

Transport Assessment

**Proposed Residential Development
Holcombe Mill, Ramsbottom**

Eccleston Homes Limited

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1.0 INTRODUCTION

Overview

- 1.1 SCP have been appointed by Eccleston Homes Limited to provide transport planning and engineering advice in support of a full planning application for a residential development on the former Holcombe Mill site, Ramsbottom.

Background

- 1.2 A planning application (Application Reference: 65217) was submitted to Bury Council (BC) on 13th February 2020 for 83 residential dwellings as well as the retention of the existing chimney & 2 no. existing buildings (designated for commercial use) on the former Holcombe Mill site in Ramsbottom.
- 1.3 Prior to the submission of the aforementioned application, a Transport Assessment (TA), dated 23rd December 2019, was submitted to BC as part of the pre-application submission and the Highway Officer provided a number of comments in a response dated 29th January 2020, as summarised below, although many of the comments provided were in relation to the applicants request for the internal estate roads to be adopted by the Council:
- Submission of the proposed access arrangement on a topographical survey is required with visibility splays for a 30mph road provided from the site access and for a 20mph road at all internal junctions;
 - The access road into the site is requested to be 7.3m in view of the proposals to retain the commercial uses and given that visitors to the town centre are likely to park on the site;
 - An appropriate 20mph traffic calming scheme has been requested within the site;
 - Traffic Regulation Orders should be implemented on the access road;
 - The Highway Officer requested a revised junction arrangement between Plots 77 & 78 to reverse the priority arrangement and effectively provide an adoptable turning head;
 - Provide 5.5m carriageway widths and a minimum of 5m radii on all turning heads;
 - A secondary emergency access has been requested;
 - It is requested that the number of car park accesses are rationalised and the existing car park access is relocated further to the south;
 - The level of car parking should be provided in accordance with the council's maximum standards;
 - A Road Safety Audit (RSA) has been requested given the proximity of the site access to a level crossing; and,

- A plan should be provided showing the abandonment of the existing accesses and reconstruction of the footway along the site frontage;

1.4 The application was subsequently withdrawn by the applicant on 6th May 2020, although comments from Transport for Greater Manchester (TfGM) were provided on the application with their main comments summarised below:

- A contribution of up to a maximum of £110,000 has been request towards the implementation of MOVA signal control at the Bury New Road / Manchester Road junction;
- TfGM have requested the base trip distribution data for review;
- A review of the Traffic Regulation Orders (TROs) in the vicinity of the site should be undertaken; and,
- TfGM have requested a review of the local bus stops and pedestrian/cycle routes, the reinstatement of redundant vehicle access points, tactile paving at the proposed access and provision of footways throughout the site.

1.5 This TA has been prepared to support a revised planning application for a residential development, comprising 72 dwellings, on the application site. It should also be noted that the applicant no longer seeks the internal estate roads to be adopted and they are proposed to remain in private ownership and maintained by a management company. Having regard to this, many of the aforementioned comments are redundant, however, this report seeks to address any comments relevant to the revised application.

1.6 This TA has been developed in accordance with the now archived Department for Transports (DfT's) March 2007 "Guidance on Transport Assessment" document and gives due regard to the National Planning Practice Guidance (NPPG) and the National Planning Policy Framework (NPPF).

Structure of This Report

1.7 The structure of this report is as follows:-

- Chapter 2 - describes in detail the site location, local highway network, existing traffic conditions and road safety record;
- Chapter 3 – defines the development proposals including the proposed access, servicing and car parking arrangements;

-
- Chapter 4 – summarises the national, regional and local transport policies and describes how the proposed development accords with these;
 - Chapter 5 – considers the location of the site with regard to the existing local sustainable transport infrastructure;
 - Chapter 6 – describes the future baseline traffic conditions on the local highway network in relation traffic growth and committed developments;
 - Chapter 7 – estimates the number of multimodal trips generated by the development and distributes and assigns the vehicular trips on the local highway network;
 - Chapter 8 – presents an assessment of the impact of the development on the operational performance of the local highway network; and,
 - Chapter 9 – provides summary and conclusions to this TA derived from the analysis presented in the above chapters.

2.0 EXISTING CONDITIONS

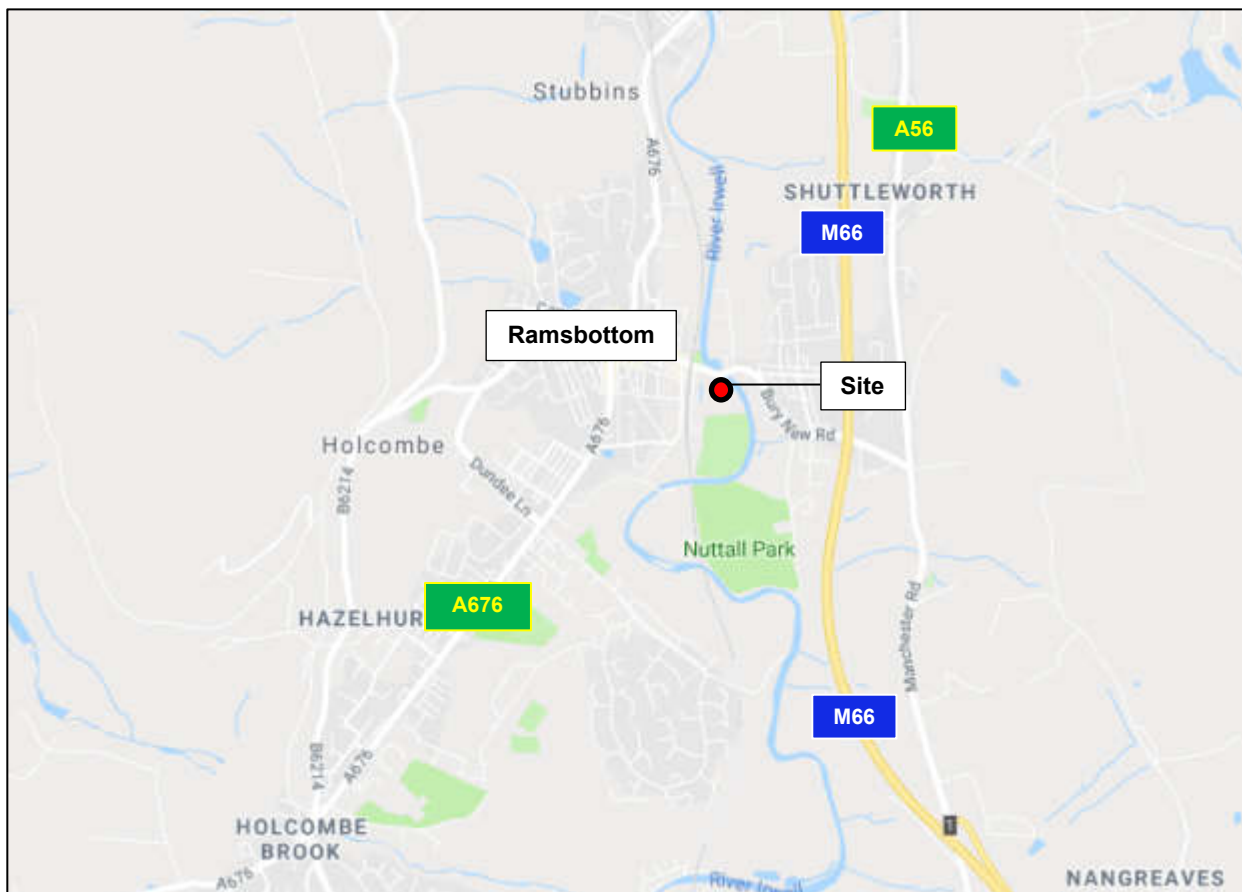
General

- 2.1 This chapter provides a detailed description of the location of the site, local highway network, existing traffic conditions and road safety record.

Site Location

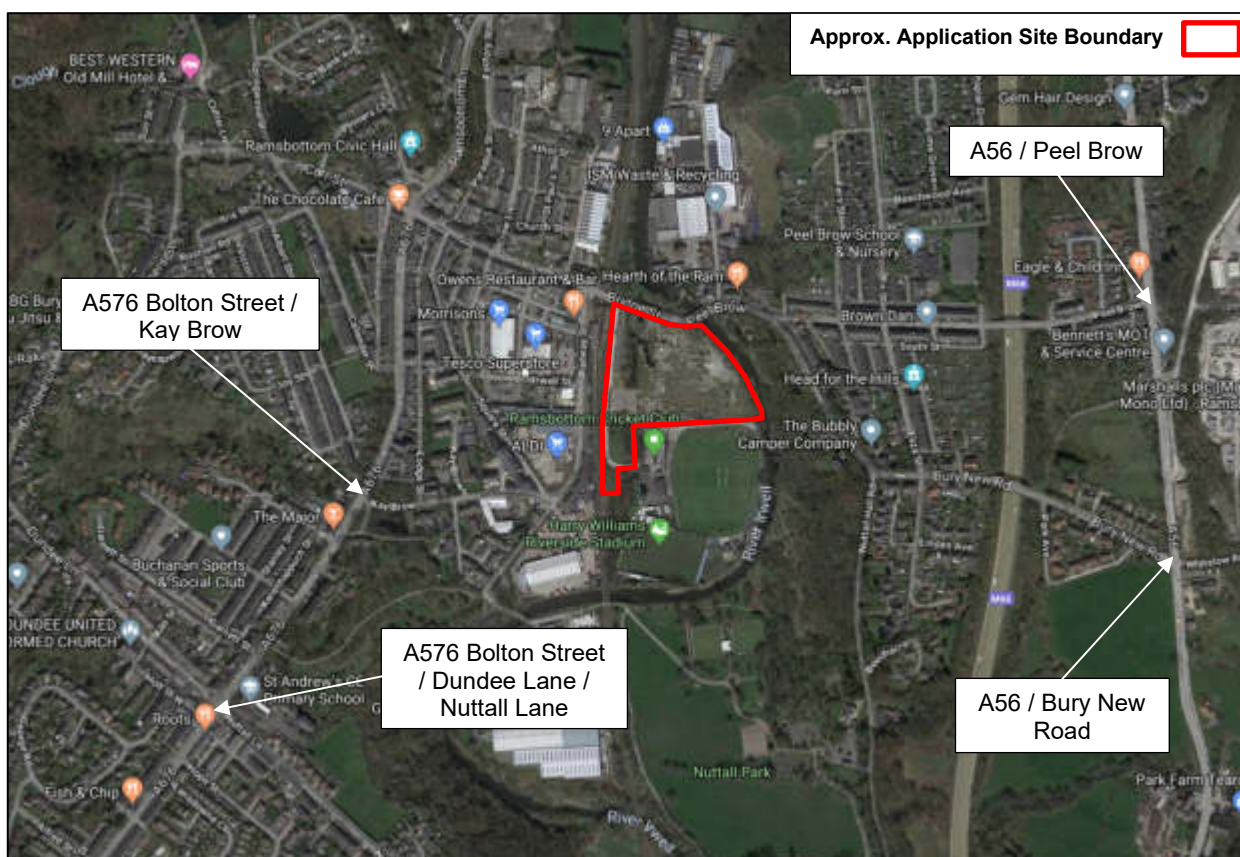
- 2.2 The application site is located to the south of Bridge Street/Peel Brow on the eastern edge of Ramsbottom town centre.
- 2.3 The location of the site in relation to the wider highway network is shown on **Figure 2.1** below.

Figure 2.1 – Site Location – Wider Highway Network



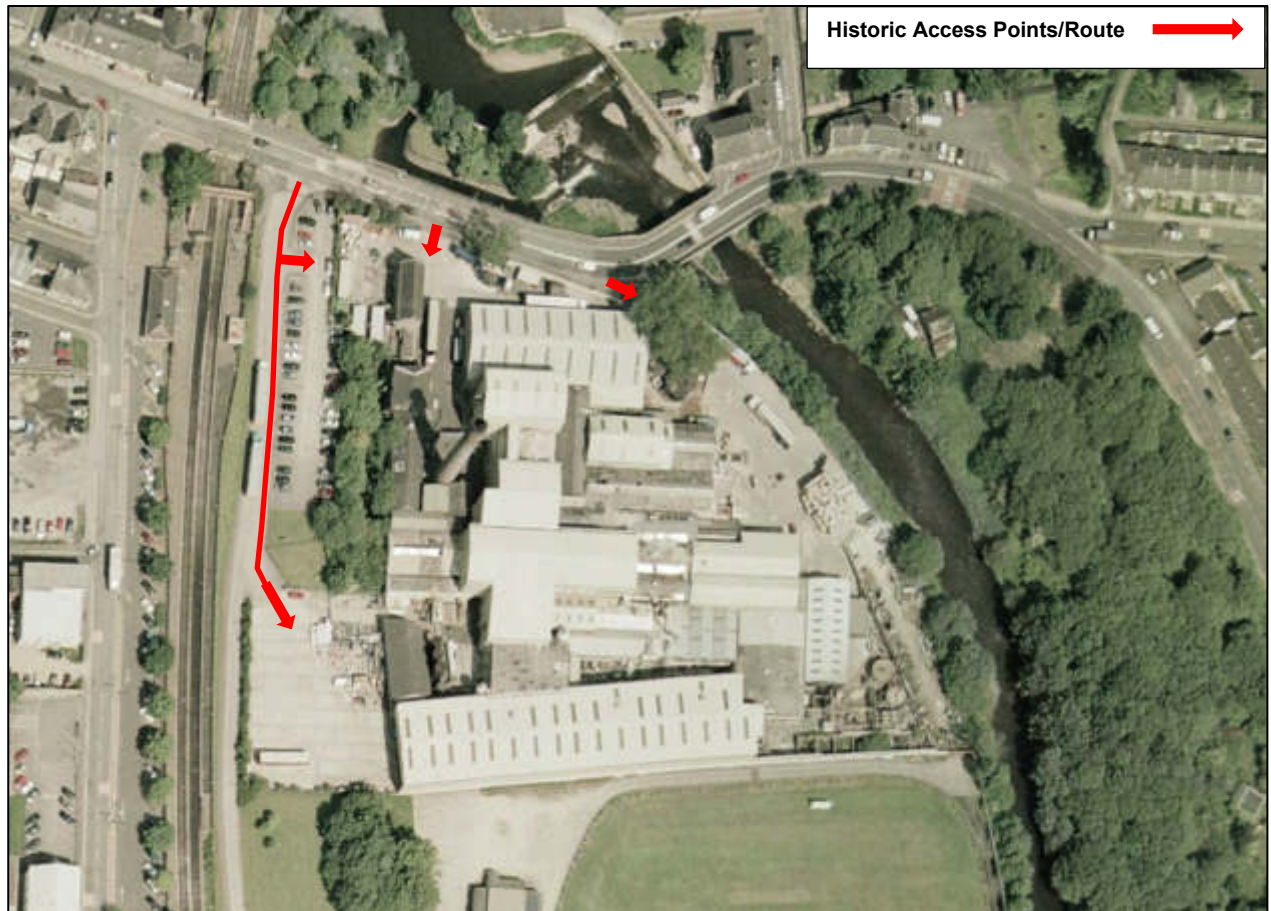
- 2.4 The site boundary is shown in relation to the local highway network in red on **Figure 2.2** below.

Figure 2.2 – Site Location – Local Highway Network



- 2.5 The application site comprises previously developed land that formerly accommodated the Holcombe Paper Mill, which closed in 2008 and was substantially demolished in 2013. Currently the site consists of an area of hard-standing, the former Holcombe Mill chimney stack and three buildings associated with the former mill. It should be noted that the existing buildings have a total GFA of approximately 350m² and could be brought back into use without the need for planning permission.
- 2.6 The site is bounded by Bridge Street/Peel Brow to the north, the river Irwell to the east, Ramsbottom Cricket Club to the south and the East Lancashire Railway and an access road to the site/cricket club to the west.
- 2.7 Vehicular access to the site historically took place from Bridge Street/Peel Brow via three priority-controlled accesses, located to the north-west and north-east of the site as well as centrally, as shown on **Figure 2.3** below. The western access is currently in use and serves Ramsbottom Cricket Club and Harry Williams Riverside Stadium, located to the south of the site.

Figure 2.3 – Existing Site Accesses off Bridge Street/Peel Brow



Local Highway Network

2.8 For the purpose of this TA, the study area includes the following junctions as shown in **Figure 2.2** earlier:

- Proposed site accesses;
- A56 Whalley Road / A56 Manchester Road / Peel Brow;
- A56 Manchester Road / Bury New Road;
- A576 Bolton Street / Kay Brow; and,
- A576 Bolton Street / A576 Bolton Road West / Dundee Lane / Nuttall Lane

Bridge Street / Peel Brow

- 2.9 Bridge Street / Peel Brow fronts the northern site boundary and provides a link between the A676 Bolton Street / A676 Ramsbottom Lane / Carr Street / Bridge Street junction, to the west, with the Peel Prow / Bury New Road and Peel Brow / A56 Manchester Road junctions to the east. Bridge Street / Peel Brow are subject to a 30mph speed limit and benefit from regularly spaced street lighting columns and footways on both sides of the road.
- 2.10 The East Lancashire Railway (ELR) crosses Bridge Street, approximately 60m north-west of the existing central site access, at a gated signal controlled crossing. The ELR is a recreational tourist attraction line that provides an hourly steam train service between Rawtenstall and Bury.
- 2.11 There is a bus stop located immediately adjacent the north-west corner of the site, on Bridge Street. Further details on the accessibility of the site are provided in Chapter 5.

A56 Whalley Road / A56 Manchester Road / Peel Brow

- 2.12 The A56 Whalley Road / A56 Manchester Road / Peel Brow junction is a simple priority-controlled T-junction located to the east of the site. The A56 forms the major arms which link Bury town centre and the M66 Junction 1, to the south, with Edenfield to the north. Peel Brow forms the minor arm, which provides access to numerous residential roads and Ramsbottom town centre, via Bridge Street.

A56 Manchester Road / Bury New Road

- 2.13 The A56 Manchester Road / Bury New Road junction is a three-arm signalised junction, whereby the A56 forms the major arms which link Bury town centre and the M66 Junction 1, to the south, with Edenfield to the north. Bury New Road forms the minor arm, which provides access to numerous residential cul-de-sacs and Ramsbottom town centre, via Peel Brow and Bridge Street.

A676 Bolton Street / Kay Brow

- 2.14 The A676 Bolton Street / Kay Brow junction is a simple priority-controlled T-junction located to the south-west of the site. The A676 Bolton Street forms the major arms which link Ramsbottom town centre and the A676 / A56 / Bolton Road North roundabout, to the north, with the A676 Bolton Street / A676 Bolton Road West / Dundee Lane / Nuttall Lane to the south. Kay Brow forms the minor arm, which connects to Railway Street to the east.

[A676 Bolton Street / A676 Bolton Road West / Dundee Lane / Nuttall Lane](#)

- 2.15 The A676 Bolton Street / A676 Bolton Road West / Dundee Lane / Nuttall Lane junction is a four-arm signalised junction, whereby the A676 forms the major arms which link Ramsbottom town centre and the A676 / A56 / Bolton Road North roundabout, to the north, with the north-east edge of Bolton to the south-west. Dundee Lane forms the north-west minor arm and Nuttall Lane forms the south-east minor arm which both provide access to numerous residential roads.
- 2.16 The A676 Bolton Street / A676 Bolton Road West / Dundee Lane / Nuttall Lane junction is well lit and benefits from road markings and directional arrows to guide drivers through the junction as well as a signalised pedestrian crossing across the north, west and south approaches to aid pedestrians crossing at the junction and improve pedestrian safety.

Traffic Flow Data

- 2.17 Manual classified turning count traffic flow surveys were undertaken on Wednesday 3rd July 2019, between the hours of 07:00 - 09:30 and 16:00 - 18:00, at the following junctions in order to establish the existing traffic flow demand on the local highway network:
- A56 Whalley Road / A56 Manchester Road / Peel Brow;
 - A56 Manchester Road / Bury New Road;
 - A576 Bolton Street / Kay Brow; and,
 - A576 Bolton Street / A576 Bolton Road West / Dundee Lane / Nuttall Lane
- 2.18 The peak hours have been identified as 07:30-08:30 and 16:45-17:45 and the raw traffic survey data is presented in **Appendix A** with the base peak hour traffic flows shown diagrammatically on **Traffic Flow Figure 1**.

Road Safety Record

- 2.19 The NPPG 'Transport evidence bases in plan making and decision taking' document states that, *"Critical locations on the road network with poor accident records should be identified. This is to determine if the proposed development will exacerbate existing problems or, if proposed, whether highway mitigation works or traffic management measures will help to alleviate the problems"*.
- 2.20 In order to identify critical locations on the network with a poor accident record, the personal injury accident data for the most recently available 5-year period has been obtained from CrashMap.

- 2.21 The location and severity of any accidents within the study area during this period are presented in **Appendix B** and a summary of the number and severity of the accidents at each junction/link in the study area is presented in **Table 2.1** below.

Table 2.1 – Personal Injury Accident Data Summary

Junction/Link	Fatal	Serious	Slight	Total
Bridge Street / Peel Brow Link	0	0	0	0
Bury New Road Link	1	0	0	1
A56 Link	0	0	0	0
Railway Street / Kay Brow Link	0	0	0	0
A676 Link	0	0	3	3
A56 Whalley Road / A56 Manchester Road / Peel Brow Junction	0	0	1	1
A56 Manchester Road / Bury New Road Junction	0	0	0	0
A576 Bolton Street / Kay Brow Junction	0	0	1	1
A676 Bolton Street / A676 Bolton Road West / Dundee Lane / Nuttall Lane Junction	0	0	1	1

- 2.22 This analysis demonstrates that there have been no accidents on the entire length of Bridge Street and Peel Brow over the 5 year study period. Therefore, the existing accident record on the roads immediately surrounding the site does not represent a material concern in the context of the development.
- 2.23 One fatal accident occurred on Bury New Road, to the west of the M66, which involved a cyclist hitting the kerb and did not involve any other vehicles. No accidents occurred on the A56, between Peel Brow and Bury New Road, or on the Railway Street/Kay Brow link, although three accidents occurred on the A676, between the A676 Bolton Street/Kay Brow junction and the A676 Bolton Street / A676 Bolton Road West / Dundee Lane / Nuttall Lane junction, all of which resulted in 'slight' severity injuries. Four accidents (average of 0.8 accidents per year) over a five-year period is not considered to be an unusual frequency given the size of the study area. The existing accident record at these links does not therefore represent a material concern in the context of the development.
- 2.24 There have been no accidents at the A56 Manchester Road / Bury New Road junction during the 5-year period, although one accident occurred at the A56 Whalley Road / A56 Manchester Road / Peel Brow junction, which resulted in 'slight' severity injuries. One accident over a 5-year period is not unusual for this type of junction and therefore, the existing accident record at these junctions does not represent a material concern in the context of the development.

2.25 One accident took place at the A676 Bolton Street / Kay Brow junction and the A576 Bolton Street / A576 Bolton Road West / Dundee Lane / Nuttall Lane junction over the five-year period, of which, both resulted in 'slight' severity injuries. One accident over a five-year period is not considered to be an unusual frequency for these types of junctions. The existing accident record at these junctions does not therefore represent a material concern in the context of the development.

3.1 PROPOSED DEVELOPMENT

General

- 3.1 The development proposals consist of a residential development comprising 72 residential dwellings, including the conversion of the existing buildings to 5 no. residential properties, on the former Holcombe Mill site in Ramsbottom.
- 3.2 The proposed site layout plan is contained in **Appendix C** and the proposed accommodation schedule is summarised below:
- 5 no. 1-bed apartments;
 - 14 no. 2-bed apartments;
 - 2 no. 2-bed houses;
 - 22 no. 3-bed houses; and,
 - 29 no. 4-bed houses

Proposed Site Access Arrangements

- 3.3 Vehicular access to the development will be provided off Bridge Street via the existing access to the north-west of the site, as shown on drawing number SCP/190506/SK01 Rev E, presented in **Appendix D**. The access road measures 5.5m in width and benefits from 6m corner radii and 2m footway on the eastern side of the road which connect the site to the existing pedestrian infrastructure on Bridge Street. The remaining two existing accesses, located to the north-east of the site and centrally, will be closed and the footway reinstated, as requested by the Highway Officer/TfGM.
- 3.4 Junction visibility from the site access has been calculated based on the visibility requirements set out in the MfS for a 30mph road, providing visibility splays that have an 'x' (minor arm setback distance) of 2.4m and a minimum 'y' (major road visibility) distance of 43m in both directions. It should be noted that the detailed junction arrangement presented on drawing number SCP/190506/SK01 Rev E, presented in **Appendix D**, is shown on a topographical survey, as requested by the Highway Officer, and these visibility splays are shown to be achievable in both directions.

- 3.5 As detailed earlier, the Highway Officer previously requested a 7.3m wide access road in order for the internal estate roads to be adopted. As the internal estate roads are now proposed to remain in private ownership, as detailed earlier, a 7.3m carriageway is no longer required and the proposed 5.5m wide access road, which is typical of residential roads, is considered more than acceptable to serve the development.

Road Safety Audit

- 3.6 As part of the TA submitted with the previous application (Application Reference: 65217), an independent Stage One RSA of the access arrangement was undertaken. The RSA was undertaken by Meraki Alliance, with a copy of the RSA along with the design team response provided in **Appendix E**, and is considered suitable for the proposed access arrangement given that there have been no material alterations, when compared to access arrangement assessed in the RSA, that would compromise road safety.
- 3.7 No significant issues were raised which would preclude the access from coming forward, however, the RSA did raise the potential for vehicles failing to give-way at the access, non-motorised users (NMU) to slip/fall and queuing traffic affecting the ability of vehicles to safely access/egress the site.
- 3.8 The recommendation of the audit to introduce ‘keep clear’ and give way markings at the access to stop queuing vehicles from blocking the access and to inform drivers to give way, has been implemented. Furthermore, the recommendation of the audit to provide dropped kerbs and tactile paving at the access to prevent NMU slipping/falling, which was also requested by TfGM, has been implemented. The aforementioned recommendations are all shown on drawing number SCP/190506/SK01 Rev E, presented in **Appendix D**.

Emergency Access

- 3.9 As detailed earlier, a secondary emergency access was previously requested by the Highway Officer given that a number of units are located over 250m from the site access. Guidance in the Manual for Streets does not reference the length of cul-de-sacs or the number of dwellings as criteria for limiting the size of a development served by a single access route and instead notes that *“the fire services adopt a less numbers-driven approach and consider each application based on a risk assessment for the site, and response time requirements”*. Notwithstanding this, a secondary 3.5m wide emergency access will be provided off Bridge Street with dropped kerbs and retractable bollards, as shown on drawing number SCP/190506/SK01 Rev E presented in **Appendix D**, to positively address the Highway Officer’s comment and also improve pedestrian permeability.

Internal Site Layout

- 3.10 As detailed earlier, the Highway Officer previously provided a number of pre-application comments relating to the widths and adoption of the internal access roads and turning heads, however, these comments are not relevant to this application given that the applicant no longer seeks the internal estate roads to be adopted, as detailed earlier.
- 3.11 The internal site layout has been designed to accommodate the movements of a refuse vehicle. Drawing number SCP/190506/ATR01 Rev F, presented in [Appendix F](#), shows the swept path analysis of this vehicle and demonstrates that it can enter the site via the site access, turn within the site and exit in a forward gear. In addition, drawing number SCP/190506/ATR02 Rev D, presented in [Appendix G](#), shows the swept path analysis of a fire appliance and demonstrates that this vehicle can enter the site via the secondary emergency site access.
- 3.12 Following the previous requests of the Highway Officer, an appropriate 20mph traffic calming scheme, as shown on drawing number SCP/190506/SK03 Rev C presented in [Appendix H](#), is proposed to keep traffic speeds down and 2.4 x 25m visibility spays, in accordance with guidance set out in the MfS for a 20mph road, have been demonstrated to be achievable from all internal junctions, as shown on drawing number SCP/190506/SK02 Rev C presented in [Appendix I](#).

Parking

Bury Council's maximum parking standards are set out in their Development Control Policy Guidance Note 11, titled *Parking Standards in Bury*. The document specifies parking standards for areas of high and low accessibility areas within Bury and highlights that the application site is located within the 'high accessibility' area. This maximum car parking standards in the 'high accessibility' areas are therefore summarised below:

Residential

- 1-bed houses – 1 space;
 - 2-bed houses – 1.5 spaces;
 - 3-bed houses – 2 spaces; and,
 - 4+ bedroom houses – 3 spaces.
- 3.13 As shown on the site layout plan, contained in [Appendix C](#), the proposed development provides a level of parking in accordance with the Council's 'high accessibility' maximum parking standards detailed above, with parking provided in the vicinity of each residential dwelling as well as in a parking court for the apartments at the southern end of the site.

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- 3.14 TfGM have requested a review of the TROs in the vicinity of the site, however, given that the development provides a level of parking in accordance with the Council's 'high accessibility' maximum parking standards, it is not considered necessary to review or amend any of the existing TRO's in the vicinity of the site.



PLANNING POLICY CONTEXT

Introduction

- 4.1 This chapter provides a summary of relevant national, regional and local transport policies and provides a brief analysis of how the proposed development will contribute towards their aims and objectives.

National Planning Policy Framework (NPPF)

- 4.2 NPPF was revised in February 2019 by the Ministry of Housing, Communities and Local Government. The overall theme of the document is 'achieving sustainable development' which applies to all aspects of planning, including transport. In particular:

“Significant development should be focused on locations which are or can be made sustainable, through limiting the need to travel and offering a genuine choice of transport modes. This can help to reduce congestion and emissions, and improve air quality and public health. However, opportunities to maximise sustainable transport solutions will vary between urban and rural areas, and this should be taken into account in both plan-making and decision-making.”

- 4.3 In reference to supporting documentation with planning applications:

“All developments that will generate significant amounts of movement should be required to provide a travel plan, and the application should be supported by a transport statement or transport assessment so that the likely impacts of the proposal can be assessed.”

- 4.4 In reference to the planning of developments paragraphs 108 - 110:

- 4.5 In assessing sites that may be allocated for development in plans, or specific applications for development, it should be ensured that:

- *appropriate opportunities to promote sustainable transport modes can be – or have been – taken up, given the type of development and its location*
- *safe and suitable access to the site can be achieved for all users; and*
- *any significant impacts from the development on the transport network (in terms of capacity and congestion), or on highway safety, can be cost effectively mitigated to an acceptable degree.*

4.6 Development should only be prevented or refused on highways grounds if there would be an unacceptable impact on highway safety, or the residual cumulative impacts on the road network would be severe.

4.7 Within this context, applications for development should:

- *give priority first to pedestrian and cycle movements, both within the scheme and with neighbouring areas; and second – so far as possible – to facilitating access to high quality public transport, with layouts that maximise the catchment area for bus or other public transport services, and appropriate facilities that encourage public transport use*
- *address the needs of people with disabilities and reduced mobility in relation to all modes of transport*
- *create places that are safe, secure and attractive – which minimise the scope for conflicts between pedestrians, cyclists and vehicles, avoid unnecessary street clutter, and respond to local character and design standards*
- *allow for the efficient delivery of goods, and access by service and emergency vehicles*
- *be designed to enable charging of plug-in and other ultra-low emission vehicles in safe, accessible and convenient locations.*

4.8 Planning policies should:

- support an appropriate mix of uses across an area, and within larger scale sites, to minimise the number and length of journeys needed for employment, shopping, leisure, education and other activities
- be prepared with the active involvement of local highways authorities, other transport infrastructure providers and operators and neighbouring councils, so that strategies and investments for supporting sustainable transport and development patterns are aligned
- identify and protect, where there is robust evidence, sites and routes which could be critical in developing infrastructure to widen transport choice and realise opportunities for large scale development
- provide for high quality walking and cycling networks and supporting facilities such as cycle parking (drawing on Local Cycling and Walking Infrastructure Plans); and,
- provide for any large scale transport facilities that need to be located in the area⁴², and the infrastructure and wider development required to support their operation, expansion and contribution to the wider economy. In doing so they should take into account whether such development is likely to be a nationally significant infrastructure project and any relevant national policy statements

- recognise the importance of maintaining a national network of general aviation airfields, and their need to adapt and change over time – taking into account their economic value in serving business, leisure, training and emergency service needs, and the Government's General Aviation Strategy.

Greater Manchester Transport Strategy 2040 (GMTS 2040)

4.9 The GMTS 2040 was published in February 2017 and sets out a sustainable urban mobility plan for the future. The vision for Greater Manchester is to have "*World class connections that support long-term, sustainable economic growth and access to opportunity for all*" and the four key elements of this vision are outlined below:

- Supporting sustainable economic growth;
- Protecting our environment;
- Improving quality of life for all; and,
- Developing an innovative city-region

Bury Local Plan

4.10 BC have commenced preparation of a new Local Plan. The Local Plan will set out a range of planning policies that will seek to support or restrict development for the next 20 years and will zone land for specific uses. Once adopted, it will replace the current Unitary Development Plan which was adopted in 1997.

Adopted Bury Unitary Development Plan

- 4.11 The current UDP was adopted in 1997. The strategy to be pursued through the UDP which was previously published in the document "Bury 2001 - The Strategy for the Plan" (July 1991). This Strategy is now set out as part of the UDP to provide essential background to the policies and proposals which follow later in the Plan.
- 4.12 Primarily, the Strategy is a response to the changes which have taken place in the local economy over recent years and the growing concern for the environmental quality of the area. Such matters can also be seen to be at the heart of the emerging interest in the concept of "sustainability" where it is recognised that, if development is to be sustainable, its impact should not result in the irreversible or unacceptable deterioration of the environment.

- 4.13 One of the identified key issues which the UDP will address is 'Traffic Movement and the Transportation Network':

'Continuing trends of growing car ownership and usage, together with high levels of commuter travel in the Borough will place increasing demands on the highway and transportation network. New road construction and improvements will not provide all the answers and other solutions must be examined. The concentration of employment, services and shopping in central locations will facilitate access by public transport but measures are needed to encourage its use and make centres more "user friendly" for pedestrians, cyclists, and other vulnerable transport users.'

- 4.14 In defining its own Strategy for the Plan the Council has in turn identified the need for the Plan to provide for:

- the effective and efficient operation of public transport and the maximisation of the benefits to be derived from Metrolink;
- the promotion of the safety, convenience and mobility of vulnerable road users;
- the optimisation of the transport infrastructure in the location and density of new development;
- the promotion of measures to alleviate the detrimental effects of heavy trafficking on the Borough's roads; and
- the promotion of measures to minimise the environmental impact of traffic.

- 4.15 To achieve the aims of the Highway and Transport Strategy, the following objectives have been identified:

- To promote a balanced transportation strategy;
- To encourage the use of public transport;
- To ensure that the highway network and car parking provision is appropriate to the objectives of a balanced transportation strategy;
- To reduce environmental impact and pollution caused by traffic;
- To ensure that all movement can be made safely and conveniently;
- To reduce road traffic accidents; and
- To ensure that the needs of pedestrians, cyclists, the mobility impaired and those with special needs are properly catered for.

Summary and Policy Analysis / Compliance

- 4.16 In general, the national and local transport planning policies set out above follow similar themes and promote common aims. These are to provide sustainable development with good access to jobs and facilities, to encourage non-car modes of transport, to ensure that the highways impact of new developments is acceptable or mitigated against and to promote good site / highway design.
- 4.17 The TA will assess the effect of the proposed development on these aims.



ACCESSIBILITY

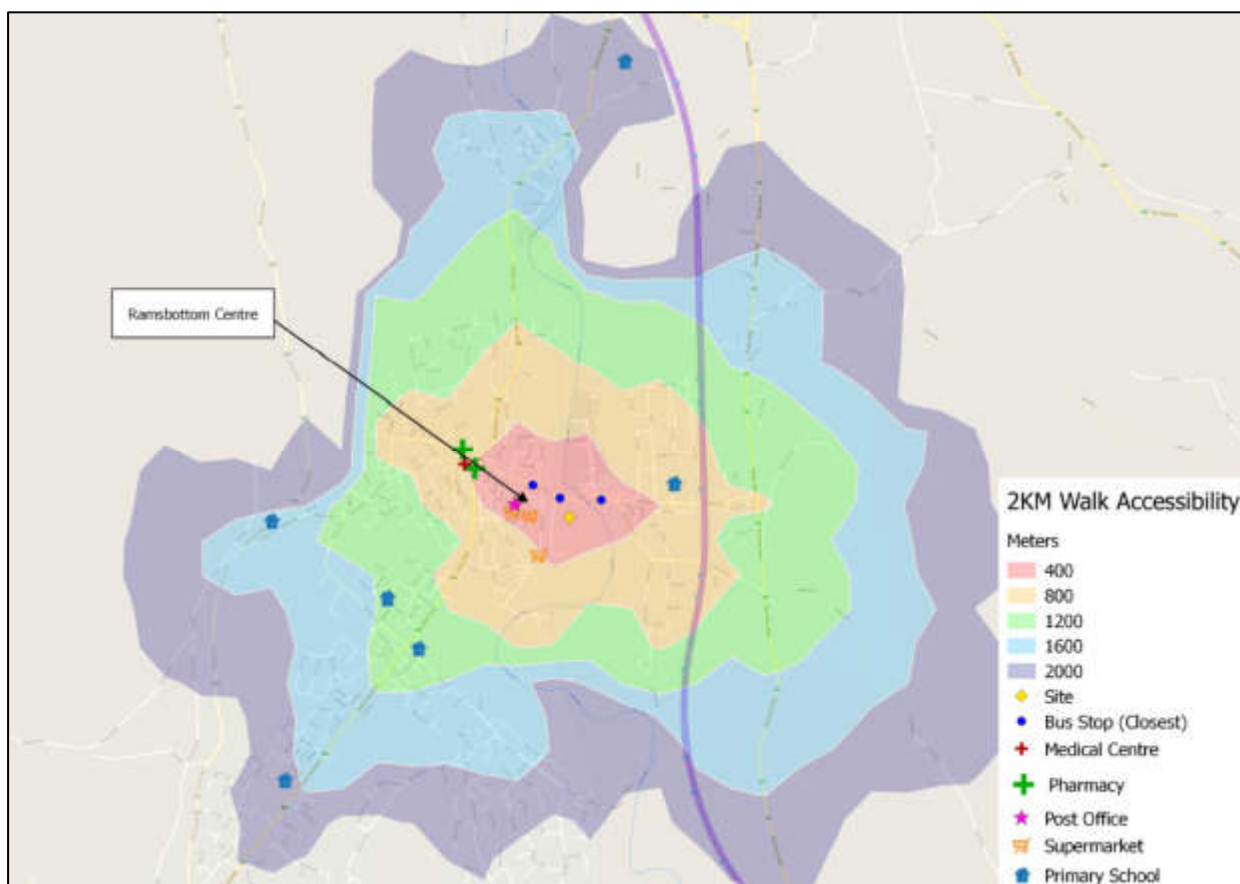
General

- 5.1 This Chapter presents a review of the accessibility of the site by walking, cycling and public transport modes.

Pedestrian Accessibility

- 5.2 Manual for Streets states that walkable neighbourhoods are typically characterised by having a range of facilities within 10 minutes' (up to about 800m) walking distance of residential areas which residents may access comfortably on foot. However, it goes on to state that this is not an upper limit and that walking offers the greatest potential to replace short car trips, particularly those under 2km.
- 5.3 GIS TRACC software has been used to assess the accessibility of the development by foot for a 2km walking distance from the site, as shown on **Figure 5.1** below. The plan shows the reachable areas within 400m coloured bands from the site.

Figure 5.1 – Walk Accessibility



5.4 Pedestrian and cycle access will be provided from the proposed vehicular access and the secondary emergency access which will both be taken from Bridge Street. The main walk routes benefit from regularly spaced street lighting columns and natural surveillance from the residential properties and businesses that abut these routes.

