URS

High Peak Local Plan Transport Study

Draft (Issue 2)

April 2014

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Prepared for:
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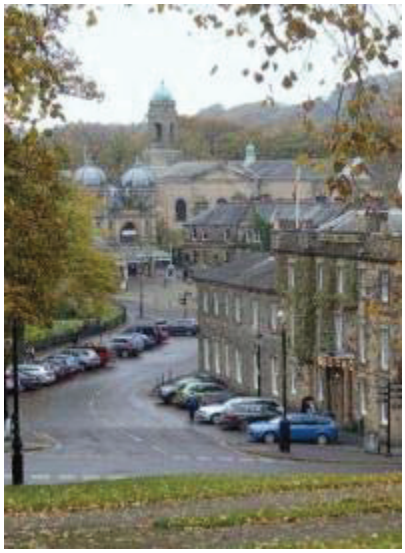
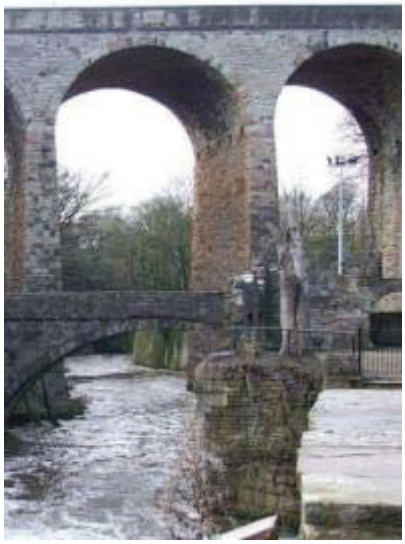
UNITED KINGDOM & IRELAND





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REVISION SCHEDULE					
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TRANSPORT STUDY
April 2014

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1 INTRODUCTION

1.1 Background

1.1.1 Derbyshire County Council (DCC) is assisting High Peak Borough Council (HPBC) with the preparation of their new Local Plan, which will shape the future development of the Borough outside of the Peak District National Park up to the year 2031.

1.1.2 A consultation on the Local Plan's Preferred Options was held during February to April 2013. A pre-submission consultation is scheduled for March 2014 following the completion of various assessments, including the viability of the Local Plan and proposed sites and this proposed commission.

1.1.3 The Preferred Options document builds on work undertaken as part of the preparation of the Derbyshire Dales and High Peak Joint Core Strategy which has now ceased, including the Strategic Transport Issues report (Stage 1) and draft Traffic Impacts of Proposed Development report (Stage 2). However, the Local Plan now proposed differs from the Core Strategy previously assessed as it identifies specific development sites and proposes an amended distribution and scale of development across High Peak[1]. It also includes further changes proposed by the Local Plan consultation which took place between December 2013 and February 2014.

1.1.4 In the Parish of Chapel-en-le-Frith, a Neighbourhood Plan has also been prepared. In this area, the Neighbourhood Plan takes on the responsibility of allocating sites for development, in accordance with the strategic guidance provided by the Local Plan. A consultation on a draft of the plan was published in December 2013.

1.1.5 In addition, the Borough Council has commissioned a study to assess the scope for the implementation of a Community Infrastructure Levy (CIL) in terms of the viability of development and the need for a charge to support infrastructure provision. The study concluded that a levy could raise approximately £16.6m by the year 2028 (£1.2m annually). The mitigation measures identified by this study will inform the Council's Infrastructure Delivery Plan and any subsequent Community Infrastructure Levy list.

1.2 Purpose of this Study

1.2.1 The study builds upon the two Transport Papers previously prepared in support of the Local Plans evidence base and has two key purposes:

a) Identify the cumulative transport impact of development proposals in the Local Plan and Chapel-en-le-Frith Neighbourhood Plan.

b) Recommend an appropriate mitigation strategy for High Peak taking into account the likely deliverability of identified measures and sources of funding.

1.2.2 The study consists of three parts:

Baseline and Proposed Development: Identify the likely regions of impact. This requires an identification of the existing conditions on the transport network and an understanding of the transport patterns associated with the development sites to be included in the Local Plan and Chapel-en-le-Frith Local Plan.

Transport Impacts: Identify the cumulative transport impacts of the development proposals in the Local Plan and Chapel-en-le-Frith Local Plan.

[1] The Local Plan Preferred Option document, including details of development sites, can be viewed online: http://www.highpeak.gov.uk/hp/council-services/the-high-peak-local-plan/local-plan-preferred-options-2013

Mitigation Strategy: Recommend an appropriate mitigation strategy for High Peak taking into account the likely deliverability of identified measures and sources of funding.

1.3 The National Planning Policy Framework (2012)

1.3.1 The National Planning Policy Framework (NPPF) sets out the Government's planning policies for England and provides a framework to develop localised planning strategies. The document identifies three key components which the planning system has to balance:

- an economic role – contributing to building a strong, responsive and competitive economy, by ensuring that sufficient land of the right type is available in the right places and at the right time to support growth and innovation; and by identifying and coordinating development requirements, including the provision of infrastructure;
- a social role – supporting strong, vibrant and healthy communities, by providing the supply of housing required to meet the needs of present and future generations; and by creating a high quality built environment, with accessible local services that reflect the community's needs and support its health, social and cultural well-being; and
- an environmental role – contributing to protecting and enhancing our natural, built and historic environment; and, as part of this, helping to improve biodiversity, use natural resources prudently, minimise waste and pollution, and mitigate and adapt to climate change including moving to a low carbon economy.

1.3.2 With regard to transport, the document focuses on, and emphasises, the promotion of sustainable transport. NPPF states that plans and decisions should take account of whether:

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

1.3.3 NPPF also notes that plans should protect and exploit opportunities for the use of sustainable transport modes for the movement of goods or people. Therefore, developments should be located and designed where practical to:

- accommodate the efficient delivery of goods and supplies;
- give priority to pedestrian and cycle movements, and have access to high quality public transport facilities;

1.3.4 Also, according to NPPF:

> "A key tool to facilitate this will be a Travel Plan. All developments which generate significant amounts of movement should be required to provide a Travel Plan."

1.4 High Peak in a Transportation Context

1.4.1 The Borough of High Peak sits between two important national corridors; the M1 and M6. However, key issues within the study area are the congestion along the length of the A6 route, the trans-Pennine routes and routes into Manchester. There is limited route choice for those wishing to travel through High Peak owing to the rural nature of the settlements which has resulted in a radial highway and associated public transport network.

1.4.2 Within the above context, there are two additional principle types of stresses that the Derbyshire highway network must respond to within the Borough. These are;

- Seasonal fluctuations in traffic (e.g. related to tourism),
- Seasonal (and non-predictable) changes to the road network supply (e.g. closures due to snow and ice),

1.4.3 In terms of trip movements, the main draw from the High Peak area is likely to be towards Manchester. The A6 (Derwent River Valley) corridor provides a competing bus and train route to the private car.

1.4.4 However, Manchester-facing development would minimise town centre disruption though there are likely to remain localised corridor congestion spots that would be worsened with the addition of development traffic. As such, highway mitigation schemes are likely to be required.

1.4.5 The A6 forms the main route along which many settlements have historically formed, including Cromford, Matlock, Darley Dale, Bakewell, Buxton and Chapel-en-le-Frith. To the north of the High Peak area, the A57 provides connectivity to Sheffield, with the A628 (T) also providing connection to South Yorkshire and Manchester for the Glossop area.

1.4.6 Overall, there is limited route choice for those wishing to travel through the districts of High Peak and Derbyshire Dales owing to the rural nature of the settlements which has resulted in radial highway and associated public transport network. Tourist-related traffic is the primary cause of seasonal fluctuations in traffic throughout the High Peak and Derbyshire Dales area. It is noted that the Peak District is commonly referred to as being among the busiest National Parks. Examination of permanent traffic counters in the vicinity of Matlock has shown increases in traffic during the August period of between 9% and 19% over other “neutral” months. A recent study of Ashbourne identified summer season traffic as being 12% higher than a neutral month.

1.4.7 During inclement weather particularly, in winter, snowfall can disrupt traffic movements in the Borough including routes that cross the Peak District National Park. For instance, in the snow storms of early 2010, the A57 (Snake Pass), A6024 (Holme Moss), A537 (Cat and Fiddle) and A628 (Woodhead Pass) were closed for some days due to snow.

1.5 Travel to Work Patterns

1.5.1 A report of the Peak Sub-Region Employment Land Review undertaken by Nathaniel Lichfield and Partners (NLP) was commissioned by a steering group comprising of Derbyshire County Council and the local authorities of Derbyshire Dales and High Peak, as well as the Peak District National Park Authority.

1.5.2 That report identifies that 65% of all residents in employment in Derbyshire Dales live and work within the District, which is higher than in High Peak (60%). Both local authorities have a net daily outflow of workers. However, this is far greater in High Peak, where there are 43,751 residents in employment but just 26,214 jobs available within the Borough (Derbyshire County Council Research and Intelligence Unit).

Table 1-1: High Peak Borough Travel to Work Movements

Origin – Destination	Employees	High Peak %
From Greater Manchester To High Peak	3,080	6.45%
From High Peak To Greater Manchester	12,576	26.35%
From Former Macclesfield Borough To High Peak	516	1.08%
From High Peak To Former Macclesfield Borough	1,580	3.31%
From Staffordshire Moorlands To High Peak	246	0.52%
From High Peak To Staffordshire Moorlands	144	0.30%
From Derbyshire Dales To High Peak	1,336	2.80%
From High Peak To Derbyshire Dales	581	1.22%
From Chesterfield To High Peak	156	0.33%
From High Peak To Chesterfield	216	0.45%
From South Yorkshire To High Peak	298	0.62%
From High Peak To South Yorkshire	781	1.64%
Net Outflow (two-way)	21,510	45.07%
Within High Peak Itself	26,214	54.93%
Total	47,724	100.00%

Source: Derbyshire County Council Research and Intelligence Unit

1.5.3 The Office for National Statistics (ONS) released travel to work by mode data (March 2014) that is derived from the 2011 National Census. The information for the High Peak district is:

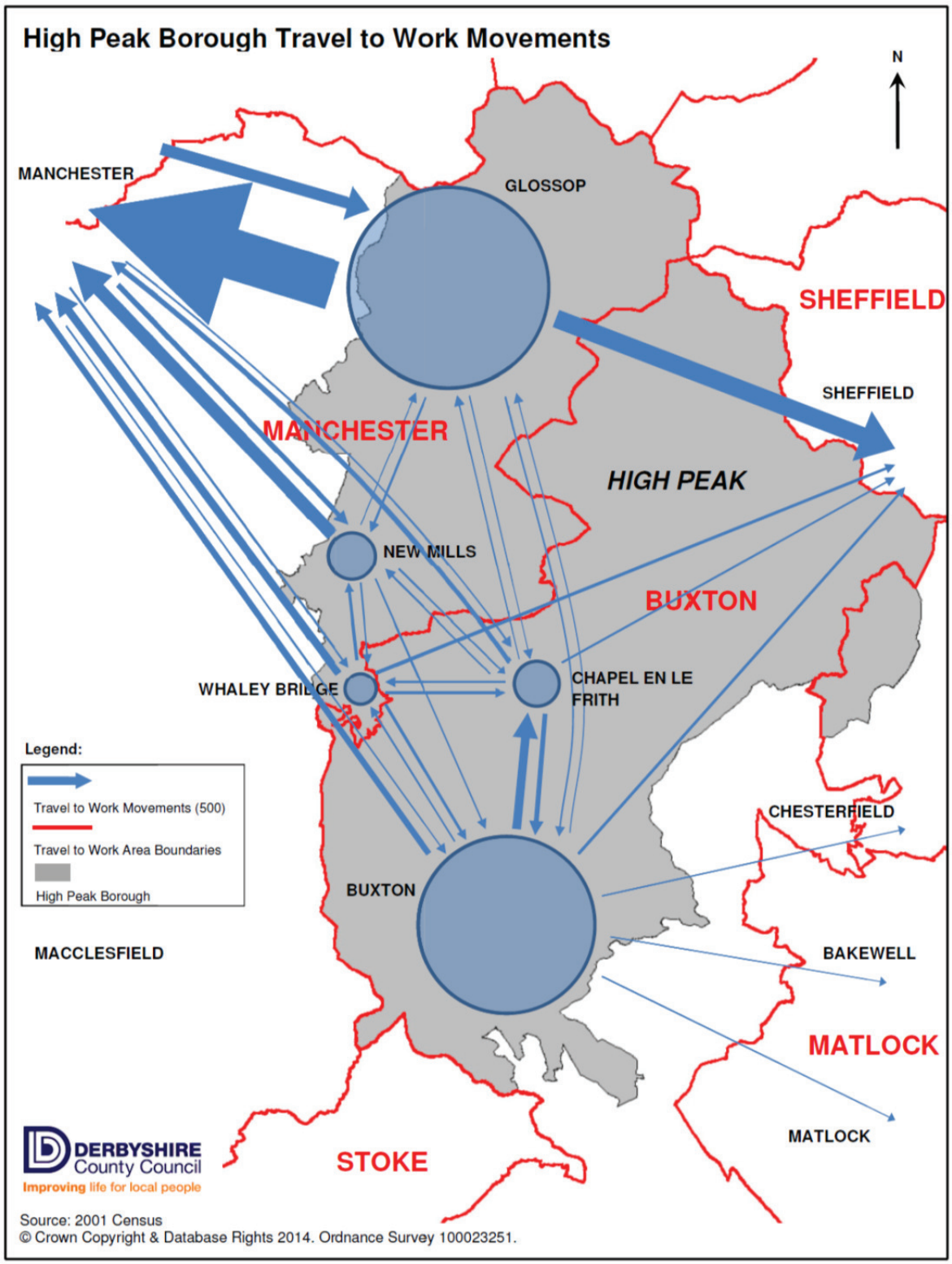
Table 1-2: High Peak Residents: Method of Travel to Work

Main model of travel for longest part by distance of the usual journey to work.			
	Persons (number)	Percentage of Total	Percentage of mode for working persons
Total: (usual resident population in March 2011)	67,389		
Not in employment	21,771	32.3%	
Work mainly at home	2,991	4.4%	6.6%
Underground / light rail / tram	60	0.1%	0.1%
Train	2,668	4.0%	5.8%
Bus, minibus, coach	1,224	1.8%	2.7%
Taxi	163	0.2%	0.4%
Motorcycle / scooter / moped	286	0.4%	0.6%
Driving a car or van	28,885	42.9%	63.3%
Passenger in car or van	2,181	3.2%	4.8%
Bicycle	628	0.9%	1.4%
On foot	6,256	9.3%	13.7%
Other method	276	0.4%	0.6%

Source: ONS 2011 Census – QS701EW released March 2014

1.5.4 Figure 1 shows the High Peak Borough Travel to Work Movements, sets out some of the key travel to work inflows and outflows from High Peak to adjacent local authorities. Although many people move to the area once they retire, a significant proportion continues to commute to the major urban centres nearby to access higher level job opportunities and higher wages. The low job density figures for High Peak and the National Park, coupled with the area's low rate of unemployment, indicate that a significant number of the Borough's residents are employed elsewhere. This is reinforced by the travel to work data discussed above which highlights that a large number of people resident in the area commute to jobs in neighbouring districts, particularly within Greater Manchester. This movement creates pressure on the road infrastructure, particularly in Glossopdale, which suffers from high levels of traffic congestion at peak times.

Figure 1: High Peak Travel to Work



Source: 2001 Census (Travel movements not available from 2011 census)

1.6 Derbyshire's Local Transport Plan (LTP) 2011 - 2026

1.6.1 Derbyshire's third LTP was adopted in April 2011 and sets out the County Council's transport strategy together with a path towards transport investment that will result in a more sustainable and healthy transport system, managing carbon emissions and improving public health and safety, which also supports the local and sub-regional economy.

1.6.2 The vision aims to achieve a transport system that is both fair and efficient, promotes healthier lifestyles, safer communities, safeguards and enhances the natural environment and provides better access to jobs and services; whilst also improving choice and accessibility of transport and integrating economic, social and environmental needs.

1.6.3 The five transport goals are:

- Supporting a resilient local economy.
- Tackling climate change.
- Contributing to better safety, security and health.
- Promoting equality of opportunity.
- Improving quality of life and promoting a healthy natural environment.

1.6.4 The LTP puts emphasis on supporting a resilient local economy, contributing to better safety, security and health, improving quality of life and promoting a healthy natural environment. It aims to achieve longer term benefits for climate change and measures to help people under the equality of opportunity goal.

2 REVIEW OF AVAILABLE INFORMATION

2.1 Planning Documents

2.1.1 The following planning documents have been referred to in the preparation of this report:

- High Peak Local Plan Preferred Options (High Peak Borough Council, February 2013);
- High Peak Local Plan Preferred Options Maps (High Peak Borough Council, February 2013);
- High Peak Local Plan Preferred Options Additional Consultation (High Peak Borough Council, December 2013); and
- Chapel Neighbourhood Plan website (http://chapelparishneighbourhoodplan.org/housing)

2.1.2 Proposed housing numbers and employment sites are summarised in Section 3 of this report.

2.2 Traffic Data

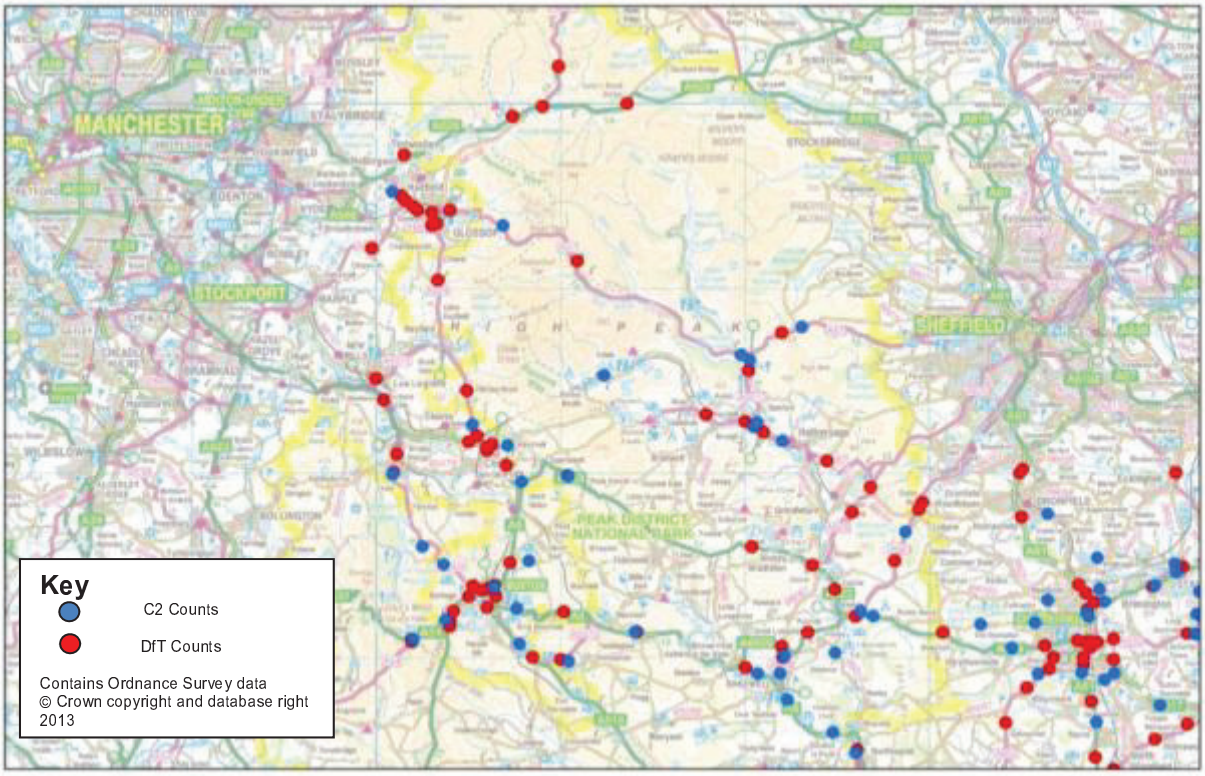
Automatic Traffic Counts

2.2.1 Automatic Traffic Count (ATC) recorders are located at numerous points on the highway network. They measure traffic flow volume on the road at each site, usually record vehicles by direction of travel and aggregate the counts for each hour of the week. In the High Peak area there are two sources of ATC data containing several sites each, these are;

- Derbyshire County Council, contained on the C2 Website, and
- The Department for Transport (DfT) traffic count website.

2.2.2 A map showing the locations of the available counts from both sources is given below in Figure 2.

Figure 2: Location of Available Traffic Count Sites



2.2.3 Count data from the DfT data source are given below for Buxton (Figure 3), Chapel-en-le-Frith (Figure 4) and Glossop (Figure 5). The data is presented as Annual Average Daily Flow, AADF for the year 2012.

Figure 3: Traffic Count Sites – Buxton

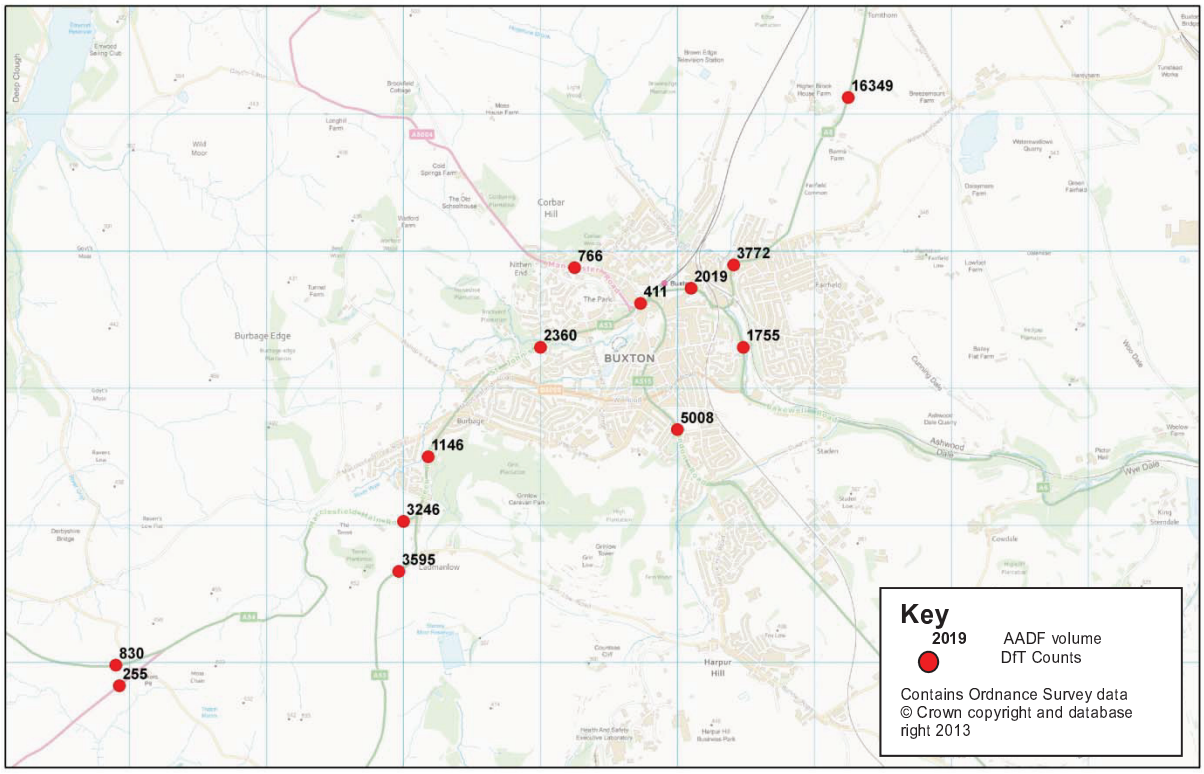


Figure 4: Traffic Count Sites – Chapel-en-le-Frith and Whaley Bridge

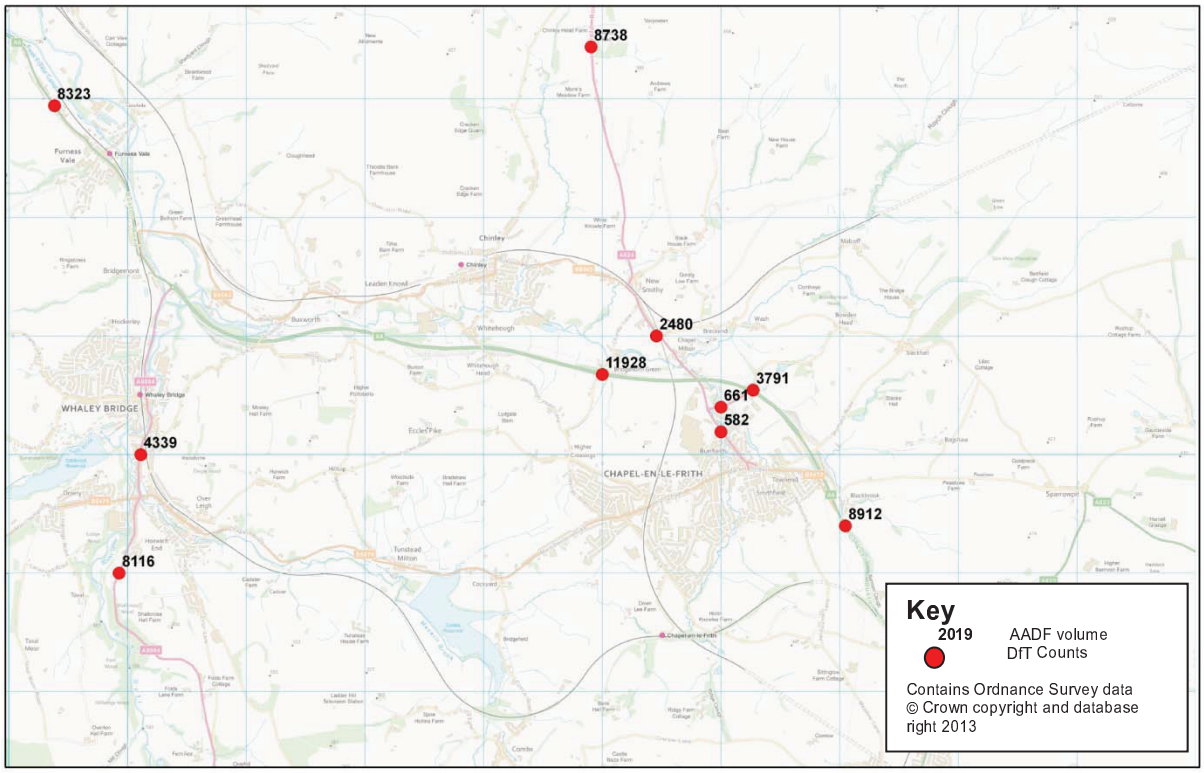
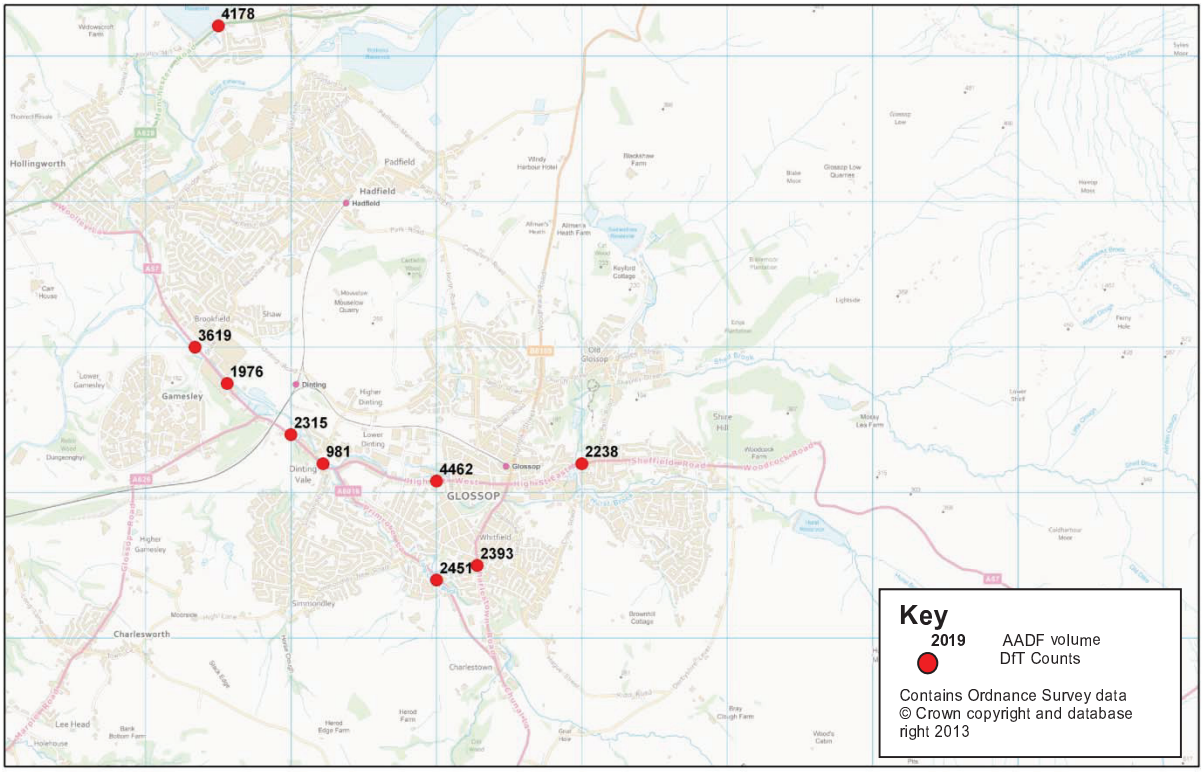


Figure 5: Traffic Count Sites – Glossop, Gamesley and Woolley Bridge



Manual Traffic Counts

2.2.4 To infill traffic flow information where this was not available from other sources it was necessary to collect new data. To be used in addition to the ATC data described above, manual classified counts (MCC) of turning movements at the following junctions were undertaken to support this study:

- A57 High St / Norfolk St / Victoria Street;
- A624 Victoria St / Gladstone Street;
- A57 High St / Arundel St / Chapel Street;
- A57 High St / Queen St / Glossop Brook Road;
- A6015 Church Rd / B6101 Union Road; and
- A53 / Terrace Road.

2.2.5 The above counts were undertaken on Thursday 28th November 2013. Where possible, the DfT recommends that traffic counts are undertaken during the neutral months of March, April, May, June, September and October to minimise the risk of the counts being affected by seasonal variation. However, November is considered to be reasonably representative of typical week day traffic conditions if counts are undertaken outside of school holidays and where weather conditions are fine, which was the case on the day of the MCC counts.

2.2.6 The location of MCC was determined based upon key junctions in the High Peak area and those which were particularly likely to be impacted by the Local Plan developments. The collected count data is presented in Appendix A at the end of this report.

Transport Models

2.2.7 There are a number of traffic models covering the High Peak Borough in varying levels of detail. Such models include:

Transport Model	Description
A57 / A628 Mottram-Tintwistle Bypass Improvement	A traffic model to examine highway-based movements on the trans-pennine route following the A57/A628 corridor. This model has not been updated since 2006.
South East Manchester Multi-Modal Strategy (SEMMMS)	A model used to investigate transport movements to the south of Manchester and appraise proposals for the A6 to Manchester Airport Relief Road. Model is useful for investigating movements in the A6 Corridor from Stockport to Disley. The baseline model was updated with 2011 observations.
Midlands-Manchester Multi-Modal Study (MidMan)	Multi-modal modal to examine transport demands and movements in the M6 motorway corridor. Model was updated in 2010 to examine M6 improvements. Most of High Peak's area falls outside of its simulation area.

2.2.8 These transport models were developed with a view to representing specific transport interventions. None of these transport models were designed for the specific purpose of simulating development impacts across High Peak Borough's Local Plan area. Therefore whilst there is some overall coverage, none was considered suitable to represent the traffic impacts in the built-up areas of Buxton, Chapel-en-le-Frith and Glossop. Furthermore, the Highways Agency DIAMOND tool, which was used to assess the impact of the former High Peak & Derbyshire Dales joint Core Strategy, was not considered suitable. (As was noted in the previous reports, the DIAMOND tool was created with the specific intention of assessing development impacts on the trunk road network in the East Midlands – with the High Peak and Derbyshire Dales included in the previous assessment work that also included Chesterfield, Bolsover and NE Derbyshire District Council to allow the Highways Agency to assess the impacts on the M1 motorway).

Trafficmaster Link Travel Times

2.2.9 Data about link travel times may be derived from in-vehicle GPS and are collected in the Trafficmaster's database. Derbyshire County Council supplied the Trafficmaster data for an area including the whole of Derbyshire, with parts of the adjoining authorities included. The data was classified into 15-minute time slices and covered the periods from September 2011 to August 2012 inclusive.

2.2.10 For the purpose of this report, and in the absence of a suitable traffic model, the Trafficmaster journey time data has been used as a measure of existing congestion 'hot-spots' on the road network within the HPBC area. This is described in further detail in Section 5.

2.3 Collision Data

Accident Clusters

2.3.1 Derbyshire County Council has supplied details of accident clusters for the period 01/05/2008 to 30/04/2013. These clusters are defined as 6 or more accidents that occur within a radius of 25 metres (or 6 or more over 50m length).

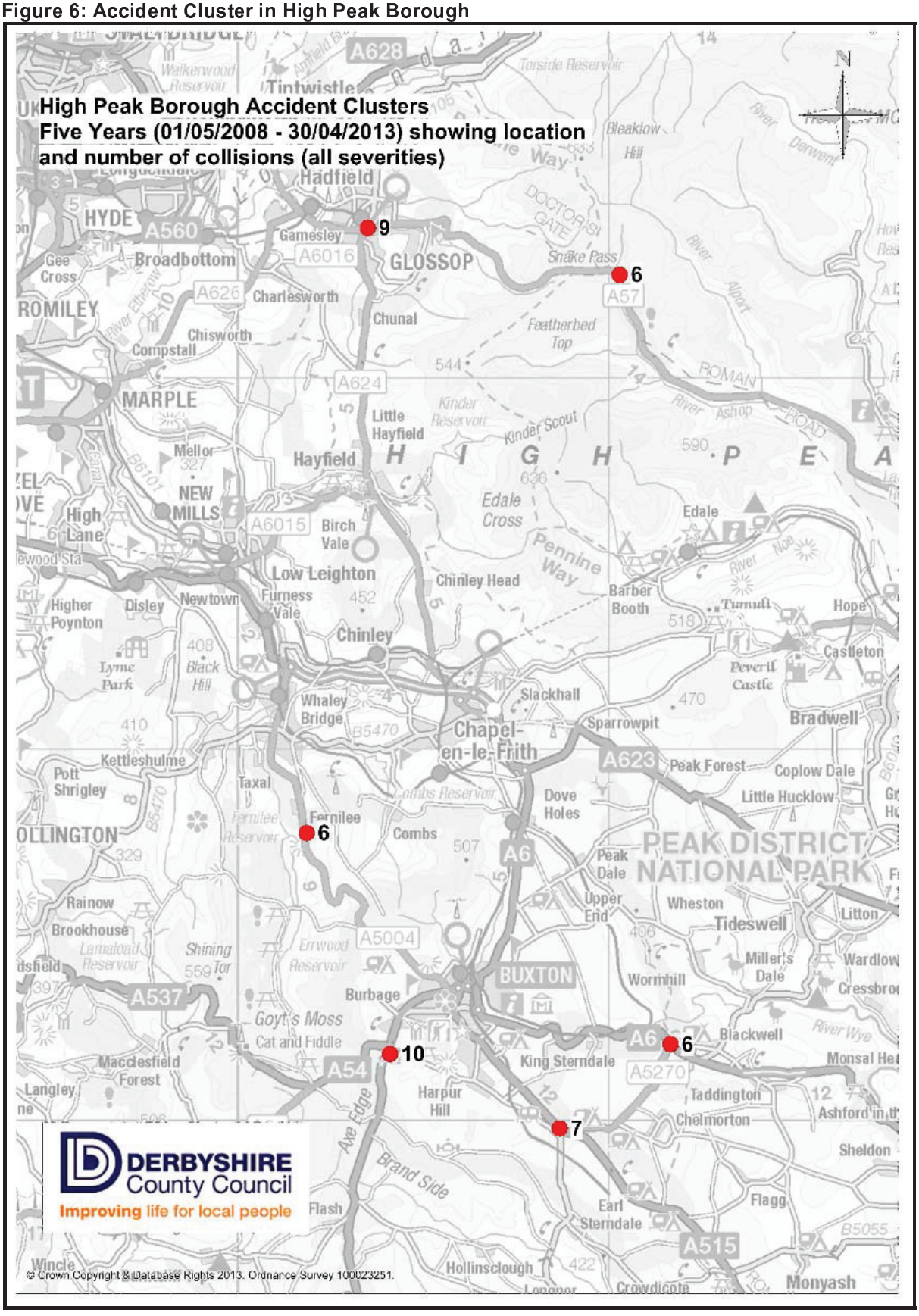
2.3.2 The location of the clusters are as follows:

1. Buxton A53 Leek Road at the junction with C68 Grin Low Road (10 accidents).
2. Glossop A578 High Street East J/W A624 Victoria Street (9 accidents).
3. Brierlow Bar A515 at the junction with B5053 Buxton Road (7 accidents).
4. Buxton A5004 Long Hill on severe bend (6 accidents).
5. Topley Pike A6 at the junction with A5270 (6 accidents).
6. Hope Woodlands A57 Snake Road adjacent to Nether North Grain (6 accidents).

2.3.3 Figure 6 shows the location of these clusters.

2.3.4 Of these accidents 36 were classed as Slight, 7 were classed and Serious and 1 was classed as Fatal. The Fatal accident occurred at Topley Pike A6 at the junction with A5270.

Figure 6: Accident Cluster in High Peak Borough



3 NEW DEVELOPMENT SITES IN THE LOCAL PLAN

3.1 Glossop Area

3.1.1 The High Peak Local Plan Preferred Options (HPBC) document, dated February 2013, identifies at Table 4 of Policy S 3 that, of the overall target of 1,040 dwellings on new sites in the Glossopdale sub-area, 100 will be on small sites in Glossop, 100 on small sites in villages in the area, and 840 on allocations sites.

3.1.2 The allocations sites are set out in Policy H 3, where they are classified as early (E), middle (M) or late (L) phase, corresponding to the periods 2012-2018, 2018-2023 and 2023-2031 respectively.

3.1.3 The allocations sites are summarised in Table 3-1: successive stages of development on adjacent sites have been consolidated into single rows for sites G8-G10 and G19-G21. The capacity of the sites identified in policy H 3 exceeds the numbers identified for each sub-area in Policy S 3, in order to provide flexibility as further investigations into the sites' development potential may result in reduced capacity.

3.1.4 The site G3, identified as 'Roughfields' in Hadfield, was added in the High Peak Local Plan – Additional Consultation document (HPBC, December 2013).

Table 3-1: Allocated Housing Development Sites in Glossopdale Sub-Area

Location	Number of dwellings			
	2012-2018	2018-2023	2023-2031	Total 2012-2031
Paradise Street, Hadfield (G2)			28	**28**
North Road (G6)			60	**60**
Land off Woodhead Road (G8-G10)	63	25	13	**101**
Hawkshead Mill, Old Glossop (G13)	31			**31**
Hope Street, Old Glossop (G14)			19	**19**
York Street Depot, Glossop (G15)	25			**25**
Woods Mill, High Street East (G16)	104			**104**
Bank Street, Glossop (G18)		16		**16**
Dinting Road/Dinting Lane (G19-G21)		77	50	**127**
Former Railway Museum (G23)			89	**89**
Land off Melandra Castle Road (G25)		35		**35**
Land adjacent to Gamesley Sidings (G26)		38		**38**
Charlestown Works, Glossop (G31)	76			**76**
Adderley Place			130	**130**
Roughfields, Hadfield (G3)		102*		**102**
Total	**299**	**293**	**389**	**981**

* timing uncertain

3.1.5 Policy E 2 allocates two sites in the Glossopdale sub-area for employment development (use classes B1, B2 and B8). These are Waterside, Hadfield (1.6ha gross) and Land off Wren Nest Road, Glossop (2.5ha gross).

3.2 Buxton Area

3.2.1 The High Peak Local Plan Preferred Options (HPBC, February 2013) document, at Table 4 of Policy S 3, identifies that of the target of 1,140 dwellings on new sites targeted for the Buxton sub-area, 100 will be on small sites in Buxton, 30 on small sites in villages in the area, and 1,010 on allocations sites. The allocations sites are set out in Policy H 3, and are summarised in Table 3-2 below.

Table 3-2: Allocation Housing Development Sites in Buxton Sub-Area

Location	Number of dwellings			
	2012-2018	2018-2023	2023-2031	Total 2012-2031
Batham Gate, Peak Dale (B1-B2)	43			**43**
Land at Hogshaw (B3-B4)			124	**124**
Ambulance Station, The Glade, Buxton (B5)	11			**11**
Hardwick Square South, Buxton (B6)	30			**30**
Market Street Depot, Buxton (B7)	24			**24**
West of Tongue Lane, Fairfield, Buxton (B8)			215	**215**
Land off Dukes Drive, Buxton (B10)			338	**338**
Sherbrook Lodge, Harpur Hill Rd, Buxton (B11)	13			**13**
Ashbourne Road /Foxlow Farm (B20-B22)		250		**250**
Harpur Hill College Campus (B27)	105			**105**
Leek Rd/Macclesfield Rd former car showroom	10			**10**
Frontage to Cavendish Golf Club, Manchester Rd	15			**15**
Total	**251**	**250**	**677**	**1,178**

3.2.2 Policy E 2, allocating employment land, identifies five sites in the Buxton sub-area, as listed in Table 3-3 below.

Table 3-3: Allocation Employment Development Sites in Buxton Sub-Area

Location	Gross area (ha)
Hoffman Quarry, Harpur Hill	3.6
Staden Lane extension	1.6
Tongue Lane extension	4.0
Waterswallows extension	5.2
Land off Ashbourne Road	2.0

3.3 Chapel-en-le-Frith Area

3.3.1 Chapel-en-le-Frith has produced a Neighbourhood Plan to guide development within the settlement. As noted from the website http://chapelparishneighbourhoodplan.org/housing/ (accessed January 2014) the Plan allocates sites for a minimum of 454 homes (outside the Peak District National Park). Of these, 412 of which have already received planning consent from the Borough Council. Indeed, all of the large sites allocated in the Neighbourhood Plan were granted planning permission during 2013, and were subject to Transport Assessments supporting individual planning applications.

3.3.2 As such, the remaining settlement in the town to be directed by the Local Plan is minimal and has not been further considered in this report.

3.4 Other Locations in High Peak Borough

3.4.1 In addition to the allocated sites above, Policy H 3 identifies allocations sites at the following other locations in the Central sub-area.

3.4.2 The site identified as 'South of Macclesfield Road' was added in the High Peak Local Plan – Additional Consultation document (HPBC, December 2013).

3.4.3 It is likely that there would be a probable negative impact at the junction of Linglongs Road with Macclesfield Road. Whilst emerging visibility from the junction is adequate, Macclesfield Road is fairly narrow at this location and close to a bend in the road. An increase in vehicles turning right into the junction may result in reduced forward visibility where vehicles are waiting to turn into the access where there is little scope to improve the junction within highway limits. The estimated number of dwellings would possibly require the introduction of right turn harbourage at the junction, which could not be accommodated within current highway limits.

3.4.4 Should this site come forward through the Local Plan it is likely that traffic from the site would route predominantly via Macclesfield Road and its junction with Buxton Road. The junction of lower Macclesfield Road is controlled by traffic signals which operate by MOVA (Microprocessor vehicle actuation). The traffic control equipment was refurbished relatively recently, there being minimal scope for further improvement to the junction. The junction is abutted by property on all four arms to the junction inevitably there would be limited scope for improvement. It is anticipated that traffic from 83 dwellings would be generating among 50 movements or 1 per minute. Whilst this would add to congestion particularly during peak times, however, taking into account the scale currently envisaged, the Highway Authority does not feel that congestion would be of such a level of severity to sustain an objection to development proposals on highway grounds.

Table 3-4: Allocation Housing Development Sites at Other Locations

Location	Number of dwellings			
	2012-2018	2018-2023	2023-2031	Total 2012-2031
Hayfield				
Hayfield Road (C1)	10			**10**
New Mills Road (C2)		17		**17**
New Mills				
Derby Road (C3)			170	**170**
Ollersett Lane / Pingot Road (C5)		146		**146**
Laneside Road (C6)			78	**78**
Woodside Street (C7)	25			**25**
Whaley Bridge				
Wharf Road (C8)	40			**40**
Between Old Rd and Buxton Rd			16	**16**
Opp Tesco along railway embankment			15	**15**
South of Macclesfield Road		83 *		**83**
Buxworth				
Britannia Mill, Buxworth	50			**50**
Total	**125**	**246**	**279**	**650**

* timing uncertain

3.4.5 Some relatively small sites are identified in Hayfield, Whaley Bridge and Buxworth, which are likely to have only minor transport impacts upon transport in these communities.

3.4.6 The area of New Mills would have housing allocation sites summing to 419 dwellings. Given that the existing population of New Mills is approximately 10,000 people, this number of new

houses could represent an increase of up to 10% in the resident population. For this reason, the area of New Mills was added to the urban centres considered specifically in this transport study.

3.4.7 Thus this transport study examines the operational efficiency of specific junctions in the urban centres of Glossop, Buxton and New Mills and assesses the potential impact of developments upon these specific junctions.

4 CUMULATIVE TRANSPORT IMPACTS

4.1 Trip Generation of Identified Residential Development Sites

4.1.1 Residential trip generation rates have been applied to the housing numbers identified in the previous section in order to calculate the transport impacts of the identified new residential development sites.

4.1.2 All residential privately owned sites in the TRICS database were extracted and ranked accordingly. A total of 90 sites were given from the database however many of the sites were not deemed to be applicable to the High Peak based upon; location (sites in Ireland or London were removed) or development size (sites considered to be significantly smaller or larger than the High Peak average site size). One specific residential development site: WM-03-A-03 was identified from the remaining sites as being typical of a mixed housing type development. This site in Warwickshire is within commuting distance of the West Midlands urban centres. The TRICS rates output table is provided in Appendix B.

4.1.3 To provide a comparable TRICS rate to the High Peak, the 'total people' trip generation rates were factored to car drivers, using the proportion of the working population that travels to work as a car driver. This proportion was found to be 63% for the High Peak district using the 2011 census responses. The resulting vehicle trip generation rates are shown in Table 4-1.

Table 4-1: Residential Trip Generation Rates (vehicular trips per house)

AM (0800 – 0900hrs)			PM (1700 – 1800hrs)		
Out	In	2-way	Out	In	2-way
0.57	0.26	0.83	0.35	0.50	0.85

4.1.4 The resulting residential trip generation is shown in Table 4-2 for sites in Glossop, in Table 4-3 for sites in Buxton, and in Table 4-4 for New Mills.

Table 4-2: Residential Trip Generation for Glossop (vehicular trips per hour)

Location	AM Peak Hour (0800 – 0900hrs)			PM Peak Hour (1700 – 1800hrs)		
	Out	In	2-way	Out	In	2-way
Paradise Street, Hadfield (G2)	16	7	**23**	10	14	**24**
North Road (G6)	34	16	**50**	21	30	**51**
Land off Woodhead Road (G8-G10)	58	26	**84**	36	51	**87**
Hawkshead Mill, Old Glossop (G13)	18	8	**26**	11	16	**27**
Hope Street, Old Glossop (G14)	11	5	**16**	7	9	**16**
York Street Depot, Glossop (G15)	14	7	**21**	9	12	**21**
Woods Mill, High St East (G16)	59	27	**86**	37	52	**89**
Bank Street, Glossop (G18)	9	4	**13**	6	8	**14**
Dinting Road/Dinting Lane (G19-G21)	73	33	**106**	45	64	**109**
Former Railway Museum (G23)	51	23	**74**	31	45	**76**
Land off Melandra Castle Road (G25)	20	9	**29**	12	18	**30**
Land adj to Gamesley Sidings (G26)	22	10	**32**	14	19	**33**
Charlestown Works, Glossop (G31)	43	20	**63**	27	38	**65**
Adderley Place	74	34	**108**	46	65	**111**
Roughfields, Hadfield (G3)	58	27	**85**	36	51	**87**
Total	**560**	**256**	**816**	**348**	**492**	**840**

Table 4-3: Residential Trip Generation for Buxton (vehicular trips per hour)

Location	AM Peak Hour (0800 – 0900hrs)			PM Peak Hour (1700 – 1800hrs)		
	Out	In	2-way	Out	In	2-way
Batham Gate, Peak Dale (B1-B2)	25	11	**36**	15	22	**37**
Land at Hogshaw (B3-B4)	71	32	**103**	44	62	**106**
Ambulance Station, The Glade, Buxton (B5)	6	3	**9**	4	5	**9**
Hardwick Square South, Buxton (B6)	17	8	**25**	11	15	**26**
Market Street Depot, Buxton (B7)	14	6	**20**	9	12	**21**
West of Tongue Lane, Fairfield, Buxton (B8)	123	56	**179**	76	108	**184**
Land off Dukes Drive, Buxton (B10)	194	87	**281**	119	171	**290**
Sherbrook Lodge, Harpur Hill Rd, Buxton (B11)	8	3	**11**	5	6	**11**
Ashbourne Road / Foxlow Farm (B20-B22)	143	65	**208**	88	126	**214**
Harpur Hill College Campus (B27)	60	27	**87**	37	53	**90**
Leek Rd / Macclesfield Rd former car showroom	6	2	**8**	4	5	**9**
Frontage to Cavendish Golf Club, Manchester Rd	8	4	**12**	5	8	**13**
Total	**675**	**304**	**979**	**417**	**593**	**1010**

Table 4-4: Residential Trip Generation for New Mills (vehicular trips per hour)

Location	AM Peak hour			PM Peak hour		
	Out	In	2-way	Out	In	2-way
Derby Road (C3) – 170	97	44	**141**	60	86	**146**
Ollersett Lane / Pingot Road (C5) – 146	83	38	**121**	51	74	**125**
Laneside Road (C6) – 78	45	20	**65**	28	39	**67**
Woodside Street (C7) – 25	14	7	**21**	9	12	**21**
Total	**239**	**109**	**348**	**148**	**211**	**359**

4.2 Trip Generation of Identified Employment Sites

4.2.1 The trip rates for new employment development sites have been obtained from the TRICS database for similar sized sites with land uses 02/B, 02/C, 02/D and 02/F, which correspond to use classes B1, B2 and B8. These trip rates are shown in Appendix C.

4.2.2 Mean trip rates by site area have been calculated using these rates from the TRICS database. For land use 02/D (industrial estate), the TRICS rate is given in terms of site area. The TRICS rates for the other land uses are given in terms of gross floor area, and have been converted on the assumption that the gross floor area amounts to 40% of the site area.

Table 4-5: Employment Trip Generation Rates (vehicular trips per hectare of site area)

TRICS Land Use	Trip rate (veh/hour per ha of site area)			
	AM out	AM in	PM out	PM in
Business Park (02/B)	9.8	51.3	43.5	7.8
Industrial Unit (02/C)	3.0	12.0	10.4	1.6
Industrial Estate (02/D)	5.5	11.7	9.6	3.0
Warehousing – Commercial (02/F)	2.6	6.3	6.1	2.2
Mean rate	**5.2**	**20.3**	**17.4**	**3.7**

4.2.3 Employment trip generations in the Glossopdale and Buxton sub-areas were calculated by applying the mean trip generation rate shown in Table 4-5 to the areas allocated for employment use (shown at paragraph 3.1.5 for Glossopdale and in Table 3-3 for Buxton). This resulted in the trips shown in Table 4-6 for Glossopdale and Table 4-7 for Buxton.

Table 4-6: Employment Trip Generation in Glossopdale Sub-Area (vehicular trips/hour)

Location	AM (0800 – 0900hrs)			PM (1700 – 1800hrs)		
	Out	In	2-way	Out	In	2-way
Waterside, Hadfield	8	32	**41**	28	6	**34**
Wren Nest Rd, Glossop	13	51	**64**	44	9	**53**

Table 4-7: Employment Trip Generation in Buxton Sub-Area (vehicular trips/hour)

Location	AM (0800 – 0900hrs)			PM (1700 – 1800hrs)		
	Out	In	2-way	Out	In	2-way
Hoffman Quarry, Harpur Hill	19	73	**92**	63	13	**76**
Staden Lane extension	8	33	**41**	28	6	**34**
Tongue Lane extension	21	81	**102**	69	15	**84**
Waterswallows extension	27	106	**133**	91	19	**110**
Land off Ashbourne Road	10	41	**51**	35	7	**42**

4.2.4 The total two-way trip generations associated with the development sites listed above are shown in Figure 7 for Glossop, Figure 8 for Buxton and Figure 9 for New Mills.

Figure 7: Trip Generation of Housing and Employment Sites in Glossop

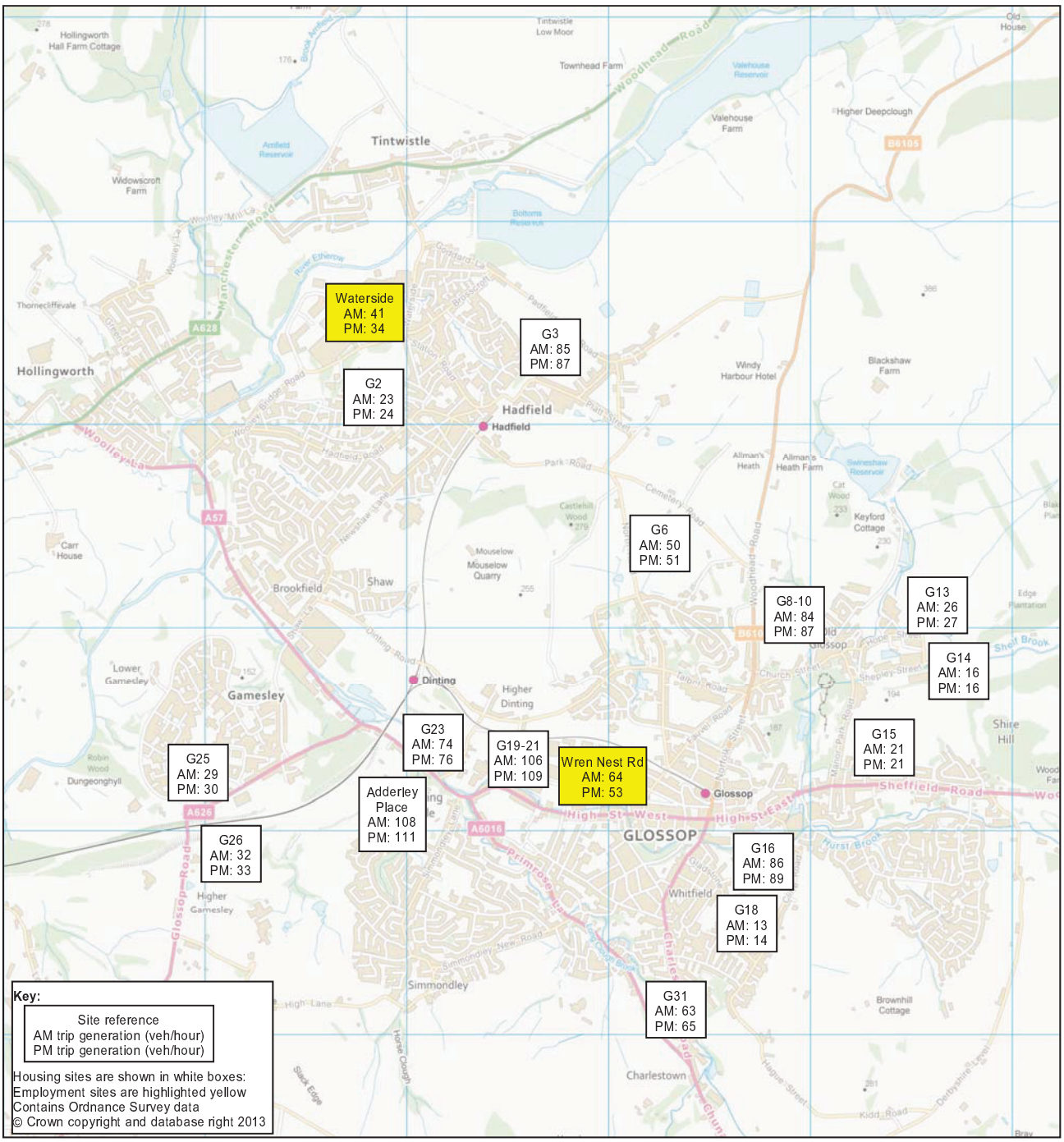


Figure 8: Trip Generation of Housing and Employment Sites in Buxton

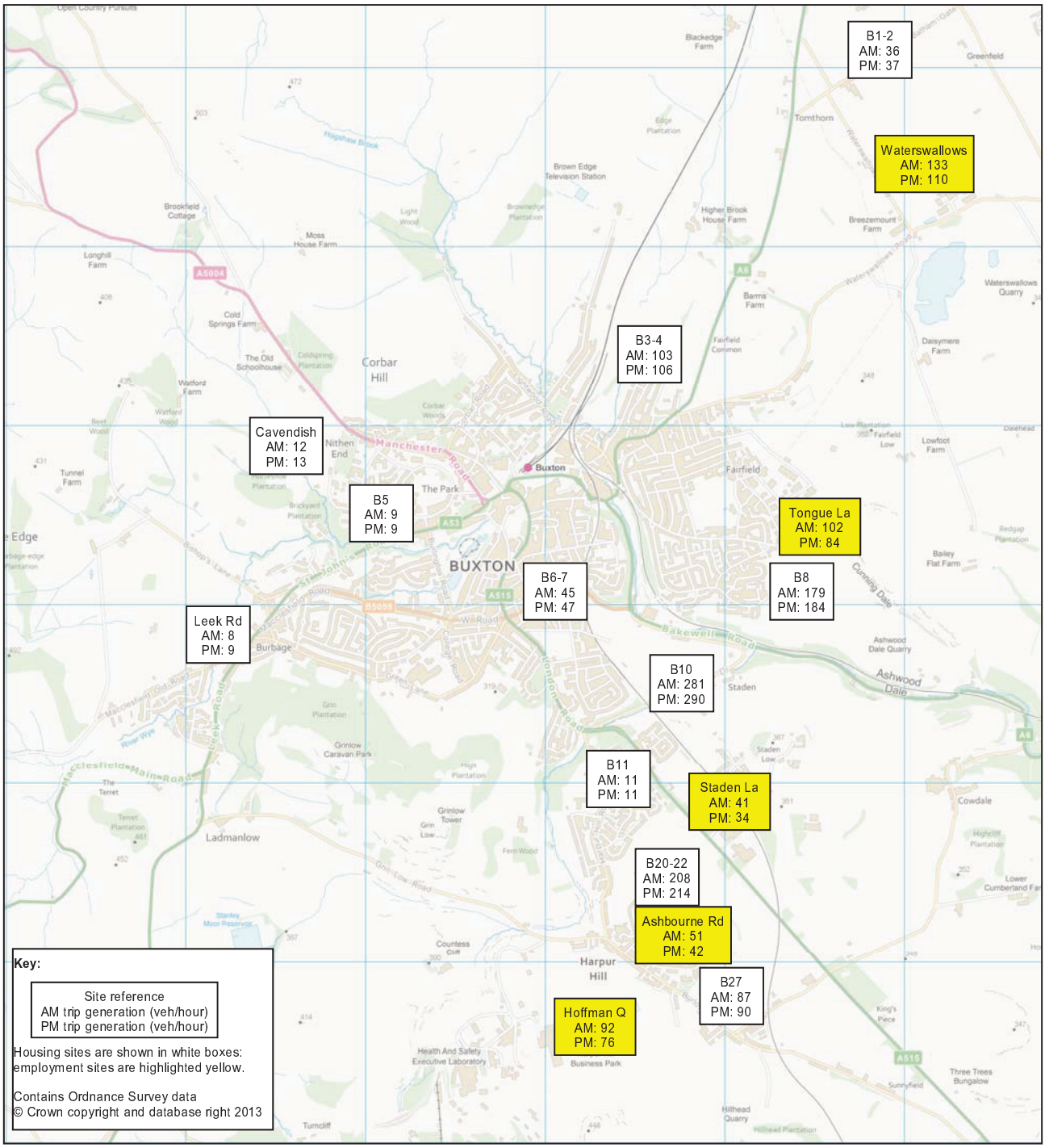


Figure 9: Trip Generation of Housing Sites in New Mills

5 HIGHWAY IMPACTS OF DEVELOPMENT

5.1 Current Highway Operation and Reliability

5.1.1 Data on link travel times, derived from in-vehicle GPS and collected in the Trafficmaster database, were used to assess link travel time reliability. This enables those links which might be prone to adverse reliability impacts, for example due to flow increases following the occupation of new development sites, to be highlighted.

5.1.2 The measure used for travel time reliability was a 'congestion ratio', derived by calculating a maximum peak travel time and dividing this by a minimum free-flow time. The calculation of the peak time and free-flow time is described below.

5.1.3 Travel times were analysed for weekdays in the months September 2011, October 2011, and April 2012, May 2012 and June 2012. These months are considered to be neutral months and contain traffic flow profiles that are typical of the whole year. Public holidays were excluded from the data, resulting in 92 days of neutral month traffic data being considered.

5.1.4 The Trafficmaster data contains link travel time observations, which are divided the into 15-minute time slices (96 per day). Over the 92 days considered, the average link travel time for each of the four time slices in the AM peak hour (0800-0815, 0815-0830, 0830-0845 and 0845-0900) and for each of the four time slices in the PM peak hour (1700-1715, 1715-1730, 1730-1745 and 1745-1800) was calculated. The maximum of these average link travel times was taken as the peak time for calculation of the congestion ratio.

5.1.5 Over the 92 days considered, average link travel times were calculated for the AM peak hour as a whole (0800-0900), the inter-peak period (1000-1600hrs) and the PM peak hour as a whole (1700-1800). The minimum of these average link travel times was taken as the free-flow time for calculation of the congestion ratio. In most cases the minimum will be the travel times from the inter-peak model because there is less congestion in this period and travel times tend to be faster than in the AM or PM peak hours.

5.1.6 Because of the potential for the calculation outlined above to give a misleading result if there are too few observations on a link, congestion ratios were only calculated for those links with more than 10 journey time observations for each of the AM peak hour, inter-peak period and PM peak hour.

5.1.7 Where congestion ratios were available for both directions of a two-way road link, the greater congestion ratio value was assigned to that road link. The congestion ratios for each road link were grouped into four bands according to their congestion ration value. These are presented in Table 5-1.

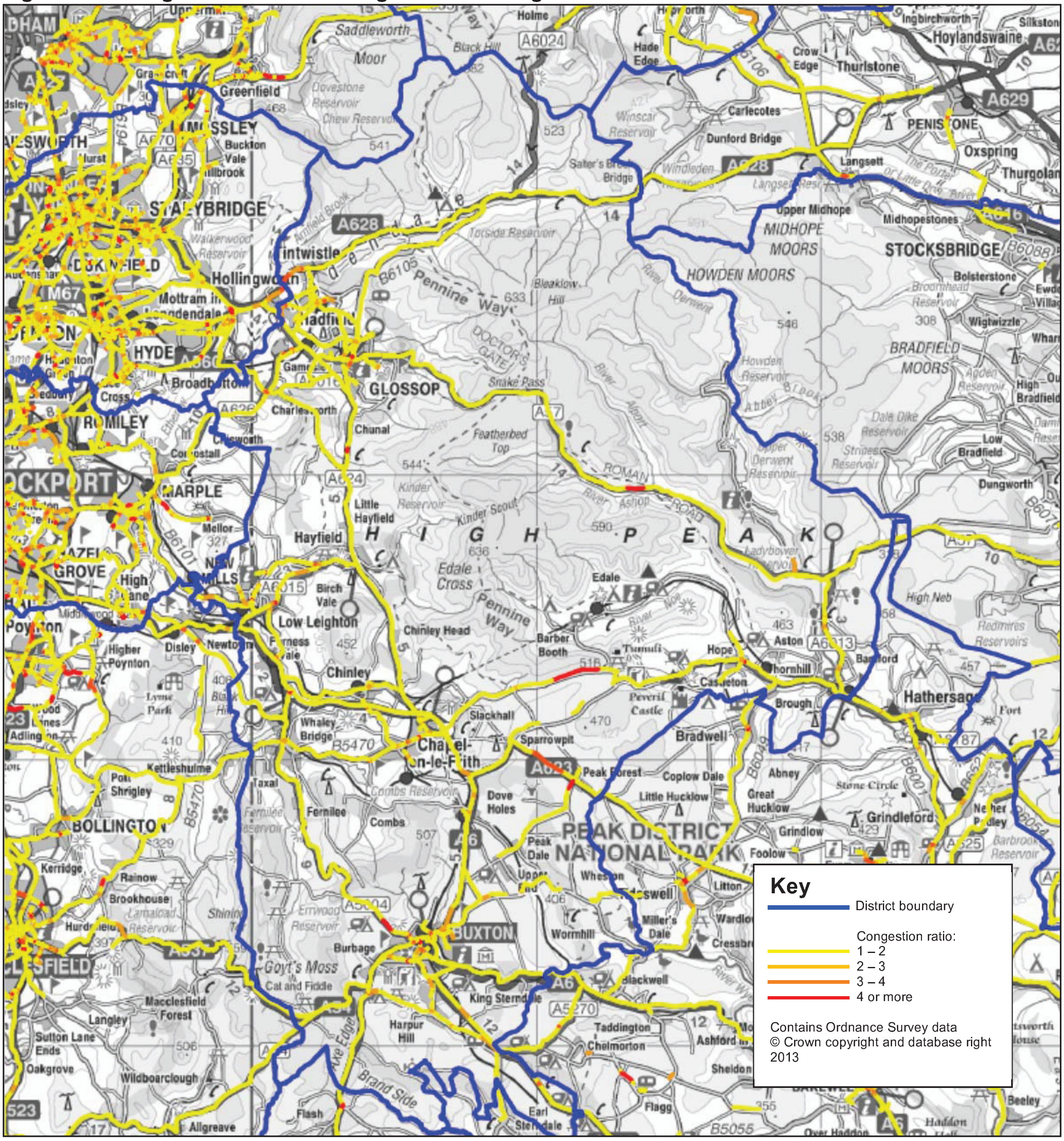
Table 5-1: Congestion bands and ratio values used for highway network plots

Band	Congestion Ratio value	Description
1-2	1.0 to 1.99	Journey times within the peak hours, on these road lengths, are similar to the free-flow conditions observed when traffic flows are light.
2-3	2.0 to 2.99	Journey times within the peak hours are regularly taking 2 to 3 times longer than during free-flow conditions. Vehicles on these road lengths will be travelling slowly at times within the peak hour.
3-4	3.0 to 3.99	Journey times within the peak hours are regularly taking 3 to 4 times longer than during free-flow conditions. Vehicles on these road lengths are likely to be queuing at some junctions during periods within the peak hour.
4 or more	> 4.0	Journey times within the peak hours are regularly taking more than 4 times longer than during free-flow conditions. Vehicles on these road lengths are likely to be stopped in queues for substantial periods within the peak hour; or travelling very slowly on gradients.

