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Nuvu Development Ltd

PROPOSED RESIDENTIAL DEVELOPMENT ON FORMER JACKSONS BRICKWORKS SITE, TEN ACRES LANE, NEWTON HEATH, MANCHESTER

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VN201804

Transport Assessment

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Primary Author:	James Whitton	Initialled:	JW
Contributor:	Elliot Read	Initialled:	ER
Review by:	Gareth Davis	Initialled:	GD

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1 Introduction

1.1 Vectos has been commissioned by Nuvu Development Ltd to provide highways and transportation advice in support of a planning application for a residential led redevelopment of the former Jacksons Brickworks site in Newton Heath, Manchester.

1.2 The site is located within the jurisdiction of Manchester City Council (MCC), who act as both the local planning and highway authority. They are supported by Transport for Greater Manchester (TfGM).

1.3 This Transport Assessment (TA) provides information on the traffic and transport planning aspects of the development proposals and forms supplementary information to assist in the determination of a planning application.

Development Site and Location

1.4 The site is located off Ten Acres Lane, Newton Heath, Manchester. **Drawing VN201804-G100** shows the location of the site in the context of the surrounding area. The approximate boundary of the development site is shown in **Figure 1.1**.

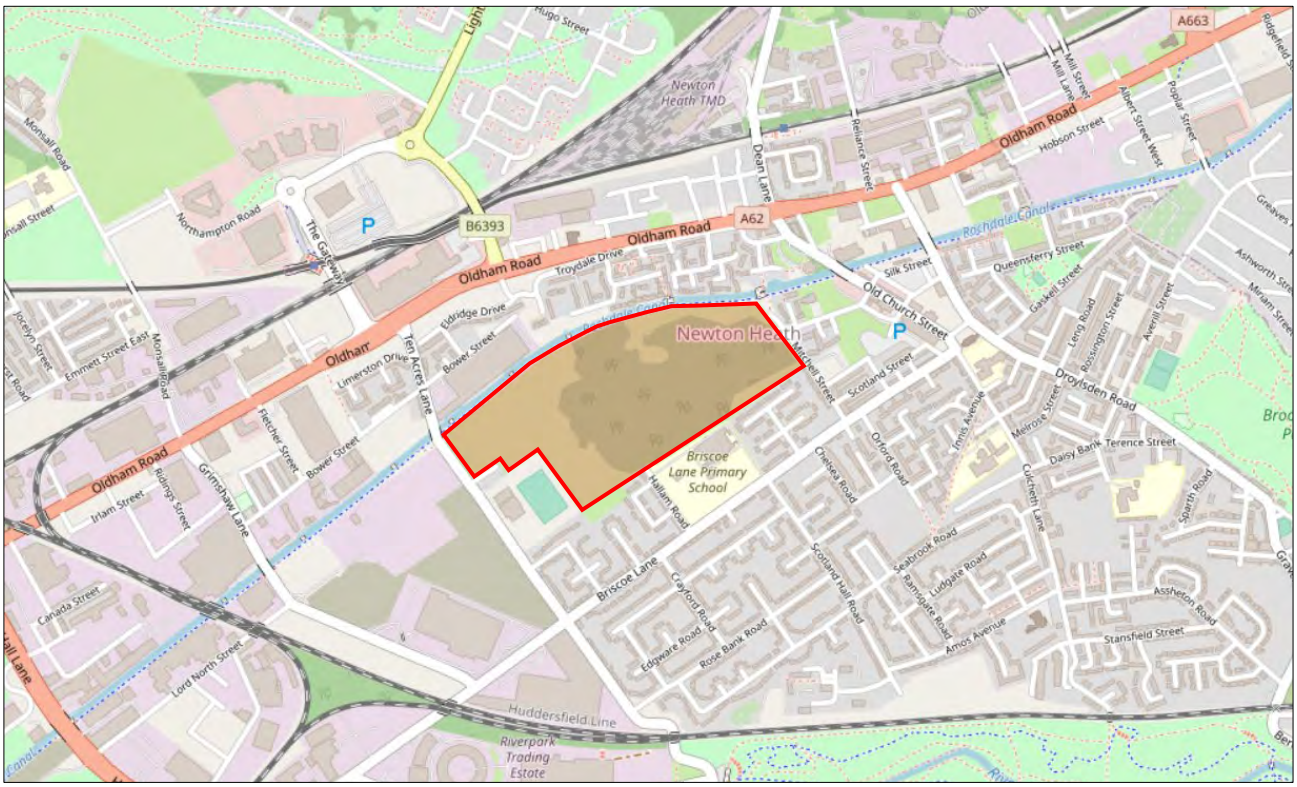


Figure 1.1: Development Site Boundary

Proposed Development

1.5 Under the proposals the site will be redeveloped to provide a residential development, with a total of up to 716 units along with a secondary school and community hub building. The primary vehicular access will be taken via a new priority junction on to Ten Acres Lane with Mitchell Street providing secondary access.

Planning History

1.6 The development site has been subject to a number of planning applications since the closure of the brickworks operation in 1980. The most recent applications include the approval of 126 houses in 1999 (ref 055319/FO/NORTH2/98) and up to 400 houses and 16,650 sqm of B1 office space and B2 general industrial uses in 2012, which received a resolution to grant from planning committee (Ref: 098689/OO/2012).

1.7 A comprehensive TA was prepared by consultant Curtins which outlined a clear access strategy following consultation with MCC and TfGM and it was concluded that, with a package of proposed improvements to the local transport network there was no highway objection to the scheme.

1.8 Full Planning Permission was granted on 29th October 2021 for remediation works to the site (application reference: 129197/FO/2021). The description of development for application 129197/FO/2021 is as follows:

'Site remediation works including removal of existing vegetation, ground works and other associated works'.

Report Scope

1.9 Following this introduction, **Section 2** provides a review of relevant transport planning policy and **Section 3** offers a more detailed description of the development site and the surrounding highway network.

1.10 **Section 4** assess the development site's accessibility by sustainable modes of transport, including walking, cycling and public transport.

1.11 **Section 5** then provides a full description of the development proposals, with **Section 6** outlining the predicted vehicle trip generation of the site and the methodology for assessing the likely impact of these trips on the local highway network.

1.12 **Section 7** presents the results of a series of junction capacity assessments using the adopted traffic impact assessment methodology**.**

1.13 Finally, **Section 8** summarises and concludes the TA.

2 Policy Context

Introduction

2.1 This section of the report provides an outline of the key national and local transport planning policy and guidance applicable to the development site. It is important that the principles of the proposed development are consistent with national and local transport policies and guidance.

National Planning Policy Framework (2021)

2.2 The current National Planning Policy Framework (NPPF) was published in July 2021 and sets out the government's planning policies for England and how these are expected to be applied. This revised Framework replaces the previous NPPF published in March 2012 and revised in July 2018 and February 2019. At the heart of the Framework is a presumption in favour of sustainable development.

2.3 As part of promoting sustainable transport, paragraph 110 of the revised NPPF states that in assessing applications for development, it should be ensured that:

a) *appropriate opportunities to promote sustainable transport modes can be – or have been – taken up, given the type of development and its location;*

b) *safe and suitable access to the site can be achieved for all users;*

c) *the design of streets, parking areas, other transport elements and the content of associated standards reflects current national guidance, including the National Design Guide and the National Model Design Code; and*

d) *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.*

2.4 Paragraph 111 goes on to state that, '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'.

2.5 Finally, the NPPF notes that travel plans can form an important part of development. A Travel Plan has been prepared in support of this application, to form the basis of a long-term management strategy for the site delivering sustainable transport objectives and promoting opportunities.

Regional Planning Policy – Transport for the North (TfN)

2.6 TfN is the voice of the North of England for transport – a statutory body of elected leaders and a partnership of business leaders from across the whole of the North of England who collectively represent all of the region's 15 million citizens. TfN's vision is of "a thriving North of England, where world class transport supports sustainable economic growth, excellent quality of life and improved opportunities for all."

2.7 Supporting this vision are four pan-Northern transport objectives, which have informed the development of the Strategic Transport Plan and TfN's work programmes:

i) Transforming economic performance.

ii) Increasing efficiency, reliability, integration, and resilience in the transport system.

iii) Improving inclusivity, health, and access to opportunities for all.

iv) Promoting and enhancing the built, historic, and natural environment.

2.8 Five work programmes have been identified in the Strategic Transport Plan that will transform the North's transport network. These are:

i) Local and sustainable transport;

ii) Integrated and smart travel;

iii) Strategic Rail Strategy (HS2; NPR);

iv) Major Road Network for the North;

v) Connecting Strategic Development Corridors.

2.9 TfN's Investment Programme sets out a programme of infrastructure investment across the various modes of transport and over the short, medium- and long-term timescales. The bulk of interventions are rail-focused although some strategic highway schemes have been identified.

Local Policy

2.10 Relevant transport planning policy and guidance at the local level is contained within numerous planning documents. These have been considered below.

Manchester Core Strategy (2012-2027)

2.11 The Core Strategy forms the key document in Manchester's Local Development Framework and was adopted in 2012. It sets out a number of strategic policies that will guide development within Manchester. Policy SP1 sets out the spatial principles that will guide development to 2027. One of these principles is as follows:

- *'New development will maximise the potential of the City's transport infrastructure, in particular promoting walking, cycling and the use of public transport.'*

2.12 In addition, the policy goes on to state that developments in all parts of the Manchester should 'improve access to jobs, services and education and open space by being located to reduce the need to travel and provide good access to sustainable transport provision'.

2.13 This is reinforced through policy DM 1 of the Core Strategy, which concerns development management. This states that all developments should have regard to specific issues including the access to new development by sustainable transport modes, vehicular access and car parking.

2.14 The Core Strategy contains three specific policies that relate to transport that have been considered as part of this planning application. These are as follows:

Policy T1 – Sustainable Transport

'To deliver a sustainable high quality, integrated transport system to encourage modal shift away from car travel to public transport, cycling and walking…the Council will support proposals that:

- *Improve choice by developing alternatives to the car;*
- *Promote regeneration and economic vitality by relieving traffic congestion and improving access to jobs and services;*
- *Improve access to transport services and facilities in order to enable people with mobility impairments to participate fully in public life;*
- *Improve the pedestrian environment and Manchester's cycle network;*
- *Contribute to improvements to the extent and reliability of the public transport network;*
- *Improve and development appropriate road, rail and water freight transport routes;*
- *Facilitate transport that reduces carbon emissions ie. electric charging points;*
- *Would reduce congestion, pollution and road traffic accidents;*
- *Accounts for the needs of road users.'*

Policy T2 – Accessible areas of opportunity and Need

'The Council will actively manage the pattern of development to ensure that new development:

- *Is located to ensure good access to the cities main economic drivers;*
- *Is easily accessible by sustainable modes and provides residents access to strategic employment sites;*
- *All new development should provide appropriate car parking facilities, taking account of the guidance which reflects policy in the Regional Strategy (RS).'*

Policy T3 – Strategic Integration

'The Council will support proposals that contribute to an economically and environmentally sustainable transport network…'

2.15 The development proposals are in line with these policy objectives, ensuring that the site will be accessible to all users by a range of different transport modes.

Guide to Development in Manchester SPD & Planning Guidance

2.16 This document brings together the development principles that applies to new developments in Manchester. Key information has been extracted from this document, that has been considered within the planning process, regarding transport.

2.17 Paragraph 2.22 of the documents states that:

'In order to reduce reliance on the car, residents and workers should be within easy walking distance of facilities such as clinics, corner shops, newsagents and public transport.'

2.18 Paragraph 2.27 of the document states:

'The implementation of a range of traffic management measures, for example surfacing changes and, used with care, smaller corner radii, should be considered, to ensure that vehicle movements, including by cyclists, are safe, and so that pedestrians can cross safely and easily without the use of safety barriers.'

2.19 Paragraph 2.28 of the document states:

'The identification of key routes for pedestrians and cyclists will be required as an integral part of the design of new development schemes. Routes which do not follow the street network should not mean taking long detours; they should, where possible, take short convenient routes with many options for joining the road network. Care should be taken to ensure that they are not unobserved, narrow or badly lit.'

2.20 Paragraph 2.29 of the document states:

'Developments should have regard to, and respond to, the location of all public transport facilities, routes and stops. Where this is insufficient, developers should actively pursue access to different forms of public transport provision for their site. The Council will continue to promote the development of its highly successful Metrolink network, and developers bringing forward proposals adjacent to proposed routes will be expected to support and accommodate its future development and use.'

2.21 The proposed development is well aligned with the above policies, being located in close proximity to a range of different facilities and sustainable transport links. The new development is also designed as such to promote and encourage sustainable travel and link to the existing network.

2.22 Paragraph 2.30 of the document states:

'at the planning stage consideration should be given to the proximity of the development to existing travel facilities and services, site layout, suitable density, cycling, pedestrian facilities and potential for parking restraint.'

2.23 Such an exercise has been completed for this development and informs part of this report along with the accompanying Travel Plan.

Places for Everyone (PfE)

2.24 The Greater Manchester Spatial Framework (GMSF) set out the approach to housing and employment land across Greater Manchester for the next 20 years. The plan identified the amount of new development that would come forward, in terms of housing, offices, and industry and warehousing, and the main areas in which this will be focused.

2.25 However, following the decision of Stockport Council on 3rd December 2020 to opt out of the framework, the GMSF is no longer being progressed in its original form.

2.26 In February 2021, the remaining nine Greater Manchester councils formally agreed to progress with a joint development plan document (DPD); 'Places for Everyone' (PfE). This plan will be a revised version of the GMSF that removes proposed land allocations in Stockport and redistributes targets for building homes and creating jobs across nine boroughs instead of ten.

2.27 The final stage of public consultation took place between 9th August and 3rd October 2021. Following this consultation, the PfE DPD was submitted to the Secretary of State on 14th February 2022.

2.28 The PfE DPD sets out the proposed approach to housing and employment land across Greater Manchester for the next 20 years. The plan identified the amount of new development that would come forward, in terms of housing, offices, and industry and warehousing, and the main areas in which this would be focussed.

Greater Manchester Transport Strategy 2040

2.29 In 2015, TfGM began consulting on a 2040 Vision for Transport to deliver a transport system which enables residents, businesses and visitors in Greater Manchester to travel to a wide range of different destinations and opportunities, and where sustainable transport can be a viable and attractive alternative to the car.

2.30 The vision is for Greater Manchester to have 'World class connections that support long‐term, sustainable economic growth and access to opportunity for all.' The Transport Vision aims are as follows:

- Supporting Sustainable Economic growth;
- Protecting Our Environment;
- Improving Quality of Life for All;
- Developing an Innovative City Region.

2.31 Under Policy 3, the Transport Strategy states that TfGM will "maintain a conurbation-wide programme of travel choices interventions, supported by journey planning tools and information, to encourage travel behaviour change and mode shift, in order to make the most efficient use of available capacity, particularly during peak periods". Such interventions comprise:

- *"Encouraging employers to allow home working on some days;*

- *Measures to encourage people to make at least some of their journeys by public transport, walking and cycling;*
- *Physical measures (bus priority measures, reallocating road space for pedestrian and cycling infrastructure, car share schemes, and constraints on long-stay parking in key centres); and*
- *Promotions and marketing to provide people and businesses with the information, training and incentives to make better informed decisions about how, when and where they travel and the impact of their choices."*

2.32 Under Policy 4, TfGM will also "continue to work with planning authorities and developers to ensure the accessibility of new development by sustainable modes and to reduce the impact on the highway network". This will be in accordance with the principles of:

- *"Reducing the need to travel by car, and the distance travelled;*
- *Maximising accessibility by sustainable modes;*
- *Making the best use of existing infrastructure, particularly through increasing the density of development close to public transport nodes;*
- *Maximising opportunities to provide additional public transport; and*
- *Designing to encourage active travel."*

2.33 The development proposals aspire to conform to the vision and goals as set out within the 2040 Vision Document by ensuring that the site is accessible by a variety of sustainable transport modes in order to deliver a quality development that enhances the environment.

Manchester Residential Quality Guidance

2.34 The Manchester Residential Quality Guidance was adopted in March 2017 and is a material consideration in the determination of planning applications. This document outlines the considerations, qualities, and opportunities that will help to deliver high quality residential development as part of successful and sustainable neighbourhoods across Manchester. It contains guidance for developers in relation to design standards, with new proposals expected to comply with the guidance within.

2.35 The guidance states that 'residential development within Manchester should aim to offer true modal choice, prioritising walking and cycling in the first instance as a key component in developing sustainable neighbourhoods and healthy communities.'

2.36 It goes on to state that the sustainable development of Manchester depends on reducing dependence on the car, suggesting that residential development should consider the manner in which they encourage access to the wider public transport network.

2.37 In relation to parking, the guidance states that 'there is no one size fits all approach to car parking and it should be considered on a site by site basis.' It also goes on to note that car parking demand

will be influenced by the availability of public transport and other factors. As such, in line with this document, car parking levels for the site will take into account the following:

- How regular and frequent public transport is;
- How easy it is to access a site by safe walking and cycling routes;
- Operational needs of proposed developments;
- Social credentials of the site (ie. private housing or affordable housing);
- Relationship between different land uses, such as how close housing is to employment, shops and leisure uses;
- The level of cycle parking provided for each new dwelling; and
- Availability and cost of parking spaces on site and close by.

2.38 The guidance therefore promotes residential development in sustainable locations, such as the application site, where the excellent accessibility to public transport will result in a low demand for parking.

2.39 The developer also intends to provide a sustainable development (inclusive of a Travel Plan) that does not lock in car dependence through the over-provision of car parking spaces, and that is cognisant of local car ownership levels and the social and sustainable credentials of the site.

2.40 Residential development should also consider how it could use technology to enhance living within Manchester. Although the council does not provide any specific electric vehicle (EV) parking standards, the provision of EV charging infrastructure will be required in all new properties with dedicated parking.

3 Baseline Conditions

Introduction

3.1 This Section of the report outlines the existing conditions at the proposed development site, including further information on the proposed site's location in the context of surrounding local highway network.

3.2 A review of historical injury accidents on the local highway network is also presented to assess existing highway safety.

Existing Site Context

3.3 The site is located within the area of Newton Heath, approximately 3km to the northeast of Manchester City Centre. Briscoe Lane lies to the south of the site from which a number of cul-de-sac's provide access to residential properties and Briscoe Lane Primary School which form the southern boundary.

3.4 Along the northern extent of the site lies the Rochdale canal and towpath with Ten Acres Lane and the Ten Acres Lane Sports Complex providing the western site boundary. To the west a number of residential properties located off Millwright Street are located.

3.5 The site's location including an approximate red line boundary is shown in **Figure 3.1**.

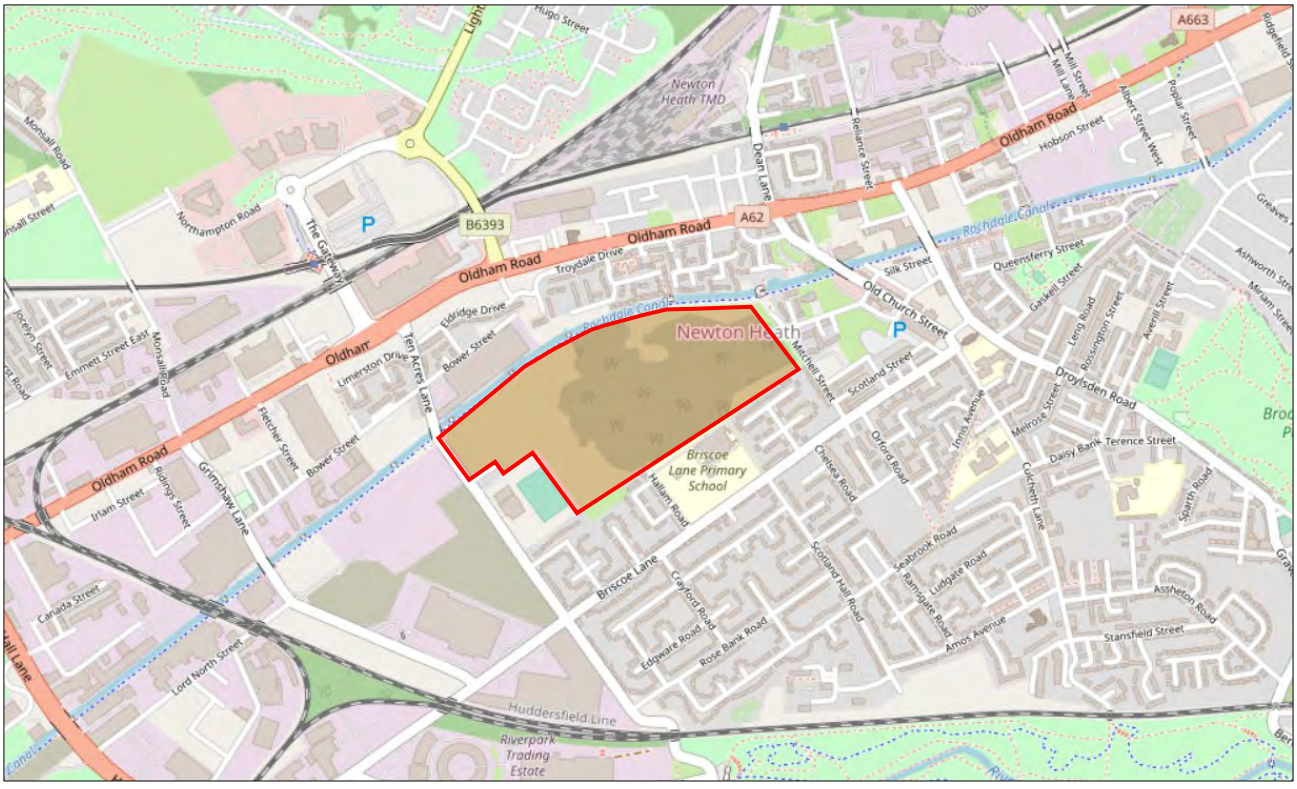


Figure 3.1: Development Site Boundary

Accident Analysis

3.6 To appropriately assess the safety of the highway network surrounding the site, Personal Injury Accident (PIA) data has been obtained from the Greater Manchester reported road accident database for the most recent 5-year study period (data available up to 30th June 2021).

3.7 The study area includes all junctions assessed as part of the traffic impact analysis outlined in Section 8. An extract from the GMTU accident database is presented in **Figure 3.2** that shows all recorded accidents that have occurred within the sites immediate road network in the most recent five-year period. A red boundary demonstrates the extent of the study zone in the context of the surrounding area.

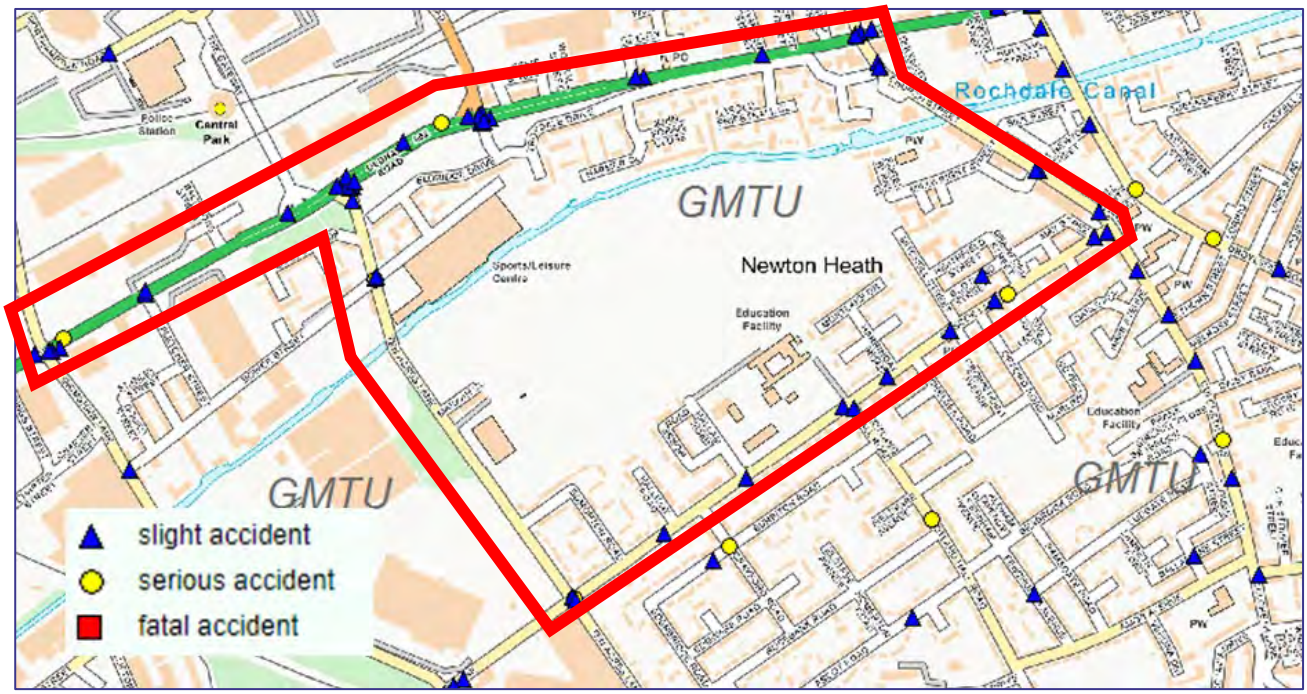


Figure 3.2: GMTU Accident Map Extract

3.8 It is noted that the majority of accidents are classified as slight in terms of severity, with five accidents considered serious. No fatal accidents have been recorded over the last five years within the study period.

3.9 Some clustering of accidents is noted at junctions; however, this is not considered excessive considering the nature of the junctions. An assessment of key areas and junctions is provided in the following paragraphs with expanded extracts of the GMTU plan.

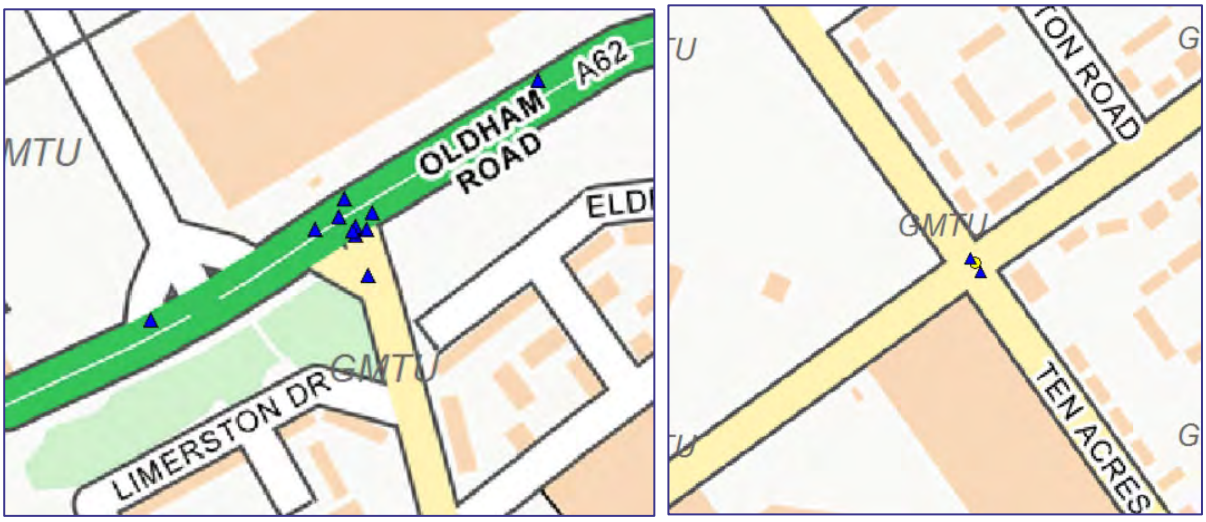


Figure 3.3: A62/Ten Acres Ln & Ten Acres Ln/Briscoe Ln Junctions GMTU Map Extracts

3.10 A total of 10 accidents have been recorded at the A62/Ten Acres Lane Junction over the study period, with the majority occurring at the priority part of the junction by Ten Acres Lane. This is to be expected given the lack of signal control at this location, however, nine slight accidents would not be considered unusual over a five-year period given the volume of traffic that uses the A62 corridor.

3.11 Three accidents are reported at the Briscoe Lane/Ten Acres Lane Junction, two of which were slight in severity with one serious accident. Again, this is not considered unusual for a signalised junction with conflicting signal phases and priority right turn movements.



Figure 3.4: A62/Thorp Rd & A62/Old Church St Junctions GMTU Map Extracts

3.12 The A62/Thorp Road Junction has experienced a total of nine accidents within the five-year study period, two of which have been serious, with the others classified as slight in severity. An additional 4 slight accidents have been recorded at the A62/Old Church Street Junction.

3.13 This level of accident volume is consistent with other junctions along the A62 corridor and does not suggest any unusual accident patterns or inherent safety issue which requires additional assessment.

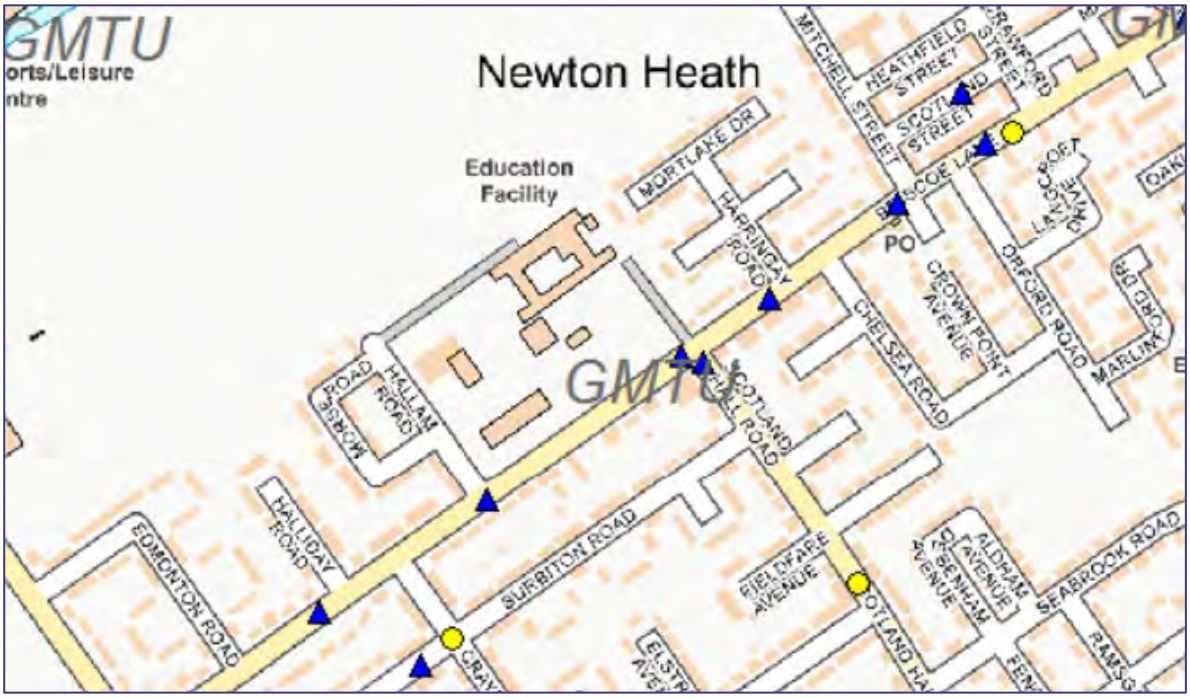


Figure 3.5: Briscoe Lane GMTU Map Extract

3.14 Along the length of Briscoe Lane, a total of eight accidents have been recorded, seven of which were classified as slight, with one serious accident which occurred north of Orford Road. The map extract demonstrates that there is no particular area of clustering with most accidents occurring in different locations.

3.15 Briscoe Lane can experience relatively high volumes of traffic during the peak periods, predominantly due to the position of the Briscoe Lane Academy, and the traffic associated with the drop off of nursery and Primary School children. However, the volume of reported accidents is comparable to that experienced on other primary residential/urban roads in the surrounding area. As such, it is considered that there is no existing accident issue which requires further investigation.

Accident Assessment Summary

3.16 It is demonstrated that not one single road or junction exhibits a volume of accidents which is unusually high or inconsistent when compared to other junctions in the immediate area. It is therefore concluded that the increase in vehicular traffic generated by the development proposals would not unduly negatively impact on the accident statistics recorded on the highway network in the vicinity of the site.

4 Accessibility by Sustainable Modes of Transport

Introduction

4.1 Accessibility to sustainable transport infrastructure has the potential to reduce the need to travel by single occupancy car and encourage residents to make sustainable transport choices when accessing jobs, local facilities and services.

4.2 This section considers the accessibility of the site by the following modes of transport:

- Accessibility on foot;
- Accessibility by cycle; and
- Accessibility by public transport.

Accessibility on Foot

4.3 The Institution of Highways and Transportation (IHT) Guidelines for Providing for Journeys on Foot, (May 2000), states that, 'walking accounts for a quarter of all journeys and four fifths of journeys of less than 1.6km. It is suggested that, for commuting, up to 500m is a desirable walking distance, with 1km and 2km being acceptable and preferred maximums respectively'.

4.4 An analysis of the pedestrian routes in the area has been completed to identify areas situated within a 1km and 2km catchment. The more recent CIHT document 'Planning for Walking' (2015) affirms this by stating that 80% of journeys shorter than a mile (approximately 1.6km) are made wholly on foot. Walking can also be promoted as part of a multi-modal journey, particularly with public transport.

4.5 **Plan VN201804-G102** shows the location of all key amenities within 1km from the site, all that would be easily accessible by foot. As shown, the Newton Heath area and its associated retail, educational, leisure, medical and land uses are located within 1km of the site. Key facilities and bus stops along Briscoe Lane, Old Church Street and the A62 Oldham Road are located within a 1km walk of the site.

4.6 Central Park and Newton Heath & Moston Metrolink stations are located within 1km of the site, facilitating linked walking / Metrolink journeys amongst residents.

4.7 Pedestrian accessibility to the development site has been assessed both in terms of the surrounding infrastructure and the level of local amenities that are located within an acceptable walking distance from the site.

4.8 As such, it is noted that the site benefits from comprehensive pedestrian infrastructure in the vicinity, comprising wide and well-lit footways on both sides of Ten Acres Lane, Briscoe Lane, Hallam Road and Mitchell Street. The extent of pedestrian infrastructure surrounding the site is demonstrated in **Plan VN201804-G103**.

4.9 These footways provide a direct link to local amenities located along Briscoe Lane, to the south of the site which include a youth centre, barbers, beauty salon, as well as numerous convenience stores and take-away food outlets, as noted further within this section of the Travel Plan.

4.10 In supporting pedestrian trips, the signal-controlled Ten Acres Lane / Briscoe Lane junction provides dropped kerbs and tactile paving aiding the safe movement of pedestrians. Pedestrian crossing facilities are situated on Briscoe Lane notably near the Briscoe Lane / Mitchell Street junction, as shown in **Figure 4.1** below.



Figure 4.1: Crossing on Briscoe Lane

4.11 The network of wide footways and pedestrian crossings provides safe connections to the local services and bus stops along Briscoe Lane.

4.12 The Rochdale canal tow path runs along site's northern boundary. This is a traffic free pedestrian route which provides east to west connections and offers a comfortable walking route to Manchester City Centre.

4.13 The towpath is tarmacked as shown in **Figure 4.2** and as such provides easy connections to local centres and employment hubs along the canal corridor.



Figure 4.2: Rochdale Canal Tow Path and Pedestrian Access

4.14 Pedestrians are also able to cross the Canal via a series of pedestrian bridges, as shown in **Figure 4.3**.



Figure 4.3: Pedestrian Bridges over the Rochdale Canal

4.15 The wider towpath route, which includes a 6km stretch that runs past the site, is currently undergoing a series of improvements as part of the Manchester 'Bee Network', which will upgrade the Rochdale Canal corridor linking existing and developing communities and creating a high-quality traffic free route.

4.16 The improvements include better quality towpath surfaces and improved access under a low bridge at Butler Street. There are also a series of pedestrian bridges enable those travelling on foot along the tow path to cross.

4.17 To the north of the site is the A62 Oldham Road. Pedestrian access onto Oldham Road would be via Ten Acres Lane or Old Church Street, which provide wide footpaths extending its entire length. Access to this road can be achieved via the pedestrian infrastructure provided at the Dean Lane / A62 Oldham Road / Old Church Lane, as shown in **Figure 4.4**. This includes guard railing, pedestrian refuge islands, dropped kerbs and tactile paving.



Figure 4.4: Pedestrian Infrastructure at the Dean Lane / A62 Oldham Road / Old Church Lane Junction

4.18 This pedestrian infrastructure provides residents with easy and safe walking routes across the A662 Oldham Road towards Central Park Metrolink Stop and 'Newton Heath & Moston' Metrolink Stop.

4.19 The site's proposed internal pedestrian routes will be of suitable width, with step free access between the site and the local footway network to allow the site to be suitably accessed on foot by all users. The layout will be permeable and provide pedestrian connections that form a natural extension to the adjacent streets and canal towpath, which will assist in reducing walking distances to local amenities and public transport.

Access to Local Amenities

4.20 As with any new residential development, it is important that local amenities are provided nearby in order to encourage the take up sustainable modes of travel.

4.21 The proposed development site is located in close proximity to numerous local amenities. It is therefore ideally placed to encourage trips on foot to local facilities and services via comprehensive pedestrian infrastructure. A summary of key local amenities, along with their location and distance from the site are provided in **Table 4.1**.

Facility	Name	Location	Distance from site
Primary School	All Saints Primary School	Culcheth Lane	550m
Secondary School	St Matthews High School	Nuthurst Road	3.2km
Nursery	Kinder Daycare	A62 Oldham Road	800m
Post Office (inc. Post Box)	Briscoe Lane Post Office	Briscoe Lane	550m
Library	Newton Heath Library	Old Church Street	850m
GP Surgery	Droylsden Road Family Practice	Droylsden Road	900m
Dentist	Droylsden Road Dental Practice	Droylsden Road	900m
Convenience Store	Go Local Extra	Briscoe Lane	200m
Supermarket	Asda	Old Church Street	350m
	Lidl	Old Church Street	500m
Park/Leisure	Orford Road Community Park	Orford Road	350m
Bank	Lloyds Bank	Old Church Street	290m
ATM	Go Local Extra	Briscoe Lane	200m
Public House	Crown Inn	Old Church Street	350m
Vets	Gourley Veterinary Surgeons	Linwood Street	900m

Table 4.1: Summary of Key Amenities

4.22 The above table demonstrates that the site is ideally located to take advantage of various amenities in the vicinity of the site.

Accessibility by Cycle

4.23 The IHT and Department for Transport (DfT) document 'Cycle Friendly Infrastructure: Guidelines for Planning and Design' (1996) provides a guide on suggested cycle speeds associated with cyclists of varying confidence and ability. With reference to this guidance, a catchment of 5 kilometres would be available within approximately 20 minutes cycle time, using a speed of 10mph (16kph).

4.24 Although 5km is often referred to as an 'acceptable' cycling distance, the DfT's most recent Local Transport Note 1/20 'Cycle Infrastructure Design' highlights the potential for a significant increase in cycle trips under five miles in length, which is a distance achievable for most people.

4.25 Cycle accessibility to the development site has been assessed both in terms of the surrounding infrastructure and the level of local amenities that are located within a 5km cycling distance from the site.

4.26 **Figure 4.5** demonstrates that there are a range of local cycle routes located in close proximity to the site.

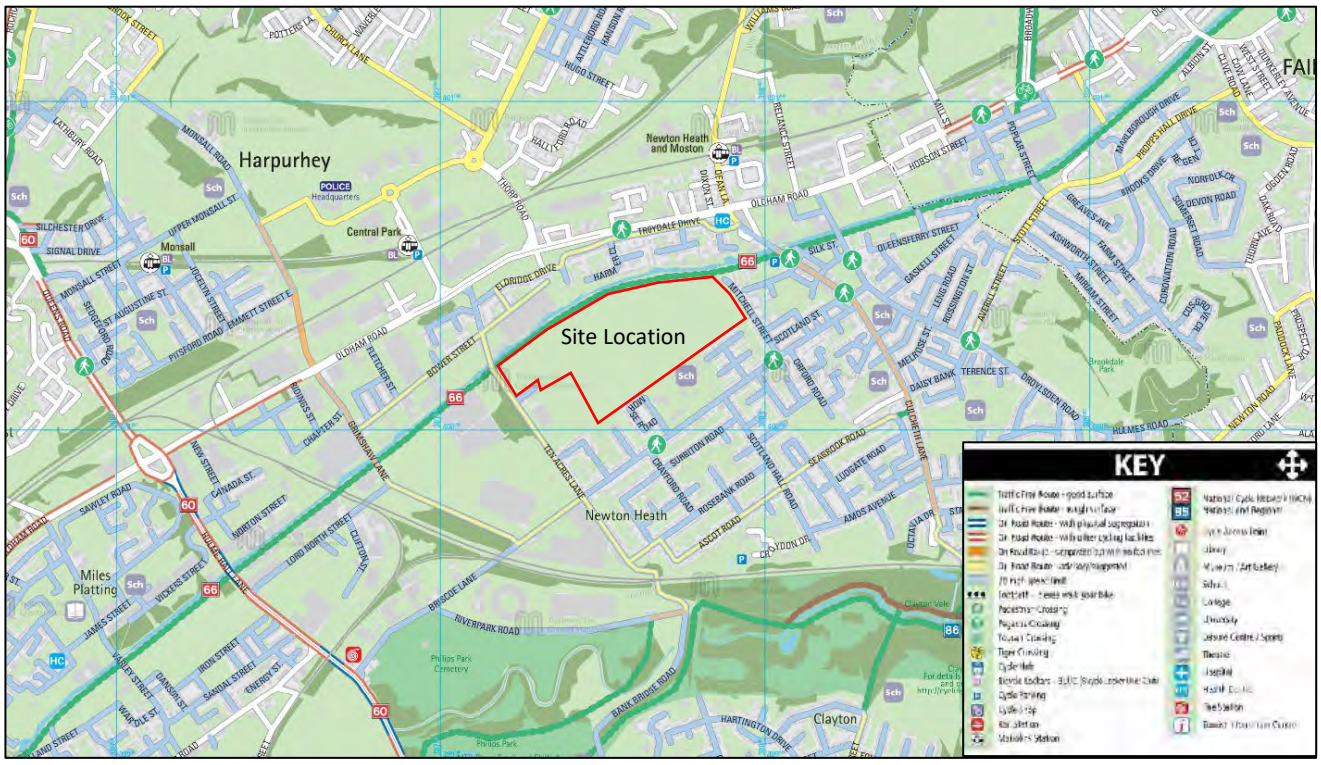


Figure 4.5 – Local Cycle Network (Source: TfGM)

4.27 As shown in **Figure 4.5**, National Cycle Route 66 runs immediately to the north of the proposed development and forms part of the Rochdale canal towpath, connecting the site to many nearby residential and employment areas while providing access to Manchester Piccadilly and Failsworth, as well as numerous other key facilities along this corridor. Route 66 is mostly free of any vehicular traffic, providing an easy and safe cycle route for future residents.