5.5 **Figure 5.1** demonstrates that the site is within acceptable walking distance of Ramsbottom town centre and the array of amenities on offer. A selection of some of the amenities within a short 1km walk distance from the site are summarised in **Table 5.1** below:-

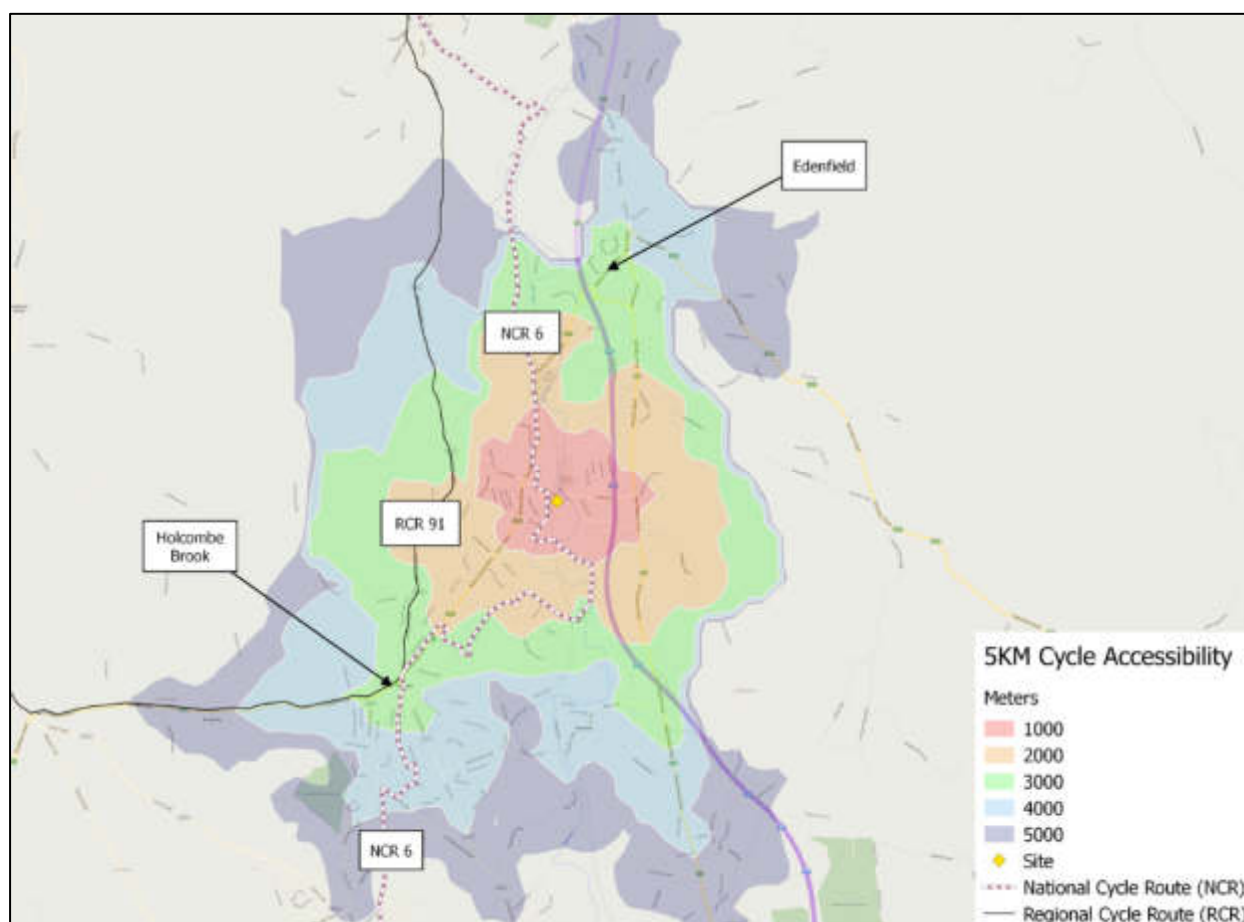
Table 5.1 - Facilities within 2km Walk Distance of the Site

Facility	Details	Approx. Distance From Site
Bus Stop	Bus Stop, Bridge Street	30m
Supermarket	Tesco, King Street	210m
ATM	Tesco, King Street	210m
Supermarket	Morrisons, King Street	270m
Post Office	Post Office, King Street	270m
Supermarket	Aldi, Railway Street	300m
Leisure	Ramsbottom Cricket Club	300m
Leisure	Harry Williams Riverside Stadium	300m
Pharmacy	Lloyds Pharmacy	350m
Doctors	Ramsbottom Health Centre	400m
Library	Ramsbottom Library & Adult Learning Centre	400m
Bank	Santander, Bolton Street	450m
Nursery	Tiddlywinks Nursery School	500m
Hair Salon	Elite Hair, Bolton Street	500m
Dentist	Dental Surgery, Bolton Street	500m
Gym/Pool	Ramsbottom Pool & Fitness	700m
Open Space	Nuttall Park	750m
Primary School	St Andrew's CoE Primary School	1.0km
Primary School	St Joseph's RC Primary School	1.0km

Cycle Accessibility

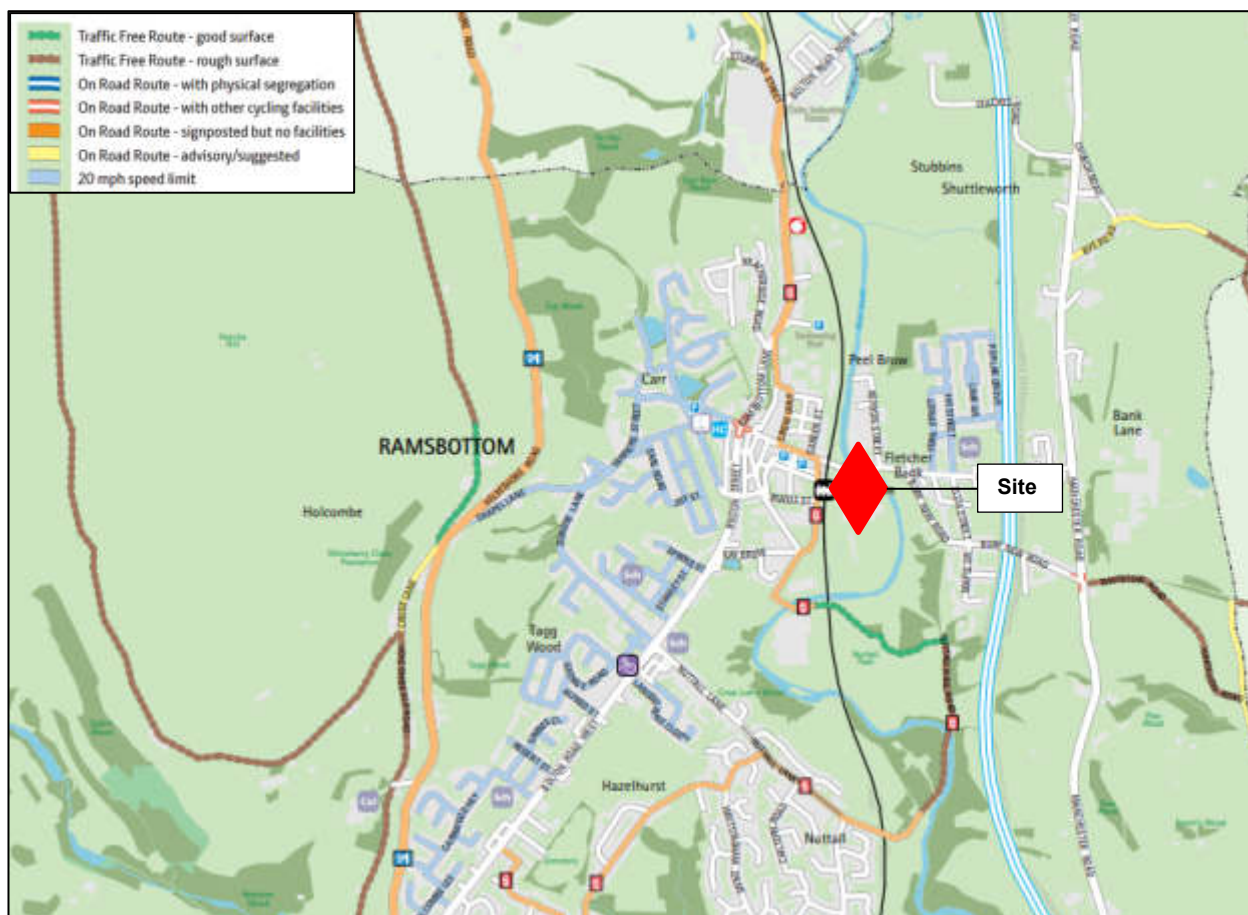
- 5.6 Transport policy identifies that cycling represents a realistic and healthy option to use of the private car for making journeys up to 5km as a whole journey or as part of a longer journey by public transport.
- 5.7 GIS TRACC software has again been used to assess the accessibility of the site by bicycle, for a 5km cycle distance and is shown on **Figure 5.2**.

Figure 5.2 – Cycle Accessibility



- 5.8 The plan demonstrates that Ramsbottom and Edenfield, are located within the 5km catchment area from the development site. Furthermore, **Figure 5.2** demonstrates the sites proximity to National Cycle Route 6 and Regional Cycle Route 91. National Cycle Route 6 runs almost adjacent to the site and locally links Accrington, to the north, with Bury to the south, and also connects to Regional Route 91.
- 5.9 **Figure 5.3** below demonstrates that there are numerous cycle facilities in the vicinity of the site, including numerous 20mph roads, on road signed routes and traffic free routes.

Figure 5.3 – Cycle Facilities Plan



- 5.10 As the application site is within an acceptable cycle distance of a range of areas and associated facilities, cycling is considered to be a viable alternative to private car use for prospective residents of site.

Public Transport Accessibility

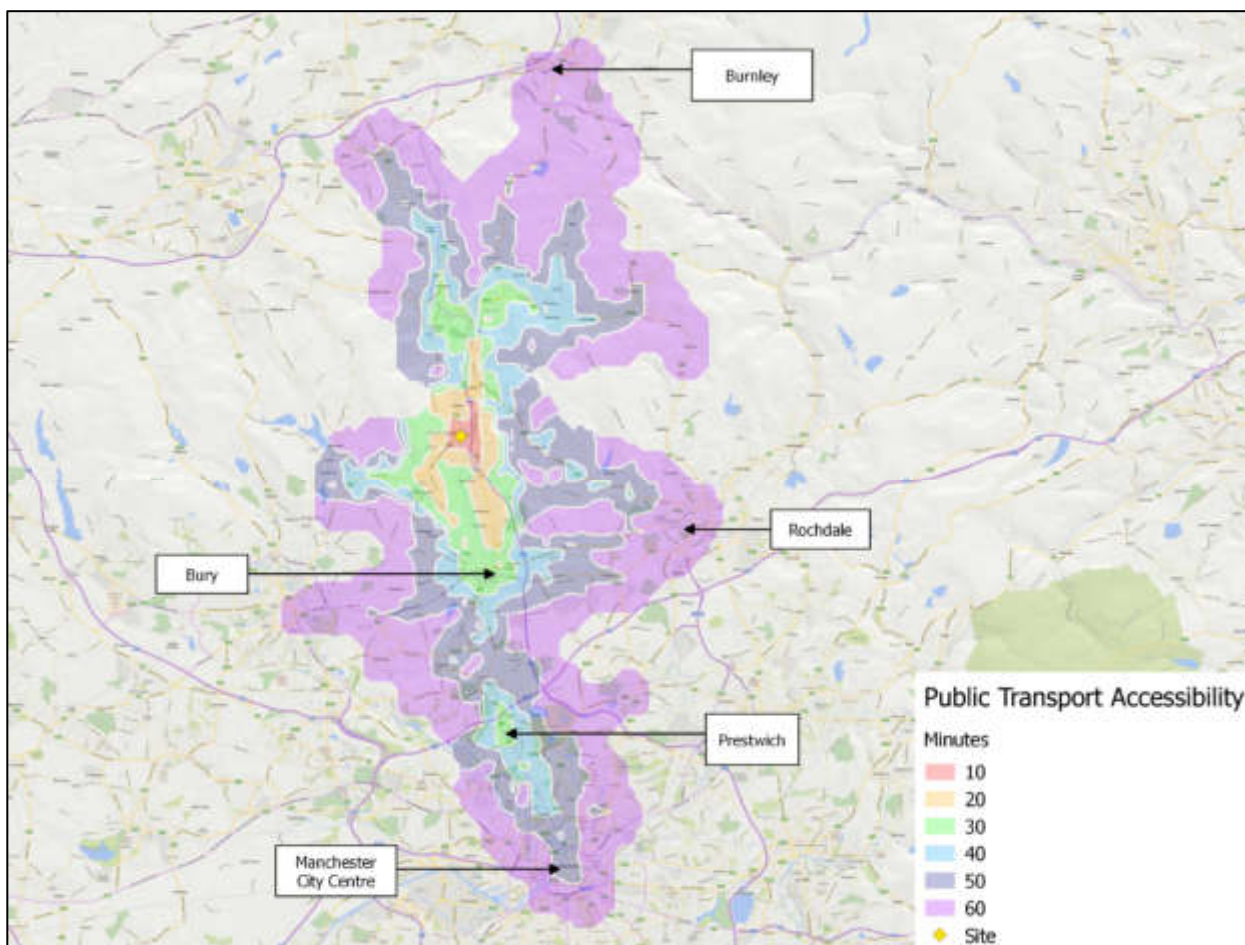
- 5.11 The development is well placed to encourage travel by bus. Guidance published by the CIHT 'Planning for Public Transport in Developments' (1999), recommends that *"Bus stops are located to minimise passengers' walking distance to their final destination. The maximum walking distance to a bus stop should not exceed 400m and preferably be no more than 300m."*
- 5.12 The closest bus stop to the site is located immediately adjacent the north-west corner of the site, on Bridge Street. There are also bus stops located on both sides of the A676 Bolton Street, approximately 400m walk distance west of the site. Details of the main pre-COVID-19 bus services and frequencies which use these stops are provided in **Table 5.2** below.

Table 5.2 – Bus Services:

Service	Route	Service Frequency
472	Bury / Ramsbottom Circular	Mon – Fri: 15mins
		Sat: 15mins
		Sun: 30
474	Bury / Ramsbottom Circular	Mon – Fri: 15mins
		Sat: 15mins
		Sun: 30
477	Bury - Ramsbottom	Mon – Fri: 60mins
		Sat: 60mins
		Sun: -
X41	Accrington - Manchester	Mon – Fri: 30mins
		Sat: 30mins
		Sun: 60

- 5.13 The above demonstrates that prospective residents will have access to bus services stopping close to the site which will provide a viable option for residents to travel by bus.
- 5.14 In terms of rail services, the Ramsbottom ELR Station is located immediately adjacent the site. The ELR is a recreational tourist attraction line that provides an hourly steam train service between Rawtenstall and Bury.
- 5.15 The level of accessibility by public transport has been analysed using GIS TRACC software and is shown on **Figure 5.4** below. The figure illustrates the distance that can be travelled within 60 minutes by public transport to and from the site, which includes the time taken to walk to the bus stops.

Figure 5.4 – Public Transport Accessibility



- 5.16 The above demonstrates that the site is within a close proximity to public transport links, serving both the local area and other destinations further afield. The figure shows that key areas of Manchester, Prestwich, Bury, Rochdale and Burnley, amongst others, are in an acceptable 60 minute commute time.

Summary

- 5.17 The above assessments demonstrate that the site is in an accessible location with potential for use of sustainable transport modes, and has a large range of local amenities within close proximity.

FUTURE BASELINE TRAFFIC FLOWS

Introduction

- 6.1 This Chapter describes the future baseline traffic conditions on the local highway network in relation to traffic growth and committed developments.

Future Baseline Traffic Flows

- 6.2 As per typical guidance, a future assessment year of 2025 has been adopted for this TA (i.e. based on the year of application + 5 years for developments outside of the strategic road network).
- 6.3 In order to quantify the level of background traffic growth that could occur on the local network between the date of the traffic surveys (2019) and the future assessment year (2025), National Traffic Model (NTM) growth factors, modified by TEMPRO local growth factors, have been used, as summarised in **Table 6.1** below:-

Table 6.1 – Traffic Growth Factors

Period	AM Peak	PM Peak
2019 to 2025	1.0658	1.0662

- 6.4 The above growth factors have been applied to the surveyed traffic flows to obtain the 2025 base traffic flows, as shown in **Traffic Flow Figure 2**.

Committed Developments

- 6.5 A committed development for 35 dwellings has been identified on land to the north of Bury New Road (Application Reference: 63617) and has been taken into account in the assessments within this TA.
- 6.6 The development traffic flows have been obtained by applying the approved traffic generation estimates as part of the Outline Permission (Application Reference: 60370), which was for up to 50 dwellings, to the level of development approved at reserved matters (35 dwellings) and distributing it through the TA study area based on information from the 2011 Census, as detailed in Chapter 7. The committed development traffic is presented diagrammatically in **Traffic Flow Figure 3**.

7.9 TRIP GENERATION

Overview

- 7.1 This Chapter provides an estimate of the trips generated by the proposed development during the weekday AM and PM peak hours and distributes and assigns the vehicular trips on the local highway network.

Trip Generation – Existing Use

- 7.2 As detailed earlier, the site formally accommodated the Holcombe Paper Mill which was substantially demolished in 2013, however, there are three existing buildings on the site, with a total GFA of approximately 350m², which could be brought back into use without the need for planning permission.
- 7.3 It has been assumed for the purpose of this TA that the existing buildings, if brought back into use, would operate as single industrial buildings (B2 use), which is considered to allow for a robust assessment given that the existing buildings could potentially be occupied by B1 office uses, which generate significantly more trips.
- 7.4 Notwithstanding the above, and in order to estimate the level of trips that could be generated by the existing buildings on the site, if brought back into use, average trip rates from the industry-standard TRICS Database (V7.6.2) have been obtained. The selection criteria for the TRICS based trip rates and the TRICS outputs are presented in [Appendix J](#), with a summary of the vehicular TRICS outputs for the existing development provided in [Table 7.1](#) below.

Table 7.1 - Estimated Trip Rates (Per 100m²) Associated with the Existing Buildings				
Mode	Weekday AM Peak Hour		Weekday PM Peak Hour	
	Arrivals	Departures	Arrivals	Departures
Vehicles	1.265	0.224	0.097	1.022

- 7.5 The estimated trip generation associated with the existing buildings, if brought back into use, is therefore as summarised in [Table 7.2](#) below.

Table 7.2 – Estimated Trip Generation – 350m² B2 Industrial Unit				
Mode	Weekday AM Peak Hour		Weekday PM Peak Hour	
	Arrivals	Departures	Arrivals	Departures
Vehicles	4	1	0	4

Trip Generation - Proposed Development

- 7.6 In order to estimate the trip generating potential of the proposed residential development, average trip rates from the industry-standard TRICS Database (V7.6.2) have been obtained. The selection criteria for the TRICS based trip rates and the TRICS outputs are presented in [Appendix J](#), with a summary of the vehicular TRICS outputs for the proposed residential development provided in [Table 7.3](#) below.

Table 7.3 - Estimated Trip Rates Associated with the Proposed Residential Development				
Mode	Weekday AM Peak Hour		Weekday PM Peak Hour	
	Arrivals	Departures	Arrivals	Departures
Vehicles	0.136	0.370	0.348	0.187

- 7.7 The estimated trip generation associated with the proposed residential development is therefore as summarised in [Table 7.4](#) below.

Table 7.4 – Estimated Trip Generation – 72 Dwellings				
Mode	Weekday AM Peak Hour		Weekday PM Peak Hour	
	Arrivals	Departures	Arrivals	Departures
Vehicles	10	27	25	13

- 7.8 It should be noted that the above trip generation estimates for the proposed development are considered robust as they are based on privately-owned houses and the proportion of apartments (26.4%), which typically generate less traffic, has not been taken into account.

Net Trip Distribution

- 7.9 The net traffic generation is equal to the total traffic generated via the proposed development minus the total traffic that could be generated by the existing buildings, if brought back into use, and is as summarised in [Table 7.5](#) below.

Table 7.5 – Net Trip Generation				
Mode	Weekday AM Peak Hour		Weekday PM Peak Hour	
	Arrivals	Departures	Arrivals	Departures
Vehicles	6	26	25	9

Trip Distribution Methodology

- 7.10 The methodology used to estimate the trip distribution of the development-related traffic routing through the TA study area, and the potential traffic associated with the existing buildings which could be brought back into use at any time, is based on information from the 2011 Census.
- 7.11 Location of usual residence and place of work data from the national census for all “out-moves” from the Bury 001 MSOA (residential element) and all “in-moves” towards the Bury 001 MSOA (existing buildings – employment) have been obtained from Nomis for the purposes of determining a suitable and localised trip distribution model. As requested by TfGM, the base distribution data is provided in this TA (see [Appendix K](#)) and the trip distribution percentages are presented in [Table 7.6](#) (residential element) and [Table 7.7](#) (existing buildings – employment) below:-

Table 7.6 – Trip Distribution

Route Reference	Route Description	Percentage
A	Peel Brow, A56 Whalley Road North	19.4%
B	Bridge Street, Railway Street, Kay Brow, A676 South	12.8%
C	Peel Brow, Bury New Road, A56 Manchester Road South	67.8%

Table 7.7 – Employment Trip Distribution (Existing Buildings)

Route Reference	Route Description	Percentage
A	A56 Whalley Road North, Peel Brow	27.9%
B	A56 Manchester Road South, Bury New Road, Peel Brow	33.2%
C	A676 South, Kay Brow, Railway Street, Bridge Street	38.9%

- 7.12 Out-moves provide an indication of the numbers and destinations (on a MSOA basis) of people who reside in the Bury 001 MSOA and who work elsewhere and in-moves provide an indication of the numbers and destinations (on a MSOA basis) of people who work in Bury 001 MSOA and who live elsewhere.

- 7.13 This methodology has been adopted to distribute trips for the proposed residential development and the existing buildings for the purpose of identifying a net traffic impact. The percentage distribution of vehicular trips generated by the proposed residential development and the existing employment buildings is also presented diagrammatically in **Traffic Flow Figure 4 – Figure 5** respectively.

Traffic Assignment

- 7.14 The trip generation estimates for the proposed residential development have been assigned to the network using the previously mentioned residential distribution methodology and are presented diagrammatically on **Traffic Flow Figure 6**.
- 7.15 The trip generation estimates for the existing buildings have been assigned to the network using the employment distributions presented in **Table 7.7** and are presented diagrammatically on **Traffic Flow Figure 7**.
- 7.16 The net traffic is equal to the total traffic generated via the proposed residential development (**Traffic Flow Figure 6**) minus the total traffic that could be generated by the existing buildings (**Traffic Flow Figure 7**), if brought back into use, and is presented diagrammatically on **Traffic Flow Figure 8**.
- 7.17 The net trip generation estimates are considered to allow for an extremely robust assessment given that the existing buildings could be occupied by B1 office uses, if brought back into use, which generate significantly more trips than the assumed B2 use, as detailed earlier. Furthermore, the proposed development trip generation estimates are based on privately-owned houses and the proportion of apartments (26.4%), which typically generate less traffic, has not been taken into account.

8.0 ANTICIPATED HIGHWAY IMPACT

General

8.1 This Chapter describes the impact of the additional trips generated by the proposed development on the operation of the local highway network. As stated earlier, the study area for the TA includes the following junctions:

- Proposed site accesses;
- A56 Whalley Road / A56 Manchester Road / Peel Brow;
- A56 Manchester Road / Bury New Road;
- A576 Bolton Street / Kay Brow; and,
- A576 Bolton Street / A576 Bolton Road West / Dundee Lane / Nuttall Lane

8.2 As shown on **Traffic Flow Figure 8**, once the development traffic has been distributed on the local highway network, the net traffic flows are not considered to have a material impact on the any of the junctions in the TA study area, particularly when having regard to the 30 or more two-way vehicle movements in any hour threshold, outlined in the Department for Transport's document 'Guidance on Transport Assessments'.

8.3 Having regard to this, detailed capacity assessments are only considered necessary at the proposed site access junction which is subject to over 30 two-way trips. Nevertheless, given that the A56 Manchester Road / Bury New Road junction has previously been identified to operate over capacity and TfGM have requested a contribution towards the implementation of MOVA signal control, detailed capacity assessments have also been undertaken at this junction.

Assessment Methodology

8.4 The assessment of the priority controlled access junction has been undertaken using Junctions 9 (PICADY) software and the assessment of the signal controlled A56 Manchester Road / Bury New Road junction has been undertaken using LINSIG software.

- 8.5 With the Junctions 9 model, the results generated provide a Ratio to Flow capacity (RFC) along with an estimate of the likely traffic queues. RFC values between 0.00 and 0.85 are generally accepted as representing stable and acceptable operating conditions. Values between 0.85 and 1 represents variable operation (i.e. possible queues building up at the junction during the period under consideration and increases in vehicular delay moving through the junction). RFC values in excess of 1 represents overloaded conditions (i.e. congested conditions).
- 8.6 LINSIG software presents results as a percentage Degree of Saturation (DoS) and corresponding likely traffic queues for each modelled link at the junction. For Traffic Signals it is generally accepted that DoS of 90% or less on individual links represents satisfactory signal operation. DoS of between 90% and 100% represent variable operation which warrants further investigation and values in excess of 100% represent overloaded conditions.
- 8.7 Capacity assessments have been undertaken in the future assessment year of 2025 in the 'with' and 'without' development scenarios. The 2025 'without development' baseline traffic flows are equal to the sum of the 2025 growthed surveyed traffic flows, the total committed development traffic flows and the existing traffic generation (if brought back into use), as shown on **Traffic Flow Figure 9**.
- 8.8 The 2025 'with development' assessment traffic flows are equal to the sum of the 2025 'without development' baseline traffic flows and the net development traffic flows, as shown on **Traffic Flow Figure 10**.

Proposed Site Access

- 8.9 PICADY software has been used in the assessment of the proposed site access. The PICADY results are presented in **Appendix L** with the results summarised in **Table 8.1** below.

Table 8.1 – Proposed Site Access PICADY Results

Approach	AM PEAK		PM PEAK	
	RFC	MMQ	RFC	MMQ
2024 'With Development' Assessment				
Site Access- Right Left	0.10	0.1	0.06	0.1
Bridge Street – Ahead Right	0.00	0.0	0.01	0.0

- 8.10 The above results demonstrate that the proposed site access will operate well within practical capacity in the future assessment year of 2025, without significant queuing.

A56 Manchester Road / Bury New Road Signalised Junction

- 8.11 LINSIG software has been used to assess the operation of the A56 Manchester Road / Bury New Road signal controlled junction. The signal timing data has been obtained from TfGM and the results of the ‘without’ and ‘with’ development assessments are presented in **Appendix M** and summarised in **Table 8.2** below.

Table 8.2 – A56 Manchester Road / Bury New Road Signal Controlled Junction LINSIG Results – 2025 Assessment Year

Link	2025 Without Dev Scenario				2025 With Dev Scenario			
	AM PEAK		PM PEAK		AM PEAK		PM PEAK	
	DoS	MMQ	DoS	MMQ	DoS	MMQ	DoS	MMQ
A56 Manchester Road (North) Ahead	83.4%	16.7	30.1%	4.2	83.4%	16.7	30.1%	4.2
A56 Manchester Road (South) Ahead Left	74.2%	13.5	92.8%	32.3	74.8%	13.7	94.1%	34.5
Bury New Road Left Right	82.9%	18.0	89.2%	11.3	84.9%	19.0	91.4%	12.3
PRC (%):	8.0%		-3.1%		6.0%		-4.5%	

- 8.12 As can be seen from the above, in the future assessment year of 2025 the A56 Manchester Road (South) link is operating over its practical capacity during the PM peak period, without the proposed development in place.
- 8.13 With the additional traffic generated by the development there will be a slight increase in the DoS and queue lengths on a number of the links when compared to the without development scenario. However, the greatest increase in queues occurs on the A56 Manchester Road (South) link during the PM peak period where there is an increase of only 2.2 PCU.

Summary

- 8.14 Having regard to the analysis presented above, the proposed development will not have a material impact on the operation of the local highway network and no off-site highway mitigation measures, including any contribution for MOVA as requested by TfGM, are required. In addition, with reference to paragraph 109 of the NPPF the impact of the proposed development cannot therefore be considered severe.

SUMMARY AND CONCLUSIONS

- 9.1 SCP have been appointed by Eccleston Homes Limited to provide transport planning and engineering advice in support of a full planning application for a residential development, comprising 72 dwellings, on the former Holcombe Mill site, Ramsbottom.
- 9.2 Vehicular access to the development will be provided off Bridge Street via the existing access to the north-west of the site. In addition, a secondary emergency access will be provided off Bridge Street with dropped kerbs and retractable bollards.
- 9.3 The personal injury accident data for the most recently available five-year period has been reviewed and does not represent a material concern in the context of the proposed development.
- 9.4 The accessibility of the site has been assessed. Overall, the site is considered to be well located in terms of its accessibility by all the major non-car modes of transport.
- 9.5 The impact of the traffic arising from the development has been tested in detail at the site access junction and the A56 Manchester Road / Bury New Road junction.
- 9.6 The assessments show that the site access has sufficient spare capacity to accommodate the proposed development and the development will not have a material impact on the operation of the off-site junctions.
- 9.7 Having regard to the above, it is concluded that there are no highway or transport related reasons to withhold planning permission for the scheme and the proposed development is therefore recommended for approval.

S|C|P

APPENDIX A



SITE: 1 DATE: 03/07/2019

LOCATION: A676 Bolton Rd West / Dundee Lane / Nuttall Lane DAY: Wednesday

TIME	A to D							TOT	A to C							TOT
	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL		CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	
07:00	5	1	0	0	0	0	0	6	71	6	3	0	2	0	2	84
07:15	8	3	1	0	0	0	0	12	66	16	2	2	2	1	0	89
07:30	4	0	0	0	0	0	0	4	82	19	1	1	4	0	1	108
07:45	12	0	0	0	0	1	0	13	86	23	5	1	3	0	1	119
H/TOT	29	4	1	0	0	1	0	35	305	64	11	4	11	1	4	400
08:00	14	3	0	0	1	0	0	18	88	27	8	0	4	1	0	128
08:15	15	6	0	0	0	0	0	21	86	10	4	2	3	0	1	106
08:30	15	2	0	0	0	0	0	17	71	12	5	0	2	1	0	91
08:45	15	3	1	0	0	0	0	19	79	12	2	2	2	0	1	98
H/TOT	59	14	1	0	1	0	0	75	324	61	19	4	11	2	2	423
09:00	11	3	0	0	0	0	0	14	98	21	6	4	2	0	1	132
09:15	16	2	3	0	0	0	0	21	70	14	3	0	2	1	0	90
H/TOT	27	5	3	0	0	0	0	35	168	35	9	4	4	1	1	222
P/TOT	115	23	5	0	1	1	0	145	797	160	39	12	26	4	7	1045

TIME	A to D							TOT	A to C							TOT
	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL		CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	
16:00	49	7	0	0	1	1	0	58	105	11	0	0	6	1	0	123
16:15	40	0	0	0	1	1	0	42	125	18	2	1	2	2	0	150
16:30	41	4	0	0	0	0	0	45	134	18	1	1	1	2	0	157
16:45	38	1	0	1	0	0	0	40	135	12	1	0	4	3	2	157
H/TOT	168	12	0	1	2	2	0	185	499	59	4	2	13	8	2	587
17:00	37	4	0	0	2	1	0	44	128	8	2	0	1	0	0	139
17:15	41	2	0	0	0	0	0	43	127	11	1	0	1	0	0	140
17:30	51	7	0	0	0	0	0	58	103	15	1	0	2	0	1	122
17:45	37	6	0	0	0	0	0	43	112	13	1	0	5	0	0	131
H/TOT	166	19	0	0	2	1	0	188	470	47	5	0	9	0	1	532
P/TOT	334	31	0	1	4	3	0	373	969	106	9	2	22	8	3	1119



SITE: 1 DATE: 03/07/2019
LOCATION: A676 Bolton Rd West / Dundee Lane / Nuttall Lane DAY: Wednesday

TIME	A to B							TOT	A to A							TOT
	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL		CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	
07:00	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0
07:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0
07:45	2	1	0	0	0	0	0	3	0	0	0	0	0	0	0	0
H/TOT	2	2	1	0	0	0	0	5	0	0	0	0	0	0	0	0
08:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15	3	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0
08:30	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0
08:45	2	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0
H/TOT	5	1	0	0	0	0	0	6	0	0	0	0	0	0	0	0
09:00	3	1	0	0	0	0	0	4	0	0	0	0	0	0	0	0
09:15	6	0	0	0	0	0	0	6	0	0	0	0	0	0	0	0
H/TOT	9	1	0	0	0	0	0	10	0	0	0	0	0	0	0	0
P/TOT	16	4	1	0	0	0	0	21	0	0	0	0	0	0	0	0

TIME	A to B							TOT	A to A							TOT
	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL		CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	
16:00	5	0	0	0	0	0	0	5	0	0	0	0	0	0	0	0
16:15	6	0	0	0	0	0	0	6	0	0	0	0	0	0	0	0
16:30	6	1	0	0	0	0	0	7	0	0	0	0	0	0	0	0
16:45	9	0	0	0	0	0	0	9	0	0	0	0	0	0	0	0
H/TOT	26	1	0	0	0	0	0	27	0	0	0	0	0	0	0	0
17:00	3	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0
17:15	4	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0
17:30	3	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0
17:45	5	0	0	0	0	0	0	5	0	0	0	0	0	0	0	0
H/TOT	15	0	0	0	0	0	0	15	0	0	0	0	0	0	0	0
P/TOT	41	1	0	0	0	0	0	42	0	0	0	0	0	0	0	0



SITE: 1 DATE: 03/07/2019
LOCATION: A676 Bolton Rd West / Dundee Lane / Nuttall Lane DAY: Wednesday

TIME	B to A							TOT	B to D							TOT
	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL		CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	
07:00	8	0	0	0	0	0	0	8	0	0	0	0	0	0	0	0
07:15	15	2	1	0	0	0	0	18	3	0	0	0	0	0	0	3
07:30	6	1	0	0	0	0	0	7	2	0	0	0	0	0	0	2
07:45	9	0	0	0	0	0	0	9	2	0	1	0	0	0	0	3
H/TOT	38	3	1	0	0	0	0	42	7	0	1	0	0	0	0	8
08:00	10	2	1	0	0	0	0	13	2	0	0	0	0	0	0	2
08:15	11	0	0	0	0	0	0	11	2	1	1	0	0	0	0	4
08:30	9	3	0	0	0	1	0	13	5	0	0	0	0	0	1	6
08:45	7	0	1	0	0	0	1	9	3	0	0	0	0	0	0	3
H/TOT	37	5	2	0	0	1	1	46	12	1	1	0	0	0	1	15
09:00	10	0	0	0	0	0	0	10	1	0	0	0	0	0	0	1
09:15	7	0	0	0	0	0	0	7	1	1	0	0	0	0	0	2
H/TOT	17	0	0	0	0	0	0	17	2	1	0	0	0	0	0	3
P/TOT	92	8	3	0	0	1	1	105	21	2	2	0	0	0	1	26

TIME	B to A							TOT	B to D							TOT
	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL		CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	
16:00	6	0	0	0	0	0	0	6	5	0	0	0	0	0	0	5
16:15	6	1	0	0	0	0	0	7	8	1	0	0	0	0	0	9
16:30	6	1	0	0	0	0	0	7	5	1	0	0	0	0	0	6
16:45	5	0	1	0	0	0	0	6	9	1	1	0	0	0	0	11
H/TOT	23	2	1	0	0	0	0	26	27	3	1	0	0	0	0	31
17:00	2	0	0	0	0	0	0	2	8	0	0	0	0	0	0	8
17:15	4	1	0	0	0	0	0	5	16	2	0	0	0	0	0	18
17:30	3	0	0	0	0	0	0	3	12	0	0	0	0	0	0	12
17:45	7	2	0	0	0	0	0	9	9	0	0	0	0	0	1	10
H/TOT	16	3	0	0	0	0	0	19	45	2	0	0	0	0	1	48
P/TOT	39	5	1	0	0	0	0	45	72	5	1	0	0	0	1	79



SITE: 1 DATE: 03/07/2019
LOCATION: A676 Bolton Rd West / Dundee Lane / Nuttall Lane DAY: Wednesday

TIME	B to C							TOT	B to B							TOT
	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL		CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	
07:00	4	1	0	0	0	0	0	5	0	0	0	0	0	0	0	0
07:15	2	1	0	0	0	0	0	3	0	0	0	0	0	0	0	0
07:30	7	1	0	0	0	0	0	8	0	0	0	0	0	0	0	0
07:45	10	1	0	0	0	0	0	11	0	0	0	0	0	0	0	0
H/TOT	23	4	0	0	0	0	0	27	0	0	0	0	0	0	0	0
08:00	9	0	0	0	0	0	0	9	0	0	0	0	0	0	0	0
08:15	12	0	0	0	0	0	0	12	0	0	0	0	0	0	0	0
08:30	4	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0
08:45	13	1	0	0	0	0	0	14	0	0	0	0	0	0	0	0
H/TOT	38	1	0	0	0	0	0	39	0	0	0	0	0	0	0	0
09:00	9	1	0	0	0	0	0	10	0	0	0	0	0	0	0	0
09:15	4	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0
H/TOT	13	1	0	0	0	0	0	14	0	0	0	0	0	0	0	0
P/TOT	74	6	0	0	0	0	0	80	0	0	0	0	0	0	0	0

TIME	B to C							TOT	B to B							TOT
	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL		CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	
16:00	5	1	0	0	0	0	0	6	0	0	0	0	0	0	0	0
16:15	9	0	0	0	0	1	0	10	0	0	0	0	0	0	0	0
16:30	12	0	0	0	0	0	0	12	0	0	0	0	0	0	0	0
16:45	4	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0
H/TOT	30	1	0	0	0	1	0	32	0	0	0	0	0	0	0	0
17:00	13	1	0	0	0	1	0	15	0	0	0	0	0	0	0	0
17:15	15	1	0	0	0	0	0	16	0	0	0	0	0	0	0	0
17:30	19	1	0	0	0	1	0	21	0	0	0	0	0	0	0	0
17:45	15	1	0	0	0	0	0	16	0	0	0	0	0	0	0	0
H/TOT	62	4	0	0	0	2	0	68	0	0	0	0	0	0	0	0
P/TOT	92	5	0	0	0	3	0	100	0	0	0	0	0	0	0	0



SITE: 1 DATE: 03/07/2019
LOCATION: A676 Bolton Rd West / Dundee Lane / Nuttall Lane DAY: Wednesday

TIME	C to B							TOT	C to A							TOT
	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL		CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	
07:00	1	0	0	0	0	0	0	1	71	8	1	3	2	1	1	87
07:15	2	2	0	0	0	0	0	4	123	20	3	1	2	2	2	153
07:30	0	0	0	0	0	0	0	0	132	19	1	2	2	0	0	156
07:45	4	0	0	0	0	0	0	4	148	21	1	3	4	1	0	178
H/TOT	7	2	0	0	0	0	0	9	474	68	6	9	10	4	3	574
08:00	2	0	0	0	0	0	0	2	137	15	1	0	3	2	0	158
08:15	2	0	0	0	0	0	0	2	121	20	5	1	1	0	1	149
08:30	5	0	0	0	0	0	0	5	134	10	2	2	4	0	1	153
08:45	5	0	0	0	0	0	0	5	119	14	5	0	2	1	1	142
H/TOT	14	0	0	0	0	0	0	14	511	59	13	3	10	3	3	602
09:00	2	0	0	0	0	0	0	2	153	16	1	2	5	0	1	178
09:15	6	0	0	0	0	0	0	6	112	13	2	1	2	0	1	131
H/TOT	8	0	0	0	0	0	0	8	265	29	3	3	7	0	2	309
P/TOT	29	2	0	0	0	0	0	31	1250	156	22	15	27	7	8	1485

TIME	C to B							TOT	C to A							TOT
	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL		CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	
16:00	5	0	0	0	0	0	0	5	113	21	4	2	4	3	1	148
16:15	2	0	0	0	0	0	0	2	98	17	3	0	4	1	1	124
16:30	3	0	0	0	0	0	0	3	90	21	1	0	2	0	2	116
16:45	3	0	1	0	0	0	0	4	100	20	3	0	2	0	0	125
H/TOT	13	0	1	0	0	0	0	14	401	79	11	2	12	4	4	513
17:00	4	1	0	0	0	0	0	5	116	9	2	0	3	1	1	132
17:15	2	2	0	0	0	0	0	4	113	13	1	0	3	2	1	133
17:30	1	1	0	0	0	0	0	2	121	11	0	0	1	0	1	134
17:45	6	1	0	0	0	0	0	7	112	11	0	0	4	2	0	129
H/TOT	13	5	0	0	0	0	0	18	462	44	3	0	11	5	3	528
P/TOT	26	5	1	0	0	0	0	32	863	123	14	2	23	9	7	1041



SITE: 1 DATE: 03/07/2019
LOCATION: A676 Bolton Rd West / Dundee Lane / Nuttall Lane DAY: Wednesday

TIME	C to D							TOT	C to C							TOT
	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL		CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	
07:00	3	0	1	0	0	0	0	4	0	0	0	0	0	0	0	0
07:15	6	3	0	0	0	1	0	10	0	0	0	0	0	0	0	0
07:30	8	0	0	0	0	0	0	8	0	0	0	0	0	0	0	0
07:45	8	2	0	0	1	0	0	11	0	0	0	0	0	0	0	0
H/TOT	25	5	1	0	1	1	0	33	0	0	0	0	0	0	0	0
08:00	11	4	1	0	0	0	0	16	0	0	0	0	0	0	0	0
08:15	18	1	0	0	0	0	0	19	0	0	0	0	0	0	0	0
08:30	17	4	0	0	0	0	0	21	0	0	0	0	0	0	0	0
08:45	14	3	0	0	0	0	0	17	0	0	0	0	0	0	0	0
H/TOT	60	12	1	0	0	0	0	73	0	0	0	0	0	0	0	0
09:00	22	4	0	0	0	0	0	26	0	0	0	0	0	0	0	0
09:15	15	1	0	0	1	0	0	17	0	0	0	0	0	0	0	0
H/TOT	37	5	0	0	1	0	0	43	0	0	0	0	0	0	0	0
P/TOT	122	22	2	0	2	1	0	149	0	0	0	0	0	0	0	0