5.1.8 Figure 10 below shows plots of the congestion ratios for roads in High Peak Borough as a whole.

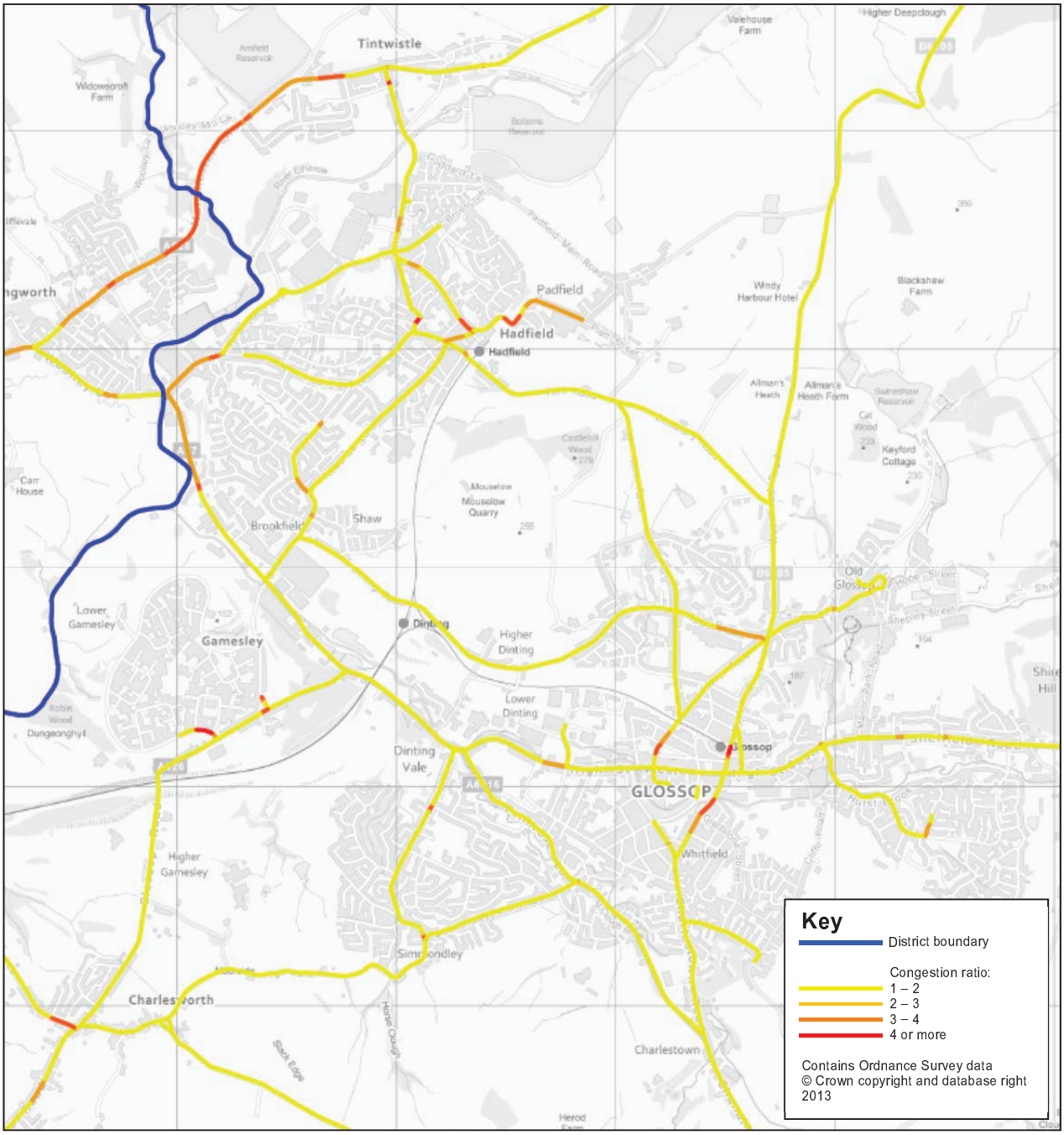
5.1.9 Figure 10 shows that, in addition to points of congestion in the town centres, longer links with high ratios can be seen on the A623 between Sparrowpit and Peak Forest, on the A57 Snake Road, and on the road between Winnats Pass and Chapel-en-le-Frith. These road lengths are single-lane climbing sections with broken median lines. On such lengths, the overtaking of slow vehicles travelling uphill is likely to be relatively easy in the inter-peak period because the opposing flow is likely to be light in volume and therefore presents frequent overtaking opportunities. However in peak hours, when the flow of opposing vehicles is likely to be unbroken, there will be few overtaking opportunities and therefore queues tend to form behind the slow vehicles. These uphill sections are highlighted in the above Figure by high congestion ratios; vehicles are regularly travelling more than four times slower in the peak hour when they are stuck behind slow moving vehicles.

Figure 10: Congestion Ratios for High Peak Borough



5.1.10 Figure 10 above indicates some congestion spots across the Borough. To provide more detail of the main town centres, Figure 11, Figure 12, Figure 13 and Figure 14 show the Glossop, Buxton, Chapel-en-le-Frith and New Mills areas respectively.

Figure 11: Congestion Ratios for Glossop



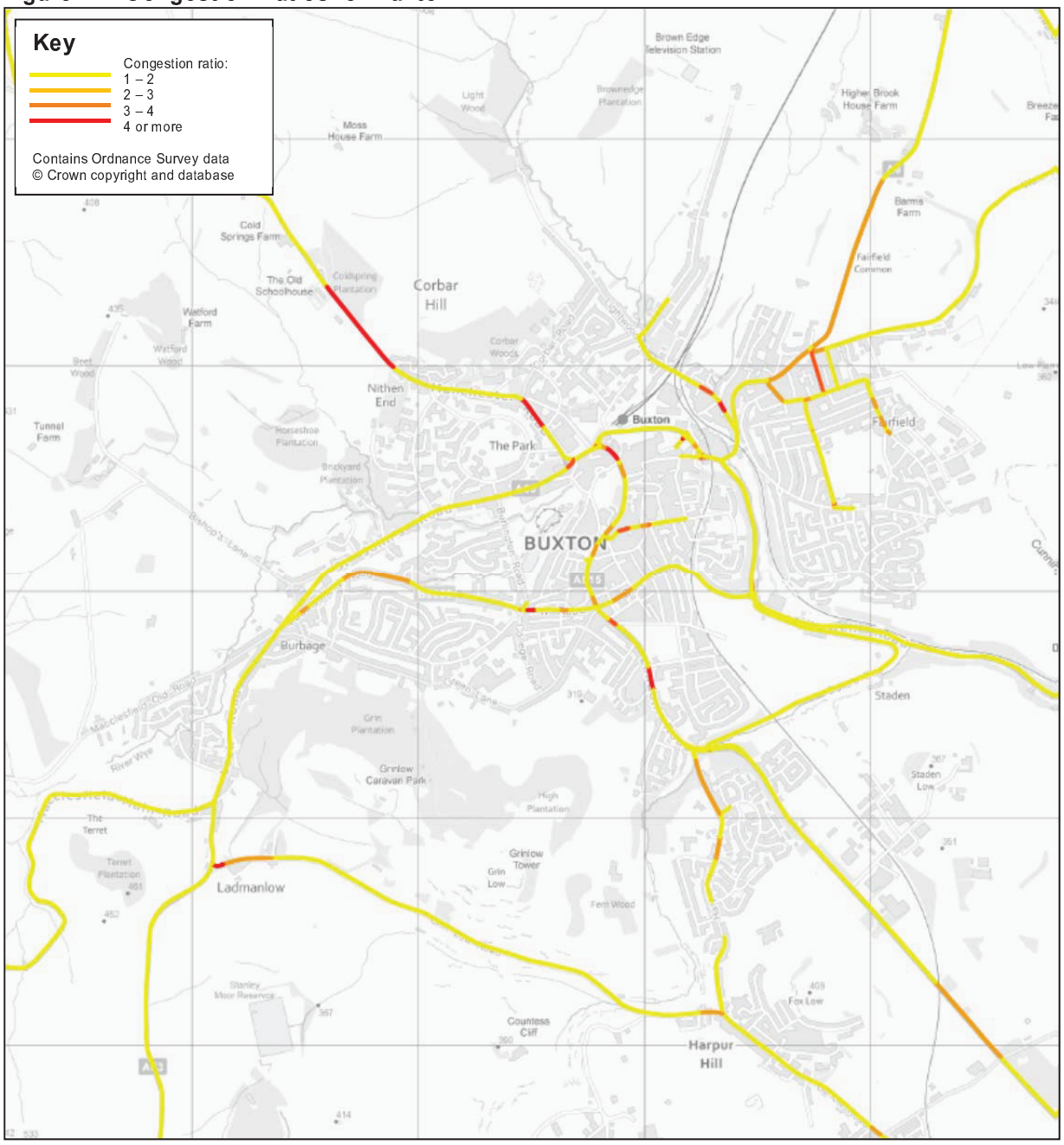
5.1.11 In the Glossop area, the more unreliable links are along the A628 through Hollingworth and Tintwistle. This is expected; there have been proposals to improve the transport infrastructure along this route corridor for many years.

5.1.12 In addition, there are unreliable links in Glossop town centre. These are highlighted:

- at Victoria Street;
- at Arundel Street; and
- in Hadfield (Railway Street, Station Road and Platt Street).

5.1.13 Figure 12 indicates the congestion spots in the Buxton area.

Figure 12: Congestion Ratios for Buxton



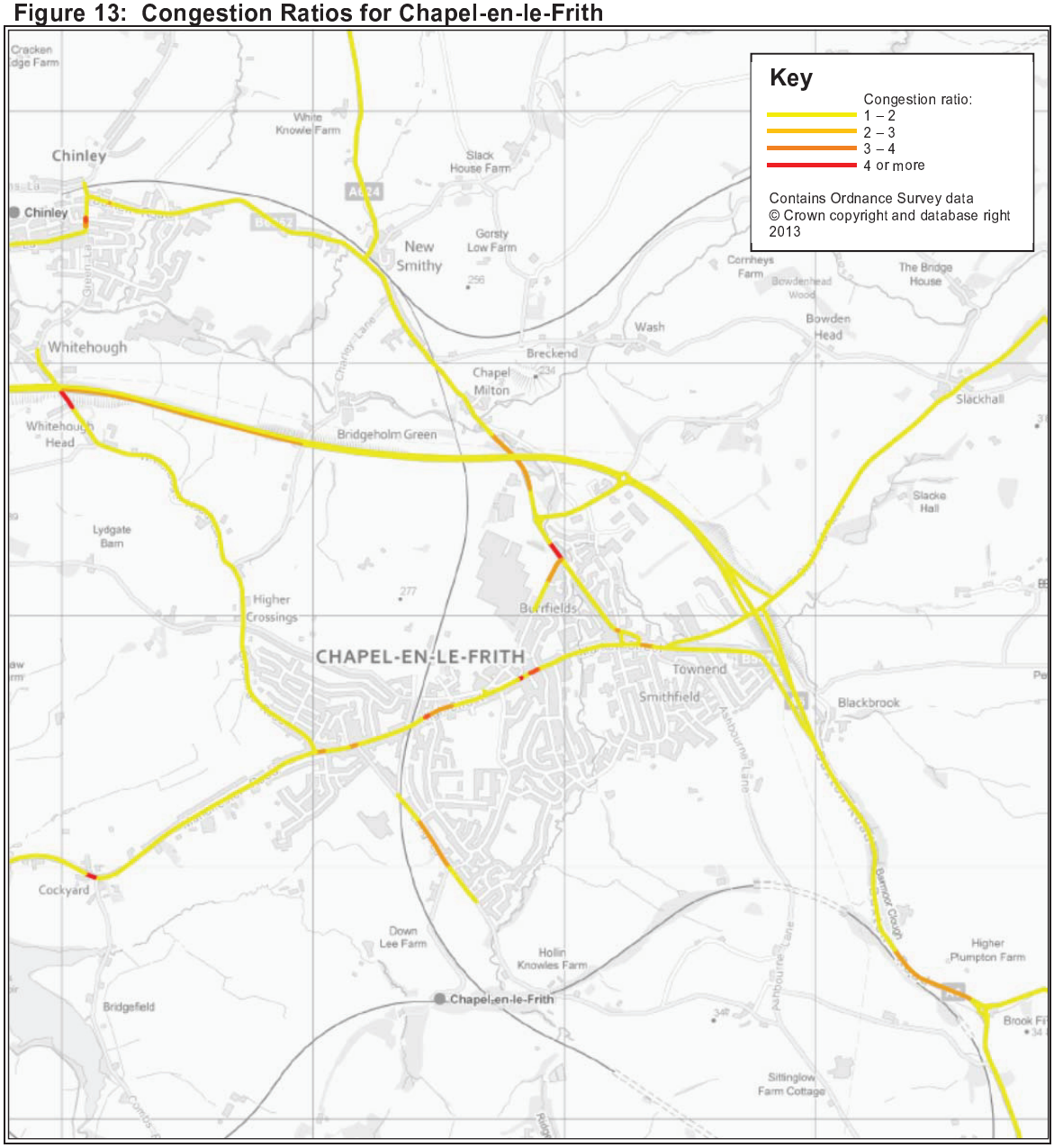
5.1.14 The link on the A5004 to the north-west of Buxton is on a hill with limited overtaking opportunities in the peak periods. Paragraph 5.1.9 above describes similar locations within the overall High Peak Borough's area.

5.1.15 In addition to this, congested links and peripheral pinch points are highlighted in Buxton. Specifically:

- throughout Buxton town centre;
- at the A6 / Waterswallows Road junction in Fairfield; and
- at the A53 / Grin Low Road junction at Ladmanlow.

5.1.16 Figure 13 shows the congestion spots in the Chapel-en-le-Frith area.

Figure 13: Congestion Ratios for Chapel-en-le-Frith

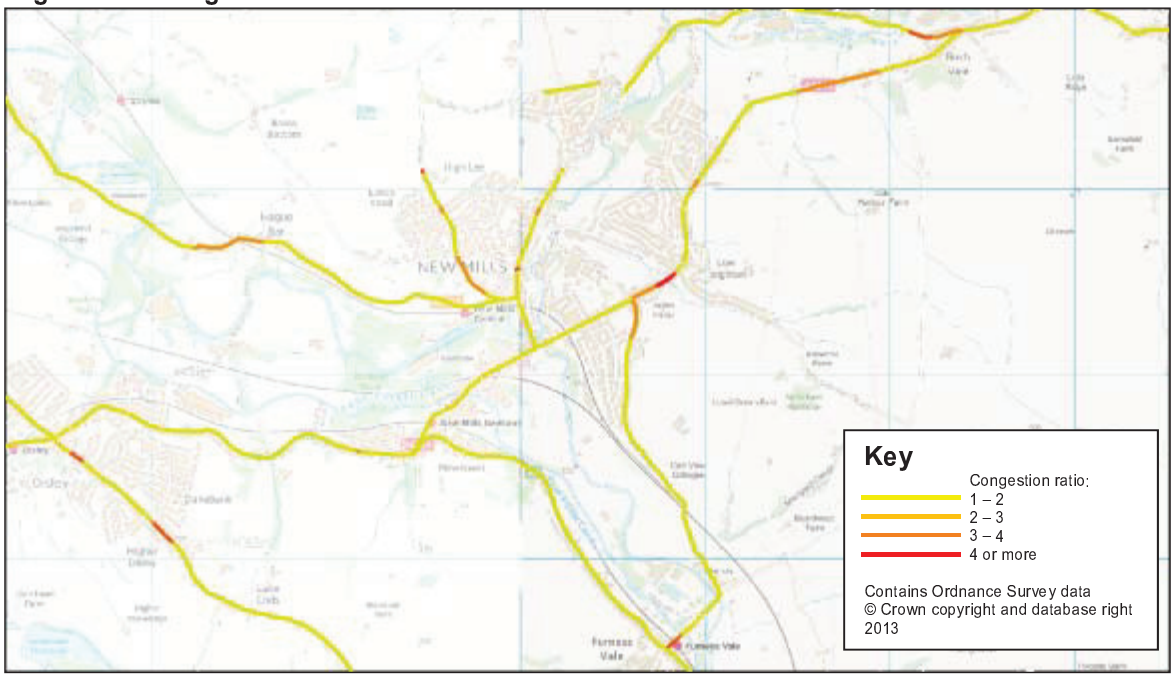


5.1.17 There are few unreliable links in the Chapel-en-le-Frith area. Some delays within the peak hours are highlighted:

- along the B5470 through the town centre;
- at the junction of Burrfields Road and the A624 Hayfield Road; and
- at the A6/A623 roundabout at Dove Holes.

5.1.18 Figure 14 shows the congestion spots in the New Mills area.

Figure 14: Congestion Ratios for New Mills



5.1.19 There are very few unreliable links in the New Mills area. Some delays are indicated within the peak hours, which are probably due to road geometry and features, such as:

- A traffic-controlled pedestrian crossing and a bus stops along A6105 Low Leighton Road;
- A railway level crossing at Station Road in Furness Vale; and
- Gradients, combined with parked cars and limited passing opportunities in the peak hours, along three of the approach roads (at A6015 Hayfield Rd, St Mary's Rd & B6101 Hague Bar).

5.2 Detailed Junction Assessment

Identification of Specific Junctions for Detailed Assessment

5.2.1 The regions likely to be impacted by trips generated by proposed new development sites will depend mainly upon two key factors:

- The conditions on the highway network and specifically where there are likely to be pinch points on the transport network.
- The size of the development sites and specifically in terms of the number of trips that they could generate.

5.2.2 These two main factors need to be considered in combination. In the absence of a transport or traffic model, this process needs to be undertaken subjectively. However, given that the areas covered by the High Peak Local Plan do not include major urban areas, with complex route choices available, then a subjective methodology based upon professional traffic engineering and transport planning judgement is a reasonable approach.

5.2.3 Notwithstanding the above, and as a check against which junctions were assessed in greatest detail within this study, officers from Derbyshire County Council's highways development control unit were consulted to ensure the focus of the study matched their own observations and issues raised in correspondence with members of the public. In addition, recent Transport Assessments submitted in support of private developments have been reviewed with respect to other locations on the network of known interest to Derbyshire highways development control.

Measurement of Junction Performance

5.2.4 As noted in the methodology, the performance of the junctions has been assessed using industry standard software for measuring the performance of isolated junctions. Specifically, the following software has been used:

- LINSIG3 – to identify the performance of signalised junctions;
- Assessment of Roundabout Capacity and Delay (ARCADY8) – to identify the performance of roundabout junctions; and
- Priority Capacity and Delay (PICADY8) – to identify the performance of priority junctions.

5.2.5 The inputs to the above models are geometrical parameters and traffic flows. Geometrical parameters have been taken from OS mapping and confirmed on-site using spot measurements. For the signalised junctions; stage sequences and timings have been obtained from DCCs traffic signals team to ensure the models represent the green-times available to vehicles on street.

5.2.6 As is standard practice, results are presented for the standard network weekday AM (0800 – 0900hrs) and PM (1700 – 1800hrs) peak hours.

Traffic Flow Scenario Groups

5.2.7 The following traffic demand forecasting scenarios have been assessed as part of this work:

- Survey 2013;
- Reference Case 2031; and
- Design Case 2031.

5.2.8 The Reference Case 2031 describes how the local highway network is forecast to operate in 2031 without the introduction of the local plan development. It is derived from applying growth factors to the 2013 survey data. For information, a forecast horizon of 2031 has been selected to match the planning horizon of the Core Strategy. For comparison, the Design Case 2031 describes how the local highway network is forecast to operate in 2031 with the introduction of the new local plan development sites; i.e.

- Reference Case 2031 = Survey 2013 * Growth
- Design Case 2031 = (Survey 2013 * Growth) + Local Plan Development trips

Background Traffic Growth

5.2.9 When planning transport infrastructure, it is generally assumed that traffic volumes will grow over time. This pattern has held true since the 1940s (discounting recessionary effects) and is driven by factors such as increasing car ownership (historically including greater affordability of vehicles, increasing ownership by women etc.) and increasing trip lengths which have both added to the amount of traffic on the road.

5.2.10 Future traffic growth is estimated using forecasts contained within the National Trip End Model (NTEM). These include planning assumptions with regards to housing numbers, population, jobs, etc. The detail of these assumptions is not easily disaggregated to a local level. For this assessment, the NTEM data has been examined using an alternative planning scenario which assumes that there is no increase in housing to 2031. This provides the quantum of traffic growth that could be expected without any development, such that the Local Plan related traffic can be added without the risk of double-counting. For information, and using this alternative planning assumption, the traffic growth rates in the different areas from 2013 to 2031 are shown in Table 5-2.

Table 5-2: NTEM Growth Factors

Area	AM	PM
Glossop	1.130	1.137
Buxton	1.142	1.152
New Mills	1.135	1.143

5.2.11 Table 5-2 provides growth factors that can be applied directly to the AM period and PM period traffic survey data obtained in 2013. As such, and for example, the traffic surveys in Glossop have been increased by a factor of 1.13 (i.e. 13%) in the AM peak to estimate traffic conditions in 2031 (without the introduction of local plan development, as per the formulas shown above).

Trip Distribution and Assignment Assumptions

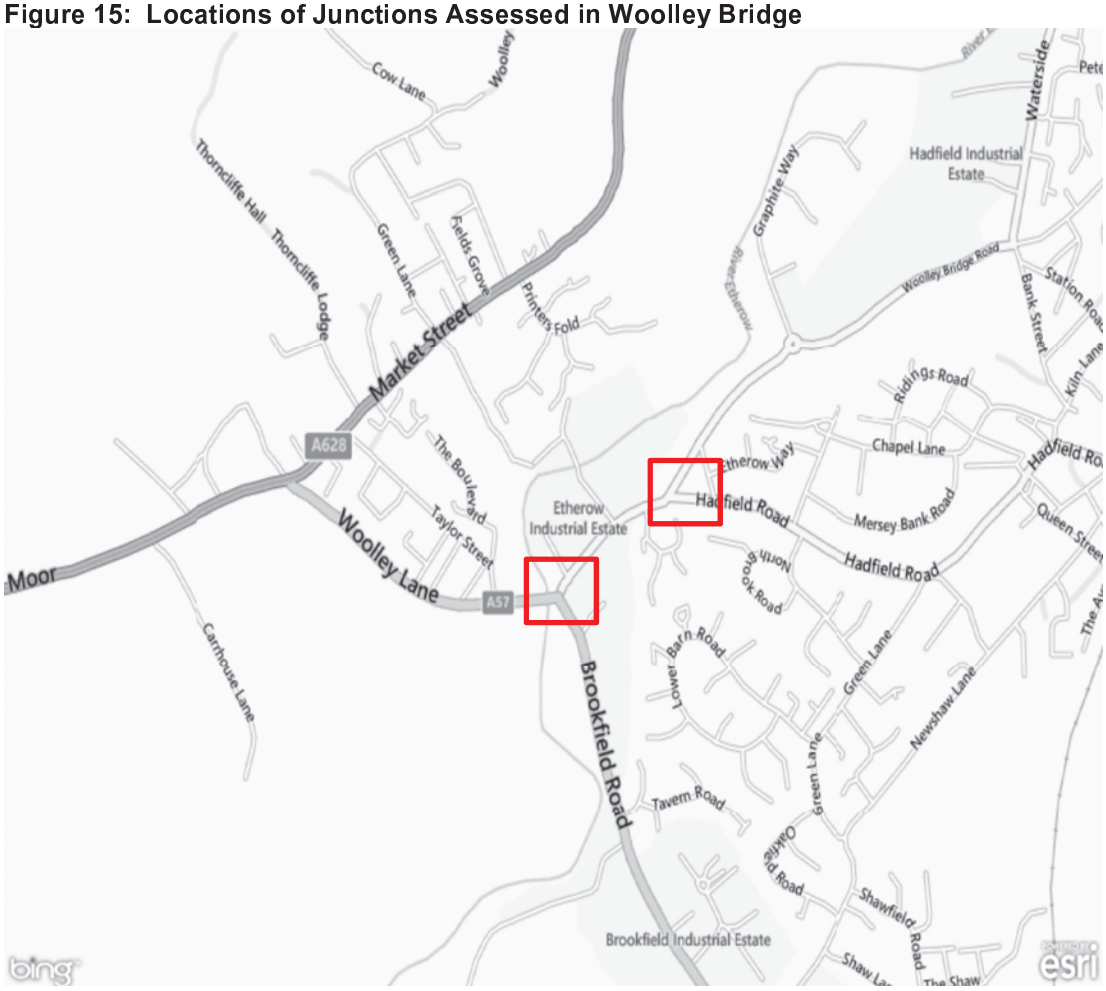
5.2.12 Given the lack of a local area model, and that the Census 2011 Journey to Work data at the origin-destination level of detail is not available at the time of writing (April 2014), a manual approach to trip distribution has been undertaken to assign the trips identified in Section 4 to the local highway network.

5.3 Woolley Bridge

5.3.1 Two junctions in Woolley Bridge have been identified which have the potential to experience a detrimental impact due to trips from the proposed development sites. These are shown in Figure 15, and are located at:

- A57 / Woolley Bridge Road; and
- Woolley Bridge Road / Hadfield Road.

Figure 15: Locations of Junctions Assessed in Woolley Bridge



5.3.2 These junctions have been the subject of Transport Assessments for recent planning applications. Based upon this information, Derbyshire County Council has taken a view as to how the junctions might be impacted by the new development sites in the High Peak Local Plan.

5.3.3 **Woolley Bridge: A57 / Woolley Bridge Road:** This is a three-arm roundabout junction, which has mini-roundabout road markings and signing. The approach lanes to the roundabout are just one vehicle wide. The A57 west arm approaches on a bridge structure with stone parapets.

5.3.4 The roundabout is constrained by adjacent housing and a disused public house on all three corners. Footways are provided alongside two of the three approaches and exits are of minimum width. On the A57 west, there are no footways adjacent to the road; pedestrians are accommodated by a separate bridge structure located on the north side of the A57.

5.3.5 Woolley Lane is heavily trafficked consequently the junction is severely congested with queues forming from the junction along all three of its approach roads for much of the day. Due to both the horizontal alignment of all the approach roads and presence of the River Etherow there is no scope to provide cost effective improvements to the junction. Consequently this junction was not considered further by the Transport Study. It is difficult to see what conclusion a transportation assessment could suggest other than there being an identified need for mitigation and that there is little in practice that could be provided other than the construction of the Glossop Spur. This infrastructure scheme is described further at paragraph 5.8.5.

5.3.6 **Woolley Bridge: Woolley Bridge Road / Hadfield Road:** This is a three-arm priority junction, which maintains priority for traffic approaching along Woolley Bridge Road as the major road and is aligned along a bend through the junction. Hadfield Road is the minor road with give-way road markings and signing, although the left turn to Woolley Bridge Road west is actually a straight alignment. Drivers turning right into Hadfield Road would have to wait on the bend for an opportunity in the opposing flow before completing their manoeuvre. This right-turning vehicle is likely to block the flow of eastbound traffic along the Woolley Bridge Road.

5.3.7 The Local Plan's Options for Consultation identifies a 4.17 hectares site at Roughfields, Hadfield having potential capacity for about 102 dwellings. Access to the site could possibly be provided as an extension to Vale House Drive (subject to land control and no ransom strip) or from Padfield Main Road. A through-route linking Vale House Drive and Padfield Main Road would be highly desirable to improve permeability. The Highway Authority though would not wish to see direct access to any frontage development along Padfield Main Road.

5.3.8 Woolley Bridge Road also serves the Rossington Business Park. This site currently has a range of existing occupiers taking advantage of this strategic location. There are a number of vacant plots, all of which have outline or full planning permission for B1, B2 or B8 uses totalling 12,500 square metres, gross floor area.

5.3.9 Woolley Bridge Road at its junction with Hadfield Road is abutted by property on all three arms to the junction so inevitably there would be limited scope for improvement. The junction is a 3 arm junction. Traffic from the Hadfield Road entry has to give way to movements on Woolley Bridge Road. It is estimated that 103 dwellings would generate about an additional 58 outbound movements in the AM peak hour, or 1 per minute through the junction. Traffic to and from this proposed residential site together with that to and from Rossington Park employment area would largely be through the junction with relatively few movements likely between Hadfield Road the side road. Although there would be some additional traffic through the junction, the Highway Authority does not feel that congestion would be of such a level of severity as to sustain an objection to the new development proposals on highway grounds.

5.4 Glossop

5.4.1 A distribution and assignment has been undertaken using the A57 / Norfolk Street / Victoria Street as the 'basepoint' junction. The trips from each proposed development site has been assigned through this junction governed by the compass point along which each development lies in relation to the junction (i.e. if a development was to the north of the junction, trips would route to / from Norfolk Street etc.). However, it is important to note that, in practice, not all trips associated with each development would route through the junction. For instance, trips from developments to the north of the junction heading for Manchester would be unlikely to route via the A57 / Norfolk Street / Victoria Street junction because other routes are available.

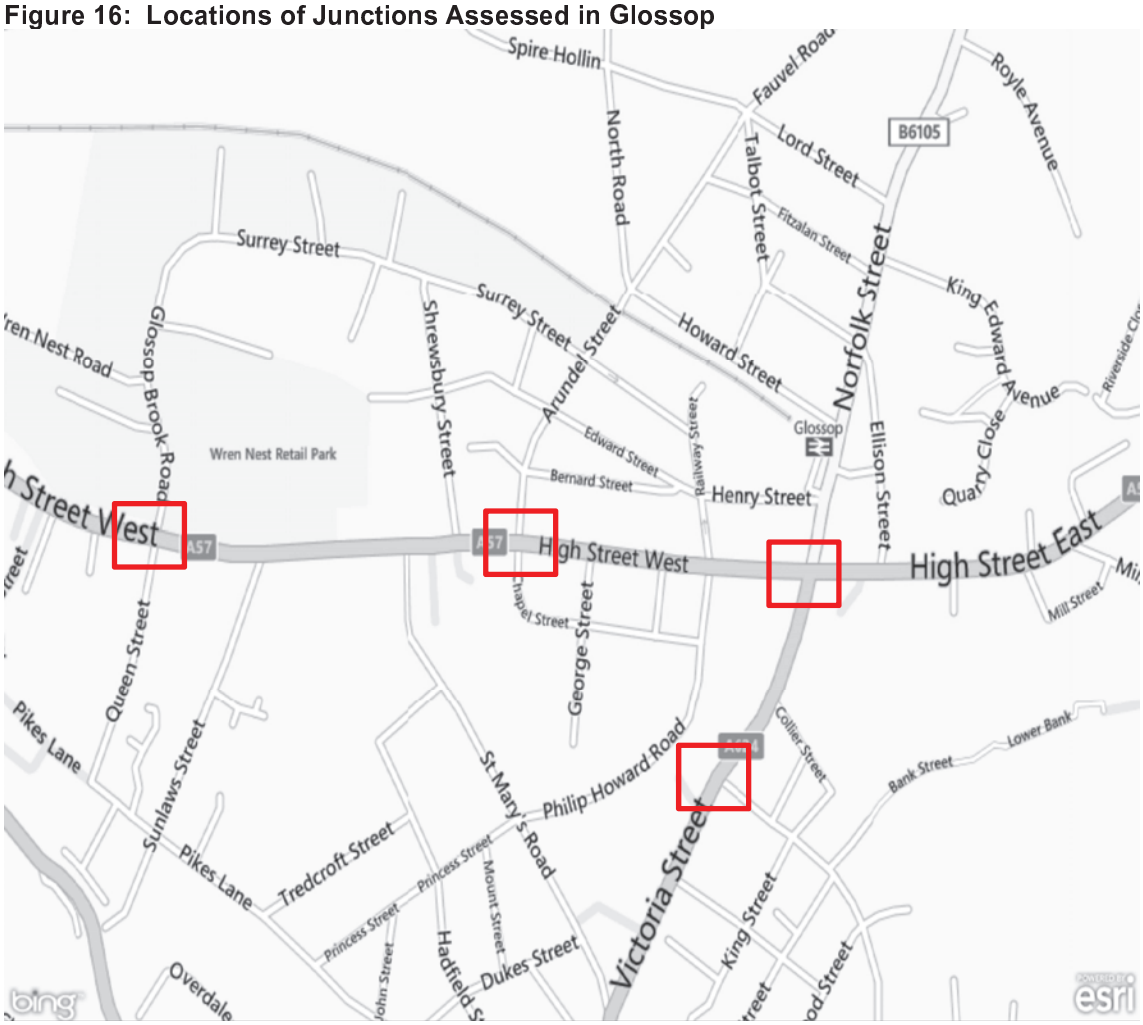
5.4.2 To estimate the total number of trips likely to route through those junctions of interest to this report, information has been extracted from the Stage 1 (High Peak and Derbyshire Dales) Strategic Transport Issues Report (Scott Wilson, March 2010) which used 2001 Census data to identify that 29% of work-related car trips from the High Peak were destined for the north-

west (e.g. Manchester, Stockport etc.), 54% were contained within the High Peak area and the remainder bound for other destinations. Combined with the turning splits recorded at the A57 / Norfolk Street / Victoria Street junction, development trips have been assigned to the junction (whilst also assuming that 50% of the trips contained within the High Peak area route through the A57 / Norfolk Street / Victoria Street junction from each of its approach arms).

5.4.3 The above means that 41.2% of total trips are forecast to route through the A57 / Norfolk Street / Victoria Street junction. All trips have then been assigned to the adjacent junctions to both the west (High Street / Arundel Street / Chapel Street & High Street / Queen Street / Glossop Brook Road) and south (Victoria Street / Gladstone Street).

5.4.4 Notwithstanding the above, the proposed development off Bank Street is very close to the Victoria Street / Gladstone Street priority junction. As such, all traffic from this development has been added to the junction on the more difficult right-turns to and from the junction in order to provide a robust capacity analysis.

Figure 16: Locations of Junctions Assessed in Glossop



5.4.5 A local 'basepoint' junction has been identified and used for routing the trips from developments heading into Glossop. This approach ensured that all new trips that are likely to route through the junctions were tested. In addition, sensitivity tests have been undertaken to account for potential routeing options available for development-related traffic.

5.4.6 **B6105 Woodhead Rd / Hall Meadow Rd / Talbot Rd / Fauvel Rd:** This is a five arm priority junction located to the north of Glossop's centre. The B6105 is orientated north-south and maintains a priority over the movements to and from the other three roads. Talbot Road on the west side maintains a priority over Fauvel Road. The priorities are defined by three sets of 'give-way' road markings and signing.

5.4.7 The High Peak Local Plan Option for Consultation identifies a number of sites which could cumulatively lead to 150 or so dwellings on land served off the B6105 Woodhead Road. It is anticipated that traffic from this quantum of development would generate about 90 peak hour movements; or about 1 extra vehicle every 45 seconds. Whilst some development trips would inevitably make turning movements at the junction, the majority of movements would more than likely be through the junction and would not have to egress any of the stop lines on the approaches to the junction. An increased number of movements through the junction would reduce gaps for the drivers of vehicles entering the junction from the side roads, which would marginally add to congestion particularly during peak times. However, taking into account the scale of development currently envisaged, it is the opinion of the Highway Authority that congestion would not be of such a level of severity as to sustain an objection to the development proposals on highway grounds.

5.4.8 **A57 (High Street) / Norfolk Street / Victoria Street:** This is a traffic signal controlled junction, in the centre of Glossop. Pedestrian facilities are available across all approach roads, and development has been constructed close to the junction which limits the potential to increase the capacity of the junction.

5.4.9 Given that it is a signalised junction; LINSIG 3 has been used to identify the operation of the junction with the results summarised in Tables 5.3 to 5.5. These results assume the pedestrian phase is called once in every two cycles of the traffic signals.

Table 5-3: Operation of the A57 / Norfolk Street / Victoria Street Junction – 2013 Survey

Arm	AM (0800 – 0900hrs)		PM (1700 – 1800hrs)	
	DoS	MMQ	DoS	MMQ
A57 (east)	60.2%	10.5	55.6%	8.7
Victoria Street	58.2%	6.9	53.4%	6.0
A57 (west)	42.2%	6.6	56.2%	8.8
Norfolk Street	59.3%	7.6	55.5%	7.4
	PRC	49.5%	PRC	60.0%
	Veh Delay (PCU Hrs)	12.37	Veh Delay (PCU Hrs)	12.47

Notes: *DoS = Degree of Saturation. A measure of the trafficking of an approach arm to the junction in relation to its ability to accommodate such flow.*
MMQ = Mean Maximum Queue reported on a per arm basis
PRC = Percentage of Reserve Capacity. A measure of the overall "spare" capacity at a junction.
Delay = Vehicle Delay in PCU/hours.

Table 5-4: Operation of the A57 / Norfolk Street / Victoria Street Junction – 2031 (Without Local Plan Development)

Arm	AM (0800 – 0900hrs)		PM (1700 – 1800hrs)	
	DoS	MMQ	DoS	MMQ
A57 (east)	68.0%	12.7	63.3%	10.4
Victoria Street	65.8%	8.5	60.6%	8.1
A57 (west)	47.7%	7.6	63.9%	10.6
Norfolk Street	67.0%	9.3	63.0%	9.6
	PRC	32.3%	PRC	40.9%
	Veh Delay (PCU Hrs)	15.03	Veh Delay (PCU Hrs)	15.29

Notes: DoS = Degree of Saturation. A measure of the trafficking of an approach arm to the junction in relation to its ability to accommodate such flow.
MMQ = Mean Maximum Queue reported on a per arm basis
PRC = Percentage of Reserve Capacity. A measure of the overall "spare" capacity at a junction.
Delay = Vehicle Delay in PCU/hours.

Table 5-5: Operation of the A57 / Norfolk Street / Victoria Street Junction – 2031 (With Local Plan Development)

Arm	AM (0800 – 0900hrs)		PM (1700 – 1800hrs)	
	DoS	MMQ	DoS	MMQ
A57 (east)	80.6%	20.4	82.1%	17.4
Victoria Street	78.4%	12.7	79.8%	12.3
A57 (west)	62.6%	13.4	84.0%	18.2
Norfolk Street	79.6%	14.0	70.0%	12.6
	PRC	11.7%	PRC	7.1%
	Veh Delay (PCU Hrs)	22.46	Veh Delay (PCU Hrs)	23.91

Notes: DoS = Degree of Saturation. A measure of the trafficking of an approach arm to the junction in relation to its ability to accommodate such flow.
MMQ = Mean Maximum Queue reported on a per arm basis
PRC = Percentage of Reserve Capacity. A measure of the overall "spare" capacity at a junction.
Delay = Vehicle Delay in PCU/hours.

5.4.10 LINSIG3 software provides outputs for both individual entry 'arms' and the junction as a whole. For the individual arms, the outputs are Degree of Saturation (DoS) and Mean Maximum Queue-length (MMQ). A total-junction statistic known as the Practical Reserve Capacity (PRC) is also reported, which shows the percentage of "spare" capacity left at the junction.

5.4.11 LINSIG works on the basis that a junction is considered to be at capacity when the individual junction arm DoS values exceeds 90%. Below this threshold, queues begin to increase slowly as the DoS increases. Above this threshold, queues begin to elongate rapidly. As the DoS on any arm increases, the PRC remaining at the junction decreases.

5.4.12 As this junction is in the centre of Glossop, the pedestrian phases are likely to be called more often than for signalised junctions outside of a town centre; particularly during the AM peak when children are heading to / from school. As such, the models have been re-run assuming the pedestrian phase is called in every cycle. The LINSIG analysis in the baseline year of 2013 using observed traffic demands is presented in Table 5-6. The 2031 forecast results are summarised in Table 5-7 and Table 5-8. Actual performance of the junction is likely to be between the two sets of results; biased towards the pedestrian phase being called every cycle in the AM peak, and once in every two cycles in the PM peak.

Table 5-6: Operation of the A57 / Norfolk Street / Victoria Street Junction – 2013 Survey

Arm	AM (0800 – 0900hrs)		PM (1700 – 1800hrs)	
	DoS	MMQ	DoS	MMQ
A57 (east)	70.8%	11.8	65.5%	9.8
Victoria Street	68.8%	7.8	62.1%	6.9
A57 (west)	49.7%	7.1	66.2%	10.0
Norfolk Street	69.4%	8.6	65.3%	8.3
	PRC	27.1%	PRC	35.9%
	Veh Delay (PCU Hrs)	15.69	Veh Delay (PCU Hrs)	15.68

Notes: *DoS = Degree of Saturation. A measure of the trafficking of an approach arm to the junction in relation to its ability to accommodate such flow.*
MMQ = Mean Maximum Queue reported on a per arm basis
PRC = Percentage of Reserve Capacity. A measure of the overall "spare" capacity at a junction.
Delay = Vehicle Delay in PCU/hours.

Table 5-7: Operation of the A57 / Norfolk Street / Victoria Street Junction – 2031 (Without Local Plan Development)

Arm	AM (0800 – 0900hrs)		PM (1700 – 1800hrs)	
	DoS	MMQ	DoS	MMQ
A57 (east)	80.0%	14.5	74.5%	11.9
Victoria Street	78.1%	9.9	77.0%	9.2
A57 (west)	56.1%	8.4	75.2%	12.1
Norfolk Street	78.5%	10.7	74.2%	10.9
	PRC	12.5%	PRC	16.9%
	Veh Delay (PCU Hrs)	19.97	Veh Delay (PCU Hrs)	20.24

Notes: *DoS = Degree of Saturation. A measure of the trafficking of an approach arm to the junction in relation to its ability to accommodate such flow.*
MMQ = Mean Maximum Queue reported on a per arm basis
PRC = Percentage of Reserve Capacity. A measure of the overall "spare" capacity at a junction.
Delay = Vehicle Delay in PCU/hours.

Table 5-8: Operation of the A57 / Norfolk Street / Victoria Street Junction – 2031 (With Local Plan Development)

Arm	AM (0800 – 0900hrs)		PM (1700 – 1800hrs)	
	DoS	MMQ	DoS	MMQ
A57 (east)	93.6%	21.6	90.0%	17.7
Victoria Street	96.4%	17.9	102.9%	26.3
A57 (west)	72.7%	12.2	92.9%	19.1
Norfolk Street	94.6%	18.0	88.7%	15.0
	PRC	-7.1%	PRC	-14.3%
	Veh Delay (PCU Hrs)	39.15	Veh Delay (PCU Hrs)	48.32

Notes: *DoS = Degree of Saturation. A measure of the trafficking of an approach arm to the junction in relation to its ability to accommodate such flow.*
MMQ = Mean Maximum Queue reported on a per arm basis
PRC = Percentage of Reserve Capacity. A measure of the overall "spare" capacity at a junction.
Delay = Vehicle Delay in PCU/hours.

5.4.13 As can be seen from Table 5-7 and Table 5-8, the addition of Local Plan related development trips would take-up the remaining capacity at this junction and lead to queuing in both the AM and PM peak periods (assuming that the pedestrian phases are demanded in every cycle).

5.4.14 Of particular note; on site observation indicated that some delays were caused by waiting vehicles and drivers allowing vehicles from nearby side roads into the main traffic stream, the effect of which is not represented by the LINSIG modelling. This means that actual junction throughput is overestimated in the LINSIG modelling (as saturation flows have been based on standard junction parameters). As such, one potential mitigation strategy could be to review traffic management arrangements in the vicinity of the junction to maximise traffic throughput to its apparent potential. It is understood that this junction currently operates with MOVA control, which is the most advanced form of traffic signal control available for isolated traffic signal installations. It would be possible to join this junction into a linked MOVA system to maintain an efficient throughput through all linked junctions on the A57, the traffic signalled junctions on the A57 which could have linked MOVA installed are highlighted in Figure 16.

5.4.15 Full LINSIG outputs and traffic flow profiles are given in Appendix D.

5.4.16 **A624 Victoria Street / Gladstone Street:** This is a priority junction, which leads to residential development off one of the main radial routes into Glossop. As such, PICADY8 has been used to assess the operation of the junction with the results summarised in Table 5-9.

Table 5-9: Operation of the A624 / Gladstone Street Junction – 'Worst' Arm Results

Scenario	AM (0800 – 0900hrs)		PM (1700 – 1800hrs)	
	RFC	Q	RFC	Q
Survey 2013	0.20	0.24	0.18	0.21
Reference Case	0.23	0.30	0.21	0.27
Design	0.28	0.38	0.25	0.33

Notes: RFC = Ratio of Flow to Capacity. A measure of the trafficking at the junction in relation to its ability to accommodate such flow, reported on a worst-arm basis.
Q = Mean Maximum Vehicle Queue, reported on a worst arm basis.

5.4.17 PICADY software has been run using a synthesised profile and provides outputs in the form of Ratios of Flow to Capacity (RFC) and queue length (Q). A synthesised profile includes a 12.5% mid-peak 'surge' to robustly test the performance of the junction. For a new junction, a worst-arm target RFC value of 0.85 during a single time segment is preferred (0.75 in a rural area) as this minimises the chance that queuing will occur at a newly-designed junction. For existing junctions, RFC values above 0.85 are likely to produce queues at times of intense flow demand within the peak hour. Above an RFC value of 1.0, a junction is more than likely to be at capacity (with resulting larger increases in queue length).

5.4.18 The proposed Local Plan development sites would add trips to this junction, but, as can be seen from Table 5-9, the junction would operate without undue congestion or queuing.

5.4.19 Full PICADY outputs and traffic flow profiles are given in Appendix E.

5.4.20 **A57 High Street / Arundel Street / Chapel Street:** This is a signalised junction. As such, LINSIG 3 has been used to identify the operation of the junction with the results summarised in Tables 5.10 to 5.12.

Table 5-10: Operation of the A57 / Arundel Street / Chapel Street Junction – 2013 Survey Data

Arm	AM (0800 – 0900hrs)		PM (1700 – 1800hrs)	
	DoS	MMQ	DoS	MMQ
A57 (east)	40.6%	6.5	42.6%	6.8
Chapel Street	20.8%	2.3	26.1%	2.8
A57 (west)	60.5%	10.8	61.7%	10.9
Arundel Street	61.1%	7.4	61.3%	7.4
	PRC	47.4%	PRC	45.9%
	Veh Delay (PCU Hrs)	9.02	Veh Delay (PCU Hrs)	9.78

Notes: DoS = Degree of Saturation. A measure of the trafficking of an approach arm to the junction in relation to its ability to accommodate such flow.
MMQ = Mean Maximum Queue reported on a per arm basis
PRC = Percentage of Reserve Capacity. A measure of the overall "spare" capacity at a junction.
Delay = Vehicle Delay in PCU/hours.

Table 5-11: Operation of the A57 / Arundel Street / Chapel Street Junction – Reference Case 2031

Arm	AM (0800 – 0900hrs)		PM (1700 – 1800hrs)	
	DoS	MMQ	DoS	MMQ
A57 (east)	46.4%	7.8	48.5%	8.1
Chapel Street	23.1%	2.3	29.7	3.3
A57 (west)	69.2%	13.5	70.1%	13.3
Arundel Street	68.5%	7.8	70.0%	9.1
	PRC	30.1%	PRC	23.4%
	Veh Delay (PCU Hrs)	11.03	Veh Delay (PCU Hrs)	12.06

Notes: DoS = Degree of Saturation. A measure of the trafficking of an approach arm to the junction in relation to its ability to accommodate such flow.
MMQ = Mean Maximum Queue reported on a per arm basis
PRC = Percentage of Reserve Capacity. A measure of the overall "spare" capacity at a junction.
Delay = Vehicle Delay in PCU/hours.

Table 5-12: Operation of the A57 / Arundel Street / Chapel Street Junction – Design Case 2031

Arm	AM (0800 – 0900hrs)		PM (1700 – 1800hrs)	
	DoS	MMQ	DoS	MMQ
A57 (east)	54.3%	10.3	56.7%	10.5
Chapel Street	25.8%	2.5	32.8%	3.5
A57 (west)	76.7%	17.3	77.5%	17.0
Arundel Street	76.3%	9.0	77.1%	10.1
	PRC	17.3%	PRC	16.2%
	Veh Delay (PCU Hrs)	13.29	Veh Delay (PCU Hrs)	14.49

Notes: DoS = Degree of Saturation. A measure of the trafficking of an approach arm to the junction in relation to its ability to accommodate such flow.
MMQ = Mean Maximum Queue reported on a per arm basis
PRC = Percentage of Reserve Capacity. A measure of the overall "spare" capacity at a junction.
Delay = Vehicle Delay in PCU/hours.

5.4.21 As can be seen from Tables 5.10 – 5.12, the local plan related development would add to traffic at this junction but the overall junction performance should remain within its operational capacity.

5.4.22 Full LINSIG outputs and traffic flow profiles are given in Appendix F.

5.4.23 **A57 High Street / Queen Street / Glossop Brook Road:** This is a signalised junction. As such, LINSIG 3 has been used to identify the operation of the junction with the results summarised in Tables 5.13 to 5.15.

Table 5-13: Operation of the A57 / Queen Street / Glossop Brook Road Junction – 2013 Survey Data

Arm	AM (0800 – 0900hrs)		PM (1700 – 1800hrs)	
	DoS	MMQ	DoS	MMQ
A57 (east)	51.0%	9.5	61.9%	10.6
Queen Street	18.9%	0.9	6.2%	0.5
A57 (west)	67.1%	16.4	73.2%	14.7
Glossop Brook Street	52.3%	2.9	74.1%	6.8
	PRC	34.1%	PRC	21.5%
	Veh Delay (PCU Hrs)	8.99	Veh Delay (PCU Hrs)	13.87

Notes: *DoS = Degree of Saturation. A measure of the trafficking of an approach arm to the junction in relation to its ability to accommodate such flow.*
MMQ = Mean Maximum Queue reported on a per arm basis
PRC = Percentage of Reserve Capacity. A measure of the overall "spare" capacity at a junction.
Delay = Vehicle Delay in PCU/hours.

Table 5-14: Operation of the A57 / Queen Street / Glossop Brook Road Junction – Reference Case 2031

Arm	AM (0800 – 0900hrs)		PM (1700 – 1800hrs)	
	DoS	MMQ	DoS	MMQ
A57 (east)	57.7%	12.1	71.0%	13.8
Queen Street	21.4%	1.0	6.9%	0.6
A57 (west)	75.8%	20.6	84.3%	18.9
Glossop Brook Street	59.8%	3.2	82.8%	8.6
	PRC	18.7%	PRC	6.7%
	Veh Delay (PCU Hrs)	11.33	Veh Delay (PCU Hrs)	18.87

Notes: *DoS = Degree of Saturation. A measure of the trafficking of an approach arm to the junction in relation to its ability to accommodate such flow.*
MMQ = Mean Maximum Queue reported on a per arm basis
PRC = Percentage of Reserve Capacity. A measure of the overall "spare" capacity at a junction.
Delay = Vehicle Delay in PCU/hours.

Table 5-15: Operation of the A57 / Queen Street / Glossop Brook Road Junction – Design Case 2031

Arm	AM (0800 – 0900hrs)		PM (1700 – 1800hrs)	
	DoS	MMQ	DoS	MMQ
A57 (east)	65.8%	15.7	80.5%	19.1
Queen Street	21.4%	0.9	8.0%	0.6
A57 (west)	86.3%	27.1	91.0%	25.5
Glossop Brook Street	59.8%	3.1	91.4%	12.0
	PRC	4.3%	PRC	-1.5%
	Veh Delay (PCU Hrs)	14.73	Veh Delay (PCU Hrs)	25.36

Notes: *DoS = Degree of Saturation. A measure of the trafficking of an approach arm to the junction in relation to its ability to accommodate such flow.*
MMQ = Mean Maximum Queue reported on a per arm basis
PRC = Percentage of Reserve Capacity. A measure of the overall "spare" capacity at a junction.
Delay = Vehicle Delay in PCU/hours.

5.4.24 As can be seen from Tables 5.13 – 5.15, the local plan related development would add to traffic at this junction, with the remaining capacity at the junction exhausted in the PM peak.

5.4.25 Full LINSIG outputs and traffic flow profiles are given in Appendix G.

5.4.26 For all the signalised junctions in Glossop, there could be scope to improve co-ordination of the operation of the signals by introducing a linked MOVA system. This would enable the local highway authority to manage queues between junctions and make best use of the available highway capacity.

5.5 Gamesley

5.5.1 One junction in Gamesley has been identified with the potential to be detrimentally impact by trips from the proposed development sites. This is at:

- A626 Glossop Road / Melandra Castle Road.

Figure 17: Locations of Junctions Assessed in Gamesley

5.5.2 This junction has been the subject of a Transport Assessment for a recent planning application. Based upon this information, Derbyshire County Council has taken a view as to how the junctions might be impacted by the development sites in the High Peak Local Plan.

5.5.3 **A626 Glossop Road / Melandra Castle Road:** This is a three-arm priority junction, which has give-way road markings and signing to indicate that trips on the A626 have priority over the other turning movements. The A626 Glossop Road is orientated east-west and Melandra Castle Road is located to the north of the A626. An access to an industrial building (possibly now used for storage) forms a fourth connection to the junction on the south side of the A626. As part of a planning consent for this building, the junction access will be modified.

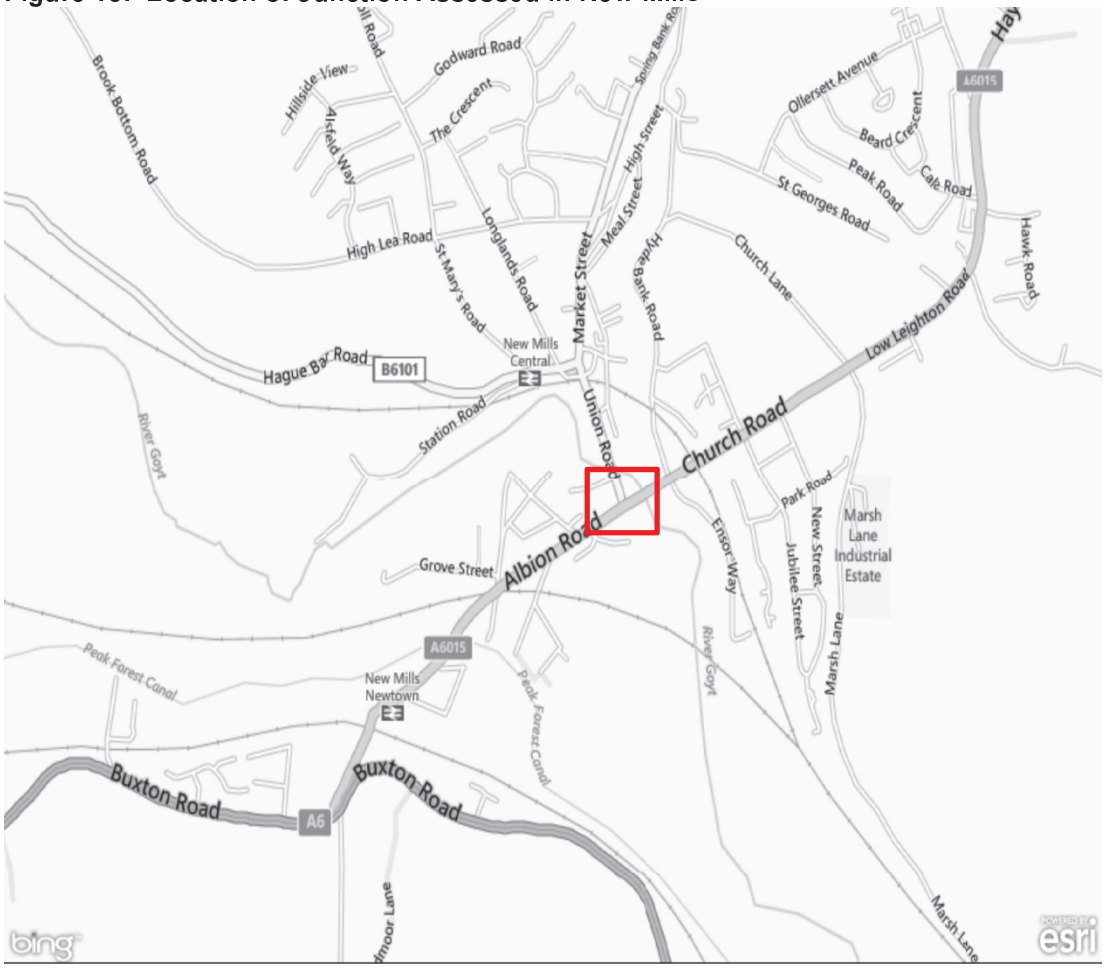
5.5.4 There is a single footway adjacent to the A626 Glossop Road, which is located on its north side.

5.5.5 There is a considerable area of highway verge that would not constrain a significant improvement to this junction, or introduction of traffic signal control were it to be required. An initial indicative cost of introducing traffic signal control would include provision of controller, cutting of induction loops in the carriageway, a modest amount of engineering to provide a revision to the kerb line, carriageway with localised widening, would be estimated to be £200,000. The cost estimate does not include provision for any statutory undertaker's apparatus.

5.6 New Mills:

5.6.1 In New Mills a single junction has been assessed A6015 Church Road / B6101 Union Road, the location of which is shown in Figure 18.

Figure 18: Location of Junction Assessed in New Mills



5.6.2 **A6015 Church Road / B6101 Union Road**: This is a signalised junction. As such, LINSIG 3 has been used to identify the operation of the junction with the results summarised in Tables 5.16 to 5.18.

Table 5-16: Operation of the A6015 / B6101 Junction – 2013 Survey Data

Arm	AM (0800 – 0900hrs)		PM (1700 – 1800hrs)	
	DoS	MMQ	DoS	MMQ
Church Road	49.8%	5.5	40.4%	3.6
Albion Road	36.4%	5.2	71.3%	13.9
Union Road	49.1%	4.3	71.2%	6.0
	PRC	80.7%	PRC	26.2%
	Veh Delay (PCU Hrs)	7.33	Veh Delay (PCU Hrs)	11.16

Notes: *DoS = Degree of Saturation. A measure of the trafficking of an approach arm to the junction in relation to its ability to accommodate such flow.*
MMQ = Mean Maximum Queue reported on a per arm basis
PRC = Percentage of Reserve Capacity. A measure of the overall "spare" capacity at a junction.
Delay = Vehicle Delay in PCU/hours.

5.6.3 Full LINSIG outputs and traffic flow profiles are given in Appendix I.

Table 5-17: Operation of the A6015 / B6101 Junction – Reference Case 2031

Arm	AM (0800 – 0900hrs)		PM (1700 – 1800hrs)	
	DoS	MMQ	DoS	MMQ
Church Road	56.5%	7.4	52.3%	4.5
Albion Road	41.3%	6.2	81.5%	17.4
Union Road	55.9%	5.0	81.4%	8.6
	PRC	59.2%	PRC	10.5%
	Veh Delay (PCU Hrs)	8.75	Veh Delay (PCU Hrs)	14.95

Notes: *DoS = Degree of Saturation. A measure of the trafficking of an approach arm to the junction in relation to its ability to accommodate such flow.*
MMQ = Mean Maximum Queue reported on a per arm basis
PRC = Percentage of Reserve Capacity. A measure of the overall "spare" capacity at a junction.
Delay = Vehicle Delay in PCU/hours.

Table 5-18: Operation of the A6015 / B6101 Junction – Design Case 2031

Arm	AM (0800 – 0900hrs)		PM (1700 – 1800hrs)	
	DoS	MMQ	DoS	MMQ
Church Road	71.3%	12.6	100.6%	21.5
Albion Road	43.7%	7.1	102.8%	46.5
Union Road	71.2%	6.1	102.0%	29.2
	PRC	26.2%	PRC	-14.2%
	Veh Delay (PCU Hrs)	11.77	Veh Delay (PCU Hrs)	68.8

Notes: *DoS = Degree of Saturation. A measure of the trafficking of an approach arm to the junction in relation to its ability to accommodate such flow.*
MMQ = Mean Maximum Queue reported on a per arm basis
PRC = Percentage of Reserve Capacity. A measure of the overall "spare" capacity at a junction.
Delay = Vehicle Delay in PCU/hours.

5.6.4 As can be seen from Table 5-18, in the PM peak hour, the junction would operate at capacity in the design year if all local development traffic were to route through the junction. However, this is unlikely given the potential routeing options; as such, a sensitivity test has been performed on the junction based on reduced flows through the junction.

5.6.5 On each arm, the proposed local plan development vehicle flows have been reduced by 50% following a review of the locations of these developments. The reason for reducing the flows is that all of the vehicle trips from the proposed developments are unlikely to route through the junction in their entirety, given the location of the development sites and the available road connections to other settlements. The actual performance of the junction is therefore likely to be between the results shown in Table 5-18 and Table 5-19.

Table 5-19: Operation of the A6015 / B6101 Junction – Design Case 2031 (Sensitivity)

Arm	AM (0800 – 0900hrs)		PM (1700 – 1800hrs)	
	DoS	MMQ	DoS	MMQ
Church Road	64.0%	9.7	74.7%	7.2
Albion Road	42.3%	6.6	90.9%	23.3
Union Road	63.5%	5.6	91.1%	15.5
	PRC	40.5%	PRC	-1.2%
	Veh Delay (PCU Hrs)	10.12	Veh Delay (PCU Hrs)	22.81

Notes: DoS = Degree of Saturation. A measure of the trafficking of an approach arm to the junction in relation to its ability to accommodate such flow.
MMQ = Mean Maximum Queue reported on a per arm basis
PRC = Percentage of Reserve Capacity. A measure of the overall "spare" capacity at a junction.
Delay = Vehicle Delay in PCU/hours.

5.6.6 In conclusion, Table 5-18 and Table 5-19 indicate that the junction would operate at its capacity. There would, however, appear to be the potential to develop further capacity within the existing highway boundary (for example by adding a short left turn lane added for vehicles turning from the west to the north). A potential scheme is shown within Appendix H; however, it should be noted that this design does not accord with highway standards and is based on available OS mapping rather than a detailed topographical survey. As such, a design would need to be developed and agreed with stakeholders to ensure any proposed improvement was likely to operate efficiently.

5.6.7 Notwithstanding the above, Table 5.20 shows the operational analysis of the junction with a mitigation scheme and for the two alternative routing assumptions for the PM peak period. This indicates that the junction would be likely to operate slightly below its capacity.

Table 5-20: Operation of the A6015 / B6101 Junction – Design Case 2031 (Mitigation Scheme)

Arm	PM (1700 – 1800hrs) Mitigation of Table 5.18		PM (1700 – 1800hrs) Mitigation of Table 5.19	
	DoS	MMQ	DoS	MMQ
Church Road	98.7%	17.9	71.8%	7.0
Albion Road	97.9%	31.4	86.8%	19.1
Union Road	98.7%	22.6	86.8%	12.5
	PRC	-9.6%	PRC	3.6%
	Veh Delay (PCU Hrs)	46.23	Veh Delay (PCU Hrs)	19.41

Notes: DoS = Degree of Saturation. A measure of the trafficking of an approach arm to the junction in relation to its ability to accommodate such flow.
MMQ = Mean Maximum Queue reported on a per arm basis
PRC = Percentage of Reserve Capacity. A measure of the overall "spare" capacity at a junction.
Delay = Vehicle Delay in PCU/hours.

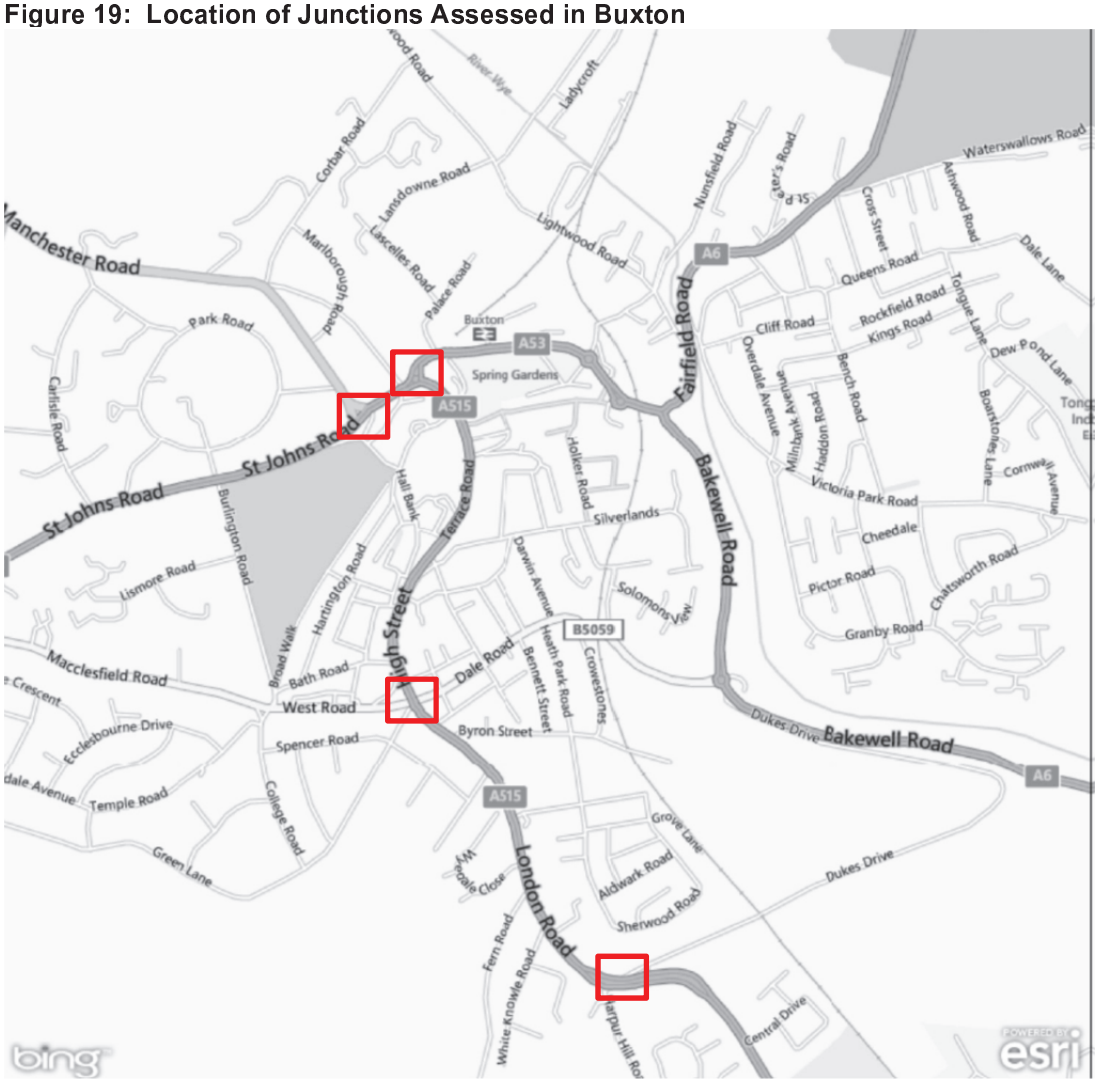
5.6.8 Full LINSIG outputs and traffic flow profiles are given in Appendix I.

5.7 Buxton

5.7.1 In Buxton four junctions have been assessed as shown in Figure 19;

- A53 St John's Rd / A53 Station Rd / A515 Terrace Rd;
- A53 St John's Rd / A5004 Manchester Rd;
- A515 High Street / A515 London Rd / B5059 Dale Rd / B5059 West Rd; and
- A515 Ashbourne Rd / Duke's Drive / Harpur Hill.

Figure 19: Location of Junctions Assessed in Buxton



5.7.2 **A53 St John's Rd / A53 Station Rd / A515 Terrace Road:** This is a three-arm roundabout junction in the centre of Buxton. As such, ARCADY8 has been used to assess the operation of the junction with the results summarised in Table 5-21.

Table 5-21: Operation of the A53 / Terrace Road Junction – 'Worst' Arm Results

Scenario	AM (0800 – 0900hrs)		PM (1700 – 1800hrs)	
	RFC	Q	RFC	Q
Survey 2013	0.47	0.88	0.41	0.70
Reference Case	0.54	1.19	0.48	0.92
Design	1.02	26.57	0.97	59.45

Notes: RFC = Ratio of Flow to Capacity. A measure of the trafficking at the junction in relation to its ability to accommodate such flow, reported on a worst-arm basis.
Q = Mean Maximum Vehicle Queue, reported on a worst arm basis.

5.7.3 ARCADY software has been used to synthesised a traffic flow profile within the peak hours and provides outputs in the form of Ratios of Flow to Capacity (RFC) and queue length (Q). A synthesised profile includes a 12.5% mid-peak 'surge' to robustly test the performance of the junction. For a new junction, a worst-arm target RFC value of 0.85 during a single time segment is preferred as this minimises the chance that queuing will occur at a new junction. For existing junctions, RFC values above 0.85 are likely to produce queues which increase slowly. Above an RFC value of 1.0, a junction is more than likely to be at capacity (with resulting larger increases in queue length).

5.7.4 As can be seen from Table 5-21, the junction would operate above the target RFC of 0.85 in the design scenario if it is assumed that all local development routes through the junction. However, given routeing options available to development trips, this is considered unlikely to occur in practice. As such, a sensitivity test has been performed on the junction based on reduced flows through the junction; on each arm the vehicle flows from the local plan developments were reduced by 50%.

