8.3	0.13	8.3	0.13
B-A	101.9	67.9	23.2	0.23	23.2	0.23
C-AB	37.2	24.8	5.5	0.15	5.5	0.15
A-B	158.3	105.5				
A-C	758.4	505.6				
ALL	1924.2	1282.8	37.0	0.02	37.0	0.02

* DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD
* INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD
* THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.

*******END OF RUN*******

.SLOPES AND INTERCEPT

(NB:Streams may be combined, in which case capacity will be adjusted)

Intercept For STREAM B-C	Slope For Opposing STREAM A-C	Slope For Opposing STREAM A-B
0.00	0.00	0.00

* Due to the presence of a flare, data is not available

Intercept For STREAM B-A	Slope For Opposing STREAM A-C	Slope For Opposing STREAM A-B	Slope For Opposing STREAM C-A	Slope For Opposing STREAM C-B
0.00	0.00	0.00	0.00	0.00

* Due to the presence of a flare, data is not available

Intercept For STREAM C-B	Slope For Opposing STREAM A-C	Slope For Opposing STREAM A-B
597.13	0.22	0.22

(NB These values do not allow for any site specific corrections)

TRAFFIC DEMAND DATA

ARM	FLOW SCALE(%)
A	100
B	100
C	100

Demand set: 2030 Assessment Flows

TIME PERIOD BEGINS 07.45 AND ENDS 09.15

LENGTH OF TIME PERIOD - 90 MIN.
LENGTH OF TIME SEGMENT - 15 MIN.

DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

ARM	NUMBER OF MINUTES FROM START WHEN: FLOW STARTS TO RISE	TOP OF PEAK IS REACHED	FLOW STOPS FALLING	RATE OF FLOW (VEH/MIN): BEFORE PEAK	AT TOP OF PEAK	AFTER PEAK
ARM A	15.00	45.00	75.00	10.00	15.00	10.00
ARM B	15.00	45.00	75.00	1.83	2.74	1.83
ARM C	15.00	45.00	75.00	9.25	13.88	9.25

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 Demand set:        2030 Assessment Flows
 ------------------------------------------------------------
 I                    I         TURNING PROPORTIONS        I
 I                    I         TURNING COUNTS             I
 I                    I        (PERCENTAGE OF H.V.S)       I
 I                    -------------------------------------
 I        TIME        I FROM/TO I ARM  A I ARM  B I ARM  C I
 ------------------------------------------------------------
 I   07.45 - 08.00    I         I        I        I        I
 I                    I ARM  A  I  0.000 I  0.176 I  0.824 I
 I                    I         I    0.0 I  141.0 I  659.0 I
 I                    I         I (  0.0)I (  0.0)I (  0.0)I
 I                    I         I        I        I        I
 I                    I ARM  B  I  0.623 I  0.000 I  0.377 I
 I                    I         I   91.0 I    0.0 I   55.0 I
 I                    I         I (  0.0)I (  0.0)I (  0.0)I
 I                    I         I        I        I        I
 I                    I ARM  C  I  0.955 I  0.045 I  0.000 I
 I                    I         I  707.0 I   33.0 I    0.0 I
 I                    I         I (  0.0)I (  0.0)I (  0.0)I
 I                    I         I        I        I        I
 ------------------------------------------------------------
 TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA


               QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT
               --------------------------------------------------------
                FOR DEMAND SET         2030 Assessment Flows
                AND FOR TIME PERIOD       1

 ------------------------------------------------------------------------------------------------------------------
 I  TIME      DEMAND  CAPACITY  DEMAND/    PEDESTRIAN  START   END        DELAY      GEOMETRIC DELAY   AVERAGE DELAY I
 I          (VEH/MIN) (VEH/MIN) CAPACITY     FLOW      QUEUE  QUEUE     (VEH.MIN/       (VEH.MIN/       PER ARRIVING  I
 I                                (RFC)    (PEDS/MIN) (VEHS) (VEHS)  TIME SEGMENT)  TIME SEGMENT)    VEHICLE (MIN) I
 I 07.45-08.00                                                                                                     I
 I   B-C        0.69      8.64    0.080                 0.00   0.09         1.2                              0.13      I
 I   B-A        1.14      5.75    0.199                 0.00   0.24         3.5                              0.22      I
 I   C-AB       0.41      7.75    0.053                 0.00   0.06         0.9                              0.14      I
 I   A-B        1.77                                                                                                   I
 I   A-C        8.27                                                                                                   I
 I                                                                                                                     I

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 ------------------------------------------------------------------------------------------------------------------
 I  TIME      DEMAND  CAPACITY  DEMAND/    PEDESTRIAN  START   END        DELAY      GEOMETRIC DELAY   AVERAGE DELAY I
 I          (VEH/MIN) (VEH/MIN) CAPACITY     FLOW      QUEUE  QUEUE     (VEH.MIN/       (VEH.MIN/       PER ARRIVING  I
 I                                (RFC)    (PEDS/MIN) (VEHS) (VEHS)  TIME SEGMENT)  TIME SEGMENT)    VEHICLE (MIN) I
 I 08.00-08.15                                                                                                     I
 I   B-C        0.82      7.97    0.103                 0.09   0.11         1.7                              0.14      I
 I   B-A        1.36      5.01    0.272                 0.24   0.37         5.2                              0.27      I
 I   C-AB       0.49      7.32    0.068                 0.06   0.08         1.2                              0.15      I
 I   A-B        2.11                                                                                                   I
 I   A-C        9.87                                                                                                   I
 I                                                                                                                     I

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 I  TIME      DEMAND  CAPACITY  DEMAND/    PEDESTRIAN  START   END        DELAY      GEOMETRIC DELAY   AVERAGE DELAY I
 I          (VEH/MIN) (VEH/MIN) CAPACITY     FLOW      QUEUE  QUEUE     (VEH.MIN/       (VEH.MIN/       PER ARRIVING  I
 I                                (RFC)    (PEDS/MIN) (VEHS) (VEHS)  TIME SEGMENT)  TIME SEGMENT)    VEHICLE (MIN) I
 I 08.15-08.30                                                                                                     I
 I   B-C        1.01      6.78    0.149                 0.11   0.17         2.5                              0.17      I
 I   B-A        1.67      3.98    0.420                 0.37   0.69         9.6                              0.43      I
 I   C-AB       0.61      6.73    0.090                 0.08   0.11         1.7                              0.16      I
 I   A-B        2.59                                                                                                   I
 I   A-C       12.09                                                                                                   I
 I                                                                                                                     I

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 ------------------------------------------------------------------------------------------------------------------
 I  TIME      DEMAND  CAPACITY  DEMAND/    PEDESTRIAN  START   END        DELAY      GEOMETRIC DELAY   AVERAGE DELAY I
 I          (VEH/MIN) (VEH/MIN) CAPACITY     FLOW      QUEUE  QUEUE     (VEH.MIN/       (VEH.MIN/       PER ARRIVING  I
 I                                (RFC)    (PEDS/MIN) (VEHS) (VEHS)  TIME SEGMENT)  TIME SEGMENT)    VEHICLE (MIN) I
 I 08.30-08.45                                                                                                     I
 I   B-C        1.01      6.75    0.149                 0.17   0.17         2.6                              0.17      I
 I   B-A        1.67      3.98    0.420                 0.69   0.71        10.5                              0.43      I
 I   C-AB       0.61      6.73    0.090                 0.11   0.11         1.7                              0.16      I
 I   A-B        2.59                                                                                                   I
 I   A-C       12.09                                                                                                   I
 I                                                                                                                     I

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TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
08.45-09.00									
B-C	0.82	7.95	0.104		0.17	0.12	1.8		0.14
B-A	1.36	5.01	0.272		0.71	0.38	6.1		0.28
C-AB	0.49	7.32	0.068		0.11	0.08	1.2		0.15
A-B	2.11								
A-C	9.87								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
09.00-09.15									
B-C	0.69	8.62	0.080		0.12	0.09	1.3		0.13
B-A	1.14	5.75	0.199		0.38	0.25	3.9		0.22
C-AB	0.41	7.75	0.053		0.08	0.06	0.9		0.14
A-B	1.77								
A-C	8.27								

WARNING NO MARGINAL ANALYSIS OF CAPACITIES AS MAJOR ROAD BLOCKING MAY OCCUR

QUEUE FOR STREAM B-C

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
08.00	0.1
08.15	0.1
08.30	0.2
08.45	0.2
09.00	0.1
09.15	0.1

QUEUE FOR STREAM B-A

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
08.00	0.2	
08.15	0.4	
08.30	0.7	*
08.45	0.7	*
09.00	0.4	
09.15	0.3	

QUEUE FOR STREAM C-AB

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
08.00	0.1
08.15	0.1
08.30	0.1
08.45	0.1
09.00	0.1
09.15	0.1

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

STREAM	TOTAL DEMAND		* QUEUEING * * DELAY *		* INCLUSIVE QUEUEING * * DELAY *	
	(VEH)	(VEH/H)	(MIN)	(MIN/VEH)	(MIN)	(MIN/VEH)
B-C	75.7	50.5	11.2	0.15	11.2	0.15
B-A	125.3	83.5	38.8	0.31	38.8	0.31
C-AB	45.4	30.3	7.6	0.17	7.6	0.17
A-B	194.1	129.4				
A-C	907.1	604.7				
ALL	2320.7	1547.1	57.6	0.02	57.6	0.02

* DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD
* INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD
* THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.

*******END OF RUN*******

=== end of file ===

Printed at 11:17:29 on 25/09/2012]

CAPACITIES, QUEUES, AND DELAYS AT 3 OR 4-ARM MAJOR/MINOR PRIORITY JUNCTIONS

PICADY 5.1 ANALYSIS PROGRAM
RELEASE 4.0 (SEPT 2008)

FOR SALES AND DISTRIBUTION INFORMATION,
PROGRAM ADVICE AND MAINTENANCE CONTACT:
TRL SOFTWARE BUREAU
TEL: CROWTHORNE (01344) 770758, FAX: 770356
EMAIL: Software@trl.co.uk

Run with file:-
"J:\2012\A077038 Standen Estates\Picady\Waterloo_Wellgate T-JN\
Existing Waterloo Rd_Wellgate - T-Jn (PM Peak).vpi"
(drive-on-the-left) at 11:09:25 on Tuesday, 25 September 2012

RUN INFORMATION
****

```
RUN TITLE       : Wellgate/Waterloo Road T-Junction
LOCATION        : Wellgate/Waterloo Road, Clitheroe
DATE            : 09/07/12
CLIENT          :
ENUMERATOR      : steven.ho [27-WRK-SBA-021]
JOB NUMBER      : A077038
STATUS          :
DESCRIPTION     :
```

MAJOR/MINOR JUNCTION CAPACITY AND DELAY
****

INPUT DATA

```
 MAJOR ROAD (ARM C) --------------------- MAJOR ROAD (ARM A)
                              I
                              I
                              I
                              I
                              I
                              I
                     MINOR ROAD (ARM B)
```

ARM A IS Waterloo Road NB
ARM B IS Wellgate
ARM C IS Waterloo Road SB

STREAM LABELLING CONVENTION

```
        STREAM  A-B  CONTAINS TRAFFIC GOING FROM ARM  A TO ARM B
        STREAM  B-AC CONTAINS TRAFFIC GOING FROM ARM  B TO ARM A AND TO ARM  C
        ETC.
```

GEOMETRIC DATA

DATA ITEM	MINOR ROAD B
TOTAL MAJOR ROAD CARRIAGEWAY WIDTH	(W) 7.20 M.
CENTRAL RESERVE WIDTH	(WCR) 0.00 M.
MAJOR ROAD RIGHT TURN - WIDTH	(WC-B) 2.20 M.
- VISIBILITY	(VC-B) 40.00 M.
- BLOCKS TRAFFIC	YES
MINOR ROAD - VISIBILITY TO LEFT	(VB-C) 40.0 M.
- VISIBILITY TO RIGHT	(VB-A) 40.0 M.
- LANE 1 WIDTH	(WB-C) -
- LANE 2 WIDTH	(WB-A) -
WIDTH AT 0 M FROM JUNCTION	10.00 M.
WIDTH AT 5 M FROM JUNCTION	5.50 M.
WIDTH AT 10 M FROM JUNCTION	3.75 M.
WIDTH AT 15 M FROM JUNCTION	3.25 M.
WIDTH AT 20 M FROM JUNCTION	3.25 M.
- LENGTH OF FLARED SECTION	DERIVED: 1 PCU

.SLOPES AND INTERCEPT

(NB:Streams may be combined, in which case capacity will be adjusted)

Intercept For STREAM B-C	Slope For Opposing STREAM A-C	Slope For Opposing STREAM A-B
0.00	0.00	0.00

* Due to the presence of a flare, data is not available

Intercept For STREAM B-A	Slope For Opposing STREAM A-C	Slope For Opposing STREAM A-B	Slope For Opposing STREAM C-A	Slope For Opposing STREAM C-B
0.00	0.00	0.00	0.00	0.00

* Due to the presence of a flare, data is not available

Intercept For STREAM C-B	Slope For Opposing STREAM A-C	Slope For Opposing STREAM A-B
597.13	0.22	0.22

(NB These values do not allow for any site specific corrections)

TRAFFIC DEMAND DATA

ARM	FLOW SCALE(%)
A	100
B	100
C	100

Demand set: 2015 Assessment Flows

TIME PERIOD BEGINS 16.45 AND ENDS 18.15

LENGTH OF TIME PERIOD - 90 MIN.
LENGTH OF TIME SEGMENT - 15 MIN.

DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

	NUMBER OF MINUTES FROM START WHEN			RATE OF FLOW (VEH/MIN)		
ARM	FLOW STARTS TO RISE	TOP OF PEAK IS REACHED	FLOW STOPS FALLING	BEFORE PEAK	AT TOP OF PEAK	AFTER PEAK
ARM A	15.00	45.00	75.00	7.54	11.31	7.54
ARM B	15.00	45.00	75.00	2.63	3.94	2.63
ARM C	15.00	45.00	75.00	8.65	12.97	8.65

Demand set: 2015 Assessment Flows

TIME	FROM/TO	ARM A	ARM B	ARM C
16.45 - 17.00				
	ARM A	0.000	0.146	0.854
		0.0	88.0	515.0
		(0.0)	(0.0)	(0.0)
	ARM B	0.610	0.000	0.390
		128.0	0.0	82.0
		(0.0)	(0.0)	(0.0)
	ARM C	0.944	0.056	0.000
		653.0	39.0	0.0
		(0.0)	(0.0)	(0.0)

(Column header: TURNING PROPORTIONS / TURNING COUNTS / (PERCENTAGE OF H.V.S))

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

FOR DEMAND SET 2015 Assessment Flows
AND FOR TIME PERIOD 1

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
16.45-17.00									
B-C	1.03	8.96	0.115		0.00	0.13	1.9		0.13
B-A	1.61	6.31	0.254		0.00	0.33	4.7		0.21
C-AB	0.49	8.29	0.059		0.00	0.07	1.0		0.13
A-B	1.10								
A-C	6.46								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
17.00-17.15									
B-C	1.23	8.29	0.148		0.13	0.17	2.5		0.14
B-A	1.92	5.68	0.338		0.33	0.50	7.1		0.26
C-AB	0.58	7.97	0.073		0.07	0.09	1.3		0.14
A-B	1.32								
A-C	7.72								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
17.15-17.30									
B-C	1.50	7.04	0.214		0.17	0.27	3.9		0.18
B-A	2.35	4.78	0.491		0.50	0.92	12.7		0.40
C-AB	0.72	7.53	0.095		0.09	0.12	1.8		0.15
A-B	1.61								
A-C	9.45								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
17.30-17.45									
B-C	1.50	7.00	0.215		0.27	0.27	4.1		0.18
B-A	2.35	4.78	0.491		0.92	0.94	14.0		0.41
C-AB	0.72	7.53	0.095		0.12	0.12	1.8		0.15
A-B	1.61								
A-C	9.45								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
17.45-18.00									
B-C	1.23	8.26	0.149		0.27	0.18	2.7		0.14
B-A	1.92	5.68	0.338		0.94	0.52	8.3		0.27
C-AB	0.58	7.97	0.073		0.12	0.09	1.3		0.14
A-B	1.32								
A-C	7.72								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
18.00-18.15									
B-C	1.03	8.94	0.115		0.18	0.13	2.0		0.13
B-A	1.61	6.31	0.255		0.52	0.35	5.4		0.21
C-AB	0.49	8.29	0.059		0.09	0.07	1.0		0.13
A-B	1.10								
A-C	6.46								

WARNING NO MARGINAL ANALYSIS OF CAPACITIES AS MAJOR ROAD BLOCKING MAY OCCUR

QUEUE FOR STREAM B-C

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
17.00	0.1
17.15	0.2
17.30	0.3
17.45	0.3
18.00	0.2
18.15	0.1

QUEUE FOR STREAM B-A

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
17.00	0.3	
17.15	0.5	
17.30	0.9	*
17.45	0.9	*
18.00	0.5	*
18.15	0.3	

QUEUE FOR STREAM C-AB

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
17.00	0.1
17.15	0.1
17.30	0.1
17.45	0.1
18.00	0.1
18.15	0.1

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

STREAM	TOTAL DEMAND (VEH)	TOTAL DEMAND (VEH/H)	* QUEUEING * * DELAY * (MIN)	* QUEUEING * * DELAY * (MIN/VEH)	* INCLUSIVE QUEUEING * * DELAY * (MIN)	* INCLUSIVE QUEUEING * * DELAY * (MIN/VEH)
B-C	112.9	75.2	17.1	0.15	17.1	0.15
B-A	176.2	117.5	52.4	0.30	52.4	0.30
C-AB	53.7	35.8	8.2	0.15	8.2	0.15
A-B	121.1	80.8				
A-C	708.9	472.6				
ALL	2071.5	1381.0	77.6	0.04	77.6	0.04

* DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD
* INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD
* THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.

*******END OF RUN*******

.SLOPES AND INTERCEPT

(NB:Streams may be combined, in which case capacity will be adjusted)

Intercept For STREAM B-C	Slope For Opposing STREAM A-C	Slope For Opposing STREAM A-B
0.00	0.00	0.00

* Due to the presence of a flare, data is not available

Intercept For STREAM B-A	Slope For Opposing STREAM A-C	Slope For Opposing STREAM A-B	Slope For Opposing STREAM C-A	Slope For Opposing STREAM C-B
0.00	0.00	0.00	0.00	0.00

* Due to the presence of a flare, data is not available

Intercept For STREAM C-B	Slope For Opposing STREAM A-C	Slope For Opposing STREAM A-B
597.13	0.22	0.22

(NB These values do not allow for any site specific corrections)

TRAFFIC DEMAND DATA

ARM	FLOW SCALE(%)
A	100
B	100
C	100

Demand set: 2030 Assessment Flows

TIME PERIOD BEGINS 16.45 AND ENDS 18.15

LENGTH OF TIME PERIOD - 90 MIN.
LENGTH OF TIME SEGMENT - 15 MIN.

DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

ARM	NUMBER OF MINUTES FROM START WHEN FLOW STARTS TO RISE	TOP OF PEAK IS REACHED	FLOW STOPS FALLING	RATE OF FLOW (VEH/MIN) BEFORE PEAK	AT TOP OF PEAK	AFTER PEAK
ARM A	15.00	45.00	75.00	9.20	13.80	9.20
ARM B	15.00	45.00	75.00	3.24	4.86	3.24
ARM C	15.00	45.00	75.00	10.60	15.90	10.60

Demand set: 2030 Assessment Flows

TURNING PROPORTIONS / TURNING COUNTS / (PERCENTAGE OF H.V.S)

TIME	FROM/TO	ARM A	ARM B	ARM C
16.45 - 17.00				
	ARM A	0.000	0.148	0.852
		0.0	109.0	627.0
		(0.0)	(0.0)	(0.0)
	ARM B	0.614	0.000	0.386
		159.0	0.0	100.0
		(0.0)	(0.0)	(0.0)
	ARM C	0.943	0.057	0.000
		800.0	48.0	0.0
		(0.0)	(0.0)	(0.0)

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

FOR DEMAND SET 2030 Assessment Flows
AND FOR TIME PERIOD 1

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
16.45-17.00									
B-C	1.25	8.17	0.154		0.00	0.18	2.6		0.14
B-A	2.00	5.59	0.357		0.00	0.54	7.5		0.27
C-AB	0.60	7.93	0.076		0.00	0.09	1.3		0.14
A-B	1.37								
A-C	7.87								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
17.00-17.15									
B-C	1.50	7.00	0.214		0.18	0.27	3.9		0.18
B-A	2.38	4.80	0.497		0.54	0.94	13.0		0.41
C-AB	0.72	7.53	0.095		0.09	0.12	1.8		0.15
A-B	1.63								
A-C	9.39								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
17.15-17.30									
B-C	1.84	3.98	0.461		0.27	0.81	11.0		0.45
B-A	2.92	3.63	0.803		0.94	3.01	36.0		1.04
C-AB	0.88	6.99	0.126		0.12	0.18	2.7		0.16
A-B	2.00								
A-C	11.51								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
17.30-17.45									
B-C	1.84	3.53	0.520		0.81	1.02	14.4		0.58
B-A	2.92	3.61	0.808		3.01	3.45	49.0		1.29
C-AB	0.88	6.99	0.126		0.18	0.18	2.7		0.16
A-B	2.00								
A-C	11.51								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
17.45-18.00									
B-C	1.50	6.70	0.223		1.02	0.29	4.7		0.20
B-A	2.38	4.78	0.498		3.45	1.05	19.0		0.47
C-AB	0.72	7.53	0.095		0.18	0.12	1.9		0.15
A-B	1.63								
A-C	9.39								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
18.00-18.15									
B-C	1.25	8.11	0.155		0.29	0.19	2.9		0.15
B-A	2.00	5.59	0.357		1.05	0.57	9.1		0.28
C-AB	0.60	7.93	0.076		0.12	0.09	1.4		0.14
A-B	1.37								
A-C	7.87								

WARNING NO MARGINAL ANALYSIS OF CAPACITIES AS MAJOR ROAD BLOCKING MAY OCCUR

QUEUE FOR STREAM B-C

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
17.00	0.2	
17.15	0.3	
17.30	0.8	*
17.45	1.0	*
18.00	0.3	
18.15	0.2	

QUEUE FOR STREAM B-A

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
17.00	0.5	*
17.15	0.9	*
17.30	3.0	***
17.45	3.5	***
18.00	1.0	*
18.15	0.6	*

QUEUE FOR STREAM C-AB

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
17.00	0.1
17.15	0.1
17.30	0.2
17.45	0.2
18.00	0.1
18.15	0.1

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

STREAM	TOTAL DEMAND		* QUEUEING * * DELAY *		* INCLUSIVE QUEUEING * * DELAY *	
	(VEH)	(VEH/H)	(MIN)	(MIN/VEH)	(MIN)	(MIN/VEH)
B-C	137.6	91.8	39.4	0.29	39.4	0.29
B-A	218.9	145.9	133.6	0.61	133.7	0.61
C-AB	66.1	44.0	11.8	0.18	11.8	0.18
A-B	150.0	100.0				
A-C	863.0	575.3				
ALL	2536.8	1691.2	184.8	0.07	184.9	0.07

* DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD
* INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD
* THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.

*******END OF RUN*******

=== end of file ===

Printed at 11:17:49 on 25/09/2012]

Appendix M
Shawbridge Street / Taylor Street (priority controlled junction)

CAPACITIES, QUEUES, AND DELAYS AT 3 OR 4-ARM MAJOR/MINOR PRIORITY JUNCTIONS

PICADY 5.1 ANALYSIS PROGRAM
RELEASE 4.0 (SEPT 2008)

FOR SALES AND DISTRIBUTION INFORMATION,
PROGRAM ADVICE AND MAINTENANCE CONTACT:
TRL SOFTWARE BUREAU
TEL: CROWTHORNE (01344) 770758, FAX: 770356
EMAIL: Software@trl.co.uk

Run with file:-
"J:\2012\A077038 Standen Estates\Picady\Shawbridge St_Taylor St T-JN\
Existing Shawbridge St_Taylor St - T-Jn (AM Peak).vpi"
(drive-on-the-left) at 12:57:28 on Wednesday, 26 September 2012

RUN INFORMATION
****

```
RUN TITLE       : Taylor St/Shawbridge St T-Junction
LOCATION        : Taylor St/Shawbridge St T-Junction
DATE            : 09/07/12
CLIENT          :
ENUMERATOR      : steven.ho [27-WRK-SBA-021]
JOB NUMBER      : A077038
STATUS          :
DESCRIPTION     :
```

MAJOR/MINOR JUNCTION CAPACITY AND DELAY
****

INPUT DATA

```
MAJOR ROAD (ARM C) --------------------- MAJOR ROAD (ARM A)
                            I
                            I
                            I
                            I
                            I
                            I
                     MINOR ROAD (ARM B)
```

ARM A IS Shawbridge Street EB
ARM B IS Taylor
ARM C IS Shawbridge Street WB

STREAM LABELLING CONVENTION

```
STREAM  A-B  CONTAINS TRAFFIC GOING FROM ARM  A TO ARM B
STREAM  B-AC CONTAINS TRAFFIC GOING FROM ARM  B TO ARM A AND TO ARM  C
ETC.
```

GEOMETRIC DATA

DATA ITEM	MINOR ROAD B
TOTAL MAJOR ROAD CARRIAGEWAY WIDTH	(W) 7.20 M.
CENTRAL RESERVE WIDTH	(WCR) 0.00 M.
MAJOR ROAD RIGHT TURN - WIDTH	(WC-B) 2.20 M.
- VISIBILITY	(VC-B) 30.00 M.
- BLOCKS TRAFFIC	YES
MINOR ROAD - VISIBILITY TO LEFT	(VB-C) 28.0 M.
- VISIBILITY TO RIGHT	(VB-A) 38.0 M.
- LANE 1 WIDTH	(WB-C) -
- LANE 2 WIDTH	(WB-A) -
WIDTH AT 0 M FROM JUNCTION	9.00 M.
WIDTH AT 5 M FROM JUNCTION	4.00 M.
WIDTH AT 10 M FROM JUNCTION	3.75 M.
WIDTH AT 15 M FROM JUNCTION	3.75 M.
WIDTH AT 20 M FROM JUNCTION	3.75 M.
- LENGTH OF FLARED SECTION	DERIVED: 0 PCU

.SLOPES AND INTERCEPT

(NB:Streams may be combined, in which case capacity will be adjusted)

Intercept For STREAM B-C	Slope For Opposing STREAM A-C	Slope For Opposing STREAM A-B
0.00	0.00	0.00

* Due to the presence of a flare, data is not available

Intercept For STREAM B-A	Slope For Opposing STREAM A-C	Slope For Opposing STREAM A-B	Slope For Opposing STREAM C-A	Slope For Opposing STREAM C-B
0.00	0.00	0.00	0.00	0.00

* Due to the presence of a flare, data is not available

Intercept For STREAM C-B	Slope For Opposing STREAM A-C	Slope For Opposing STREAM A-B
591.34	0.22	0.22

(NB These values do not allow for any site specific corrections)

TRAFFIC DEMAND DATA

ARM	FLOW SCALE(%)
A	100
B	100
C	100

Demand set: 2012 Observed Base Flows

TIME PERIOD BEGINS 07.45 AND ENDS 09.15

LENGTH OF TIME PERIOD - 90 MIN.
LENGTH OF TIME SEGMENT - 15 MIN.

DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

	NUMBER OF MINUTES FROM START WHEN			RATE OF FLOW (VEH/MIN)		
ARM	FLOW STARTS TO RISE	TOP OF PEAK IS REACHED	FLOW STOPS FALLING	BEFORE PEAK	AT TOP OF PEAK	AFTER PEAK
ARM A	15.00	45.00	75.00	4.32	6.49	4.32
ARM B	15.00	45.00	75.00	0.94	1.41	0.94
ARM C	15.00	45.00	75.00	5.13	7.69	5.13

TRL TRL Viewer 3.2 AG J:\.. \Shawbridge St_Taylor St T-JN\Existing Shawbridge St_Taylor St - T-Jn (AM Peak).

Demand set: 2012 Observed Base Flows

TIME	FROM/TO	ARM A	ARM B	ARM C
		TURNING PROPORTIONS / TURNING COUNTS / (PERCENTAGE OF H.V.S)		
07.45 - 08.00				
	ARM A	0.000	0.185	0.815
		0.0	64.0	282.0
		(0.0)	(0.0)	(0.0)
	ARM B	0.413	0.000	0.587
		31.0	0.0	44.0
		(0.0)	(0.0)	(0.0)
	ARM C	0.807	0.193	0.000
		331.0	79.0	0.0
		(0.0)	(0.0)	(0.0)

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

FOR DEMAND SET 2012 Observed Base Flows
AND FOR TIME PERIOD 1

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
07.45-08.00									
B-C	0.55	10.77	0.051		0.00	0.05	0.8		0.10
B-A	0.39	7.35	0.053		0.00	0.06	0.8		0.14
C-AB	0.99	8.91	0.111		0.00	0.13	1.9		0.13
A-B	0.80								
A-C	3.54								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
08.00-08.15									
B-C	0.66	10.54	0.063		0.05	0.07	1.0		0.10
B-A	0.46	6.98	0.067		0.06	0.07	1.0		0.15
C-AB	1.18	8.73	0.136		0.13	0.17	2.5		0.13
A-B	0.96								
A-C	4.23								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
08.15-08.30									
B-C	0.81	10.22	0.079		0.07	0.09	1.3		0.11
B-A	0.57	6.46	0.088		0.07	0.10	1.4		0.17
C-AB	1.45	8.48	0.171		0.17	0.23	3.4		0.14
A-B	1.17								
A-C	5.17								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
08.30-08.45									
B-C	0.81	10.22	0.079		0.09	0.09	1.3		0.11
B-A	0.57	6.46	0.088		0.10	0.10	1.4		0.17
C-AB	1.45	8.48	0.171		0.23	0.23	3.5		0.14
A-B	1.17								
A-C	5.17								

TRL TRL Viewer 3.2 AG J:\.. \Shawbridge St_Taylor St T-JN\Existing Shawbridge St_Taylor St - T-Jn (AM Peak).

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
08.45-09.00									
B-C	0.66	10.54	0.063		0.09	0.07	1.0		0.10
B-A	0.46	6.98	0.067		0.10	0.07	1.1		0.15
C-AB	1.18	8.73	0.136		0.23	0.17	2.6		0.13
A-B	0.96								
A-C	4.23								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
09.00-09.15									
B-C	0.55	10.77	0.051		0.07	0.05	0.8		0.10
B-A	0.39	7.35	0.053		0.07	0.06	0.9		0.14
C-AB	0.99	8.91	0.111		0.17	0.13	2.0		0.13
A-B	0.80								
A-C	3.54								

WARNING NO MARGINAL ANALYSIS OF CAPACITIES AS MAJOR ROAD BLOCKING MAY OCCUR

QUEUE FOR STREAM B-C

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
08.00	0.1
08.15	0.1
08.30	0.1
08.45	0.1
09.00	0.1
09.15	0.1

QUEUE FOR STREAM B-A

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
08.00	0.1
08.15	0.1
08.30	0.1
08.45	0.1
09.00	0.1
09.15	0.1

QUEUE FOR STREAM C-AB

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
08.00	0.1
08.15	0.2
08.30	0.2
08.45	0.2
09.00	0.2
09.15	0.1

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

STREAM	TOTAL DEMAND (VEH)	TOTAL DEMAND (VEH/H)	* QUEUEING * * DELAY * (MIN)	* QUEUEING * * DELAY * (MIN/VEH)	* INCLUSIVE QUEUEING * * DELAY * (MIN)	* INCLUSIVE QUEUEING * * DELAY * (MIN/VEH)
B-C	60.6	40.4	6.1	0.10	6.2	0.10
B-A	42.7	28.4	6.6	0.16	6.6	0.16
C-AB	108.7	72.5	15.9	0.15	15.9	0.15
A-B	88.1	58.7				
A-C	388.2	258.8				
ALL	1143.8	762.5	28.7	0.03	28.7	0.03

* DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD
* INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD
* THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.

*******END OF RUN*******

.SLOPES AND INTERCEPT

(NB:Streams may be combined, in which case capacity will be adjusted)

Intercept For STREAM B-C	Slope For Opposing STREAM A-C	Slope For Opposing STREAM A-B
0.00	0.00	0.00

* Due to the presence of a flare, data is not available

Intercept For STREAM B-A	Slope For Opposing STREAM A-C	Slope For Opposing STREAM A-B	Slope For Opposing STREAM C-A	Slope For Opposing STREAM C-B
0.00	0.00	0.00	0.00	0.00

* Due to the presence of a flare, data is not available

Intercept For STREAM C-B	Slope For Opposing STREAM A-C	Slope For Opposing STREAM A-B
591.34	0.22	0.22

(NB These values do not allow for any site specific corrections)

TRAFFIC DEMAND DATA

ARM	FLOW SCALE(%)
A	100
B	100
C	100

Demand set: Base Year 2015

TIME PERIOD BEGINS 07.45 AND ENDS 09.15

LENGTH OF TIME PERIOD - 90 MIN.
LENGTH OF TIME SEGMENT - 15 MIN.

DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

ARM	NUMBER OF MINUTES FROM START WHEN: FLOW STARTS TO RISE	TOP OF PEAK IS REACHED	FLOW STOPS FALLING	RATE OF FLOW (VEH/MIN): BEFORE PEAK	AT TOP OF PEAK	AFTER PEAK
ARM A	15.00	45.00	75.00	4.44	6.66	4.44
ARM B	15.00	45.00	75.00	0.96	1.44	0.96
ARM C	15.00	45.00	75.00	5.25	7.88	5.25

Demand set: Base Year 2015

TIME	FROM/TO	ARM A	ARM B	ARM C
		TURNING PROPORTIONS / TURNING COUNTS / (PERCENTAGE OF H.V.S)		
07.45 - 08.00	ARM A	0.000	0.186	0.814
		0.0	66.0	289.0
		(0.0)	(0.0)	(0.0)
	ARM B	0.416	0.000	0.584
		32.0	0.0	45.0
		(0.0)	(0.0)	(0.0)
	ARM C	0.807	0.193	0.000
		339.0	81.0	0.0
		(0.0)	(0.0)	(0.0)

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

FOR DEMAND SET Base Year 2015
AND FOR TIME PERIOD 1

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
07.45-08.00									
B-C	0.56	10.74	0.053		0.00	0.06	0.8		0.10
B-A	0.40	7.31	0.055		0.00	0.06	0.8		0.14
C-AB	1.02	8.89	0.114		0.00	0.13	2.0		0.13
A-B	0.83								
A-C	3.63								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
08.00-08.15									
B-C	0.67	10.50	0.064		0.06	0.07	1.0		0.10
B-A	0.48	6.92	0.069		0.06	0.07	1.1		0.16
C-AB	1.21	8.70	0.139		0.13	0.17	2.6		0.13
A-B	0.99								
A-C	4.33								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
08.15-08.30									
B-C	0.83	10.17	0.081		0.07	0.09	1.3		0.11
B-A	0.59	6.39	0.092		0.07	0.10	1.5		0.17
C-AB	1.49	8.44	0.176		0.17	0.24	3.6		0.14
A-B	1.21								
A-C	5.30								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
08.30-08.45									
B-C	0.83	10.17	0.081		0.09	0.09	1.3		0.11
B-A	0.59	6.39	0.092		0.10	0.10	1.5		0.17
C-AB	1.49	8.44	0.176		0.24	0.24	3.6		0.14
A-B	1.21								
A-C	5.30								

TRL TRL Viewer 3.2 AG J:\.. \Shawbridge St_Taylor St T-JN\Existing Shawbridge St_Taylor St - T-Jn (AM Peak).

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
08.45-09.00									
B-C	0.67	10.50	0.064		0.09	0.07	1.1		0.10
B-A	0.48	6.92	0.069		0.10	0.08	1.2		0.16
C-AB	1.21	8.70	0.139		0.24	0.18	2.7		0.13
A-B	0.99								
A-C	4.33								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
09.00-09.15									
B-C	0.56	10.74	0.053		0.07	0.06	0.9		0.10
B-A	0.40	7.30	0.055		0.08	0.06	0.9		0.15
C-AB	1.02	8.89	0.114		0.18	0.14	2.1		0.13
A-B	0.83								
A-C	3.63								

WARNING NO MARGINAL ANALYSIS OF CAPACITIES AS MAJOR ROAD BLOCKING MAY OCCUR

QUEUE FOR STREAM B-C

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
08.00	0.1
08.15	0.1
08.30	0.1
08.45	0.1
09.00	0.1
09.15	0.1

QUEUE FOR STREAM B-A

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
08.00	0.1
08.15	0.1
08.30	0.1
08.45	0.1
09.00	0.1
09.15	0.1

QUEUE FOR STREAM C-AB

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
08.00	0.1
08.15	0.2
08.30	0.2
08.45	0.2
09.00	0.2
09.15	0.1

TRL TRL Viewer 3.2 AG J:\.. \Shawbridge St_Taylor St T-JN\Existing Shawbridge St_Taylor St - T-Jn (AM Peak).

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

STREAM	TOTAL DEMAND (VEH)	TOTAL DEMAND (VEH/H)	* QUEUEING * * DELAY * (MIN)	* QUEUEING * * DELAY * (MIN/VEH)	* INCLUSIVE QUEUEING * * DELAY * (MIN)	* INCLUSIVE QUEUEING * * DELAY * (MIN/VEH)
B-C	61.9	41.3	6.3	0.10	6.3	0.10
B-A	44.0	29.4	6.9	0.16	6.9	0.16
C-AB	111.5	74.3	16.5	0.15	16.5	0.15
A-B	90.8	60.6				
A-C	397.8	265.2				
ALL	1172.7	781.8	29.8	0.03	29.8	0.03

* DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD
* INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD
* THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.

*******END OF RUN*******

.SLOPES AND INTERCEPT

(NB:Streams may be combined, in which case capacity will be adjusted)

Intercept For STREAM B-C	Slope For Opposing STREAM A-C	Slope For Opposing STREAM A-B
0.00	0.00	0.00

* Due to the presence of a flare, data is not available

Intercept For STREAM B-A	Slope For Opposing STREAM A-C	Slope For Opposing STREAM A-B	Slope For Opposing STREAM C-A	Slope For Opposing STREAM C-B
0.00	0.00	0.00	0.00	0.00

* Due to the presence of a flare, data is not available

Intercept For STREAM C-B	Slope For Opposing STREAM A-C	Slope For Opposing STREAM A-B
591.34	0.22	0.22

(NB These values do not allow for any site specific corrections)

TRAFFIC DEMAND DATA

ARM	FLOW SCALE(%)
A	100
B	100
C	100

Demand set: Assessment Year 2015

TIME PERIOD BEGINS 07.45 AND ENDS 09.15

LENGTH OF TIME PERIOD - 90 MIN.
LENGTH OF TIME SEGMENT - 15 MIN.

DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

ARM	NUMBER OF MINUTES FROM START WHEN FLOW STARTS TO RISE	TOP OF PEAK IS REACHED	FLOW STOPS FALLING	RATE OF FLOW (VEH/MIN) BEFORE PEAK	AT TOP OF PEAK	AFTER PEAK
ARM A	15.00	45.00	75.00	5.63	8.44	5.63
ARM B	15.00	45.00	75.00	1.20	1.80	1.20
ARM C	15.00	45.00	75.00	7.60	11.40	7.60

Demand set: Assessment Year 2015

TIME	FROM/TO	ARM A	ARM B	ARM C
		TURNING PROPORTIONS / TURNING COUNTS / (PERCENTAGE OF H.V.S)		
07.45 - 08.00				
	ARM A	0.000	0.147	0.853
		0.0	66.0	384.0
		(0.0)	(0.0)	(0.0)
	ARM B	0.333	0.000	0.667
		32.0	0.0	64.0
		(0.0)	(0.0)	(0.0)
	ARM C	0.771	0.229	0.000
		469.0	139.0	0.0
		(0.0)	(0.0)	(0.0)

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

FOR DEMAND SET Assessment Year 2015
AND FOR TIME PERIOD 1

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
07.45-08.00									
B-C	0.80	10.42	0.077		0.00	0.08	1.2		0.10
B-A	0.40	6.51	0.062		0.00	0.06	0.9		0.16
C-AB	1.74	8.63	0.202		0.00	0.28	4.2		0.14
A-B	0.83								
A-C	4.82								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
08.00-08.15									
B-C	0.96	10.11	0.095		0.08	0.10	1.5		0.11
B-A	0.48	5.97	0.080		0.06	0.09	1.3		0.18
C-AB	2.08	8.39	0.248		0.28	0.39	5.9		0.16
A-B	0.99								
A-C	5.75								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
08.15-08.30									
B-C	1.17	9.67	0.121		0.10	0.14	2.0		0.12
B-A	0.59	5.23	0.112		0.09	0.12	1.8		0.22
C-AB	2.55	8.06	0.316		0.39	0.60	9.0		0.18
A-B	1.21								
A-C	7.05								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
08.30-08.45									
B-C	1.17	9.67	0.121		0.14	0.14	2.1		0.12
B-A	0.59	5.23	0.112		0.12	0.13	1.9		0.22
C-AB	2.55	8.06	0.316		0.60	0.61	9.3		0.18
A-B	1.21								
A-C	7.05								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
08.45-09.00									
B-C	0.96	10.11	0.095		0.14	0.11	1.6		0.11
B-A	0.48	5.97	0.080		0.13	0.09	1.4		0.18
C-AB	2.08	8.39	0.248		0.61	0.41	6.2		0.16
A-B	0.99								
A-C	5.75								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
09.00-09.15									
B-C	0.80	10.41	0.077		0.11	0.08	1.3		0.10
B-A	0.40	6.51	0.062		0.09	0.07	1.0		0.16
C-AB	1.74	8.63	0.202		0.41	0.29	4.4		0.15
A-B	0.83								
A-C	4.82								

WARNING NO MARGINAL ANALYSIS OF CAPACITIES AS MAJOR ROAD BLOCKING MAY OCCUR

QUEUE FOR STREAM B-C

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
08.00	0.1
08.15	0.1
08.30	0.1
08.45	0.1
09.00	0.1
09.15	0.1

QUEUE FOR STREAM B-A

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
08.00	0.1
08.15	0.1
08.30	0.1
08.45	0.1
09.00	0.1
09.15	0.1

QUEUE FOR STREAM C-AB

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
08.00	0.3	
08.15	0.4	
08.30	0.6	*
08.45	0.6	*
09.00	0.4	
09.15	0.3	

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

STREAM	TOTAL DEMAND (VEH)	TOTAL DEMAND (VEH/H)	* QUEUEING * * DELAY * (MIN)	* QUEUEING * * DELAY * (MIN/VEH)	* INCLUSIVE QUEUEING * * DELAY * (MIN)	* INCLUSIVE QUEUEING * * DELAY * (MIN/VEH)
B-C	88.1	58.7	9.7	0.11	9.7	0.11
B-A	44.0	29.4	8.3	0.19	8.3	0.19
C-AB	191.3	127.5	38.9	0.20	38.9	0.20
A-B	90.8	60.6				
A-C	528.5	352.4				
ALL	1588.4	1058.9	56.8	0.04	56.9	0.04

* DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD
* INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD
* THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.

*******END OF RUN*******

.SLOPES AND INTERCEPT

(NB:Streams may be combined, in which case capacity will be adjusted)

Intercept For STREAM B-C	Slope For Opposing STREAM A-C	Slope For Opposing STREAM A-B
0.00	0.00	0.00

* Due to the presence of a flare, data is not available

Intercept For STREAM B-A	Slope For Opposing STREAM A-C	Slope For Opposing STREAM A-B	Slope For Opposing STREAM C-A	Slope For Opposing STREAM C-B
0.00	0.00	0.00	0.00	0.00

* Due to the presence of a flare, data is not available

Intercept For STREAM C-B	Slope For Opposing STREAM A-C	Slope For Opposing STREAM A-B
591.34	0.22	0.22

(NB These values do not allow for any site specific corrections)

TRAFFIC DEMAND DATA

ARM	FLOW SCALE(%)
A	100
B	100
C	100

Demand set: Base year 2030

TIME PERIOD BEGINS 07.45 AND ENDS 09.15

LENGTH OF TIME PERIOD - 90 MIN.
LENGTH OF TIME SEGMENT - 15 MIN.

DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

ARM	NUMBER OF MINUTES FROM START WHEN FLOW STARTS TO RISE	TOP OF PEAK IS REACHED	FLOW STOPS FALLING	RATE OF FLOW (VEH/MIN) BEFORE PEAK	AT TOP OF PEAK	AFTER PEAK
ARM A	15.00	45.00	75.00	5.45	8.17	5.45
ARM B	15.00	45.00	75.00	1.17	1.76	1.17
ARM C	15.00	45.00	75.00	6.45	9.67	6.45

Demand set: Base year 2030

TIME	FROM/TO	TURNING PROPORTIONS / TURNING COUNTS / (PERCENTAGE OF H.V.S) ARM A	ARM B	ARM C
07.45 - 08.00				
	ARM A	0.000	0.186	0.814
		0.0	81.0	355.0
		(0.0)	(0.0)	(0.0)
	ARM B	0.415	0.000	0.585
		39.0	0.0	55.0
		(0.0)	(0.0)	(0.0)
	ARM C	0.808	0.192	0.000
		417.0	99.0	0.0
		(0.0)	(0.0)	(0.0)

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

FOR DEMAND SET Base year 2030
AND FOR TIME PERIOD 1

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
07.45-08.00									
B-C	0.69	10.47	0.066		0.00	0.07	1.0		0.10
B-A	0.49	6.86	0.071		0.00	0.08	1.1		0.16
C-AB	1.24	8.67	0.143		0.00	0.18	2.7		0.13
A-B	1.02								
A-C	4.45								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
08.00-08.15									
B-C	0.82	10.17	0.081		0.07	0.09	1.3		0.11
B-A	0.58	6.39	0.091		0.08	0.10	1.5		0.17
C-AB	1.48	8.44	0.176		0.18	0.24	3.6		0.14
A-B	1.21								
A-C	5.32								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
08.15-08.30									
B-C	1.01	9.75	0.104		0.09	0.11	1.7		0.11
B-A	0.72	5.74	0.125		0.10	0.14	2.0		0.20
C-AB	1.82	8.12	0.224		0.24	0.34	5.1		0.16
A-B	1.49								
A-C	6.51								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
08.30-08.45									
B-C	1.01	9.75	0.104		0.11	0.12	1.7		0.11
B-A	0.72	5.74	0.125		0.14	0.14	2.1		0.20
C-AB	1.82	8.12	0.224		0.34	0.35	5.2		0.16
A-B	1.49								
A-C	6.51								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
08.45-09.00									
B-C	0.82	10.17	0.081		0.12	0.09	1.4		0.11
B-A	0.58	6.38	0.092		0.14	0.10	1.6		0.17
C-AB	1.48	8.44	0.176		0.35	0.24	3.7		0.14
A-B	1.21								
A-C	5.32								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
09.00-09.15									
B-C	0.69	10.46	0.066		0.09	0.07	1.1		0.10
B-A	0.49	6.85	0.071		0.10	0.08	1.2		0.16
C-AB	1.24	8.67	0.143		0.24	0.18	2.8		0.13
A-B	1.02								
A-C	4.45								

WARNING NO MARGINAL ANALYSIS OF CAPACITIES AS MAJOR ROAD BLOCKING MAY OCCUR

QUEUE FOR STREAM B-C

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
08.00	0.1
08.15	0.1
08.30	0.1
08.45	0.1
09.00	0.1
09.15	0.1

QUEUE FOR STREAM B-A

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
08.00	0.1
08.15	0.1
08.30	0.1
08.45	0.1
09.00	0.1
09.15	0.1

QUEUE FOR STREAM C-AB

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
08.00	0.2
08.15	0.2
08.30	0.3
08.45	0.3
09.00	0.2
09.15	0.2

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

STREAM	TOTAL DEMAND (VEH)	TOTAL DEMAND (VEH/H)	* QUEUEING * * DELAY * (MIN)	* QUEUEING * * DELAY * (MIN/VEH)	* INCLUSIVE QUEUEING * * DELAY * (MIN)	* INCLUSIVE QUEUEING * * DELAY * (MIN/VEH)
B-C	75.7	50.5	8.2	0.11	8.2	0.11
B-A	53.7	35.8	9.5	0.18	9.5	0.18
C-AB	136.3	90.8	23.0	0.17	23.0	0.17
A-B	111.5	74.3				
A-C	488.6	325.8				
ALL	1439.7	959.8	40.7	0.03	40.7	0.03

* DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD
* INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD
* THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.