TIME	C to D							TOT	C to C							TOT
	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL		CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	
16:00	26	1	0	0	0	0	1	28	0	0	0	0	0	0	0	0
16:15	25	5	0	0	0	0	1	31	0	0	0	0	0	0	0	0
16:30	32	3	1	0	0	0	0	36	0	0	0	0	0	0	0	0
16:45	27	2	0	0	2	0	0	31	0	0	0	0	0	0	0	0
H/TOT	110	11	1	0	2	0	2	126	0	0	0	0	0	0	0	0
17:00	26	1	1	0	0	0	0	28	0	0	0	0	0	0	0	0
17:15	46	3	0	0	0	0	0	49	0	0	0	0	0	0	0	0
17:30	41	1	0	0	0	0	0	42	0	0	0	0	0	0	0	0
17:45	33	2	0	0	0	0	0	35	0	0	0	0	0	0	0	0
H/TOT	146	7	1	0	0	0	0	154	0	0	0	0	0	0	0	0
P/TOT	256	18	2	0	2	0	2	280	0	0	0	0	0	0	0	0



SITE: 1 DATE: 03/07/2019
LOCATION: A676 Bolton Rd West / Dundee Lane / Nuttall Lane DAY: Wednesday

TIME	D to C							TOT	D to B							TOT
	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL		CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	
07:00	21	2	0	0	0	0	0	23	3	0	0	0	0	0	0	3
07:15	21	4	0	0	0	0	0	25	2	1	0	0	0	0	0	3
07:30	47	1	1	0	0	0	1	50	3	0	0	0	0	0	0	3
07:45	54	0	0	0	0	0	0	54	1	0	0	0	0	0	0	1
H/TOT	143	7	1	0	0	0	1	152	9	1	0	0	0	0	0	10
08:00	39	0	0	0	0	0	1	40	4	2	0	0	0	0	1	7
08:15	36	2	0	0	1	0	0	39	4	0	0	0	0	0	0	4
08:30	36	1	0	0	0	0	0	37	5	1	0	0	0	0	0	6
08:45	45	3	0	0	0	0	0	48	3	0	0	0	0	0	0	3
H/TOT	156	6	0	0	1	0	1	164	16	3	0	0	0	0	1	20
09:00	16	4	0	0	0	0	0	20	1	0	0	0	0	0	0	1
09:15	20	3	1	0	0	0	0	24	0	0	0	0	0	0	0	0
H/TOT	36	7	1	0	0	0	0	44	1	0	0	0	0	0	0	1
P/TOT	335	20	2	0	1	0	2	360	26	4	0	0	0	0	1	31

TIME	D to C							TOT	D to B							TOT
	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL		CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	
16:00	14	1	3	0	1	0	0	19	3	0	0	0	0	0	0	3
16:15	25	4	0	0	0	0	0	29	5	1	0	0	0	0	0	6
16:30	17	1	0	0	0	0	0	18	1	0	0	0	0	0	0	1
16:45	18	3	0	0	1	0	0	22	2	0	0	0	0	0	0	2
H/TOT	74	9	3	0	2	0	0	88	11	1	0	0	0	0	0	12
17:00	26	2	1	0	0	0	3	32	0	0	0	0	0	0	0	0
17:15	24	2	0	0	2	0	0	28	2	1	0	0	0	0	0	3
17:30	25	1	0	0	0	1	0	27	2	0	0	0	0	0	1	3
17:45	27	6	0	0	0	1	0	34	4	0	0	0	0	0	0	4
H/TOT	102	11	1	0	2	2	3	121	8	1	0	0	0	0	1	10
P/TOT	176	20	4	0	4	2	3	209	19	2	0	0	0	0	1	22



SITE: 1 DATE: 03/07/2019
LOCATION: A676 Bolton Rd West / Dundee Lane / Nuttall Lane DAY: Wednesday

TIME	D to A							TOT	D to D							TOT
	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL		CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	
07:00	44	5	2	0	0	0	0	51	0	0	0	0	0	0	0	0
07:15	48	0	0	0	0	0	0	48	0	0	0	0	0	0	0	0
07:30	71	2	2	0	0	0	0	75	0	0	0	0	0	0	0	0
07:45	59	3	0	0	0	0	0	62	0	0	0	0	0	0	0	0
H/TOT	222	10	4	0	0	0	0	236	0	0	0	0	0	0	0	0
08:00	38	2	0	0	1	0	0	41	0	0	0	0	0	0	0	0
08:15	47	7	0	0	0	0	0	54	0	0	0	0	0	0	0	0
08:30	55	2	2	0	0	0	0	59	0	0	0	0	0	0	0	0
08:45	50	2	0	0	0	0	0	52	0	0	0	0	0	0	0	0
H/TOT	190	13	2	0	1	0	0	206	0	0	0	0	0	0	0	0
09:00	40	4	0	0	0	0	0	44	0	0	0	0	0	0	0	0
09:15	25	7	0	0	0	0	0	32	0	0	0	0	0	0	0	0
H/TOT	65	11	0	0	0	0	0	76	0	0	0	0	0	0	0	0
P/TOT	477	34	6	0	1	0	0	518	0	0	0	0	0	0	0	0

TIME	D to A							TOT	D to D							TOT
	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL		CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	
16:00	14	2	0	0	0	0	0	16	0	0	0	0	0	0	0	0
16:15	20	4	0	0	0	0	0	24	0	0	0	0	0	0	0	0
16:30	30	1	0	0	0	0	0	31	0	0	0	0	0	0	0	0
16:45	21	3	1	0	0	0	0	25	0	0	0	0	0	0	0	0
H/TOT	85	10	1	0	0	0	0	96	0	0	0	0	0	0	0	0
17:00	26	3	0	0	1	0	0	30	0	0	0	0	0	0	0	0
17:15	16	2	0	1	0	0	0	19	0	0	0	0	0	0	0	0
17:30	23	2	0	0	0	0	0	25	0	0	0	0	0	0	0	0
17:45	27	0	0	0	0	0	0	27	0	0	0	0	0	0	0	0
H/TOT	92	7	0	1	1	0	0	101	0	0	0	0	0	0	0	0
P/TOT	177	17	1	1	1	0	0	197	0	0	0	0	0	0	0	0



SITE: 1 DATE: 03/07/2019
LOCATION: A676 Bolton Rd West / Dundee Lane / Nuttall Lane DAY: Wednesday

TIME	TO ARM A							TOT	FROM ARM A							TOT
	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL		CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	
07:00	123	13	3	3	2	1	1	146	76	8	3	0	2	0	2	91
07:15	186	22	4	1	2	2	2	219	74	19	3	2	2	1	0	101
07:30	209	22	3	2	2	0	0	238	86	19	2	1	4	0	1	113
07:45	216	24	1	3	4	1	0	249	100	24	5	1	3	1	1	135
H/TOT	734	81	11	9	10	4	3	852	336	70	13	4	11	2	4	440
08:00	185	19	2	0	4	2	0	212	102	30	8	0	5	1	0	146
08:15	179	27	5	1	1	0	1	214	104	16	4	2	3	0	1	130
08:30	198	15	4	2	4	1	1	225	86	15	5	0	2	1	0	109
08:45	176	16	6	0	2	1	2	203	96	15	3	2	2	0	1	119
H/TOT	738	77	17	3	11	4	4	854	388	76	20	4	12	2	2	504
09:00	203	20	1	2	5	0	1	232	112	25	6	4	2	0	1	150
09:15	144	20	2	1	2	0	1	170	92	16	6	0	2	1	0	117
H/TOT	347	40	3	3	7	0	2	402	204	41	12	4	4	1	1	267
P/TOT	1819	198	31	15	28	8	9	2108	928	187	45	12	27	5	7	1211

	TO ARM A								FROM ARM A							
TIME	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	TOT	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	TOT
16:00	133	23	4	2	4	3	1	170	159	18	0	0	7	2	0	186
16:15	124	22	3	0	4	1	1	155	171	18	2	1	3	3	0	198
16:30	126	23	1	0	2	0	2	154	181	23	1	1	1	2	0	209
16:45	126	23	5	0	2	0	0	156	182	13	1	1	4	3	2	206
H/TOT	509	91	13	2	12	4	4	635	693	72	4	3	15	10	2	799
17:00	144	12	2	0	4	1	1	164	168	12	2	0	3	1	0	186
17:15	133	16	1	1	3	2	1	157	172	13	1	0	1	0	0	187
17:30	147	13	0	0	1	0	1	162	157	22	1	0	2	0	1	183
17:45	146	13	0	0	4	2	0	165	154	19	1	0	5	0	0	179
H/TOT	570	54	3	1	12	5	3	648	651	66	5	0	11	1	1	735
P/TOT	1079	145	16	3	24	9	7	1283	1344	138	9	3	26	11	3	1534



SITE: 1 DATE: 03/07/2019
LOCATION: A676 Bolton Rd West / Dundee Lane / Nuttall Lane DAY: Wednesday

TIME	TO ARM B							TOT	FROM ARM B							TOT
	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL		CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	
07:00	4	1	0	0	0	0	0	5	12	1	0	0	0	0	0	13
07:15	4	3	0	0	0	0	0	7	20	3	1	0	0	0	0	24
07:30	3	0	1	0	0	0	0	4	15	2	0	0	0	0	0	17
07:45	7	1	0	0	0	0	0	8	21	1	1	0	0	0	0	23
H/TOT	18	5	1	0	0	0	0	24	68	7	2	0	0	0	0	77
08:00	6	2	0	0	0	0	1	9	21	2	1	0	0	0	0	24
08:15	9	0	0	0	0	0	0	9	25	1	1	0	0	0	0	27
08:30	10	2	0	0	0	0	0	12	18	3	0	0	0	1	1	23
08:45	10	0	0	0	0	0	0	10	23	1	1	0	0	0	1	26
H/TOT	35	4	0	0	0	0	1	40	87	7	3	0	0	1	2	100
09:00	6	1	0	0	0	0	0	7	20	1	0	0	0	0	0	21
09:15	12	0	0	0	0	0	0	12	12	1	0	0	0	0	0	13
H/TOT	18	1	0	0	0	0	0	19	32	2	0	0	0	0	0	34
P/TOT	71	10	1	0	0	0	1	83	187	16	5	0	0	1	2	211

TIME	TO ARM B							TOT	FROM ARM B							TOT
	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL		CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	
16:00	13	0	0	0	0	0	0	13	16	1	0	0	0	0	0	17
16:15	13	1	0	0	0	0	0	14	23	2	0	0	0	1	0	26
16:30	10	1	0	0	0	0	0	11	23	2	0	0	0	0	0	25
16:45	14	0	1	0	0	0	0	15	18	1	2	0	0	0	0	21
H/TOT	50	2	1	0	0	0	0	53	80	6	2	0	0	1	0	89
17:00	7	1	0	0	0	0	0	8	23	1	0	0	0	1	0	25
17:15	8	3	0	0	0	0	0	11	35	4	0	0	0	0	0	39
17:30	6	1	0	0	0	0	1	8	34	1	0	0	0	1	0	36
17:45	15	1	0	0	0	0	0	16	31	3	0	0	0	0	1	35
H/TOT	36	6	0	0	0	0	1	43	123	9	0	0	0	2	1	135
P/TOT	86	8	1	0	0	0	1	96	203	15	2	0	0	3	1	224



SITE: 1 DATE: 03/07/2019
LOCATION: A676 Bolton Rd West / Dundee Lane / Nuttall Lane DAY: Wednesday

TIME	TO ARM C							TOT	FROM ARM C							TOT
	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL		CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	
07:00	96	9	3	0	2	0	2	112	75	8	2	3	2	1	1	92
07:15	89	21	2	2	2	1	0	117	131	25	3	1	2	3	2	167
07:30	136	21	2	1	4	0	2	166	140	19	1	2	2	0	0	164
07:45	150	24	5	1	3	0	1	184	160	23	1	3	5	1	0	193
H/TOT	471	75	12	4	11	1	5	579	506	75	7	9	11	5	3	616
08:00	136	27	8	0	4	1	1	177	150	19	2	0	3	2	0	176
08:15	134	12	4	2	4	0	1	157	141	21	5	1	1	0	1	170
08:30	111	13	5	0	2	1	0	132	156	14	2	2	4	0	1	179
08:45	137	16	2	2	2	0	1	160	138	17	5	0	2	1	1	164
H/TOT	518	68	19	4	12	2	3	626	585	71	14	3	10	3	3	689
09:00	123	26	6	4	2	0	1	162	177	20	1	2	5	0	1	206
09:15	94	17	4	0	2	1	0	118	133	14	2	1	3	0	1	154
H/TOT	217	43	10	4	4	1	1	280	310	34	3	3	8	0	2	360
P/TOT	1206	186	41	12	27	4	9	1485	1401	180	24	15	29	8	8	1665

	TO ARM C								FROM ARM C							
TIME	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	TOT	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	TOT
16:00	124	13	3	0	7	1	0	148	144	22	4	2	4	3	2	181
16:15	159	22	2	1	2	3	0	189	125	22	3	0	4	1	2	157
16:30	163	19	1	1	1	2	0	187	125	24	2	0	2	0	2	155
16:45	157	15	1	0	5	3	2	183	130	22	4	0	4	0	0	160
H/TOT	603	69	7	2	15	9	2	707	524	90	13	2	14	4	6	653
17:00	167	11	3	0	1	1	3	186	146	11	3	0	3	1	1	165
17:15	166	14	1	0	3	0	0	184	161	18	1	0	3	2	1	186
17:30	147	17	1	0	2	2	1	170	163	13	0	0	1	0	1	178
17:45	154	20	1	0	5	1	0	181	151	14	0	0	4	2	0	171
H/TOT	634	62	6	0	11	4	4	721	621	56	4	0	11	5	3	700
P/TOT	1237	131	13	2	26	13	6	1428	1145	146	17	2	25	9	9	1353



SITE: 1 DATE: 03/07/2019

LOCATION: A676 Bolton Rd West / Dundee Lane / Nuttall Lane DAY: Wednesday

TIME	TO ARM D							TOT	FROM ARM D							TOT
	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL		CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	
07:00	8	1	1	0	0	0	0	10	68	7	2	0	0	0	0	77
07:15	17	6	1	0	0	1	0	25	71	5	0	0	0	0	0	76
07:30	14	0	0	0	0	0	0	14	121	3	3	0	0	0	1	128
07:45	22	2	1	0	1	1	0	27	114	3	0	0	0	0	0	117
H/TOT	61	9	3	0	1	2	0	76	374	18	5	0	0	0	1	398
08:00	27	7	1	0	1	0	0	36	81	4	0	0	1	0	2	88
08:15	35	8	1	0	0	0	0	44	87	9	0	0	1	0	0	97
08:30	37	6	0	0	0	0	1	44	96	4	2	0	0	0	0	102
08:45	32	6	1	0	0	0	0	39	98	5	0	0	0	0	0	103
H/TOT	131	27	3	0	1	0	1	163	362	22	2	0	2	0	2	390
09:00	34	7	0	0	0	0	0	41	57	8	0	0	0	0	0	65
09:15	32	4	3	0	1	0	0	40	45	10	1	0	0	0	0	56
H/TOT	66	11	3	0	1	0	0	81	102	18	1	0	0	0	0	121
P/TOT	258	47	9	0	3	2	1	320	838	58	8	0	2	0	3	909

	TO ARM D								FROM ARM D							
TIME	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	TOT	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	TOT
16:00	80	8	0	0	1	1	1	91	31	3	3	0	1	0	0	38
16:15	73	6	0	0	1	1	1	82	50	9	0	0	0	0	0	59
16:30	78	8	1	0	0	0	0	87	48	2	0	0	0	0	0	50
16:45	74	4	1	1	2	0	0	82	41	6	1	0	1	0	0	49
H/TOT	305	26	2	1	4	2	2	342	170	20	4	0	2	0	0	196
17:00	71	5	1	0	2	1	0	80	52	5	1	0	1	0	3	62
17:15	103	7	0	0	0	0	0	110	42	5	0	1	2	0	0	50
17:30	104	8	0	0	0	0	0	112	50	3	0	0	0	1	1	55
17:45	79	8	0	0	0	0	1	88	58	6	0	0	0	1	0	65
H/TOT	357	28	1	0	2	1	1	390	202	19	1	1	3	2	4	232
P/TOT	662	54	3	1	6	3	3	732	372	39	5	1	5	2	4	428



SITE: 1

DATE: 03/07/2019

LOCATION: A676 Bolton Rd West / Dundee Lane / Nuttall Lane

DAY: Wednesday

TIME	JUNCTION TOTAL							TOT
	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	
07:00	231	24	7	3	4	1	3	273
07:15	296	52	7	3	4	4	2	368
07:30	362	43	6	3	6	0	2	422
07:45	395	51	7	4	8	2	1	468
H/TOT	1284	170	27	13	22	7	8	1531
08:00	354	55	11	0	9	3	2	434
08:15	357	47	10	3	5	0	2	424
08:30	356	36	9	2	6	2	2	413
08:45	355	38	9	2	4	1	3	412
H/TOT	1422	176	39	7	24	6	9	1683
09:00	366	54	7	6	7	0	2	442
09:15	282	41	9	1	5	1	1	340
H/TOT	648	95	16	7	12	1	3	782
P/TOT	3354	441	82	27	58	14	20	3996

PEAK HOUR	
CALCULATION	TOT
07:00 to 08:00	1531
07:15 to 08:15	1692
07:30 to 08:30	1748
07:45 to 08:45	1739
08:00 to 09:00	1683
08:15 to 09:15	1691
08:30 to 09:30	1607
AM PEAK	1748

TIME	JUNCTION TOTAL							TOT
	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	
16:00	350	44	7	2	12	5	2	422
16:15	369	51	5	1	7	5	2	440
16:30	377	51	3	1	3	2	2	439
16:45	371	42	8	1	9	3	2	436
H/TOT	1467	188	23	5	31	15	8	1737
17:00	389	29	6	0	7	3	4	438
17:15	410	40	2	1	6	2	1	462
17:30	404	39	1	0	3	2	3	452
17:45	394	42	1	0	9	3	1	450
H/TOT	1597	150	10	1	25	10	9	1802
P/TOT	3064	338	33	6	56	25	17	3539

PEAK HOUR	
CALCULATION	TOT
16:00 to 17:00	1737
16:15 to 17:15	1753
16:30 to 17:30	1775
16:45 to 17:45	1788
17:00 to 18:00	1802
PM PEAK	1802



SITE: 2 DATE: 03/07/2019
LOCATION: A676 Bolton St / Kay Brow DAY: Wednesday

TIME	A to C							TOT	A to B							TOT
	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL		CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	
07:00	1	0	0	0	0	0	0	1	66	8	3	0	2	0	1	80
07:15	0	1	0	0	0	0	0	1	67	16	2	2	3	1	0	91
07:30	1	0	0	0	0	0	0	1	76	16	1	1	3	0	1	98
07:45	0	0	0	0	0	0	1	1	77	18	4	1	3	1	1	105
H/TOT	2	1	0	0	0	0	1	4	286	58	10	4	11	2	3	374
08:00	0	0	0	0	0	0	0	0	78	19	4	0	4	2	0	107
08:15	1	0	0	0	0	0	0	1	69	15	4	2	3	0	1	94
08:30	3	0	0	0	0	0	0	3	79	13	5	0	2	0	0	99
08:45	1	0	0	0	0	0	0	1	64	14	4	4	2	0	1	89
H/TOT	5	0	0	0	0	0	0	5	290	61	17	6	11	2	2	389
09:00	3	0	0	0	0	0	0	3	79	15	5	1	2	0	1	103
09:15	0	1	0	0	0	0	0	1	70	17	3	0	2	1	2	95
H/TOT	3	1	0	0	0	0	0	4	149	32	8	1	4	1	3	198
P/TOT	10	2	0	0	0	0	1	13	725	151	35	11	26	5	8	961

TIME	A to C							TOT	A to B							TOT
	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL		CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	
16:00	1	0	0	0	0	0	0	1	102	17	0	1	5	1	0	126
16:15	0	1	0	0	0	0	0	1	109	12	2	1	3	0	0	127
16:30	1	0	0	0	0	0	0	1	111	10	1	0	1	1	1	125
16:45	2	0	0	0	0	0	0	2	117	13	1	1	4	3	1	140
H/TOT	4	1	0	0	0	0	0	5	439	52	4	3	13	5	2	518
17:00	2	0	0	0	0	0	0	2	93	9	2	0	3	0	0	107
17:15	1	0	0	0	0	0	0	1	94	7	1	0	1	1	0	104
17:30	0	1	0	0	0	0	0	1	91	12	1	0	2	1	0	107
17:45	0	0	0	0	0	0	0	0	87	11	1	0	5	0	0	104
H/TOT	3	1	0	0	0	0	0	4	365	39	5	0	11	2	0	422
P/TOT	7	2	0	0	0	0	0	9	804	91	9	3	24	7	2	940



SITE: 2 DATE: 03/07/2019
LOCATION: A676 Bolton St / Kay Brow DAY: Wednesday

TIME	A to A							TOT
	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	
07:00	0	0	0	0	0	0	0	0
07:15	0	0	0	0	0	0	0	0
07:30	0	0	0	0	0	0	0	0
07:45	0	0	0	0	0	0	0	0
H/TOT	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
H/TOT	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
H/TOT	0	0	0	0	0	0	0	0
P/TOT	0	0	0	0	0	0	0	0

TIME	A to A							TOT
	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	
16:00	0	0	0	0	0	0	0	0
16:15	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
H/TOT	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
H/TOT	0	0	0	0	0	0	0	0
P/TOT	0	0	0	0	0	0	0	0



SITE: 2 DATE: 03/07/2019
LOCATION: A676 Bolton St / Kay Brow DAY: Wednesday

TIME	B to A							TOT	B to C							TOT
	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL		CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	
07:00	93	9	3	3	2	1	1	112	31	2	1	0	0	0	0	34
07:15	130	17	2	1	2	2	1	155	74	4	2	0	0	0	0	80
07:30	159	16	2	1	2	0	1	181	69	7	0	1	0	0	0	77
07:45	162	12	2	3	3	3	0	185	56	7	0	0	1	0	0	64
H/TOT	544	54	9	8	9	6	3	633	230	20	3	1	1	0	0	255
08:00	149	13	1	0	4	2	0	169	49	3	1	0	0	0	0	53
08:15	139	31	3	1	1	0	1	176	53	2	2	0	0	0	0	57
08:30	132	9	3	2	3	0	1	150	60	3	1	0	1	1	0	66
08:45	123	11	5	0	2	2	2	145	54	5	1	0	0	0	0	60
H/TOT	543	64	12	3	10	4	4	640	216	13	5	0	1	1	0	236
09:00	136	16	1	2	4	0	1	160	96	7	0	0	0	0	0	103
09:15	94	11	2	1	3	0	1	112	63	4	0	0	0	0	0	67
H/TOT	230	27	3	3	7	0	2	272	159	11	0	0	0	0	0	170
P/TOT	1317	145	24	14	26	10	9	1545	605	44	8	1	2	1	0	661

TIME	B to A							TOT	B to C							TOT
	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL		CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	
16:00	95	20	4	2	4	3	1	129	31	6	0	0	0	0	0	37
16:15	95	19	2	0	4	1	1	122	37	6	1	0	0	0	0	44
16:30	106	15	1	0	2	0	2	126	30	6	0	0	0	0	0	36
16:45	83	19	4	0	2	0	0	108	35	4	1	0	0	0	0	40
H/TOT	379	73	11	2	12	4	4	485	133	22	2	0	0	0	0	157
17:00	126	11	2	0	4	1	1	145	25	1	0	0	0	0	0	26
17:15	96	10	0	1	3	1	0	111	28	3	1	0	0	0	0	32
17:30	115	13	0	0	1	1	1	131	36	2	0	0	0	0	1	39
17:45	109	10	0	0	4	1	1	125	37	2	0	0	0	0	0	39
H/TOT	446	44	2	1	12	4	3	512	126	8	1	0	0	0	1	136
P/TOT	825	117	13	3	24	8	7	997	259	30	3	0	0	0	1	293



SITE: 2 DATE: 03/07/2019
LOCATION: A676 Bolton St / Kay Brow DAY: Wednesday

TIME	B to B							TOT
	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	
07:00	0	0	0	0	0	0	0	0
07:15	0	0	0	0	0	0	0	0
07:30	0	0	0	0	0	0	0	0
07:45	0	0	0	0	0	0	0	0
H/TOT	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
H/TOT	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
H/TOT	0	0	0	0	0	0	0	0
P/TOT	0	0	0	0	0	0	0	0

TIME	B to B							TOT
	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	
16:00	0	0	0	0	0	0	0	0
16:15	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
H/TOT	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
H/TOT	0	0	0	0	0	0	0	0
P/TOT	0	0	0	0	0	0	0	0



SITE: 2 DATE: 03/07/2019
LOCATION: A676 Bolton St / Kay Brow DAY: Wednesday

TIME	C to B							TOT	C to A							TOT
	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL		CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	
07:00	13	1	0	0	0	0	0	14	1	0	0	0	0	0	0	1
07:15	10	1	1	0	0	0	0	12	0	0	0	0	0	0	0	0
07:30	18	1	2	0	0	0	0	21	3	0	0	0	0	0	0	3
07:45	18	2	0	0	0	0	0	20	0	0	0	0	0	0	0	0
H/TOT	59	5	3	0	0	0	0	67	4	0	0	0	0	0	0	4
08:00	35	5	4	0	1	0	0	45	1	0	0	0	0	0	0	1
08:15	37	4	0	0	0	0	0	41	0	0	0	0	0	0	0	0
08:30	31	5	0	0	0	1	0	37	0	0	0	0	0	0	0	0
08:45	40	2	0	1	0	0	0	43	0	0	0	0	0	0	0	0
H/TOT	143	16	4	1	1	1	0	166	1	0	0	0	0	0	0	1
09:00	11	4	0	0	0	0	0	15	0	0	0	0	0	0	0	0
09:15	21	4	3	0	0	0	0	28	0	0	0	0	0	0	0	0
H/TOT	32	8	3	0	0	0	0	43	0	0	0	0	0	0	0	0
P/TOT	234	29	10	1	1	1	0	276	5	0	0	0	0	0	0	5

TIME	C to B							TOT	C to A							TOT
	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL		CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	
16:00	63	4	0	0	2	0	0	69	0	0	0	0	0	0	0	0
16:15	61	6	0	0	0	1	0	68	0	0	0	0	0	0	0	0
16:30	59	7	0	0	0	0	1	67	0	0	0	0	0	0	0	0
16:45	70	3	0	0	0	0	0	73	1	0	0	0	0	0	0	1
H/TOT	253	20	0	0	2	1	1	277	1	0	0	0	0	0	0	1
17:00	71	3	0	0	0	0	0	74	0	0	0	0	0	0	0	0
17:15	78	5	0	0	0	0	0	83	0	0	0	0	0	0	0	0
17:30	67	10	0	0	0	1	0	78	0	0	0	0	0	0	0	0
17:45	73	5	0	0	0	0	0	78	1	0	0	0	0	0	0	1
H/TOT	289	23	0	0	0	1	0	313	1	0	0	0	0	0	0	1
P/TOT	542	43	0	0	2	2	1	590	2	0	0	0	0	0	0	2



SITE: 2 DATE: 03/07/2019
LOCATION: A676 Bolton St / Kay Brow DAY: Wednesday

TIME	C to C							TOT
	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	
07:00	0	0	0	0	0	0	0	0
07:15	0	0	0	0	0	0	0	0
07:30	0	0	0	0	0	0	0	0
07:45	0	0	0	0	0	0	0	0
H/TOT	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
H/TOT	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
H/TOT	0	0	0	0	0	0	0	0
P/TOT	0	0	0	0	0	0	0	0

TIME	C to C							TOT
	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	
16:00	0	0	0	0	0	0	0	0
16:15	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
H/TOT	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
H/TOT	0	0	0	0	0	0	0	0
P/TOT	0	0	0	0	0	0	0	0



SITE: 2 DATE: 03/07/2019
LOCATION: A676 Bolton St / Kay Brow DAY: Wednesday

TIME	TO ARM A							TOT	FROM ARM A							TOT
	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL		CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	
07:00	94	9	3	3	2	1	1	113	67	8	3	0	2	0	1	81
07:15	130	17	2	1	2	2	1	155	67	17	2	2	3	1	0	92
07:30	162	16	2	1	2	0	1	184	77	16	1	1	3	0	1	99
07:45	162	12	2	3	3	3	0	185	77	18	4	1	3	1	2	106
H/TOT	548	54	9	8	9	6	3	637	288	59	10	4	11	2	4	378
08:00	150	13	1	0	4	2	0	170	78	19	4	0	4	2	0	107
08:15	139	31	3	1	1	0	1	176	70	15	4	2	3	0	1	95
08:30	132	9	3	2	3	0	1	150	82	13	5	0	2	0	0	102
08:45	123	11	5	0	2	2	2	145	65	14	4	4	2	0	1	90
H/TOT	544	64	12	3	10	4	4	641	295	61	17	6	11	2	2	394
09:00	136	16	1	2	4	0	1	160	82	15	5	1	2	0	1	106
09:15	94	11	2	1	3	0	1	112	70	18	3	0	2	1	2	96
H/TOT	230	27	3	3	7	0	2	272	152	33	8	1	4	1	3	202
P/TOT	1322	145	24	14	26	10	9	1550	735	153	35	11	26	5	9	974

TIME	TO ARM A							TOT	FROM ARM A							TOT
	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL		CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	
16:00	95	20	4	2	4	3	1	129	103	17	0	1	5	1	0	127
16:15	95	19	2	0	4	1	1	122	109	13	2	1	3	0	0	128
16:30	106	15	1	0	2	0	2	126	112	10	1	0	1	1	1	126
16:45	84	19	4	0	2	0	0	109	119	13	1	1	4	3	1	142
H/TOT	380	73	11	2	12	4	4	486	443	53	4	3	13	5	2	523
17:00	126	11	2	0	4	1	1	145	95	9	2	0	3	0	0	109
17:15	96	10	0	1	3	1	0	111	95	7	1	0	1	1	0	105
17:30	115	13	0	0	1	1	1	131	91	13	1	0	2	1	0	108
17:45	110	10	0	0	4	1	1	126	87	11	1	0	5	0	0	104
H/TOT	447	44	2	1	12	4	3	513	368	40	5	0	11	2	0	426
P/TOT	827	117	13	3	24	8	7	999	811	93	9	3	24	7	2	949



SITE: 2 DATE: 03/07/2019
LOCATION: A676 Bolton St / Kay Brow DAY: Wednesday

TIME	TO ARM B							TOT	FROM ARM B							TOT
	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL		CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	
07:00	79	9	3	0	2	0	1	94	124	11	4	3	2	1	1	146
07:15	77	17	3	2	3	1	0	103	204	21	4	1	2	2	1	235
07:30	94	17	3	1	3	0	1	119	228	23	2	2	2	0	1	258
07:45	95	20	4	1	3	1	1	125	218	19	2	3	4	3	0	249
H/TOT	345	63	13	4	11	2	3	441	774	74	12	9	10	6	3	888
08:00	113	24	8	0	5	2	0	152	198	16	2	0	4	2	0	222
08:15	106	19	4	2	3	0	1	135	192	33	5	1	1	0	1	233
08:30	110	18	5	0	2	1	0	136	192	12	4	2	4	1	1	216
08:45	104	16	4	5	2	0	1	132	177	16	6	0	2	2	2	205
H/TOT	433	77	21	7	12	3	2	555	759	77	17	3	11	5	4	876
09:00	90	19	5	1	2	0	1	118	232	23	1	2	4	0	1	263
09:15	91	21	6	0	2	1	2	123	157	15	2	1	3	0	1	179
H/TOT	181	40	11	1	4	1	3	241	389	38	3	3	7	0	2	442
P/TOT	959	180	45	12	27	6	8	1237	1922	189	32	15	28	11	9	2206

TIME	TO ARM B							TOT	FROM ARM B							TOT
	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL		CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	
16:00	165	21	0	1	7	1	0	195	126	26	4	2	4	3	1	166
16:15	170	18	2	1	3	1	0	195	132	25	3	0	4	1	1	166
16:30	170	17	1	0	1	1	2	192	136	21	1	0	2	0	2	162
16:45	187	16	1	1	4	3	1	213	118	23	5	0	2	0	0	148
H/TOT	692	72	4	3	15	6	3	795	512	95	13	2	12	4	4	642
17:00	164	12	2	0	3	0	0	181	151	12	2	0	4	1	1	171
17:15	172	12	1	0	1	1	0	187	124	13	1	1	3	1	0	143
17:30	158	22	1	0	2	2	0	185	151	15	0	0	1	1	2	170
17:45	160	16	1	0	5	0	0	182	146	12	0	0	4	1	1	164
H/TOT	654	62	5	0	11	3	0	735	572	52	3	1	12	4	4	648
P/TOT	1346	134	9	3	26	9	3	1530	1084	147	16	3	24	8	8	1290



SITE: 2 DATE: 03/07/2019
LOCATION: A676 Bolton St / Kay Brow DAY: Wednesday

TIME	TO ARM C							TOT	FROM ARM C							TOT
	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL		CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	
07:00	32	2	1	0	0	0	0	35	14	1	0	0	0	0	0	15
07:15	74	5	2	0	0	0	0	81	10	1	1	0	0	0	0	12
07:30	70	7	0	1	0	0	0	78	21	1	2	0	0	0	0	24
07:45	56	7	0	0	1	0	1	65	18	2	0	0	0	0	0	20
H/TOT	232	21	3	1	1	0	1	259	63	5	3	0	0	0	0	71
08:00	49	3	1	0	0	0	0	53	36	5	4	0	1	0	0	46
08:15	54	2	2	0	0	0	0	58	37	4	0	0	0	0	0	41
08:30	63	3	1	0	1	1	0	69	31	5	0	0	0	1	0	37
08:45	55	5	1	0	0	0	0	61	40	2	0	1	0	0	0	43
H/TOT	221	13	5	0	1	1	0	241	144	16	4	1	1	1	0	167
09:00	99	7	0	0	0	0	0	106	11	4	0	0	0	0	0	15
09:15	63	5	0	0	0	0	0	68	21	4	3	0	0	0	0	28
H/TOT	162	12	0	0	0	0	0	174	32	8	3	0	0	0	0	43
P/TOT	615	46	8	1	2	1	1	674	239	29	10	1	1	1	0	281

TIME	TO ARM C							TOT	FROM ARM C							TOT
	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL		CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	
16:00	32	6	0	0	0	0	0	38	63	4	0	0	2	0	0	69
16:15	37	7	1	0	0	0	0	45	61	6	0	0	0	1	0	68
16:30	31	6	0	0	0	0	0	37	59	7	0	0	0	0	1	67
16:45	37	4	1	0	0	0	0	42	71	3	0	0	0	0	0	74
H/TOT	137	23	2	0	0	0	0	162	254	20	0	0	2	1	1	278
17:00	27	1	0	0	0	0	0	28	71	3	0	0	0	0	0	74
17:15	29	3	1	0	0	0	0	33	78	5	0	0	0	0	0	83
17:30	36	3	0	0	0	0	1	40	67	10	0	0	0	1	0	78
17:45	37	2	0	0	0	0	0	39	74	5	0	0	0	0	0	79
H/TOT	129	9	1	0	0	0	1	140	290	23	0	0	0	1	0	314
P/TOT	266	32	3	0	0	0	1	302	544	43	0	0	2	2	1	592



SITE: 2

DATE: 03/07/2019

LOCATION: A676 Bolton St / Kay Brow

DAY: Wednesday

TIME	JUNCTION TOTAL							TOT
	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	
07:00	205	20	7	3	4	1	2	242
07:15	281	39	7	3	5	3	1	339
07:30	326	40	5	3	5	0	2	381
07:45	313	39	6	4	7	4	2	375
H/TOT	1125	138	25	13	21	8	7	1337
08:00	312	40	10	0	9	4	0	375
08:15	299	52	9	3	4	0	2	369
08:30	305	30	9	2	6	2	1	355
08:45	282	32	10	5	4	2	3	338
H/TOT	1198	154	38	10	23	8	6	1437
09:00	325	42	6	3	6	0	2	384
09:15	248	37	8	1	5	1	3	303
H/TOT	573	79	14	4	11	1	5	687
P/TOT	2896	371	77	27	55	17	18	3461

PEAK HOUR	
CALCULATION	TOT
07:00 to 08:00	1337
07:15 to 08:15	1470
07:30 to 08:30	1500
07:45 to 08:45	1474
08:00 to 09:00	1437
08:15 to 09:15	1446
08:30 to 09:30	1380
AM PEAK	1500

TIME	JUNCTION TOTAL							TOT
	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	
16:00	292	47	4	3	11	4	1	362
16:15	302	44	5	1	7	2	1	362
16:30	307	38	2	0	3	1	4	355
16:45	308	39	6	1	6	3	1	364
H/TOT	1209	168	17	5	27	10	7	1443
17:00	317	24	4	0	7	1	1	354
17:15	297	25	2	1	4	2	0	331
17:30	309	38	1	0	3	3	2	356
17:45	307	28	1	0	9	1	1	347
H/TOT	1230	115	8	1	23	7	4	1388
P/TOT	2439	283	25	6	50	17	11	2831

PEAK HOUR	
CALCULATION	TOT
16:00 to 17:00	1443
16:15 to 17:15	1435
16:30 to 17:30	1404
16:45 to 17:45	1405
17:00 to 18:00	1388
PM PEAK	1443



SITE: 3 DATE: 03/07/2019
LOCATION: A56 Manchester Rd / Peel Brow DAY: Wednesday

TIME	A to C							TOT	A to B							TOT
	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL		CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	
07:00	60	14	1	1	1	1	2	80	4	3	1	0	0	0	0	8
07:15	101	20	1	3	2	2	0	129	13	0	0	0	0	0	0	13
07:30	116	10	3	1	1	0	0	131	7	2	0	2	0	0	0	11
07:45	100	15	1	5	1	2	1	125	12	1	0	0	1	0	0	14
H/TOT	377	59	6	10	5	5	3	465	36	6	1	2	1	0	0	46
08:00	85	19	0	6	1	1	0	112	9	0	0	0	1	0	0	10
08:15	86	13	0	2	1	1	2	105	18	2	1	1	0	0	0	22
08:30	83	9	6	2	1	0	0	101	19	3	0	0	0	0	0	22
08:45	81	5	2	3	1	0	2	94	21	2	0	1	0	0	0	24
H/TOT	335	46	8	13	4	2	4	412	67	7	1	2	1	0	0	78
09:00	74	13	1	5	1	1	2	97	10	0	1	0	0	0	0	11
09:15	58	11	5	3	1	2	0	80	6	2	0	1	0	0	0	9
H/TOT	132	24	6	8	2	3	2	177	16	2	1	1	0	0	0	20
P/TOT	844	129	20	31	11	10	9	1054	119	15	3	5	2	0	0	144

TIME	A to C							TOT	A to B							TOT
	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL		CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	
16:00	52	17	2	3	1	0	0	75	16	5	1	0	0	0	0	22
16:15	50	16	0	1	1	0	0	68	26	0	0	0	1	0	0	27
16:30	63	9	1	2	1	2	0	78	21	1	0	0	0	0	0	22
16:45	55	15	0	1	1	2	2	76	22	1	1	0	0	0	0	24
H/TOT	220	57	3	7	4	4	2	297	85	7	2	0	1	0	0	95
17:00	77	12	1	2	1	0	0	93	16	3	3	0	0	1	1	24
17:15	79	10	1	1	1	1	1	94	20	3	0	0	0	0	0	23
17:30	68	4	1	0	1	0	0	74	17	1	1	0	0	0	0	19
17:45	39	4	2	0	1	1	0	47	22	3	0	0	0	0	0	25
H/TOT	263	30	5	3	4	2	1	308	75	10	4	0	0	1	1	91
P/TOT	483	87	8	10	8	6	3	605	160	17	6	0	1	1	1	186



SITE: 3 DATE: 03/07/2019
LOCATION: A56 Manchester Rd / Peel Brow DAY: Wednesday

TIME	A to A							TOT
	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	
07:00	0	0	0	0	0	0	0	0
07:15	0	0	0	0	0	0	0	0
07:30	0	0	0	0	0	0	0	0
07:45	0	0	0	0	0	0	0	0
H/TOT	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
H/TOT	0	0	0	0	0	0	0	0
09:00	0	0	1	0	0	0	0	1
09:15	0	0	0	0	0	0	0	0
H/TOT	0	0	1	0	0	0	0	1
P/TOT	0	0	1	0	0	0	0	1