4.28 Route 60 is located approximately 1.1km to the east of the proposed development site and can be accessed via route 66/ the canal towpath. Route 60 runs in an approximate north south alignment, connecting areas such as Collyhurst and Ashburys train station. This route comprises of recommended, safe cycle routes formed of traffic free paths, quiet lanes, segregated cycle lanes and traffic calmed streets.

4.29 As illustrated in **Figure 4.5**, Ten Acres Lane, Ascot Road and Seabrook Road are advisory/suggested cycle routes, and Culcheth Lane / Old Church Street is a signposted cycle route.

4.30 The A62 Oldham Road to the west of the site has sections of designated on-road cycle lanes with Hulme Hall Lane having long stretches of segregated on-route cycle facilities that form part of Route 60, as shown in **Figure 4.6**.



Figure 4.6: Cycle Route 60 along the A6010 Hulme Hall Lane; Segregated Cycle Lane

4.31 The A62 Oldham Road and A6010 Hulme Hall Lane have Advanced Stop Lines (ASLs) or bike boxes at the signal-controlled junctions, thus giving cyclists a safe place to stop at junctions, allowing them to be positioned ahead of other traffic.

4.32 As shown in **Figure 4.7** there are a range of Bee Network routes located in close proximity to the site. This plan represents the existing routes, along with proposed Bee Network routes and represents the most direct routes between crossing points.

4.33 The yellow lines represent Beeways while the orange lines represent Busy Beeways. Busy Beeways are corridors on busier roads that will require a higher level of design intervention to improve cycling and walking.

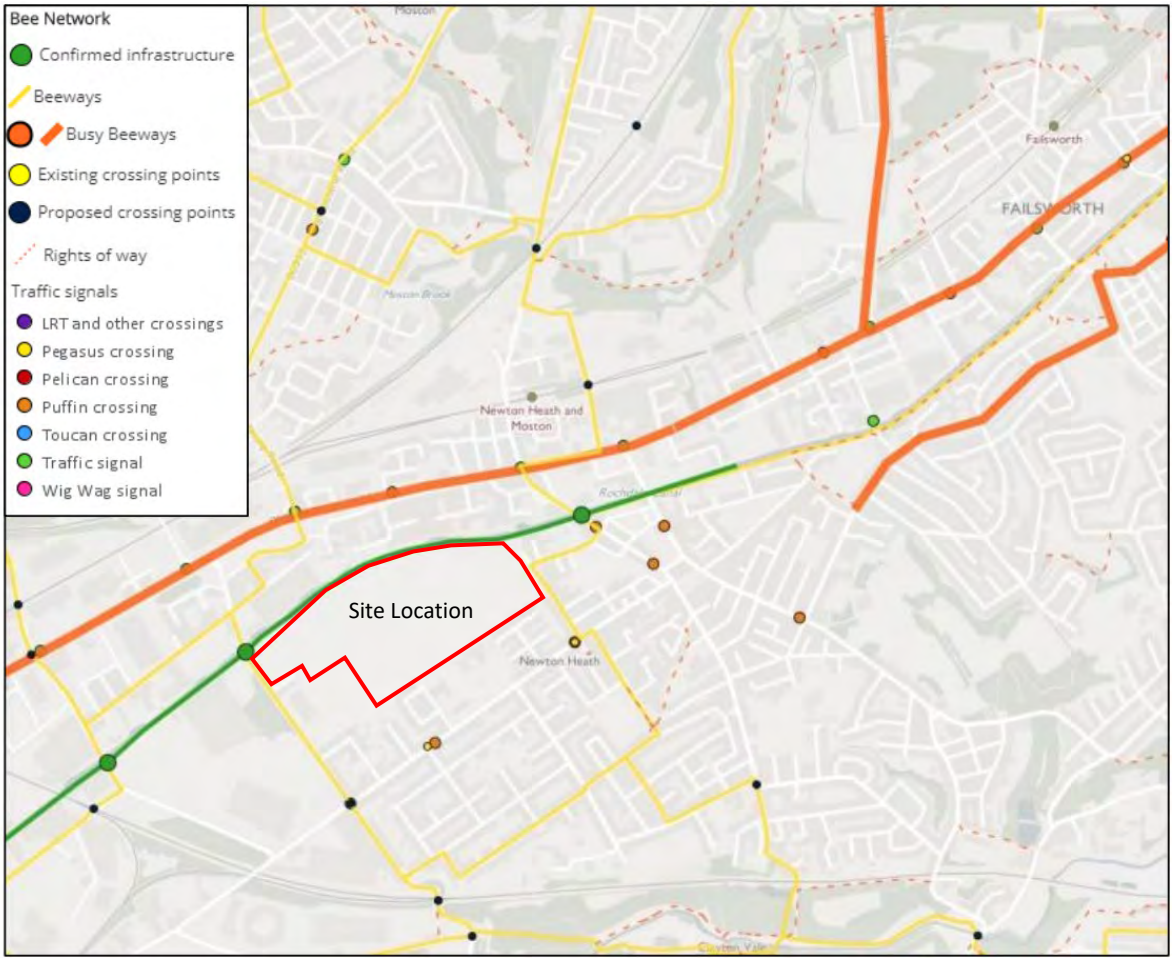


Figure 4.7: Local Bee Network (Source: TfGM)

4.34 The confirmed Bee Network improvements in the area includes the widening of the Rochdale canal towpath, stepped access improvements on Old Church Street, improved crossing facilities at the Ten Acres Lane / Briscoe Lane junction and other crossing upgrades in the local area. These improvements will create an even higher-quality environment for cyclists/pedestrians.

4.35 As detailed, cycling has the potential to substitute short car trips, particularly those under 5km, and form part of longer journeys by public transport. In order to demonstrate the catchment area obtained within a 5km cycling catchment a plan has been produced. **Plan VN201804-G104** shows a 5km cycle catchment for the site.

4.36 Within the 5km cycle catchment, access is gained to eastern areas of Manchester City Centre, including Manchester Piccadilly and Manchester Victoria. Other destinations include Failsworth, New

Moston, Clayton, Openshaw, West Gorton and Collyhurst. These destinations include many employment outlets, therefore, there is potential for a high level of mode share by cycle from the development site. This is further encouraged by the site's close proximity to existing cycle routes.

4.37 Within the 5km cycle catchment are a large number of Metrolink Stops and Railway Stations, which would form part of a multi-modal journey to/from the site.

4.38 The redevelopment of the site provides the opportunity for future residents to make use of the comprehensive cycling network that surrounds the site, be it part of a single mode journey or multi-modal journey. Consequently, the masterplan will ensure that linkages made to the canal towpath / Route 66 and surrounding cycle infrastructure are designed with cycle access in mind. Within the site's masterplan residents will be provided with suitable cycle parking provision, which will further encourage cycling.

Accessibility by Bus

4.39 The IHT document 'Guidelines for Planning for Public Transport in Developments' (1999) suggests that the maximum walking distance to the nearest bus stop should not exceed 400 metres.

4.40 There are multiple bus stops located within close proximity of the site, with stops on Briscoe Lane, Old Church Street / Culcheth Lane and Oldham Road (A62). The locations of the stops within 400 metres of the site can be seen in **Plan VN201804-G106**. These bus stops are in a good state of repair and almost all benefit from a shelter and timetable information. All stops can be easily accessed via the interconnected network of footways, that will form a natural extension into the proposed site.

4.41 **Table 4.2** below provides a summary of the bus services operating within the vicinity of the site.

Bus Services Along Briscoe Lane Corridor							
Service	Route	Monday - Friday				Saturday	Sunday
		AM Peak	Midday	PM Peak	Evening		
74	Oldham - Manchester	2	0	0	0	0	0
	Manchester - Oldham	0	0	2	0	0	0
76	Manchester - Oldham	4	4	4	2	5	2
	Oldham - Manchester	4	4	4	2	5	2
76A	Oldham - Manchester	0	0	0	0	1	0
	Manchester - Oldham	0	0	0	1	1	0
709	Ancoats – St Matthews High School	1	0	0	0	0	0
	St Matthews High School - Ancoats	0	0	1	0	0	0

724	Moston – Trinity High School	1	0	0	0	0	0
	Trinity High School - Moston	0	0	1	0	0	0
Bus Services Stopping On Old Church Street Corridor							
52 Orbits	Failsworth – Trafford Centre	0	1	2	1	2	1
	Trafford Centre - Failsworth	2	2	2	1	2	1
151	North Manchester General Hospital - Failsworth	1	1	1	0	1	0
	Failsworth – North Manchester General Hospital	1	1	1	0	1	0
171	East Didsbury – Newton Heath	1	1	1	0	1	0
	Newton Heath – East Didsbury	1	1	1	0	1	0
172	Newton Heath – East Didsbury/Chorlton	2	1	1	1	1	1
	East Didsbury/Chorlton – Newton Heath	2	1	1	1	1	1
397	Newton Heath Old Church Street – Ashton Interchange	1	1	1	1	1	0
	Ashton Interchange – Newton Heath Old Church Street	1	1	1	1	1	0
Bus Services Along Oldham Road (A62) Corridor							
83	Solver Pearly Bank – Manchester Piccadilly	4	5	5	2	3	2
	Manchester Piccadilly – Solver Pearly Bank	4	5	5	2	3	2
84	Piccadilly Gardens – Uppermill	6	6	6	2	6	2
	Uppermill – Piccadilly Gardens	6	6	6	2	6	2
181	Manchester Piccadilly – Wrens Nest	1	1	1	0	1	0
	Wrens Nest – Manchester Piccadilly	1	1	1	0	1	0
182	Manchester Piccadilly – Royton Health Centre	1	1	1	1	1	1
	Royton Health Centre – Manchester Piccadilly	1	1	1	1	1	1
X84	Manchester Piccadilly - Carrcote	0	0	1	0	0	0
	Carrcote – Manchester Piccadilly	1	0	0	0	0	0

Table 4.2: Bus Services within 400 metres of Site

4.42 **Table 4.2** demonstrates that the site is well connected to the adjacent bus network and services provide access to a variety of key employment, leisure and educational destinations towards Manchester City Centre and further afield. providing excellent potential for future residents of the site to travel by bus. A wide range of frequent services provided at all times of the day will support trips by this mode not just for commuters but for all trip types.

Accessibility by Rail

4.43 The closest National Railway Station is Moston which is located approximately 3km north of the site. Moston is managed by Northern Trains with services operating to Manchester Victoria, Blackburn, Rochdale and Clitheroe. **Table 4.3** provides a summary of the services provided at Moston Railway Station, with **Plan VN201804-G107** providing context as to the location of this local train station in relation to the site.

Route	Frequency Per Hour		Approx. Travel Time
	Peak	Off-Peak	
Manchester Victoria – Moston **Moston – Manchester Victoria**	2	1	8 mins
Blackburn – Moston **Moston – Blackburn** *(calling at: Darwen-Entwistle-Bromley Cross-Hall-i-th-Wood-Bolton-Salford Crescent-Salford Central-Manchester Victoria)*	1	1	1hr
Rochdale – Moston **Moston – Rochdale** *(calling at: Castleton (Manchester)-Mills Hill (Manchester))*	1	2	12 mins
Clitheroe – Moston **Moston – Clitheroe** *(calling at: Whalley (Lancs)-Langho-Ramsgreave & Wilpshire-Blackburn-Darwen-Entwistle-Bromley Cross-Hall-i-th-Wood-Bolton-Salford Crescent-Salford Central-Manchester Victoria)*	1	1	1 hr 25 mins

Table 4.3: Rail Routes Connecting Moston Railway Station

4.44 The trains that service Moston Rail Station run a regular service, seven days a week, providing frequent access for users of the site to key employment centres and major interchanges. Interchanges are possible at Manchester Victoria for services towards Liverpool, Blackburn, Huddersfield, Leeds and York.

4.45 Journey times have also been reduced and improved following the Ordsall Chord bridge which was completed in 2017 and links Manchester's three main railway stations (Victoria, Oxford Road and Piccadilly) to allow more trains to run across the whole of the north. There are also new direct links to Manchester Airport from across the north of England.

4.46 Moston Rail Station is located within the 5km recommended cycle catchment, and hence is accessible by bike within 15 minutes. Moston station is provided with bike storage for circa. 10

bicycles. Alternatively, Moston rail station can be access to the site by bus no. 181 or 182 (stops on Oldham Road A62).

4.47 A number of additional railway stations are located within 5km of the site and are considered an 'acceptable' cycle distance from the site. These stations lie to the north and east of the site and include Ashburys Station, Ardwick, Manchester Piccadilly, and Manchester Victoria.

4.48 Based on this review, the site is considered to be accessible by rail and that it is possible to use the National Rail services provided at nearby stations to access a wide variety of destinations both locally and regionally.

Accessibility by Metrolink

4.49 The closest Metrolink stops are Newton Heath & Moston (Pink Line), accessed via Old Church Street and residential streets, and Central Park (also pink Line), accessed via Ten Acres Lane and The Gateway.

4.50 **Table 4.4** outlines the frequencies of the services calling at these stops, with **Plan VN201804-G107** indicating the position of the tram stops in relation to the site and accessibility by walking/cycling. As is shown both stops are located within 1km of the site and are both accessible by walking and cycling.

Route	Monday to Saturday (per hour)			Sunday (per hour)	
	Morning	Midday	Evening	Daytime	Evening
Pink Line: **East Didsbury – Rochdale Town Centre** **Rochdale Town Centre – East Didsbury**	10	10	10	10	10

Table 4.4 – Summary of Metrolink Services in Proximity to the Site

4.51 The Pink Line has regular services to areas such as East Didsbury, Rochdale Town Centre, Deansgate-Castlefield and other stops through Manchester City Centre. Interchanges to other Metrolink lines can be made at Cornbrook and St Peter's Square and interchanges to National Railway services can be made at Deansgate-Castlefield, Victoria and East Didsbury. **Figure 4.8** shows the Manchester Metrolink network.

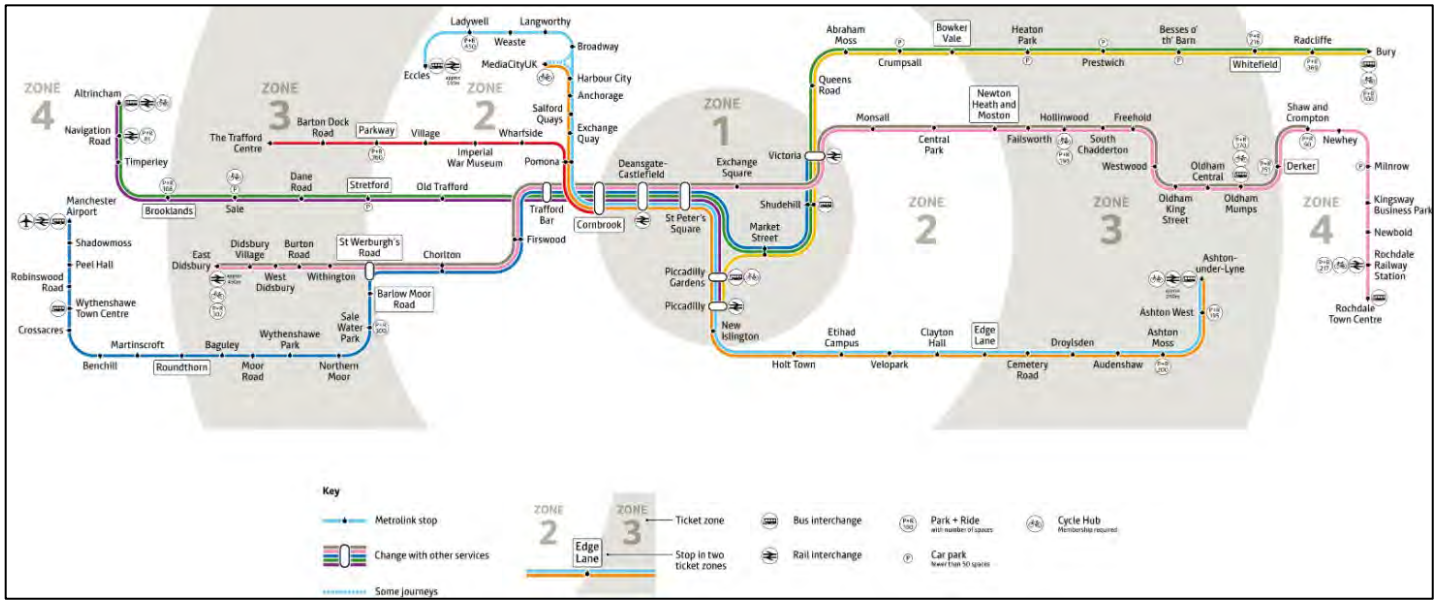


Figure 4.8 – Greater Manchester Metrolink Network Map (Source: TfGM)

4.52 Based on this review, the site is considered to be very accessible by Metrolink and that it is possible to use the Metrolink to access a wide variety of destinations and other public transport options, such as Manchester Train Stations, to allow convenient and sustainable long-distance trips.

Accessibility by Public Transport

4.53 **Plan VN201804-G108** shows all accessible areas from the development site via public transport (bus, rail & Metrolink) within 15-minute intervals during the AM peak hour and **Plan VN201804-G109** shows all accessible areas from the development site via public transport within 15-minute intervals during the PM peak hour (this includes walking and waiting times to/at bus stops and railway/Metrolink stations and frequency/availability of services).

4.54 As can be seen areas such as the City of Manchester, Oldham, Chadderton, Failsworth and Droylsden can all be reached from the site within 45 minutes, with areas as far as Ashton-under Lyne, Salford, Cheadle Hulme and areas of Stockport, Bolton and Newton-Le-Willows all accessible within 60 minutes.

4.55 The ability to readily access these wider major destinations by means of public transport provides a key advantage in providing a real alternative to car travel (e.g. for journeys to work), and as such will likely reduce car travel and even eliminate the need for some future residents to even own a private car.

Greater Manchester Accessibility Levels

4.56 The Greater Manchester Accessibility Level (GMAL) map provides a detailed measure of the accessibility of a point to both the conventional public transport network (bus, National Rail and Metrolink) and Greater Manchester's Local Link (flexible transport service). The calculations consider the walk access time and service availability. The method is a way of measuring the density of the public transport provision at any location within the Greater Manchester region.

4.57 The GMAL map provides a breakdown of the accessibility of a site on a scale from 1 (very low) to 8 (very high). The site's postcode has been extracted from the GMAL index and it is shown that the site has an accessibly level of Level 6 & 7. This level of accessibility is considered high, meaning the site is considered extremely accessible to a wide range of sustainable transport nodes. An extract of the GMAL map is provided in **Figure 4.9**.

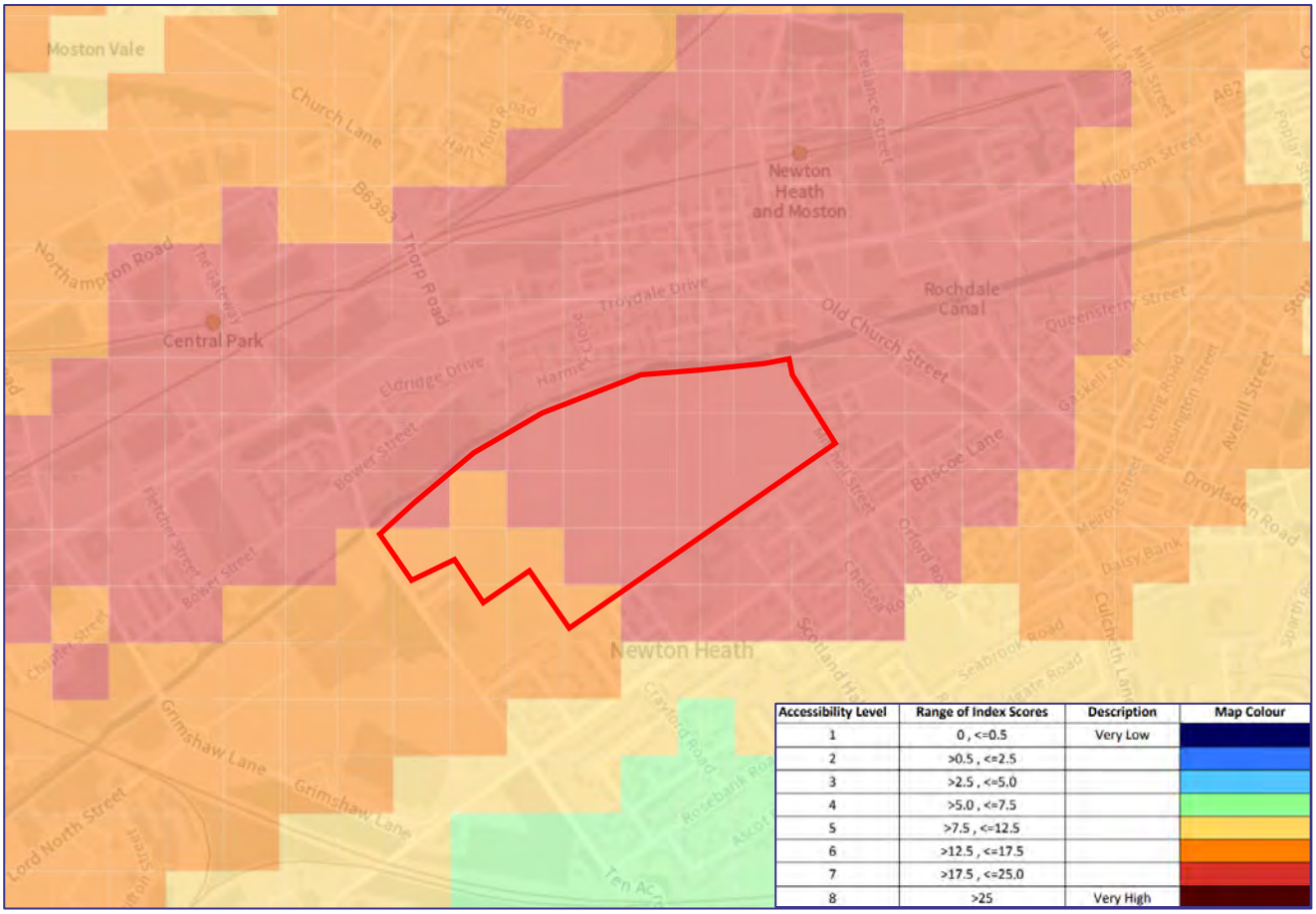


Figure 4.9 – Greater Manchester Accessibility Level Map

Conclusions

4.58 The proposed residential development is highly accessible by non-car travel modes of walking, cycling, bus, Metrolink and rail, providing good linkage to jobs, shops, leisure and services. Local jobs, shopping, schools, services, and recreational/leisure destinations are within a short walk of the site, and its close proximity to Manchester City Centre means the surrounding public transport infrastructure is well developed and highly accessible.

4.59 The site is highly accessible by cycle by way of links to existing adjacent cycle routes, including National Cycle Routes 60 and 66 and to the designated cycle routes serving the Newton Heath area and beyond. This would provide the residential development with a high degree of cycle access to a range of employment, retail, leisure, education and services.

4.60 The site is also highly accessible by public transport by way of the short walking distance to the Metrolink and access to the frequent bus service on the surrounding roads. This provides scope for

ease of access to a range of employment, retail, leisure, education and services, not only in the local area but also to wider destinations in/around Manchester and the northern region.

4.61 In conclusion, the proposed development conforms to both the objectives to promote more sustainable transport choices, and to reduce the need to travel, especially by car.

4.62 It is noted that from a policy perspective, new developments should 'support moves towards more sustainable modes of transport and help to promote walking and cycling' (MCC Core Strategy, 2012). In this regard, the development should be located where there is good access to public transport, walking and cycling infrastructure.

4.63 The accessibility of the site is considered above, and it is concluded that the proposed development is located in a very sustainable location. The development contributes to healthier local living, less reliance on the private car, and a reduction in overall congestion as more people make better use of active travel (public transport, walking and cycling) for access to schools, work and other everyday facilities.

4.64 The proposed development aligns with key themes outlined within regional, national and local planning policy.

5 Proposed Development

Introduction

5.1 This Section of the report provides a detailed description of the development proposals at the site.

5.2 The proposed access arrangements are described with accompanying AutoTRACK assessments.

5.3 The parking provision proposed for vehicles and cycle is also outlined.

Development Proposals

5.4 The planning application supported by this TA is a hybrid of full and outline consent for the site with development to be delivered in two key phases. The proposed site layout plan for the development has been included as **Appendix A** of this report.

5.5 A full description of the proposed development is provided below:

Hybrid planning application, pursuant to planning application ref: 129197/FO/2021, for the comprehensive redevelopment to create up to 716 dwellings, comprising:

Phase 1: Full planning permission for erection of new homes (Use Class C3), commercial floorspace (Use Classes E, F1, F2), car parking, landscaping and public realm works, serving and access arrangements, highways improvements and associated works.

Phase 2: Outline planning permission (with all matters reserved expect access) for an education facility (Use Class F1) and the erection new homes (Use Class C3), landscaping and public realm works.

5.6 The proposed development quantum across the two phases is summarised below:

Phase 1

- 378 residential dwellings, including apartments (Use Class C3).
- Community hub: 616.5 sqm commercial floorspace (Use Classes E, F1, F2) (includes community use and community café).

Phase 2

- Education facility – secondary school (Use Class F1) with capacity for up to 1,050 students.
- Up to 338 residential units (Use Class C3).

5.7 The secondary school will include provision for student drop off following consultation with MCC. The specific design of the drop off facility will be outlined as part of the future detailed application of Phase 2 of the development.

5.8 In terms of community areas, directly opposite the community hub and fronting the canal will be a park (the Jacksons Community Park) which includes children's play area. In addition, there will be a pocket park (Ten Acres Pocket Park) adjacent to the canal towards the northwest of the site. There will also be a green, including play space, adjacent to the southern boundary (Hallam Green).

Access Proposals

5.9 The proposed development will provide three key points of access to the local highway network which will ensure high level of permeability through the site itself. A direct connect to the Rochdale Canal Towpath is also proposed for pedestrians and cyclists. These points of access are described below:

Ten Acres Lane

5.10 Primary vehicular access to the proposed development site will be achieved via a new priority T-junction with Ten Acres Lane. It is proposed that this junction will serve Phase 1 of the development initially, however as Phase 2 is built out, the primary internal road will join the Ten Acres Lane Junction with the Mitchell Street access.

5.11 Drawing **VN201804-D105** in **Appendix B** outlines the proposed access design on to Ten Acres Lane.

5.12 The proposed design includes two exit lanes, 3m in width, to allow separate left and right movements for traffic leaving the site. In addition, a right turn lane on Ten Acres Lane of 3m width will also be provided. This will be delivered through a minor reduction of the width of the footpaths on both sides of the carriageway; however, these will remain at a minimum of 2 metres wide.

Hallam Road (via Briscoe Lane)

5.13 Hallam Road will not be used to provide vehicular access to the site, other than for emergency vehicles. Modal filters will prevent vehicle access. It will however, form part of the primary north/south pedestrian and cycle link through the site. This will link the existing development around Briscoe Lane with the canal towpath.

5.14 The combined pedestrian and cycleway will comprise of a 3m wide link which will run along the boundary of the school site up to the primary access road where a raised table crossing facility leads to the Jacksons Community Park and then the canal towpath.

Mitchell Street (via Briscoe Lane)

5.15 A spine road running through the site from the aforementioned access junction with Ten Acres Lane will connect with Mitchell Street to the east.

5.16 Mitchell Street connects with Briscoe Lane via an existing priority T-junction and this arrangement will be retained as part of the proposed development.

Off-Site Highway Improvement Works

5.17 It is proposed that the layout of the Ten Acres Lane/Briscoe Lane junction is amended to allow additional capacity. This will comprise of a widening of the Ten Acres Lane southbound approach to allow an additional lane to separate right turning movements. The result is that the junction operates with more capacity as a whole and therefore free's up signal green time to be apportioned across the other arms of the junction.

5.18 Drawing **VN201804-D100** in **Appendix C** provides an illustration of the proposed junction layout. The widening of the Ten Acres Lane approach is achieved through localised widening of the carriageway through encroachment into the verge on the western side of the road. This is achieved within highway land, as demonstrated on Drawing **VN201804-D107** also in **Appendix C**.

5.19 A stage 1 Road Safety Audit is currently being progressed at the request of MCC. This will be submitted separately.

Rochdale Canal Towpath

5.20 The canal towpath is subject to a number of improvements outlined by MCC in 2019. These include resurfacing, widening, new signage and improved access points along a 4.2km stretch between Great Ancoats Street and Droylsden Road. The site is situated within this area and therefore will directly benefit from the proposed improvements.

5.21 MCC approached the Applicant in March/April 2021 to discuss the deliverability of a toucan crossing facility across Ten Acres Lane, which had been identified as part of the towpath improvement works. It was agreed that the Applicant would be prepared to 'gift' MCC a small area of land at the north-western corner of the site, adjacent to the towpath and Ten Acres Lane bridge, to allow access improvements between the towpath and the crossing. Relevant correspondence is provided in **Appendix D**.

5.22 In addition to the combined footway/cycleway, the site layout design incorporates pedestrian and cycle access at numerous points along its frontage with the canal towpath, as demonstrated in the masterplan in **Appendix A**. Convenient access to this key piece of sustainable travel infrastructure has been a key consideration during the development of the masterplan.

Parking Provision

5.23 Parking provision has been provided at 100% at the request of MCC. A comprehensive list of Phase 1 provision is provided below;

- Allocated Apartments: 134 spaces (incl. 10 accessible spaces).
- Allocated Housing: 48 spaces.
- On plot housing: 360 (1.47 per house).
- Visitor (incl. community hub): 17 spaces (incl. 3 accessible).

5.24 100% cycle parking provision: All houses will include private cycle storage within their back gardens. The apartments will include communal cycle storage, either within the stairwell or a secure cycle shelter positioned outside the apartment block.

5.25 Each standalone house on site will be provided with ‘passive’ EV charging capability which comprises of charging infrastructure to allow easy fitment of a private EV charger if required by residents.

5.26 For the proposed apartments, passive EV charging infrastructure will also be provided for each parking space, however 20% of these spaces will also feature charging stations which will be ready to use immediately. This provision is to be provided following consultation with MCC to ensure the site is EV ready and appropriately future proofed for the popularity of EV’s over the coming years.

6 Traffic Impact Assessment

Introduction

6.1 This Section of the report provides a traffic impact assessment of the development proposals. It includes information on baseline traffic flows and development trip forecasts. The methodology used to develop future year assessment scenarios is also detailed.

Study Area

6.2 The traffic impact of the development has been considered for the following extent of the local highway network:

- A62 Oldham Road/Monsall Road/Grimshaw Lane.
- A62 Oldham Road/The Gateway/Ten Acres Lane.
- A62 Oldham Road/Thorp Road/Lowcross Road.
- A62 Oldham Road/Dean Lane/Old Church Street.
- Old Church Street/All Saints Street/Culcheth Lane/Briscoe Lane.
- Briscoe Lane/Mitchell Street.
- Briscoe Lane/Ten Acres Lane and;
- The proposed development access from Ten Acres Lane.

6.3 The junctions listed above were discussed and agreed with MCC and TfGM during initial scoping discussions.

Baseline Traffic Flows

6.4 As the scoping discussions and initial assessment work was undertaken during the peak of the Covid-19 pandemic, undertaking traffic surveys was not acceptable to TfGM as traffic patterns were clearly significantly disrupted and surveys would provide a realistic representation of traffic movement post pandemic.

6.5 After submitting evidence from DfT traffic collection points in the surrounding area, which demonstrated no discernible traffic growth along the A62 corridor over the preceding decade, TfGM agreed that the traffic data used in 2010 to support a previous residential and commercial application on site, would be acceptable to use. Correspondence discussing this is provided in **Appendix E**.

6.6 These traffic data is provided in **Appendix F** with the traffic flows presented in **Figures 1-2**.

Network Peak Hours

6.7 The network peak hours determined from the previously undertaken traffic counts were 0800 – 0900 for the AM peak and 1700 – 1800 for the PM peak.

Background Traffic Growth & Assessment Years

6.8 As previously highlighted, the surrounding highway network has not experienced any discernible growth over recent years and given the expansion of local and national planning policy placing an emphasis on sustainable travel, it is reasonable to assume that background traffic will start to decrease in the near future. This is particularly likely in the wider Manchester area given the availability of convenient public transport options. As such, no background traffic growth has been applied.

Committed Development

6.9 However, in order to ensure the most robust assessment of future network capacity and operation, all traffic associated with committed local development schemes (those sites that have received planning approval but are currently undeveloped) have been included within the assessment of future year baseline network traffic demand.

6.10 A full list of schemes within the local vicinity of the site was provided by TfGM which is provided on two lists in **Appendix G**.

6.11 Of these lists, there were six schemes which either did not provide a detailed enough traffic impact assessment to allow flows to be considered, or the impact was too small and/or too far away to be added to the assessment network. However, a list of the schemes for which impact can be quantified, is provided below;

- 114604/FO/2016 - Land Bounded by Oldham Road, Baltimore Street and The Gateway - 120 room hotel / multi-storey parking / 5 story office development.
- 125596/FO/2019 – Land at Coleshill Street, Miles Platting – Mixed use development of 410 houses, 744sqm class E and recreational open space.
- 125990/FO/2020 - Land Off Oldham Road (A62), Dulverton Street, Holyoak Street and Droylsden Road Manchester – 100 apartments, ground floor commercial floorspace and 39 two and three storey houses.
- 129444/FO/2021 - Former Mather & Platt Foundry - Erection of 12 No. industrial units with Use Class E(g), B2 and B8 uses with ancillary offices (42782 sqm).

6.12 The traffic flows associated with these developments are provided in **Figures 3-12**.

6.13 It should be noted that for traffic from each of the schemes listed above which is shown to head towards the site assessment network, along the A62, but does not directly show the proposed network, it has been assumed that these vehicles would remain on the ahead movements (east and west).

Baseline 'Without Development' Traffic Flows

6.14 Traffic data from the committed development schemes has then been added on to the base flows to derive a 'future year' baseline assessment scenario. The pertinent traffic flows are presented in **Figures 13-14**.

Proposed Development Trip Forecasts

6.15 In deriving a reasonable trip forecast for the proposed development, the TRICS database has been interrogated. The TRICS database contains a wide range of information relating to travel patterns and behaviours associated with various development types and locations and is the industry standard tool for determining trip impact.

6.16 To ensure that representative trip rates are derived, person trip generation surveys within the 'Residential – Houses Privately Owned' and 'Residential – Flats Privately Owned' categories have been interrogated so that accurate trip patterns can be derived for both unit types.

6.17 For the secondary school, TRICS has been used to derive multi-modal vehicle trip rates.

6.18 As discussed in Chapter 4 the development site is in a very sustainable location where the surrounding sustainable transport infrastructure would be able to support the mobility needs of prospective residents without the need to rely on the private car.

6.19 With this taken into consideration, appropriate vehicular trip rates have been obtained from the TRICS database. Trip generation for the proposed houses and proposed apartments have been assessed separately. This provides an accurate and robust basis for assessing the likely impact in terms of travel demand associated with the development proposal.

6.20 It is important to note that the TRICS database does not distinguish between those that are owner occupier properties or rental properties, therefore the 'privately owned' category still applies and accurately reflects trip rates for properties that will be privately rented.

Privately Owned Houses

6.21 The proposed development will provide a total of 481 houses.

6.22 **Table 6.1** below provides a summary of the predicted total person trips generated by the proposed privately owned houses in both the AM peak (0800 – 0900) and PM peak (1700 – 1800).

Trip Generation (Houses Privately Owned – 481 Units)		Arrivals	Departures	Total
AM Peak Period	Person Trip Rate per Dwelling	0.210	0.833	1.043
	Proposed Person Trips	**101**	**401**	**502**
PM Peak Period	Person Trip Rate per Dwelling	0.607	0.334	0.941
	Proposed Person Trips	**292**	**161**	**453**

Table 6.1 – Forecast Total Person Trip Generation: 481 Privately Owned Houses

Privately Owned Apartments

6.23 The proposed development will provide a total of 235 apartments.

6.24 **Table 6.2** provides a summary of the total predicted trips generated by the proposed apartments in both the AM and PM peak.

Trip Generation (Privately Owned Apartments – 235 Units)		Arrivals	Departures	Total
AM Peak Period	Person Trip Rate per Dwelling	0.071	0.493	0.564
	Proposed Person Trips	**17**	**116**	**133**
PM Peak Period	Person Trip Rate per Dwelling	0.360	0.123	0.483
	Proposed Person Trips	**85**	**29**	**114**

Table 6.2 – Forecast Total Person Trip Generation: 235 Privately Owned Apartments

Secondary School

6.25 As previously highlighted, a secondary school will also be provided and situated towards the centre of the development site. The school will have capacity for up to 1,050 students.

6.26 As with the residential element of the site, the TRICS database has been utilised to derive representative trip rates. In this case, the 'Education – Secondary' category has been interrogated, with sites selected in suburban, edge of town and neighbourhood areas with comparable surrounding population densities to the development site.

6.27 Unlike the houses and apartments, there is no reliable data available on which to work out vehicle trips from total person trips for the secondary school. As such, a multi modal assessment has been undertaken to derive vehicle trips.

6.28 **Table 6.3** below provides a summary of the total vehicle trips generated by the proposed secondary school in both the AM and PM peak.

Trip Generation (Secondary School – 1,050 Students)		Arrivals	Departures	Total
AM Peak Period	Trip Rate per Student	0.168	0.113	0.281
	Trips for Proposed Development	**176**	**119**	**295**
PM Peak Period	Trip Rate per Student	0.017	0.025	0.042
	Trips for Proposed Development	**18**	**26**	**44**

Table 6.3 – Forecast Vehicle Trip Generation: Secondary School

6.29 A full printout of the TRICS outputs is available in **Appendix H.**

Person Trip Rate Summary

6.30 The trips presented above have been added together to provide the total person trips (vehicle trips for the school) associated with the proposed development. **Table 6.4** provides the total development trips (all houses, apartments and school combined) during the AM peak hour whilst **Table 6.5** shows the total development trips during the PM peak hour.

AM Peak Hour			
Element	**IN**	**OUT**	**TOTAL**
Privately Owned Houses	101	401	502
Privately Owned Flats	17	116	133
Secondary School	176	119	295
TOTAL	**294**	**636**	**930**

Table 6.4 – Proposed Development Person Trip Generation in AM Peak Period

PM Peak Hour			
Element	**IN**	**OUT**	**TOTAL**
Privately Owned Houses	292	161	453
Privately Owned Flats	85	29	114
Secondary School	18	26	44
TOTAL	**395**	**216**	**611**

Table 6.5 – Proposed Development Person Trip Generation in PM Peak Period

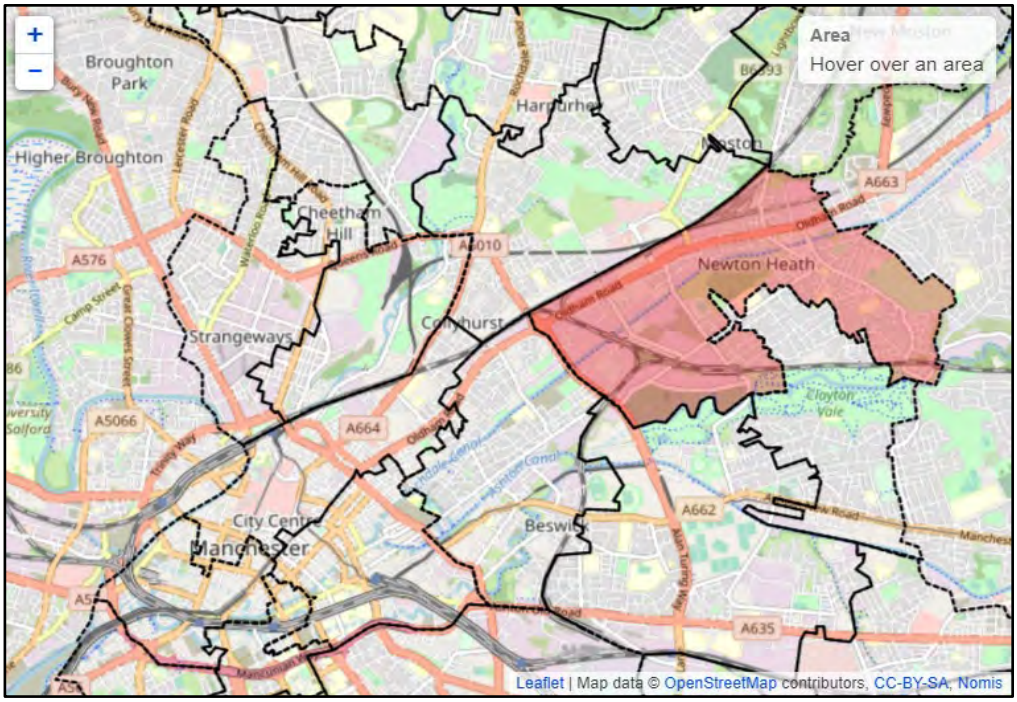
6.31 As shown above, the proposed development is predicted to generate **294** arrivals and **636** departures during the AM peak hour and **395** arrivals and **216** departures in the PM peak hour, when fully built out.

Modal Split & Vehicle Trip Generation

6.32 In order to determine the modal split of the total person trip figures presented in the preceding tables, local travel mode patterns have been ascertained from Travel to Work data taken from the 2011 National Census (ONS, 2021), as specified by TfGM.

6.33 The transport choice modal split has then been calculated based on the resident population of the Middle-Layer Super Output Area (MSOA) ‘Manchester 011’ which includes the proposed development site, as demonstrated in **Figure 6.1**.

Figure 6.1: Manchester 011 MSOA



6.34 The census derived modal split has been applied to the residential trip generation figures provided in **Tables 6.4** & **6.5** to calculate the number of trips made by each mode. These are outlined in **Table 6.6** with full census data sheets provided in **Appendix I.**

Mode of Travel	Mode Split	AM Peak (08:00-09:00)		PM Peak (17:00-18:00)	
		Arrivals	Departures	Arrivals	Departures
Car Driver	48.8%	57	253	183	92
Powered 2-wheeler	0.53%	1	3	2	1
Taxi	0.96%	1	5	4	2
Total Vehicles	**50.3%**	**59**	**261**	**189**	**95**
Car Passenger	8%	9	41	30	15
Walking	11.5%	14	59	44	21
Cycling	3.4%	4	18	13	6
Public Transport	26.7%	31	138	101	51
All Modes	**100%**	**58**	**256**	**188**	**93**

Table 6.6: Calculated Modal Split & Vehicle Trip Generation (Residential)

6.35 The figures calculated in **Table 6.6** indicate that the residential element of the development would generate a total of 320 two-way vehicle trips during the AM peak period, and 284 two-way trips during the PM peak. For clarity, **Table 6.7** provides a combined residential and school vehicle trip generation total.