*******END OF RUN*******

.SLOPES AND INTERCEPT

(NB:Streams may be combined, in which case capacity will be adjusted)

Intercept For STREAM B-C	Slope For Opposing STREAM A-C	Slope For Opposing STREAM A-B
0.00	0.00	0.00

* Due to the presence of a flare, data is not available

Intercept For STREAM B-A	Slope For Opposing STREAM A-C	Slope For Opposing STREAM A-B	Slope For Opposing STREAM C-A	Slope For Opposing STREAM C-B
0.00	0.00	0.00	0.00	0.00

* Due to the presence of a flare, data is not available

Intercept For STREAM C-B	Slope For Opposing STREAM A-C	Slope For Opposing STREAM A-B
591.34	0.22	0.22

(NB These values do not allow for any site specific corrections)

TRAFFIC DEMAND DATA

ARM	FLOW SCALE(%)
A	100
B	100
C	100

Demand set: Assessment year 2030

TIME PERIOD BEGINS 07.45 AND ENDS 09.15

LENGTH OF TIME PERIOD - 90 MIN.
LENGTH OF TIME SEGMENT - 15 MIN.

DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

ARM	NUMBER OF MINUTES FROM START WHEN FLOW STARTS TO RISE	TOP OF PEAK IS REACHED	FLOW STOPS FALLING	RATE OF FLOW (VEH/MIN) BEFORE PEAK	AT TOP OF PEAK	AFTER PEAK
ARM A	15.00	45.00	75.00	6.63	9.94	6.63
ARM B	15.00	45.00	75.00	1.41	2.12	1.41
ARM C	15.00	45.00	75.00	8.80	13.20	8.80

TRL TRL Viewer 3.2 AG J:\.. \Shawbridge St_Taylor St T-JN\Existing Shawbridge St_Taylor St - T-Jn (AM Peak).

Demand set: Assessment year 2030

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--------------------------------------------------------------
I                    I         TURNING PROPORTIONS        I
I                    I         TURNING COUNTS             I
I                    I        (PERCENTAGE OF H.V.S)       I
I                    -------------------------------------
I        TIME        I FROM/TO I ARM  A I ARM  B I ARM  C I
--------------------------------------------------------------
I   07.45 - 08.00    I         I        I        I        I
I                    I ARM  A  I  0.000 I  0.153 I  0.847 I
I                    I         I    0.0 I   81.0 I  449.0 I
I                    I         I (  0.0)I (  0.0)I (  0.0)I
I                    I         I        I        I        I
I                    I ARM  B  I  0.345 I  0.000 I  0.655 I
I                    I         I   39.0 I    0.0 I   74.0 I
I                    I         I (  0.0)I (  0.0)I (  0.0)I
I                    I         I        I        I        I
I                    I ARM  C  I  0.776 I  0.224 I  0.000 I
I                    I         I  546.0 I  158.0 I    0.0 I
I                    I         I (  0.0)I (  0.0)I (  0.0)I
I                    I         I        I        I        I
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TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

FOR DEMAND SET Assessment year 2030
AND FOR TIME PERIOD 1

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
07.45-08.00									
B-C	0.93	10.14	0.092		0.00	0.10	1.5		0.11
B-A	0.49	6.07	0.081		0.00	0.09	1.2		0.18
C-AB	1.98	8.41	0.236		0.00	0.36	5.3		0.15
A-B	1.02								
A-C	5.63								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
08.00-08.15									
B-C	1.11	9.77	0.114		0.10	0.13	1.9		0.12
B-A	0.58	5.44	0.107		0.09	0.12	1.7		0.21
C-AB	2.37	8.13	0.291		0.36	0.52	7.7		0.17
A-B	1.21								
A-C	6.73								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
08.15-08.30									
B-C	1.36	9.23	0.147		0.13	0.17	2.5		0.13
B-A	0.72	4.58	0.156		0.12	0.18	2.6		0.26
C-AB	2.90	7.74	0.374		0.52	0.85	12.8		0.21
A-B	1.49								
A-C	8.24								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
08.30-08.45									
B-C	1.36	9.23	0.147		0.17	0.17	2.6		0.13
B-A	0.72	4.57	0.157		0.18	0.18	2.7		0.26
C-AB	2.90	7.74	0.374		0.85	0.87	13.3		0.21
A-B	1.49								
A-C	8.24								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
08.45-09.00									
B-C	1.11	9.76	0.114		0.17	0.13	2.0		0.12
B-A	0.58	5.43	0.108		0.18	0.12	1.9		0.21
C-AB	2.37	8.13	0.291		0.87	0.55	8.3		0.18
A-B	1.21								
A-C	6.73								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
09.00-09.15									
B-C	0.93	10.13	0.092		0.13	0.10	1.6		0.11
B-A	0.49	6.06	0.081		0.12	0.09	1.4		0.18
C-AB	1.98	8.41	0.236		0.55	0.37	5.7		0.16
A-B	1.02								
A-C	5.63								

WARNING NO MARGINAL ANALYSIS OF CAPACITIES AS MAJOR ROAD BLOCKING MAY OCCUR

QUEUE FOR STREAM B-C

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
08.00	0.1
08.15	0.1
08.30	0.2
08.45	0.2
09.00	0.1
09.15	0.1

QUEUE FOR STREAM B-A

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
08.00	0.1
08.15	0.1
08.30	0.2
08.45	0.2
09.00	0.1
09.15	0.1

QUEUE FOR STREAM C-AB

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
08.00	0.4	
08.15	0.5	*
08.30	0.9	*
08.45	0.9	*
09.00	0.5	*
09.15	0.4	

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

STREAM	TOTAL DEMAND		* QUEUEING * * DELAY *		* INCLUSIVE QUEUEING * * DELAY *	
	(VEH)	(VEH/H)	(MIN)	(MIN/VEH)	(MIN)	(MIN/VEH)
B-C	101.9	67.9	11.9	0.12	11.9	0.12
B-A	53.7	35.8	11.6	0.22	11.6	0.22
C-AB	217.5	145.0	53.1	0.24	53.1	0.24
A-B	111.5	74.3				
A-C	618.0	412.0				
ALL	1854.0	1236.0	76.7	0.04	76.7	0.04

* DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD
* INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES
WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD
* THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS
A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.

*******END OF RUN*******

== end of file ==

Printed at 12:57:41 on 26/09/2012]

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   CAPACITIES, QUEUES, AND DELAYS AT 3 OR 4-ARM MAJOR/MINOR PRIORITY JUNCTIONS

                         PICADY 5.1  ANALYSIS PROGRAM
                            RELEASE 4.0 (SEPT 2008)

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            --------------------------------------------------------



 THE USER OF THIS COMPUTER PROGRAM FOR THE SOLUTION OF AN ENGINEERING PROBLEM IS
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 Run with file:-
 "J:\2012\A077038 Standen Estates\Picady\Shawbridge St_Taylor St T-JN\
  Existing Shawbridge St_Taylor St - T-Jn (PM Peak).vpi"
(drive-on-the-left) at 18:17:49 on Monday, 8 October 2012



 RUN INFORMATION
 ***************

 RUN TITLE       : Taylor St/Shawbridge St T-Junction
 LOCATION        : Taylor St/Shawbridge St T-Junction
 DATE            : 09/07/12
 CLIENT          :
 ENUMERATOR      : steven.ho [27-WRK-SBA-021]
 JOB NUMBER      : A077038
 STATUS          :
 DESCRIPTION     :


 MAJOR/MINOR JUNCTION CAPACITY AND DELAY
  ****************************************

  INPUT DATA
  ----------

                     MAJOR ROAD (ARM C) --------------------- MAJOR ROAD (ARM A)
                                                  I
                                                  I
                                                  I
                                                  I
                                                  I
                                                  I
                                          MINOR ROAD (ARM B)