TIME	A to A							TOT
	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	
16:00	2	0	0	0	0	0	0	2
16:15	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
H/TOT	2	0	0	0	0	0	0	2
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
H/TOT	0	0	0	0	0	0	0	0
P/TOT	2	0	0	0	0	0	0	2



SITE: 3 DATE: 03/07/2019
LOCATION: A56 Manchester Rd / Peel Brow DAY: Wednesday

TIME	B to A							TOT	B to C							TOT
	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL		CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	
07:00	8	3	2	1	0	0	0	14	12	1	0	0	0	0	0	13
07:15	9	2	0	0	0	0	0	11	12	3	0	0	0	0	0	15
07:30	10	2	1	1	0	0	0	14	12	5	0	0	0	0	0	17
07:45	9	4	0	3	0	0	0	16	22	0	1	0	0	0	0	23
H/TOT	36	11	3	5	0	0	0	55	58	9	1	0	0	0	0	68
08:00	15	0	2	0	0	0	0	17	18	3	0	0	3	0	0	24
08:15	16	1	1	1	0	0	0	19	10	1	0	0	0	0	0	11
08:30	15	2	5	0	0	0	0	22	20	0	0	0	0	0	0	20
08:45	10	1	1	0	0	0	1	13	6	1	0	0	0	0	0	7
H/TOT	56	4	9	1	0	0	1	71	54	5	0	0	3	0	0	62
09:00	11	1	0	0	0	0	0	12	8	3	0	0	0	0	0	11
09:15	9	1	0	1	0	0	0	11	9	0	0	0	0	0	0	9
H/TOT	20	2	0	1	0	0	0	23	17	3	0	0	0	0	0	20
P/TOT	112	17	12	7	0	0	1	149	129	17	1	0	3	0	0	150

TIME	B to A							TOT	B to C							TOT
	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL		CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	
16:00	18	3	0	0	0	0	0	21	2	0	1	0	0	0	0	3
16:15	10	2	1	0	0	1	0	14	8	2	0	0	0	0	0	10
16:30	32	2	0	0	0	0	0	34	7	3	0	0	0	0	1	11
16:45	19	1	0	0	1	0	0	21	6	0	1	0	0	0	0	7
H/TOT	79	8	1	0	1	1	0	90	23	5	2	0	0	0	1	31
17:00	31	1	0	0	0	0	0	32	6	1	0	0	0	0	0	7
17:15	22	5	0	0	0	0	1	28	8	1	0	0	0	0	0	9
17:30	20	4	0	0	0	1	0	25	1	0	0	0	0	0	0	1
17:45	17	1	0	0	0	0	0	18	5	0	0	0	0	0	0	5
H/TOT	90	11	0	0	0	1	1	103	20	2	0	0	0	0	0	22
P/TOT	169	19	1	0	1	2	1	193	43	7	2	0	0	0	1	53



SITE: 3 DATE: 03/07/2019
LOCATION: A56 Manchester Rd / Peel Brow DAY: Wednesday

TIME	B to B							TOT
	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	
07:00	0	0	0	0	0	0	0	0
07:15	0	0	0	0	0	0	0	0
07:30	0	0	0	0	0	0	0	0
07:45	0	0	0	0	0	0	0	0
H/TOT	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
H/TOT	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
H/TOT	0	0	0	0	0	0	0	0
P/TOT	0	0	0	0	0	0	0	0

TIME	B to B							TOT
	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	
16:00	0	0	0	0	0	0	0	0
16:15	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
H/TOT	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
H/TOT	0	0	0	0	0	0	0	0
P/TOT	0	0	0	0	0	0	0	0



SITE: 3 DATE: 03/07/2019
LOCATION: A56 Manchester Rd / Peel Brow DAY: Wednesday

TIME	C to B							TOT	C to A							TOT
	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL		CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	
07:00	1	0	0	0	0	0	0	1	23	5	2	0	1	0	2	33
07:15	2	1	1	0	0	0	0	4	24	7	1	4	0	1	0	37
07:30	0	0	0	0	0	0	0	0	51	8	5	5	1	0	0	70
07:45	1	2	0	0	0	0	0	3	33	15	0	2	1	4	0	55
H/TOT	4	3	1	0	0	0	0	8	131	35	8	11	3	5	2	195
08:00	3	1	1	0	0	0	0	5	57	8	3	2	1	1	0	72
08:15	4	0	0	0	0	0	0	4	44	6	2	3	1	0	1	57
08:30	5	2	0	0	0	0	0	7	44	7	0	3	1	0	0	55
08:45	2	0	0	1	0	0	0	3	42	14	2	2	1	0	0	61
H/TOT	14	3	1	1	0	0	0	19	187	35	7	10	4	1	1	245
09:00	4	1	0	0	0	0	0	5	35	11	2	5	1	0	0	54
09:15	4	1	0	0	0	0	0	5	23	6	3	2	2	0	0	36
H/TOT	8	2	0	0	0	0	0	10	58	17	5	7	3	0	0	90
P/TOT	26	8	2	1	0	0	0	37	376	87	20	28	10	6	3	530

TIME	C to B							TOT	C to A							TOT
	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL		CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	
16:00	8	3	0	0	0	0	0	11	74	7	2	1	2	0	0	86
16:15	8	2	0	0	0	0	0	10	87	13	2	1	1	1	1	106
16:30	15	2	0	0	0	0	0	17	79	11	1	4	2	0	4	101
16:45	11	3	0	0	0	0	0	14	101	8	1	0	1	3	2	116
H/TOT	42	10	0	0	0	0	0	52	341	39	6	6	6	4	7	409
17:00	14	3	0	0	0	0	0	17	113	10	1	2	1	1	2	130
17:15	8	2	0	0	0	0	0	10	125	13	2	0	1	1	1	143
17:30	6	2	0	0	0	0	0	8	97	11	0	0	1	1	3	113
17:45	8	0	0	0	0	0	0	8	107	13	2	2	1	0	1	126
H/TOT	36	7	0	0	0	0	0	43	442	47	5	4	4	3	7	512
P/TOT	78	17	0	0	0	0	0	95	783	86	11	10	10	7	14	921



SITE: 3 DATE: 03/07/2019
LOCATION: A56 Manchester Rd / Peel Brow DAY: Wednesday

TIME	C to C							TOT
	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	
07:00	0	0	0	0	0	0	0	0
07:15	0	0	0	0	0	0	0	0
07:30	0	0	0	0	0	0	0	0
07:45	0	0	0	0	0	0	0	0
H/TOT	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	1	0	0	0	0	0	0	1
H/TOT	1	0	0	0	0	0	0	1
09:00	0	0	0	0	0	0	0	0
09:15	0	0	0	0	0	0	0	0
H/TOT	0	0	0	0	0	0	0	0
P/TOT	1	0	0	0	0	0	0	1

TIME	C to C							TOT
	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	
16:00	1	0	0	0	0	0	0	1
16:15	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
H/TOT	1	0	0	0	0	0	0	1
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
H/TOT	0	0	0	0	0	0	0	0
P/TOT	1	0	0	0	0	0	0	1



SITE: 3 DATE: 03/07/2019
LOCATION: A56 Manchester Rd / Peel Brow DAY: Wednesday

TIME	TO ARM A							TOT	FROM ARM A							TOT
	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL		CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	
07:00	31	8	4	1	1	0	2	47	64	17	2	1	1	1	2	88
07:15	33	9	1	4	0	1	0	48	114	20	1	3	2	2	0	142
07:30	61	10	6	6	1	0	0	84	123	12	3	3	1	0	0	142
07:45	42	19	0	5	1	4	0	71	112	16	1	5	2	2	1	139
H/TOT	167	46	11	16	3	5	2	250	413	65	7	12	6	5	3	511
08:00	72	8	5	2	1	1	0	89	94	19	0	6	2	1	0	122
08:15	60	7	3	4	1	0	1	76	104	15	1	3	1	1	2	127
08:30	59	9	5	3	1	0	0	77	102	12	6	2	1	0	0	123
08:45	52	15	3	2	1	0	1	74	102	7	2	4	1	0	2	118
H/TOT	243	39	16	11	4	1	2	316	402	53	9	15	5	2	4	490
09:00	46	12	3	5	1	0	0	67	84	13	3	5	1	1	2	109
09:15	32	7	3	3	2	0	0	47	64	13	5	4	1	2	0	89
H/TOT	78	19	6	8	3	0	0	114	148	26	8	9	2	3	2	198
P/TOT	488	104	33	35	10	6	4	680	963	144	24	36	13	10	9	1199

TIME	TO ARM A							TOT	FROM ARM A							TOT
	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL		CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	
16:00	94	10	2	1	2	0	0	109	70	22	3	3	1	0	0	99
16:15	97	15	3	1	1	2	1	120	76	16	0	1	2	0	0	95
16:30	111	13	1	4	2	0	4	135	84	10	1	2	1	2	0	100
16:45	120	9	1	0	2	3	2	137	77	16	1	1	1	2	2	100
H/TOT	422	47	7	6	7	5	7	501	307	64	5	7	5	4	2	394
17:00	144	11	1	2	1	1	2	162	93	15	4	2	1	1	1	117
17:15	147	18	2	0	1	1	2	171	99	13	1	1	1	1	1	117
17:30	117	15	0	0	1	2	3	138	85	5	2	0	1	0	0	93
17:45	124	14	2	2	1	0	1	144	61	7	2	0	1	1	0	72
H/TOT	532	58	5	4	4	4	8	615	338	40	9	3	4	3	2	399
P/TOT	954	105	12	10	11	9	15	1116	645	104	14	10	9	7	4	793



SITE: 3 DATE: 03/07/2019
LOCATION: A56 Manchester Rd / Peel Brow DAY: Wednesday

TIME	TO ARM B							TOT	FROM ARM B							TOT
	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL		CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	
07:00	5	3	1	0	0	0	0	9	20	4	2	1	0	0	0	27
07:15	15	1	1	0	0	0	0	17	21	5	0	0	0	0	0	26
07:30	7	2	0	2	0	0	0	11	22	7	1	1	0	0	0	31
07:45	13	3	0	0	1	0	0	17	31	4	1	3	0	0	0	39
H/TOT	40	9	2	2	1	0	0	54	94	20	4	5	0	0	0	123
08:00	12	1	1	0	1	0	0	15	33	3	2	0	3	0	0	41
08:15	22	2	1	1	0	0	0	26	26	2	1	1	0	0	0	30
08:30	24	5	0	0	0	0	0	29	35	2	5	0	0	0	0	42
08:45	23	2	0	2	0	0	0	27	16	2	1	0	0	0	1	20
H/TOT	81	10	2	3	1	0	0	97	110	9	9	1	3	0	1	133
09:00	14	1	1	0	0	0	0	16	19	4	0	0	0	0	0	23
09:15	10	3	0	1	0	0	0	14	18	1	0	1	0	0	0	20
H/TOT	24	4	1	1	0	0	0	30	37	5	0	1	0	0	0	43
P/TOT	145	23	5	6	2	0	0	181	241	34	13	7	3	0	1	299

TIME	TO ARM B							TOT	FROM ARM B							TOT
	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL		CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	
16:00	24	8	1	0	0	0	0	33	20	3	1	0	0	0	0	24
16:15	34	2	0	0	1	0	0	37	18	4	1	0	0	1	0	24
16:30	36	3	0	0	0	0	0	39	39	5	0	0	0	0	1	45
16:45	33	4	1	0	0	0	0	38	25	1	1	0	1	0	0	28
H/TOT	127	17	2	0	1	0	0	147	102	13	3	0	1	1	1	121
17:00	30	6	3	0	0	1	1	41	37	2	0	0	0	0	0	39
17:15	28	5	0	0	0	0	0	33	30	6	0	0	0	0	1	37
17:30	23	3	1	0	0	0	0	27	21	4	0	0	0	1	0	26
17:45	30	3	0	0	0	0	0	33	22	1	0	0	0	0	0	23
H/TOT	111	17	4	0	0	1	1	134	110	13	0	0	0	1	1	125
P/TOT	238	34	6	0	1	1	1	281	212	26	3	0	1	2	2	246



SITE: 3 DATE: 03/07/2019
LOCATION: A56 Manchester Rd / Peel Brow DAY: Wednesday

TIME	TO ARM C							TOT	FROM ARM C							TOT
	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL		CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	
07:00	72	15	1	1	1	1	2	93	24	5	2	0	1	0	2	34
07:15	113	23	1	3	2	2	0	144	26	8	2	4	0	1	0	41
07:30	128	15	3	1	1	0	0	148	51	8	5	5	1	0	0	70
07:45	122	15	2	5	1	2	1	148	34	17	0	2	1	4	0	58
H/TOT	435	68	7	10	5	5	3	533	135	38	9	11	3	5	2	203
08:00	103	22	0	6	4	1	0	136	60	9	4	2	1	1	0	77
08:15	96	14	0	2	1	1	2	116	48	6	2	3	1	0	1	61
08:30	103	9	6	2	1	0	0	121	49	9	0	3	1	0	0	62
08:45	88	6	2	3	1	0	2	102	45	14	2	3	1	0	0	65
H/TOT	390	51	8	13	7	2	4	475	202	38	8	11	4	1	1	265
09:00	82	16	1	5	1	1	2	108	39	12	2	5	1	0	0	59
09:15	67	11	5	3	1	2	0	89	27	7	3	2	2	0	0	41
H/TOT	149	27	6	8	2	3	2	197	66	19	5	7	3	0	0	100
P/TOT	974	146	21	31	14	10	9	1205	403	95	22	29	10	6	3	568

TIME	TO ARM C							TOT	FROM ARM C							TOT
	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL		CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	
16:00	55	17	3	3	1	0	0	79	83	10	2	1	2	0	0	98
16:15	58	18	0	1	1	0	0	78	95	15	2	1	1	1	1	116
16:30	70	12	1	2	1	2	1	89	94	13	1	4	2	0	4	118
16:45	61	15	1	1	1	2	2	83	112	11	1	0	1	3	2	130
H/TOT	244	62	5	7	4	4	3	329	384	49	6	6	6	4	7	462
17:00	83	13	1	2	1	0	0	100	127	13	1	2	1	1	2	147
17:15	87	11	1	1	1	1	1	103	133	15	2	0	1	1	1	153
17:30	69	4	1	0	1	0	0	75	103	13	0	0	1	1	3	121
17:45	44	4	2	0	1	1	0	52	115	13	2	2	1	0	1	134
H/TOT	283	32	5	3	4	2	1	330	478	54	5	4	4	3	7	555
P/TOT	527	94	10	10	8	6	4	659	862	103	11	10	10	7	14	1017



SITE: 3

DATE: 03/07/2019

LOCATION: A56 Manchester Rd / Peel Brow

DAY: Wednesday

TIME	JUNCTION TOTAL							TOT
	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	
07:00	108	26	6	2	2	1	4	149
07:15	161	33	3	7	2	3	0	209
07:30	196	27	9	9	2	0	0	243
07:45	177	37	2	10	3	6	1	236
H/TOT	642	123	20	28	9	10	5	837
08:00	187	31	6	8	6	2	0	240
08:15	178	23	4	7	2	1	3	218
08:30	186	23	11	5	2	0	0	227
08:45	163	23	5	7	2	0	3	203
H/TOT	714	100	26	27	12	3	6	888
09:00	142	29	5	10	2	1	2	191
09:15	109	21	8	7	3	2	0	150
H/TOT	251	50	13	17	5	3	2	341
P/TOT	1607	273	59	72	26	16	13	2066

PEAK HOUR	
CALCULATION	TOT
07:00 to 08:00	837
07:15 to 08:15	928
07:30 to 08:30	937
07:45 to 08:45	921
08:00 to 09:00	888
08:15 to 09:15	839
08:30 to 09:30	771
AM PEAK	937

TIME	JUNCTION TOTAL							TOT
	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	
16:00	173	35	6	4	3	0	0	221
16:15	189	35	3	2	3	2	1	235
16:30	217	28	2	6	3	2	5	263
16:45	214	28	3	1	3	5	4	258
H/TOT	793	126	14	13	12	9	10	977
17:00	257	30	5	4	2	2	3	303
17:15	262	34	3	1	2	2	3	307
17:30	209	22	2	0	2	2	3	240
17:45	198	21	4	2	2	1	1	229
H/TOT	926	107	14	7	8	7	10	1079
P/TOT	1719	233	28	20	20	16	20	2056

PEAK HOUR	
CALCULATION	TOT
16:00 to 17:00	977
16:15 to 17:15	1059
16:30 to 17:30	1131
16:45 to 17:45	1108
17:00 to 18:00	1079
PM PEAK	1131



SITE: 4 DATE: 03/07/2019
LOCATION: A56 Manchester Rd / Bury New Rd DAY: Wednesday

TIME	A to D							TOT	A to C							TOT
	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL		CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	
07:00	0	0	0	0	0	0	0	0	73	15	2	2	1	1	2	96
07:15	0	0	0	0	0	0	0	0	102	21	1	8	2	2	0	136
07:30	0	0	0	0	0	0	0	0	119	14	3	6	1	0	0	143
07:45	0	0	0	0	0	0	0	0	118	9	3	5	1	2	1	139
H/TOT	0	0	0	0	0	0	0	0	412	59	9	21	5	5	3	514
08:00	0	0	0	0	0	0	0	0	108	27	0	10	4	1	0	150
08:15	0	0	0	0	0	0	0	0	98	14	1	7	1	1	1	123
08:30	0	0	0	0	0	0	0	0	99	7	5	4	1	0	1	117
08:45	0	0	0	0	0	0	0	0	89	7	2	10	1	0	0	109
H/TOT	0	0	0	0	0	0	0	0	394	55	8	31	7	2	2	499
09:00	0	0	0	0	0	0	0	0	86	16	1	12	1	1	1	118
09:15	0	0	0	0	0	0	0	0	69	9	4	12	1	2	0	97
H/TOT	0	0	0	0	0	0	0	0	155	25	5	24	2	3	1	215
P/TOT	0	0	0	0	0	0	0	0	961	139	22	76	14	10	6	1228

TIME	A to D							TOT	A to C							TOT
	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL		CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	
16:00	0	0	0	0	0	1	0	1	61	14	2	5	1	0	0	83
16:15	0	0	0	0	0	0	0	0	61	18	0	2	1	0	0	82
16:30	0	0	0	0	0	0	0	0	69	10	1	3	1	2	1	87
16:45	0	0	0	0	0	0	0	0	66	16	1	3	1	3	1	91
H/TOT	0	0	0	0	0	1	0	1	257	58	4	13	4	5	2	343
17:00	0	0	0	0	0	0	0	0	88	12	1	0	1	0	0	102
17:15	0	0	0	0	0	0	0	0	80	8	0	2	1	1	1	93
17:30	0	0	0	0	0	0	0	0	75	4	1	0	1	0	0	81
17:45	0	0	0	0	0	0	0	0	54	2	3	0	1	1	0	61
H/TOT	0	0	0	0	0	0	0	0	297	26	5	2	4	2	1	337
P/TOT	0	0	0	0	0	1	0	1	554	84	9	15	8	7	3	680



SITE: 4 DATE: 03/07/2019
LOCATION: A56 Manchester Rd / Bury New Rd DAY: Wednesday

TIME	A to B							TOT	A to A							TOT
	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL		CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	
07:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
H/TOT	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:30	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0
08:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
H/TOT	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0
09:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
09:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
H/TOT	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
P/TOT	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0

TIME	A to B							TOT	A to A							TOT
	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL		CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	
16:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:45	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0
H/TOT	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0
17:00	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
17:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
H/TOT	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
P/TOT	1	0	0	0	0	0	1	2	0	0	0	0	0	0	0	0



SITE: 4 DATE: 03/07/2019
LOCATION: A56 Manchester Rd / Bury New Rd DAY: Wednesday

TIME	B to A							TOT	B to D							TOT
	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL		CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	
07:00	1	1	0	0	0	0	1	3	0	0	0	0	0	0	0	0
07:15	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
07:30	2	0	0	1	0	0	0	3	0	0	0	0	0	0	0	0
07:45	1	2	0	1	0	0	0	4	0	0	0	0	0	0	0	0
H/TOT	5	3	0	2	0	0	1	11	0	0	0	0	0	0	0	0
08:00	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
08:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:30	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
08:45	4	1	0	0	0	0	0	5	0	0	0	0	0	0	0	0
H/TOT	6	1	0	0	0	0	0	7	0	0	0	0	0	0	0	0
09:00	3	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0
09:15	1	1	0	1	0	0	0	3	0	0	0	0	0	0	0	0
H/TOT	4	1	0	1	0	0	0	6	0	0	0	0	0	0	0	0
P/TOT	15	5	0	3	0	0	1	24	0	0	0	0	0	0	0	0

TIME	B to A							TOT	B to D							TOT
	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL		CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	
16:00	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
16:15	6	1	0	0	0	0	0	7	0	0	0	0	0	0	0	0
16:30	2	1	0	1	1	0	0	5	0	0	0	0	0	0	0	0
16:45	2	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0
H/TOT	11	2	0	1	1	0	0	15	0	0	0	0	0	0	0	0
17:00	2	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0
17:15	2	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0
17:30	7	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0
17:45	5	0	0	0	0	0	1	6	0	0	0	0	0	0	0	0
H/TOT	16	0	0	0	0	0	1	17	0	0	0	0	0	0	0	0
P/TOT	27	2	0	1	1	0	1	32	0	0	0	0	0	0	0	0



SITE: 4 DATE: 03/07/2019
LOCATION: A56 Manchester Rd / Bury New Rd DAY: Wednesday

TIME	B to C							TOT	B to B							TOT
	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL		CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	
07:00	123	14	1	2	1	3	0	144	0	0	0	0	0	0	0	0
07:15	122	6	1	1	2	1	0	133	0	0	0	0	0	0	0	0
07:30	144	16	0	1	1	1	1	164	0	0	0	0	0	0	0	0
07:45	170	9	2	3	2	1	0	187	0	0	0	0	0	0	0	0
H/TOT	559	45	4	7	6	6	1	628	0	0	0	0	0	0	0	0
08:00	126	7	4	5	0	3	0	145	0	0	0	0	0	0	0	0
08:15	110	17	14	3	1	0	0	145	0	0	0	0	0	0	0	0
08:30	128	13	5	1	3	0	0	150	0	0	0	0	0	0	0	0
08:45	95	4	4	0	4	1	0	108	0	0	0	0	0	0	0	0
H/TOT	459	41	27	9	8	4	0	548	0	0	0	0	0	0	0	0
09:00	118	11	0	0	1	0	0	130	0	0	0	0	0	0	0	0
09:15	77	8	0	2	3	0	0	90	0	0	0	0	0	0	0	0
H/TOT	195	19	0	2	4	0	0	220	0	0	0	0	0	0	0	0
P/TOT	1213	105	31	18	18	10	1	1396	0	0	0	0	0	0	0	0

TIME	B to C							TOT	B to B							TOT
	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL		CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	
16:00	63	26	0	2	2	0	0	93	0	0	0	0	0	0	0	0
16:15	37	12	1	2	1	0	0	53	0	0	0	0	0	0	0	0
16:30	62	6	1	1	2	0	0	72	0	0	0	0	0	0	0	0
16:45	46	8	1	0	0	1	0	56	0	0	0	0	0	0	0	0
H/TOT	208	52	3	5	5	1	0	274	0	0	0	0	0	0	0	0
17:00	71	7	0	3	3	0	0	84	0	0	0	0	0	0	0	0
17:15	59	6	1	1	1	2	0	70	0	0	0	0	0	0	0	0
17:30	51	6	0	3	1	0	0	61	0	0	0	0	0	0	0	0
17:45	45	4	1	0	2	0	0	52	0	0	0	0	0	0	0	0
H/TOT	226	23	2	7	7	2	0	267	0	0	0	0	0	0	0	0
P/TOT	434	75	5	12	12	3	0	541	0	0	0	0	0	0	0	0



SITE: 4 DATE: 03/07/2019
LOCATION: A56 Manchester Rd / Bury New Rd DAY: Wednesday

TIME	C to B							TOT	C to A							TOT
	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL		CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	
07:00	18	12	3	2	3	0	0	38	24	7	2	3	1	0	1	38
07:15	22	7	3	2	1	0	0	35	40	6	2	12	0	1	0	61
07:30	29	5	1	1	2	0	0	38	44	9	5	7	1	4	0	70
07:45	19	7	2	2	1	1	0	32	29	11	0	8	1	0	0	49
H/TOT	88	31	9	7	7	1	0	143	137	33	9	30	3	5	1	218
08:00	52	14	1	2	3	0	0	72	61	6	4	5	1	1	0	78
08:15	46	14	3	1	1	0	0	65	52	9	2	4	1	0	1	69
08:30	51	8	3	1	2	0	0	65	49	12	0	12	1	0	0	74
08:45	63	12	3	5	1	0	0	84	34	10	2	4	1	0	0	51
H/TOT	212	48	10	9	7	0	0	286	196	37	8	25	4	1	1	272
09:00	48	12	3	2	1	0	0	66	43	11	4	11	1	0	0	70
09:15	29	12	1	2	2	0	1	47	24	6	3	8	2	0	0	43
H/TOT	77	24	4	4	3	0	1	113	67	17	7	19	3	0	0	113
P/TOT	377	103	23	20	17	1	1	542	400	87	24	74	10	6	2	603

TIME	C to B							TOT	C to A							TOT
	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL		CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	
16:00	93	11	0	2	1	1	0	108	76	9	2	4	2	0	0	93
16:15	120	12	4	1	1	2	0	140	93	16	2	4	1	1	1	118
16:30	114	11	3	4	2	1	0	135	81	11	1	4	1	0	4	102
16:45	116	7	4	2	2	0	0	131	105	10	1	4	1	3	4	128
H/TOT	443	41	11	9	6	4	0	514	355	46	6	16	5	4	9	441
17:00	122	10	2	0	1	0	0	135	118	12	0	2	0	2	1	135
17:15	125	18	7	0	1	1	0	152	127	13	2	3	1	1	1	148
17:30	144	15	5	0	3	1	1	169	100	13	0	4	0	1	2	120
17:45	135	9	4	2	2	0	1	153	106	12	3	2	1	0	1	125
H/TOT	526	52	18	2	7	2	2	609	451	50	5	11	2	4	5	528
P/TOT	969	93	29	11	13	6	2	1123	806	96	11	27	7	8	14	969



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LOCATION: A56 Manchester Rd / Bury New Rd DAY: Wednesday

TIME	C to D							TOT	C to C							TOT
	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL		CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	
07:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
H/TOT	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
H/TOT	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
09:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
09:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
H/TOT	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
P/TOT	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

TIME	C to D							TOT	C to C							TOT
	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL		CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	
16:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
H/TOT	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
H/TOT	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
P/TOT	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0



SITE: 4 DATE: 03/07/2019
LOCATION: A56 Manchester Rd / Bury New Rd DAY: Wednesday

TIME	D to C							TOT	D to B							TOT
	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL		CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	
07:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
H/TOT	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
H/TOT	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
09:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
09:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
H/TOT	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
P/TOT	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

TIME	D to C							TOT	D to B							TOT
	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL		CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	
16:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:15	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0
16:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
H/TOT	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0
17:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
H/TOT	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
P/TOT	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0



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LOCATION: A56 Manchester Rd / Bury New Rd DAY: Wednesday

TIME	D to A							TOT	D to D							TOT
	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL		CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	
07:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
H/TOT	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
H/TOT	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
09:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
09:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
H/TOT	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
P/TOT	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

TIME	D to A							TOT	D to D							TOT
	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL		CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	
16:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
H/TOT	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
H/TOT	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
P/TOT	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0



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LOCATION: A56 Manchester Rd / Bury New Rd DAY: Wednesday

TIME	TO ARM A							TOT	FROM ARM A							TOT
	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL		CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	
07:00	25	8	2	3	1	0	2	41	73	15	2	2	1	1	2	96
07:15	41	6	2	12	0	1	0	62	102	21	1	8	2	2	0	136
07:30	46	9	5	8	1	4	0	73	119	14	3	6	1	0	0	143
07:45	30	13	0	9	1	0	0	53	118	9	3	5	1	2	1	139
H/TOT	142	36	9	32	3	5	2	229	412	59	9	21	5	5	3	514
08:00	62	6	4	5	1	1	0	79	108	27	0	10	4	1	0	150
08:15	52	9	2	4	1	0	1	69	98	14	1	7	1	1	1	123
08:30	50	12	0	12	1	0	0	75	99	7	5	4	1	0	2	118
08:45	38	11	2	4	1	0	0	56	89	7	2	10	1	0	0	109
H/TOT	202	38	8	25	4	1	1	279	394	55	8	31	7	2	3	500
09:00	46	11	4	11	1	0	0	73	86	16	1	12	1	1	1	118
09:15	25	7	3	9	2	0	0	46	69	9	4	12	1	2	0	97
H/TOT	71	18	7	20	3	0	0	119	155	25	5	24	2	3	1	215
P/TOT	415	92	24	77	10	6	3	627	961	139	22	76	14	10	7	1229

	TO ARM A									FROM ARM A								
TIME	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	TOT	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	TOT		
16:00	77	9	2	4	2	0	0	94	61	14	2	5	1	1	0	84		
16:15	99	17	2	4	1	1	1	125	61	18	0	2	1	0	0	82		
16:30	83	12	1	5	2	0	4	107	69	10	1	3	1	2	1	87		
16:45	107	10	1	4	1	3	4	130	66	16	1	3	1	3	2	92		
H/TOT	366	48	6	17	6	4	9	456	257	58	4	13	4	6	3	345		
17:00	120	12	0	2	0	2	1	137	89	12	1	0	1	0	0	103		
17:15	129	13	2	3	1	1	1	150	80	8	0	2	1	1	1	93		
17:30	107	13	0	4	0	1	2	127	75	4	1	0	1	0	0	81		
17:45	111	12	3	2	1	0	2	131	54	2	3	0	1	1	0	61		
H/TOT	467	50	5	11	2	4	6	545	298	26	5	2	4	2	1	338		
P/TOT	833	98	11	28	8	8	15	1001	555	84	9	15	8	8	4	683		



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TIME	TO ARM B							TOT	FROM ARM B							TOT
	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL		CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	
07:00	18	12	3	2	3	0	0	38	124	15	1	2	1	3	1	147
07:15	22	7	3	2	1	0	0	35	123	6	1	1	2	1	0	134
07:30	29	5	1	1	2	0	0	38	146	16	0	2	1	1	1	167
07:45	19	7	2	2	1	1	0	32	171	11	2	4	2	1	0	191
H/TOT	88	31	9	7	7	1	0	143	564	48	4	9	6	6	2	639
08:00	52	14	1	2	3	0	0	72	127	7	4	5	0	3	0	146
08:15	46	14	3	1	1	0	0	65	110	17	14	3	1	0	0	145
08:30	51	8	3	1	2	0	1	66	129	13	5	1	3	0	0	151
08:45	63	12	3	5	1	0	0	84	99	5	4	0	4	1	0	113
H/TOT	212	48	10	9	7	0	1	287	465	42	27	9	8	4	0	555
09:00	48	12	3	2	1	0	0	66	121	11	0	0	1	0	0	133
09:15	29	12	1	2	2	0	1	47	78	9	0	3	3	0	0	93
H/TOT	77	24	4	4	3	0	1	113	199	20	0	3	4	0	0	226
P/TOT	377	103	23	20	17	1	2	543	1228	110	31	21	18	10	2	1420

TIME	TO ARM B							TOT	FROM ARM B							TOT
	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL		CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	
16:00	93	11	0	2	1	1	0	108	64	26	0	2	2	0	0	94
16:15	120	12	4	1	1	2	0	140	43	13	1	2	1	0	0	60
16:30	114	11	3	4	2	1	0	135	64	7	1	2	3	0	0	77
16:45	116	7	4	2	2	0	1	132	48	8	1	0	0	1	0	58
H/TOT	443	41	11	9	6	4	1	515	219	54	3	6	6	1	0	289
17:00	123	10	2	0	1	0	0	136	73	7	0	3	3	0	0	86
17:15	125	18	7	0	1	1	0	152	61	6	1	1	1	2	0	72
17:30	144	15	5	0	3	1	1	169	58	6	0	3	1	0	0	68
17:45	135	9	4	2	2	0	1	153	50	4	1	0	2	0	1	58
H/TOT	527	52	18	2	7	2	2	610	242	23	2	7	7	2	1	284
P/TOT	970	93	29	11	13	6	3	1125	461	77	5	13	13	3	1	573



SITE: 4 DATE: 03/07/2019
LOCATION: A56 Manchester Rd / Bury New Rd DAY: Wednesday

TIME	TO ARM C							TOT	FROM ARM C							TOT
	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL		CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	
07:00	196	29	3	4	2	4	2	240	42	19	5	5	4	0	1	76
07:15	224	27	2	9	4	3	0	269	62	13	5	14	1	1	0	96
07:30	263	30	3	7	2	1	1	307	73	14	6	8	3	4	0	108
07:45	288	18	5	8	3	3	1	326	48	18	2	10	2	1	0	81
H/TOT	971	104	13	28	11	11	4	1142	225	64	18	37	10	6	1	361
08:00	234	34	4	15	4	4	0	295	113	20	5	7	4	1	0	150
08:15	208	31	15	10	2	1	1	268	98	23	5	5	2	0	1	134
08:30	227	20	10	5	4	0	1	267	100	20	3	13	3	0	0	139
08:45	184	11	6	10	5	1	0	217	97	22	5	9	2	0	0	135
H/TOT	853	96	35	40	15	6	2	1047	408	85	18	34	11	1	1	558
09:00	204	27	1	12	2	1	1	248	91	23	7	13	2	0	0	136
09:15	146	17	4	14	4	2	0	187	53	18	4	10	4	0	1	90
H/TOT	350	44	5	26	6	3	1	435	144	41	11	23	6	0	1	226
P/TOT	2174	244	53	94	32	20	7	2624	777	190	47	94	27	7	3	1145

	TO ARM C								FROM ARM C							
TIME	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	TOT	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	TOT
16:00	124	40	2	7	3	0	0	176	169	20	2	6	3	1	0	201
16:15	98	31	1	4	2	0	0	136	213	28	6	5	2	3	1	258
16:30	131	16	2	4	3	2	1	159	195	22	4	8	3	1	4	237
16:45	112	24	2	3	1	4	1	147	221	17	5	6	3	3	4	259
H/TOT	465	111	7	18	9	6	2	618	798	87	17	25	11	8	9	955
17:00	159	19	1	3	4	0	0	186	240	22	2	2	1	2	1	270
17:15	139	14	1	3	2	3	1	163	252	31	9	3	2	2	1	300
17:30	126	10	1	3	2	0	0	142	244	28	5	4	3	2	3	289
17:45	99	6	4	0	3	1	0	113	241	21	7	4	3	0	2	278
H/TOT	523	49	7	9	11	4	1	604	977	102	23	13	9	6	7	1137
P/TOT	988	160	14	27	20	10	3	1222	1775	189	40	38	20	14	16	2092



SITE: 4 DATE: 03/07/2019
LOCATION: A56 Manchester Rd / Bury New Rd DAY: Wednesday

TIME	TO ARM D							TOT	FROM ARM D							TOT
	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL		CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	
07:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
H/TOT	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
H/TOT	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
09:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
09:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
H/TOT	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
P/TOT	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

	TO ARM D								FROM ARM D							
TIME	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	TOT	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	TOT
16:00	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0
16:15	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
16:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
H/TOT	0	0	0	0	0	1	0	1	0	1	0	0	0	0	0	1
17:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
H/TOT	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
P/TOT	0	0	0	0	0	1	0	1	0	1	0	0	0	0	0	1



SITE: 4

DATE: 03/07/2019

LOCATION: A56 Manchester Rd / Bury New Rd

DAY: Wednesday

TIME	JUNCTION TOTAL							TOT
	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	
07:00	239	49	8	9	6	4	4	319
07:15	287	40	7	23	5	4	0	366
07:30	338	44	9	16	5	5	1	418
07:45	337	38	7	19	5	4	1	411
H/TOT	1201	171	31	67	21	17	6	1514
08:00	348	54	9	22	8	5	0	446
08:15	306	54	20	15	4	1	2	402
08:30	328	40	13	18	7	0	2	408
08:45	285	34	11	19	7	1	0	357
H/TOT	1267	182	53	74	26	7	4	1613
09:00	298	50	8	25	4	1	1	387
09:15	200	36	8	25	8	2	1	280
H/TOT	498	86	16	50	12	3	2	667
P/TOT	2966	439	100	191	59	27	12	3794

PEAK HOUR	
CALCULATION	TOT
07:00 to 08:00	1514
07:15 to 08:15	1641
07:30 to 08:30	1677
07:45 to 08:45	1667
08:00 to 09:00	1613
08:15 to 09:15	1554
08:30 to 09:30	1432
AM PEAK	1677

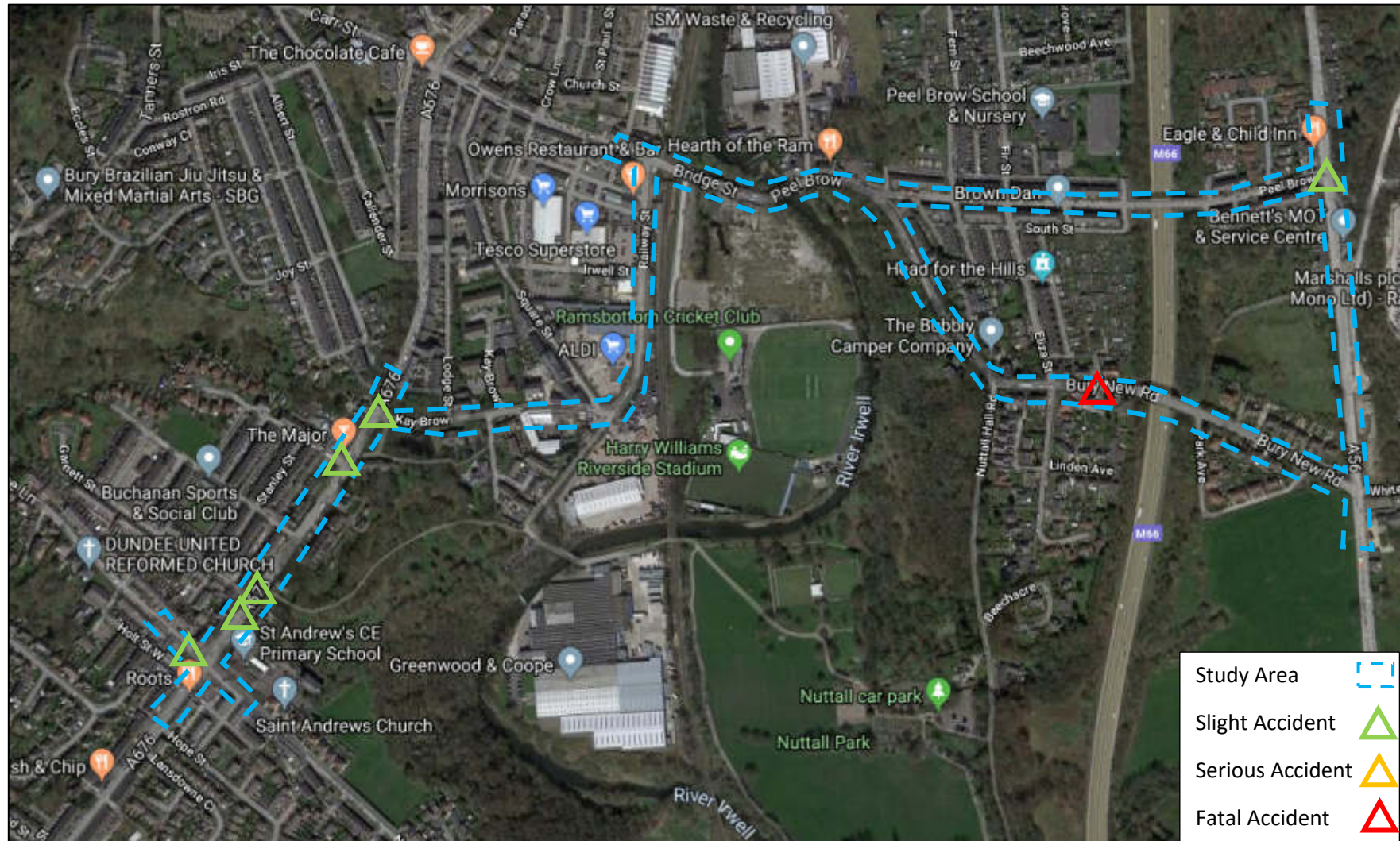
TIME	JUNCTION TOTAL							TOT
	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	
16:00	294	60	4	13	6	2	0	379
16:15	317	60	7	9	4	3	1	401
16:30	328	39	6	13	7	3	5	401
16:45	335	41	7	9	4	7	6	409
H/TOT	1274	200	24	44	21	15	12	1590
17:00	402	41	3	5	5	2	1	459
17:15	393	45	10	6	4	5	2	465
17:30	377	38	6	7	5	2	3	438
17:45	345	27	11	4	6	1	3	397
H/TOT	1517	151	30	22	20	10	9	1759
P/TOT	2791	351	54	66	41	25	21	3349