5.7.5 The results of this sensitivity test are summarised in Table 5-22.

Table 5-22: Operation of the A53 / Terrace Road Junction – 'Worst' Arm Results – Sensitivity Test

Scenario	AM (0800 – 0900hrs)		PM (1700 – 1800hrs)	
	RFC	Q	RFC	Q
Design (Sensitivity test)	0.78	3.51	0.69	4.76

Notes: RFC = Ratio of Flow to Capacity. A measure of the trafficking at the junction in relation to its ability to accommodate such flow, reported on a worst-arm basis.
Q = Mean Maximum Vehicle Queue, reported on a worst arm basis.

5.7.6 The actual operation performance of the junction would be between that shown in Table 5-21 and Table 5-22 and depends upon the routes chosen by drivers. Given that there is a large difference between the worst RFC values in Tables 5.20 and 5.21, the operating capacity of this junction can be considered to be highly sensitive to the routeing choices of drivers travelling to / from the Local Plan development sites.

5.7.7 As such, it is recommended that those developments proposed in the Buxton area contribute to a general scheme to improve the junction should it become necessary – so that the burden does not fall on a single development. Appropriate solutions could include a traffic signalisation of the junction.

5.7.8 Full ARCADY outputs and traffic flow profiles are given in Appendix J.

5.7.9 **A53 St John's Road / A5004 Manchester Road:** Where the three roads meet, the junction layout makes a triangle of roads. The traffic movements between the A53 east and the A5004 north are given priority over the other turning movements. For trips approaching on the A5004 from the north, there is ghost-island marking so that vehicles turning right at either of the two corners of the triangle are stored clear of following vehicles turning from north to east. On the A53 approach from the west, a vehicle is given priority at the first intersection and 'give-way' road markings and signing is provided at the second intersection.

5.7.10 A fourth road, Water Street, forms a junction with A53 St John's Road immediately to the east of the triangle of roads. The A53 traffic has priority over vehicles from Water Street, which is indicated with give-way road markings. Right turns waiting to turn into Water Street are stored clear of through movements by using an extension of the ghost island markings.

5.7.11 Footways are provided adjacent to both sides of all roads.

5.7.12 The Highway Authority is not aware of a severe congestion problem at the junction typically extending outside of the conventional peak hours. There is considerable area of highway verge that would not constrain a significant improvement to this junction, for example introduction of traffic signal control were it to be required at some point in the future or alternatively a roundabout arrangement. An initial indicative cost of introducing traffic signal control would be provision of controller, cutting of induction loops in the carriageway, a modest amount of engineering to provide a revision to the kerb line, carriageway with localised widening which would be estimated to cost £200,000. The cost estimate does not include any costs relating to statutory undertaker's apparatus.

5.7.13 **A515 High Street / A515 London Rd / B5059 Dale Road / B5059 West Rd**: This is a five-arm traffic signalled junction. All approach roads are one lane wide at the traffic signalled stop line, except on the A515 London Road south approach which has a separate road-marked lane to store vehicles waiting to turn right to the B5059 Dale Road.

5.7.14 Footways are provided adjacent to both sides of all roads. Pedestrian-crossings of all five roads at the junction are controlled by far-sided pedestrian signals. There are no splitter-islands or central refuges on any of the roads.

5.7.15 A Transportation Assessment submitted in support of a recent Planning Application includes capacity assessments of the A515 High Street / B5059 West Road / Dale Road / Green Lane (five ways) signalised junction. The analysis indicates that the junction is operating over its theoretical capacity with an overall practical reserve capacity of minus 0.2% during the evening peak hour, without the proposed development in place. With the additional traffic generated by the development, there will be a slight increase in the degree of saturation and queue lengths when compared to the without development scenario.

5.7.16 Clearly in the absence of works to provide mitigation to the junction, the junction would be an obvious constraint to delivery of housing and the emerging Local Plan. The junction has property to all sides and there is little scope for improvement, short of extensive demolition. One solution however would be the closure of Green Lane for vehicle movements into the junction, which movement ban would reduce lost time and provide greater 'green time' to the other approaches. Green Lane is not particularly heavily trafficked and therefore the number of trips that would need to find alternative routes would be small.

5.7.17 The Highway Authority, in response to a recent planning application, has agreed a package of mitigation works to the junction. These include closure of the Dale Road entry into the junction and localised widening to London Road on its southern approach, which would ease traffic movements, particularly wider vehicles, through the junction. The Highway Authority has given consideration to the wider traffic impact that would result from the closure of Dale Road and concluded that, with a package of traffic management measures, the implication of closure of Dale Road can be adequately mitigated. Although no detailed design has been

undertaken a preliminary estimate of the cost would be £300,000. This would include the civil engineering works and adequate contingency for statutory undertaker's equipment, signing, lining and introduction of traffic regulation orders together with minor off site works should they be required. The Highway Authority anticipates securing the resources to undertake the work through developer contributions via a Section 106 Agreement.

5.7.18 **A515 Ashbourne Road / Duke's Drive / Harpur Hill**: This is a four-arm right-left staggered priority junction, with a unique arrangement. The A515 is aligned through the local valley with a horizontal alignment that is a left/right S-bend. The A515 carriageway is widened locally through the junction to two lanes in each direction but one lane in each direction is hatched in order to encourage drivers into a single lane of traffic. The two directions of traffic flow are segregated by central barriers.

5.7.19 The junction itself is a right-left staggered junction; with Duke's Drive joining at an acute angle on the north side and Harpur Hill Road joining perpendicular to the A515 on the south side. Vehicles that approach from both Duke's Drive and from Harpur Hill Road are required to give-way to traffic on the A515, which priority is indicated with road markings and signs. Vehicles turning left (from A515 northwest) into Duke's Drive are provided with a separate left-turn filter carriageway. Vehicles turning right into each of these side roads are stored in centrally located lanes within ghost island road markings and separate from the A515 through-vehicles.

5.7.20 The A515 has a footway along its northern side. To the north of the junction the A515 also has a footway on the south side. All the other roads also have some footways in places but these are of limited width.

5.7.21 A Transportation Assessment submitted in support of a recent Planning Application includes a capacity assessment of the Ashbourne Road Harpur Hill (Dukes Drive) junction. Sensitivity analysis undertaken by Derbyshire County Council (using PICADY) at this junction included the proposed residential development at the Harpur Hill site.

5.7.22 The Highway Authority is satisfied that the junction could theoretically operate albeit with minimal reserve capacity. It should however be noted that the sensitivity testing did not include the impact from any future development which could arise from land served off Dukes Drive. Clearly if further sites were to come forward on Dukes Drive, it would be incumbent of the promoter of the site to secure a package of mitigation works to the Dukes Drive junction with Ashbourne Road.

5.8 Other Transport Schemes

5.8.1 In accordance with Derbyshire's Local Transport Plan (2011-2026) as detailed above in Section 1.6, the following transport schemes have been identified;

5.8.2 **Longdendale Integrated Transport Strategy (LITS):** Tameside Metropolitan Borough Council, subject to the outcome of revisions to funding and approval processes, wishes to pursue a scheme to address issues around traffic congestion in the Longdendale villages. Options for this include the provision of a 'Glossop Spur', crossing the boundary into Derbyshire, and improvements to public transport networks and services. The LTP notes that Derbyshire County Council will need to work closely with Tameside to gain a full understanding of likely impacts upon Derbyshire. These include, for example, the importance of undertaking the required statutory environmental assessments, and the need for LITS proposals to consider High Peak Borough Council's regeneration and development plans in the Glossopdale area.

5.8.3 LITS would provide a more modest scheme focused on public transport improvements than the Highways Agency's previous proposal for the A57 / A628 Mottram, Hollingworth, and Tintwistle Bypass which reached the stage of drafting legal orders before being withdrawn.

Whilst more work would be required to determine which are the most effective and affordable infrastructure interventions, LITS would also include for the following highway options:

- A new dual-carriageway from the M67 terminal roundabout passing beneath Roe Cross Road through a tunnel then linked to a new junction at Mottram Moor.
- A new single carriageway link from the A57 (T) Mottram Moor to a new junction on the A57 Brookfield.
- A new dual-carriageway travelling from the M67 terminal roundabout, to a new junction west of Roe Cross Road.
- The main dual-carriageway would pass beneath Roe Cross Road through a tunnel which will link to a new junction at Mottram Moor.
- A new single-carriageway link to Roe Cross Road north of the main dual-carriageway.
- A new single carriageway link between the A57 (T) Mottram Moor and a new junction at the A57, Brookfield.

5.8.4 This would include the Glossop Spur which could also be implemented to relieve some congestion within Glossop.

5.8.5 **Glossop Spur:** Linked with the LITS, described above, the proposed route of the Glossop Spur consists of a single carriageway with a climbing lane for northbound traffic from a junction at Mottram Moor re-joining the A57 by means of a new roundabout on Woolley Lane. The scheme lies mostly in Tameside though the section east of the river Etherow lies within Derbyshire.

5.8.6 The scheme would reduce traffic flows through the A57/A628 Gun Inn junction, the current congestion along Woolley Lane, the junction of Woolley Lane with Woolley Bridge Road is currently controlled by means of a mini roundabout. Woolley lane is heavily trafficked consequently the junction is severely congested with queues forming from the junction along all three of its approach roads for much of the day. Due to both the horizontal alignment of all the approach roads and presence of the River Etherow there is no scope to provide any improvements to the junction. Consequently this junction was not considered further by the Transport Study.

5.8.7 Construction of the Glossop Spur would remove the remaining problem of a tightly constrained 90 degree turn by the A57 at Woolley Bridge, which large goods vehicles have some difficulty in negotiating. It would, therefore, bring some limited local benefit in terms of congestion. It would also remove traffic from the frontage of numerous properties although most of these are within Tameside rather than Derbyshire.

5.8.8 The Glossop Spur would however be of limited benefit as a standalone scheme. It seems unlikely that, as a standalone scheme, it would have a positive benefit to cost ratio.

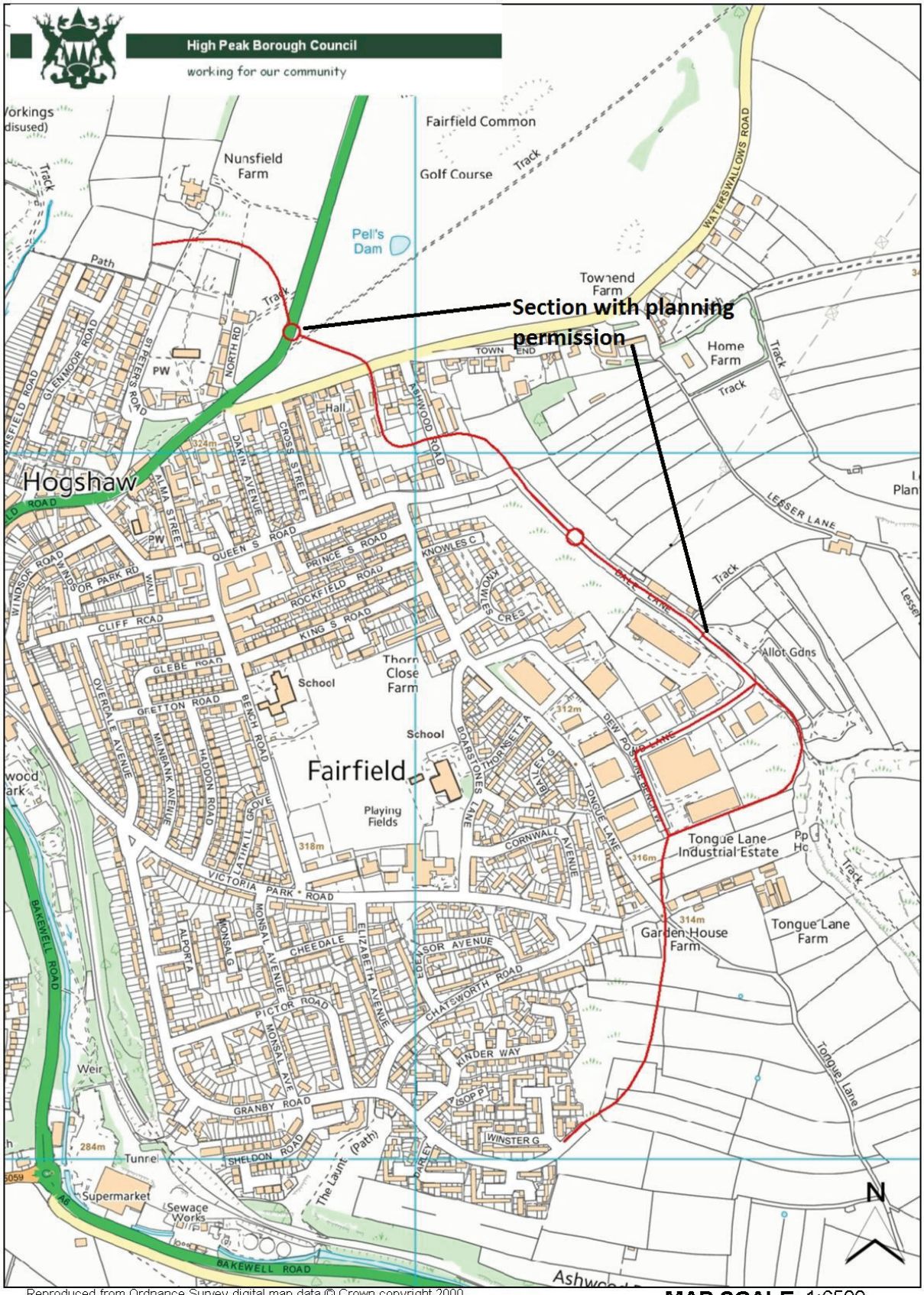
5.8.9 **Gamesley Railway Station:** A possible new railway station on the line between Dinting Station and Broadbottom Station in Tameside is identified in Table 5 of Derbyshire's LTP "Derbyshire County Council potential major projects March 2011" as being under consideration as part of LITS (led by Tameside Metropolitan Borough Council, though not necessarily dependent on the outcome of the (LITS) Transport Study).

5.8.10 **Fairfield Link Road:** A new link road to provide access from the A6 to land designated for housing and employment is earmarked for Fairfield, Buxton. The route would be paid for by the developers of the permitted allocations.

5.8.11 A section of this link road already has the benefit of outline planning consent and will be provided by the developer of the approved housing scheme off Dale Lane. The developers of the Tongue Lane and Hogshaw allocations would therefore only be required to fund the remaining sections required to serve their sites. Work undertaken as part of HPBC's Local

Plan Viability Study has estimated cost of delivering the link road to serve the Tongue Lane allocation would be £358,000 excluding land and drainage. A preliminary cost estimate for construction of the link to Hogshaw excluding land and drainage is estimated to be £154,000. A plan of safeguarded alignment of the Link Road from the Local Plan indicates the section that has the benefit of outline consent. This is shown in Figure 20.

Figure 20: Fairfield Link Road



5.8.12 **A6 Corridor Study:** Future year traffic model predictions carried out as part of Stockport Council's planning application for the A6 to Manchester Airport Relief Road (MARR) show that traffic volumes along the A6 through Disley are expected to increase significantly with or without completion of the proposed Relief Road. These forecast increases in traffic flow can be attributed in the main to traffic generation from proposed development and to a lesser extent, reassignment of longer distance east-west trips as a result of completing the Relief Road. The nature of the surrounding land means that it is not possible (nor desirable) to significantly increase highway network capacity in the A6 corridor.

5.8.13 There was relatively little information about the cross boundary travel patterns on the A6 corridor between Derbyshire and Greater Manchester. Consequently Derbyshire County Council together with Stockport and East Cheshire Councils and Transport for Greater Manchester (TfGM) commissioned a study to consider the potential impact of predicted traffic growth and associated demands on public transport networks on the A6 Corridor.

5.8.14 The A6 Corridor Study is a joint study undertaken on behalf of Cheshire East, Derbyshire, High Peak and Stockport Councils with the support of Transport for Greater Manchester led by Stockport Council officers. The study focuses on traffic using the A6 Corridor from Buxton into Greater Manchester and considers potential development along the corridor and its predicted traffic impacts. In particular the study considers potential options to manage the predicted increase in traffic and the opportunities to improve sustainable transport alternatives including rail.

5.8.15 The A6 Corridor Study considers the impact on the A6 of potential traffic generated by proposed housing developments in Derbyshire and Cheshire East and recommends an action plan to encourage more sustainable forms of transport along the corridor

5.8.16 The mix of local and strategic traffic is one of the major causes of congestion on the highway network. These travel patterns have a direct impact on the ability of the transport network to provide access to markets and jobs. It also means that local communities are faced with large volumes of traffic and heavy goods vehicles passing through their centres, creating problems in terms of air quality, noise and highway safety.

5.8.17 The study considered a number of objectives these included:

- reducing the impact of traffic congestion along the A6, with particular focus on the A6 Hazel Grove to Whaley Bridge,
- encouraging more public transport use, and
- identification of measures to reduce the impact of traffic on road safety, noise, severance and local air quality on the A6 corridor.

5.8.18 The study identified a number of possible interventions that could be implemented over both the longer and shorter time scales. In the shorter term, projects that were considered capable of delivery in Derbyshire within five years, and following the completion of Manchester Airport Relief Road, included: a car sharing database, improved pedestrian and cycle access to rail stations, improved online and offline cycle facilities along the A6 corridor, and improved bus services to the airport via the proposed relief road. Other considerations included increased parking provision at Buxton rail station together with increased rail service frequency between Manchester and Buxton rail stations.

5.8.19 The study also identifies a number of potential medium term measures considered capable of delivery within a longer 5-10 year timeframe. These included increased peak hour train capacity and platform length for all stations between Buxton and Stockport and increased parking provision at New Mills Newtown, Chapel-en-le-Frith and Chinley railway stations.

5.8.20 The study also identified that there are currently fare anomalies for medium distance cross-boundary travel arising from the differential fare structure between Greater Manchester and surrounding areas where fares are set by the operator. These cross boundary fare anomalies can give rise to 'rail-heading' by commuters whereby commuters travel further than necessary to reach a rail service, typically by car, to take advantage of discounted fares that are not available at their local station and higher frequency services, notably at Hazel Grove. This option is made more attractive by TfGM's free parking policy. Consequently one of the studies recommendations is a review of the cross boundary rail fare structure.

5.8.21 The study also identified a number of potential schemes for consideration in the longer term in Derbyshire; these included increased line speed between Buxton and Hazel Grove, Electrification of Buxton Line and a possible new rail station at Chapel-en-le-Frith on 'Great Rocks' line.

5.8.22 **The Strategic Road Network:** The Highways Agency is responsible for the maintenance and safe and efficient operation of the Strategic Road Network (SRN). In relation to the High Peak area, the Highways Agency's specific interest relates to the A628. The A628 trunk road provides a key cross Pennine route and a link between Glossopdale in the North East of the district and the Manchester conurbation. The link suffers from congestion and delays, particularly at the A628/A57 junction at the Gunn Inn. The A628 is predominantly all purpose single carriageway, with steep gradients and sharp bends, and is particularly affected by inclement weather due to the altitude and exposure of the carriageway (1,450ft at the Woodhead pass, its highest point). The A628 joins the M67 at Mottram to the west of Greater Manchester. Other routes which offer access to Sheffield across the Peak District National Park and the surrounding area are the A57, A624, A6187 and the A623.

5.8.23 The issues of trans-Pennine connectivity have been considered in some detail in previous work undertaken as part of a number of studies, most of which has focussed on the connectivity between Manchester and Leeds and less so on the links between Manchester and Sheffield. Previous studies have concluded that the performance of the links between Manchester and Sheffield is poor in comparison with links between Sheffield and Leeds and between Leeds and Manchester. Many of the previous considerations have reached the conclusion that given the geographic and environmental constraints, improvements to rail connections would generally provide the best opportunity to improve transport connectivity.

5.8.24 The Department for Transport are in the processes of undertaking a further study into trans-Pennine connectivity. The aim of the latest study is to identify the opportunities and understand the case for future investment solutions on the trans-Pennine routes that are deliverable, affordable and offer value for money. The study would review previous proposals and current investment plans to identify and assess the case, deliverability and timing of specific infrastructure investments that could address exiting problems on the trans-Pennine routes and improve trans-Pennine connectivity. The study will consider the current trans-Pennine road and rail routes which include the A628 and M67 in terms of the strategic road network, as well as the A57, A624, A6187 and the A623 on the local authority road network. The study should also include the Hope Valley rail line within its geographic scope.

5.8.25 The Highways Agency in its response to consultation regarding the Local Plan's proposals considers that due to the scale of development in Glossopdale and its relative proximity to the A628, a transport assessment is required in order for the development traffic impacts to be considered within the Local Plan evidence base.

5.8.26 Whilst the Local Highway Authority would not disagree with this approach, elsewhere in this Transportation Study the current conditions of the A57, Woolley Lane is discussed in 5.3.3. The plan showing High Peak's Work Movements in Figure 1 clearly suggests a significant demand for travel between Glossopdale, Tameside and beyond into the Manchester conurbation.

5.8.27 High Peak Borough Council's emerging Local Plan proposes some 980 dwellings on new development sites within the Glossopdale Sub-Area. These would in turn generate a demand for about 7,000 car movements daily, a proportion of which would have a potential to use the SRN. The analysis undertaken to determine the borough's travel to work movements would suggest that about 30% of work related trips would travel to work in Greater Manchester. As a direct pro-rata of car demand this represents 2,100 two way movements daily.

5.8.28 However, it would be desirable if some of the trips to Manchester used train modes. The LITS outcomes and Gamesley Railway station strategies would support and encourage such a model shift. If just 15% of these potential car drivers to Greater Manchester were to use the railway to travel to work, then the car demand would be reduced to 1,790 two-way movements. The daily flows on the A57 at Mottram Moor are typically 35,700 (DfT traffic count database) so on this basis the additional housing sites would represent a traffic impact of less than 5%.

5.9 Summary

5.9.1 A summary of the impacts noted in this section is provided in Table 5.23, below.

Table 5-23: Summary of Main Junction Impacts of High Peak Local Plan.

Town	Junction	Traffic Impact?	Mitigation	Estimated Indicative Cost	Comments
Woolley Bridge	A57 / Woolley Bridge Road	Yes	Little practical improvement is economically possible.		Would be relieved by Glossop Spur.
	Woolley Bridge Road / Hadfield Road	Not material			
Glossop	B6105 Woodhead Rd / Hall Meadow Rd / Talbot Rd / Fauvel Rd	Not material			
	A57 (High Street) / Norfolk Street / Victoria Street	The junction would operate at capacity	Review traffic management on approach to junction; install Linked MOVA with surrounding junctions	£200,000	
	A624 Victoria Street / Gladstone Street	Not material			
	A57 High Street / Arundel Street / Chapel Street	Not material			
	A57 High Street / Queen Street / Glossop Brook Road	The junction would operate at capacity in the PM peak	Install Linked MOVA with surrounding junctions	(refer above)	Refer A57 (High Street) / Norfolk Street / Victoria Street junction mitigation.
Gamesley	A626 Glossop Road / Melandra Castle Road	Not material			
New Mills	A6015 Church Road / B6101 Union Road	The junction would operate at capacity in the PM peak	Potential for extra lane marking; subject to detailed design.	£150,000	
Buxton	A53 St John's Rd / A53 Station Rd / A515 Terrace Road	The junction would operate at capacity.	Review junction operation, with contributions to a potential traffic signal scheme.	£300,000	
	A53 St John's Road / A5004 Manchester Road	Could be a material impact.			Junction could be converted to traffic signals, if needed. Cost £200,000 plus any statutory undertaker apparatus.
	A515 High Street / A515 London Rd / B5059 Dale Road / B5059 West Rd	Traffic signal junction is constraint.	Dale Road made one-way and package of complimentary mitigation works.	£300,000	Traffic Regulation Orders also needed.
	A515 Ashbourne Road / Duke's Drive / Harpur Hill	Not material; except impact from site B10.			

Table 5-24: Summary of Potential Infrastructure Improvements within High Peak Local Plan area.

Town	Proposed Infrastructure Scheme	Mitigation	Estimated Indicative Cost	Comments
Glossop	Longdendale Integrated Transport Strategy / Glossop Spur	Public Transport Improvements to bus and local rail; package of dual and single carriageway improvements to A57 (M67 to A628 Hollingworth); an A57 Glossop Spur; and complimentary highway measures	£100,000,000	Department for Transport / Greater Manchester Transport Fund. Lead authority Tameside MBC with Derbyshire CC.
Gamesley	Gamesley Railway Station	New railway halt and park & ride facility.	£5,000,000	No DfT funding identified / Planning Agreements.
Buxton / Furness Vale	A6 Corridor: Package of new park & ride facilities; rail improvements; and improved bus services.	Mitigation against traffic growth on the A6 (Buxton, New Mills, Disley, Hazel Grove) due to development in the A6 corridor.	Not available	Lead authority Stockport MBC with Derbyshire CC, Cheshire East, High Peak.
Buxton	Fairfield Link Road	Provision of Access Road to housing and employment development sites.	Not available.	Funding to be raised through Planning Agreements (phase 1 planning consented).

5.9.2 The Local Plans' Sustainability Report has identified a number of the potential congestion problems likely to be exacerbated across the Borough. It notes that the A6 corridor and A54 Macclesfield Road draw large volumes of traffic through the town centre including many heavy industrial vehicles which operate in the local quarrying industry. It also identifies bus services in the town being focused around the Market Street area creating two separate transport hubs for public transport, acknowledging that volumes of traffic passing through the town has a detrimental impact on environmental quality and general amenity for residents and visitors to Buxton restricting the ability of the town to grow. Arguably similar points could be made about traffic problems in regard to the larger settlements in High Peak, notably New Mills and Glossop.

5.9.3 Work undertaken by the County Council as part of the Highway Authority's considered the potential implications of additional residential development in High Peak. It identified additional housing will lead to additional demand for travel. There is, though, already significant demand for travel both in and around the town and to wider destinations particularly the A6 corridor and Manchester conurbations.

5.9.4 The Local Highway Authority has also identified a number of potential intervention measures that would apply both to the highway network and the public transport services operating on it. One potential solution would be a travel plan for the larger settlements in the High Peak. It is however acknowledged that funding for both capital improvements to the transportation infrastructure and revenue funding for on-going service provision would be a significant issue.

5.9.5 Clearly the County Council as Highway Authority has a critical role to play, not just as the local highways and public transport authority. However whilst developer contributions are one obvious source of investment which would be secured through Section 106 Agreements, or possibly Community Infrastructure Levy, (CIL) consideration could be given to other potential funding sources, Growing Places, New Homes Bonus and in the longer term, possibly investment in rail services via the rail franchise system.

5.9.6 However, evidence gathered as part of this Transport Study indicates that the combined impact of the High Peak strategic sites will not result in insurmountable difficulties. Mitigation solutions are currently being refined for sites where planning permission has yet to be determined. Negotiations will continue as further analysis becomes available and sites come forward through the planning process. This will ensure that mitigation options are tailored to provide the maximum possible benefit and facilitate the delivery of safe, accessible and sustainable development. The County Council will continue to work with High Peak Borough Council, particularly with regard to the delivery of transport infrastructure needed to support the development proposed through HPBC's emerging Local Plan.

6 CONCLUSIONS

6.1.1 This report has considered the potential for the development proposed under the local plan to create impacts on the local highway network. The locations of each residential and employment site in the local plan has been plotted, and estimates of the traffic they are likely to generate made such that these can be assigned to the local highway network.

6.1.2 It is noted that there appear to be existing issues on the trans-Pennine routes; most likely related to problems overtaking slow moving vehicles in the peak periods when there are high volumes of opposing traffic restricting opportunities for overtaking. The Highways Agency are in the process of commissioning a separate study with regards to trans-Pennine connectivity between Greater Manchester and South Yorkshire, and Derbyshire. Within the town centres, the local plan related development has the potential to generate junction impacts in a number of locations; concentrated in Glossop, New Mills and Buxton.

6.1.3 Mitigation measures have been identified on a number of routes and at a number of junctions within the High Peak district. There are transport strategies that would provide mitigation for some of the traffic growth impacts on the A6 corridor and on the A57 / A628 corridor. Where development sites would be likely to cause junctions to exceed capacity, potential mitigation measures have been suggested. The development trips would have a material impact upon two junctions in Glossop, one junction in New Mills and three junctions in Buxton.

GLOSSARY

ARCADY	*Assessment of Roundabout Capacity and DelaY*. A software tool used to assess the capacity of roundabouts under differing traffic scenarios.
Degree of Saturation (DoS)	A measure of the operational performance of a signalled junction, with measures 100% or above indicating that a junction arm is operating above capacity.
Design Manual for Roads and Bridges	A highway design guide, commonly used for analysis and design of the trunk road network but also used for local roads, where appropriate.
Gravity Model	A simple method of calculating the likely destinations of trips from a given location based on the distance to prospective destinations and the number of people or jobs in the prospective destinations. The model pre-supposes that a destinations attractiveness is a function of its size and proximity.
Guidance on Transport Assessment (GTA)	A guidance document prepared by the Department for Transport setting out how a Transport Assessment should be prepared.
Inscribed Circle Diameter (ICD)	The largest circle which can be drawn within the kerbs of a roundabout. It is a measure of the overall junction size.
Junction Capacity	The number of vehicles which can be accommodated by a junction within a given period. Normally calculated using software such as ARCADY, PICADY or LINSIG. Where a junction is operating “at capacity”, queues are likely to form since the number of vehicles approaching the junction is more than that which can pass through it.
LINSIG	A computer programme used for modelling traffic at traffic signal junctions. LINSIG allows engineers to model junctions in a way which closely follows the behaviour of on-site signal control equipment.
Local Highway Authority	The body responsible for the local road network in a particular area, in particular with regards network improvements and the control of development that could affect the local highway.
Local Plan	A document produced by Local Authorities containing the development plans and policy documents for their local area.
Local Transport Plan	The Transport Act 2000 required Local Highway Authorities to produce and maintain an LTP. The LTP sets out transport strategies and policies for a given area and how these will be implemented.

	The plans cover a defined period and are used by the DfT to make decisions on capital funding, and for Local Authorities to monitor the delivery of key objectives and targets. The current LTP document covers the period 2011-2026.
Manual Classified Count (MCC)	A count of traffic on a particular road, or at a junction, which is usually undertaken by a team of enumerators, usually over a 12-hour period. Traffic is classified by vehicle type.
MOVA	*Microprocessor Optimised Vehicle Actuation* is an adaptive signal control system. It uses advanced traffic control algorithms to increase capacity and minimise delay at traffic signals. It is used at a range of junctions from high speed to smaller suburban and urban sites.
NTEM	National Trip End Model. The Department of Transport has developed a transport model to forecast growth in the number of trips for defined zones within England and Wales. The forecasts are based upon socio-economic projections of housing, employment and populations.
PICADY	*Priority Intersection Capacity and Delay*. A software tool to predict the traffic capacity, queue-lengths and delays at priority junctions.
Ratio of Flow to Capacity (RFC)	A measure of the performance of a junction, with a measure of 1.0 or above indicating that a junction is operating above capacity.
SATURN	A software tool used to model traffic flows on a highway network that is responsive to congestion and reassignment issues.
Severance	The separation of residents from facilities and services they use within their community caused by new or improved roads or by changes in traffic flows. An objective measurement of severance can be calculated with reference to guidance contained in the DMRB.
Trafficmaster	Trafficmaster is a company that monitors traffic movements and travel speeds across the highway network. Information is obtained from roadside equipment and in-vehicle installations.
Transport Analysis Guidance (TAG)	A set of documents (or Units) published by the Department for Transport which sets out how a particular transport scheme should be assessed, principally in terms of economic analysis and calculating a Benefit-to-Cost ratio. Guidance on the assessment of environmental impacts of highway schemes are also contained in the guidance. Sometimes referred to as WebTAG. The DfT released TAG2 guidance documents in January 2014.
Transport Assessment (TA)	A document submitted in support of a planning application which sets out the likely impact of a proposed development

	on the transport network. Guidance on the content of a Transport Assessment is provided in the GTA.
Travel Plan	A document submitted in support of a planning application which sets out how trips to / from a development would be managed on opening. Its objective is usually to reduce single occupancy car trips by promoting sustainable travel options.
Trip Rate Information Computer System (TRICS)	A software tool which contains traffic survey data classified by land-use type and size. It is used to estimate the number of trips that could be generated by a proposed development based on experience elsewhere in the UK, and is recommended for this purpose in the GTA.
Trip Assignment	A stage in the estimation of future traffic conditions. The process of "assigning" traffic flows to particular links and junctions to and from a particular destination. It is preceded by Trip Distribution.
Trip Distribution	A stage in the estimation of future traffic conditions. The process of determining the likely origins and destinations of traffic to and from a proposed development. This stage does not make any assumptions about routeing, and is followed by Trip Assignment.
Trip End Model Programme (TEMPRO)	The TEMPRO database contains information relating to land-use developments across the United Kingdom. It is used to forecast traffic growth in / from specific areas.
Trip Generation	A stage in the estimation of future traffic conditions. Trip Generation is an estimate of the total arrivals and departures that could be generated by a development within a specific time period. The software tool TRICS is commonly used to inform this stage. This stage is followed by Trip Distribution and Trip Assignment.
WebTAG	See Transport Analysis Guidance (TAG).

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APPENDIX A
Commissioned 2013 MCC

URS 15664 - Woolley Bridge Glossop Buxton Traffic Survey Traffic & Transportation Ltd

Junction: 10 : A53 Station Rd /A515 Terrace Rd /A53 St John's Rd
From: A53 Station Rd
Direction: Left Turn
To: A515 Terrace Rd

Time	PC	MC	Cars	LGV	OGV1	OGV2	PSV	Total
07:30	0	0	20	3	1	0	4	28
07:45	0	0	34	4	3	1	2	44
08:00	0	0	29	8	2	2	1	42
08:15	0	0	38	10	2	0	4	54
08:30	0	0	43	10	2	3	1	59
08:45	0	0	75	9	2	0	3	89
09:00	0	0	54	14	0	1	0	69
09:15	0	0	42	14	1	0	3	60
AM Peak	0	0	335	72	13	7	18	445
16:30	0	1	47	6	3	0	3	60
16:45	0	1	54	8	1	0	0	64
17:00	0	0	44	6	0	1	2	53
17:15	0	0	41	10	1	0	2	54
17:30	0	1	55	5	0	0	4	65
17:45	0	0	53	7	1	0	4	65
18:00	0	0	47	7	0	0	2	56
18:15	0	0	49	7	0	1	2	59
PM Peak	0	3	390	56	6	2	19	476
Total	0	3	725	128	19	9	37	921

Junction: 10 : A53 Station Rd /A515 Terrace Rd /A53 St John's Rd
From: A515 Terrace Rd
Direction: Left Turn
To: A53 St John's Rd

Time	PC	MC	Cars	LGV	OGV1	OGV2	PSV	Total
07:30	0	0	22	2	1	0	1	26
07:45	0	0	25	8	1	0	1	35
08:00	1	0	23	4	0	0	0	28
08:15	0	0	37	7	0	0	0	44
08:30	0	0	43	8	1	0	0	52
08:45	0	1	40	3	1	0	1	46
09:00	0	0	54	3	0	0	3	60
09:15	0	0	35	9	0	1	2	47
AM Peak	1	1	279	44	4	1	8	338
16:30	0	0	35	1	0	1	0	37
16:45	0	0	41	6	0	2	1	50
17:00	0	0	49	2	0	0	0	51
17:15	0	0	55	2	1	0	2	60
17:30	0	0	32	1	0	1	0	34
17:45	1	0	30	3	0	0	0	34
18:00	0	0	30	4	1	0	1	36
18:15	0	0	27	0	0	0	1	28
PM Peak	1	0	299	19	2	4	5	330
Total	2	1	578	63	6	5	13	668

7:30 - 09:30
16:30 - 18:30

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Junction: 10 : A53 Station Rd /A515 Terrace Rd /A53 St John's Rd
From: A53 Station Rd
Direction: Straight On
To: A53 St John's Rd

Time	PC	MC	Cars	LGV	OGV1	OGV2	PSV	Total
07:30	2	0	50	7	1	2	0	62
07:45	0	0	76	16	0	2	0	94
08:00	0	0	69	20	3	3	0	95
08:15	0	0	105	16	2	5	0	128
08:30	0	1	104	16	4	3	0	128
08:45	1	1	112	18	4	3	0	139
09:00	0	1	71	15	5	6	3	101
09:15	1	1	78	11	5	8	1	105
AM Peak	4	4	665	119	24	32	4	852
16:30	0	0	89	12	2	0	4	107
16:45	0	0	103	9	5	3	1	121
17:00	0	1	96	9	1	2	0	109
17:15	0	0	93	10	1	1	0	105
17:30	0	1	91	6	2	2	0	102
17:45	0	0	106	9	1	2	0	118
18:00	1	0	79	4	0	2	0	86
18:15	0	0	82	4	1	1	1	89
PM Peak	1	2	739	63	13	13	6	837
Total	5	6	1404	182	37	45	10	1689

Junction: 10 : A53 Station Rd /A515 Terrace Rd /A53 St John's Rd
From: A515 Terrace Rd
Direction: Right Turn
To: A53 Station Rd

Time	PC	MC	Cars	LGV	OGV1	OGV2	PSV	Total
07:30	0	0	24	4	2	0	3	33
07:45	0	0	39	7	1	0	2	49
08:00	0	0	29	14	1	0	3	47
08:15	0	0	39	9	0	2	1	51
08:30	0	0	61	6	0	0	3	70
08:45	0	0	62	10	1	0	2	75
09:00	0	0	60	8	2	1	3	74
09:15	0	0	61	13	1	0	0	75
AM Peak	0	0	375	71	8	3	17	474
16:30	0	2	49	8	0	0	4	63
16:45	0	0	50	7	0	0	2	59
17:00	0	0	47	5	0	1	2	55
17:15	1	0	42	4	0	0	2	49
17:30	0	0	54	8	1	0	4	67
17:45	0	0	47	6	0	0	2	55
18:00	0	0	47	4	0	0	1	52
18:15	0	0	50	5	0	0	5	60
PM Peak	1	2	386	47	1	1	22	460
Total	1	2	761	118	9	4	39	934

7:30 - 09:30
16:30 - 18:30

Junction: 10 : A53 Station Rd /A515 Terrace Rd /A53 St John's Rd
From: A53 Station Rd
Direction: U-Turn
To: A53 Station Rd

Time	PC	MC	Cars	LGV	OGV1	OGV2	PSV	Total
07:30	0	0	0	0	0	0	0	0
07:45	0	0	0	0	0	0	0	0
08:00	0	0	0	0	0	0	0	0
08:15	0	0	0	0	0	0	0	0
08:30	0	0	0	0	0	0	0	0
08:45	0	0	0	0	0	0	0	0
09:00	0	0	0	0	0	0	0	0
09:15	0	0	0	0	0	0	0	0
AM Peak	0	0	0	0	0	0	0	0
16:30	0	0	0	0	0	0	0	0
16:45	0	0	0	0	0	0	0	0
17:00	0	0	0	0	0	0	0	0
17:15	0	0	0	0	0	0	0	0
17:30	0	0	0	0	0	0	0	0
17:45	0	0	0	0	0	0	0	0
18:00	0	0	0	0	0	0	0	0
18:15	0	0	0	0	0	0	0	0
PM Peak	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0

Junction: 10 : A53 Station Rd /A515 Terrace Rd /A53 St John's Rd
From: A515 Terrace Rd
Direction: U-Turn
To: A515 Terrace Rd

Time	PC	MC	Cars	LGV	OGV1	OGV2	PSV	Total
07:30	0	0	0	0	0	0	0	0
07:45	0	0	0	0	0	0	0	0
08:00	0	0	0	0	0	0	0	0
08:15	0	0	0	0	0	0	1	1
08:30	0	0	0	0	0	0	1	1
08:45	0	0	0	0	0	0	0	0
09:00	0	0	0	0	0	0	0	0
09:15	0	0	0	0	0	0	0	0
AM Peak	0	0	0	0	0	0	2	2
16:30	0	0	3	0	0	0	1	4
16:45	0	0	1	0	0	0	0	1
17:00	0	0	1	0	0	0	0	1
17:15	0	0	0	0	0	0	0	0
17:30	0	0	3	0	0	0	0	3
17:45	0	0	1	1	0	0	0	2
18:00	0	0	0	0	0	0	0	0
18:15	0	0	1	0	0	0	1	2
PM Peak	0	0	10	1	0	0	2	13
Total	0	0	10	1	0	0	4	15

7:30 - 09:30
16:30 - 18:30

URS 15664 - Woolley Bridge Glossop Buxton Traffic Survey Traffic & Transportation Ltd

Junction: 10 : A53 Station Rd /A515 Terrace Rd /A53 St John's Rd
From: A53 St John's Rd
Direction: Straight On
To: A53 Station Rd

Time	PC	MC	Cars	LGV	OGV1	OGV2	PSV	Total
07:30	1	0	55	11	3	4	0	74
07:45	0	0	56	10	1	3	0	70
08:00	0	0	73	13	7	8	0	101
08:15	0	1	80	11	3	6	1	102
08:30	0	0	100	10	1	4	0	115
08:45	0	0	77	12	4	9	0	102
09:00	0	0	73	13	7	13	2	108
09:15	0	0	72	11	2	4	1	90
AM Peak	1	1	586	91	28	51	4	762
16:30	0	1	78	16	1	4	0	100
16:45	0	0	62	12	1	5	5	85
17:00	0	0	78	8	1	1	0	88
17:15	0	0	75	6	1	4	0	86
17:30	0	0	71	6	1	2	1	81
17:45	0	0	71	6	0	1	0	78
18:00	1	0	64	8	3	1	0	77
18:15	0	0	56	6	0	2	1	65
PM Peak	1	1	555	68	8	20	7	660
Total	2	2	1141	159	36	71	11	1422

Junction: 10 : A53 Station Rd /A515 Terrace Rd /A53 St John's Rd
Arm: A53 Station Rd
Direction: Exiting Junction

Time	PC	MC	Cars	LGV	OGV1	OGV2	PSV	Total
07:30	1	0	79	15	5	4	3	107
07:45	0	0	95	17	2	3	2	119
08:00	0	0	102	27	8	8	3	148
08:15	0	1	119	20	3	8	2	153
08:30	0	0	161	16	1	4	3	185
08:45	0	0	139	22	5	9	2	177
09:00	0	0	133	21	9	14	5	182
09:15	0	0	133	24	3	4	1	165
AM Peak	1	1	961	162	36	54	21	1236
16:30	0	3	127	24	1	4	4	163
16:45	0	0	112	19	1	5	7	144
17:00	0	0	125	13	1	2	2	143
17:15	1	0	117	10	1	4	2	135
17:30	0	0	125	14	2	2	5	148
17:45	0	0	118	12	0	1	2	133
18:00	1	0	111	12	3	1	1	129
18:15	0	0	106	11	0	2	6	125
PM Peak	2	3	941	115	9	21	29	1120
Total	3	4	1902	277	45	75	50	2356

7:30 - 09:30
16:30 - 18:30

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URS 15664 - Woolley Bridge Glossop Buxton Traffic Survey Traffic & Transportation Ltd

Junction: 10 : A53 Station Rd /A515 Terrace Rd /A53 St John's Rd
From: A53 St John's Rd
Direction: Right Turn
To: A515 Terrace Rd

Time	PC	MC	Cars	LGV	OGV1	OGV2	PSV	Total
07:30	0	0	16	2	0	0	2	20
07:45	0	0	23	3	1	0	0	27
08:00	0	0	47	7	1	0	1	56
08:15	0	0	39	4	2	0	0	45
08:30	0	0	40	10	0	1	0	51
08:45	1	0	57	5	0	0	2	65
09:00	0	0	41	9	1	0	0	51
09:15	2	0	43	10	1	1	0	57
AM Peak	3	0	306	50	6	2	5	372
16:30	0	1	42	5	1	0	0	49
16:45	0	0	42	8	0	0	3	53
17:00	0	0	39	9	0	1	1	50
17:15	0	1	42	4	0	1	0	48
17:30	0	0	32	1	0	0	0	33
17:45	0	0	37	1	0	0	2	40
18:00	0	0	29	2	0	0	0	31
18:15	0	0	22	0	0	1	2	25
PM Peak	0	2	285	30	1	3	8	329
Total	3	2	591	80	7	5	13	701

Junction: 10 : A53 Station Rd /A515 Terrace Rd /A53 St John's Rd
Arm: A515 Terrace Rd
Direction: Exiting Junction

Time	PC	MC	Cars	LGV	OGV1	OGV2	PSV	Total
07:30	0	0	36	5	1	0	6	48
07:45	0	0	57	7	4	1	2	71
08:00	0	0	76	15	3	2	2	98
08:15	0	0	77	14	4	0	5	100
08:30	0	0	83	20	2	4	2	111
08:45	1	0	132	14	2	0	5	154
09:00	0	0	95	23	1	1	0	120
09:15	2	0	85	24	2	1	3	117
AM Peak	3	0	641	122	19	9	25	819
16:30	0	2	92	11	4	0	4	113
16:45	0	1	97	16	1	0	3	118
17:00	0	0	84	15	0	2	3	104
17:15	0	1	83	14	1	1	2	102
17:30	0	1	90	6	0	0	4	101
17:45	0	0	91	9	1	0	6	107
18:00	0	0	76	9	0	0	2	87
18:15	0	0	72	7	0	2	5	86
PM Peak	0	5	685	87	7	5	29	818
Total	3	5	1326	209	26	14	54	1637

7:30 - 09:30
16:30 - 18:30

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Junction: 10 : A53 Station Rd /A515 Terrace Rd /A53 St John's Rd
From: A53 St John's Rd
Direction: U-Turn
To: A53 St John's Rd

Time	PC	MC	Cars	LGV	OGV1	OGV2	PSV	Total
07:30	0	0	0	0	0	0	0	0
07:45	0	0	0	0	0	0	0	0
08:00	0	0	0	0	0	0	0	0
08:15	0	0	1	0	0	0	0	1
08:30	0	0	8	0	0	0	0	8
08:45	0	0	6	1	0	0	0	7
09:00	0	0	6	0	0	0	0	6
09:15	0	0	8	0	0	0	0	8
AM Peak	0	0	29	1	0	0	0	30
16:30	0	0	6	2	0	0	1	9
16:45	0	0	5	0	0	0	0	5
17:00	0	0	4	2	0	0	0	6
17:15	0	0	3	0	0	0	0	3
17:30	0	0	1	1	0	0	0	2
17:45	0	0	1	0	0	0	0	1
18:00	0	0	2	0	0	0	0	2
18:15	0	0	2	0	0	0	0	2
PM Peak	0	0	24	5	0	0	1	30
Total	0	0	53	6	0	0	1	60

Junction: 10 : A53 Station Rd /A515 Terrace Rd /A53 St John's Rd
Arm: A53 St John's Rd
Direction: Exiting Junction

Time	PC	MC	Cars	LGV	OGV1	OGV2	PSV	Total
07:30	2	0	72	9	2	2	1	88
07:45	0	0	101	24	1	2	1	129
08:00	1	0	92	24	3	3	0	123
08:15	0	0	143	23	2	5	0	173
08:30	0	1	155	24	5	3	0	188
08:45	1	2	158	22	5	3	1	192
09:00	0	1	131	18	5	6	6	167
09:15	1	1	121	20	5	9	3	160
AM Peak	5	5	973	164	28	33	12	1220
16:30	0	0	130	15	2	1	5	153
16:45	0	0	149	15	5	5	2	176
17:00	0	1	149	13	1	2	0	166
17:15	0	0	151	12	2	1	2	168
17:30	0	1	124	8	2	3	0	138
17:45	1	0	137	12	1	2	0	153
18:00	1	0	111	8	1	2	1	124
18:15	0	0	111	4	1	1	2	119
PM Peak	2	2	1062	87	15	17	12	1197
Total	7	7	2035	251	43	50	24	2417

7:30 - 09:30
16:30 - 18:30

URS 15664 - Woolley Bridge Glossop Buxton Traffic Survey Traffic & Transportation Ltd

Junction: 10 : A53 Station Rd /A515 Terrace Rd /A53 St John's Rd
Arm: A53 Station Rd
Direction: Entering Junction

Time	PC	MC	Cars	LGV	OGV1	OGV2	PSV	Total
07:30	2	0	70	10	2	2	4	90
07:45	0	0	110	20	3	3	2	138
08:00	0	0	98	28	5	5	1	137
08:15	0	0	143	26	4	5	4	182
08:30	0	1	147	26	6	6	1	187
08:45	1	1	187	27	6	3	3	228
09:00	0	1	125	29	5	7	3	170
09:15	1	1	120	25	6	8	4	165
AM Peak	4	4	1000	191	37	39	22	1297
16:30	0	1	136	18	5	0	7	167
16:45	0	1	157	17	6	3	1	185
17:00	0	1	140	15	1	3	2	162
17:15	0	0	134	20	2	1	2	159
17:30	0	2	146	11	2	2	4	167
17:45	0	0	159	16	2	2	4	183
18:00	1	0	126	11	0	2	2	142
18:15	0	0	131	11	1	2	3	148
PM Peak	1	5	1129	119	19	15	25	1313
Total	5	9	2129	310	56	54	47	2610

7:30 - 09:30
16:30 - 18:30

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URS 15664 - Woolley Bridge Glossop Buxton Traffic Survey Traffic & Transportation Ltd

Junction: 10 : A53 Station Rd /A515 Terrace Rd /A53 St John's Rd
Arm: A515 Terrace Rd
Direction: Entering Junction

Time	PC	MC	Cars	LGV	OGV1	OGV2	PSV	Total
07:30	0	0	46	6	3	0	4	59
07:45	0	0	64	15	2	0	3	84
08:00	1	0	52	18	1	0	3	75
08:15	0	0	76	16	0	2	2	96
08:30	0	0	104	14	1	0	4	123
08:45	0	1	102	13	2	0	3	121
09:00	0	0	114	11	2	1	6	134
09:15	0	0	96	22	1	1	2	122
AM Peak	1	1	654	115	12	4	27	814
16:30	0	2	87	9	0	1	5	104
16:45	0	0	92	13	0	2	3	110
17:00	0	0	97	7	0	1	2	107
17:15	1	0	97	6	1	0	4	109
17:30	0	0	89	9	1	1	4	104
17:45	1	0	78	10	0	0	2	91
18:00	0	0	77	8	1	0	2	88
18:15	0	0	78	5	0	0	7	90
PM Peak	2	2	695	67	3	5	29	803
Total	3	3	1349	182	15	9	56	1617

7:30 - 09:30
16:30 - 18:30

Thursday 28th November 2013

8

Junction: 10 : A53 Station Rd /A515 Terrace Rd /A53 St John's Rd
Arm: A53 St John's Rd
Direction: Entering Junction

Time	PC	MC	Cars	LGV	OGV1	OGV2	PSV	Total
07:30	1	0	71	13	3	4	2	94
07:45	0	0	79	13	2	3	0	97
08:00	0	0	120	20	8	8	1	157
08:15	0	1	120	15	5	6	1	148
08:30	0	0	148	20	1	5	0	174
08:45	1	0	140	18	4	9	2	174
09:00	0	0	120	22	8	13	2	165
09:15	2	0	123	21	3	5	1	155
AM Peak	4	1	921	142	34	53	9	1164
16:30	0	2	126	23	2	4	1	158
16:45	0	0	109	20	1	5	8	143
17:00	0	0	121	19	1	2	1	144
17:15	0	1	120	10	1	5	0	137
17:30	0	0	104	8	1	2	1	116
17:45	0	0	109	7	0	1	2	119
18:00	1	0	95	10	3	1	0	110
18:15	0	0	80	6	0	3	3	92
PM Peak	1	3	864	103	9	23	16	1019
Total	5	4	1785	245	43	76	25	2183

7:30 - 09:30
16:30 - 18:30

URS 15664 - Woolley Bridge Glossop Buxton Traffic Survey GTS Traffic & Transportation Ltd

Junction: 6 : Arundel St /A57 High St W (East Arm) /Chapel St /A57 High St W (West Arm)
From: Arundel St
Direction: Left Turn
To: A57 High St W (East Arm)

Time	PC	MC	Cars	LGV	OGV1	OGV2	PSV	Total
07:30	0	0	2	0	0	0	0	2
07:45	0	0	3	0	0	0	0	3
08:00	0	0	3	0	0	0	0	3
08:15	0	0	5	0	0	0	0	5
08:30	0	0	9	1	2	0	0	12
08:45	0	0	9	1	0	0	0	10
09:00	0	0	12	1	1	0	0	14
09:15	0	0	8	1	1	0	0	10
AM Peak	0	0	51	4	4	0	0	59
16:30	0	0	17	1	0	0	0	18
16:45	0	0	13	1	0	0	0	14
17:00	0	0	9	1	0	0	0	10
17:15	0	0	11	3	0	0	0	14
17:30	0	0	11	1	0	0	0	12
17:45	0	0	9	0	0	0	0	9
18:00	0	0	10	0	0	0	0	10
18:15	0	0	12	0	0	0	0	12
PM Peak	0	0	92	7	0	0	0	99
Total	0	0	143	11	4	0	0	158

Junction: 6 : Arundel St /A57 High St W (East Arm) /Chapel St /A57 High St W (West Arm)
From: A57 High St W (East Arm)
Direction: Left Turn
To: Chapel St

Time	PC	MC	Cars	LGV	OGV1	OGV2	PSV	Total
07:30	0	0	1	0	0	0	0	1
07:45	0	0	0	0	0	0	0	0
08:00	0	0	0	0	0	0	0	0
08:15	0	0	0	0	0	0	0	0
08:30	0	0	0	0	0	0	0	0
08:45	0	0	0	0	0	0	0	0
09:00	0	0	3	1	0	0	0	4
09:15	0	0	1	0	0	0	0	1
AM Peak	0	0	5	1	0	0	0	6
16:30	0	0	2	0	0	0	0	2
16:45	0	0	2	0	0	0	0	2
17:00	0	0	3	0	0	0	0	3
17:15	0	0	0	0	0	0	0	0
17:30	0	0	0	0	0	0	0	0
17:45	0	0	3	0	0	0	0	3
18:00	0	0	0	0	0	0	0	0
18:15	0	0	0	0	0	0	0	0
PM Peak	0	0	10	0	0	0	0	10
Total	0	0	15	1	0	0	0	16

7:30 - 09:30
16:30 - 18:30

Thursday 28th November 2013

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Junction: 6 : Arundel St /A57 High St W (East Arm) /Chapel St /A57 High St W (West Arm)
From: Arundel St
Direction: Straight On
To: Chapel St

Time	PC	MC	Cars	LGV	OGV1	OGV2	PSV	Total
07:30	0	0	1	1	0	0	0	2
07:45	0	0	3	0	0	0	0	3
08:00	0	0	2	0	0	0	0	2
08:15	0	0	7	0	0	0	0	7
08:30	0	0	7	0	0	0	0	7
08:45	0	0	4	1	0	0	0	5
09:00	0	0	10	0	0	0	0	10
09:15	0	0	9	1	0	0	0	10
AM Peak	0	0	43	3	0	0	0	46
16:30	0	0	8	1	0	0	0	9
16:45	1	0	6	1	0	0	0	8
17:00	0	0	17	1	0	0	0	18
17:15	0	0	6	0	1	0	0	7
17:30	0	0	9	0	0	0	0	9
17:45	0	0	8	2	0	0	0	10
18:00	0	0	7	1	0	0	0	8
18:15	0	0	10	0	0	0	0	10
PM Peak	1	0	71	6	1	0	0	79
Total	1	0	114	9	1	0	0	125

Junction: 6 : Arundel St /A57 High St W (East Arm) /Chapel St /A57 High St W (West Arm)
From: A57 High St W (East Arm)
Direction: Straight On
To: A57 High St W (West Arm)

Time	PC	MC	Cars	LGV	OGV1	OGV2	PSV	Total
07:30	2	1	93	9	0	0	1	106
07:45	0	0	75	10	2	1	2	90
08:00	1	1	74	16	0	0	3	95
08:15	0	1	83	17	2	1	2	106
08:30	2	0	75	5	2	0	1	85
08:45	1	0	87	11	0	1	1	101
09:00	0	0	46	12	4	0	0	62
09:15	0	0	94	10	5	0	1	110
AM Peak	6	3	627	90	15	3	11	755
16:30	0	0	75	14	1	0	2	92
16:45	0	0	84	7	5	0	2	98
17:00	1	0	76	8	2	0	1	88
17:15	0	1	76	14	0	0	3	94
17:30	1	0	74	10	1	0	1	87
17:45	1	0	77	7	2	0	1	88
18:00	0	0	67	10	2	0	2	81
18:15	0	0	92	10	0	0	2	104
PM Peak	3	1	621	80	13	0	14	732
Total	9	4	1248	170	28	3	25	1487

7:30 - 09:30
16:30 - 18:30

URS 15664 - Woolley Bridge Glossop Buxton Traffic Survey GTS Traffic & Transportation Ltd

Junction: 6 : Arundel St /A57 High St W (East Arm) /Chapel St /A57 High St W (West Arm)
From: Arundel St
Direction: Right Turn
To: A57 High St W (West Arm)

Time	PC	MC	Cars	LGV	OGV1	OGV2	PSV	Total
07:30	0	0	31	1	0	0	0	32
07:45	0	0	33	1	2	0	0	36
08:00	0	0	36	5	0	0	0	41
08:15	0	0	46	4	0	0	0	50
08:30	0	0	55	4	0	0	0	59
08:45	0	0	58	4	1	0	0	63
09:00	0	0	46	4	0	0	0	50
09:15	0	0	39	2	0	0	0	41
AM Peak	0	0	344	25	3	0	0	372
16:30	0	0	60	6	0	0	0	66
16:45	0	0	44	3	0	0	0	47
17:00	0	0	49	6	0	0	1	56
17:15	1	0	43	7	1	0	0	52
17:30	0	1	37	4	0	0	0	42
17:45	0	0	57	9	0	0	0	66
18:00	0	1	38	3	0	0	0	42
18:15	1	0	51	2	0	0	0	54
PM Peak	2	2	379	40	1	0	1	425
Total	2	2	723	65	4	0	1	797

Junction: 6 : Arundel St /A57 High St W (East Arm) /Chapel St /A57 High St W (West Arm)
From: A57 High St W (East Arm)
Direction: Right Turn
To: Arundel St

Time	PC	MC	Cars	LGV	OGV1	OGV2	PSV	Total
07:30	0	0	0	1	0	0	0	1
07:45	0	0	1	0	1	0	0	2
08:00	0	0	4	0	0	0	0	4
08:15	0	0	3	2	0	0	0	5
08:30	0	0	4	0	0	0	0	4
08:45	0	0	3	0	1	0	1	5
09:00	0	0	6	1	0	0	0	7
09:15	0	0	13	0	0	0	0	13
AM Peak	0	0	34	4	2	0	1	41
16:30	0	0	5	2	0	0	0	7
16:45	0	0	5	2	0	0	0	7
17:00	0	0	2	1	1	0	0	4
17:15	0	0	10	0	0	0	0	10
17:30	0	0	10	1	0	0	0	11
17:45	0	0	4	0	0	0	0	4
18:00	0	0	7	0	0	0	0	7
18:15	0	0	5	1	0	0	0	6
PM Peak	0	0	48	7	1	0	0	56
Total	0	0	82	11	3	0	1	97

7:30 - 09:30
16:30 - 18:30

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URS 15664 - Woolley Bridge Glossop Buxton Traffic Survey GTS Traffic & Transportation Ltd

Junction: 6 : Arundel St /A57 High St W (East Arm) /Chapel St /A57 High St W (West Arm)
From: Chapel St
Direction: Left Turn
To: A57 High St W (West Arm)

Time	PC	MC	Cars	LGV	OGV1	OGV2	PSV	Total
07:30	0	0	13	1	0	0	0	14
07:45	0	0	5	1	0	0	0	6
08:00	0	0	6	2	1	0	0	9
08:15	0	0	6	1	0	0	0	7
08:30	0	0	13	2	1	0	0	16
08:45	0	0	10	3	0	0	0	13
09:00	0	0	8	3	0	0	0	11
09:15	0	0	17	4	1	0	0	22
AM Peak	0	0	78	17	3	0	0	98
16:30	0	0	16	0	0	0	0	16
16:45	0	0	12	3	0	0	0	15
17:00	0	0	20	0	0	0	0	20
17:15	0	0	15	1	0	0	0	16
17:30	0	0	14	2	0	0	0	16
17:45	1	0	19	2	0	0	0	22
18:00	0	0	7	1	0	0	0	8
18:15	0	0	10	1	0	0	0	11
PM Peak	1	0	113	10	0	0	0	124
Total	1	0	191	27	3	0	0	222

Junction: 6 : Arundel St /A57 High St W (East Arm) /Chapel St /A57 High St W (West Arm)
From: A57 High St W (West Arm)
Direction: Left Turn
To: Arundel St

Time	PC	MC	Cars	LGV	OGV1	OGV2	PSV	Total
07:30	1	0	15	2	0	0	0	18
07:45	0	0	27	7	0	0	0	34
08:00	0	1	21	2	1	0	0	25
08:15	0	1	47	3	2	0	0	53
08:30	0	0	51	7	0	0	0	58
08:45	0	0	35	1	0	0	1	37
09:00	0	0	34	1	0	0	0	35
09:15	0	1	30	2	0	0	0	33
AM Peak	1	3	260	25	3	0	1	293
16:30	0	0	40	2	0	0	0	42
16:45	0	0	31	6	0	0	0	37
17:00	0	0	27	3	1	0	0	31
17:15	0	0	40	5	1	0	0	46
17:30	0	0	32	6	0	0	0	38
17:45	0	0	31	3	0	0	0	34
18:00	0	0	39	1	0	0	0	40
18:15	0	0	23	6	0	0	0	29
PM Peak	0	0	263	32	2	0	0	297
Total	1	3	523	57	5	0	1	590

7:30 - 09:30
16:30 - 18:30

Thursday 28th November 2013

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Junction: 6 : Arundel St /A57 High St W (East Arm) /Chapel St /A57 High St W (West Arm)
From: Chapel St
Direction: Straight On
To: Arundel St

Time	PC	MC	Cars	LGV	OGV1	OGV2	PSV	Total
07:30	0	0	1	0	0	0	0	1
07:45	0	0	5	0	0	0	0	5
08:00	0	0	3	1	1	0	0	5
08:15	0	0	7	0	0	0	0	7
08:30	0	0	18	1	0	0	0	19
08:45	0	0	17	1	0	0	0	18
09:00	0	0	8	2	0	0	0	10
09:15	0	0	14	1	0	0	0	15
AM Peak	0	0	73	6	1	0	0	80
16:30	0	0	6	1	0	0	0	7
16:45	0	0	12	3	0	0	0	15
17:00	0	0	15	5	0	0	0	20
17:15	0	0	17	3	0	0	0	20
17:30	0	0	8	0	0	0	0	8
17:45	0	0	6	1	0	0	0	7
18:00	0	0	3	0	0	0	0	3
18:15	0	0	7	0	0	0	0	7
PM Peak	0	0	74	13	0	0	0	87
Total	0	0	147	19	1	0	0	167

Junction: 6 : Arundel St /A57 High St W (East Arm) /Chapel St /A57 High St W (West Arm)
From: A57 High St W (West Arm)
Direction: Straight On
To: A57 High St W (East Arm)

Time	PC	MC	Cars	LGV	OGV1	OGV2	PSV	Total
07:30	0	0	61	18	4	0	2	85
07:45	2	0	48	14	2	0	2	68
08:00	1	0	56	16	3	0	1	77
08:15	1	0	63	9	2	0	6	81
08:30	0	0	77	11	5	0	1	94
08:45	0	0	82	19	2	1	0	104
09:00	0	0	75	18	3	1	1	98
09:15	0	0	89	17	2	1	1	110
AM Peak	4	0	551	122	23	3	14	717
16:30	1	1	83	8	0	0	2	95
16:45	1	1	77	12	0	0	2	93
17:00	1	0	70	9	1	0	2	83
17:15	0	1	77	11	0	0	2	91
17:30	0	1	98	9	0	0	1	109
17:45	0	1	91	6	0	0	0	98
18:00	0	1	108	15	0	0	3	127
18:15	1	0	108	5	0	0	3	117
PM Peak	4	6	712	75	1	0	15	813
Total	8	6	1263	197	24	3	29	1530

7:30 - 09:30
16:30 - 18:30

Junction: 6 : Arundel St /A57 High St W (East Arm) /Chapel St /A57 High St W (West Arm)
From: Chapel St
Direction: Right Turn
To: A57 High St W (East Arm)

Time	PC	MC	Cars	LGV	OGV1	OGV2	PSV	Total
07:30	0	0	1	0	0	0	0	1
07:45	0	0	1	1	0	0	0	2
08:00	0	0	0	0	0	0	0	0
08:15	0	0	1	0	0	0	0	1
08:30	0	0	0	0	0	0	0	0
08:45	0	0	0	0	0	0	0	0
09:00	0	0	1	0	0	0	0	1
09:15	0	0	2	0	1	0	0	3
AM Peak	0	0	6	1	1	0	0	8
16:30	0	0	2	0	0	0	0	2
16:45	0	0	3	1	0	0	0	4
17:00	0	0	3	0	0	0	0	3
17:15	0	0	1	0	0	0	0	1
17:30	0	0	1	0	0	0	0	1
17:45	0	0	3	0	0	0	0	3
18:00	0	0	2	0	0	0	0	2
18:15	0	0	4	0	0	0	0	4
PM Peak	0	0	19	1	0	0	0	20
Total	0	0	25	2	1	0	0	28

Junction: 6 : Arundel St /A57 High St W (East Arm) /Chapel St /A57 High St W (West Arm)
From: A57 High St W (West Arm)
Direction: Right Turn
To: Chapel St

Time	PC	MC	Cars	LGV	OGV1	OGV2	PSV	Total
07:30	0	0	2	0	0	0	0	2
07:45	0	0	5	0	0	0	0	5
08:00	0	0	1	0	0	0	0	1
08:15	0	0	5	1	0	0	0	6
08:30	0	0	5	0	0	0	0	5
08:45	0	0	9	2	0	0	0	11
09:00	0	0	6	0	0	0	0	6
09:15	0	0	9	1	0	0	0	10
AM Peak	0	0	42	4	0	0	0	46
16:30	0	0	2	0	0	0	1	3
16:45	0	0	3	0	0	0	0	3
17:00	0	0	3	1	0	0	0	4
17:15	0	0	2	1	0	0	0	3
17:30	0	0	5	0	0	0	0	5
17:45	1	0	3	0	0	0	0	4
18:00	0	0	4	0	0	0	0	4
18:15	0	0	8	0	0	0	0	8
PM Peak	1	0	30	2	0	0	1	34
Total	1	0	72	6	0	0	1	80

Junction: 6 : Arundel St /A57 High St W (East Arm) /Chapel St /A57 High St W (West Arm)
Arm: Arundel St
Direction: Exiting Junction

Time	PC	MC	Cars	LGV	OGV1	OGV2	PSV	Total	
07:30	1	0	16	3	0	0	0	20	
07:45	0	0	33	7	1	0	0	41	
08:00	0	1	28	3	2	0	0	34	
08:15	0	1	57	5	2	0	0	65	
08:30	0	0	73	8	0	0	0	81	
08:45	0	0	55	2	1	0	2	60	
09:00	0	0	48	4	0	0	0	52	
09:15	0	1	57	3	0	0	0	61	
AM Peak	1	3	367	35	6	0	2	414	
16:30	0	0	51	5	0	0	0	56	
16:45	0	0	48	11	0	0	0	59	
17:00	0	0	44	9	2	0	0	55	
17:15	0	0	67	8	1	0	0	76	
17:30	0	0	50	7	0	0	0	57	
17:45	0	0	41	4	0	0	0	45	
18:00	0	0	49	1	0	0	0	50	
18:15	0	0	35	7	0	0	0	42	
PM Peak	0	0	385	52	3	0	0	440	
Total	1	3	752	87	9	0	2	854	