 ARM A IS Shawbridge Street EB
 ARM B IS Taylor
 ARM C IS Shawbridge Street WB


 STREAM LABELLING CONVENTION
 ---------------------------
         STREAM  A-B  CONTAINS TRAFFIC GOING FROM ARM  A TO ARM B
         STREAM  B-AC CONTAINS TRAFFIC GOING FROM ARM  B TO ARM A AND TO ARM  C
         ETC.
```

GEOMETRIC DATA

DATA ITEM	MINOR ROAD B
TOTAL MAJOR ROAD CARRIAGEWAY WIDTH	(W) 7.20 M.
CENTRAL RESERVE WIDTH	(WCR) 0.00 M.
MAJOR ROAD RIGHT TURN - WIDTH	(WC-B) 2.20 M.
- VISIBILITY	(VC-B) 30.00 M.
- BLOCKS TRAFFIC	YES
MINOR ROAD - VISIBILITY TO LEFT	(VB-C) 28.0 M.
- VISIBILITY TO RIGHT	(VB-A) 38.0 M.
- LANE 1 WIDTH	(WB-C) -
- LANE 2 WIDTH	(WB-A) -
WIDTH AT 0 M FROM JUNCTION	9.00 M.
WIDTH AT 5 M FROM JUNCTION	4.00 M.
WIDTH AT 10 M FROM JUNCTION	3.75 M.
WIDTH AT 15 M FROM JUNCTION	3.75 M.
WIDTH AT 20 M FROM JUNCTION	3.75 M.
- LENGTH OF FLARED SECTION	DERIVED: 0 PCU

.SLOPES AND INTERCEPT

(NB:Streams may be combined, in which case capacity will be adjusted)

Intercept For STREAM B-C	Slope For Opposing STREAM A-C	Slope For Opposing STREAM A-B
0.00	0.00	0.00

* Due to the presence of a flare, data is not available

Intercept For STREAM B-A	Slope For Opposing STREAM A-C	Slope For Opposing STREAM A-B	Slope For Opposing STREAM C-A	Slope For Opposing STREAM C-B
0.00	0.00	0.00	0.00	0.00

* Due to the presence of a flare, data is not available

Intercept For STREAM C-B	Slope For Opposing STREAM A-C	Slope For Opposing STREAM A-B
591.34	0.22	0.22

(NB These values do not allow for any site specific corrections)

TRAFFIC DEMAND DATA

ARM	FLOW SCALE(%)
A	100
B	100
C	100

Demand set: 2012 Observed Base Flows

TIME PERIOD BEGINS 16.45 AND ENDS 18.15

LENGTH OF TIME PERIOD - 90 MIN.
LENGTH OF TIME SEGMENT - 15 MIN.

DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

ARM	NUMBER OF MINUTES FROM START WHEN FLOW STARTS TO RISE	TOP OF PEAK IS REACHED	FLOW STOPS FALLING	RATE OF FLOW (VEH/MIN) BEFORE PEAK	AT TOP OF PEAK	AFTER PEAK
ARM A	15.00	45.00	75.00	4.88	7.31	4.88
ARM B	15.00	45.00	75.00	1.69	2.53	1.69
ARM C	15.00	45.00	75.00	4.24	6.36	4.24

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TRL              TRL Viewer    3.2 AG J:\.. \Shawbridge St_Taylor St T-JN\Existing Shawbridge St_Taylor St - T-Jn (PM Peak).

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 Demand set:        2012 Observed Base Flows
 -----------------------------------------------------------
 I                    I         TURNING PROPORTIONS        I
 I                    I         TURNING COUNTS             I
 I                    I        (PERCENTAGE OF H.V.S)       I
 I                    -------------------------------------
 I        TIME        I FROM/TO I ARM  A I ARM  B I ARM  C I
 -----------------------------------------------------------
 I   16.45 - 17.00    I         I        I        I        I
 I                    I ARM  A  I  0.000 I  0.095 I  0.905 I
 I                    I         I    0.0 I   37.0 I  353.0 I
 I                    I         I (  0.0)I (  0.0)I (  0.0)I
 I                    I         I        I        I        I
 I                    I ARM  B  I  0.437 I  0.000 I  0.563 I
 I                    I         I   59.0 I    0.0 I   76.0 I
 I                    I         I (  0.0)I (  0.0)I (  0.0)I
 I                    I         I        I        I        I
 I                    I ARM  C  I  0.897 I  0.103 I  0.000 I
 I                    I         I  304.0 I   35.0 I    0.0 I
 I                    I         I (  0.0)I (  0.0)I (  0.0)I
 I                    I         I        I        I        I
 -----------------------------------------------------------
 TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA


               QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT
               --------------------------------------------------------
                FOR DEMAND SET         2012 Observed Base Flows
                AND FOR TIME PERIOD       1

 -------------------------------------------------------------------------------------------------------------------
 I  TIME       DEMAND  CAPACITY  DEMAND/    PEDESTRIAN  START   END        DELAY     GEOMETRIC DELAY   AVERAGE DELAY I
 I          (VEH/MIN) (VEH/MIN) CAPACITY      FLOW      QUEUE  QUEUE    (VEH.MIN/       (VEH.MIN/      PER ARRIVING  I
 I                                (RFC)    (PEDS/MIN) (VEHS) (VEHS)  TIME SEGMENT)  TIME SEGMENT)    VEHICLE (MIN) I
 I 16.45-17.00                                                                                                     I
 I   B-C        0.95     10.45    0.091                 0.00   0.10         1.4                              0.11      I
 I   B-A        0.74      7.41    0.100                 0.00   0.11         1.6                              0.15      I
 I   C-AB       0.44      8.79    0.050                 0.00   0.05         0.8                              0.12      I
 I   A-B        0.46                                                                                                   I
 I   A-C        4.43                                                                                                   I
 I                                                                                                                   I

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 I  TIME       DEMAND  CAPACITY  DEMAND/    PEDESTRIAN  START   END        DELAY     GEOMETRIC DELAY   AVERAGE DELAY I
 I          (VEH/MIN) (VEH/MIN) CAPACITY      FLOW      QUEUE  QUEUE    (VEH.MIN/       (VEH.MIN/      PER ARRIVING  I
 I                                (RFC)    (PEDS/MIN) (VEHS) (VEHS)  TIME SEGMENT)  TIME SEGMENT)    VEHICLE (MIN) I
 I 17.00-17.15                                                                                                     I
 I   B-C        1.14     10.15    0.112                 0.10   0.13         1.8                              0.11      I
 I   B-A        0.88      7.05    0.125                 0.11   0.14         2.1                              0.16      I
 I   C-AB       0.52      8.59    0.061                 0.05   0.07         1.0                              0.12      I
 I   A-B        0.55                                                                                                   I
 I   A-C        5.29                                                                                                   I
 I                                                                                                                   I

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 I  TIME       DEMAND  CAPACITY  DEMAND/    PEDESTRIAN  START   END        DELAY     GEOMETRIC DELAY   AVERAGE DELAY I
 I          (VEH/MIN) (VEH/MIN) CAPACITY      FLOW      QUEUE  QUEUE    (VEH.MIN/       (VEH.MIN/      PER ARRIVING  I
 I                                (RFC)    (PEDS/MIN) (VEHS) (VEHS)  TIME SEGMENT)  TIME SEGMENT)    VEHICLE (MIN) I
 I 17.15-17.30                                                                                                     I
 I   B-C        1.39      9.74    0.143                 0.13   0.17         2.4                              0.12      I
 I   B-A        1.08      6.55    0.165                 0.14   0.20         2.8                              0.18      I
 I   C-AB       0.64      8.30    0.077                 0.07   0.09         1.3                              0.13      I
 I   A-B        0.68                                                                                                   I
 I   A-C        6.48                                                                                                   I
 I                                                                                                                   I

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 I  TIME       DEMAND  CAPACITY  DEMAND/    PEDESTRIAN  START   END        DELAY     GEOMETRIC DELAY   AVERAGE DELAY I
 I          (VEH/MIN) (VEH/MIN) CAPACITY      FLOW      QUEUE  QUEUE    (VEH.MIN/       (VEH.MIN/      PER ARRIVING  I
 I                                (RFC)    (PEDS/MIN) (VEHS) (VEHS)  TIME SEGMENT)  TIME SEGMENT)    VEHICLE (MIN) I
 I 17.30-17.45                                                                                                     I
 I   B-C        1.39      9.73    0.143                 0.17   0.17         2.5                              0.12      I
 I   B-A        1.08      6.55    0.165                 0.20   0.20         2.9                              0.18      I
 I   C-AB       0.64      8.30    0.077                 0.09   0.09         1.3                              0.13      I
 I   A-B        0.68                                                                                                   I
 I   A-C        6.48                                                                                                   I
 I                                                                                                                   I

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TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
17.45-18.00									
B-C	1.14	10.15	0.112		0.17	0.13	2.0		0.11
B-A	0.88	7.05	0.125		0.20	0.15	2.2		0.16
C-AB	0.52	8.59	0.061		0.09	0.07	1.0		0.12
A-B	0.55								
A-C	5.29								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
18.00-18.15									
B-C	0.95	10.45	0.091		0.13	0.10	1.5		0.11
B-A	0.74	7.41	0.100		0.15	0.11	1.7		0.15
C-AB	0.44	8.79	0.050		0.07	0.05	0.8		0.12
A-B	0.46								
A-C	4.43								

WARNING NO MARGINAL ANALYSIS OF CAPACITIES AS MAJOR ROAD BLOCKING MAY OCCUR

QUEUE FOR STREAM B-C

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
17.00	0.1
17.15	0.1
17.30	0.2
17.45	0.2
18.00	0.1
18.15	0.1

QUEUE FOR STREAM B-A

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
17.00	0.1
17.15	0.1
17.30	0.2
17.45	0.2
18.00	0.1
18.15	0.1

QUEUE FOR STREAM C-AB

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
17.00	0.1
17.15	0.1
17.30	0.1
17.45	0.1
18.00	0.1
18.15	0.1

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

STREAM	TOTAL DEMAND (VEH)	TOTAL DEMAND (VEH/H)	* QUEUEING * * DELAY * (MIN)	* QUEUEING * * DELAY * (MIN/VEH)	* INCLUSIVE QUEUEING * * DELAY * (MIN)	* INCLUSIVE QUEUEING * * DELAY * (MIN/VEH)
B-C	104.6	69.7	11.7	0.11	11.7	0.11
B-A	81.2	54.1	13.4	0.16	13.4	0.16
C-AB	48.2	32.1	6.3	0.13	6.3	0.13
A-B	50.9	34.0				
A-C	485.9	323.9				
ALL	1189.2	792.8	31.4	0.03	31.4	0.03

* DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD
* INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD
* THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.

*******END OF RUN*******

.SLOPES AND INTERCEPT

(NB:Streams may be combined, in which case capacity will be adjusted)

Intercept For STREAM B-C	Slope For Opposing STREAM A-C	Slope For Opposing STREAM A-B
0.00	0.00	0.00

* Due to the presence of a flare, data is not available

Intercept For STREAM B-A	Slope For Opposing STREAM A-C	Slope For Opposing STREAM A-B	Slope For Opposing STREAM C-A	Slope For Opposing STREAM C-B
0.00	0.00	0.00	0.00	0.00

* Due to the presence of a flare, data is not available

Intercept For STREAM C-B	Slope For Opposing STREAM A-C	Slope For Opposing STREAM A-B
591.34	0.22	0.22

(NB These values do not allow for any site specific corrections)

TRAFFIC DEMAND DATA

ARM	FLOW SCALE(%)
A	100
B	100
C	100

Demand set: 2015 Base flows

TIME PERIOD BEGINS 16.45 AND ENDS 18.15

LENGTH OF TIME PERIOD - 90 MIN.
LENGTH OF TIME SEGMENT - 15 MIN.

DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

ARM	NUMBER OF MINUTES FROM START WHEN: FLOW STARTS TO RISE	TOP OF PEAK IS REACHED	FLOW STOPS FALLING	RATE OF FLOW (VEH/MIN): BEFORE PEAK	AT TOP OF PEAK	AFTER PEAK
ARM A	15.00	45.00	75.00	5.01	7.52	5.01
ARM B	15.00	45.00	75.00	1.74	2.61	1.74
ARM C	15.00	45.00	75.00	4.35	6.52	4.35

Demand set: 2015 Base flows

TURNING PROPORTIONS / TURNING COUNTS / (PERCENTAGE OF H.V.S)

TIME	FROM/TO	ARM A	ARM B	ARM C
16.45 - 17.00				
	ARM A	0.000	0.095	0.905
		0.0	38.0	363.0
		(0.0)	(0.0)	(0.0)
	ARM B	0.439	0.000	0.561
		61.0	0.0	78.0
		(0.0)	(0.0)	(0.0)
	ARM C	0.897	0.103	0.000
		312.0	36.0	0.0
		(0.0)	(0.0)	(0.0)

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

FOR DEMAND SET 2015 Base flows
AND FOR TIME PERIOD 1

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
16.45-17.00									
B-C	0.98	10.41	0.094		0.00	0.10	1.5		0.11
B-A	0.77	7.36	0.104		0.00	0.11	1.7		0.15
C-AB	0.45	8.76	0.052		0.00	0.06	0.8		0.12
A-B	0.48								
A-C	4.55								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
17.00-17.15									
B-C	1.17	10.10	0.116		0.10	0.13	1.9		0.11
B-A	0.91	6.99	0.131		0.11	0.15	2.2		0.16
C-AB	0.54	8.55	0.063		0.06	0.07	1.0		0.12
A-B	0.57								
A-C	5.44								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
17.15-17.30									
B-C	1.43	9.67	0.148		0.13	0.17	2.5		0.12
B-A	1.12	6.48	0.173		0.15	0.21	3.0		0.19
C-AB	0.66	8.26	0.080		0.07	0.09	1.4		0.13
A-B	0.70								
A-C	6.66								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
17.30-17.45									
B-C	1.43	9.67	0.148		0.17	0.17	2.6		0.12
B-A	1.12	6.48	0.173		0.21	0.21	3.1		0.19
C-AB	0.66	8.26	0.080		0.09	0.09	1.4		0.13
A-B	0.70								
A-C	6.66								

TRL TRL Viewer 3.2 AG J:\.. \Shawbridge St_Taylor St T-JN\Existing Shawbridge St_Taylor St - T-Jn (PM Peak).

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
17.45-18.00									
B-C	1.17	10.10	0.116		0.17	0.13	2.0		0.11
B-A	0.91	6.99	0.131		0.21	0.15	2.4		0.16
C-AB	0.54	8.55	0.063		0.09	0.07	1.1		0.12
A-B	0.57								
A-C	5.44								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
18.00-18.15									
B-C	0.98	10.40	0.094		0.13	0.10	1.6		0.11
B-A	0.77	7.36	0.104		0.15	0.12	1.8		0.15
C-AB	0.45	8.76	0.052		0.07	0.06	0.8		0.12
A-B	0.48								
A-C	4.55								

WARNING NO MARGINAL ANALYSIS OF CAPACITIES AS MAJOR ROAD BLOCKING MAY OCCUR

QUEUE FOR STREAM B-C

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
17.00	0.1
17.15	0.1
17.30	0.2
17.45	0.2
18.00	0.1
18.15	0.1

QUEUE FOR STREAM B-A

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
17.00	0.1
17.15	0.1
17.30	0.2
17.45	0.2
18.00	0.2
18.15	0.1

QUEUE FOR STREAM C-AB

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
17.00	0.1
17.15	0.1
17.30	0.1
17.45	0.1
18.00	0.1
18.15	0.1

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

STREAM	TOTAL DEMAND (VEH)	TOTAL DEMAND (VEH/H)	* QUEUEING * * DELAY * (MIN)	* QUEUEING * * DELAY * (MIN/VEH)	* INCLUSIVE QUEUEING * * DELAY * (MIN)	* INCLUSIVE QUEUEING * * DELAY * (MIN/VEH)
B-C	107.4	71.6	12.1	0.11	12.1	0.11
B-A	84.0	56.0	14.1	0.17	14.1	0.17
C-AB	49.6	33.0	6.5	0.13	6.5	0.13
A-B	52.3	34.9				
A-C	499.6	333.1				
ALL	1222.3	814.8	32.7	0.03	32.7	0.03

* DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD
* INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD
* THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.

*******END OF RUN*******

.SLOPES AND INTERCEPT

(NB:Streams may be combined, in which case capacity will be adjusted)

Intercept For STREAM B-C	Slope For Opposing STREAM A-C	Slope For Opposing STREAM A-B
0.00	0.00	0.00

* Due to the presence of a flare, data is not available

Intercept For STREAM B-A	Slope For Opposing STREAM A-C	Slope For Opposing STREAM A-B	Slope For Opposing STREAM C-A	Slope For Opposing STREAM C-B
0.00	0.00	0.00	0.00	0.00

* Due to the presence of a flare, data is not available

Intercept For STREAM C-B	Slope For Opposing STREAM A-C	Slope For Opposing STREAM A-B
591.34	0.22	0.22

(NB These values do not allow for any site specific corrections)

TRAFFIC DEMAND DATA

ARM	FLOW SCALE(%)
A	100
B	100
C	100

Demand set: 2015 Assessment Flows

TIME PERIOD BEGINS 16.45 AND ENDS 18.15

LENGTH OF TIME PERIOD - 90 MIN.
LENGTH OF TIME SEGMENT - 15 MIN.

DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

ARM	NUMBER OF MINUTES FROM START WHEN FLOW STARTS TO RISE	TOP OF PEAK IS REACHED	FLOW STOPS FALLING	RATE OF FLOW (VEH/MIN) BEFORE PEAK	AT TOP OF PEAK	AFTER PEAK
ARM A	15.00	45.00	75.00	6.30	9.45	6.30
ARM B	15.00	45.00	75.00	2.41	3.62	2.41
ARM C	15.00	45.00	75.00	5.74	8.61	5.74

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Demand set:        2015 Assessment Flows
-----------------------------------------------------------
I                    I         TURNING PROPORTIONS        I
I                    I         TURNING COUNTS             I
I                    I        (PERCENTAGE OF H.V.S)       I
I                    -------------------------------------
I        TIME        I FROM/TO I ARM  A I ARM  B I ARM  C I
-----------------------------------------------------------
I   16.45 - 17.00    I         I        I        I        I
I                    I ARM  A  I  0.000 I  0.075 I  0.925 I
I                    I         I    0.0 I   38.0 I  466.0 I
I                    I         I (  0.0)I (  0.0)I (  0.0)I
I                    I         I        I        I        I
I                    I ARM  B  I  0.316 I  0.000 I  0.684 I
I                    I         I   61.0 I    0.0 I  132.0 I
I                    I         I (  0.0)I (  0.0)I (  0.0)I
I                    I         I        I        I        I
I                    I ARM  C  I  0.861 I  0.139 I  0.000 I
I                    I         I  395.0 I   64.0 I    0.0 I
I                    I         I (  0.0)I (  0.0)I (  0.0)I
I                    I         I        I        I        I
-----------------------------------------------------------
TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA
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QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

FOR DEMAND SET 2015 Assessment Flows
AND FOR TIME PERIOD 1

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
16.45-17.00									
B-C	1.66	10.05	0.165		0.00	0.20	2.8		0.12
B-A	0.77	6.77	0.113		0.00	0.13	1.8		0.17
C-AB	0.80	8.48	0.095		0.00	0.11	1.6		0.13
A-B	0.48								
A-C	5.85								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
17.00-17.15									
B-C	1.98	9.67	0.205		0.20	0.25	3.7		0.13
B-A	0.91	6.28	0.146		0.13	0.17	2.4		0.19
C-AB	0.96	8.22	0.117		0.11	0.14	2.1		0.14
A-B	0.57								
A-C	6.98								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
17.15-17.30									
B-C	2.42	9.13	0.265		0.25	0.36	5.2		0.15
B-A	1.12	5.61	0.200		0.17	0.25	3.5		0.22
C-AB	1.17	7.85	0.150		0.14	0.20	3.0		0.15
A-B	0.70								
A-C	8.55								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
17.30-17.45									
B-C	2.42	9.13	0.265		0.36	0.36	5.4		0.15
B-A	1.12	5.61	0.200		0.25	0.25	3.7		0.22
C-AB	1.17	7.85	0.150		0.20	0.20	3.0		0.15
A-B	0.70								
A-C	8.55								

TRL TRL Viewer 3.2 AG J:\.. \Shawbridge St_Taylor St T-JN\Existing Shawbridge St_Taylor St - T-Jn (PM Peak).

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
17.45-18.00									
B-C	1.98	9.67	0.205		0.36	0.26	4.0		0.13
B-A	0.91	6.28	0.146		0.25	0.17	2.7		0.19
C-AB	0.96	8.22	0.117		0.20	0.15	2.2		0.14
A-B	0.57								
A-C	6.98								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
18.00-18.15									
B-C	1.66	10.05	0.165		0.26	0.20	3.1		0.12
B-A	0.77	6.76	0.113		0.17	0.13	2.0		0.17
C-AB	0.80	8.48	0.095		0.15	0.11	1.7		0.13
A-B	0.48								
A-C	5.85								

WARNING NO MARGINAL ANALYSIS OF CAPACITIES AS MAJOR ROAD BLOCKING MAY OCCUR

QUEUE FOR STREAM B-C

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
17.00	0.2
17.15	0.3
17.30	0.4
17.45	0.4
18.00	0.3
18.15	0.2

QUEUE FOR STREAM B-A

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
17.00	0.1
17.15	0.2
17.30	0.2
17.45	0.2
18.00	0.2
18.15	0.1

QUEUE FOR STREAM C-AB

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
17.00	0.1
17.15	0.1
17.30	0.2
17.45	0.2
18.00	0.1
18.15	0.1

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

STREAM	TOTAL DEMAND (VEH)	TOTAL DEMAND (VEH/H)	* QUEUEING * * DELAY * (MIN)	* QUEUEING * * DELAY * (MIN/VEH)	* INCLUSIVE QUEUEING * * DELAY * (MIN)	* INCLUSIVE QUEUEING * * DELAY * (MIN/VEH)
B-C	181.7	121.1	24.2	0.13	24.2	0.13
B-A	84.0	56.0	16.2	0.19	16.2	0.19
C-AB	88.1	58.7	13.6	0.15	13.6	0.15
A-B	52.3	34.9				
A-C	641.4	427.6				
ALL	1591.1	1060.8	53.9	0.03	53.9	0.03

* DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD
* INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD
* THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.

*******END OF RUN*******

.SLOPES AND INTERCEPT

(NB:Streams may be combined, in which case capacity will be adjusted)

Intercept For STREAM B-C	Slope For Opposing STREAM A-C	Slope For Opposing STREAM A-B
0.00	0.00	0.00

* Due to the presence of a flare, data is not available

Intercept For STREAM B-A	Slope For Opposing STREAM A-C	Slope For Opposing STREAM A-B	Slope For Opposing STREAM C-A	Slope For Opposing STREAM C-B
0.00	0.00	0.00	0.00	0.00

* Due to the presence of a flare, data is not available

Intercept For STREAM C-B	Slope For Opposing STREAM A-C	Slope For Opposing STREAM A-B
591.34	0.22	0.22

(NB These values do not allow for any site specific corrections)

TRAFFIC DEMAND DATA

ARM	FLOW SCALE(%)
A	100
B	100
C	100

Demand set: 2030 Base Flows

TIME PERIOD BEGINS 16.45 AND ENDS 18.15

LENGTH OF TIME PERIOD - 90 MIN.
LENGTH OF TIME SEGMENT - 15 MIN.

DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

ARM	NUMBER OF MINUTES FROM START WHEN FLOW STARTS TO RISE	TOP OF PEAK IS REACHED	FLOW STOPS FALLING	RATE OF FLOW (VEH/MIN) BEFORE PEAK	AT TOP OF PEAK	AFTER PEAK
ARM A	15.00	45.00	75.00	6.20	9.30	6.20
ARM B	15.00	45.00	75.00	2.15	3.23	2.15
ARM C	15.00	45.00	75.00	5.38	8.06	5.38

Demand set: 2030 Base Flows

TURNING PROPORTIONS / TURNING COUNTS / (PERCENTAGE OF H.V.S)

TIME	FROM/TO	ARM A	ARM B	ARM C
16.45 - 17.00				
	ARM A	0.000	0.095	0.905
		0.0	47.0	449.0
		(0.0)	(0.0)	(0.0)
	ARM B	0.436	0.000	0.564
		75.0	0.0	97.0
		(0.0)	(0.0)	(0.0)
	ARM C	0.898	0.102	0.000
		386.0	44.0	0.0
		(0.0)	(0.0)	(0.0)

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

FOR DEMAND SET 2030 Base Flows
AND FOR TIME PERIOD 1

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
16.45-17.00									
B-C	1.22	10.04	0.121		0.00	0.14	2.0		0.11
B-A	0.94	6.91	0.136		0.00	0.16	2.2		0.17
C-AB	0.55	8.50	0.065		0.00	0.07	1.1		0.13
A-B	0.59								
A-C	5.63								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
17.00-17.15									
B-C	1.45	9.65	0.151		0.14	0.18	2.6		0.12
B-A	1.12	6.45	0.174		0.16	0.21	3.0		0.19
C-AB	0.66	8.24	0.080		0.07	0.09	1.4		0.13
A-B	0.70								
A-C	6.73								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
17.15-17.30									
B-C	1.78	9.10	0.196		0.18	0.24	3.5		0.14
B-A	1.38	5.82	0.236		0.21	0.30	4.4		0.22
C-AB	0.81	7.88	0.102		0.09	0.12	1.8		0.14
A-B	0.86								
A-C	8.24								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
17.30-17.45									
B-C	1.78	9.10	0.196		0.24	0.24	3.6		0.14
B-A	1.38	5.82	0.236		0.30	0.31	4.6		0.22
C-AB	0.81	7.88	0.102		0.12	0.12	1.9		0.14
A-B	0.86								
A-C	8.24								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
17.45-18.00									
B-C	1.45	9.64	0.151		0.24	0.18	2.8		0.12
B-A	1.12	6.45	0.174		0.31	0.21	3.3		0.19
C-AB	0.66	8.24	0.080		0.12	0.09	1.4		0.13
A-B	0.70								
A-C	6.73								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
18.00-18.15									
B-C	1.22	10.03	0.121		0.18	0.14	2.1		0.11
B-A	0.94	6.91	0.136		0.21	0.16	2.5		0.17
C-AB	0.55	8.50	0.065		0.09	0.07	1.1		0.13
A-B	0.59								
A-C	5.63								

WARNING NO MARGINAL ANALYSIS OF CAPACITIES AS MAJOR ROAD BLOCKING MAY OCCUR

QUEUE FOR STREAM B-C

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
17.00	0.1
17.15	0.2
17.30	0.2
17.45	0.2
18.00	0.2
18.15	0.1

QUEUE FOR STREAM B-A

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
17.00	0.2
17.15	0.2
17.30	0.3
17.45	0.3
18.00	0.2
18.15	0.2

QUEUE FOR STREAM C-AB

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
17.00	0.1
17.15	0.1
17.30	0.1
17.45	0.1
18.00	0.1
18.15	0.1

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

STREAM	TOTAL DEMAND (VEH)	TOTAL DEMAND (VEH/H)	* QUEUEING * * DELAY * (MIN)	* QUEUEING * * DELAY * (MIN/VEH)	* INCLUSIVE QUEUEING * * DELAY * (MIN)	* INCLUSIVE QUEUEING * * DELAY * (MIN/VEH)
B-C	133.5	89.0	16.6	0.12	16.6	0.12
B-A	103.2	68.8	20.0	0.19	20.0	0.19
C-AB	60.6	40.4	8.6	0.14	8.6	0.14
A-B	64.7	43.1				
A-C	618.0	412.0				
ALL	1511.3	1007.5	45.2	0.03	45.2	0.03

* DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD
* INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD
* THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.

*******END OF RUN*******

.SLOPES AND INTERCEPT

(NB:Streams may be combined, in which case capacity will be adjusted)

Intercept For STREAM B-C	Slope For Opposing STREAM A-C	Slope For Opposing STREAM A-B
0.00	0.00	0.00

* Due to the presence of a flare, data is not available

Intercept For STREAM B-A	Slope For Opposing STREAM A-C	Slope For Opposing STREAM A-B	Slope For Opposing STREAM C-A	Slope For Opposing STREAM C-B
0.00	0.00	0.00	0.00	0.00

* Due to the presence of a flare, data is not available

Intercept For STREAM C-B	Slope For Opposing STREAM A-C	Slope For Opposing STREAM A-B
591.34	0.22	0.22

(NB These values do not allow for any site specific corrections)

TRAFFIC DEMAND DATA

ARM	FLOW SCALE(%)
A	100
B	100
C	100

Demand set: 2030 Assessment Flows

TIME PERIOD BEGINS 16.45 AND ENDS 18.15

LENGTH OF TIME PERIOD - 90 MIN.
LENGTH OF TIME SEGMENT - 15 MIN.

DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

ARM	NUMBER OF MINUTES FROM START WHEN FLOW STARTS TO RISE	TOP OF PEAK IS REACHED	FLOW STOPS FALLING	RATE OF FLOW (VEH/MIN) BEFORE PEAK	AT TOP OF PEAK	AFTER PEAK
ARM A	15.00	45.00	75.00	7.49	11.23	7.49
ARM B	15.00	45.00	75.00	2.81	4.22	2.81
ARM C	15.00	45.00	75.00	6.76	10.14	6.76

Demand set: 2030 Assessment Flows

TURNING PROPORTIONS / TURNING COUNTS / (PERCENTAGE OF H.V.S)

TIME	FROM/TO	ARM A	ARM B	ARM C
16.45 - 17.00				
	ARM A	0.000	0.078	0.922
		0.0	47.0	552.0
		(0.0)	(0.0)	(0.0)
	ARM B	0.333	0.000	0.667
		75.0	0.0	150.0
		(0.0)	(0.0)	(0.0)
	ARM C	0.867	0.133	0.000
		469.0	72.0	0.0
		(0.0)	(0.0)	(0.0)

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

FOR DEMAND SET 2030 Assessment Flows
AND FOR TIME PERIOD 1

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
16.45-17.00									
B-C	1.88	9.68	0.195		0.00	0.24	3.5		0.13
B-A	0.94	6.32	0.149		0.00	0.17	2.5		0.19
C-AB	0.90	8.22	0.110		0.00	0.13	1.9		0.14
A-B	0.59								
A-C	6.93								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
17.00-17.15									
B-C	2.25	9.21	0.244		0.24	0.32	4.7		0.14
B-A	1.12	5.74	0.196		0.17	0.24	3.5		0.22
C-AB	1.08	7.91	0.136		0.13	0.17	2.6		0.15
A-B	0.70								
A-C	8.27								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
17.15-17.30									
B-C	2.75	8.53	0.323		0.32	0.47	6.8		0.17
B-A	1.38	4.95	0.278		0.24	0.38	5.4		0.28
C-AB	1.32	7.47	0.177		0.17	0.25	3.8		0.16
A-B	0.86								
A-C	10.13								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
17.30-17.45									
B-C	2.75	8.53	0.323		0.47	0.47	7.1		0.17
B-A	1.38	4.95	0.278		0.38	0.38	5.7		0.28
C-AB	1.32	7.47	0.177		0.25	0.26	3.9		0.16
A-B	0.86								
A-C	10.13								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
17.45-18.00									
B-C	2.25	9.20	0.244		0.47	0.33	5.1		0.14
B-A	1.12	5.74	0.196		0.38	0.25	3.9		0.22
C-AB	1.08	7.91	0.136		0.26	0.18	2.7		0.15
A-B	0.70								
A-C	8.27								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
18.00-18.15									
B-C	1.88	9.67	0.195		0.33	0.24	3.8		0.13
B-A	0.94	6.31	0.149		0.25	0.18	2.8		0.19
C-AB	0.90	8.22	0.110		0.18	0.13	2.0		0.14
A-B	0.59								
A-C	6.93								

WARNING NO MARGINAL ANALYSIS OF CAPACITIES AS MAJOR ROAD BLOCKING MAY OCCUR

QUEUE FOR STREAM B-C

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
17.00	0.2
17.15	0.3
17.30	0.5
17.45	0.5
18.00	0.3
18.15	0.2

QUEUE FOR STREAM B-A

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
17.00	0.2
17.15	0.2
17.30	0.4
17.45	0.4
18.00	0.2
18.15	0.2

QUEUE FOR STREAM C-AB

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
17.00	0.1
17.15	0.2
17.30	0.3
17.45	0.3
18.00	0.2
18.15	0.1

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

STREAM	TOTAL DEMAND (VEH)	TOTAL DEMAND (VEH/H)	* QUEUEING * * DELAY * (MIN)	* QUEUEING * * DELAY * (MIN/VEH)	* INCLUSIVE QUEUEING * * DELAY * (MIN)	* INCLUSIVE QUEUEING * * DELAY * (MIN/VEH)
B-C	206.5	137.6	30.8	0.15	30.8	0.15
B-A	103.2	68.8	23.6	0.23	23.6	0.23
C-AB	99.1	66.1	17.0	0.17	17.0	0.17
A-B	64.7	43.1				
A-C	759.8	506.5				
ALL	1878.8	1252.5	71.4	0.04	71.4	0.04

* DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD
* INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES
WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD
* THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS
A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.

*******END OF RUN*******

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Printed at 18:17:55 on 08/10/2012]

Appendix N
Waterloo Road / Shawbridge Street (mini roundabout junction)

ARCADY 7
Version: 7.0.0.99 [10 July 2009]
For sales and distribution information, program advice and maintenance, contact TRL: Tel: +44 (0)1344 770758 E-mail: software@trl.co.uk Web: www.trlsoftware.co.uk
The users of this computer program for the solution of an engineering problem are in no way relieved of their responsibility for the correctness of the solution

File: J:\2012\A077038 Standen Estates\Arcady\Waterloo Road_Shawbridge Street (Validate).arc7
Report generation date: 02/10/2012 10:51:44

A1 - Existing Layout - D1 - 2012 Observed, AM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Description	Include In Report	Use Specific Demand Set	Demand Set	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
Existing Layout		Yes		(D1)		100.000	100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Locked	Run Automatically	Use Relationship	Relationship	Start Time (HH:mm)	Finish Time (HH:mm)	Time Period Length (min)	Time Segment Length (min)	Traffic Profile Type
2012 Observed, AM	2012 Observed	AM			Yes			08:00	09:00	60	15	FLAT

Roundabout Network

Roundabout Type(s)

ID	Name	Arm Order	Roundabout Type	Grade Separated	Large Roundabout	Do Geometric Delay
1	(untitled)	1,2,3	Mini-roundabout			

Roundabout Network Options

Driving Side	Lighting	Road Surface	In London
Left	Normal/unknown	Normal/unknown	

Arms

Arms

ID	Name	Description
1	Waterloo Road NB	
2	Waterloo Road SB	
3	Shawbridge Street	

Capacity Options

Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)	Assume Flat Start Profile	Initial Queue (PCU)
Waterloo Road NB	0.00	99999.00		0.00
Waterloo Road SB	0.00	99999.00		0.00
Shawbridge Street	0.00	99999.00		0.00

Mini Roundabout Geometry

Arm	Approach road half-width (m)	Minimum approach road half-width (m)	Entry width (m)	Effective flare length (m)	Distance to next arm (m)	Entry corner kerb line distance (m)	Gradient over 50m (%)	Kerbed central island
Waterloo Road NB	3.00	3.00	3.00	0.00	19.35	18.50	0.00	
Waterloo Road SB	3.30	3.30	3.30	0.00	13.20	5.50	0.00	
Shawbridge Street	3.22	3.22	4.10	1.90	9.35	2.00	0.00	

Pedestrian Crossings

Arm	Crossing Type
Waterloo Road NB	Pelican
Waterloo Road SB	None
Shawbridge Street	None

Pelican/ Puffin Crossings

Arm	Amber time preceding red (s)	Amber time regarded as green (s)	Time from traffic red start to green man start (s)	Time period green man shown (s)	Clearance Period (s)	Traffic minimum green (s)	Space between crossing and junction entry (PCU)
Waterloo Road NB	3.00	2.90	1.00	6.00	6.00	7.00	1.00

Arm Slope/ Intercept and Capacity

Slope and Intercept used in model

Arm	Enter Directly	Slope	Intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
Waterloo Road NB		((calculated))	((calculated))	0.777	971.545
Waterloo Road SB		((calculated))	((calculated))	0.519	803.502
Shawbridge Street		((calculated))	((calculated))	0.533	654.276

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

Arm Capacity Adjustments

Arm	Type	Reason	Direct Capacity Adjustment (PCU/hr)	Percentage Capacity Adjustment (%)
Waterloo Road NB	Direct		-100.00	N/A
Waterloo Road SB	Direct		220.00	N/A
Shawbridge Street	Direct		75.00	N/A

Traffic Flows

Demand Set Data Options

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

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)	PHF
Waterloo Road NB	FLAT	Yes	371.00	100.000	1.00
Waterloo Road SB	FLAT	Yes	598.00	100.000	1.00
Shawbridge Street	FLAT	Yes	362.00	100.000	1.00

Pedestrian Flows

General Flows Data

Arm	Profile Type	Average Pedestrian Flow (Ped/hr)
Waterloo Road NB	FLAT	20.00
Waterloo Road SB	(FLAT)	(0.00)
Shawbridge Street	(FLAT)	(0.00)

Results

Results Summary

Arm	Max	Max	Max	Max	Total	Total	Total	Average	Rate Of	Inclusive	Inclusive	Slope	Intercept

	RFC	Delay (min)	Queue (PCU)	LOS	Demand (PCU/hr)	Arrivals (PCU)	Queueing Delay (PCU-min)	Queueing Delay (min)	Queueing Delay (PCU-min/min)	Queueing Total Delay (PCU-min)	Queueing Average Delay (min)		(PCU/hr)
Waterloo Road NB	0.60	0.25	1.50	B	371.00	371.00	87.03	0.23	1.45	87.14	0.23	0.777	971.545
Waterloo Road SB	0.62	0.16	1.63	A	598.00	598.00	94.98	0.16	1.58	95.06	0.16	0.519	803.502
Shawbridge Street	0.68	0.35	2.08	C	362.00	362.00	118.16	0.33	1.97	118.41	0.33	0.533	654.276

A1 - Existing Layout - D2 - 2012 Observed, PM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Description	Include In Report	Use Specific Demand Set	Demand Set	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
Existing Layout		Yes		(D1)		100.000	100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Locked	Run Automatically	Use Relationship	Relationship	Start Time (HH:mm)	Finish Time (HH:mm)	Time Period Length (min)	Time Segment Length (min)	Traffic Profile Type
2012 Observed, PM	2012 Observed	PM			Yes			16:30	17:30	60	15	FLAT

Roundabout Network

Roundabout Type(s)

ID	Name	Arm Order	Roundabout Type	Grade Separated	Large Roundabout	Do Geometric Delay
1	(untitled)	1,2,3	Mini-roundabout			

Roundabout Network Options

Driving Side	Lighting	Road Surface	In London
Left	Normal/unknown	Normal/unknown	

Arms

Arms

ID	Name	Description
1	Waterloo Road NB	
2	Waterloo Road SB	
3	Shawbridge Street	

Capacity Options

Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)	Assume Flat Start Profile	Initial Queue (PCU)
Waterloo Road NB	0.00	99999.00		0.00
Waterloo Road SB	0.00	99999.00		0.00
Shawbridge Street	0.00	99999.00		0.00

Mini Roundabout Geometry

Arm	Approach road half-width (m)	Minimum approach road half-width (m)	Entry width (m)	Effective flare length (m)	Distance to next arm (m)	Entry corner kerb line distance (m)	Gradient over 50m (%)	Kerbed central island
Waterloo Road NB	3.00	3.00	3.00	0.00	19.35	18.50	0.00	
Waterloo Road SB	3.30	3.30	3.30	0.00	13.20	5.50	0.00	
Shawbridge Street	3.22	3.22	4.10	1.90	9.35	2.00	0.00	

Pedestrian Crossings

Arm	Crossing Type
Waterloo Road NB	Pelican
Waterloo Road SB	None
Shawbridge Street	None

Pelican/ Puffin Crossings

Arm	Amber time preceding red (s)	Amber time regarded as green (s)	Time from traffic red start to green man start (s)	Time period green man shown (s)	Clearance Period (s)	Traffic minimum green (s)	Space between crossing and junction entry (PCU)
Waterloo Road NB	3.00	2.90	1.00	6.00	6.00	7.00	1.00

Arm Slope/ Intercept and Capacity

Slope and Intercept used in model

Arm	Enter Directly	Slope	Intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
Waterloo Road NB		((calculated))	((calculated))	0.777	971.545
Waterloo Road SB		((calculated))	((calculated))	0.519	803.502
Shawbridge Street		((calculated))	((calculated))	0.533	654.276

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

Arm Capacity Adjustments

Arm	Type	Reason	Direct Capacity Adjustment (PCU/hr)	Percentage Capacity Adjustment (%)
Waterloo Road NB	Direct		-100.00	N/A
Waterloo Road SB	Direct		220.00	N/A
Shawbridge Street	Direct		75.00	N/A

Traffic Flows

Demand Set Data Options

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

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)	PHF
Waterloo Road NB	FLAT	Yes	376.00	100.000	1.00
Waterloo Road SB	FLAT	Yes	726.00	100.000	1.00
Shawbridge Street	FLAT	Yes	337.00	100.000	1.00

Pedestrian Flows

General Flows Data

Arm	Profile Type	Average Pedestrian Flow (Ped/hr)
Waterloo Road NB	FLAT	20.00
Waterloo Road SB	(FLAT)	(0.00)
Shawbridge Street	(FLAT)	(0.00)

Results

Results Summary

Arm	Max RFC	Max Delay (min)	Max Queue (PCU)	Max LOS	Total Demand (PCU/hr)	Total Arrivals (PCU)	Total Queueing Delay (PCU-min)	Average Queueing Delay (min)	Rate Of Queueing Delay (PCU-min/min)	Inclusive Queueing Total Delay (PCU-min)	Inclusive Queueing Average Delay (min)	Slope	Intercept (PCU/hr)
Waterloo Road NB	0.56	0.20	1.25	B	376.00	376.00	73.11	0.19	1.22	73.18	0.19	0.777	971.545
Waterloo Road SB	0.74	0.24	2.87	B	726.00	726.00	164.20	0.23	2.74	164.45	0.23	0.519	803.502
Shawbridge Street	0.67	0.37	2.02	C	337.00	337.00	114.20	0.34	1.90	114.44	0.34	0.533	654.276

A1 - Existing Layout - D3 - 2015 Base, AM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Description	Include In Report	Use Specific Demand Set	Demand Set	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
Existing Layout		Yes		(D1)		100.000	100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Locked	Run Automatically	Use Relationship	Relationship	Start Time (HH:mm)	Finish Time (HH:mm)	Time Period Length (min)	Time Segment Length (min)	Traffic Profile Type
2015 Base, AM	2015 Base	AM			Yes			08:00	09:00	60	15	FLAT

Roundabout Network

Roundabout Type(s)

ID	Name	Arm Order	Roundabout Type	Grade Separated	Large Roundabout	Do Geometric Delay
1	(untitled)	1,2,3	Mini-roundabout			

Roundabout Network Options

Driving Side	Lighting	Road Surface	In London
Left	Normal/unknown	Normal/unknown	

Arms

Arms

ID	Name	Description
1	Waterloo Road NB	
2	Waterloo Road SB	
3	Shawbridge Street	

Capacity Options

Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)	Assume Flat Start Profile	Initial Queue (PCU)
Waterloo Road NB	0.00	99999.00		0.00
Waterloo Road SB	0.00	99999.00		0.00
Shawbridge Street	0.00	99999.00		0.00

Mini Roundabout Geometry

Arm	Approach road half-width (m)	Minimum approach road half-width (m)	Entry width (m)	Effective flare length (m)	Distance to next arm (m)	Entry corner kerb line distance (m)	Gradient over 50m (%)	Kerbed central island
Waterloo Road NB	3.00	3.00	3.00	0.00	19.35	18.50	0.00	
Waterloo Road SB	3.30	3.30	3.30	0.00	13.20	5.50	0.00	
Shawbridge Street	3.22	3.22	4.10	1.90	9.35	2.00	0.00	

Pedestrian Crossings

Arm	Crossing Type
Waterloo Road NB	Pelican
Waterloo Road SB	None
Shawbridge Street	None

Pelican/ Puffin Crossings

Arm	Amber time preceding red (s)	Amber time regarded as green (s)	Time from traffic red start to green man start (s)	Time period green man shown (s)	Clearance Period (s)	Traffic minimum green (s)	Space between crossing and junction entry (PCU)
Waterloo Road NB	3.00	2.90	1.00	6.00	6.00	7.00	1.00

Arm Slope/ Intercept and Capacity

Slope and Intercept used in model

Arm	Enter Directly	Slope	Intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
Waterloo Road NB		((calculated))	((calculated))	0.777	971.545
Waterloo Road SB		((calculated))	((calculated))	0.519	803.502
Shawbridge Street		((calculated))	((calculated))	0.533	654.276

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

Arm Capacity Adjustments

Arm	Type	Reason	Direct Capacity Adjustment (PCU/hr)	Percentage Capacity Adjustment (%)
Waterloo Road NB	Direct		-100.00	N/A
Waterloo Road SB	Direct		220.00	N/A
Shawbridge Street	Direct		75.00	N/A

Traffic Flows

Demand Set Data Options

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

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)	PHF
Waterloo Road NB	FLAT	Yes	410.00	100.000	1.00
Waterloo Road SB	FLAT	Yes	619.00	100.000	1.00
Shawbridge Street	FLAT	Yes	371.00	100.000	1.00

Pedestrian Flows

General Flows Data

Arm	Profile Type	Average Pedestrian Flow (Ped/hr)
Waterloo Road NB	FLAT	20.00
Waterloo Road SB	(FLAT)	(0.00)
Shawbridge Street	(FLAT)	(0.00)

Results

Results Summary

Arm	Max RFC	Max Delay (min)	Max Queue (PCU)	Max LOS	Total Demand (PCU/hr)	Total Arrivals (PCU)	Total Queueing Delay (PCU-min)	Average Queueing Delay (min)	Rate Of Queueing Delay (PCU-min/min)	Inclusive Queueing Total Delay (PCU-min)	Inclusive Queueing Average Delay (min)	Slope	Intercept (PCU/hr)
Waterloo Road NB	0.67	0.30	2.02	C	410.00	410.00	115.05	0.28	1.92	115.25	0.28	0.777	971.545
Waterloo Road SB	0.64	0.18	1.79	B	619.00	619.00	104.40	0.17	1.74	104.50	0.17	0.519	803.502
Shawbridge Street	0.71	0.39	2.36	C	371.00	371.00	132.93	0.36	2.22	133.25	0.36	0.533	654.276

A1 - Existing Layout - D4 - 2015 Base, PM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Description	Include In Report	Use Specific Demand Set	Demand Set	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
Existing Layout		Yes		(D1)		100.000	100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Locked	Run Automatically	Use Relationship	Relationship	Start Time (HH:mm)	Finish Time (HH:mm)	Time Period Length (min)	Time Segment Length (min)	Traffic Profile Type
2015 Base, PM	2015 Base	PM			Yes			16:30	17:30	60	15	FLAT

Roundabout Network

Roundabout Type(s)

ID	Name	Arm Order	Roundabout Type	Grade Separated	Large Roundabout	Do Geometric Delay
1	(untitled)	1,2,3	Mini-roundabout			

Roundabout Network Options

Driving Side	Lighting	Road Surface	In London
Left	Normal/unknown	Normal/unknown	

Arms

Arms

ID	Name	Description
1	Waterloo Road NB	
2	Waterloo Road SB	
3	Shawbridge Street	

Capacity Options

Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)	Assume Flat Start Profile	Initial Queue (PCU)
Waterloo Road NB	0.00	99999.00		0.00
Waterloo Road SB	0.00	99999.00		0.00
Shawbridge Street	0.00	99999.00		0.00

Mini Roundabout Geometry

Arm	Approach road half-width (m)	Minimum approach road half-width (m)	Entry width (m)	Effective flare length (m)	Distance to next arm (m)	Entry corner kerb line distance (m)	Gradient over 50m (%)	Kerbed central island
Waterloo Road NB	3.00	3.00	3.00	0.00	19.35	18.50	0.00	
Waterloo Road SB	3.30	3.30	3.30	0.00	13.20	5.50	0.00	
Shawbridge Street	3.22	3.22	4.10	1.90	9.35	2.00	0.00	

Pedestrian Crossings

Arm	Crossing Type

Waterloo Road NB	Pelican
Waterloo Road SB	None
Shawbridge Street	None

Pelican/ Puffin Crossings

Arm	Amber time preceding red (s)	Amber time regarded as green (s)	Time from traffic red start to green man start (s)	Time period green man shown (s)	Clearance Period (s)	Traffic minimum green (s)	Space between crossing and junction entry (PCU)
Waterloo Road NB	3.00	2.90	1.00	6.00	6.00	7.00	1.00

Arm Slope/ Intercept and Capacity

Slope and Intercept used in model

Arm	Enter Directly	Slope	Intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
Waterloo Road NB		((calculated))	((calculated))	0.777	971.545
Waterloo Road SB		((calculated))	((calculated))	0.519	803.502
Shawbridge Street		((calculated))	((calculated))	0.533	654.276

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

Arm Capacity Adjustments

Arm	Type	Reason	Direct Capacity Adjustment (PCU/hr)	Percentage Capacity Adjustment (%)
Waterloo Road NB	Direct		-100.00	N/A
Waterloo Road SB	Direct		220.00	N/A
Shawbridge Street	Direct		75.00	N/A

Traffic Flows

Demand Set Data Options

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

				Percentages						

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)	PHF
Waterloo Road NB	FLAT	Yes	395.00	100.000	1.00
Waterloo Road SB	FLAT	Yes	779.00	100.000	1.00
Shawbridge Street	FLAT	Yes	347.00	100.000	1.00

Pedestrian Flows

General Flows Data

Arm	Profile Type	Average Pedestrian Flow (Ped/hr)
Waterloo Road NB	FLAT	20.00
Waterloo Road SB	(FLAT)	(0.00)
Shawbridge Street	(FLAT)	(0.00)

Results

Results Summary

Arm	Max RFC	Max Delay (min)	Max Queue (PCU)	Max LOS	Total Demand (PCU/hr)	Total Arrivals (PCU)	Total Queueing Delay (PCU-min)	Average Queueing Delay (min)	Rate Of Queueing Delay (PCU-min/min)	Inclusive Queueing Total Delay (PCU-min)	Inclusive Queueing Average Delay (min)	Slope	Intercept (PCU/hr)
Waterloo Road NB	0.59	0.22	1.42	B	395.00	395.00	82.86	0.21	1.38	82.96	0.21	0.777	971.545
Waterloo Road SB	0.80	0.31	3.90	C	779.00	779.00	219.46	0.28	3.66	219.93	0.28	0.519	803.502
Shawbridge Street	0.73	0.46	2.60	D	347.00	347.00	143.99	0.41	2.40	144.42	0.42	0.533	654.276

A1 - Existing Layout - D5 - 2030 Base, AM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Description	Include In Report	Use Specific Demand Set	Demand Set	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
Existing Layout		Yes		(D1)		100.000	100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Locked	Run Automatically	Use Relationship	Relationship	Start Time (HH:mm)	Finish Time (HH:mm)	Time Period Length (min)	Time Segment Length (min)	Traffic Profile Type
2030 Base, AM	2030 Base	AM			Yes			08:00	09:00	60	15	FLAT

Roundabout Network

Roundabout Type(s)

ID	Name	Arm Order	Roundabout Type	Grade Separated	Large Roundabout	Do Geometric Delay
1	(untitled)	1,2,3	Mini-roundabout			

Roundabout Network Options

Driving Side	Lighting	Road Surface	In London
Left	Normal/unknown	Normal/unknown	

Arms

Arms

ID	Name	Description
1	Waterloo Road NB	
2	Waterloo Road SB	
3	Shawbridge Street	

Capacity Options

Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)	Assume Flat Start Profile	Initial Queue (PCU)
Waterloo Road NB	0.00	99999.00		0.00
Waterloo Road SB	0.00	99999.00		0.00
Shawbridge Street	0.00	99999.00		0.00

Mini Roundabout Geometry

Arm	Approach road half-width (m)	Minimum approach road half-width (m)	Entry width (m)	Effective flare length (m)	Distance to next arm (m)	Entry corner kerb line distance (m)	Gradient over 50m (%)	Kerbed central island
Waterloo Road NB	3.00	3.00	3.00	0.00	19.35	18.50	0.00	
Waterloo Road SB	3.30	3.30	3.30	0.00	13.20	5.50	0.00	
Shawbridge Street	3.22	3.22	4.10	1.90	9.35	2.00	0.00	

Pedestrian Crossings

Arm	Crossing Type
Waterloo Road NB	Pelican
Waterloo Road SB	None
Shawbridge Street	None

Pelican/ Puffin Crossings

Arm	Amber time preceding red (s)	Amber time regarded as green (s)	Time from traffic red start to green man start (s)	Time period green man shown (s)	Clearance Period (s)	Traffic minimum green (s)	Space between crossing and junction entry (PCU)
Waterloo Road NB	3.00	2.90	1.00	6.00	6.00	7.00	1.00

Arm Slope/ Intercept and Capacity

Slope and Intercept used in model

Arm	Enter Directly	Slope	Intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
Waterloo Road NB		((calculated))	((calculated))	0.777	971.545
Waterloo Road SB		((calculated))	((calculated))	0.519	803.502
Shawbridge Street		((calculated))	((calculated))	0.533	654.276

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

Arm Capacity Adjustments

Arm	Type	Reason	Direct Capacity Adjustment (PCU/hr)	Percentage Capacity Adjustment (%)
Waterloo Road NB	Direct		-100.00	N/A
Waterloo Road SB	Direct		220.00	N/A
Shawbridge Street	Direct		75.00	N/A

Traffic Flows

Demand Set Data Options

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

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)	PHF
Waterloo Road NB	FLAT	Yes	497.00	100.000	1.00
Waterloo Road SB	FLAT	Yes	759.00	100.000	1.00
Shawbridge Street	FLAT	Yes	456.00	100.000	1.00

Pedestrian Flows

General Flows Data

Arm	Profile Type	Average Pedestrian Flow (Ped/hr)
Waterloo Road NB	FLAT	20.00
Waterloo Road SB	(FLAT)	(0.00)
Shawbridge Street	(FLAT)	(0.00)

Results

Results Summary

Arm	Max RFC	Max Delay (min)	Max Queue (PCU)	Max LOS	Total Demand (PCU/hr)	Total Arrivals (PCU)	Total Queueing Delay (PCU-min)	Average Queueing Delay (min)	Rate Of Queueing Delay (PCU-min/min)	Inclusive Queueing Total Delay (PCU-min)	Inclusive Queueing Average Delay (min)	Slope	Intercept (PCU/hr)
Waterloo Road NB	0.89	0.92	7.17	F	497.00	497.00	346.70	0.70	5.78	349.47	0.70	0.777	971.545
Waterloo Road SB	0.80	0.32	3.92	C	759.00	759.00	219.36	0.29	3.66	219.85	0.29	0.519	803.502
Shawbridge Street	0.95	1.75	12.53	F	456.00	456.00	553.09	1.21	9.22	562.93	1.23	0.533	654.276

A1 - Existing Layout - D6 - 2030 Base, PM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Description	Include In Report	Use Specific Demand Set	Demand Set	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
Existing Layout		Yes		(D1)		100.000	100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Locked	Run Automatically	Use Relationship	Relationship	Start Time (HH:mm)	Finish Time (HH:mm)	Time Period Length (min)	Time Segment Length (min)	Traffic Profile Type
2030 Base, PM	2030 Base	PM			Yes			16:30	17:30	60	15	FLAT

Roundabout Network

Roundabout Type(s)

ID	Name	Arm Order	Roundabout Type	Grade Separated	Large Roundabout	Do Geometric Delay
1	(untitled)	1,2,3	Mini-roundabout			

Roundabout Network Options

Driving Side	Lighting	Road Surface	In London
Left	Normal/unknown	Normal/unknown	

Arms

Arms

ID	Name	Description
1	Waterloo Road NB	
2	Waterloo Road SB	
3	Shawbridge Street	

Capacity Options

Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)	Assume Flat Start Profile	Initial Queue (PCU)
Waterloo Road NB	0.00	99999.00		0.00
Waterloo Road SB	0.00	99999.00		0.00
Shawbridge Street	0.00	99999.00		0.00

Mini Roundabout Geometry

Arm	Approach road half-width (m)	Minimum approach road half-width (m)	Entry width (m)	Effective flare length (m)	Distance to next arm (m)	Entry corner kerb line distance (m)	Gradient over 50m (%)	Kerbed central island
Waterloo Road NB	3.00	3.00	3.00	0.00	19.35	18.50	0.00	
Waterloo Road SB	3.30	3.30	3.30	0.00	13.20	5.50	0.00	
Shawbridge Street	3.22	3.22	4.10	1.90	9.35	2.00	0.00	

Pedestrian Crossings

Arm	Crossing Type
Waterloo Road NB	Pelican
Waterloo Road SB	None
Shawbridge Street	None

Pelican/ Puffin Crossings

Arm	Amber time preceding red (s)	Amber time regarded as green (s)	Time from traffic red start to green man start (s)	Time period green man shown (s)	Clearance Period (s)	Traffic minimum green (s)	Space between crossing and junction entry (PCU)
Waterloo Road NB	3.00	2.90	1.00	6.00	6.00	7.00	1.00

Arm Slope/ Intercept and Capacity

Slope and Intercept used in model

Arm	Enter Directly	Slope	Intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
Waterloo Road NB		((calculated))	((calculated))	0.777	971.545
Waterloo Road SB		((calculated))	((calculated))	0.519	803.502
Shawbridge Street		((calculated))	((calculated))	0.533	654.276

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

Arm Capacity Adjustments

Arm	Type	Reason	Direct Capacity Adjustment (PCU/hr)	Percentage Capacity Adjustment (%)
Waterloo Road NB	Direct		-100.00	N/A
Waterloo Road SB	Direct		220.00	N/A
Shawbridge Street	Direct		75.00	N/A

Traffic Flows

Demand Set Data Options

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

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)	PHF
Waterloo Road NB	FLAT	Yes	486.00	100.000	1.00
Waterloo Road SB	FLAT	Yes	956.00	100.000	1.00
Shawbridge Street	FLAT	Yes	429.00	100.000	1.00

Pedestrian Flows

General Flows Data

Arm	Profile Type	Average Pedestrian Flow (Ped/hr)
Waterloo Road NB	FLAT	20.00
Waterloo Road SB	(FLAT)	(0.00)
Shawbridge Street	(FLAT)	(0.00)

Results

Results Summary

Arm	Max	Max	Max	Max	Total	Total	Total	Average	Rate Of	Inclusive	Inclusive	Slope	Intercept

	RFC	Delay (min)	Queue (PCU)	LOS	Demand (PCU/hr)	Arrivals (PCU)	Queueing Delay (PCU-min)	Queueing Delay (min)	Queueing Delay (PCU-min/min)	Queueing Total Delay (PCU-min)	Queueing Average Delay (min)		(PCU/hr)
Waterloo Road NB	0.77	0.40	3.17	C	486.00	486.00	173.85	0.36	2.90	174.33	0.36	0.777	971.545
Waterloo Road SB	0.99	1.77	27.43	F	956.00	956.00	1113.29	1.16	18.55	1136.74	1.19	0.519	803.502
Shawbridge Street	1.01	2.98	20.60	F	429.00	429.00	770.89	1.80	12.85	800.78	1.87	0.533	654.276

A1 - Existing Layout - D7 - 2015 With Dev, AM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Description	Include In Report	Use Specific Demand Set	Demand Set	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
Existing Layout		Yes		(D1)		100.000	100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Locked	Run Automatically	Use Relationship	Relationship	Start Time (HH:mm)	Finish Time (HH:mm)	Time Period Length (min)	Time Segment Length (min)	Traffic Profile Type
2015 With Dev, AM	2015 With Dev	AM			Yes			08:00	09:00	60	15	FLAT

Roundabout Network

Roundabout Type(s)

ID	Name	Arm Order	Roundabout Type	Grade Separated	Large Roundabout	Do Geometric Delay
1	(untitled)	1,2,3	Mini-roundabout			

Roundabout Network Options