Development Type	AM Peak (08:00-09:00)		PM Peak (17:00-18:00)	
	Arrivals	Departures	Arrivals	Departures
Residential	59	261	189	95
School	176	119	18	26
Total	**235**	**380**	**207**	**121**

Table 6.7: Total Development Vehicle Trip Generation

6.36 As shown above, the development proposals will generate a total of 615 two-way vehicle trips in the AM peak and 328 trips in the PM peak.

Development Trip Distribution and Assignment

6.37 The trip distribution and assignment exercise has been completed in two parts, as outlined below. This exercise also considered the different access arrangements for Phase 1 and 2. The distribution for Phase 1 considered access from Ten Acres Lane only while the distribution for Phase 2 considered access locations at both Ten Acres Lane and Mitchell Street.

6.38 The first stage of the process involved creating a zone plan which assigned letters to each key link within the local area as summarised below and illustrated in **Figure 6.2.**

- Zone A – A62 Oldham Road
- Zone B – Queens Road
- Zone C – Monsall Road
- Zone D – The Gateway
- Zone E – Thorp Road
- Zone F – Dean Lane
- Zone G – Broadway
- Zone H – A62 Oldham Road
- Zone I – Droylsden Road
- Zone J – Scotland Hall Road
- Zone K – Ten Acres Lane
- Zone L – Alan Turing Way
- Zone M – Bradford Road

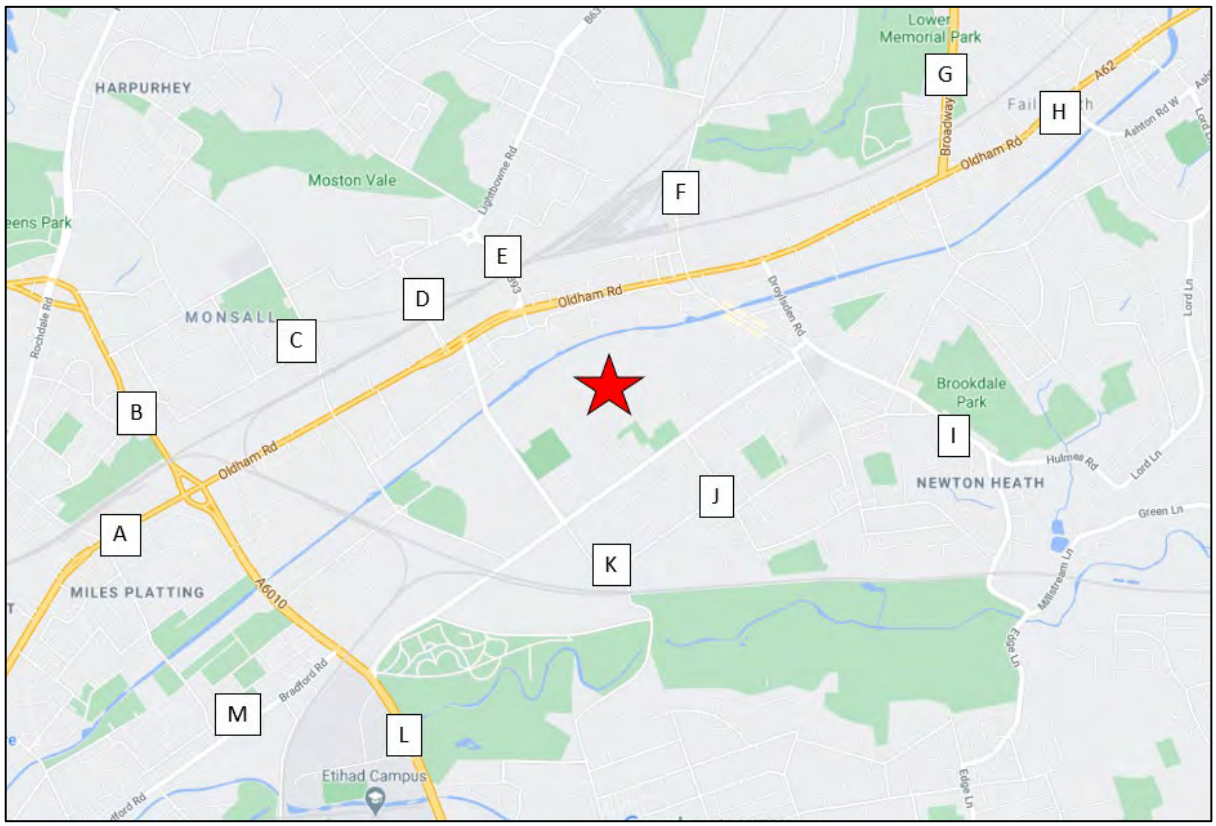


Figure 6.2: Zone Location Plan

6.39 The distribution of trips for the proposed development to each zone was then calculated using 2011 Journey to Work (JTW) Census data and Routefinder software in MapInfo Pro 15.0. The distribution has been assessed based on the car trips from the Manchester 011 Middle Super Output Area (MOSA) to all MSOAs within a 60-minute commuting distance of the site. This area was selected as it includes the proposal site and the wider area surrounding the site. The MSOA outline is shown previously in **Figure 6.1**.

6.40 The JTW data details the destination MSOAs from which individuals travel to access employment from the Manchester 011 MSOA. The full base Census data is presented in **Appendix J.**

6.41 Routefinder software within MapInfo has then been utilised to provide the most direct routes to the site from all MSOA's within a 60-minute drive time. This catchment represents a reasonable maximum journey time for commuting trips. Extrapolating this data, a breakdown can be provided on the number of people using each route on a daily basis.

6.42 From here it is possible to generate a percentage of trips using each route based on the JTW numbers within the Census. From this point it is then possible to assign a percentage of development trips to each zone on the local road network. This is a standard methodology for deriving trip distributions and is considered appropriate for this scheme.

6.43 In order to consider the breakdown of trips using each access a weighted distribution exercise was undertaken. This involved assigning trips to each zone based on their proximity to each access and

the location of the development parcels. **Table 6.8** provides a summary of how the weighted distribution was assigned for each zone.

Zones	Ten Acres Lane	Mitchell Street
A	95%	5%
B	95%	5%
C	95%	5%
D	95%	5%
E	80%	20%
F	70%	30%
G	70%	30%
H	70%	30%
I	60%	40%
J	60%	40%
K	70%	30%
L	80%	20%
M	80%	20%

Table 6.8: Site Access Locations Weighted Distribution

6.44 Using this weighted distribution, **Table 6.9** provides a summary of the trip distribution for the proposed development for Phase 1 and Phase 2.

Zones	Phase 1	Phase 2	
		Ten Acres Lane	Mitchell Street
A	14%	13%	1%
B	0%	0%	0%
C	0%	0%	0%
D	5%	5%	0%
E	9%	7%	2%
F	0%	0%	0%
G	6%	4%	2%
H	15%	11%	5%
I	1%	1%	0%
J	0%	0%	0%
K	16%	11%	5%
L	13%	10%	3%
M	21%	17%	4%
Total	**100%**	**79%**	**21%**

Table 6.9: Trip Distribution for Phase 1 and Phase 2

6.45 As outlined previously all development trips for Phase 1 will use the primary site access on Ten Acres Lane to access the site. When Phase 2 is constructed access to the site will also be possible from Mitchell Street with 21% of trips using this access and 79% of trips using Ten Acres Lane.

6.46 This distribution profile has been used to assign both the residential and school trips to the local road network. **Figures 15-28** demonstrate the development traffic distribution and assignment applied to the network.

Baseline 'With Development' Traffic Flows

6.47 To achieve the 'With development' scenario traffic flows, the fully built out development traffic, as outlined in the previous paragraphs, has been added to the 'Without development' flows outlined earlier in this section.

6.48 The associated network diagrams are presented in **Figures 29-30.**

7 Junction Capacity Assessments

Introduction

7.1 This section of the report presents the results of various capacity assessments undertaken for key junctions on the local highway network.

7.2 As previously highlighted in Section 6, the following junctions have been assessed using industry-standard junction modelling software packages, Linsig V3 for signal-controlled junctions and Junctions 8 for priority junctions:

- A62 Oldham Road/Monsall Road/Grimshaw Lane.
- A62 Oldham Road/The Gateway/Ten Acres Lane.
- A62 Oldham Road/Thorp Road/Lowcross Road.
- A62 Oldham Road/Dean Lane/Old Church Street.
- Old Church Street/All Saints Street/Culcheth Lane/Briscoe Lane.
- Briscoe Lane/Mitchell Street.
- Briscoe Lane/Ten Acres Lane and;
- The proposed development access from Ten Acres Lane.

A62 Oldham Road/Monsall Road/Grimshaw Lane

7.3 This junction has been assessed using software package LinSig 3.2 for both the weekday AM and PM peak hours. Capacity results are expressed as Degree of Saturation (DoS), Mean Max Queue (MMQ) and Practical Reserve Capacity (RFC). If an arm of a junction has a DoS value in excess of 90% this is considered to be operating at or close to capacity. A DoS value in excess of 100% is generally accepted to represent an arm operating overcapacity.

7.4 A summary of the capacity assessment results for the A62 Oldham Road/ Monsall Road/ Grimshaw Lane signal junction is provided in **Table 7.1** overleaf. The full modelling outputs have been included as **Appendix K**.

Lane Ref.	Lane Description	AM Peak		PM Peak	
		DoS (%)	Queue (PCU)	DoS (%)	Queue (PCU)
Baseline					
1/1	Monsall Rd (All Directions)	91.1	17	43.2	4
2/2+2/1	A62 Oldham Rd (E) – L & Ahead	91.6	27	70.2	15
2/3	A62 Oldham Rd (E) – R & Ahead	88.9	15	25.5	1
3/1	Grimshaw Ln – Ahead & L	70.3	14	70.2	12
3/2	Grimshaw Ln – R	22.5	1	31.0	3
4/1	A62 Oldham Rd (W) – L & Ahead	84.5	12	71.2	16
4/2	A62 Oldham Rd (W) – R & Ahead	85.9	14	72.3	17
PRC (%)		-1.8		24.4	
Baseline (including Committed Development)					
1/1	Monsall Rd (All Directions)	96.6	21	47.5	5
2/2+2/1	A62 Oldham Rd (E) – L & Ahead	96.9	35	77.2	18
2/3	A62 Oldham Rd (E) – R & Ahead	92.4	21	30.0	1
3/1	Grimshaw Ln – Ahead & L	72.9	14	75.7	13
3/2	Grimshaw Ln – R	50.3	3	52.3	5
4/1	A62 Oldham Rd (W) – L & Ahead	52.7	9	71.0	16
4/2	A62 Oldham Rd (W) – R & Ahead	54.5	10	72.2	17
PRC (%)		-7.7		16.6	
Baseline + Development					
1/1	Monsall Rd (All Directions)	96.6	21	45.0	5
2/2+2/1	A62 Oldham Rd (E) – L & Ahead	97.0	35	71.9	15
2/3	A62 Oldham Rd (E) – R & Ahead	96.0	21	56.9	3
3/1	Grimshaw Ln – Ahead & L	72.9	14	73.4	13
3/2	Grimshaw Ln – R	50.3	3	49.1	5
4/1	A62 Oldham Rd (W) – L & Ahead	94.0	17	74.1	17
4/2	A62 Oldham Rd (W) – R & Ahead	94.7	18	74.9	18
PRC (%)		-7.8		20.2	

Table 7.1 – A62 Oldham Rd/ Monsall Rd/ Grimshaw Ln Junction Assessment

7.5 As shown in **Table 7.1**, in both the 'Without Development' and 'With Development' scenarios, the junction is forecast to be operating at a level that is at or approaching capacity in the AM peak. The junction is shown to operate within capacity in the PM peak even with the addition of development traffic.

7.6 Whilst the junction's available capacity in the AM peak is under pressure, the addition of development traffic is shown to only have a minimal impact on the overall operation of the junction. This is most clearly demonstrated by considering the forecast PRC value which decreases by just 0.1% between the 'Without Development' and 'With Development' traffic scenarios.

7.7 The PM peak shows an anomaly in the PRC results with the 'With Development' scenario compared to the 'Without Development' scenario. Despite a minor increase in the volume of traffic passing through the junction, the PRC is actually shown as a minor improvement. This can occur when minor traffic increases on certain arms are experienced, as it allows Linsig to alter signal timings to benefit those arms which are already experiencing relatively high degree of saturation figures, hence the overall small 'improvement' in PRC. However, this again just demonstrates that the development impact on this junction is very minor.

7.8 In summary, the addition of development traffic at this junction will have an immaterial impact on its operation.

A62 Oldham Road/The Gateway/Ten Acres Lane

7.9 This junction has been assessed using the LinSig modelling software package with a summary of capacity assessment results is provided in **Table 7.2** overleaf. The full modelling outputs have been included as **Appendix L**.

Lane Ref.	Lane Description	AM Peak		PM Peak	
		DoS (%)	Queue (PCU)	DoS (%)	Queue (PCU)
Baseline					
1/2+1/1	A62 Oldham Rd N – L & Ahead	22.9	4	72.5	14
1/3	A62 Oldham Rd N – Ahead	12.0	2	67.6	16
2/1	The Gateway - L	4.6	1	14.4	2
2/2	The Gateway - R	19.4	2	31.7	4
3/1	A62 Oldham Rd S – Ahead	55.3	12	23.1	4
3/2	A62 Oldham Rd S – Ahead	61.2	14	26.5	5
3/3+3/4	A62 Oldham Rd S – R	5.2	0	1.5	0
4/1	A62 S Upstream – Ahead & L	40.6	0	19.5	0
4/2	A62 S Upstream – Ahead	31.7	0	14.4	0
4/3	A62 S Upstream – Ahead	1.5	0	0.4	0
5/2+5/1	Ten Acres Ln – L & R	25.9	0	20.5	1
8/1	A62 N – TAL Connector - Ahead	11.7	0	32.1	0
8/2+8/3	A62 N – TAL Connector – R+ Ahead	14.0	7	33.7	20
PRC (%)		46.9		24.1	
Baseline (including Committed Development)					
1/2+1/1	A62 Oldham Rd N – L & Ahead	26.4	4	84.9	21
1/3	A62 Oldham Rd N – Ahead	18.6	3	82.1	23
2/1	The Gateway - L	5.3	1	14.4	2
2/2	The Gateway - R	28.8	3	33.5	4
3/1	A62 Oldham Rd S – Ahead	62.8	14	26.4	4
3/2	A62 Oldham Rd S – Ahead	67.6	17	29.6	6
3/3+3/4	A62 Oldham Rd S – R	5.2	0	1.5	0
4/1	A62 S Upstream – Ahead & L	44.4	0	21.2	0
4/2	A62 S Upstream – Ahead	35.3	0	16.2	0
4/3	A62 S Upstream – Ahead	1.5	0	0.4	0
5/2+5/1	Ten Acres Ln – L & R	30.7	1	23.6	1
8/1	A62 N – TAL Connector - Ahead	13.2	0	37.1	0
8/2+8/3	A62 N – TAL Connector – R+ Ahead	17.2	8	39.9	25
PRC (%)		33.2		6.0	
Baseline + Development					
1/2+1/1	A62 Oldham Rd N – L & Ahead	75.0	11	86.3	21
1/3	A62 Oldham Rd N – Ahead	14.8	2	83.8	24

2/1	The Gateway - L	4.5	1	15.8	2
2/2	The Gateway - R	28.8	3	33.5	4
3/1	A62 Oldham Rd S – Ahead	65.5	16	27.0	5
3/2	A62 Oldham Rd S – Ahead	71.2	19	30.4	6
3/3+3/4	A62 Oldham Rd S – R	3.2	0	2.5	0
4/1	A62 S Upstream – Ahead & L	47.5	0	23.7	0
4/2	A62 S Upstream – Ahead	35.4	0	16.7	0
4/3	A62 S Upstream – Ahead	1.5	0	0.4	0
5/2+5/1	Ten Acres Ln – L & R	75.4	4	36.3	2
8/1	A62 N – TAL Connector - Ahead	20.2	0	38.0	0
8/2+8/3	A62 N – TAL Connector – R+ Ahead	35.1	7	41.4	27
PRC (%)		19.4		4.3	

Table 7.2 – A62 Oldham Road/The Gateway/Ten Acres Lane

7.10 The results of the junction modelling demonstrate that the A62 Oldham Road/The Gateway/Ten Acres Lane junction access currently operates well within capacity. The inclusion of the additional traffic associated with the identified committed developments results in a reduction in capacity, however the junction continues to operate within capacity.

7.11 Traffic generated by the development proposals results in a reduction in PRC values and a corresponding increase in degree of saturation figures. However, the junction is demonstrated to continue to operate within capacity in both peak periods. It should be noted that the Ten Acres Lane priority movements are demonstrated to operate within capacity with a maximum queueing of 4 PCU's in the AM peak period. This is despite a very robust assessment strategy of making no allowances for internal cross visitation trips between the residential units and the school and also assessing a full vehicular trip generation from the school, which will not be the case in reality, as outlined earlier in this report.

A62 Oldham Road/Thorp Road/Lowcross Road

7.12 This junction has been assessed using the LinSig modelling software package with a summary of capacity assessment results is provided in **Table 7.3** overleaf. The full modelling outputs have been included as **Appendix M**.

Lane Ref.	Lane Description	AM Peak		PM Peak	
		DoS (%)	Queue (PCU)	DoS (%)	Queue (PCU)
Baseline					
1/2+1/1	A62 (W) – Ahead & L	24.9	2	69.1	10
1/3	A62 (W) – Ahead	20.1	2	70.5	11
1/4+1/5	A62 (W) – Ahead & R	23.4	2	71.6	11
2/1	A62 (E) – Ahead & L	76.1	13	32.3	4
2/2	A62 (E) – Ahead	77.3	14	34.2	5
2/3	A62 (E) – R	16.9	1	73.0	5
3/1	Thorp Rd – L	23.0	2	53.9	6
3/2	Thorp Rd – Ahead & R	77.6	10	32.7	3
4/1	Lowcross Rd – All Directions	14.0	2	72.4	7
PRC (%)		15.9		23.2	
Baseline (including Committed Development)					
1/2+1/1	A62 (W) – Ahead & L	28.0	2	77.6	12
1/3	A62 (W) – Ahead	24.4	3	78.7	13
1/4+1/5	A62 (W) – Ahead & R	26.8	3	79.5	13
2/1	A62 (E) – Ahead & L	81.7	15	35.7	5
2/2	A62 (E) – Ahead	82.6	17	37.7	6
2/3	A62 (E) – R	16.9	1	78.4	5
3/1	Thorp Rd – L	25.0	3	56.3	6
3/2	Thorp Rd – Ahead & R	83.0	11	33.4	3
4/1	Lowcross Rd – All Directions	15.1	2	77.3	7
PRC (%)		8.4		13.3	
Baseline + Development					
1/2+1/1	A62 (W) – Ahead & L	35.5	3	78.7	12
1/3	A62 (W) – Ahead	28.4	3	80.0	13
1/4+1/5	A62 (W) – Ahead & R	29.9	3	81.6	14
2/1	A62 (E) – Ahead & L	83.3	16	38.0	5
2/2	A62 (E) – Ahead	85.5	18	40.6	6
2/3	A62 (E) – R	19.1	1	78.4	5
3/1	Thorp Rd – L	25.0	3	56.3	6
3/2	Thorp Rd – Ahead & R	87.5	13	37.9	3

4/1	Lowcross Rd – All Directions	15.1	2	77.3	7
PRC (%)		2.8		10.3	

Table 7.3 – A62 Oldham Road/ Thorp Road/ Lowcross Road

7.13 From the above results, the A62 Oldham Road/ Thorp Road/ Lowcross Road junction operates within capacity in the Baseline and Baseline including committed development scenarios, in both peak periods. With the addition of development traffic, the AM peak PRC reduces to 2.8% from 8.4%, however all arms demonstrate degree of saturation figures of below 90% and the junction therefore operates within capacity. It should be noted that queueing increases by a maximum of 1-2 PCU which would be considered within daily variations experienced at junctions along the A62 corridor.

7.14 The PM peak period experiences a smaller impact with a reduction in PRC of 3% to 10.3% and a maximum increase in queueing of 1 PCU. Again, this level of impact is minor and would be largely imperceptible on the ground.

A62 Oldham Road/Dean Lane/Old Church Street

7.15 This junction has been assessed using the LinSig modelling software package with a summary of capacity assessment results is provided in **Table 7.4**. The full modelling outputs have been included as **Appendix N**.

Table 7.4 – A62/Dean Lane/Old Church Street Junction Assessment

Lane Ref.	Lane Description	AM Peak		PM Peak	
		DoS (%)	Queue (PCU)	DoS (%)	Queue (PCU)
Baseline					
1/1	A62 (W) – Ahead & L	31.2	5	94.7	34
1/2+1/3	A62 (W) – Ahead & R	33.8	6	95.7	39
2/1	A62 (E) – Ahead & L	83.9	19	38.7	8
2/2+2/3	A62 (E) – Ahead & R	85.0	20	41.6	9
3/1	Dean Ln – All Directions	62.0	12	83.3	15
4/1	Old Church St – All Directions	83.9	13	94.1	20
PRC (%)		5.9		-6.3	
Baseline (including Committed Development)					
1/1	A62 (W) – Ahead & L	34.5	5	100.5	48
1/2+1/3	A62 (W) – Ahead & R	38.5	7	100.9	56
2/1	A62 (E) – Ahead & L	88.2	22	41.6	8
2/2+2/3	A62 (E) – Ahead & R	89.3	24	44.3	9
3/1	Dean Ln – All Directions	67.3	14	87.3	16
4/1	Old Church St – All Directions	87.4	17	99.9	25

PRC (%)		0.8		-12.1	
Baseline + Development					
1/1	A62 (W) – Ahead & L	37.8	7	101.4	52
1/2+1/3	A62 (W) – Ahead & R	41.3	9	101.7	60
2/1	A62 (E) – Ahead & L	89.6	28	43.2	9
2/2+2/3	A62 (E) – Ahead & R	90.1	30	45.7	10
3/1	Dean Ln – All Directions	68.3	16	87.3	16
4/1	Old Church St – All Directions	89.8	17	99.9	25
PRC (%)		-0.1		-13.0	

Table 7.4 – A62 Oldham Road/ Dean Lane/Old Church Street

7.16 The results presented in **Table 7.4** reveal only minor changes in the junction's operation between the 'Without Development' and 'With Development' scenarios.

7.17 In the 'Without Development' AM peak hour scenario, the junction operates with a worst-case DoS value of 89.3% on the eastern A62 arm which indicates that the junction is operating just within its theoretical capacity.

7.18 With the addition of development traffic this value increases to 90.1% which indicates the junction is operating at or close to capacity. However, this value represents an increase in DoS of just 0.8% with a corresponding increase in queuing of six PCUs compared to the 'Without Development' scenario.

7.19 Furthermore, a change in PRC value of just 0.9% is predicted to occur with the addition of development traffic in the AM peak hour.

7.20 The PM peak hour is shown to operate overcapacity in both the 'Without Development' and 'With Development' scenarios.

7.21 Again, only small increases in DoS and queuing are predicted once development traffic demand has been added. In the 'Without Development' scenario, a worst-case DoS value of 100.9% has been calculated for the western A62 arm of the junction with a corresponding queue of 56 PCUs.

7.22 With the addition of development traffic in the PM peak, the forecast DoS value for this arm increases to 101.7% with a queue of 60 PCUs. This represents an increase in DoS of 0.8% and an increase in queuing of four vehicles when compared with the 'Without Development' scenario.

7.23 The minimal impact of development traffic on the operation of the junction in the PM peak is also illustrated in the predicted PRC values for the junction with a change of just 0.9%.

7.24 In summary, the predicted change in operation of the A62 Oldham Road/ Thorp Road/ Lowcross Road junction between the 'Without Development' and 'With Development' scenarios cannot be reasonably considered to represent a severe impact at this location.

Old Church Street/All Saints Street/Culcheth Lane/Briscoe Lane

7.25 This junction has been assessed using the PICADY module of the industry standard JUNCTIONS modelling software package. Results are expressed as Ratio of Flow (RFC) with a value of 0.85 or over indicating that a junction is operating at or close to capacity. An RFC value of 1.00 or over indicates that a junction is operating overcapacity.

7.26 A summary of the capacity assessment results for the AM and PM peaks is provided in **Table 7.5** with the full modelling outputs included as **Appendix O** of this report.

Lane Ref.	Lane Description	AM Peak		PM Peak	
		RFC	Queue (PCU)	RFC	Queue (PCU)
Baseline					
B-CD	Briscoe Ln – L & R to All Saints St	0.41	1	1.28	74
B-A	Briscoe Ln – R to Culcheth Ln	0.11	0	1.25	25
AB-CD	Culcheth Ln – R to All Saints St	0.23	0	0.63	2
D-ABC	All Saints St – All Directions	1.19	21	0.44	1
CD-AB	Old Church St – R to Briscoe Ln	0.96	9	0.48	1
Baseline (including Committed Development)					
B-CD	Briscoe Ln – L & R to All Saints St	0.41	1	1.29	78
B-A	Briscoe Ln – R to Culcheth Ln	0.11	0	1.26	26
AB-CD	Culcheth Ln – R to All Saints St	0.23	0	0.63	2
D-ABC	All Saints St – All Directions	1.19	21	0.44	1
CD-AB	Old Church St – R to Briscoe Ln	0.96	9	0.48	1
Baseline + Development					
B-CD	Briscoe Ln – L & R to All Saints St	0.46	1	1.33	90
B-A	Briscoe Ln – R to Culcheth Ln	0.15	0	1.30	30
AB-CD	Culcheth Ln – R to All Saints St	0.28	1	0.63	2
D-ABC	All Saints St – All Directions	1.22	42	0.49	1
CD-AB	Old Church St – R to Briscoe Ln	0.89	6	0.51	1

Table 7.5 – Old Church Street/All Saints Street/Culcheth Lane/Briscoe Lane Junction

7.27 As shown in **Table 7.5**, the junction is predicted to operate overcapacity in both the 'Without Development' and 'With Development' scenarios with only small increases in RFC occurring.

7.28 In the AM peak a worst-case RFC value of 1.19 is forecast for the All Saints Street arm of the junction in the AM peak 'Without Development' scenario. A corresponding queue value of 21 PCUs is given for this arm.

7.29 With the addition of development traffic, the RFC value for this arm increases to 1.22 with a queue of 42 PCUs predicted.

7.30 In the PM peak, a worst-case RFC value of 1.29 is forecast for the Briscoe Lane arm of the junction in the 'Without Development' scenario. The modelling exercise has calculated a corresponding queue value of 78 PCUs for this arm.

7.31 In the 'Without Development' scenario the RFC value for this arm increases to 1.33 with a corresponding queue value of 90 PCUs.

7.32 It should be noted that the relationship between RFC and queues is such that queues begin to increase exponentially at high RFC values (>0.85). In these situations, even small increases in RFC values can result in significant increases in modelled queues.

7.33 Therefore, in such instances modelled queues length results should be treated with extreme caution with RFC values providing a more stable reflection of levels of impact. The increases in RFC between the 'Without Development' and 'With Development' scenarios in both peaks confirm that traffic from the proposed development will only have a minor impact on the operation of the A62 Oldham Road/ Thorp Road/ Lowcross Road junction.

Briscoe Lane/Mitchell Street

7.34 This junction has been assessed using the PICADY module of the JUNCTIONS modelling software package.

7.35 A summary of the capacity assessment results for the AM and PM peaks is provided in **Table 7.6** with the full modelling outputs included as **Appendix P** of this report.

Lane Ref.	Lane Description	AM Peak		PM Peak	
		RFC	Queue (PCU)	RFC	Queue (PCU)
Baseline					
B-AC	Mitchell St to Briscoe Ln	0.03	0	0.14	0
C-AB	Briscoe Ln to Mitchell St	0.04	0	0.02	0
Baseline (including Committed Development)					
B-AC	Mitchell St to Briscoe Ln	0.03	0	0.14	0
C-AB	Briscoe Ln to Mitchell St	0.04	0	0.02	0
Baseline + Development					
B-AC	Mitchell St to Briscoe Ln	0.26	0	0.24	0
C-AB	Briscoe Ln to Mitchell St	0.10	0	0.07	0

Table 7.6 – Briscoe Lane/Mitchell Street Junction Assessment

7.36 The results summarised in **Table 7.6** demonstrate that the Briscoe Lane/ Mitchell Street priority T-junction has sufficient capacity to accommodate traffic demand in both the 'Without Development'

and 'With Development' scenarios. A peak RFC value of 0.26 in the AM peak period demonstrates the junction operates well within capacity, with no notable queueing, even with the development site fully built out and occupied.

Briscoe Lane/Ten Acres Lane

7.37 The capacity of this junction has been assessed in the LinSig software package. The existing configuration has been tested first with the results of this exercise presented in **Table 7.7**. The full modelling outputs are included as **Appendix Q** of this report.

Lane Ref.	Lane Description	AM Peak		PM Peak	
		DoS	Queue (PCU)	DoS	Queue (PCU)
Baseline					
1/1	Briscoe Ln (W) – All Directions	27.3	3	79.4	17
2/1	Briscoe Ln (E) – All Directions	74.2	14	26.0	3
3/1	Ten Acres Ln (N) – All Directions	72.0	6	68.0	8
4/1	Ten Acres Ln (S) – All Directions	37.7	3	79.0	6
PRC (%)		21.2		13.4	
Baseline (including Committed Development)					
1/1	Briscoe Ln (W) – All Directions	27.7	3	81.6	18
2/1	Briscoe Ln (E) – All Directions	74.3	14	26.9	3
3/1	Ten Acres Ln (N) – All Directions	73.1	6	66.4	8
4/1	Ten Acres Ln (S) – All Directions	38.1	3	74.0	6
PRC (%)		21.1		10.3	
Baseline + Development					
1/1	Briscoe Ln (W) – All Directions	40.6	5	93.0	25
2/1	Briscoe Ln (E) – All Directions	92.0	23	40.4	4
3/1	Ten Acres Ln (N) – All Directions	88.6	11	71.1	10
4/1	Ten Acres Ln (S) – All Directions	35.0	4	89.2	8
PRC (%)		-2.2		-3.3	

Table 7.7 – Briscoe Lane/Ten Acres Lane Junction Assessment

7.38 As shown in **Table 7.7**, the addition of development traffic at the junction is predicted to use up available capacity and cause the junction to operate at a lower level of performance than in the 'Without Development' scenario. However, this modelling test assumes the worst-case traffic impact scenario of the site being fully built out. Therefore, in order to determine at what point during the construction of the development would trigger the need for improvements at the junction, an additional, phased, assessment has been undertaken.

7.39 For this assessment, three development scenarios have been considered. These are outlined below;

- Scenario 1 – Phase 1.
- Scenario 2 – Phase 1 & School.
- Scenario 3 – Phase 1 & School & Phase 2.

7.40 The results of the phased modelling assessment are presented in **Table 7.8**. Network diagrams for Scenarios 1 & 2 are presented in **Figures 31-34**.

Lane Ref.	Lane Description	AM Peak		PM Peak	
		DoS	Queue (PCU)	DoS	Queue (PCU)
Baseline + Scenario 1					
1/1	Briscoe Ln (W) – All Directions	30.7	4	87.0	21
2/1	Briscoe Ln (E) – All Directions	79.8	16	31.3	3
3/1	Ten Acres Ln (N) – All Directions	76.4	7	68.0	9
4/1	Ten Acres Ln (S) – All Directions	33.5	3	76.4	6
PRC (%)		12.9		3.4	
Baseline + Scenario 2					
1/1	Briscoe Ln (W) – All Directions	38.5	5	87.6	21
2/1	Briscoe Ln (E) – All Directions	85.7	19	32.6	4
3/1	Ten Acres Ln (N) – All Directions	81.2	9	69.9	9
4/1	Ten Acres Ln (S) – All Directions	36.3	4	84.0	7
PRC (%)		5.1		2.7	
Baseline + Scenario 3					
1/1	Briscoe Ln (W) – All Directions	40.6	5	93.0	25
2/1	Briscoe Ln (E) – All Directions	92.0	23	40.4	4
3/1	Ten Acres Ln (N) – All Directions	88.6	11	71.1	10
4/1	Ten Acres Ln (S) – All Directions	35.0	4	89.2	8
PRC (%)		-2.2		-3.3	

Table 7.8 – Briscoe Lane/Ten Acres Lane Phasing Junction Assessment

7.41 The results shown in **Table 7.8** show that the junction continues to operate with spare capacity up to the completion of Scenario 2 (i.e. Phase 1 and the school). It is the additional traffic generated by the residential development of Phase 2 of the scheme that causes capacity issues at the junction.

7.42 To mitigate the impact of development traffic, a package of works has been proposed to provide additional capacity at this junction. This comprises a widening of the Ten Acres Lane (Southbound)

approach to allow a separate lane for right turning traffic. The proposed alterations are explained in full in **Section 5**.

7.43 The design of the mitigating works has been supplemented by an additional capacity assessment to quantify the benefit of this intervention. The results of this assessment for the 'With Development' scenario (scenario 3) are summarised in **Table 7.9** with the full outputs included as **Appendix R** of this report. It should be noted that a slight increase in signal cycle time from 74 seconds to 80 seconds has been applied. This would be seen as a reasonable minor alteration which allows the changes of the junction layout to be realised in terms of capacity.

Lane Ref.	Lane Description	AM Peak		PM Peak	
		DoS	Queue (PCU)	DoS	Queue (PCU)
Baseline + Development (Scenario 3)					
1/1	Briscoe Ln (W) – All Directions	39.7	6	86.7	21
2/1	Briscoe Ln (E) – All Directions	89.8	22	27.9	4
3/1	Ten Acres Ln (N) – All Directions	87.8	9	57.3	7
4/1	Ten Acres Ln (S) – All Directions	35.7	4	79.1	7
PRC (%)		0.2		3.8	

Table 7.9 – Briscoe Lane/Ten Acres Lane Junction Assessment (with Mitigation)

7.44 As demonstrated in **Table 7.9** the proposed package of mitigation works at this location will ensure that the junction continues to operate within capacity following the introduction of all the development traffic associated with the development site being fully built out. Whilst the proposed changes do not allow the junction to operate at the same level to the baseline condition, the junction layout is heavily constrained with little space for improvements. The proposed changes represent the maximisation of the surrounding space available and demonstrate that a significant proportion of the scheme impact can be mitigated.

Ten Acres Lane/Proposed Site Access

7.45 The design of the Ten Acres Lane/ Proposed Site Access priority T-junction has been capacity tested using the PICADY module of the JUNCTIONS software package.

7.46 The assessment results have been summarised in **Table 7.10** with the full modelling outputs included as **Appendix S** of this report.

Lane Ref.	Lane Description	AM Peak		PM Peak	
		RFC	Queue (PCU)	RFC	Queue (PCU)
Baseline + Development					
B-A	Site Access to Ten Acres Ln	0.45	1	0.14	0
C-AB	Ten Acres Ln to Site Access	0.18	0	0.15	0

Table 7.10 – Ten Acres Lane/Proposed Site Access Junction Assessment

7.47 The results presented in **Table 7.10** confirm that the proposed design of this access junction is appropriate to meet future traffic demand with a peak RFC of 0.45 and queueing figure of 1 PCU in the AM peak.

Summary

7.48 The junction modelling has determined that the proposed development would generally have a relatively minor impact upon the operation of most of the junctions on the surrounding highway network. It has, however, been determined that improvement to the Ten Acres Lane/Briscoe Lane Junction is required to help mitigate the additional traffic generated by the proposals.

7.49 A proposal for improving the capacity at this junction has been provided and demonstrates that, even with the site fully built out, it operates within capacity.

7.50 It is key to reiterate that the assessment undertaken in this section does not make any allowance for cross visitational trips between the residential and school elements of the site and also has assumed the school will operate will an unrestricted drop off policy, which in reality will not be the case. As such, the junction modelling presented in this section should be considered particularly robust.

8 Summary and Conclusions

Key Conclusions

8.1 Vectos has been commissioned by Nuvu Development Ltd to prepare a Transport Assessment (TA) as part of a planning application to develop a site located off Ten Acres Lane and Mitchell Street in Newton Heath, Manchester.

8.2 This Transport Assessment has considered the impact of the proposals to locate a residential development consisting of up to 716 units (481 houses and 235 apartments) a secondary school, with a capacity for up to 1,050 students and a community hub building covering an area of 616.5sqm.

8.3 The application will be hybrid with full planning permission sought for Phase 1, which will comprise of 378 dwellings, a 616.5sqm community building along with a new access on to Ten Acres Lane. Outline permission (with all matters reserved except access) is sought for a secondary school and up to 338 dwellings.

8.4 Key conclusions on the sites accessibility and existing conditions are as follows:

- The proposed development will be highly accessible by non-car travel modes of walking, cycling, by bus, rail and tram, providing good linkage to jobs, shops, leisure and services by these non-car modes. Access into Manchester is excellent with very regular and convenient bus and tram services along with a dedicated footway and cycle route along the Rochdale Canal towpath;
- Local facilities such as shops, surgery, schools, and local employment destinations are highly accessible within a leisurely walk/cycle from the site;
- The internal layout of the development has been designed to encourage walking/cycling use and connect to existing foot/cycle links, in particular the Rochdale Canal towpath;
- The Greater Manchester Accessibility Level Map demonstrates that the site is considered highly accessible;
- It is considered that such locational characteristics would assist in meeting the sustainable planning objectives of promoting opportunities for the use of alternative travel modes that are not the private car;
- There is no concern with regards highway safety and neighbouring amenity;

8.5 Key conclusions on the sites traffic impact are as follows:

- Due to the sustainable credentials of the site, it is anticipated that a significant number of trips to/from the site will be made via sustainable modes of transport;
- Nevertheless, it is calculated that up to 235 arrival and 380 departure vehicle trips would be generated during the AM peak hour. A further 207 arrivals and 121 departures would be generated in the PM peak. This is considered particularly robust as no consideration has

been made for internalisation of trips between the school and residential units. In addition, the school has been assessed assuming no restrictions on student drop off, however, it is the intention that the school will serve a local catchment and will have a comprehensive Travel Plan that will discourage vehicular drop off.

- Junction modelling has determined that the development impact on the operation of the A62 Oldham Road/Monsall Road/Grimshaw Lane Junction would be very minor. The junction operates marginally over capacity in the AM peak and under capacity in the PM peak under current conditions with development generated traffic having minimal impact on the overall operation of the junction.

- The A62 Oldham Road/The Gateway/Ten Acres Lane Junction is demonstrated to continue to operate within capacity when tested with the full impact of the proposed development.

- The A62 Oldham Road/Thorp Road/Lowcross Road Junction currently operates within capacity and is shown to continue to do so following the full build out of the development proposals.

- The A62 Oldham Road/Dean Lane/Old Church Street Junction is shown to operate around maximum capacity during the morning peak and over capacity in the afternoon peak period. However, the development impact at this location is demonstrated to be very low.

- Modelling of the Old Church Street/All Saints Street/Culcheth Lane/Briscoe Lane Junction demonstrates that some movements are currently experiencing operational difficulty in both the AM and PM peak periods. However, it is noted that despite this, the impact of the development flows is minor.

- The Briscoe Lane/Mitchell Street Junction presently operates well within capacity and continues to do so once the site is fully built out. Despite the secondary access being taken from Mitchell Street, queueing is demonstrated to be minimal.

- The current format of the Briscoe Lane/Ten Acres Lane Junction currently operates within capacity and continues to do so with the addition of traffic associated with Phase 1 and the secondary school. The additional impact of the residential element of Phase 2 causes the junction to operate over capacity. Improvement works at the junction ensures that the junction would continue to operate with spare capacity following the full development of the site.

- Finally, the proposed development access from Ten Acres Lane has been modelled and is demonstrated to operate well within capacity.

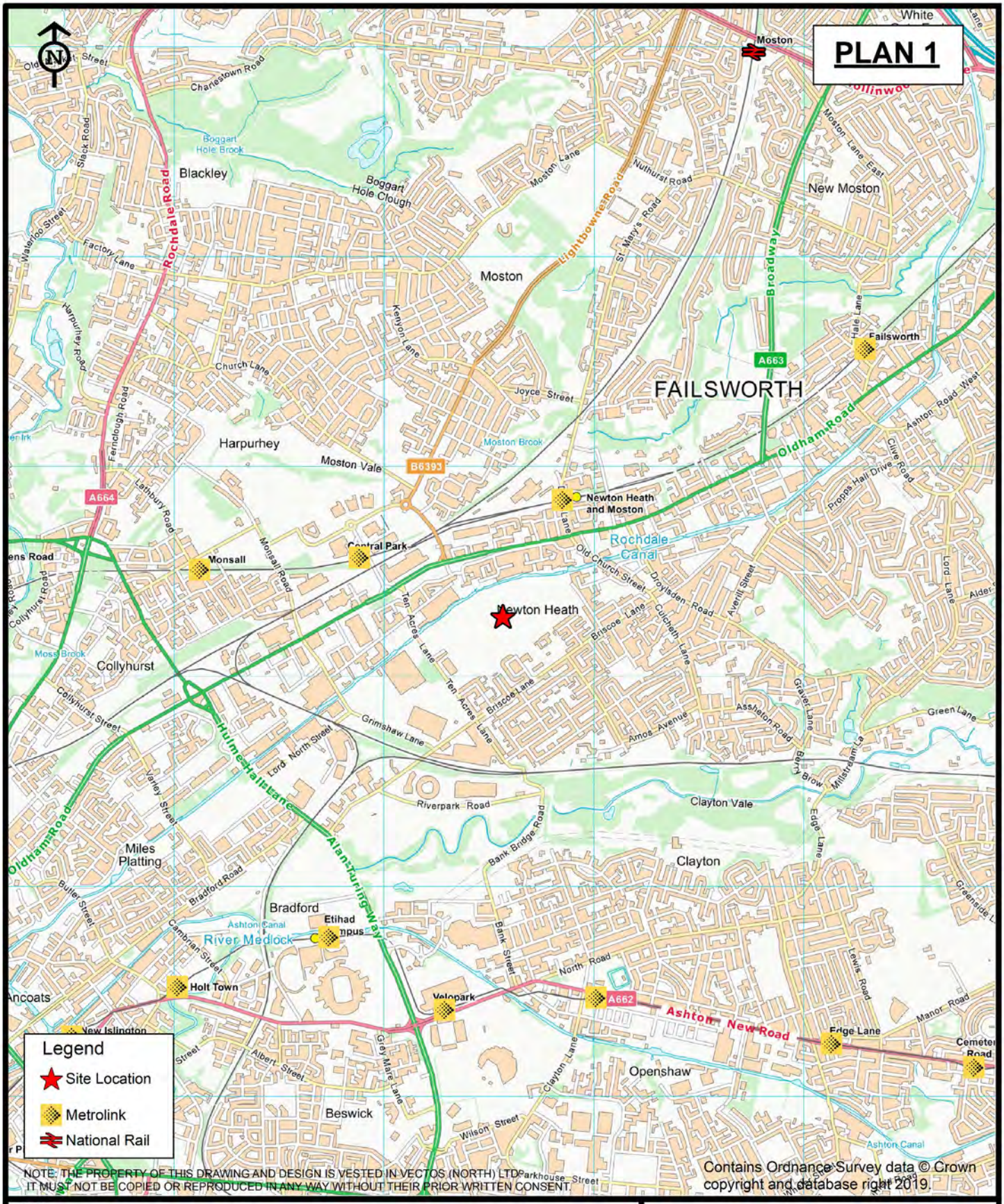
8.6 The National Planning Policy Framework states that "*development should only be prevented or refused on transport grounds where the residual cumulative impacts of development are severe*".