Junction: 6 : Arundel St /A57 High St W (East Arm) /Chapel St /A57 High St W (West Arm)
Arm: Arundel St
Direction: Entering Junction

Time	PC	MC	Cars	LGV	OGV1	OGV2	PSV	Total	
07:30	0	0	34	2	0	0	0	36	
07:45	0	0	39	1	2	0	0	42	
08:00	0	0	41	5	0	0	0	46	46
08:15	0	0	58	4	0	0	0	62	62
08:30	0	0	71	5	2	0	0	78	79
08:45	0	0	71	6	1	0	0	78	79
09:00	0	0	68	5	1	0	0	74	
09:15	0	0	56	4	1	0	0	61	
AM Peak	0	0	438	32	7	0	0	477	266
16:30	0	0	85	8	0	0	0	93	
16:45	1	0	63	5	0	0	0	69	
17:00	0	0	75	8	0	0	1	84	85
17:15	1	0	60	10	2	0	0	73	73
17:30	0	1	57	5	0	0	0	63	62
17:45	0	0	74	11	0	0	0	85	85
18:00	0	1	55	4	0	0	0	60	
18:15	1	0	73	2	0	0	0	76	
PM Peak	3	2	542	53	2	0	1	603	306
Total	3	2	980	85	9	0	1	1080	

7:30 - 09:30
16:30 - 18:30

Junction: 6 : Arundel St /A57 High St W (East Arm) /Chapel St /A57 High St W (West Arm)
Arm: A57 High St W (East Arm)
Direction: Exiting Junction

Time	PC	MC	Cars	LGV	OGV1	OGV2	PSV	Total
07:30	0	0	64	18	4	0	2	88
07:45	2	0	52	15	2	0	2	73
08:00	1	0	59	16	3	0	1	80
08:15	1	0	69	9	2	0	6	87
08:30	0	0	86	12	7	0	1	106
08:45	0	0	91	20	2	1	0	114
09:00	0	0	88	19	4	1	1	113
09:15	0	0	99	18	4	1	1	123
AM Peak	4	0	608	127	28	3	14	784
16:30	1	1	102	9	0	0	2	115
16:45	1	1	93	14	0	0	2	111
17:00	1	0	82	10	1	0	2	96
17:15	0	1	89	14	0	0	2	106
17:30	0	1	110	10	0	0	1	122
17:45	0	1	103	6	0	0	0	110
18:00	0	1	120	15	0	0	3	139
18:15	1	0	124	5	0	0	3	133
PM Peak	4	6	823	83	1	0	15	932
Total	8	6	1431	210	29	3	29	1716

Junction: 6 : Arundel St /A57 High St W (East Arm) /Chapel St /A57 High St W (West Arm)
Arm: A57 High St W (East Arm)
Direction: Entering Junction

Time	PC	MC	Cars	LGV	OGV1	OGV2	PSV	Total
07:30	2	1	94	10	0	0	1	108
07:45	0	0	76	10	3	1	2	92
08:00	1	1	78	16	0	0	3	99
08:15	0	1	86	19	2	1	2	111
08:30	2	0	79	5	2	0	1	89
08:45	1	0	90	11	1	1	2	106
09:00	0	0	55	14	4	0	0	73
09:15	0	0	108	10	5	0	1	124
AM Peak	6	3	666	95	17	3	12	802
16:30	0	0	82	16	1	0	2	101
16:45	0	0	91	9	5	0	2	107
17:00	1	0	81	9	3	0	1	95
17:15	0	1	86	14	0	0	3	104
17:30	1	0	84	11	1	0	1	98
17:45	1	0	84	7	2	0	1	95
18:00	0	0	74	10	2	0	2	88
18:15	0	0	97	11	0	0	2	110
PM Peak	3	1	679	87	14	0	14	798
Total	9	4	1345	182	31	3	26	1600

7:30 - 09:30
16:30 - 18:30

Junction: 6 : Arundel St /A57 High St W (East Arm) /Chapel St /A57 High St W (West Arm)
Arm: Chapel St
Direction: Exiting Junction

Time	PC	MC	Cars	LGV	OGV1	OGV2	PSV	Total
07:30	0	0	4	1	0	0	0	5
07:45	0	0	8	0	0	0	0	8
08:00	0	0	3	0	0	0	0	3
08:15	0	0	12	1	0	0	0	13
08:30	0	0	12	0	0	0	0	12
08:45	0	0	13	3	0	0	0	16
09:00	0	0	19	1	0	0	0	20
09:15	0	0	19	2	0	0	0	21
AM Peak	0	0	90	8	0	0	0	98
16:30	0	0	12	1	0	0	1	14
16:45	1	0	11	1	0	0	0	13
17:00	0	0	23	2	0	0	0	25
17:15	0	0	8	1	1	0	0	10
17:30	0	0	14	0	0	0	0	14
17:45	1	0	14	2	0	0	0	17
18:00	0	0	11	1	0	0	0	12
18:15	0	0	18	0	0	0	0	18
PM Peak	2	0	111	8	1	0	1	123
Total	2	0	201	16	1	0	1	221

Junction: 6 : Arundel St /A57 High St W (East Arm) /Chapel St /A57 High St W (West Arm)
Arm: Chapel St
Direction: Entering Junction

Time	PC	MC	Cars	LGV	OGV1	OGV2	PSV	Total
07:30	0	0	15	1	0	0	0	16
07:45	0	0	11	2	0	0	0	13
08:00	0	0	9	3	2	0	0	14
08:15	0	0	14	1	0	0	0	15
08:30	0	0	31	3	1	0	0	35
08:45	0	0	27	4	0	0	0	31
09:00	0	0	17	5	0	0	0	22
09:15	0	0	33	5	2	0	0	40
AM Peak	0	0	157	24	5	0	0	186
16:30	0	0	24	1	0	0	0	25
16:45	0	0	27	7	0	0	0	34
17:00	0	0	38	5	0	0	0	43
17:15	0	0	33	4	0	0	0	37
17:30	0	0	23	2	0	0	0	25
17:45	1	0	28	3	0	0	0	32
18:00	0	0	12	1	0	0	0	13
18:15	0	0	21	1	0	0	0	22
PM Peak	1	0	206	24	0	0	0	231
Total	1	0	363	48	5	0	0	417

7:30 - 09:30
16:30 - 18:30

Junction: 6 : Arundel St /A57 High St W (East Arm) /Chapel St /A57 High St W (West Arm)
Arm: A57 High St W (West Arm)
Direction: Exiting Junction

Time	PC	MC	Cars	LGV	OGV1	OGV2	PSV	Total
07:30	2	1	137	11	0	0	1	152
07:45	0	0	113	12	4	1	2	132
08:00	1	1	116	23	1	0	3	145
08:15	0	1	135	22	2	1	2	163
08:30	2	0	143	11	3	0	1	160
08:45	1	0	155	18	1	1	1	177
09:00	0	0	100	19	4	0	0	123
09:15	0	0	150	16	6	0	1	173
AM Peak	6	3	1049	132	21	3	11	1225
16:30	0	0	151	20	1	0	2	174
16:45	0	0	140	13	5	0	2	160
17:00	1	0	145	14	2	0	2	164
17:15	1	1	134	22	1	0	3	162
17:30	1	1	125	16	1	0	1	145
17:45	2	0	153	18	2	0	1	176
18:00	0	1	112	14	2	0	2	131
18:15	1	0	153	13	0	0	2	169
PM Peak	6	3	1113	130	14	0	15	1281
Total	12	6	2162	262	35	3	26	2506

Junction: 6 : Arundel St /A57 High St W (East Arm) /Chapel St /A57 High St W (West Arm)
Arm: A57 High St W (West Arm)
Direction: Entering Junction

Time	PC	MC	Cars	LGV	OGV1	OGV2	PSV	Total
07:30	1	0	78	20	4	0	2	105
07:45	2	0	80	21	2	0	2	107
08:00	1	1	78	18	4	0	1	103
08:15	1	1	115	13	4	0	6	140
08:30	0	0	133	18	5	0	1	157
08:45	0	0	126	22	2	1	1	152
09:00	0	0	115	19	3	1	1	139
09:15	0	1	128	20	2	1	1	153
AM Peak	5	3	853	151	26	3	15	1056
16:30	1	1	125	10	0	0	3	140
16:45	1	1	111	18	0	0	2	133
17:00	1	0	100	13	2	0	2	118
17:15	0	1	119	17	1	0	2	140
17:30	0	1	135	15	0	0	1	152
17:45	1	1	125	9	0	0	0	136
18:00	0	1	151	16	0	0	3	171
18:15	1	0	139	11	0	0	3	154
PM Peak	5	6	1005	109	3	0	16	1144
Total	10	9	1858	260	29	3	31	2200

7:30 - 09:30
16:30 - 18:30

URS 15664 - Woolley Bridge Glossop Buxton Traffic Surveys GTS Traffic & Transportation Ltd

Junction: 4 : Norfolk St /A57 A57 High St E (East Arm) /Victoria St /A57 A57 High St W (West Arm)
From: Norfolk St
Direction: Left Turn
To: A57 High St E (East Arm)

Time	PC	MC	Cars	LGV	OGV1	OGV2	PSV	Total
07:30	0	0	12	1	0	0	0	13
07:45	0	0	2	1	0	0	0	3
08:00	0	0	5	3	0	0	0	8
08:15	0	0	2	0	1	0	1	4
08:30	0	0	4	0	1	0	1	6
08:45	0	0	6	0	0	0	0	6
09:00	0	0	11	0	0	0	0	11
09:15	0	0	8	3	0	0	0	11
AM Peak	0	0	50	8	2	0	2	62
16:30	0	0	13	2	0	0	2	17
16:45	0	0	15	1	0	0	0	16
17:00	0	0	13	0	0	0	0	13
17:15	0	0	15	2	0	0	1	18
17:30	0	0	8	1	0	0	0	9
17:45	0	0	19	1	0	0	0	20
18:00	0	0	10	0	0	0	0	10
18:15	0	0	10	0	0	0	0	10
PM Peak	0	0	103	7	0	0	3	113
Total	0	0	153	15	2	0	5	175

Junction: 4 : Norfolk St /A57 A57 High St E (East Arm) /Victoria St /A57 A57 High St W (West Arm)
From: A57 High St E (East Arm)
Direction: Left Turn
To: Victoria St

Time	PC	MC	Cars	LGV	OGV1	OGV2	PSV	Total
07:30	0	0	16	4	0	0	0	20
07:45	0	0	24	3	0	0	1	28
08:00	0	0	31	1	0	0	0	32
08:15	0	0	19	1	0	0	1	21
08:30	1	0	36	3	1	0	0	41
08:45	1	0	26	2	1	0	0	30
09:00	0	0	24	2	1	0	0	27
09:15	0	0	25	4	0	0	0	29
AM Peak	2	0	201	20	3	0	2	228
16:30	1	0	15	4	0	0	0	20
16:45	0	0	16	2	0	0	1	19
17:00	1	0	21	1	1	0	0	24
17:15	0	0	27	6	0	0	0	33
17:30	0	0	23	4	0	0	0	27
17:45	0	0	16	2	0	0	0	18
18:00	1	1	13	2	1	0	1	19
18:15	0	0	25	1	0	0	0	26
PM Peak	3	1	156	22	2	0	2	186
Total	5	1	357	42	5	0	4	414

7:30 - 09:30
16:30 - 18:30

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URS 15664 - Woolley Bridge Glossop Buxton Traffic Survey GTS Traffic & Transportation Ltd

Junction: 4 : Norfolk St /A57 A57 High St E (East Arm) /Victoria St /A57 A57 High St W (West Arm)
From: Norfolk St
Direction: Straight On
To: Victoria St

Time	PC	MC	Cars	LGV	OGV1	OGV2	PSV	Total	
07:30	0	0	34	7	4	0	2	47	
07:45	0	1	52	8	3	1	1	66	
08:00	0	0	43	16	3	0	1	63	
08:15	0	0	50	8	4	0	2	64	
08:30	1	1	62	9	1	0	3	77	
08:45	1	0	67	7	1	0	1	77	
09:00	0	0	50	7	2	1	1	61	
09:15	3	0	42	4	1	0	0	50	
AM Peak	5	2	400	66	19	2	11	505	
16:30	0	0	64	5	3	1	0	73	
16:45	2	0	62	8	2	1	2	77	
17:00	0	0	67	9	0	0	0	76	
17:15	0	0	64	4	0	0	2	70	
17:30	1	1	62	8	0	0	1	73	
17:45	0	0	46	3	0	0	1	50	
18:00	0	1	57	4	0	0	0	62	
18:15	0	0	52	5	0	0	3	60	
PM Peak	3	2	474	46	5	2	9	541	
Total	8	4	874	112	24	4	20	1046	

Junction: 4 : Norfolk St /A57 A57 High St E (East Arm) /Victoria St /A57 A57 High St W (West Arm)
From: A57 High St E (East Arm)
Direction: Straight On
To: A57 High St W (West Arm)

Time	PC	MC	Cars	LGV	OGV1	OGV2	PSV	Total	
07:30	0	1	80	6	1	0	1	89	
07:45	0	0	66	10	1	0	3	80	
08:00	0	1	70	14	0	0	2	87	
08:15	0	1	78	11	2	0	1	93	
08:30	1	0	79	6	1	0	1	88	
08:45	1	0	73	8	0	0	1	83	
09:00	0	0	60	15	3	0	1	79	
09:15	0	0	72	8	3	0	1	84	
AM Peak	2	3	578	78	11	0	11	683	
16:30	0	0	67	14	0	0	3	84	
16:45	0	0	65	12	3	0	1	81	
17:00	1	0	60	5	2	0	1	69	
17:15	0	0	61	8	0	0	1	70	
17:30	0	0	56	9	0	0	3	68	
17:45	1	0	65	8	1	0	1	76	
18:00	0	0	56	2	1	0	0	59	
18:15	0	0	79	8	1	0	1	89	
PM Peak	2	0	509	66	8	0	11	596	
Total	4	3	1087	144	19	0	22	1279	

7:30 - 09:30
16:30 - 18:30

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Junction: 4 : Norfolk St /A57 A57 High St E (East Arm) /Victoria St /A57 A57 High St W (West Arm)
From: Norfolk St
Direction: Right Turn
To: A57 High St W (West Arm)

Time	PC	MC	Cars	LGV	OGV1	OGV2	PSV	Total
07:30	0	0	7	0	0	1	1	9
07:45	0	0	5	2	0	1	1	9
08:00	0	0	6	2	0	0	1	9
08:15	0	0	11	2	0	0	1	14
08:30	0	0	5	4	0	0	1	10
08:45	0	0	17	4	0	1	1	23
09:00	0	0	8	3	0	0	0	11
09:15	0	0	14	2	1	0	0	17
AM Peak	0	0	73	19	1	3	6	102
16:30	0	0	10	3	0	0	1	14
16:45	0	0	14	2	0	0	1	17
17:00	0	0	13	4	0	0	0	17
17:15	0	0	6	2	0	0	2	10
17:30	0	0	10	0	1	0	0	11
17:45	0	0	7	0	0	0	0	7
18:00	0	0	8	1	1	0	2	12
18:15	0	0	12	2	0	0	1	15
PM Peak	0	0	80	14	2	0	7	103
Total	0	0	153	33	3	3	13	205

Junction: 4 : Norfolk St /A57 A57 High St E (East Arm) /Victoria St /A57 A57 High St W (West Arm)
From: A57 High St E (East Arm)
Direction: Right Turn
To: Norfolk St

Time	PC	MC	Cars	LGV	OGV1	OGV2	PSV	Total
07:30	0	0	5	0	0	0	0	5
07:45	1	0	2	0	0	0	0	3
08:00	0	0	2	0	0	0	0	2
08:15	0	0	1	1	1	0	0	3
08:30	0	0	7	0	0	0	0	7
08:45	0	0	7	0	0	0	0	7
09:00	0	0	5	0	0	0	0	5
09:15	0	0	7	0	0	0	0	7
AM Peak	1	0	36	1	1	0	0	39
16:30	0	0	1	0	0	0	0	1
16:45	0	0	5	0	0	0	0	5
17:00	0	0	4	2	3	0	0	9
17:15	0	0	3	2	0	0	0	5
17:30	0	0	4	0	0	0	0	4
17:45	0	0	8	0	0	0	0	8
18:00	0	0	3	0	0	0	0	3
18:15	0	0	5	0	0	0	0	5
PM Peak	0	0	33	4	3	0	0	40
Total	1	0	69	5	4	0	0	79

7:30 - 09:30
16:30 - 18:30

URS 15664 - Woolley Bridge Glossop Buxton Traffic Surveys GTS Traffic & Transportation Ltd

Junction: 4 : Norfolk St /A57 A57 High St E (East Arm) /Victoria St /A57 A57 High St W (West Arm)
From: Victoria St
Direction: Left Turn
To: A57 High St W (West Arm)

Time	PC	MC	Cars	LGV	OGV1	OGV2	PSV	Total
07:30	0	0	14	0	0	0	1	15
07:45	0	0	7	1	1	0	2	11
08:00	0	0	6	1	0	1	1	9
08:15	0	0	14	1	0	1	0	16
08:30	0	0	5	0	1	0	3	9
08:45	0	0	12	1	1	0	0	14
09:00	0	0	21	2	1	0	0	24
09:15	0	0	8	1	1	0	3	13
AM Peak	0	0	87	7	5	2	10	111
16:30	0	0	18	4	0	0	0	22
16:45	0	0	7	1	0	0	1	9
17:00	0	0	8	0	0	0	1	9
17:15	0	0	8	0	0	0	2	10
17:30	0	0	11	0	0	0	1	12
17:45	0	0	13	0	0	0	1	14
18:00	0	0	8	5	0	0	0	13
18:15	0	0	13	0	0	0	1	14
PM Peak	0	0	86	10	0	0	7	103
Total	0	0	173	17	5	2	17	214

Junction: 4 : Norfolk St /A57 A57 High St E (East Arm) /Victoria St /A57 A57 High St W (West Arm)
From: A57 High St W (West Arm)
Direction: Left Turn
To: Norfolk St

Time	PC	MC	Cars	LGV	OGV1	OGV2	PSV	Total
07:30	0	0	5	1	0	0	0	6
07:45	0	0	9	1	1	0	0	11
08:00	0	0	9	0	0	0	0	9
08:15	0	0	18	0	1	0	2	21
08:30	0	0	20	2	1	0	0	23
08:45	0	0	10	2	0	0	0	12
09:00	0	0	11	2	0	0	0	13
09:15	0	0	5	4	0	0	0	9
AM Peak	0	0	87	12	3	0	2	104
16:30	0	0	12	1	0	0	0	13
16:45	0	0	15	0	1	0	0	16
17:00	0	0	14	1	0	0	0	15
17:15	0	0	7	1	0	0	0	8
17:30	0	0	9	2	0	0	0	11
17:45	0	0	10	2	0	0	0	12
18:00	0	0	8	2	0	0	0	10
18:15	0	0	15	1	0	0	0	16
PM Peak	0	0	90	10	1	0	0	101
Total	0	0	177	22	4	0	2	205

7:30 - 09:30
16:30 - 18:30

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Junction: 4 : Norfolk St /A57 A57 High St E (East Arm) /Victoria St /A57 A57 High St W (West Arm)
From: Victoria St
Direction: Straight On
To: Norfolk St

Time	PC	MC	Cars	LGV	OGV1	OGV2	PSV	Total
07:30	0	0	38	4	0	0	0	42
07:45	2	0	46	6	0	0	1	55
08:00	0	1	35	7	2	0	0	45
08:15	0	0	43	5	1	0	0	49
08:30	0	0	67	10	0	0	0	77
08:45	0	0	52	4	3	0	0	59
09:00	0	0	40	5	1	0	0	46
09:15	1	0	41	3	1	0	0	46
AM Peak	3	1	362	44	8	0	1	419
16:30	0	0	39	11	1	0	0	51
16:45	0	0	45	6	0	1	0	52
17:00	0	0	55	9	0	0	1	65
17:15	0	0	47	4	1	0	1	53
17:30	0	1	54	6	0	0	0	61
17:45	0	0	43	3	0	0	0	46
18:00	0	0	40	4	0	0	1	45
18:15	0	0	35	1	0	0	0	36
PM Peak	0	1	358	44	2	1	3	409
Total	3	2	720	88	10	1	4	828

Junction: 4 : Norfolk St /A57 A57 High St E (East Arm) /Victoria St /A57 A57 High St W (West Arm)
From: A57 High St W (West Arm)
Direction: Straight On
To: A57 High St E (East Arm)

Time	PC	MC	Cars	LGV	OGV1	OGV2	PSV	Total
07:30	0	0	44	15	1	0	1	61
07:45	1	0	31	12	1	0	1	46
08:00	1	0	37	11	2	0	0	51
08:15	1	0	37	7	1	0	1	47
08:30	0	0	43	6	3	0	0	52
08:45	0	0	51	13	2	1	0	67
09:00	0	0	52	8	0	1	1	62
09:15	0	0	54	11	4	0	1	70
AM Peak	3	0	349	83	14	2	5	456
16:30	1	1	71	5	0	0	1	79
16:45	1	0	60	6	0	0	1	68
17:00	1	0	57	11	0	0	1	70
17:15	2	1	68	10	0	0	1	82
17:30	0	0	78	8	0	0	1	87
17:45	0	1	69	2	0	0	0	72
18:00	0	1	75	10	0	0	1	87
18:15	0	0	81	2	0	0	1	84
PM Peak	5	4	559	54	0	0	7	629
Total	8	4	908	137	14	2	12	1085

7:30 - 09:30
16:30 - 18:30

Junction: 4 : Norfolk St /A57 A57 High St E (East Arm) /Victoria St /A57 A57 High St W (West Arm)
From: Victoria St
Direction: Right Turn
To: A57 High St E (East Arm)

Time	PC	MC	Cars	LGV	OGV1	OGV2	PSV	Total
07:30	0	0	13	3	1	0	1	18
07:45	0	0	9	1	1	0	1	12
08:00	0	0	14	7	1	0	0	22
08:15	0	0	9	1	0	1	0	11
08:30	1	0	20	3	0	0	0	24
08:45	0	0	16	2	0	0	0	18
09:00	0	0	23	2	0	0	0	25
09:15	1	0	18	1	2	0	0	22
AM Peak	2	0	122	20	5	1	2	152
16:30	0	0	24	1	0	0	0	25
16:45	0	0	26	3	0	0	0	29
17:00	0	1	28	1	0	0	0	30
17:15	0	0	25	1	0	0	0	26
17:30	0	0	25	2	1	0	1	29
17:45	0	0	25	3	0	0	0	28
18:00	0	0	23	3	0	0	0	26
18:15	0	0	25	0	0	0	0	25
PM Peak	0	1	201	14	1	0	1	218
Total	2	1	323	34	6	1	3	370

Junction: 4 : Norfolk St /A57 A57 High St E (East Arm) /Victoria St /A57 A57 High St W (West Arm)
From: A57 High St W (West Arm)
Direction: Right Turn
To: Victoria St

Time	PC	MC	Cars	LGV	OGV1	OGV2	PSV	Total
07:30	0	0	4	2	3	0	0	9
07:45	0	0	4	2	0	0	0	6
08:00	0	0	7	2	1	0	0	10
08:15	0	0	6	3	0	0	0	9
08:30	0	0	12	1	1	0	0	14
08:45	0	0	15	2	1	0	0	18
09:00	0	0	12	2	2	0	0	16
09:15	0	0	12	7	0	1	0	20
AM Peak	0	0	72	21	8	1	0	102
16:30	0	0	9	1	0	0	0	10
16:45	0	0	15	5	0	0	0	20
17:00	0	0	12	4	0	0	0	16
17:15	0	0	21	1	0	0	0	22
17:30	0	0	19	3	0	0	0	22
17:45	0	0	11	1	0	0	0	12
18:00	0	0	21	3	0	0	0	24
18:15	0	0	23	1	0	0	0	24
PM Peak	0	0	131	19	0	0	0	150
Total	0	0	203	40	8	1	0	252

7:30 - 09:30
16:30 - 18:30

Junction: 4 : Norfolk St /A57 A57 High St E (East Arm) /Victoria St /A57 A57 High St W (West Arm)
Arm: Norfolk St
Direction: Exiting Junction

Time	PC	MC	Cars	LGV	OGV1	OGV2	PSV	Total	
07:30	0	0	48	5	0	0	0	53	
07:45	3	0	57	7	1	0	1	69	
08:00	0	1	46	7	2	0	0	56	
08:15	0	0	62	6	3	0	2	73	
08:30	0	0	94	12	1	0	0	107	
08:45	0	0	69	6	3	0	0	78	
09:00	0	0	56	7	1	0	0	64	
09:15	1	0	53	7	1	0	0	62	
AM Peak	4	1	485	57	12	0	3	562	
16:30	0	0	52	12	1	0	0	65	
16:45	0	0	65	6	1	1	0	73	
17:00	0	0	73	12	3	0	1	89	
17:15	0	0	57	7	1	0	1	66	
17:30	0	1	67	8	0	0	0	76	
17:45	0	0	61	5	0	0	0	66	
18:00	0	0	51	6	0	0	1	58	
18:15	0	0	55	2	0	0	0	57	
PM Peak	0	1	481	58	6	1	3	550	
Total	4	2	966	115	18	1	6	1112	

Junction: 4 : Norfolk St /A57 A57 High St E (East Arm) /Victoria St /A57 A57 High St W (West Arm)
Arm: Norfolk St
Direction: Entering Junction

Time	PC	MC	Cars	LGV	OGV1	OGV2	PSV	Total	
07:30	0	0	53	8	4	1	3	69	
07:45	0	1	59	11	3	2	2	78	
08:00	0	0	54	21	3	0	2	80	84
08:15	0	0	63	10	5	0	4	82	89
08:30	1	1	71	13	2	0	5	93	98
08:45	1	0	90	11	1	1	2	106	109
09:00	0	0	69	10	2	1	1	83	
09:15	3	0	64	9	2	0	0	78	
AM Peak	5	2	523	93	22	5	19	669	378
16:30	0	0	87	10	3	1	3	104	
16:45	2	0	91	11	2	1	3	110	
17:00	0	0	93	13	0	0	0	106	106
17:15	0	0	85	8	0	0	5	98	103
17:30	1	1	80	9	1	0	1	93	93
17:45	0	0	72	4	0	0	1	77	78
18:00	0	1	75	5	1	0	2	84	
18:15	0	0	74	7	0	0	4	85	
PM Peak	3	2	657	67	7	2	19	757	380
Total	8	4	1180	160	29	7	38	1426	

7:30 - 09:30
16:30 - 18:30

Junction: 4 : Norfolk St /A57 A57 High St E (East Arm) /Victoria St /A57 A57 High St W (West Arm)
Arm: A57 High St E (East Arm)
Direction: Exiting Junction

Time	PC	MC	Cars	LGV	OGV1	OGV2	PSV	Total	
07:30	0	0	69	19	2	0	2	92	
07:45	1	0	42	14	2	0	2	61	
08:00	1	0	56	21	3	0	0	81	
08:15	1	0	48	8	2	1	2	62	
08:30	1	0	67	9	4	0	1	82	
08:45	0	0	73	15	2	1	0	91	
09:00	0	0	86	10	0	1	1	98	
09:15	1	0	80	15	6	0	1	103	
AM Peak	5	0	521	111	21	3	9	670	
16:30	1	1	108	8	0	0	3	121	
16:45	1	0	101	10	0	0	1	113	
17:00	1	1	98	12	0	0	1	113	
17:15	2	1	108	13	0	0	2	126	
17:30	0	0	111	11	1	0	2	125	
17:45	0	1	113	6	0	0	0	120	
18:00	0	1	108	13	0	0	1	123	
18:15	0	0	116	2	0	0	1	119	
PM Peak	5	5	863	75	1	0	11	960	
Total	10	5	1384	186	22	3	20	1630	

Junction: 4 : Norfolk St /A57 A57 High St E (East Arm) /Victoria St /A57 A57 High St W (West Arm)
Arm: A57 High St E (East Arm)
Direction: Entering Junction

Time	PC	MC	Cars	LGV	OGV1	OGV2	PSV	Total	
07:30	0	1	101	10	1	0	1	114	
07:45	1	0	92	13	1	0	4	111	
08:00	0	1	103	15	0	0	2	121	122
08:15	0	1	98	13	3	0	2	117	120
08:30	2	0	122	9	2	0	1	136	136
08:45	2	0	106	10	1	0	1	120	120
09:00	0	0	89	17	4	0	1	111	
09:15	0	0	104	12	3	0	1	120	
AM Peak	5	3	815	99	15	0	13	950	499
16:30	1	0	83	18	0	0	3	105	
16:45	0	0	86	14	3	0	2	105	
17:00	2	0	85	8	6	0	1	102	104
17:15	0	0	91	16	0	0	1	108	109
17:30	0	0	83	13	0	0	3	99	102
17:45	1	0	89	10	1	0	1	102	103
18:00	1	1	72	4	2	0	1	81	
18:15	0	0	109	9	1	0	1	120	
PM Peak	5	1	698	92	13	0	13	822	418
Total	10	4	1513	191	28	0	26	1772	

7:30 - 09:30
16:30 - 18:30

Junction: 4 : Norfolk St /A57 A57 High St E (East Arm) /Victoria St /A57 A57 High St W (West Arm)
Arm: Victoria St
Direction: Exiting Junction

Time	PC	MC	Cars	LGV	OGV1	OGV2	PSV	Total	
07:30	0	0	54	13	7	0	2	76	
07:45	0	1	80	13	3	1	2	100	
08:00	0	0	81	19	4	0	1	105	
08:15	0	0	75	12	4	0	3	94	
08:30	2	1	110	13	3	0	3	132	
08:45	2	0	108	11	3	0	1	125	
09:00	0	0	86	11	5	1	1	104	
09:15	3	0	79	15	1	1	0	99	
AM Peak	7	2	673	107	30	3	13	835	
16:30	1	0	88	10	3	1	0	103	
16:45	2	0	93	15	2	1	3	116	
17:00	1	0	100	14	1	0	0	116	
17:15	0	0	112	11	0	0	2	125	
17:30	1	1	104	15	0	0	1	122	
17:45	0	0	73	6	0	0	1	80	
18:00	1	2	91	9	1	0	1	105	
18:15	0	0	100	7	0	0	3	110	
PM Peak	6	3	761	87	7	2	11	877	
Total	13	5	1434	194	37	5	24	1712	

Junction: 4 : Norfolk St /A57 A57 High St E (East Arm) /Victoria St /A57 A57 High St W (West Arm)
Arm: Victoria St
Direction: Entering Junction

Time	PC	MC	Cars	LGV	OGV1	OGV2	PSV	Total	
07:30	0	0	65	7	1	0	2	75	
07:45	2	0	62	8	2	0	4	78	
08:00	0	1	55	15	3	1	1	76	79
08:15	0	0	66	7	1	2	0	76	79
08:30	1	0	92	13	1	0	3	110	113
08:45	0	0	80	7	4	0	0	91	93
09:00	0	0	84	9	2	0	0	95	
09:15	2	0	67	5	4	0	3	81	
AM Peak	5	1	571	71	18	3	13	682	363
16:30	0	0	81	16	1	0	0	98	
16:45	0	0	78	10	0	1	1	90	
17:00	0	1	91	10	0	0	2	104	105
17:15	0	0	80	5	1	0	3	89	93
17:30	0	1	90	8	1	0	2	102	104
17:45	0	0	81	6	0	0	1	88	89
18:00	0	0	71	12	0	0	1	84	
18:15	0	0	73	1	0	0	1	75	
PM Peak	0	2	645	68	3	1	11	730	391
Total	5	3	1216	139	21	4	24	1412	

7:30 - 09:30
16:30 - 18:30

URS 15664 - Woolley Bridge Glossop Buxton Traffic Survey GTS Traffic & Transportation Ltd

Junction: 4 : Norfolk St /A57 A57 High St E (East Arm) /Victoria St /A57 A57 High St W (West Arm)
Arm: A57 High St W (West Arm)
Direction: Exiting Junction

Time	PC	MC	Cars	LGV	OGV1	OGV2	PSV	Total
07:30	0	1	101	6	1	1	3	113
07:45	0	0	78	13	2	1	6	100
08:00	0	1	82	17	0	1	4	105
08:15	0	1	103	14	2	1	2	123
08:30	1	0	89	10	2	0	5	107
08:45	1	0	102	13	1	1	2	120
09:00	0	0	89	20	4	0	1	114
09:15	0	0	94	11	5	0	4	114
AM Peak	2	3	738	104	17	5	27	896
16:30	0	0	95	21	0	0	4	120
16:45	0	0	86	15	3	0	3	107
17:00	1	0	81	9	2	0	2	95
17:15	0	0	75	10	0	0	5	90
17:30	0	0	77	9	1	0	4	91
17:45	1	0	85	8	1	0	2	97
18:00	0	0	72	8	2	0	2	84
18:15	0	0	104	10	1	0	3	118
PM Peak	2	0	675	90	10	0	25	802
Total	4	3	1413	194	27	5	52	1698

Junction: 4 : Norfolk St /A57 A57 High St E (East Arm) /Victoria St /A57 A57 High St W (West Arm)
Arm: A57 High St W (West Arm)
Direction: Entering Junction

Time	PC	MC	Cars	LGV	OGV1	OGV2	PSV	Total	
07:30	0	0	53	18	4	0	1	76	
07:45	1	0	44	15	2	0	1	63	
08:00	1	0	53	13	3	0	0	70	71
08:15	1	0	61	10	2	0	3	77	80
08:30	0	0	75	9	5	0	0	89	92
08:45	0	0	76	17	3	1	0	97	100
09:00	0	0	75	12	2	1	1	91	
09:15	0	0	71	22	4	1	1	99	
AM Peak	3	0	508	116	25	3	7	662	342
16:30	1	1	92	7	0	0	1	102	
16:45	1	0	90	11	1	0	1	104	
17:00	1	0	83	16	0	0	1	101	101
17:15	2	1	96	12	0	0	1	112	111
17:30	0	0	106	13	0	0	1	120	121
17:45	0	1	90	5	0	0	0	96	95
18:00	0	1	104	15	0	0	1	121	
18:15	0	0	119	4	0	0	1	124	
PM Peak	5	4	780	83	1	0	7	880	428
Total	8	4	1288	199	26	3	14	1542	

7:30 - 09:30
16:30 - 18:30

Thursday 28th November 2013

10

Junction: 7 : Glossop Brook Rd /A57 High St W (East Arm) /Queen St /A57 High St W (West Arm)
From: Glossop Brook Rd
Direction: Left Turn
To: A57 High St W (East Arm)

Time	PC	MC	Cars	LGV	OGV1	OGV2	PSV	Total
07:30	0	0	7	0	1	0	0	8
07:45	0	0	14	1	1	0	0	16
08:00	0	0	11	2	1	0	0	14
08:15	0	0	15	1	2	0	0	18
08:30	0	0	25	0	0	0	0	25
08:45	0	0	18	0	1	0	0	19
09:00	0	0	17	4	2	0	0	23
09:15	0	0	24	3	0	0	0	27
AM Peak	0	0	131	11	8	0	0	150
16:30	0	0	36	5	0	0	0	41
16:45	0	0	40	4	0	0	0	44
17:00	0	0	53	2	0	0	0	55
17:15	0	0	38	2	0	0	0	40
17:30	0	0	56	3	0	0	0	59
17:45	0	0	45	3	0	0	0	48
18:00	0	0	62	6	0	0	0	68
18:15	0	0	46	5	0	0	0	51
PM Peak	0	0	376	30	0	0	0	406
Total	0	0	507	41	8	0	0	556

Junction: 7 : Glossop Brook Rd /A57 High St W (East Arm) /Queen St /A57 High St W (West Arm)
From: A57 High St W (East Arm)
Direction: Left Turn
To: Queen St

Time	PC	MC	Cars	LGV	OGV1	OGV2	PSV	Total
07:30	0	0	0	0	0	0	0	0
07:45	0	0	0	0	0	0	0	0
08:00	0	0	0	0	0	0	0	0
08:15	0	0	1	0	0	0	0	1
08:30	0	0	0	0	1	0	0	1
08:45	0	0	0	1	0	0	0	1
09:00	0	0	2	0	0	0	0	2
09:15	0	0	1	0	0	0	0	1
AM Peak	0	0	4	1	1	0	0	6
16:30	0	0	1	0	0	0	0	1
16:45	0	0	0	0	0	0	0	0
17:00	0	0	2	0	0	0	0	2
17:15	0	0	1	0	0	0	0	1
17:30	0	0	0	1	0	0	0	1
17:45	0	0	1	0	0	0	0	1
18:00	0	0	1	0	0	0	0	1
18:15	0	0	1	0	0	0	0	1
PM Peak	0	0	7	1	0	0	0	8
Total	0	0	11	2	1	0	0	14

7:30 - 09:30
16:30 - 18:30

URS 15664 - Woolley Bridge Glossop Buxton Traffic Survey Traffic & Transportation Ltd

Junction: 7 : Glossop Brook Rd /A57 High St W (East Arm) /Queen St /A57 High St W (West Arm)
From: Glossop Brook Rd
Direction: Straight On
To: Queen St

Time	PC	MC	Cars	LGV	OGV1	OGV2	PSV	Total
07:30	0	0	0	0	0	0	0	0
07:45	0	0	1	0	0	0	0	1
08:00	0	0	1	0	0	0	0	1
08:15	0	0	0	0	0	0	0	0
08:30	0	0	0	1	0	0	0	1
08:45	0	0	2	0	0	0	0	2
09:00	0	0	1	0	0	0	0	1
09:15	0	0	0	0	0	0	0	0
AM Peak	0	0	5	1	0	0	0	6
16:30	0	0	1	0	0	0	0	1
16:45	0	0	0	0	0	0	0	0
17:00	0	0	2	0	0	0	0	2
17:15	0	1	3	1	0	0	0	5
17:30	0	0	0	0	0	0	0	0
17:45	0	0	0	0	0	0	0	0
18:00	0	0	5	0	0	0	0	5
18:15	0	0	3	0	0	0	0	3
PM Peak	0	1	14	1	0	0	0	16
Total	0	1	19	2	0	0	0	22

Junction: 7 : Glossop Brook Rd /A57 High St W (East Arm) /Queen St /A57 High St W (West Arm)
From: A57 High St W (East Arm)
Direction: Straight On
To: A57 High St W (West Arm)

Time	PC	MC	Cars	LGV	OGV1	OGV2	PSV	Total
07:30	2	2	123	13	0	0	1	141
07:45	0	0	110	11	3	1	2	127
08:00	2	2	104	17	0	0	3	128
08:15	0	1	116	13	3	0	2	135
08:30	0	1	124	9	0	0	1	135
08:45	1	1	129	12	3	0	1	147
09:00	1	0	76	13	1	0	0	91
09:15	0	0	124	16	6	0	1	147
AM Peak	6	7	906	104	16	1	11	1051
16:30	1	0	105	17	1	0	1	125
16:45	0	0	121	20	4	0	2	147
17:00	0	0	121	11	4	0	2	138
17:15	1	0	129	14	0	0	3	147
17:30	1	1	85	15	1	0	1	104
17:45	2	0	104	12	2	0	1	121
18:00	0	1	70	8	2	0	2	83
18:15	0	0	115	12	0	0	2	129
PM Peak	5	2	850	109	14	0	14	994
Total	11	9	1756	213	30	1	25	2045

7:30 - 09:30
16:30 - 18:30

Thursday 28th November 2013 2

Junction: 7 : Glossop Brook Rd /A57 High St W (East Arm) /Queen St /A57 High St W (West Arm)
From: Glossop Brook Rd
Direction: Right Turn
To: A57 High St W (West Arm)

Time	PC	MC	Cars	LGV	OGV1	OGV2	PSV	Total
07:30	0	0	7	5	1	0	0	13
07:45	0	0	6	1	0	0	0	7
08:00	0	0	13	4	1	0	0	18
08:15	0	0	15	4	0	0	0	19
08:30	0	0	16	1	1	0	0	18
08:45	0	0	14	4	0	1	0	19
09:00	0	0	19	2	2	0	0	23
09:15	0	0	24	0	0	0	0	24
AM Peak	0	0	114	21	5	1	0	141
16:30	0	0	50	5	0	0	0	55
16:45	0	0	39	6	0	0	0	45
17:00	0	0	39	3	0	0	0	42
17:15	1	1	38	5	2	0	0	47
17:30	1	0	36	1	0	0	0	38
17:45	0	0	39	3	0	0	0	42
18:00	0	1	47	3	0	2	0	53
18:15	0	0	37	3	0	0	0	40
PM Peak	2	2	325	29	2	2	0	362
Total	2	2	439	50	7	3	0	503

Junction: 7 : Glossop Brook Rd /A57 High St W (East Arm) /Queen St /A57 High St W (West Arm)
From: A57 High St W (East Arm)
Direction: Right Turn
To: Glossop Brook Rd

Time	PC	MC	Cars	LGV	OGV1	OGV2	PSV	Total
07:30	0	0	23	1	0	0	0	24
07:45	0	0	26	2	1	0	0	29
08:00	0	0	18	4	1	0	0	23
08:15	0	0	25	3	0	0	0	28
08:30	0	0	33	2	1	1	0	37
08:45	0	0	42	6	0	0	0	48
09:00	0	0	29	2	1	0	0	32
09:15	0	0	46	0	2	0	0	48
AM Peak	0	0	242	20	6	1	0	269
16:30	0	0	53	2	1	0	0	56
16:45	0	0	52	2	0	0	0	54
17:00	0	0	47	4	0	0	0	51
17:15	0	0	40	2	0	0	0	42
17:30	0	0	45	4	0	0	0	49
17:45	0	0	59	5	0	0	0	64
18:00	0	0	36	7	0	0	0	43
18:15	0	0	49	2	0	0	0	51
PM Peak	0	0	381	28	1	0	0	410
Total	0	0	623	48	7	1	0	679

7:30 - 09:30
16:30 - 18:30

URS 15664 - Woolley Bridge Glossop Buxton Traffic Survey Traffic & Transportation Ltd

Junction: 7 : Glossop Brook Rd /A57 High St W (East Arm) /Queen St /A57 High St W (West Arm)
From: Queen St
Direction: Left Turn
To: A57 High St W (West Arm)

Time	PC	MC	Cars	LGV	OGV1	OGV2	PSV	Total
07:30	0	0	4	0	0	0	0	4
07:45	0	0	4	0	0	0	0	4
08:00	0	0	3	0	0	0	0	3
08:15	0	0	2	0	0	0	0	2
08:30	0	0	6	2	0	0	0	8
08:45	0	0	5	0	0	0	0	5
09:00	0	0	12	0	0	0	0	12
09:15	0	0	5	1	0	0	0	6
AM Peak	0	0	41	3	0	0	0	44
16:30	0	0	6	0	0	0	0	6
16:45	0	1	3	0	0	0	0	4
17:00	0	0	2	0	0	0	0	2
17:15	0	0	0	2	0	0	0	2
17:30	0	0	5	0	0	0	0	5
17:45	0	0	2	0	0	0	0	2
18:00	0	0	6	0	0	0	0	6
18:15	0	0	6	0	0	0	0	6
PM Peak	0	1	30	2	0	0	0	33
Total	0	1	71	5	0	0	0	77

Junction: 7 : Glossop Brook Rd /A57 High St W (East Arm) /Queen St /A57 High St W (West Arm)
From: A57 High St W (West Arm)
Direction: Left Turn
To: Glossop Brook Rd

Time	PC	MC	Cars	LGV	OGV1	OGV2	PSV	Total
07:30	1	0	11	3	0	0	0	15
07:45	0	0	17	3	0	0	0	20
08:00	0	0	20	3	1	1	0	25
08:15	0	0	17	1	0	0	0	18
08:30	0	1	28	2	1	1	0	33
08:45	0	2	35	1	3	0	0	41
09:00	0	0	38	1	0	0	0	39
09:15	0	0	35	3	2	0	0	40
AM Peak	1	3	201	17	7	2	0	231
16:30	0	0	35	13	2	0	0	50
16:45	0	0	35	3	0	0	0	38
17:00	0	0	29	2	0	0	0	31
17:15	0	0	58	1	0	1	0	60
17:30	0	0	40	3	0	2	0	45
17:45	0	0	52	4	0	0	0	56
18:00	0	0	57	3	0	0	0	60
18:15	0	0	47	3	0	0	0	50
PM Peak	0	0	353	32	2	3	0	390
Total	1	3	554	49	9	5	0	621

7:30 - 09:30
16:30 - 18:30

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URS 15664 - Woolley Bridge Glossop Buxton Traffic Survey Traffic & Transportation Ltd

Junction: 7 : Glossop Brook Rd /A57 High St W (East Arm) /Queen St /A57 High St W (West Arm)
From: Queen St
Direction: Straight On
To: Glossop Brook Rd

Time	PC	MC	Cars	LGV	OGV1	OGV2	PSV	Total
07:30	0	0	0	0	0	0	0	0
07:45	1	0	1	0	0	0	0	2
08:00	0	0	2	0	0	0	0	2
08:15	0	0	0	0	0	0	0	0
08:30	0	0	1	0	0	0	0	1
08:45	0	0	4	0	0	0	0	4
09:00	0	0	3	0	0	0	0	3
09:15	0	0	0	1	0	0	0	1
AM Peak	1	0	11	1	0	0	0	13
16:30	0	0	1	0	0	0	0	1
16:45	0	0	5	0	0	0	0	5
17:00	0	0	2	1	0	0	0	3
17:15	0	0	1	2	0	0	0	3
17:30	0	0	3	0	0	0	0	3
17:45	0	0	0	0	0	0	0	0
18:00	0	0	1	0	0	0	0	1
18:15	0	0	3	0	0	0	0	3
PM Peak	0	0	16	3	0	0	0	19
Total	1	0	27	4	0	0	0	32

Junction: 7 : Glossop Brook Rd /A57 High St W (East Arm) /Queen St /A57 High St W (West Arm)
From: A57 High St W (West Arm)
Direction: Straight On
To: A57 High St W (East Arm)

Time	PC	MC	Cars	LGV	OGV1	OGV2	PSV	Total
07:30	1	0	84	22	3	0	2	112
07:45	2	0	76	17	1	0	1	97
08:00	1	1	95	17	3	0	1	118
08:15	1	1	118	14	1	0	6	141
08:30	0	0	146	17	5	0	1	169
08:45	0	0	135	20	1	1	1	158
09:00	0	0	110	17	2	1	1	131
09:15	0	1	108	18	1	1	1	130
AM Peak	5	3	872	142	17	3	14	1056
16:30	1	1	92	9	0	0	3	106
16:45	2	1	92	12	0	0	2	109
17:00	0	0	90	10	0	0	2	102
17:15	0	1	93	9	0	0	2	105
17:30	1	1	100	16	0	0	1	119
17:45	1	1	98	10	0	0	0	110
18:00	0	1	105	9	0	0	3	118
18:15	1	0	126	9	0	0	4	140
PM Peak	6	6	796	84	0	0	17	909
Total	11	9	1668	226	17	3	31	1965

7:30 - 09:30
16:30 - 18:30

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Junction: 7 : Glossop Brook Rd /A57 High St W (East Arm) /Queen St /A57 High St W (West Arm)
From: Queen St
Direction: Right Turn
To: A57 High St W (East Arm)

Time	PC	MC	Cars	LGV	OGV1	OGV2	PSV	Total
07:30	0	0	0	0	0	0	0	0
07:45	0	0	0	0	1	0	0	1
08:00	0	0	3	0	0	0	0	3
08:15	0	0	1	0	0	0	0	1
08:30	0	0	1	0	0	0	0	1
08:45	0	0	0	0	0	0	0	0
09:00	0	0	0	0	1	0	0	1
09:15	0	0	2	0	0	0	0	2
AM Peak	0	0	7	0	2	0	0	9
16:30	0	0	0	0	0	0	0	0
16:45	0	0	1	0	0	0	0	1
17:00	0	0	1	0	0	0	0	1
17:15	0	0	0	0	0	0	0	0
17:30	0	0	0	1	0	0	0	1
17:45	0	0	0	0	0	0	0	0
18:00	0	0	1	0	0	0	0	1
18:15	0	0	1	0	0	0	0	1
PM Peak	0	0	4	1	0	0	0	5
Total	0	0	11	1	2	0	0	14

Junction: 7 : Glossop Brook Rd /A57 High St W (East Arm) /Queen St /A57 High St W (West Arm)
From: A57 High St W (West Arm)
Direction: Right Turn
To: Queen St

Time	PC	MC	Cars	LGV	OGV1	OGV2	PSV	Total
07:30	0	0	1	0	0	0	0	1
07:45	0	0	1	0	0	0	0	1
08:00	0	0	0	1	0	0	0	1
08:15	0	0	1	0	0	0	0	1
08:30	0	0	0	0	0	0	0	0
08:45	0	0	5	0	0	0	0	5
09:00	0	0	1	0	0	0	0	1
09:15	0	0	2	1	0	0	0	3
AM Peak	0	0	11	2	0	0	0	13
16:30	0	0	2	0	0	0	0	2
16:45	0	0	1	0	0	0	0	1
17:00	0	0	3	1	0	0	0	4
17:15	0	0	2	0	0	0	0	2
17:30	0	0	1	0	0	0	0	1
17:45	0	0	1	0	0	0	0	1
18:00	0	0	3	0	0	0	0	3
18:15	0	0	3	1	0	0	0	4
PM Peak	0	0	16	2	0	0	0	18
Total	0	0	27	4	0	0	0	31

7:30 - 09:30
16:30 - 18:30

Junction: 7 : Glossop Brook Rd /A57 High St W (East Arm) /Queen St /A57 High St W (West Arm)
Arm: Glossop Brook Rd
Direction: Exiting Junction

Time	PC	MC	Cars	LGV	OGV1	OGV2	PSV	Total
07:30	1	0	34	4	0	0	0	39
07:45	1	0	44	5	1	0	0	51
08:00	0	0	40	7	2	1	0	50
08:15	0	0	42	4	0	0	0	46
08:30	0	1	62	4	2	2	0	71
08:45	0	2	81	7	3	0	0	93
09:00	0	0	70	3	1	0	0	74
09:15	0	0	81	4	4	0	0	89
AM Peak	2	3	454	38	13	3	0	513
16:30	0	0	89	15	3	0	0	107
16:45	0	0	92	5	0	0	0	97
17:00	0	0	78	7	0	0	0	85
17:15	0	0	99	5	0	1	0	105
17:30	0	0	88	7	0	2	0	97
17:45	0	0	111	9	0	0	0	120
18:00	0	0	94	10	0	0	0	104
18:15	0	0	99	5	0	0	0	104
PM Peak	0	0	750	63	3	3	0	819
Total	2	3	1204	101	16	6	0	1332

Junction: 7 : Glossop Brook Rd /A57 High St W (East Arm) /Queen St /A57 High St W (West Arm)
Arm: Glossop Brook Rd
Direction: Entering Junction

Time	PC	MC	Cars	LGV	OGV1	OGV2	PSV	Total
07:30	0	0	14	5	2	0	0	21
07:45	0	0	21	2	1	0	0	24
08:00	0	0	25	6	2	0	0	33
08:15	0	0	30	5	2	0	0	37
08:30	0	0	41	2	1	0	0	44
08:45	0	0	34	4	1	1	0	40
09:00	0	0	37	6	4	0	0	47
09:15	0	0	48	3	0	0	0	51
AM Peak	0	0	250	33	13	1	0	297
16:30	0	0	87	10	0	0	0	97
16:45	0	0	79	10	0	0	0	89
17:00	0	0	94	5	0	0	0	99
17:15	1	2	79	8	2	0	0	92
17:30	1	0	92	4	0	0	0	97
17:45	0	0	84	6	0	0	0	90
18:00	0	1	114	9	0	2	0	126
18:15	0	0	86	8	0	0	0	94
PM Peak	2	3	715	60	2	2	0	784
Total	2	3	965	93	15	3	0	1081

7:30 - 09:30
16:30 - 18:30

Junction: 7 : Glossop Brook Rd /A57 High St W (East Arm) /Queen St /A57 High St W (West Arm)
Arm: A57 High St W (East Arm)
Direction: Exiting Junction

Time	PC	MC	Cars	LGV	OGV1	OGV2	PSV	Total
07:30	1	0	91	22	4	0	2	120
07:45	2	0	90	18	3	0	1	114
08:00	1	1	109	19	4	0	1	135
08:15	1	1	134	15	3	0	6	160
08:30	0	0	172	17	5	0	1	195
08:45	0	0	153	20	2	1	1	177
09:00	0	0	127	21	5	1	1	155
09:15	0	1	134	21	1	1	1	159
AM Peak	5	3	1010	153	27	3	14	1215
16:30	1	1	128	14	0	0	3	147
16:45	2	1	133	16	0	0	2	154
17:00	0	0	144	12	0	0	2	158
17:15	0	1	131	11	0	0	2	145
17:30	1	1	156	20	0	0	1	179
17:45	1	1	143	13	0	0	0	158
18:00	0	1	168	15	0	0	3	187
18:15	1	0	173	14	0	0	4	192
PM Peak	6	6	1176	115	0	0	17	1320
Total	11	9	2186	268	27	3	31	2535

Junction: 7 : Glossop Brook Rd /A57 High St W (East Arm) /Queen St /A57 High St W (West Arm)
Arm: A57 High St W (East Arm)
Direction: Entering Junction

Time	PC	MC	Cars	LGV	OGV1	OGV2	PSV	Total
07:30	2	2	146	14	0	0	1	165
07:45	0	0	136	13	4	1	2	156
08:00	2	2	122	21	1	0	3	151
08:15	0	1	142	16	3	0	2	164
08:30	0	1	157	11	2	1	1	173
08:45	1	1	171	19	3	0	1	196
09:00	1	0	107	15	2	0	0	125
09:15	0	0	171	16	8	0	1	196
AM Peak	6	7	1152	125	23	2	11	1326
16:30	1	0	159	19	2	0	1	182
16:45	0	0	173	22	4	0	2	201
17:00	0	0	170	15	4	0	2	191
17:15	1	0	170	16	0	0	3	190
17:30	1	1	130	20	1	0	1	154
17:45	2	0	164	17	2	0	1	186
18:00	0	1	107	15	2	0	2	127
18:15	0	0	165	14	0	0	2	181
PM Peak	5	2	1238	138	15	0	14	1412
Total	11	9	2390	263	38	2	25	2738

7:30 - 09:30
16:30 - 18:30

Junction: 7 : Glossop Brook Rd /A57 High St W (East Arm) /Queen St /A57 High St W (West Arm)
Arm: Queen St
Direction: Exiting Junction

Time	PC	MC	Cars	LGV	OGV1	OGV2	PSV	Total
07:30	0	0	1	0	0	0	0	1
07:45	0	0	2	0	0	0	0	2
08:00	0	0	1	1	0	0	0	2
08:15	0	0	2	0	0	0	0	2
08:30	0	0	0	1	1	0	0	2
08:45	0	0	7	1	0	0	0	8
09:00	0	0	4	0	0	0	0	4
09:15	0	0	3	1	0	0	0	4
AM Peak	0	0	20	4	1	0	0	25
16:30	0	0	4	0	0	0	0	4
16:45	0	0	1	0	0	0	0	1
17:00	0	0	7	1	0	0	0	8
17:15	0	1	6	1	0	0	0	8
17:30	0	0	1	1	0	0	0	2
17:45	0	0	2	0	0	0	0	2
18:00	0	0	9	0	0	0	0	9
18:15	0	0	7	1	0	0	0	8
PM Peak	0	1	37	4	0	0	0	42
Total	0	1	57	8	1	0	0	67

Junction: 7 : Glossop Brook Rd /A57 High St W (East Arm) /Queen St /A57 High St W (West Arm)
Arm: Queen St
Direction: Entering Junction

Time	PC	MC	Cars	LGV	OGV1	OGV2	PSV	Total
07:30	0	0	4	0	0	0	0	4
07:45	1	0	5	0	1	0	0	7
08:00	0	0	8	0	0	0	0	8
08:15	0	0	3	0	0	0	0	3
08:30	0	0	8	2	0	0	0	10
08:45	0	0	9	0	0	0	0	9
09:00	0	0	15	0	1	0	0	16
09:15	0	0	7	2	0	0	0	9
AM Peak	1	0	59	4	2	0	0	66
16:30	0	0	7	0	0	0	0	7
16:45	0	1	9	0	0	0	0	10
17:00	0	0	5	1	0	0	0	6
17:15	0	0	1	4	0	0	0	5
17:30	0	0	8	1	0	0	0	9
17:45	0	0	2	0	0	0	0	2
18:00	0	0	8	0	0	0	0	8
18:15	0	0	10	0	0	0	0	10
PM Peak	0	1	50	6	0	0	0	57
Total	1	1	109	10	2	0	0	123

7:30 - 09:30
16:30 - 18:30

Junction: 7 : Glossop Brook Rd /A57 High St W (East Arm) /Queen St /A57 High St W (West Arm)
Arm: A57 High St W (West Arm)
Direction: Exiting Junction

Time	PC	MC	Cars	LGV	OGV1	OGV2	PSV	Total
07:30	2	2	134	18	1	0	1	158
07:45	0	0	120	12	3	1	2	138
08:00	2	2	120	21	1	0	3	149
08:15	0	1	133	17	3	0	2	156
08:30	0	1	146	12	1	0	1	161
08:45	1	1	148	16	3	1	1	171
09:00	1	0	107	15	3	0	0	126
09:15	0	0	153	17	6	0	1	177
AM Peak	6	7	1061	128	21	2	11	1236
16:30	1	0	161	22	1	0	1	186
16:45	0	1	163	26	4	0	2	196
17:00	0	0	162	14	4	0	2	182
17:15	2	1	167	21	2	0	3	196
17:30	2	1	126	16	1	0	1	147
17:45	2	0	145	15	2	0	1	165
18:00	0	2	123	11	2	2	2	142
18:15	0	0	158	15	0	0	2	175
PM Peak	7	5	1205	140	16	2	14	1389
Total	13	12	2266	268	37	4	25	2625

Junction: 7 : Glossop Brook Rd /A57 High St W (East Arm) /Queen St /A57 High St W (West Arm)
Arm: A57 High St W (West Arm)
Direction: Entering Junction

Time	PC	MC	Cars	LGV	OGV1	OGV2	PSV	Total
07:30	2	0	96	25	3	0	2	128
07:45	2	0	94	20	1	0	1	118
08:00	1	1	115	21	4	1	1	144
08:15	1	1	136	15	1	0	6	160
08:30	0	1	174	19	6	1	1	202
08:45	0	2	175	21	4	1	1	204
09:00	0	0	149	18	2	1	1	171
09:15	0	1	145	22	3	1	1	173
AM Peak	6	6	1084	161	24	5	14	1300
16:30	1	1	129	22	2	0	3	158
16:45	2	1	128	15	0	0	2	148
17:00	0	0	122	13	0	0	2	137
17:15	0	1	153	10	0	1	2	167
17:30	1	1	141	19	0	2	1	165
17:45	1	1	151	14	0	0	0	167
18:00	0	1	165	12	0	0	3	181
18:15	1	0	176	13	0	0	4	194
PM Peak	6	6	1165	118	2	3	17	1317
Total	12	12	2249	279	26	8	31	2617

7:30 - 09:30
16:30 - 18:30

Junction: 5 : A624 Victoria St (Northeast Arm) /Gladstone St /A624 Victoria St (Southwest Arm)
From: A624 Victoria St (Northeast Arm)
Direction: Left Turn
To: Gladstone St

Time	PC	MC	Cars	LGV	OGV1	OGV2	PSV	Total
07:30	0	0	4	2	1	0	0	7
07:45	0	0	8	0	0	0	0	8
08:00	0	0	5	1	2	0	0	8
08:15	0	0	5	0	1	0	0	6
08:30	0	0	16	1	2	0	0	19
08:45	0	0	12	0	0	0	0	12
09:00	0	0	8	2	0	0	0	10
09:15	0	0	8	4	1	0	0	13
AM Peak	0	0	66	10	7	0	0	83
16:30	0	0	7	2	0	0	0	9
16:45	1	0	13	3	0	0	0	17
17:00	0	0	16	2	0	0	0	18
17:15	0	0	21	0	0	0	0	21
17:30	0	0	16	2	0	0	0	18
17:45	0	0	12	0	0	0	0	12
18:00	0	0	22	4	0	0	0	26
18:15	0	0	22	1	0	0	0	23
PM Peak	1	0	129	14	0	0	0	144
Total	1	0	195	24	7	0	0	227

Junction: 5 : A624 Victoria St (Northeast Arm) /Gladstone St /A624 Victoria St (Southwest Arm)
From: Gladstone St
Direction: Left Turn
To: A624 Victoria St (Southwest Arm)

Time	PC	MC	Cars	LGV	OGV1	OGV2	PSV	Total
07:30	0	0	2	0	0	0	0	2
07:45	0	0	0	0	0	0	0	0
08:00	0	0	1	0	0	0	0	1
08:15	0	0	4	0	0	0	0	4
08:30	0	0	2	0	0	0	0	2
08:45	0	0	5	0	0	0	0	5
09:00	0	0	1	0	0	0	0	1
09:15	0	0	3	0	0	0	0	3
AM Peak	0	0	18	0	0	0	0	18
16:30	0	0	3	0	0	0	0	3
16:45	0	0	4	0	0	0	0	4
17:00	0	0	1	0	0	0	0	1
17:15	0	0	3	0	0	0	0	3
17:30	0	0	5	0	0	0	0	5
17:45	0	0	1	0	0	0	0	1
18:00	0	0	2	0	0	0	0	2
18:15	0	0	1	0	0	0	0	1
PM Peak	0	0	20	0	0	0	0	20
Total	0	0	38	0	0	0	0	38

7:30 - 09:30
16:30 - 18:30

URS 15664 - Woolley Bridge Glossop Buxton Traffic Survey Traffic & Transportation Ltd

Junction: 5 : A624 Victoria St (Northeast Arm) /Gladstone St /A624 Victoria St (Southwest Arm)
From: A624 Victoria St (Northeast Arm)
Direction: Straight On
To: A624 Victoria St (Southwest Arm)

Time	PC	MC	Cars	LGV	OGV1	OGV2	PSV	Total
07:30	0	0	48	4	8	0	2	62
07:45	1	1	71	10	3	1	2	89
08:00	0	0	62	17	3	0	1	83
08:15	0	0	73	9	1	0	3	86
08:30	1	1	68	14	3	0	3	90
08:45	0	0	57	9	3	0	1	70
09:00	0	0	76	13	5	1	1	96
09:15	0	3	33	8	0	0	0	44
AM Peak	2	5	488	84	26	2	13	620
16:30	0	0	75	10	1	1	0	87
16:45	1	0	82	9	2	0	3	97
17:00	0	0	93	9	1	0	0	103
17:15	0	0	77	7	1	0	2	87
17:30	1	1	88	11	1	0	1	103
17:45	0	0	66	5	1	0	1	73
18:00	1	2	66	10	1	0	1	81
18:15	2	0	69	4	0	0	3	78
PM Peak	5	3	616	65	8	1	11	709
Total	7	8	1104	149	34	3	24	1329

Junction: 5 : A624 Victoria St (Northeast Arm) /Gladstone St /A624 Victoria St (Southwest Arm)
From: Gladstone St
Direction: Right Turn
To: A624 Victoria St (Northeast Arm)

Time	PC	MC	Cars	LGV	OGV1	OGV2	PSV	Total
07:30	0	0	17	1	0	0	0	18
07:45	1	0	6	2	0	0	0	9
08:00	0	0	7	2	0	0	0	9
08:15	0	0	16	1	0	0	0	17
08:30	0	0	14	3	0	0	0	17
08:45	0	0	22	2	0	0	0	24
09:00	0	0	9	2	0	0	0	11
09:15	0	0	7	2	1	0	0	10
AM Peak	1	0	98	15	1	0	0	115
16:30	0	0	18	1	0	0	0	19
16:45	0	0	17	0	1	0	0	18
17:00	0	0	21	3	0	0	0	24
17:15	0	0	6	1	0	0	0	7
17:30	0	0	9	1	0	0	0	10
17:45	0	0	18	1	0	0	0	19
18:00	1	0	15	3	0	0	0	19
18:15	0	0	25	0	0	0	0	25
PM Peak	1	0	129	10	1	0	0	141
Total	2	0	227	25	2	0	0	256

7:30 - 09:30
16:30 - 18:30

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URS 15664 - Woolley Bridge Glossop Buxton Traffic Survey Traffic & Transportation Ltd

Junction: 5 : A624 Victoria St (Northeast Arm) /Gladstone St /A624 Victoria St (Southwest Arm)
From: A624 Victoria St (Southwest Arm)
Direction: Straight On
To: A624 Victoria St (Northeast Arm)

Time	PC	MC	Cars	LGV	OGV1	OGV2	PSV	Total
07:30	0	0	47	7	1	0	3	58
07:45	0	0	59	9	1	0	3	72
08:00	0	1	40	11	3	1	1	57
08:15	1	0	70	9	2	1	0	83
08:30	0	0	77	12	1	0	3	93
08:45	0	0	66	6	3	0	0	75
09:00	0	0	73	6	3	0	0	82
09:15	3	0	74	7	3	0	3	90
AM Peak	4	1	506	67	17	2	13	610
16:30	0	0	62	18	1	0	0	81
16:45	1	0	68	12	0	1	1	83
17:00	0	1	61	14	0	0	2	78
17:15	0	1	77	8	1	0	3	90
17:30	0	2	74	7	0	0	2	85
17:45	1	0	70	7	0	0	1	79
18:00	0	0	56	9	0	0	1	66
18:15	0	0	62	3	0	0	1	66
PM Peak	2	4	530	78	2	1	11	628
Total	6	5	1036	145	19	3	24	1238

7:30 - 09:30
16:30 - 18:30

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URS 15664 - Woolley Bridge Glossop Buxton Traffic Survey Traffic & Transportation Ltd

Junction: 5 : A624 Victoria St (Northeast Arm) /Gladstone St /A624 Victoria St (Southwest Arm)
From: A624 Victoria St (Southwest Arm)
Direction: Right Turn
To: Gladstone St

Time	PC	MC	Cars	LGV	OGV1	OGV2	PSV	Total
07:30	0	0	1	0	0	0	0	1
07:45	0	0	0	0	0	0	0	0
08:00	0	0	2	0	1	0	0	3
08:15	0	0	6	0	0	0	0	6
08:30	0	0	1	0	0	0	0	1
08:45	0	0	6	0	0	0	0	6
09:00	0	0	2	0	0	0	0	2
09:15	0	0	3	0	0	0	0	3
AM Peak	0	0	21	0	1	0	0	22
16:30	0	0	0	1	0	0	0	1
16:45	0	0	3	0	0	0	0	3
17:00	0	0	6	0	0	0	0	6
17:15	0	0	2	0	0	0	0	2
17:30	0	0	0	0	0	0	0	0
17:45	0	0	4	0	0	0	0	4
18:00	0	0	2	0	0	0	1	3
18:15	0	0	1	0	0	0	0	1
PM Peak	0	0	18	1	0	0	1	20
Total	0	0	39	1	1	0	1	42

7:30 - 09:30
16:30 - 18:30

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Junction: 5 : A624 Victoria St (Northeast Arm) /Gladstone St /A624 Victoria St (Southwest Arm)
Arm: A624 Victoria St (Northeast Arm)
Direction: Exiting Junction

Time	PC	MC	Cars	LGV	OGV1	OGV2	PSV	Total
07:30	0	0	64	8	1	0	3	76
07:45	1	0	65	11	1	0	3	81
08:00	0	1	47	13	3	1	1	66
08:15	1	0	86	10	2	1	0	100
08:30	0	0	91	15	1	0	3	110
08:45	0	0	88	8	3	0	0	99
09:00	0	0	82	8	3	0	0	93
09:15	3	0	81	9	4	0	3	100
AM Peak	5	1	604	82	18	2	13	725
16:30	0	0	80	19	1	0	0	100
16:45	1	0	85	12	1	1	1	101
17:00	0	1	82	17	0	0	2	102
17:15	0	1	83	9	1	0	3	97
17:30	0	2	83	8	0	0	2	95
17:45	1	0	88	8	0	0	1	98
18:00	1	0	71	12	0	0	1	85
18:15	0	0	87	3	0	0	1	91
PM Peak	3	4	659	88	3	1	11	769
Total	8	5	1263	170	21	3	24	1494