Driving Side	Lighting	Road Surface	In London
Left	Normal/unknown	Normal/unknown	

Arms

Arms

ID	Name	Description
1	Waterloo Road NB	
2	Waterloo Road SB	
3	Shawbridge Street	

Capacity Options

Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)	Assume Flat Start Profile	Initial Queue (PCU)
Waterloo Road NB	0.00	99999.00		0.00
Waterloo Road SB	0.00	99999.00		0.00
Shawbridge Street	0.00	99999.00		0.00

Mini Roundabout Geometry

Arm	Approach road half-width (m)	Minimum approach road half-width (m)	Entry width (m)	Effective flare length (m)	Distance to next arm (m)	Entry corner kerb line distance (m)	Gradient over 50m (%)	Kerbed central island
Waterloo Road NB	3.00	3.00	3.00	0.00	19.35	18.50	0.00	
Waterloo Road SB	3.30	3.30	3.30	0.00	13.20	5.50	0.00	
Shawbridge Street	3.22	3.22	4.10	1.90	9.35	2.00	0.00	

Pedestrian Crossings

Arm	Crossing Type
Waterloo Road NB	Pelican
Waterloo Road SB	None
Shawbridge Street	None

Pelican/ Puffin Crossings

Arm	Amber time preceding red (s)	Amber time regarded as green (s)	Time from traffic red start to green man start (s)	Time period green man shown (s)	Clearance Period (s)	Traffic minimum green (s)	Space between crossing and junction entry (PCU)
Waterloo Road NB	3.00	2.90	1.00	6.00	6.00	7.00	1.00

Arm Slope/ Intercept and Capacity

Slope and Intercept used in model

Arm	Enter Directly	Slope	Intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
Waterloo Road NB		((calculated))	((calculated))	0.777	971.545
Waterloo Road SB		((calculated))	((calculated))	0.519	803.502
Shawbridge Street		((calculated))	((calculated))	0.533	654.276

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

Arm Capacity Adjustments

Arm	Type	Reason	Direct Capacity Adjustment (PCU/hr)	Percentage Capacity Adjustment (%)
Waterloo Road NB	Direct		-100.00	N/A
Waterloo Road SB	Direct		220.00	N/A
Shawbridge Street	Direct		75.00	N/A

Traffic Flows

Demand Set Data Options

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

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)	PHF
Waterloo Road NB	FLAT	Yes	465.00	100.000	1.00
Waterloo Road SB	FLAT	Yes	658.00	100.000	1.00
Shawbridge Street	FLAT	Yes	501.00	100.000	1.00

Pedestrian Flows

General Flows Data

Arm	Profile Type	Average Pedestrian Flow (Ped/hr)
Waterloo Road NB	FLAT	20.00
Waterloo Road SB	(FLAT)	(0.00)
Shawbridge Street	(FLAT)	(0.00)

Results

Results Summary

Arm	Max RFC	Max Delay (min)	Max Queue (PCU)	Max LOS	Total Demand (PCU/hr)	Total Arrivals (PCU)	Total Queueing Delay (PCU-min)	Average Queueing Delay (min)	Rate Of Queueing Delay (PCU-min/min)	Inclusive Queueing Total Delay (PCU-min)	Inclusive Queueing Average Delay (min)	Slope	Intercept (PCU/hr)
Waterloo Road NB	0.81	0.53	3.94	D	465.00	465.00	208.34	0.45	3.47	209.14	0.45	0.777	971.545
Waterloo Road SB	0.71	0.22	2.36	B	658.00	658.00	136.03	0.21	2.27	136.21	0.21	0.519	803.502
Shawbridge Street	0.95	1.67	13.14	F	501.00	501.00	584.51	1.17	9.74	594.39	1.19	0.533	654.276

A1 - Existing Layout - D8 - 2015 With Dev, PM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Description	Include In Report	Use Specific Demand Set	Demand Set	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
Existing Layout		Yes		(D1)		100.000	100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Locked	Run Automatically	Use Relationship	Relationship	Start Time (HH:mm)	Finish Time (HH:mm)	Time Period Length (min)	Time Segment Length (min)	Traffic Profile Type
2015 With Dev, PM	2015 With Dev	PM			Yes			16:30	17:30	60	15	FLAT

Roundabout Network

Roundabout Type(s)

ID	Name	Arm Order	Roundabout Type	Grade Separated	Large Roundabout	Do Geometric Delay
1	(untitled)	1,2,3	Mini-roundabout			

Roundabout Network Options

Driving Side	Lighting	Road Surface	In London
Left	Normal/unknown	Normal/unknown	

Arms

Arms

ID	Name	Description
1	Waterloo Road NB	
2	Waterloo Road SB	
3	Shawbridge Street	

Capacity Options

Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)	Assume Flat Start Profile	Initial Queue (PCU)
Waterloo Road NB	0.00	99999.00		0.00
Waterloo Road SB	0.00	99999.00		0.00
Shawbridge Street	0.00	99999.00		0.00

Mini Roundabout Geometry

Arm	Approach road half-width (m)	Minimum approach road half-width (m)	Entry width (m)	Effective flare length (m)	Distance to next arm (m)	Entry corner kerb line distance (m)	Gradient over 50m (%)	Kerbed central island
Waterloo Road NB	3.00	3.00	3.00	0.00	19.35	18.50	0.00	
Waterloo Road SB	3.30	3.30	3.30	0.00	13.20	5.50	0.00	
Shawbridge Street	3.22	3.22	4.10	1.90	9.35	2.00	0.00	

Pedestrian Crossings

Arm	Crossing Type
Waterloo Road NB	Pelican
Waterloo Road SB	None
Shawbridge Street	None

Pelican/ Puffin Crossings

Arm	Amber time preceding red (s)	Amber time regarded as green (s)	Time from traffic red start to green man start (s)	Time period green man shown (s)	Clearance Period (s)	Traffic minimum green (s)	Space between crossing and junction entry (PCU)
Waterloo Road NB	3.00	2.90	1.00	6.00	6.00	7.00	1.00

Arm Slope/ Intercept and Capacity

Slope and Intercept used in model

Arm	Enter Directly	Slope	Intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
Waterloo Road NB		((calculated))	((calculated))	0.777	971.545
Waterloo Road SB		((calculated))	((calculated))	0.519	803.502
Shawbridge Street		((calculated))	((calculated))	0.533	654.276

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

Arm Capacity Adjustments

Arm	Type	Reason	Direct Capacity Adjustment (PCU/hr)	Percentage Capacity Adjustment (%)
Waterloo Road NB	Direct		-100.00	N/A
Waterloo Road SB	Direct		220.00	N/A
Shawbridge Street	Direct		75.00	N/A

Traffic Flows

Demand Set Data Options

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

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)	PHF
Waterloo Road NB	FLAT	Yes	462.00	100.000	1.00
Waterloo Road SB	FLAT	Yes	815.00	100.000	1.00
Shawbridge Street	FLAT	Yes	429.00	100.000	1.00

Pedestrian Flows

General Flows Data

Arm	Profile Type	Average Pedestrian Flow (Ped/hr)
Waterloo Road NB	FLAT	20.00
Waterloo Road SB	(FLAT)	(0.00)
Shawbridge Street	(FLAT)	(0.00)

Results

Results Summary

Arm	Max RFC	Max Delay (min)	Max Queue (PCU)	Max LOS	Total Demand (PCU/hr)	Total Arrivals (PCU)	Total Queueing Delay (PCU-min)	Average Queueing Delay (min)	Rate Of Queueing Delay (PCU-min/min)	Inclusive Queueing Total Delay (PCU-min)	Inclusive Queueing Average Delay (min)	Slope	Intercept (PCU/hr)
Waterloo Road NB	0.71	0.32	2.45	C	462.00	462.00	136.99	0.30	2.28	137.26	0.30	0.777	971.545
Waterloo Road SB	0.87	0.47	6.21	D	815.00	815.00	333.93	0.41	5.57	335.16	0.41	0.519	803.502
Shawbridge Street	0.90	1.12	7.53	F	429.00	429.00	365.99	0.85	6.10	369.56	0.86	0.533	654.276

A1 - Existing Layout - D9 - 2030 With Dev, AM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Description	Include In Report	Use Specific Demand Set	Demand Set	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
Existing Layout		Yes		(D1)		100.000	100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Locked	Run Automatically	Use Relationship	Relationship	Start Time (HH:mm)	Finish Time (HH:mm)	Time Period Length (min)	Time Segment Length (min)	Traffic Profile Type
2030 With Dev, AM	2030 With Dev	AM			Yes			08:00	09:00	60	15	FLAT

Roundabout Network

Roundabout Type(s)

ID	Name	Arm Order	Roundabout Type	Grade Separated	Large Roundabout	Do Geometric Delay
1	(untitled)	1,2,3	Mini-roundabout			

Roundabout Network Options

Driving Side	Lighting	Road Surface	In London
Left	Normal/unknown	Normal/unknown	

Arms

Arms

ID	Name	Description
1	Waterloo Road NB	
2	Waterloo Road SB	
3	Shawbridge Street	

Capacity Options

Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)	Assume Flat Start Profile	Initial Queue (PCU)
Waterloo Road NB	0.00	99999.00		0.00
Waterloo Road SB	0.00	99999.00		0.00
Shawbridge Street	0.00	99999.00		0.00

Mini Roundabout Geometry

Arm	Approach road half-width (m)	Minimum approach road half-width (m)	Entry width (m)	Effective flare length (m)	Distance to next arm (m)	Entry corner kerb line distance (m)	Gradient over 50m (%)	Kerbed central island
Waterloo Road NB	3.00	3.00	3.00	0.00	19.35	18.50	0.00	
Waterloo Road SB	3.30	3.30	3.30	0.00	13.20	5.50	0.00	
Shawbridge Street	3.22	3.22	4.10	1.90	9.35	2.00	0.00	

Pedestrian Crossings

Arm	Crossing Type
Waterloo Road NB	Pelican
Waterloo Road SB	None
Shawbridge Street	None

Pelican/ Puffin Crossings

Arm	Amber time preceding red (s)	Amber time regarded as green (s)	Time from traffic red start to green man start (s)	Time period green man shown (s)	Clearance Period (s)	Traffic minimum green (s)	Space between crossing and junction entry (PCU)
Waterloo Road NB	3.00	2.90	1.00	6.00	6.00	7.00	1.00

Arm Slope/ Intercept and Capacity

Slope and Intercept used in model

Arm	Enter Directly	Slope	Intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
Waterloo Road NB		((calculated))	((calculated))	0.777	971.545
Waterloo Road SB		((calculated))	((calculated))	0.519	803.502
Shawbridge Street		((calculated))	((calculated))	0.533	654.276

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

Arm Capacity Adjustments

Arm	Type	Reason	Direct Capacity Adjustment (PCU/hr)	Percentage Capacity Adjustment (%)
Waterloo Road NB	Direct		-100.00	N/A
Waterloo Road SB	Direct		220.00	N/A
Shawbridge Street	Direct		75.00	N/A

Traffic Flows

Demand Set Data Options

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

		Yes	Yes	HV Percentages	2.00				Yes	Yes

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)	PHF
Waterloo Road NB	FLAT	Yes	553.00	100.000	1.00
Waterloo Road SB	FLAT	Yes	798.00	100.000	1.00
Shawbridge Street	FLAT	Yes	586.00	100.000	1.00

Pedestrian Flows

General Flows Data

Arm	Profile Type	Average Pedestrian Flow (Ped/hr)
Waterloo Road NB	FLAT	20.00
Waterloo Road SB	(FLAT)	(0.00)
Shawbridge Street	(FLAT)	(0.00)

Results

Results Summary

Arm	Max RFC	Max Delay (min)	Max Queue (PCU)	Max LOS	Total Demand (PCU/hr)	Total Arrivals (PCU)	Total Queueing Delay (PCU-min)	Average Queueing Delay (min)	Rate Of Queueing Delay (PCU-min/min)	Inclusive Queueing Total Delay (PCU-min)	Inclusive Queueing Average Delay (min)	Slope	Intercept (PCU/hr)
Waterloo Road NB	0.95	1.52	13.26	F	553.00	553.00	591.41	1.07	9.86	600.50	1.09	0.777	971.545
Waterloo Road SB	0.87	0.48	6.20	D	798.00	798.00	330.30	0.41	5.51	331.56	0.42	0.519	803.502
Shawbridge Street	1.22	12.33	110.22	F	586.00	586.00	3379.04	5.77	56.32	4140.74	7.07	0.533	654.276

A1 - Existing Layout - D10 - 2030 With Dev, PM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Description	Include In Report	Use Specific Demand Set	Demand Set	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
Existing Layout		Yes		(D1)		100.000	100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Locked	Run Automatically	Use Relationship	Relationship	Start Time (HH:mm)	Finish Time (HH:mm)	Time Period Length (min)	Time Segment Length (min)	Traffic Profile Type
2030 With Dev, PM	2030 With Dev	PM			Yes			16:30	17:30	60	15	FLAT

Roundabout Network

Roundabout Type(s)

ID	Name	Arm Order	Roundabout Type	Grade Separated	Large Roundabout	Do Geometric Delay
1	(untitled)	1,2,3	Mini-roundabout			

Roundabout Network Options

Driving Side	Lighting	Road Surface	In London
Left	Normal/unknown	Normal/unknown	

Arms

Arms

ID	Name	Description
1	Waterloo Road NB	
2	Waterloo Road SB	
3	Shawbridge Street	

Capacity Options

Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)	Assume Flat Start Profile	Initial Queue (PCU)
Waterloo Road NB	0.00	99999.00		0.00
Waterloo Road SB	0.00	99999.00		0.00
Shawbridge Street	0.00	99999.00		0.00

Mini Roundabout Geometry

Arm	Approach road half-width (m)	Minimum approach road half-width (m)	Entry width (m)	Effective flare length (m)	Distance to next arm (m)	Entry corner kerb line distance (m)	Gradient over 50m (%)	Kerbed central island
Waterloo Road NB	3.00	3.00	3.00	0.00	19.35	18.50	0.00	
Waterloo Road SB	3.30	3.30	3.30	0.00	13.20	5.50	0.00	
Shawbridge Street	3.22	3.22	4.10	1.90	9.35	2.00	0.00	

Pedestrian Crossings

Arm	Crossing Type
Waterloo Road NB	Pelican
Waterloo Road SB	None
Shawbridge Street	None

Pelican/ Puffin Crossings

Arm	Amber time preceding red (s)	Amber time regarded as green (s)	Time from traffic red start to green man start (s)	Time period green man shown (s)	Clearance Period (s)	Traffic minimum green (s)	Space between crossing and junction entry (PCU)
Waterloo Road NB	3.00	2.90	1.00	6.00	6.00	7.00	1.00

Arm Slope/ Intercept and Capacity

Slope and Intercept used in model

Arm	Enter Directly	Slope	Intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
Waterloo Road NB		((calculated))	((calculated))	0.777	971.545
Waterloo Road SB		((calculated))	((calculated))	0.519	803.502
Shawbridge Street		((calculated))	((calculated))	0.533	654.276

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

Arm Capacity Adjustments

Arm	Type	Reason	Direct Capacity Adjustment (PCU/hr)	Percentage Capacity Adjustment (%)
Waterloo Road NB	Direct		-100.00	N/A
Waterloo Road SB	Direct		220.00	N/A
Shawbridge Street	Direct		75.00	N/A

Traffic Flows

Demand Set Data Options

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

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)	PHF
Waterloo Road NB	FLAT	Yes	553.00	100.000	1.00
Waterloo Road SB	FLAT	Yes	992.00	100.000	1.00
Shawbridge Street	FLAT	Yes	511.00	100.000	1.00

Pedestrian Flows

General Flows Data

Arm	Profile Type	Average Pedestrian Flow (Ped/hr)
Waterloo Road NB	FLAT	20.00
Waterloo Road SB	(FLAT)	(0.00)
Shawbridge Street	(FLAT)	(0.00)

Results

Results Summary

Arm	Max RFC	Max Delay (min)	Max Queue (PCU)	Max LOS	Total Demand (PCU/hr)	Total Arrivals (PCU)	Total Queueing Delay (PCU-min)	Average Queueing Delay (min)	Rate Of Queueing Delay (PCU-min/min)	Inclusive Queueing Total Delay (PCU-min)	Inclusive Queueing Average Delay (min)	Slope	Intercept (PCU/hr)
Waterloo Road NB	0.87	0.69	6.05	E	553.00	553.00	314.24	0.57	5.24	315.97	0.57	0.777	971.545
Waterloo Road SB	1.07	4.52	75.83	F	992.00	992.00	2491.13	2.51	41.52	2677.11	2.70	0.519	803.502
Shawbridge Street	1.16	8.92	72.63	F	511.00	511.00	2264.14	4.43	37.74	2622.17	5.13	0.533	654.276

A3 - Proposed Layout v2 - D1 - 2012 Observed, AM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Description	Include In Report	Use Specific Demand Set	Demand Set	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
Proposed Layout v2	Propose Road widening on Shawbridge Street and on Waterloo Road SB	Yes		(D1)		100.000	100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Locked	Run Automatically	Use Relationship	Relationship	Start Time (HH:mm)	Finish Time (HH:mm)	Time Period Length (min)	Time Segment Length (min)	Traffic Profile Type
2012 Observed, AM	2012 Observed	AM			Yes			08:00	09:00	60	15	FLAT

Roundabout Network

Roundabout Type(s)

ID	Name	Arm Order	Roundabout Type	Grade Separated	Large Roundabout	Do Geometric Delay
1	(untitled)	1,2,3	Mini-roundabout			

Roundabout Network Options

Driving Side	Lighting	Road Surface	In London
Left	Normal/unknown	Normal/unknown	

Arms

Arms

ID	Name	Description
1	Waterloo Road NB	
2	Waterloo Road SB	
3	Shawbridge Street	

Capacity Options

Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)	Assume Flat Start Profile	Initial Queue (PCU)
Waterloo Road NB	0.00	99999.00		0.00
Waterloo Road SB	0.00	99999.00		0.00
Shawbridge Street	0.00	99999.00		0.00

Mini Roundabout Geometry

Arm	Approach road half-width (m)	Minimum approach road half-width (m)	Entry width (m)	Effective flare length (m)	Distance to next arm (m)	Entry corner kerb line distance (m)	Gradient over 50m (%)	Kerbed central island
Waterloo Road NB	3.00	3.00	3.00	0.00	19.35	18.50	0.00	
Waterloo Road SB	3.50	3.30	3.80	7.50	13.20	4.50	0.00	
Shawbridge Street	3.55	3.55	6.00	3.45	9.35	2.00	0.00	

Pedestrian Crossings

Arm	Crossing Type
Waterloo Road NB	Pelican
Waterloo Road SB	None
Shawbridge Street	None

Pelican/ Puffin Crossings

Arm	Amber time preceding red (s)	Amber time regarded as green (s)	Time from traffic red start to green man start (s)	Time period green man shown (s)	Clearance Period (s)	Traffic minimum green (s)	Space between crossing and junction entry (PCU)
Waterloo Road NB	3.00	2.90	1.00	6.00	6.00	7.00	0.00

Arm Slope/ Intercept and Capacity

Slope and Intercept used in model

Arm	Enter Directly	Slope	Intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
Waterloo Road NB		((calculated))	((calculated))	0.777	971.545
Waterloo Road SB		((calculated))	((calculated))	0.540	874.760
Shawbridge Street		((calculated))	((calculated))	0.569	781.461

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

Arm Capacity Adjustments

Arm	Type	Reason	Direct Capacity Adjustment (PCU/hr)	Percentage Capacity Adjustment (%)
Waterloo Road NB	Direct		-100.00	N/A
Waterloo Road SB	Direct		220.00	N/A
Shawbridge Street	None	N/A	N/A	N/A

Traffic Flows

Demand Set Data Options

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

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)	PHF
Waterloo Road NB	FLAT	Yes	371.00	100.000	1.00
Waterloo Road SB	FLAT	Yes	598.00	100.000	1.00
Shawbridge Street	FLAT	Yes	362.00	100.000	1.00

Pedestrian Flows

General Flows Data

Arm	Profile Type	Average Pedestrian Flow (Ped/hr)
Waterloo Road NB	FLAT	20.00
Waterloo Road SB	(FLAT)	(0.00)
Shawbridge Street	(FLAT)	(0.00)

Results

Results Summary

Arm	Max	Max	Max	Max	Total	Total	Total	Average	Rate Of	Inclusive	Inclusive	Slope	Intercept

	RFC	Delay (min)	Queue (PCU)	LOS	Demand (PCU/hr)	Arrivals (PCU)	Queueing Delay (PCU-min)	Queueing Delay (min)	Queueing Delay (PCU-min/min)	Queueing Total Delay (PCU-min)	Queueing Average Delay (min)		(PCU/hr)
Waterloo Road NB	0.62	0.27	1.62	C	371.00	371.00	93.27	0.25	1.55	93.40	0.25	0.777	971.545
Waterloo Road SB	0.58	0.14	1.37	A	598.00	598.00	80.43	0.13	1.34	80.49	0.13	0.540	874.760
Shawbridge Street	0.63	0.29	1.70	C	362.00	362.00	97.89	0.27	1.63	98.04	0.27	0.569	781.461

A3 - Proposed Layout v2 - D2 - 2012 Observed, PM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Description	Include In Report	Use Specific Demand Set	Demand Set	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
Proposed Layout v2	Propose Road widening on Shawbridge Street and on Waterloo Road SB	Yes		(D1)		100.000	100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Locked	Run Automatically	Use Relationship	Relationship	Start Time (HH:mm)	Finish Time (HH:mm)	Time Period Length (min)	Time Segment Length (min)	Traffic Profile Type
2012 Observed, PM	2012 Observed	PM			Yes			16:30	17:30	60	15	FLAT

Roundabout Network

Roundabout Type(s)

ID	Name	Arm Order	Roundabout Type	Grade Separated	Large Roundabout	Do Geometric Delay
1	(untitled)	1,2,3	Mini-roundabout			

Roundabout Network Options

Driving Side	Lighting	Road Surface	In London
Left	Normal/unknown	Normal/unknown	

Arms

Arms

ID	Name	Description
1	Waterloo Road NB	
2	Waterloo Road SB	
3	Shawbridge Street	

Capacity Options

Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)	Assume Flat Start Profile	Initial Queue (PCU)
Waterloo Road NB	0.00	99999.00		0.00
Waterloo Road SB	0.00	99999.00		0.00
Shawbridge Street	0.00	99999.00		0.00

Mini Roundabout Geometry

Arm	Approach road half-width (m)	Minimum approach road half-width (m)	Entry width (m)	Effective flare length (m)	Distance to next arm (m)	Entry corner kerb line distance (m)	Gradient over 50m (%)	Kerbed central island
Waterloo Road NB	3.00	3.00	3.00	0.00	19.35	18.50	0.00	
Waterloo Road SB	3.50	3.30	3.80	7.50	13.20	4.50	0.00	
Shawbridge Street	3.55	3.55	6.00	3.45	9.35	2.00	0.00	

Pedestrian Crossings

Arm	Crossing Type
Waterloo Road NB	Pelican
Waterloo Road SB	None
Shawbridge Street	None

Pelican/ Puffin Crossings

Arm	Amber time preceding red (s)	Amber time regarded as green (s)	Time from traffic red start to green man start (s)	Time period green man shown (s)	Clearance Period (s)	Traffic minimum green (s)	Space between crossing and junction entry (PCU)
Waterloo Road NB	3.00	2.90	1.00	6.00	6.00	7.00	0.00

Arm Slope/ Intercept and Capacity

Slope and Intercept used in model

Arm	Enter Directly	Slope	Intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
Waterloo Road NB		((calculated))	((calculated))	0.777	971.545
Waterloo Road SB		((calculated))	((calculated))	0.540	874.760
Shawbridge Street		((calculated))	((calculated))	0.569	781.461

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

Arm Capacity Adjustments

Arm	Type	Reason	Direct Capacity Adjustment (PCU/hr)	Percentage Capacity Adjustment (%)
Waterloo Road NB	Direct		-100.00	N/A
Waterloo Road SB	Direct		220.00	N/A
Shawbridge Street	None	N/A	N/A	N/A

Traffic Flows

Demand Set Data Options

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

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)	PHF
Waterloo Road NB	FLAT	Yes	376.00	100.000	1.00
Waterloo Road SB	FLAT	Yes	726.00	100.000	1.00
Shawbridge Street	FLAT	Yes	337.00	100.000	1.00

Pedestrian Flows

General Flows Data

Arm	Profile Type	Average Pedestrian Flow (Ped/hr)
Waterloo Road NB	FLAT	20.00
Waterloo Road SB	(FLAT)	(0.00)
Shawbridge Street	(FLAT)	(0.00)

Results

Results Summary

Arm	Max RFC	Max Delay (min)	Max Queue (PCU)	Max LOS	Total Demand (PCU/hr)	Total Arrivals (PCU)	Total Queueing Delay (PCU-min)	Average Queueing Delay (min)	Rate Of Queueing Delay (PCU-min/min)	Inclusive Queueing Total Delay (PCU-min)	Inclusive Queueing Average Delay (min)	Slope	Intercept (PCU/hr)
Waterloo Road NB	0.57	0.21	1.33	B	376.00	376.00	77.12	0.21	1.29	77.20	0.21	0.777	971.545
Waterloo Road SB	0.70	0.19	2.26	B	726.00	726.00	130.66	0.18	2.18	130.80	0.18	0.540	874.760
Shawbridge Street	0.63	0.30	1.66	C	337.00	337.00	94.98	0.28	1.58	95.14	0.28	0.569	781.461

A3 - Proposed Layout v2 - D3 - 2015 Base, AM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Description	Include In Report	Use Specific Demand Set	Demand Set	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
Proposed Layout v2	Propose Road widening on Shawbridge Street and on Waterloo Road SB	Yes		(D1)		100.000	100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Locked	Run Automatically	Use Relationship	Relationship	Start Time (HH:mm)	Finish Time (HH:mm)	Time Period Length (min)	Time Segment Length (min)	Traffic Profile Type
2015 Base, AM	2015 Base	AM			Yes			08:00	09:00	60	15	FLAT

Roundabout Network

Roundabout Type(s)

ID	Name	Arm Order	Roundabout Type	Grade Separated	Large Roundabout	Do Geometric Delay
1	(untitled)	1,2,3	Mini-roundabout			

Roundabout Network Options

Driving Side	Lighting	Road Surface	In London
Left	Normal/unknown	Normal/unknown	

Arms

Arms

ID	Name	Description
1	Waterloo Road NB	
2	Waterloo Road SB	
3	Shawbridge Street	

Capacity Options

Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)	Assume Flat Start Profile	Initial Queue (PCU)
Waterloo Road NB	0.00	99999.00		0.00
Waterloo Road SB	0.00	99999.00		0.00
Shawbridge Street	0.00	99999.00		0.00

Mini Roundabout Geometry

Arm	Approach road half-width (m)	Minimum approach road half-width (m)	Entry width (m)	Effective flare length (m)	Distance to next arm (m)	Entry corner kerb line distance (m)	Gradient over 50m (%)	Kerbed central island
Waterloo Road NB	3.00	3.00	3.00	0.00	19.35	18.50	0.00	
Waterloo Road SB	3.50	3.30	3.80	7.50	13.20	4.50	0.00	
Shawbridge Street	3.55	3.55	6.00	3.45	9.35	2.00	0.00	

Pedestrian Crossings

Arm	Crossing Type
Waterloo Road NB	Pelican
Waterloo Road SB	None
Shawbridge Street	None

Pelican/ Puffin Crossings

Arm	Amber time preceding red (s)	Amber time regarded as green (s)	Time from traffic red start to green man start (s)	Time period green man shown (s)	Clearance Period (s)	Traffic minimum green (s)	Space between crossing and junction entry (PCU)
Waterloo Road NB	3.00	2.90	1.00	6.00	6.00	7.00	0.00

Arm Slope/ Intercept and Capacity

Slope and Intercept used in model

Arm	Enter Directly	Slope	Intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
Waterloo Road NB		((calculated))	((calculated))	0.777	971.545
Waterloo Road SB		((calculated))	((calculated))	0.540	874.760
Shawbridge Street		((calculated))	((calculated))	0.569	781.461

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

Arm Capacity Adjustments

Arm	Type	Reason	Direct Capacity Adjustment (PCU/hr)	Percentage Capacity Adjustment (%)
Waterloo Road NB	Direct		-100.00	N/A
Waterloo Road SB	Direct		220.00	N/A
Shawbridge Street	None	N/A	N/A	N/A

Traffic Flows

Demand Set Data Options

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

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)	PHF
Waterloo Road NB	FLAT	Yes	410.00	100.000	1.00
Waterloo Road SB	FLAT	Yes	619.00	100.000	1.00
Shawbridge Street	FLAT	Yes	371.00	100.000	1.00

Pedestrian Flows

General Flows Data

Arm	Profile Type	Average Pedestrian Flow (Ped/hr)
Waterloo Road NB	FLAT	20.00
Waterloo Road SB	(FLAT)	(0.00)
Shawbridge Street	(FLAT)	(0.00)

Results

Results Summary

Arm	Max RFC	Max Delay (min)	Max Queue (PCU)	Max LOS	Total Demand (PCU/hr)	Total Arrivals (PCU)	Total Queueing Delay (PCU-min)	Average Queueing Delay (min)	Rate Of Queueing Delay (PCU-min/min)	Inclusive Queueing Total Delay (PCU-min)	Inclusive Queueing Average Delay (min)	Slope	Intercept (PCU/hr)
Waterloo Road NB	0.69	0.33	2.23	C	410.00	410.00	126.02	0.31	2.10	126.27	0.31	0.777	971.545
Waterloo Road SB	0.60	0.15	1.50	A	619.00	619.00	87.61	0.14	1.46	87.67	0.14	0.540	874.760
Shawbridge Street	0.66	0.31	1.90	C	371.00	371.00	108.67	0.29	1.81	108.86	0.29	0.569	781.461

A3 - Proposed Layout v2 - D4 - 2015 Base, PM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Description	Include In Report	Use Specific Demand Set	Demand Set	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
Proposed Layout v2	Propose Road widening on Shawbridge Street and on Waterloo Road SB	Yes		(D1)		100.000	100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Locked	Run Automatically	Use Relationship	Relationship	Start Time (HH:mm)	Finish Time (HH:mm)	Time Period Length (min)	Time Segment Length (min)	Traffic Profile Type
2015 Base, PM	2015 Base	PM			Yes			16:30	17:30	60	15	FLAT

Roundabout Network

Roundabout Type(s)

ID	Name	Arm Order	Roundabout Type	Grade Separated	Large Roundabout	Do Geometric Delay
1	(untitled)	1,2,3	Mini-roundabout			

Roundabout Network Options

Driving Side	Lighting	Road Surface	In London
Left	Normal/unknown	Normal/unknown	

Arms

Arms

ID	Name	Description
1	Waterloo Road NB	
2	Waterloo Road SB	
3	Shawbridge Street	

Capacity Options

Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)	Assume Flat Start Profile	Initial Queue (PCU)
Waterloo Road NB	0.00	99999.00		0.00
Waterloo Road SB	0.00	99999.00		0.00
Shawbridge Street	0.00	99999.00		0.00

Mini Roundabout Geometry

Arm	Approach road half-width (m)	Minimum approach road half-width (m)	Entry width (m)	Effective flare length (m)	Distance to next arm (m)	Entry corner kerb line distance (m)	Gradient over 50m (%)	Kerbed central island
Waterloo Road NB	3.00	3.00	3.00	0.00	19.35	18.50	0.00	
Waterloo Road SB	3.50	3.30	3.80	7.50	13.20	4.50	0.00	
Shawbridge Street	3.55	3.55	6.00	3.45	9.35	2.00	0.00	

Pedestrian Crossings

Arm	Crossing Type

Waterloo Road NB	Pelican
Waterloo Road SB	None
Shawbridge Street	None

Pelican/ Puffin Crossings

Arm	Amber time preceding red (s)	Amber time regarded as green (s)	Time from traffic red start to green man start (s)	Time period green man shown (s)	Clearance Period (s)	Traffic minimum green (s)	Space between crossing and junction entry (PCU)
Waterloo Road NB	3.00	2.90	1.00	6.00	6.00	7.00	0.00

Arm Slope/ Intercept and Capacity

Slope and Intercept used in model

Arm	Enter Directly	Slope	Intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
Waterloo Road NB		((calculated))	((calculated))	0.777	971.545
Waterloo Road SB		((calculated))	((calculated))	0.540	874.760
Shawbridge Street		((calculated))	((calculated))	0.569	781.461

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

Arm Capacity Adjustments

Arm	Type	Reason	Direct Capacity Adjustment (PCU/hr)	Percentage Capacity Adjustment (%)
Waterloo Road NB	Direct		-100.00	N/A
Waterloo Road SB	Direct		220.00	N/A
Shawbridge Street	None	N/A	N/A	N/A

Traffic Flows

Demand Set Data Options

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

				Percentages						

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)	PHF
Waterloo Road NB	FLAT	Yes	395.00	100.000	1.00
Waterloo Road SB	FLAT	Yes	779.00	100.000	1.00
Shawbridge Street	FLAT	Yes	347.00	100.000	1.00

Pedestrian Flows

General Flows Data

Arm	Profile Type	Average Pedestrian Flow (Ped/hr)
Waterloo Road NB	FLAT	20.00
Waterloo Road SB	(FLAT)	(0.00)
Shawbridge Street	(FLAT)	(0.00)

Results

Results Summary

Arm	Max RFC	Max Delay (min)	Max Queue (PCU)	Max LOS	Total Demand (PCU/hr)	Total Arrivals (PCU)	Total Queueing Delay (PCU-min)	Average Queueing Delay (min)	Rate Of Queueing Delay (PCU-min/min)	Inclusive Queueing Total Delay (PCU-min)	Inclusive Queueing Average Delay (min)	Slope	Intercept (PCU/hr)
Waterloo Road NB	0.61	0.23	1.53	B	395.00	395.00	88.07	0.22	1.47	88.17	0.22	0.777	971.545
Waterloo Road SB	0.75	0.23	2.91	B	779.00	779.00	166.69	0.21	2.78	166.93	0.21	0.540	874.760
Shawbridge Street	0.68	0.36	2.06	C	347.00	347.00	116.70	0.34	1.94	116.95	0.34	0.569	781.461

A3 - Proposed Layout v2 - D5 - 2030 Base, AM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Description	Include In Report	Use Specific Demand Set	Demand Set	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
Proposed Layout v2	Propose Road widening on Shawbridge Street and on Waterloo Road SB	Yes		(D1)		100.000	100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Locked	Run Automatically	Use Relationship	Relationship	Start Time (HH:mm)	Finish Time (HH:mm)	Time Period Length (min)	Time Segment Length (min)	Traffic Profile Type
2030 Base, AM	2030 Base	AM			Yes			08:00	09:00	60	15	FLAT

Roundabout Network

Roundabout Type(s)

ID	Name	Arm Order	Roundabout Type	Grade Separated	Large Roundabout	Do Geometric Delay
1	(untitled)	1,2,3	Mini-roundabout			

Roundabout Network Options

Driving Side	Lighting	Road Surface	In London
Left	Normal/unknown	Normal/unknown	

Arms

Arms

ID	Name	Description
1	Waterloo Road NB	
2	Waterloo Road SB	
3	Shawbridge Street	

Capacity Options

Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)	Assume Flat Start Profile	Initial Queue (PCU)
Waterloo Road NB	0.00	99999.00		0.00
Waterloo Road SB	0.00	99999.00		0.00
Shawbridge Street	0.00	99999.00		0.00

Mini Roundabout Geometry

Arm	Approach road half-width (m)	Minimum approach road half-width (m)	Entry width (m)	Effective flare length (m)	Distance to next arm (m)	Entry corner kerb line distance (m)	Gradient over 50m (%)	Kerbed central island
Waterloo Road NB	3.00	3.00	3.00	0.00	19.35	18.50	0.00	
Waterloo Road SB	3.50	3.30	3.80	7.50	13.20	4.50	0.00	
Shawbridge Street	3.55	3.55	6.00	3.45	9.35	2.00	0.00	

Pedestrian Crossings

Arm	Crossing Type
Waterloo Road NB	Pelican
Waterloo Road SB	None
Shawbridge Street	None

Pelican/ Puffin Crossings

Arm	Amber time preceding red (s)	Amber time regarded as green (s)	Time from traffic red start to green man start (s)	Time period green man shown (s)	Clearance Period (s)	Traffic minimum green (s)	Space between crossing and junction entry (PCU)
Waterloo Road NB	3.00	2.90	1.00	6.00	6.00	7.00	0.00

Arm Slope/ Intercept and Capacity

Slope and Intercept used in model

Arm	Enter Directly	Slope	Intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
Waterloo Road NB		((calculated))	((calculated))	0.777	971.545
Waterloo Road SB		((calculated))	((calculated))	0.540	874.760
Shawbridge Street		((calculated))	((calculated))	0.569	781.461

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

Arm Capacity Adjustments

Arm	Type	Reason	Direct Capacity Adjustment (PCU/hr)	Percentage Capacity Adjustment (%)
Waterloo Road NB	Direct		-100.00	N/A
Waterloo Road SB	Direct		220.00	N/A
Shawbridge Street	None	N/A	N/A	N/A

Traffic Flows

Demand Set Data Options

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

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)	PHF
Waterloo Road NB	FLAT	Yes	497.00	100.000	1.00
Waterloo Road SB	FLAT	Yes	759.00	100.000	1.00
Shawbridge Street	FLAT	Yes	456.00	100.000	1.00

Pedestrian Flows

General Flows Data

Arm	Profile Type	Average Pedestrian Flow (Ped/hr)
Waterloo Road NB	FLAT	20.00
Waterloo Road SB	(FLAT)	(0.00)
Shawbridge Street	(FLAT)	(0.00)

Results

Results Summary

Arm	Max RFC	Max Delay (min)	Max Queue (PCU)	Max LOS	Total Demand (PCU/hr)	Total Arrivals (PCU)	Total Queueing Delay (PCU-min)	Average Queueing Delay (min)	Rate Of Queueing Delay (PCU-min/min)	Inclusive Queueing Total Delay (PCU-min)	Inclusive Queueing Average Delay (min)	Slope	Intercept (PCU/hr)
Waterloo Road NB	0.93	1.27	9.86	F	497.00	497.00	452.22	0.91	7.54	457.67	0.92	0.777	971.545
Waterloo Road SB	0.75	0.23	2.91	B	759.00	759.00	165.88	0.22	2.76	166.13	0.22	0.540	874.760
Shawbridge Street	0.89	0.97	6.94	F	456.00	456.00	347.46	0.76	5.79	350.28	0.77	0.569	781.461

A3 - Proposed Layout v2 - D6 - 2030 Base, PM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Description	Include In Report	Use Specific Demand Set	Demand Set	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
Proposed Layout v2	Propose Road widening on Shawbridge Street and on Waterloo Road SB	Yes		(D1)		100.000	100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Locked	Run Automatically	Use Relationship	Relationship	Start Time (HH:mm)	Finish Time (HH:mm)	Time Period Length (min)	Time Segment Length (min)	Traffic Profile Type
2030 Base, PM	2030 Base	PM			Yes			16:30	17:30	60	15	FLAT

Roundabout Network

Roundabout Type(s)

ID	Name	Arm Order	Roundabout Type	Grade Separated	Large Roundabout	Do Geometric Delay
1	(untitled)	1,2,3	Mini-roundabout			

Roundabout Network Options

Driving Side	Lighting	Road Surface	In London
Left	Normal/unknown	Normal/unknown	

Arms

Arms

ID	Name	Description
1	Waterloo Road NB	
2	Waterloo Road SB	
3	Shawbridge Street	

Capacity Options

Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)	Assume Flat Start Profile	Initial Queue (PCU)
Waterloo Road NB	0.00	99999.00		0.00
Waterloo Road SB	0.00	99999.00		0.00
Shawbridge Street	0.00	99999.00		0.00

Mini Roundabout Geometry

Arm	Approach road half-width (m)	Minimum approach road half-width (m)	Entry width (m)	Effective flare length (m)	Distance to next arm (m)	Entry corner kerb line distance (m)	Gradient over 50m (%)	Kerbed central island
Waterloo Road NB	3.00	3.00	3.00	0.00	19.35	18.50	0.00	
Waterloo Road SB	3.50	3.30	3.80	7.50	13.20	4.50	0.00	
Shawbridge Street	3.55	3.55	6.00	3.45	9.35	2.00	0.00	

Pedestrian Crossings

Arm	Crossing Type
Waterloo Road NB	Pelican
Waterloo Road SB	None
Shawbridge Street	None

Pelican/ Puffin Crossings

Arm	Amber time preceding red (s)	Amber time regarded as green (s)	Time from traffic red start to green man start (s)	Time period green man shown (s)	Clearance Period (s)	Traffic minimum green (s)	Space between crossing and junction entry (PCU)
Waterloo Road NB	3.00	2.90	1.00	6.00	6.00	7.00	0.00

Arm Slope/ Intercept and Capacity

Slope and Intercept used in model

Arm	Enter Directly	Slope	Intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
Waterloo Road NB		((calculated))	((calculated))	0.777	971.545
Waterloo Road SB		((calculated))	((calculated))	0.540	874.760
Shawbridge Street		((calculated))	((calculated))	0.569	781.461

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

Arm Capacity Adjustments

Arm	Type	Reason	Direct Capacity Adjustment (PCU/hr)	Percentage Capacity Adjustment (%)
Waterloo Road NB	Direct		-100.00	N/A
Waterloo Road SB	Direct		220.00	N/A
Shawbridge Street	None	N/A	N/A	N/A

Traffic Flows

Demand Set Data Options

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

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)	PHF
Waterloo Road NB	FLAT	Yes	486.00	100.000	1.00
Waterloo Road SB	FLAT	Yes	956.00	100.000	1.00
Shawbridge Street	FLAT	Yes	429.00	100.000	1.00

Pedestrian Flows

General Flows Data

Arm	Profile Type	Average Pedestrian Flow (Ped/hr)
Waterloo Road NB	FLAT	20.00
Waterloo Road SB	(FLAT)	(0.00)
Shawbridge Street	(FLAT)	(0.00)

Results

Results Summary

Arm	Max	Max	Max	Max	Total	Total	Total	Average	Rate Of	Inclusive	Inclusive	Slope	Intercept

	RFC	Delay (min)	Queue (PCU)	LOS	Demand (PCU/hr)	Arrivals (PCU)	Queueing Delay (PCU-min)	Queueing Delay (min)	Queueing Delay (PCU-min/min)	Queueing Total Delay (PCU-min)	Queueing Average Delay (min)		(PCU/hr)
Waterloo Road NB	0.80	0.48	3.74	D	486.00	486.00	201.39	0.41	3.36	202.08	0.42	0.777	971.545
Waterloo Road SB	0.93	0.73	10.96	E	956.00	956.00	547.63	0.57	9.13	551.13	0.58	0.540	874.760
Shawbridge Street	0.95	1.69	11.35	F	429.00	429.00	497.54	1.16	8.29	506.07	1.18	0.569	781.461

A3 - Proposed Layout v2 - D7 - 2015 With Dev, AM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Description	Include In Report	Use Specific Demand Set	Demand Set	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
Proposed Layout v2	Propose Road widening on Shawbridge Street and on Waterloo Road SB	Yes		(D1)		100.000	100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Locked	Run Automatically	Use Relationship	Relationship	Start Time (HH:mm)	Finish Time (HH:mm)	Time Period Length (min)	Time Segment Length (min)	Traffic Profile Type
2015 With Dev, AM	2015 With Dev	AM			Yes			08:00	09:00	60	15	FLAT

Roundabout Network

Roundabout Type(s)

ID	Name	Arm Order	Roundabout Type	Grade Separated	Large Roundabout	Do Geometric Delay
1	(untitled)	1,2,3	Mini-roundabout			

Roundabout Network Options

Driving Side	Lighting	Road Surface	In London
Left	Normal/unknown	Normal/unknown	

Arms

Arms

ID	Name	Description
1	Waterloo Road NB	
2	Waterloo Road SB	
3	Shawbridge Street	

Capacity Options

Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)	Assume Flat Start Profile	Initial Queue (PCU)
Waterloo Road NB	0.00	99999.00		0.00
Waterloo Road SB	0.00	99999.00		0.00
Shawbridge Street	0.00	99999.00		0.00

Mini Roundabout Geometry

Arm	Approach road half-width (m)	Minimum approach road half-width (m)	Entry width (m)	Effective flare length (m)	Distance to next arm (m)	Entry corner kerb line distance (m)	Gradient over 50m (%)	Kerbed central island
Waterloo Road NB	3.00	3.00	3.00	0.00	19.35	18.50	0.00	
Waterloo Road SB	3.50	3.30	3.80	7.50	13.20	4.50	0.00	
Shawbridge Street	3.55	3.55	6.00	3.45	9.35	2.00	0.00	

Pedestrian Crossings

Arm	Crossing Type
Waterloo Road NB	Pelican
Waterloo Road SB	None
Shawbridge Street	None

Pelican/ Puffin Crossings

Arm	Amber time preceding red (s)	Amber time regarded as green (s)	Time from traffic red start to green man start (s)	Time period green man shown (s)	Clearance Period (s)	Traffic minimum green (s)	Space between crossing and junction entry (PCU)
Waterloo Road NB	3.00	2.90	1.00	6.00	6.00	7.00	0.00

Arm Slope/ Intercept and Capacity

Slope and Intercept used in model

Arm	Enter Directly	Slope	Intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
Waterloo Road NB		((calculated))	((calculated))	0.777	971.545
Waterloo Road SB		((calculated))	((calculated))	0.540	874.760
Shawbridge Street		((calculated))	((calculated))	0.569	781.461

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

Arm Capacity Adjustments

Arm	Type	Reason	Direct Capacity Adjustment (PCU/hr)	Percentage Capacity Adjustment (%)
Waterloo Road NB	Direct		-100.00	N/A
Waterloo Road SB	Direct		220.00	N/A
Shawbridge Street	None	N/A	N/A	N/A

Traffic Flows

Demand Set Data Options

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

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)	PHF
Waterloo Road NB	FLAT	Yes	465.00	100.000	1.00
Waterloo Road SB	FLAT	Yes	658.00	100.000	1.00
Shawbridge Street	FLAT	Yes	501.00	100.000	1.00

Pedestrian Flows

General Flows Data

Arm	Profile Type	Average Pedestrian Flow (Ped/hr)
Waterloo Road NB	FLAT	20.00
Waterloo Road SB	(FLAT)	(0.00)
Shawbridge Street	(FLAT)	(0.00)

Results

Results Summary

Arm	Max RFC	Max Delay (min)	Max Queue (PCU)	Max LOS	Total Demand (PCU/hr)	Total Arrivals (PCU)	Total Queueing Delay (PCU-min)	Average Queueing Delay (min)	Rate Of Queueing Delay (PCU-min/min)	Inclusive Queueing Total Delay (PCU-min)	Inclusive Queueing Average Delay (min)	Slope	Intercept (PCU/hr)
Waterloo Road NB	0.84	0.64	4.76	E	465.00	465.00	248.07	0.53	4.13	249.29	0.54	0.777	971.545
Waterloo Road SB	0.66	0.18	1.90	B	658.00	658.00	110.53	0.17	1.84	110.63	0.17	0.540	874.760
Shawbridge Street	0.89	0.90	7.13	F	501.00	501.00	360.07	0.72	6.00	362.77	0.72	0.569	781.461

A3 - Proposed Layout v2 - D8 - 2015 With Dev, PM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Description	Include In Report	Use Specific Demand Set	Demand Set	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
Proposed Layout v2	Propose Road widening on Shawbridge Street and on Waterloo Road SB	Yes		(D1)		100.000	100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Locked	Run Automatically	Use Relationship	Relationship	Start Time (HH:mm)	Finish Time (HH:mm)	Time Period Length (min)	Time Segment Length (min)	Traffic Profile Type
2015 With Dev, PM	2015 With Dev	PM			Yes			16:30	17:30	60	15	FLAT

Roundabout Network

Roundabout Type(s)

ID	Name	Arm Order	Roundabout Type	Grade Separated	Large Roundabout	Do Geometric Delay
1	(untitled)	1,2,3	Mini-roundabout			

Roundabout Network Options

Driving Side	Lighting	Road Surface	In London
Left	Normal/unknown	Normal/unknown	

Arms

Arms

ID	Name	Description
1	Waterloo Road NB	
2	Waterloo Road SB	
3	Shawbridge Street	

Capacity Options

Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)	Assume Flat Start Profile	Initial Queue (PCU)
Waterloo Road NB	0.00	99999.00		0.00
Waterloo Road SB	0.00	99999.00		0.00
Shawbridge Street	0.00	99999.00		0.00

Mini Roundabout Geometry

Arm	Approach road half-width (m)	Minimum approach road half-width (m)	Entry width (m)	Effective flare length (m)	Distance to next arm (m)	Entry corner kerb line distance (m)	Gradient over 50m (%)	Kerbed central island
Waterloo Road NB	3.00	3.00	3.00	0.00	19.35	18.50	0.00	
Waterloo Road SB	3.50	3.30	3.80	7.50	13.20	4.50	0.00	
Shawbridge Street	3.55	3.55	6.00	3.45	9.35	2.00	0.00	

Pedestrian Crossings

Arm	Crossing Type
Waterloo Road NB	Pelican
Waterloo Road SB	None
Shawbridge Street	None

Pelican/ Puffin Crossings

Arm	Amber time preceding red (s)	Amber time regarded as green (s)	Time from traffic red start to green man start (s)	Time period green man shown (s)	Clearance Period (s)	Traffic minimum green (s)	Space between crossing and junction entry (PCU)
Waterloo Road NB	3.00	2.90	1.00	6.00	6.00	7.00	0.00

Arm Slope/ Intercept and Capacity

Slope and Intercept used in model

Arm	Enter Directly	Slope	Intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
Waterloo Road NB		((calculated))	((calculated))	0.777	971.545
Waterloo Road SB		((calculated))	((calculated))	0.540	874.760
Shawbridge Street		((calculated))	((calculated))	0.569	781.461

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

Arm Capacity Adjustments

Arm	Type	Reason	Direct Capacity Adjustment (PCU/hr)	Percentage Capacity Adjustment (%)
Waterloo Road NB	Direct		-100.00	N/A
Waterloo Road SB	Direct		220.00	N/A
Shawbridge Street	None	N/A	N/A	N/A

Traffic Flows

Demand Set Data Options

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

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)	PHF
Waterloo Road NB	FLAT	Yes	462.00	100.000	1.00
Waterloo Road SB	FLAT	Yes	815.00	100.000	1.00
Shawbridge Street	FLAT	Yes	429.00	100.000	1.00

Pedestrian Flows

General Flows Data

Arm	Profile Type	Average Pedestrian Flow (Ped/hr)
Waterloo Road NB	FLAT	20.00
Waterloo Road SB	(FLAT)	(0.00)
Shawbridge Street	(FLAT)	(0.00)

Results

Results Summary

Arm	Max RFC	Max Delay (min)	Max Queue (PCU)	Max LOS	Total Demand (PCU/hr)	Total Arrivals (PCU)	Total Queueing Delay (PCU-min)	Average Queueing Delay (min)	Rate Of Queueing Delay (PCU-min/min)	Inclusive Queueing Total Delay (PCU-min)	Inclusive Queueing Average Delay (min)	Slope	Intercept (PCU/hr)
Waterloo Road NB	0.74	0.36	2.72	C	462.00	462.00	151.99	0.33	2.53	152.34	0.33	0.777	971.545
Waterloo Road SB	0.81	0.31	4.14	C	815.00	815.00	231.57	0.28	3.86	232.08	0.28	0.540	874.760
Shawbridge Street	0.84	0.70	4.82	E	429.00	429.00	253.30	0.59	4.22	254.66	0.59	0.569	781.461

A3 - Proposed Layout v2 - D9 - 2030 With Dev, AM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Description	Include In Report	Use Specific Demand Set	Demand Set	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
Proposed Layout v2	Propose Road widening on Shawbridge Street and on Waterloo Road SB	Yes		(D1)		100.000	100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Locked	Run Automatically	Use Relationship	Relationship	Start Time (HH:mm)	Finish Time (HH:mm)	Time Period Length (min)	Time Segment Length (min)	Traffic Profile Type
2030 With Dev, AM	2030 With Dev	AM			Yes			08:00	09:00	60	15	FLAT

Roundabout Network

Roundabout Type(s)

ID	Name	Arm Order	Roundabout Type	Grade Separated	Large Roundabout	Do Geometric Delay
1	(untitled)	1,2,3	Mini-roundabout			

Roundabout Network Options

Driving Side	Lighting	Road Surface	In London
Left	Normal/unknown	Normal/unknown	

Arms

Arms

ID	Name	Description
1	Waterloo Road NB	
2	Waterloo Road SB	
3	Shawbridge Street	

Capacity Options

Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)	Assume Flat Start Profile	Initial Queue (PCU)
Waterloo Road NB	0.00	99999.00		0.00
Waterloo Road SB	0.00	99999.00		0.00
Shawbridge Street	0.00	99999.00		0.00

Mini Roundabout Geometry

Arm	Approach road half-width (m)	Minimum approach road half-width (m)	Entry width (m)	Effective flare length (m)	Distance to next arm (m)	Entry corner kerb line distance (m)	Gradient over 50m (%)	Kerbed central island
Waterloo Road NB	3.00	3.00	3.00	0.00	19.35	18.50	0.00	
Waterloo Road SB	3.50	3.30	3.80	7.50	13.20	4.50	0.00	
Shawbridge Street	3.55	3.55	6.00	3.45	9.35	2.00	0.00	

Pedestrian Crossings

Arm	Crossing Type
Waterloo Road NB	Pelican
Waterloo Road SB	None
Shawbridge Street	None

Pelican/ Puffin Crossings

Arm	Amber time preceding red (s)	Amber time regarded as green (s)	Time from traffic red start to green man start (s)	Time period green man shown (s)	Clearance Period (s)	Traffic minimum green (s)	Space between crossing and junction entry (PCU)
Waterloo Road NB	3.00	2.90	1.00	6.00	6.00	7.00	0.00

Arm Slope/ Intercept and Capacity

Slope and Intercept used in model

Arm	Enter Directly	Slope	Intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
Waterloo Road NB		((calculated))	((calculated))	0.777	971.545
Waterloo Road SB		((calculated))	((calculated))	0.540	874.760
Shawbridge Street		((calculated))	((calculated))	0.569	781.461

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

Arm Capacity Adjustments

Arm	Type	Reason	Direct Capacity Adjustment (PCU/hr)	Percentage Capacity Adjustment (%)
Waterloo Road NB	Direct		-100.00	N/A
Waterloo Road SB	Direct		220.00	N/A
Shawbridge Street	None	N/A	N/A	N/A

Traffic Flows

Demand Set Data Options

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

		Yes	Yes	HV Percentages	2.00				Yes	Yes

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)	PHF
Waterloo Road NB	FLAT	Yes	553.00	100.000	1.00
Waterloo Road SB	FLAT	Yes	798.00	100.000	1.00
Shawbridge Street	FLAT	Yes	586.00	100.000	1.00

Pedestrian Flows

General Flows Data

Arm	Profile Type	Average Pedestrian Flow (Ped/hr)
Waterloo Road NB	FLAT	20.00
Waterloo Road SB	(FLAT)	(0.00)
Shawbridge Street	(FLAT)	(0.00)

Results

Results Summary

Arm	Max RFC	Max Delay (min)	Max Queue (PCU)	Max LOS	Total Demand (PCU/hr)	Total Arrivals (PCU)	Total Queueing Delay (PCU-min)	Average Queueing Delay (min)	Rate Of Queueing Delay (PCU-min/min)	Inclusive Queueing Total Delay (PCU-min)	Inclusive Queueing Average Delay (min)	Slope	Intercept (PCU/hr)
Waterloo Road NB	1.02	3.16	28.56	F	553.00	553.00	1043.31	1.89	17.39	1088.53	1.97	0.777	971.545
Waterloo Road SB	0.81	0.31	4.05	C	798.00	798.00	225.95	0.28	3.77	226.45	0.28	0.540	874.760
Shawbridge Street	1.14	8.25	77.93	F	586.00	586.00	2456.73	4.19	40.95	2811.49	4.80	0.569	781.461

A3 - Proposed Layout v2 - D10 - 2030 With Dev, PM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Description	Include In Report	Use Specific Demand Set	Demand Set	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
Proposed Layout v2	Propose Road widening on Shawbridge Street and on Waterloo Road SB	Yes		(D1)		100.000	100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Locked	Run Automatically	Use Relationship	Relationship	Start Time (HH:mm)	Finish Time (HH:mm)	Time Period Length (min)	Time Segment Length (min)	Traffic Profile Type
2030 With Dev, PM	2030 With Dev	PM			Yes			16:30	17:30	60	15	FLAT

Roundabout Network

Roundabout Type(s)

ID	Name	Arm Order	Roundabout Type	Grade Separated	Large Roundabout	Do Geometric Delay
1	(untitled)	1,2,3	Mini-roundabout			

Roundabout Network Options

Driving Side	Lighting	Road Surface	In London
Left	Normal/unknown	Normal/unknown	

Arms

Arms

ID	Name	Description
1	Waterloo Road NB	
2	Waterloo Road SB	
3	Shawbridge Street	

Capacity Options

Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)	Assume Flat Start Profile	Initial Queue (PCU)
Waterloo Road NB	0.00	99999.00		0.00
Waterloo Road SB	0.00	99999.00		0.00
Shawbridge Street	0.00	99999.00		0.00

Mini Roundabout Geometry

Arm	Approach road half-width (m)	Minimum approach road half-width (m)	Entry width (m)	Effective flare length (m)	Distance to next arm (m)	Entry corner kerb line distance (m)	Gradient over 50m (%)	Kerbed central island
Waterloo Road NB	3.00	3.00	3.00	0.00	19.35	18.50	0.00	
Waterloo Road SB	3.50	3.30	3.80	7.50	13.20	4.50	0.00	
Shawbridge Street	3.55	3.55	6.00	3.45	9.35	2.00	0.00	

Pedestrian Crossings

Arm	Crossing Type
Waterloo Road NB	Pelican
Waterloo Road SB	None
Shawbridge Street	None

Pelican/ Puffin Crossings

Arm	Amber time preceding red (s)	Amber time regarded as green (s)	Time from traffic red start to green man start (s)	Time period green man shown (s)	Clearance Period (s)	Traffic minimum green (s)	Space between crossing and junction entry (PCU)
Waterloo Road NB	3.00	2.90	1.00	6.00	6.00	7.00	0.00

Arm Slope/ Intercept and Capacity

Slope and Intercept used in model

Arm	Enter Directly	Slope	Intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
Waterloo Road NB		((calculated))	((calculated))	0.777	971.545
Waterloo Road SB		((calculated))	((calculated))	0.540	874.760
Shawbridge Street		((calculated))	((calculated))	0.569	781.461

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

Arm Capacity Adjustments

Arm	Type	Reason	Direct Capacity Adjustment (PCU/hr)	Percentage Capacity Adjustment (%)
Waterloo Road NB	Direct		-100.00	N/A
Waterloo Road SB	Direct		220.00	N/A
Shawbridge Street	None	N/A	N/A	N/A

Traffic Flows

Demand Set Data Options

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

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)	PHF
Waterloo Road NB	FLAT	Yes	553.00	100.000	1.00
Waterloo Road SB	FLAT	Yes	992.00	100.000	1.00
Shawbridge Street	FLAT	Yes	511.00	100.000	1.00

Pedestrian Flows

General Flows Data

Arm	Profile Type	Average Pedestrian Flow (Ped/hr)
Waterloo Road NB	FLAT	20.00
Waterloo Road SB	(FLAT)	(0.00)
Shawbridge Street	(FLAT)	(0.00)

Results

Results Summary

Arm	Max RFC	Max Delay (min)	Max Queue (PCU)	Max LOS	Total Demand (PCU/hr)	Total Arrivals (PCU)	Total Queueing Delay (PCU-min)	Average Queueing Delay (min)	Rate Of Queueing Delay (PCU-min/min)	Inclusive Queueing Total Delay (PCU-min)	Inclusive Queueing Average Delay (min)	Slope	Intercept (PCU/hr)
Waterloo Road NB	0.91	0.95	8.23	F	553.00	553.00	405.69	0.73	6.76	409.02	0.74	0.777	971.545
Waterloo Road SB	1.00	1.81	29.18	F	992.00	992.00	1163.94	1.17	19.40	1189.61	1.20	0.540	874.760
Shawbridge Street	1.12	6.90	57.51	F	511.00	511.00	1816.80	3.56	30.28	2033.57	3.98	0.569	781.461

Appendix O
Pendle Road / Goosebutts Lane (priority controlled junction)

CAPACITIES, QUEUES, AND DELAYS AT 3 OR 4-ARM MAJOR/MINOR PRIORITY JUNCTIONS

PICADY 5.1 ANALYSIS PROGRAM
RELEASE 4.0 (SEPT 2008)

FOR SALES AND DISTRIBUTION INFORMATION,
PROGRAM ADVICE AND MAINTENANCE CONTACT:
TRL SOFTWARE BUREAU
TEL: CROWTHORNE (01344) 770758, FAX: 770356
EMAIL: Software@trl.co.uk

Run with file:-
"J:\2012\A077038 Standen Estates\Picady\Goosebutts Ln_Pendle Rd T-Jn\
Existing Goosebutts Ln_Pendle Rd - T-Jn (AM Peak).vpi"
(drive-on-the-left) at 13:00:25 on Wednesday, 26 September 2012

RUN INFORMATION
****