8.7 This Transport Assessment has demonstrated that the proposed development site is located in an accessible location, which will be further improved as part of the proposed scheme, and that development generated traffic would not have a severe impact upon the safe or efficient operation of

the majority of the surrounding highway network. Where significant impact is noted, physical mitigation is proposed.

8.8 It is therefore concluded that the residual cumulative impact of the development would not be severe, and on this basis there are no material reasons why the proposed development should be refused on highways or transportation grounds.

Drawings/Plans



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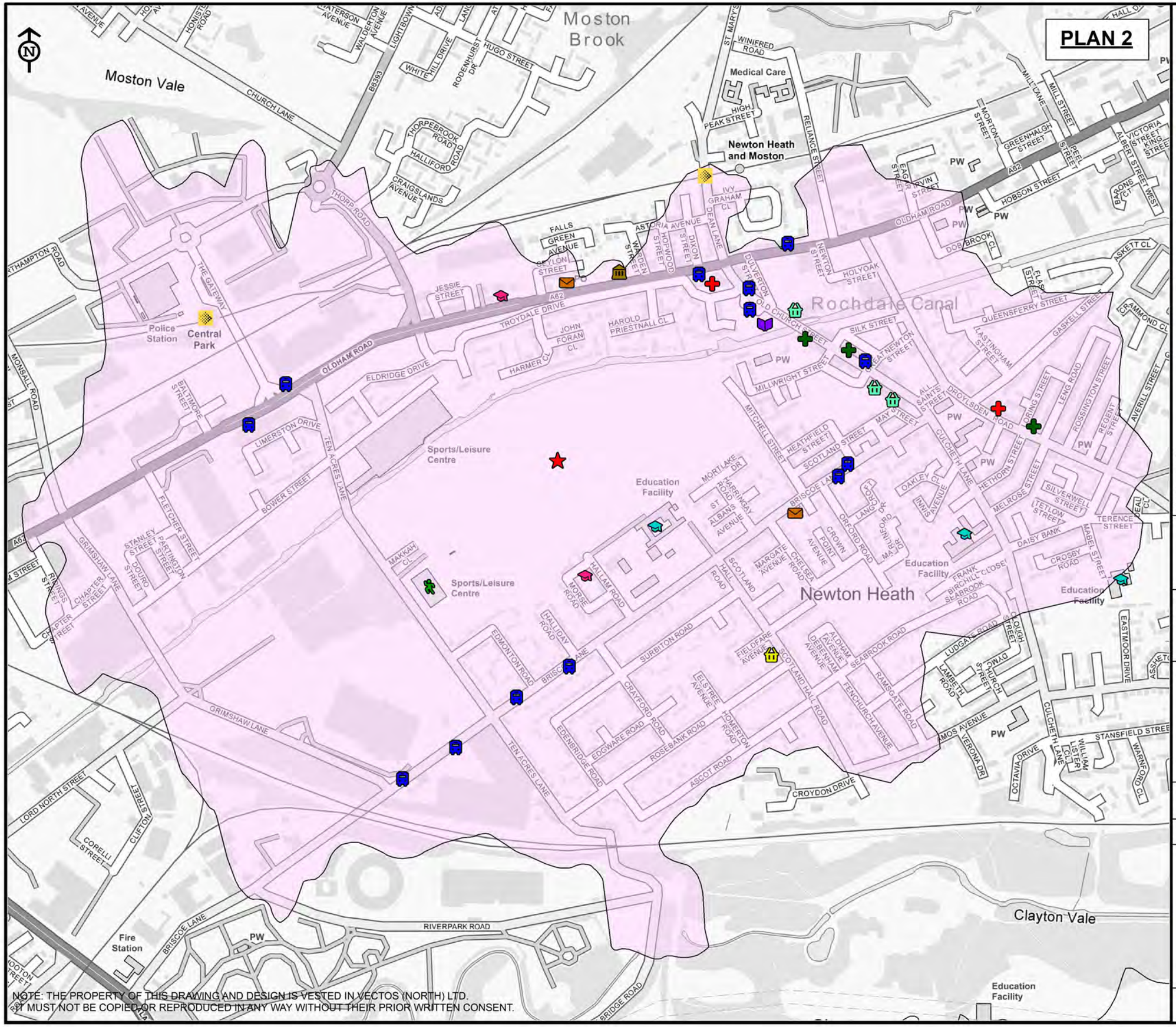
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Jacksons Brickworks, Manchester

DRAWING TITLE:
Site Location

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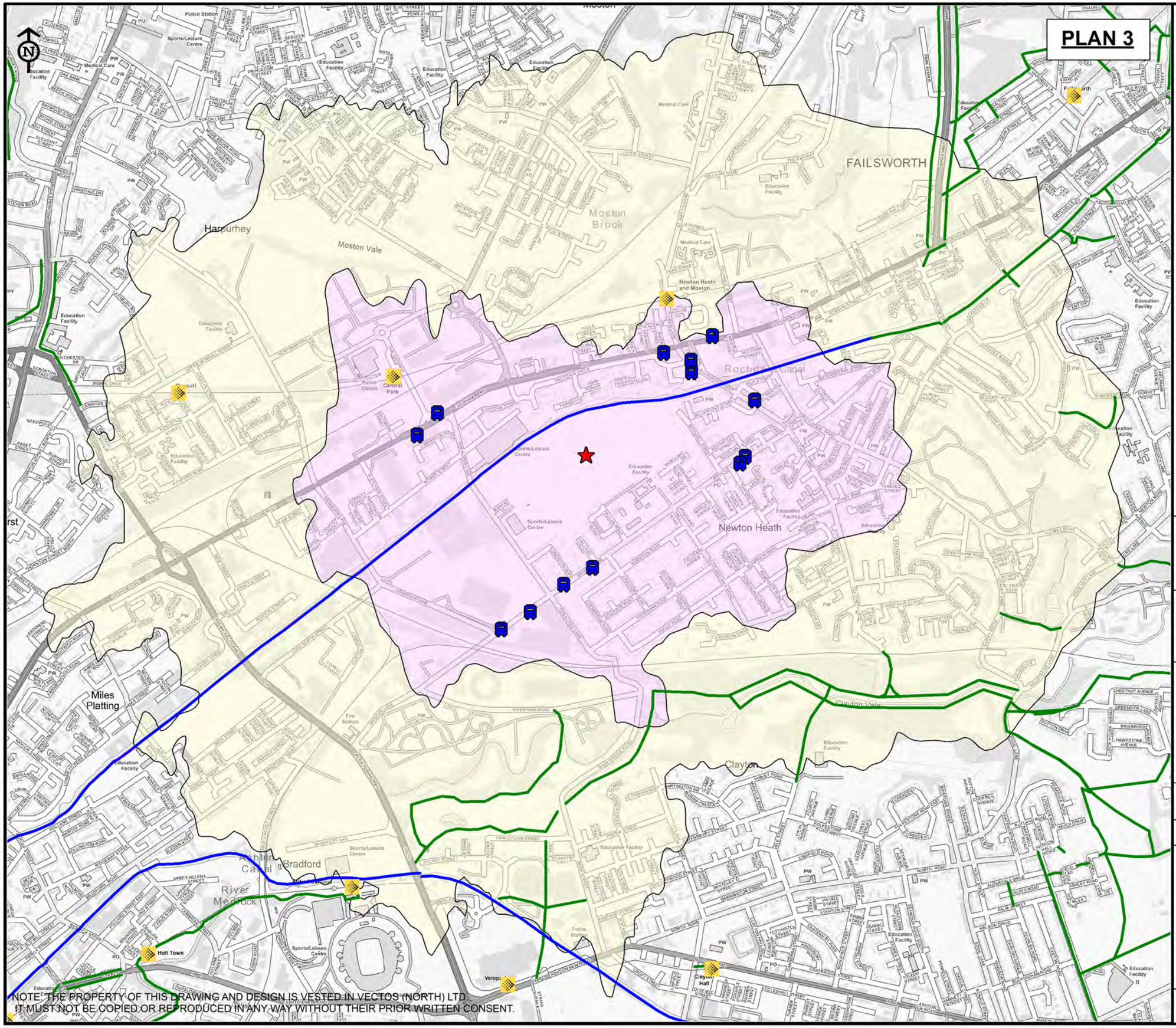
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PLAN 3



Legend

- Site Location
- Bus Stop
- Metrolink

Public Rights of Way

- Footpath
- Canal Tow Path

Walking Catchment

- 0 - 1km
- 1km - 2km

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PLAN 4

Legend

- Site Location
- Metrolink
- National Rail

Cycle Routes

- Signed Routes
- On Road with Cycle Lanes
- Off Road
- Canal Tow Path

Cycling Catchment

- 0 - 5km

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Cycling Catchment Plan

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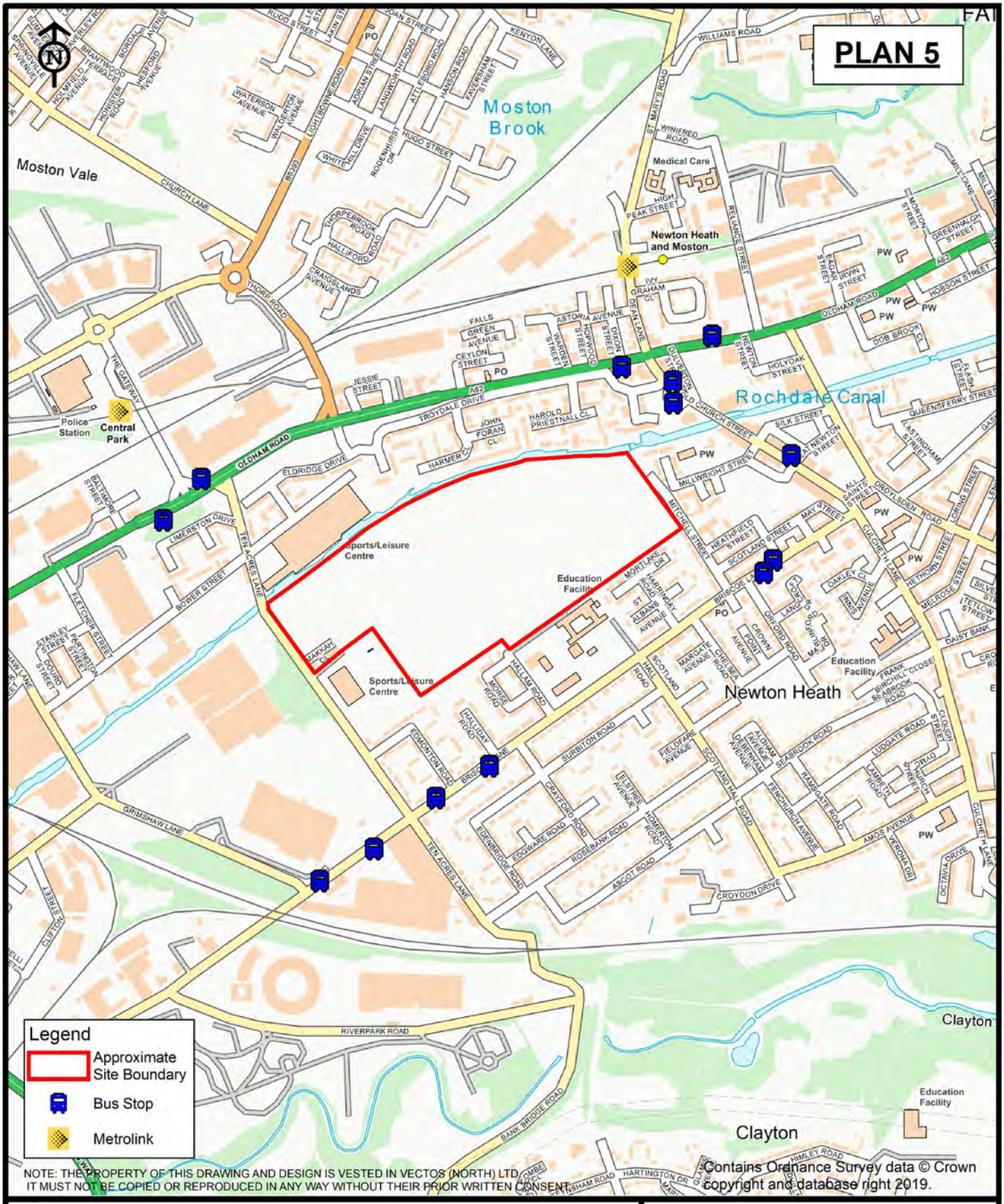
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PLAN 6

Legend

- Site Location

Time Catchment

- 15 minutes
- 30 minutes
- 45 minutes
- 60 minutes

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Public Transport Accessibility Plan - AM

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PLAN 7

Legend

- Site Location
- Time Catchment
  - 15 minutes
  - 30 minutes
  - 45 minutes
  - 60 minutes

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Public Transport Accessibility Plan - PM

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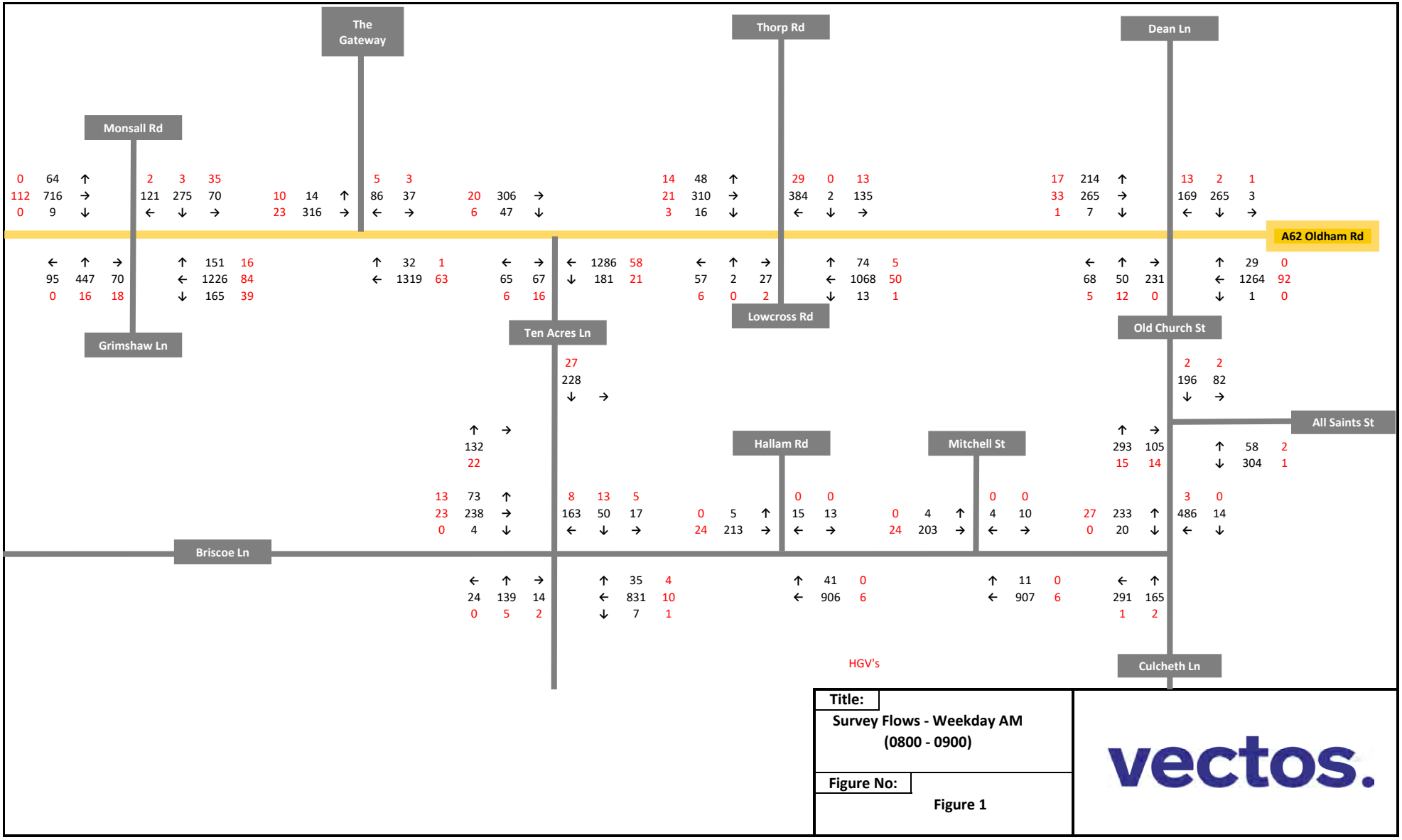
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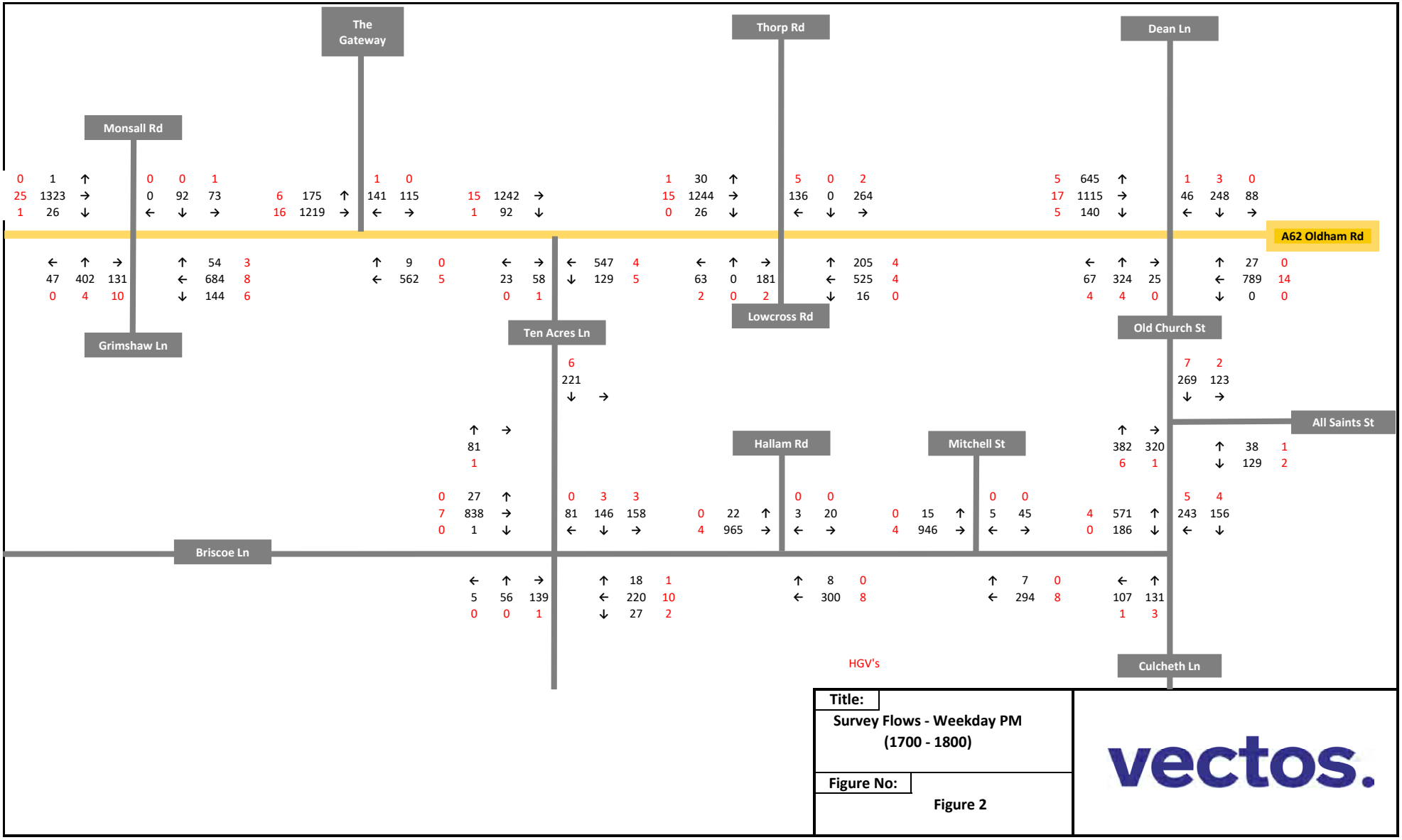
Figures



Title: Survey Flows - Weekday AM (0800 - 0900)

Figure No: Figure 1

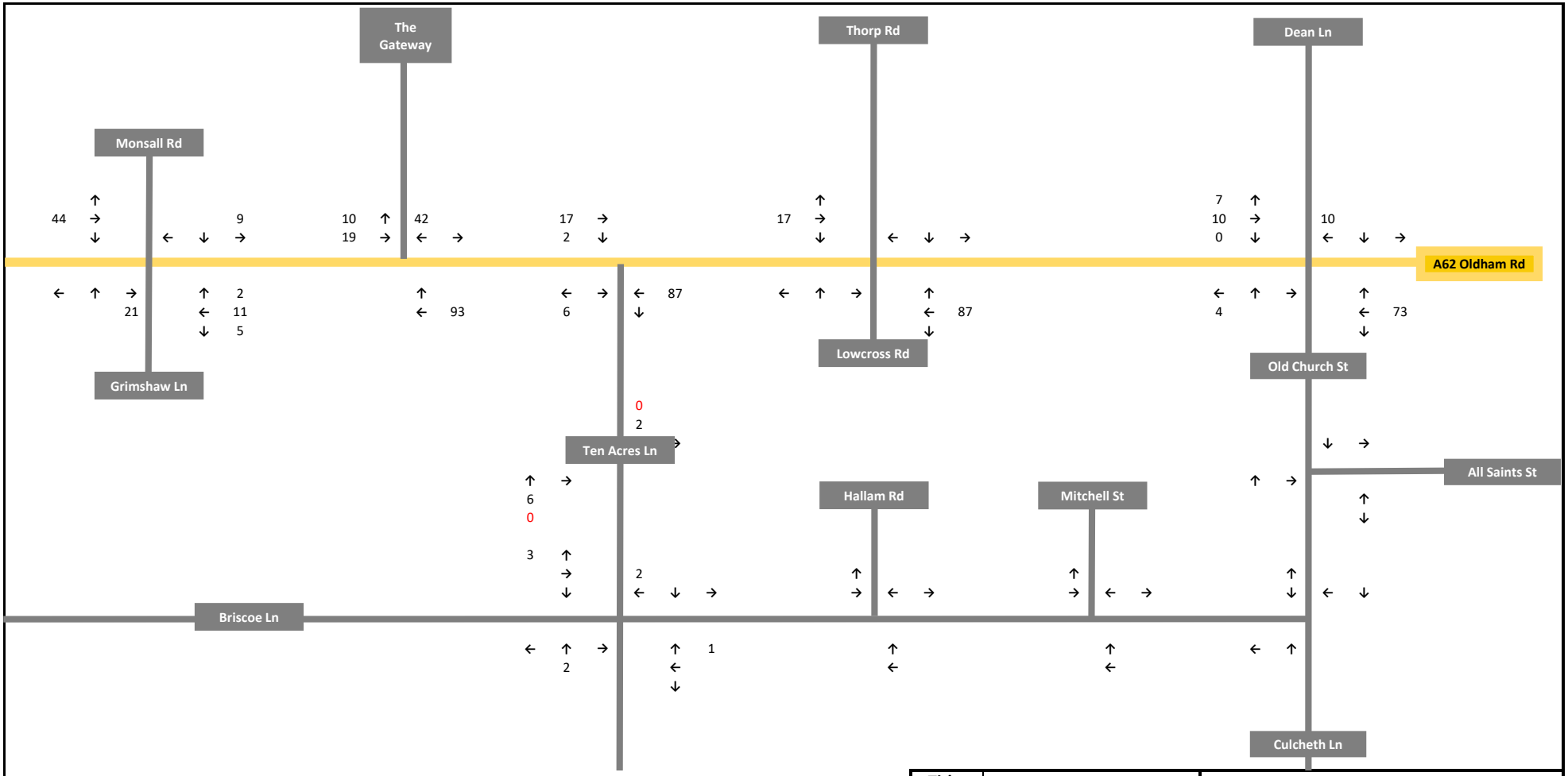
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Title: Survey Flows - Weekday PM (1700 - 1800)

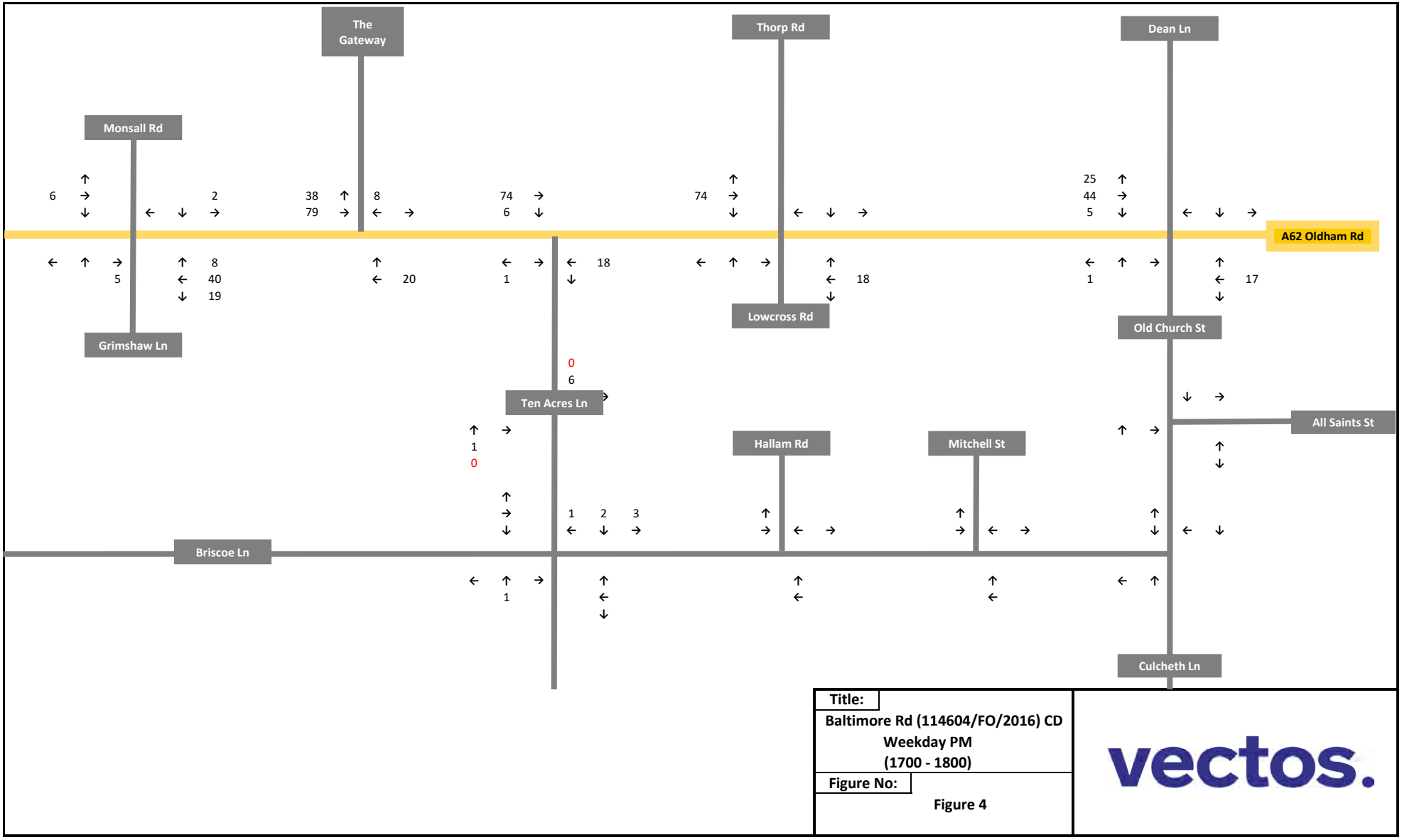
Figure No: Figure 2

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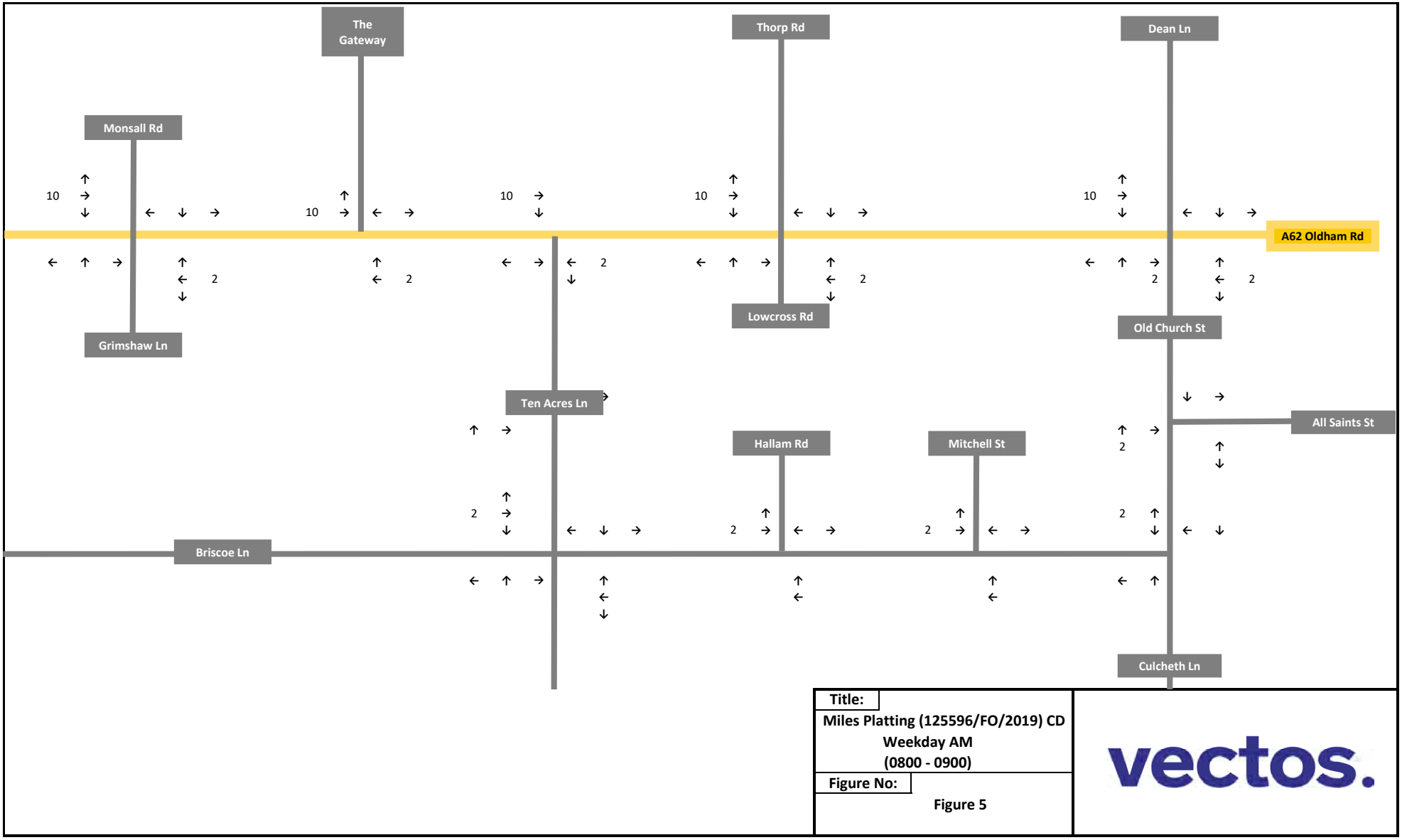
Title:	Baltimore Rd (114604/FO/2016) CD Weekday AM (0800 - 0900)
Figure No:	Figure 3

vectos.



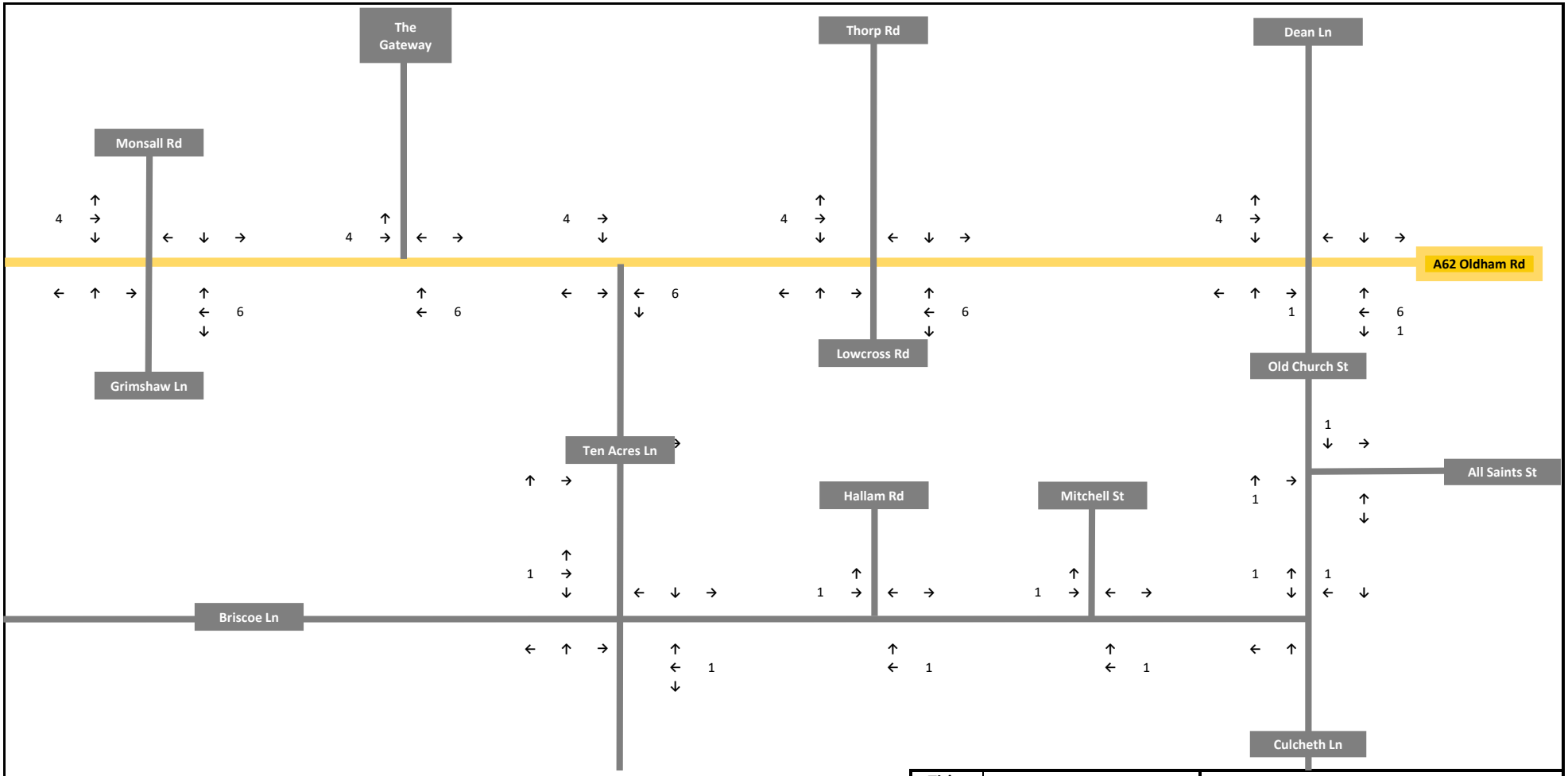
Title:	Baltimore Rd (114604/FO/2016) CD Weekday PM (1700 - 1800)
Figure No:	Figure 4

vectos.



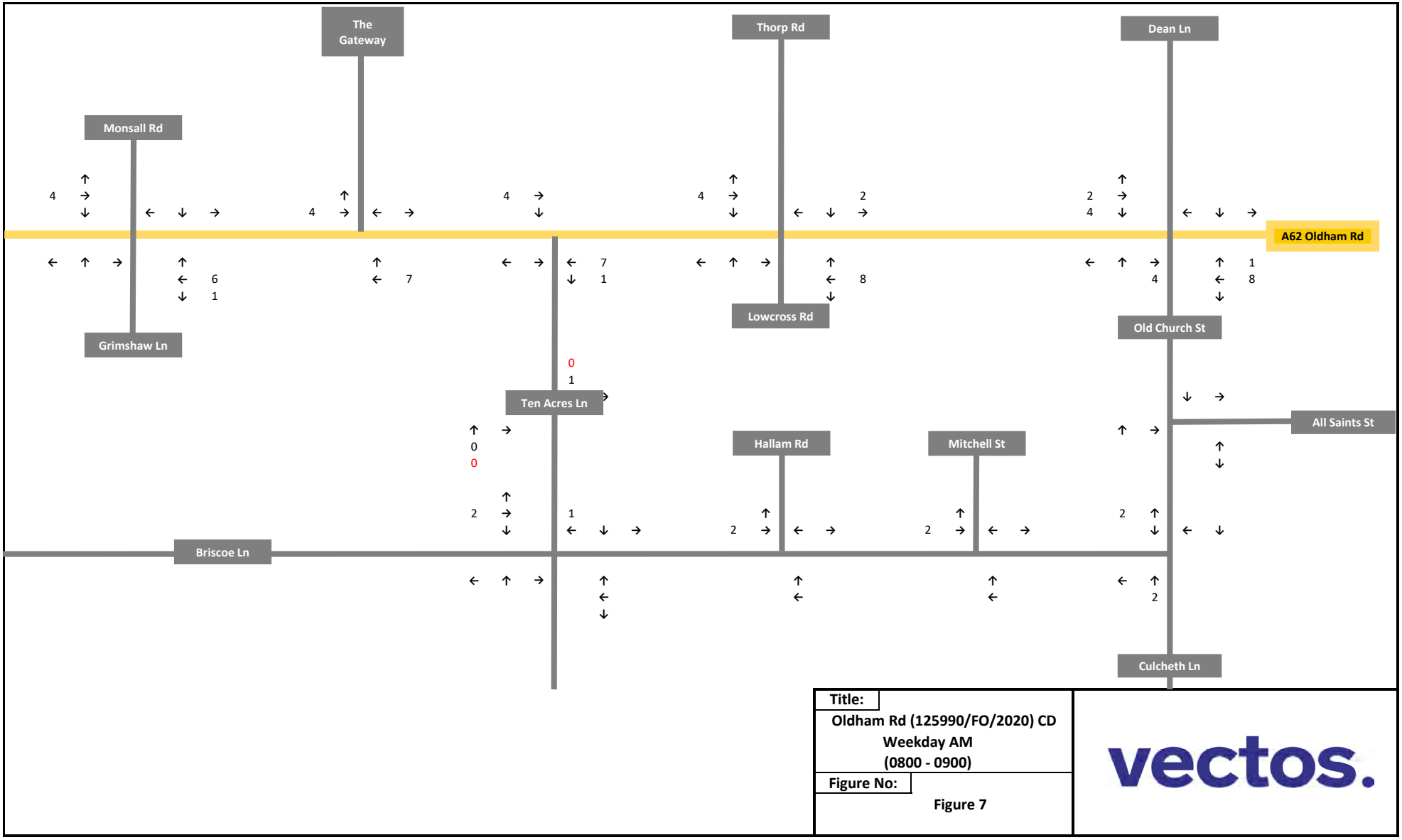
Title:	Miles Platting (125596/FO/2019) CD Weekday AM (0800 - 0900)
Figure No:	Figure 5

vectos.