Junction: 5 : A624 Victoria St (Northeast Arm) /Gladstone St /A624 Victoria St (Southwest Arm)
Arm: A624 Victoria St (Northeast Arm)
Direction: Entering Junction

Time	PC	MC	Cars	LGV	OGV1	OGV2	PSV	Total
07:30	0	0	52	6	9	0	2	69
07:45	1	1	79	10	3	1	2	97
08:00	0	0	67	18	5	0	1	91
08:15	0	0	78	9	2	0	3	92
08:30	1	1	84	15	5	0	3	109
08:45	0	0	69	9	3	0	1	82
09:00	0	0	84	15	5	1	1	106
09:15	0	3	41	12	1	0	0	57
AM Peak	2	5	554	94	33	2	13	703
16:30	0	0	82	12	1	1	0	96
16:45	2	0	95	12	2	0	3	114
17:00	0	0	109	11	1	0	0	121
17:15	0	0	98	7	1	0	2	108
17:30	1	1	104	13	1	0	1	121
17:45	0	0	78	5	1	0	1	85
18:00	1	2	88	14	1	0	1	107
18:15	2	0	91	5	0	0	3	101
PM Peak	6	3	745	79	8	1	11	853
Total	8	8	1299	173	41	3	24	1556

7:30 - 09:30
16:30 - 18:30

Junction: 5 : A624 Victoria St (Northeast Arm) /Gladstone St /A624 Victoria St (Southwest Arm)
Arm: Gladstone St
Direction: Exiting Junction

Time	PC	MC	Cars	LGV	OGV1	OGV2	PSV	Total
07:30	0	0	5	2	1	0	0	8
07:45	0	0	8	0	0	0	0	8
08:00	0	0	7	1	3	0	0	11
08:15	0	0	11	0	1	0	0	12
08:30	0	0	17	1	2	0	0	20
08:45	0	0	18	0	0	0	0	18
09:00	0	0	10	2	0	0	0	12
09:15	0	0	11	4	1	0	0	16
AM Peak	0	0	87	10	8	0	0	105
16:30	0	0	7	3	0	0	0	10
16:45	1	0	16	3	0	0	0	20
17:00	0	0	22	2	0	0	0	24
17:15	0	0	23	0	0	0	0	23
17:30	0	0	16	2	0	0	0	18
17:45	0	0	16	0	0	0	0	16
18:00	0	0	24	4	0	0	1	29
18:15	0	0	23	1	0	0	0	24
PM Peak	1	0	147	15	0	0	1	164
Total	1	0	234	25	8	0	1	269

Junction: 5 : A624 Victoria St (Northeast Arm) /Gladstone St /A624 Victoria St (Southwest Arm)
Arm: Gladstone St
Direction: Entering Junction

Time	PC	MC	Cars	LGV	OGV1	OGV2	PSV	Total
07:30	0	0	19	1	0	0	0	20
07:45	1	0	6	2	0	0	0	9
08:00	0	0	8	2	0	0	0	10
08:15	0	0	20	1	0	0	0	21
08:30	0	0	16	3	0	0	0	19
08:45	0	0	27	2	0	0	0	29
09:00	0	0	10	2	0	0	0	12
09:15	0	0	10	2	1	0	0	13
AM Peak	1	0	116	15	1	0	0	133
16:30	0	0	21	1	0	0	0	22
16:45	0	0	21	0	1	0	0	22
17:00	0	0	22	3	0	0	0	25
17:15	0	0	9	1	0	0	0	10
17:30	0	0	14	1	0	0	0	15
17:45	0	0	19	1	0	0	0	20
18:00	1	0	17	3	0	0	0	21
18:15	0	0	26	0	0	0	0	26
PM Peak	1	0	149	10	1	0	0	161
Total	2	0	265	25	2	0	0	294

7:30 - 09:30
16:30 - 18:30

Junction: 5 : A624 Victoria St (Northeast Arm) /Gladstone St /A624 Victoria St (Southwest Arm)
Arm: A624 Victoria St (Northeast Arm)
Direction: Exiting Junction

Time	PC	MC	Cars	LGV	OGV1	OGV2	PSV	Total
07:30	0	0	64	8	1	0	3	76
07:45	1	0	65	11	1	0	3	81
08:00	0	1	47	13	3	1	1	66
08:15	1	0	86	10	2	1	0	100
08:30	0	0	91	15	1	0	3	110
08:45	0	0	88	8	3	0	0	99
09:00	0	0	82	8	3	0	0	93
09:15	3	0	81	9	4	0	3	100
AM Peak	5	1	604	82	18	2	13	725
16:30	0	0	80	19	1	0	0	100
16:45	1	0	85	12	1	1	1	101
17:00	0	1	82	17	0	0	2	102
17:15	0	1	83	9	1	0	3	97
17:30	0	2	83	8	0	0	2	95
17:45	1	0	88	8	0	0	1	98
18:00	1	0	71	12	0	0	1	85
18:15	0	0	87	3	0	0	1	91
PM Peak	3	4	659	88	3	1	11	769
Total	8	5	1263	170	21	3	24	1494

Junction: 5 : A624 Victoria St (Northeast Arm) /Gladstone St /A624 Victoria St (Southwest Arm)
Arm: A624 Victoria St (Northeast Arm)
Direction: Entering Junction

Time	PC	MC	Cars	LGV	OGV1	OGV2	PSV	Total
07:30	0	0	52	6	9	0	2	69
07:45	1	1	79	10	3	1	2	97
08:00	0	0	67	18	5	0	1	91
08:15	0	0	78	9	2	0	3	92
08:30	1	1	84	15	5	0	3	109
08:45	0	0	69	9	3	0	1	82
09:00	0	0	84	15	5	1	1	106
09:15	0	3	41	12	1	0	0	57
AM Peak	2	5	554	94	33	2	13	703
16:30	0	0	82	12	1	1	0	96
16:45	2	0	95	12	2	0	3	114
17:00	0	0	109	11	1	0	0	121
17:15	0	0	98	7	1	0	2	108
17:30	1	1	104	13	1	0	1	121
17:45	0	0	78	5	1	0	1	85
18:00	1	2	88	14	1	0	1	107
18:15	2	0	91	5	0	0	3	101
PM Peak	6	3	745	79	8	1	11	853
Total	8	8	1299	173	41	3	24	1556

7:30 - 09:30
16:30 - 18:30

Junction: 5 : A624 Victoria St (Northeast Arm) /Gladstone St /A624 Victoria St (Southwest Arm)
Arm: Gladstone St
Direction: Exiting Junction

Time	PC	MC	Cars	LGV	OGV1	OGV2	PSV	Total
07:30	0	0	5	2	1	0	0	8
07:45	0	0	8	0	0	0	0	8
08:00	0	0	7	1	3	0	0	11
08:15	0	0	11	0	1	0	0	12
08:30	0	0	17	1	2	0	0	20
08:45	0	0	18	0	0	0	0	18
09:00	0	0	10	2	0	0	0	12
09:15	0	0	11	4	1	0	0	16
AM Peak	0	0	87	10	8	0	0	105
16:30	0	0	7	3	0	0	0	10
16:45	1	0	16	3	0	0	0	20
17:00	0	0	22	2	0	0	0	24
17:15	0	0	23	0	0	0	0	23
17:30	0	0	16	2	0	0	0	18
17:45	0	0	16	0	0	0	0	16
18:00	0	0	24	4	0	0	1	29
18:15	0	0	23	1	0	0	0	24
PM Peak	1	0	147	15	0	0	1	164
Total	1	0	234	25	8	0	1	269

Junction: 5 : A624 Victoria St (Northeast Arm) /Gladstone St /A624 Victoria St (Southwest Arm)
Arm: Gladstone St
Direction: Entering Junction

Time	PC	MC	Cars	LGV	OGV1	OGV2	PSV	Total
07:30	0	0	19	1	0	0	0	20
07:45	1	0	6	2	0	0	0	9
08:00	0	0	8	2	0	0	0	10
08:15	0	0	20	1	0	0	0	21
08:30	0	0	16	3	0	0	0	19
08:45	0	0	27	2	0	0	0	29
09:00	0	0	10	2	0	0	0	12
09:15	0	0	10	2	1	0	0	13
AM Peak	1	0	116	15	1	0	0	133
16:30	0	0	21	1	0	0	0	22
16:45	0	0	21	0	1	0	0	22
17:00	0	0	22	3	0	0	0	25
17:15	0	0	9	1	0	0	0	10
17:30	0	0	14	1	0	0	0	15
17:45	0	0	19	1	0	0	0	20
18:00	1	0	17	3	0	0	0	21
18:15	0	0	26	0	0	0	0	26
PM Peak	1	0	149	10	1	0	0	161
Total	2	0	265	25	2	0	0	294

7:30 - 09:30
16:30 - 18:30

Junction: 5 : A624 Victoria St (Northeast Arm) /Gladstone St /A624 Victoria St (Southwest Arm)
Arm: A624 Victoria St (Southwest Arm)
Direction: Exiting Junction

Time	PC	MC	Cars	LGV	OGV1	OGV2	PSV	Total
07:30	0	0	50	4	8	0	2	64
07:45	1	1	71	10	3	1	2	89
08:00	0	0	63	17	3	0	1	84
08:15	0	0	77	9	1	0	3	90
08:30	1	1	70	14	3	0	3	92
08:45	0	0	62	9	3	0	1	75
09:00	0	0	77	13	5	1	1	97
09:15	0	3	36	8	0	0	0	47
AM Peak	2	5	506	84	26	2	13	638
16:30	0	0	78	10	1	1	0	90
16:45	1	0	86	9	2	0	3	101
17:00	0	0	94	9	1	0	0	104
17:15	0	0	80	7	1	0	2	90
17:30	1	1	93	11	1	0	1	108
17:45	0	0	67	5	1	0	1	74
18:00	1	2	68	10	1	0	1	83
18:15	2	0	70	4	0	0	3	79
PM Peak	5	3	636	65	8	1	11	729
Total	7	8	1142	149	34	3	24	1367

Junction: 5 : A624 Victoria St (Northeast Arm) /Gladstone St /A624 Victoria St (Southwest Arm)
Arm: A624 Victoria St (Southwest Arm)
Direction: Entering Junction

Time	PC	MC	Cars	LGV	OGV1	OGV2	PSV	Total
07:30	0	0	48	7	1	0	3	59
07:45	0	0	59	9	1	0	3	72
08:00	0	1	42	11	4	1	1	60
08:15	1	0	76	9	2	1	0	89
08:30	0	0	78	12	1	0	3	94
08:45	0	0	72	6	3	0	0	81
09:00	0	0	75	6	3	0	0	84
09:15	3	0	77	7	3	0	3	93
AM Peak	4	1	527	67	18	2	13	632
16:30	0	0	62	19	1	0	0	82
16:45	1	0	71	12	0	1	1	86
17:00	0	1	67	14	0	0	2	84
17:15	0	1	79	8	1	0	3	92
17:30	0	2	74	7	0	0	2	85
17:45	1	0	74	7	0	0	1	83
18:00	0	0	58	9	0	0	2	69
18:15	0	0	63	3	0	0	1	67
PM Peak	2	4	548	79	2	1	12	648
Total	6	5	1075	146	20	3	25	1280

7:30 - 09:30
16:30 - 18:30

URS 15664 - Woolley Bridge Glossop Buxton Traffic Survey Traffic & Transportation Ltd

Junction: 9 : B6101 Union Rd /A6015 Church Rd /A6015 Albion Rd
From: B6101 Union Rd
Direction: Left Turn
To: A6015 Church Rd

Time	PC	MC	Cars	LGV	OGV1	OGV2	PSV	Total
07:30	0	0	16	5	3	0	1	25
07:45	0	0	28	3	1	0	1	33
08:00	0	0	23	7	1	0	2	33
08:15	0	0	22	6	3	0	1	32
08:30	0	0	36	5	0	1	0	42
08:45	0	0	27	6	0	0	0	33
09:00	0	0	53	4	0	0	1	58
09:15	0	0	23	3	0	0	1	27
AM Peak	0	0	228	39	8	1	7	283
16:30	0	0	47	6	1	0	2	56
16:45	0	0	49	3	0	0	2	54
17:00	1	0	34	6	1	0	1	43
17:15	0	1	48	6	1	0	0	56
17:30	0	0	55	5	0	0	1	61
17:45	1	1	44	4	2	0	1	53
18:00	0	0	50	7	0	0	0	57
18:15	1	0	53	3	0	0	0	57
PM Peak	3	2	380	40	5	0	7	437
Total	3	2	608	79	13	1	14	720

Junction: 9 : B6101 Union Rd /A6015 Church Rd /A6015 Albion Rd
From: A6015 Church Rd
Direction: Straight On
To: A6015 Albion Rd

Time	PC	MC	Cars	LGV	OGV1	OGV2	PSV	Total
07:30	3	0	66	7	2	0	6	84
07:45	0	0	52	10	5	1	2	70
08:00	4	0	59	12	5	0	0	80
08:15	0	1	52	9	1	3	1	67
08:30	1	0	59	6	4	2	0	72
08:45	1	0	69	12	6	0	1	89
09:00	0	0	52	9	6	1	0	68
09:15	0	0	47	6	0	2	0	55
AM Peak	9	1	456	71	29	9	10	585
16:30	0	1	58	11	2	2	0	74
16:45	0	1	53	7	1	0	0	62
17:00	3	0	63	4	0	0	1	71
17:15	1	0	41	8	0	0	0	50
17:30	1	1	51	8	1	1	0	63
17:45	1	1	62	7	0	1	0	72
18:00	0	1	36	1	0	0	0	38
18:15	0	0	59	3	0	1	0	63
PM Peak	6	5	423	49	4	5	1	493
Total	15	6	879	120	33	14	11	1078

7:30 - 09:30
16:30 - 18:30

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Junction: 9 : B6101 Union Rd /A6015 Church Rd /A6015 Albion Rd
From: B6101 Union Rd
Direction: Right Turn
To: A6015 Albion Rd

Time	PC	MC	Cars	LGV	OGV1	OGV2	PSV	Total
07:30	1	0	39	5	3	0	1	49
07:45	2	0	57	7	1	1	0	68
08:00	1	0	40	2	0	0	3	46
08:15	1	0	39	5	2	1	0	48
08:30	0	0	28	8	2	0	1	39
08:45	0	0	49	6	1	0	0	56
09:00	0	0	57	11	2	1	2	73
09:15	0	0	38	9	2	0	2	51
AM Peak	5	0	347	53	13	3	9	430
16:30	1	1	32	11	3	1	1	50
16:45	0	0	43	5	1	1	0	50
17:00	0	0	46	6	0	0	0	52
17:15	0	0	40	6	1	0	0	47
17:30	0	0	43	3	1	0	2	49
17:45	0	0	34	2	2	1	1	40
18:00	0	0	51	7	0	0	2	60
18:15	0	0	52	2	0	0	0	54
PM Peak	1	1	341	42	8	3	6	402
Total	6	1	688	95	21	6	15	832

Junction: 9 : B6101 Union Rd /A6015 Church Rd /A6015 Albion Rd
From: A6015 Church Rd
Direction: Right Turn
To: B6101 Union Rd

Time	PC	MC	Cars	LGV	OGV1	OGV2	PSV	Total
07:30	0	0	29	5	1	0	2	37
07:45	0	2	27	6	0	0	1	36
08:00	1	1	22	5	2	0	2	33
08:15	0	0	40	4	1	0	0	45
08:30	0	0	44	4	2	0	2	52
08:45	0	0	42	2	0	0	1	45
09:00	1	0	37	5	0	0	1	44
09:15	0	0	37	1	1	0	1	40
AM Peak	2	3	278	32	7	0	10	332
16:30	0	0	27	5	0	0	1	33
16:45	0	0	34	5	0	0	0	39
17:00	0	0	39	6	1	0	1	47
17:15	0	0	41	7	0	0	0	48
17:30	0	0	39	3	0	0	1	43
17:45	0	0	39	9	0	0	1	49
18:00	0	0	34	2	1	0	2	39
18:15	0	0	30	3	0	0	0	33
PM Peak	0	0	283	40	2	0	6	331
Total	2	3	561	72	9	0	16	663

7:30 - 09:30
16:30 - 18:30

URS 15664 - Woolley Bridge Glossop Buxton Traffic Survey Traffic & Transportation Ltd

Junction: 9 : B6101 Union Rd /A6015 Church Rd /A6015 Albion Rd
From: A6015 Albion Rd
Direction: Left Turn
To: B6101 Union Rd

Time	PC	MC	Cars	LGV	OGV1	OGV2	PSV	Total
07:30	0	0	33	6	3	0	1	43
07:45	1	0	30	7	1	1	1	41
08:00	0	0	34	9	2	0	3	48
08:15	0	0	23	8	1	0	0	32
08:30	0	0	35	2	1	0	3	41
08:45	0	0	56	17	0	0	1	74
09:00	0	0	32	4	3	0	0	39
09:15	1	0	35	4	3	1	1	45
AM Peak	2	0	278	57	14	2	10	363
16:30	1	0	51	7	1	0	0	60
16:45	0	1	44	5	3	0	1	54
17:00	1	1	55	9	2	0	1	69
17:15	2	0	59	3	0	0	0	64
17:30	0	0	57	5	0	0	0	62
17:45	2	0	70	8	1	0	1	82
18:00	0	0	48	6	0	0	1	55
18:15	0	0	59	3	0	0	0	62
PM Peak	6	2	443	46	7	0	4	508
Total	8	2	721	103	21	2	14	871

7:30 - 09:30
16:30 - 18:30

URS 15664 - Woolley Bridge Glossop Buxton Traffic Survey Traffic & Transportation Ltd

Junction: 9 : B6101 Union Rd /A6015 Church Rd /A6015 Albion Rd
From: A6015 Albion Rd
Direction: Straight On
To: A6015 Church Rd

Time	PC	MC	Cars	LGV	OGV1	OGV2	PSV	Total
07:30	1	0	35	7	2	2	0	47
07:45	0	1	45	5	1	2	1	55
08:00	2	0	33	5	1	1	0	42
08:15	0	0	53	8	2	0	1	64
08:30	0	0	43	11	5	1	1	61
08:45	0	0	41	7	3	1	0	52
09:00	0	2	47	7	3	2	0	61
09:15	0	0	30	2	7	3	0	42
AM Peak	3	3	327	52	24	12	3	424
16:30	0	1	68	19	2	2	2	94
16:45	0	1	70	10	1	1	1	84
17:00	0	0	80	15	1	0	1	97
17:15	2	0	76	10	4	0	0	92
17:30	1	0	76	6	2	0	1	86
17:45	0	0	66	5	1	1	0	73
18:00	0	0	79	7	0	2	1	89
18:15	0	0	87	7	1	0	0	95
PM Peak	3	2	602	79	12	6	6	710
Total	6	5	929	131	36	18	9	1134

7:30 - 09:30
16:30 - 18:30

Thursday 28th November 2013 4

URS 15664 - Woolley Bridge Glossop Buxton Traffic Survey Traffic & Transportation Ltd

Junction: 9 : B6101 Union Rd /A6015 Church Rd /A6015 Albion Rd
Arm: B6101 Union Rd
Direction: Exiting Junction

Time	PC	MC	Cars	LGV	OGV1	OGV2	PSV	Total
07:30	0	0	62	11	4	0	3	80
07:45	1	2	57	13	1	1	2	77
08:00	1	1	56	14	4	0	5	81
08:15	0	0	63	12	2	0	0	77
08:30	0	0	79	6	3	0	5	93
08:45	0	0	98	19	0	0	2	119
09:00	1	0	69	9	3	0	1	83
09:15	1	0	72	5	4	1	2	85
AM Peak	4	3	556	89	21	2	20	695
16:30	1	0	78	12	1	0	1	93
16:45	0	1	78	10	3	0	1	93
17:00	1	1	94	15	3	0	2	116
17:15	2	0	100	10	0	0	0	112
17:30	0	0	96	8	0	0	1	105
17:45	2	0	109	17	1	0	2	131
18:00	0	0	82	8	1	0	3	94
18:15	0	0	89	6	0	0	0	95
PM Peak	6	2	726	86	9	0	10	839
Total	10	5	1282	175	30	2	30	1534

7:30 - 09:30
16:30 - 18:30

Thursday 28th November 2013

5

URS 15664 - Woolley Bridge Glossop Buxton Traffic Survey Traffic & Transportation Ltd

Junction: 9 : B6101 Union Rd /A6015 Church Rd /A6015 Albion Rd
Arm: A6015 Church Rd
Direction: Exiting Junction

Time	PC	MC	Cars	LGV	OGV1	OGV2	PSV	Total
07:30	1	0	51	12	5	2	1	72
07:45	0	1	73	8	2	2	2	88
08:00	2	0	56	12	2	1	2	75
08:15	0	0	75	14	5	0	2	96
08:30	0	0	79	16	5	2	1	103
08:45	0	0	68	13	3	1	0	85
09:00	0	2	100	11	3	2	1	119
09:15	0	0	53	5	7	3	1	69
AM Peak	3	3	555	91	32	13	10	707
16:30	0	1	115	25	3	2	4	150
16:45	0	1	119	13	1	1	3	138
17:00	1	0	114	21	2	0	2	140
17:15	2	1	124	16	5	0	0	148
17:30	1	0	131	11	2	0	2	147
17:45	1	1	110	9	3	1	1	126
18:00	0	0	129	14	0	2	1	146
18:15	1	0	140	10	1	0	0	152
PM Peak	6	4	982	119	17	6	13	1147
Total	9	7	1537	210	49	19	23	1854

7:30 - 09:30
16:30 - 18:30

Thursday 28th November 2013

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Junction: 9 : B6101 Union Rd /A6015 Church Rd /A6015 Albion Rd
Arm: B6101 Union Rd
Direction: Entering Junction

Time	PC	MC	Cars	LGV	OGV1	OGV2	PSV	Total
07:30	1	0	55	10	6	0	2	74
07:45	2	0	85	10	2	1	1	101
08:00	1	0	63	9	1	0	5	79
08:15	1	0	61	11	5	1	1	80
08:30	0	0	64	13	2	1	1	81
08:45	0	0	76	12	1	0	0	89
09:00	0	0	110	15	2	1	3	131
09:15	0	0	61	12	2	0	3	78
AM Peak	5	0	575	92	21	4	16	713
16:30	1	1	79	17	4	1	3	106
16:45	0	0	92	8	1	1	2	104
17:00	1	0	80	12	1	0	1	95
17:15	0	1	88	12	2	0	0	103
17:30	0	0	98	8	1	0	3	110
17:45	1	1	78	6	4	1	2	93
18:00	0	0	101	14	0	0	2	117
18:15	1	0	105	5	0	0	0	111
PM Peak	4	3	721	82	13	3	13	839
Total	9	3	1296	174	34	7	29	1552

URS 15664 - Woolley Bridge Glossop Buxton Traffic Survey Traffic & Transportation Ltd

Junction: 9 : B6101 Union Rd /A6015 Church Rd /A6015 Albion Rd
Arm: A6015 Church Rd
Direction: Entering Junction

Time	PC	MC	Cars	LGV	OGV1	OGV2	PSV	Total
07:30	3	0	95	12	3	0	8	121
07:45	0	2	79	16	5	1	3	106
08:00	5	1	81	17	7	0	2	113
08:15	0	1	92	13	2	3	1	112
08:30	1	0	103	10	6	2	2	124
08:45	1	0	111	14	6	0	2	134
09:00	1	0	89	14	6	1	1	112
09:15	0	0	84	7	1	2	1	95
AM Peak	11	4	734	103	36	9	20	917
16:30	0	1	85	16	2	2	1	107
16:45	0	1	87	12	1	0	0	101
17:00	3	0	102	10	1	0	2	118
17:15	1	0	82	15	0	0	0	98
17:30	1	1	90	11	1	1	1	106
17:45	1	1	101	16	0	1	1	121
18:00	0	1	70	3	1	0	2	77
18:15	0	0	89	6	0	1	0	96
PM Peak	6	5	706	89	6	5	7	824
Total	17	9	1440	192	42	14	27	1741

7:30 - 09:30
16:30 - 18:30

Thursday 28th November 2013 8

Junction: 9 : B6101 Union Rd /A6015 Church Rd /A6015 Albion Rd
Arm: B6101 Union Rd
Direction: Exiting Junction

Time	PC	MC	Cars	LGV	OGV1	OGV2	PSV	Total
07:30	0	0	62	11	4	0	3	80
07:45	1	2	57	13	1	1	2	77
08:00	1	1	56	14	4	0	5	81
08:15	0	0	63	12	2	0	0	77
08:30	0	0	79	6	3	0	5	93
08:45	0	0	98	19	0	0	2	119
09:00	1	0	69	9	3	0	1	83
09:15	1	0	72	5	4	1	2	85
AM Peak	4	3	556	89	21	2	20	695
16:30	1	0	78	12	1	0	1	93
16:45	0	1	78	10	3	0	1	93
17:00	1	1	94	15	3	0	2	116
17:15	2	0	100	10	0	0	0	112
17:30	0	0	96	8	0	0	1	105
17:45	2	0	109	17	1	0	2	131
18:00	0	0	82	8	1	0	3	94
18:15	0	0	89	6	0	0	0	95
PM Peak	6	2	726	86	9	0	10	839
Total	10	5	1282	175	30	2	30	1534

Junction: 9 : B6101 Union Rd /A6015 Church Rd /A6015 Albion Rd
Arm: A6015 Church Rd
Direction: Exiting Junction

Time	PC	MC	Cars	LGV	OGV1	OGV2	PSV	Total
07:30	1	0	51	12	5	2	1	72
07:45	0	1	73	8	2	2	2	88
08:00	2	0	56	12	2	1	2	75
08:15	0	0	75	14	5	0	2	96
08:30	0	0	79	16	5	2	1	103
08:45	0	0	68	13	3	1	0	85
09:00	0	2	100	11	3	2	1	119
09:15	0	0	53	5	7	3	1	69
AM Peak	3	3	555	91	32	13	10	707
16:30	0	1	115	25	3	2	4	150
16:45	0	1	119	13	1	1	3	138
17:00	1	0	114	21	2	0	2	140
17:15	2	1	124	16	5	0	0	148
17:30	1	0	131	11	2	0	2	147
17:45	1	1	110	9	3	1	1	126
18:00	0	0	129	14	0	2	1	146
18:15	1	0	140	10	1	0	0	152
PM Peak	6	4	982	119	17	6	13	1147
Total	9	7	1537	210	49	19	23	1854

Junction: 9 : B6101 Union Rd /A6015 Church Rd /A6015 Albion Rd
Arm: A6015 Albion Rd
Direction: Exiting Junction

Time	PC	MC	Cars	LGV	OGV1	OGV2	PSV	Total
07:30	4	0	105	12	5	0	7	133
07:45	2	0	109	17	6	2	2	138
08:00	5	0	99	14	5	0	3	126
08:15	1	1	91	14	3	4	1	115
08:30	1	0	87	14	6	2	1	111
08:45	1	0	118	18	7	0	1	145
09:00	0	0	109	20	8	2	2	141
09:15	0	0	85	15	2	2	2	106
AM Peak	14	1	803	124	42	12	19	1015
16:30	1	2	90	22	5	3	1	124
16:45	0	1	96	12	2	1	0	112
17:00	3	0	109	10	0	0	1	123
17:15	1	0	81	14	1	0	0	97
17:30	1	1	94	11	2	1	2	112
17:45	1	1	96	9	2	2	1	112
18:00	0	1	87	8	0	0	2	98
18:15	0	0	111	5	0	1	0	117
PM Peak	7	6	764	91	12	8	7	895
Total	21	7	1567	215	54	20	26	1910

7:30 - 09:30
16:30 - 18:30

URS 15664 - Woolley Bridge Glossop Buxton Traffic Survey Traffic & Transportation Ltd

Junction: 9 : B6101 Union Rd /A6015 Church Rd /A6015 Albion Rd
Arm: B6101 Union Rd
Direction: Entering Junction

Time	PC	MC	Cars	LGV	OGV1	OGV2	PSV	Total
07:30	1	0	55	10	6	0	2	74
07:45	2	0	85	10	2	1	1	101
08:00	1	0	63	9	1	0	5	79
08:15	1	0	61	11	5	1	1	80
08:30	0	0	64	13	2	1	1	81
08:45	0	0	76	12	1	0	0	89
09:00	0	0	110	15	2	1	3	131
09:15	0	0	61	12	2	0	3	78
AM Peak	5	0	575	92	21	4	16	713
16:30	1	1	79	17	4	1	3	106
16:45	0	0	92	8	1	1	2	104
17:00	1	0	80	12	1	0	1	95
17:15	0	1	88	12	2	0	0	103
17:30	0	0	98	8	1	0	3	110
17:45	1	1	78	6	4	1	2	93
18:00	0	0	101	14	0	0	2	117
18:15	1	0	105	5	0	0	0	111
PM Peak	4	3	721	82	13	3	13	839
Total	9	3	1296	174	34	7	29	1552

7:30 - 09:30
16:30 - 18:30

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Junction: 9 : B6101 Union Rd /A6015 Church Rd /A6015 Albion Rd
Arm: A6015 Church Rd
Direction: Entering Junction

Time	PC	MC	Cars	LGV	OGV1	OGV2	PSV	Total
07:30	3	0	95	12	3	0	8	121
07:45	0	2	79	16	5	1	3	106
08:00	5	1	81	17	7	0	2	113
08:15	0	1	92	13	2	3	1	112
08:30	1	0	103	10	6	2	2	124
08:45	1	0	111	14	6	0	2	134
09:00	1	0	89	14	6	1	1	112
09:15	0	0	84	7	1	2	1	95
AM Peak	11	4	734	103	36	9	20	917
16:30	0	1	85	16	2	2	1	107
16:45	0	1	87	12	1	0	0	101
17:00	3	0	102	10	1	0	2	118
17:15	1	0	82	15	0	0	0	98
17:30	1	1	90	11	1	1	1	106
17:45	1	1	101	16	0	1	1	121
18:00	0	1	70	3	1	0	2	77
18:15	0	0	89	6	0	1	0	96
PM Peak	6	5	706	89	6	5	7	824
Total	17	9	1440	192	42	14	27	1741

7:30 - 09:30
16:30 - 18:30

URS 15664 - Woolley Bridge Glossop Buxton Traffic Survey Traffic & Transportation Ltd

Junction: 9 : B6101 Union Rd /A6015 Church Rd /A6015 Albion Rd
Arm: A6015 Albion Rd
Direction: Entering Junction

Time	PC	MC	Cars	LGV	OGV1	OGV2	PSV	Total
07:30	1	0	68	13	5	2	1	90
07:45	1	1	75	12	2	3	2	96
08:00	2	0	67	14	3	1	3	90
08:15	0	0	76	16	3	0	1	96
08:30	0	0	78	13	6	1	4	102
08:45	0	0	97	24	3	1	1	126
09:00	0	2	79	11	6	2	0	100
09:15	1	0	65	6	10	4	1	87
AM Peak	5	3	605	109	38	14	13	787
16:30	1	1	119	26	3	2	2	154
16:45	0	2	114	15	4	1	2	138
17:00	1	1	135	24	3	0	2	166
17:15	4	0	135	13	4	0	0	156
17:30	1	0	133	11	2	0	1	148
17:45	2	0	136	13	2	1	1	155
18:00	0	0	127	13	0	2	2	144
18:15	0	0	146	10	1	0	0	157
PM Peak	9	4	1045	125	19	6	10	1218
Total	14	7	1650	234	57	20	23	2005

7:30 - 09:30
16:30 - 18:30

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APPENDIX B
TRICS Rates for Residential

TRICS 7.1.1
Trip Rate P Number of dwellings

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use 03 - RESIDENTIAL
Category A - HOUSES PRIVATELY OWNED
MULTI-MODAL TOTAL PEOPLE

Selected regions and areas:
6 WEST MIDLANDS
WM WEST MIDI 1 days
This section displays the number of survey days per TRICS® sub-region in the selected set

Filtering Stage 2 selection:

This data displays the chosen trip rate parameter and its selected range. Only sites that fall within the parameter range are included in the trip rate calculation.
Parameter: Number of dwellings
Actual Ran 84 to 84 (units:)
Range Sele 84 to 84 (units:)

Public Transport Provision:
Selection b Include all surveys

Date Rang 01/01/05 to 24/09/07

This data displays the range of survey dates selected. Only surveys that were conducted within this date range are included in the trip rate calculation.
Selected survey days:
Monday 1 days
This data displays the number of selected surveys by day of the week.

Selected survey types:
Manual co 1 days
Directional 0 days
This data d the total a whilst ATC surveys are undertaking using machines.

Selected Locations:
Town Cent 0
Edge of To 0
Suburban / 0
Edge of To 1
Neighbourl 0
Free Stand 0
Not Known 0
This data d Edge of To Suburban . Neighbour Edge of To Town Centre and Not Known.

Selected Location Sub Categories:
Industrial Z 0
Commercia 0
Developme 0
Residential 1
Retail Zone 0
Built-Up Zc 0
Village 0
Out of Tow 0
High Street 0
No Sub Cat 0
This data d Industrial ; Developm Residentia Retail Zone Built-Up Z Village Out of Tow High Street and No Sub Category.

Filtering Stage 3 selection:

Use Class:
C3 1 days
This data d which can be found within the Library module of TRICS®.

Population within 1 mile:
20,001 to 21 days
This data displays the number of selected surveys within stated 1-mile radii of population.

Population within 5 miles:
250,001 to 1 days
This data displays the number of selected surveys within stated 5-mile radii of population.

Car ownership within 5 miles:
1.1 to 1.5 1 days
This data d within a radius of 5-miles of selected survey sites.

Travel Plan:
No 1 days
This data d and the number of surveys that were undertaken at sites without Travel Plans.

LIST OF SITES relevant to selection parameters
1 WM-03-A-IMIXED HOIWEST MIDLANDS
BASELEY WAY
ROWLEYS GREEN
COVENTRY
Edge of Town
Residential Zone
Total Number of dwell 84
Survey dat MONDAY ######## Survey Typ MANUAL

This sectio it displays the selecte the day of and whether the survey was a manual classified count or an ATC count.

TRIP RATE for Land Use 03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED
Calculation Factor: 1 DWELLS
Count Type: TOTAL PEOPLE

	ARRIVALS			DEPARTURES			TOTALS		
Time Rang	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00-01:00									
01:00-02:00									
02:00-03:00									
03:00-04:00									
04:00-05:00									
05:00-06:00									
06:00-07:00									
07:00-08:0	1	84	0.071	1	84	0.524	1	84	0.595
08:00-09:0	1	84	0.405	1	84	0.905	1	84	1.31
09:00-10:0	1	84	0.31	1	84	0.536	1	84	0.846
10:00-11:0	1	84	0.25	1	84	0.345	1	84	0.595
11:00-12:0	1	84	0.833	1	84	0.226	1	84	1.059
12:00-13:0	1	84	0.452	1	84	0.179	1	84	0.631
13:00-14:0	1	84	0.274	1	84	0.321	1	84	0.595
14:00-15:0	1	84	0.345	1	84	0.381	1	84	0.726
15:00-16:0	1	84	0.798	1	84	0.786	1	84	1.584
16:00-17:0	1	84	0.607	1	84	0.226	1	84	0.833
17:00-18:0	1	84	0.798	1	84	0.56	1	84	1.358
18:00-19:0	1	84	0.786	1	84	0.464	1	84	1.25
19:00-20:00									
20:00-21:00									
21:00-22:00									
22:00-23:00									
23:00-24:00									
Daily Trip Rates:			5.929			5.453			11.382

Parameter summary

Trip rate p 84 - 84 (units:)
Survey dat 01/01/05 - 24/09/07
Number of 1
Number of 0
Number of 0
Surveys ma 0
This sectio followed b the total n the number of survey days that have been manually removed from the selected set outside of the standard filtering procedure are displayed.

APPENDIX C
TRICS Trip Rates for Use Classes B1/B2/B8

TRICS 2013(a)v6.11.1										
Trip Rate Parameter:	Gross floor area									
RANK ORDER for Land Use 02 - EMPLOYMENT/B - BUSINESS PARK										
Ranking Type: TOTALS Time Range: 08:00-09:00										
85th Percentile = no. 6										
Rank	Site Ref	Description	Area	GFA	Day	Date	Arrivals	Departures	Totals	Travel Plan
1	NO-02-B-02	BUSINESS PARK, SCUNTHORPE	NORTH LINCOLNSHIRE	1574	Thursday	22/09/2005	3.494	0.254	3.748	
2	WL-02-B-01	BUSINESS PK,WOOTTON BASSETT	WILTSHIRE	2600	Monday	02/10/2006	2.423	0.385	2.808	
3	SH-02-B-01	BUSINESS PARK, SHREWSBURY	SHROPSHIRE	17197	Tuesday	14/06/2005	2.058	0.57	2.628	
4	DN-02-B-01	BUSINESS PARK, LETTERKENNY	DONEGAL	7951	Wednesday	30/09/2009	2.327	0.138	2.465	
5	NF-02-B-02	BUSINESS PARK, NORWICH	NORFOLK	7400	Thursday	17/05/2007	2.162	0.243	2.405	
6	SF-02-B-01	BUSINESS PK, BURY ST EDMUNDS	SUFFOLK	2480	Wednesday	10/05/2006	2.218	0.161	2.379	
7	CF-02-B-03	BUSINESS PARK, CARDIFF	CARDIFF	9520	Monday	18/10/2010	2.132	0.189	2.321	Yes
8	NT-02-B-01	BUSINESS PARK, NOTTINGHAM	NOTTINGHAMSHIRE	2321	Thursday	17/05/2007	1.81	0.474	2.284	
9	SH-02-B-02	BUSINESS PARK, TELFORD	SHROPSHIRE	9500	Monday	22/06/2009	1.958	0.242	2.2	
10	CP-02-B-01	BUSINESS PARK, CAERPHILLY	CAERPHILLY	14450	Tuesday	17/07/2012	1.606	0.45	2.056	
11	TW-02-B-03	BUSINESS PARK, SUNDERLAND	TYNE & WEAR	77513	Thursday	09/10/2008	1.773	0.267	2.04	Yes
12	LN-02-B-01	BUSINESS PARK, LINCOLN	LINCOLNSHIRE	4460	Tuesday	17/05/2005	1.457	0.583	2.04	
13	WO-02-B-01	BUSINESS PARK, REDDITCH	WORCESTERSHIRE	3525	Tuesday	02/05/2006	1.39	0.397	1.787	
14	EB-02-B-03	BUSINESS PARK, EDINBURGH	CITY OF EDINBURGH	6675	Tuesday	01/05/2007	1.573	0.18	1.753	
15	BU-02-B-01	BUSINESS PARK, HIGH WYCOMBE	BUCKINGHAMSHIRE	13300	Thursday	08/07/2004	1.571	0.18	1.751	
16	HC-02-B-01	BUSINESS PARK, BASINGSTOKE	HAMPSHIRE	121275	Thursday	22/11/2007	1.375	0.366	1.741	Yes
17	DC-02-B-01	BUSINESS PARK, POOLE	DORSET	1570	Thursday	17/07/2008	1.529	0.127	1.656	
18	HF-02-B-01	BUSINESS PARK, HATFIELD	HERTFORDSHIRE	26000	Monday	07/07/2008	1.485	0.119	1.604	
19	TW-02-B-04	BUSINESS PARK, NEWCASTLE	TYNE & WEAR	38853	Thursday	11/12/2008	1.264	0.245	1.509	
20	GM-02-B-03	BUSINESS PARK, SALE	GREATER MANCHESTER	3985	Tuesday	18/10/2011	1.33	0.05	1.38	
21	WM-02-B-01	BUSINESS PARK, COVENTRY	WEST MIDLANDS	30042	Friday	10/02/2006	0.809	0.273	1.082	
22	DL-02-B-03	OFFICE PARK, DUBLIN	DUBLIN	2920	Tuesday	11/05/2010	0.788	0.24	1.028	
23	DL-02-B-02	BUSINESS PARK, DUBLIN	DUBLIN	5985	Wednesday	12/05/2010	0.952	0.033	0.985	
24	SH-02-B-03	BUSINESS CENTRE, TELFORD	SHROPSHIRE	1300	Tuesday	16/06/2009	0.846	0.077	0.923	
25	HE-02-B-01	BUSINESS PARK, NR HEREFORD	HEREFORDSHIRE	18808	Tuesday	13/09/2011	0.776	0.128	0.904	
26	LC-02-B-03	BUSINESS PARK, PRESTON	LANCASHIRE	3450	Tuesday	18/10/2011	0.696	0.145	0.841	
27	KI-02-B-01	BUSINESS PARK, KINGSTON	KINGSTON	5250	Monday	19/04/2004	0.667	0.152	0.819	
28	GA-02-B-01	BUSINESS PARK, GALWAY	GALWAY	46175	Wednesday	20/09/2006	0.628	0.132	0.76	
29	DL-02-B-04	BUSINESS PARK, DUBLIN	DUBLIN	20530	Wednesday	12/09/2012	0.667	0.044	0.711	
30	WT-02-B-01	BUSINESS/TECH. PARK, ATHLONE	WESTMEATH	22150	Tuesday	19/06/2007	0.519	0.144	0.663	
31	TW-02-B-01	BUSINESS PARK, NEWCASTLE	TYNE & WEAR	975	Tuesday	03/05/2005	0.513	0.103	0.616	
32	TW-02-B-02	BUSINESS PARK,NORTH SHIELDS	TYNE & WEAR	27142	Friday	10/10/2008	0.501	0.103	0.604	
33	HO-02-B-01	BUSINESS PARK, HOUNSLOW	HOUNSLOW	1200	Wednesday	16/06/2010	0.333	0.167	0.5	
34	CF-02-B-02	BUSINESS/TECH. UNITS, CARDIFF	CARDIFF	2587	Friday	20/10/2006	0.155	0.077	0.232	

TRICS 2013(a)v6.11.1										
Trip Rate Parameter:	Gross floor area									
RANK ORDER for Land Use 02 - EMPLOYMENT/C - INDUSTRIAL UNIT										
Ranking Type: TOTALS Time Range: 08:00-09:00										
85th Percentile = no. 5										
Rank	Site Ref	Description	Area	GFA	Day	Date	Arrivals	Departures	Totals	Travel Plan
1	DC-02-C-07	NEW LOOK, WEYMOUTH	DORSET	5467	Monday	07/07/2008	4.866	0.53	5.396	
2	EB-02-C-01	BREWERY, EDINBURGH	CITY OF EDINBURGH	1200	Monday	16/06/2008	1.167	0.583	1.75	
3	BR-02-C-01	MECH. ENGINEERS, BRISTOL	BRISTOL CITY	1100	Monday	19/10/2009	1.455	0.091	1.546	
4	WA-02-C-01	FOODS COMPANY, WATERFORD	WATERFORD	2800	Tuesday	18/11/2008	0.786	0.536	1.322	
5	GS-02-C-01	HEALTH PRODUCTS,GLOUCESTER	GLOUCESTERSHIRE	6604	Wednesday	26/05/2004	0.742	0.197	0.939	
6	HF-02-C-01	IND. UNIT, W. GARDEN CITY	HERTFORDSHIRE	1800	Thursday	17/07/2008	0.611	0.278	0.889	
7	HI-02-C-01	DAIRY, NAIRN	HIGHLAND	3000	Wednesday	24/05/2006	0.7	0.167	0.867	
8	CF-02-C-01	PLASTICS COMPANY, CARDIFF	CARDIFF	1068	Tuesday	24/10/2006	0.562	0.281	0.843	
9	WM-02-C-01	METAL BEARINGS, S. COLDFIELD	WEST MIDLANDS	4200	Tuesday	25/11/2008	0.667	0.167	0.834	
10	HD-02-C-01	TARMAC PRODUCTION, HAYES	HILLINGDON	3912	Friday	11/05/2012	0.383	0.383	0.766	
11	NR-02-C-01	PAPER COMPANY, N'HAMPTON	NORTHAMPTONSHIRE	11500	Thursday	27/11/2008	0.522	0.078	0.6	
12	CH-02-C-01	BAKERY, NORTHWICH	CHESHIRE	15000	Thursday	21/06/2007	0.4	0.113	0.513	
13	LC-02-C-02	RECYCLING CO., PRESTON	LANCASHIRE	8000	Thursday	10/05/2012	0.375	0.087	0.462	
14	AR-02-C-02	EMTEK, LURGAN	ARMAGH	2980	Thursday	12/11/2009	0.336	0.101	0.437	
15	DE-02-C-01	C. LAMINATE SYS., LONDONDERRY	DERRY	1858	Thursday	12/11/2009	0.431	0	0.431	
16	CW-02-C-02	LIGHTING COMPANY, BODMIN	CORNWALL	17675	Wednesday	06/06/2007	0.272	0.085	0.357	
17	WY-02-C-01	ANIMAL FEEDS, NEAR SHERBURN	WEST YORKSHIRE	9835	Tuesday	19/04/2005	0.275	0.061	0.336	
18	WM-02-C-02	ARDONPRINT, BIRMINGHAM	WEST MIDLANDS	300	Wednesday	17/06/2009	0.333	0	0.333	
19	NY-02-C-01	FOOD PRODUCTION, MASHAM	NORTH YORKSHIRE	2491	Tuesday	23/09/2008	0.321	0	0.321	
20	HE-02-C-01	METAL. COATINGS, HEREFORD	HEREFORDSHIRE	1880	Thursday	14/10/2010	0.213	0.106	0.319	
21	CW-02-C-01	FOOD DISTRIBUTION, CAMBORNE	CORNWALL	10200	Friday	08/06/2007	0.167	0.039	0.206	
22	LC-02-C-01	BREWERY, BLACKBURN	LANCASHIRE	34581	Monday	21/06/2004	0.185	0.02	0.205	
23	DS-02-C-01	BAKERY, NEAR SHEFFIELD	DERBYSHIRE	23500	Thursday	22/06/2006	0.149	0.055	0.204	
24	NF-02-C-02	GROCERY FACTORY, KINGS LYNN	NORFOLK	43325	Monday	19/09/2005	0.132	0.046	0.178	
25	FI-02-C-01	REFRIGERATION, DUNFERMLINE	FIFE	4900	Friday	20/04/2007	0.122	0.02	0.142	
26	MT-02-C-01	CONFECTIONERY, DOWLAIS	MERTHYR TYDFIL	15450	Tuesday	09/10/2007	0.11	0.026	0.136	
27	DV-02-C-01	TUBE MANUFACTURE,PLYMOUTH	DEVON	20000	Tuesday	17/07/2012	0.045	0.05	0.095	
28	EB-02-C-02	FOOD PRODUCTION, EDINBURGH	CITY OF EDINBURGH	19805	Monday	25/10/2010	0.04	0.01	0.05	
29	GM-02-C-02	BREWERY, MANCHESTER	GREATER MANCHESTER	33470	Tuesday	08/06/2004	0.03	0.018	0.048	

TRICS 2013(a)v6.11.1									
Trip Rate Parameter:	Site area								
RANK ORDER for Land Use 02 - EMPLOYMENT/D - INDUSTRIAL ESTATE									
Ranking Type: TOTALS Time Range: 08:00-09:00									
85th Percentile = no. 6									
Rank	Site Ref	Description	Area	AREA	Day	Date	Arrivals	Departures	Totals
1	WH-02-D-01	INDUSTRIAL ESTATE, BALHAM	WANDSWORTH	0.65	Friday	13/05/2005	81.538	49.231	130.769
2	NY-02-D-01	INDUSTRIAL ESTATE, SHERBURN	NORTH YORKSHIRE	0.36	Tuesday	19/04/2005	66.667	33.333	100
3	DV-02-D-06	INDUSTRIAL ESTATE,PLYMOUTH	DEVON	0.59	Tuesday	17/07/2012	59.322	25.424	84.746
4	BR-02-D-02	INDUSTRIAL ESTATE, BRISTOL	BRISTOL CITY	0.94	Thursday	19/11/2009	53.191	14.894	68.085
5	WL-02-D-01	IND. ESTATE, WOOTTON BASSETT	WILTSHIRE	1.9	Tuesday	03/10/2006	45.789	20.526	66.315
6	CA-02-D-02	IND. ESTATE, CAMBRIDGE	CAMBRIDGESHIRE	0.58	Monday	19/10/2009	32.759	31.034	63.793
7	EX-02-D-01	INDUSTRIAL ESTATE, LOUGHTON	ESSEX	3.58	Thursday	22/11/2007	50.279	8.939	59.218
8	BR-02-D-03	INDUSTRIAL ESTATE, BRISTOL	BRISTOL CITY	1.7	Tuesday	20/10/2009	45.882	12.353	58.235
9	MS-02-D-06	INDUSTRIAL EST., LIVERPOOL	MERSEYSIDE	1.23	Thursday	09/09/2010	31.707	26.016	57.723
10	CA-02-D-03	IND. ESTATE, PETERBOROUGH	CAMBRIDGESHIRE	1.47	Thursday	22/10/2009	38.776	15.646	54.422
11	CA-02-D-01	IND. ESTATE, PETERBOROUGH	CAMBRIDGESHIRE	0.8	Tuesday	13/05/2008	28.75	23.75	52.5
12	NB-02-D-01	INDUSTRIAL ESTATE, HEXHAM	NORTHUMBERLAND	4.9	Monday	23/05/2005	32.449	19.388	51.837
13	HI-02-D-03	IND. EST./BUS.PK., FT. WILLIAM	HIGHLAND	10	Monday	18/05/2009	27.2	14.5	41.7
14	EA-02-D-02	INDUSTRIAL EST., KILMARNOCK	EAST AYRSHIRE	0.7	Wednesday	11/06/2008	22.857	17.143	40
15	CH-02-D-02	INDUSTRIAL EST., NORTHWICH	CHESHIRE	5	Friday	15/06/2007	29.8	9.8	39.6
16	ES-02-D-05	IND. ESTATE, EASTBOURNE	EAST SUSSEX	2.31	Monday	30/11/2009	27.273	12.121	39.394
17	WY-02-D-01	INDUSTRIAL ESTATE, LEEDS	WEST YORKSHIRE	0.92	Tuesday	19/04/2005	25	8.696	33.696
18	SF-02-D-02	INDUSTRIAL ESTATE, IPSWICH	SUFFOLK	17	Tuesday	22/05/2007	18.529	11.059	29.588
19	LN-02-D-01	INDUSTRIAL ESTATE, GRANTHAM	LINCOLNSHIRE	1.6	Thursday	12/05/2005	18.75	10	28.75
20	WY-02-D-02	INDUSTRIAL EST., HUDDERSFIELD	WEST YORKSHIRE	2.12	Monday	11/09/2006	21.698	4.717	26.415
21	CW-02-D-03	IND. ESTATE, NEAR PENZANCE	CORNWALL	12.46	Monday	03/10/2011	15.49	10.514	26.004
22	TW-02-D-06	INDUSTRIAL ESTATE, N. SHIELDS	TYNE & WEAR	4	Thursday	19/10/2006	14.5	11	25.5
23	CW-02-D-02	INDUSTRIAL ESTATE, CAMBORNE	CORNWALL	4.72	Friday	21/09/2007	9.11	4.449	13.559
24	LC-02-D-04	INDUSTRIAL ESTATE, GARSTANG	LANCASHIRE	3.4	Friday	16/06/2006	7.353	6.176	13.529
25	AR-02-D-01	INDUSTRIAL ESTATE, ARMAGH	ARMAGH	5.37	Tuesday	08/06/2010	9.311	2.607	11.918
26	CB-02-D-04	INDUSTRIAL ESTATE, BRAMPTON	CUMBRIA	9.11	Wednesday	16/12/2009	7.135	3.952	11.087
27	DL-02-D-03	INDUSTRIAL ESTATE, DUBLIN	DUBLIN	35.7	Tuesday	26/06/2007	7.871	2.941	10.812
28	AG-02-D-01	INDUSTRIAL EST., ARBROATH	ANGUS	28.5	Friday	25/05/2012	7.368	3.158	10.526
29	NT-02-D-01	IND. ESTATE, SUTTON-IN-ASHFLD	NOTTINGHAMSHIRE	15	Friday	30/06/2006	5.2	2.867	8.067
30	MS-02-D-05	INDUSTRIAL ESTATE, ST HELENS	MERSEYSIDE	1.17	Tuesday	18/10/2005	3.419	2.564	5.983
31	DS-02-D-01	IND. ESTATE,SOUTH NORMANTON	DERBYSHIRE	49.4	Tuesday	15/06/2004	4.069	1.761	5.83
32	HE-02-D-01	BUSINESS PARK, HEREFORD	HEREFORDSHIRE	6.86	Monday	17/10/2011	3.644	1.166	4.81
33	DH-02-D-01	INDUSTRIAL ESTATE,NR CONSETT	DURHAM	23.6	Wednesday	27/04/2005	2.5	0.636	3.136

TRICS 2013(a)v6.11.1										
Trip Rate Parameter:	Gross floor area									
RANK ORDER for Land Use 02 - EMPLOYMENT/F - WAREHOUSING (COMMERCIAL)										
Ranking Type: TOTALS Time Range: 08:00-09:00										
85th Percentile = no. 4										
Rank	Site Ref	Description	Area	GFA	Day	Date	Arrivals	Departures	Totals	Travel Plan
1	TV-02-F-03	ELEC. COMPONENTS, STOCKTON	TEES VALLEY	387	Tuesday	28/06/2011	2.067	0.517	2.584	
2	CR-02-F-01	WAREHOUSING ESTATE, CORK	CORK	14400	Wednesday	07/12/2005	1.111	0.319	1.43	
3	LC-02-F-02	WAREHOUSING, PRESTON	LANCASHIRE	1200	Friday	22/06/2007	0.417	0.333	0.75	
4	AR-02-F-01	ELECTRICAL DIST., PORTADOWN	ARMAGH	1900	Wednesday	11/11/2009	0.579	0.053	0.632	
5	SC-02-F-04	WAREHOUSING, CHERTSEY	SURREY	4460	Tuesday	27/11/2007	0.471	0.135	0.606	
6	HC-02-F-01	WAREHOUSING, SOUTHAMPTON	HAMPSHIRE	4000	Wednesday	21/11/2007	0.4	0.2	0.6	
7	ML-02-F-01	WINDOWS, DALKEITH	MIDLOTHIAN	750	Wednesday	04/05/2011	0.533	0	0.533	
8	CW-02-F-01	WAREHOUSING, TRURO	CORNWALL	5150	Tuesday	18/09/2007	0.194	0.33	0.524	
9	HI-02-F-01	WAREHOUSING,NEAR INVERNESS	HIGHLAND	890	Wednesday	24/05/2006	0.225	0.225	0.45	
10	CR-02-F-02	PNEUMATIC CENTRE, CORK	CORK	4650	Friday	26/06/2009	0.28	0.129	0.409	
11	KI-02-F-01	STATIONERY, CHESSINGTON	KINGSTON	4661	Tuesday	08/09/2009	0.3	0.107	0.407	
12	DL-02-F-01	CLARITY, DUBLIN	DUBLIN	3760	Thursday	03/12/2009	0.372	0.027	0.399	
13	AN-02-F-02	DISTRIBUTION CENTRE, BELFAST	ANTRIM	10832	Thursday	29/07/2010	0.222	0.129	0.351	Yes
14	DS-02-F-01	ARMADILLO S. STORAGE, DERBY	DERBYSHIRE	1900	Tuesday	05/07/2011	0.158	0.105	0.263	
15	EN-02-F-01	WAREHOUSING, ENFIELD	ENFIELD	13251	Wednesday	19/11/2008	0.181	0.053	0.234	
16	NW-02-F-01	LOGISTICS CENTRE, NEWPORT	NEWPORT	16275	Friday	12/10/2007	0.147	0.018	0.165	
17	WR-02-F-01	WAREHOUSE, NEAR WREXHAM	WREXHAM	9000	Tuesday	18/10/2011	0.133	0.011	0.144	
18	HF-02-F-03	DISTRIBUTION CEN., HATFIELD	HERTFORDSHIRE	80000	Thursday	10/07/2008	0.075	0.052	0.127	
19	WM-02-F-01	LEGETT LOGIS., BIRMINGHAM	WEST MIDLANDS	4000	Wednesday	17/06/2009	0.075	0.05	0.125	
20	LN-02-F-01	BOOK SERVICE, GRANTHAM	LINCOLNSHIRE	32300	Monday	29/11/2010	0.065	0.012	0.077	
21	DL-02-F-02	DISTRIBUTION CEN, DUBLIN	DUBLIN	3950	Thursday	29/09/2011	0.076	0	0.076	
22	TV-02-F-02	ARGOS WAREHOUSE, DARL'TON	TEES VALLEY	80066	Tuesday	07/10/2008	0.017	0.019	0.036	Yes

TRANSPORT STUDY
April 2014

APPENDIX D
LINSIG Analysis at A57 (High Street) / Norfolk Street / Victoria Street, Glossop

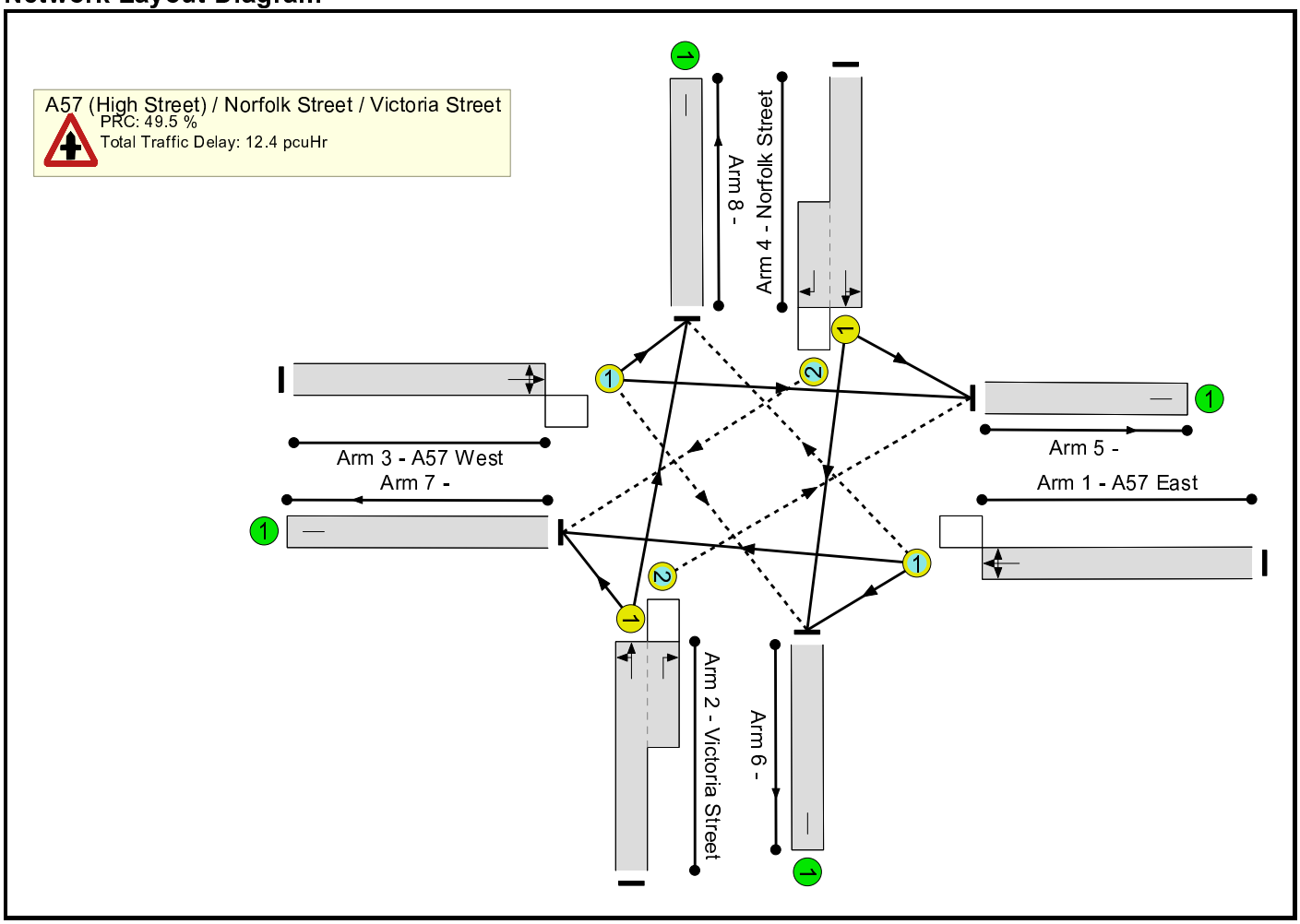
Basic Results Summary

User and Project Details

Project:	
Title:	
Location:	
File name:	Glossop - Victoria MJT Edit.lsg3x
Author:	
Company:	
Address:	
Notes:	

Scenario 1: 'AM Base' (FG1: 'AM Survey', Plan 1: 'Network Control Plan 1')

Network Layout Diagram



Basic Results Summary

Network Results

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per Veh (s/pcu)	Mean Max Queue (pcu)
Network	-	-	-	-	-	-	-	-	-	-	**60.2%**	**185**	**0**	**26**	**12.4**	-	-
A57 (High Street) / Norfolk Street / Victoria Street	-	-	-	-	-	-	-	-	**71-**	-	**60.2%**	**185**	**0**	**26**	**12.4**	-	-
1/1	A57 East Left Ahead Right	O	A		2	78	-	500	1869	831	60.2%	20	0	0	3.4	24.4	10.5
2/1+2/2	Victoria Street Right Left Ahead	U+O	D		2	55		367	1865:1749	630	58.2%	55	0	21	3.4	33.8	6.9
3/1	A57 West Ahead Right Left	O	B		2	78	-	348	1855	824	42.2%	54	0	0	2.0	20.9	6.6
4/1+4/2	Norfolk Street Left Ahead Right	U+O	C		2	55		383	1915:1739	646	59.3%	56	0	5	3.5	33.1	7.6

C1

PRC for Signalled Lanes (%): 49.5
PRC Over All Lanes (%): 49.5

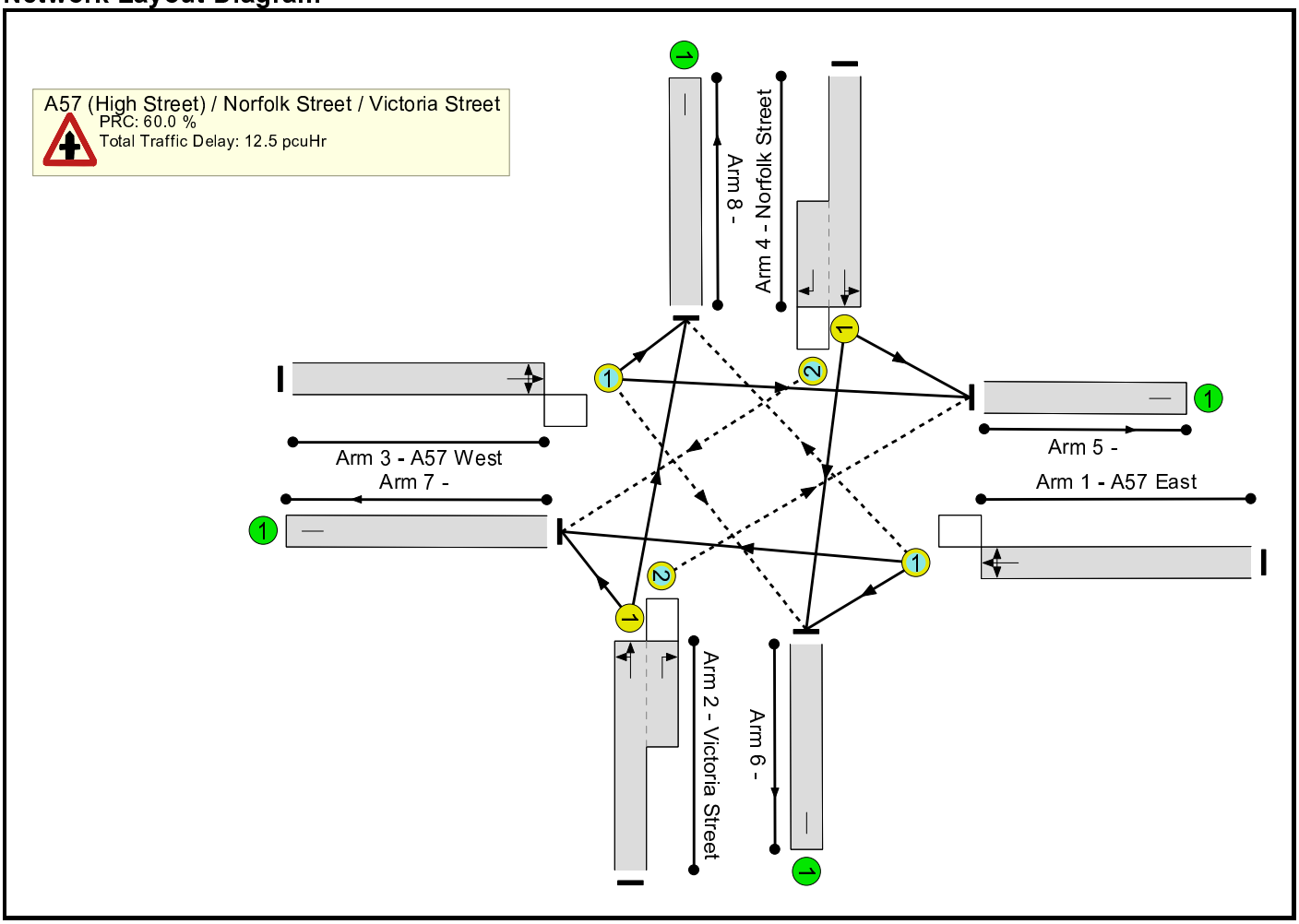
Total Delay for Signalled Lanes (pcuHr): 12.37
Total Delay Over All Lanes(pcuHr): 12.37

Cycle Time (s): 180

Basic Results Summary

Scenario 2: 'PM Base' (FG2: 'PM Survey', Plan 1: 'Network Control Plan 1')

Network Layout Diagram



Basic Results Summary

Network Results

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per Veh (s/pcu)	Mean Max Queue (pcu)
Network	-	-	-	-	-	-	-	-	-	-	**56.2%**	**248**	**0**	**13**	**12.5**	-	-
A57 (High Street) / Norfolk Street / Victoria Street	-	-	-	-	-	-	-	-	-	-	**56.2%**	**248**	**0**	**13**	**12.5**	-	-
1/1	A57 East Left Ahead Right	O	A		2	71	-	421	1866	757	55.6%	29	0	0	3.0	25.9	8.7
2/1+2/2	Victoria Street Right Left Ahead	U+O	D		2	62		389	1870:1749	729	53.4%	100	0	12	3.3	30.3	6.0
3/1	A57 West Ahead Right Left	O	B		2	71	-	427	1872	759	56.2%	72	0	0	3.1	26.0	8.8
4/1+4/2	Norfolk Street Left Ahead Right	U+O	C		2	62		380	1887:1739	685	55.5%	47	0	1	3.1	29.3	7.4