PEAK HOUR	
CALCULATION	TOT
16:00 to 17:00	1590
16:15 to 17:15	1670
16:30 to 17:30	1734
16:45 to 17:45	1771
17:00 to 18:00	1759
PM PEAK	1771

S|C|P

APPENDIX B

5-Year Road Safety Record – TA Study Area

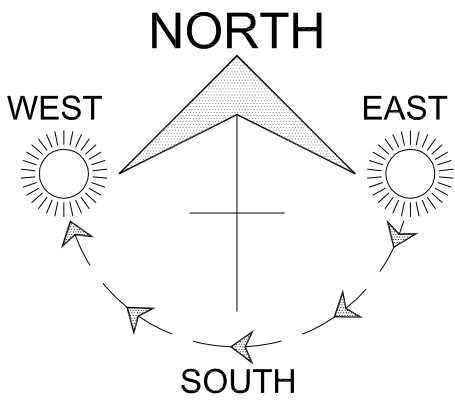


S|C|P

APPENDIX C



SCHEDULE OF ACCOMODATION				
BUILDING A				
APARTMENT A	2 BED APARTMENT	688sqft	1	688sqft
APARTMENT B	1 BED APARTMENT	491sqft	1	491sqft
APARTMENT C	2 BED APARTMENT	1054sqft	1	1054sqft
BUILDING B				
TYPE A	2 BED SEMI HOUSE	820sqft	2	1640sqft
APARTMENTS	1 BED APARTMENTS	501sqft	4	2004sqft
APARTMENTS	2 BED APARTMENTS	663sqft	12	7956sqft
CROFT	3 BED SEMI HOUSE	954sqft	22	20988sqft
WHALLEY 2	4 BED DETACHED HOUSE	1152sqft	5	5760sqft
HARTFORD	4 BED DETACHED HOUSE	1281sqft	1	1281sqft
ARNISIDE	4 BED DETACHED HOUSE	1341sqft	9	12123sqft
HAIGH	4 BED DETACHED HOUSE	1468sqft	9	13212sqft
WILLASTON	4 BED DETACHED HOUSE	1478sqft	2	2956sqft
FORMBY	4 BED DETACHED HOUSE	1567sqft	3	4701sqft
TOTAL			72	74556sqft
GROSS SITE AREA:				
LANDSCAPE BUFFER:		7.06 Acres		
POS & FLOOD ZONES:		0.21 Acres		
COMMERCIAL AREA & EMERGENCY ACCESS:		1.43 Acres		
CULVERTS & ACCESS TO CRICKET CLUB:		0.46 Acres		
NETT SITE AREA:		4.53 Acres		
GROSS DENSITY:		10.20 Units/Acre		
NETT DENSITY:		15.89 Units/Acre		
TOTAL FOOTAGE:		74556 Sqft		
GROSS FOOTAGE:		10603 Sqft/Acre		
NETT FOOTAGE:		16525 Sqft/Acre		



D	ROADS UPDATED TO VEHICLE TRACKING.	JSM	10.08.20
B	LAYOUT UPDATED.	JSM	14.07.20
C	EXISTING BUILDINGS UPDATED.	JSM	08.07.20
A	LAYOUT REDRAWN.	JSM	03.06.20

REV	28/03/2017/10W	WT	DATE
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PROJECT

HOLCOMBE MILL,
BRIDGE STREET,
RAMSBOTTOM

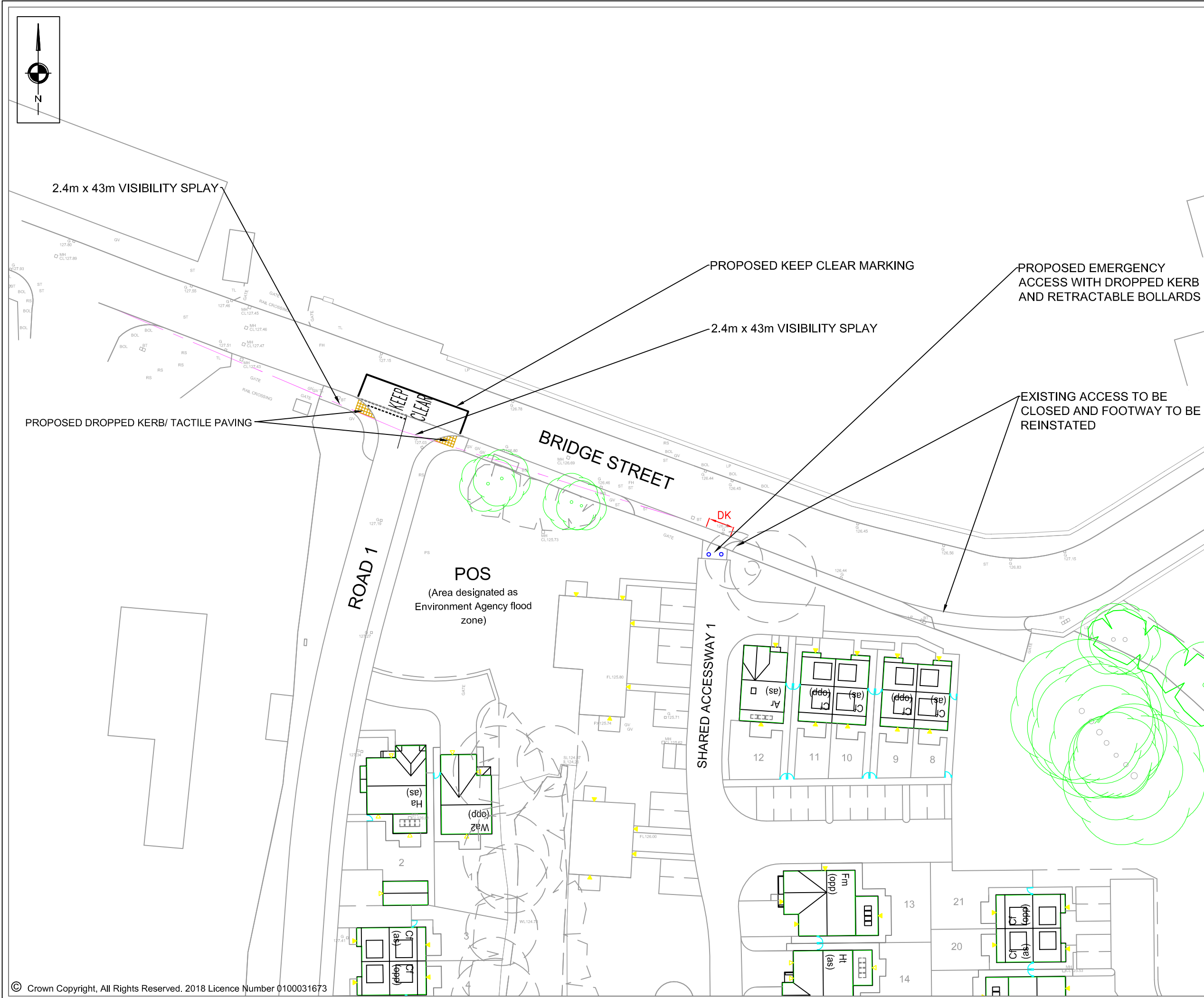
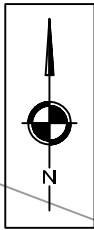
DRAWING TITLE

PLANNING LAYOUT

JOB NUMBER	-	REV	D
DRAWN	JSM	04.11.19	SCALE
CHECKED	-	-	1:500

S|C|P

APPENDIX D



NOTES

REVISIONS			
REV	DESCRIPTION	DATE	BY
B	-PROPOSED IMPROVEMENTS ADDED	06.02.20	BH
C	-PROPOSED IMPROVEMENTS ADDED	21.07.20	BH
D	-PROPOSED IMPROVEMENTS ADDED	10.08.20	BH
E	-LATEST LAYOUT UNDERLAID	12.08.20	BH

S|C|P

Transportation Planning : Infrastructure Design

Colwyn Chambers, 19 York Street, Manchester, M2 3BA, Tel 0161 832 4400,
www.scptransport.co.uk, Email info@scptransport.co.uk

Client Name:

ECCLESTON HOMES LTD

Project Title:

HOLCOMBE MILL, RAMSBOTTOM

Drawing Title:

ACCESS ARRANGEMENT & VISIBILITY SPLAYS

Drawn By:	BH	Date:	17.12.2019
Checked:	CT	Scale:	1:500 @ A3
Status:	PLANNING	Approved/Unapproved:	-

Drawing No.	SCP/190506/SK01	Rev.	E
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S|C|P

APPENDIX E



MERAKI ALLIANCE

Highways, Transportation & Safety Consulting

Road Safety Audit Stage 1

Proposed Development Holcombe Mill Ramsbottom

**Eccleston Homes
114 Newton House
Birchwood Park
Warrington
WA3 6FW**

**Jonathan Birkett
Meraki Alliance Ltd
10 Watkin Ave
Old Colwyn
Conwy
LL29 9NN
Tel + 44 (0)7966 296302**



MERAKI ALLIANCE

Highways, Transportation & Safety Consulting

Road Safety Audit Stage 1

Proposed Development Holcombe Mill Ramsbottom

Report Produced for; -

Eccleston Homes

Report Produced by; -

Jonathan Birkett

Report Dated; -

04 February 2020

Report Reference; -

MAL/HMRRSA1Rev0

Road Safety Audit Team Leader; -

Jonathan Birkett



Proposed Development, Holcombe Mill Ramsbottom. Road Safety Audit Stage 1

Contents Amendment Record

This report has been issued & amended as follows:

Issue	Revision	Description	Date	Signed
1	0	Draft Report	03.02.2020	JB
1	0	FINAL REPORT	04.02.2020	JB/DB

Report Circulation Record

This report has been circulated, as follows:

Person	Organisation	No. of Copies	Date
	AWAL Investments	Electronic	04.02.2020
P Todd	SCP	Electronic	04.02.2020
G Kidd	Meraki Alliance Ltd	Electronic	04.02.2020



Contents

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1	Introduction	1
2	Problems Raised at this Stage 1 Road Safety Audit	4
3	Road Safety Audit Team Statement	7

Appendix A - Documents Forming the Brief

Appendix B – Problem(s) Location Plan(s)



1 Introduction

1.1 Commission and Terms of Reference

- 1.1.1 This report has been prepared in response to a request to undertake a Stage 1 Road Safety Audit (i.e. carried out prior to detailed design) by Eccleston Homes. The scheme submitted for Audit is the proposed development, Holcombe Mill, Ramsbottom. Holcombe Mill development will be accessed off the existing road leading to the cricket club. This access meets Bridge Street at an existing priority-controlled junction. Bridge Street is controlled by a 30mph speed limit and is street lit.
- 1.1.2 The audit comprised an examination of documents forming the Audit Brief and an examination of the site.
- 1.1.3 The documents were made available to the Road Safety Audit Team by Peter Todd SCP on the instructions of Eccleston Homes on behalf of the Highway Authority Metropolitan Borough of Bury (MBB). The total documents forming the Audit Brief are listed in **Appendix A**.
- 1.1.4 Generally, the Brief comprised:
- Brief.
 - Drawing.
- 1.1.5 Collision data was not available as part of the Brief. The Audit Team looked at the data held on the “Crashmap” website. Examination of the data shows that there have been no collisions on the roads surrounding the development in the most recent five years of data available.
- 1.1.6 Traffic count data was not available.
- 1.1.7 Speed data was not available.
- 1.1.8 It was considered that the information provided was sufficient for the purpose of carrying out the Road Safety Audit Stage 1 requested.
- 1.1.9 The Road Safety Audit Team membership approved by Eccleston Homes on behalf of the Highway Authority was:
- JONATHAN BIRKETT IENG MICE FIHE MSORSA
Holder of Certificate of Competency
Road Safety Audit Team Leader



GILLIAN KIDD BSc (HONS) MIHE
Road Safety Audit Team Member

- 1.1.10 The Road Safety Audit comprised an examination of the documents and drawings supplied to the Road Safety Audit Team (referenced in **Appendix A** of this report). No member of the Road Safety Audit Team has had any previous input to the design of the scheme.
- 1.1.11 The site was visited on the morning of 03 February 2020. The weather was overcast, and the road surface was wet.
- 1.1.12 The Terms of Reference are as described in the Highways Agency's Design Manual for Roads and Bridges document GG119 'Road Safety Audit '. The scheme has been examined and this report compiled only with regard to safety implications to road users of the scheme as presented. It has not been verified for compliance with any other Standards or criteria. However, in order to clearly explain a safety problem or the recommendation to resolve a problem, the Audit Team may on occasion have referred to a design standard for information only. However, any audit comments should not be construed as implying that a technical audit has been undertaken in any respect.
- 1.1.13 Furthermore, any recommendations included within this report should not be regarded as being prescriptive design solution to the problem raised. They are intended only to indicate a proportionate and viable means of eliminating or mitigating the identified problem, as stipulated in GG119, and in no way imply that a formal design process has been undertaken. There may be alternative methods of addressing a problem which should be equally acceptable in achieving the desired elimination or mitigation and these should be considered when responding to this report.
- 1.1.14 It is the Project Sponsor's responsibility to ensure that all problems raised by the Road Safety Audit Team are given due consideration.
- 1.1.15 In the event of a collision and any resulting legal action, Meraki Alliance Ltd would have to defend its actions on the basis that it took such care, as in all circumstances was reasonably required, to ensure that the highway was not dangerous to road users. It is important therefore that recommendations contained in the report are acted upon wherever possible.

1.2 Purpose of the scheme

- 1.2.1 Construction of a development off Bridge Street. The scheme includes minor changes to the existing access onto Bridge Street.



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1.3 Departures or Relaxations from Standards

- 1.3.1 No Departures or Relaxations from Standard were submitted to the Road Safety Audit Team.

2 Problems Raised at this Stage 1 Road Safety Audit

2.1 General

2.1.1 PROBLEM 1

Location: Changes to existing priority accesses.

Summary: Inappropriate drainage may lead to ponding resulting in standing resulting in loss of control type collisions.

Details of drainage associated with the development are not available, in a number of locations kerb lines will be altered. Ponding water can result in an increased risk of loss of control type collisions and at certain times of year standing water will freeze resulting in ice, vehicles manoeuvring in the turnings could lose control resulting in an increased risk of collisions as well as pedestrians slipping and falling.

RECOMMENDATION: Provide appropriate drainage at all locations where changes to the road layout will be required.

2.1.2 PROBLEM 2

Location: Vehicle tracking.

Summary: Details of vehicle tracked movements at the improved access are not provided on the drawings. Inappropriate carriageway widths and turning radii can result in increased vehicle collisions.

Changes will be made to current access arrangements onto Bridge Street. Details of vehicle tracking at the main access onto Bridge Street have not been made available to the Road Safety Audit Team.

Inappropriate carriageway widths and substandard accesses can result in vehicles mounting the kerbs or encroaching onto NMU facilities resulting in an increased risk of NMU/vehicle and vehicle/vehicle collisions.

RECOMMENDATION: Provide details of vehicle tracking at the main access onto Bridge Street.

2.1.3 PROBLEM 3

Location: Bridge Street priority junction.

Summary: Queuing vehicles could result in driver frustration and may result in vehicles failing to give way.



There is a level crossing located roughly 10m from the proposed site access onto Bridge Street. East Lancashire Railway operates a recreational steam and diesel service between Heywood and Rawtenstall. The service is of varying regularity depending on the time of year. The frequency of services increases over the school holiday periods with up to 19 journeys a day at its peak in August. These journeys take place between 09:00 and 18:00 which will result in the level crossing being closed for prolonged periods.

It is likely that queues will form across the proposed site access which will lead to drivers not being able to turn right out of the site access increasing the risk of driver frustration and possible failure to give way type collisions.

RECOMMENDATION: Provide “Keep Clear” markings across the site access allowing vehicles to turn into and out of the access when the level crossing is in operation.

2.2 Junctions

No safety related problems identified.

2.3 Alignment

No safety related problems identified.

2.4 Walking, Cycling and Horse Riding

2.4.1 PROBLEM 4

Location: Altered priority junction.

Summary: Inappropriate NMU facilities could lead to NMU slips/trips and falls.

Examination of the drawings do not show tactile paving, footway gradients or upstand of the at the main access onto Bridge Street. The junction will be altered and as such an uncontrolled crossing of the main access will be required for pedestrians walking along Bridge Street.

If no facilities for NMUs are provided, then there is an increased risk of NMU slips/trips and falls.

RECOMMENDATION: Ensure that appropriate dropped crossing points are provide in accordance with *Guidance on the Use of Tactile Paving Surfaces [DfT]*.

2.5 Traffic Signing, Road Markings & Street-lighting

2.5.1 PROBLEM 5

Location: Access.



Summary: Inappropriate levels of lighting can lead to an increased collision risk.

The drawings provided do not show if street lighting is proposed. The scheme will increase night-time usage, which may result in the site access and possible NMU crossing points being in shadow leading to conflicts during the hours of darkness.

RECOMMENDATION: Ensure that suitable lighting provision is provided.

2.5.2 PROBLEM 6

Location: Bridge Street priority junction.

Summary: A lack of road markings can increase the risk of vehicles failing to give way.

The drawings provided do not show any road markings at the priority junction with Bridge Street. A lack of road markings will lead to vehicles failing to give way increasing the risk of collisions.

RECOMMENDATION: Ensure that a safe system of road markings is provided.

**End of list of Problems identified and Recommendations
offered in this Stage 1 Road Safety Audit**



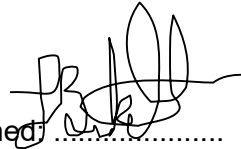
3 Road Safety Audit Team Statement

I certify that this Audit has been carried out in the spirit of GG119.

ROAD SAFETY AUDIT TEAM LEADER

JONATHAN BIRKETT

10 Watkin Avenue
Old Colwyn
Conwy, LL29 9NN

Signed: 

Dated 04.02.2020...

ROAD SAFETY AUDIT TEAM MEMBER

GILLIAN KIDD

Signed: 

Road Safety Auditor,

Dated 04.02.2020

,



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Appendix A

The following Drawings and Documents formed the Road Safety Audit Brief.

Documents

Holcombe Mill, Bridge Street, Ramsbottom-Planning Layout08

SCP_190506_ATR02

SCP_190506_SK01 Rev A_1



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Highways, Transportation & Safety Consulting

ROAD SAFETY AUDIT (RSA) DESIGNERS RESPONSE FORM - PROPOSED ACCESS ARRANGEMENT

RSA Ref No : MAL/HMRRSA1Rev0

RSA Stage : One

RSA Auditors : MERAKEI ALLIANCE

Scheme : Proposed Mixed-Use Development, Holcombe Mill, Ramsbottom

Response By: Craig Thomson



Paragraph No. in RSA Report	Problem Accepted (Yes/No)	Recommended Measure Accepted (Yes/No)	Alternative Measure / Design Team Response
2.1.1	Yes	Yes	To be addressed at detailed design stage.
2.1.2	Yes	Yes	Drawing number SCP/190506/ATR01 REV C, presented in Appendix F of the submitted TA, shows the swept path analysis of a refuse vehicle and demonstrates that it can enter the site via the site access, turn within the site and exit in a forward gear.
2.1.3	Yes	Yes	Keep clear road markings have been introduced as recommended to stop queuing vehicles from blocking the access.
2.4.1	Yes	Yes	Dropped kerbs and tactile paving have been introduced as recommended to reduce the risk of non-motorised users slipping/falling.
2.5.1	Yes	Yes	To be addressed at detailed design stage.
2.5.2	Yes	Yes	Give way road markings have been introduced at the access as recommended to reduce the risk of collisions.

Craig Thomson
Senior Transport Planner
SCP

Signed:

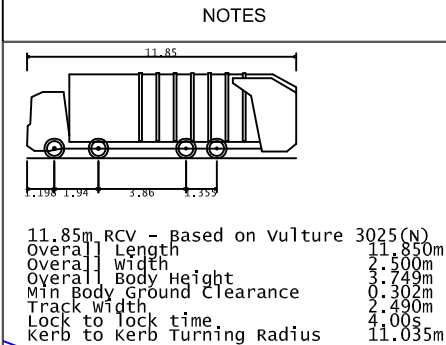
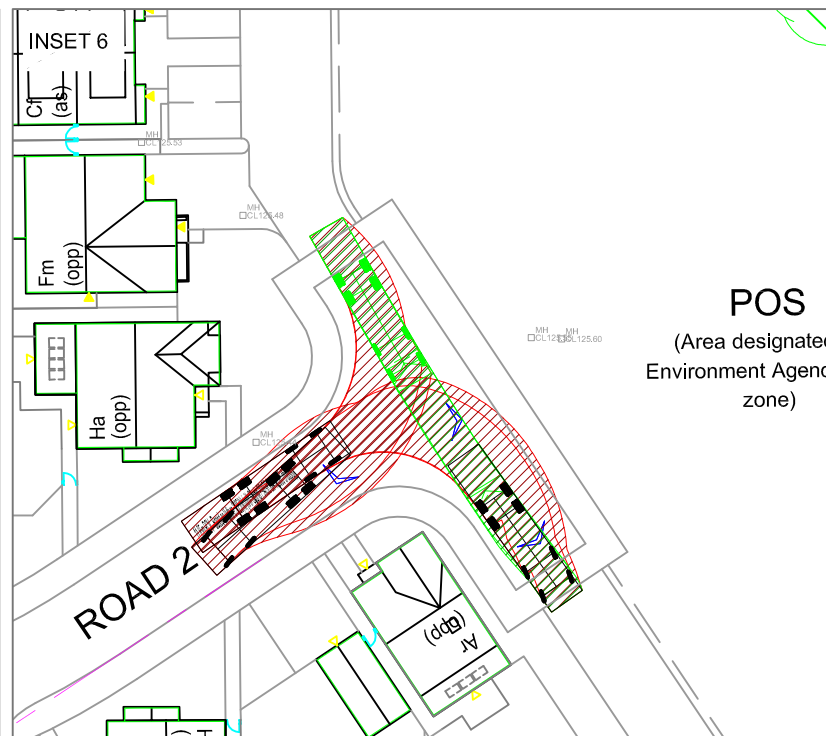
A handwritten signature in black ink, appearing to read "Craig Thomson", is written over a light blue circular stamp.

Date:

05/02/2020

S|C|P

APPENDIX F



REVISIONS			
REV	DESCRIPTION	DATE	B'Y
C	-MINOR AMENDMENTS MADE	06.02.20	BR
D	-MINOR AMENDMENTS MADE	21.07.20	BR
E	-NEW SITE LAYOUT UNDERLAID	10.08.20	BR
F	-NEW SITE LAYOUT UNDERLAID	12.08.20	BR



SCP

Transportation Planning : Infrastructure Design

Colwyn Chambers, 19 York Street, Manchester, M2 3BA, Tel 0161 832 4400,
www.scptransport.co.uk, Email info@scptransport.co.uk

Client Name:

ECCLESTON HOMES LTD

Project Title:

HOLCOMBE MILL, RAMSBOTTOM

Drawing Title:

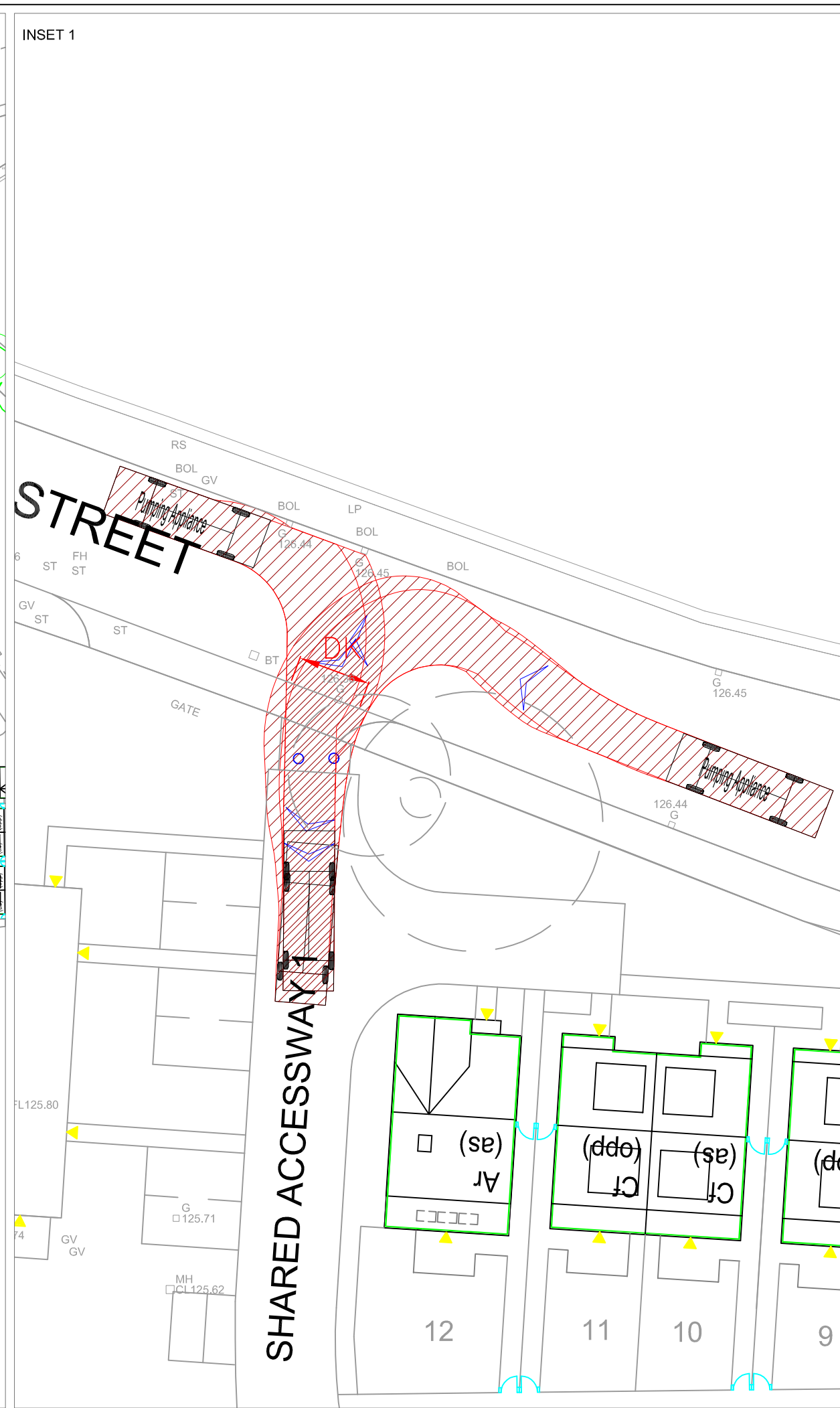
SWEPT PATH ANALYSIS
- REFUSE VEHICLE

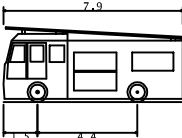
Drawn By:	BH	Date:	17.12.2019
Checked:	CT	Scale:	1:500 @ A3 UNLESS STATE
Status:	PLANNING	Approved/Unapproved:	-

Drawing No.	Rev.
SCP/190506/ATR01	F

S|C|P

APPENDIX G



NOTES			
 Pumping Appliance Overall Length Overall Width Overall Body Height Min Body Ground Clearance Track Width Lock to lock time Kerb to Kerb Turning Radius 7.900m 2.500m 3.300m 3.300m 0.140m 2.500m 4.00s 7.750m			
REVISIONS			
REV	DESCRIPTION	DATE	BY
A	-MINOR AMENDMENTS MADE	06.02.20	BH
B	-MINOR AMENDMENTS MADE	21.07.20	BH
C	-LATEST LAYOUT UNDERLAID	10.08.20	BH
D	-LATEST LAYOUT UNDERLAID	12.08.20	BH
SCP Transportation Planning : Infrastructure Design Colwyn Chambers, 19 York Street, Manchester, M2 3BA, Tel 0161 832 4400, www.scptransport.co.uk, Email info@scptransport.co.uk			
Client Name:			
ECCLESTON HOMES LTD			
Project Title:			
HOLCOMBE MILL, RAMSBOTTOM			
Drawing Title:			
SWEEP PATH ANALYSIS -FIRE TENDER			
Drawn By:		Date:	
BH		17.12.2019	
Checked:		Scale:	
CT		1:250 @ A3 UNLESS STATED	
Status:		Approved/Unapproved:	
PLANNING		-	
Drawing No.			Rev.
SCP/190506/ATR02			D

S|C|P

APPENDIX H

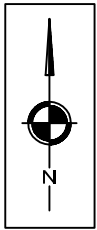


REVISIONS			
Rev	Description	Date	By
A	—MINOR AMENDMENTS MADE	22.7.20	BH
B	—NEW SITE LAYOUT UNDERLAID	10.8.20	BH
C	—NEW SITE LAYOUT UNDERLAID	12.8.20	BH

SCP Transportation Planning : Infrastructure Design Colwyn Chambers, 19 York Street, Manchester, M2 3BA, Tel 0161 832 4400, www.scptransport.co.uk, Email info@scptransport.co.uk	Client ECCLESTON HOMES LTD	Drawing Title PROPOSED TRAFFIC CALMING SCHEME	Scale 1:1000 @ A3	By BH	Drawing No. SCP/190506/SK03
	Project Title HOLCOMBE MILL, RASMBOTTOM		Date 05.02.2020	Checked CT	
			Approved/Unapproved -	Status PLANNING	Revision C

S|C|P

APPENDIX I



1:2000



INSET 1

2.4m x 25m
VISIBILITY SPLAY

2.4m x 25m
VISIBILITY SPLAY

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INSET 3

1:1000

ROAD 2

2.4m x 25m
VISIBILITY SPLAY

2.4m x 25m
VISIBILITY SPLAY

INSET 2

2.4m x 25m
VISIBILITY SPLAY

2.4m x 15m
VISIBILITY SPLAY

INSET 4

1:1000

2.4m x 25m
VISIBILITY SPLAY

2.4m x 25m
VISIBILITY SPLAY

NOTES

REVISIONS

REV	DESCRIPTION	DATE	BY
A	- VISIBILITY SPLAYS AMENDED	21.07.20	BH
B	-NEW SITE LAYOUT UNDERLAID	10.08.20	BH
C	-NEW SITE LAYOUT UNDERLAID	12.08.20	BH

S|C|P

Transportation Planning : Infrastructure Design

Colwyn Chambers, 19 York Street, Manchester, M2 3BA, Tel 0161 832 4400,
www.scptransport.co.uk, Email info@scptransport.co.uk

Client Name:

ECCLESTON HOMES LTD

Project Title:

HOLCOMBE MILL, RAMSBOTTOM

Drawing Title:

VISIBILITY SPLAYS

Drawn By:

BH

Date:

17.12.2019

Checked:

CT

Scale:

1:500 @ A3
UNLESS STATED

Status:

PLANNING

Approved/Unapproved:

-

Drawing No.

SCP/190506/SK02

Rev.

C

S|C|P

APPENDIX J

Calculation Reference: AUDIT-726001-190906-0937

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 02 - EMPLOYMENT
 Category : C - INDUSTRIAL UNIT

MULTI-MODAL VEHICLESSelected regions and areas:

02	SOUTH EAST	
	HF HERTFORDSHIRE	1 days
03	SOUTH WEST	
	BR BRISTOL CITY	1 days
	DC DORSET	2 days
	DV DEVON	1 days
06	WEST MIDLANDS	
	HE HEREFORDSHIRE	1 days
	WM WEST MIDLANDS	1 days
10	WALES	
	CF CARDIFF	1 days
11	SCOTLAND	
	FI FIFE	1 days
	HI HIGHLAND	1 days

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

Secondary Filtering selection:

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

Parameter: Gross floor area
 Actual Range: 1068 to 5467 (units: sqm)
 Range Selected by User: 1068 to 6000 (units: sqm)

Parking Spaces Range: All Surveys Included

Public Transport Provision:

Selection by: Include all surveys

Date Range: 01/01/00 to 06/07/17

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

Selected survey days:

Monday	2 days
Tuesday	4 days
Wednesday	1 days
Thursday	2 days
Friday	1 days

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

Selected survey types:

Manual count	10 days
Directional ATC Count	0 days

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

Selected Locations:

Suburban Area (PPS6 Out of Centre)	5
Edge of Town	5

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

Selected Location Sub Categories:

Industrial Zone	8
Commercial Zone	1
No Sub Category	1

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

Secondary Filtering selection:Use Class:

B1	6 days
B2	4 days

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

Population within 1 mile:

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

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

Population within 5 miles:

5,001 to 25,000	1 days
50,001 to 75,000	3 days
75,001 to 100,000	1 days
125,001 to 250,000	3 days
250,001 to 500,000	2 days

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

Car ownership within 5 miles:

0.5 or Less	1 days
0.6 to 1.0	4 days
1.1 to 1.5	5 days

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

Travel Plan:

Not Known	1 days
No	9 days

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

PTAL Rating:

No PTAL Present	10 days
-----------------	---------

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

LIST OF SITES relevant to selection parameters

1	BR-02-C-01	MECH. ENGINEERS	BRISTOL CITY
	NOVERS HILL		
	BRISTOL		
	BEDMINSTER		
	Suburban Area (PPS6 Out of Centre)		
	Industrial Zone		
	Total Gross floor area:	1100 sqm	
	Survey date: MONDAY	19/10/09	Survey Type: MANUAL
2	CF-02-C-01	PLASTICS COMPANY	CARDIFF
	PARC-TY-GLAS		
	CARDIFF		
	LLANISHEN		
	Suburban Area (PPS6 Out of Centre)		
	Industrial Zone		
	Total Gross floor area:	1068 sqm	
	Survey date: TUESDAY	24/10/06	Survey Type: MANUAL
3	DC-02-C-02	NEWSPAPER HQ	DORSET
	HAMPSHIRE ROAD		
	WEYMOUTH		
	CHICKERELL		
	Edge of Town		
	Industrial Zone		
	Total Gross floor area:	3035 sqm	
	Survey date: TUESDAY	04/07/00	Survey Type: MANUAL
4	DC-02-C-07	NEW LOOK	DORSET
	MERCERY ROAD		
	WEYMOUTH		
	Edge of Town		
	No Sub Category		
	Total Gross floor area:	5467 sqm	
	Survey date: MONDAY	07/07/08	Survey Type: MANUAL
5	DV-02-C-02	ENERGY RECOVERY FACILITY	DEVON
	GRACE ROAD SOUTH		
	EXETER		
	MARSH BARTON TRAD. EST.		
	Suburban Area (PPS6 Out of Centre)		
	Industrial Zone		
	Total Gross floor area:	3513 sqm	
	Survey date: THURSDAY	06/07/17	Survey Type: MANUAL
6	FI-02-C-01	REFRIGERATION	FIFE
	HALBEATH PLACE		
	DUNFERMLINE		
	Suburban Area (PPS6 Out of Centre)		
	Industrial Zone		
	Total Gross floor area:	4900 sqm	
	Survey date: FRIDAY	20/04/07	Survey Type: MANUAL
7	HE-02-C-02	THERMAL PROCESSING	HEREFORDSHIRE
	COLLEGE ROAD		
	HEREFORD		
	BURCOTT		
	Edge of Town		
	Commercial Zone		
	Total Gross floor area:	1880 sqm	
	Survey date: TUESDAY	22/10/13	Survey Type: MANUAL
8	HF-02-C-01	INDUSTRIAL UNIT	HERTFORDSHIRE
	BRIDGE ROAD EAST		
	WELWYN GARDEN CITY		
	Suburban Area (PPS6 Out of Centre)		
	Industrial Zone		
	Total Gross floor area:	1800 sqm	
	Survey date: THURSDAY	17/07/08	Survey Type: MANUAL
9	HI-02-C-01	DAIRY	HIGHLAND
	TOM SEMPLE ROAD		
	NAIRN		
	BALMAKEITH BUSINESS PK		
	Edge of Town		
	Industrial Zone		
	Total Gross floor area:	3000 sqm	
	Survey date: WEDNESDAY	24/05/06	Survey Type: MANUAL

Singleton Clamp & Partners Mount Street Manchester

Licence No: 726001

LIST OF SITES relevant to selection parameters (Cont.)