Title:	**Miles Platting (125596/FO/2019) CD Weekday PM (1700 - 1800)**
Figure No:	**Figure 6**

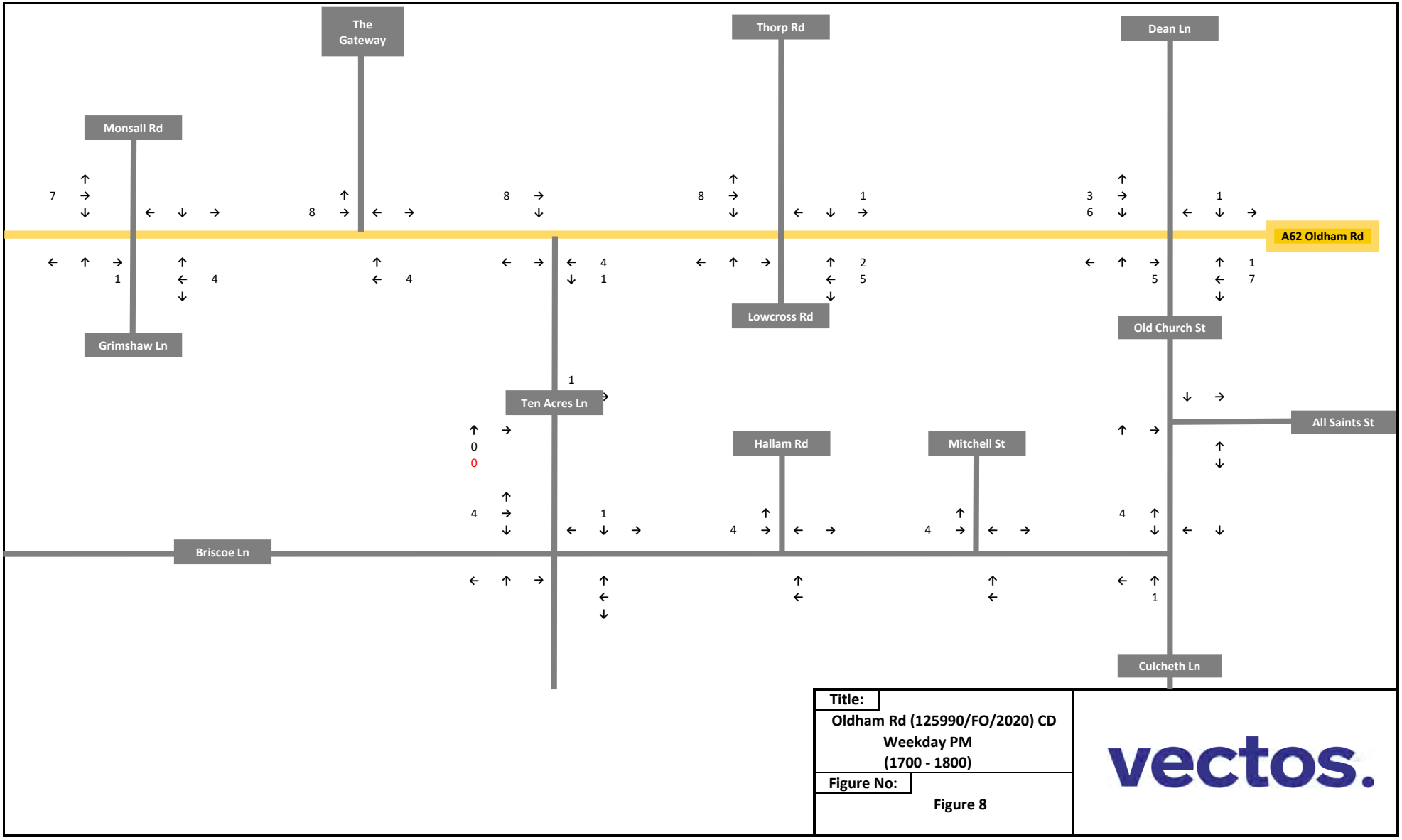
vectos.



Title:
Oldham Rd (125990/FO/2020) CD
Weekday AM
(0800 - 0900)

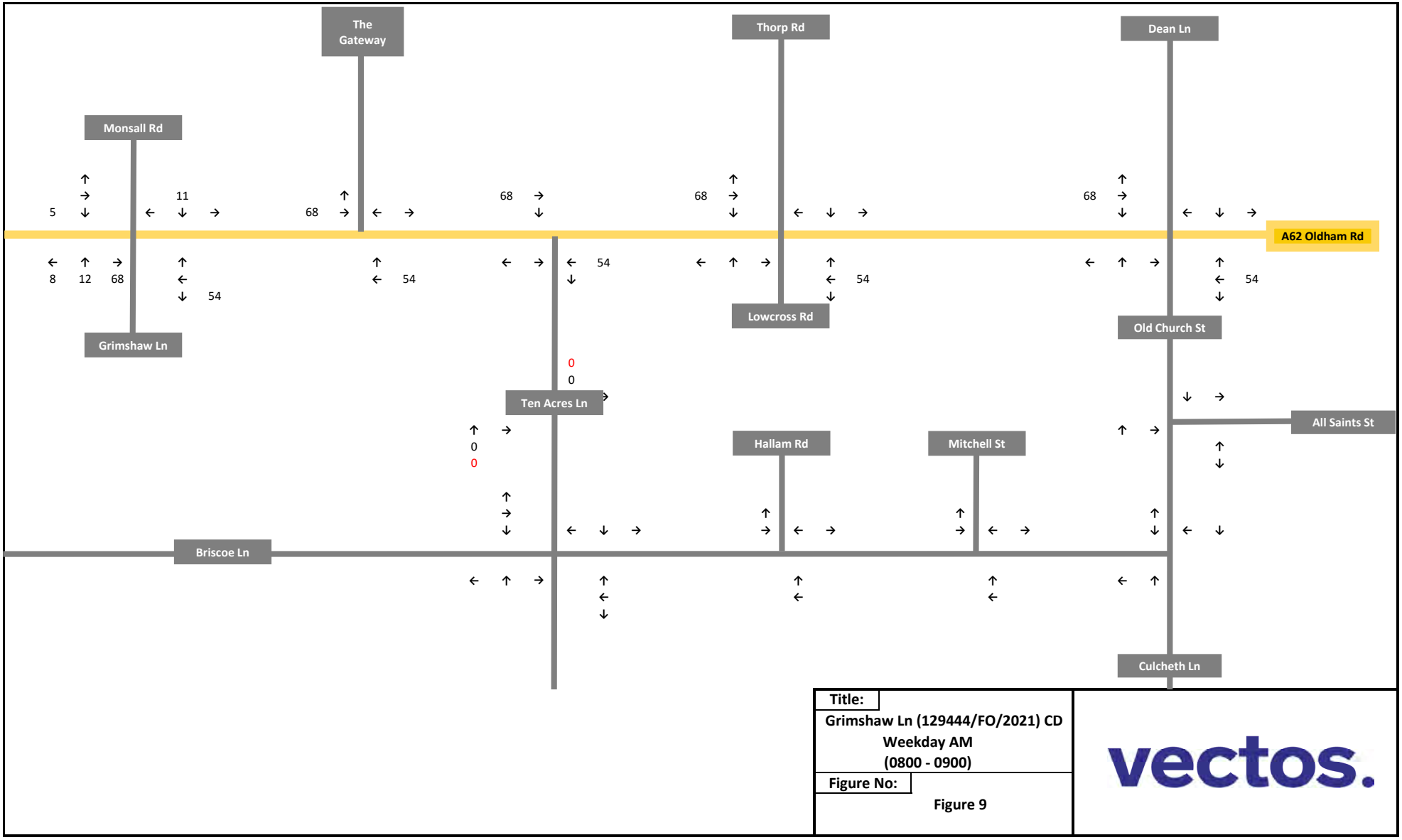
Figure No:
Figure 7

vectos.



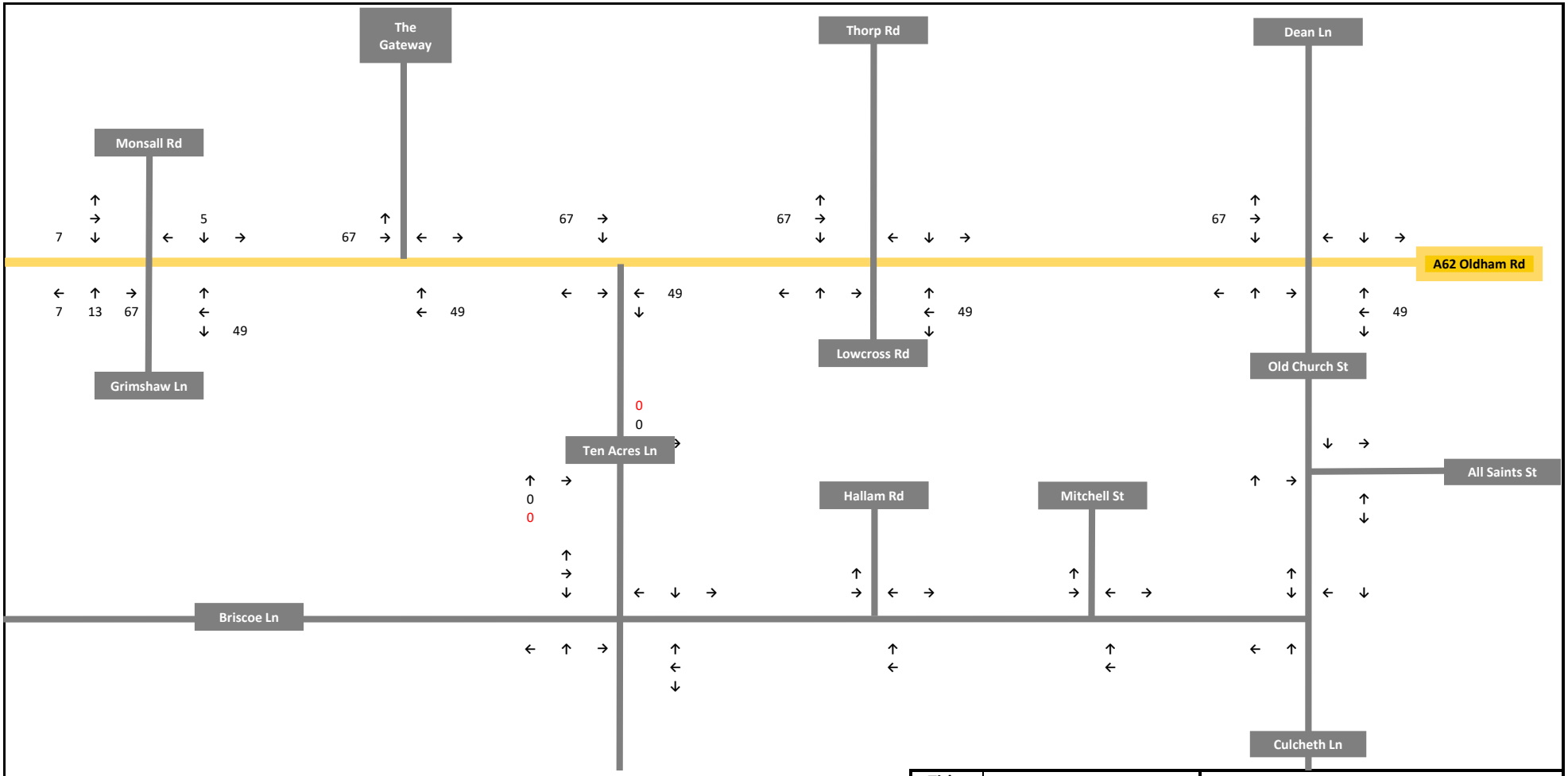
Title:	Oldham Rd (125990/FO/2020) CD Weekday PM (1700 - 1800)
Figure No:	Figure 8

vectos.



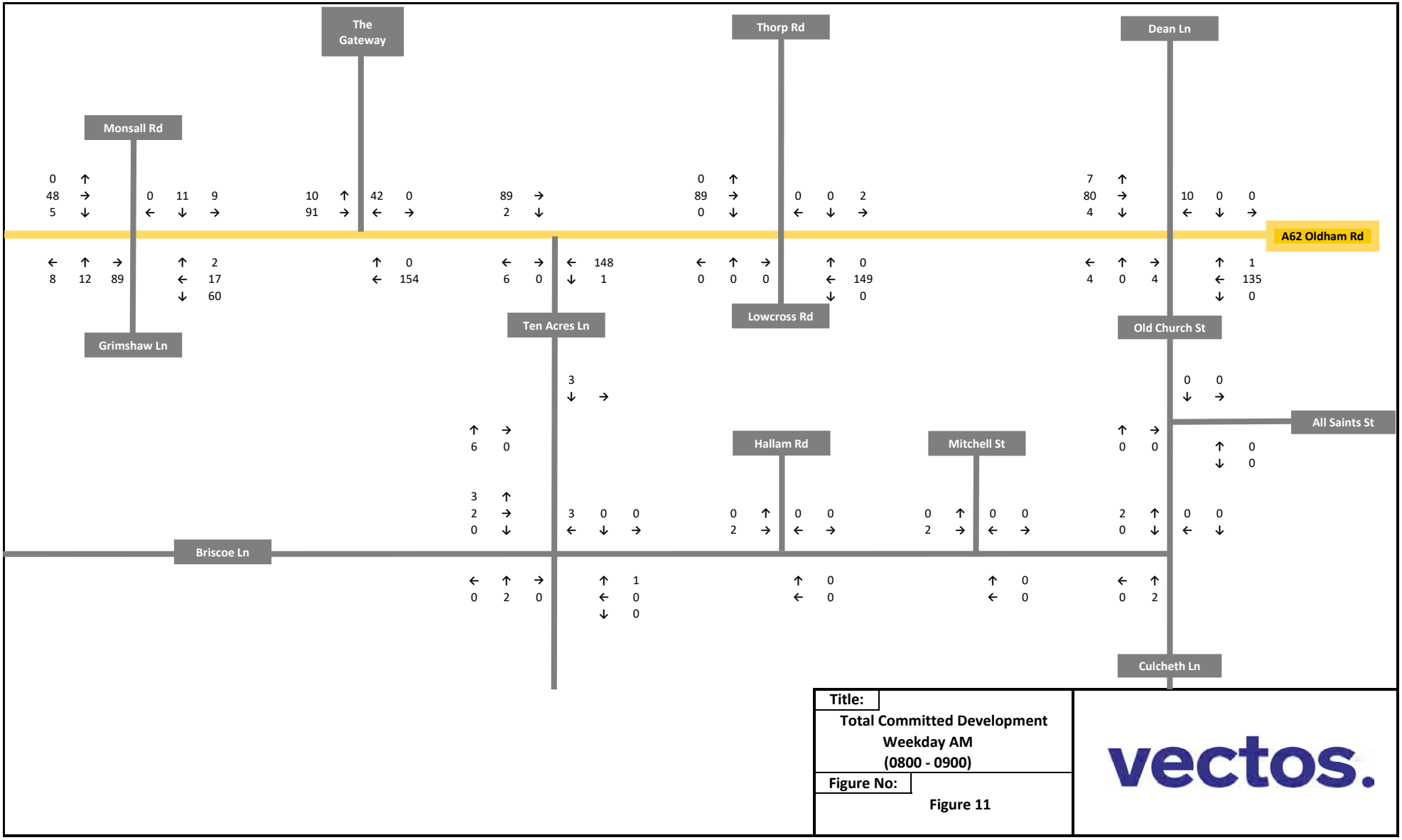
Title:	**Grimshaw Ln (129444/FO/2021) CD Weekday AM (0800 - 0900)**
Figure No:	**Figure 9**

vectos.



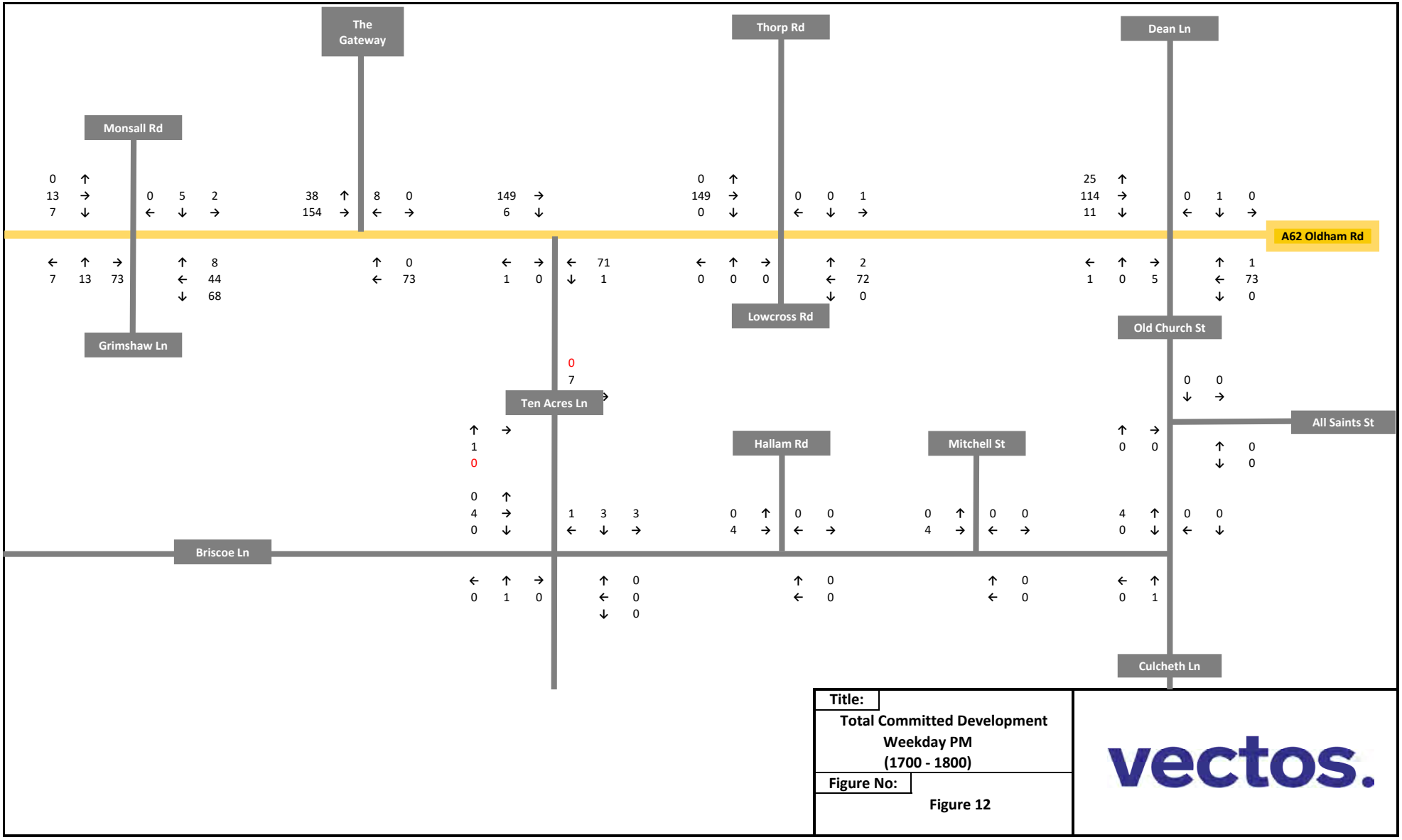
Title:	Grimshaw Ln (129444/FO/2021) CD Weekday PM (1700 - 1800)
Figure No:	Figure 10

vectos.



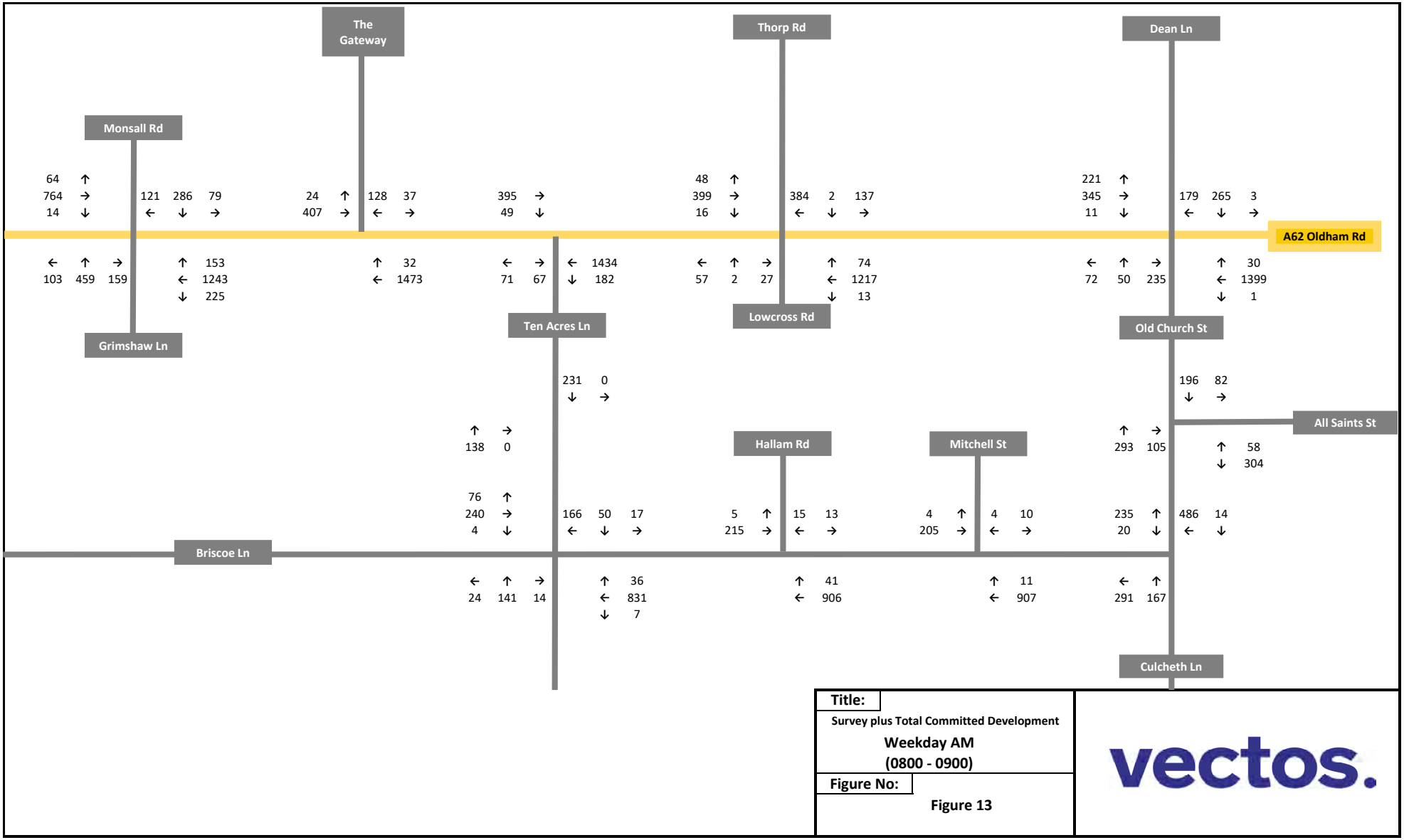
Title:	Total Committed Development Weekday AM (0800 - 0900)
Figure No:	Figure 11

vectos.



Title:	Total Committed Development Weekday PM (1700 - 1800)
Figure No:	Figure 12

vectos.



Title:

Survey plus Total Committed Development

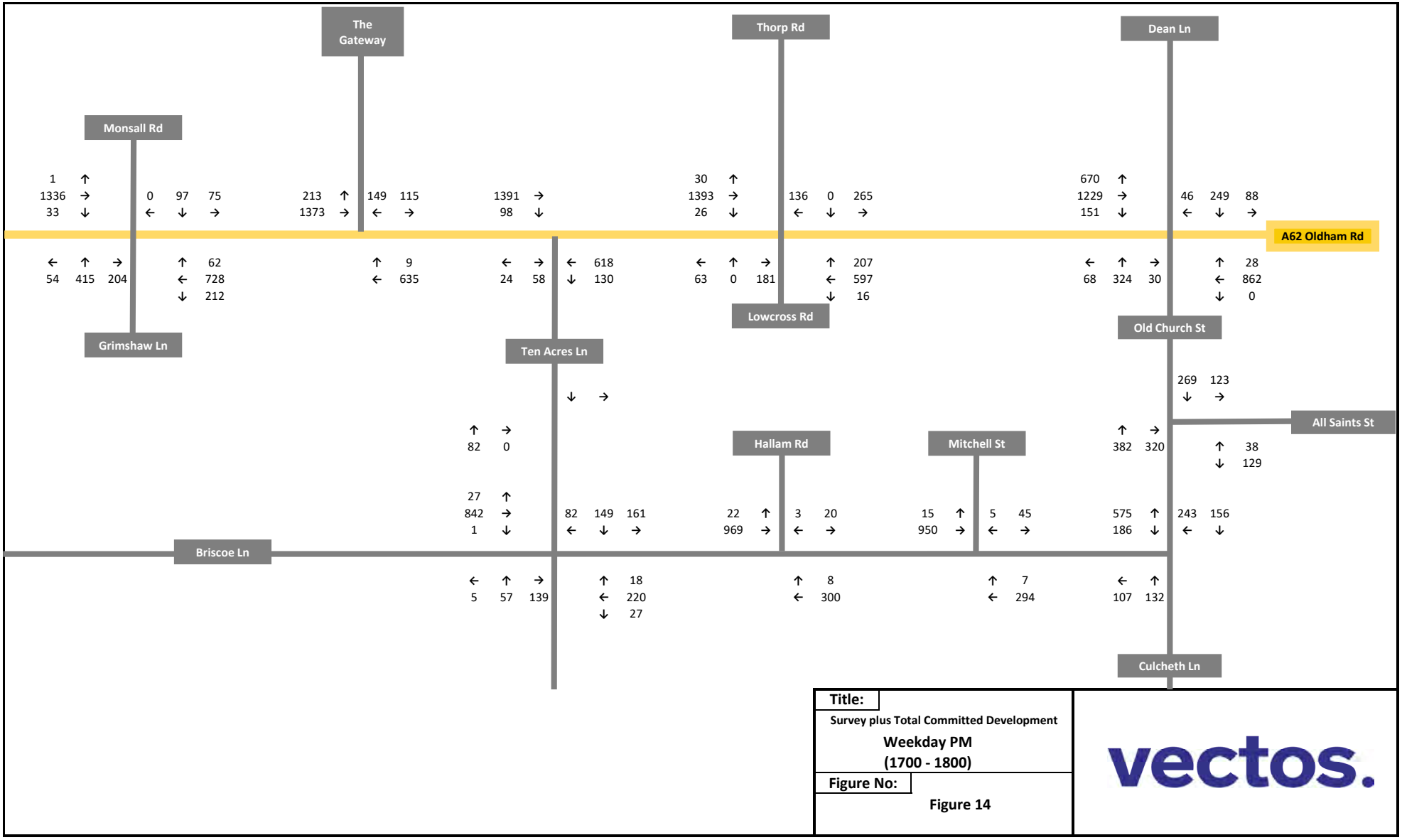
Weekday AM

(0800 - 0900)

Figure No:

Figure 13

vectos.



Title:

Survey plus Total Committed Development

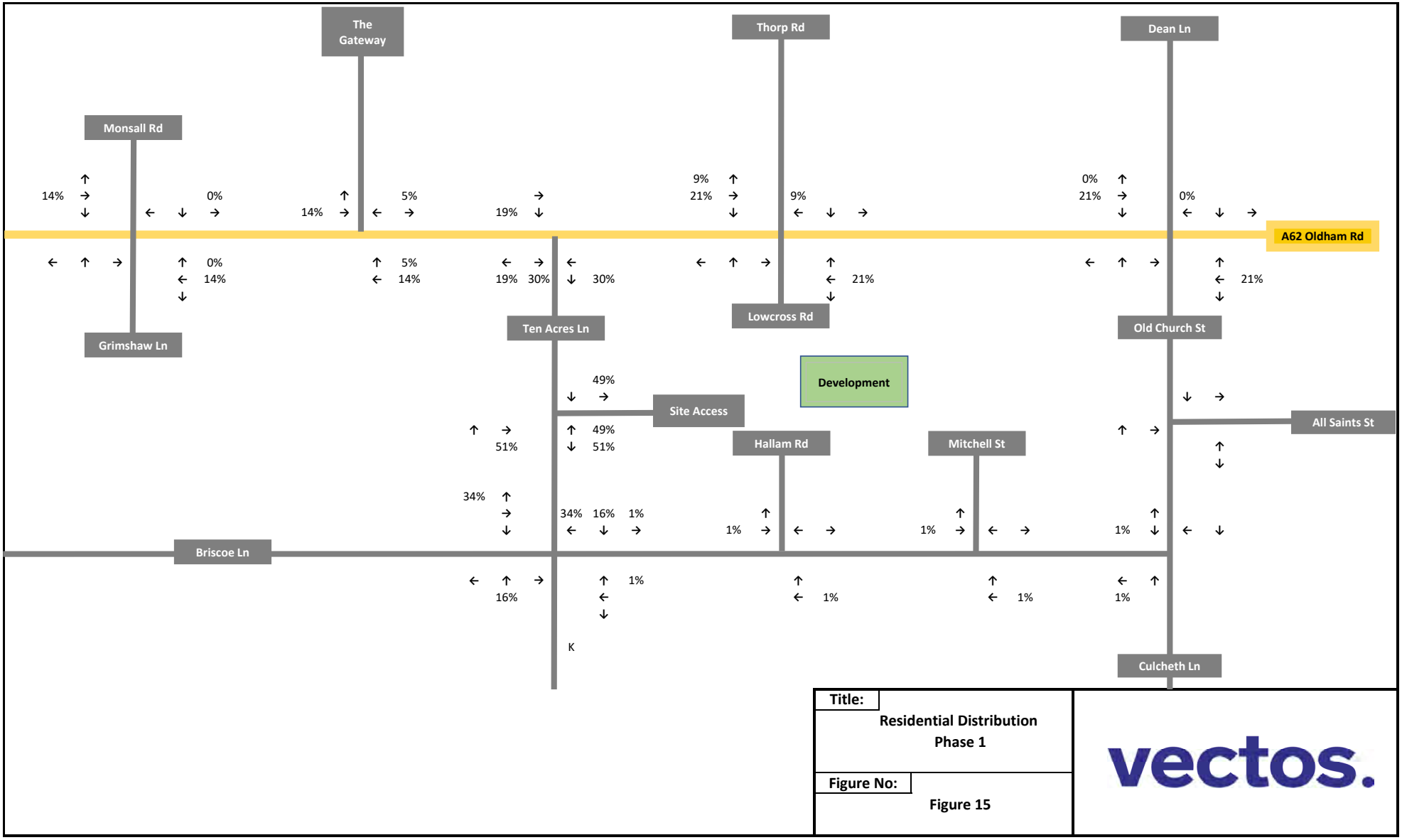
Weekday PM

(1700 - 1800)

Figure No:

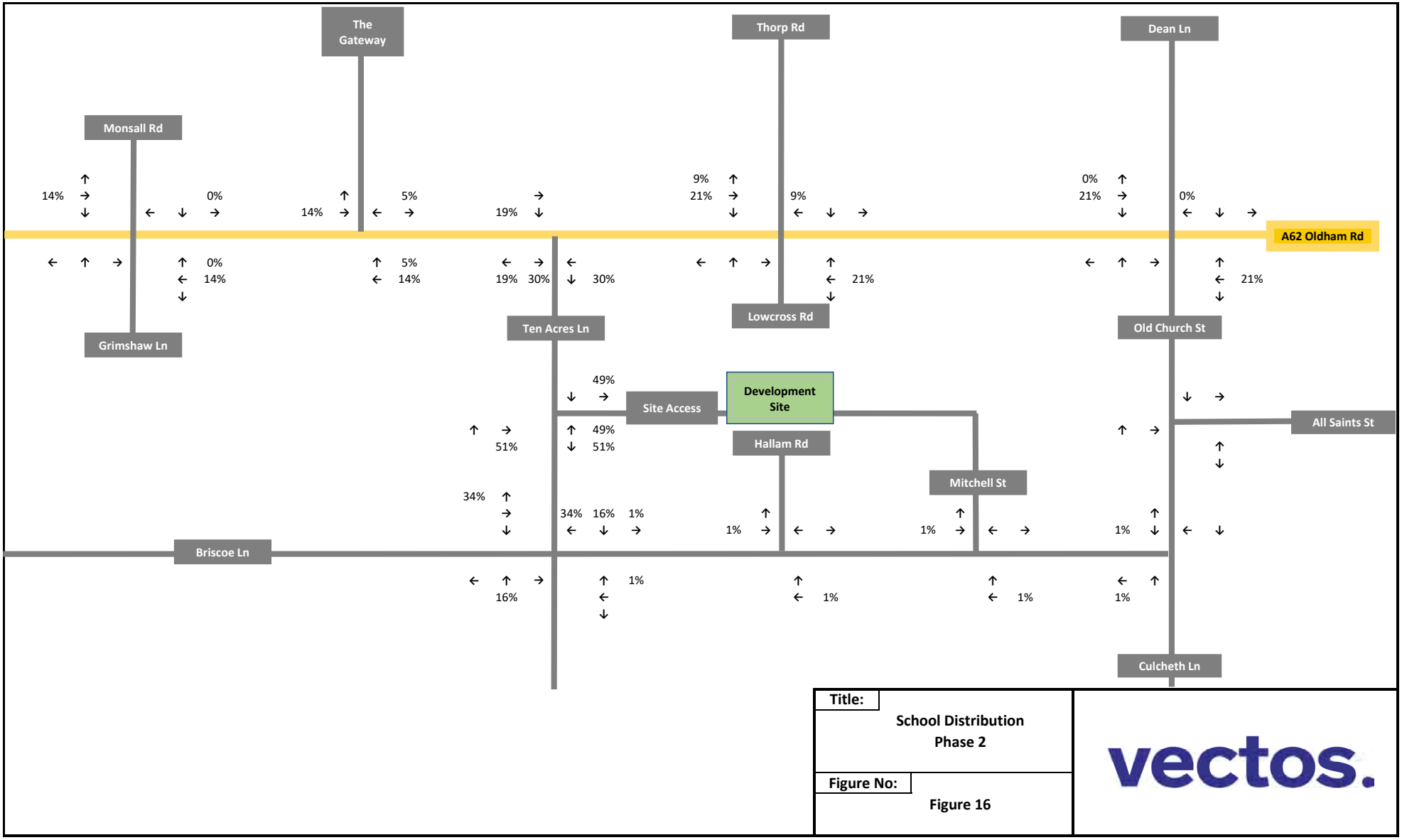
Figure 14

vectos.



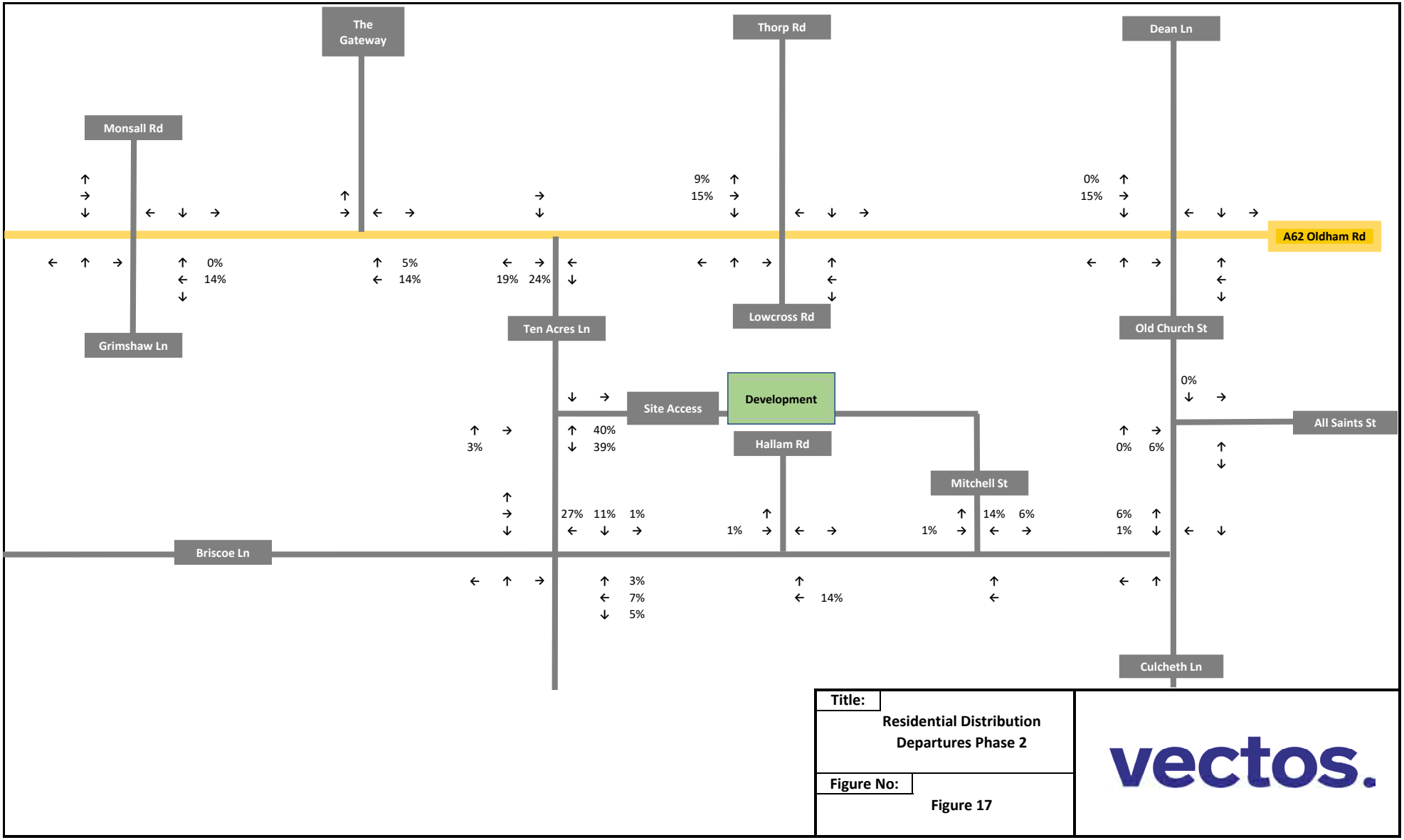
Title:	**Residential Distribution Phase 1**
Figure No:	**Figure 15**

vectos.



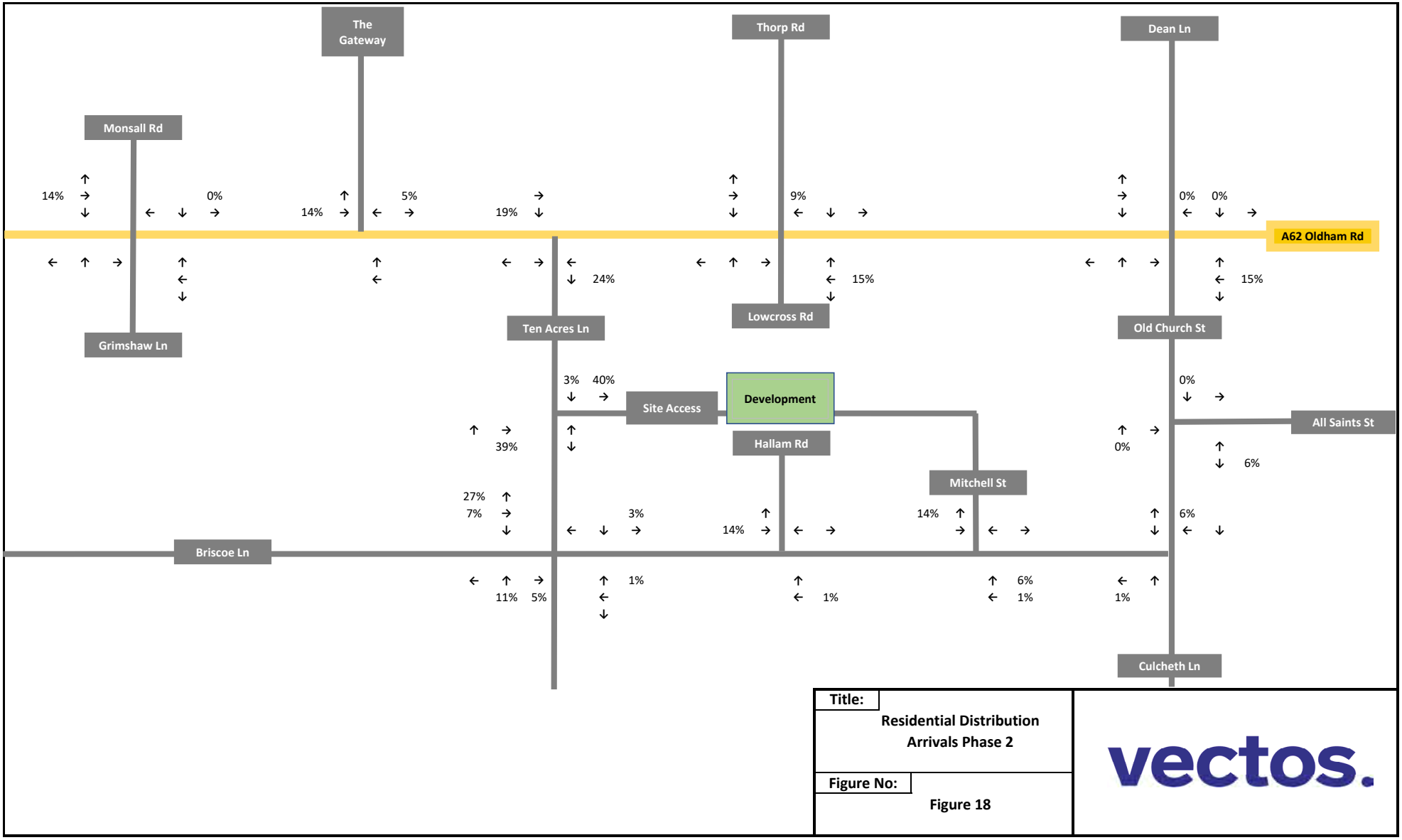
Title:	School Distribution Phase 2
Figure No:	Figure 16

vectos.



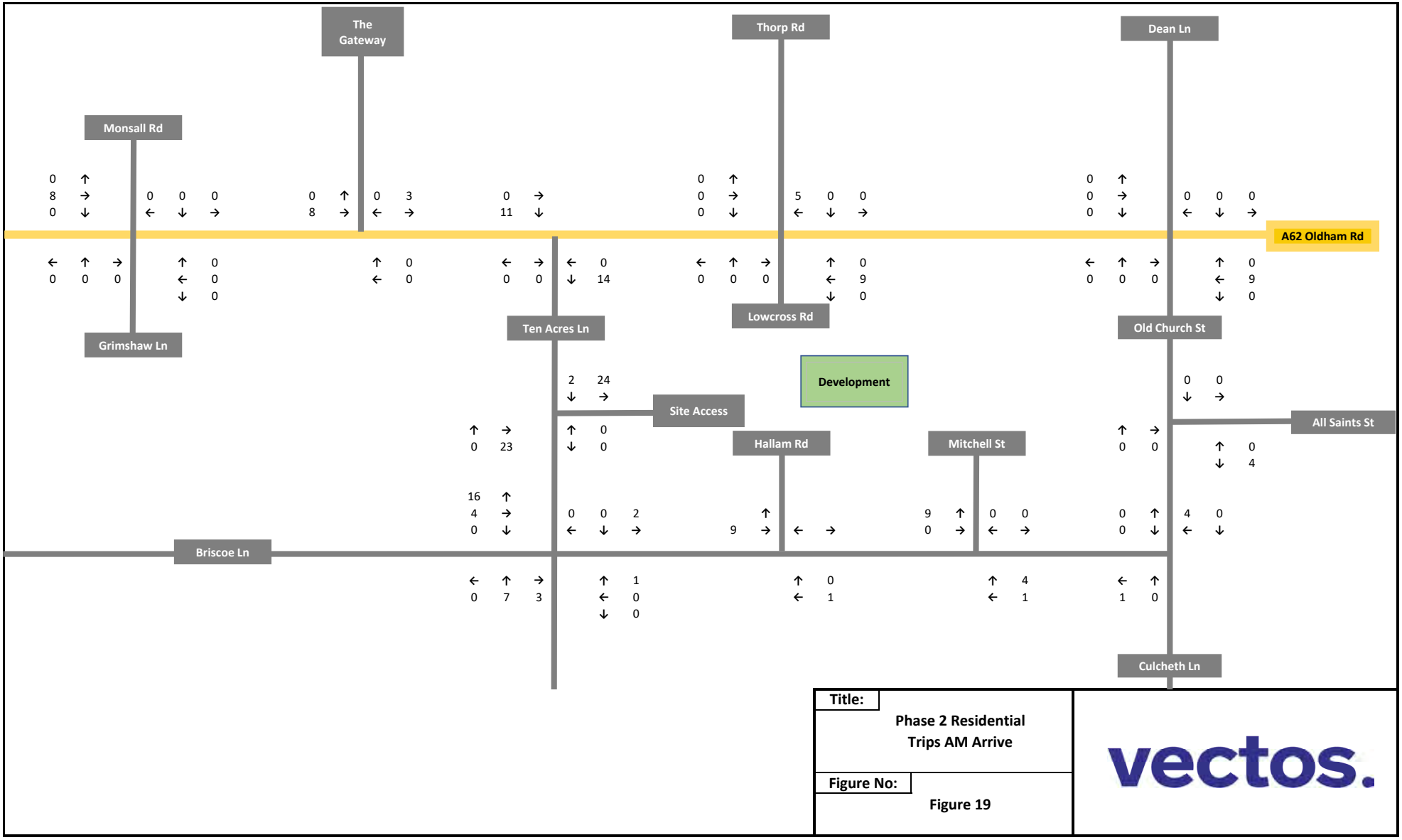
Title:	**Residential Distribution Departures Phase 2**
Figure No:	**Figure 17**

vectos.