C1

PRC for Signalled Lanes (%): 60.0

PRC Over All Lanes (%): 60.0

Total Delay for Signalled Lanes (pcuHr): 12.47

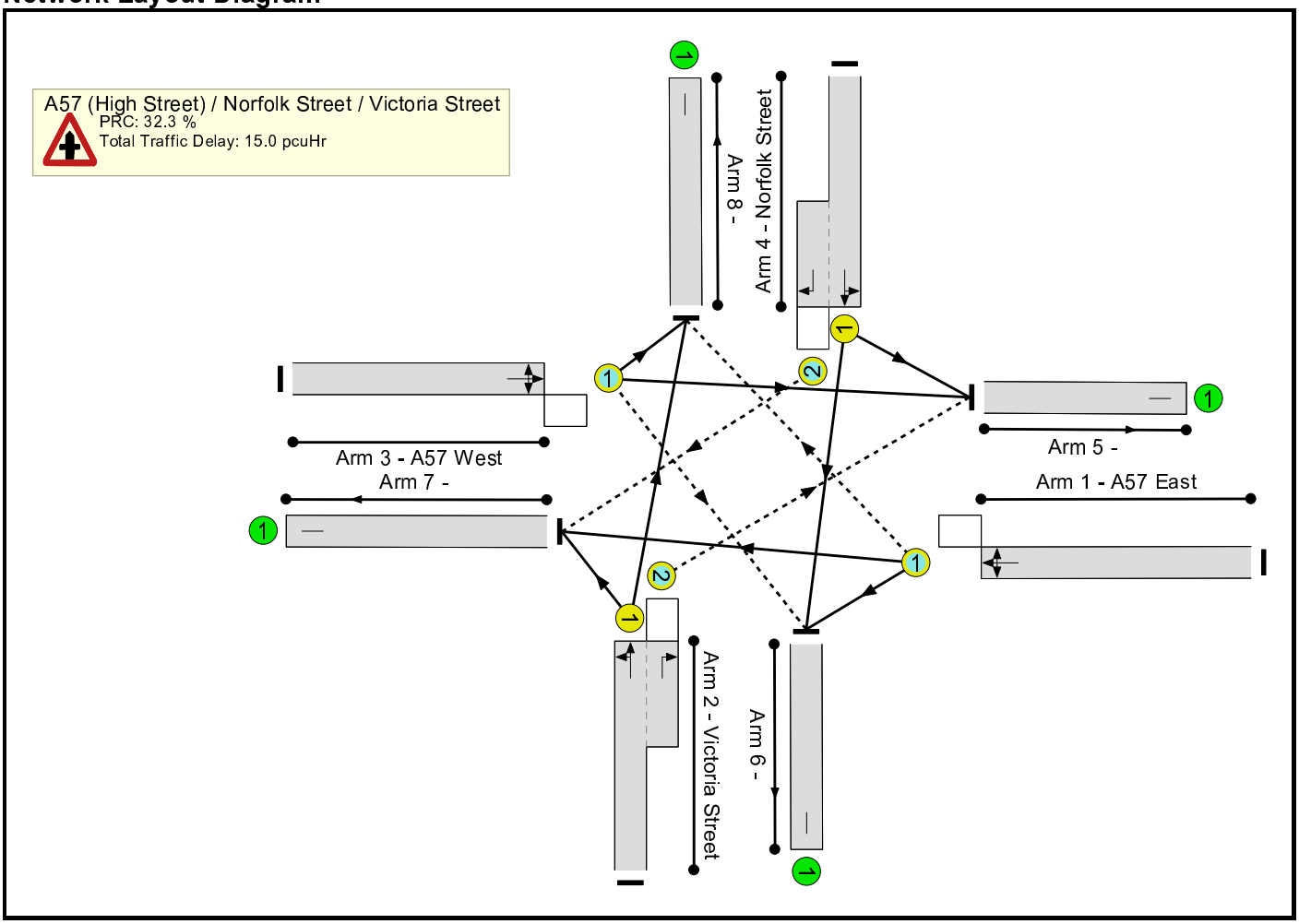
Total Delay Over All Lanes(pcuHr): 12.47

Cycle Time (s): 180

Basic Results Summary

Scenario 3: 'AM Reference' (FG3: 'AM Reference Case', Plan 1: 'Network Control Plan 1')

Network Layout Diagram



Basic Results Summary

Network Results

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per Veh (s/pcu)	Mean Max Queue (pcu)
Network	-	-	-	-	-	-	-	-	-	-	**68.0%**	**192**	**0**	**47**	**15.0**	-	-
A57 (High Street) / Norfolk Street / Victoria Street	-	-	-	-	-	-	-	-	-	-	**68.0%**	**192**	**0**	**47**	**15.0**	-	-
1/1	A57 East Left Ahead Right	O	A		2	78	-	565	1869	831	68.0%	23	0	0	4.2	26.7	12.7
2/1+2/2	Victoria Street Right Left Ahead	U+O	D		2	55		415	1866:1749	631	65.8%	54	0	32	4.2	36.3	8.5
3/1	A57 West Ahead Right Left	O	B		2	78	-	393	1855	824	47.7%	61	0	0	2.4	21.8	7.6
4/1+4/2	Norfolk Street Left Ahead Right	U+O	C		2	55		433	1914:1739	646	67.0%	54	0	15	4.3	35.6	9.3

C1

PRC for Signalled Lanes (%): 32.3
PRC Over All Lanes (%): 32.3

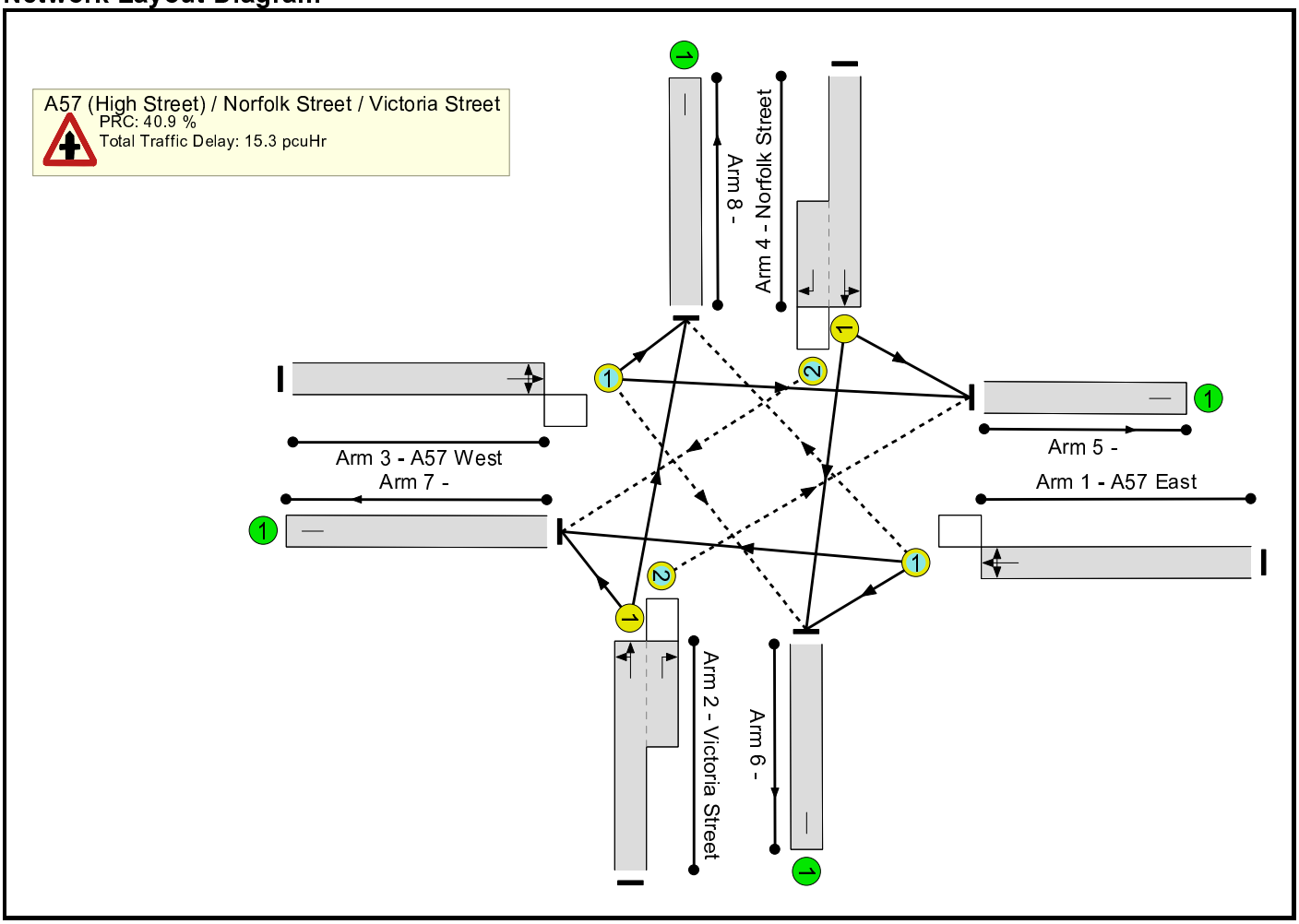
Total Delay for Signalled Lanes (pcuHr): 15.03
Total Delay Over All Lanes(pcuHr): 15.03

Cycle Time (s): 180

Basic Results Summary

Scenario 4: 'PM Rerence' (FG4: 'PM Reference Case', Plan 1: 'Network Control Plan 1')

Network Layout Diagram



Basic Results Summary

Network Results

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per Veh (s/pcu)	Mean Max Queue (pcu)
Network	-	-	-	-	-	-	-	-	-	-	**63.9%**	**273**	**0**	**24**	**15.3**	-	-
A57 (High Street) / Norfolk Street / Victoria Street	-	-	-	-	-	-	-	-	-	-	**63.9%**	**273**	**0**	**24**	**15.3**	-	-
1/1	A57 East Left Ahead Right	O	A		2	71	-	479	1866	757	63.3%	33	0	0	3.7	27.8	10.4
2/1+2/2	Victoria Street Right Left Ahead	U+O	D		2	62		442	1870:1749	729	60.6%	103	0	24	4.0	32.9	8.1
3/1	A57 West Ahead Right Left	O	B		2	71	-	485	1872	759	63.9%	82	0	0	3.8	28.0	10.6
4/1+4/2	Norfolk Street Left Ahead Right	U+O	C		2	62		432	1888:1739	686	63.0%	55	0	0	3.8	31.4	9.6

C1

PRC for Signalled Lanes (%): 40.9
PRC Over All Lanes (%): 40.9

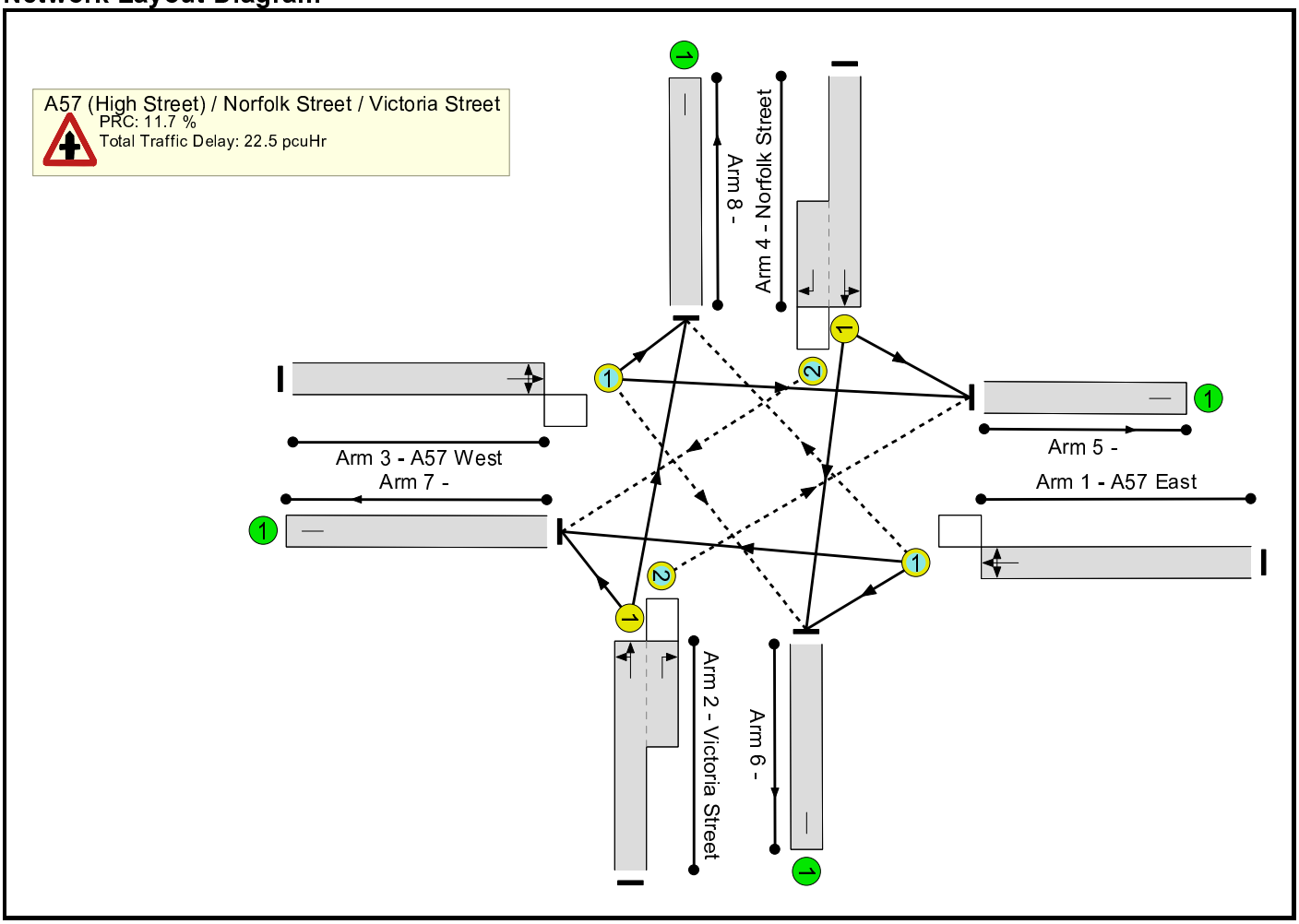
Total Delay for Signalled Lanes (pcuHr): 15.29
Total Delay Over All Lanes(pcuHr): 15.29

Cycle Time (s): 180

Basic Results Summary

Scenario 5: 'AM Design' (FG5: 'AM Design Case', Plan 1: 'Network Control Plan 1')

Network Layout Diagram



Basic Results Summary

Network Results

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per Veh (s/pcu)	Mean Max Queue (pcu)
Network	-	-	-	-	-	-	-	-	-	-	**80.6%**	**230**	**0**	**60**	**22.5**	-	-
A57 (High Street) / Norfolk Street / Victoria Street	-	-	-	-	-	-	-	-	-	-	**80.6%**	**230**	**0**	**60**	**22.5**	-	-
1/1	A57 East Left Ahead Right	O	A		2	77	-	662	1872	822	80.6%	27	0	0	6.4	34.7	20.4
2/1+2/2	Victoria Street Right Left Ahead	U+O	D		2	56		491	1866:1749	627	78.4%	53	0	45	6.1	45.0	12.7
3/1	A57 West Ahead Right Left	O	B		2	77	-	509	1854	814	62.6%	77	0	0	3.8	27.0	13.4
4/1+4/2	Norfolk Street Left Ahead Right	U+O	C		2	56		524	1914:1739	659	79.6%	73	0	15	6.1	42.0	14.0

C1

PRC for Signalled Lanes (%): 11.7
PRC Over All Lanes (%): 11.7

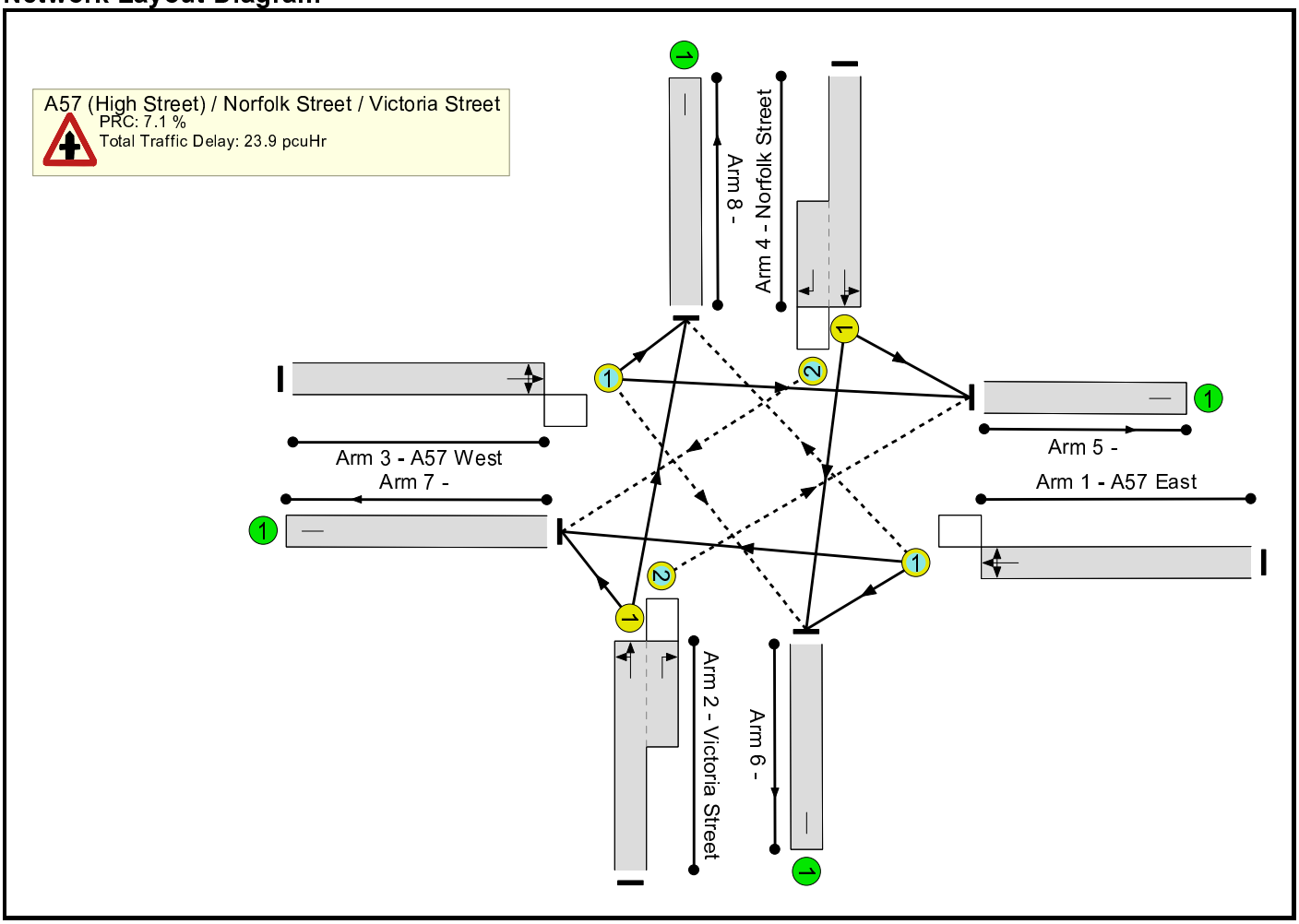
Total Delay for Signalled Lanes (pcuHr): 22.46
Total Delay Over All Lanes(pcuHr): 22.46

Cycle Time (s): 180

Basic Results Summary

Scenario 6: 'PM Design' (FG6: 'PM Design Case', Plan 1: 'Network Control Plan 1')

Network Layout Diagram



Basic Results Summary

Network Results

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per Veh (s/pcu)	Mean Max Queue (pcu)
Network	-	-	-	-	-	-	-	-	-	-	**84.0%**	**321**	**0**	**32**	**23.9**	-	-
A57 (High Street) / Norfolk Street / Victoria Street	-	-	-	-	-	-	-	-	-	-	**84.0%**	**321**	**0**	**32**	**23.9**	-	-
1/1	A57 East Left Ahead Right	O	A		2	66	-	580	1870	706	82.1%	41	0	0	6.4	39.7	17.4
2/1+2/2	Victoria Street Right Left Ahead	U+O	D		2	67		531	1870:1749	666	79.8%	113	0	30	6.0	40.9	12.3
3/1	A57 West Ahead Right Left	O	B		2	66	-	594	1871	707	84.0%	98	0	0	6.8	41.5	18.2
4/1+4/2	Norfolk Street Left Ahead Right	U+O	C		2	67		518	1887:1739	740	70.0%	69	0	2	4.6	32.2	12.6

C1

PRC for Signalled Lanes (%): 7.1
PRC Over All Lanes (%): 7.1

Total Delay for Signalled Lanes (pcuHr): 23.91
Total Delay Over All Lanes(pcuHr): 23.91

Cycle Time (s): 180

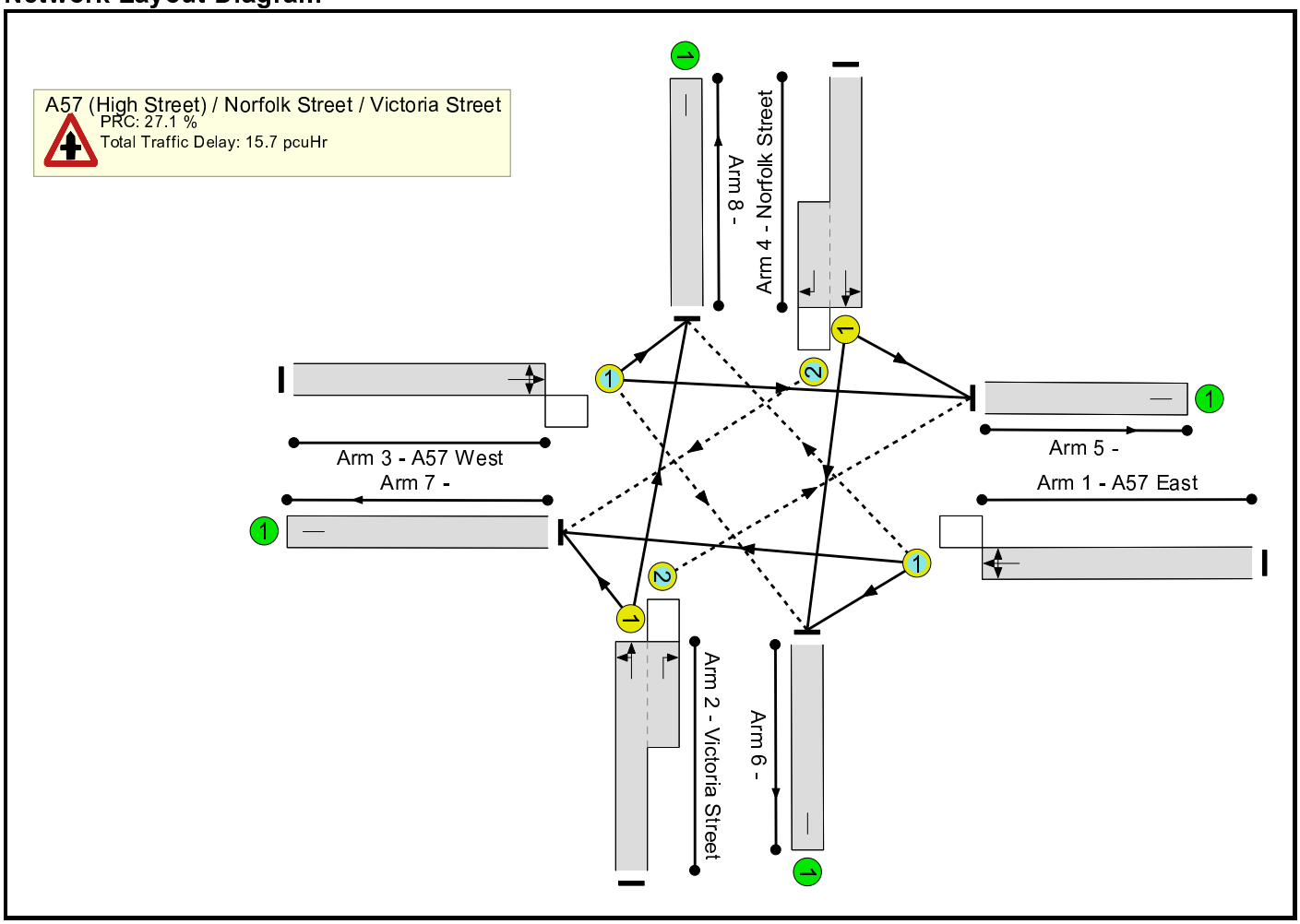
Basic Results Summary

User and Project Details

Project:	
Title:	
Location:	
File name:	Glossop - Victoria MJT Edit - Ped Every Cycle.lsg3x
Author:	
Company:	
Address:	
Notes:	

Scenario 1: 'AM Base' (FG1: 'AM Survey', Plan 1: 'Network Control Plan 1')

Network Layout Diagram



Basic Results Summary

Network Results

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per Veh (s/pcu)	Mean Max Queue (pcu)
Network	-	-	-	-	-	-	-	-	-	-	**70.8%**	**204**	**0**	**7**	**15.7**	-	-
A57 (High Street) / Norfolk Street / Victoria Street	-	-	-	-	-	-	-	-	-	-	**70.8%**	**204**	**0**	**7**	**15.7**	-	-
1/1	A57 East Left Ahead Right	O	A		1	33	-	500	1869	706	70.8%	20	0	0	4.5	32.4	11.8
2/1+2/2	Victoria Street Right Left Ahead	U+O	D		1	23		367	1865:1749	533	68.8%	69	0	7	4.3	42.0	7.8
3/1	A57 West Ahead Right Left	O	B		1	33	-	348	1855	701	49.7%	54	0	0	2.6	26.5	7.1
4/1+4/2	Norfolk Street Left Ahead Right	U+O	C		1	23		383	1915:1739	552	69.4%	61	0	0	4.3	40.8	8.6

C1

PRC for Signalled Lanes (%): 27.1
PRC Over All Lanes (%): 27.1

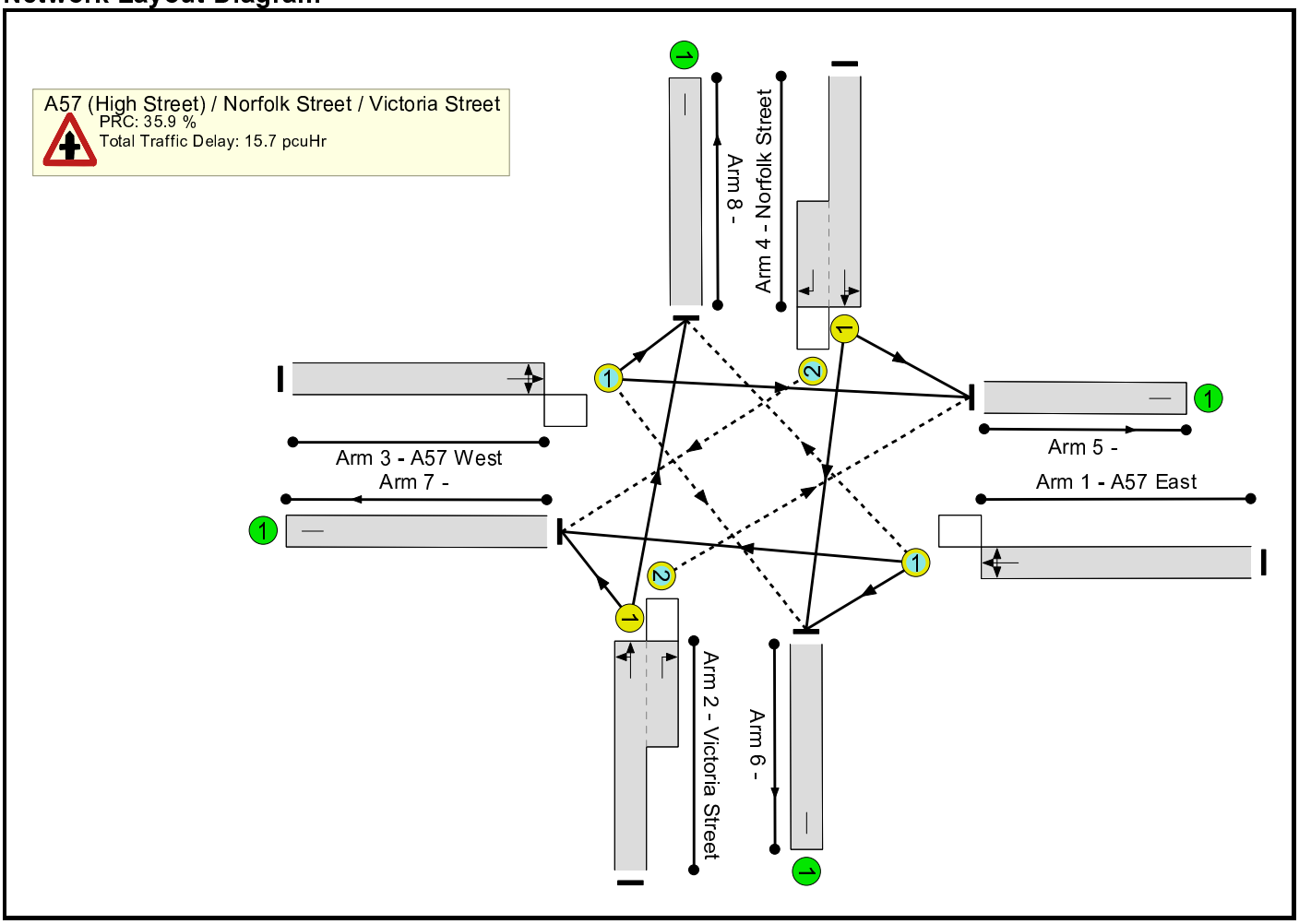
Total Delay for Signalled Lanes (pcuHr): 15.69
Total Delay Over All Lanes(pcuHr): 15.69

Cycle Time (s): 90

Basic Results Summary

Scenario 2: 'PM Base' (FG2: 'PM Survey', Plan 1: 'Network Control Plan 1')

Network Layout Diagram



Basic Results Summary

Network Results

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per Veh (s/pcu)	Mean Max Queue (pcu)
Network	-	-	-	-	-	-	-	-	-	-	**66.2%**	**257**	**0**	**4**	**15.7**	-	-
A57 (High Street) / Norfolk Street / Victoria Street	-	-	-	-	-	-	-	-	-	-	**66.2%**	**257**	**0**	**4**	**15.7**	-	-
1/1	A57 East Left Ahead Right	O	A		1	30	-	421	1866	643	65.5%	29	0	0	3.9	33.0	9.8
2/1+2/2	Victoria Street Right Left Ahead	U+O	D		1	26		389	1870:1749	627	62.1%	112	0	0	4.0	37.2	6.9
3/1	A57 West Ahead Right Left	O	B		1	30	-	427	1872	645	66.2%	72	0	0	3.9	33.2	10.0
4/1+4/2	Norfolk Street Left Ahead Right	U+O	C		1	26		380	1887:1739	582	65.3%	44	0	4	3.9	36.5	8.3

C1

PRC for Signalled Lanes (%): 35.9
PRC Over All Lanes (%): 35.9

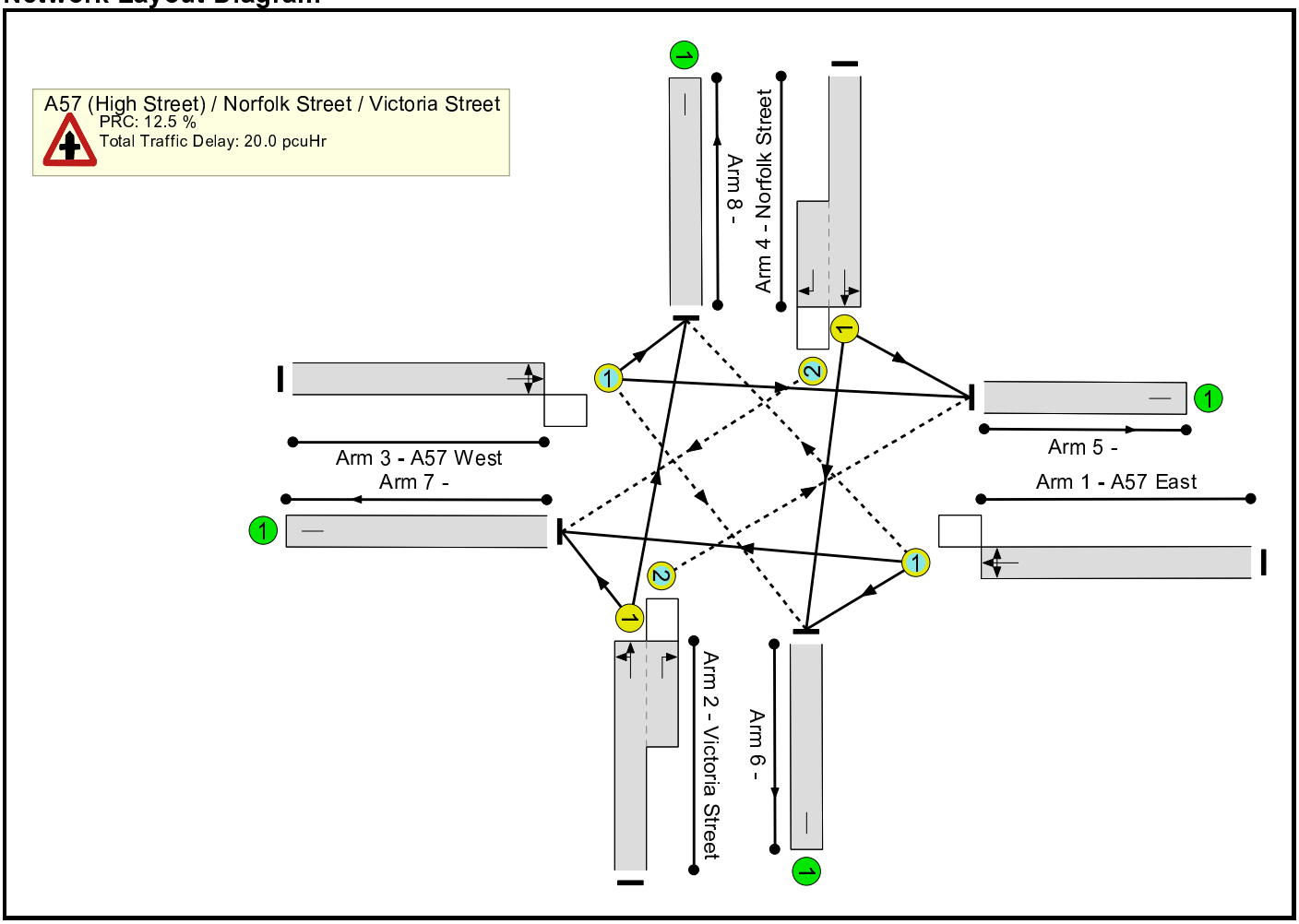
Total Delay for Signalled Lanes (pcuHr): 15.68
Total Delay Over All Lanes(pcuHr): 15.68

Cycle Time (s): 90

Basic Results Summary

Scenario 3: 'AM Reference' (FG3: 'AM Reference Case', Plan 1: 'Network Control Plan 1')

Network Layout Diagram



Basic Results Summary

Network Results

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per Veh (s/pcu)	Mean Max Queue (pcu)
Network	-	-	-	-	-	-	-	-	-	-	**80.0%**	**177**	**0**	**62**	**20.0**	-	-
A57 (High Street) / Norfolk Street / Victoria Street	-	-	-	-	-	-	-	-	-	-	**80.0%**	**177**	**0**	**62**	**20.0**	-	-
1/1	A57 East Left Ahead Right	O	A		1	33	-	565	1869	706	80.0%	23	0	0	5.9	37.4	14.5
2/1+2/2	Victoria Street Right Left Ahead	U+O	D		1	23		415	1866:1749	531	78.1%	24	0	62	5.5	47.8	9.9
3/1	A57 West Ahead Right Left	O	B		1	33	-	393	1855	701	56.1%	61	0	0	3.0	27.9	8.4
4/1+4/2	Norfolk Street Left Ahead Right	U+O	C		1	23		433	1914:1739	552	78.5%	69	0	0	5.5	46.1	10.7

C1

PRC for Signalled Lanes (%): 12.5
PRC Over All Lanes (%): 12.5

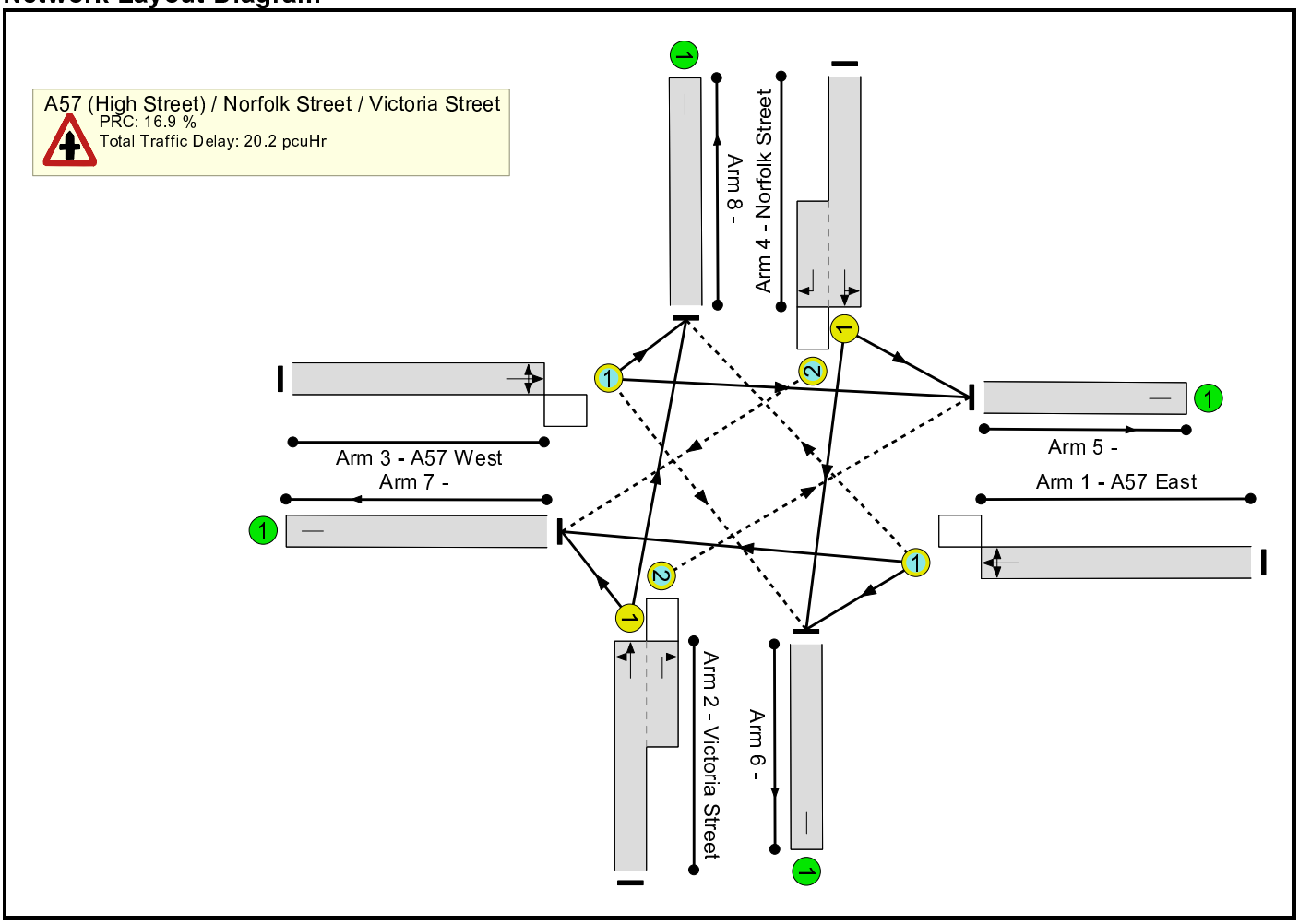
Total Delay for Signalled Lanes (pcuHr): 19.97
Total Delay Over All Lanes(pcuHr): 19.97

Cycle Time (s): 90

Basic Results Summary

Scenario 4: 'PM Rerence' (FG4: 'PM Reference Case', Plan 1: 'Network Control Plan 1')

Network Layout Diagram



Basic Results Summary

Network Results

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per Veh (s/pcu)	Mean Max Queue (pcu)
Network	-	-	-	-	-	-	-	-	-	-	**77.0%**	**245**	**0**	**52**	**20.2**	-	-
A57 (High Street) / Norfolk Street / Victoria Street	-	-	-	-	-	-	-	-	-	-	**77.0%**	**245**	**0**	**52**	**20.2**	-	-
1/1	A57 East Left Ahead Right	O	A		1	30	-	479	1866	643	74.5%	33	0	0	4.9	36.8	11.9
2/1+2/2	Victoria Street Right Left Ahead	U+O	D		1	26		442	1870:1749	574	77.0%	76	0	51	5.5	44.7	9.2
3/1	A57 West Ahead Right Left	O	B		1	30	-	485	1872	645	75.2%	82	0	0	5.0	37.2	12.1
4/1+4/2	Norfolk Street Left Ahead Right	U+O	C		1	26		432	1888:1739	582	74.2%	54	0	1	4.9	40.4	10.3

C1

PRC for Signalled Lanes (%): 16.9

PRC Over All Lanes (%): 16.9

Total Delay for Signalled Lanes (pcuHr): 20.24

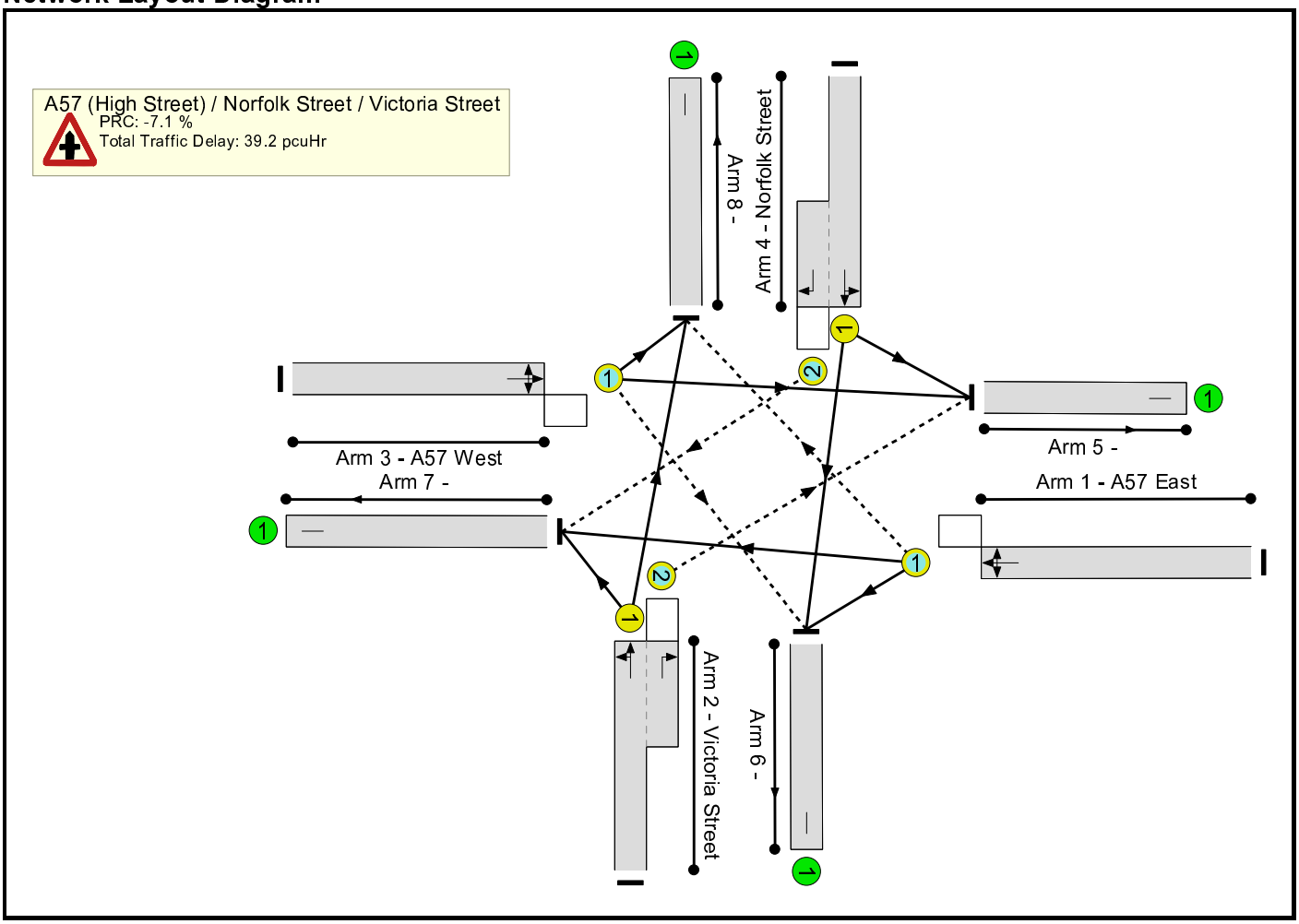
Total Delay Over All Lanes(pcuHr): 20.24

Cycle Time (s): 90

Basic Results Summary

Scenario 5: 'AM Design' (FG5: 'AM Design Case', Plan 1: 'Network Control Plan 1')

Network Layout Diagram



Basic Results Summary

Network Results

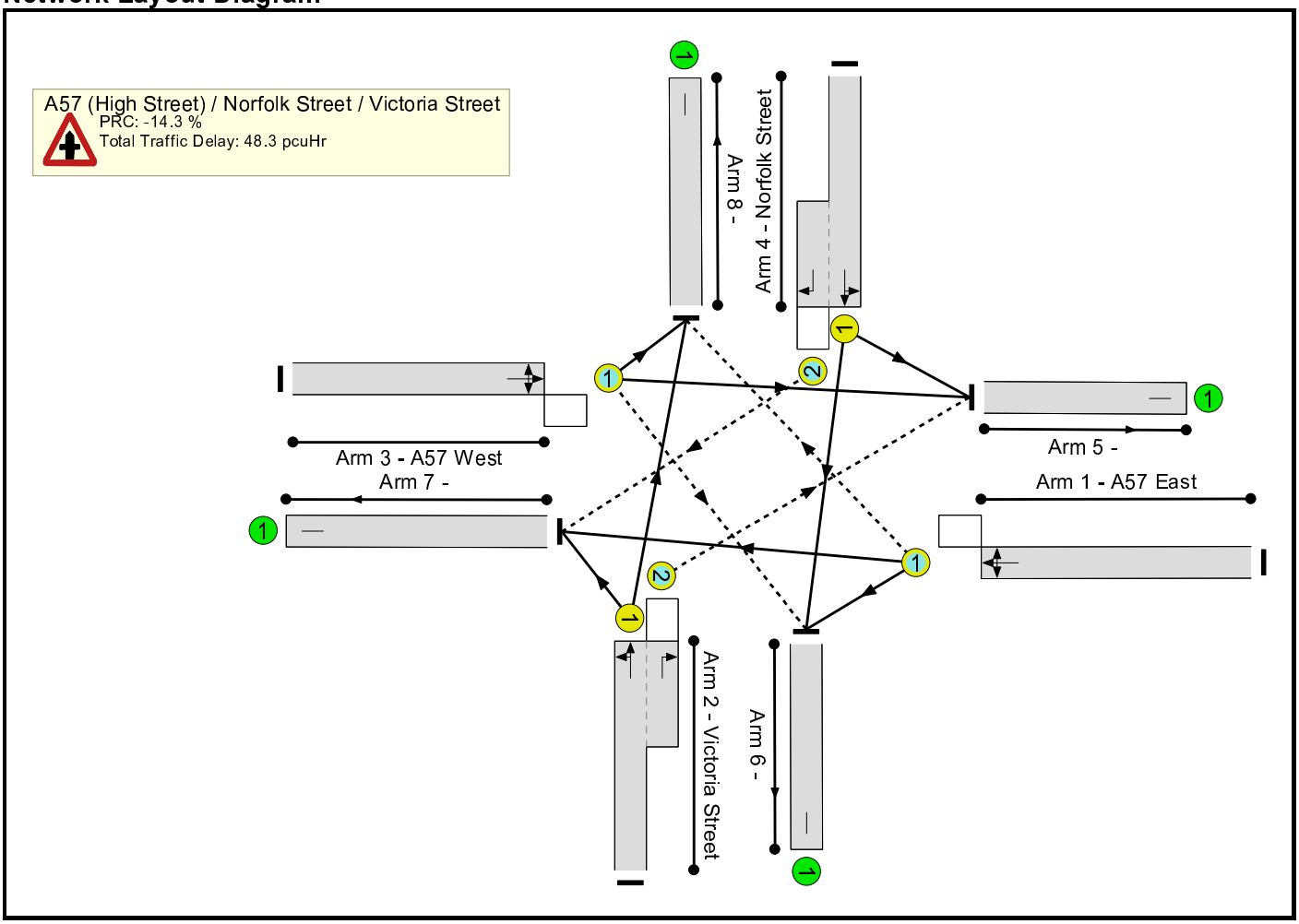
Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per Veh (s/pcu)	Mean Max Queue (pcu)
Network	-	-	-	-	-	-	-	-	-	-	**96.4%**	**176**	**0**	**96**	**39.2**	-	-
A57 (High Street) / Norfolk Street / Victoria Street	-	-	-	-	-	-	-	-	-	-	**96.4%**	**176**	**0**	**96**	**39.2**	-	-
1/1	A57 East Left Ahead Right	O	A		1	33	-	662	1872	707	93.6%	27	0	0	10.8	58.6	21.6
2/1+2/2	Victoria Street Right Left Ahead	U+O	D		1	23		491	1866:1749	509	96.4%	14	0	66	12.6	92.5	17.9
3/1	A57 West Ahead Right Left	O	B		1	33	-	509	1854	700	72.7%	77	0	0	4.7	33.3	12.2
4/1+4/2	Norfolk Street Left Ahead Right	U+O	C		1	23		524	1914:1739	554	94.6%	58	0	30	11.1	75.9	18.0

C1	PRC for Signalled Lanes (%):	-7.1	Total Delay for Signalled Lanes (pcuHr):	39.15		
	PRC Over All Lanes (%):	-7.1	Total Delay Over All Lanes(pcuHr):	39.15	Cycle Time (s):	90

Basic Results Summary

Scenario 6: 'PM Design' (FG6: 'PM Design Case', Plan 1: 'Network Control Plan 1')

Network Layout Diagram



Basic Results Summary

Network Results

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per Veh (s/pcu)	Mean Max Queue (pcu)
Network	-	-	-	-	-	-	-	-	-	-	**102.9%**	**231**	**0**	**80**	**48.3**	-	-
A57 (High Street) / Norfolk Street / Victoria Street	-	-	-	-	-	-	-	-	-	-	**102.9%**	**231**	**0**	**80**	**48.3**	-	-
1/1	A57 East Left Ahead Right	O	A		1	30	-	580	1870	644	90.0%	41	0	0	8.5	53.0	17.7
2/1+2/2	Victoria Street Right Left Ahead	U+O	D		1	26		531	1870:1749	516	102.9%	21	0	80	22.2	150.7	26.3
3/1	A57 West Ahead Right Left	O	B		1	30	-	594	1871	644	92.2%	98	0	0	9.6	58.2	19.1
4/1+4/2	Norfolk Street Left Ahead Right	U+O	C		1	26		518	1887:1739	584	88.7%	71	0	0	7.9	55.2	15.0

C1

PRC for Signalled Lanes (%): -14.3
PRC Over All Lanes (%): -14.3

Total Delay for Signalled Lanes (pcuHr): 48.32
Total Delay Over All Lanes(pcuHr): 48.32

Cycle Time (s): 90

APPENDIX E
PICADY Analysis at A624 / Gladstone Street Junction, Glossop

Junctions 8

PICADY 8 - Priority Intersection Module

Version: 8.0.1.305 [25 May 2012]

For sales and distribution information, program advice and maintenance, contact TRL:
Tel: +44 (0)1344 770758 E-mail: software@trl.co.uk Web: http://www.trlsoftware.co.uk

Filename: (new file)
Path:
Report generation date: 15/04/2014 11:29:04

Summary of junction performance

	AM					PM				
	Queue (PCU)	Delay (s)	RFC	LOS	Network Residual Capacity	Queue (PCU)	Delay (s)	RFC	LOS	Network Residual Capacity
	A1 - Base									
Stream B-AC	0.24	10.07	0.20	B	104 % [Stream B-AC]	0.21	10.11	0.18	B	103 % [Stream B-AC]
Stream C-AB	0.06	5.07	0.04	A		0.04	5.03	0.03	A	
Stream C-A	-	-	-	-		-	-	-	-	
Stream A-B	-	-	-	-		-	-	-	-	
Stream A-C	-	-	-	-		-	-	-	-	
	A1 - Design									
Stream B-AC	0.38	12.54	0.28	B	56 % [Stream B-AC]	0.33	12.67	0.25	B	55 % [Stream B-AC]
Stream C-AB	0.12	4.89	0.07	A		0.12	4.83	0.07	A	
Stream C-A	-	-	-	-		-	-	-	-	
Stream A-B	-	-	-	-		-	-	-	-	
Stream A-C	-	-	-	-		-	-	-	-	
	A1 - Reference Case									
Stream B-AC	0.30	11.06	0.23	B	80 % [Stream B-AC]	0.27	11.16	0.21	B	79 % [Stream B-AC]
Stream C-AB	0.07	5.00	0.05	A		0.05	4.96	0.04	A	
Stream C-A	-	-	-	-		-	-	-	-	
Stream A-B	-	-	-	-		-	-	-	-	

Stream A-C	-	-	-	-		-	-	-	-	

Values shown are the maximum values over all time segments. Delay is the maximum value of average delay per arriving vehicle. Network Residual Capacity indicates the amount by which network flow could be increased before a user-definable threshold (see Analysis Options) is met.

"D1 - Base, AM " model duration: 07:45 - 09:15
"D2 - Reference Case, AM" model duration: 07:45 - 09:15
"D3 - Design, AM" model duration: 07:45 - 09:15
"D4 - Base, PM" model duration: 16:45 - 18:15
"D5 - Reference Case, PM" model duration: 16:45 - 18:15
"D6 - Design, PM" model duration: 16:45 - 18:15

Run using Junctions 8.0.1.305 at 15/04/2014 11:29:04

File summary

File Description

Title	Victoria Street / Gladstone Street
Location	Glossop
Site Number	
Date	20/01/2014
Version	
Status	
Identifier	
Client	
Jobnumber	
Enumerator	37580rp [UK20006831L]
Description	

Analysis Options

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

Units

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

(Default Analysis Set) - Base, AM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

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

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Results For Central Hour Only	Single Time Segment Only	Locked	Run Automatically	Use Relationship	Relationship

Base, AM	Base	AM	Victoria Street / Gladstone Street	Varies by Arm	07:45	09:15	90	15						

Junction Network

Junctions

Name	Junction Type	Major Road Direction	Arm Order	Do Geometric Delay	Junction Delay (s)	Junction LOS
untitled	T-Junction	Two-way	A,B,C		8.78	A

Junction Network Options

Driving Side	Lighting	Network Residual Capacity (%)	First Arm Reaching Threshold
Left	Normal/unknown	104	Stream B-AC

Arms

Arms

Arm	Name	Description	Arm Type
A	Victoria Street N		Major
B	Gladstone Street		Minor
C	Victoria Street S		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
C	8.00		0.00		2.20	100.00		0.00

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

Minor Arm Geometry

Arm	Minor Arm Type	Lane Width (m)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
B	One lane	3.40										100	100

Pedestrian Crossings

Arm	Crossing Type
A	None
B	None
C	None

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
1	B-A	583.207	0.097	0.245	0.154	0.350
1	B-C	714.398	0.100	0.253	-	-
1	C-B	631.874	0.224	0.224	-	-

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

Streams may be combined, in which case capacity will be adjusted.
Values are shown for the first time segment only; they may differ for subsequent time segments.

Traffic Flows

Demand Set Data Options

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

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
A	ONE HOUR		395.00	100.000
B	ONE HOUR		79.00	100.000
C	ONE HOUR		338.00	100.000

Turning Proportions

Turning Counts or Proportions (PCU/hr) - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.000	50.000	345.000
	B	67.000	0.000	12.000
	C	321.000	17.000	0.000

Turning Proportions (PCU) - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.00	0.13	0.87
	B	0.85	0.00	0.15
	C	0.95	0.05	0.00

Vehicle Mix

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

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

Heavy Vehicle Percentages - Junction 1 (for whole period)

	To

		A	B	C
From	A	0.000	0.000	0.000
	B	0.000	0.000	0.000
	C	0.000	0.000	0.000

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)	Total Queueing Delay (PCU-min)	Average Queueing Delay (s)	Rate Of Queueing Delay (PCU-min/min)	Inclusive Total Queueing Delay (PCU-min)	Inclusive Average Queueing Delay (s)
B-AC	0.20	10.07	0.24	B	72.49	108.74	16.50	9.11	0.18	16.50	9.11
C-AB	0.04	5.07	0.06	A	25.12	37.69	4.06	6.47	0.05	4.06	6.47
C-A	-	-	-	-	285.03	427.55	-	-	-	-	-
A-B	-	-	-	-	45.88	68.82	-	-	-	-	-
A-C	-	-	-	-	316.58	474.87	-	-	-	-	-

Main Results for each time segment

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

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
B-AC	59.48	14.87	58.93	0.00	494.02	0.120	0.00	0.14	8.264	A
C-AB	18.71	4.68	18.58	0.00	728.57	0.026	0.00	0.03	5.070	A
C-A	235.76	58.94	235.76	0.00	-	-	-	-	-	-
A-B	37.64	9.41	37.64	0.00	-	-	-	-	-	-
A-C	259.73	64.93	259.73	0.00	-	-	-	-	-	-

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

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
B-AC	71.02	17.75	70.86	0.00	473.26	0.150	0.14	0.17	8.939	A
C-AB	24.06	6.02	24.02	0.00	748.19	0.032	0.03	0.04	4.971	A
C-A	279.79	69.95	279.79	0.00	-	-	-	-	-	-
A-B	44.95	11.24	44.95	0.00	-	-	-	-	-	-
A-C	310.15	77.54	310.15	0.00	-	-	-	-	-	-

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

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
B-AC	86.98	21.75	86.72	0.00	444.50	0.196	0.17	0.24	10.055	B
C-AB	32.55	8.14	32.48	0.00	775.40	0.042	0.04	0.06	4.845	A
C-A	339.59	84.90	339.59	0.00	-	-	-	-	-	-
A-B	55.05	13.76	55.05	0.00	-	-	-	-	-	-
A-C	379.85	94.96	379.85	0.00	-	-	-	-	-	-

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

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS

B-AC	86.98	21.75	86.97	0.00	444.48	0.196	0.24	0.24	10.069	B
C-AB	32.57	8.14	32.57	0.00	775.42	0.042	0.06	0.06	4.846	A
C-A	339.57	84.89	339.57	0.00	-	-	-	-	-	-
A-B	55.05	13.76	55.05	0.00	-	-	-	-	-	-
A-C	379.85	94.96	379.85	0.00	-	-	-	-	-	-

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

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
B-AC	71.02	17.75	71.27	0.00	473.24	0.150	0.24	0.18	8.963	A
C-AB	24.09	6.02	24.16	0.00	748.23	0.032	0.06	0.04	4.972	A
C-A	279.76	69.94	279.76	0.00	-	-	-	-	-	-
A-B	44.95	11.24	44.95	0.00	-	-	-	-	-	-
A-C	310.15	77.54	310.15	0.00	-	-	-	-	-	-

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

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
B-AC	59.48	14.87	59.64	0.00	493.97	0.120	0.18	0.14	8.291	A
C-AB	18.76	4.69	18.80	0.00	728.61	0.026	0.04	0.03	5.071	A
C-A	235.71	58.93	235.71	0.00	-	-	-	-	-	-
A-B	37.64	9.41	37.64	0.00	-	-	-	-	-	-
A-C	259.73	64.93	259.73	0.00	-	-	-	-	-	-

Queueing Delay Results for each time segment

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

Stream	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-AC	1.96	0.13	8.264	A	A
C-AB	0.48	0.03	5.070	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

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

Stream	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-AC	2.55	0.17	8.939	A	A
C-AB	0.64	0.04	4.971	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

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

Stream	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-AC	3.49	0.23	10.055	B	B
C-AB	0.90	0.06	4.845	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

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

Stream	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service

B-AC	3.62	0.24	10.069	B	B
C-AB	0.91	0.06	4.846	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

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

Stream	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-AC	2.76	0.18	8.963	A	A
C-AB	0.65	0.04	4.972	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

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

Stream	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-AC	2.13	0.14	8.291	A	A
C-AB	0.49	0.03	5.071	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

APPENDIX F
LINSIG Analysis at A57 / Arundel Street / Chapel Street Junction, Glossop

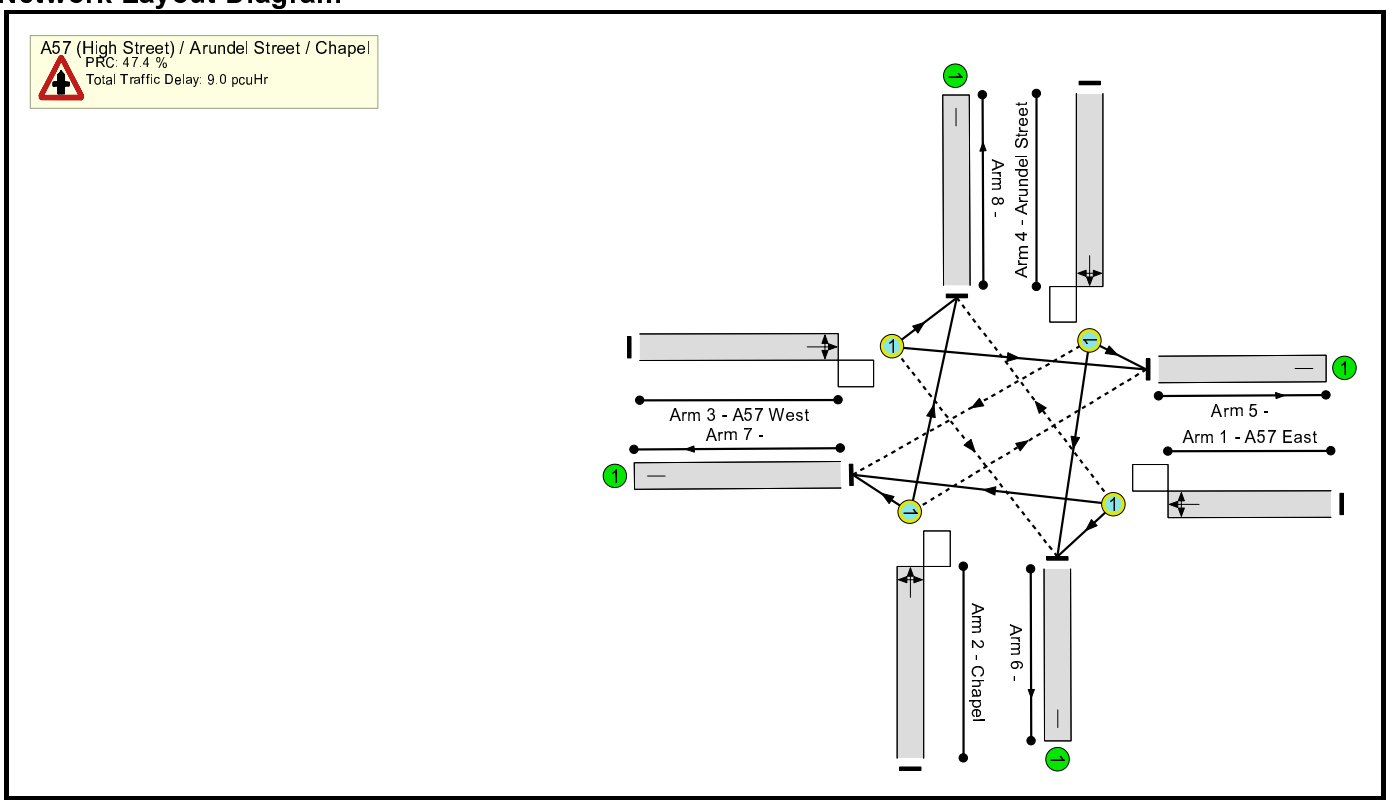
Basic Results Summary

User and Project Details

Project:	
Title:	
Location:	
File name:	Arundel Street MJT Edit.lsg3x
Author:	
Company:	
Address:	
Notes:	

Scenario 1: 'AM Base' (FG1: 'AM Survey', Plan 1: 'Network Control Plan 1')

Network Layout Diagram



Basic Results Summary

Network Results

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per Veh (s/pcu)	Mean Max Queue (pcu)
Network	-	-	-	-	-	-	-	-	-	-	**61.1%**	**252**	**0**	**2**	**9.0**	-	-
A57 (High Street) / Arundel Street / Chapel	-	-	-	-	-	-	-	-	-	-	**61.1%**	**252**	**0**	**2**	**9.0**	-	-
1/1	A57 East Left Ahead Right	O	A		2	92	-	410	1932	1009	40.6%	16	0	0	1.8	16.0	6.5
2/1	Chapel Right Left Ahead	O	B		2	45	-	98	1801	470	20.8%	1	0	0	0.9	31.3	2.3
3/1	A57 West Ahead Right Left	O	C		2	90	-	573	1853	947	60.5%	23	0	0	3.2	20.4	10.8
4/1	Arundel Street Left Ahead Right	O	D		2	46	-	267	1640	437	61.1%	212	0	2	3.1	41.8	7.4

C1

PRC for Signalled Lanes (%): 47.4

PRC Over All Lanes (%): 47.4

Total Delay for Signalled Lanes (pcuHr): 9.02

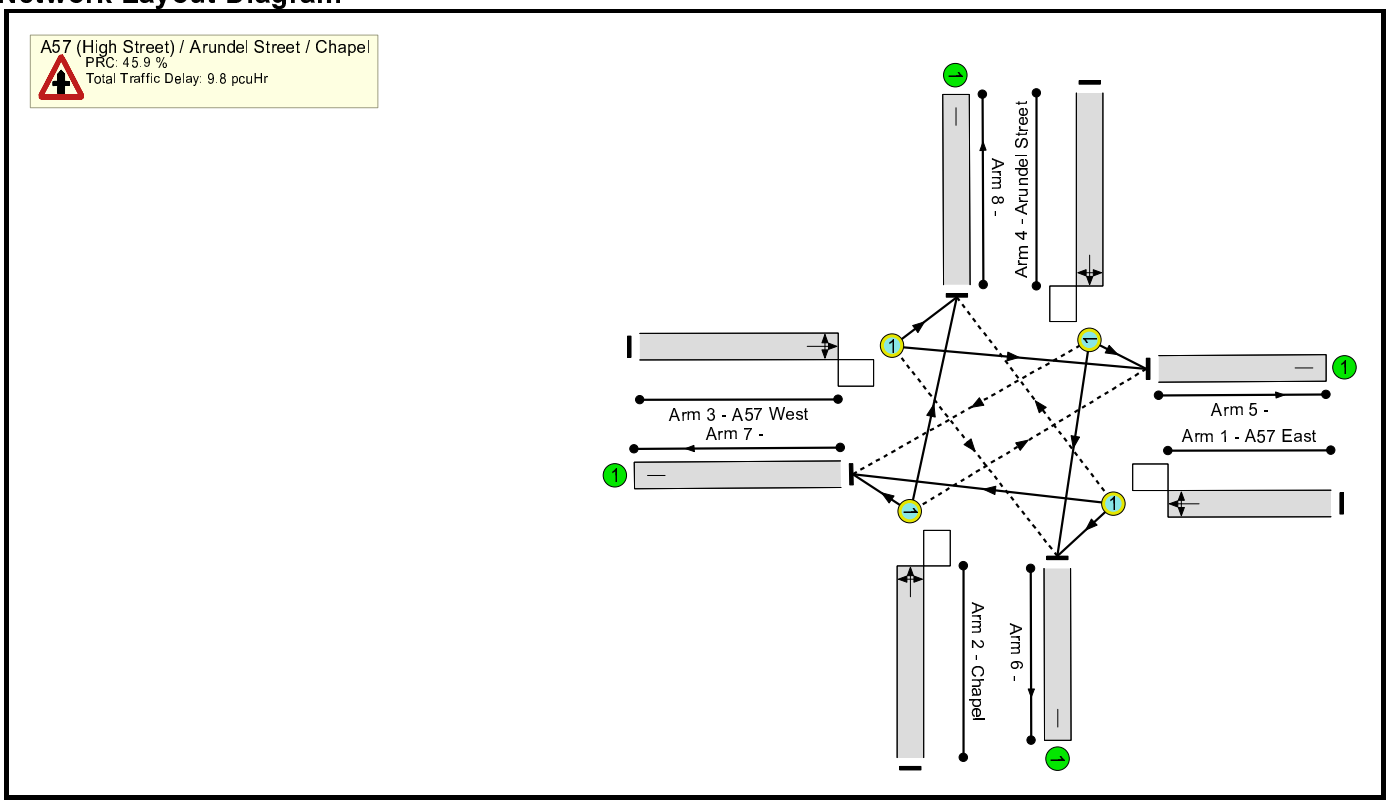
Total Delay Over All Lanes(pcuHr): 9.02

Cycle Time (s): 180

Basic Results Summary

Scenario 2: 'PM Base' (FG2: 'PM Survey', Plan 1: 'Network Control Plan 1')