10 WM-02-C-03 INDUSTRIAL GLASS WEST MIDLANDS

DOWNING STREET
SMETHWICK

Edge of Town
Industrial Zone

Total Gross floor area: 5070 sqm

Survey date: TUESDAY

06/11/12

Survey Type: MANUAL

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

TRIP RATE for Land Use 02 - EMPLOYMENT/C - INDUSTRIAL UNIT

MULTI-MODAL VEHICLES**Calculation factor: 100 sqm****BOLD print indicates peak (busiest) period**

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	10	3083	0.532	10	3083	0.075	10	3083	0.607
08:00 - 09:00	10	3083	1.265	10	3083	0.224	10	3083	1.489
09:00 - 10:00	10	3083	0.360	10	3083	0.224	10	3083	0.584
10:00 - 11:00	10	3083	0.266	10	3083	0.234	10	3083	0.500
11:00 - 12:00	10	3083	0.256	10	3083	0.240	10	3083	0.496
12:00 - 13:00	10	3083	0.308	10	3083	0.409	10	3083	0.717
13:00 - 14:00	10	3083	0.422	10	3083	0.308	10	3083	0.730
14:00 - 15:00	10	3083	0.269	10	3083	0.224	10	3083	0.493
15:00 - 16:00	10	3083	0.214	10	3083	0.263	10	3083	0.477
16:00 - 17:00	10	3083	0.162	10	3083	0.529	10	3083	0.691
17:00 - 18:00	10	3083	0.097	10	3083	1.022	10	3083	1.119
18:00 - 19:00	9	2881	0.081	9	2881	0.501	9	2881	0.582
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			4.232			4.253			8.485

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

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

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Parameter summary

Trip rate parameter range selected:	1068 - 5467 (units: sqm)
Survey date date range:	01/01/00 - 06/07/17
Number of weekdays (Monday-Friday):	10
Number of Saturdays:	0
Number of Sundays:	0
Surveys automatically removed from selection:	1
Surveys manually removed from selection:	0

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

TRIP RATE for Land Use 02 - EMPLOYMENT/C - INDUSTRIAL UNIT

MULTI-MODAL CYCLISTS**Calculation factor: 100 sqm****BOLD print indicates peak (busiest) period**

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	10	3083	0.023	10	3083	0.000	10	3083	0.023
08:00 - 09:00	10	3083	0.019	10	3083	0.003	10	3083	0.022
09:00 - 10:00	10	3083	0.003	10	3083	0.000	10	3083	0.003
10:00 - 11:00	10	3083	0.000	10	3083	0.000	10	3083	0.000
11:00 - 12:00	10	3083	0.000	10	3083	0.000	10	3083	0.000
12:00 - 13:00	10	3083	0.003	10	3083	0.003	10	3083	0.006
13:00 - 14:00	10	3083	0.003	10	3083	0.006	10	3083	0.009
14:00 - 15:00	10	3083	0.000	10	3083	0.003	10	3083	0.003
15:00 - 16:00	10	3083	0.003	10	3083	0.006	10	3083	0.009
16:00 - 17:00	10	3083	0.003	10	3083	0.023	10	3083	0.026
17:00 - 18:00	10	3083	0.006	10	3083	0.019	10	3083	0.025
18:00 - 19:00	9	2881	0.000	9	2881	0.012	9	2881	0.012
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.063			0.075			0.138

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

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

TRIP RATE for Land Use 02 - EMPLOYMENT/C - INDUSTRIAL UNIT

MULTI-MODAL PEDESTRIANS**Calculation factor: 100 sqm****BOLD print indicates peak (busiest) period**

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	10	3083	0.058	10	3083	0.010	10	3083	0.068
08:00 - 09:00	10	3083	0.091	10	3083	0.006	10	3083	0.097
09:00 - 10:00	10	3083	0.032	10	3083	0.003	10	3083	0.035
10:00 - 11:00	10	3083	0.003	10	3083	0.003	10	3083	0.006
11:00 - 12:00	10	3083	0.003	10	3083	0.003	10	3083	0.006
12:00 - 13:00	10	3083	0.023	10	3083	0.065	10	3083	0.088
13:00 - 14:00	10	3083	0.062	10	3083	0.039	10	3083	0.101
14:00 - 15:00	10	3083	0.013	10	3083	0.013	10	3083	0.026
15:00 - 16:00	10	3083	0.006	10	3083	0.010	10	3083	0.016
16:00 - 17:00	10	3083	0.019	10	3083	0.029	10	3083	0.048
17:00 - 18:00	10	3083	0.003	10	3083	0.107	10	3083	0.110
18:00 - 19:00	9	2881	0.004	9	2881	0.042	9	2881	0.046
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.317			0.330			0.647

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

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

TRIP RATE for Land Use 02 - EMPLOYMENT/C - INDUSTRIAL UNIT

MULTI-MODAL PUBLIC TRANSPORT USERS**Calculation factor: 100 sqm****BOLD print indicates peak (busiest) period**

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	10	3083	0.003	10	3083	0.000	10	3083	0.003
08:00 - 09:00	10	3083	0.006	10	3083	0.000	10	3083	0.006
09:00 - 10:00	10	3083	0.000	10	3083	0.000	10	3083	0.000
10:00 - 11:00	10	3083	0.000	10	3083	0.000	10	3083	0.000
11:00 - 12:00	10	3083	0.000	10	3083	0.000	10	3083	0.000
12:00 - 13:00	10	3083	0.000	10	3083	0.000	10	3083	0.000
13:00 - 14:00	10	3083	0.003	10	3083	0.003	10	3083	0.006
14:00 - 15:00	10	3083	0.003	10	3083	0.000	10	3083	0.003
15:00 - 16:00	10	3083	0.003	10	3083	0.000	10	3083	0.003
16:00 - 17:00	10	3083	0.000	10	3083	0.003	10	3083	0.003
17:00 - 18:00	10	3083	0.000	10	3083	0.013	10	3083	0.013
18:00 - 19:00	9	2881	0.000	9	2881	0.000	9	2881	0.000
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.018			0.019			0.037

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

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

Calculation Reference: AUDIT-726001-190904-0922

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 03 - RESIDENTIAL
 Category : A - HOUSES PRIVATELY OWNED

MULTI-MODAL VEHICLESSelected regions and areas:

02	SOUTH EAST	
	HC HAMPSHIRE	1 days
	KC KENT	1 days
	WS WEST SUSSEX	1 days
03	SOUTH WEST	
	DV DEVON	3 days
04	EAST ANGLIA	
	NF NORFOLK	1 days
	SF SUFFOLK	1 days
05	EAST MIDLANDS	
	LN LINCOLNSHIRE	1 days
06	WEST MIDLANDS	
	WM WEST MIDLANDS	1 days
07	YORKSHIRE & NORTH LINCOLNSHIRE	
	NY NORTH YORKSHIRE	3 days
	SY SOUTH YORKSHIRE	1 days
09	NORTH	
	CB CUMBRIA	1 days
	DH DURHAM	1 days
11	SCOTLAND	
	FA FALKIRK	1 days
	HI HIGHLAND	1 days
	PK PERTH & KINROSS	1 days

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

Secondary Filtering selection:

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

Parameter: Number of dwellings
 Actual Range: 30 to 116 (units:)
 Range Selected by User: 30 to 120 (units:)

Parking Spaces Range: All Surveys Included

Percentage of dwellings privately owned: All Surveys Included

Public Transport Provision:

Selection by: Include all surveys

Date Range: 01/01/11 to 09/05/19

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

Selected survey days:

Monday	5 days
Tuesday	4 days
Wednesday	5 days
Thursday	3 days
Friday	2 days

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

Selected survey types:

Manual count	19 days
Directional ATC Count	0 days

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

Selected Locations:

Edge of Town Centre	4
Suburban Area (PPS6 Out of Centre)	15

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

Selected Location Sub Categories:

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

Secondary Filtering selection:

Use Class:

C3

19 days

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

Population within 1 mile:

1,001 to 5,000	2 days
5,001 to 10,000	3 days
10,001 to 15,000	4 days
15,001 to 20,000	5 days
20,001 to 25,000	1 days
25,001 to 50,000	4 days

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

Population within 5 miles:

5,001 to 25,000	5 days
25,001 to 50,000	2 days
50,001 to 75,000	1 days
75,001 to 100,000	4 days
125,001 to 250,000	5 days
250,001 to 500,000	2 days

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

Car ownership within 5 miles:

0.5 or Less	1 days
0.6 to 1.0	4 days
1.1 to 1.5	14 days

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

Travel Plan:

Yes	3 days
No	16 days

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

PTAL Rating:

No PTAL Present	19 days
-----------------	---------

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

LIST OF SITES relevant to selection parameters

1	CB-03-A-05	DETACHED/TERRACED HOUSING	CUMBRIA
	MACADAM WAY PENRITH		
	Edge of Town Centre Residential Zone		
	Total Number of dwellings:	50	
	Survey date: TUESDAY	21/06/16	Survey Type: MANUAL
2	DH-03-A-01	SEMI DETACHED	DURHAM
	GREENFIELDS ROAD BISHOP AUCKLAND		
	Suburban Area (PPS6 Out of Centre) Residential Zone		
	Total Number of dwellings:	50	
	Survey date: TUESDAY	28/03/17	Survey Type: MANUAL
3	DV-03-A-01	TERRACED HOUSES	DEVON
	BRONSHILL ROAD TORQUAY		
	Suburban Area (PPS6 Out of Centre) Residential Zone		
	Total Number of dwellings:	37	
	Survey date: WEDNESDAY	30/09/15	Survey Type: MANUAL
4	DV-03-A-02	HOUSES & BUNGALOWS	DEVON
	MILLHEAD ROAD HONITON		
	Suburban Area (PPS6 Out of Centre) Residential Zone		
	Total Number of dwellings:	116	
	Survey date: FRIDAY	25/09/15	Survey Type: MANUAL
5	DV-03-A-03	TERRACED & SEMI DETACHED	DEVON
	LOWER BRAND LANE HONITON		
	Suburban Area (PPS6 Out of Centre) Residential Zone		
	Total Number of dwellings:	70	
	Survey date: MONDAY	28/09/15	Survey Type: MANUAL
6	FA-03-A-01	SEMI-DETACHED/TERRACED	FALKIRK
	MANDELA AVENUE FALKIRK		
	Suburban Area (PPS6 Out of Centre) Residential Zone		
	Total Number of dwellings:	37	
	Survey date: THURSDAY	30/05/13	Survey Type: MANUAL
7	HC-03-A-20	HOUSES & FLATS	HAMPSHIRE
	CANADA WAY LIPHOOK		
	Suburban Area (PPS6 Out of Centre) Residential Zone		
	Total Number of dwellings:	62	
	Survey date: TUESDAY	20/11/18	Survey Type: MANUAL
8	HI-03-A-14	SEMI-DETACHED & TERRACED	HIGHLAND
	KING BRUDE ROAD INVERNESS SCORGUIE		
	Suburban Area (PPS6 Out of Centre) Residential Zone		
	Total Number of dwellings:	40	
	Survey date: WEDNESDAY	23/03/16	Survey Type: MANUAL

LIST OF SITES relevant to selection parameters (Cont.)

9	KC-03-A-03	MIXED HOUSES & FLATS	KENT
	HYTHE ROAD ASHFORD WILLESBOROUGH Suburban Area (PPS6 Out of Centre) Residential Zone Total Number of dwellings: 51 Survey date: THURSDAY 14/07/16		Survey Type: MANUAL
10	LN-03-A-04	DETACHED & SEMI-DETACHED	LINCOLNSHIRE
	EGERTON ROAD LINCOLN Edge of Town Centre Residential Zone Total Number of dwellings: 30 Survey date: MONDAY 29/06/15		Survey Type: MANUAL
11	NF-03-A-02	HOUSES & FLATS	NORFOLK
	DEREHAM ROAD NORWICH Suburban Area (PPS6 Out of Centre) Residential Zone Total Number of dwellings: 98 Survey date: MONDAY 22/10/12		Survey Type: MANUAL
12	NY-03-A-06	BUNGALOWS & SEMI DET.	NORTH YORKSHIRE
	HORSEFAIR BOROUGHBRIDGE Suburban Area (PPS6 Out of Centre) Residential Zone Total Number of dwellings: 115 Survey date: FRIDAY 14/10/11		Survey Type: MANUAL
13	NY-03-A-09	MIXED HOUSING	NORTH YORKSHIRE
	GRAMMAR SCHOOL LANE NORTHALLERTON Suburban Area (PPS6 Out of Centre) Residential Zone Total Number of dwellings: 52 Survey date: MONDAY 16/09/13		Survey Type: MANUAL
14	NY-03-A-12	TOWN HOUSES	NORTH YORKSHIRE
	RACECOURSE LANE NORTHALLERTON Edge of Town Centre Residential Zone Total Number of dwellings: 47 Survey date: TUESDAY 27/09/16		Survey Type: MANUAL
15	PK-03-A-01	DETAC. & BUNGALOWS	PERTH & KINROSS
	TULLYLUMB TERRACE PERTH CORNHILL Suburban Area (PPS6 Out of Centre) Residential Zone Total Number of dwellings: 36 Survey date: WEDNESDAY 11/05/11		Survey Type: MANUAL
16	SF-03-A-07	MIXED HOUSES	SUFFOLK
	FOXHALL ROAD IPSWICH Suburban Area (PPS6 Out of Centre) Residential Zone Total Number of dwellings: 73 Survey date: THURSDAY 09/05/19		Survey Type: MANUAL

LIST OF SITES relevant to selection parameters (Cont.)

17	SY-03-A-01	SEMI DETACHED HOUSES	SOUTH YORKSHIRE
	A19 BENTLEY ROAD		
	DONCASTER		
	BENTLEY RISE		
	Suburban Area (PPS6 Out of Centre)		
	Residential Zone		
	Total Number of dwellings:	54	
	Survey date: WEDNESDAY	18/09/13	Survey Type: MANUAL
18	WM-03-A-05	TERRACED & DETACHED	WEST MIDLANDS
	COUNDON ROAD		
	COVENTRY		
	Edge of Town Centre		
	Residential Zone		
	Total Number of dwellings:	89	
	Survey date: MONDAY	21/11/16	Survey Type: MANUAL
19	WS-03-A-05	TERRACED & FLATS	WEST SUSSEX
	UPPER SHOREHAM ROAD		
	SHOREHAM BY SEA		
	Suburban Area (PPS6 Out of Centre)		
	Residential Zone		
	Total Number of dwellings:	48	
	Survey date: WEDNESDAY	18/04/12	Survey Type: MANUAL

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

Singleton Clamp & Partners Mount Street Manchester

Licence No: 726001

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

MULTI-MODAL VEHICLES**Calculation factor: 1 DWELLS****BOLD print indicates peak (busiest) period**

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	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 - 08:00	19	61	0.066	19	61	0.258	19	61	0.324
08:00 - 09:00	19	61	0.136	19	61	0.370	19	61	0.506
09:00 - 10:00	19	61	0.157	19	61	0.164	19	61	0.321
10:00 - 11:00	19	61	0.126	19	61	0.157	19	61	0.283
11:00 - 12:00	19	61	0.135	19	61	0.132	19	61	0.267
12:00 - 13:00	19	61	0.157	19	61	0.161	19	61	0.318
13:00 - 14:00	19	61	0.170	19	61	0.165	19	61	0.335
14:00 - 15:00	19	61	0.138	19	61	0.183	19	61	0.321
15:00 - 16:00	19	61	0.200	19	61	0.130	19	61	0.330
16:00 - 17:00	19	61	0.269	19	61	0.153	19	61	0.422
17:00 - 18:00	19	61	0.348	19	61	0.187	19	61	0.535
18:00 - 19:00	19	61	0.222	19	61	0.147	19	61	0.369
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			2.124			2.207			4.331

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

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

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Parameter summary

Trip rate parameter range selected:	30 - 116 (units:)
Survey date range:	01/01/11 - 09/05/19
Number of weekdays (Monday-Friday):	19
Number of Saturdays:	0
Number of Sundays:	0
Surveys automatically removed from selection:	3
Surveys manually removed from selection:	0

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

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

MULTI-MODAL CYCLISTS**Calculation factor: 1 DWELLS****BOLD print indicates peak (busiest) period**

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	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 - 08:00	19	61	0.003	19	61	0.019	19	61	0.022
08:00 - 09:00	19	61	0.003	19	61	0.015	19	61	0.018
09:00 - 10:00	19	61	0.002	19	61	0.008	19	61	0.010
10:00 - 11:00	19	61	0.006	19	61	0.004	19	61	0.010
11:00 - 12:00	19	61	0.004	19	61	0.002	19	61	0.006
12:00 - 13:00	19	61	0.003	19	61	0.005	19	61	0.008
13:00 - 14:00	19	61	0.003	19	61	0.002	19	61	0.005
14:00 - 15:00	19	61	0.003	19	61	0.007	19	61	0.010
15:00 - 16:00	19	61	0.023	19	61	0.004	19	61	0.027
16:00 - 17:00	19	61	0.013	19	61	0.004	19	61	0.017
17:00 - 18:00	19	61	0.020	19	61	0.007	19	61	0.027
18:00 - 19:00	19	61	0.008	19	61	0.009	19	61	0.017
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.091			0.086			0.177

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

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

Singleton Clamp & Partners Mount Street Manchester

Licence No: 726001

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

MULTI-MODAL PEDESTRIANS**Calculation factor: 1 DWELLS****BOLD print indicates peak (busiest) period**

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	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 - 08:00	19	61	0.027	19	61	0.074	19	61	0.101
08:00 - 09:00	19	61	0.050	19	61	0.219	19	61	0.269
09:00 - 10:00	19	61	0.061	19	61	0.073	19	61	0.134
10:00 - 11:00	19	61	0.058	19	61	0.070	19	61	0.128
11:00 - 12:00	19	61	0.065	19	61	0.048	19	61	0.113
12:00 - 13:00	19	61	0.061	19	61	0.048	19	61	0.109
13:00 - 14:00	19	61	0.055	19	61	0.063	19	61	0.118
14:00 - 15:00	19	61	0.057	19	61	0.063	19	61	0.120
15:00 - 16:00	19	61	0.165	19	61	0.099	19	61	0.264
16:00 - 17:00	19	61	0.139	19	61	0.078	19	61	0.217
17:00 - 18:00	19	61	0.113	19	61	0.055	19	61	0.168
18:00 - 19:00	19	61	0.058	19	61	0.045	19	61	0.103
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.909			0.935			1.844

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

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

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

MULTI-MODAL PUBLIC TRANSPORT USERS**Calculation factor: 1 DWELLS****BOLD print indicates peak (busiest) period**

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	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 - 08:00	19	61	0.001	19	61	0.024	19	61	0.025
08:00 - 09:00	19	61	0.000	19	61	0.028	19	61	0.028
09:00 - 10:00	19	61	0.003	19	61	0.010	19	61	0.013
10:00 - 11:00	19	61	0.010	19	61	0.009	19	61	0.019
11:00 - 12:00	19	61	0.008	19	61	0.012	19	61	0.020
12:00 - 13:00	19	61	0.009	19	61	0.013	19	61	0.022
13:00 - 14:00	19	61	0.008	19	61	0.004	19	61	0.012
14:00 - 15:00	19	61	0.014	19	61	0.010	19	61	0.024
15:00 - 16:00	19	61	0.014	19	61	0.005	19	61	0.019
16:00 - 17:00	19	61	0.018	19	61	0.010	19	61	0.028
17:00 - 18:00	19	61	0.021	19	61	0.003	19	61	0.024
18:00 - 19:00	19	61	0.015	19	61	0.001	19	61	0.016
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.121			0.129			0.250

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

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

S|C|P

APPENDIX K

WU03EW - Location of usual residence and place of work by method of travel to work (MSOA level)

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population	All usual residents aged 16 and over in employment the week before the census
units	Persons
date	2011
method of travel to work	Driving a car or van

	usual residence			A	B	C
place of work : 2011 super output area - middle layer	E02001019 : Bury 001	%	Route	Peel Brow, A56 Whalley Road North	Railway Street, Kay Brow, A676 South	Peel Brow, Bury New Road A56 Manchester Road South
E02002615 : Blackburn with Darwen 001	5	0.2%	A	19.4%	12.8%	67.8%
E02002617 : Blackburn with Darwen 003	4	0.2%	A			
E02002620 : Blackburn with Darwen 006	14	0.6%	A			
E02002621 : Blackburn with Darwen 007	5	0.2%	A			
E02002625 : Blackburn with Darwen 011	18	0.8%	A			
E02002632 : Blackburn with Darwen 018	12	0.5%	B			
E02002593 : Warrington 004	10	0.4%	C			
E02002595 : Warrington 006	4	0.2%	C			
E02002607 : Warrington 018	5	0.2%	C			
E02000984 : Bolton 001	4	0.2%	B			
E02000985 : Bolton 002	8	0.3%	B			
E02000988 : Bolton 005	4	0.2%	B			
E02000990 : Bolton 007	13	0.6%	C			
E02000993 : Bolton 010	11	0.5%	B			
E02000996 : Bolton 013	4	0.2%	B			
E02000997 : Bolton 014	13	0.6%	B			
E02000998 : Bolton 015	10	0.4%	B			
E02000999 : Bolton 016	66	2.9%	C			
E02001002 : Bolton 019	4	0.2%	C			
E02001004 : Bolton 021	5	0.2%	C			
E02001004 : Bolton 021	5	0.2%	B			
E02001005 : Bolton 022	34	1.5%	C			
E02001006 : Bolton 023	6	0.3%	C			
E02001010 : Bolton 027	3	0.1%	B			
E02001010 : Bolton 027	3	0.1%	C			
E02001012 : Bolton 029	12	0.5%	C			
E02001017 : Bolton 034	4	0.2%	C			
E02001020 : Bury 002	40	1.7%	B			
E02001021 : Bury 003	67	2.9%	B			
E02001022 : Bury 004	40	1.7%	C			
E02001023 : Bury 005	17	0.7%	B			
E02001024 : Bury 006	18	0.8%	B			
E02001025 : Bury 007	87	3.8%	C			
E02001026 : Bury 008	167	7.2%	C			
E02001027 : Bury 009	54	2.3%	B			
E02001028 : Bury 010	17	0.7%	B			
E02001029 : Bury 011	125	5.4%	C			
E02001030 : Bury 012	6	0.3%	B			
E02001031 : Bury 013	80	3.5%	C			
E02001032 : Bury 014	3	0.1%	B			
E02001032 : Bury 014	3	0.1%	C			
E02001033 : Bury 015	17	0.7%	C			
E02001034 : Bury 016	35	1.5%	C			
E02001035 : Bury 017	9	0.4%	C			
E02001036 : Bury 018	8	0.3%	C			
E02001037 : Bury 019	7	0.3%	C			
E02001038 : Bury 020	17	0.7%	C			
E02001039 : Bury 021	4	0.2%	C			
E02001040 : Bury 022	16	0.7%	C			
E02001041 : Bury 023	6	0.3%	C			
E02001042 : Bury 024	15	0.7%	C			
E02001043 : Bury 025	4	0.2%	C			
E02001044 : Bury 026	8	0.3%	C			
E02001045 : Manchester 001	4	0.2%	C			
E02001046 : Manchester 002	4	0.2%	C			
E02001049 : Manchester 005	4	0.2%	C			
E02001050 : Manchester 006	23	1.0%	C			
E02001052 : Manchester 008	8	0.3%	C			
E02001053 : Manchester 009	4	0.2%	C			
E02001055 : Manchester 011	5	0.2%	C			
E02001057 : Manchester 013	5	0.2%	C			
E02001059 : Manchester 015	10	0.4%	C			
E02001061 : Manchester 017	4	0.2%	C			
E02001062 : Manchester 018	18	0.8%	C			
E02001063 : Manchester 019	12	0.5%	C			
E02001064 : Manchester 020	5	0.2%	C			
E02001066 : Manchester 022	11	0.5%	C			
E02001083 : Manchester 039	5	0.2%	C			
E02001093 : Manchester 049	4	0.2%	C			
E02001095 : Manchester 051	4	0.2%	C			
E02001097 : Manchester 053	9	0.4%	C			
E02006902 : Manchester 054	57	2.5%	C			
E02006912 : Manchester 055	31	1.3%	C			
E02006913 : Manchester 056	6	0.3%	C			
E02006914 : Manchester 057	14	0.6%	C			
E02006915 : Manchester 058	5	0.2%	C			
E02006916 : Manchester 059	6	0.3%	C			
E02006917 : Manchester 060	33	1.4%	C			
E02001106 : Oldham 009	6	0.3%	C			
E02001111 : Oldham 014	12	0.5%	C			
E02001112 : Oldham 015	9	0.4%	C			
E02001113 : Oldham 016	12	0.5%	C			
E02001114 : Oldham 017	10	0.4%	C			
E02001121 : Oldham 024	10	0.4%	C			
E02001125 : Oldham 028	12	0.5%	C			
E02001126 : Oldham 029	7	0.3%	C			
E02001132 : Rochdale 001	4	0.2%	C			
E02001137 : Rochdale 006	5	0.2%	A			
E02001138 : Rochdale 007	6	0.3%	A			

E02001139 : Rochdale 008	6	0.3% C
E02001140 : Rochdale 009	10	0.4% A
E02001141 : Rochdale 010	38	1.6% A
E02001146 : Rochdale 015	10	0.4% C
E02001148 : Rochdale 017	12	0.5% C
E02001149 : Rochdale 018	16	0.7% C
E02001150 : Rochdale 019	41	1.8% C
E02001151 : Rochdale 020	21	0.9% C
E02001152 : Rochdale 021	7	0.3% C
E02001154 : Rochdale 023	4	0.2% C
E02001155 : Rochdale 024	8	0.3% C
E02001159 : Salford 003	6	0.3% C
E02001164 : Salford 008	4	0.2% C
E02001168 : Salford 012	4	0.2% C
E02001170 : Salford 014	4	0.2% C
E02001173 : Salford 017	5	0.2% C
E02001176 : Salford 020	4	0.2% C
E02001177 : Salford 021	23	1.0% C
E02001178 : Salford 022	22	1.0% C
E02001184 : Salford 028	31	1.3% C
E02001197 : Stockport 011	7	0.3% C
E02001200 : Stockport 014	4	0.2% C
E02001208 : Stockport 022	4	0.2% C
E02001222 : Stockport 036	4	0.2% C
E02001241 : Tameside 013	17	0.7% C
E02001245 : Tameside 017	6	0.3% C
E02001259 : Trafford 001	26	1.1% C
E02001260 : Trafford 002	24	1.0% C
E02001261 : Trafford 003	9	0.4% C
E02001262 : Trafford 004	4	0.2% C
E02001264 : Trafford 006	12	0.5% C
E02001266 : Trafford 008	5	0.2% C
E02001275 : Trafford 017	4	0.2% C
E02001294 : Wigan 008	5	0.2% C
E02001315 : Wigan 029	5	0.2% C
E02005177 : Burnley 002	6	0.3% A
E02005178 : Burnley 003	10	0.4% A
E02005179 : Burnley 004	7	0.3% A
E02005185 : Burnley 010	4	0.2% A
E02005186 : Burnley 011	9	0.4% A
E02006881 : Burnley 014	4	0.2% A
E02005213 : Hyndburn 002	11	0.5% A
E02005214 : Hyndburn 003	6	0.3% A
E02005215 : Hyndburn 004	7	0.3% A
E02005217 : Hyndburn 006	6	0.3% A
E02005219 : Hyndburn 008	8	0.3% A
E02005250 : Pendle 011	4	0.2% A
E02005256 : Preston 004	11	0.5% A
E02005269 : Preston 017	4	0.2% A
E02005278 : Rossendale 001	15	0.7% A
E02005279 : Rossendale 002	37	1.6% A
E02005280 : Rossendale 003	7	0.3% A
E02005281 : Rossendale 004	48	2.1% A
E02005284 : Rossendale 007	10	0.4% A
E02005285 : Rossendale 008	97	4.2% A
E02006884 : Rossendale 010	24	1.0% A
E02005300 : South Ribble 014	4	0.2% A
E02005302 : South Ribble 016	4	0.2% A
E02001404 : Liverpool 058	7	0.3% C
E02006875 : Leeds 111	4	0.2% C
	2,304	

In order to protect against disclosure of personal information, records have been swapped between different geographic areas. Some counts will be affected, particularly small counts at the lowest geographies.

WU03EW - Location of usual residence and place of work by method of travel to work (MSOA level)

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population	All usual residents aged 16 and over in employment the week before the census
units	Persons
date	2011
method of travel to work	Driving a car or van

usual residence : 2011 super output area - middle layer	place of work		Route	A		B		C		D	
	E02001019 : Bury 001	%		A56 Whalley Road North, Peel Brow		Railway Street, Kay Brow, A676 South		A56 Manchester Road South, Bury New Road, Peel Brow		A676 South, Bridge Street	
E02002617 : Blackburn with Darwen 003	5	0.4%	A		27.9%		0.0%		33.2%		38.9%
E02002621 : Blackburn with Darwen 007	3	0.2%	A								
E02002627 : Blackburn with Darwen 013	3	0.2%	A								
E02002630 : Blackburn with Darwen 016	5	0.4%	A								
E02002631 : Blackburn with Darwen 017	7	0.6%	A								
E02002632 : Blackburn with Darwen 018	14	1.1%	D								
E02000984 : Bolton 001	10	0.8%	D								
E02000985 : Bolton 002	8	0.6%	D								
E02000989 : Bolton 006	10	0.8%	D								
E02000993 : Bolton 010	9	0.7%	D								
E02000994 : Bolton 011	3	0.2%	D								
E02000995 : Bolton 012	3	0.2%	D								
E02000996 : Bolton 013	4	0.3%	D								
E02000998 : Bolton 015	7	0.6%	D								
E02000999 : Bolton 016	3	0.2%	C								
E02001002 : Bolton 019	13	1.0%	C								
E02001003 : Bolton 020	3	0.2%	C								
E02001004 : Bolton 021	4	0.3%	C								
E02001004 : Bolton 021	4	0.3%	D								
E02001005 : Bolton 022	7	0.6%	C								
E02001006 : Bolton 023	3	0.2%	C								
E02001007 : Bolton 024	10	0.8%	C								
E02001008 : Bolton 025	7	0.6%	C								
E02001009 : Bolton 026	6	0.5%	C								
E02001010 : Bolton 027	2	0.2%	C								
E02001010 : Bolton 027	2	0.2%	D								
E02001012 : Bolton 029	3	0.2%	C								
E02001014 : Bolton 031	3	0.2%	C								
E02001015 : Bolton 032	6	0.5%	C								
E02001017 : Bolton 034	9	0.7%	C								
E02001020 : Bury 002	102	8.2%	D								
E02001021 : Bury 003	114	9.2%	D								
E02001022 : Bury 004	48	3.9%	C								
E02001023 : Bury 005	28	2.3%	D								
E02001024 : Bury 006	45	3.6%	D								
E02001025 : Bury 007	16	1.3%	C								
E02001026 : Bury 008	24	1.9%	C								
E02001027 : Bury 009	38	3.1%	D								
E02001028 : Bury 010	48	3.9%	D								
E02001029 : Bury 011	29	2.3%	C								
E02001030 : Bury 012	22	1.8%	D								
E02001031 : Bury 013	21	1.7%	C								
E02001032 : Bury 014	12	0.9%	C								
E02001032 : Bury 014	12	0.9%	D								
E02001033 : Bury 015	15	1.2%	C								
E02001034 : Bury 016	12	1.0%	C								
E02001035 : Bury 017	14	1.1%	C								
E02001036 : Bury 018	17	1.4%	C								
E02001037 : Bury 019	10	0.8%	C								
E02001038 : Bury 020	5	0.4%	C								
E02001039 : Bury 021	10	0.8%	C								
E02001040 : Bury 022	3	0.2%	C								
E02001041 : Bury 023	6	0.5%	C								
E02001042 : Bury 024	4	0.3%	C								
E02001043 : Bury 025	9	0.7%	C								
E02001048 : Manchester 004	3	0.2%	C								
E02001051 : Manchester 007	3	0.2%	C								
E02006917 : Manchester 060	3	0.2%	C								
E02001104 : Oldham 007	3	0.2%	C								
E02001107 : Oldham 010	4	0.3%	C								
E02006860 : Oldham 035	6	0.5%	C								
E02001133 : Rochdale 002	3	0.2%	A								
E02001134 : Rochdale 003	5	0.4%	A								
E02001135 : Rochdale 004	5	0.4%	A								
E02001136 : Rochdale 005	3	0.2%	A								
E02001137 : Rochdale 006	5	0.4%	A								
E02001138 : Rochdale 007	9	0.7%	A								
E02001140 : Rochdale 009	4	0.3%	A								
E02001143 : Rochdale 012	4	0.3%	C								
E02001144 : Rochdale 013	3	0.2%	C								
E02001148 : Rochdale 017	7	0.6%	C								
E02001149 : Rochdale 018	5	0.4%	C								
E02001150 : Rochdale 019	9	0.7%	C								
E02001151 : Rochdale 020	9	0.7%	C								
E02001153 : Rochdale 022	3	0.2%	C								
E02001154 : Rochdale 023	5	0.4%	C								
E02001168 : Salford 012	3	0.2%	C								
E02001170 : Salford 014	3	0.2%	C								
E02001317 : Wigan 031	3	0.2%	C								
E02005176 : Burnley 001	3	0.2%	A								
E02005185 : Burnley 010	4	0.3%	A								
E02005202 : Chorley 014	3	0.2%	C								
E02005212 : Hyndburn 001	7	0.6%	A								
E02005213 : Hyndburn 002	8	0.6%	A								
E02005214 : Hyndburn 003	3	0.2%	A								
E02005219 : Hyndburn 008	6	0.5%	A								
E02005278 : Rossendale 001	27	2.2%	A								
E02005279 : Rossendale 002	33	2.7%	A								
E02005280 : Rossendale 003	22	1.8%	A								

E02005281 : Rossendale 004	25	2.0% A
E02005284 : Rossendale 007	28	2.3% A
E02005285 : Rossendale 008	74	6.0% A
E02005286 : Rossendale 009	7	0.6% A
E02006884 : Rossendale 010	42	3.4% A
	1,240	

In order to protect against disclosure of personal information, records have been swapped between different geographic areas. Some counts will be affected, particularly small counts at the lowest geographies.

S|C|P

APPENDIX L

Junctions 9											
PICADY 9 - Priority Intersection Module											
Version: 9.5.1.7462 © Copyright TRL Limited, 2019											
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The users of this computer program for the solution of an engineering problem are in no way relieved of their responsibility for the correctness of the solution											

Filename: Site Access_July 2020.j9

Path: Z:\Job Library\2019\190506 - Holcombe Mill, Ramsbottom\Traffic Data\PICADY

Report generation date: 23/07/2020 08:45:30

»2025 Assessment, AM

»2025 Assessment, PM

Summary of junction performance

	AM						PM					
	Set ID	Queue (PCU)	Delay (s)	RFC	LOS	Network Residual Capacity	Set ID	Queue (PCU)	Delay (s)	RFC	LOS	Network Residual Capacity
2025 Assessment												
Stream B-AC	D1	0.1	13.77	0.10	B	67 %	D2	0.1	15.98	0.06	C	44 %
Stream C-AB		0.0	3.58	0.00	A	[Stream B-AC]		0.0	5.05	0.01	A	[Stream B-AC]

There are warnings associated with one or more model runs - see the 'Data Errors and Warnings' tables for each Analysis or Demand Set.

Values shown are the highest values encountered 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.

File summary

File Description

Title	Site Access
Location	
Site number	
Date	25/09/2019
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	SCP\craig.thomson
Description	

Units

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

Analysis Options

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

Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D1	2025 Assessment	AM	ONE HOUR	07:15	08:45	15	✓
D2	2025 Assessment	PM	ONE HOUR	16:30	18:00	15	✓

Analysis Set Details

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

2025 Assessment, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way		0.30	A

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	67	Stream B-AC

Arms

Arms

Arm	Name	Description	Arm type
A	Peel Brow		Major
B	Site Access		Minor
C	Bridge Street		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Has right turn bay	Visibility for right turn (m)	Blocks?	Blocking queue (PCU)
C	7.00			40.0	✓	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)	Visibility to left (m)	Visibility to right (m)
B	One lane	2.75	20	15

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
B-A	479	0.083	0.211	0.133	0.301
B-C	618	0.091	0.229	-	-
C-B	597	0.221	0.221	-	-

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

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

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

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D1	2025 Assessment	AM	ONE HOUR	07:15	08:45	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		ONE HOUR	✓	331	100.000
B		ONE HOUR	✓	26	100.000
C		ONE HOUR	✓	887	100.000

Origin-Destination Data

Demand (PCU/hr)

	To			
		A	B	C
	A	0	9	322
	B	23	0	3
	C	886	1	0

Vehicle Mix

Heavy Vehicle Percentages

	To			
		A	B	C
	A	0	0	0
	B	0	0	0
	C	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-AC	0.10	13.77	0.1	B	24	36
C-AB	0.00	3.58	0.0	A	4	6
C-A					810	1215
A-B					8	12
A-C					295	443

Main Results for each time segment

07:15 - 07:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	20	5	355	0.055	19	0.0	0.1	10.721	B
C-AB	2	0.56	1008	0.002	2	0.0	0.0	3.577	A
C-A	666	166			666				
A-B	7	2			7				
A-C	242	61			242				

07:30 - 07:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	23	6	328	0.071	23	0.1	0.1	11.818	B
C-AB	3	0.83	1093	0.003	3	0.0	0.0	3.303	A
C-A	794	199			794				
A-B	8	2			8				
A-C	289	72			289				

07:45 - 08:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	29	7	290	0.099	28	0.1	0.1	13.754	B
C-AB	6	1	1212	0.005	6	0.0	0.0	2.983	A
C-A	971	243			971				
A-B	10	2			10				
A-C	355	89			355				

08:00 - 08:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	29	7	290	0.099	29	0.1	0.1	13.768	B
C-AB	6	1	1212	0.005	6	0.0	0.0	2.983	A
C-A	971	243			971				
A-B	10	2			10				
A-C	355	89			355				

08:15 - 08:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	23	6	328	0.071	23	0.1	0.1	11.834	B
C-AB	3	0.83	1093	0.003	3	0.0	0.0	3.303	A
C-A	794	199			794				
A-B	8	2			8				
A-C	289	72			289				

08:30 - 08:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	20	5	355	0.055	20	0.1	0.1	10.741	B
C-AB	2	0.56	1008	0.002	2	0.0	0.0	3.577	A
C-A	666	166			666				
A-B	7	2			7				
A-C	242	61			242				

2025 Assessment, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way		0.20	A

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	44	Stream B-AC

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D2	2025 Assessment	PM	ONE HOUR	16:30	18:00	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		ONE HOUR	✓	816	100.000
B		ONE HOUR	✓	14	100.000
C		ONE HOUR	✓	460	100.000

Origin-Destination Data

Demand (PCU/hr)

	To			
		A	B	C
	A	0	22	794
	B	12	0	2
	C	457	3	0

Vehicle Mix

Heavy Vehicle Percentages

	To			
		A	B	C
	A	0	0	0
	B	0	0	0
	C	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-AC	0.06	15.98	0.1	C	13	19
C-AB	0.01	5.05	0.0	A	6	10
C-A					416	623
A-B					20	30
A-C					729	1093

Main Results for each time segment

16:30 - 16:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	11	3	322	0.033	10	0.0	0.0	11.548	B
C-AB	4	1	717	0.006	4	0.0	0.0	5.050	A
C-A	342	85			342				
A-B	17	4			17				
A-C	598	149			598				

16:45 - 17:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	13	3	288	0.044	13	0.0	0.0	13.067	B
C-AB	6	2	746	0.008	6	0.0	0.0	4.861	A
C-A	408	102			408				
A-B	20	5			20				
A-C	714	178			714				

17:00 - 17:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	15	4	241	0.064	15	0.0	0.1	15.964	C
C-AB	9	2	790	0.012	9	0.0	0.0	4.608	A
C-A	497	124			497				
A-B	24	6			24				
A-C	874	219			874				

17:15 - 17:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	15	4	241	0.064	15	0.1	0.1	15.982	C
C-AB	9	2	790	0.012	9	0.0	0.0	4.608	A
C-A	497	124			497				
A-B	24	6			24				
A-C	874	219			874				

17:30 - 17:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	13	3	288	0.044	13	0.1	0.0	13.081	B
C-AB	6	2	746	0.008	6	0.0	0.0	4.863	A
C-A	408	102			408				
A-B	20	5			20				
A-C	714	178			714				

17:45 - 18:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	11	3	322	0.033	11	0.0	0.0	11.561	B
C-AB	4	1	717	0.006	4	0.0	0.0	5.052	A
C-A	342	85			342				
A-B	17	4			17				
A-C	598	149			598				

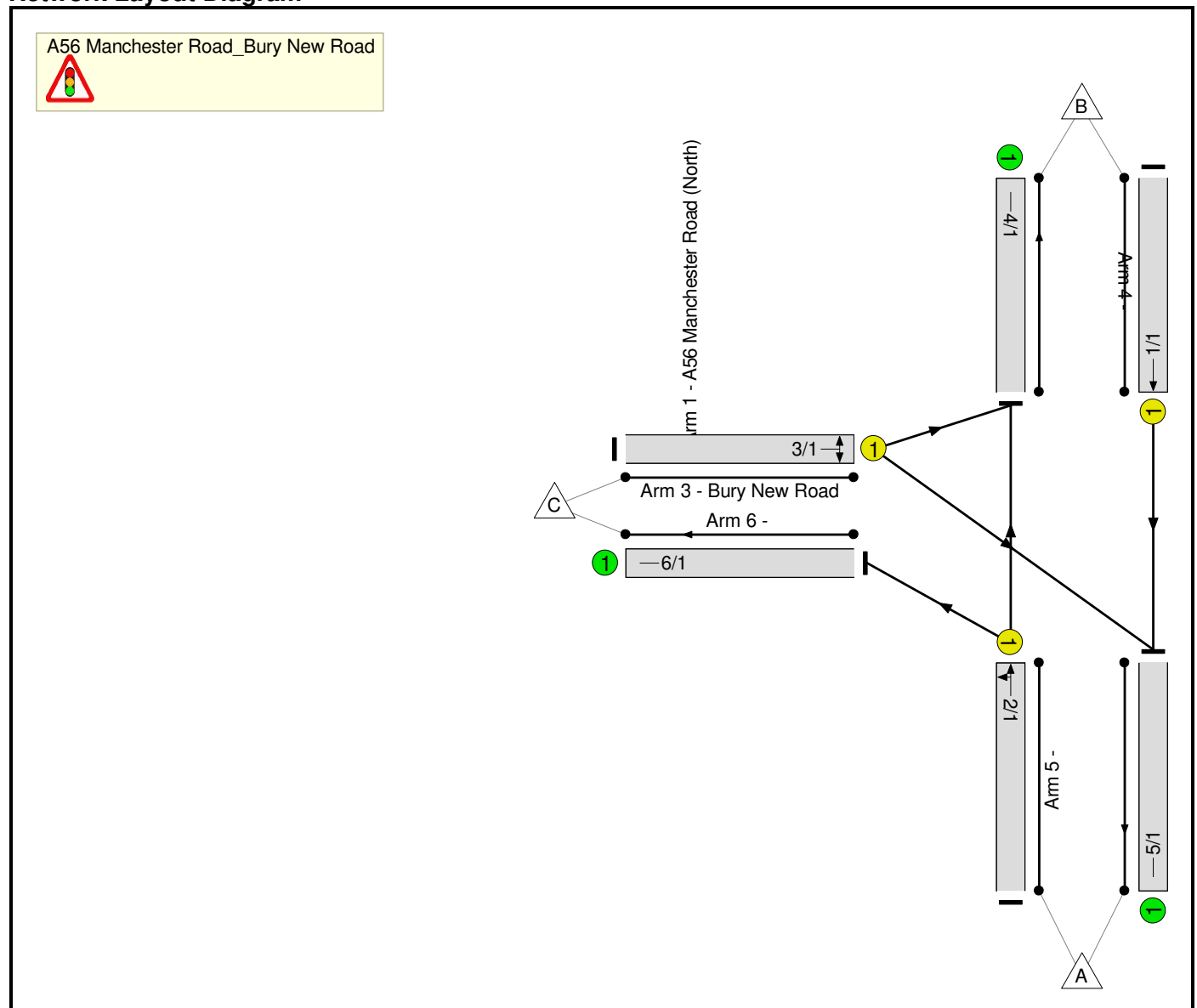
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APPENDIX M