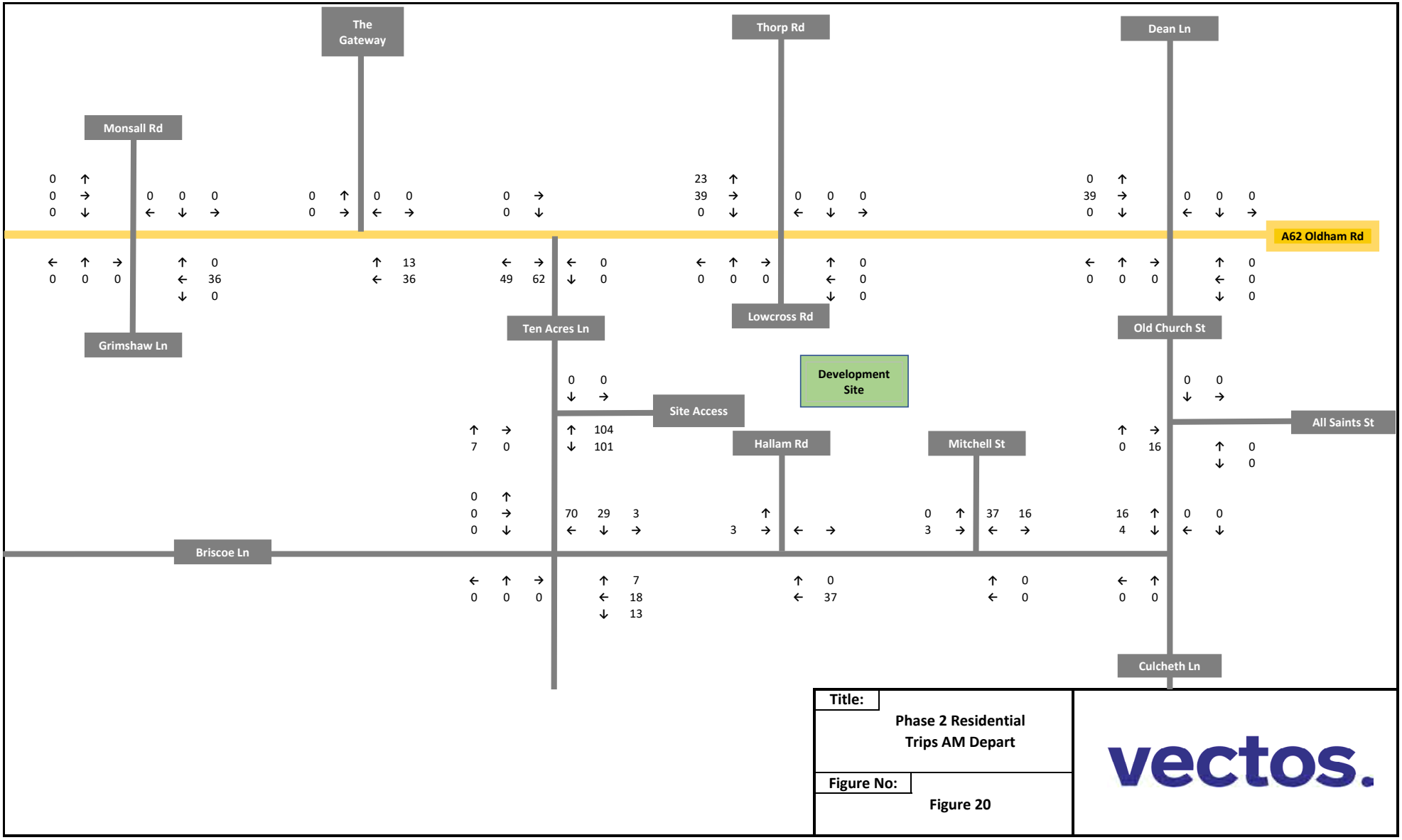
Title:	**Residential Distribution Arrivals Phase 2**
Figure No:	**Figure 18**

vectos.



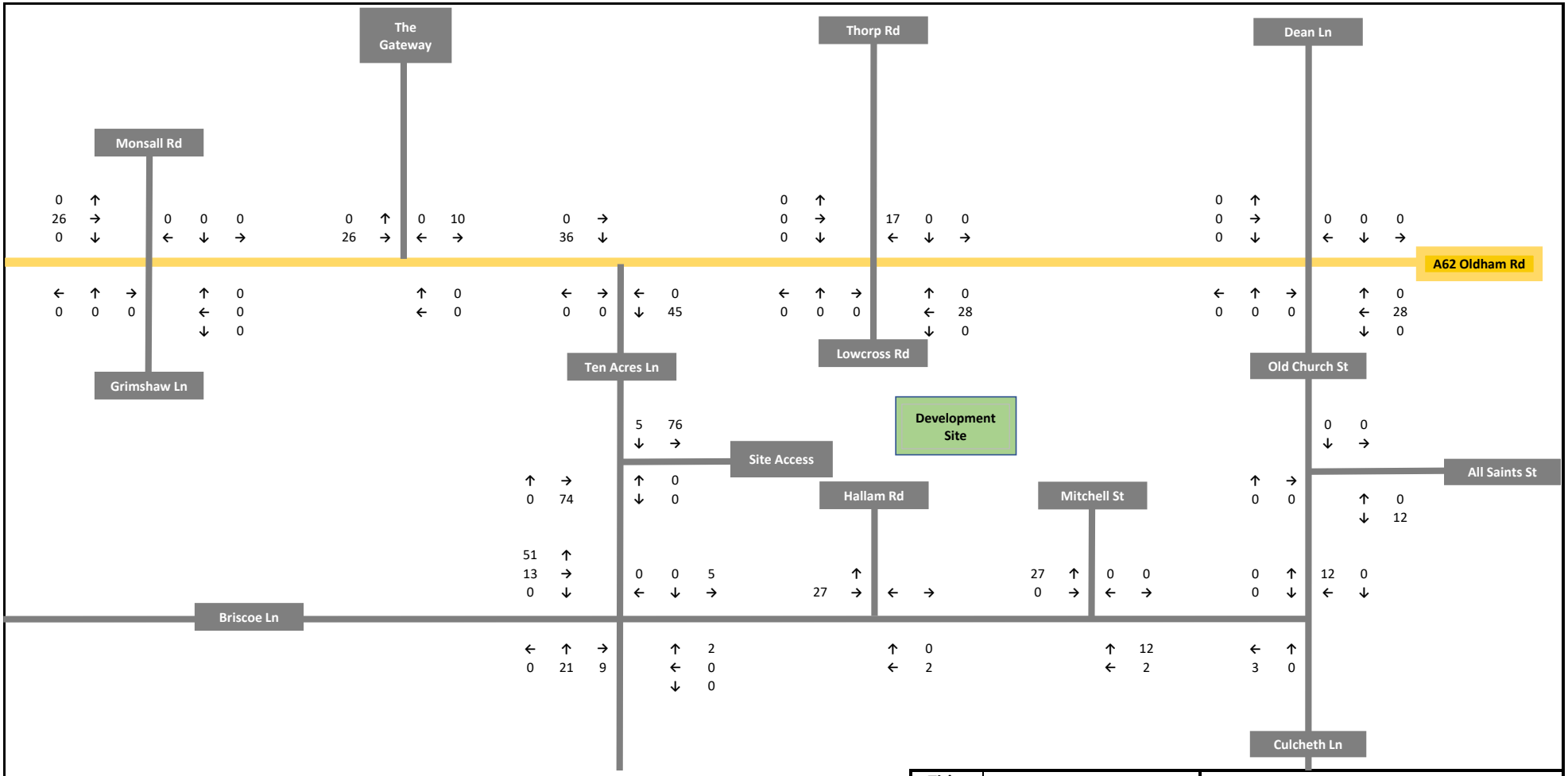
Title:	Phase 2 Residential Trips AM Arrive
Figure No:	Figure 19

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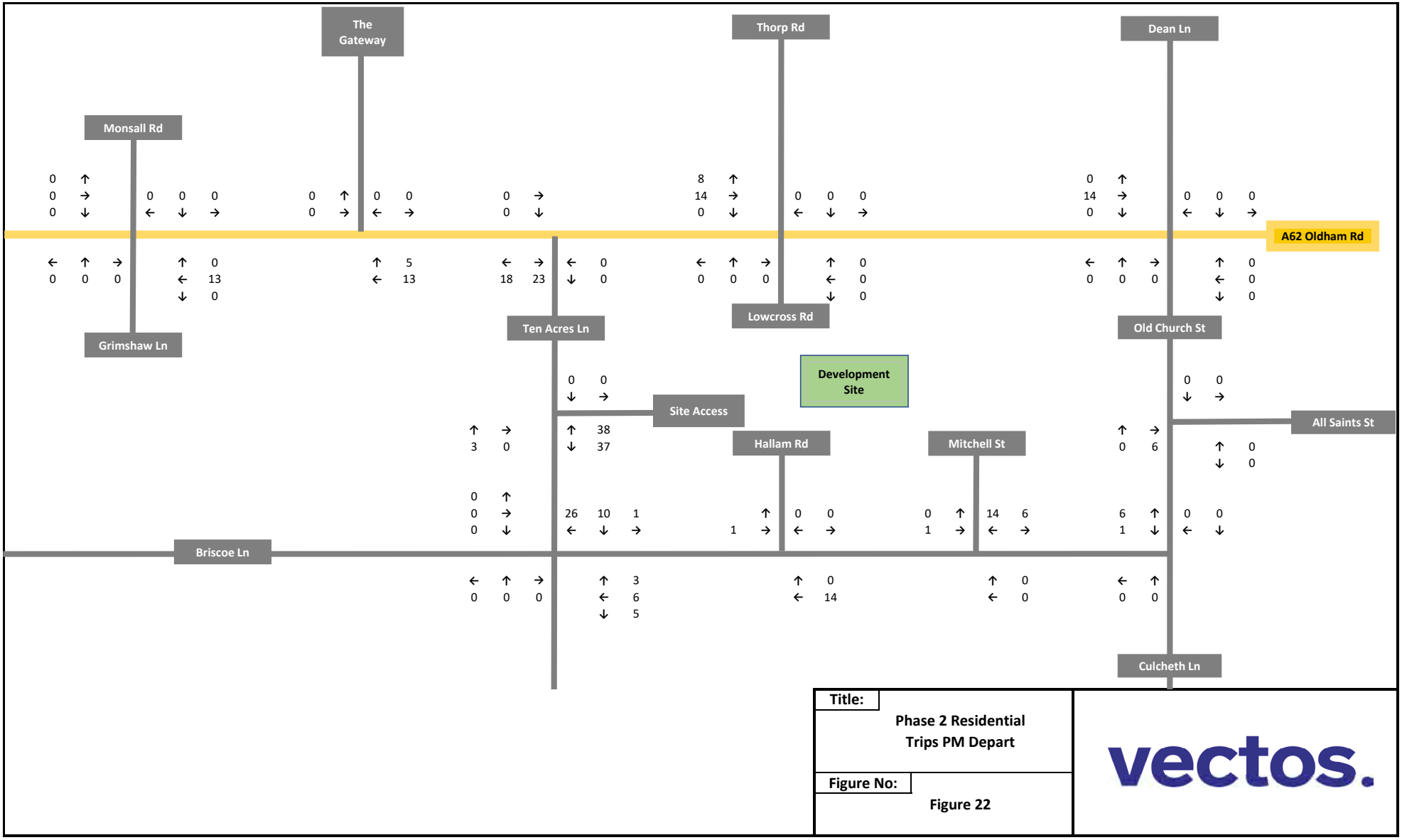
Title:	Phase 2 Residential Trips AM Depart
Figure No:	Figure 20

vectos.



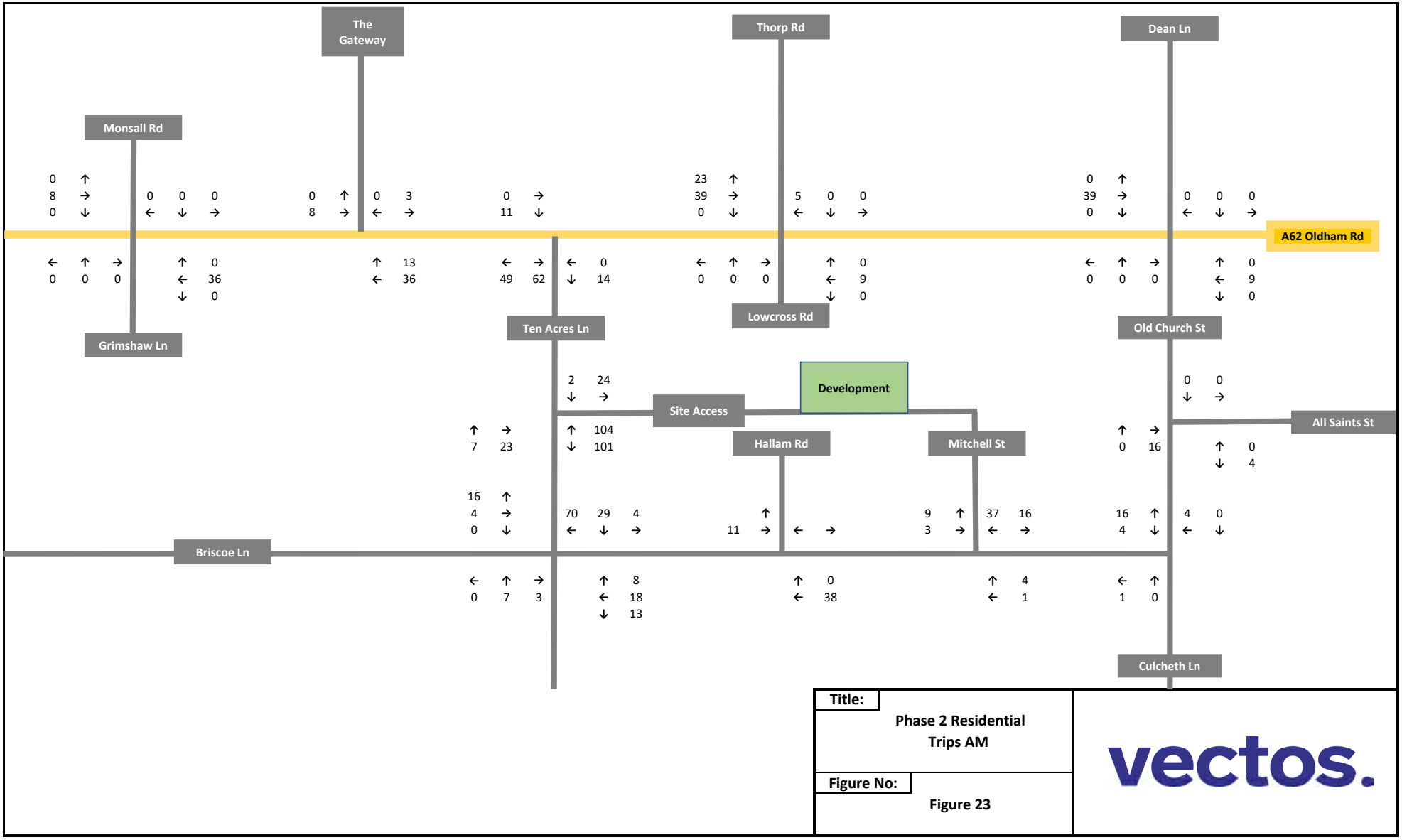
Title:	Phase 2 Residential Trips PM Arrive
Figure No:	Figure 21

vectos.



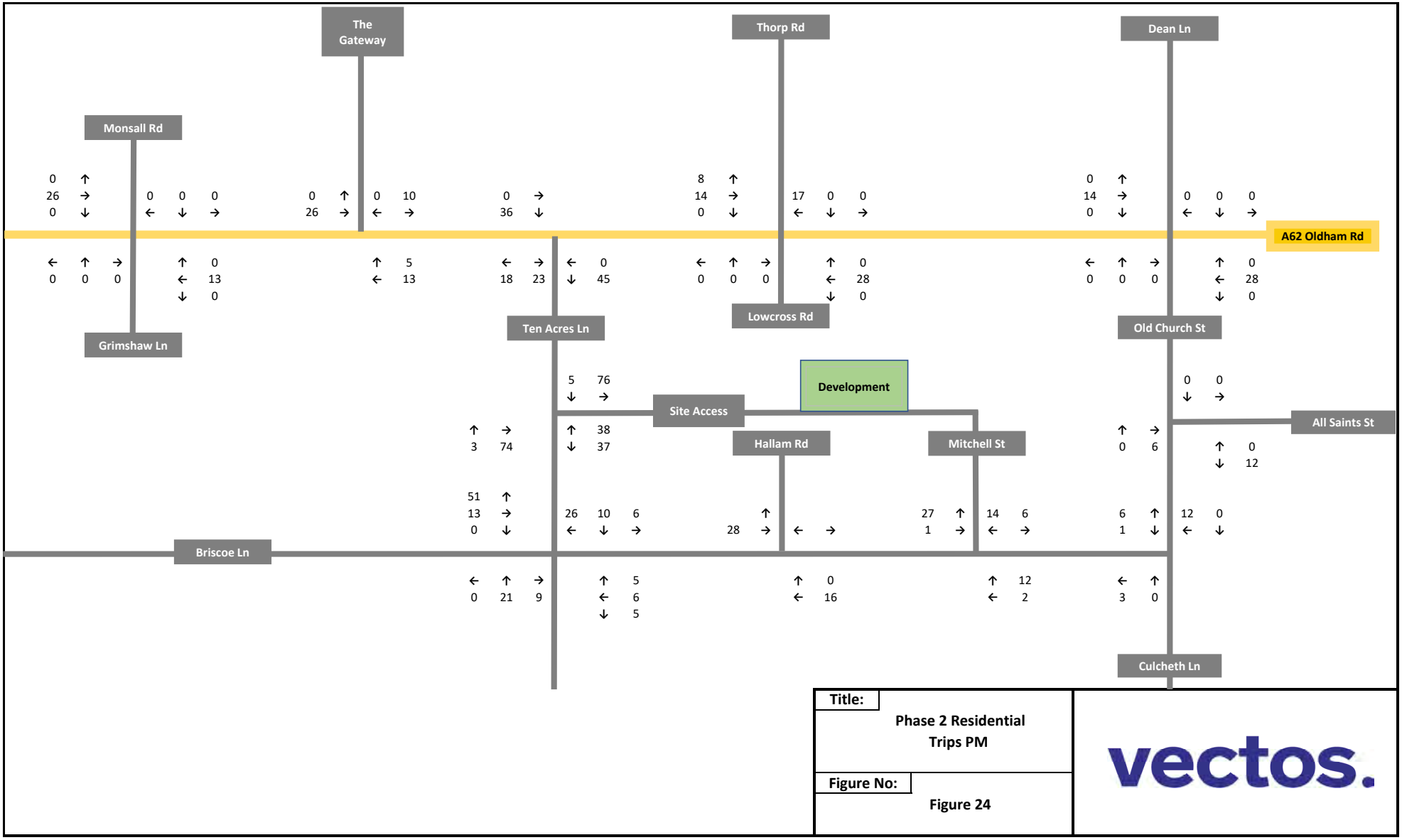
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Figure No:	Figure 22

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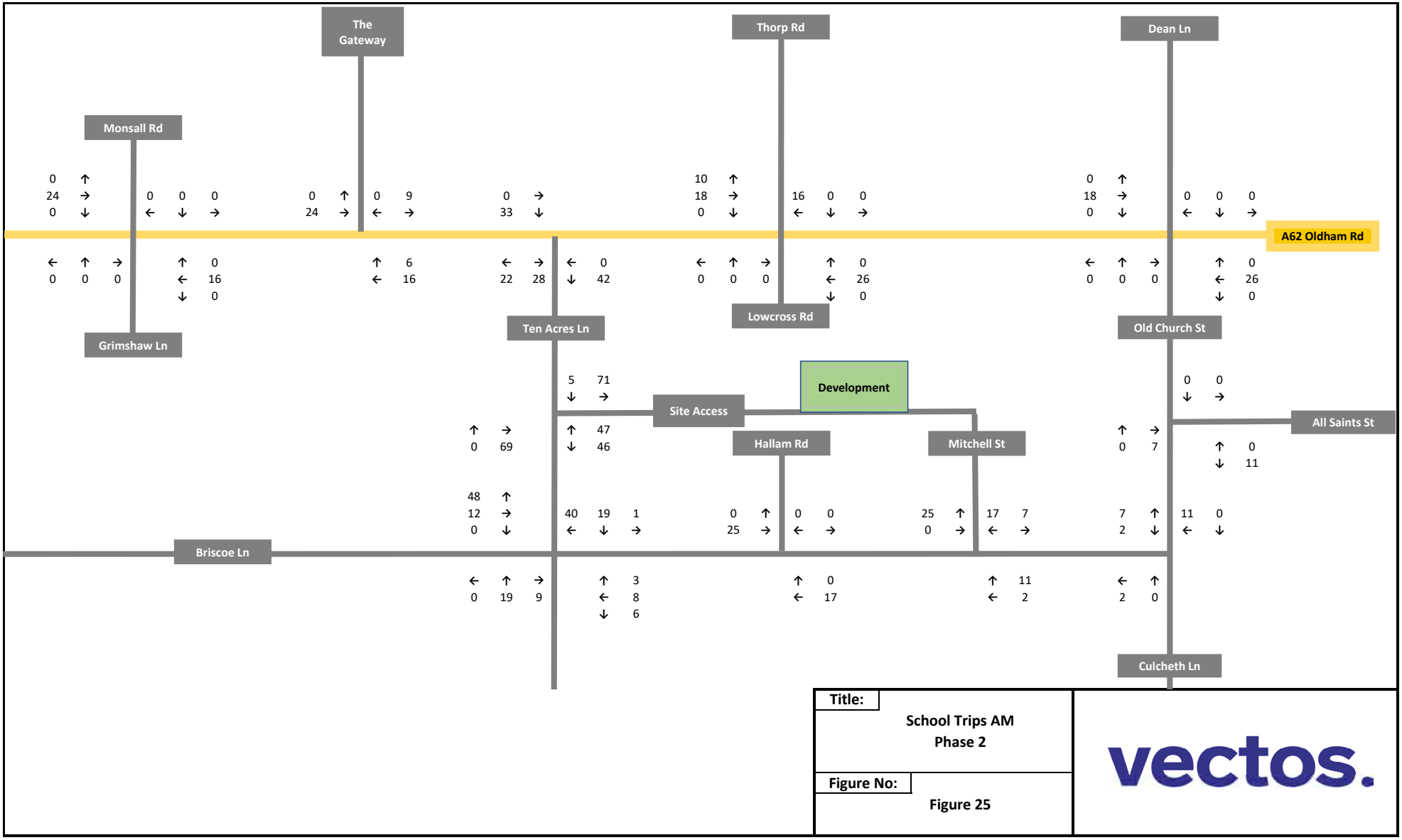
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Figure No:	Figure 23

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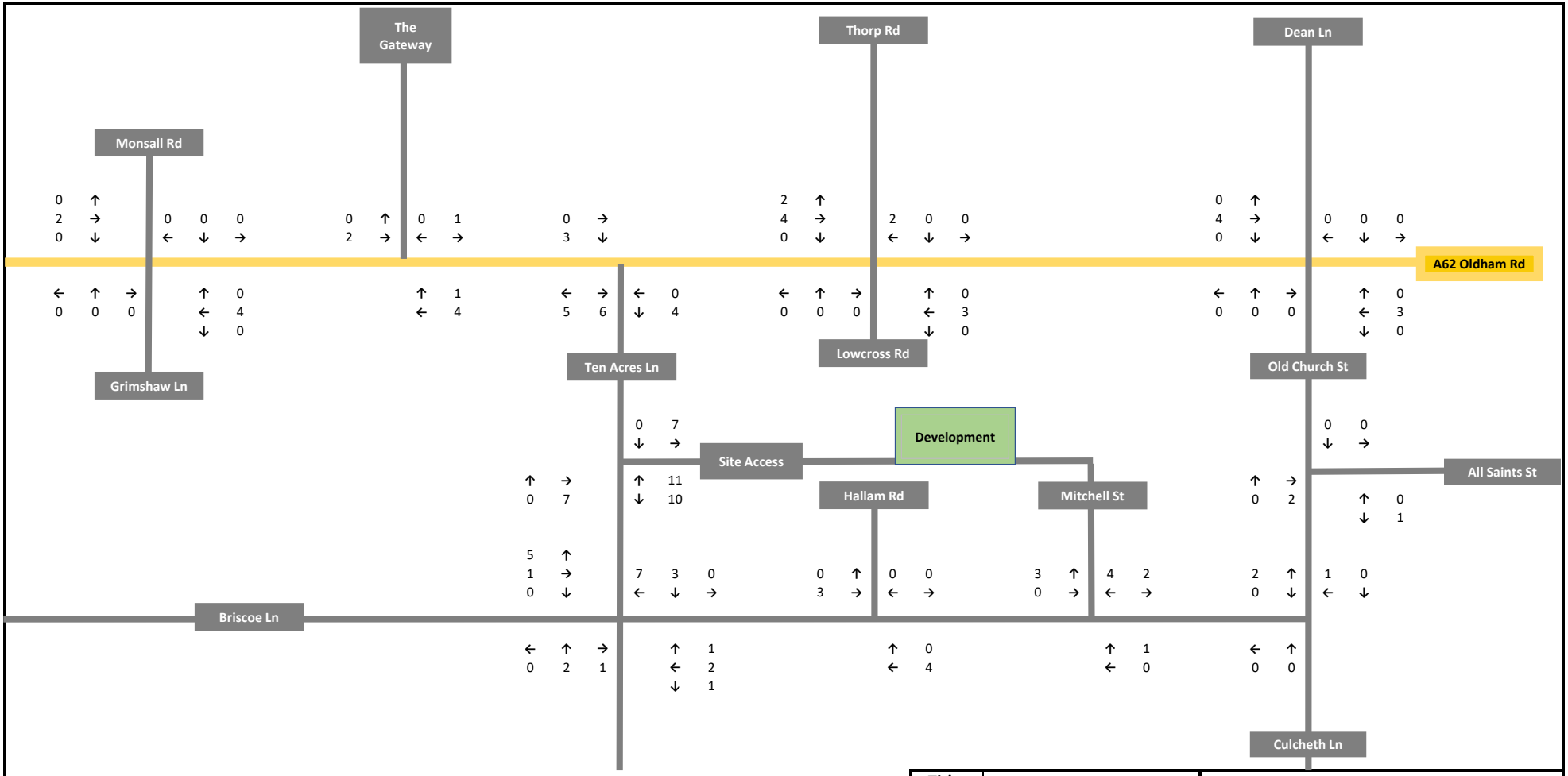
Title:	Phase 2 Residential Trips PM
Figure No:	Figure 24

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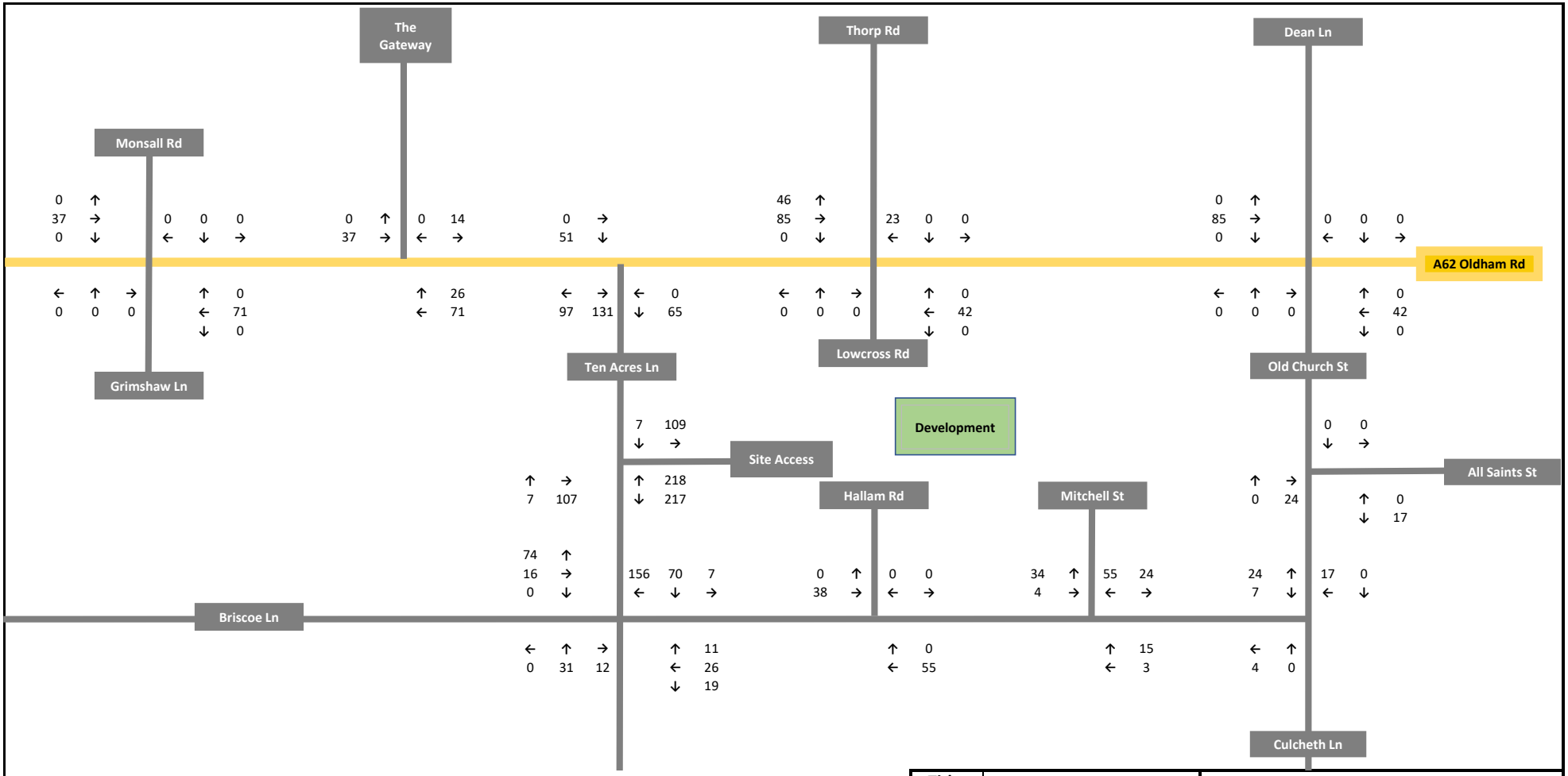
Title:	School Trips AM Phase 2
Figure No:	Figure 25

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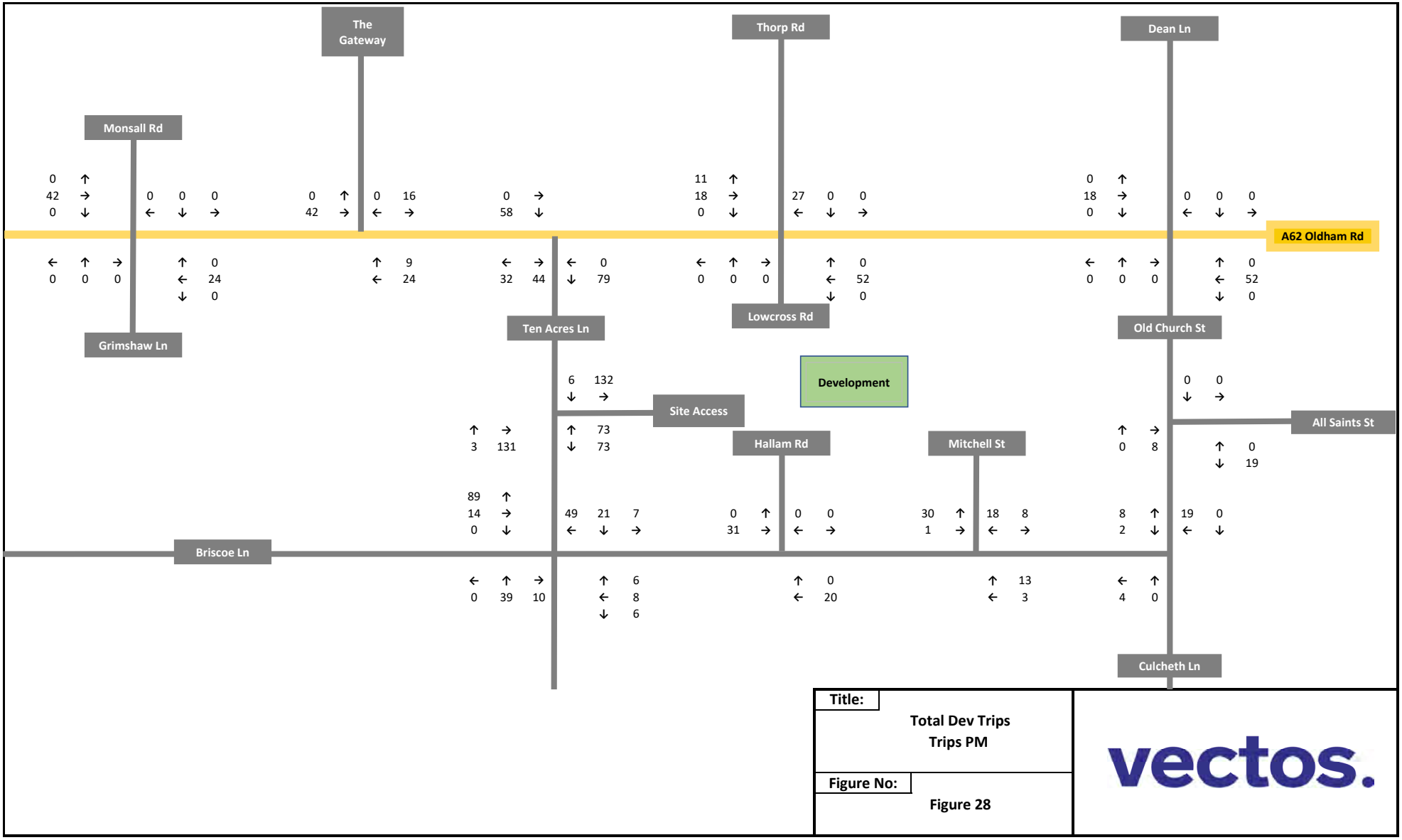
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Figure No:	Figure 26

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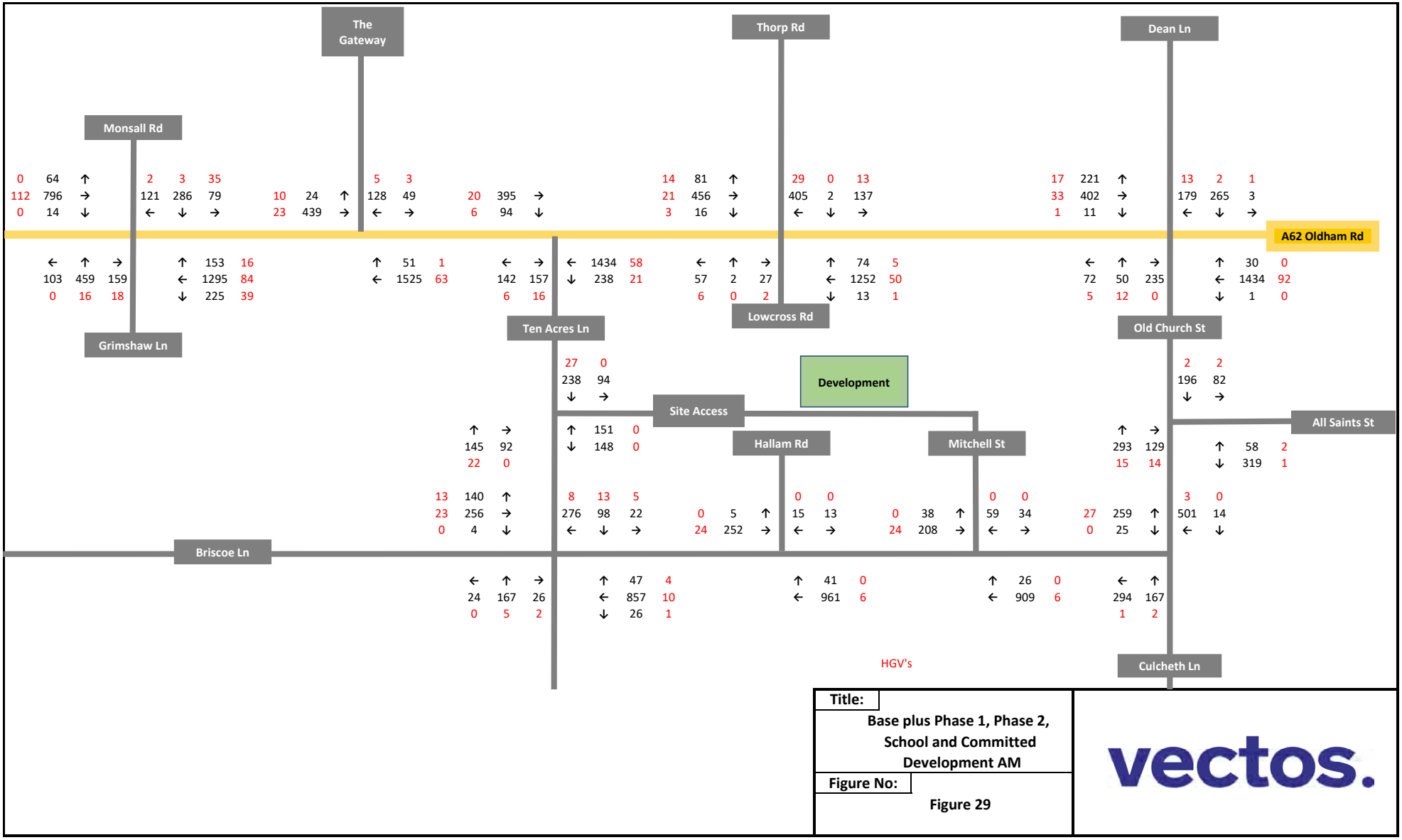
Title:	Total Dev Trips AM
Figure No:	Figure 27

vectos.