Network Layout Diagram



Basic Results Summary

Network Results

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per Veh (s/pcu)	Mean Max Queue (pcu)
Network	-	-	-	-	-	-	-	-	-	-	**61.7%**	**269**	**0**	**0**	**9.8**	-	-
A57 (High Street) / Arundel Street / Chapel	-	-	-	-	-	-	-	-	-	-	**61.7%**	**269**	**0**	**0**	**9.8**	-	-
1/1	A57 East Left Ahead Right	O	A		2	86	-	400	1919	938	42.6%	30	0	0	2.0	18.2	6.8
2/1	Chapel Right Left Ahead	O	B		2	51	-	136	1773	522	26.1%	8	0	0	1.1	29.0	2.8
3/1	A57 West Ahead Right Left	O	C		2	84	-	549	1863	890	61.7%	15	0	0	3.5	22.7	10.9
4/1	Arundel Street Left Ahead Right	O	D		2	52	-	306	1663	499	61.3%	216	0	0	3.2	37.7	7.4

C1

PRC for Signalled Lanes (%): 45.9
PRC Over All Lanes (%): 45.9

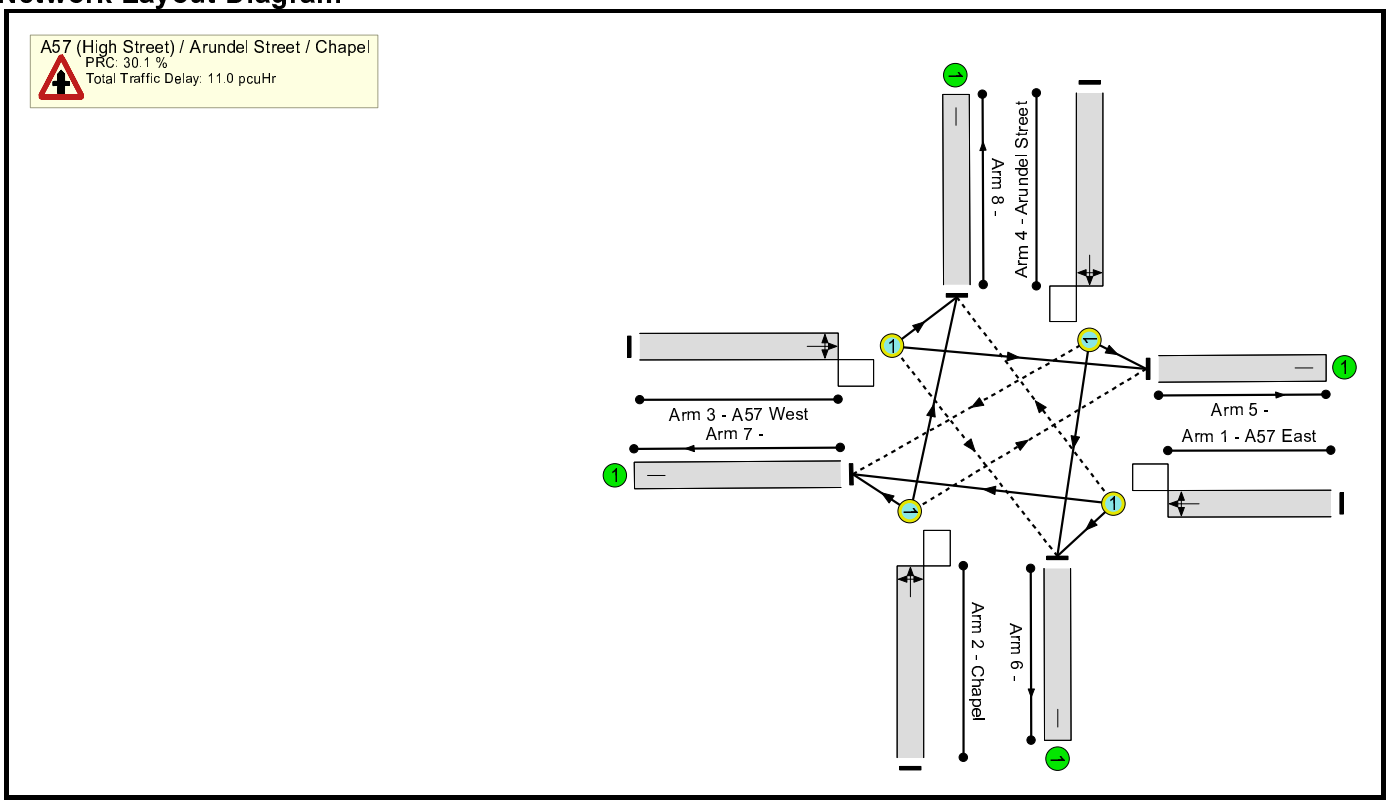
Total Delay for Signalled Lanes (pcuHr): 9.78
Total Delay Over All Lanes(pcuHr): 9.78

Cycle Time (s): 180

Basic Results Summary

Scenario 3: 'AM Reference' (FG3: 'AM Reference', Plan 1: 'Network Control Plan 1')

Network Layout Diagram



Basic Results Summary

Network Results

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per Veh (s/pcu)	Mean Max Queue (pcu)
Network	-	-	-	-	-	-	-	-	-	-	**69.2%**	**282**	**0**	**5**	**11.0**	-	-
A57 (High Street) / Arundel Street / Chapel	-	-	-	-	-	-	-	-	-	-	**69.2%**	**282**	**0**	**5**	**11.0**	-	-
1/1	A57 East Left Ahead Right	O	A		2	91	-	463	1932	998	46.4%	18	0	0	2.2	17.2	7.8
2/1	Chapel Right Left Ahead	O	B		2	46	-	111	1802	481	23.1%	1	0	0	0.9	30.7	2.3
3/1	A57 West Ahead Right Left	O	C		2	89	-	648	1853	937	69.2%	26	0	0	4.2	23.1	13.5
4/1	Arundel Street Left Ahead Right	O	D		2	47	-	302	1640	441	68.5%	237	0	5	3.7	44.3	7.8

C1

PRC for Signalled Lanes (%): 30.1
PRC Over All Lanes (%): 30.1

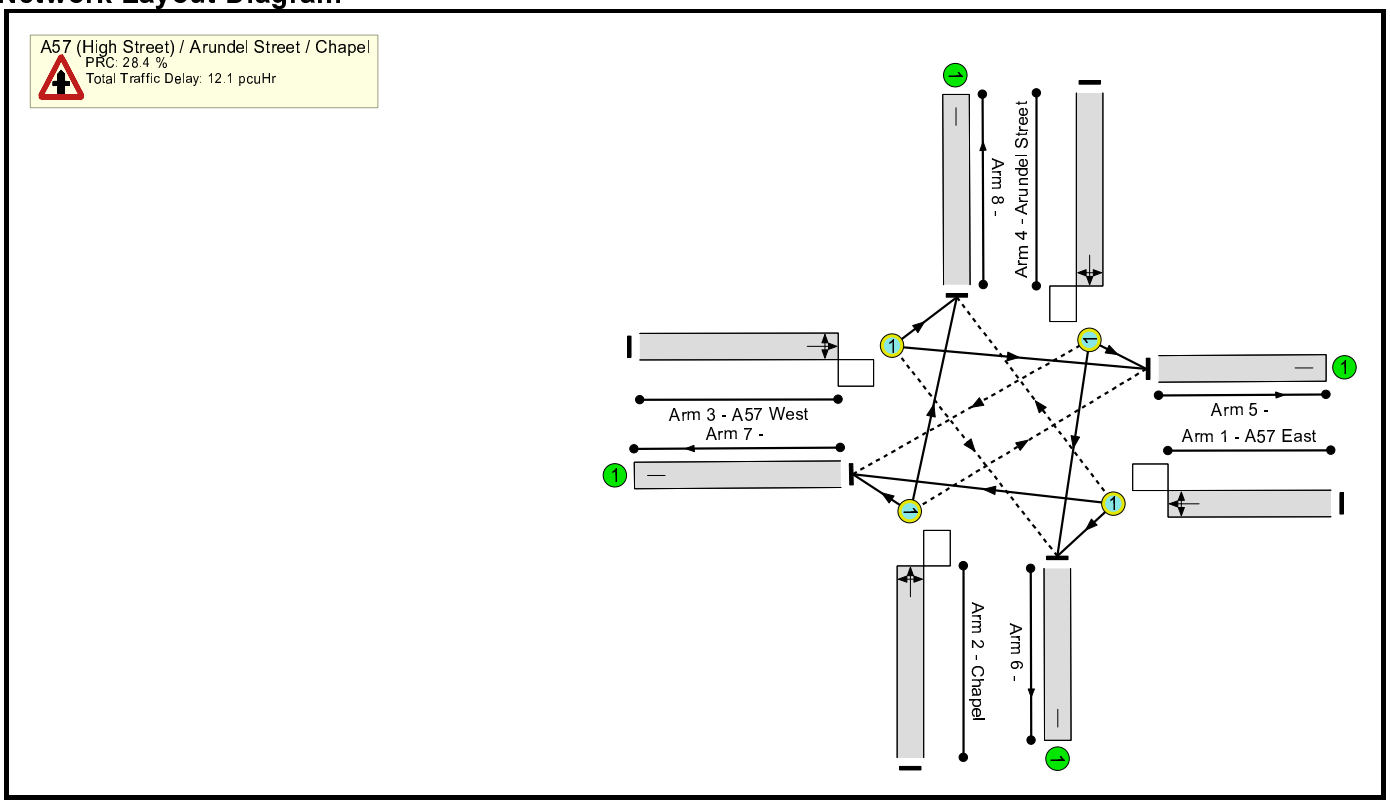
Total Delay for Signalled Lanes (pcuHr): 11.03
Total Delay Over All Lanes(pcuHr): 11.03

Cycle Time (s): 180

Basic Results Summary

Scenario 4: 'PM Reference' (FG4: 'PM Reference', Plan 1: 'Network Control Plan 1')

Network Layout Diagram



Basic Results Summary

Network Results

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per Veh (s/pcu)	Mean Max Queue (pcu)
Network	-	-	-	-	-	-	-	-	-	-	**70.1%**	**305**	**0**	**1**	**12.1**	-	-
A57 (High Street) / Arundel Street / Chapel	-	-	-	-	-	-	-	-	-	-	**70.1%**	**305**	**0**	**1**	**12.1**	-	-
1/1	A57 East Left Ahead Right	O	A		2	86	-	455	1919	938	48.5%	34	0	0	2.4	19.1	8.1
2/1	Chapel Right Left Ahead	O	B		2	51	-	155	1774	522	29.7%	8	0	1	1.3	29.5	3.3
3/1	A57 West Ahead Right Left	O	C		2	84	-	624	1863	890	70.1%	17	0	0	4.4	25.2	13.3
4/1	Arundel Street Left Ahead Right	O	D		2	52	-	348	1663	497	70.0%	246	0	0	4.0	41.5	9.1

C1

PRC for Signalled Lanes (%): 28.4
PRC Over All Lanes (%): 28.4

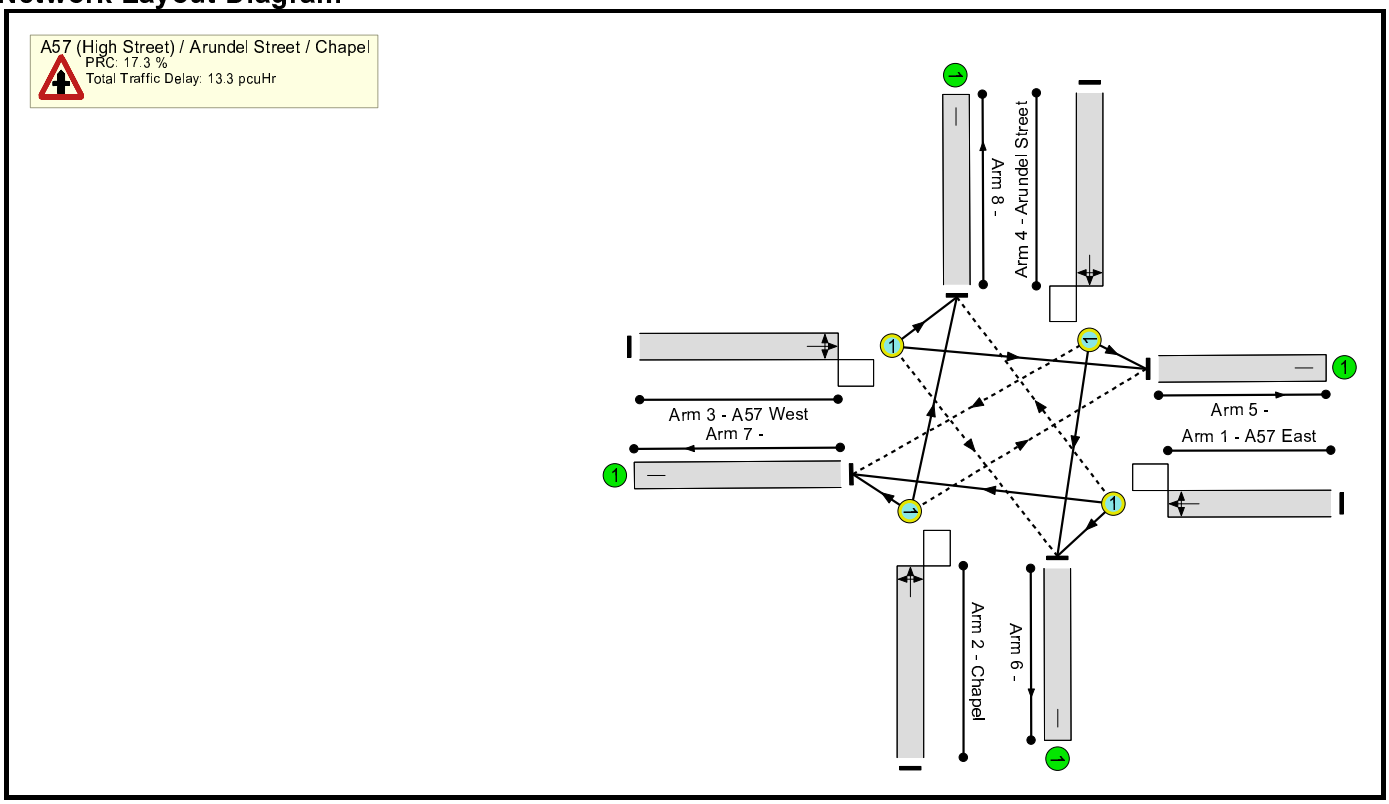
Total Delay for Signalled Lanes (pcuHr): 12.06
Total Delay Over All Lanes(pcuHr): 12.06

Cycle Time (s): 180

Basic Results Summary

Scenario 5: 'AM Design' (FG5: 'AM Design', Plan 1: 'Network Control Plan 1')

Network Layout Diagram



Basic Results Summary

Network Results

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per Veh (s/pcu)	Mean Max Queue (pcu)
Network	-	-	-	-	-	-	-	-	-	-	**76.7%**	**270**	**0**	**17**	**13.3**	-	-
A57 (High Street) / Arundel Street / Chapel	-	-	-	-	-	-	-	-	-	-	**76.7%**	**270**	**0**	**17**	**13.3**	-	-
1/1	A57 East Left Ahead Right	O	A		2	96	-	571	1933	1052	54.3%	18	0	0	2.7	17.0	10.3
2/1	Chapel Right Left Ahead	O	B		2	41	-	111	1802	430	25.8%	1	0	0	1.0	33.5	2.5
3/1	A57 West Ahead Right Left	O	C		2	94	-	763	1865	995	76.7%	26	0	0	5.1	24.3	17.3
4/1	Arundel Street Left Ahead Right	O	D		2	42	-	302	1640	396	76.3%	225	0	17	4.4	52.6	9.0

C1

PRC for Signalled Lanes (%): 17.3
PRC Over All Lanes (%): 17.3

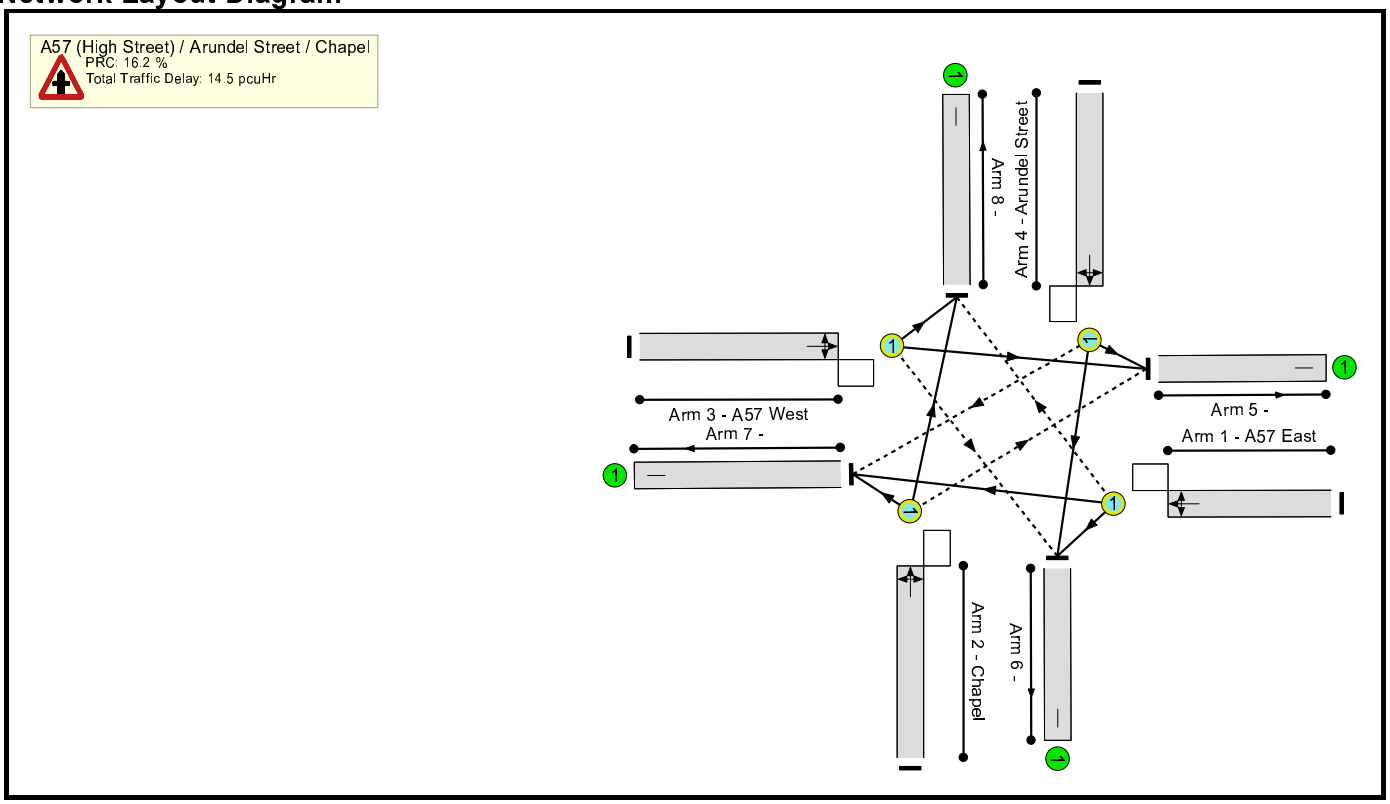
Total Delay for Signalled Lanes (pcuHr): 13.29
Total Delay Over All Lanes(pcuHr): 13.29

Cycle Time (s): 180

Basic Results Summary

Scenario 6: 'PM Design' (FG6: 'PM Design', Plan 1: 'Network Control Plan 1')

Network Layout Diagram



Basic Results Summary

Network Results

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per Veh (s/pcu)	Mean Max Queue (pcu)
Network	-	-	-	-	-	-	-	-	-	-	**77.5%**	**297**	**0**	**9**	**14.5**	-	-
A57 (High Street) / Arundel Street / Chapel	-	-	-	-	-	-	-	-	-	-	**77.5%**	**297**	**0**	**9**	**14.5**	-	-
1/1	A57 East Left Ahead Right	O	A		2	91	-	563	1923	994	56.7%	34	0	0	3.0	19.1	10.5
2/1	Chapel Right Left Ahead	O	B		2	46	-	155	1774	473	32.8%	9	0	1	1.4	32.3	3.5
3/1	A57 West Ahead Right Left	O	C		2	89	-	734	1874	947	77.5%	17	0	0	5.4	26.4	17.0
4/1	Arundel Street Left Ahead Right	O	D		2	47	-	348	1663	451	77.2%	238	0	8	4.7	49.0	10.1

C1

PRC for Signalled Lanes (%): 16.2
PRC Over All Lanes (%): 16.2

Total Delay for Signalled Lanes (pcuHr): 14.49
Total Delay Over All Lanes(pcuHr): 14.49

Cycle Time (s): 180

APPENDIX G
LINSIG Analysis at A57 / Queen Street / Glossop Brook Road Junction, Glossop

TRANSPORT STUDY
April 2014

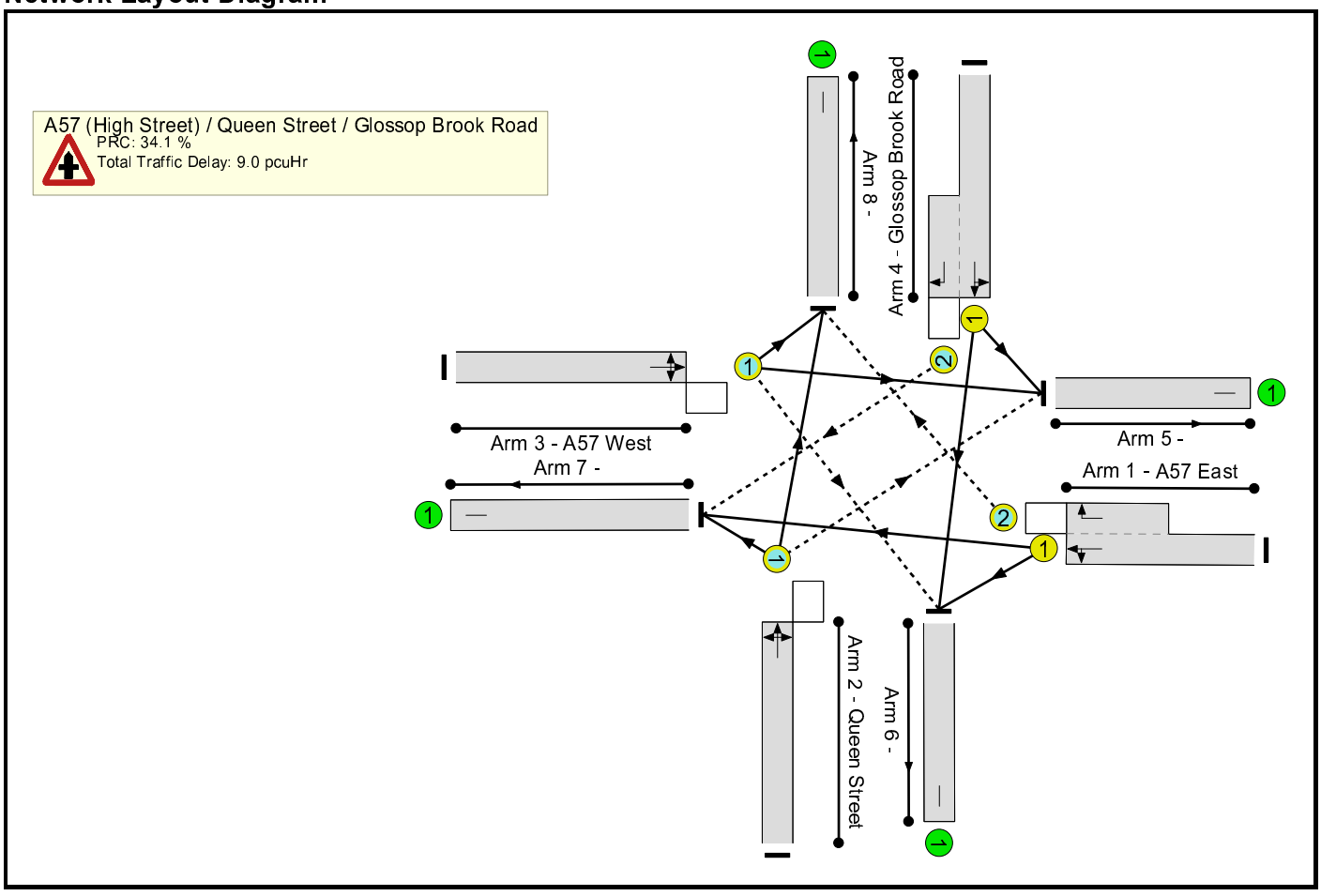
Basic Results Summary

User and Project Details

Project:	
Title:	
Location:	
File name:	Glossop Brook Road MJT Edit.lsg3x
Author:	
Company:	
Address:	
Notes:	

Scenario 1: 'AM Base' (FG1: 'AM Survey', Plan 1: 'Network Control Plan 1')

Network Layout Diagram



Basic Results Summary

Network Results

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per Veh (s/pcu)	Mean Max Queue (pcu)
Network	-	-	-	-	-	-	-	-	-	-	**67.1%**	**154**	**68**	**6**	**9.0**	-	-
A57 (High Street) / Queen Street / Glossop Brook Road	-	-	-	-	-	-	-	-	-	-	**67.1%**	**154**	**68**	**6**	**9.0**	-	-
1/1+1/2	A57 East Left Ahead Right	U+O	A	- B	2	121		693	1938:1763	1359	51.0%	74	62	3	2.3	12.0	9.5
2/1	Queen Street Right Left Ahead	O	E		2	14	-	30	1785	159	18.9%	2	0	3	0.5	54.0	0.9
3/1	A57 West Ahead Right Left	O	C		2	101	-	730	1901	1088	67.1%	0	7	0	3.9	19.0	16.4
4/1+4/2	Glossop Brook Road Left Ahead Right	U+O	D		2	14		161	1759:1751	308	52.3%	77	0	0	2.4	53.2	2.9

C1

PRC for Signalled Lanes (%): 34.1
PRC Over All Lanes (%): 34.1

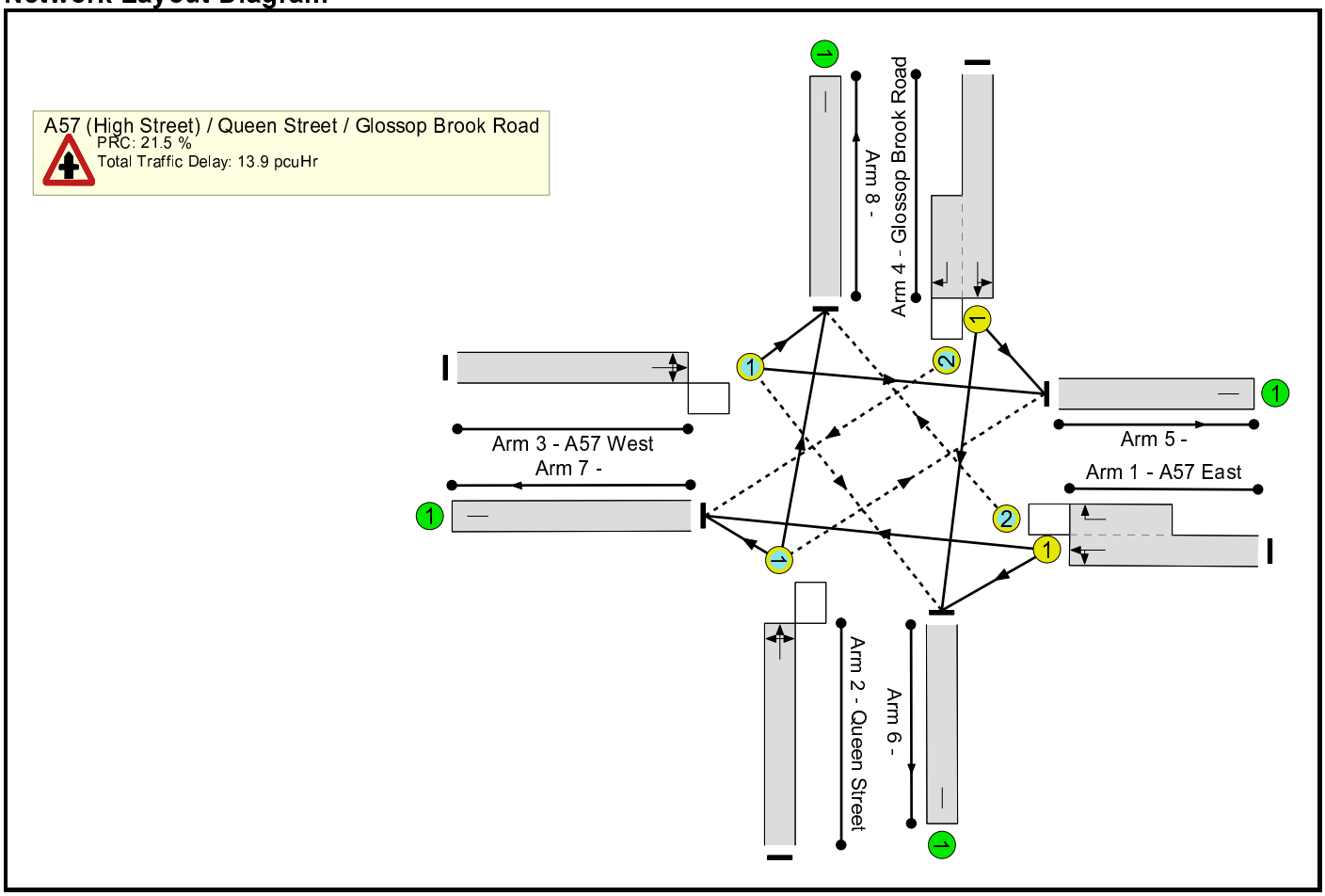
Total Delay for Signalled Lanes (pcuHr): 8.99
Total Delay Over All Lanes(pcuHr): 8.99

Cycle Time (s): 180

Basic Results Summary

Scenario 2: 'PM Base' (FG2: 'PM Survey', Plan 1: 'Network Control Plan 1')

Network Layout Diagram



Basic Results Summary

Network Results

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per Veh (s/pcu)	Mean Max Queue (pcu)
Network	-	-	-	-	-	-	-	-	-	-	**74.1%**	**274**	**95**	**15**	**13.9**	-	-
A57 (High Street) / Queen Street / Glossop Brook Road	-	-	-	-	-	-	-	-	-	-	**74.1%**	**274**	**95**	**15**	**13.9**	-	-
1/1+1/2	A57 East Left Ahead Right	U+O	A	- B	2	102		730	1937:1763	1179	61.9%	111	88	7	3.9	19.3	10.6
2/1	Queen Street Right Left Ahead	O	E		2	33	-	22	1817	353	6.2%	1	0	1	0.2	36.3	0.5
3/1	A57 West Ahead Right Left	O	C		2	82	-	639	1870	873	73.2%	0	8	0	4.8	27.1	14.7
4/1+4/2	Glossop Brook Road Left Ahead Right	U+O	D		2	33		376	1756:1751	508	74.1%	162	0	6	4.9	47.3	6.8

C1

PRC for Signalled Lanes (%): 21.5
PRC Over All Lanes (%): 21.5

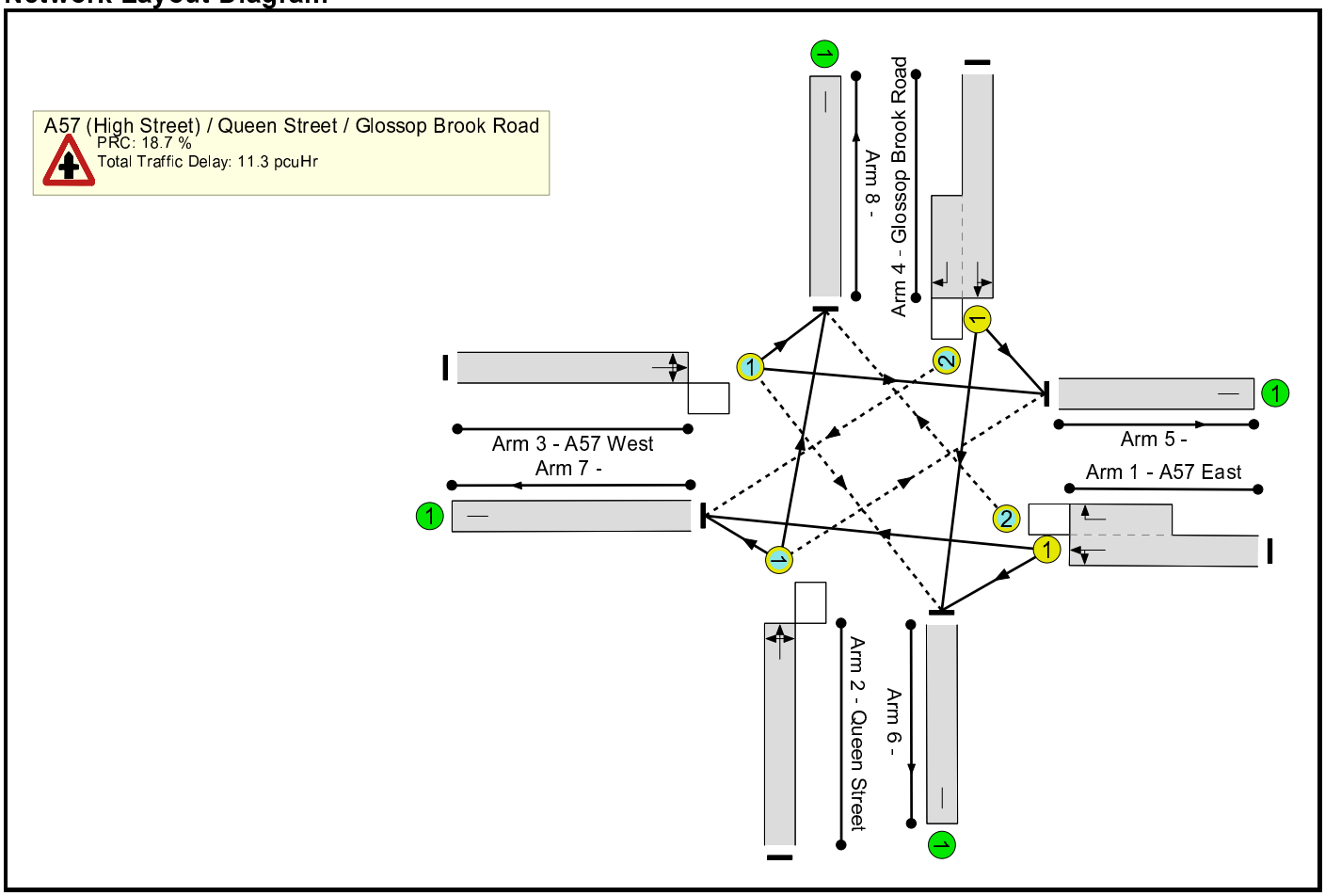
Total Delay for Signalled Lanes (pcuHr): 13.87
Total Delay Over All Lanes(pcuHr): 13.87

Cycle Time (s): 180

Basic Results Summary

Scenario 3: 'AM Reference' (FG3: 'AM Reference', Plan 1: 'Network Control Plan 1')

Network Layout Diagram



Basic Results Summary

Network Results

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per Veh (s/pcu)	Mean Max Queue (pcu)
Network	-	-	-	-	-	-	-	-	-	-	**75.8%**	**163**	**85**	**10**	**11.3**	-	-
A57 (High Street) / Queen Street / Glossop Brook Road	-	-	-	-	-	-	-	-	-	-	**75.8%**	**163**	**85**	**10**	**11.3**	-	-
1/1+1/2	A57 East Left Ahead Right	U+O	A	- B	2	121		784	1937:1763	1358	57.7%	76	78	3	3.0	13.7	12.1
2/1	Queen Street Right Left Ahead	O	E		2	14	-	34	1785	159	21.4%	0	0	6	0.5	54.1	1.0
3/1	A57 West Ahead Right Left	O	C		2	101	-	825	1901	1088	75.8%	0	8	0	5.1	22.0	20.6
4/1+4/2	Glossop Brook Road Left Ahead Right	U+O	D		2	14		182	1760:1751	304	59.8%	87	0	0	2.8	55.3	3.2

C1

PRC for Signalled Lanes (%): 18.7
PRC Over All Lanes (%): 18.7

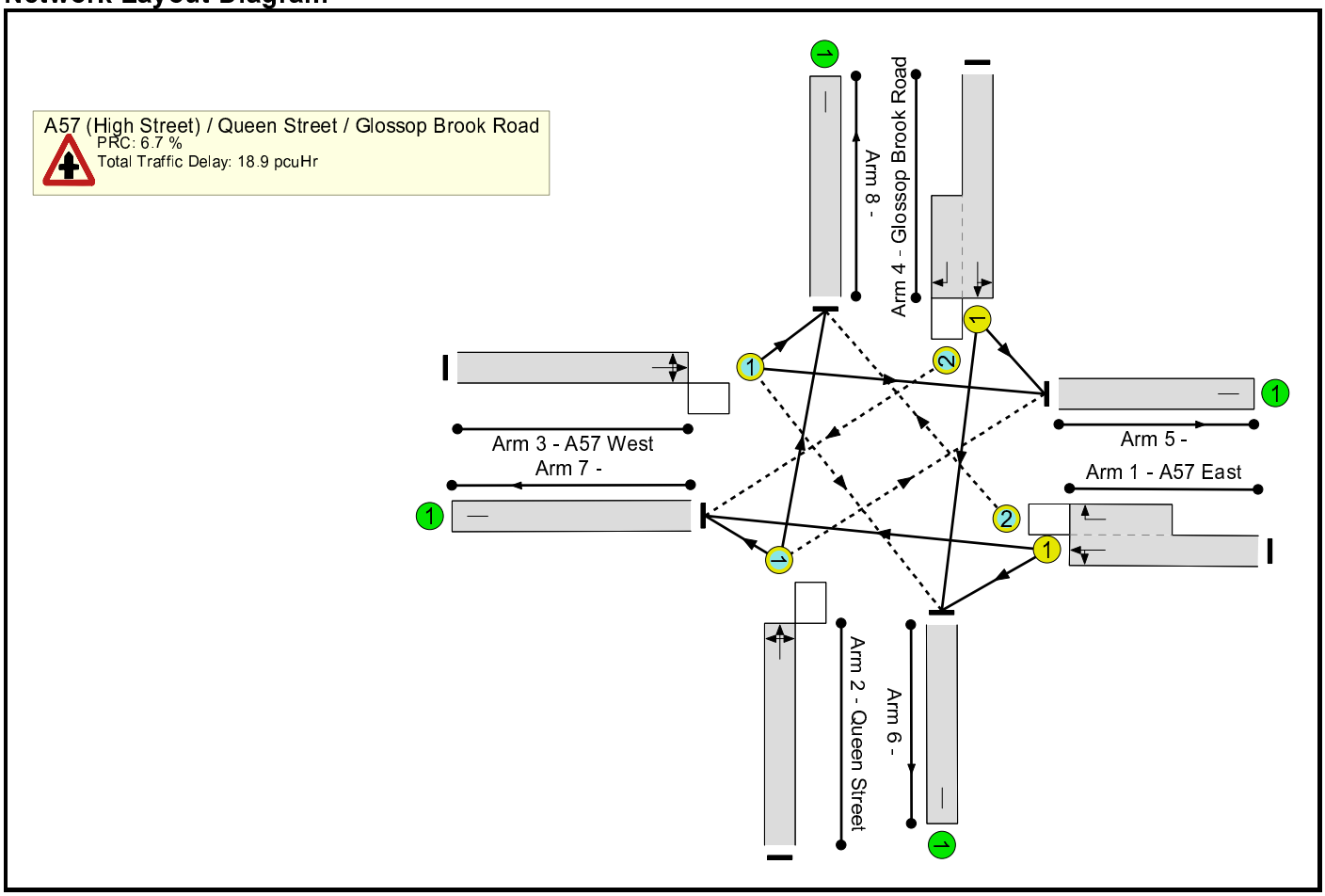
Total Delay for Signalled Lanes (pcuHr): 11.33
Total Delay Over All Lanes(pcuHr): 11.33

Cycle Time (s): 180

Basic Results Summary

Scenario 4: 'PM Reference' (FG4: 'PM Reference', Plan 1: 'Network Control Plan 1')

Network Layout Diagram



Basic Results Summary

Network Results

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per Veh (s/pcu)	Mean Max Queue (pcu)
Network	-	-	-	-	-	-	-	-	-	-	**84.3%**	**299**	**118**	**19**	**18.9**	-	-
A57 (High Street) / Queen Street / Glossop Brook Road	-	-	-	-	-	-	-	-	-	-	**84.3%**	**299**	**118**	**19**	**18.9**	-	-
1/1+1/2	A57 East Left Ahead Right	U+O	A	- B	2	101		830	1937:1763	1168	71.0%	113	110	11	5.4	23.5	13.8
2/1	Queen Street Right Left Ahead	O	E		2	34	-	25	1815	363	6.9%	1	0	1	0.2	35.5	0.6
3/1	A57 West Ahead Right Left	O	C		2	81	-	727	1870	862	84.3%	0	9	0	6.9	34.2	18.9
4/1+4/2	Glossop Brook Road Left Ahead Right	U+O	D		2	34		428	1756:1751	517	82.8%	185	0	6	6.3	53.0	8.6

C1

PRC for Signalled Lanes (%): 6.7
PRC Over All Lanes (%): 6.7

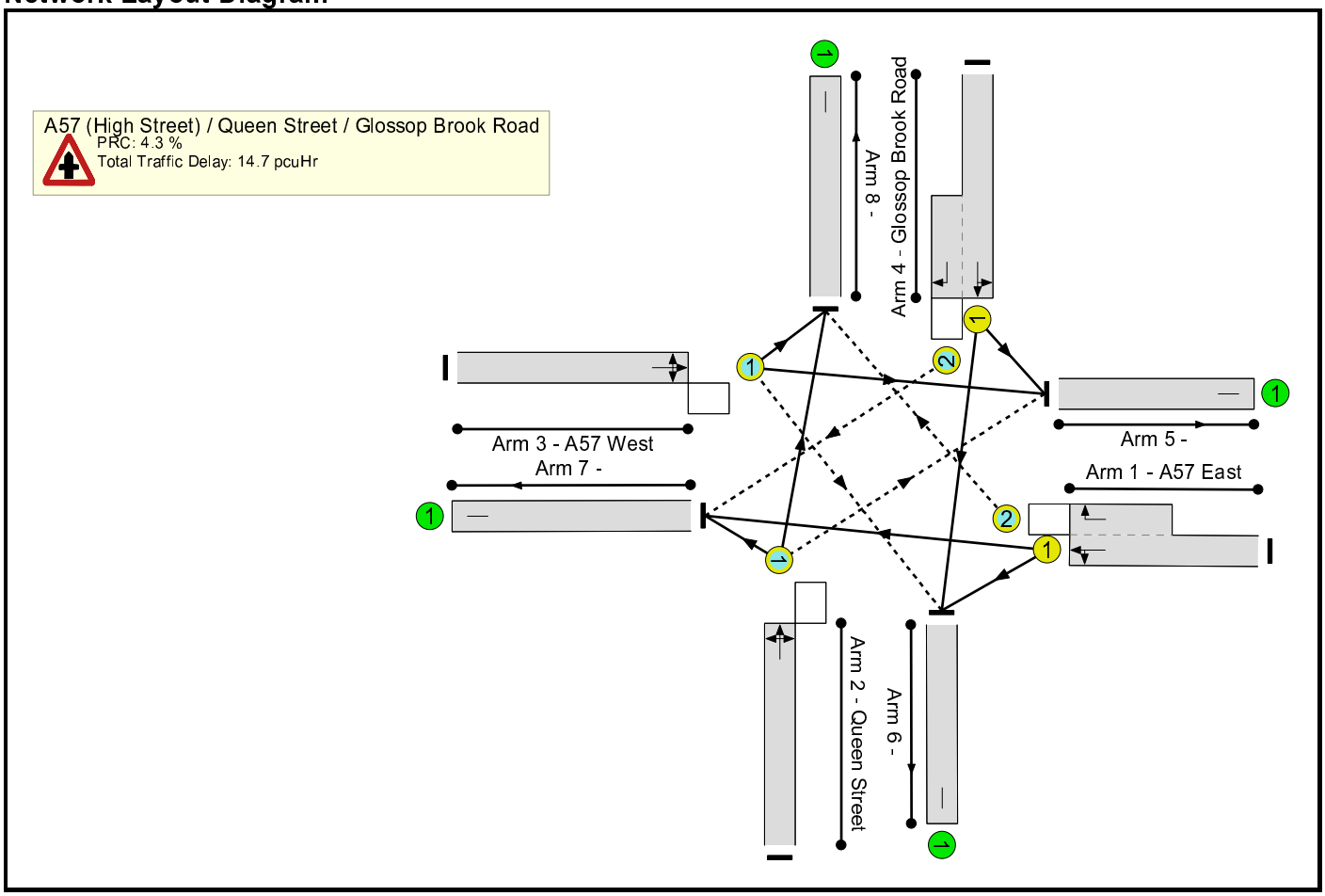
Total Delay for Signalled Lanes (pcuHr): 18.87
Total Delay Over All Lanes(pcuHr): 18.87

Cycle Time (s): 180

Basic Results Summary

Scenario 5: 'AM Design' (FG5: 'AM Design', Plan 1: 'Network Control Plan 1')

Network Layout Diagram



Basic Results Summary

Network Results

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per Veh (s/pcu)	Mean Max Queue (pcu)
Network	-	-	-	-	-	-	-	-	-	-	**86.3%**	**154**	**93**	**10**	**14.7**	-	-
A57 (High Street) / Queen Street / Glossop Brook Road	-	-	-	-	-	-	-	-	-	-	**86.3%**	**154**	**93**	**10**	**14.7**	-	-
1/1+1/2	A57 East Left Ahead Right	U+O	A	- B	2	121		891	1938:1763	1354	65.8%	67	85	5	4.0	16.0	15.7
2/1	Queen Street Right Left Ahead	O	E		2	14	-	34	1785	159	21.4%	0	0	6	0.5	53.9	0.9
3/1	A57 West Ahead Right Left	O	C		2	101	-	941	1906	1091	86.3%	0	8	0	7.5	28.6	27.1
4/1+4/2	Glossop Brook Road Left Ahead Right	U+O	D		2	14		182	1760:1751	304	59.8%	87	0	0	2.8	55.0	3.1

C1

PRC for Signalled Lanes (%): 4.3
PRC Over All Lanes (%): 4.3

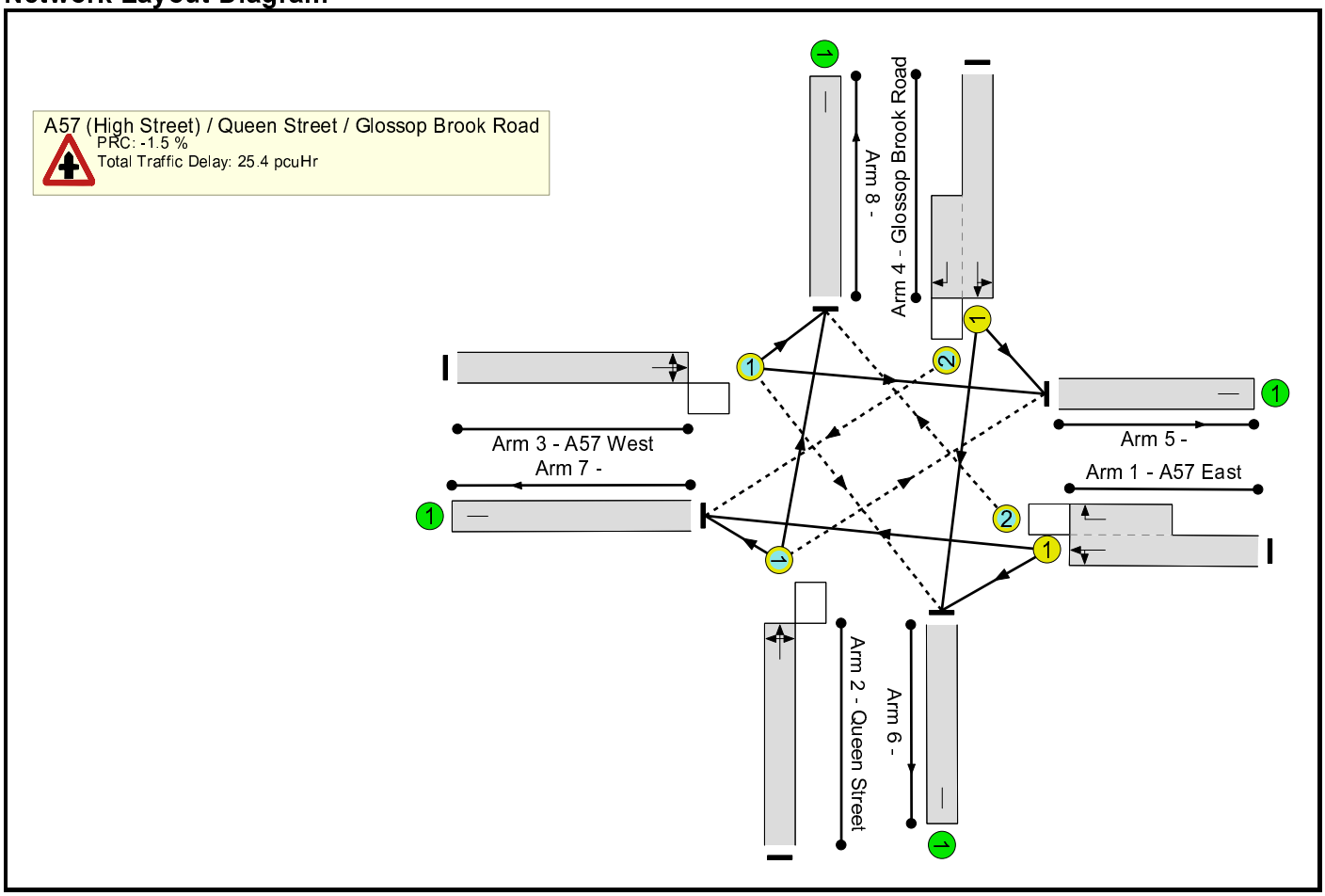
Total Delay for Signalled Lanes (pcuHr): 14.73
Total Delay Over All Lanes(pcuHr): 14.73

Cycle Time (s): 180

Basic Results Summary

Scenario 6: 'PM Design' (FG6: 'PM Design', Plan 1: 'Network Control Plan 1')

Network Layout Diagram



Basic Results Summary

Network Results

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per Veh (s/pcu)	Mean Max Queue (pcu)
Network	-	-	-	-	-	-	-	-	-	-	**91.4%**	**249**	**153**	**34**	**25.4**	-	-
A57 (High Street) / Queen Street / Glossop Brook Road	-	-	-	-	-	-	-	-	-	-	**91.4%**	**249**	**153**	**34**	**25.4**	-	-
1/1+1/2	A57 East Left Ahead Right	U+O	A	- B	2	106		938	1937:1763	1165	80.5%	60	144	30	6.9	26.3	19.1
2/1	Queen Street Right Left Ahead	O	E		2	29	-	25	1815	313	8.0%	1	0	1	0.3	39.0	0.6
3/1	A57 West Ahead Right Left	O	C		2	86	-	836	1879	919	91.0%	0	9	0	9.5	41.0	25.5
4/1+4/2	Glossop Brook Road Left Ahead Right	U+O	D		2	29		428	1756:1751	468	91.4%	188	0	3	8.7	73.3	12.0

C1	PRC for Signalled Lanes (%):	-1.5	Total Delay for Signalled Lanes (pcuHr):	25.36		
	PRC Over All Lanes (%):	-1.5	Total Delay Over All Lanes(pcuHr):	25.36	Cycle Time (s):	180

APPENDIX H
LINSIG Analysis at A6015 Church Road / B6101 Union Road, New Mills

TRANSPORT STUDY
April 2014

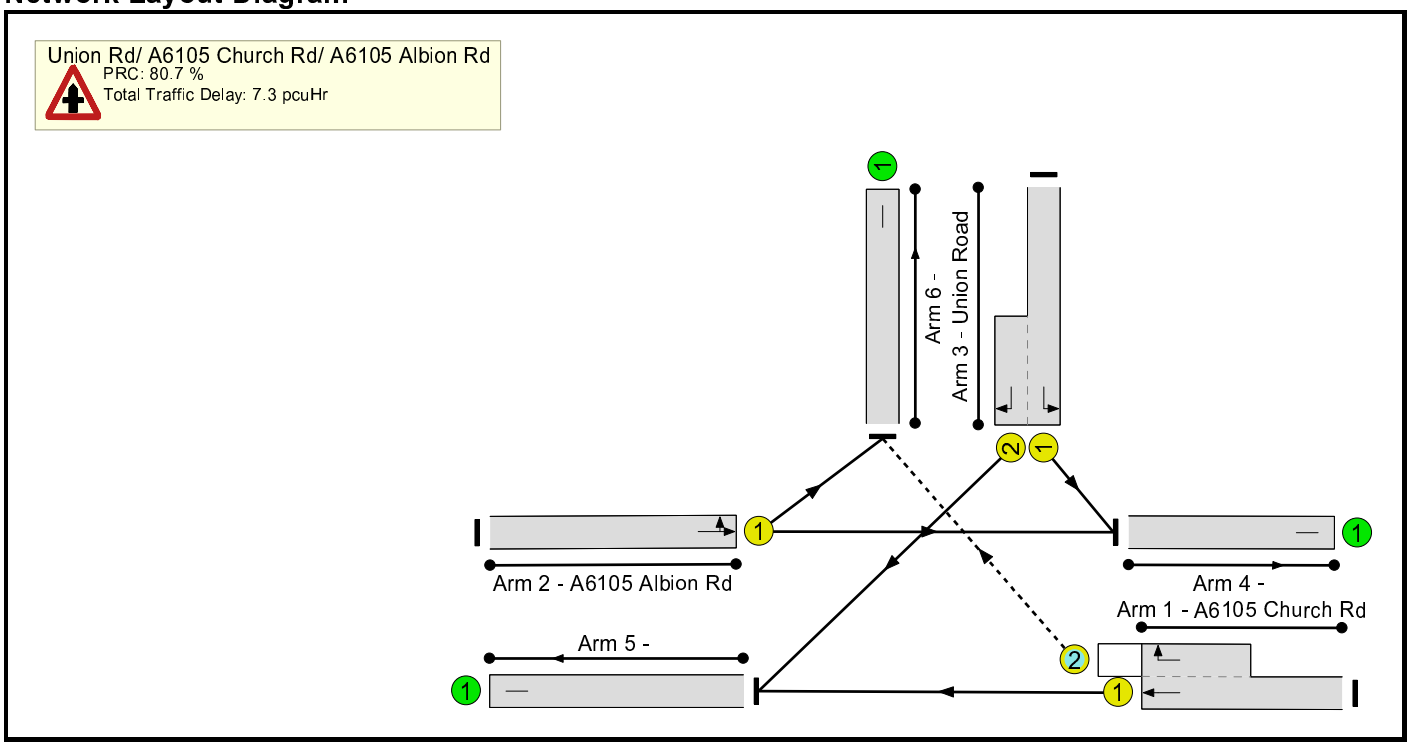
Basic Results Summary

User and Project Details

Project:	
Title:	
Location:	
File name:	Union Albion MJT Edit.lsg3x
Author:	
Company:	
Address:	
Notes:	

Scenario 1: 'AM Base' (FG1: 'AM Survey', Plan 1: 'Network Control Plan 1')

Network Layout Diagram



Basic Results Summary

Network Results

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per Veh (s/pcu)	Mean Max Queue (pcu)
Network	-	-	-	-	-	-	-	-	-	-	**49.8%**	**169**	**10**	**4**	**7.3**	-	-
Union Rd/ A6105 Church Rd/ A6105 Albion Rd	-	-	-	-	-	-	-	-	-	-	**49.8%**	**169**	**10**	**4**	**7.3**	-	-
1/1+1/2	A6105 Church Rd Ahead Right	U+O	C	- D	2	84		502	1940:1678	1008	49.8%	169	10	4	2.9	20.5	5.5
2/1	A6105 Albion Rd Ahead Left	U	A		2	70	-	278	1908	763	36.4%	-	-	-	1.8	22.7	5.2
3/1+3/2	Union Road Left Right	U	B		2	55		345	1602:1803	702	49.1%	-	-	-	2.7	28.4	4.3

C1

PRC for Signalled Lanes (%): 80.7
PRC Over All Lanes (%): 80.7

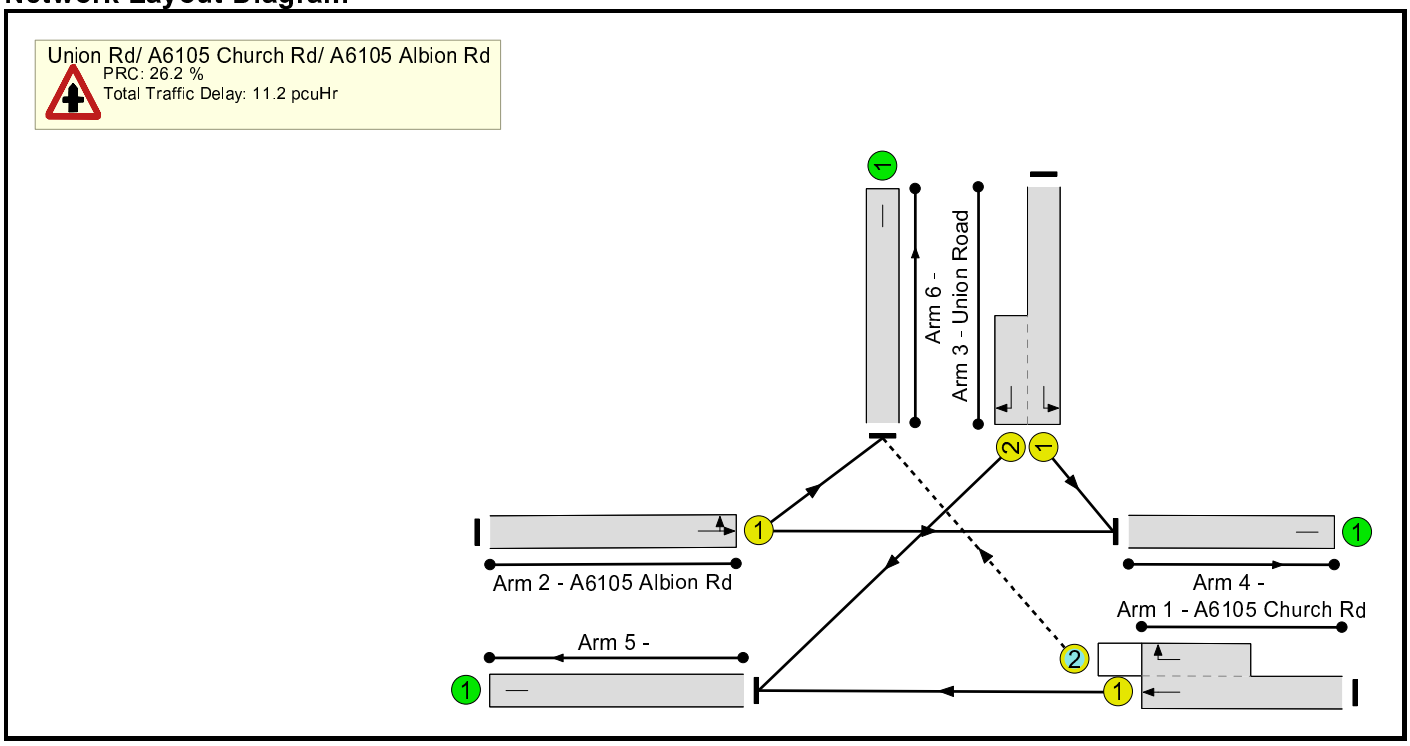
Total Delay for Signalled Lanes (pcuHr): 7.33
Total Delay Over All Lanes(pcuHr): 7.33

Cycle Time (s): 180

Basic Results Summary

Scenario 2: 'PM Base' (FG2: 'PM Survey', Plan 1: 'Network Control Plan 1')

Network Layout Diagram



Basic Results Summary

Network Results

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per Veh (s/pcu)	Mean Max Queue (pcu)
Network	-	-	-	-	-	-	-	-	-	-	**71.3%**	**176**	**11**	**4**	**11.2**	-	-
Union Rd/ A6105 Church Rd/ A6105 Albion Rd	-	-	-	-	-	-	-	-	-	-	**71.3%**	**176**	**11**	**4**	**11.2**	-	-
1/1+1/2	A6105 Church Rd Ahead Right	U+O	C	- D	2	98		443	1940:1678	1096	40.4%	176	11	4	2.0	16.6	3.6
2/1	A6105 Albion Rd Ahead Left	U	A		2	84	-	632	1855	886	71.3%	-	-	-	4.5	25.6	13.9
3/1+3/2	Union Road Left Right	U	B		2	41		412	1602:1803	579	71.2%	-	-	-	4.6	40.4	6.0

C1

PRC for Signalled Lanes (%): 26.2
PRC Over All Lanes (%): 26.2

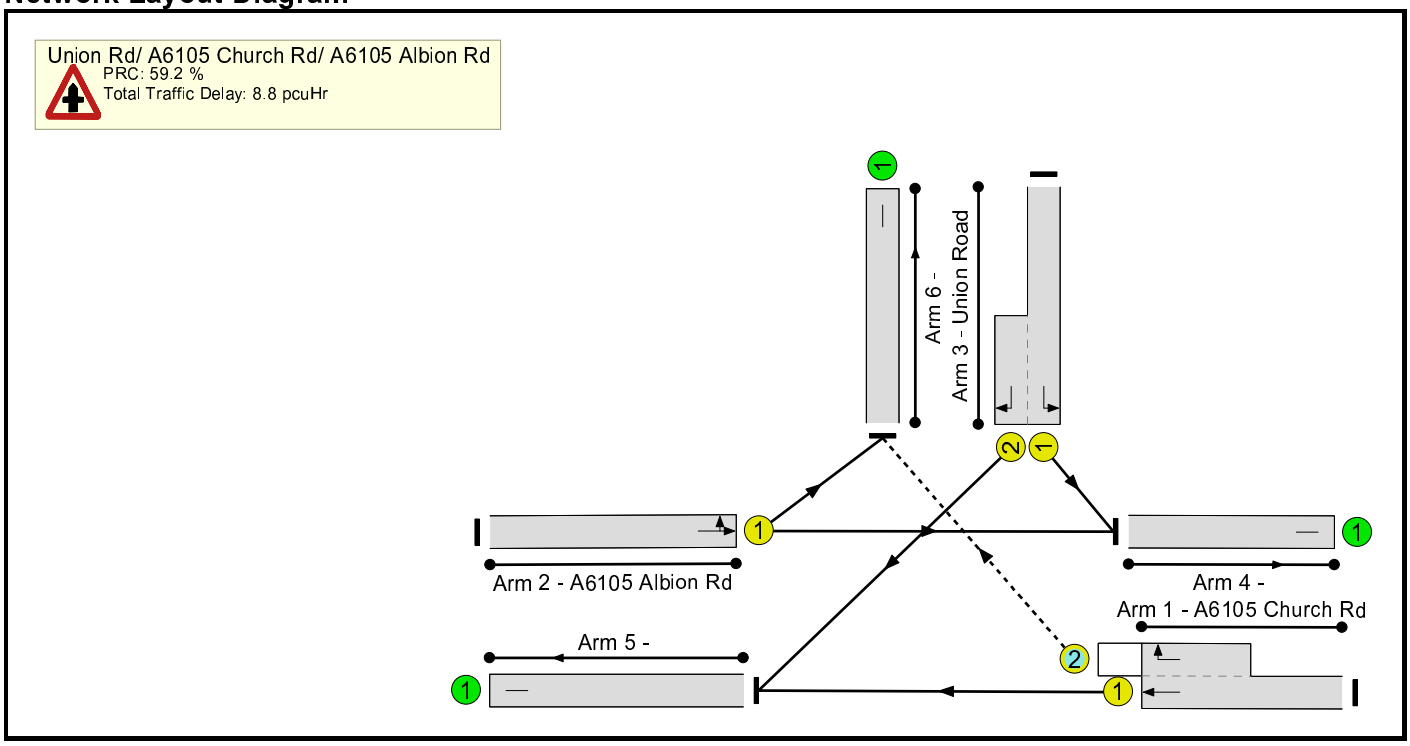
Total Delay for Signalled Lanes (pcuHr): 11.16
Total Delay Over All Lanes(pcuHr): 11.16

Cycle Time (s): 180

Basic Results Summary

Scenario 3: 'AM Reference' (FG3: 'AM Reference', Plan 1: 'Network Control Plan 1')

Network Layout Diagram



Basic Results Summary

Network Results

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per Veh (s/pcu)	Mean Max Queue (pcu)
Network	-	-	-	-	-	-	-	-	-	-	**56.5%**	**192**	**12**	**5**	**8.8**	-	-
Union Rd/ A6105 Church Rd/ A6105 Albion Rd	-	-	-	-	-	-	-	-	-	-	**56.5%**	**192**	**12**	**5**	**8.8**	-	-
1/1+1/2	A6105 Church Rd Ahead Right	U+O	C	- D	2	84		570	1940:1678	1008	56.5%	192	12	5	3.5	22.0	7.4
2/1	A6105 Albion Rd Ahead Left	U	A		2	70	-	315	1908	763	41.3%	-	-	-	2.1	23.4	6.2
3/1+3/2	Union Road Left Right	U	B		2	55		392	1602:1803	702	55.9%	-	-	-	3.2	29.6	5.0