```
RUN TITLE       : Goosebutts Lane/Pendle Road - AM Peak
LOCATION        : Goosebutts Lane/Pendle Road T-Junction
DATE            : 30/08/12
CLIENT          :
ENUMERATOR      : steven.ho [27-WRK-SBA-021]
JOB NUMBER      : A077038
STATUS          :
DESCRIPTION     :
```

MAJOR/MINOR JUNCTION CAPACITY AND DELAY
****

INPUT DATA

```
                    MAJOR ROAD (ARM C) --------------------- MAJOR ROAD (ARM A)
                                                 I
                                                 I
                                                 I
                                                 I
                                                 I
                                                 I
                                        MINOR ROAD (ARM B)
```

ARM A IS Pendle Road WB
ARM B IS Goosebutts Lane
ARM C IS Pendle Road EB

STREAM LABELLING CONVENTION

```
        STREAM  A-B  CONTAINS TRAFFIC GOING FROM ARM  A TO ARM B
        STREAM  B-AC CONTAINS TRAFFIC GOING FROM ARM  B TO ARM A AND TO ARM  C
        ETC.
```

GEOMETRIC DATA

DATA ITEM	MINOR ROAD B
TOTAL MAJOR ROAD CARRIAGEWAY WIDTH	(W) 6.40 M.
CENTRAL RESERVE WIDTH	(WCR) 0.00 M.
MAJOR ROAD RIGHT TURN - WIDTH	(WC-B) 2.20 M.
- VISIBILITY	(VC-B) 150.00 M.
- BLOCKS TRAFFIC	YES
MINOR ROAD - VISIBILITY TO LEFT	(VB-C) 23.0 M.
- VISIBILITY TO RIGHT	(VB-A) 16.0 M.
- LANE 1 WIDTH	(WB-C) 3.60 M.
- LANE 2 WIDTH	(WB-A) 0.00 M.

.SLOPES AND INTERCEPT

(NB:Streams may be combined, in which case capacity will be adjusted)

Intercept For STREAM B-C	Slope For Opposing STREAM A-C	Slope For Opposing STREAM A-B
672.09	0.26	0.10

Intercept For STREAM B-A	Slope For Opposing STREAM A-C	Slope For Opposing STREAM A-B	Slope For Opposing STREAM C-A	Slope For Opposing STREAM C-B
522.54	0.24	0.09	0.15	0.34

Intercept For STREAM C-B	Slope For Opposing STREAM A-C	Slope For Opposing STREAM A-B
660.83	0.25	0.25

(NB These values do not allow for any site specific corrections)

TRAFFIC DEMAND DATA

ARM	FLOW SCALE(%)
A	100
B	100
C	100

Demand set: 2012 Observed Base Flows

TIME PERIOD BEGINS 07.45 AND ENDS 09.15

LENGTH OF TIME PERIOD - 90 MIN.
LENGTH OF TIME SEGMENT - 15 MIN.

DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

ARM	NUMBER OF MINUTES FROM START WHEN FLOW STARTS TO RISE	TOP OF PEAK IS REACHED	FLOW STOPS FALLING	RATE OF FLOW (VEH/MIN) BEFORE PEAK	AT TOP OF PEAK	AFTER PEAK
ARM A	15.00	45.00	75.00	3.75	5.63	3.75
ARM B	15.00	45.00	75.00	0.82	1.24	0.82
ARM C	15.00	45.00	75.00	3.74	5.61	3.74

Demand set: 2012 Observed Base Flows

TIME	FROM/TO	ARM A	ARM B	ARM C
07.45 - 08.00				
	ARM A	0.000	0.063	0.937
		0.0	19.0	281.0
		(0.0)	(0.0)	(0.0)
	ARM B	0.545	0.000	0.455
		36.0	0.0	30.0
		(0.0)	(0.0)	(0.0)
	ARM C	0.926	0.074	0.000
		277.0	22.0	0.0
		(0.0)	(0.0)	(0.0)

(Header: TURNING PROPORTIONS / TURNING COUNTS / (PERCENTAGE OF H.V.S))

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

FOR DEMAND SET 2012 Observed Base Flows
AND FOR TIME PERIOD 1

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
07.45-08.00									
B-AC	0.83	8.37	0.099		0.00	0.11	1.6		0.13
C-AB	0.38	12.35	0.031		0.00	0.04	0.6		0.08
C-A	3.37								
A-B	0.24								
A-C	3.53								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
08.00-08.15									
B-AC	0.99	8.10	0.122		0.11	0.14	2.0		0.14
C-AB	0.48	12.62	0.038		0.04	0.05	0.8		0.08
C-A	4.00								
A-B	0.28								
A-C	4.21								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
08.15-08.30									
B-AC	1.21	7.74	0.157		0.14	0.18	2.7		0.15
C-AB	0.64	13.00	0.049		0.05	0.07	1.1		0.08
C-A	4.85								
A-B	0.35								
A-C	5.16								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
08.30-08.45									
B-AC	1.21	7.74	0.157		0.18	0.18	2.8		0.15
C-AB	0.64	13.00	0.049		0.07	0.07	1.1		0.08
C-A	4.85								
A-B	0.35								
A-C	5.16								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
08.45-09.00									
B-AC	0.99	8.10	0.122		0.18	0.14	2.2		0.14
C-AB	0.48	12.62	0.038		0.07	0.05	0.8		0.08
C-A	4.00								
A-B	0.28								
A-C	4.21								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
09.00-09.15									
B-AC	0.83	8.36	0.099		0.14	0.11	1.7		0.13
C-AB	0.38	12.35	0.031		0.05	0.04	0.6		0.08
C-A	3.37								
A-B	0.24								
A-C	3.53								

WARNING NO MARGINAL ANALYSIS OF CAPACITIES AS MAJOR ROAD BLOCKING MAY OCCUR

QUEUE FOR STREAM B-AC

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
08.00	0.1
08.15	0.1
08.30	0.2
08.45	0.2
09.00	0.1
09.15	0.1

QUEUE FOR STREAM C-AB

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
08.00	0.0
08.15	0.1
08.30	0.1
08.45	0.1
09.00	0.1
09.15	0.0

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

STREAM	TOTAL DEMAND (VEH)	TOTAL DEMAND (VEH/H)	* QUEUEING * * DELAY * (MIN)	* QUEUEING * * DELAY * (MIN/VEH)	* INCLUSIVE QUEUEING * * DELAY * (MIN)	* INCLUSIVE QUEUEING * * DELAY * (MIN/VEH)
B-AC	90.8	60.6	12.9	0.14	12.9	0.14
C-AB	44.9	29.9	5.0	0.11	5.0	0.11
C-A	366.6	244.4				
A-B	26.2	17.4				
A-C	386.8	257.9				
ALL	915.3	610.2	17.9	0.02	17.9	0.02

* DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD
* INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD
* THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.

*******END OF RUN*******

.SLOPES AND INTERCEPT

(NB:Streams may be combined, in which case capacity will be adjusted)

Intercept For STREAM B-C	Slope For Opposing STREAM A-C	Slope For Opposing STREAM A-B
672.09	0.26	0.10

Intercept For STREAM B-A	Slope For Opposing STREAM A-C	Slope For Opposing STREAM A-B	Slope For Opposing STREAM C-A	Slope For Opposing STREAM C-B
522.54	0.24	0.09	0.15	0.34

Intercept For STREAM C-B	Slope For Opposing STREAM A-C	Slope For Opposing STREAM A-B
660.83	0.25	0.25

(NB These values do not allow for any site specific corrections)

TRAFFIC DEMAND DATA

ARM	FLOW SCALE(%)
A	100
B	100
C	100

Demand set: Base Year 2015

TIME PERIOD BEGINS 07.45 AND ENDS 09.15

LENGTH OF TIME PERIOD - 90 MIN.
LENGTH OF TIME SEGMENT - 15 MIN.

DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

ARM	NUMBER OF MINUTES FROM START WHEN FLOW STARTS TO RISE	TOP OF PEAK IS REACHED	FLOW STOPS FALLING	RATE OF FLOW (VEH/MIN) BEFORE PEAK	AT TOP OF PEAK	AFTER PEAK
ARM A	15.00	45.00	75.00	3.84	5.76	3.84
ARM B	15.00	45.00	75.00	0.85	1.28	0.85
ARM C	15.00	45.00	75.00	3.84	5.76	3.84

Demand set: Base Year 2015

TIME	FROM/TO	ARM A	ARM B	ARM C
		TURNING PROPORTIONS TURNING COUNTS (PERCENTAGE OF H.V.S)		
07.45 - 08.00	ARM A	0.000 0.0 (0.0)	0.062 19.0 (0.0)	0.938 288.0 (0.0)
	ARM B	0.544 37.0 (0.0)	0.000 0.0 (0.0)	0.456 31.0 (0.0)
	ARM C	0.925 284.0 (0.0)	0.075 23.0 (0.0)	0.000 0.0 (0.0)

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

FOR DEMAND SET Base Year 2015
AND FOR TIME PERIOD 1

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
07.45-08.00									
B-AC	0.85	8.33	0.102		0.00	0.11	1.6		0.13
C-AB	0.40	12.39	0.032		0.00	0.04	0.6		0.08
C-A	3.45								
A-B	0.24								
A-C	3.61								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
08.00-08.15									
B-AC	1.02	8.06	0.126		0.11	0.14	2.1		0.14
C-AB	0.51	12.66	0.040		0.04	0.06	0.8		0.08
C-A	4.09								
A-B	0.28								
A-C	4.32								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
08.15-08.30									
B-AC	1.25	7.69	0.162		0.14	0.19	2.8		0.16
C-AB	0.68	13.05	0.052		0.06	0.08	1.2		0.08
C-A	4.96								
A-B	0.35								
A-C	5.28								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
08.30-08.45									
B-AC	1.25	7.69	0.162		0.19	0.19	2.9		0.16
C-AB	0.68	13.05	0.052		0.08	0.08	1.2		0.08
C-A	4.96								
A-B	0.35								
A-C	5.28								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
08.45-09.00									
B-AC	1.02	8.06	0.126		0.19	0.15	2.3		0.14
C-AB	0.51	12.67	0.040		0.08	0.06	0.9		0.08
C-A	4.09								
A-B	0.28								
A-C	4.32								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
09.00-09.15									
B-AC	0.85	8.33	0.102		0.15	0.12	1.8		0.13
C-AB	0.40	12.39	0.032		0.06	0.04	0.6		0.08
C-A	3.45								
A-B	0.24								
A-C	3.61								

WARNING NO MARGINAL ANALYSIS OF CAPACITIES AS MAJOR ROAD BLOCKING MAY OCCUR

QUEUE FOR STREAM B-AC

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
08.00	0.1
08.15	0.1
08.30	0.2
08.45	0.2
09.00	0.1
09.15	0.1

QUEUE FOR STREAM C-AB

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
08.00	0.0
08.15	0.1
08.30	0.1
08.45	0.1
09.00	0.1
09.15	0.0

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

STREAM	TOTAL DEMAND (VEH)	TOTAL DEMAND (VEH/H)	* QUEUEING * * DELAY * (MIN)	* QUEUEING * * DELAY * (MIN/VEH)	* INCLUSIVE QUEUEING * * DELAY * (MIN)	* INCLUSIVE QUEUEING * * DELAY * (MIN/VEH)
B-AC	93.6	62.4	13.4	0.14	13.4	0.14
C-AB	47.4	31.6	5.4	0.11	5.4	0.11
C-A	375.1	250.1				
A-B	26.2	17.4				
A-C	396.4	264.3				
ALL	938.7	625.8	18.8	0.02	18.8	0.02

* DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD
* INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD
* THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.

*******END OF RUN*******

.SLOPES AND INTERCEPT

(NB:Streams may be combined, in which case capacity will be adjusted)

Intercept For STREAM B-C	Slope For Opposing STREAM A-C	Slope For Opposing STREAM A-B
672.09	0.26	0.10

Intercept For STREAM B-A	Slope For Opposing STREAM A-C	Slope For Opposing STREAM A-B	Slope For Opposing STREAM C-A	Slope For Opposing STREAM C-B
522.54	0.24	0.09	0.15	0.34

Intercept For STREAM C-B	Slope For Opposing STREAM A-C	Slope For Opposing STREAM A-B
660.83	0.25	0.25

(NB These values do not allow for any site specific corrections)

TRAFFIC DEMAND DATA

ARM	FLOW SCALE(%)
A	100
B	100
C	100

Demand set: Assessment Year 2015

TIME PERIOD BEGINS 07.45 AND ENDS 09.15

LENGTH OF TIME PERIOD - 90 MIN.
LENGTH OF TIME SEGMENT - 15 MIN.

DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

ARM	NUMBER OF MINUTES FROM START WHEN FLOW STARTS TO RISE	TOP OF PEAK IS REACHED	FLOW STOPS FALLING	RATE OF FLOW (VEH/MIN) BEFORE PEAK	AT TOP OF PEAK	AFTER PEAK
ARM A	15.00	45.00	75.00	6.29	9.43	6.29
ARM B	15.00	45.00	75.00	1.11	1.67	1.11
ARM C	15.00	45.00	75.00	5.25	7.88	5.25

Demand set: Assessment Year 2015

TIME	FROM/TO	ARM A	ARM B	ARM C
		TURNING PROPORTIONS / TURNING COUNTS / (PERCENTAGE OF H.V.S)		
07.45 - 08.00	ARM A	0.000	0.103	0.897
		0.0	52.0	451.0
		(0.0)	(0.0)	(0.0)
	ARM B	0.652	0.000	0.348
		58.0	0.0	31.0
		(0.0)	(0.0)	(0.0)
	ARM C	0.945	0.055	0.000
		397.0	23.0	0.0
		(0.0)	(0.0)	(0.0)

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

FOR DEMAND SET Assessment Year 2015
AND FOR TIME PERIOD 1

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
07.45-08.00									
B-AC	1.12	7.32	0.153		0.00	0.18	2.6		0.16
C-AB	0.46	12.76	0.036		0.00	0.05	0.7		0.08
C-A	4.81								
A-B	0.65								
A-C	5.66								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
08.00-08.15									
B-AC	1.33	6.90	0.193		0.18	0.24	3.4		0.18
C-AB	0.60	13.13	0.045		0.05	0.07	1.0		0.08
C-A	5.70								
A-B	0.78								
A-C	6.76								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
08.15-08.30									
B-AC	1.63	6.30	0.259		0.24	0.34	5.0		0.21
C-AB	0.88	13.81	0.063		0.07	0.11	1.6		0.08
C-A	6.83								
A-B	0.95								
A-C	8.28								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
08.30-08.45									
B-AC	1.63	6.30	0.259		0.34	0.35	5.2		0.21
C-AB	0.88	13.81	0.063		0.11	0.11	1.6		0.08
C-A	6.83								
A-B	0.95								
A-C	8.28								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
08.45-09.00									
B-AC	1.33	6.89	0.193		0.35	0.24	3.8		0.18
C-AB	0.60	13.13	0.045		0.11	0.07	1.0		0.08
C-A	5.70								
A-B	0.78								
A-C	6.76								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
09.00-09.15									
B-AC	1.12	7.32	0.153		0.24	0.18	2.8		0.16
C-AB	0.46	12.76	0.036		0.07	0.05	0.7		0.08
C-A	4.81								
A-B	0.65								
A-C	5.66								

WARNING NO MARGINAL ANALYSIS OF CAPACITIES AS MAJOR ROAD BLOCKING MAY OCCUR

QUEUE FOR STREAM B-AC

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
08.00	0.2
08.15	0.2
08.30	0.3
08.45	0.3
09.00	0.2
09.15	0.2

QUEUE FOR STREAM C-AB

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
08.00	0.0
08.15	0.1
08.30	0.1
08.45	0.1
09.00	0.1
09.15	0.0

TRL TRL Viewer 3.2 AG J:\.. \Goosebutts Ln_Pendle Rd T-Jn\Existing Goosebutts Ln_Pendle Rd - T-Jn (AM Peak).

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

STREAM	TOTAL DEMAND (VEH)	TOTAL DEMAND (VEH/H)	* QUEUEING * * DELAY * (MIN)	* QUEUEING * * DELAY * (MIN/VEH)	* INCLUSIVE QUEUEING * * DELAY * (MIN)	* INCLUSIVE QUEUEING * * DELAY * (MIN/VEH)
B-AC	122.5	81.7	22.7	0.19	22.7	0.19
C-AB	57.9	38.6	6.7	0.12	6.7	0.12
C-A	520.2	346.8				
A-B	71.6	47.7				
A-C	620.8	413.8				
ALL	1392.9	928.6	29.4	0.02	29.4	0.02

* DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD
* INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES
WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD
* THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS
A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.

*******END OF RUN*******

.SLOPES AND INTERCEPT

(NB:Streams may be combined, in which case capacity will be adjusted)

Intercept For STREAM B-C	Slope For Opposing STREAM A-C	Slope For Opposing STREAM A-B
672.09	0.26	0.10

Intercept For STREAM B-A	Slope For Opposing STREAM A-C	Slope For Opposing STREAM A-B	Slope For Opposing STREAM C-A	Slope For Opposing STREAM C-B
522.54	0.24	0.09	0.15	0.34

Intercept For STREAM C-B	Slope For Opposing STREAM A-C	Slope For Opposing STREAM A-B
660.83	0.25	0.25

(NB These values do not allow for any site specific corrections)

TRAFFIC DEMAND DATA

ARM	FLOW SCALE(%)
A	100
B	100
C	100

Demand set: Base year 2030

TIME PERIOD BEGINS 07.45 AND ENDS 09.15

LENGTH OF TIME PERIOD - 90 MIN.
LENGTH OF TIME SEGMENT - 15 MIN.

DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

ARM	NUMBER OF MINUTES FROM START WHEN FLOW STARTS TO RISE	TOP OF PEAK IS REACHED	FLOW STOPS FALLING	RATE OF FLOW (VEH/MIN) BEFORE PEAK	AT TOP OF PEAK	AFTER PEAK
ARM A	15.00	45.00	75.00	4.72	7.09	4.72
ARM B	15.00	45.00	75.00	1.04	1.56	1.04
ARM C	15.00	45.00	75.00	4.71	7.07	4.71

Demand set: Base year 2030

TIME	FROM/TO	ARM A	ARM B	ARM C
		TURNING PROPORTIONS TURNING COUNTS (PERCENTAGE OF H.V.S)		
07.45 - 08.00	ARM A	0.000	0.063	0.937
		0.0	24.0	354.0
		(0.0)	(0.0)	(0.0)
	ARM B	0.542	0.000	0.458
		45.0	0.0	38.0
		(0.0)	(0.0)	(0.0)
	ARM C	0.926	0.074	0.000
		349.0	28.0	0.0
		(0.0)	(0.0)	(0.0)

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

FOR DEMAND SET Base year 2030
AND FOR TIME PERIOD 1

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
07.45-08.00									
B-AC	1.04	8.02	0.130		0.00	0.15	2.1		0.14
C-AB	0.52	12.71	0.041		0.00	0.06	0.9		0.08
C-A	4.21								
A-B	0.30								
A-C	4.44								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
08.00-08.15									
B-AC	1.24	7.69	0.162		0.15	0.19	2.8		0.16
C-AB	0.67	13.06	0.051		0.06	0.08	1.2		0.08
C-A	4.98								
A-B	0.36								
A-C	5.30								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
08.15-08.30									
B-AC	1.52	7.22	0.211		0.19	0.26	3.8		0.18
C-AB	0.96	13.66	0.070		0.08	0.12	1.8		0.08
C-A	5.96								
A-B	0.44								
A-C	6.50								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
08.30-08.45									
B-AC	1.52	7.22	0.211		0.26	0.27	4.0		0.18
C-AB	0.96	13.66	0.070		0.12	0.12	1.8		0.08
C-A	5.96								
A-B	0.44								
A-C	6.50								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
08.45-09.00									
B-AC	1.24	7.69	0.162		0.27	0.20	3.0		0.16
C-AB	0.67	13.06	0.052		0.12	0.08	1.2		0.08
C-A	4.98								
A-B	0.36								
A-C	5.30								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
09.00-09.15									
B-AC	1.04	8.02	0.130		0.20	0.15	2.3		0.14
C-AB	0.52	12.71	0.041		0.08	0.06	0.9		0.08
C-A	4.21								
A-B	0.30								
A-C	4.44								

WARNING NO MARGINAL ANALYSIS OF CAPACITIES AS MAJOR ROAD BLOCKING MAY OCCUR

QUEUE FOR STREAM B-AC

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
08.00	0.1
08.15	0.2
08.30	0.3
08.45	0.3
09.00	0.2
09.15	0.2

QUEUE FOR STREAM C-AB

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
08.00	0.1
08.15	0.1
08.30	0.1
08.45	0.1
09.00	0.1
09.15	0.1

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

STREAM	TOTAL DEMAND (VEH)	TOTAL DEMAND (VEH/H)	* QUEUEING * * DELAY * (MIN)	* QUEUEING * * DELAY * (MIN/VEH)	* INCLUSIVE QUEUEING * * DELAY * (MIN)	* INCLUSIVE QUEUEING * * DELAY * (MIN/VEH)
B-AC	114.2	76.2	18.1	0.16	18.1	0.16
C-AB	64.5	43.0	7.8	0.12	7.8	0.12
C-A	454.4	302.9				
A-B	33.0	22.0				
A-C	487.3	324.8				
ALL	1153.4	769.0	25.9	0.02	25.9	0.02

* DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD
* INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES
WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD
* THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS
A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.

*******END OF RUN*******

.SLOPES AND INTERCEPT

(NB:Streams may be combined, in which case capacity will be adjusted)

Intercept For STREAM B-C	Slope For Opposing STREAM A-C	Slope For Opposing STREAM A-B
672.09	0.26	0.10

Intercept For STREAM B-A	Slope For Opposing STREAM A-C	Slope For Opposing STREAM A-B	Slope For Opposing STREAM C-A	Slope For Opposing STREAM C-B
522.54	0.24	0.09	0.15	0.34

Intercept For STREAM C-B	Slope For Opposing STREAM A-C	Slope For Opposing STREAM A-B
660.83	0.25	0.25

(NB These values do not allow for any site specific corrections)

TRAFFIC DEMAND DATA

ARM	FLOW SCALE(%)
A	100
B	100
C	100

Demand set: Assessment year 2030

TIME PERIOD BEGINS 07.45 AND ENDS 09.15

LENGTH OF TIME PERIOD - 90 MIN.
LENGTH OF TIME SEGMENT - 15 MIN.

DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

ARM	NUMBER OF MINUTES FROM START WHEN FLOW STARTS TO RISE	TOP OF PEAK IS REACHED	FLOW STOPS FALLING	RATE OF FLOW (VEH/MIN) BEFORE PEAK	AT TOP OF PEAK	AFTER PEAK
ARM A	15.00	45.00	75.00	7.18	10.76	7.18
ARM B	15.00	45.00	75.00	1.31	1.97	1.31
ARM C	15.00	45.00	75.00	6.13	9.19	6.13

Demand set: Assessment year 2030

TURNING PROPORTIONS / TURNING COUNTS / (PERCENTAGE OF H.V.S)

TIME	FROM/TO	ARM A	ARM B	ARM C
07.45 - 08.00				
	ARM A	0.000	0.099	0.901
		0.0	57.0	517.0
		(0.0)	(0.0)	(0.0)
	ARM B	0.638	0.000	0.362
		67.0	0.0	38.0
		(0.0)	(0.0)	(0.0)
	ARM C	0.943	0.057	0.000
		462.0	28.0	0.0
		(0.0)	(0.0)	(0.0)

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

FOR DEMAND SET Assessment year 2030
AND FOR TIME PERIOD 1

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
07.45-08.00									
B-AC	1.32	7.03	0.188		0.00	0.23	3.3		0.17
C-AB	0.60	13.10	0.046		0.00	0.07	1.0		0.08
C-A	5.55								
A-B	0.72								
A-C	6.49								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
08.00-08.15									
B-AC	1.57	6.53	0.241		0.23	0.31	4.5		0.20
C-AB	0.84	13.69	0.061		0.07	0.10	1.5		0.08
C-A	6.51								
A-B	0.85								
A-C	7.75								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
08.15-08.30									
B-AC	1.93	5.84	0.330		0.31	0.48	6.9		0.25
C-AB	1.21	14.38	0.084		0.10	0.16	2.4		0.08
C-A	7.78								
A-B	1.05								
A-C	9.49								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
08.30-08.45									
B-AC	1.93	5.84	0.330		0.48	0.49	7.3		0.26
C-AB	1.21	14.38	0.084		0.16	0.16	2.4		0.08
C-A	7.78								
A-B	1.05								
A-C	9.49								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
08.45-09.00									
B-AC	1.57	6.53	0.241		0.49	0.32	5.0		0.20
C-AB	0.84	13.69	0.061		0.16	0.10	1.5		0.08
C-A	6.50								
A-B	0.85								
A-C	7.75								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
09.00-09.15									
B-AC	1.32	7.02	0.188		0.32	0.23	3.6		0.18
C-AB	0.60	13.10	0.046		0.10	0.07	1.0		0.08
C-A	5.55								
A-B	0.72								
A-C	6.49								

WARNING NO MARGINAL ANALYSIS OF CAPACITIES AS MAJOR ROAD BLOCKING MAY OCCUR

QUEUE FOR STREAM B-AC

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
08.00	0.2
08.15	0.3
08.30	0.5
08.45	0.5
09.00	0.3
09.15	0.2

QUEUE FOR STREAM C-AB

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
08.00	0.1
08.15	0.1
08.30	0.2
08.45	0.2
09.00	0.1
09.15	0.1

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

STREAM	TOTAL DEMAND (VEH)	TOTAL DEMAND (VEH/H)	* QUEUEING * * DELAY * (MIN)	* QUEUEING * * DELAY * (MIN/VEH)	* INCLUSIVE QUEUEING * * DELAY * (MIN)	* INCLUSIVE QUEUEING * * DELAY * (MIN/VEH)
B-AC	144.5	96.3	30.6	0.21	30.6	0.21
C-AB	79.3	52.9	9.9	0.12	9.9	0.12
C-A	595.2	396.8				
A-B	78.5	52.3				
A-C	711.6	474.4				
ALL	1609.0	1072.7	40.4	0.03	40.4	0.03

* DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD
* INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD
* THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.

*******END OF RUN*******

==================== end of file ====================

Printed at 13:00:32 on 26/09/2012]

CAPACITIES, QUEUES, AND DELAYS AT 3 OR 4-ARM MAJOR/MINOR PRIORITY JUNCTIONS

PICADY 5.1 ANALYSIS PROGRAM
RELEASE 4.0 (SEPT 2008)

FOR SALES AND DISTRIBUTION INFORMATION,
PROGRAM ADVICE AND MAINTENANCE CONTACT:
TRL SOFTWARE BUREAU
TEL: CROWTHORNE (01344) 770758, FAX: 770356
EMAIL: Software@trl.co.uk

Run with file:-
"J:\2012\A077038 Standen Estates\Picady\Goosebutts Ln_Pendle Rd T-Jn\
Existing Goosebutts Ln_Pendle Rd - T-Jn (PM Peak).vpi"
(drive-on-the-left) at 13:01:27 on Wednesday, 26 September 2012

RUN INFORMATION
****

RUN TITLE : Goosebutts Lane/Pendle Road - PM Peak
LOCATION : Goosebutts Lane/Pendle Road T-Junction
DATE : 30/08/12
CLIENT :
ENUMERATOR : steven.ho [27-WRK-SBA-021]
JOB NUMBER : A077038
STATUS :
DESCRIPTION :

MAJOR/MINOR JUNCTION CAPACITY AND DELAY
****

INPUT DATA

```
MAJOR ROAD (ARM C) --------------------- MAJOR ROAD (ARM A)
                             I
                             I
                             I
                             I
                             I
                             I
                     MINOR ROAD (ARM B)
```

ARM A IS Pendle Road WB
ARM B IS Goosebutts Lane
ARM C IS Pendle Road EB

STREAM LABELLING CONVENTION

STREAM A-B CONTAINS TRAFFIC GOING FROM ARM A TO ARM B
STREAM B-AC CONTAINS TRAFFIC GOING FROM ARM B TO ARM A AND TO ARM C
ETC.

TRL TRL Viewer 3.2 AG J:\.. \Goosebutts Ln_Pendle Rd T-Jn\Existing Goosebutts Ln_Pendle Rd - T-Jn (PM Peak).

GEOMETRIC DATA

DATA ITEM	MINOR ROAD B
TOTAL MAJOR ROAD CARRIAGEWAY WIDTH	(W) 6.40 M.
CENTRAL RESERVE WIDTH	(WCR) 0.00 M.
MAJOR ROAD RIGHT TURN - WIDTH	(WC-B) 2.20 M.
- VISIBILITY	(VC-B) 150.00 M.
- BLOCKS TRAFFIC	YES
MINOR ROAD - VISIBILITY TO LEFT	(VB-C) 23.0 M.
- VISIBILITY TO RIGHT	(VB-A) 16.0 M.
- LANE 1 WIDTH	(WB-C) 3.60 M.
- LANE 2 WIDTH	(WB-A) 0.00 M.

.SLOPES AND INTERCEPT

(NB:Streams may be combined, in which case capacity will be adjusted)

Intercept For STREAM B-C	Slope For Opposing STREAM A-C	Slope For Opposing STREAM A-B
672.09	0.26	0.10

Intercept For STREAM B-A	Slope For Opposing STREAM A-C	Slope For Opposing STREAM A-B	Slope For Opposing STREAM C-A	Slope For Opposing STREAM C-B
522.54	0.24	0.09	0.15	0.34

Intercept For STREAM C-B	Slope For Opposing STREAM A-C	Slope For Opposing STREAM A-B
660.83	0.25	0.25

(NB These values do not allow for any site specific corrections)

TRAFFIC DEMAND DATA

ARM	FLOW SCALE(%)
A	100
B	100
C	100

Demand set: 2012 Observed Base Flows

TIME PERIOD BEGINS 16.15 AND ENDS 17.45

LENGTH OF TIME PERIOD - 90 MIN.
LENGTH OF TIME SEGMENT - 15 MIN.

DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

ARM	NUMBER OF MINUTES FROM START WHEN FLOW STARTS TO RISE	TOP OF PEAK IS REACHED	FLOW STOPS FALLING	RATE OF FLOW (VEH/MIN) BEFORE PEAK	AT TOP OF PEAK	AFTER PEAK
ARM A	15.00	45.00	75.00	3.10	4.65	3.10
ARM B	15.00	45.00	75.00	0.54	0.81	0.54
ARM C	15.00	45.00	75.00	3.58	5.36	3.58

Demand set: 2012 Observed Base Flows

TIME	FROM/TO	ARM A	ARM B	ARM C
		TURNING PROPORTIONS TURNING COUNTS (PERCENTAGE OF H.V.S)		
16.15 - 16.30	ARM A	0.000 0.0 (0.0)	0.101 25.0 (0.0)	0.899 223.0 (0.0)
	ARM B	0.558 24.0 (0.0)	0.000 0.0 (0.0)	0.442 19.0 (0.0)
	ARM C	0.871 249.0 (0.0)	0.129 37.0 (0.0)	0.000 0.0 (0.0)

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

FOR DEMAND SET 2012 Observed Base Flows
AND FOR TIME PERIOD 1

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
16.15-16.30									
B-AC	0.54	8.49	0.064		0.00	0.07	1.0		0.13
C-AB	0.61	12.27	0.050		0.00	0.08	1.1		0.09
C-A	2.97								
A-B	0.31								
A-C	2.80								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
16.30-16.45									
B-AC	0.64	8.26	0.078		0.07	0.08	1.2		0.13
C-AB	0.78	12.52	0.062		0.08	0.10	1.5		0.09
C-A	3.51								
A-B	0.37								
A-C	3.34								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
16.45-17.00									
B-AC	0.79	7.94	0.099		0.08	0.11	1.6		0.14
C-AB	1.05	12.93	0.081		0.10	0.14	2.2		0.08
C-A	4.20								
A-B	0.46								
A-C	4.09								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
17.00-17.15									
B-AC	0.79	7.94	0.099		0.11	0.11	1.6		0.14
C-AB	1.05	12.93	0.081		0.14	0.14	2.2		0.08
C-A	4.20								
A-B	0.46								
A-C	4.09								

TRL TRL Viewer 3.2 AG J:\.. \Goosebutts Ln_Pendle Rd T-Jn\Existing Goosebutts Ln_Pendle Rd - T-Jn (PM Peak).

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
17.15-17.30									
B-AC	0.64	8.26	0.078		0.11	0.09	1.3		0.13
C-AB	0.78	12.52	0.062		0.14	0.10	1.6		0.09
C-A	3.51								
A-B	0.37								
A-C	3.34								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
17.30-17.45									
B-AC	0.54	8.49	0.064		0.09	0.07	1.0		0.13
C-AB	0.62	12.27	0.050		0.10	0.08	1.2		0.09
C-A	2.97								
A-B	0.31								
A-C	2.80								

WARNING NO MARGINAL ANALYSIS OF CAPACITIES AS MAJOR ROAD BLOCKING MAY OCCUR

QUEUE FOR STREAM B-AC

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
16.30	0.1
16.45	0.1
17.00	0.1
17.15	0.1
17.30	0.1
17.45	0.1

QUEUE FOR STREAM C-AB

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
16.30	0.1
16.45	0.1
17.00	0.1
17.15	0.1
17.30	0.1
17.45	0.1

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

STREAM	TOTAL DEMAND (VEH)	TOTAL DEMAND (VEH/H)	* QUEUEING * * DELAY * (MIN)	* QUEUEING * * DELAY * (MIN/VEH)	* INCLUSIVE QUEUEING * * DELAY * (MIN)	* INCLUSIVE QUEUEING * * DELAY * (MIN/VEH)
B-AC	59.2	39.5	7.8	0.13	7.8	0.13
C-AB	73.2	48.8	9.7	0.13	9.7	0.13
C-A	320.4	213.6				
A-B	34.4	22.9				
A-C	306.9	204.6				
ALL	794.2	529.5	17.5	0.02	17.5	0.02

* DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD
* INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES
WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD
* THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS
A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.

*******END OF RUN*******

.SLOPES AND INTERCEPT

(NB:Streams may be combined, in which case capacity will be adjusted)

Intercept For STREAM B-C	Slope For Opposing STREAM A-C	Slope For Opposing STREAM A-B
672.09	0.26	0.10

Intercept For STREAM B-A	Slope For Opposing STREAM A-C	Slope For Opposing STREAM A-B	Slope For Opposing STREAM C-A	Slope For Opposing STREAM C-B
522.54	0.24	0.09	0.15	0.34

Intercept For STREAM C-B	Slope For Opposing STREAM A-C	Slope For Opposing STREAM A-B
660.83	0.25	0.25

(NB These values do not allow for any site specific corrections)

TRAFFIC DEMAND DATA

ARM	FLOW SCALE(%)
A	100
B	100
C	100

Demand set: Base Year 2015

TIME PERIOD BEGINS 16.15 AND ENDS 17.45

LENGTH OF TIME PERIOD - 90 MIN.
LENGTH OF TIME SEGMENT - 15 MIN.

DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

ARM	NUMBER OF MINUTES FROM START WHEN FLOW STARTS TO RISE	TOP OF PEAK IS REACHED	FLOW STOPS FALLING	RATE OF FLOW (VEH/MIN) BEFORE PEAK	AT TOP OF PEAK	AFTER PEAK
ARM A	15.00	45.00	75.00	3.19	4.78	3.19
ARM B	15.00	45.00	75.00	0.56	0.84	0.56
ARM C	15.00	45.00	75.00	3.67	5.51	3.67

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 Demand set:        Base Year 2015
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 I                    I         TURNING PROPORTIONS         I
 I                    I         TURNING COUNTS              I
 I                    I        (PERCENTAGE OF H.V.S)        I
 I                    -------------------------------------
 I        TIME        I FROM/TO I ARM  A I ARM  B I ARM  C I
 -----------------------------------------------------------
 I   16.15 - 16.30    I         I        I        I        I
 I                    I ARM  A  I  0.000 I  0.102 I  0.898 I
 I                    I         I    0.0 I   26.0 I  229.0 I
 I                    I         I (  0.0)I (  0.0)I (  0.0)I
 I                    I         I        I        I        I
 I                    I ARM  B  I  0.556 I  0.000 I  0.444 I
 I                    I         I   25.0 I    0.0 I   20.0 I
 I                    I         I (  0.0)I (  0.0)I (  0.0)I
 I                    I         I        I        I        I
 I                    I ARM  C  I  0.871 I  0.129 I  0.000 I
 I                    I         I  256.0 I   38.0 I    0.0 I
 I                    I         I (  0.0)I (  0.0)I (  0.0)I
 I                    I         I        I        I        I
 -----------------------------------------------------------
 TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA


               QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT
               --------------------------------------------------------
                FOR DEMAND SET         Base Year 2015
                AND FOR TIME PERIOD       1

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 I  TIME      DEMAND  CAPACITY  DEMAND/    PEDESTRIAN  START   END       DELAY      GEOMETRIC DELAY   AVERAGE DELAY I
 I          (VEH/MIN) (VEH/MIN) CAPACITY      FLOW     QUEUE  QUEUE    (VEH.MIN/       (VEH.MIN/      PER ARRIVING  I
 I                               (RFC)     (PEDS/MIN) (VEHS) (VEHS)  TIME SEGMENT)  TIME SEGMENT)    VEHICLE (MIN) I
 I 16.15-16.30                                                                                                    I
 I   B-AC       0.56      8.47    0.067                 0.00   0.07        1.0                             0.13      I
 I   C-AB       0.64     12.31    0.052                 0.00   0.08        1.2                             0.09      I
 I   C-A        3.05                                                                                              I
 I   A-B        0.33                                                                                              I
 I   A-C        2.87                                                                                              I
 I                                                                                                                I

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 I  TIME      DEMAND  CAPACITY  DEMAND/    PEDESTRIAN  START   END       DELAY      GEOMETRIC DELAY   AVERAGE DELAY I
 I          (VEH/MIN) (VEH/MIN) CAPACITY      FLOW     QUEUE  QUEUE    (VEH.MIN/       (VEH.MIN/      PER ARRIVING  I
 I                               (RFC)     (PEDS/MIN) (VEHS) (VEHS)  TIME SEGMENT)  TIME SEGMENT)    VEHICLE (MIN) I
 I 16.30-16.45                                                                                                    I
 I   B-AC       0.67      8.23    0.082                 0.07   0.09        1.3                             0.13      I
 I   C-AB       0.80     12.57    0.064                 0.08   0.11        1.6                             0.09      I
 I   C-A        3.60                                                                                              I
 I   A-B        0.39                                                                                              I
 I   A-C        3.43                                                                                              I
 I                                                                                                                I

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 I  TIME      DEMAND  CAPACITY  DEMAND/    PEDESTRIAN  START   END       DELAY      GEOMETRIC DELAY   AVERAGE DELAY I
 I          (VEH/MIN) (VEH/MIN) CAPACITY      FLOW     QUEUE  QUEUE    (VEH.MIN/       (VEH.MIN/      PER ARRIVING  I
 I                               (RFC)     (PEDS/MIN) (VEHS) (VEHS)  TIME SEGMENT)  TIME SEGMENT)    VEHICLE (MIN) I
 I 16.45-17.00                                                                                                    I
 I   B-AC       0.83      7.90    0.105                 0.09   0.12        1.7                             0.14      I
 I   C-AB       1.09     12.99    0.084                 0.11   0.15        2.3                             0.08      I
 I   C-A        4.31                                                                                              I
 I   A-B        0.48                                                                                              I
 I   A-C        4.20                                                                                              I
 I                                                                                                                I

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 I  TIME      DEMAND  CAPACITY  DEMAND/    PEDESTRIAN  START   END       DELAY      GEOMETRIC DELAY   AVERAGE DELAY I
 I          (VEH/MIN) (VEH/MIN) CAPACITY      FLOW     QUEUE  QUEUE    (VEH.MIN/       (VEH.MIN/      PER ARRIVING  I
 I                               (RFC)     (PEDS/MIN) (VEHS) (VEHS)  TIME SEGMENT)  TIME SEGMENT)    VEHICLE (MIN) I
 I 17.00-17.15                                                                                                    I
 I   B-AC       0.83      7.90    0.105                 0.12   0.12        1.7                             0.14      I
 I   C-AB       1.09     12.99    0.084                 0.15   0.15        2.3                             0.08      I
 I   C-A        4.30                                                                                              I
 I   A-B        0.48                                                                                              I
 I   A-C        4.20                                                                                              I
 I                                                                                                                I

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TRL TRL Viewer 3.2 AG J:\.. \Goosebutts Ln_Pendle Rd T-Jn\Existing Goosebutts Ln_Pendle Rd - T-Jn (PM Peak).

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
17.15-17.30									
B-AC	0.67	8.23	0.082		0.12	0.09	1.4		0.13
C-AB	0.81	12.57	0.064		0.15	0.11	1.6		0.09
C-A	3.60								
A-B	0.39								
A-C	3.43								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
17.30-17.45									
B-AC	0.56	8.47	0.067		0.09	0.07	1.1		0.13
C-AB	0.64	12.31	0.052		0.11	0.08	1.2		0.09
C-A	3.05								
A-B	0.33								
A-C	2.87								

WARNING NO MARGINAL ANALYSIS OF CAPACITIES AS MAJOR ROAD BLOCKING MAY OCCUR

QUEUE FOR STREAM B-AC

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
16.30	0.1
16.45	0.1
17.00	0.1
17.15	0.1
17.30	0.1
17.45	0.1

QUEUE FOR STREAM C-AB

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
16.30	0.1
16.45	0.1
17.00	0.2
17.15	0.2
17.30	0.1
17.45	0.1

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

STREAM	TOTAL DEMAND (VEH)	TOTAL DEMAND (VEH/H)	* QUEUEING * * DELAY * (MIN)	* QUEUEING * * DELAY * (MIN/VEH)	* INCLUSIVE QUEUEING * * DELAY * (MIN)	* INCLUSIVE QUEUEING * * DELAY * (MIN/VEH)
B-AC	61.9	41.3	8.2	0.13	8.2	0.13
C-AB	76.0	50.6	10.2	0.13	10.2	0.13
C-A	328.7	219.1				
A-B	35.8	23.9				
A-C	315.2	210.1				
ALL	817.6	545.1	18.4	0.02	18.4	0.02

* DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD
* INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD
* THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.

*******END OF RUN*******

.SLOPES AND INTERCEPT

(NB:Streams may be combined, in which case capacity will be adjusted)

Intercept For STREAM B-C	Slope For Opposing STREAM A-C	Slope For Opposing STREAM A-B
672.09	0.26	0.10

Intercept For STREAM B-A	Slope For Opposing STREAM A-C	Slope For Opposing STREAM A-B	Slope For Opposing STREAM C-A	Slope For Opposing STREAM C-B
522.54	0.24	0.09	0.15	0.34

Intercept For STREAM C-B	Slope For Opposing STREAM A-C	Slope For Opposing STREAM A-B
660.83	0.25	0.25

(NB These values do not allow for any site specific corrections)

TRAFFIC DEMAND DATA

ARM	FLOW SCALE(%)
A	100
B	100
C	100

Demand set: Assessment Year 2015

TIME PERIOD BEGINS 16.15 AND ENDS 17.45

LENGTH OF TIME PERIOD - 90 MIN.
LENGTH OF TIME SEGMENT - 15 MIN.

DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

ARM	NUMBER OF MINUTES FROM START WHEN FLOW STARTS TO RISE	TOP OF PEAK IS REACHED	FLOW STOPS FALLING	RATE OF FLOW (VEH/MIN) BEFORE PEAK	AT TOP OF PEAK	AFTER PEAK
ARM A	15.00	45.00	75.00	4.71	7.07	4.71
ARM B	15.00	45.00	75.00	0.57	0.86	0.57
ARM C	15.00	45.00	75.00	5.64	8.46	5.64

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TRL              TRL Viewer    3.2 AG J:\.. \Goosebutts Ln_Pendle Rd T-Jn\Existing Goosebutts Ln_Pendle Rd - T-Jn (PM Peak).

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 Demand set:        Assessment Year 2015
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 I                    I         TURNING PROPORTIONS        I
 I                    I         TURNING COUNTS             I
 I                    I        (PERCENTAGE OF H.V.S)       I
 I                    -------------------------------------
 I        TIME        I FROM/TO I ARM  A I ARM  B I ARM  C I
 -----------------------------------------------------------
 I   16.15 - 16.30    I         I        I        I        I
 I                    I ARM  A  I  0.000 I  0.130 I  0.870 I
 I                    I         I    0.0 I   49.0 I  328.0 I
 I                    I         I (  0.0)I (  0.0)I (  0.0)I
 I                    I         I        I        I        I
 I                    I ARM  B  I  0.565 I  0.000 I  0.435 I
 I                    I         I   26.0 I    0.0 I   20.0 I
 I                    I         I (  0.0)I (  0.0)I (  0.0)I
 I                    I         I        I        I        I
 I                    I ARM  C  I  0.916 I  0.084 I  0.000 I
 I                    I         I  413.0 I   38.0 I    0.0 I
 I                    I         I (  0.0)I (  0.0)I (  0.0)I
 I                    I         I        I        I        I
 -----------------------------------------------------------
 TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA


               QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT
               --------------------------------------------------------
                FOR DEMAND SET         Assessment Year 2015
                AND FOR TIME PERIOD        1

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 I  TIME       DEMAND  CAPACITY  DEMAND/    PEDESTRIAN  START   END        DELAY      GEOMETRIC DELAY   AVERAGE DELAY I
 I          (VEH/MIN) (VEH/MIN) CAPACITY       FLOW     QUEUE  QUEUE    (VEH.MIN/       (VEH.MIN/       PER ARRIVING  I
 I                                (RFC)     (PEDS/MIN) (VEHS) (VEHS)  TIME SEGMENT)  TIME SEGMENT)    VEHICLE (MIN) I
 I 16.15-16.30                                                                                                      I
 I   B-AC       0.58      7.88    0.073                 0.00   0.08        1.1                              0.14      I
 I   C-AB       0.75     13.22    0.057                 0.00   0.09        1.3                              0.08      I
 I   C-A        4.91                                                                                                 I
 I   A-B        0.61                                                                                                 I
 I   A-C        4.12                                                                                                 I
 I                                                                                                                   I

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 I  TIME       DEMAND  CAPACITY  DEMAND/    PEDESTRIAN  START   END        DELAY      GEOMETRIC DELAY   AVERAGE DELAY I
 I          (VEH/MIN) (VEH/MIN) CAPACITY       FLOW     QUEUE  QUEUE    (VEH.MIN/       (VEH.MIN/       PER ARRIVING  I
 I                                (RFC)     (PEDS/MIN) (VEHS) (VEHS)  TIME SEGMENT)  TIME SEGMENT)    VEHICLE (MIN) I
 I 16.30-16.45                                                                                                      I
 I   B-AC       0.69      7.53    0.092                 0.08   0.10        1.5                              0.15      I
 I   C-AB       1.02     13.77    0.074                 0.09   0.13        2.0                              0.08      I
 I   C-A        5.73                                                                                                 I
 I   A-B        0.73                                                                                                 I
 I   A-C        4.91                                                                                                 I
 I                                                                                                                   I

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 I  TIME       DEMAND  CAPACITY  DEMAND/    PEDESTRIAN  START   END        DELAY      GEOMETRIC DELAY   AVERAGE DELAY I
 I          (VEH/MIN) (VEH/MIN) CAPACITY       FLOW     QUEUE  QUEUE    (VEH.MIN/       (VEH.MIN/       PER ARRIVING  I
 I                                (RFC)     (PEDS/MIN) (VEHS) (VEHS)  TIME SEGMENT)  TIME SEGMENT)    VEHICLE (MIN) I
 I 16.45-17.00                                                                                                      I
 I   B-AC       0.84      7.03    0.120                 0.10   0.13        2.0                              0.16      I
 I   C-AB       1.44     14.45    0.099                 0.13   0.21        3.1                              0.08      I
 I   C-A        6.84                                                                                                 I
 I   A-B        0.90                                                                                                 I
 I   A-C        6.02                                                                                                 I
 I                                                                                                                   I

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 I  TIME       DEMAND  CAPACITY  DEMAND/    PEDESTRIAN  START   END        DELAY      GEOMETRIC DELAY   AVERAGE DELAY I
 I          (VEH/MIN) (VEH/MIN) CAPACITY       FLOW     QUEUE  QUEUE    (VEH.MIN/       (VEH.MIN/       PER ARRIVING  I
 I                                (RFC)     (PEDS/MIN) (VEHS) (VEHS)  TIME SEGMENT)  TIME SEGMENT)    VEHICLE (MIN) I
 I 17.00-17.15                                                                                                      I
 I   B-AC       0.84      7.03    0.120                 0.13   0.14        2.0                              0.16      I
 I   C-AB       1.44     14.45    0.099                 0.21   0.21        3.1                              0.08      I
 I   C-A        6.84                                                                                                 I
 I   A-B        0.90                                                                                                 I
 I   A-C        6.02                                                                                                 I
 I                                                                                                                   I

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TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
17.15-17.30									
B-AC	0.69	7.53	0.092		0.14	0.10	1.6		0.15
C-AB	1.03	13.78	0.074		0.21	0.14	2.0		0.08
C-A	5.73								
A-B	0.73								
A-C	4.91								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
17.30-17.45									
B-AC	0.58	7.88	0.073		0.10	0.08	1.2		0.14
C-AB	0.76	13.22	0.057		0.14	0.09	1.4		0.08
C-A	4.90								
A-B	0.61								
A-C	4.12								

WARNING NO MARGINAL ANALYSIS OF CAPACITIES AS MAJOR ROAD BLOCKING MAY OCCUR

QUEUE FOR STREAM B-AC

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
16.30	0.1
16.45	0.1
17.00	0.1
17.15	0.1
17.30	0.1
17.45	0.1

QUEUE FOR STREAM C-AB

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
16.30	0.1
16.45	0.1
17.00	0.2
17.15	0.2
17.30	0.1
17.45	0.1

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

STREAM	TOTAL DEMAND		* QUEUEING * DELAY *		* INCLUSIVE QUEUEING * DELAY *	
	(VEH)	(VEH/H)	(MIN)	(MIN/VEH)	(MIN)	(MIN/VEH)
B-AC	63.3	42.2	9.4	0.15	9.4	0.15
C-AB	96.5	64.3	13.0	0.13	13.0	0.13
C-A	524.3	349.5				
A-B	67.4	45.0				
A-C	451.5	301.0				
ALL	1203.0	802.0	22.4	0.02	22.4	0.02

* DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD
* INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES
WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD
* THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS
A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.

*******END OF RUN*******

.SLOPES AND INTERCEPT

(NB:Streams may be combined, in which case capacity will be adjusted)

Intercept For STREAM B-C	Slope For Opposing STREAM A-C	Slope For Opposing STREAM A-B
672.09	0.26	0.10

Intercept For STREAM B-A	Slope For Opposing STREAM A-C	Slope For Opposing STREAM A-B	Slope For Opposing STREAM C-A	Slope For Opposing STREAM C-B
522.54	0.24	0.09	0.15	0.34

Intercept For STREAM C-B	Slope For Opposing STREAM A-C	Slope For Opposing STREAM A-B
660.83	0.25	0.25

(NB These values do not allow for any site specific corrections)

TRAFFIC DEMAND DATA

ARM	FLOW SCALE(%)
A	100
B	100
C	100

Demand set: Base year 2030

TIME PERIOD BEGINS 16.15 AND ENDS 17.45

LENGTH OF TIME PERIOD - 90 MIN.
LENGTH OF TIME SEGMENT - 15 MIN.

DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

ARM	NUMBER OF MINUTES FROM START WHEN FLOW STARTS TO RISE	TOP OF PEAK IS REACHED	FLOW STOPS FALLING	RATE OF FLOW (VEH/MIN) BEFORE PEAK	AT TOP OF PEAK	AFTER PEAK
ARM A	15.00	45.00	75.00	3.94	5.91	3.94
ARM B	15.00	45.00	75.00	0.69	1.03	0.69
ARM C	15.00	45.00	75.00	4.54	6.81	4.54

Demand set: Base year 2030

TURNING PROPORTIONS / TURNING COUNTS / (PERCENTAGE OF H.V.S)

TIME	FROM/TO	ARM A	ARM B	ARM C
16.15 - 16.30				
	ARM A	0.000	0.102	0.898
		0.0	32.0	283.0
		(0.0)	(0.0)	(0.0)
	ARM B	0.564	0.000	0.436
		31.0	0.0	24.0
		(0.0)	(0.0)	(0.0)
	ARM C	0.871	0.129	0.000
		316.0	47.0	0.0
		(0.0)	(0.0)	(0.0)

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

FOR DEMAND SET Base year 2030
AND FOR TIME PERIOD 1

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
16.15-16.30									
B-AC	0.69	8.16	0.085		0.00	0.09	1.3		0.13
C-AB	0.84	12.62	0.067		0.00	0.11	1.7		0.08
C-A	3.71								
A-B	0.40								
A-C	3.55								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
16.30-16.45									
B-AC	0.82	7.86	0.105		0.09	0.12	1.7		0.14
C-AB	1.10	13.00	0.085		0.11	0.15	2.3		0.08
C-A	4.33								
A-B	0.48								
A-C	4.24								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
16.45-17.00									
B-AC	1.01	7.44	0.136		0.12	0.16	2.3		0.16
C-AB	1.50	13.49	0.111		0.15	0.22	3.3		0.08
C-A	5.16								
A-B	0.59								
A-C	5.19								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
17.00-17.15									
B-AC	1.01	7.44	0.136		0.16	0.16	2.3		0.16
C-AB	1.50	13.49	0.111		0.22	0.22	3.3		0.08
C-A	5.16								
A-B	0.59								
A-C	5.19								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
17.15-17.30									
B-AC	0.82	7.86	0.105		0.16	0.12	1.8		0.14
C-AB	1.11	13.00	0.085		0.22	0.16	2.3		0.08
C-A	4.33								
A-B	0.48								
A-C	4.24								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
17.30-17.45									
B-AC	0.69	8.16	0.085		0.12	0.09	1.4		0.13
C-AB	0.84	12.62	0.067		0.16	0.12	1.7		0.09
C-A	3.71								
A-B	0.40								
A-C	3.55								

WARNING NO MARGINAL ANALYSIS OF CAPACITIES AS MAJOR ROAD BLOCKING MAY OCCUR

QUEUE FOR STREAM B-AC

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
16.30	0.1
16.45	0.1
17.00	0.2
17.15	0.2
17.30	0.1
17.45	0.1

QUEUE FOR STREAM C-AB

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
16.30	0.1
16.45	0.2
17.00	0.2
17.15	0.2
17.30	0.2
17.45	0.1

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

STREAM	TOTAL DEMAND (VEH)	TOTAL DEMAND (VEH/H)	* QUEUEING * * DELAY * (MIN)	* QUEUEING * * DELAY * (MIN/VEH)	* INCLUSIVE QUEUEING * * DELAY * (MIN)	* INCLUSIVE QUEUEING * * DELAY * (MIN/VEH)
B-AC	75.7	50.5	10.9	0.14	10.9	0.14
C-AB	103.5	69.0	14.6	0.14	14.6	0.14
C-A	396.1	264.1				
A-B	44.0	29.4				
A-C	389.5	259.7				
ALL	1008.9	672.6	25.5	0.03	25.5	0.03

* DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD
* INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES
WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD
* THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS
A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.

*******END OF RUN*******

.SLOPES AND INTERCEPT

(NB:Streams may be combined, in which case capacity will be adjusted)

Intercept For STREAM B-C	Slope For Opposing STREAM A-C	Slope For Opposing STREAM A-B
672.09	0.26	0.10

Intercept For STREAM B-A	Slope For Opposing STREAM A-C	Slope For Opposing STREAM A-B	Slope For Opposing STREAM C-A	Slope For Opposing STREAM C-B
522.54	0.24	0.09	0.15	0.34

Intercept For STREAM C-B	Slope For Opposing STREAM A-C	Slope For Opposing STREAM A-B
660.83	0.25	0.25

(NB These values do not allow for any site specific corrections)

TRAFFIC DEMAND DATA

ARM	FLOW SCALE(%)
A	100
B	100
C	100

Demand set: Assessment year 2030

TIME PERIOD BEGINS 16.15 AND ENDS 17.45

LENGTH OF TIME PERIOD - 90 MIN.
LENGTH OF TIME SEGMENT - 15 MIN.

DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

ARM	NUMBER OF MINUTES FROM START WHEN FLOW STARTS TO RISE	TOP OF PEAK IS REACHED	FLOW STOPS FALLING	RATE OF FLOW (VEH/MIN) BEFORE PEAK	AT TOP OF PEAK	AFTER PEAK
ARM A	15.00	45.00	75.00	5.46	8.19	5.46
ARM B	15.00	45.00	75.00	0.70	1.05	0.70
ARM C	15.00	45.00	75.00	6.50	9.75	6.50

Demand set: Assessment year 2030

TIME	FROM/TO	ARM A	ARM B	ARM C
16.15 - 16.30				
	ARM A	0.000	0.126	0.874
		0.0	55.0	382.0
		(0.0)	(0.0)	(0.0)
	ARM B	0.571	0.000	0.429
		32.0	0.0	24.0
		(0.0)	(0.0)	(0.0)
	ARM C	0.910	0.090	0.000
		473.0	47.0	0.0
		(0.0)	(0.0)	(0.0)

(Column group: TURNING PROPORTIONS / TURNING COUNTS / (PERCENTAGE OF H.V.S))

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

FOR DEMAND SET Assessment year 2030
AND FOR TIME PERIOD 1

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
16.15-16.30									
B-AC	0.70	7.57	0.093		0.00	0.10	1.5		0.15
C-AB	1.03	13.64	0.076		0.00	0.14	2.0		0.08
C-A	5.49								
A-B	0.69								
A-C	4.79								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
16.30-16.45									
B-AC	0.84	7.15	0.117		0.10	0.13	1.9		0.16
C-AB	1.38	14.19	0.097		0.14	0.20	3.0		0.08
C-A	6.41								
A-B	0.82								
A-C	5.72								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
16.45-17.00									
B-AC	1.03	6.56	0.157		0.13	0.18	2.7		0.18
C-AB	1.98	14.97	0.132		0.20	0.32	4.9		0.08
C-A	7.56								
A-B	1.01								
A-C	7.01								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
17.00-17.15									
B-AC	1.03	6.56	0.157		0.18	0.18	2.8		0.18
C-AB	1.98	14.98	0.132		0.32	0.33	5.0		0.08
C-A	7.56								
A-B	1.01								
A-C	7.01								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
17.15-17.30									
B-AC	0.84	7.15	0.117		0.18	0.13	2.1		0.16
C-AB	1.39	14.20	0.098		0.33	0.21	3.1		0.08
C-A	6.40								
A-B	0.82								
A-C	5.72								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
17.30-17.45									
B-AC	0.70	7.57	0.093		0.13	0.10	1.6		0.15
C-AB	1.04	13.64	0.076		0.21	0.14	2.1		0.08
C-A	5.49								
A-B	0.69								
A-C	4.79								

WARNING NO MARGINAL ANALYSIS OF CAPACITIES AS MAJOR ROAD BLOCKING MAY OCCUR

QUEUE FOR STREAM B-AC

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
16.30	0.1
16.45	0.1
17.00	0.2
17.15	0.2
17.30	0.1
17.45	0.1

QUEUE FOR STREAM C-AB

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
16.30	0.1
16.45	0.2
17.00	0.3
17.15	0.3
17.30	0.2
17.45	0.1

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

STREAM	TOTAL DEMAND		* QUEUEING * * DELAY *		* INCLUSIVE QUEUEING * * DELAY *	
	(VEH)	(VEH/H)	(MIN)	(MIN/VEH)	(MIN)	(MIN/VEH)
B-AC	77.1	51.4	12.5	0.16	12.5	0.16
C-AB	132.1	88.0	20.1	0.15	20.1	0.15
C-A	583.7	389.1				
A-B	75.7	50.5				
A-C	525.8	350.5				
ALL	1394.3	929.5	32.6	0.02	32.6	0.02

* DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD
* INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD
* THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.

*******END OF RUN*******

==================== end of file ====================

Printed at 13:01:35 on 26/09/2012]

Appendix P
Pendle Road / Hayhurst Street (priority controlled junction)

CAPACITIES, QUEUES, AND DELAYS AT 3 OR 4-ARM MAJOR/MINOR PRIORITY JUNCTIONS

PICADY 5.1 ANALYSIS PROGRAM
RELEASE 4.0 (SEPT 2008)

FOR SALES AND DISTRIBUTION INFORMATION,
PROGRAM ADVICE AND MAINTENANCE CONTACT:
TRL SOFTWARE BUREAU
TEL: CROWTHORNE (01344) 770758, FAX: 770356
EMAIL: Software@trl.co.uk

Run with file:-
"J:\2012\A077038 Standen Estates\Picady\Hayhurst St_ Shawbridge St T-Jn\
Existing Hayhurst St_Shawbridge St - T-Jn (AM Peak).vpi"
(drive-on-the-left) at 13:02:23 on Wednesday, 26 September 2012

RUN INFORMATION
****