Title:	Total Dev Trips Trips PM
Figure No:	Figure 28

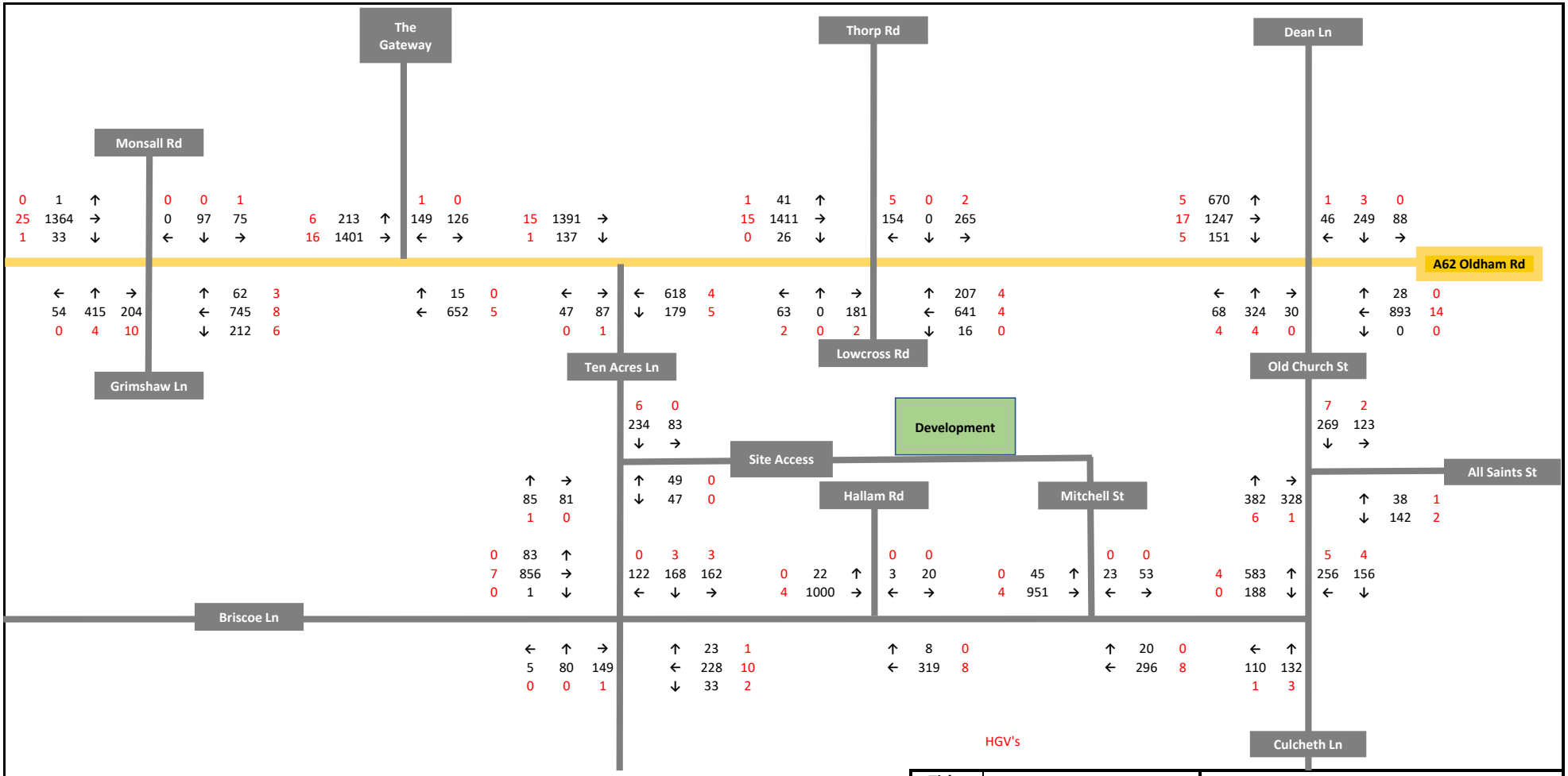
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Title: Base plus Phase 1, Phase 2, School and Committed Development AM

Figure No: Figure 29

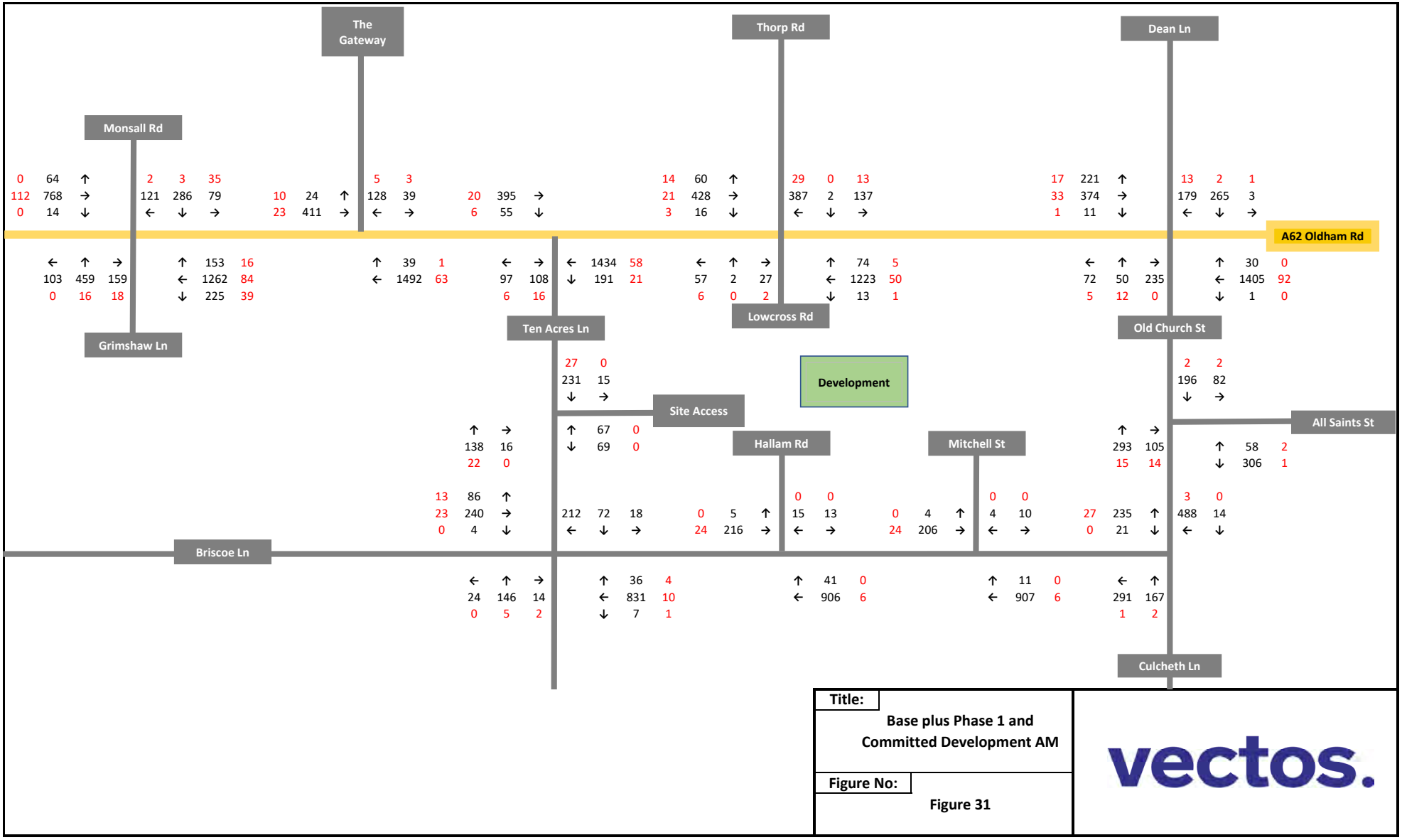
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Title: Base plus Phase 1, Phase 2, School and Committed Development PM

Figure No: Figure 30

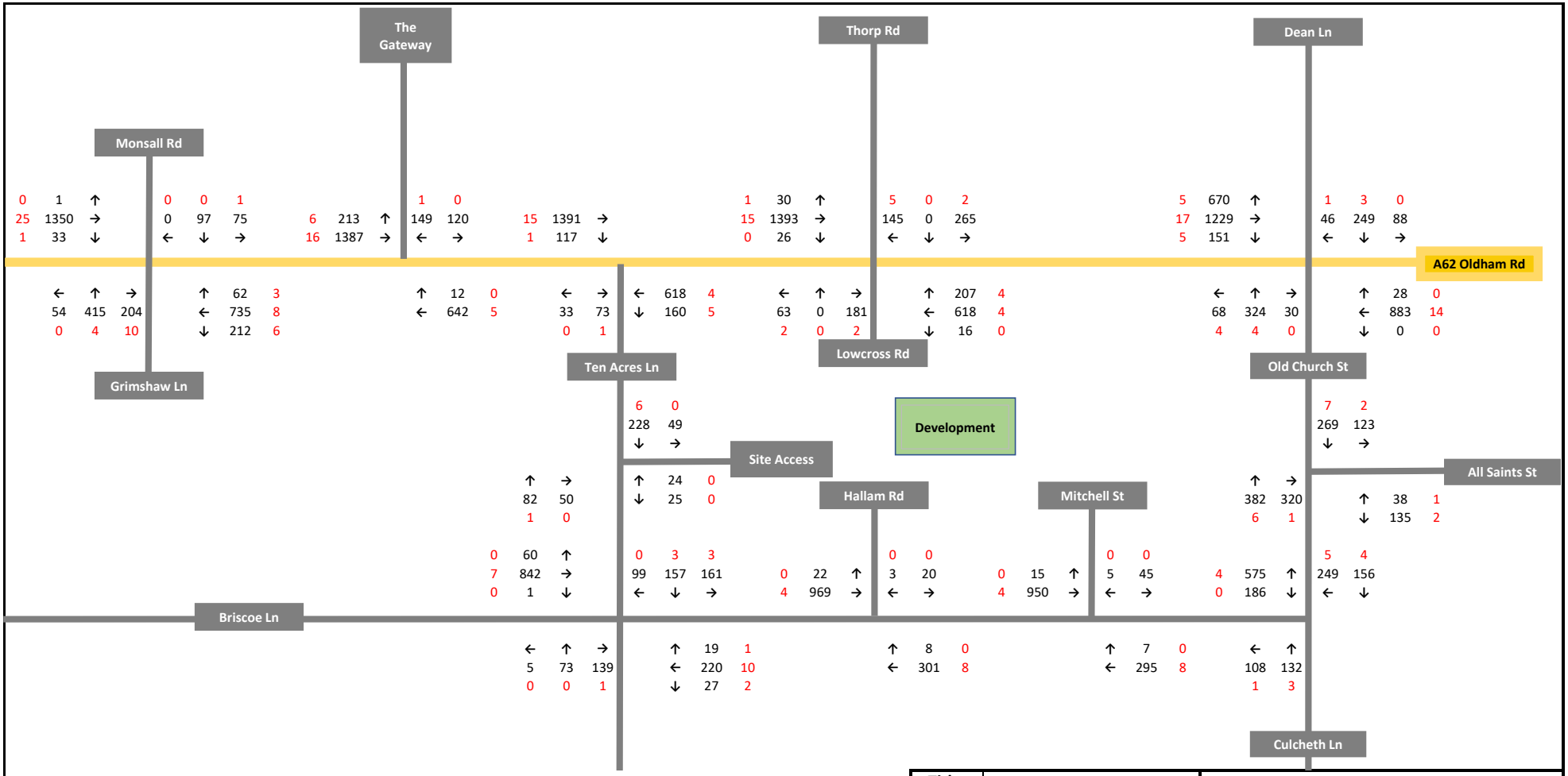
vectos.



Title: Base plus Phase 1 and Committed Development AM

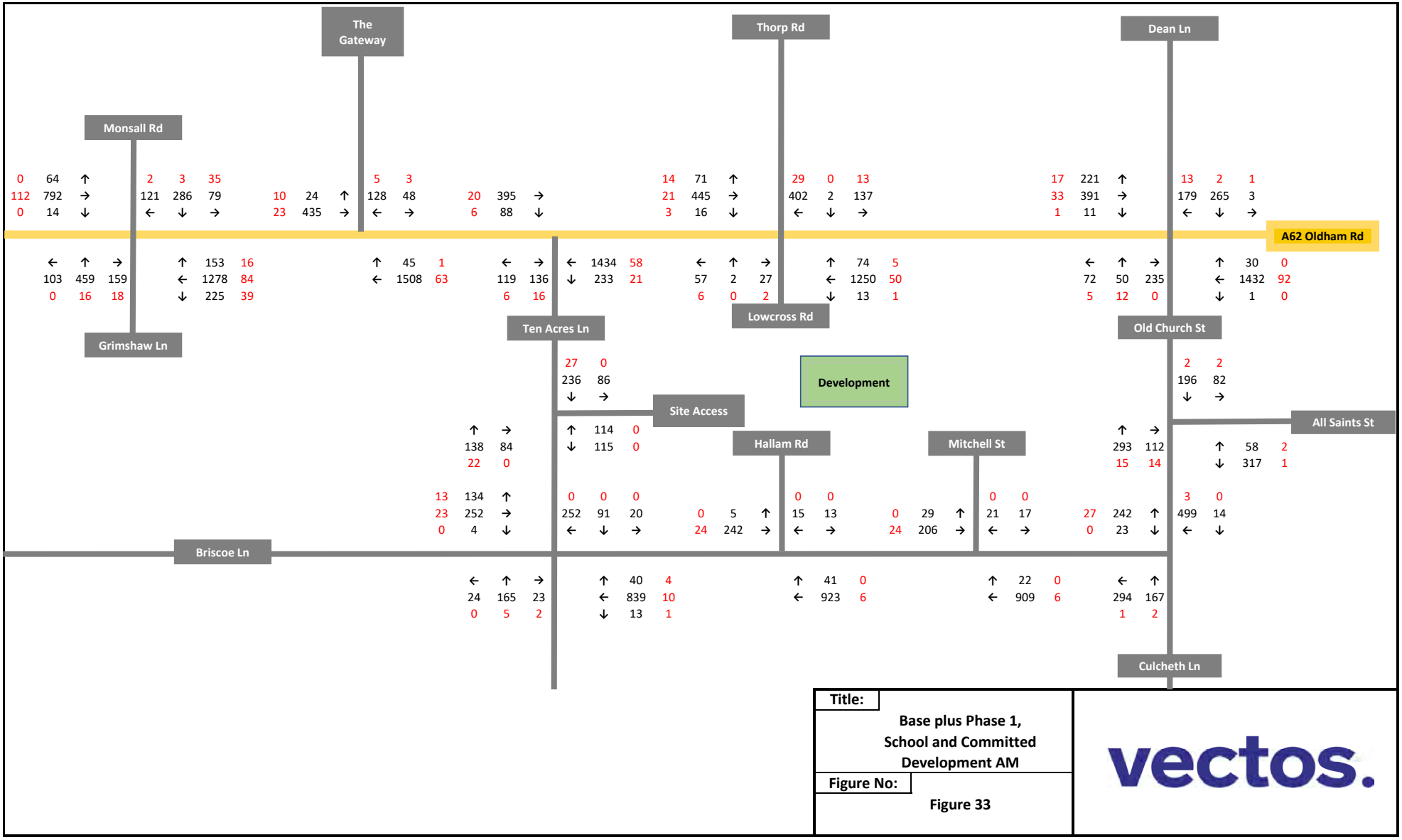
Figure No: Figure 31

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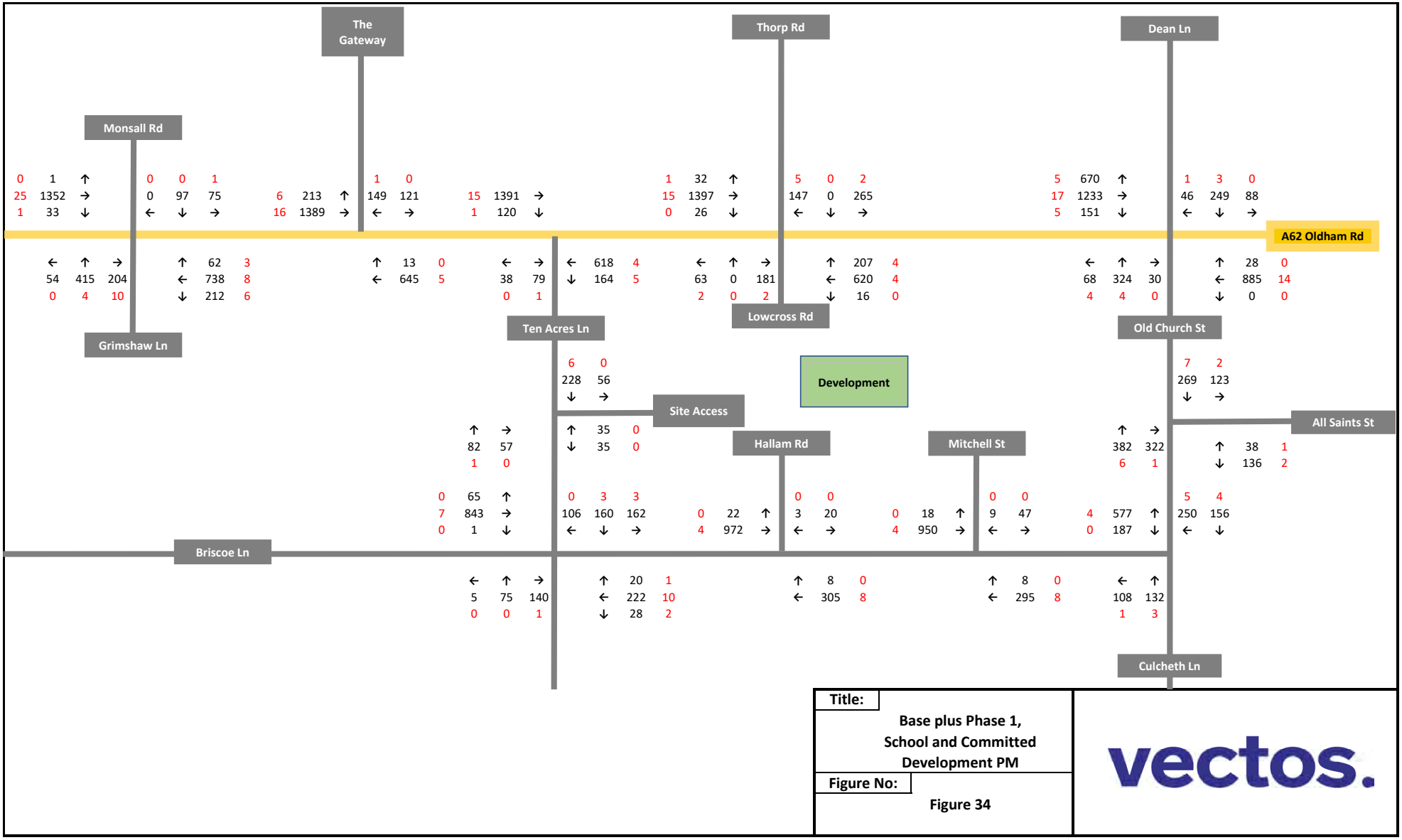
Title:	**Base plus Phase 1 and Committed Development PM**
Figure No:	**Figure 32**

vectos.



Title:	Base plus Phase 1, School and Committed Development AM
Figure No:	Figure 33

vectos.



Title:	Base plus Phase 1, School and Committed Development PM
Figure No:	Figure 34

vectos.

Appendices

vectos.

Appendix A

Site Layout Plan

NOTE:
1. Do not scale from this drawing
2. All setting out, levels and dimensions to be agreed on site.
3. The dimensions of all materials must be checked on site before being laid out.
4. This drawing must be read with the relevant specification clauses and detail drawings
5. Order of construction and setting out to be agreed on site.
6. This drawing is copyright protected and may not be reproduced in whole or part without written authority.
7. All dimensions are in millimetres or metres unless stated otherwise.

OLDHAM ROAD
HARMER CLOSE
ROCHDALE CANAL
Lock 70
ROGER BURNE CLOSE
MILLWRIGHT STREET
MITCHELL STREET
Lock 71
Jackson's Community Park
Lawn
349-378 Community Hub Building
Community Garden
Land Allocated for School
BOWER STREET
T & A Textiles & Hosiery Warehouse
Lock 72
Ten Acres Pocket Park
MANOR DRIVE 5
SECONDARY ROAD 7
PRIMARY ROAD 2
SECONDARY ROAD 9
MORTLAKE DRIVE
HARBINY
ROCHDALE CANAL
Lock 73
SECONDARY ROAD 1
PRIMARY ROAD 1
MANOR DRIVE 3
MANOR DRIVE 4
SECONDARY ROAD 3
SECONDARY ROAD 4
SECONDARY ROAD 6
SECONDARY ROAD 8
SECONDARY ROAD 5
MANOR DRIVE 1
Hallam Road Modal Filter
TEN ACRES LANE
TEN ACRES LANE SPORTS COMPLEX
MAXAM CLOSE
Hallam Green
Substation
HALLAM ROAD
MORSE ROAD
BRISCOE LANE'S ACADEMY (PRIMARY SCHOOL)
HALLIDAY ROAD
BRISCOE LANE
STAPLEHURST ROAD

PHASE 1
Full planning application

PHASE 2
outline planning application
(Illustrative layout)

BOUNDARIES
- Hybrid planning application boundary
- Outline planning application elements
- Boundary between Phase 2 and land allocated for the school
- Phase 2 Masterplan for illustrative purposes

Revision	Date	Description	Drawn	Apprvd.
S4-P08	29/04/22	Phase 2 Overlay	AGB	LF
S4-P07	27/04/22	Planning	JD	LF
S4-P06	22/04/22	Planning	JD	LF
S3-P05	14/03/22	DRAFT.	JD	LF
S3-P04	07/03/22	DRAFT.	JD	LF
S3-P03	04/03/22	DRAFT. Red line boundary, very few minor layout amendments	JD	LF
S3-P02	01/03/22	DRAFT for Viability	BW	LF
S0-P01	23/02/22	DRAFT for GMP	BW	LF

Planit I.E. Limited
E: info@planit-ie.com W: planit-ie.com
MANCHESTER
2 Back Grafton St , Altrincham, WA14 1DY
T: 0161 928 9281
LONDON
Unit 6 Waterside, 44-48 Wharf Road, London, N1 7UX
T: 0207 253 5678
LIVERPOOL
Tempest 5.3, 12 Tithebarn Street, Liverpool, L2 2DT
T: 0151 363 1230

Client Your Housing Group

Project Jacksons Brickworks

Drg Title Combined Masterplan

Created on	Created by	Approved by
23/02/2022	BW	LF

Scale	Size	Workstage	Status
1:1000	A1	RIBA 3	Planning

Drg No. 2490-PLA-00-00-DR-LA-0056
Suitability S4
Revision P08

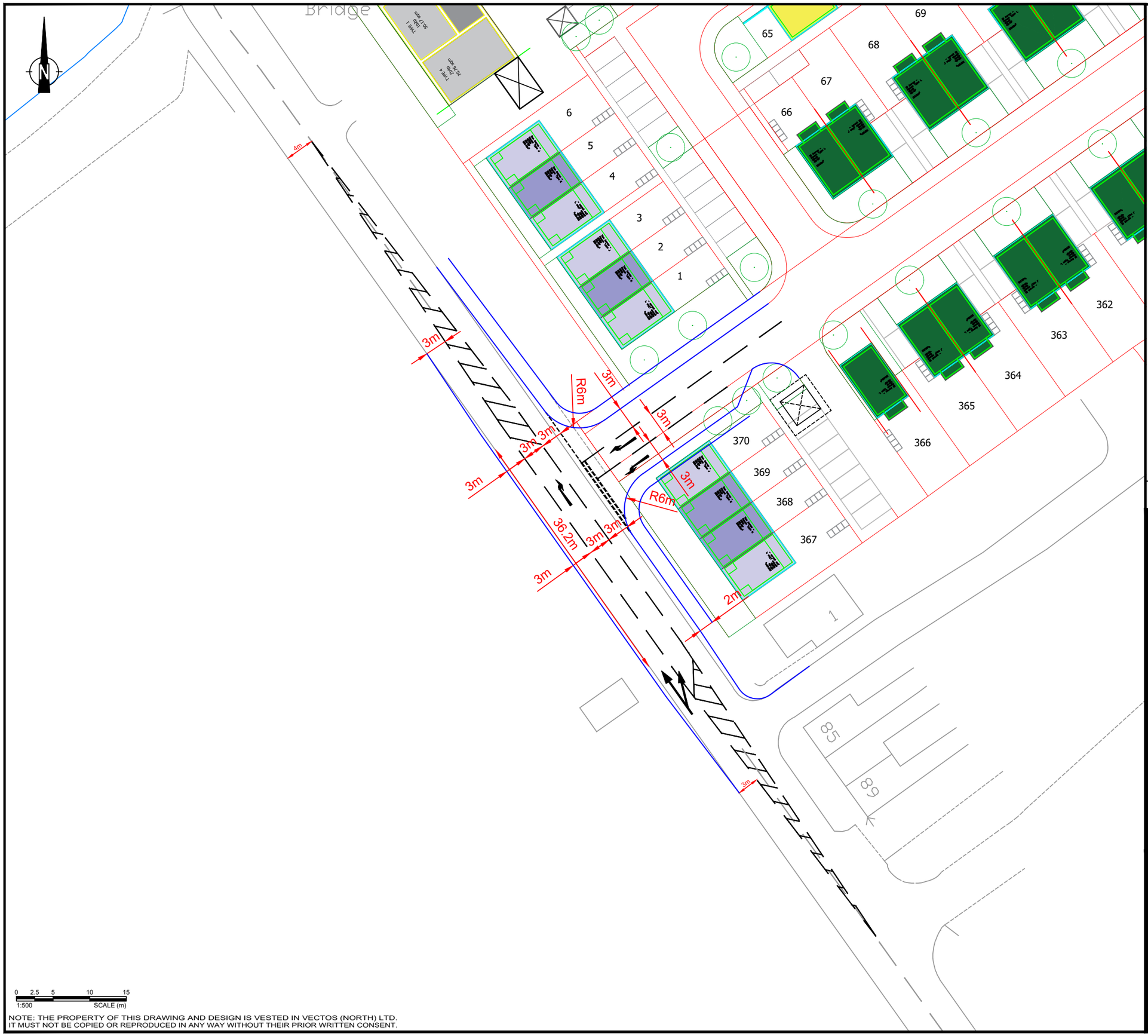
0 10 20 30 40 50
Scale Bar (m)

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Appendix B

Ten Acres Lane Site Access Junction Design



Notes:

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

REV.	DETAILS	DRAWN	CHECKED	DATE
.	.	.	.	.

CLIENT:

Nuvu Developments Ltd

PROJECT:

Jacksons Brickworks, Manchester

DRAWING TITLE:

Proposed Access Road Arrangement Option 1

SCALES:

1:500 at A3

DRAWN:	CHECKED:	DATE:
DJR	JW	29.11.21

vectos.

4th Floor Oxford Place, 61 Oxford Street, Manchester, M1 6EQ
0161 228 1008 e: manchester@vectos.co.uk

DRAWING NUMBER:	REVISION:
VN201804-D105	·

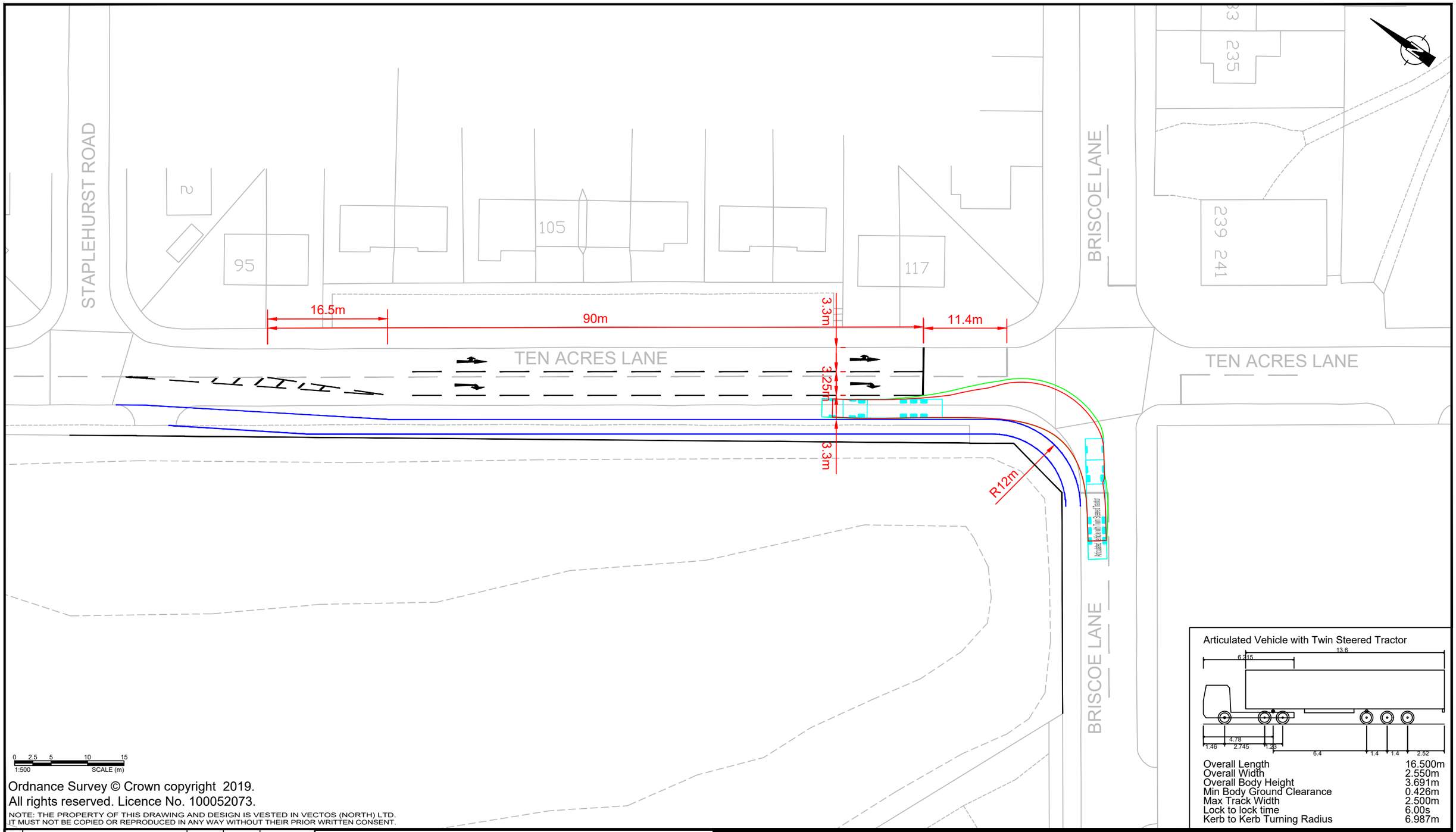
0 2.5 5 10 15
1:500 SCALE (m)

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Appendix C

Ten Acres Lane/Briscoe Lane Improvement Scheme and Land Ownership Plan



Overall Length	16.500m
Overall Width	2.550m
Overall Body Height	3.691m
Min Body Ground Clearance	0.426m
Max Track Width	2.500m
Lock to lock time	6.00s
Kerb to Kerb Turning Radius	6.987m

0 2.5 5 10 15
1:500 SCALE (m)

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REV.	DETAILS	DRAWN	CHECKED	DATE
.	.	.	.	.

Notes:

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

Existing road markings
Proposed road markings
Proposed kerbline
Scheme extents / client boundary

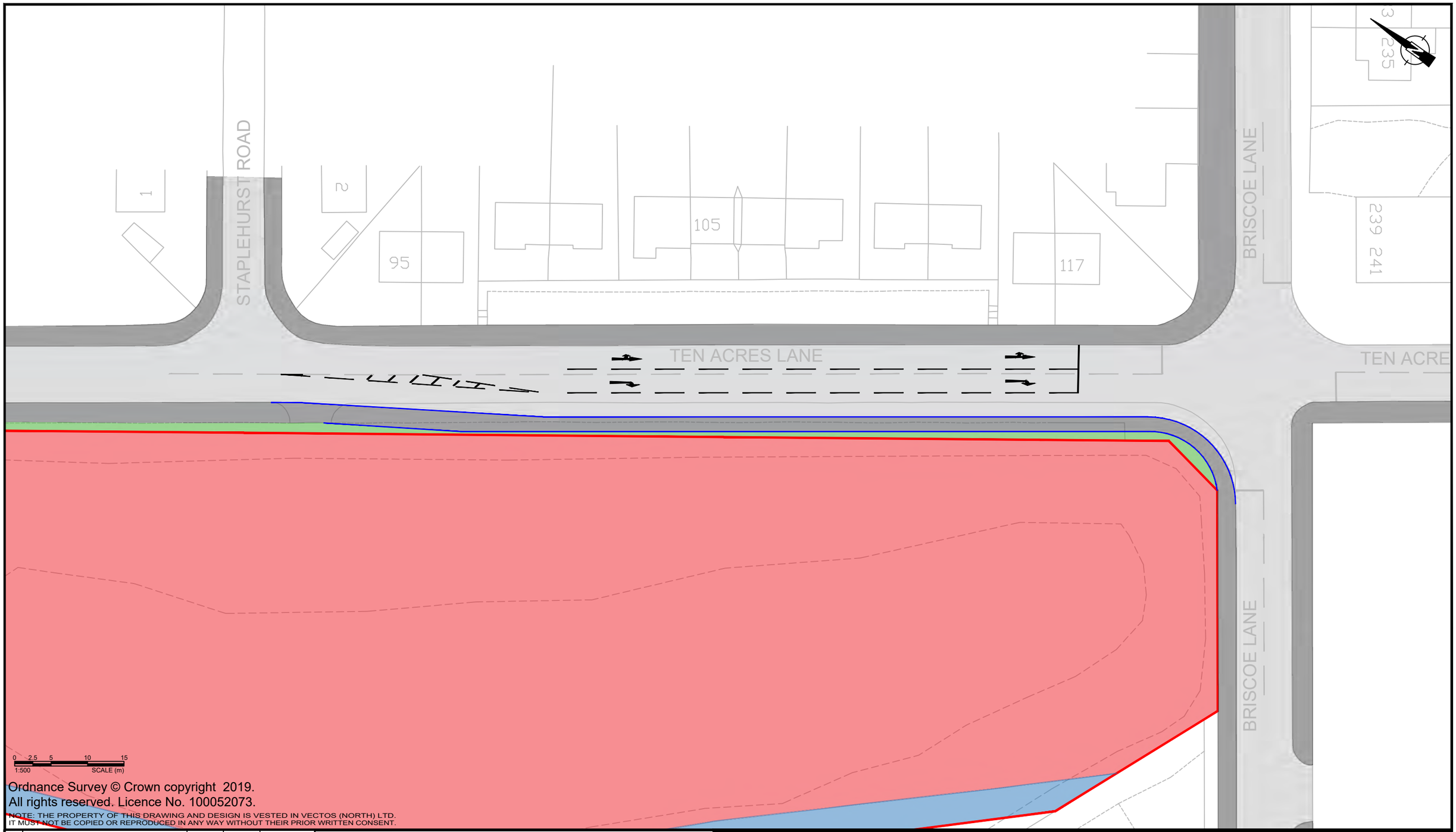
Jacksons Brickworks, Manchester

General Arrangement Plan

Nuvu Developments Ltd

vectos.
4th Floor Oxford Place, 61 Oxford Street, Manchester, M1 6EQ
0161 228 1008 e: manchester@vectos.co.uk

DRAWN:	CHECKED:	DATE:	SCALES:	DRAWING NUMBER:	REVISION:
TO	JW	20.01.21	1:500 at A3	VN201804-D100	·



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REV.	DETAILS	DRAWN	CHECKED	DATE
.	.	.	.	.

Notes:

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

- Carriageway
- Footway
- Verge
- Existing road markings
- Proposed road markings
- Proposed kerbline
- Title Number MAN174189
- Title Number MAN174189

Jacksons Brickworks, Manchester

Nuvu Developments Ltd

General Arrangement Plan & Land Ownership

vectos.
4th Floor Oxford Place, 61 Oxford Street, Manchester, M1 6EQ
0161 228 1008 e: manchester@vectos.co.uk

DRAWN:	CHECKED:	DATE:	SCALES:	DRAWING NUMBER:	REVISION:
WD	JW	18.01.22	1:500 at A3	VN201804-D107	·

vectos.

Appendix D

MCC/Vectos Correspondence – Ten Acres Lane Toucan Crossing

From:	Sharaz Arif
To:	Andy Connell; Gareth Davis; Montazar Adulkarim
Cc:	James Whitton; Andrew Ward; Lee McMellon
Subject:	RE: MCF scheme on Ten Acres Lane
Date:	03 March 2021 11:27:33

I suspect CRT, however I don't see maintenance as an issue in this as it will fall back on to either MCC or CRT as the land we are looking to upgrade forms part of our canal cycle/walking scheme.

Kind regards,

Sharaz Arif IEng MICE NECReg

Senior Project Manager
Highways
Tel: 07791560775

From: Andy Connell <andy.connell@manchester.gov.uk>
Sent: 03 March 2021 11:23
To: Sharaz Arif <Sharaz.Arif@manchester.gov.uk>; Gareth Davis <gareth.davis@vectos.co.uk>; Montazar Adulkarim <montazar.adulkarim@manchester.gov.uk>
Cc: James Whitton <james.whitton@vectos.co.uk>; Andrew Ward <andrew.ward@vectos.co.uk>; Lee McMellon <lee.mcmellon@manchester.gov.uk>
Subject: Re: MCF scheme on Ten Acres Lane

Thanks Sharaz, but if they are public rights of way then are they maintained either by us or CRT?

Regards,

Andy Connell (Working Times until the end of

March 2021:- Tuesday to Thursday 0700 - 1600)

CURRENTLY WORKING FROM HOME

Traffic Engineer

Highways Service, Neighbourhoods Directorate

5th Floor Bridgewater House

Whitworth Street

Manchester

M1 6LT

Tel External: 0161 219 6510

Tel Internal: 801 36510

Work mobile: 07949 611265

E-mail: andy.connell@manchester.gov.uk

Web: http://www.manchester.gov.uk

From: Sharaz Arif <Sharaz.Arif@manchester.gov.uk>
Sent: 03 March 2021 11:20 AM
To: Andy Connell <andy.connell@manchester.gov.uk>; Gareth Davis <gareth.davis@vectos.co.uk>; Montazar Adulkarim <montazar.adulkarim@manchester.gov.uk>
Cc: James Whitton <james.whitton@vectos.co.uk>; Andrew Ward <andrew.ward@vectos.co.uk>; Lee McMellon <lee.mcmellon@manchester.gov.uk>
Subject: RE: MCF scheme on Ten Acres Lane

FYI – Land ownership details.

As shown, the connections to the proposed crossing point on Ten Acres Lane from the canal are not under MCC or CRT's ownership.

Kind regards,
Sharaz Arif IEng MICE NECReg

Senior Project Manager
Highways
Tel: 07791560775

From: Sharaz Arif
Sent: 03 March 2021 10:41
To: Andy Connell <andy.connell@manchester.gov.uk>; Gareth Davis <gareth.davis@vectos.co.uk>; Montazar Adulkarim <montazar.adulkarim@manchester.gov.uk>
Cc: James Whitton <james.whitton@vectos.co.uk>; Andrew Ward <andrew.ward@vectos.co.uk>; Lee McMellon <lee.mcmellon@manchester.gov.uk>
Subject: RE: MCF scheme on Ten Acres Lane

Hi all,

With regards to maintenance, the sections that we plan to use appear to be public right of ways, maintenance liability may already fall upon MCC or Canal and River Trust (CRT). However, if it doesn't then it would be proposed to formalise the maintenance liability to MCC or CRT.

@Montazar Adulkarim please can you confirm land ownership in respect to Area 4.

Kind regards,

Sharaz Arif IEng MICE NECReg

Senior Project Manager
Highways
Tel: 07791560775

From: Andy Connell <andy.connell@manchester.gov.uk>
Sent: 03 March 2021 09:48
To: Gareth Davis <gareth.davis@vectos.co.uk>
Cc: Sharaz Arif <Sharaz.Arif@manchester.gov.uk>; James Whitton <james.whitton@vectos.co.uk>; Andrew Ward <andrew.ward@vectos.co.uk>
Subject: Re: MCF scheme on Ten Acres Lane

Thanks Gareth, it is good to know that the principles of the scheme are supported and your point is noted about the future maintenance liability.

Sharaz, with regard to the immediate connectivity from the canal to the new crossing facility (the ramps/steps etc) are you able to confirm that the respective developers on each side would not be responsible for their specific future maintenance?

I envisage that each development will provide onward connectivity at the end of the ramps to/from their respective developments and would only be responsible for the maintenance of that element.

Regards,

Andy Connell (Working Times until the end of

March 2021:- Tuesday to Thursday 0700 - 1600)

CURRENTLY WORKING FROM HOME

Traffic Engineer

Highways Service, Neighbourhoods Directorate

5th Floor Bridgewater House

Whitworth Street

Manchester

M1 6LT

Tel External: 0161 219 6510

Tel Internal: 801 36510

Work mobile: 07949 611265

E-mail: andy.connell@manchester.gov.uk

Web: http://www.manchester.gov.uk

From: Gareth Davis <gareth.davis@vectos.co.uk>
Sent: 02 March 2021 2:11 PM
To: Andy Connell <andy.connell@manchester.gov.uk>
Cc: Sharaz Arif <Sharaz.Arif@manchester.gov.uk>; James Whitton <james.whitton@vectos.co.uk>; Andrew Ward <Andrew.Ward@vectos.co.uk>
Subject: RE: MCF scheme on Ten Acres Lane

Andy

Following your email we have approached both developers we represent either side of Ten Acres Lane regarding this Toucan Crossing. In summary both developers are comfortable with the principles of the scheme. They feel that a solution can be accommodated within their particular development aspirations. However the plan only covers works on the highway so they reserve judgement depending on the design solution(s) and any solution would need to be checked and coordinated with the development plans. I think this is particularly true for any works to the north. The developers would not want to be left with any liability or responsibility for maintenance. I suggest that MCC also confirm the land ownerships as part of this process.

I hope that helps moves things on. The next steps would be to see more detail on the proposals so that the works can be considered further.

Best regards

Gareth

Gareth Davis
Director
-
0161 228 1008
07772 827 539
-
4th Floor Oxford Place, 61 Oxford Street
Manchester, M1 6EQ

vectos.

Consider the environment. Do you really need to print this email?

From: Andy Connell <andy.connell@manchester.gov.uk>
Sent: 18 February 2021 13:40
To: Gareth Davis <gareth.davis@vectos.co.uk>; Andrew Ward <Andrew.Ward@vectos.co.uk>
Cc: Sharaz Arif <Sharaz.Arif@manchester.gov.uk>
Subject: MCF scheme on Ten Acres Lane

Hi Gareth and Andy.

Whilst I realise it's early days for your respective schemes either side of Ten Acres Lane, I'd nevertheless like to get your input on a proposed project (funded by MCF) which I attach as a draft here.

The aim of the scheme is to improve pedestrian and cycle connectivity between Ten Acres Lane and the canal towpath.

We understand that whilst the land either side of the road is in private hands (your respective clients) the canal towpath routes are public rights of way.

We initially seek confirmation that this is also your understanding, and then would also like to discuss with you the way in which each of the developments can integrate into this pedestrian/cycle network.

Would it be possible to catch up with you (also with my colleague Sharaz) to discuss this on a virtual call?

Apologies in advance but I'm currently only working Tues/Wed/Thurs but it would be great if we could get together to discuss the above in the next week or so?

Regards,

Andy Connell (Working Times until the end of

March 2021:- Tuesday to Thursday 0700 - 1600)

Appendix E

TfGM/Vectos Correspondence – Traffic Data

From:	Samuel Corns
To:	James Whitton
Cc:	richard.dolphin@tfgm.com; Neil Bayliss-Rowe; Andy Connell
Subject:	RE: Jacksons Brickworks Traffic Impact Assessment
Date:	31 March 2021 13:46:40
Attachments:	image003.png image004.png Oldham Road ATC Flow Profile Analysis V1.xlsx

Hi James,

Thanks for sending this through.

As we discussed previously, in usual times we would be looking to base the assessment on more recent survey information. Having said that, your suggested approach seems sensible and should provide a robust assessment of the highway impacts of the proposed development.

We have an ATC site close to the proposed development site on Oldham Road to the south-west of Ten Acres Lane. We've had a look at the data from this site, and it supports the view that total traffic volumes in the area have been broadly consistent over the past decade. See summary below but note that 2019 ADT flows are lower as no data was collected from August 2019 to September 2020 (possibly due to an equipment fault).

Multi-node map

1001 - Oldham Rd (A62) / 25m W of B...

Site Details

Site Summary

	ADT	Average Speed	Speed 85%	% HGV	Coverage
2021	18,383	32.2	37.8	9.2%	24.2%
2020	7,359	32.3	37.8	8.0%	99.7%
2019	16,404	30.9	36.6	6.3%	99.9%
2018	30,069	30.8	35.6	6.4%	99.8%
2017	30,652	30.7	36.6	6.1%	99.8%
2016	30,566	31.1	37.2	5.9%	99.4%
2015	30,316	31.1	37.2	5.7%	99.7%
2014	30,242	30.9	37.2	5.4%	99.7%
2013	28,690	31.3	37.2	5.4%	97.0%
2012	28,932	38.8	39.6	-	95.1%
2011	29,556	38.2	39.5	-	93.0%
2010	30,077	32.1	38.4	-	93.5%
2009	28,708	32.8	38.9	-	40.9%

Looking in more detail at changes in the flow profile across the day (see attached spreadsheet), it

is clear that travel patterns have changed across time even though total flow appears comparable. The data points to peak spreading in the morning peak, where decreases are seen in the 2018 data between 07:00 -09:00, with a large percentage increase 06:00 – 07:00. Overall, the afternoon flows (across both inter peak and evening peak) show reductions in the 2018 data.