C1

PRC for Signalled Lanes (%): 59.2
PRC Over All Lanes (%): 59.2

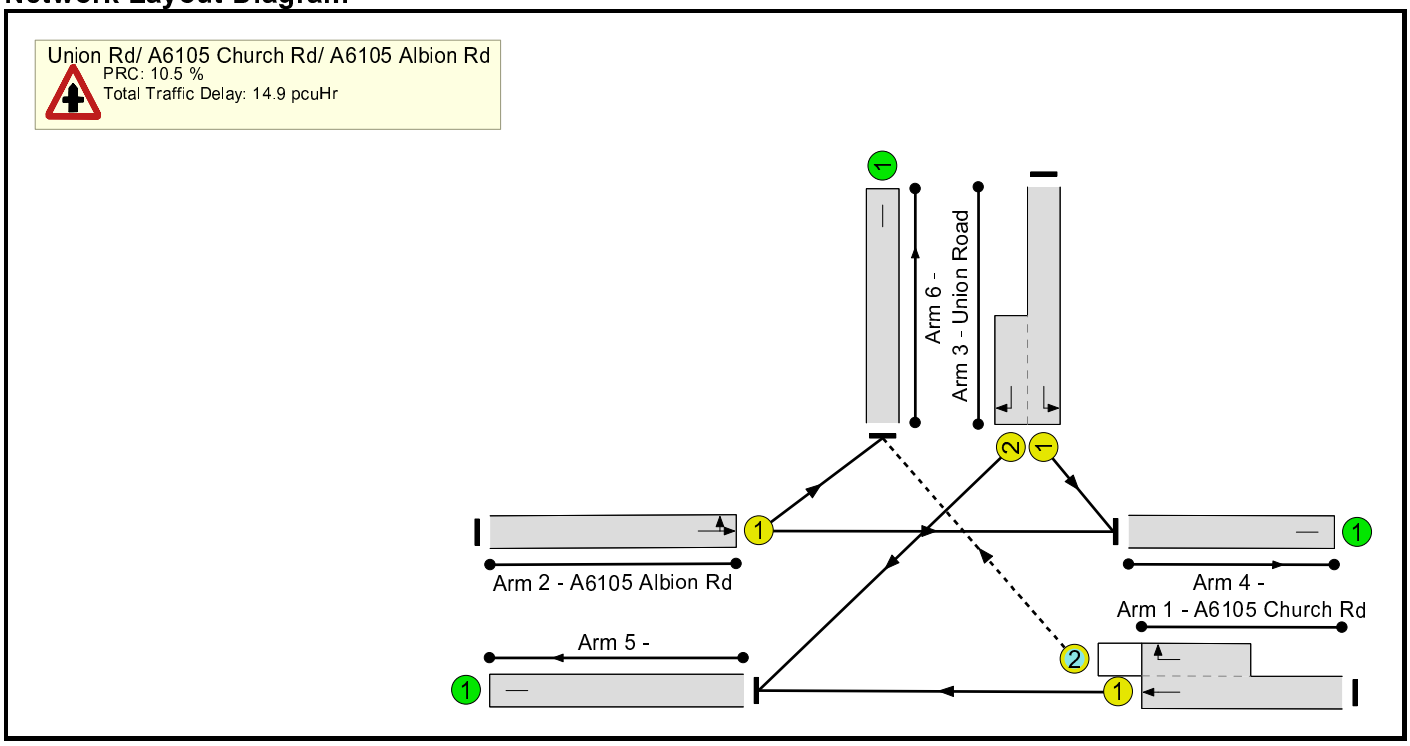
Total Delay for Signalled Lanes (pcuHr): 8.75
Total Delay Over All Lanes(pcuHr): 8.75

Cycle Time (s): 180

Basic Results Summary

Scenario 4: 'PM Reference' (FG4: 'PM Reference', Plan 1: 'Network Control Plan 1')

Network Layout Diagram



Basic Results Summary

Network Results

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per Veh (s/pcu)	Mean Max Queue (pcu)
Network	-	-	-	-	-	-	-	-	-	-	**81.5%**	**192**	**21**	**5**	**14.9**	-	-
Union Rd/ A6105 Church Rd/ A6105 Albion Rd	-	-	-	-	-	-	-	-	-	-	**81.5%**	**192**	**21**	**5**	**14.9**	-	-
1/1+1/2	A6105 Church Rd Ahead Right	U+O	C	- D	2	98		506	1940:1678	968	52.3%	192	21	5	2.7	19.1	4.5
2/1	A6105 Albion Rd Ahead Left	U	A		2	84	-	722	1855	886	81.5%	-	-	-	6.2	30.8	17.4
3/1+3/2	Union Road Left Right	U	B		2	41		471	1602:1803	579	81.4%	-	-	-	6.1	46.5	8.6

C1

PRC for Signalled Lanes (%): 10.5
PRC Over All Lanes (%): 10.5

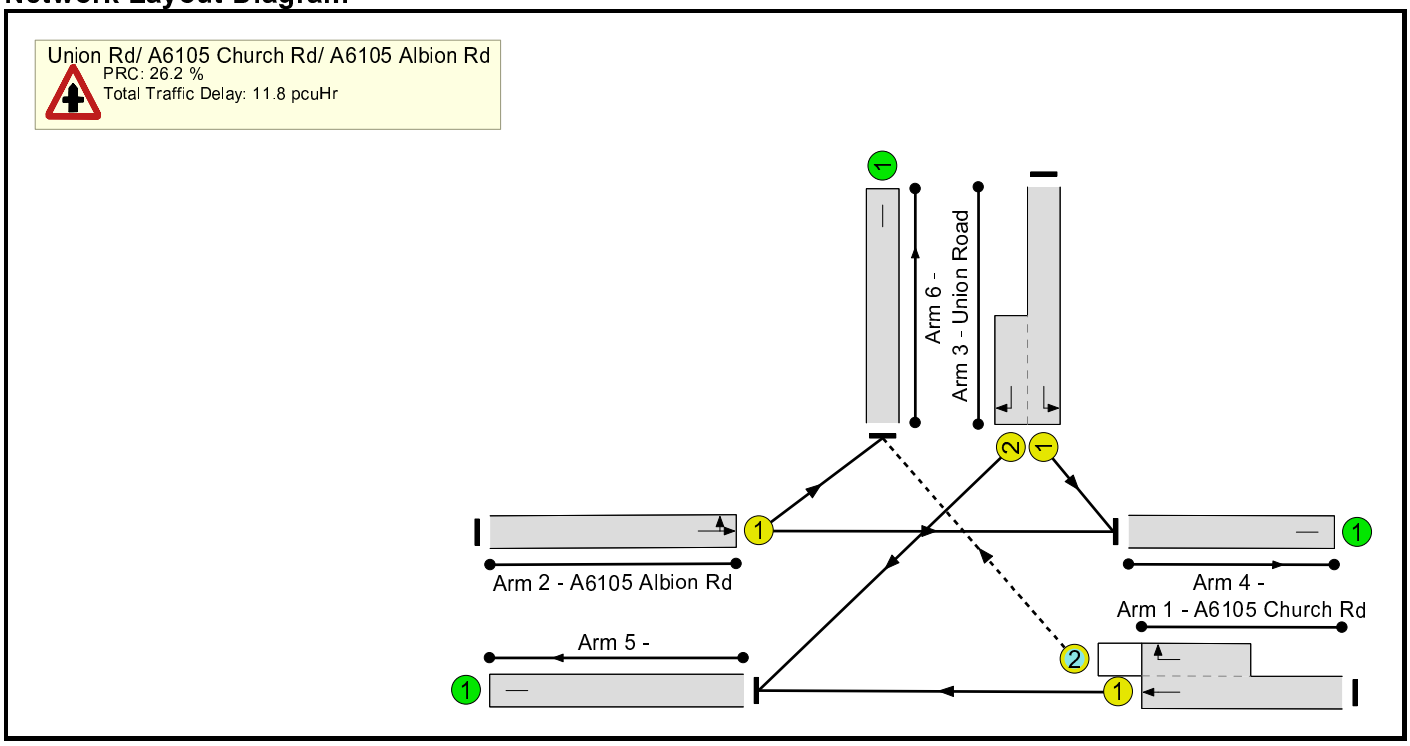
Total Delay for Signalled Lanes (pcuHr): 14.95
Total Delay Over All Lanes(pcuHr): 14.95

Cycle Time (s): 180

Basic Results Summary

Scenario 5: 'AM Design' (FG5: 'AM Design', Plan 1: 'Network Control Plan 1')

Network Layout Diagram



Basic Results Summary

Network Results

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per Veh (s/pcu)	Mean Max Queue (pcu)
Network	-	-	-	-	-	-	-	-	-	-	**71.3%**	**272**	**16**	**7**	**11.8**	-	-
Union Rd/ A6105 Church Rd/ A6105 Albion Rd	-	-	-	-	-	-	-	-	-	-	**71.3%**	**272**	**16**	**7**	**11.8**	-	-
1/1+1/2	A6105 Church Rd Ahead Right	U+O	C	- D	2	97		813	1940:1678	1140	71.3%	272	16	7	4.9	21.5	12.6
2/1	A6105 Albion Rd Ahead Left	U	A		2	83	-	395	1913	903	43.7%	-	-	-	2.1	19.3	7.1
3/1+3/2	Union Road Left Right	U	B		2	42		436	1602:1803	613	71.2%	-	-	-	4.8	39.5	6.1

C1

PRC for Signalled Lanes (%): 26.2
PRC Over All Lanes (%): 26.2

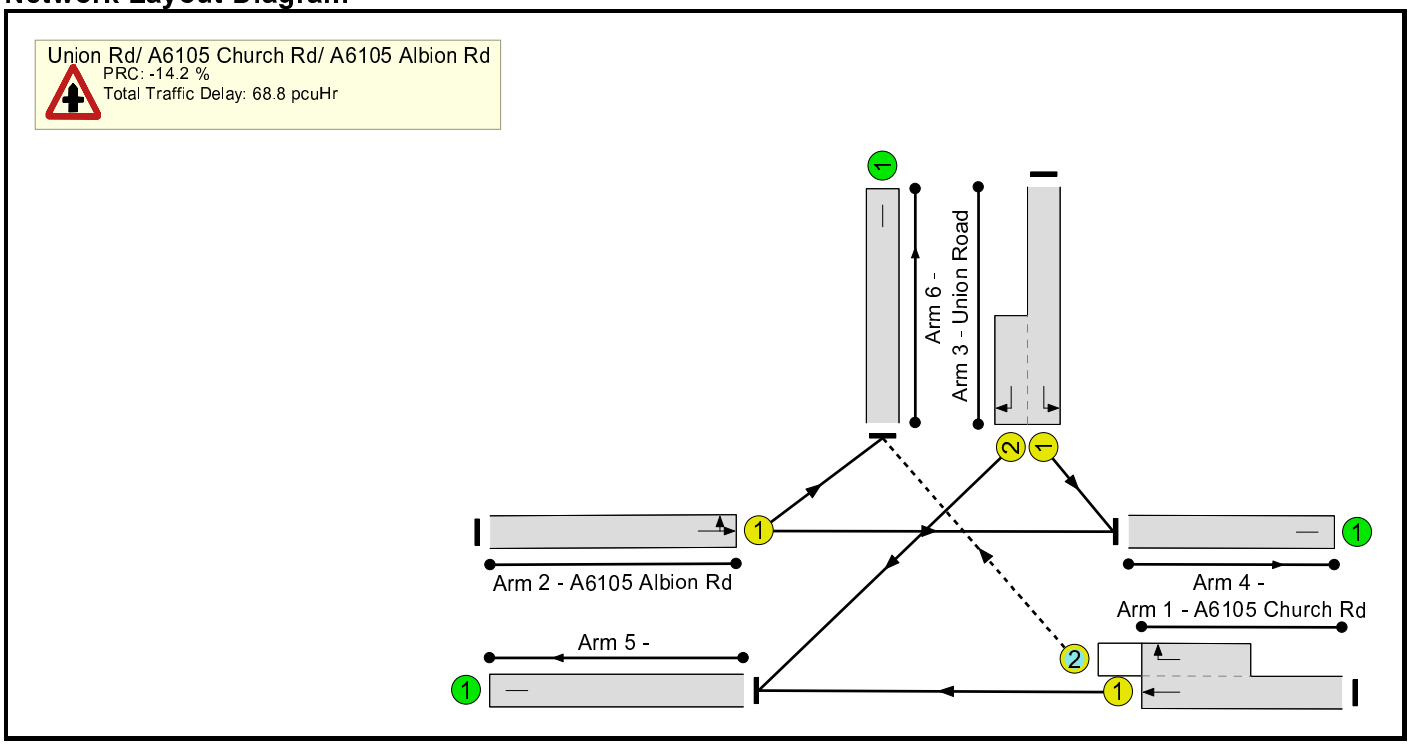
Total Delay for Signalled Lanes (pcuHr): 11.77
Total Delay Over All Lanes(pcuHr): 11.77

Cycle Time (s): 180

Basic Results Summary

Scenario 6: 'PM Design' (FG6: 'PM Design', Plan 1: 'Network Control Plan 1')

Network Layout Diagram



Basic Results Summary

Network Results

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per Veh (s/pcu)	Mean Max Queue (pcu)
Network	-	-	-	-	-	-	-	-	-	-	**102.8%**	**72**	**121**	**80**	**68.8**	-	-
Union Rd/ A6105 Church Rd/ A6105 Albion Rd	-	-	-	-	-	-	-	-	-	-	**102.8%**	**72**	**121**	**80**	**68.8**	-	-
1/1+1/2	A6105 Church Rd Ahead Right	U+O	C	- D	2	97		645	1940:1678	641	100.6%	72	121	80	17.9	100.0	21.5
2/1	A6105 Albion Rd Ahead Left	U	A		2	80	-	874	1867	851	102.8%	-	-	-	29.9	123.2	46.5
3/1+3/2	Union Road Left Right	U	B		2	42		557	1602:1803	546	102.0%	-	-	-	21.0	135.5	29.2

C1

PRC for Signalled Lanes (%): -14.2
PRC Over All Lanes (%): -14.2

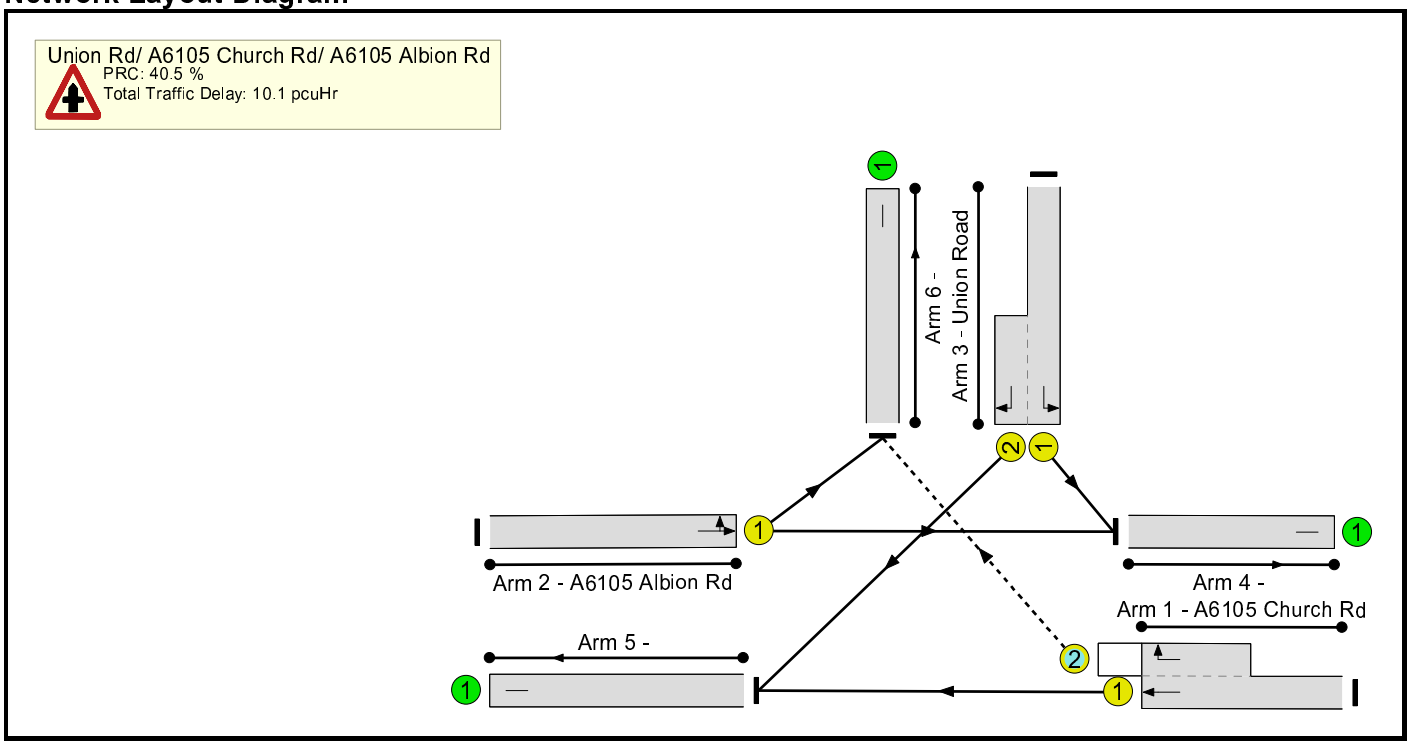
Total Delay for Signalled Lanes (pcuHr): 68.80
Total Delay Over All Lanes(pcuHr): 68.80

Cycle Time (s): 180

Basic Results Summary

Scenario 7: 'Copy of AM Design' (FG7: 'Copy of AM Design', Plan 1: 'Network Control Plan 1')

Network Layout Diagram



Basic Results Summary

Network Results

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per Veh (s/pcu)	Mean Max Queue (pcu)
Network	-	-	-	-	-	-	-	-	-	-	**64.0%**	**231**	**14**	**6**	**10.1**	-	-
Union Rd/ A6105 Church Rd/ A6105 Albion Rd	-	-	-	-	-	-	-	-	-	-	**64.0%**	**231**	**14**	**6**	**10.1**	-	-
1/1+1/2	A6105 Church Rd Ahead Right	U+O	C	- D	2	91		691	1940:1678	1079	64.0%	231	14	6	4.1	21.3	9.7
2/1	A6105 Albion Rd Ahead Left	U	A		2	77	-	355	1911	839	42.3%	-	-	-	2.1	21.1	6.6
3/1+3/2	Union Road Left Right	U	B		2	48		414	1602:1803	652	63.5%	-	-	-	3.9	34.3	5.6

C1

PRC for Signalled Lanes (%): 40.5
PRC Over All Lanes (%): 40.5

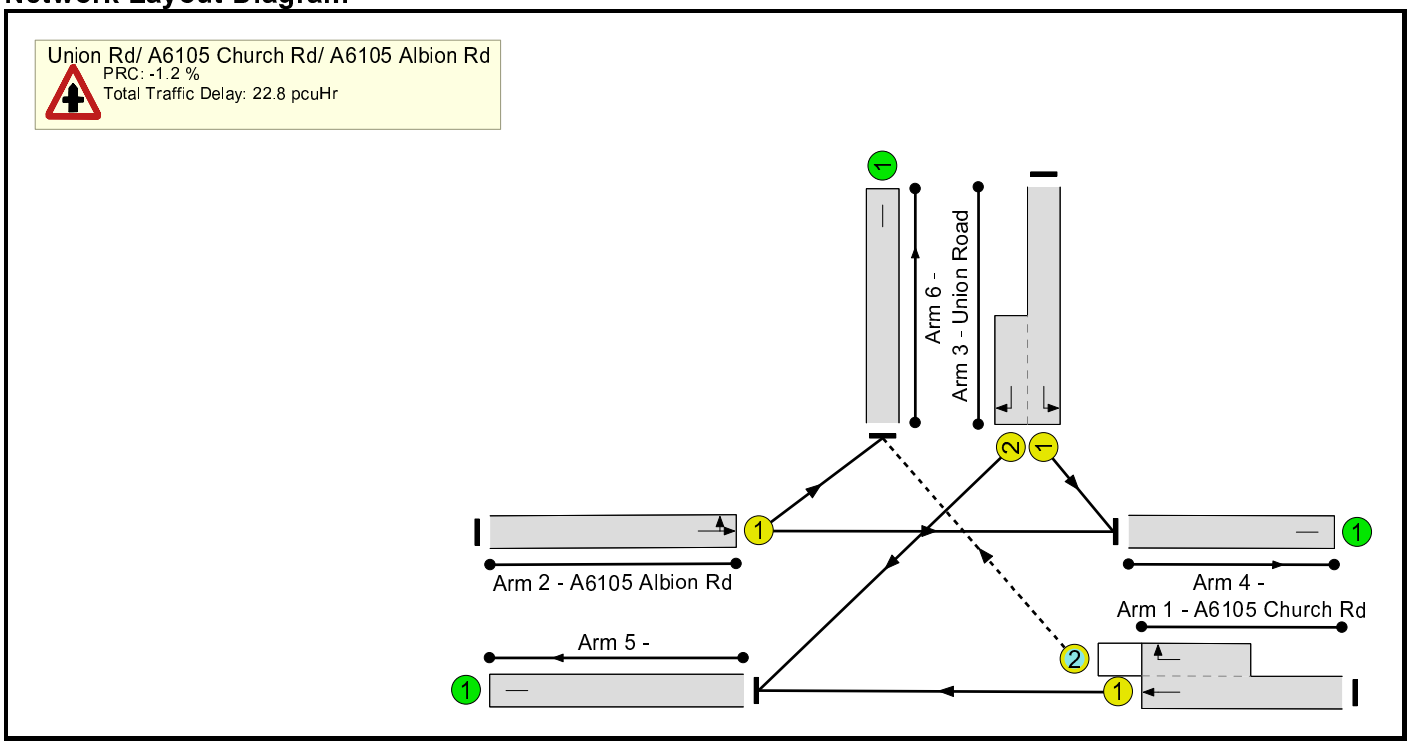
Total Delay for Signalled Lanes (pcuHr): 10.12
Total Delay Over All Lanes(pcuHr): 10.12

Cycle Time (s): 180

Basic Results Summary

Scenario 8: 'Copy of PM Design' (FG8: 'Copy of PM Design', Plan 1: 'Network Control Plan 1')

Network Layout Diagram



Basic Results Summary

Network Results

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per Veh (s/pcu)	Mean Max Queue (pcu)
Network	-	-	-	-	-	-	-	-	-	-	**91.1%**	**157**	**62**	**28**	**22.8**	-	-
Union Rd/ A6105 Church Rd/ A6105 Albion Rd	-	-	-	-	-	-	-	-	-	-	**91.1%**	**157**	**62**	**28**	**22.8**	-	-
1/1+1/2	A6105 Church Rd Ahead Right	U+O	C	- D	2	97		576	1940:1678	771	74.7%	157	62	28	4.4	27.7	7.2
2/1	A6105 Albion Rd Ahead Left	U	A		2	83	-	799	1862	879	90.9%	-	-	-	9.4	42.2	23.3
3/1+3/2	Union Road Left Right	U	B		2	42		514	1602:1803	564	91.1%	-	-	-	9.0	63.1	15.5

C1

PRC for Signalled Lanes (%): -1.2
PRC Over All Lanes (%): -1.2

Total Delay for Signalled Lanes (pcuHr): 22.81
Total Delay Over All Lanes(pcuHr): 22.81

Cycle Time (s): 180

APPENDIX I
Potential Mitigation at A6015 Church Road / B6101 Union Road Junction, New Mills

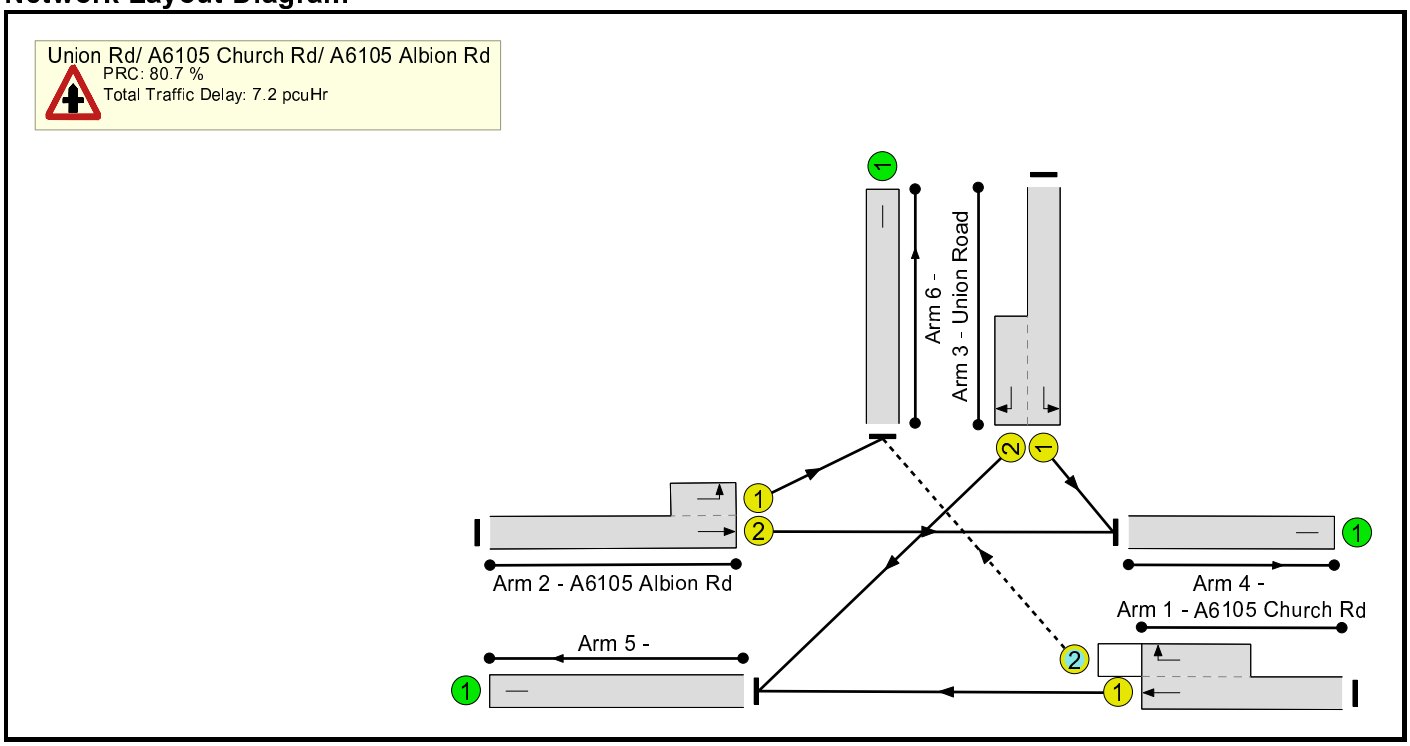
Basic Results Summary

User and Project Details

Project:	
Title:	
Location:	
File name:	Union Albion MJT Edit - Mitigation.lsg3x
Author:	
Company:	
Address:	
Notes:	

Scenario 1: 'AM Base' (FG1: 'AM Survey', Plan 1: 'Network Control Plan 1')

Network Layout Diagram



Basic Results Summary

Network Results

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per Veh (s/pcu)	Mean Max Queue (pcu)
Network	-	-	-	-	-	-	-	-	-	-	**49.8%**	**169**	**10**	**4**	**7.2**	-	-
Union Rd/ A6105 Church Rd/ A6105 Albion Rd	-	-	-	-	-	-	-	-	-	-	**49.8%**	**169**	**10**	**4**	**7.2**	-	-
1/1+1/2	A6105 Church Rd Ahead Right	U+O	C	- D	2	84		502	1940:1678	1008	49.8%	169	10	4	2.8	20.2	5.5
2/2+2/1	A6105 Albion Rd Ahead Left	U	A		2	70		278	1940:1733	778	35.8%	-	-	-	1.7	22.0	4.5
3/1+3/2	Union Road Left Right	U	B		2	55		345	1602:1803	702	49.1%	-	-	-	2.7	28.4	4.3

C1

PRC for Signalled Lanes (%): 80.7
PRC Over All Lanes (%): 80.7

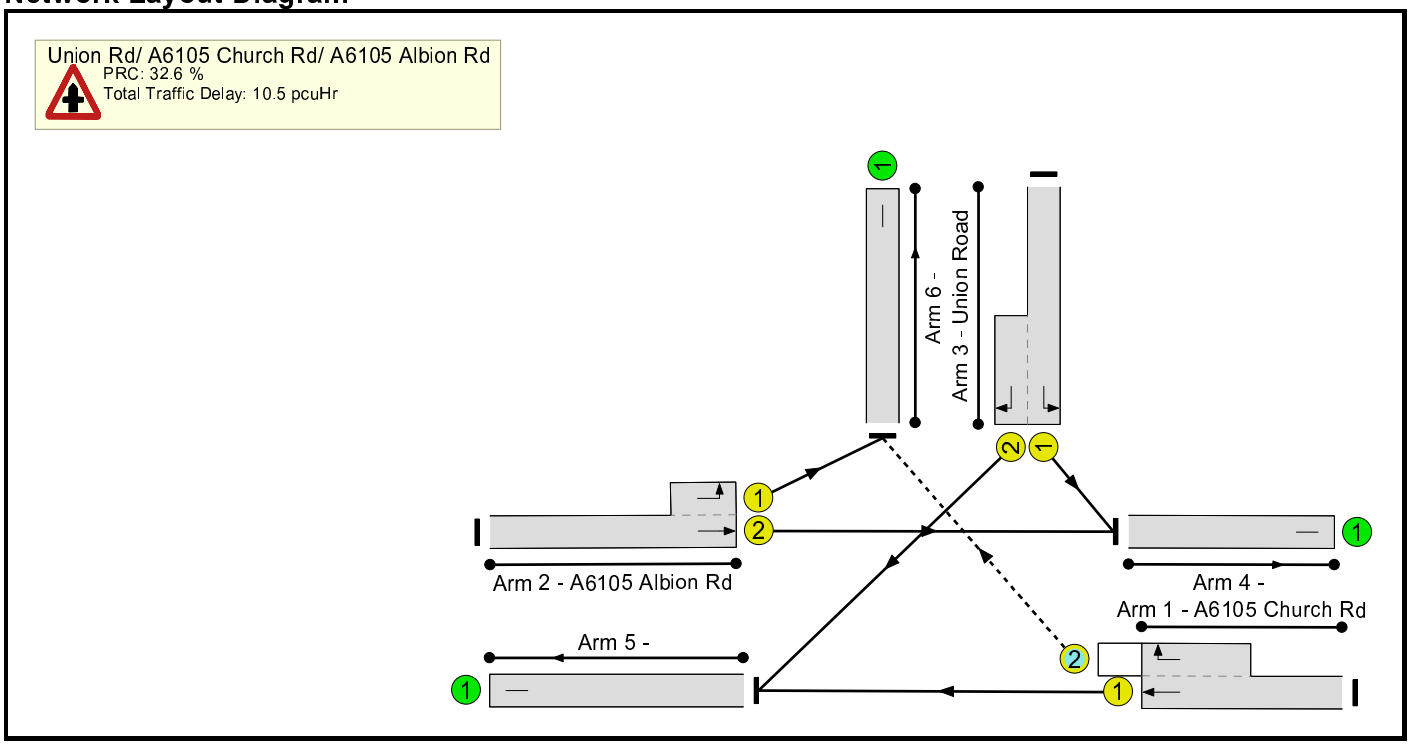
Total Delay for Signalled Lanes (pcuHr): 7.23
Total Delay Over All Lanes(pcuHr): 7.23

Cycle Time (s): 180

Basic Results Summary

Scenario 2: 'PM Base' (FG2: 'PM Survey', Plan 1: 'Network Control Plan 1')

Network Layout Diagram



Basic Results Summary

Network Results

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per Veh (s/pcu)	Mean Max Queue (pcu)
Network	-	-	-	-	-	-	-	-	-	-	**67.9%**	**176**	**11**	**4**	**10.5**	-	-
Union Rd/ A6105 Church Rd/ A6105 Albion Rd	-	-	-	-	-	-	-	-	-	-	**67.9%**	**176**	**11**	**4**	**10.5**	-	-
1/1+1/2	A6105 Church Rd Ahead Right	U+O	C	- D	2	95		443	1940:1678	1128	39.3%	176	11	4	2.2	17.6	3.7
2/2+2/1	A6105 Albion Rd Ahead Left	U	A		2	81		632	1940:1733	940	67.2%	-	-	-	4.0	22.9	10.5
3/1+3/2	Union Road Left Right	U	B		2	44		412	1602:1803	607	67.9%	-	-	-	4.3	37.6	5.7

C1

PRC for Signalled Lanes (%): 32.6
PRC Over All Lanes (%): 32.6

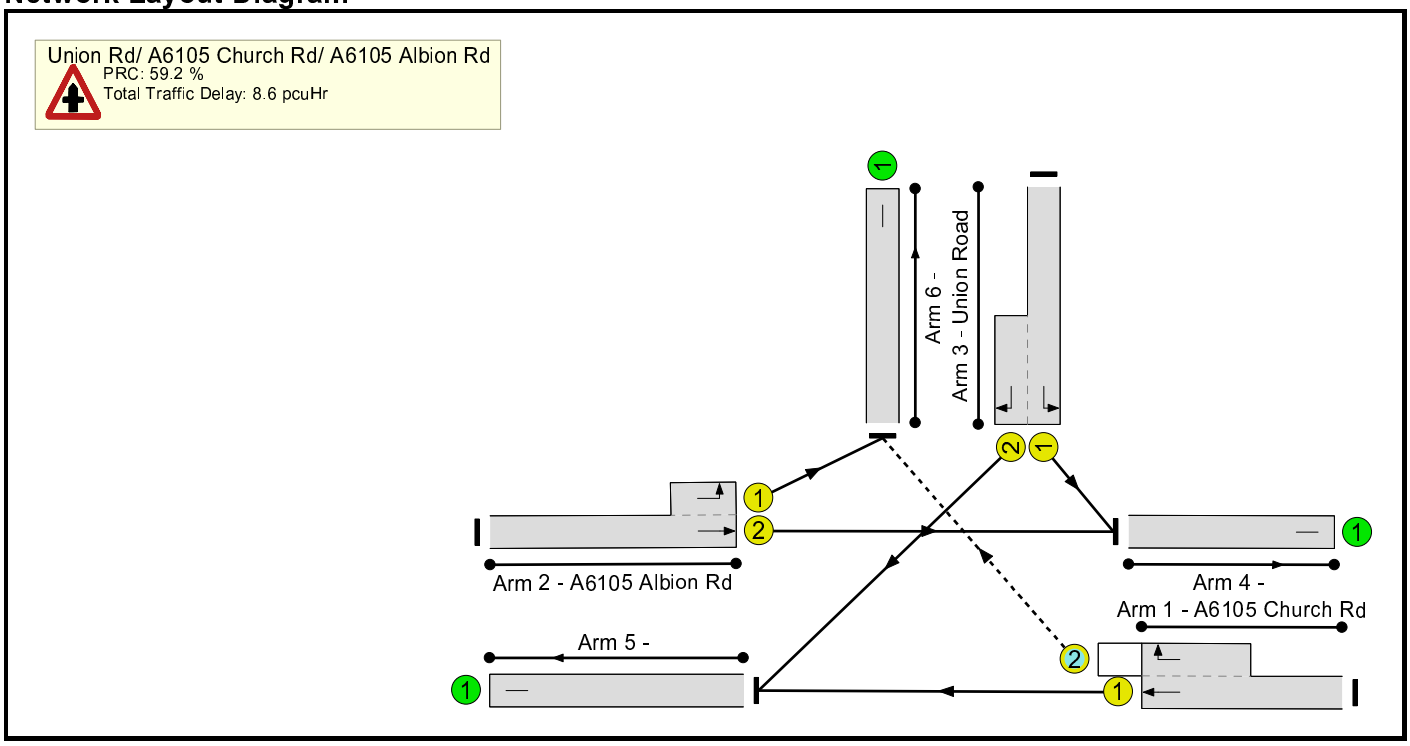
Total Delay for Signalled Lanes (pcuHr): 10.48
Total Delay Over All Lanes(pcuHr): 10.48

Cycle Time (s): 180

Basic Results Summary

Scenario 3: 'AM Reference' (FG3: 'AM Reference', Plan 1: 'Network Control Plan 1')

Network Layout Diagram



Basic Results Summary

Network Results

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per Veh (s/pcu)	Mean Max Queue (pcu)
Network	-	-	-	-	-	-	-	-	-	-	**56.5%**	**192**	**12**	**5**	**8.6**	-	-
Union Rd/ A6105 Church Rd/ A6105 Albion Rd	-	-	-	-	-	-	-	-	-	-	**56.5%**	**192**	**12**	**5**	**8.6**	-	-
1/1+1/2	A6105 Church Rd Ahead Right	U+O	C	- D	2	84		570	1940:1678	1008	56.5%	192	12	5	3.4	21.6	7.3
2/2+2/1	A6105 Albion Rd Ahead Left	U	A		2	70		315	1940:1733	778	40.5%	-	-	-	2.0	22.7	5.4
3/1+3/2	Union Road Left Right	U	B		2	55		392	1602:1803	702	55.9%	-	-	-	3.2	29.6	5.0

C1

PRC for Signalled Lanes (%): 59.2
PRC Over All Lanes (%): 59.2

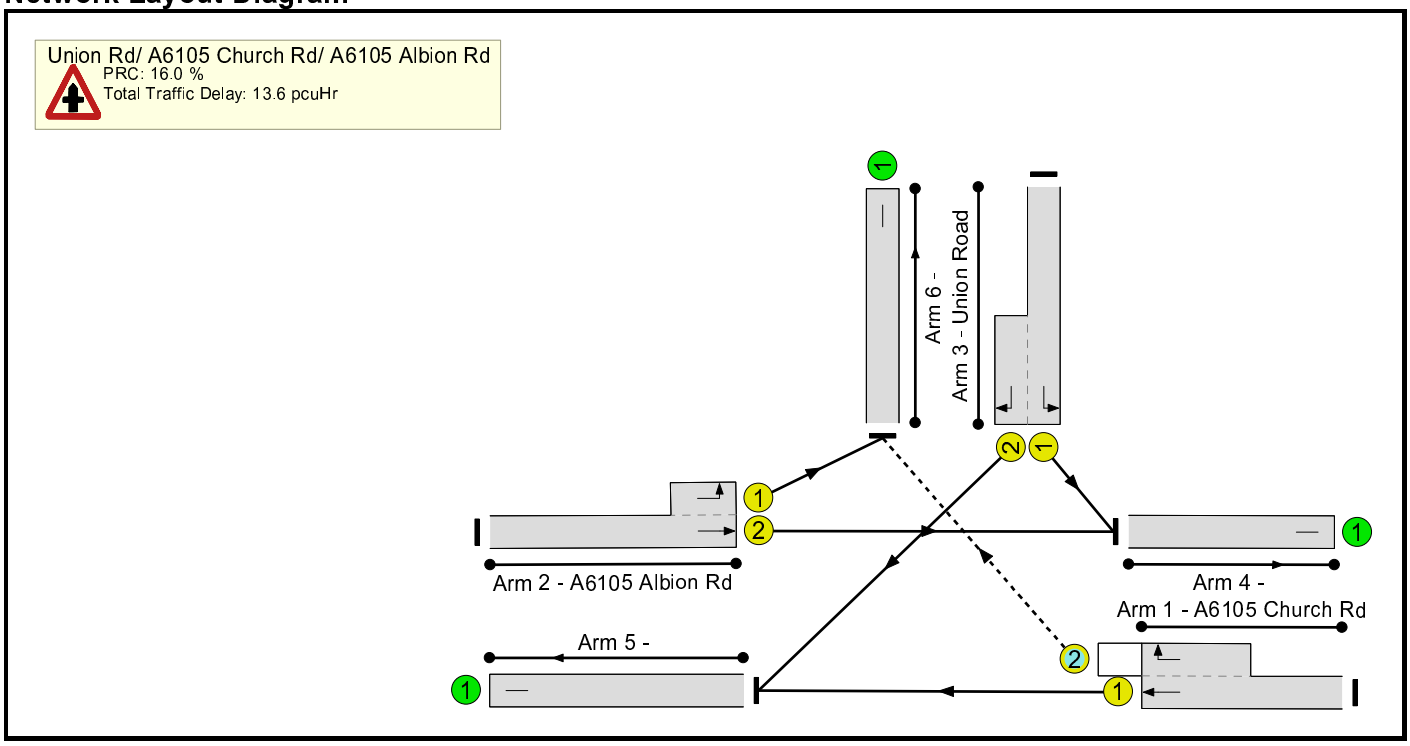
Total Delay for Signalled Lanes (pcuHr): 8.63
Total Delay Over All Lanes(pcuHr): 8.63

Cycle Time (s): 180

Basic Results Summary

Scenario 4: 'PM Reference' (FG4: 'PM Reference', Plan 1: 'Network Control Plan 1')

Network Layout Diagram



Basic Results Summary

Network Results

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per Veh (s/pcu)	Mean Max Queue (pcu)
Network	-	-	-	-	-	-	-	-	-	-	**77.6%**	**165**	**48**	**5**	**13.6**	-	-
Union Rd/ A6105 Church Rd/ A6105 Albion Rd	-	-	-	-	-	-	-	-	-	-	**77.6%**	**165**	**48**	**5**	**13.6**	-	-
1/1+1/2	A6105 Church Rd Ahead Right	U+O	C	- D	2	95		506	1940:1678	1000	50.6%	165	48	5	2.8	20.0	4.9
2/2+2/1	A6105 Albion Rd Ahead Left	U	A		2	81		722	1940:1733	940	76.8%	-	-	-	5.3	26.5	14.1
3/1+3/2	Union Road Left Right	U	B		2	44		471	1602:1803	607	77.6%	-	-	-	5.5	42.2	8.4

C1

PRC for Signalled Lanes (%): 16.0
PRC Over All Lanes (%): 16.0

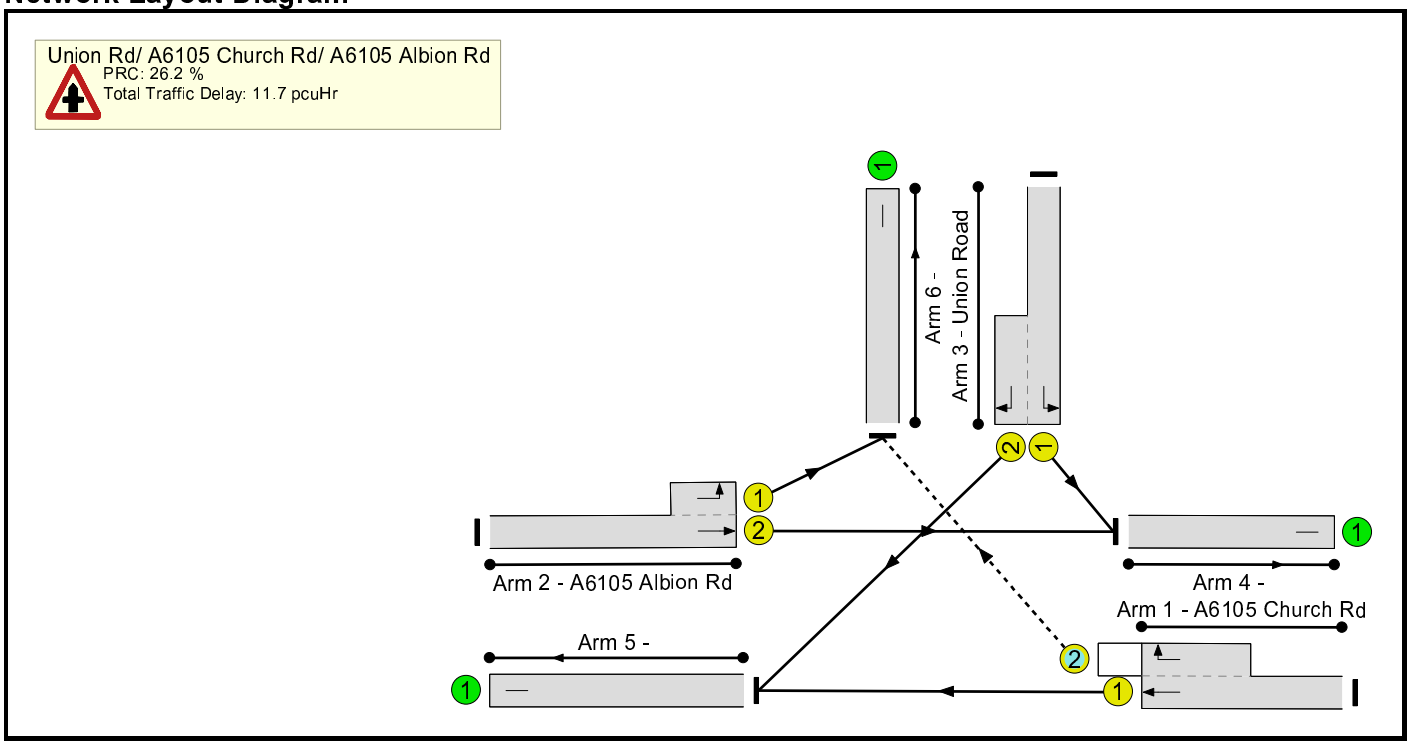
Total Delay for Signalled Lanes (pcuHr): 13.64
Total Delay Over All Lanes(pcuHr): 13.64

Cycle Time (s): 180

Basic Results Summary

Scenario 5: 'AM Design' (FG5: 'AM Design', Plan 1: 'Network Control Plan 1')

Network Layout Diagram



Basic Results Summary

Network Results

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per Veh (s/pcu)	Mean Max Queue (pcu)
Network	-	-	-	-	-	-	-	-	-	-	**71.3%**	**272**	**16**	**7**	**11.7**	-	-
Union Rd/ A6105 Church Rd/ A6105 Albion Rd	-	-	-	-	-	-	-	-	-	-	**71.3%**	**272**	**16**	**7**	**11.7**	-	-
1/1+1/2	A6105 Church Rd Ahead Right	U+O	C	- D	2	97		813	1940:1678	1140	71.3%	272	16	7	4.8	21.2	12.6
2/2+2/1	A6105 Albion Rd Ahead Left	U	A		2	83		395	1940:1733	913	43.3%	-	-	-	2.1	18.9	6.6
3/1+3/2	Union Road Left Right	U	B		2	42		436	1602:1803	613	71.2%	-	-	-	4.8	39.5	6.1

C1

PRC for Signalled Lanes (%): 26.2
PRC Over All Lanes (%): 26.2

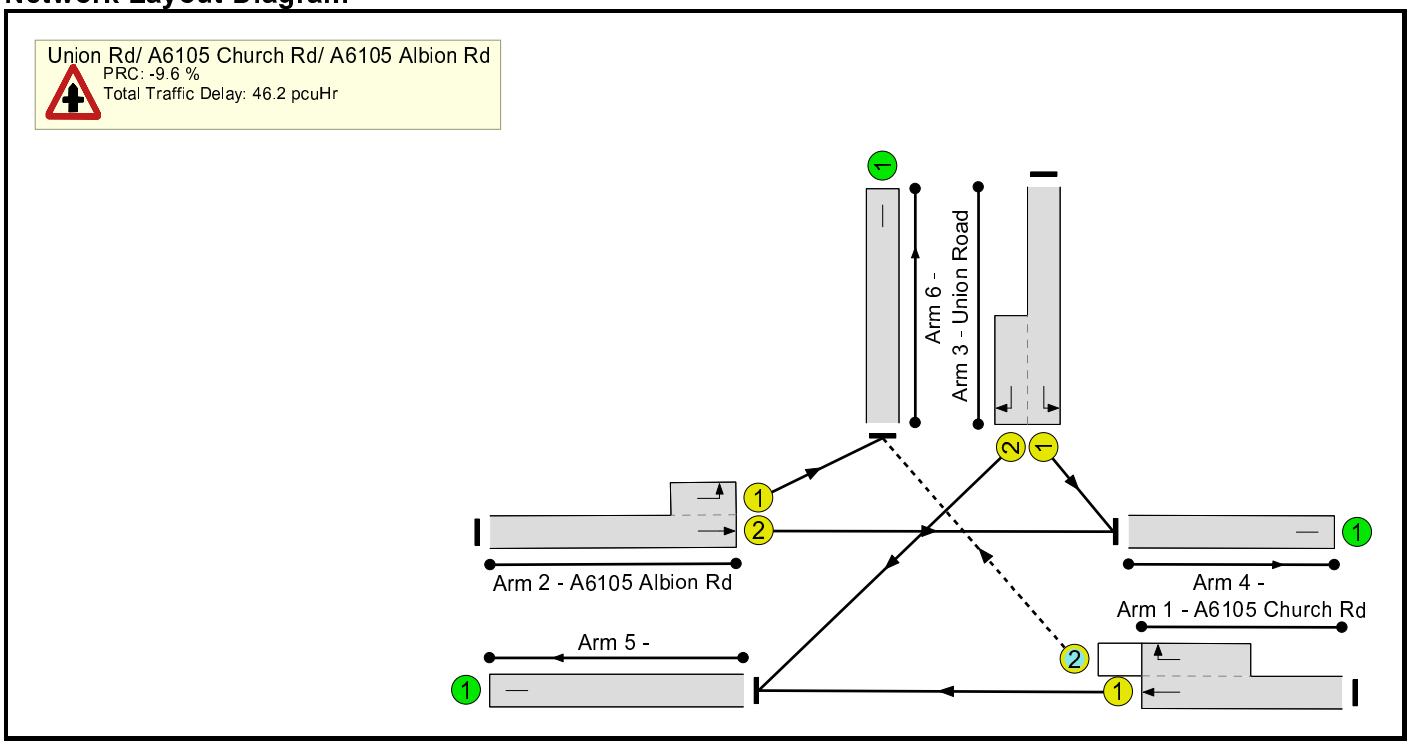
Total Delay for Signalled Lanes (pcuHr): 11.65
Total Delay Over All Lanes(pcuHr): 11.65

Cycle Time (s): 180

Basic Results Summary

Scenario 6: 'PM Design' (FG6: 'PM Design', Plan 1: 'Network Control Plan 1')

Network Layout Diagram



Basic Results Summary

Network Results

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per Veh (s/pcu)	Mean Max Queue (pcu)
Network	-	-	-	-	-	-	-	-	-	-	**98.7%**	**78**	**121**	**76**	**46.2**	-	-
Union Rd/ A6105 Church Rd/ A6105 Albion Rd	-	-	-	-	-	-	-	-	-	-	**98.7%**	**78**	**121**	**76**	**46.2**	-	-
1/1+1/2	A6105 Church Rd Ahead Right	U+O	C	- D	2	95		645	1940:1678	654	98.7%	78	121	76	14.7	81.9	17.9
2/2+2/1	A6105 Albion Rd Ahead Left	U	A		2	78		874	1940:1733	893	97.9%	-	-	-	16.5	68.0	31.4
3/1+3/2	Union Road Left Right	U	B		2	44		557	1602:1803	565	98.7%	-	-	-	15.0	97.2	22.6

C1

PRC for Signalled Lanes (%): -9.6
PRC Over All Lanes (%): -9.6

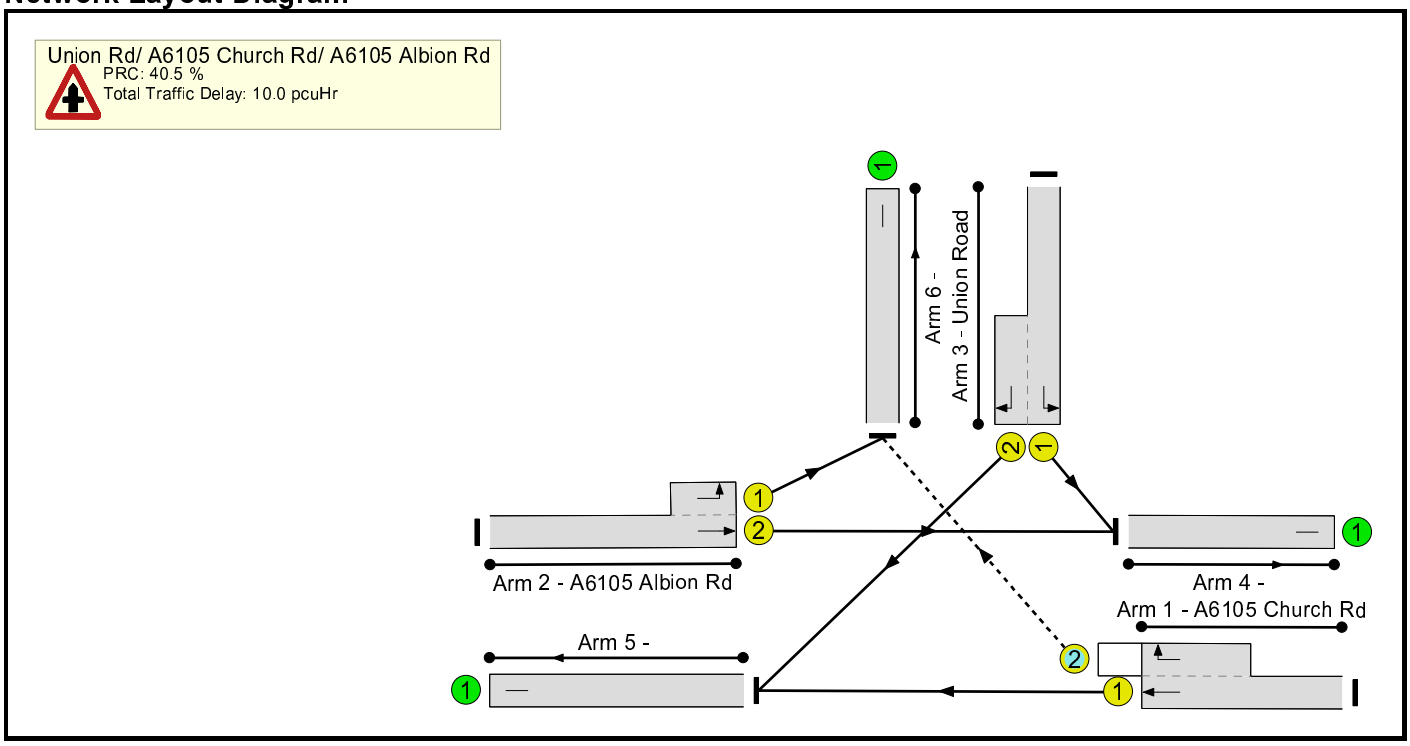
Total Delay for Signalled Lanes (pcuHr): 46.23
Total Delay Over All Lanes(pcuHr): 46.23

Cycle Time (s): 180

Basic Results Summary

Scenario 7: 'Copy of AM Design' (FG7: 'Copy of AM Design', Plan 1: 'Network Control Plan 1')

Network Layout Diagram



Basic Results Summary

Network Results

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per Veh (s/pcu)	Mean Max Queue (pcu)
Network	-	-	-	-	-	-	-	-	-	-	**64.0%**	**231**	**14**	**6**	**10.0**	-	-
Union Rd/ A6105 Church Rd/ A6105 Albion Rd	-	-	-	-	-	-	-	-	-	-	**64.0%**	**231**	**14**	**6**	**10.0**	-	-
1/1+1/2	A6105 Church Rd Ahead Right	U+O	C	- D	2	91		691	1940:1678	1079	64.0%	231	14	6	4.0	21.0	9.6
2/2+2/1	A6105 Albion Rd Ahead Left	U	A		2	77		355	1940:1733	850	41.8%	-	-	-	2.0	20.5	5.9
3/1+3/2	Union Road Left Right	U	B		2	48		414	1602:1803	652	63.5%	-	-	-	3.9	34.3	5.6

C1

PRC for Signalled Lanes (%): 40.5
PRC Over All Lanes (%): 40.5

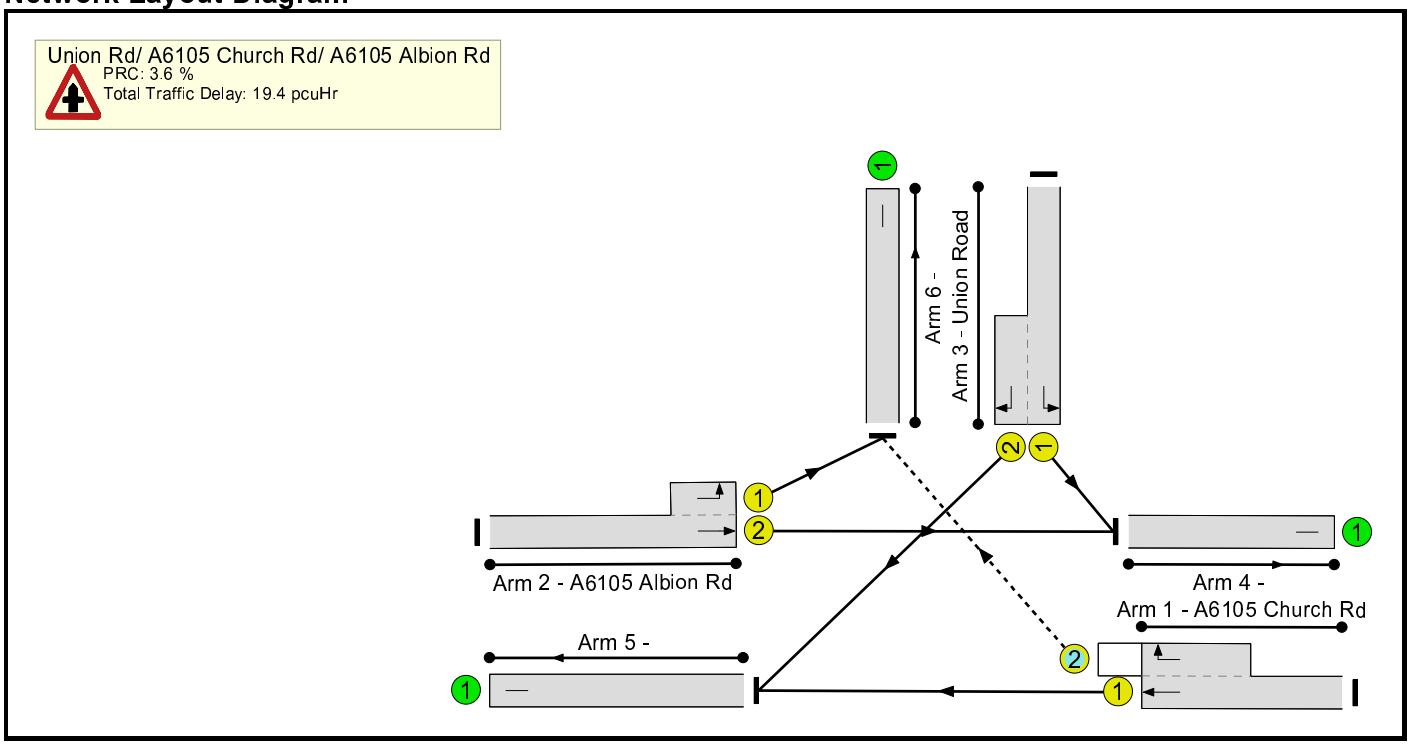
Total Delay for Signalled Lanes (pcuHr): 10.00
Total Delay Over All Lanes(pcuHr): 10.00

Cycle Time (s): 180

Basic Results Summary

Scenario 8: 'Copy of PM Design' (FG8: 'Copy of PM Design', Plan 1: 'Network Control Plan 1')

Network Layout Diagram



Basic Results Summary

Network Results

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per Veh (s/pcu)	Mean Max Queue (pcu)
Network	-	-	-	-	-	-	-	-	-	-	**86.8%**	**171**	**71**	**5**	**19.4**	-	-
Union Rd/ A6105 Church Rd/ A6105 Albion Rd	-	-	-	-	-	-	-	-	-	-	**86.8%**	**171**	**71**	**5**	**19.4**	-	-
1/1+1/2	A6105 Church Rd Ahead Right	U+O	C	- D	2	94		576	1940:1678	803	71.8%	171	71	5	4.4	27.6	7.0
2/2+2/1	A6105 Albion Rd Ahead Left	U	A		2	80		799	1940:1733	920	86.8%	-	-	-	7.7	34.5	19.1
3/1+3/2	Union Road Left Right	U	B		2	45		514	1602:1803	592	86.8%	-	-	-	7.3	51.4	12.5

C1

PRC for Signalled Lanes (%): 3.6
PRC Over All Lanes (%): 3.6

Total Delay for Signalled Lanes (pcuHr): 19.41
Total Delay Over All Lanes(pcuHr): 19.41

Cycle Time (s): 180

TRANSPORT STUDY
April 2014

APPENDIX J
ARCADY Analysis at A53 / Terrace Road Junction, Buxton

TRANSPORT STUDY
April 2014

Junctions 8

ARCADY 8 - Roundabout Module

Version: 8.0.1.305 [25 May 2012]

Filename: (new file)
Path:
Report generation date: 15/04/2014 12:05:33

Summary of junction performance

	AM					PM				
	Queue (PCU)	Delay (s)	RFC	LOS	Network Residual Capacity	Queue (PCU)	Delay (s)	RFC	LOS	Network Residual Capacity
A1 - Base										
Arm A	0.88	3.72	0.47	A	79 % [Arm B]	0.70	3.28	0.41	A	91 % [Arm B]
Arm B	0.62	4.77	0.38	A		0.58	4.45	0.37	A	
Arm C	0.78	3.64	0.44	A		0.49	3.03	0.33	A	
A1 - Design										
Arm A	31.36	67.14	1.01	F	-8 % [Arm B]	4.65	11.85	0.83	B	-4 % [Arm B]
Arm B	26.57	93.19	1.02	F		16.33	59.45	0.97	F	
Arm C	5.41	15.66	0.85	C		2.28	7.93	0.70	A	
A1 - Design (2)										
Arm A	3.51	9.82	0.78	A	16 % [Arm B]	1.84	5.72	0.65	A	21 % [Arm B]
Arm B	2.49	11.97	0.72	B		2.15	10.04	0.69	B	
Arm C	2.03	6.80	0.67	A		1.13	4.76	0.53	A	
A1 - Reference Case										
Arm A	1.19	4.39	0.54	A	57 % [Arm B]	0.92	3.76	0.48	A	66 % [Arm B]
Arm B	0.84	5.65	0.46	A		0.78	5.23	0.44	A	
Arm C	1.03	4.22	0.51	A		0.63	3.37	0.39	A	

Values shown are the maximum values over all time segments. Delay is the maximum value of average delay per arriving vehicle. Network Residual Capacity indicates the amount by which network flow could be increased before a user-definable threshold (see Analysis Options) is met.

"D1 - Base, AM " model duration: 07:45 - 09:15
"D2 - Reference Case, AM" model duration: 07:45 - 09:15
"D3 - Design, AM" model duration: 07:45 - 09:15
"D4 - Base, PM" model duration: 16:45 - 18:15
"D5 - Reference Case, PM" model duration: 16:45 - 18:15
"D6 - Design, PM" model duration: 16:45 - 18:15
"D7 - Design (2), AM" model duration: 07:45 - 09:15
"D8 - Design (2), PM" model duration: 16:45 - 18:15

Run using Junctions 8.0.1.305 at 15/04/2014 12:05:32

File summary

File Description

Title	A53 Station Road / A515 Terrace Road
Location	Buxton
Site Number	
Date	20/01/2014
Version	
Status	
Identifier	
Client	
Jobnumber	
Enumerator	37580rp [UK20006831L]
Description	

Analysis Options

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

Units

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

(Default Analysis Set) - Base, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Pedestrian Crossing	Arm A - Pelican/Puffin Details	Pedestrian crossing uses default flow of 0. Is this correct?

Analysis Set Details

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

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Results For Central Hour Only	Single Time Segment Only	Locked	Run Automatically	Use Relationship	Relationship

Base, AM	Base	AM		ONE HOUR	07:45	09:15	90	15						

Junction Network

Junctions

Name	Junction Type	Arm Order	Grade Separated	Large Roundabout	Do Geometric Delay	Junction Delay (s)	Junction LOS
Roundabout	Roundabout	A,B,C				3.92	A

Junction Network Options

Driving Side	Lighting	Network Residual Capacity (%)	First Arm Reaching Threshold
Left	Normal/unknown	79	Arm B

Arms

Arms

Arm	Name	Description
A	A53 Station Road	
B	Terrace Road	
C	A53 St John's Road	

Capacity Options

Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)	Assume Flat Start Profile	Initial Queue (PCU)
A	0.00	99999.00		0.00
B	0.00	99999.00		0.00
C	0.00	99999.00		0.00

Roundabout 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
A	5.30	8.00	24.00	25.30	28.00	58.80	
B	3.30	6.20	22.60	23.30	28.00	37.00	
C	4.50	8.10	21.30	10.40	28.00	32.80	

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

Pedestrian Crossings

Arm	Crossing Type
A	Puffin
B	None
C	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)
A	3.00	2.90	1.00	6.00	6.00	7.00	2.00

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Enter slope and intercept directly	Entered slope	Entered intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
A		(calculated)	(calculated)	0.695	2009.454

B		(calculated)	(calculated)	0.633	1594.639
C		(calculated)	(calculated)	0.696	1957.796

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

Traffic Flows

Demand Set Data Options

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

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
A	ONE HOUR		780.00	100.000
B	ONE HOUR		427.00	100.000
C	ONE HOUR		701.00	100.000

Pedestrian Flows

General Flows Data

Arm	Profile Type	Average Pedestrian Flow (Ped/hr)
A	ONE HOUR	0.00
B	-	-
C	-	-

Turning Proportions

Turning Counts or Proportions (PCU/hr) - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.000	266.000	514.000
	B	256.000	0.000	171.000
	C	462.000	223.000	16.000

Turning Proportions (PCU) - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.00	0.34	0.66
	B	0.60	0.00	0.40
	C	0.66	0.32	0.02

Vehicle Mix

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

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

Heavy Vehicle Percentages - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.000	0.000	0.000
	B	0.000	0.000	0.000
	C	0.000	0.000	0.000

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)	Total Queueing Delay (PCU-min)	Average Queueing Delay (s)	Rate Of Queueing Delay (PCU-min/min)	Inclusive Total Queueing Delay (PCU-min)	Inclusive Average Queueing Delay (s)
A	0.47	3.72	0.88	A	715.74	1073.61	57.90	3.24	0.64	57.90	3.24
B	0.38	4.77	0.62	A	391.82	587.73	40.43	4.13	0.45	40.43	4.13
C	0.44	3.64	0.78	A	643.25	964.87	51.42	3.20	0.57	51.42	3.20

Main Results for each time segment

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

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
A	587.22	146.81	585.42	538.73	179.38	0.00	1884.72	1633.36	0.312	0.00	0.45	2.767	A
B	321.47	80.37	320.22	367.01	397.79	0.00	1342.95	890.71	0.239	0.00	0.31	3.515	A
C	527.75	131.94	526.13	526.02	191.98	0.00	1824.26	1586.35	0.289	0.00	0.41	2.769	A

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

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
A	701.20	175.30	700.60	644.87	214.68	0.00	1860.18	1633.36	0.377	0.45	0.60	3.103	A
B	383.86	95.97	383.44	439.23	476.05	0.00	1293.43	890.71	0.297	0.31	0.42	3.954	A
C	630.18	157.55	629.66	629.60	229.88	0.00	1797.89	1586.35	0.351	0.41	0.54	3.079	A

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

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
A	858.80	214.70	857.68	789.43	262.82	0.00	1826.70	1633.36	0.470	0.60	0.88	3.712	A
B	470.14	117.53	469.35	537.72	582.78	0.00	1225.90	890.71	0.384	0.42	0.62	4.753	A
C	771.82	192.95	770.87	770.74	281.39	0.00	1762.07	1586.35	0.438	0.54	0.77	3.628	A

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

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
A	858.80	214.70	858.78	790.52	263.14	0.00	1826.48	1633.36	0.470	0.88	0.88	3.719	A
B	470.14	117.53	470.12	538.39	583.53	0.00	1225.43	890.71	0.384	0.62	0.62	4.765	A
C	771.82	192.95	771.80	771.80	281.85	0.00	1761.74	1586.35	0.438	0.77	0.78	3.635	A

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

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
A	701.20	175.30	702.31	646.55	215.18	0.00	1859.83	1633.36	0.377	0.88	0.61	3.112	A
B	383.86	95.97	384.64	440.27	477.21	0.00	1292.70	890.71	0.297	0.62	0.42	3.969	A
C	630.18	157.55	631.12	631.24	230.61	0.00	1797.39	1586.35	0.351	0.78	0.54	3.090	A

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

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
A	587.22	146.81	587.84	541.16	180.11	0.00	1884.21	1633.36	0.312	0.61	0.45	2.777	A
B	321.47	80.37	321.90	368.52	399.43	0.00	1341.91	890.71	0.240	0.42	0.32	3.530	A
C	527.75	131.94	528.28	528.34	192.99	0.00	1823.55	1586.35	0.289	0.54	0.41	2.779	A

Queueing Delay Results for each time segment

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

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
A	6.63	0.44	2.767	A	A
B	4.60	0.31	3.515	A	A
C	5.97	0.40	2.769	A	A

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

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
A	8.88	0.59	3.103	A	A
B	6.18	0.41	3.954	A	A
C	7.93	0.53	3.079	A	A

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

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
A	12.92	0.86	3.712	A	A
B	9.04	0.60	4.753	A	A
C	11.37	0.76	3.628	A	A

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

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
A	13.24	0.88	3.719	A	A
B	9.28	0.62	4.765	A	A
C	11.64	0.78	3.635	A	A

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

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service

A	9.30	0.62	3.112	A	A
B	6.51	0.43	3.969	A	A
C	8.29	0.55	3.090	A	A

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

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
A	6.92	0.46	2.777	A	A
B	4.83	0.32	3.530	A	A
C	6.22	0.41	2.779	A	A