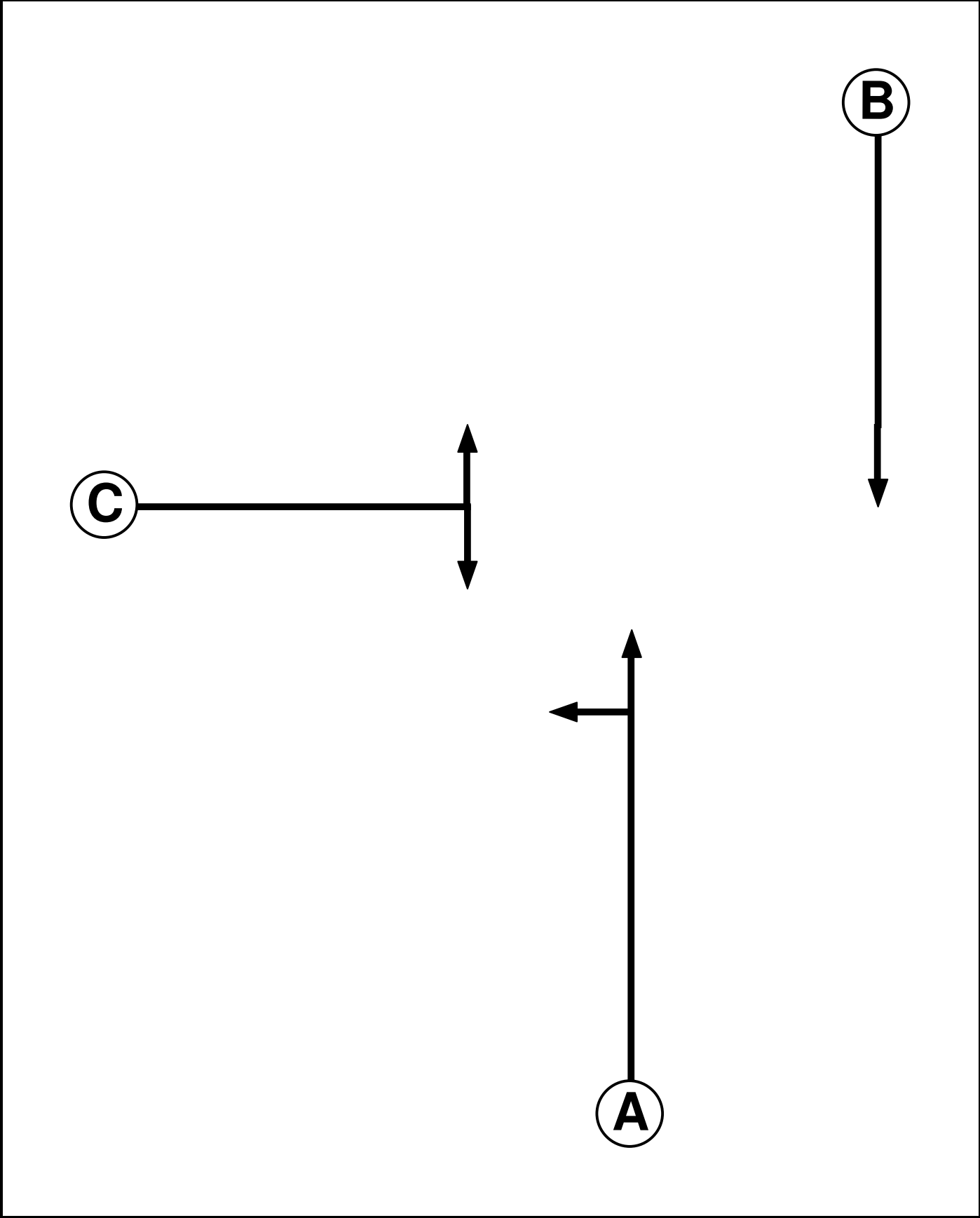
User and Project Details

Project:	Holcombe Mill, Ramsbottom
Title:	A56 Manchester Road_Bury New Road
Location:	
File name:	A56 Manchester Road_Bury New Road_July 2020.lsg3x
Author:	
Company:	
Address:	
Notes:	

Network Layout Diagram



Phase Diagram



Full Input Data And Results

Phase Input Data

Phase Name	Phase Type	Assoc. Phase	Street Min	Cont Min
A	Traffic		7	7
B	Traffic		7	7
C	Traffic		7	7

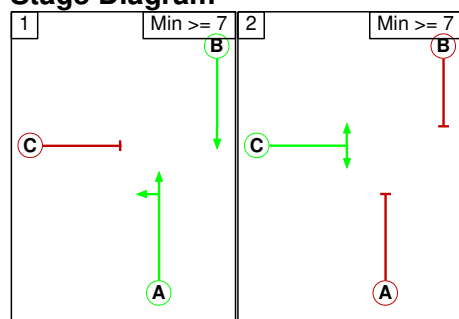
Phase Intergreens Matrix

Terminating Phase	Starting Phase			
	A	B	C	
	A	-	7	
	B	-	7	
	C	6	6	

Phases in Stage

Stage No.	Phases in Stage
1	A B
2	C

Stage Diagram



Phase Delays

Term. Stage	Start Stage	Phase	Type	Value	Cont value
There are no Phase Delays defined					

Prohibited Stage Change

From Stage	To Stage		
	1	2	
	1	7	
	2	6	

Full Input Data And Results

Give-Way Lane Input Data

Junction: A56 Manchester Road_Bury New Road
There are no Opposed Lanes in this Junction

Full Input Data And Results

Lane Input Data

Junction: A56 Manchester Road_Bury New Road												
Lane	Lane Type	Phases	Start Disp.	End Disp.	Physical Length (PCU)	Sat Flow Type	Def User Saturation Flow (PCU/Hr)	Lane Width (m)	Gradient	Nearside Lane	Turns	Turning Radius (m)
1/1 (A56 Manchester Road (North))	U	B	2	3	60.0	Geom	-	3.50	0.00	Y	Arm 5 Ahead	Inf
2/1 (A56 Manchester Road (South))	U	A	2	3	60.0	Geom	-	4.00	0.00	Y	Arm 4 Ahead	Inf
											Arm 6 Left	26.00
3/1 (Bury New Road)	U	C	2	3	60.0	Geom	-	4.00	0.00	Y	Arm 4 Left	10.00
											Arm 5 Right	13.50
4/1	U		2	3	60.0	Inf	-	-	-	-	-	-
5/1	U		2	3	60.0	Inf	-	-	-	-	-	-
6/1	U		2	3	60.0	Inf	-	-	-	-	-	-

Traffic Flow Groups

Flow Group	Start Time	End Time	Duration	Formula
1: 'Base 2025 AM'	07:30	08:30	01:00	
2: 'Base 2025 PM'	16:45	17:45	01:00	
3: '2025 Assessment AM'	07:30	08:30	01:00	
4: '2025 Assessment PM'	16:45	17:45	01:00	

Scenario 1: 'Base 2025 AM' (FG1: 'Base 2025 AM', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

Origin	Destination				
		A	B	C	Tot.
	A	0	323	244	567
	B	637	0	0	637
	C	720	14	0	734
	Tot.	1357	337	244	1938

Traffic Lane Flows

Lane	Scenario 1: Base 2025 AM
Junction: A56 Manchester Road_Bury New Road	
1/1	637
2/1	567
3/1	734
4/1	337
5/1	1357
6/1	244

Lane Saturation Flows

Junction: A56 Manchester Road_Bury New Road								
Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
1/1 (A56 Manchester Road (North))	3.50	0.00	Y	Arm 5 Ahead	Inf	100.0 %	1965	1965
2/1 (A56 Manchester Road (South))	4.00	0.00	Y	Arm 4 Ahead	Inf	57.0 %	1966	1966
				Arm 6 Left	26.00	43.0 %		
3/1 (Bury New Road)	4.00	0.00	Y	Arm 4 Left	10.00	1.9 %	1812	1812
				Arm 5 Right	13.50	98.1 %		
4/1	Infinite Saturation Flow						Inf	Inf
5/1	Infinite Saturation Flow						Inf	Inf
6/1	Infinite Saturation Flow						Inf	Inf

Scenario 2: 'Base 2025 PM' (FG2: 'Base 2025 PM', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

Origin	Destination				
		A	B	C	Tot.
	A	0	577	652	1229
	B	401	0	0	401
	C	308	15	0	323
	Tot.	709	592	652	1953

Traffic Lane Flows

Lane	Scenario 2: Base 2025 PM
Junction: A56 Manchester Road_Bury New Road	
1/1	401
2/1	1229
3/1	323
4/1	592
5/1	709
6/1	652

Lane Saturation Flows

Junction: A56 Manchester Road_Bury New Road									
Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)	
1/1 (A56 Manchester Road (North))	3.50	0.00	Y	Arm 5 Ahead	Inf	100.0 %	1965	1965	
2/1 (A56 Manchester Road (South))	4.00	0.00	Y	Arm 4 Ahead	Inf	46.9 %	1955	1955	
				Arm 6 Left	26.00	53.1 %			
3/1 (Bury New Road)	4.00	0.00	Y	Arm 4 Left	10.00	4.6 %	1811	1811	
				Arm 5 Right	13.50	95.4 %			
4/1	Infinite Saturation Flow					Inf	Inf		
5/1	Infinite Saturation Flow					Inf	Inf		
6/1	Infinite Saturation Flow					Inf	Inf		

Scenario 3: '2025 Assessment AM' (FG3: '2025 Assessment AM', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

Origin	Destination				
		A	B	C	Tot.
	A	0	323	249	572
	B	637	0	0	637
	C	738	14	0	752
	Tot.	1375	337	249	1961

Traffic Lane Flows

Lane	Scenario 3: 2025 Assessment AM
Junction: A56 Manchester Road_Bury New Road	
1/1	637
2/1	572
3/1	752
4/1	337
5/1	1375
6/1	249

Lane Saturation Flows

Junction: A56 Manchester Road_Bury New Road									
Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)	
1/1 (A56 Manchester Road (North))	3.50	0.00	Y	Arm 5 Ahead	Inf	100.0 %	1965	1965	
2/1 (A56 Manchester Road (South))	4.00	0.00	Y	Arm 4 Ahead	Inf	56.5 %	1966	1966	
				Arm 6 Left	26.00	43.5 %			
3/1 (Bury New Road)	4.00	0.00	Y	Arm 4 Left	10.00	1.9 %	1812	1812	
				Arm 5 Right	13.50	98.1 %			
4/1	Infinite Saturation Flow					Inf	Inf		
5/1	Infinite Saturation Flow					Inf	Inf		
6/1	Infinite Saturation Flow					Inf	Inf		

Scenario 4: '2025 Assessment PM' (FG4: '2025 Assessment PM', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

Origin	Destination				
		A	B	C	Tot.
	A	0	577	669	1246
	B	401	0	0	401
	C	316	15	0	331
	Tot.	717	592	669	1978

Traffic Lane Flows

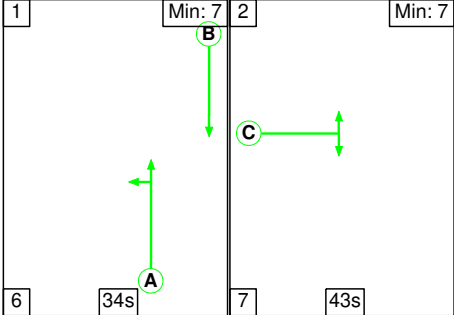
Lane	Scenario 4: 2025 Assessment PM
Junction: A56 Manchester Road_Bury New Road	
1/1	401
2/1	1246
3/1	331
4/1	592
5/1	717
6/1	669

Lane Saturation Flows

Junction: A56 Manchester Road_Bury New Road								
Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
1/1 (A56 Manchester Road (North))	3.50	0.00	Y	Arm 5 Ahead	Inf	100.0 %	1965	1965
2/1 (A56 Manchester Road (South))	4.00	0.00	Y	Arm 4 Ahead	Inf	46.3 %	1954	1954
				Arm 6 Left	26.00	53.7 %		
3/1 (Bury New Road)	4.00	0.00	Y	Arm 4 Left Arm 5 Right	10.00 13.50	4.5 % 95.5 %	1811	1811
4/1	Infinite Saturation Flow						Inf	Inf
5/1	Infinite Saturation Flow						Inf	Inf
6/1	Infinite Saturation Flow						Inf	Inf

Scenario 1: 'Base 2025 AM' (FG1: 'Base 2025 AM', Plan 1: 'Network Control Plan 1')

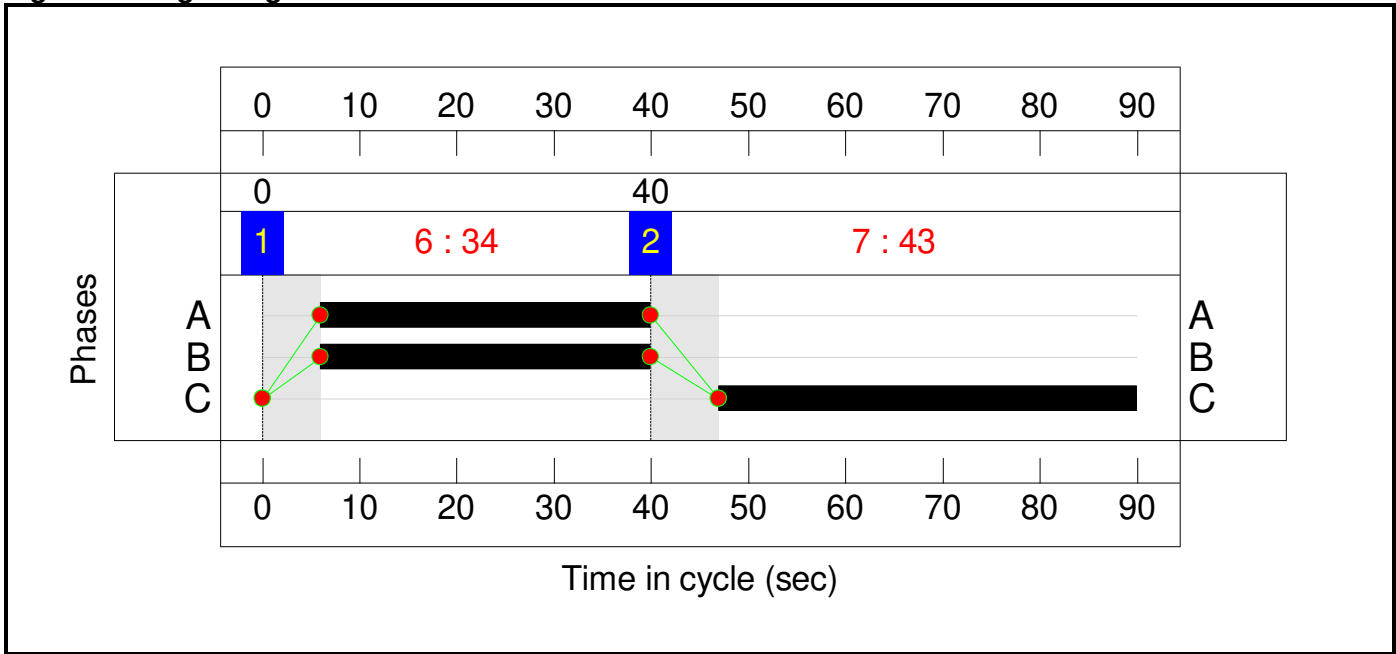
Stage Sequence Diagram



Stage Timings

Stage	1	2
Duration	34	43
Change Point	0	40

Signal Timings Diagram



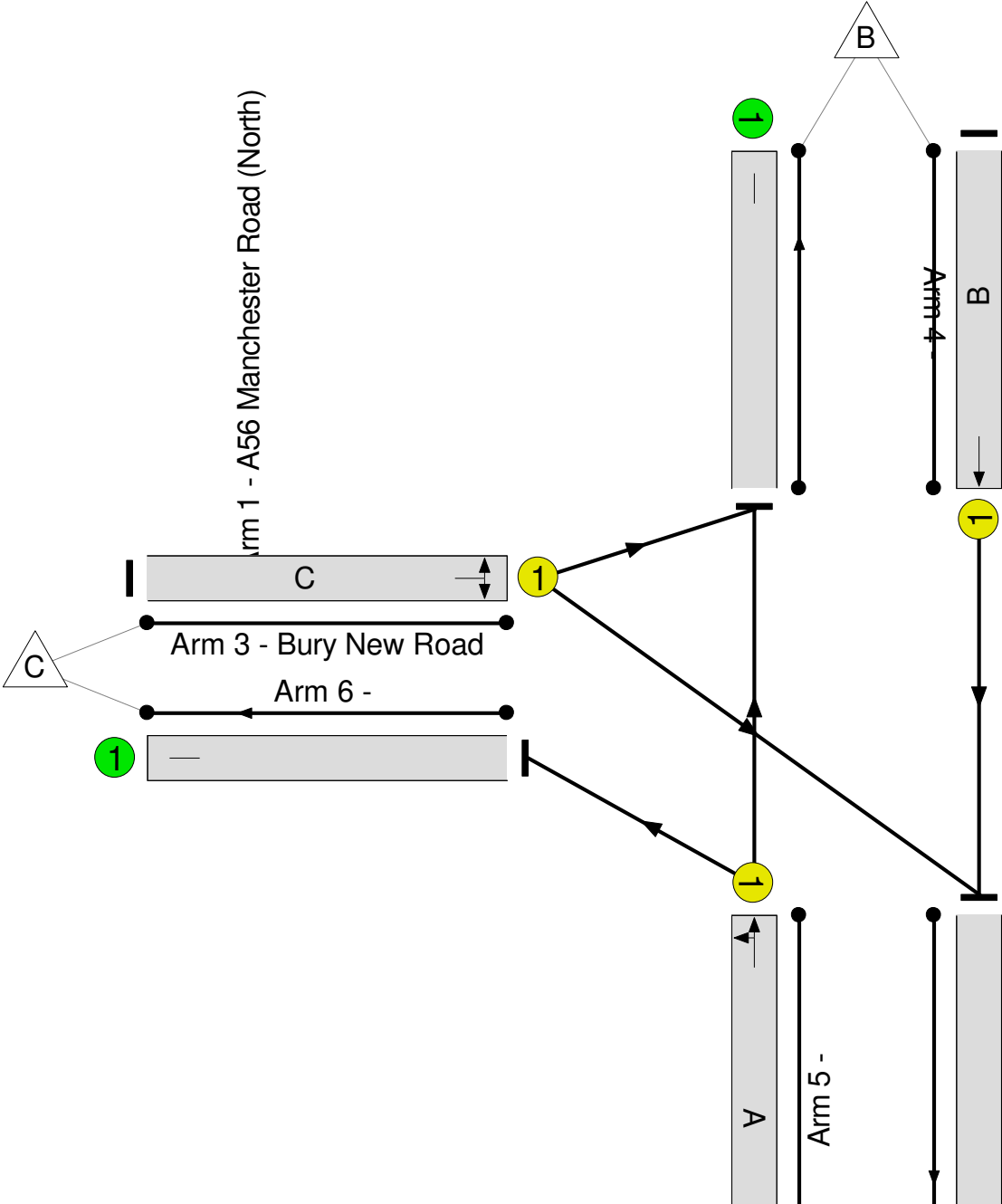
Full Input Data And Results

Network Layout Diagram

A56 Manchester Road_Bury New Road



PRC: 8.0 %
Total Traffic Delay: 18.3 pcuHr



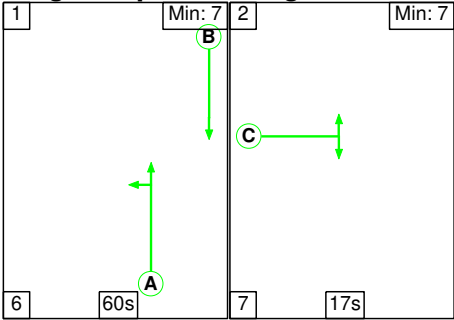
Network Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network: A56 Manchester Road_Bury New Road	-	-	N/A	-	-		-	-	-	-	-	-	83.4%
A56 Manchester Road_Bury New Road	-	-	N/A	-	-		-	-	-	-	-	-	83.4%
1/1	A56 Manchester Road (North) Ahead	U	N/A	N/A	B		1	34	-	637	1965	764	83.4%
2/1	A56 Manchester Road (South) Ahead Left	U	N/A	N/A	A		1	34	-	567	1966	765	74.2%
3/1	Bury New Road Left Right	U	N/A	N/A	C		1	43	-	734	1812	886	82.9%
4/1		U	N/A	N/A	-		-	-	-	337	Inf	Inf	0.0%
5/1		U	N/A	N/A	-		-	-	-	1357	Inf	Inf	0.0%
6/1		U	N/A	N/A	-		-	-	-	244	Inf	Inf	0.0%

Full Input Data And Results

[illegible]

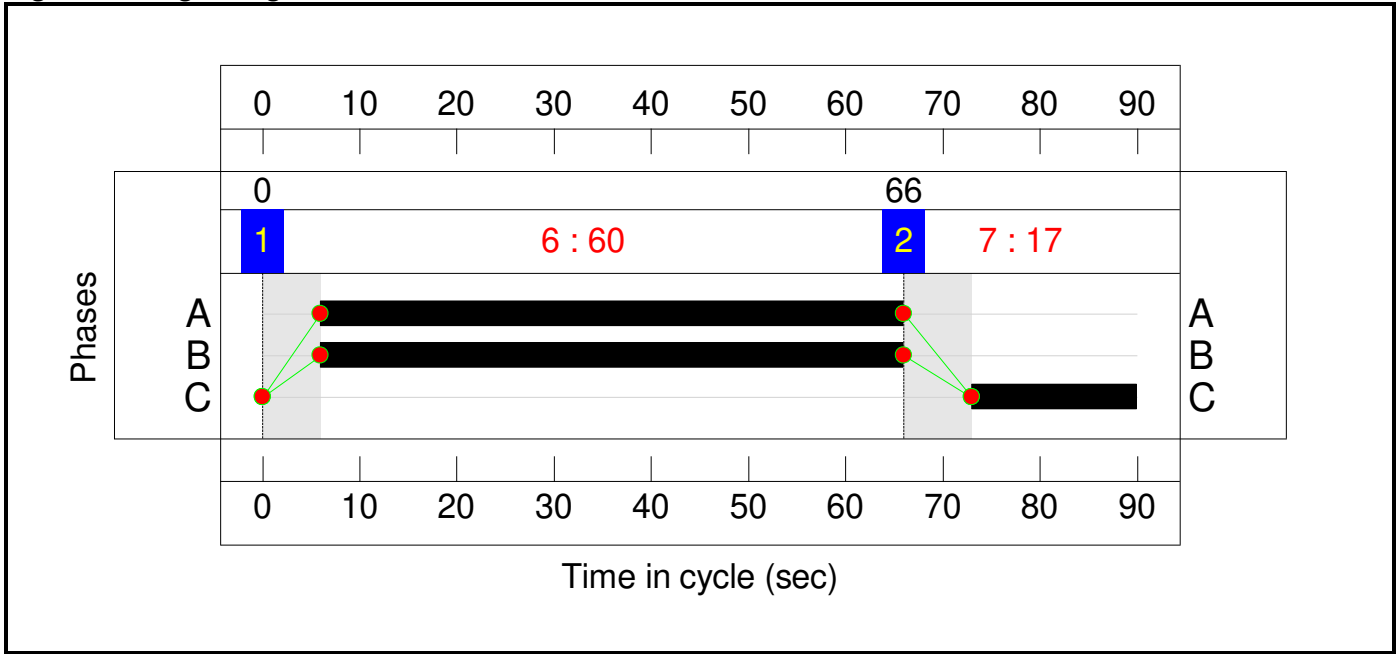
Stage Sequence Diagram



Stage Timings

Stage	1	2
Duration	60	17
Change Point	0	66

Signal Timings Diagram



Full Input Data And Results

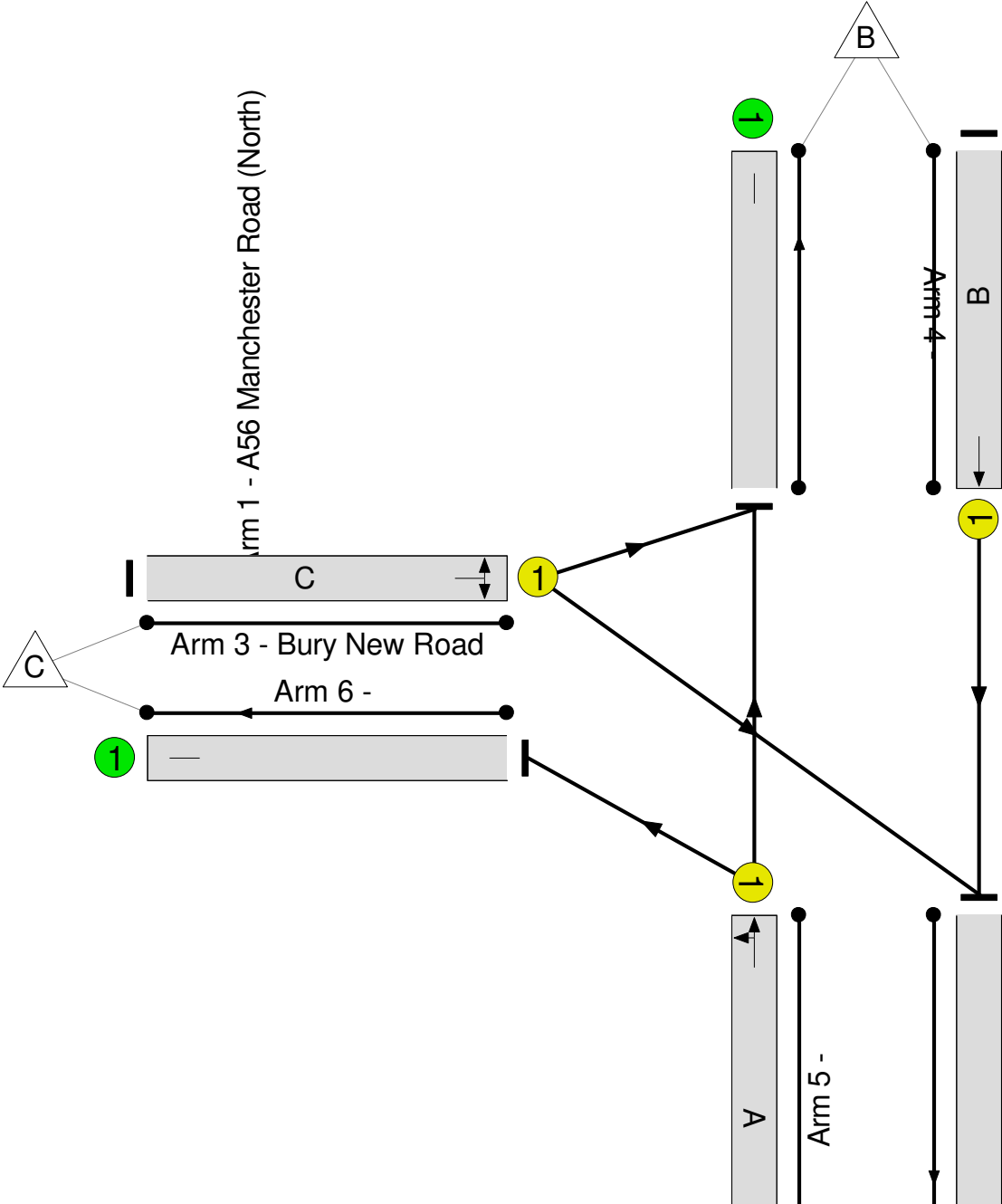
Network Layout Diagram



A56 Manchester Road_Bury New Road

PRC: -3.1 %

Total Traffic Delay: 17.5 pcuHr



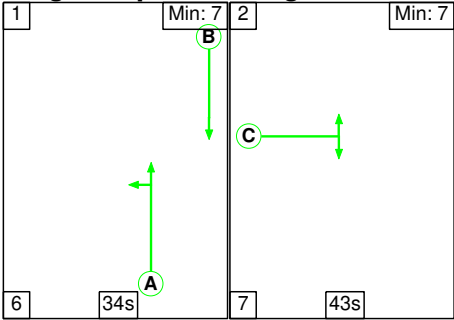
Network Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network: A56 Manchester Road_Bury New Road	-	-	N/A	-	-		-	-	-	-	-	-	92.8%
A56 Manchester Road_Bury New Road	-	-	N/A	-	-		-	-	-	-	-	-	92.8%
1/1	A56 Manchester Road (North) Ahead	U	N/A	N/A	B		1	60	-	401	1965	1332	30.1%
2/1	A56 Manchester Road (South) Ahead Left	U	N/A	N/A	A		1	60	-	1229	1955	1325	92.8%
3/1	Bury New Road Left Right	U	N/A	N/A	C		1	17	-	323	1811	362	89.2%
4/1		U	N/A	N/A	-		-	-	-	592	Inf	Inf	0.0%
5/1		U	N/A	N/A	-		-	-	-	709	Inf	Inf	0.0%
6/1		U	N/A	N/A	-		-	-	-	652	Inf	Inf	0.0%

Full Input Data And Results

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network: A56 Manchester Road_Bury New Road	-	-	0	0	0	8.1	9.4	0.0	17.5	-	-	-	-
A56 Manchester Road_Bury New Road	-	-	0	0	0	8.1	9.4	0.0	17.5	-	-	-	-
1/1	401	401	-	-	-	0.7	0.2	-	0.9	7.8	4.0	0.2	4.2
2/1	1229	1229	-	-	-	4.3	5.7	-	10.0	29.3	26.6	5.7	32.3
3/1	323	323	-	-	-	3.1	3.5	-	6.6	74.0	7.8	3.5	11.3
4/1	592	592	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/1	709	709	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	652	652	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
C1 PRC for Signalled Lanes (%): -3.1 Total Delay for Signalled Lanes (pcuHr): 17.52 Cycle Time (s): 90 PRC Over All Lanes (%): -3.1 Total Delay Over All Lanes(pcuHr): 17.52													

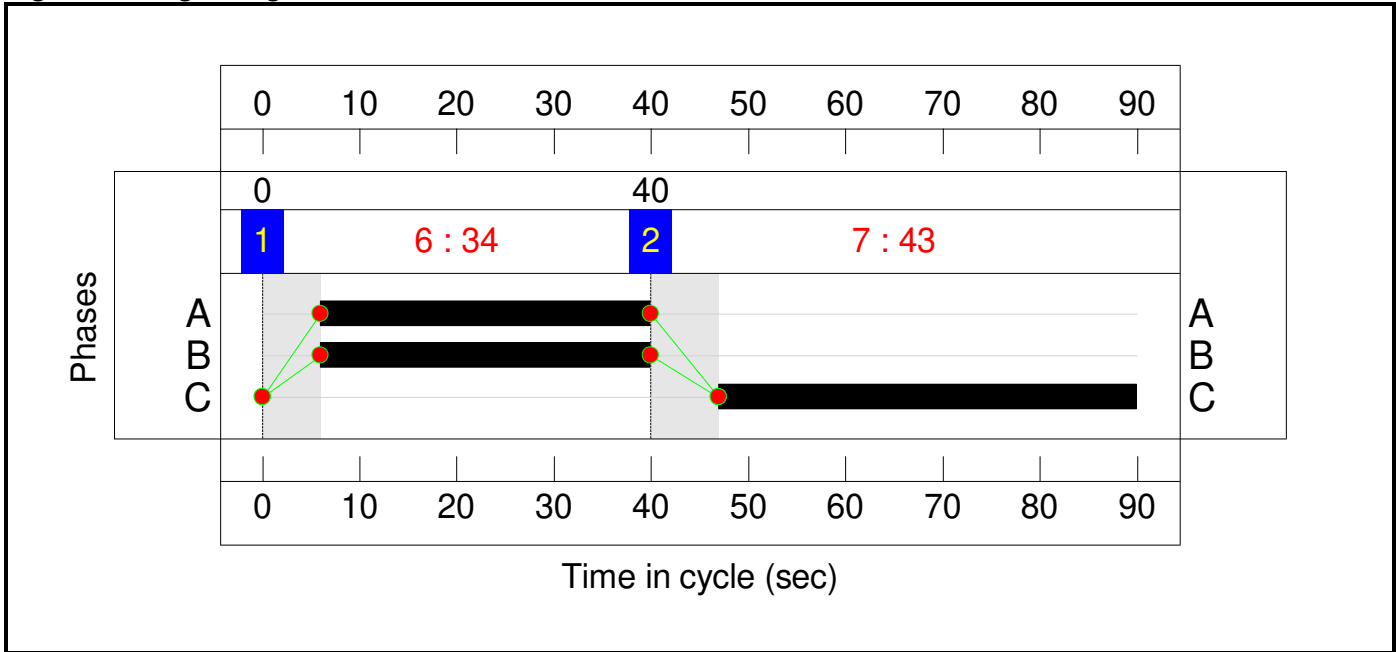
Stage Sequence Diagram



Stage Timings

Stage	1	2
Duration	34	43
Change Point	0	40

Signal Timings Diagram



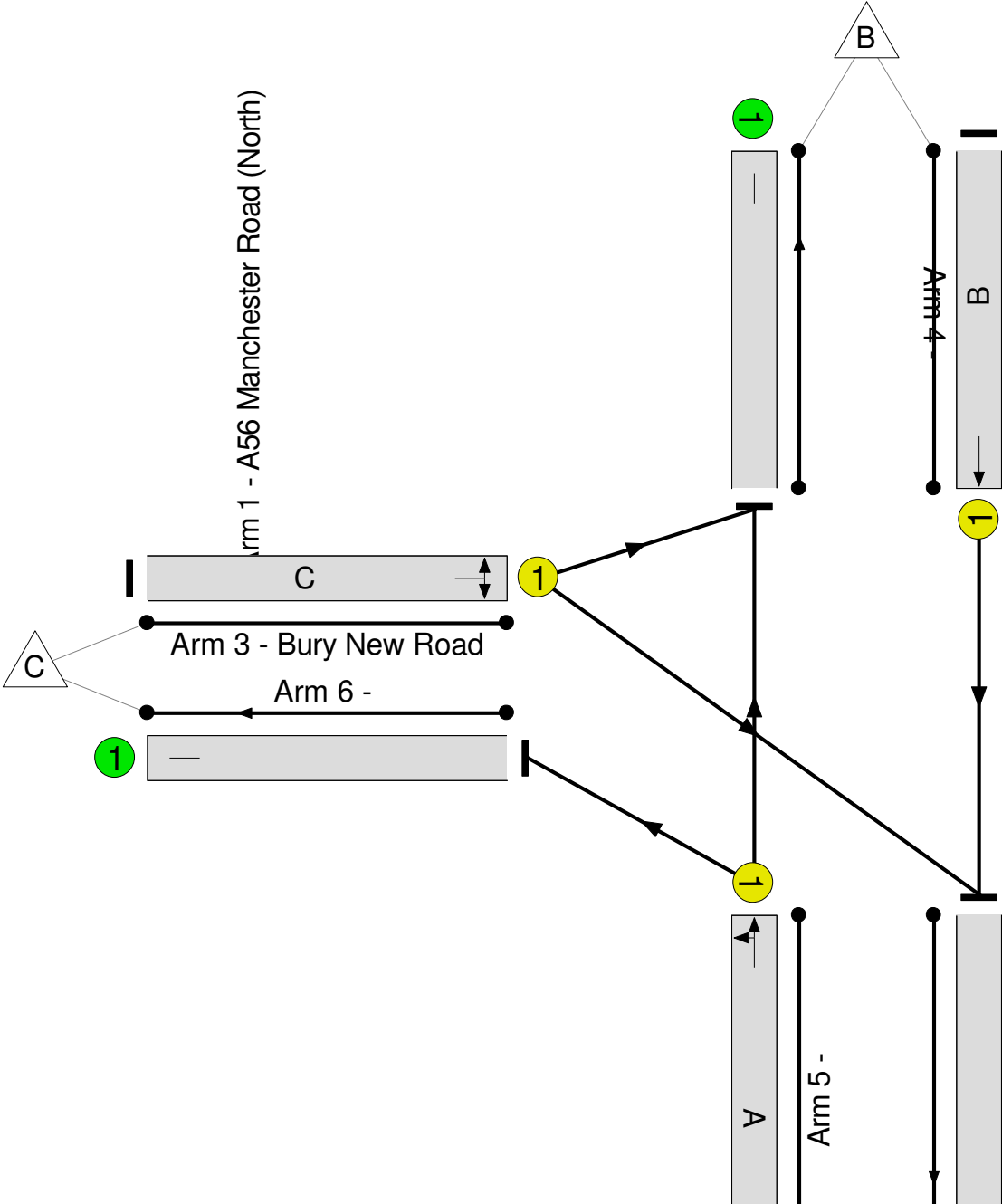
Full Input Data And Results

Network Layout Diagram

A56 Manchester Road_Bury New Road



PRC: 6.0 %
Total Traffic Delay: 18.9 pcuHr



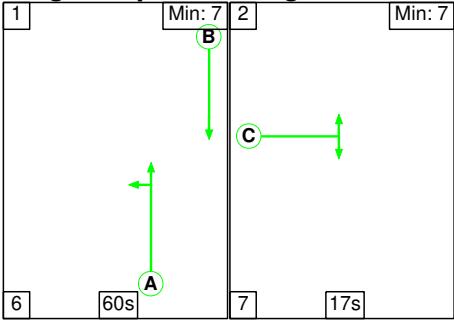
Network Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network: A56 Manchester Road_Bury New Road	-	-	N/A	-	-		-	-	-	-	-	-	84.9%
A56 Manchester Road_Bury New Road	-	-	N/A	-	-		-	-	-	-	-	-	84.9%
1/1	A56 Manchester Road (North) Ahead	U	N/A	N/A	B		1	34	-	637	1965	764	83.4%
2/1	A56 Manchester Road (South) Ahead Left	U	N/A	N/A	A		1	34	-	572	1966	765	74.8%
3/1	Bury New Road Left Right	U	N/A	N/A	C		1	43	-	752	1812	886	84.9%
4/1		U	N/A	N/A	-		-	-	-	337	Inf	Inf	0.0%
5/1		U	N/A	N/A	-		-	-	-	1375	Inf	Inf	0.0%
6/1		U	N/A	N/A	-		-	-	-	249	Inf	Inf	0.0%

Full Input Data And Results

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network: A56 Manchester Road_Bury New Road	-	-	0	0	0	12.4	6.6	0.0	18.9	-	-	-	-
A56 Manchester Road_Bury New Road	-	-	0	0	0	12.4	6.6	0.0	18.9	-	-	-	-
1/1	637	637	-	-	-	4.4	2.4	-	6.8	38.5	14.3	2.4	16.7
2/1	572	572	-	-	-	3.8	1.5	-	5.2	32.9	12.2	1.5	13.7
3/1	752	752	-	-	-	4.2	2.7	-	6.9	33.0	16.3	2.7	19.0
4/1	337	337	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/1	1375	1375	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	249	249	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
C1 PRC for Signalled Lanes (%): 6.0 Total Delay for Signalled Lanes (pcuHr): 18.94 Cycle Time (s): 90 PRC Over All Lanes (%): 6.0 Total Delay Over All Lanes(pcuHr): 18.94													