```
RUN TITLE       : Hayhurst Street/Shawbridge Street - AM Peak
LOCATION        : Hayhurst Street/Shawbridge Street T-Jn
DATE            : 30/08/12
CLIENT          :
ENUMERATOR      : steven.ho [27-WRK-SBA-021]
JOB NUMBER      : A077038
STATUS          :
DESCRIPTION     : Main road is approximately 9.5m in width, but due to parked vehicles
                  the usable road width is narrowed to minimum of 6m.
```

MAJOR/MINOR JUNCTION CAPACITY AND DELAY
****

INPUT DATA

```
                    MAJOR ROAD (ARM C) --------------------- MAJOR ROAD (ARM A)
                                                I
                                                I
                                                I
                                                I
                                                I
                                                I
                                         MINOR ROAD (ARM B)
```

ARM A IS Shawbridge Street WB
ARM B IS Hayhurst Street
ARM C IS Shawbridge Street EB

STREAM LABELLING CONVENTION

STREAM A-B CONTAINS TRAFFIC GOING FROM ARM A TO ARM B
STREAM B-AC CONTAINS TRAFFIC GOING FROM ARM B TO ARM A AND TO ARM C
ETC.

GEOMETRIC DATA

DATA ITEM	MINOR ROAD B
TOTAL MAJOR ROAD CARRIAGEWAY WIDTH	(W) 6.00 M.
CENTRAL RESERVE WIDTH	(WCR) 0.00 M.
MAJOR ROAD RIGHT TURN - WIDTH	(WC-B) 2.20 M.
- VISIBILITY	(VC-B) 90.00 M.
- BLOCKS TRAFFIC	YES
MINOR ROAD - VISIBILITY TO LEFT	(VB-C) 24.0 M.
- VISIBILITY TO RIGHT	(VB-A) 17.0 M.
- LANE 1 WIDTH	(WB-C) 3.75 M.
- LANE 2 WIDTH	(WB-A) 0.00 M.

.SLOPES AND INTERCEPT

(NB:Streams may be combined, in which case capacity will be adjusted)

Intercept For STREAM B-C	Slope For Opposing STREAM A-C	Slope For Opposing STREAM A-B
682.29	0.26	0.10

Intercept For STREAM B-A	Slope For Opposing STREAM A-C	Slope For Opposing STREAM A-B	Slope For Opposing STREAM C-A	Slope For Opposing STREAM C-B
530.81	0.24	0.10	0.15	0.35

Intercept For STREAM C-B	Slope For Opposing STREAM A-C	Slope For Opposing STREAM A-B
626.08	0.24	0.24

(NB These values do not allow for any site specific corrections)

TRAFFIC DEMAND DATA

ARM	FLOW SCALE(%)
A	100
B	100
C	100

Demand set: 2012 Observed Base Flows

TIME PERIOD BEGINS 07.45 AND ENDS 09.15

LENGTH OF TIME PERIOD - 90 MIN.
LENGTH OF TIME SEGMENT - 15 MIN.

DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

ARM	NUMBER OF MINUTES FROM START WHEN FLOW STARTS TO RISE	TOP OF PEAK IS REACHED	FLOW STOPS FALLING	RATE OF FLOW (VEH/MIN) BEFORE PEAK	AT TOP OF PEAK	AFTER PEAK
ARM A	15.00	45.00	75.00	4.43	6.64	4.43
ARM B	15.00	45.00	75.00	1.30	1.95	1.30
ARM C	15.00	45.00	75.00	3.86	5.79	3.86

Demand set: 2012 Observed Base Flows

TIME	FROM/TO	ARM A	ARM B	ARM C
		TURNING PROPORTIONS TURNING COUNTS (PERCENTAGE OF H.V.S)		
07.45 - 08.00	ARM A	0.000 0.0 (0.0)	0.042 15.0 (0.0)	0.958 339.0 (0.0)
	ARM B	0.106 11.0 (0.0)	0.000 0.0 (0.0)	0.894 93.0 (0.0)
	ARM C	0.835 258.0 (0.0)	0.165 51.0 (0.0)	0.000 0.0 (0.0)

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

FOR DEMAND SET 2012 Observed Base Flows
AND FOR TIME PERIOD 1

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
07.45-08.00									
B-AC	1.30	9.77	0.134		0.00	0.15	2.2		0.12
C-AB	0.88	11.56	0.076		0.00	0.12	1.8		0.09
C-A	3.00								
A-B	0.19								
A-C	4.25								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
08.00-08.15									
B-AC	1.56	9.51	0.164		0.15	0.19	2.8		0.13
C-AB	1.13	11.83	0.096		0.12	0.16	2.5		0.09
C-A	3.50								
A-B	0.22								
A-C	5.08								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
08.15-08.30									
B-AC	1.91	9.16	0.208		0.19	0.26	3.8		0.14
C-AB	1.53	12.19	0.125		0.16	0.23	3.5		0.09
C-A	4.14								
A-B	0.28								
A-C	6.22								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
08.30-08.45									
B-AC	1.91	9.16	0.208		0.26	0.26	3.9		0.14
C-AB	1.53	12.19	0.125		0.23	0.23	3.5		0.09
C-A	4.14								
A-B	0.28								
A-C	6.22								

TRL TRL Viewer 3.2 AG J:\.. \Hayhurst St_ Shawbridge St T-Jn\Existing Hayhurst St_Shawbridge St - T-Jn (AM P

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
08.45-09.00									
B-AC	1.56	9.51	0.164		0.26	0.20	3.0		0.13
C-AB	1.14	11.83	0.096		0.23	0.17	2.5		0.09
C-A	3.49								
A-B	0.22								
A-C	5.08								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
09.00-09.15									
B-AC	1.30	9.77	0.134		0.20	0.16	2.4		0.12
C-AB	0.88	11.56	0.076		0.17	0.12	1.9		0.09
C-A	3.00								
A-B	0.19								
A-C	4.25								

WARNING NO MARGINAL ANALYSIS OF CAPACITIES AS MAJOR ROAD BLOCKING MAY OCCUR

QUEUE FOR STREAM B-AC

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
08.00	0.2
08.15	0.2
08.30	0.3
08.45	0.3
09.00	0.2
09.15	0.2

QUEUE FOR STREAM C-AB

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
08.00	0.1
08.15	0.2
08.30	0.2
08.45	0.2
09.00	0.2
09.15	0.1

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

STREAM	TOTAL DEMAND (VEH)	TOTAL DEMAND (VEH/H)	* QUEUEING * * DELAY * (MIN)	* QUEUEING * * DELAY * (MIN/VEH)	* INCLUSIVE QUEUEING * * DELAY * (MIN)	* INCLUSIVE QUEUEING * * DELAY * (MIN/VEH)
B-AC	143.1	95.4	18.2	0.13	18.2	0.13
C-AB	106.2	70.8	15.6	0.15	15.6	0.15
C-A	319.1	212.7				
A-B	20.6	13.8				
A-C	466.6	311.1				
ALL	1055.7	703.8	33.8	0.03	33.8	0.03

* DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD
* INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES
WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD
* THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS
A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.

*******END OF RUN*******

.SLOPES AND INTERCEPT

(NB:Streams may be combined, in which case capacity will be adjusted)

Intercept For STREAM B-C	Slope For Opposing STREAM A-C	Slope For Opposing STREAM A-B
682.29	0.26	0.10

Intercept For STREAM B-A	Slope For Opposing STREAM A-C	Slope For Opposing STREAM A-B	Slope For Opposing STREAM C-A	Slope For Opposing STREAM C-B
530.81	0.24	0.10	0.15	0.35

Intercept For STREAM C-B	Slope For Opposing STREAM A-C	Slope For Opposing STREAM A-B
626.08	0.24	0.24

(NB These values do not allow for any site specific corrections)

TRAFFIC DEMAND DATA

ARM	FLOW SCALE(%)
A	100
B	100
C	100

Demand set: Base Year 2015

TIME PERIOD BEGINS 07.45 AND ENDS 09.15

LENGTH OF TIME PERIOD - 90 MIN.
LENGTH OF TIME SEGMENT - 15 MIN.

DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

ARM	NUMBER OF MINUTES FROM START WHEN FLOW STARTS TO RISE	TOP OF PEAK IS REACHED	FLOW STOPS FALLING	RATE OF FLOW (VEH/MIN) BEFORE PEAK	AT TOP OF PEAK	AFTER PEAK
ARM A	15.00	45.00	75.00	4.54	6.81	4.54
ARM B	15.00	45.00	75.00	1.33	1.99	1.33
ARM C	15.00	45.00	75.00	3.95	5.93	3.95

Demand set: Base Year 2015

TIME	FROM/TO	ARM A	ARM B	ARM C
		TURNING PROPORTIONS / TURNING COUNTS / (PERCENTAGE OF H.V.S)		
07.45 - 08.00				
	ARM A	0.000	0.041	0.959
		0.0	15.0	348.0
		(0.0)	(0.0)	(0.0)
	ARM B	0.104	0.000	0.896
		11.0	0.0	95.0
		(0.0)	(0.0)	(0.0)
	ARM C	0.835	0.165	0.000
		264.0	52.0	0.0
		(0.0)	(0.0)	(0.0)

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

FOR DEMAND SET Base Year 2015
AND FOR TIME PERIOD 1

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
07.45-08.00									
B-AC	1.33	9.74	0.137		0.00	0.16	2.3		0.12
C-AB	0.90	11.59	0.078		0.00	0.13	1.9		0.09
C-A	3.07								
A-B	0.19								
A-C	4.37								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
08.00-08.15									
B-AC	1.59	9.48	0.167		0.16	0.20	2.9		0.13
C-AB	1.17	11.87	0.098		0.13	0.17	2.5		0.09
C-A	3.57								
A-B	0.22								
A-C	5.21								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
08.15-08.30									
B-AC	1.95	9.12	0.213		0.20	0.27	3.9		0.14
C-AB	1.58	12.23	0.129		0.17	0.24	3.6		0.09
C-A	4.22								
A-B	0.28								
A-C	6.39								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
08.30-08.45									
B-AC	1.95	9.12	0.213		0.27	0.27	4.0		0.14
C-AB	1.58	12.23	0.129		0.24	0.24	3.7		0.09
C-A	4.22								
A-B	0.28								
A-C	6.39								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
08.45-09.00									
B-AC	1.59	9.48	0.167		0.27	0.20	3.1		0.13
C-AB	1.17	11.87	0.099		0.24	0.17	2.6		0.09
C-A	3.56								
A-B	0.22								
A-C	5.21								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
09.00-09.15									
B-AC	1.33	9.74	0.137		0.20	0.16	2.4		0.12
C-AB	0.90	11.59	0.078		0.17	0.13	1.9		0.09
C-A	3.06								
A-B	0.19								
A-C	4.37								

WARNING NO MARGINAL ANALYSIS OF CAPACITIES AS MAJOR ROAD BLOCKING MAY OCCUR

QUEUE FOR STREAM B-AC

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
08.00	0.2
08.15	0.2
08.30	0.3
08.45	0.3
09.00	0.2
09.15	0.2

QUEUE FOR STREAM C-AB

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
08.00	0.1
08.15	0.2
08.30	0.2
08.45	0.2
09.00	0.2
09.15	0.1

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

STREAM	TOTAL DEMAND (VEH)	TOTAL DEMAND (VEH/H)	* QUEUEING * * DELAY * (MIN)	* QUEUEING * * DELAY * (MIN/VEH)	* INCLUSIVE QUEUEING * * DELAY * (MIN)	* INCLUSIVE QUEUEING * * DELAY * (MIN/VEH)
B-AC	145.9	97.3	18.7	0.13	18.7	0.13
C-AB	109.4	72.9	16.2	0.15	16.2	0.15
C-A	325.5	217.0				
A-B	20.6	13.8				
A-C	479.0	319.3				
ALL	1080.5	720.3	34.9	0.03	34.9	0.03

* DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD
* INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES
WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD
* THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS
A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.

*******END OF RUN*******

.SLOPES AND INTERCEPT

(NB:Streams may be combined, in which case capacity will be adjusted)

Intercept For STREAM B-C	Slope For Opposing STREAM A-C	Slope For Opposing STREAM A-B
682.29	0.26	0.10

Intercept For STREAM B-A	Slope For Opposing STREAM A-C	Slope For Opposing STREAM A-B	Slope For Opposing STREAM C-A	Slope For Opposing STREAM C-B
530.81	0.24	0.10	0.15	0.35

Intercept For STREAM C-B	Slope For Opposing STREAM A-C	Slope For Opposing STREAM A-B
626.08	0.24	0.24

(NB These values do not allow for any site specific corrections)

TRAFFIC DEMAND DATA

ARM	FLOW SCALE(%)
A	100
B	100
C	100

Demand set: Assessment Year 2015

TIME PERIOD BEGINS 07.45 AND ENDS 09.15

LENGTH OF TIME PERIOD - 90 MIN.
LENGTH OF TIME SEGMENT - 15 MIN.

DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

ARM	NUMBER OF MINUTES FROM START WHEN FLOW STARTS TO RISE	TOP OF PEAK IS REACHED	FLOW STOPS FALLING	RATE OF FLOW (VEH/MIN) BEFORE PEAK	AT TOP OF PEAK	AFTER PEAK
ARM A	15.00	45.00	75.00	6.56	9.84	6.56
ARM B	15.00	45.00	75.00	1.33	1.99	1.33
ARM C	15.00	45.00	75.00	5.38	8.06	5.38

Demand set: Assessment Year 2015

TIME	FROM/TO	ARM A	ARM B	ARM C
07.45 - 08.00				
	ARM A	0.000	0.029	0.971
		0.0	15.0	510.0
		(0.0)	(0.0)	(0.0)
	ARM B	0.104	0.000	0.896
		11.0	0.0	95.0
		(0.0)	(0.0)	(0.0)
	ARM C	0.879	0.121	0.000
		378.0	52.0	0.0
		(0.0)	(0.0)	(0.0)

TURNING PROPORTIONS / TURNING COUNTS / (PERCENTAGE OF H.V.S)

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

FOR DEMAND SET Assessment Year 2015
AND FOR TIME PERIOD 1

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
07.45-08.00									
B-AC	1.33	9.16	0.145		0.00	0.17	2.4		0.13
C-AB	1.06	12.17	0.087		0.00	0.16	2.4		0.09
C-A	4.33								
A-B	0.19								
A-C	6.40								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
08.00-08.15									
B-AC	1.59	8.78	0.181		0.17	0.22	3.2		0.14
C-AB	1.41	12.56	0.112		0.16	0.23	3.5		0.09
C-A	5.03								
A-B	0.22								
A-C	7.64								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
08.15-08.30									
B-AC	1.95	8.25	0.236		0.22	0.30	4.4		0.16
C-AB	1.99	13.12	0.152		0.23	0.35	5.3		0.09
C-A	5.90								
A-B	0.28								
A-C	9.36								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
08.30-08.45									
B-AC	1.95	8.24	0.236		0.30	0.31	4.6		0.16
C-AB	2.00	13.12	0.152		0.35	0.35	5.3		0.09
C-A	5.89								
A-B	0.28								
A-C	9.36								

TRL TRL Viewer 3.2 AG J:\.. \Hayhurst St_ Shawbridge St T-Jn\Existing Hayhurst St_Shawbridge St - T-Jn (AM I

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
08.45-09.00									
B-AC	1.59	8.78	0.181		0.31	0.22	3.4		0.14
C-AB	1.41	12.57	0.113		0.35	0.24	3.6		0.09
C-A	5.03								
A-B	0.22								
A-C	7.64								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
09.00-09.15									
B-AC	1.33	9.15	0.145		0.22	0.17	2.6		0.13
C-AB	1.07	12.18	0.088		0.24	0.17	2.5		0.09
C-A	4.33								
A-B	0.19								
A-C	6.40								

WARNING NO MARGINAL ANALYSIS OF CAPACITIES AS MAJOR ROAD BLOCKING MAY OCCUR

QUEUE FOR STREAM B-AC

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
08.00	0.2
08.15	0.2
08.30	0.3
08.45	0.3
09.00	0.2
09.15	0.2

QUEUE FOR STREAM C-AB

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
08.00	0.2
08.15	0.2
08.30	0.3
08.45	0.4
09.00	0.2
09.15	0.2

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

STREAM	TOTAL DEMAND (VEH)	TOTAL DEMAND (VEH/H)	* QUEUEING * * DELAY * (MIN)	* QUEUEING * * DELAY * (MIN/VEH)	* INCLUSIVE QUEUEING * * DELAY * (MIN)	* INCLUSIVE QUEUEING * * DELAY * (MIN/VEH)
B-AC	145.9	97.3	20.7	0.14	20.7	0.14
C-AB	134.2	89.5	22.6	0.17	22.6	0.17
C-A	457.6	305.1				
A-B	20.6	13.8				
A-C	702.0	468.0				
ALL	1460.4	973.6	43.4	0.03	43.4	0.03

* DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD
* INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD
* THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.

*******END OF RUN*******

.SLOPES AND INTERCEPT

(NB:Streams may be combined, in which case capacity will be adjusted)

Intercept For STREAM B-C	Slope For Opposing STREAM A-C	Slope For Opposing STREAM A-B
682.29	0.26	0.10

Intercept For STREAM B-A	Slope For Opposing STREAM A-C	Slope For Opposing STREAM A-B	Slope For Opposing STREAM C-A	Slope For Opposing STREAM C-B
530.81	0.24	0.10	0.15	0.35

Intercept For STREAM C-B	Slope For Opposing STREAM A-C	Slope For Opposing STREAM A-B
626.08	0.24	0.24

(NB These values do not allow for any site specific corrections)

TRAFFIC DEMAND DATA

ARM	FLOW SCALE(%)
A	100
B	100
C	100

Demand set: Base year 2030

TIME PERIOD BEGINS 07.45 AND ENDS 09.15

LENGTH OF TIME PERIOD - 90 MIN.
LENGTH OF TIME SEGMENT - 15 MIN.

DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

ARM	NUMBER OF MINUTES FROM START WHEN FLOW STARTS TO RISE	TOP OF PEAK IS REACHED	FLOW STOPS FALLING	RATE OF FLOW (VEH/MIN) BEFORE PEAK	AT TOP OF PEAK	AFTER PEAK
ARM A	15.00	45.00	75.00	5.57	8.36	5.57
ARM B	15.00	45.00	75.00	1.64	2.46	1.64
ARM C	15.00	45.00	75.00	4.86	7.29	4.86

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 Demand set:        Base year 2030
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 I                    I         TURNING PROPORTIONS         I
 I                    I         TURNING COUNTS              I
 I                    I        (PERCENTAGE OF H.V.S)        I
 I                    -------------------------------------
 I        TIME        I FROM/TO I ARM  A I ARM  B I ARM  C I
 -----------------------------------------------------------
 I   07.45 - 08.00    I         I        I        I        I
 I                    I ARM  A  I  0.000 I  0.043 I  0.957 I
 I                    I         I    0.0 I   19.0 I  427.0 I
 I                    I         I (  0.0)I (  0.0)I (  0.0)I
 I                    I         I        I        I        I
 I                    I ARM  B  I  0.107 I  0.000 I  0.893 I
 I                    I         I   14.0 I    0.0 I  117.0 I
 I                    I         I (  0.0)I (  0.0)I (  0.0)I
 I                    I         I        I        I        I
 I                    I ARM  C  I  0.835 I  0.165 I  0.000 I
 I                    I         I  325.0 I   64.0 I    0.0 I
 I                    I         I (  0.0)I (  0.0)I (  0.0)I
 I                    I         I        I        I        I
 -----------------------------------------------------------
 TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA


               QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT
               --------------------------------------------------------
                FOR DEMAND SET         Base year 2030
                AND FOR TIME PERIOD       1

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 I  TIME      DEMAND  CAPACITY  DEMAND/    PEDESTRIAN  START   END       DELAY      GEOMETRIC DELAY   AVERAGE DELAY I
 I          (VEH/MIN) (VEH/MIN) CAPACITY     FLOW      QUEUE  QUEUE    (VEH.MIN/       (VEH.MIN/      PER ARRIVING  I
 I                                (RFC)    (PEDS/MIN) (VEHS) (VEHS)  TIME SEGMENT)  TIME SEGMENT)    VEHICLE (MIN) I
 I 07.45-08.00                                                                                                      I
 I   B-AC       1.64      9.42    0.174                 0.00   0.21        3.0                              0.13      I
 I   C-AB       1.22     11.92    0.102                 0.00   0.18        2.6                              0.09      I
 I   C-A        3.66                                                                                                 I
 I   A-B        0.24                                                                                                 I
 I   A-C        5.36                                                                                                 I
 I                                                                                                                   I

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 I  TIME      DEMAND  CAPACITY  DEMAND/    PEDESTRIAN  START   END       DELAY      GEOMETRIC DELAY   AVERAGE DELAY I
 I          (VEH/MIN) (VEH/MIN) CAPACITY     FLOW      QUEUE  QUEUE    (VEH.MIN/       (VEH.MIN/      PER ARRIVING  I
 I                                (RFC)    (PEDS/MIN) (VEHS) (VEHS)  TIME SEGMENT)  TIME SEGMENT)    VEHICLE (MIN) I
 I 08.00-08.15                                                                                                      I
 I   B-AC       1.96      9.10    0.216                 0.21   0.27        4.0                              0.14      I
 I   C-AB       1.59     12.24    0.130                 0.18   0.24        3.7                              0.09      I
 I   C-A        4.24                                                                                                 I
 I   A-B        0.28                                                                                                 I
 I   A-C        6.40                                                                                                 I
 I                                                                                                                   I

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 I  TIME      DEMAND  CAPACITY  DEMAND/    PEDESTRIAN  START   END       DELAY      GEOMETRIC DELAY   AVERAGE DELAY I
 I          (VEH/MIN) (VEH/MIN) CAPACITY     FLOW      QUEUE  QUEUE    (VEH.MIN/       (VEH.MIN/      PER ARRIVING  I
 I                                (RFC)    (PEDS/MIN) (VEHS) (VEHS)  TIME SEGMENT)  TIME SEGMENT)    VEHICLE (MIN) I
 I 08.15-08.30                                                                                                      I
 I   B-AC       2.40      8.65    0.278                 0.27   0.38        5.5                              0.16      I
 I   C-AB       2.20     12.71    0.173                 0.24   0.36        5.4                              0.10      I
 I   C-A        4.94                                                                                                 I
 I   A-B        0.35                                                                                                 I
 I   A-C        7.84                                                                                                 I
 I                                                                                                                   I

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 I  TIME      DEMAND  CAPACITY  DEMAND/    PEDESTRIAN  START   END       DELAY      GEOMETRIC DELAY   AVERAGE DELAY I
 I          (VEH/MIN) (VEH/MIN) CAPACITY     FLOW      QUEUE  QUEUE    (VEH.MIN/       (VEH.MIN/      PER ARRIVING  I
 I                                (RFC)    (PEDS/MIN) (VEHS) (VEHS)  TIME SEGMENT)  TIME SEGMENT)    VEHICLE (MIN) I
 I 08.30-08.45                                                                                                      I
 I   B-AC       2.40      8.65    0.278                 0.38   0.38        5.7                              0.16      I
 I   C-AB       2.20     12.71    0.173                 0.36   0.36        5.5                              0.10      I
 I   C-A        4.94                                                                                                 I
 I   A-B        0.35                                                                                                 I
 I   A-C        7.84                                                                                                 I
 I                                                                                                                   I

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TRL TRL Viewer 3.2 AG J:\.. \Hayhurst St_ Shawbridge St T-Jn\Existing Hayhurst St_Shawbridge St - T-Jn (AM P

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
08.45-09.00									
B-AC	1.96	9.10	0.216		0.38	0.28	4.3		0.14
C-AB	1.59	12.25	0.130		0.36	0.25	3.8		0.09
C-A	4.24								
A-B	0.28								
A-C	6.40								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
09.00-09.15									
B-AC	1.64	9.42	0.174		0.28	0.21	3.3		0.13
C-AB	1.22	11.92	0.103		0.25	0.18	2.7		0.09
C-A	3.66								
A-B	0.24								
A-C	5.36								

WARNING NO MARGINAL ANALYSIS OF CAPACITIES AS MAJOR ROAD BLOCKING MAY OCCUR

QUEUE FOR STREAM B-AC

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
08.00	0.2
08.15	0.3
08.30	0.4
08.45	0.4
09.00	0.3
09.15	0.2

QUEUE FOR STREAM C-AB

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
08.00	0.2
08.15	0.2
08.30	0.4
08.45	0.4
09.00	0.3
09.15	0.2

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

STREAM	TOTAL DEMAND (VEH)	TOTAL DEMAND (VEH/H)	* QUEUEING * * DELAY * (MIN)	* QUEUEING * * DELAY * (MIN/VEH)	* INCLUSIVE QUEUEING * * DELAY * (MIN)	* INCLUSIVE QUEUEING * * DELAY * (MIN/VEH)
B-AC	180.3	120.2	25.8	0.14	25.8	0.14
C-AB	150.2	100.1	23.7	0.16	23.7	0.16
C-A	385.2	256.8				
A-B	26.2	17.4				
A-C	587.7	391.8				
ALL	1329.6	886.4	49.5	0.04	49.5	0.04

* DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD
* INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD
* THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.

*******END OF RUN*******

.SLOPES AND INTERCEPT

(NB:Streams may be combined, in which case capacity will be adjusted)

Intercept For STREAM B-C	Slope For Opposing STREAM A-C	Slope For Opposing STREAM A-B
682.29	0.26	0.10

Intercept For STREAM B-A	Slope For Opposing STREAM A-C	Slope For Opposing STREAM A-B	Slope For Opposing STREAM C-A	Slope For Opposing STREAM C-B
530.81	0.24	0.10	0.15	0.35

Intercept For STREAM C-B	Slope For Opposing STREAM A-C	Slope For Opposing STREAM A-B
626.08	0.24	0.24

(NB These values do not allow for any site specific corrections)

TRAFFIC DEMAND DATA

ARM	FLOW SCALE(%)
A	100
B	100
C	100

Demand set: Assessment year 2030

TIME PERIOD BEGINS 07.45 AND ENDS 09.15

LENGTH OF TIME PERIOD - 90 MIN.
LENGTH OF TIME SEGMENT - 15 MIN.

DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

ARM	NUMBER OF MINUTES FROM START WHEN FLOW STARTS TO RISE	TOP OF PEAK IS REACHED	FLOW STOPS FALLING	RATE OF FLOW (VEH/MIN) BEFORE PEAK	AT TOP OF PEAK	AFTER PEAK
ARM A	15.00	45.00	75.00	7.61	11.42	7.61
ARM B	15.00	45.00	75.00	1.64	2.46	1.64
ARM C	15.00	45.00	75.00	6.28	9.41	6.28

Demand set: Assessment year 2030

TIME	FROM/TO	TURNING PROPORTIONS / TURNING COUNTS / (PERCENTAGE OF H.V.S) ARM A	ARM B	ARM C
07.45 - 08.00				
	ARM A	0.000	0.031	0.969
		0.0	19.0	590.0
		(0.0)	(0.0)	(0.0)
	ARM B	0.107	0.000	0.893
		14.0	0.0	117.0
		(0.0)	(0.0)	(0.0)
	ARM C	0.873	0.127	0.000
		438.0	64.0	0.0
		(0.0)	(0.0)	(0.0)

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

FOR DEMAND SET Assessment year 2030
AND FOR TIME PERIOD 1

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
07.45-08.00									
B-AC	1.64	8.83	0.186		0.00	0.23	3.3		0.14
C-AB	1.42	12.49	0.114		0.00	0.23	3.4		0.09
C-A	4.88								
A-B	0.24								
A-C	7.40								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
08.00-08.15									
B-AC	1.96	8.38	0.234		0.23	0.30	4.4		0.16
C-AB	1.92	12.95	0.148		0.23	0.33	5.0		0.09
C-A	5.60								
A-B	0.28								
A-C	8.84								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
08.15-08.30									
B-AC	2.40	7.75	0.310		0.30	0.44	6.4		0.19
C-AB	2.84	13.68	0.208		0.33	0.53	8.0		0.09
C-A	6.37								
A-B	0.35								
A-C	10.83								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
08.30-08.45									
B-AC	2.40	7.75	0.310		0.44	0.45	6.7		0.19
C-AB	2.85	13.68	0.208		0.53	0.54	8.1		0.09
C-A	6.37								
A-B	0.35								
A-C	10.83								

TRL TRL Viewer 3.2 AG J:\.. \Hayhurst St_ Shawbridge St T-Jn\Existing Hayhurst St_Shawbridge St - T-Jn (AM P

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
08.45-09.00									
B-AC	1.96	8.38	0.234		0.45	0.31	4.8		0.16
C-AB	1.93	12.96	0.149		0.54	0.34	5.1		0.09
C-A	5.59								
A-B	0.28								
A-C	8.84								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
09.00-09.15									
B-AC	1.64	8.83	0.186		0.31	0.23	3.6		0.14
C-AB	1.43	12.49	0.115		0.34	0.24	3.6		0.09
C-A	4.87								
A-B	0.24								
A-C	7.40								

WARNING NO MARGINAL ANALYSIS OF CAPACITIES AS MAJOR ROAD BLOCKING MAY OCCUR

QUEUE FOR STREAM B-AC

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
08.00	0.2
08.15	0.3
08.30	0.4
08.45	0.4
09.00	0.3
09.15	0.2

QUEUE FOR STREAM C-AB

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
08.00	0.2	
08.15	0.3	
08.30	0.5	*
08.45	0.5	*
09.00	0.3	
09.15	0.2	

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

STREAM	TOTAL DEMAND		* QUEUEING * * DELAY *		* INCLUSIVE QUEUEING * * DELAY *	
	(VEH)	(VEH/H)	(MIN)	(MIN/VEH)	(MIN)	(MIN/VEH)
B-AC	180.3	120.2	29.1	0.16	29.1	0.16
C-AB	185.8	123.9	33.2	0.18	33.2	0.18
C-A	505.1	336.8				
A-B	26.2	17.4				
A-C	812.1	541.4				
ALL	1709.5	1139.7	62.3	0.04	62.3	0.04

* DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD
* INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD
* THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.

*******END OF RUN*******

=== end of file ===

Printed at 13:02:29 on 26/09/2012]

TRL LIMITED

CAPACITIES, QUEUES, AND DELAYS AT 3 OR 4-ARM MAJOR/MINOR PRIORITY JUNCTIONS

PICADY 5.1 ANALYSIS PROGRAM
RELEASE 4.0 (SEPT 2008)

FOR SALES AND DISTRIBUTION INFORMATION,
PROGRAM ADVICE AND MAINTENANCE CONTACT:
TRL SOFTWARE BUREAU
TEL: CROWTHORNE (01344) 770758, FAX: 770356
EMAIL: Software@trl.co.uk

Run with file:-
"J:\2012\A077038 Standen Estates\Picady\Hayhurst St_ Shawbridge St T-Jn\
Existing Hayhurst St_Shawbridge St - T-Jn (PM Peak).vpi"
(drive-on-the-left) at 13:05:53 on Wednesday, 26 September 2012

RUN INFORMATION
****

```
RUN TITLE       : Hayhurst Street/Shawbridge Street - PM Peak
LOCATION        : Hayhurst Street/Shawbridge Street T-Jn
DATE            : 30/08/12
CLIENT          :
ENUMERATOR      : steven.ho [27-WRK-SBA-021]
JOB NUMBER      : A077038
STATUS          :
DESCRIPTION     : Main road is approximately 9.5m in width, but due to parked vehicles
                  the usable road width is narrowed to minimum of 6m.
```

MAJOR/MINOR JUNCTION CAPACITY AND DELAY
****

INPUT DATA

```
                    MAJOR ROAD (ARM C) --------------------- MAJOR ROAD (ARM A)
                                                 I
                                                 I
                                                 I
                                                 I
                                                 I
                                                 I
                                          MINOR ROAD (ARM B)
```

ARM A IS Shawbridge Street NB
ARM B IS Hayhurst Street
ARM C IS Shawbridge Street SB

STREAM LABELLING CONVENTION

```
        STREAM  A-B  CONTAINS TRAFFIC GOING FROM ARM  A TO ARM B
        STREAM  B-AC CONTAINS TRAFFIC GOING FROM ARM  B TO ARM A AND TO ARM  C
        ETC.
```

GEOMETRIC DATA

DATA ITEM	MINOR ROAD B	
TOTAL MAJOR ROAD CARRIAGEWAY WIDTH	(W)	6.00 M.
CENTRAL RESERVE WIDTH	(WCR)	0.00 M.
MAJOR ROAD RIGHT TURN - WIDTH	(WC-B)	2.20 M.
- VISIBILITY	(VC-B)	90.00 M.
- BLOCKS TRAFFIC		YES
MINOR ROAD - VISIBILITY TO LEFT	(VB-C)	24.0 M.
- VISIBILITY TO RIGHT	(VB-A)	17.0 M.
- LANE 1 WIDTH	(WB-C)	3.75 M.
- LANE 2 WIDTH	(WB-A)	0.00 M.

.SLOPES AND INTERCEPT

(NB:Streams may be combined, in which case capacity will be adjusted)

Intercept For STREAM B-C	Slope For Opposing STREAM A-C	Slope For Opposing STREAM A-B
682.29	0.26	0.10

Intercept For STREAM B-A	Slope For Opposing STREAM A-C	Slope For Opposing STREAM A-B	Slope For Opposing STREAM C-A	Slope For Opposing STREAM C-B
530.81	0.24	0.10	0.15	0.35

Intercept For STREAM C-B	Slope For Opposing STREAM A-C	Slope For Opposing STREAM A-B
626.08	0.24	0.24

(NB These values do not allow for any site specific corrections)

TRAFFIC DEMAND DATA

ARM	FLOW SCALE(%)
A	100
B	100
C	100

Demand set: 2012 Observed Base Flows

TIME PERIOD BEGINS 16.15 AND ENDS 17.45

LENGTH OF TIME PERIOD - 90 MIN.
LENGTH OF TIME SEGMENT - 15 MIN.

DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

	NUMBER OF MINUTES FROM START WHEN			RATE OF FLOW (VEH/MIN)		
ARM	FLOW STARTS TO RISE	TOP OF PEAK IS REACHED	FLOW STOPS FALLING	BEFORE PEAK	AT TOP OF PEAK	AFTER PEAK
ARM A	15.00	45.00	75.00	3.17	4.76	3.17
ARM B	15.00	45.00	75.00	0.69	1.03	0.69
ARM C	15.00	45.00	75.00	4.82	7.24	4.82

Demand set: 2012 Observed Base Flows

TIME	FROM/TO	ARM A	ARM B	ARM C
		TURNING PROPORTIONS TURNING COUNTS (PERCENTAGE OF H.V.S)		
16.15 - 16.30	ARM A	0.000	0.059	0.941
		0.0	15.0	239.0
		(0.0)	(0.0)	(0.0)
	ARM B	0.091	0.000	0.909
		5.0	0.0	50.0
		(0.0)	(0.0)	(0.0)
	ARM C	0.826	0.174	0.000
		319.0	67.0	0.0
		(0.0)	(0.0)	(0.0)

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

FOR DEMAND SET 2012 Observed Base Flows
AND FOR TIME PERIOD 1

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
16.15-16.30									
B-AC	0.69	10.13	0.068		0.00	0.07	1.1		0.11
C-AB	1.24	12.37	0.100		0.00	0.17	2.5		0.09
C-A	3.60								
A-B	0.19								
A-C	3.00								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
16.30-16.45									
B-AC	0.82	9.94	0.083		0.07	0.09	1.3		0.11
C-AB	1.60	12.77	0.125		0.17	0.23	3.4		0.09
C-A	4.18								
A-B	0.22								
A-C	3.58								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
16.45-17.00									
B-AC	1.01	9.67	0.104		0.09	0.12	1.7		0.12
C-AB	2.18	13.32	0.163		0.23	0.32	4.9		0.09
C-A	4.91								
A-B	0.28								
A-C	4.39								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
17.00-17.15									
B-AC	1.01	9.67	0.104		0.12	0.12	1.7		0.12
C-AB	2.18	13.32	0.164		0.32	0.33	4.9		0.09
C-A	4.90								
A-B	0.28								
A-C	4.39								

TRL TRL Viewer 3.2 AG J:\.. \Hayhurst St_ Shawbridge St T-Jn\Existing Hayhurst St_Shawbridge St - T-Jn (PM P

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
17.15-17.30									
B-AC	0.82	9.93	0.083		0.12	0.09	1.4		0.11
C-AB	1.60	12.77	0.126		0.33	0.23	3.5		0.09
C-A	4.18								
A-B	0.22								
A-C	3.58								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
17.30-17.45									
B-AC	0.69	10.13	0.068		0.09	0.07	1.1		0.11
C-AB	1.24	12.37	0.101		0.23	0.17	2.6		0.09
C-A	3.60								
A-B	0.19								
A-C	3.00								

WARNING NO MARGINAL ANALYSIS OF CAPACITIES AS MAJOR ROAD BLOCKING MAY OCCUR

QUEUE FOR STREAM B-AC

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
16.30	0.1
16.45	0.1
17.00	0.1
17.15	0.1
17.30	0.1
17.45	0.1

QUEUE FOR STREAM C-AB

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
16.30	0.2
16.45	0.2
17.00	0.3
17.15	0.3
17.30	0.2
17.45	0.2

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

STREAM	TOTAL DEMAND (VEH)	TOTAL DEMAND (VEH/H)	* QUEUEING * * DELAY * (MIN)	* QUEUEING * * DELAY * (MIN/VEH)	* INCLUSIVE QUEUEING * * DELAY * (MIN)	* INCLUSIVE QUEUEING * * DELAY * (MIN/VEH)
B-AC	75.7	50.5	8.3	0.11	8.3	0.11
C-AB	150.7	100.4	21.8	0.14	21.8	0.14
C-A	380.6	253.8				
A-B	20.6	13.8				
A-C	329.0	219.3				
ALL	956.6	637.7	30.1	0.03	30.1	0.03

* DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD
* INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD
* THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.

*******END OF RUN*******

.SLOPES AND INTERCEPT

(NB:Streams may be combined, in which case capacity will be adjusted)

Intercept For STREAM B-C	Slope For Opposing STREAM A-C	Slope For Opposing STREAM A-B
682.29	0.26	0.10

Intercept For STREAM B-A	Slope For Opposing STREAM A-C	Slope For Opposing STREAM A-B	Slope For Opposing STREAM C-A	Slope For Opposing STREAM C-B
530.81	0.24	0.10	0.15	0.35

Intercept For STREAM C-B	Slope For Opposing STREAM A-C	Slope For Opposing STREAM A-B
626.08	0.24	0.24

(NB These values do not allow for any site specific corrections)

TRAFFIC DEMAND DATA

ARM	FLOW SCALE(%)
A	100
B	100
C	100

Demand set: Base Year 2015

TIME PERIOD BEGINS 16.15 AND ENDS 17.45

LENGTH OF TIME PERIOD - 90 MIN.
LENGTH OF TIME SEGMENT - 15 MIN.

DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

ARM	NUMBER OF MINUTES FROM START WHEN FLOW STARTS TO RISE	TOP OF PEAK IS REACHED	FLOW STOPS FALLING	RATE OF FLOW (VEH/MIN) BEFORE PEAK	AT TOP OF PEAK	AFTER PEAK
ARM A	15.00	45.00	75.00	3.26	4.89	3.26
ARM B	15.00	45.00	75.00	0.70	1.05	0.70
ARM C	15.00	45.00	75.00	4.96	7.44	4.96

Demand set: Base Year 2015

TIME	FROM/TO	ARM A	ARM B	ARM C
16.15 - 16.30				
	ARM A	0.000	0.057	0.943
		0.0	15.0	246.0
		(0.0)	(0.0)	(0.0)
	ARM B	0.089	0.000	0.911
		5.0	0.0	51.0
		(0.0)	(0.0)	(0.0)
	ARM C	0.826	0.174	0.000
		328.0	69.0	0.0
		(0.0)	(0.0)	(0.0)

(Header: TURNING PROPORTIONS / TURNING COUNTS / (PERCENTAGE OF H.V.S))

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

FOR DEMAND SET Base Year 2015
AND FOR TIME PERIOD 1

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
16.15-16.30									
B-AC	0.70	10.11	0.070		0.00	0.07	1.1		0.11
C-AB	1.29	12.43	0.104		0.00	0.18	2.6		0.09
C-A	3.69								
A-B	0.19								
A-C	3.09								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
16.30-16.45									
B-AC	0.84	9.91	0.085		0.07	0.09	1.4		0.11
C-AB	1.67	12.84	0.130		0.18	0.24	3.6		0.09
C-A	4.28								
A-B	0.22								
A-C	3.69								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
16.45-17.00									
B-AC	1.03	9.63	0.107		0.09	0.12	1.7		0.12
C-AB	2.28	13.41	0.170		0.24	0.34	5.1		0.09
C-A	5.01								
A-B	0.28								
A-C	4.51								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
17.00-17.15									
B-AC	1.03	9.63	0.107		0.12	0.12	1.8		0.12
C-AB	2.28	13.41	0.170		0.34	0.34	5.2		0.09
C-A	5.00								
A-B	0.28								
A-C	4.51								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
17.15-17.30									
B-AC	0.84	9.91	0.085		0.12	0.09	1.4		0.11
C-AB	1.67	12.84	0.130		0.34	0.24	3.6		0.09
C-A	4.27								
A-B	0.22								
A-C	3.69								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
17.30-17.45									
B-AC	0.70	10.11	0.070		0.09	0.08	1.2		0.11
C-AB	1.30	12.43	0.104		0.24	0.18	2.7		0.09
C-A	3.69								
A-B	0.19								
A-C	3.09								

WARNING NO MARGINAL ANALYSIS OF CAPACITIES AS MAJOR ROAD BLOCKING MAY OCCUR

QUEUE FOR STREAM B-AC

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
16.30	0.1
16.45	0.1
17.00	0.1
17.15	0.1
17.30	0.1
17.45	0.1

QUEUE FOR STREAM C-AB

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
16.30	0.2
16.45	0.2
17.00	0.3
17.15	0.3
17.30	0.2
17.45	0.2

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

STREAM	TOTAL DEMAND (VEH)	TOTAL DEMAND (VEH/H)	* QUEUEING * * DELAY * (MIN)	* QUEUEING * * DELAY * (MIN/VEH)	* INCLUSIVE QUEUEING * * DELAY * (MIN)	* INCLUSIVE QUEUEING * * DELAY * (MIN/VEH)
B-AC	77.1	51.4	8.5	0.11	8.5	0.11
C-AB	157.3	104.9	22.9	0.15	22.9	0.15
C-A	389.1	259.4				
A-B	20.6	13.8				
A-C	338.6	225.7				
ALL	982.8	655.2	31.4	0.03	31.4	0.03

* DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD
* INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD
* THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.

*******END OF RUN*******

.SLOPES AND INTERCEPT

(NB:Streams may be combined, in which case capacity will be adjusted)

Intercept For STREAM B-C	Slope For Opposing STREAM A-C	Slope For Opposing STREAM A-B
682.29	0.26	0.10

Intercept For STREAM B-A	Slope For Opposing STREAM A-C	Slope For Opposing STREAM A-B	Slope For Opposing STREAM C-A	Slope For Opposing STREAM C-B
530.81	0.24	0.10	0.15	0.35

Intercept For STREAM C-B	Slope For Opposing STREAM A-C	Slope For Opposing STREAM A-B
626.08	0.24	0.24

(NB These values do not allow for any site specific corrections)

TRAFFIC DEMAND DATA

ARM	FLOW SCALE(%)
A	100
B	100
C	100

Demand set: Assessment Year 2015

TIME PERIOD BEGINS 16.15 AND ENDS 17.45

LENGTH OF TIME PERIOD - 90 MIN.
LENGTH OF TIME SEGMENT - 15 MIN.

DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

ARM	NUMBER OF MINUTES FROM START WHEN FLOW STARTS TO RISE	TOP OF PEAK IS REACHED	FLOW STOPS FALLING	RATE OF FLOW (VEH/MIN) BEFORE PEAK	AT TOP OF PEAK	AFTER PEAK
ARM A	15.00	45.00	75.00	4.49	6.73	4.49
ARM B	15.00	45.00	75.00	0.70	1.05	0.70
ARM C	15.00	45.00	75.00	6.91	10.37	6.91

Demand set: Assessment Year 2015

TURNING PROPORTIONS / TURNING COUNTS / (PERCENTAGE OF H.V.S)

TIME	FROM/TO	ARM A	ARM B	ARM C
16.15 - 16.30				
	ARM A	0.000	0.042	0.958
		0.0	15.0	344.0
		(0.0)	(0.0)	(0.0)
	ARM B	0.089	0.000	0.911
		5.0	0.0	51.0
		(0.0)	(0.0)	(0.0)
	ARM C	0.875	0.125	0.000
		484.0	69.0	0.0
		(0.0)	(0.0)	(0.0)

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

FOR DEMAND SET Assessment Year 2015
AND FOR TIME PERIOD 1

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
16.15-16.30									
B-AC	0.70	9.72	0.072		0.00	0.08	1.1		0.11
C-AB	1.56	13.50	0.115		0.00	0.23	3.4		0.08
C-A	5.38								
A-B	0.19								
A-C	4.32								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
16.30-16.45									
B-AC	0.84	9.45	0.089		0.08	0.10	1.4		0.12
C-AB	2.09	14.13	0.148		0.23	0.33	4.9		0.08
C-A	6.20								
A-B	0.22								
A-C	5.15								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
16.45-17.00									
B-AC	1.03	9.05	0.114		0.10	0.13	1.9		0.12
C-AB	3.06	15.08	0.203		0.33	0.51	7.6		0.08
C-A	7.09								
A-B	0.28								
A-C	6.31								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
17.00-17.15									
B-AC	1.03	9.05	0.114		0.13	0.13	1.9		0.12
C-AB	3.06	15.08	0.203		0.51	0.51	7.7		0.08
C-A	7.08								
A-B	0.28								
A-C	6.31								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
17.15-17.30									
B-AC	0.84	9.44	0.089		0.13	0.10	1.5		0.12
C-AB	2.09	14.13	0.148		0.51	0.34	5.1		0.08
C-A	6.19								
A-B	0.22								
A-C	5.15								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
17.30-17.45									
B-AC	0.70	9.72	0.072		0.10	0.08	1.2		0.11
C-AB	1.56	13.50	0.116		0.34	0.24	3.6		0.08
C-A	5.37								
A-B	0.19								
A-C	4.32								

WARNING NO MARGINAL ANALYSIS OF CAPACITIES AS MAJOR ROAD BLOCKING MAY OCCUR

QUEUE FOR STREAM B-AC

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
16.30	0.1
16.45	0.1
17.00	0.1
17.15	0.1
17.30	0.1
17.45	0.1

QUEUE FOR STREAM C-AB

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
16.30	0.2	
16.45	0.3	
17.00	0.5	*
17.15	0.5	*
17.30	0.3	
17.45	0.2	

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

STREAM	TOTAL DEMAND (VEH)	TOTAL DEMAND (VEH/H)	* QUEUEING * * DELAY * (MIN)	* QUEUEING * * DELAY * (MIN/VEH)	* INCLUSIVE QUEUEING * * DELAY * (MIN)	* INCLUSIVE QUEUEING * * DELAY * (MIN/VEH)
B-AC	77.1	51.4	9.0	0.12	9.0	0.12
C-AB	201.4	134.3	32.4	0.16	32.4	0.16
C-A	559.8	373.2				
A-B	20.6	13.8				
A-C	473.5	315.7				
ALL	1332.4	888.3	41.4	0.03	41.4	0.03

* DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD
* INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES
WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD
* THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS
A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.

*******END OF RUN*******

.SLOPES AND INTERCEPT

(NB:Streams may be combined, in which case capacity will be adjusted)

Intercept For STREAM B-C	Slope For Opposing STREAM A-C	Slope For Opposing STREAM A-B
682.29	0.26	0.10

Intercept For STREAM B-A	Slope For Opposing STREAM A-C	Slope For Opposing STREAM A-B	Slope For Opposing STREAM C-A	Slope For Opposing STREAM C-B
530.81	0.24	0.10	0.15	0.35

Intercept For STREAM C-B	Slope For Opposing STREAM A-C	Slope For Opposing STREAM A-B
626.08	0.24	0.24

(NB These values do not allow for any site specific corrections)

TRAFFIC DEMAND DATA

ARM	FLOW SCALE(%)
A	100
B	100
C	100

Demand set: Base year 2030

TIME PERIOD BEGINS 16.15 AND ENDS 17.45

LENGTH OF TIME PERIOD - 90 MIN.
LENGTH OF TIME SEGMENT - 15 MIN.

DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

ARM	NUMBER OF MINUTES FROM START WHEN FLOW STARTS TO RISE	TOP OF PEAK IS REACHED	FLOW STOPS FALLING	RATE OF FLOW (VEH/MIN) BEFORE PEAK	AT TOP OF PEAK	AFTER PEAK
ARM A	15.00	45.00	75.00	4.04	6.06	4.04
ARM B	15.00	45.00	75.00	0.88	1.31	0.88
ARM C	15.00	45.00	75.00	6.13	9.19	6.13

Demand set: Base year 2030

TIME	FROM/TO	ARM A	ARM B	ARM C
		TURNING PROPORTIONS / TURNING COUNTS / (PERCENTAGE OF H.V.S)		
16.15 - 16.30				
	ARM A	0.000	0.059	0.941
		0.0	19.0	304.0
		(0.0)	(0.0)	(0.0)
	ARM B	0.086	0.000	0.914
		6.0	0.0	64.0
		(0.0)	(0.0)	(0.0)
	ARM C	0.827	0.173	0.000
		405.0	85.0	0.0
		(0.0)	(0.0)	(0.0)

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

FOR DEMAND SET Base year 2030
AND FOR TIME PERIOD 1

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
16.15-16.30									
B-AC	0.88	9.89	0.089		0.00	0.10	1.4		0.11
C-AB	1.75	12.92	0.135		0.00	0.25	3.7		0.09
C-A	4.40								
A-B	0.24								
A-C	3.81								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
16.30-16.45									
B-AC	1.05	9.64	0.109		0.10	0.12	1.8		0.12
C-AB	2.30	13.43	0.172		0.25	0.35	5.2		0.09
C-A	5.04								
A-B	0.28								
A-C	4.55								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
16.45-17.00									
B-AC	1.28	9.29	0.138		0.12	0.16	2.3		0.12
C-AB	3.27	14.19	0.231		0.35	0.53	7.9		0.09
C-A	5.72								
A-B	0.35								
A-C	5.58								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
17.00-17.15									
B-AC	1.28	9.29	0.138		0.16	0.16	2.4		0.12
C-AB	3.28	14.20	0.231		0.53	0.53	8.0		0.09
C-A	5.72								
A-B	0.35								
A-C	5.58								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
17.15-17.30									
B-AC	1.05	9.64	0.109		0.16	0.12	1.9		0.12
C-AB	2.31	13.44	0.172		0.53	0.36	5.4		0.09
C-A	5.03								
A-B	0.28								
A-C	4.55								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
17.30-17.45									
B-AC	0.88	9.88	0.089		0.12	0.10	1.5		0.11
C-AB	1.76	12.93	0.136		0.36	0.26	3.9		0.09
C-A	4.39								
A-B	0.24								
A-C	3.81								

WARNING NO MARGINAL ANALYSIS OF CAPACITIES AS MAJOR ROAD BLOCKING MAY OCCUR

QUEUE FOR STREAM B-AC

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
16.30	0.1
16.45	0.1
17.00	0.2
17.15	0.2
17.30	0.1
17.45	0.1

QUEUE FOR STREAM C-AB

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
16.30	0.3	
16.45	0.3	
17.00	0.5	*
17.15	0.5	*
17.30	0.4	
17.45	0.3	

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

STREAM	TOTAL DEMAND (VEH)	TOTAL DEMAND (VEH/H)	* QUEUEING * * DELAY * (MIN)	* QUEUEING * * DELAY * (MIN/VEH)	* INCLUSIVE QUEUEING * * DELAY * (MIN)	* INCLUSIVE QUEUEING * * DELAY * (MIN/VEH)
B-AC	96.3	64.2	11.3	0.12	11.3	0.12
C-AB	219.9	146.6	34.1	0.16	34.1	0.16
C-A	454.5	303.0				
A-B	26.2	17.4				
A-C	418.4	279.0				
ALL	1215.4	810.3	45.4	0.04	45.4	0.04

* DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD
* INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD
* THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.

*******END OF RUN*******

.SLOPES AND INTERCEPT

(NB:Streams may be combined, in which case capacity will be adjusted)

Intercept For STREAM B-C	Slope For Opposing STREAM A-C	Slope For Opposing STREAM A-B
682.29	0.26	0.10

Intercept For STREAM B-A	Slope For Opposing STREAM A-C	Slope For Opposing STREAM A-B	Slope For Opposing STREAM C-A	Slope For Opposing STREAM C-B
530.81	0.24	0.10	0.15	0.35

Intercept For STREAM C-B	Slope For Opposing STREAM A-C	Slope For Opposing STREAM A-B
626.08	0.24	0.24

(NB These values do not allow for any site specific corrections)

TRAFFIC DEMAND DATA

ARM	FLOW SCALE(%)
A	100
B	100
C	100

Demand set: Assessment year 2030

TIME PERIOD BEGINS 16.15 AND ENDS 17.45

LENGTH OF TIME PERIOD - 90 MIN.
LENGTH OF TIME SEGMENT - 15 MIN.

DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

ARM	NUMBER OF MINUTES FROM START WHEN FLOW STARTS TO RISE	TOP OF PEAK IS REACHED	FLOW STOPS FALLING	RATE OF FLOW (VEH/MIN) BEFORE PEAK	AT TOP OF PEAK	AFTER PEAK
ARM A	15.00	45.00	75.00	5.26	7.89	5.26
ARM B	15.00	45.00	75.00	0.88	1.31	0.88
ARM C	15.00	45.00	75.00	8.07	12.11	8.07

Demand set: Assessment year 2030

TIME	FROM/TO	ARM A	ARM B	ARM C
16.15 - 16.30	ARM A	0.000	0.045	0.955
		0.0	19.0	402.0
		(0.0)	(0.0)	(0.0)
	ARM B	0.086	0.000	0.914
		6.0	0.0	64.0
		(0.0)	(0.0)	(0.0)
	ARM C	0.870	0.130	0.000
		562.0	84.0	0.0
		(0.0)	(0.0)	(0.0)

(Header: TURNING PROPORTIONS / TURNING COUNTS / (PERCENTAGE OF H.V.S))

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

FOR DEMAND SET Assessment year 2030
AND FOR TIME PERIOD 1

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
16.15-16.30									
B-AC	0.88	9.50	0.092		0.00	0.10	1.5		0.12
C-AB	2.08	14.00	0.149		0.00	0.32	4.8		0.08
C-A	6.02								
A-B	0.24								
A-C	5.04								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
16.30-16.45									
B-AC	1.05	9.17	0.114		0.10	0.13	1.9		0.12
C-AB	2.90	14.81	0.196		0.32	0.47	7.1		0.08
C-A	6.77								
A-B	0.28								
A-C	6.02								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
16.45-17.00									
B-AC	1.28	8.70	0.148		0.13	0.17	2.5		0.13
C-AB	4.32	15.88	0.272		0.47	0.77	11.6		0.09
C-A	7.54								
A-B	0.35								
A-C	7.38								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
17.00-17.15									
B-AC	1.28	8.70	0.148		0.17	0.17	2.6		0.13
C-AB	4.33	15.89	0.272		0.77	0.78	11.8		0.09
C-A	7.53								
A-B	0.35								
A-C	7.38								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
17.15-17.30									
B-AC	1.05	9.17	0.114		0.17	0.13	2.0		0.12
C-AB	2.92	14.82	0.197		0.78	0.49	7.4		0.08
C-A	6.76								
A-B	0.28								
A-C	6.02								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
17.30-17.45									
B-AC	0.88	9.50	0.092		0.13	0.10	1.6		0.12
C-AB	2.10	14.02	0.149		0.49	0.33	5.0		0.08
C-A	6.01								
A-B	0.24								
A-C	5.04								

WARNING NO MARGINAL ANALYSIS OF CAPACITIES AS MAJOR ROAD BLOCKING MAY OCCUR

QUEUE FOR STREAM B-AC

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
16.30	0.1
16.45	0.1
17.00	0.2
17.15	0.2
17.30	0.1
17.45	0.1

QUEUE FOR STREAM C-AB

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
16.30	0.3	
16.45	0.5	
17.00	0.8	*
17.15	0.8	*
17.30	0.5	
17.45	0.3	

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

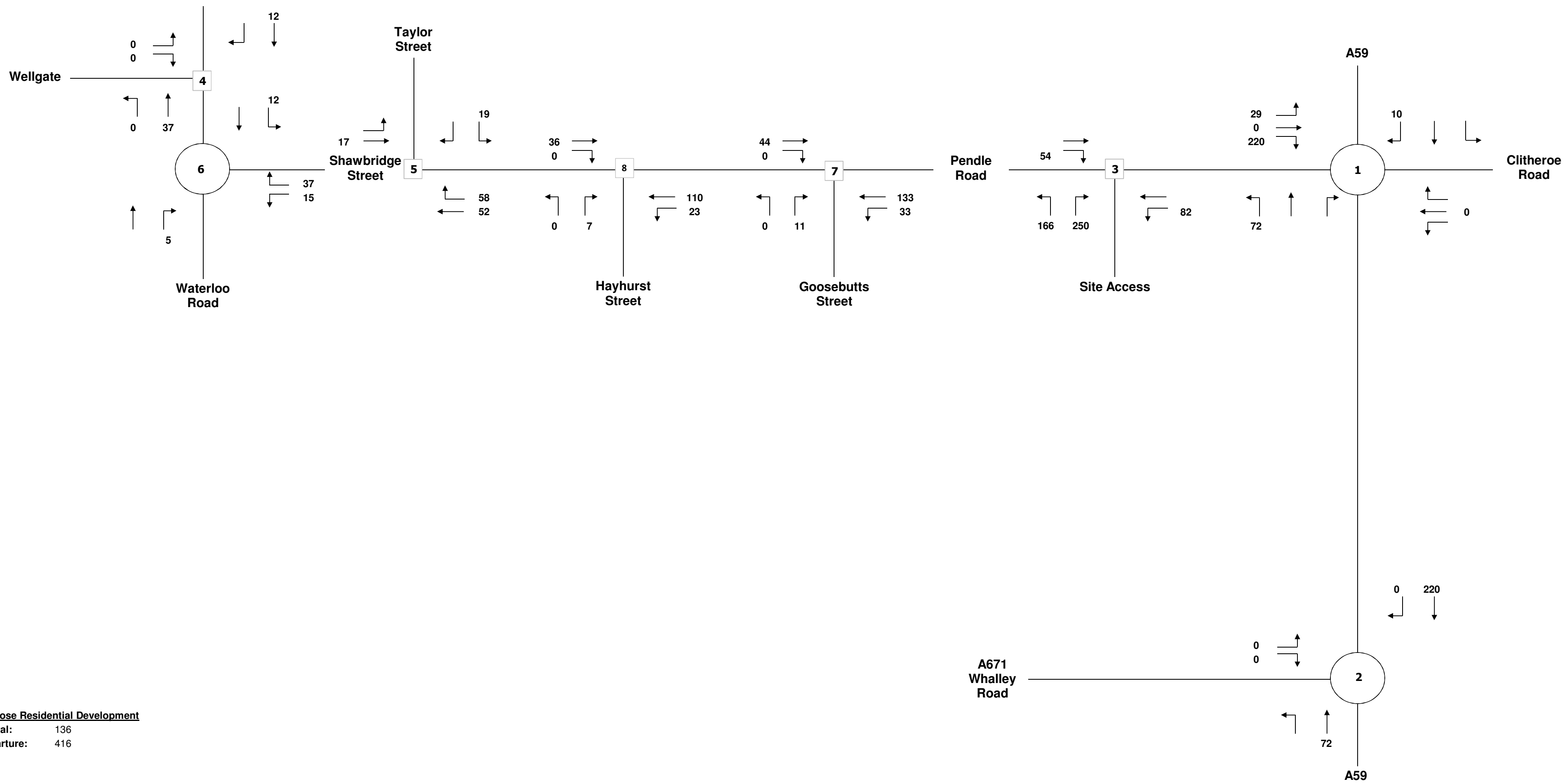
STREAM	TOTAL DEMAND (VEH)	TOTAL DEMAND (VEH/H)	* QUEUEING * * DELAY * (MIN)	* QUEUEING * * DELAY * (MIN/VEH)	* INCLUSIVE QUEUEING * * DELAY * (MIN)	* INCLUSIVE QUEUEING * * DELAY * (MIN/VEH)
B-AC	96.3	64.2	12.0	0.12	12.0	0.12
C-AB	279.6	186.4	47.8	0.17	47.8	0.17
C-A	609.5	406.4				
A-B	26.2	17.4				
A-C	553.3	368.9				
ALL	1565.0	1043.3	59.8	0.04	59.8	0.04

* DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD
* INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD
* THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.

*******END OF RUN*******

== end of file ==

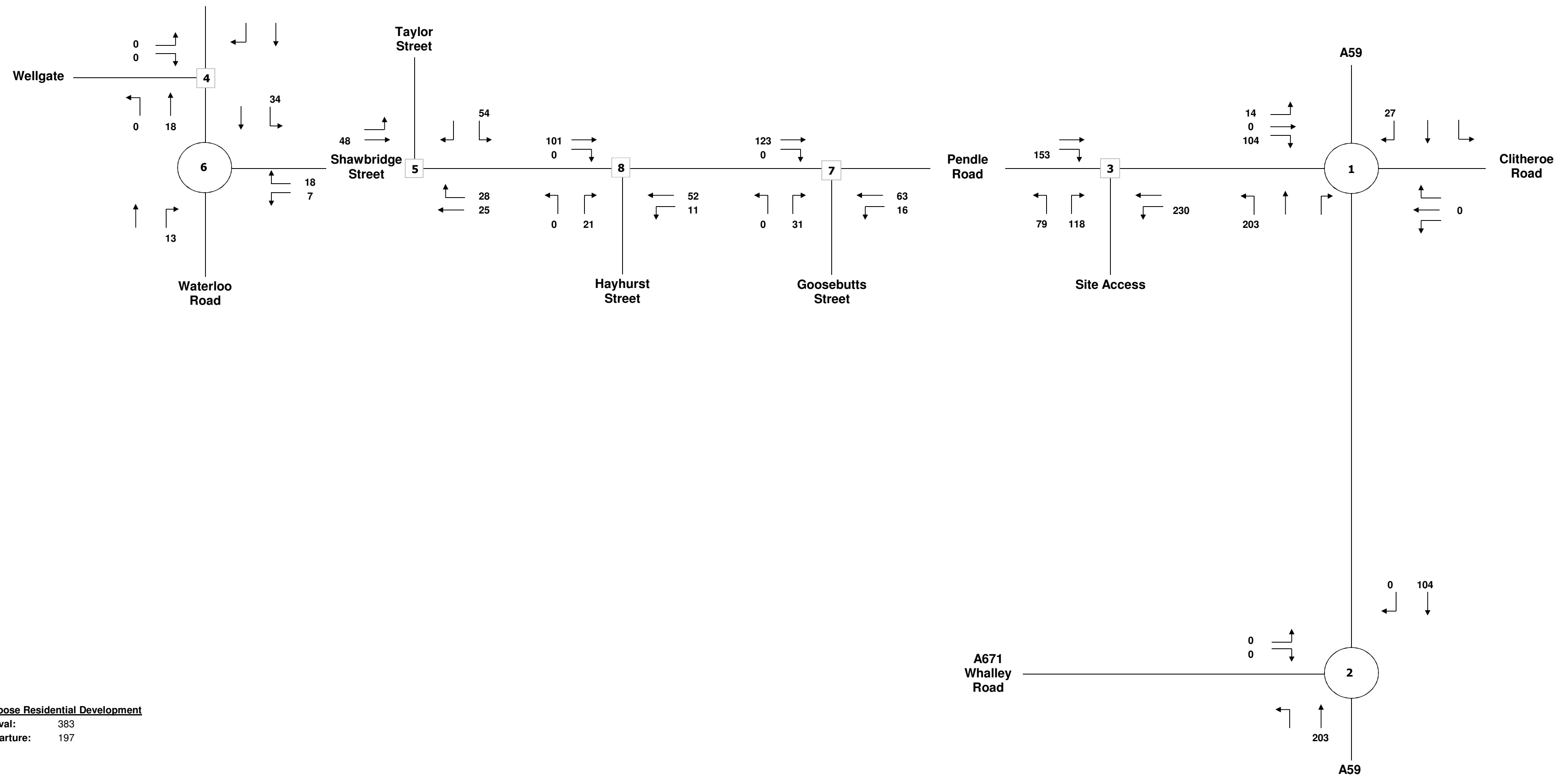
Appendix Q
Waterloo Road / Shawbridge Street (mini roundabout junction) – Sensitivity Assessment



Propose Residential Development

Arrival:	136
Departure:	416

Q1 - Residential Trips
AM Peak Period (08:00 - 09:00)

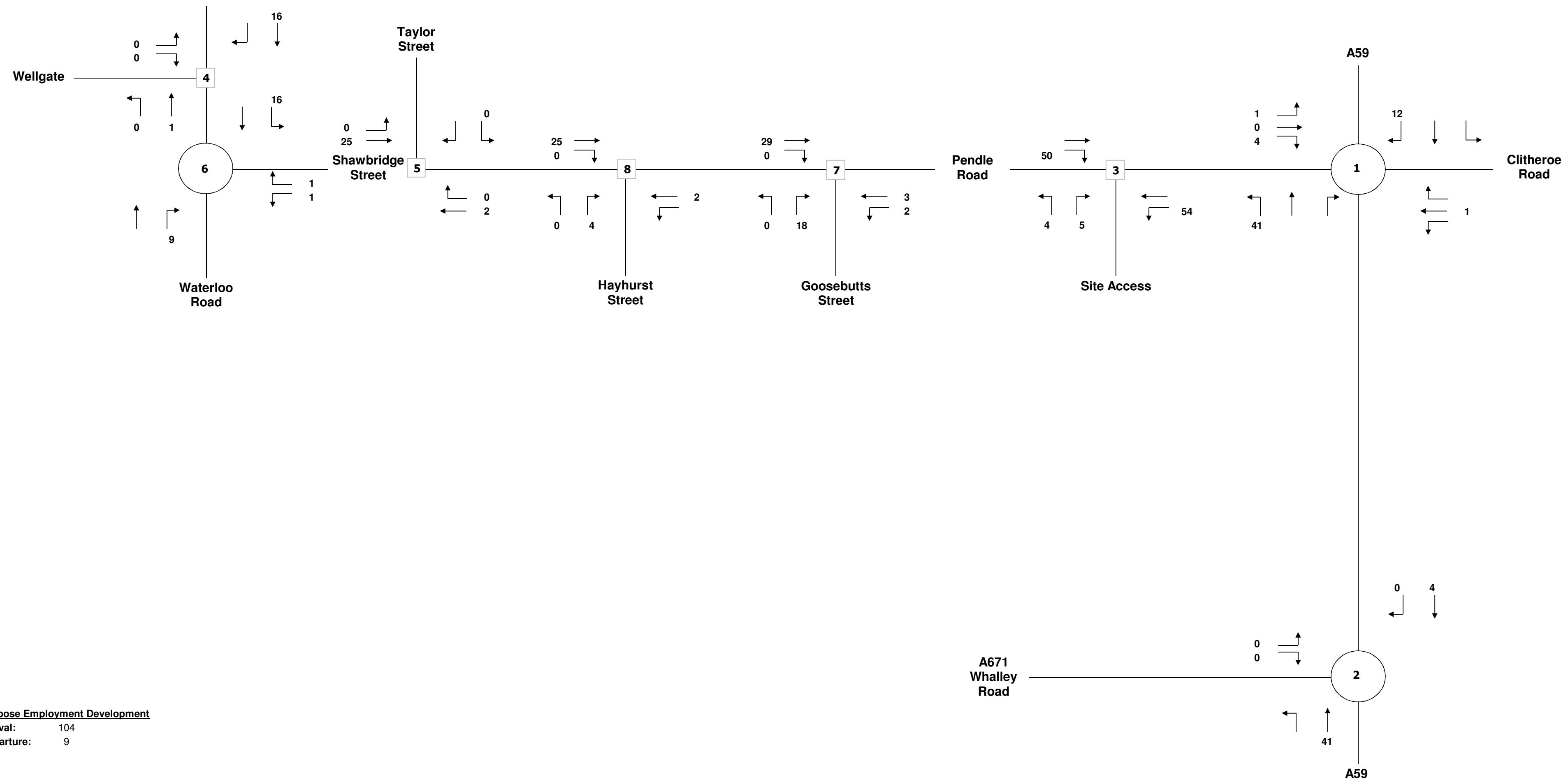


Propose Residential Development

Arrival:	383
Departure:	197

Q2 - Residential Trips
PM Peak Period (16:30 - 17:30)

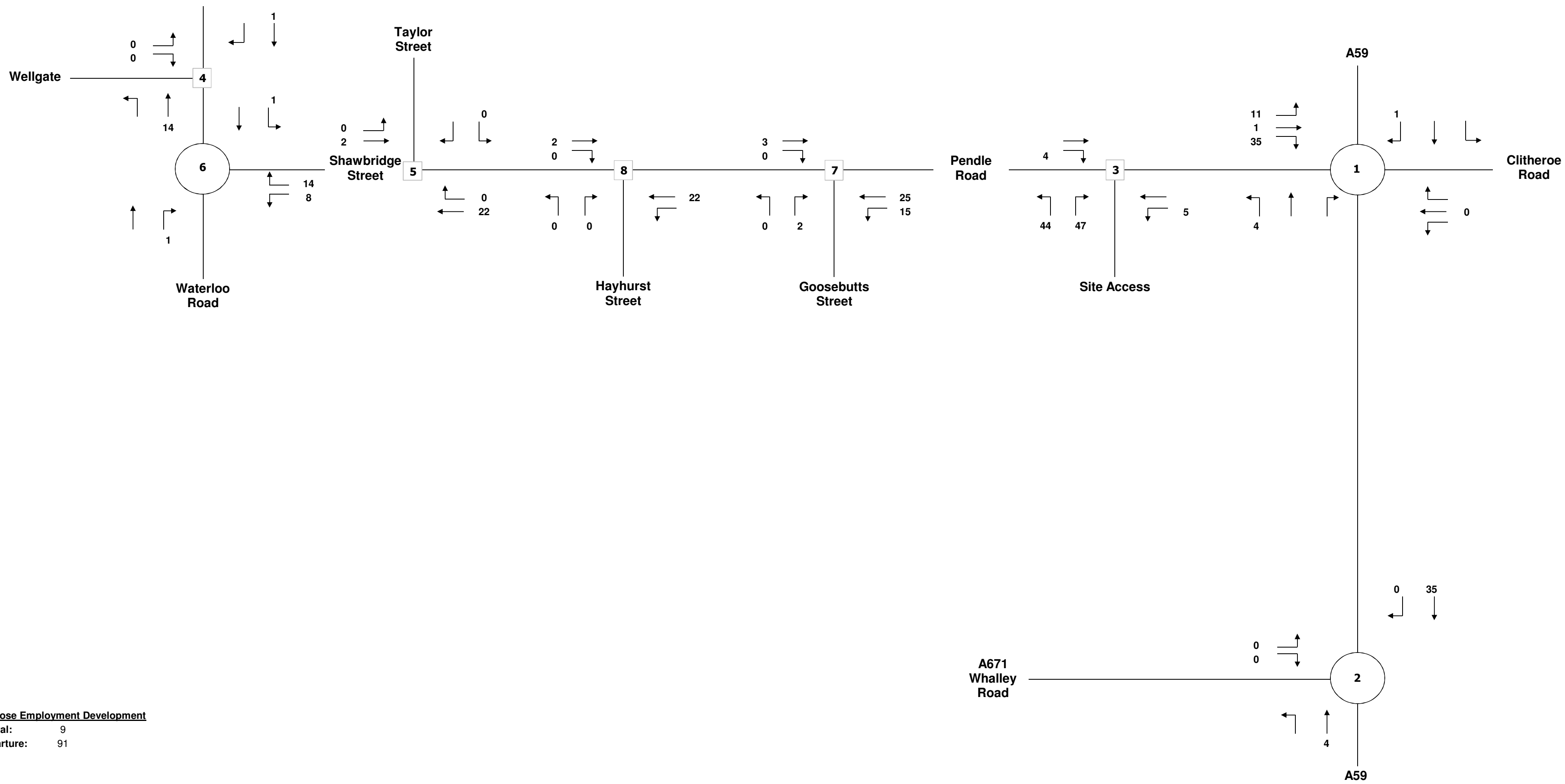
Quay West at MediaCityUK, Trafford Wharf Road, Trafford Park, Manchester, M17 1HH
Tel: +44 (0)161 835 2400 Fax: +44 (0)161 872 3193 Email: sba@sbax.co.uk www.sbax.co.uk



Propose Employment Development
Arrival: 104
Departure: 9

Q3 - Employment Trips
AM Peak Period (08:00 - 09:00)

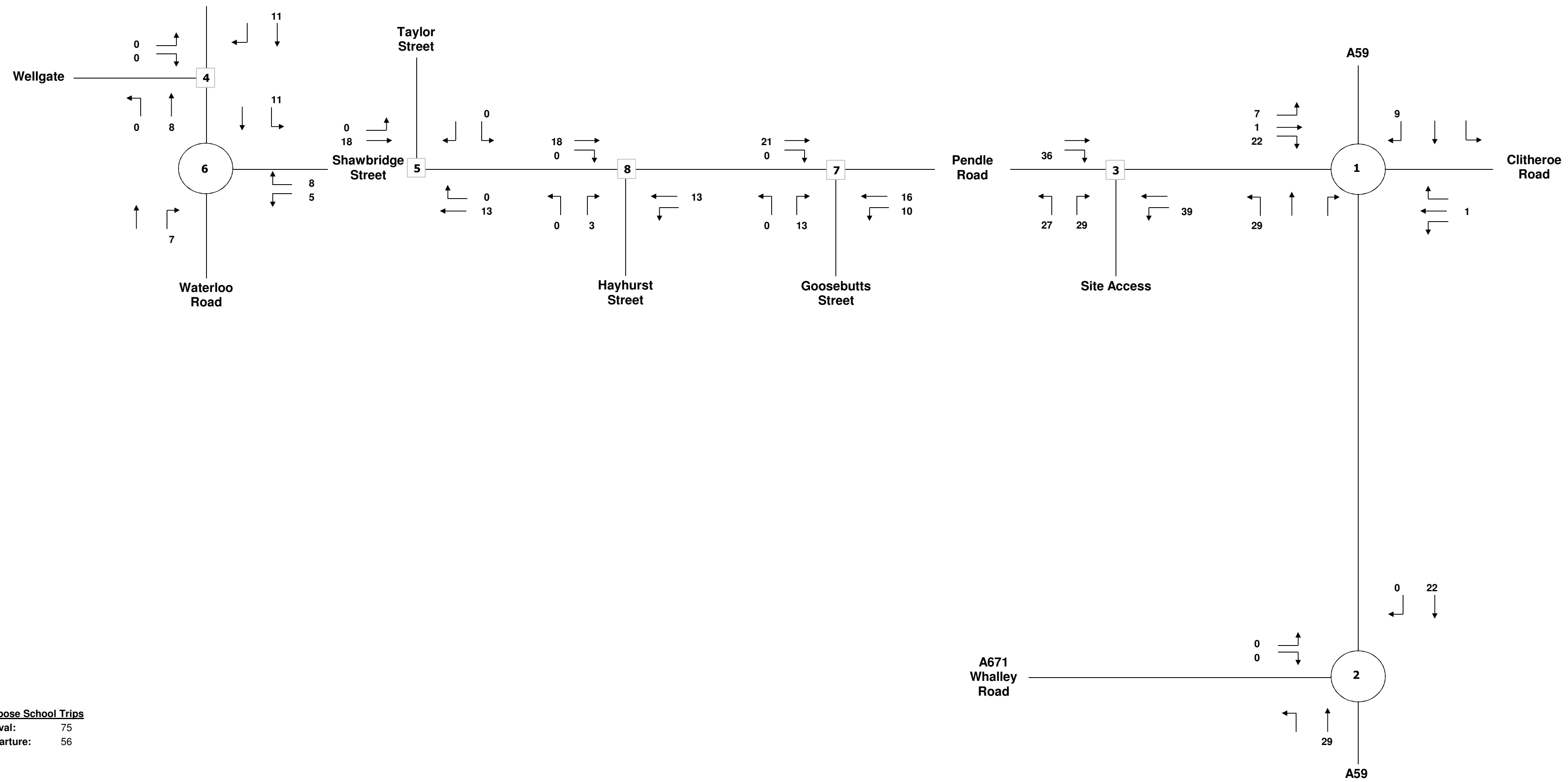
Quay West at MediaCityUK, Trafford Wharf Road, Trafford Park, Manchester, M17 1HH
Tel: +44 (0)161 835 2400 Fax: +44 (0)161 872 3193 Email: sba@sbax.co.uk www.sbax.co.uk



Propose Employment Development

Arrival:	9
Departure:	91

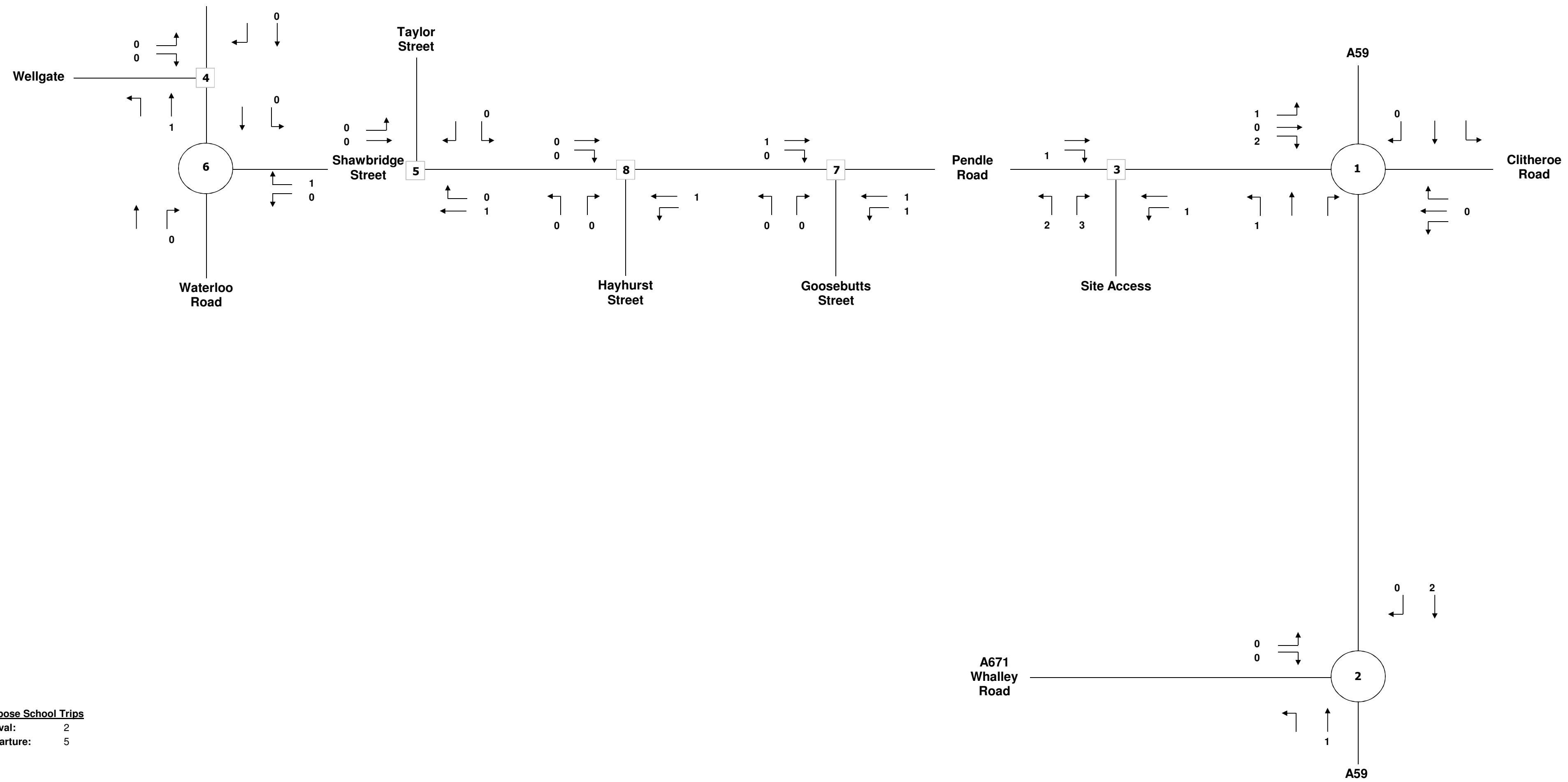
Q4 - Employment Trips
PM Peak Period (16:30 - 17:30)



Propose School Trips

Arrival:	75
Departure:	56

Q5 - School Trips
AM Peak Period (08:00 - 09:00)



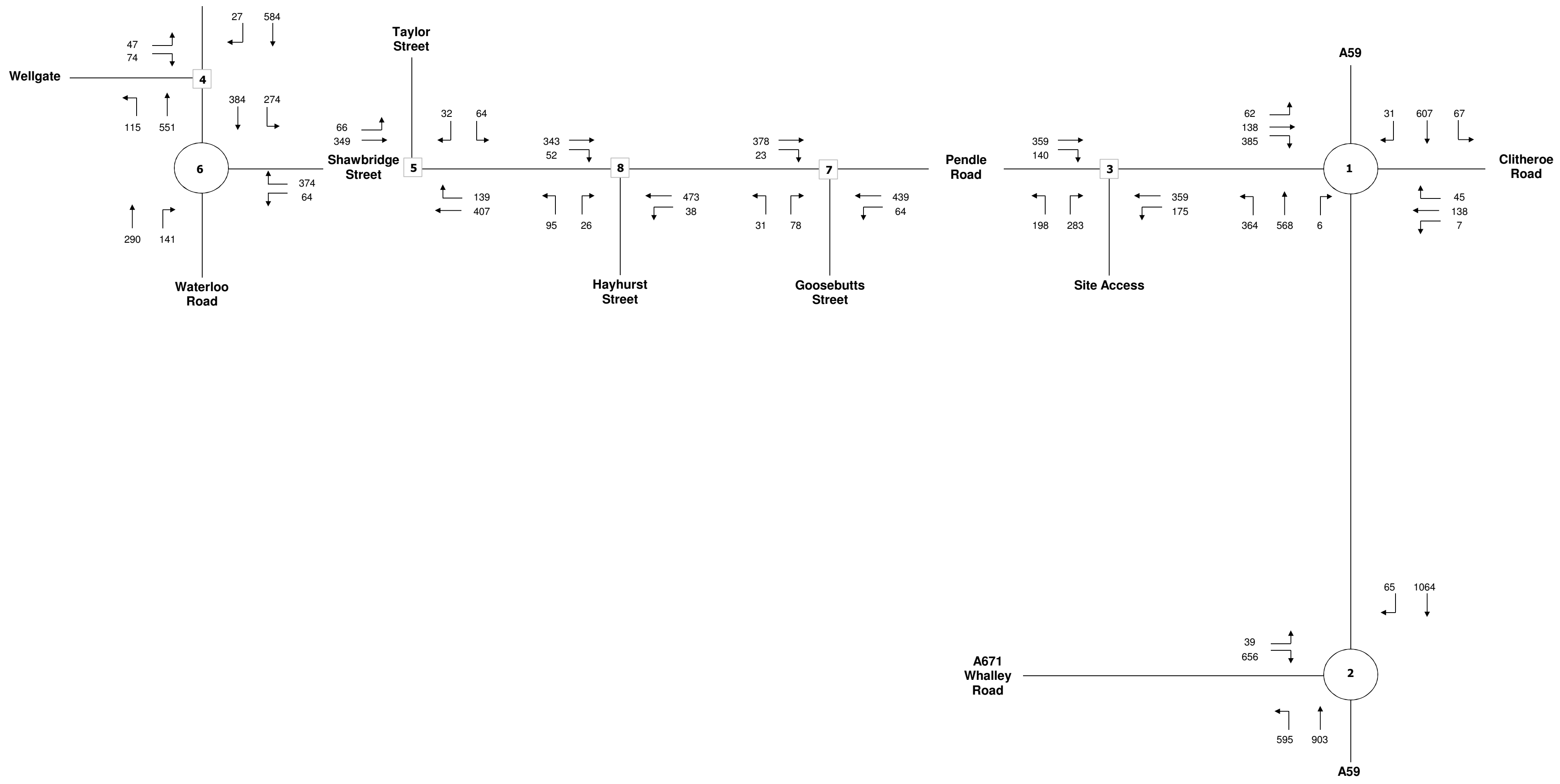
Propose School Trips

Arrival:	2
Departure:	5

Q6 - School Trips

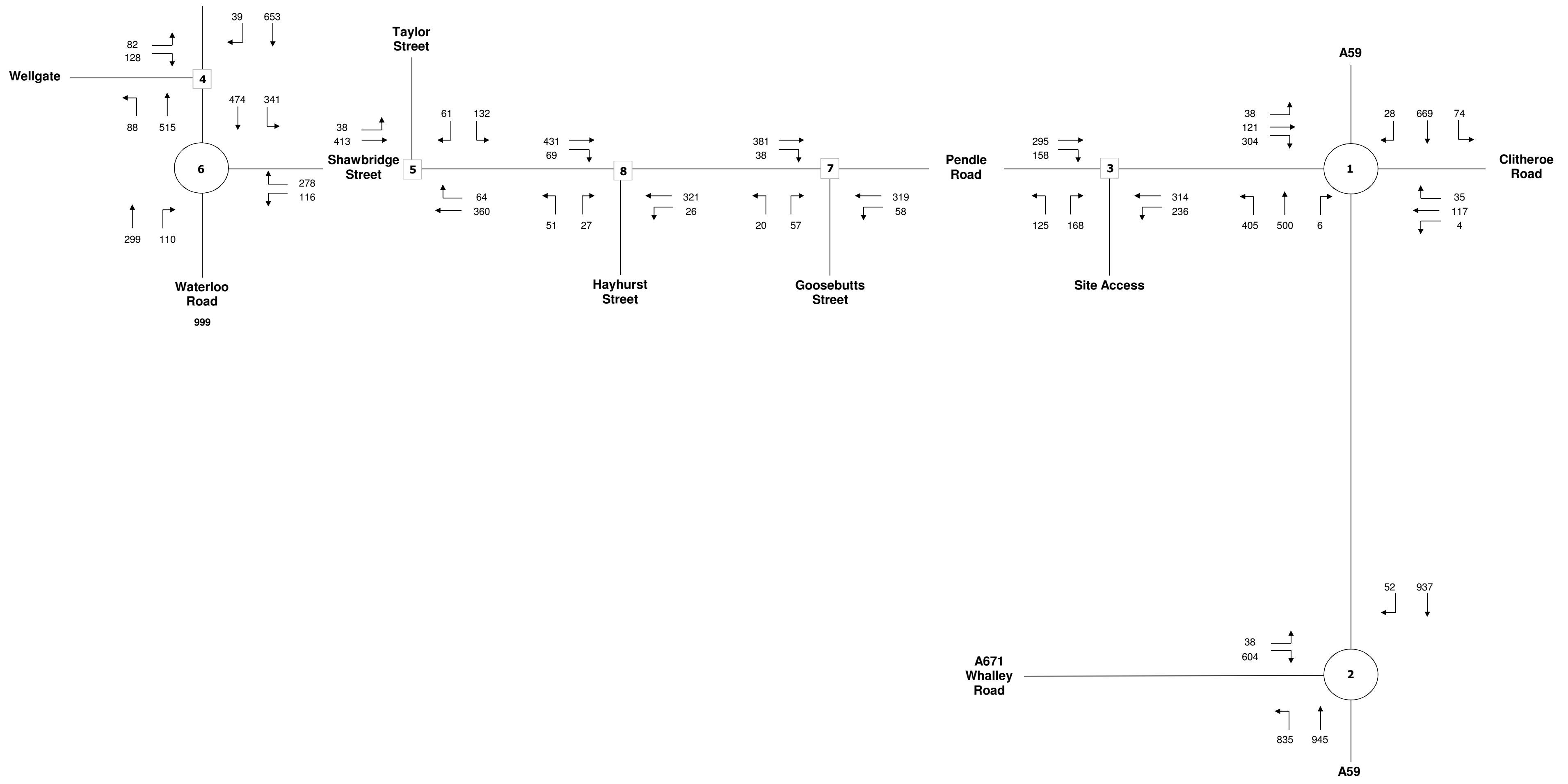
PM Peak Period (16:30 - 17:30)

Quay West at MediaCityUK, Trafford Wharf Road, Trafford Park, Manchester, M17 1HH
Tel: +44 (0)161 835 2400 Fax: +44 (0)161 872 3193 Email: sba@sbax.co.uk www.sbax.co.uk

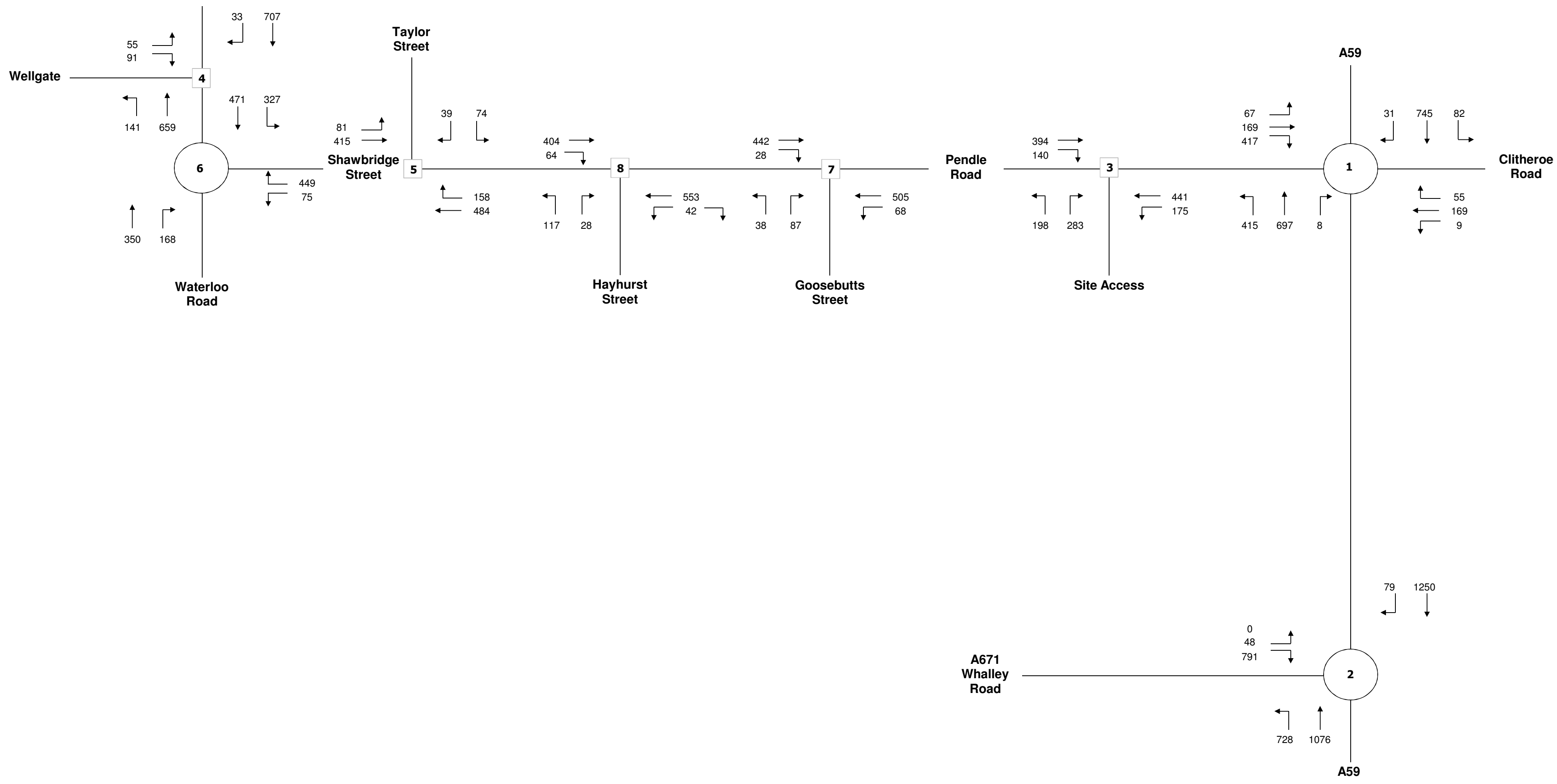


Q7 - 2015 Assessment Flows (Sentivity Test)
AM Peak Period (08:00 - 09:00)

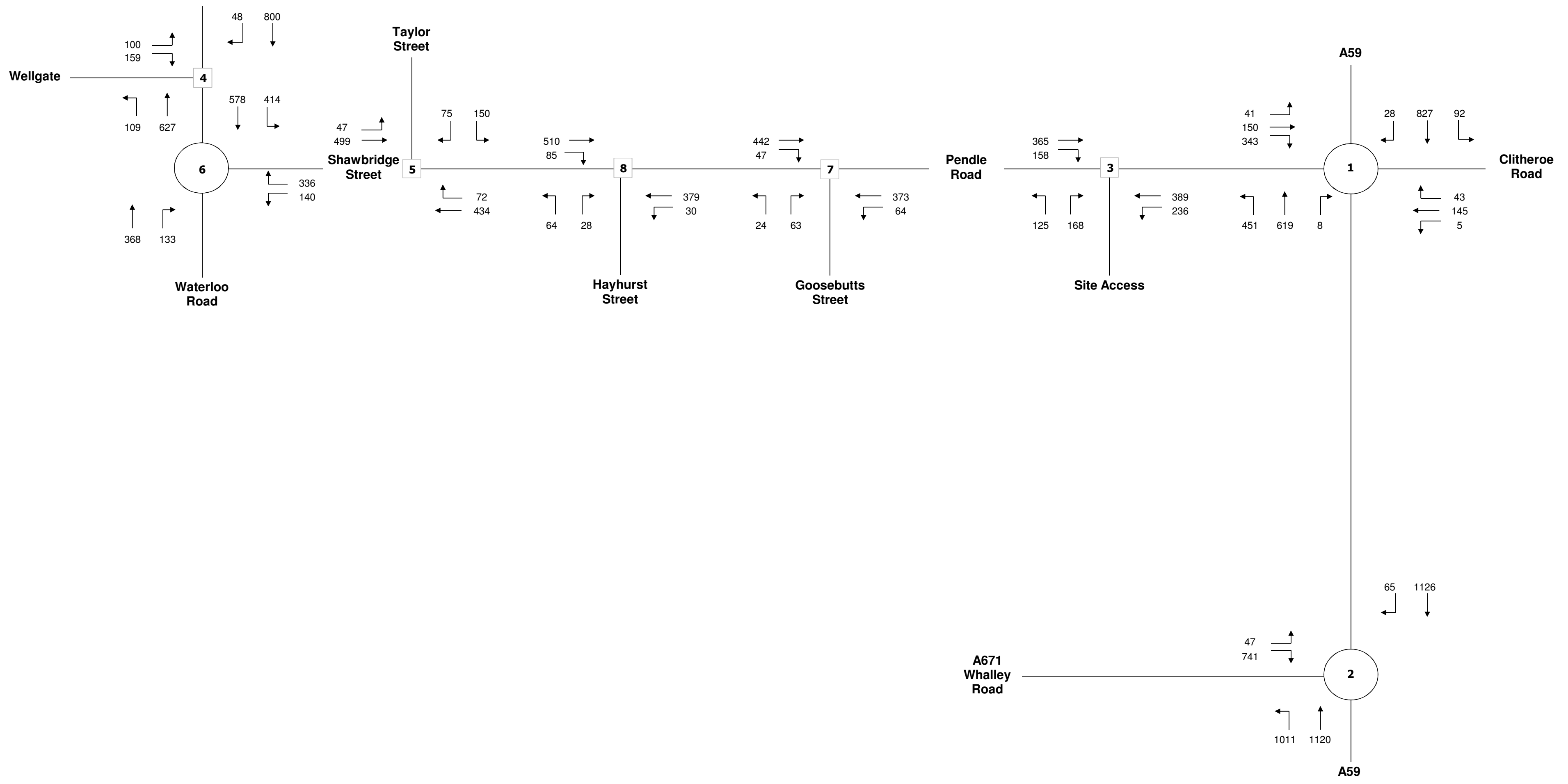
Quay West at MediaCityUK, Trafford Wharf Road, Trafford Park, Manchester, M17 1HH
Tel: +44 (0)161 835 2400 Fax: +44 (0)161 872 3193 Email: sba@sbax.co.uk www.sbax.co.uk



Q8 - 2015 Assessment Flows (Sentivity Test)
PM Peak Period (16:30 - 17:30)



Q9 - 2030 Assessment Flows (Sentivity Test)
AM Peak Period (08:00 - 09:00)



Q10 - 2030 Assessment Flows (Sentivity Test)
PM Peak Period (16:30 - 17:30)

ARCADY 7

Version: 7.0.0.99 [10 July 2009]

File: J:\2012\A077038 Standen Estates\Arcady\Waterloo Road_Shawbridge Street (Validate).arc7
Report generation date: 02/10/2012 10:55:15

A1 - Existing Layout - D11 - 2015 With Dev (Sent), AM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Description	Include In Report	Use Specific Demand Set	Demand Set	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
Existing Layout		Yes		(D1)		100.000	100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Locked	Run Automatically	Use Relationship	Relationship	Start Time (HH:mm)	Finish Time (HH:mm)	Time Period Length (min)	Time Segment Length (min)	Traffic Profile Type
2015 With Dev (Sent), AM	2015 With Dev (Sent)	AM			Yes			08:00	09:00	60	15	FLAT

Roundabout Network

Roundabout Type(s)

ID	Name	Arm Order	Roundabout Type	Grade Separated	Large Roundabout	Do Geometric Delay
1	(untitled)	1,2,3	Mini-roundabout			

Roundabout Network Options

Driving Side	Lighting	Road Surface	In London
Left	Normal/unknown	Normal/unknown	

Arms

Arms

ID	Name	Description
1	Waterloo Road NB	
2	Waterloo Road SB	
3	Shawbridge Street	

Capacity Options

Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)	Assume Flat Start Profile	Initial Queue (PCU)
Waterloo Road NB	0.00	99999.00		0.00
Waterloo Road SB	0.00	99999.00		0.00
Shawbridge Street	0.00	99999.00		0.00

Mini Roundabout Geometry

Arm	Approach road half-width (m)	Minimum approach road half-width (m)	Entry width (m)	Effective flare length (m)	Distance to next arm (m)	Entry corner kerb line distance (m)	Gradient over 50m (%)	Kerbed central island
Waterloo Road NB	3.00	3.00	3.00	0.00	19.35	18.50	0.00	
Waterloo Road SB	3.30	3.30	3.30	0.00	13.20	5.50	0.00	
Shawbridge Street	3.22	3.22	4.10	1.90	9.35	2.00	0.00	

Pedestrian Crossings

Arm	Crossing Type
Waterloo Road NB	Pelican
Waterloo Road SB	None
Shawbridge Street	None

Pelican/ Puffin Crossings

Arm	Amber time preceding red (s)	Amber time regarded as green (s)	Time from traffic red start to green man start (s)	Time period green man shown (s)	Clearance Period (s)	Traffic minimum green (s)	Space between crossing and junction entry (PCU)
Waterloo Road NB	3.00	2.90	1.00	6.00	6.00	7.00	1.00

Arm Slope/ Intercept and Capacity

Slope and Intercept used in model

Arm	Enter Directly	Slope	Intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
Waterloo Road NB		((calculated))	((calculated))	0.777	971.545
Waterloo Road SB		((calculated))	((calculated))	0.519	803.502
Shawbridge Street		((calculated))	((calculated))	0.533	654.276

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

Arm Capacity Adjustments

Arm	Type	Reason	Direct Capacity Adjustment (PCU/hr)	Percentage Capacity Adjustment (%)
Waterloo Road NB	Direct		-100.00	N/A
Waterloo Road SB	Direct		220.00	N/A
Shawbridge Street	Direct		75.00	N/A

Traffic Flows

Demand Set Data Options

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

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)	PHF
Waterloo Road NB	FLAT	Yes	431.00	100.000	1.00
Waterloo Road SB	FLAT	Yes	658.00	100.000	1.00
Shawbridge Street	FLAT	Yes	438.00	100.000	1.00

Pedestrian Flows

General Flows Data

Arm	Profile Type	Average Pedestrian Flow (Ped/hr)
Waterloo Road NB	FLAT	20.00
Waterloo Road SB	(FLAT)	(0.00)
Shawbridge Street	(FLAT)	(0.00)

Results

Results Summary

Arm	Max	Max	Max	Max	Total	Total	Total	Average	Rate Of	Inclusive	Inclusive	Slope	Intercept

	RFC	Delay (min)	Queue (PCU)	LOS	Demand (PCU/hr)	Arrivals (PCU)	Queueing Delay (PCU-min)	Queueing Delay (min)	Queueing Delay (PCU-min/min)	Queueing Total Delay (PCU-min)	Queueing Average Delay (min)		(PCU/hr)
Waterloo Road NB	0.75	0.42	2.91	C	431.00	431.00	160.17	0.37	2.67	160.61	0.37	0.777	971.545
Waterloo Road SB	0.69	0.21	2.23	B	658.00	658.00	128.51	0.20	2.14	128.66	0.20	0.519	803.502
Shawbridge Street	0.83	0.68	4.73	E	438.00	438.00	251.03	0.57	4.18	252.31	0.58	0.533	654.276

A1 - Existing Layout - D12 - 2015 With Dev (Sent), PM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Description	Include In Report	Use Specific Demand Set	Demand Set	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