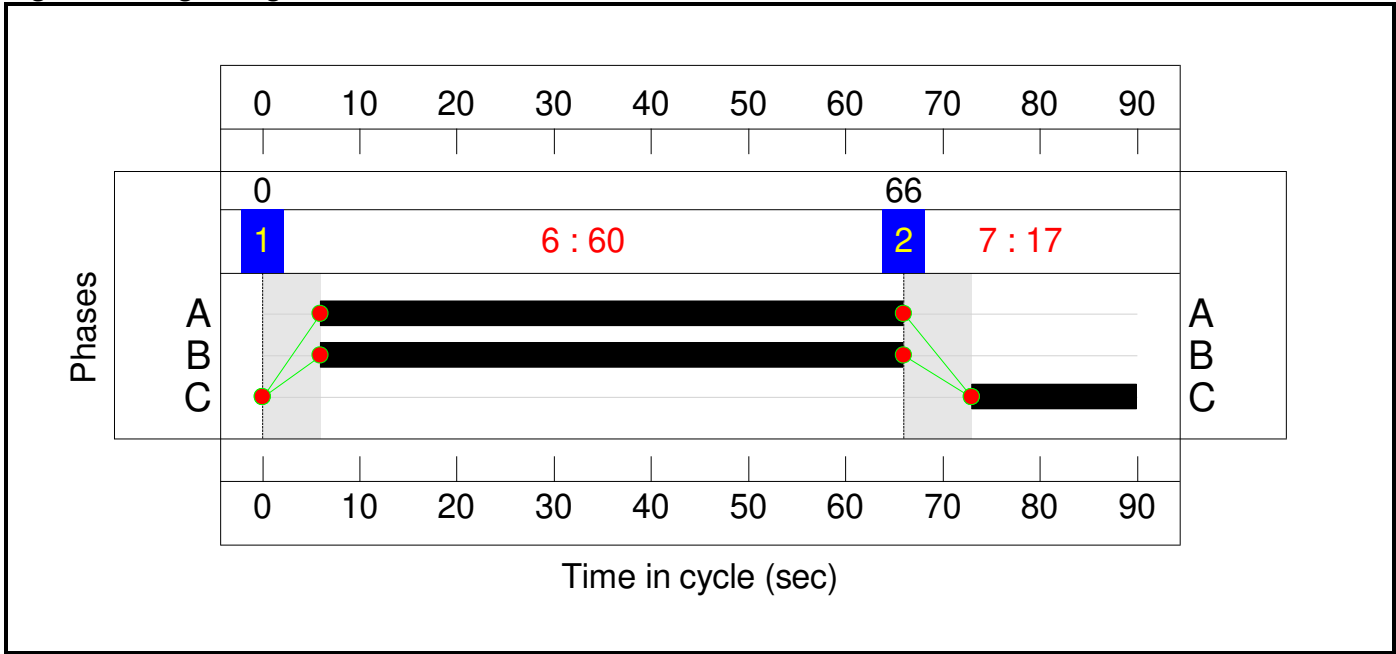
Stage Sequence Diagram



Stage Timings

Stage	1	2
Duration	60	17
Change Point	0	66

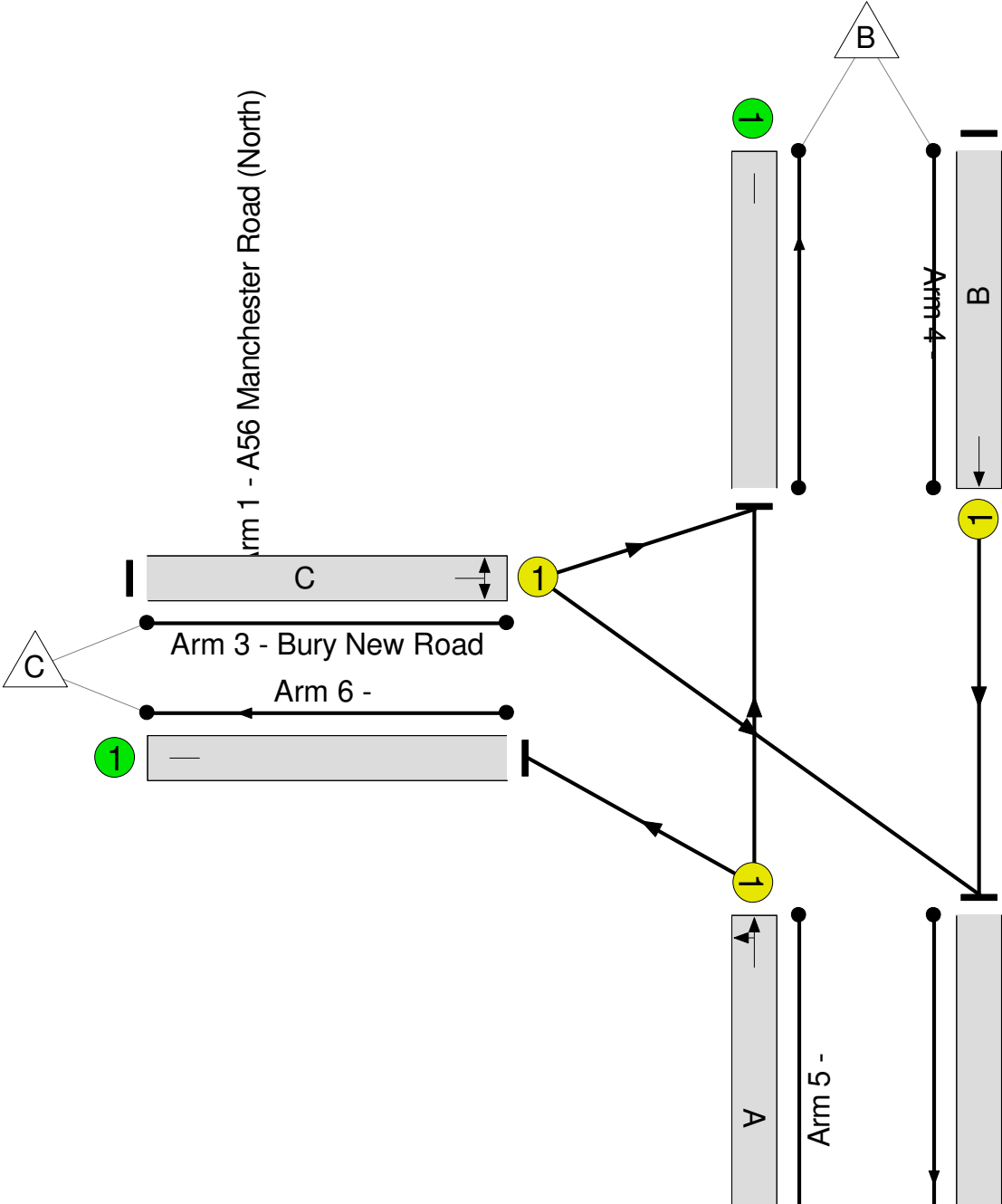
Signal Timings Diagram



A56 Manchester Road_Bury New Road



PRC: -4.5 %
Total Traffic Delay: 19.5 pcuHr



Network Results

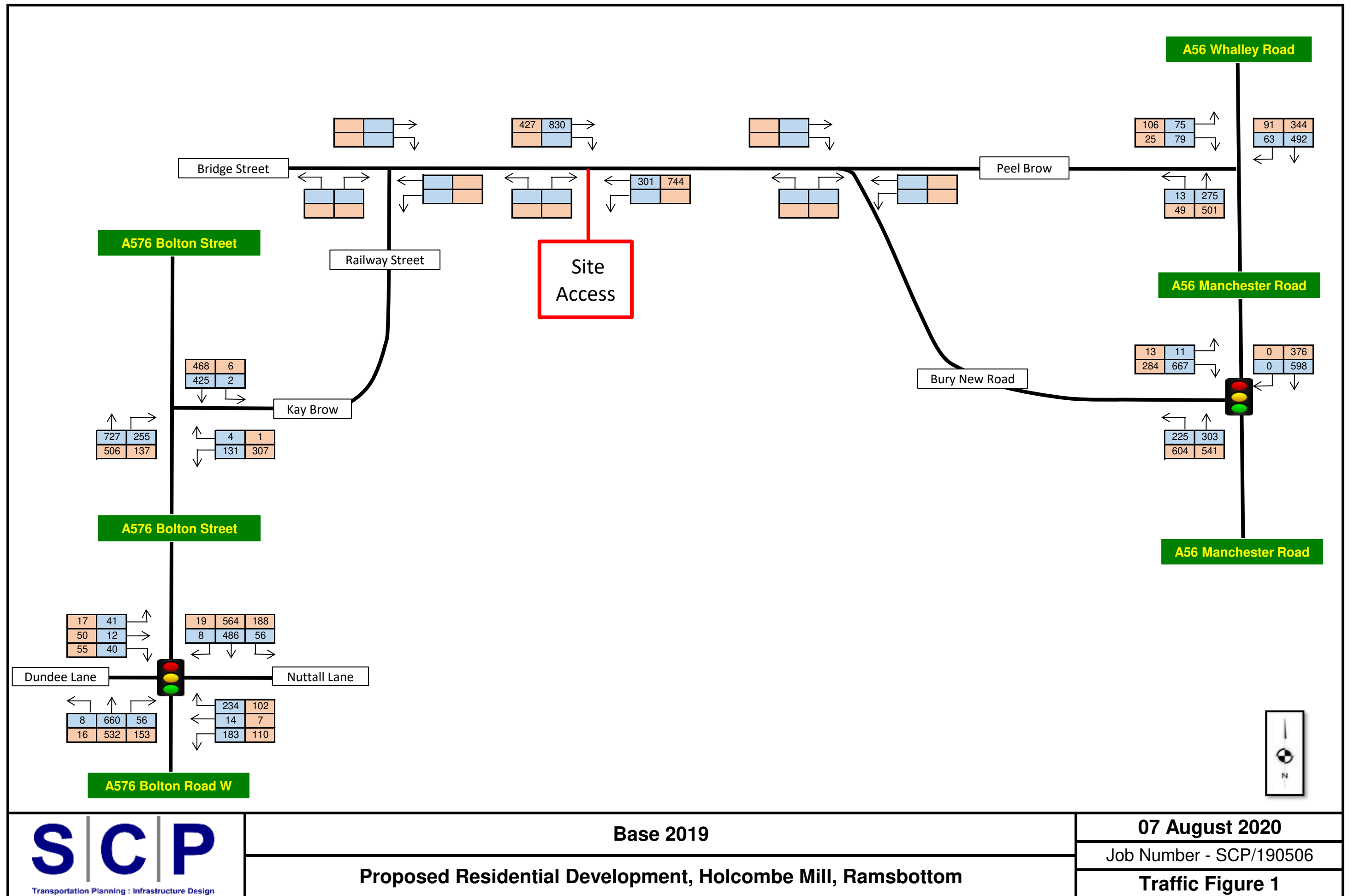
Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network: A56 Manchester Road_Bury New Road	-	-	N/A	-	-		-	-	-	-	-	-	94.1%
A56 Manchester Road_Bury New Road	-	-	N/A	-	-		-	-	-	-	-	-	94.1%
1/1	A56 Manchester Road (North) Ahead	U	N/A	N/A	B		1	60	-	401	1965	1332	30.1%
2/1	A56 Manchester Road (South) Ahead Left	U	N/A	N/A	A		1	60	-	1246	1954	1324	94.1%
3/1	Bury New Road Left Right	U	N/A	N/A	C		1	17	-	331	1811	362	91.4%
4/1		U	N/A	N/A	-		-	-	-	592	Inf	Inf	0.0%
5/1		U	N/A	N/A	-		-	-	-	717	Inf	Inf	0.0%
6/1		U	N/A	N/A	-		-	-	-	669	Inf	Inf	0.0%

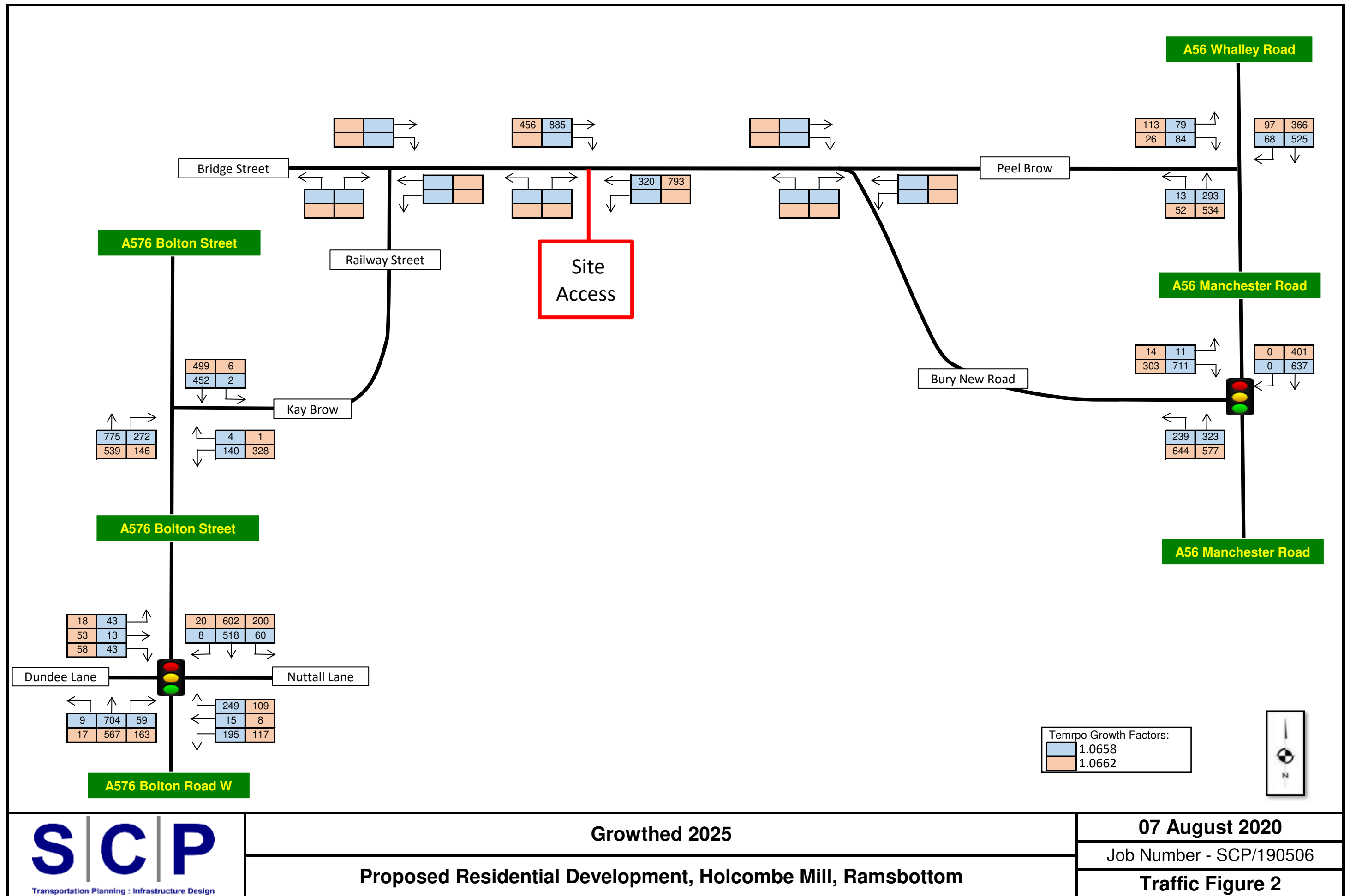
Full Input Data And Results

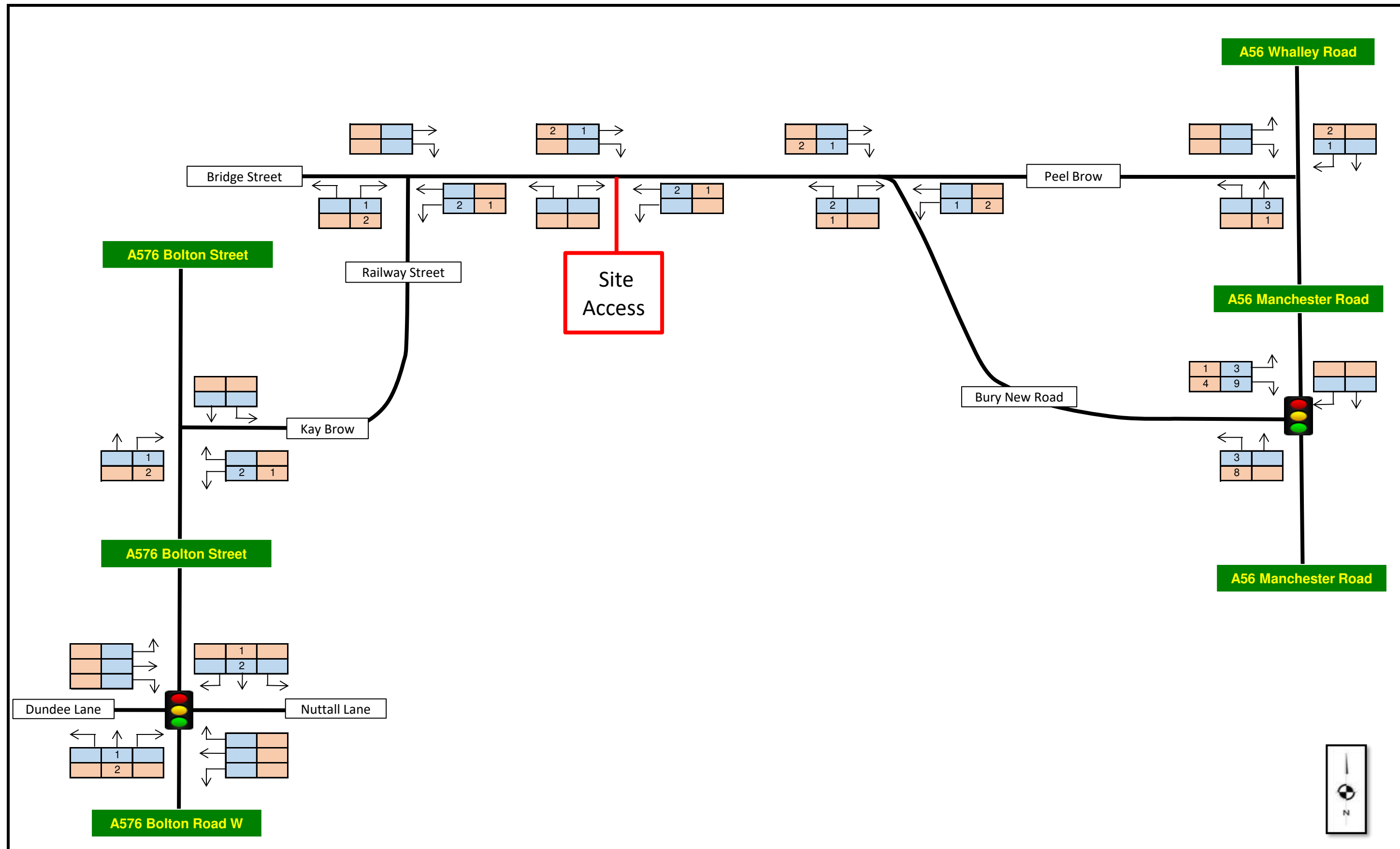
Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network: A56 Manchester Road_Bury New Road	-	-	0	0	0	8.4	11.2	0.0	19.5	-	-	-	-
A56 Manchester Road_Bury New Road	-	-	0	0	0	8.4	11.2	0.0	19.5	-	-	-	-
1/1	401	401	-	-	-	0.7	0.2	-	0.9	7.8	4.0	0.2	4.2
2/1	1246	1246	-	-	-	4.5	6.8	-	11.2	32.5	27.7	6.8	34.5
3/1	331	331	-	-	-	3.2	4.2	-	7.4	80.7	8.1	4.2	12.3
4/1	592	592	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/1	717	717	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	669	669	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
C1 PRC for Signalled Lanes (%): -4.5 Total Delay for Signalled Lanes (pcuHr): 19.53 Cycle Time (s): 90 PRC Over All Lanes (%): -4.5 Total Delay Over All Lanes(pcuHr): 19.53													

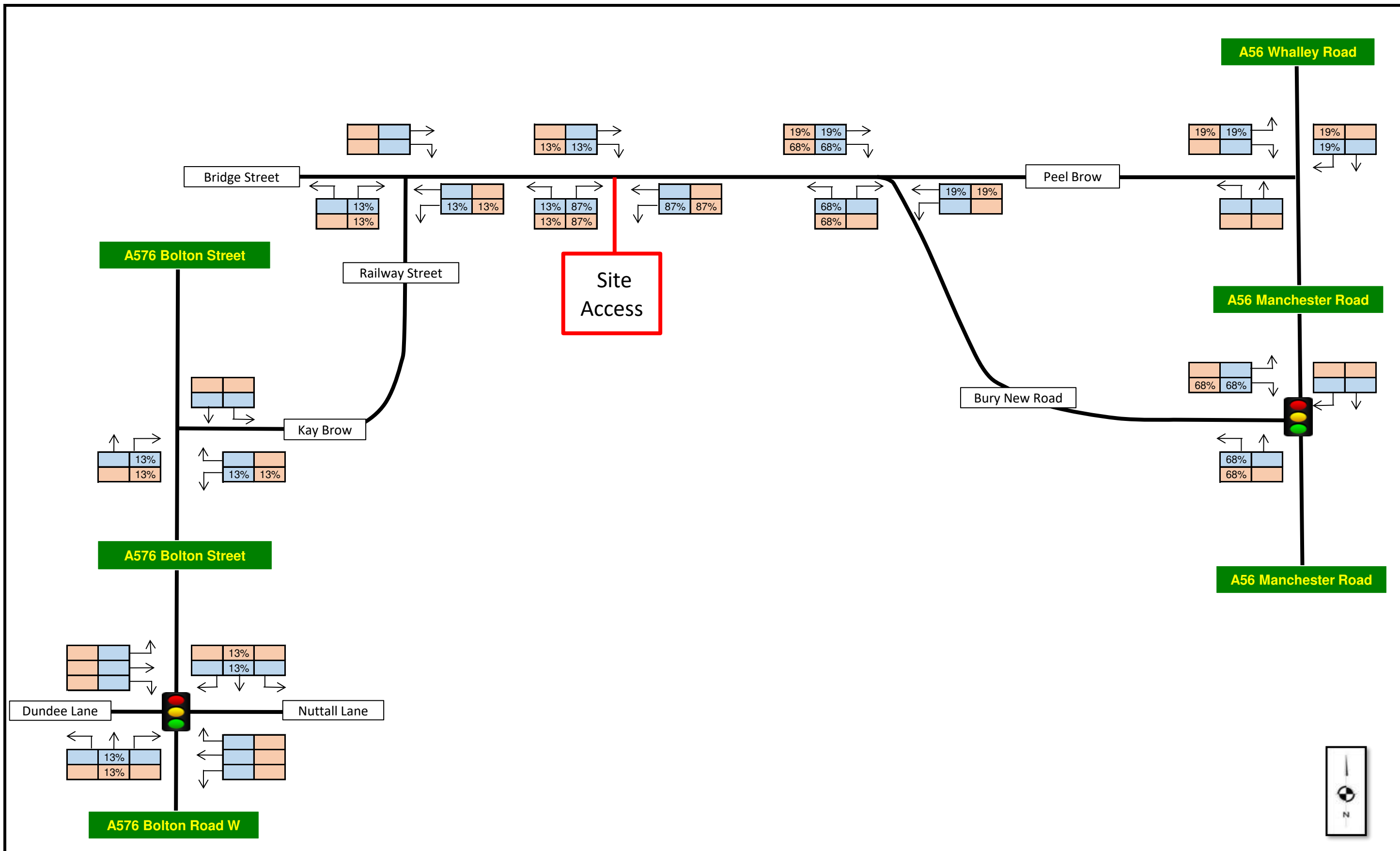
S|C|P

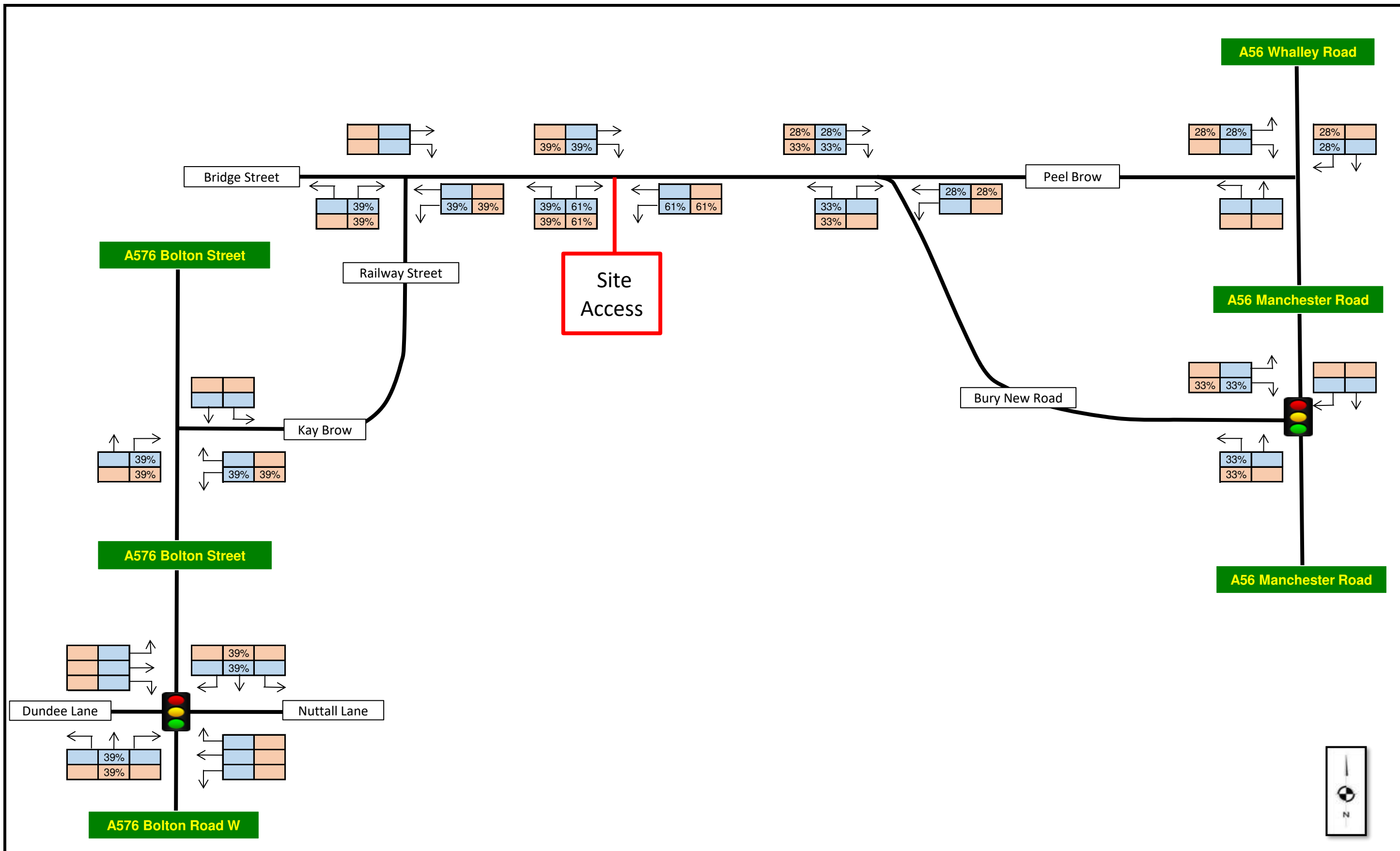
FIGURES

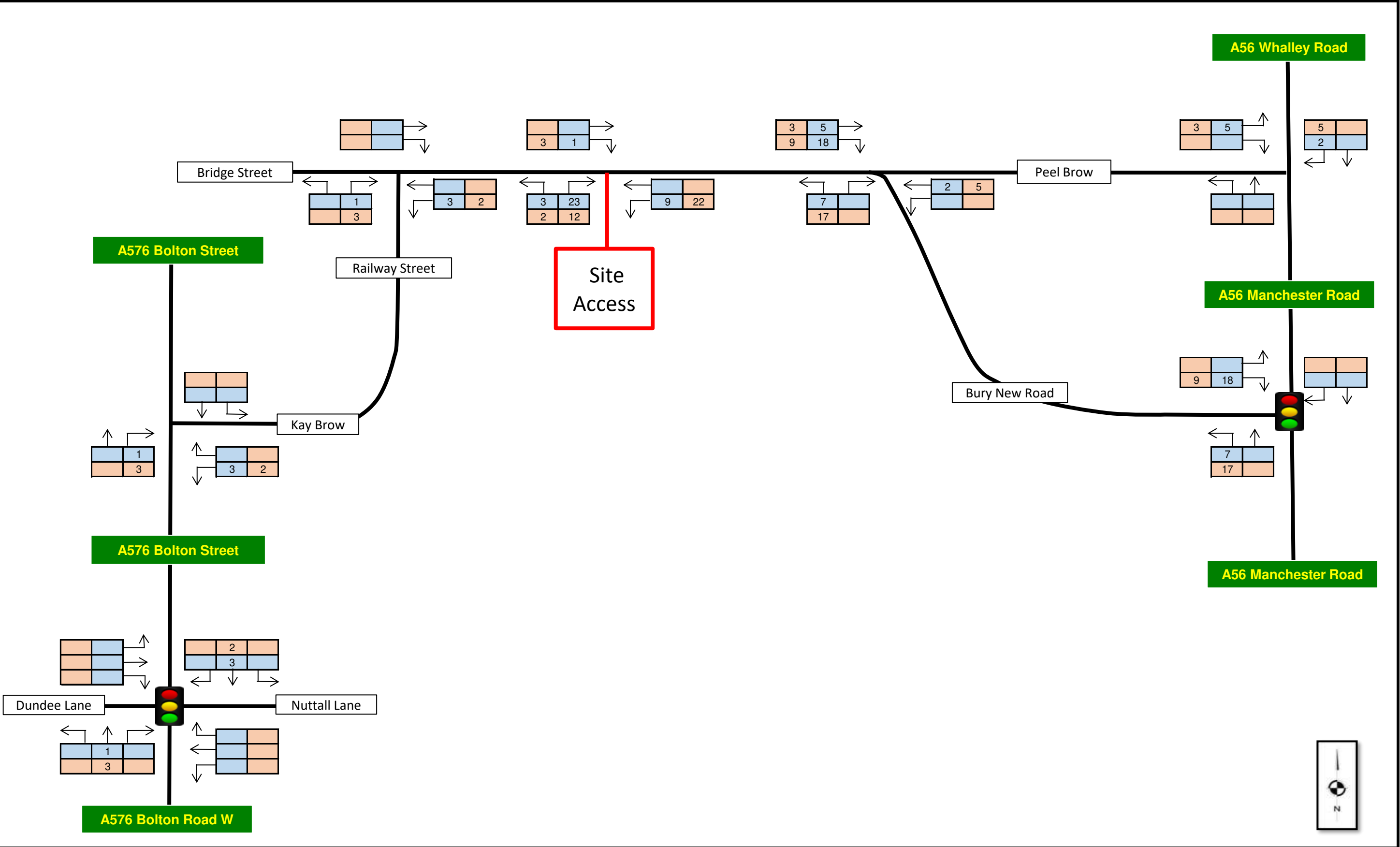




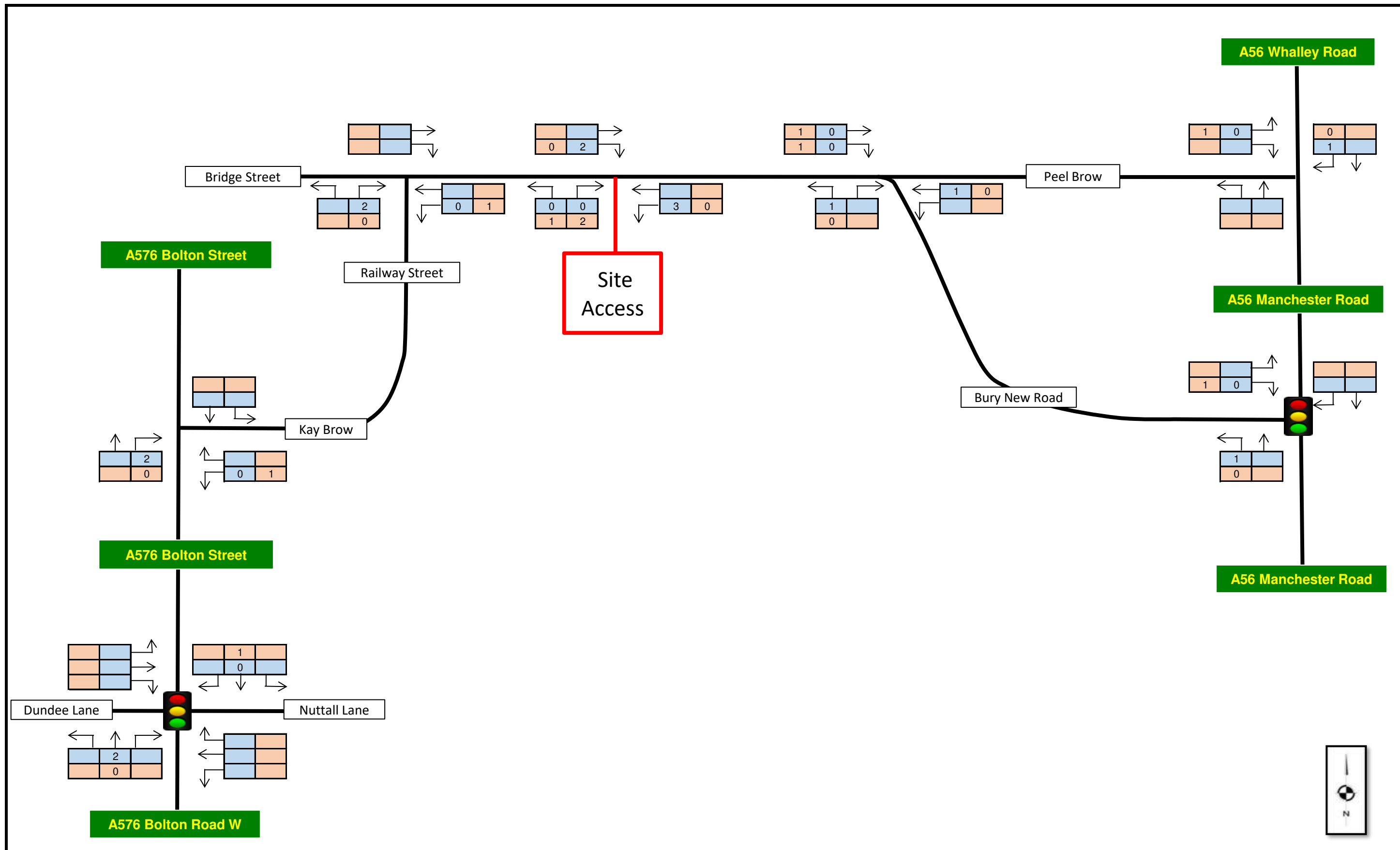


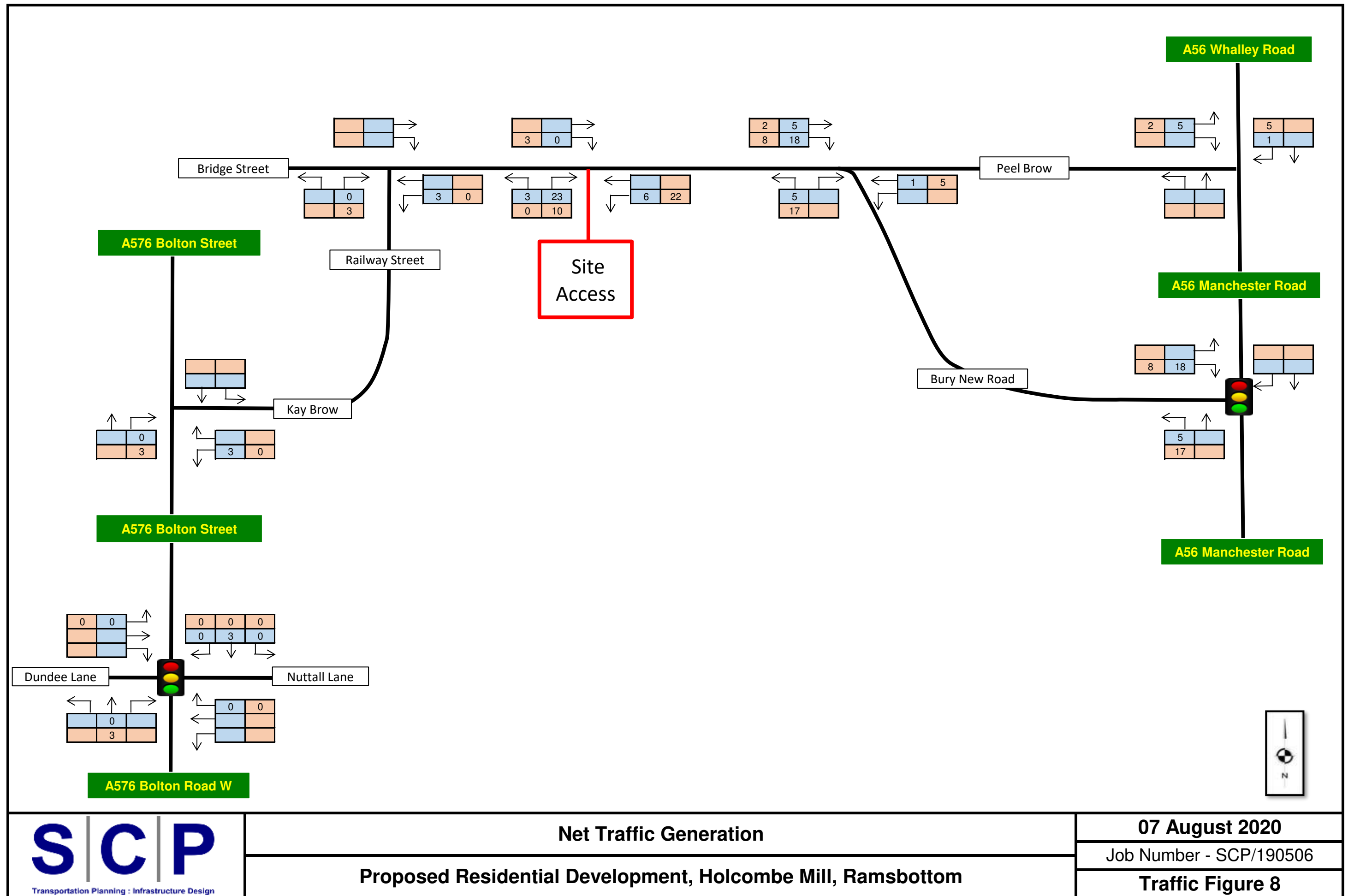


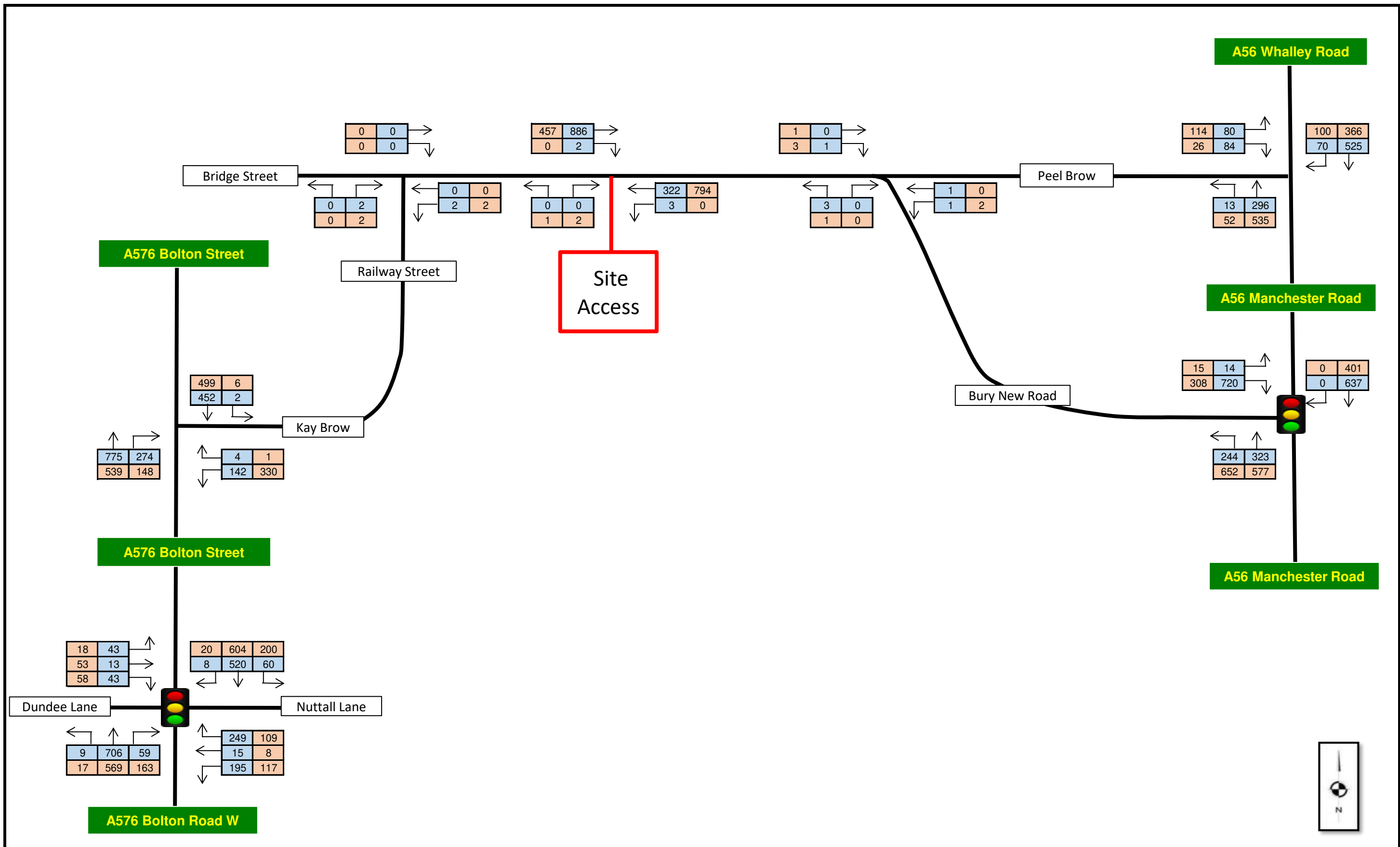




 Transportation Planning : Infrastructure Design	Traffic Generation - Residential		07 August 2020
	Proposed Residential Development, Holcombe Mill, Ramsbottom		Job Number - SCP/190506
			Traffic Figure 6







 Transportation Planning : Infrastructure Design	Base 2025		07 August 2020
	Proposed Residential Development, Holcombe Mill, Ramsbottom		Job Number - SCP/190506
			Traffic Figure 9