Existing Layout		Yes		(D1)		100.000	100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Locked	Run Automatically	Use Relationship	Relationship	Start Time (HH:mm)	Finish Time (HH:mm)	Time Period Length (min)	Time Segment Length (min)	Traffic Profile Type
2015 With Dev (Sent), PM	2015 With Dev (Sent)	PM			Yes			16:30	17:30	60	15	FLAT

Roundabout Network

Roundabout Type(s)

ID	Name	Arm Order	Roundabout Type	Grade Separated	Large Roundabout	Do Geometric Delay
1	(untitled)	1,2,3	Mini-roundabout			

Roundabout Network Options

Driving Side	Lighting	Road Surface	In London
Left	Normal/unknown	Normal/unknown	

Arms

Arms

ID	Name	Description
1	Waterloo Road NB	
2	Waterloo Road SB	
3	Shawbridge Street	

Capacity Options

Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)	Assume Flat Start Profile	Initial Queue (PCU)
Waterloo Road NB	0.00	99999.00		0.00
Waterloo Road SB	0.00	99999.00		0.00
Shawbridge Street	0.00	99999.00		0.00

Mini Roundabout Geometry

Arm	Approach road half-width (m)	Minimum approach road half-width (m)	Entry width (m)	Effective flare length (m)	Distance to next arm (m)	Entry corner kerb line distance (m)	Gradient over 50m (%)	Kerbed central island
Waterloo Road NB	3.00	3.00	3.00	0.00	19.35	18.50	0.00	
Waterloo Road SB	3.30	3.30	3.30	0.00	13.20	5.50	0.00	
Shawbridge Street	3.22	3.22	4.10	1.90	9.35	2.00	0.00	

Pedestrian Crossings

Arm	Crossing Type
Waterloo Road NB	Pelican
Waterloo Road SB	None
Shawbridge Street	None

Pelican/ Puffin Crossings

Arm	Amber time preceding red (s)	Amber time regarded as green (s)	Time from traffic red start to green man start (s)	Time period green man shown (s)	Clearance Period (s)	Traffic minimum green (s)	Space between crossing and junction entry (PCU)
Waterloo Road NB	3.00	2.90	1.00	6.00	6.00	7.00	1.00

Arm Slope/ Intercept and Capacity

Slope and Intercept used in model

Arm	Enter Directly	Slope	Intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
Waterloo Road NB		((calculated))	((calculated))	0.777	971.545
Waterloo Road SB		((calculated))	((calculated))	0.519	803.502
Shawbridge Street		((calculated))	((calculated))	0.533	654.276

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

Arm Capacity Adjustments

Arm	Type	Reason	Direct Capacity Adjustment (PCU/hr)	Percentage Capacity Adjustment (%)
Waterloo Road NB	Direct		-100.00	N/A
Waterloo Road SB	Direct		220.00	N/A
Shawbridge Street	Direct		75.00	N/A

Traffic Flows

Demand Set Data Options

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

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)	PHF
Waterloo Road NB	FLAT	Yes	409.00	100.000	1.00
Waterloo Road SB	FLAT	Yes	815.00	100.000	1.00
Shawbridge Street	FLAT	Yes	394.00	100.000	1.00

Pedestrian Flows

General Flows Data

Arm	Profile Type	Average Pedestrian Flow (Ped/hr)
Waterloo Road NB	FLAT	20.00
Waterloo Road SB	(FLAT)	(0.00)
Shawbridge Street	(FLAT)	(0.00)

Results

Results Summary

Arm	Max RFC	Max Delay (min)	Max Queue (PCU)	Max LOS	Total Demand (PCU/hr)	Total Arrivals (PCU)	Total Queueing Delay (PCU-min)	Average Queueing Delay (min)	Rate Of Queueing Delay (PCU-min/min)	Inclusive Queueing Total Delay (PCU-min)	Inclusive Queueing Average Delay (min)	Slope	Intercept (PCU/hr)
Waterloo Road NB	0.63	0.25	1.70	C	409.00	409.00	97.79	0.24	1.63	97.93	0.24	0.777	971.545
Waterloo Road SB	0.84	0.39	5.17	C	815.00	815.00	284.12	0.35	4.74	284.95	0.35	0.519	803.502
Shawbridge Street	0.83	0.71	4.44	E	394.00	394.00	233.98	0.59	3.90	235.22	0.60	0.533	654.276

A1 - Existing Layout - D13 - 2030 With Dev (Sent), AM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Description	Include In Report	Use Specific Demand Set	Demand Set	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
Existing Layout		Yes		(D1)		100.000	100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Locked	Run Automatically	Use Relationship	Relationship	Start Time (HH:mm)	Finish Time (HH:mm)	Time Period Length (min)	Time Segment Length (min)	Traffic Profile Type
2030 With Dev (Sent), AM	2030 With Dev (Sent)	AM			Yes			08:00	09:00	60	15	FLAT

Roundabout Network

Roundabout Type(s)

ID	Name	Arm Order	Roundabout Type	Grade Separated	Large Roundabout	Do Geometric Delay
1	(untitled)	1,2,3	Mini-roundabout			

Roundabout Network Options

Driving Side	Lighting	Road Surface	In London
Left	Normal/unknown	Normal/unknown	

Arms

Arms

ID	Name	Description
1	Waterloo Road NB	
2	Waterloo Road SB	
3	Shawbridge Street	

Capacity Options

Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)	Assume Flat Start Profile	Initial Queue (PCU)
Waterloo Road NB	0.00	99999.00		0.00
Waterloo Road SB	0.00	99999.00		0.00
Shawbridge Street	0.00	99999.00		0.00

Mini Roundabout Geometry

Arm	Approach road half-width (m)	Minimum approach road half-width (m)	Entry width (m)	Effective flare length (m)	Distance to next arm (m)	Entry corner kerb line distance (m)	Gradient over 50m (%)	Kerbed central island
Waterloo Road NB	3.00	3.00	3.00	0.00	19.35	18.50	0.00	
Waterloo Road SB	3.30	3.30	3.30	0.00	13.20	5.50	0.00	
Shawbridge Street	3.22	3.22	4.10	1.90	9.35	2.00	0.00	

Pedestrian Crossings

Arm	Crossing Type
Waterloo Road NB	Pelican
Waterloo Road SB	None
Shawbridge Street	None

Pelican/ Puffin Crossings

Arm	Amber time preceding red (s)	Amber time regarded as green (s)	Time from traffic red start to green man start (s)	Time period green man shown (s)	Clearance Period (s)	Traffic minimum green (s)	Space between crossing and junction entry (PCU)
Waterloo Road NB	3.00	2.90	1.00	6.00	6.00	7.00	1.00

Arm Slope/ Intercept and Capacity

Slope and Intercept used in model

Arm	Enter Directly	Slope	Intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
Waterloo Road NB		((calculated))	((calculated))	0.777	971.545
Waterloo Road SB		((calculated))	((calculated))	0.519	803.502
Shawbridge Street		((calculated))	((calculated))	0.533	654.276

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

Arm Capacity Adjustments

Arm	Type	Reason	Direct Capacity Adjustment (PCU/hr)	Percentage Capacity Adjustment (%)
Waterloo Road NB	Direct		-100.00	N/A
Waterloo Road SB	Direct		220.00	N/A
Shawbridge Street	Direct		75.00	N/A

Traffic Flows

Demand Set Data Options

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

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)	PHF
Waterloo Road NB	FLAT	Yes	518.00	100.000	1.00
Waterloo Road SB	FLAT	Yes	798.00	100.000	1.00
Shawbridge Street	FLAT	Yes	524.00	100.000	1.00

Pedestrian Flows

General Flows Data

Arm	Profile Type	Average Pedestrian Flow (Ped/hr)
Waterloo Road NB	FLAT	20.00
Waterloo Road SB	(FLAT)	(0.00)
Shawbridge Street	(FLAT)	(0.00)

Results

Results Summary

Arm	Max RFC	Max Delay (min)	Max Queue (PCU)	Max LOS	Total Demand (PCU/hr)	Total Arrivals (PCU)	Total Queueing Delay (PCU-min)	Average Queueing Delay (min)	Rate Of Queueing Delay (PCU-min/min)	Inclusive Queueing Total Delay (PCU-min)	Inclusive Queueing Average Delay (min)	Slope	Intercept (PCU/hr)
Waterloo Road NB	0.94	1.43	11.61	F	518.00	518.00	516.71	1.00	8.61	524.07	1.01	0.777	971.545
Waterloo Road SB	0.85	0.43	5.47	D	798.00	798.00	296.65	0.37	4.94	297.60	0.37	0.519	803.502
Shawbridge Street	1.10	6.18	53.21	F	524.00	524.00	1736.71	3.31	28.95	1914.24	3.65	0.533	654.276

A1 - Existing Layout - D14 - 2030 With Dev (Sent), PM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Description	Include In Report	Use Specific Demand Set	Demand Set	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
Existing Layout		Yes		(D1)		100.000	100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Locked	Run Automatically	Use Relationship	Relationship	Start Time (HH:mm)	Finish Time (HH:mm)	Time Period Length (min)	Time Segment Length (min)	Traffic Profile Type
2030 With Dev (Sent), PM	2030 With Dev (Sent)	PM			Yes			16:30	17:30	60	15	FLAT

Roundabout Network

Roundabout Type(s)

ID	Name	Arm Order	Roundabout Type	Grade Separated	Large Roundabout	Do Geometric Delay
1	(untitled)	1,2,3	Mini-roundabout			

Roundabout Network Options

Driving Side	Lighting	Road Surface	In London
Left	Normal/unknown	Normal/unknown	

Arms

Arms

ID	Name	Description
1	Waterloo Road NB	
2	Waterloo Road SB	
3	Shawbridge Street	

Capacity Options

Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)	Assume Flat Start Profile	Initial Queue (PCU)
Waterloo Road NB	0.00	99999.00		0.00
Waterloo Road SB	0.00	99999.00		0.00
Shawbridge Street	0.00	99999.00		0.00

Mini Roundabout Geometry

Arm	Approach road half-width (m)	Minimum approach road half-width (m)	Entry width (m)	Effective flare length (m)	Distance to next arm (m)	Entry corner kerb line distance (m)	Gradient over 50m (%)	Kerbed central island
Waterloo Road NB	3.00	3.00	3.00	0.00	19.35	18.50	0.00	
Waterloo Road SB	3.30	3.30	3.30	0.00	13.20	5.50	0.00	
Shawbridge Street	3.22	3.22	4.10	1.90	9.35	2.00	0.00	

Pedestrian Crossings

Arm	Crossing Type
Waterloo Road NB	Pelican
Waterloo Road SB	None
Shawbridge Street	None

Pelican/ Puffin Crossings

Arm	Amber time preceding red (s)	Amber time regarded as green (s)	Time from traffic red start to green man start (s)	Time period green man shown (s)	Clearance Period (s)	Traffic minimum green (s)	Space between crossing and junction entry (PCU)
Waterloo Road NB	3.00	2.90	1.00	6.00	6.00	7.00	1.00

Arm Slope/ Intercept and Capacity

Slope and Intercept used in model

Arm	Enter Directly	Slope	Intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
Waterloo Road NB		((calculated))	((calculated))	0.777	971.545
Waterloo Road SB		((calculated))	((calculated))	0.519	803.502
Shawbridge Street		((calculated))	((calculated))	0.533	654.276

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

Arm Capacity Adjustments

Arm	Type	Reason	Direct Capacity Adjustment (PCU/hr)	Percentage Capacity Adjustment (%)
Waterloo Road NB	Direct		-100.00	N/A
Waterloo Road SB	Direct		220.00	N/A
Shawbridge Street	Direct		75.00	N/A

Traffic Flows

Demand Set Data Options

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

				HV Percentages	2.00				Yes	Yes

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)	PHF
Waterloo Road NB	FLAT	Yes	501.00	100.000	1.00
Waterloo Road SB	FLAT	Yes	992.00	100.000	1.00
Shawbridge Street	FLAT	Yes	476.00	100.000	1.00

Pedestrian Flows

General Flows Data

Arm	Profile Type	Average Pedestrian Flow (Ped/hr)
Waterloo Road NB	FLAT	20.00
Waterloo Road SB	(FLAT)	(0.00)
Shawbridge Street	(FLAT)	(0.00)

Results

Results Summary

Arm	Max RFC	Max Delay (min)	Max Queue (PCU)	Max LOS	Total Demand (PCU/hr)	Total Arrivals (PCU)	Total Queueing Delay (PCU-min)	Average Queueing Delay (min)	Rate Of Queueing Delay (PCU-min/min)	Inclusive Queueing Total Delay (PCU-min)	Inclusive Queueing Average Delay (min)	Slope	Intercept (PCU/hr)
Waterloo Road NB	0.80	0.48	3.85	D	501.00	501.00	208.98	0.42	3.48	209.69	0.42	0.777	971.545
Waterloo Road SB	1.04	3.26	54.43	F	992.00	992.00	1895.36	1.91	31.59	1988.49	2.00	0.519	803.502
Shawbridge Street	1.10	6.11	47.66	F	476.00	476.00	1541.70	3.24	25.70	1698.52	3.57	0.533	654.276

A3 - Proposed Layout v2 - D11 - 2015 With Dev (Sent), AM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Description	Include In Report	Use Specific Demand Set	Demand Set	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
Proposed Layout v2	Propose Road widening on Shawbridge Street and on Waterloo Road SB	Yes		(D1)		100.000	100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Locked	Run Automatically	Use Relationship	Relationship	Start Time (HH:mm)	Finish Time (HH:mm)	Time Period Length (min)	Time Segment Length (min)	Traffic Profile Type
2015 With Dev (Sent), AM	2015 With Dev (Sent)	AM			Yes			08:00	09:00	60	15	FLAT

Roundabout Network

Roundabout Type(s)

ID	Name	Arm Order	Roundabout Type	Grade Separated	Large Roundabout	Do Geometric Delay
1	(untitled)	1,2,3	Mini-roundabout			

Roundabout Network Options

Driving Side	Lighting	Road Surface	In London
Left	Normal/unknown	Normal/unknown	

Arms

Arms

ID	Name	Description
1	Waterloo Road NB	
2	Waterloo Road SB	
3	Shawbridge Street	

Capacity Options

Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)	Assume Flat Start Profile	Initial Queue (PCU)
Waterloo Road NB	0.00	99999.00		0.00
Waterloo Road SB	0.00	99999.00		0.00
Shawbridge Street	0.00	99999.00		0.00

Mini Roundabout Geometry

Arm	Approach road half-width (m)	Minimum approach road half-width (m)	Entry width (m)	Effective flare length (m)	Distance to next arm (m)	Entry corner kerb line distance (m)	Gradient over 50m (%)	Kerbed central island
Waterloo Road NB	3.00	3.00	3.00	0.00	19.35	18.50	0.00	
Waterloo Road SB	3.50	3.30	3.80	7.50	13.20	4.50	0.00	
Shawbridge Street	3.55	3.55	6.00	3.45	9.35	2.00	0.00	

Pedestrian Crossings

Arm	Crossing Type
Waterloo Road NB	Pelican
Waterloo Road SB	None
Shawbridge Street	None

Pelican/ Puffin Crossings

Arm	Amber time preceding red (s)	Amber time regarded as green (s)	Time from traffic red start to green man start (s)	Time period green man shown (s)	Clearance Period (s)	Traffic minimum green (s)	Space between crossing and junction entry (PCU)
Waterloo Road NB	3.00	2.90	1.00	6.00	6.00	7.00	0.00

Arm Slope/ Intercept and Capacity

Slope and Intercept used in model

Arm	Enter Directly	Slope	Intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
Waterloo Road NB		((calculated))	((calculated))	0.777	971.545
Waterloo Road SB		((calculated))	((calculated))	0.540	874.760
Shawbridge Street		((calculated))	((calculated))	0.569	781.461

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

Arm Capacity Adjustments

Arm	Type	Reason	Direct Capacity Adjustment (PCU/hr)	Percentage Capacity Adjustment (%)
Waterloo Road NB	Direct		-100.00	N/A
Waterloo Road SB	Direct		220.00	N/A
Shawbridge Street	None	N/A	N/A	N/A

Traffic Flows

Demand Set Data Options

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

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)	PHF
Waterloo Road NB	FLAT	Yes	431.00	100.000	1.00
Waterloo Road SB	FLAT	Yes	658.00	100.000	1.00
Shawbridge Street	FLAT	Yes	438.00	100.000	1.00

Pedestrian Flows

General Flows Data

Arm	Profile Type	Average Pedestrian Flow (Ped/hr)
Waterloo Road NB	FLAT	20.00
Waterloo Road SB	(FLAT)	(0.00)
Shawbridge Street	(FLAT)	(0.00)

Results

Results Summary

Arm	Max RFC	Max Delay (min)	Max Queue (PCU)	Max LOS	Total Demand (PCU/hr)	Total Arrivals (PCU)	Total Queueing Delay (PCU-min)	Average Queueing Delay (min)	Rate Of Queueing Delay (PCU-min/min)	Inclusive Queueing Total Delay (PCU-min)	Inclusive Queueing Average Delay (min)	Slope	Intercept (PCU/hr)
Waterloo Road NB	0.78	0.48	3.33	D	431.00	431.00	181.91	0.42	3.03	182.51	0.42	0.777	971.545
Waterloo Road SB	0.65	0.17	1.81	A	658.00	658.00	105.33	0.16	1.76	105.43	0.16	0.540	874.760
Shawbridge Street	0.78	0.48	3.38	D	438.00	438.00	186.49	0.43	3.11	187.10	0.43	0.569	781.461

A3 - Proposed Layout v2 - D12 - 2015 With Dev (Sent), PM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Description	Include In Report	Use Specific Demand Set	Demand Set	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
Proposed Layout v2	Propose Road widening on Shawbridge Street and on Waterloo Road SB	Yes		(D1)		100.000	100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Locked	Run Automatically	Use Relationship	Relationship	Start Time (HH:mm)	Finish Time (HH:mm)	Time Period Length (min)	Time Segment Length (min)	Traffic Profile Type
2015 With Dev (Sent), PM	2015 With Dev (Sent)	PM			Yes			16:30	17:30	60	15	FLAT

Roundabout Network

Roundabout Type(s)

ID	Name	Arm Order	Roundabout Type	Grade Separated	Large Roundabout	Do Geometric Delay
1	(untitled)	1,2,3	Mini-roundabout			

Roundabout Network Options

Driving Side	Lighting	Road Surface	In London
Left	Normal/unknown	Normal/unknown	

Arms

Arms

ID	Name	Description
1	Waterloo Road NB	
2	Waterloo Road SB	
3	Shawbridge Street	

Capacity Options

Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)	Assume Flat Start Profile	Initial Queue (PCU)
Waterloo Road NB	0.00	99999.00		0.00
Waterloo Road SB	0.00	99999.00		0.00
Shawbridge Street	0.00	99999.00		0.00

Mini Roundabout Geometry

Arm	Approach road half-width (m)	Minimum approach road half-width (m)	Entry width (m)	Effective flare length (m)	Distance to next arm (m)	Entry corner kerb line distance (m)	Gradient over 50m (%)	Kerbed central island
Waterloo Road NB	3.00	3.00	3.00	0.00	19.35	18.50	0.00	
Waterloo Road SB	3.50	3.30	3.80	7.50	13.20	4.50	0.00	
Shawbridge Street	3.55	3.55	6.00	3.45	9.35	2.00	0.00	

Pedestrian Crossings

Arm	Crossing Type
Waterloo Road NB	Pelican
Waterloo Road SB	None
Shawbridge Street	None

Pelican/ Puffin Crossings

Arm	Amber time preceding red (s)	Amber time regarded as green (s)	Time from traffic red start to green man start (s)	Time period green man shown (s)	Clearance Period (s)	Traffic minimum green (s)	Space between crossing and junction entry (PCU)
Waterloo Road NB	3.00	2.90	1.00	6.00	6.00	7.00	0.00

Arm Slope/ Intercept and Capacity

Slope and Intercept used in model

Arm	Enter Directly	Slope	Intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
Waterloo Road NB		((calculated))	((calculated))	0.777	971.545
Waterloo Road SB		((calculated))	((calculated))	0.540	874.760
Shawbridge Street		((calculated))	((calculated))	0.569	781.461

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

Arm Capacity Adjustments

Arm	Type	Reason	Direct Capacity Adjustment (PCU/hr)	Percentage Capacity Adjustment (%)
Waterloo Road NB	Direct		-100.00	N/A
Waterloo Road SB	Direct		220.00	N/A
Shawbridge Street	None	N/A	N/A	N/A

Traffic Flows

Demand Set Data Options

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

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)	PHF
Waterloo Road NB	FLAT	Yes	409.00	100.000	1.00
Waterloo Road SB	FLAT	Yes	815.00	100.000	1.00
Shawbridge Street	FLAT	Yes	394.00	100.000	1.00

Pedestrian Flows

General Flows Data

Arm	Profile Type	Average Pedestrian Flow (Ped/hr)
Waterloo Road NB	FLAT	20.00
Waterloo Road SB	(FLAT)	(0.00)
Shawbridge Street	(FLAT)	(0.00)

Results

Results Summary

Arm	Max	Max	Max	Max	Total	Total	Total	Average	Rate Of	Inclusive	Inclusive	Slope	Intercept

	RFC	Delay (min)	Queue (PCU)	LOS	Demand (PCU/hr)	Arrivals (PCU)	Queueing Delay (PCU-min)	Queueing Delay (min)	Queueing Delay (PCU-min/min)	Queueing Total Delay (PCU-min)	Queueing Average Delay (min)		(PCU/hr)
Waterloo Road NB	0.65	0.27	1.85	C	409.00	409.00	105.45	0.26	1.76	105.62	0.26	0.777	971.545
Waterloo Road SB	0.79	0.27	3.62	C	815.00	815.00	205.04	0.25	3.42	205.42	0.25	0.540	874.760
Shawbridge Street	0.77	0.51	3.22	D	394.00	394.00	176.57	0.45	2.94	177.18	0.45	0.569	781.461

A3 - Proposed Layout v2 - D13 - 2030 With Dev (Sent), AM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Description	Include In Report	Use Specific Demand Set	Demand Set	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
Proposed Layout v2	Propose Road widening on Shawbridge Street and on Waterloo Road SB	Yes		(D1)		100.000	100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Locked	Run Automatically	Use Relationship	Relationship	Start Time (HH:mm)	Finish Time (HH:mm)	Time Period Length (min)	Time Segment Length (min)	Traffic Profile Type
2030 With Dev (Sent), AM	2030 With Dev (Sent)	AM			Yes			08:00	09:00	60	15	FLAT

Roundabout Network

Roundabout Type(s)

ID	Name	Arm Order	Roundabout Type	Grade Separated	Large Roundabout	Do Geometric Delay
1	(untitled)	1,2,3	Mini-roundabout			

Roundabout Network Options

Driving Side	Lighting	Road Surface	In London
Left	Normal/unknown	Normal/unknown	

Arms

Arms

ID	Name	Description
1	Waterloo Road NB	
2	Waterloo Road SB	
3	Shawbridge Street	

Capacity Options

Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)	Assume Flat Start Profile	Initial Queue (PCU)
Waterloo Road NB	0.00	99999.00		0.00
Waterloo Road SB	0.00	99999.00		0.00
Shawbridge Street	0.00	99999.00		0.00

Mini Roundabout Geometry

Arm	Approach road half-width (m)	Minimum approach road half-width (m)	Entry width (m)	Effective flare length (m)	Distance to next arm (m)	Entry corner kerb line distance (m)	Gradient over 50m (%)	Kerbed central island
Waterloo Road NB	3.00	3.00	3.00	0.00	19.35	18.50	0.00	
Waterloo Road SB	3.50	3.30	3.80	7.50	13.20	4.50	0.00	
Shawbridge Street	3.55	3.55	6.00	3.45	9.35	2.00	0.00	

Pedestrian Crossings

Arm	Crossing Type
Waterloo Road NB	Pelican
Waterloo Road SB	None
Shawbridge Street	None

Pelican/ Puffin Crossings

Arm	Amber time preceding red (s)	Amber time regarded as green (s)	Time from traffic red start to green man start (s)	Time period green man shown (s)	Clearance Period (s)	Traffic minimum green (s)	Space between crossing and junction entry (PCU)
Waterloo Road NB	3.00	2.90	1.00	6.00	6.00	7.00	0.00

Arm Slope/ Intercept and Capacity

Slope and Intercept used in model

Arm	Enter Directly	Slope	Intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
Waterloo Road NB		((calculated))	((calculated))	0.777	971.545
Waterloo Road SB		((calculated))	((calculated))	0.540	874.760
Shawbridge Street		((calculated))	((calculated))	0.569	781.461

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

Arm Capacity Adjustments

Arm	Type	Reason	Direct Capacity Adjustment (PCU/hr)	Percentage Capacity Adjustment (%)
Waterloo Road NB	Direct		-100.00	N/A
Waterloo Road SB	Direct		220.00	N/A
Shawbridge Street	None	N/A	N/A	N/A

Traffic Flows

Demand Set Data Options

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

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)	PHF
Waterloo Road NB	FLAT	Yes	518.00	100.000	1.00
Waterloo Road SB	FLAT	Yes	798.00	100.000	1.00
Shawbridge Street	FLAT	Yes	524.00	100.000	1.00

Pedestrian Flows

General Flows Data

Arm	Profile Type	Average Pedestrian Flow (Ped/hr)
Waterloo Road NB	FLAT	20.00
Waterloo Road SB	(FLAT)	(0.00)
Shawbridge Street	(FLAT)	(0.00)

Results

Results Summary

Arm	Max RFC	Max Delay (min)	Max Queue (PCU)	Max LOS	Total Demand (PCU/hr)	Total Arrivals (PCU)	Total Queueing Delay (PCU-min)	Average Queueing Delay (min)	Rate Of Queueing Delay (PCU-min/min)	Inclusive Queueing Total Delay (PCU-min)	Inclusive Queueing Average Delay (min)	Slope	Intercept (PCU/hr)
Waterloo Road NB	1.01	2.85	24.00	F	518.00	518.00	877.94	1.69	14.63	911.76	1.76	0.777	971.545
Waterloo Road SB	0.79	0.29	3.73	C	798.00	798.00	209.45	0.26	3.49	209.87	0.26	0.540	874.760
Shawbridge Street	1.02	3.24	27.73	F	524.00	524.00	1027.92	1.96	17.13	1072.83	2.05	0.569	781.461

A3 - Proposed Layout v2 - D14 - 2030 With Dev (Sent), PM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Description	Include In Report	Use Specific Demand Set	Demand Set	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
Proposed Layout v2	Propose Road widening on Shawbridge Street and on Waterloo Road SB	Yes		(D1)		100.000	100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Locked	Run Automatically	Use Relationship	Relationship	Start Time (HH:mm)	Finish Time (HH:mm)	Time Period Length (min)	Time Segment Length (min)	Traffic Profile Type
2030 With Dev (Sent), PM	2030 With Dev (Sent)	PM			Yes			16:30	17:30	60	15	FLAT

Roundabout Network

Roundabout Type(s)

ID	Name	Arm Order	Roundabout Type	Grade Separated	Large Roundabout	Do Geometric Delay
1	(untitled)	1,2,3	Mini-roundabout			

Roundabout Network Options

Driving Side	Lighting	Road Surface	In London
Left	Normal/unknown	Normal/unknown	

Arms

Arms

ID	Name	Description
1	Waterloo Road NB	
2	Waterloo Road SB	
3	Shawbridge Street	

Capacity Options

Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)	Assume Flat Start Profile	Initial Queue (PCU)
Waterloo Road NB	0.00	99999.00		0.00
Waterloo Road SB	0.00	99999.00		0.00
Shawbridge Street	0.00	99999.00		0.00

Mini Roundabout Geometry

Arm	Approach road half-width (m)	Minimum approach road half-width (m)	Entry width (m)	Effective flare length (m)	Distance to next arm (m)	Entry corner kerb line distance (m)	Gradient over 50m (%)	Kerbed central island
Waterloo Road NB	3.00	3.00	3.00	0.00	19.35	18.50	0.00	
Waterloo Road SB	3.50	3.30	3.80	7.50	13.20	4.50	0.00	
Shawbridge Street	3.55	3.55	6.00	3.45	9.35	2.00	0.00	

Pedestrian Crossings

Arm	Crossing Type
Waterloo Road NB	Pelican
Waterloo Road SB	None
Shawbridge Street	None

Pelican/ Puffin Crossings

Arm	Amber time preceding red (s)	Amber time regarded as green (s)	Time from traffic red start to green man start (s)	Time period green man shown (s)	Clearance Period (s)	Traffic minimum green (s)	Space between crossing and junction entry (PCU)
Waterloo Road NB	3.00	2.90	1.00	6.00	6.00	7.00	0.00

Arm Slope/ Intercept and Capacity

Slope and Intercept used in model

Arm	Enter Directly	Slope	Intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
Waterloo Road NB		((calculated))	((calculated))	0.777	971.545
Waterloo Road SB		((calculated))	((calculated))	0.540	874.760
Shawbridge Street		((calculated))	((calculated))	0.569	781.461

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

Arm Capacity Adjustments

Arm	Type	Reason	Direct Capacity Adjustment (PCU/hr)	Percentage Capacity Adjustment (%)
Waterloo Road NB	Direct		-100.00	N/A
Waterloo Road SB	Direct		220.00	N/A
Shawbridge Street	None	N/A	N/A	N/A

Traffic Flows

Demand Set Data Options

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

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)	PHF
Waterloo Road NB	FLAT	Yes	501.00	100.000	1.00
Waterloo Road SB	FLAT	Yes	992.00	100.000	1.00
Shawbridge Street	FLAT	Yes	476.00	100.000	1.00

Pedestrian Flows

General Flows Data

Arm	Profile Type	Average Pedestrian Flow (Ped/hr)
Waterloo Road NB	FLAT	20.00
Waterloo Road SB	(FLAT)	(0.00)
Shawbridge Street	(FLAT)	(0.00)

Results

Results Summary

Arm	Max RFC	Max Delay (min)	Max Queue (PCU)	Max LOS	Total Demand (PCU/hr)	Total Arrivals (PCU)	Total Queueing Delay (PCU-min)	Average Queueing Delay (min)	Rate Of Queueing Delay (PCU-min/min)	Inclusive Queueing Total Delay (PCU-min)	Inclusive Queueing Average Delay (min)	Slope	Intercept (PCU/hr)
Waterloo Road NB	0.84	0.61	4.84	E	501.00	501.00	253.94	0.51	4.23	255.12	0.51	0.777	971.545
Waterloo Road SB	0.97	1.22	19.24	F	992.00	992.00	855.02	0.86	14.25	865.88	0.87	0.540	874.760
Shawbridge Street	1.05	4.12	32.25	F	476.00	476.00	1110.17	2.33	18.50	1178.78	2.48	0.569	781.461