Whilst new data would still be preferable to account for recent travel behaviour where possible, this analysis supports the use of the historical data as a robust assessment of highway network operation during peak periods.

We'll develop a modelling proposal in line with the suggested approach, and provide to you separately. Given that bank holiday is almost here, this will be available next week.

Any questions on this, just let me know.

Thanks,

Sam

From: James Whitton [mailto:james.whitton@vectos.co.uk]
Sent: 25 March 2021 17:27
To: Richard Dolphin <Richard.Dolphin@tfgm.com>; Neil Bayliss-Rowe <neil.bayliss-rowe@manchester.gov.uk>; Andy Connell <andy.connell@manchester.gov.uk>; Samuel Corns <Samuel.Corns@tfgm.com>
Cc: Gareth Davis <gareth.davis@vectos.co.uk>; Chris Hargreaves <chris.hargreaves@vectos.co.uk>; mike.riding@chiltonestates.uk; Cooper, John <johcooper@deloitte.co.uk>
Subject: Jacksons Brickworks Traffic Impact Assessment

Good Afternoon All,

I realise Richard is on annual leave at present, however, I feel its necessary to outline our position with regards to the traffic impact study for the Jacksons Brickworks site.

Clearly the current situation is causing issues with traffic data collection, and unfortunately, nobody can accurately predict when traffic conditions will return to pre covid levels, if at all.

Whilst we understand that traffic counts undertaken over the next few weeks are not likely to be representative, given we are still under lockdown, the target submission date of the end of May does not allow us to wait until the new norm is established, whenever that may be. It is now absolutely critical that we start our modelling impact assessment as a matter of urgency, otherwise there is no chance of meeting a Spring submission deadline.

Given this we intend to re-use the data from the previous application and then apply some sensitivity tests to ensure robustness. Whilst I understand this data is now 10 years old, the general lack of background traffic growth over the past decade (agreed previously between TfGM and Curtins) suggests that this data should still be robust, especially when the traffic from local committed schemes is taken into account.

Additionally, as the masterplan has evolved, it is now clear that the development is likely to comprise of c800 units plus the school. Consequently, trip generation is comparable to that assessed as part of the previous submission (please see attached the initial TRICS assessment document). Therefore, it is considered that following the previously agreed methodology provides a robust assessment which is the best we can hope for under the current conditions.

It is worth noting of course, that improvement schemes at the A62/Ten Acres Lane and Ten Acres Lane/Briscoe Lane junctions were previously designed and agreed and therefore traffic impact will be appropriately mitigated. The work undertaken previously proves that a scheme of this size and nature is fully deliverable and given the existing circumstances we have no choice but to continue by updating this assessment.

Please give me a call should you wish to discuss further.

Kind Regards

James

James Whitton
Senior Transport Planner
-
0161 228 1008
07979 353 697
james.whitton@vectos.co.uk
-
4th Floor Oxford Place, 61 Oxford Street
Manchester, M1 6EQ

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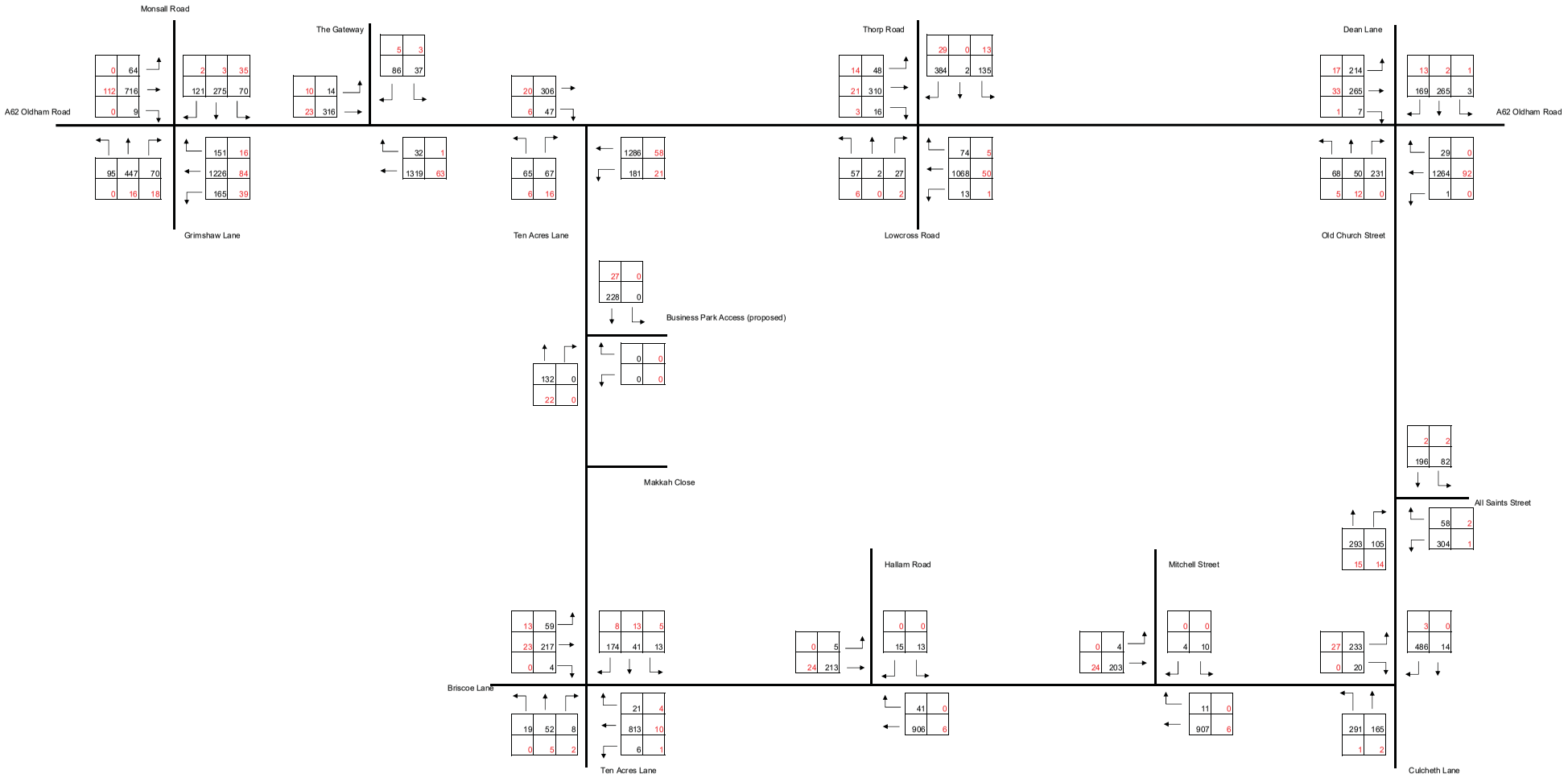
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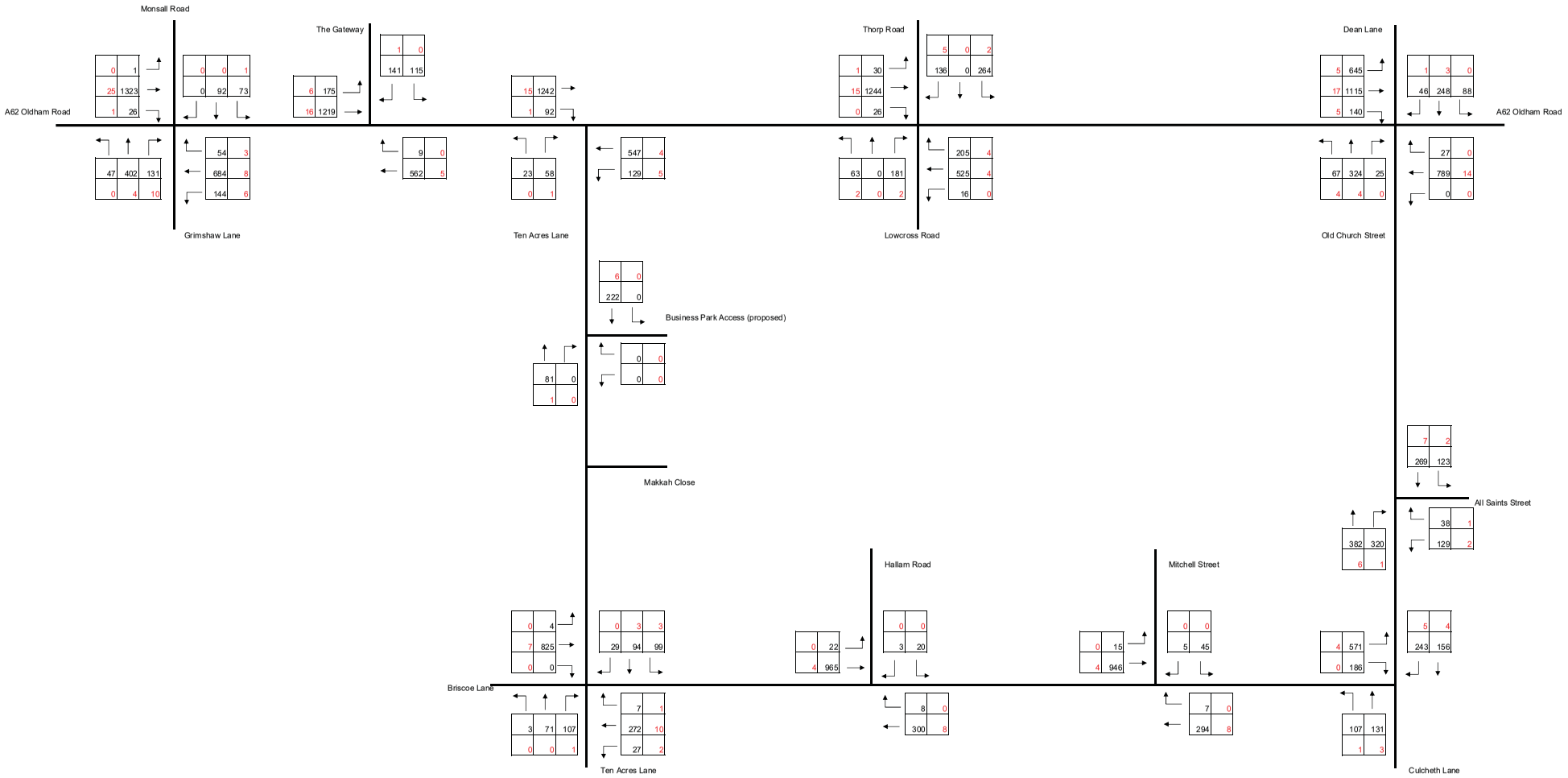
Appendix F

Traffic Data

PROJECT TITLE: 90006 Ten Acres Lane
SCENARIO: Figure 1
TIME: **2009 'Base'**
AM Peak Hour (0800-0900)
All flows are in PCUs
Total PCUs are in black
Total HGVs are in red



PROJECT TITLE: 90006 Ten Acres Lane
SCENARIO: Figure 2
TIME: **2009 'Base'**
PM Peak Hour (1700-1800)
All flows are in PCUs
Total PCUs are in black
Total HGVs are in red



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Appendix G

Committed Development Schemes

Jackson's Brickworks - proposed developments since 2011

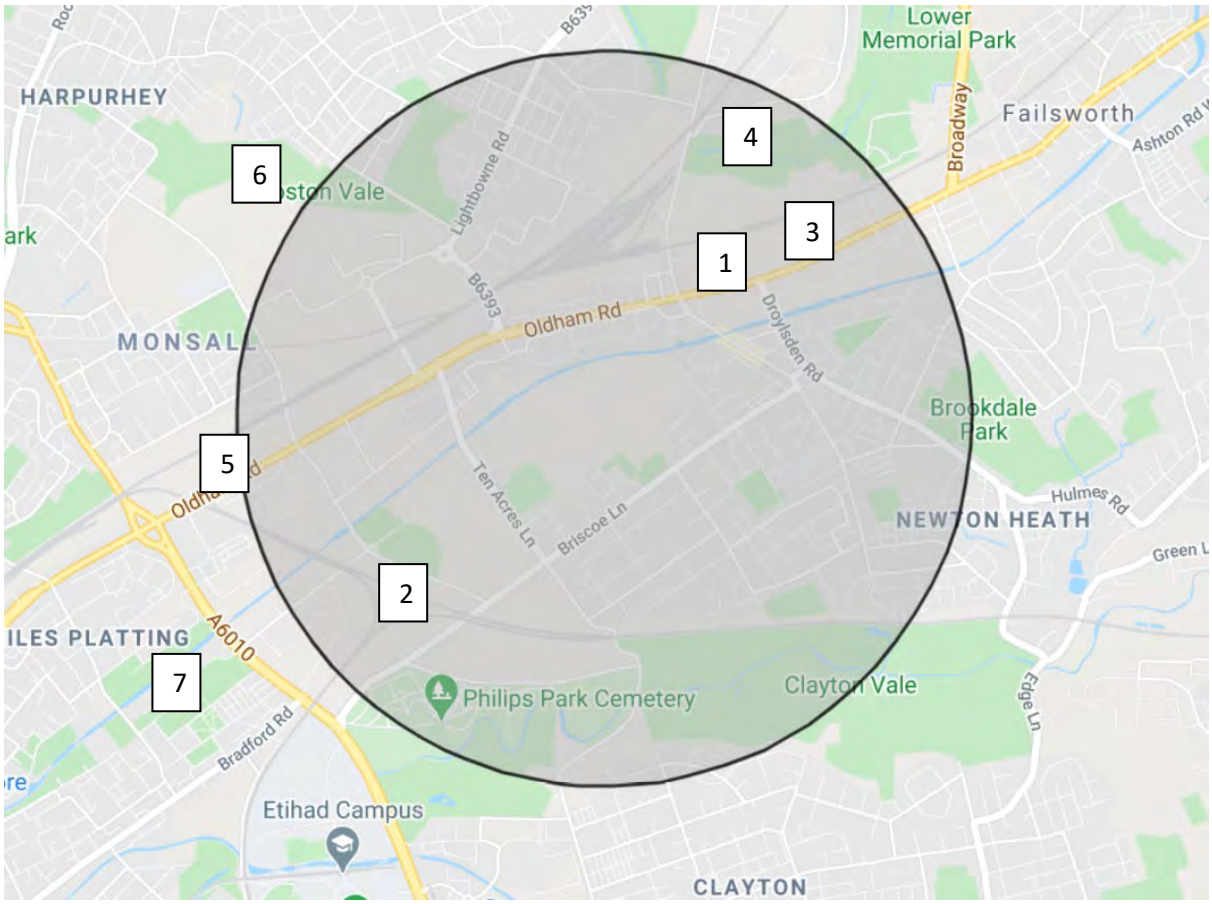
Site	Location	MCC Ref	Land Use	No.Dwellings/Floorspace	Description	Proposed completion date	Uncertainty	
Former Mather & Platt Foundry	Grimshaw Lane	129444/FO/2021	B2/B8/E	42,781 sqm	Erection of 12 No. industrial units with Use Class E(g), B2 and B8 uses with ancillary offices (42782 sqm) together with service areas, car parking, landscaping and boundary treatment following demolition of existing building	Current Application (March 2021) - proposed 2022 opening year	More than likely	Relevant traffic flows applied to network diagrams
Land Off Oldham Road (A62), Dulverton Street, Holyoak Street And Droylsden Road	Oldham Rd	125990/FO/2020	Resi/commercial	139 dwellings / 211sqm	Erection of a part 4 (plus ground), part 5 (plus ground) storey building to form 100 residential apartments (Use Class C3a) together with ground floor commercial floorspace (Use Classes A1, A2, A3, B1 and D1) (211 sqm) and erection of 39 two and three storey dwellinghouses (Use Class C3a)	Approved May 2020 - No proposed year of opening	Near Certain	Relevant traffic flows applied to network diagrams
Rosedale Building	Oldham Rd	095431/REP/2011/N1	Resi/commercial	114 appartments / 568 sqm	Erection of a part 10, part 6, part 5 storey building behind retained facade of the Rosedale Building to form 114 x one, two and three bedroom flats, and Class A1 (retail) 568 square metres of floorspace at ground floor level with associated parking and landscaping	Approved - Application for demoltion of existing building approved Dec 2020 - Existing derelict building still on site	Near Certain	No traffic assessment available for this app or 082859/FO/2007/N1
Land Bounded By Oldham Road, Baltimore Street And The Gateway	Oldham Rd	114604/FO/2016	Mixed-Use	120 room hotel / multi-storey parking / 5 story office	Central Park Plaza' - Erection of a mixed use development comprising a 120-bedroom hotel (Use Class C1)(7 storeys), office (Use Class B1)(5 storeys), nursery (Use Class D1)(2 storeys and basement), drive-through restaurant/retail unit (sui generis), and multi-storey car park(6 storeys) , additional surface car parking, access, servicing, landscaping and associated infrastructure works, following the demolition of existing buildings and structures	Aproved Mar 2017 initally planned for completion 2018 but no current build or works on site	Near Certain	Relevant traffic flows applied to network diagrams

Jacksons Brickworks, Ten Acres Lane – Committed Developments

#	PP Ref	Address	Description of Development	Status	Distance from Site
1	125990/FO/2020 Relevant traffic flows applied to network diagrams.	Land Off Oldham Road (A62), Dulverton Street, Holyoak Street And Droylsden Road Manchester	Erection of a part 4 (plus ground), part 5 (plus ground) storey building to form 100 residential apartments (Use Class C3a) together with ground floor commercial floorspace (Use Classes A1, A2, A3, B1 and D1) (211 sqm) and erection of 39 two and three storey dwellinghouses (Use Class C3a) along with associated access, landscaping, boundary treatment and car parking.	Approved May 2020	380m
2	123295/FO/2019 No traffic data/assessment presented.	Former Workshop, Arkady Industrial Estate, Briscoe Lane Manchester M40 2XG	Erection of a light industrial and storage/distribution building (Sui Generis) (3251 sqm) with associated car parking and boundary treatment	Approved May 2020	480m
3	126281/FO/2020 No traffic data supplied	Dob Brook Close Manchester M40 1DB	Erection of 8 no. x two storey dwellinghouses and erection of a three storey building to form 16no. apartments together with boundary treatments, landscaping and other associated works.	Approved August 2020	500m
4	121841/FO/2018 Basic traffic data supplied - No change in traffic impact.	Reliance Street Waste Management Site, Reliance Street Manchester M40 3EZ	Replacement of existing waste reception building with modern purpose built Mechanical Treatment and Reception (MTR) building and associated welfare facilities.	Approved March 2019	770m
5	128133/FO/2020 No traffic assessment	497 Oldham Road Manchester M40 5AA	Erection of single storey building to form light industrial and distribution unit (sui generis)	Validated November 2020 Pending approval	870m
6	127629/FO/2020 No traffic assessment	Land To The South West Of Moston Vale, Manchester	Erection of a battery energy storage facility, including 12 x battery containers, Power Conversion Systems, substation, switchroom/control room,	Validated July 2020 Pending approval	1100m

			fencing and gates, with ancillary works associated with the development		
7	125596/FO/2019 Relevant traffic flows applied to network diagrams.	Land Bounded By Hulme Hall Lane, Varley Street, Iron Street, Coleshill Street And Rochdale Canal Manchester M40 8HH	Planning Application for housing-led mixed use redevelopment comprising: a maximum of 410 new dwellings (Class C3); and comprising Class E (maximum floorspace 744 sq.m GIA in total); recreation open space and landscaping; and associated access off Hulme Hall Lane, Varley Street and Iron Street, infrastructure provision and car parking	Validated November 2019 Approved at Planning Committee September 2020 awaiting Decision Notice	1400m

Map to show Committed Developments



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Appendix H

TRICS Outputs

Calculation Reference: AUDIT-715001-210129-0130

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 03 - RESIDENTIAL
Category : C - FLATS PRIVATELY OWNED
MULTI-MODAL TOTAL VEHICLES

Selected regions and areas:

01	GREATER LONDON		
	TH	TOWER HAMLETS	1 days
04	EAST ANGLIA		
	CA	CAMBRIDGESHIRE	1 days
	NF	NORFOLK	1 days
05	EAST MIDLANDS		
	DS	DERBYSHIRE	2 days
06	WEST MIDLANDS		
	ST	STAFFORDSHIRE	1 days
08	NORTH WEST		
	MS	MERSEYSIDE	1 days
15	GREATER DUBLIN		
	DL	DUBLIN	3 days

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

Primary 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: No of Dwellings
Actual Range: 8 to 372 (units:)
Range Selected by User: 6 to 493 (units:)

Parking Spaces Range: All Surveys Included

Parking Spaces per Dwelling Range: All Surveys Included

Bedrooms per Dwelling Range: All Surveys Included

Percentage of dwellings privately owned: All Surveys Included

Public Transport Provision:
Selection by: Include all surveys

Date Range: 01/01/01 to 06/03/20

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	3 days
Wednesday	3 days
Thursday	2 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 undertaking using machines.

Selected Locations:

Suburban Area (PPS6 Out of Centre)	9
Edge of Town	1

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:

Development Zone	1
Residential Zone	4
Built-Up Zone	1
No Sub Category	4

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,

Secondary Filtering selection:

Use Class:

C3	10 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 500m Range:

All Surveys Included

Population within 1 mile:

10,001 to 15,000	2 days
15,001 to 20,000	1 days
20,001 to 25,000	7 days

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

Population within 5 miles:

125,001 to 250,000	3 days
250,001 to 500,000	3 days
500,001 or More	4 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	3 days
1.1 to 1.5	6 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	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 CA-03-C-02 BLOCK OF FLATS CAMBRIDGESHIRE
WESTFIELD ROAD
PETERBOROUGH
NETHERTON
Suburban Area (PPS6 Out of Centre)
No Sub Category
Total No of Dwellings: 44
Survey date: TUESDAY *18/10/11* *Survey Type: MANUAL*

2 DL-03-C-07 BLOCKS OF FLATS DUBLIN
SANDYFORD ROAD
DUBLIN
DUNDRUM
Edge of Town
No Sub Category
Total No of Dwellings: 372
Survey date: TUESDAY *11/05/10* *Survey Type: MANUAL*

3 DL-03-C-09 FLATS DUBLIN
OLD FINGLAS ROAD
DUBLIN
GLASNEVIN
Suburban Area (PPS6 Out of Centre)
Residential Zone
Total No of Dwellings: 201
Survey date: THURSDAY *29/09/11* *Survey Type: MANUAL*

4 DL-03-C-15 BLOCKS OF FLATS DUBLIN
MONKSTOWN ROAD
DUBLIN
MONKSTOWN
Suburban Area (PPS6 Out of Centre)
Residential Zone
Total No of Dwellings: 20
Survey date: WEDNESDAY *01/10/14* *Survey Type: MANUAL*

5 DS-03-C-01 BLOCK OF FLATS DERBYSHIRE
DRAGE STREET
DERBY
LITTLE CHESTER
Suburban Area (PPS6 Out of Centre)
No Sub Category
Total No of Dwellings: 8
Survey date: THURSDAY *25/06/09* *Survey Type: MANUAL*

6 DS-03-C-03 BLOCKS OF FLATS DERBYSHIRE
CAESAR STREET
DERBY

Suburban Area (PPS6 Out of Centre)
Residential Zone
Total No of Dwellings: 30
Survey date: WEDNESDAY *25/09/19* *Survey Type: MANUAL*

7 MS-03-C-02 BLOCKS OF FLATS MERSEYSIDE
SOUTH FERRY QUAY
LIVERPOOL
BRUNSWICK DOCK
Suburban Area (PPS6 Out of Centre)
Development Zone
Total No of Dwellings: 184
Survey date: TUESDAY *13/11/18* *Survey Type: MANUAL*

8 NF-03-C-02 MIXED FLATS & HOUSES NORFOLK
HALL ROAD
NORWICH
LAKENHAM
Suburban Area (PPS6 Out of Centre)
Residential Zone
Total No of Dwellings: 82
Survey date: MONDAY *18/11/19* *Survey Type: MANUAL*

9 ST-03-C-01 BLOCKS OF FLATS STAFFORDSHIRE
ETRURIA COURT
STOKE-ON-TRENT
HUMBERT ROAD
Suburban Area (PPS6 Out of Centre)
No Sub Category
Total No of Dwellings: 33
Survey date: WEDNESDAY *26/11/08* *Survey Type: MANUAL*

LIST OF SITES relevant to selection parameters (Cont.)

10 TH-03-C-02 FLATS TOWER HAMLETS
BURNHAM STREET
BETHNAL GREEN

Suburban Area (PPS6 Out of Centre)
Built-Up Zone
Total No of Dwellings: 24
Survey date: MONDAY *10/11/08* *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.

MANUALLY DESELECTED SITES

Site Ref	Reason for Deselection
MS-03-C-03	Unrepresentative Public Transport

TRIP RATE for Land Use 03 - RESIDENTIAL/C - FLATS PRIVATELY OWNED
MULTI-MODAL TOTAL VEHICLES
Calculation factor: 1 DWELLS
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
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	100	0.036	10	100	0.150	10	100	0.186
08:00 - 09:00	10	100	0.045	10	100	0.199	10	100	0.244
09:00 - 10:00	10	100	0.053	10	100	0.078	10	100	0.131
10:00 - 11:00	10	100	0.038	10	100	0.057	10	100	0.095
11:00 - 12:00	10	100	0.049	10	100	0.045	10	100	0.094
12:00 - 13:00	10	100	0.067	10	100	0.075	10	100	0.142
13:00 - 14:00	10	100	0.060	10	100	0.083	10	100	0.143
14:00 - 15:00	10	100	0.051	10	100	0.064	10	100	0.115
15:00 - 16:00	10	100	0.101	10	100	0.063	10	100	0.164
16:00 - 17:00	10	100	0.108	10	100	0.049	10	100	0.157
17:00 - 18:00	10	100	0.170	10	100	0.062	10	100	0.232
18:00 - 19:00	10	100	0.140	10	100	0.084	10	100	0.224
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.918			1.009			1.927

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:	8 - 372 (units:)
Survey date date range:	01/01/01 - 06/03/20
Number of weekdays (Monday-Friday):	10
Number of Saturdays:	0
Number of Sundays:	0
Surveys automatically removed from selection:	2
Surveys manually removed from selection:	1

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

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

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
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	100	0.001	10	100	0.002	10	100	0.003
08:00 - 09:00	10	100	0.001	10	100	0.001	10	100	0.002
09:00 - 10:00	10	100	0.003	10	100	0.002	10	100	0.005
10:00 - 11:00	10	100	0.001	10	100	0.002	10	100	0.003
11:00 - 12:00	10	100	0.001	10	100	0.001	10	100	0.002
12:00 - 13:00	10	100	0.001	10	100	0.001	10	100	0.002
13:00 - 14:00	10	100	0.002	10	100	0.001	10	100	0.003
14:00 - 15:00	10	100	0.000	10	100	0.001	10	100	0.001
15:00 - 16:00	10	100	0.002	10	100	0.002	10	100	0.004
16:00 - 17:00	10	100	0.002	10	100	0.000	10	100	0.002
17:00 - 18:00	10	100	0.001	10	100	0.002	10	100	0.003
18:00 - 19:00	10	100	0.006	10	100	0.006	10	100	0.012
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.021			0.021			0.042

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/C - FLATS PRIVATELY OWNED
MULTI-MODAL OGVS
Calculation factor: 1 DWELLS
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
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	100	0.000	10	100	0.000	10	100	0.000
08:00 - 09:00	10	100	0.000	10	100	0.000	10	100	0.000
09:00 - 10:00	10	100	0.000	10	100	0.000	10	100	0.000
10:00 - 11:00	10	100	0.001	10	100	0.001	10	100	0.002
11:00 - 12:00	10	100	0.002	10	100	0.001	10	100	0.003
12:00 - 13:00	10	100	0.003	10	100	0.003	10	100	0.006
13:00 - 14:00	10	100	0.000	10	100	0.001	10	100	0.001
14:00 - 15:00	10	100	0.000	10	100	0.000	10	100	0.000
15:00 - 16:00	10	100	0.000	10	100	0.000	10	100	0.000
16:00 - 17:00	10	100	0.002	10	100	0.001	10	100	0.003
17:00 - 18:00	10	100	0.000	10	100	0.001	10	100	0.001
18:00 - 19:00	10	100	0.000	10	100	0.000	10	100	0.000
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.008			0.008			0.016

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/C - FLATS PRIVATELY OWNED
MULTI-MODAL CYCLISTS
Calculation factor: 1 DWELLS
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
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	100	0.000	10	100	0.014	10	100	0.014
08:00 - 09:00	10	100	0.001	10	100	0.023	10	100	0.024
09:00 - 10:00	10	100	0.002	10	100	0.002	10	100	0.004
10:00 - 11:00	10	100	0.004	10	100	0.001	10	100	0.005
11:00 - 12:00	10	100	0.002	10	100	0.004	10	100	0.006
12:00 - 13:00	10	100	0.004	10	100	0.001	10	100	0.005
13:00 - 14:00	10	100	0.005	10	100	0.002	10	100	0.007
14:00 - 15:00	10	100	0.006	10	100	0.003	10	100	0.009
15:00 - 16:00	10	100	0.006	10	100	0.001	10	100	0.007
16:00 - 17:00	10	100	0.009	10	100	0.000	10	100	0.009
17:00 - 18:00	10	100	0.011	10	100	0.004	10	100	0.015
18:00 - 19:00	10	100	0.010	10	100	0.003	10	100	0.013
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.060			0.058			0.118

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/C - FLATS PRIVATELY OWNED
MULTI-MODAL VEHICLE OCCUPANTS
Calculation factor: 1 DWELLS
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
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	100	0.038	10	100	0.175	10	100	0.213
08:00 - 09:00	10	100	0.050	10	100	0.256	10	100	0.306
09:00 - 10:00	10	100	0.065	10	100	0.087	10	100	0.152
10:00 - 11:00	10	100	0.049	10	100	0.069	10	100	0.118
11:00 - 12:00	10	100	0.058	10	100	0.064	10	100	0.122
12:00 - 13:00	10	100	0.088	10	100	0.088	10	100	0.176
13:00 - 14:00	10	100	0.069	10	100	0.107	10	100	0.176
14:00 - 15:00	10	100	0.056	10	100	0.075	10	100	0.131
15:00 - 16:00	10	100	0.134	10	100	0.073	10	100	0.207
16:00 - 17:00	10	100	0.129	10	100	0.056	10	100	0.185
17:00 - 18:00	10	100	0.200	10	100	0.071	10	100	0.271
18:00 - 19:00	10	100	0.160	10	100	0.095	10	100	0.255
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			1.096			1.216			2.312

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/C - FLATS PRIVATELY OWNED
MULTI-MODAL PEDESTRIANS
Calculation factor: 1 DWELLS
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
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	100	0.009	10	100	0.046	10	100	0.055
08:00 - 09:00	10	100	0.013	10	100	0.076	10	100	0.089
09:00 - 10:00	10	100	0.013	10	100	0.037	10	100	0.050
10:00 - 11:00	10	100	0.017	10	100	0.028	10	100	0.045
11:00 - 12:00	10	100	0.021	10	100	0.022	10	100	0.043
12:00 - 13:00	10	100	0.034	10	100	0.029	10	100	0.063
13:00 - 14:00	10	100	0.026	10	100	0.025	10	100	0.051
14:00 - 15:00	10	100	0.031	10	100	0.033	10	100	0.064
15:00 - 16:00	10	100	0.048	10	100	0.022	10	100	0.070
16:00 - 17:00	10	100	0.050	10	100	0.020	10	100	0.070
17:00 - 18:00	10	100	0.071	10	100	0.036	10	100	0.107
18:00 - 19:00	10	100	0.063	10	100	0.028	10	100	0.091
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.396			0.402			0.798

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/C - FLATS PRIVATELY OWNED
MULTI-MODAL BUS/TRAM PASSENGERS
Calculation factor: 1 DWELLS
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
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	100	0.001	10	100	0.058	10	100	0.059
08:00 - 09:00	10	100	0.005	10	100	0.120	10	100	0.125
09:00 - 10:00	10	100	0.005	10	100	0.024	10	100	0.029
10:00 - 11:00	10	100	0.009	10	100	0.015	10	100	0.024
11:00 - 12:00	10	100	0.003	10	100	0.008	10	100	0.011
12:00 - 13:00	10	100	0.010	10	100	0.017	10	100	0.027
13:00 - 14:00	10	100	0.011	10	100	0.012	10	100	0.023
14:00 - 15:00	10	100	0.008	10	100	0.012	10	100	0.020
15:00 - 16:00	10	100	0.014	10	100	0.006	10	100	0.020
16:00 - 17:00	10	100	0.022	10	100	0.005	10	100	0.027
17:00 - 18:00	10	100	0.072	10	100	0.011	10	100	0.083
18:00 - 19:00	10	100	0.116	10	100	0.012	10	100	0.128
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.276			0.300			0.576

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/C - FLATS PRIVATELY OWNED
MULTI-MODAL TOTAL RAIL PASSENGERS
Calculation factor: 1 DWELLS
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
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	100	0.000	10	100	0.006	10	100	0.006
08:00 - 09:00	10	100	0.002	10	100	0.018	10	100	0.020
09:00 - 10:00	10	100	0.002	10	100	0.005	10	100	0.007
10:00 - 11:00	10	100	0.001	10	100	0.003	10	100	0.004
11:00 - 12:00	10	100	0.003	10	100	0.005	10	100	0.008
12:00 - 13:00	10	100	0.002	10	100	0.001	10	100	0.003
13:00 - 14:00	10	100	0.002	10	100	0.003	10	100	0.005
14:00 - 15:00	10	100	0.002	10	100	0.002	10	100	0.004
15:00 - 16:00	10	100	0.001	10	100	0.002	10	100	0.003
16:00 - 17:00	10	100	0.003	10	100	0.003	10	100	0.006
17:00 - 18:00	10	100	0.005	10	100	0.001	10	100	0.006
18:00 - 19:00	10	100	0.005	10	100	0.003	10	100	0.008
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.028			0.052			0.080

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/C - FLATS PRIVATELY OWNED
MULTI-MODAL PUBLIC TRANSPORT USERS
Calculation factor: 1 DWELLS
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
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	100	0.001	10	100	0.064	10	100	0.065
08:00 - 09:00	10	100	0.007	10	100	0.138	10	100	0.145
09:00 - 10:00	10	100	0.007	10	100	0.029	10	100	0.036
10:00 - 11:00	10	100	0.010	10	100	0.018	10	100	0.028
11:00 - 12:00	10	100	0.006	10	100	0.013	10	100	0.019
12:00 - 13:00	10	100	0.012	10	100	0.018	10	100	0.030
13:00 - 14:00	10	100	0.013	10	100	0.015	10	100	0.028
14:00 - 15:00	10	100	0.010	10	100	0.014	10	100	0.024
15:00 - 16:00	10	100	0.015	10	100	0.008	10	100	0.023
16:00 - 17:00	10	100	0.025	10	100	0.008	10	100	0.033
17:00 - 18:00	10	100	0.077	10	100	0.012	10	100	0.089
18:00 - 19:00	10	100	0.121	10	100	0.015	10	100	0.136
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.304			0.352			0.656

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/C - FLATS PRIVATELY OWNED
MULTI-MODAL TOTAL PEOPLE
Calculation factor: 1 DWELLS
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
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	100	0.048	10	100	0.300	10	100	0.348
08:00 - 09:00	10	100	0.071	10	100	0.493	10	100	0.564
09:00 - 10:00	10	100	0.087	10	100	0.155	10	100	0.242
10:00 - 11:00	10	100	0.080	10	100	0.116	10	100	0.196
11:00 - 12:00	10	100	0.087	10	100	0.103	10	100	0.190
12:00 - 13:00	10	100	0.138	10	100	0.136	10	100	0.274
13:00 - 14:00	10	100	0.113	10	100	0.149	10	100	0.262
14:00 - 15:00	10	100	0.103	10	100	0.125	10	100	0.228
15:00 - 16:00	10	100	0.203	10	100	0.104	10	100	0.307
16:00 - 17:00	10	100	0.213	10	100	0.084	10	100	0.297
17:00 - 18:00	10	100	0.360	10	100	0.123	10	100	0.483
18:00 - 19:00	10	100	0.355	10	100	0.141	10	100	0.496
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			1.858			2.029			3.887

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-715001-210129-0110

TRIP RATE CALCULATION SELECTION PARAMETERS:

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

Selected regions and areas:

02	SOUTH EAST		
	ES	EAST SUSSEX	2 days
	EX	ESSEX	1 days
	HC	HAMPSHIRE	1 days
	WS	WEST SUSSEX	1 days
04	EAST ANGLIA		
	CA	CAMBRIDGESHIRE	1 days
	NF	NORFOLK	1 days
	SF	SUFFOLK	1 days
05	EAST MIDLANDS		
	DS	DERBYSHIRE	2 days
	NT	NOTTINGHAMSHIRE	1 days
06	WEST MIDLANDS		
	WM	WEST MIDLANDS	1 days
07	YORKSHIRE & NORTH LINCOLNSHIRE		
	NY	NORTH YORKSHIRE	1 days
	SY	SOUTH YORKSHIRE	1 days
08	NORTH WEST		
	GM	GREATER MANCHESTER	1 days
	LC	LANCASHIRE	1 days
	MS	MERSEYSIDE	1 days
09	NORTH		
	DH	DURHAM	1 days
	TW	TYNE & WEAR	1 days
10	WALES		
	CF	CARDIFF	1 days
	VG	VALE OF GLAMORGAN	1 days
17	ULSTER (NORTHERN IRELAND)		
	AN	ANTRIM	1 days

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

Primary 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: No of Dwellings
Actual Range: 12 to 371 (units:)
Range Selected by User: 4 to 1817 (units:)

Parking Spaces Range: All Surveys Included

Parking Spaces per Dwelling Range: All Surveys Included

Bedrooms per Dwelling Range: All Surveys Included

Percentage of dwellings privately owned: All Surveys Included

Public Transport Provision:
Selection by: Include all surveys

Date Range: 01/01/00 to 08/10/20

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	4 days
Tuesday	5 days
Wednesday	7 days
Thursday	3 days
Friday	3 days

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

Selected survey types:

Manual count	22 days
Directional ATC Count	0 days

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

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:

Residential Zone	22

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	22 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 500m Range:

All Surveys Included

Population within 1 mile:

5,001 to 10,000	3 days
10,001 to 15,000	8 days
15,001 to 20,000	11 days

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

Population within 5 miles:

125,001 to 250,000	16 days
250,001 to 500,000	5 days
500,001 or More	1 days

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

Car ownership within 5 miles:

0.6 to 1.0	10 days
1.1 to 1.5	12 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	2 days
Yes	2 days
No	18 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	22 days

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

LIST OF SITES relevant to selection parameters

1 AN-03-A-02 SEMI DETACHED ANTRIM
CAIRNSHILL ROAD
BELFAST
CAIRNSHILL
Edge of Town
Residential Zone
Total No of Dwellings: 370
Survey date: THURSDAY *14/11/02* *Survey Type: MANUAL*

2 CA-03-A-01 SEMI D./TERRACED CAMBRIDGESHIRE
FALLOWFIELD
CAMBRIDGE
CHESTERTON
Edge of Town
Residential Zone
Total No of Dwellings: 124
Survey date: TUESDAY *06/02/01* *Survey Type: MANUAL*

3 CF-03-A-02 MIXED HOUSES CARDIFF
DROPE ROAD
CARDIFF

Edge of Town
Residential Zone
Total No of Dwellings: 196
Survey date: FRIDAY *05/10/07* *Survey Type: MANUAL*

4 DH-03-A-03 SEMI-DETACHED & TERRACED DURHAM
PILGRIMS WAY
DURHAM

Edge of Town
Residential Zone
Total No of Dwellings: 57
Survey date: FRIDAY *19/10/18* *Survey Type: MANUAL*

5 DS-03-A-01 SEMI D./TERRACED DERBYSHIRE
THE AVENUE
DRONFIELD
HOLMESDALE
Neighbourhood Centre (PPS6 Local Centre)
Residential Zone
Total No of Dwellings: 20
Survey date: THURSDAY *22/06/06* *Survey Type: MANUAL*

6 DS-03-A-02 MIXED HOUSES DERBYSHIRE
RADBOURNE LANE
DERBY

Edge of Town
Residential Zone
Total No of Dwellings: 371
Survey date: TUESDAY *10/07/18* *Survey Type: MANUAL*

7 ES-03-A-03 MIXED HOUSES & FLATS EAST SUSSEX
SHEPHAM LANE
POLEGATE

Edge of Town
Residential Zone
Total No of Dwellings: 212
Survey date: MONDAY *11/07/16* *Survey Type: MANUAL*

8 ES-03-A-05 MIXED HOUSES & FLATS EAST SUSSEX
RATTLE ROAD
NEAR EASTBOURNE
STONE CROSS
Edge of Town
Residential Zone
Total No of Dwellings: 99
Survey date: WEDNESDAY *05/06/19* *Survey Type: MANUAL*

LIST OF SITES relevant to selection parameters (Cont.)

9 EX-03-A-01 SEMI-DET. ESSEX
MILTON ROAD
STANFORD-LE-HOPE
CORRINGHAM
Edge of Town
Residential Zone
Total No of Dwellings: 237
Survey date: TUESDAY *13/05/08* *Survey Type: MANUAL*

10 GM-03-A-10 DETACHED/SEMI GREATER MANCHESTER
BUTT HILL DRIVE
MANCHESTER
PRESTWICH
Edge of Town
Residential Zone
Total No of Dwellings: 29
Survey date: WEDNESDAY *12/10/11* *Survey Type: MANUAL*

11 HC-03-A-21 TERRACED & SEMI-DETACHED HAMPSHIRE
PRIESTLEY ROAD
BASINGSTOKE
HOUNDMILLS
Edge of Town
Residential Zone
Total No of Dwellings: 39
Survey date: TUESDAY *13/11/18* *Survey Type: MANUAL*

12 LC-03-A-22 BUNGALOWS LANCASHIRE
CLIFTON DRIVE NORTH
BLACKPOOL

Edge of Town
Residential Zone
Total No of Dwellings: 98
Survey date: TUESDAY *18/10/05* *Survey Type: MANUAL*

13 MS-03-A-03 DETACHED MERSEYSIDE
BEMPTON ROAD
LIVERPOOL
OTTERSPOOL
Suburban Area (PPS6 Out of Centre)
Residential Zone
Total No of Dwellings: 15
Survey date: FRIDAY *21/06/13* *Survey Type: MANUAL*

14 NF-03-A-02 HOUSES & FLATS NORFOLK
DEREHAM ROAD
NORWICH

Suburban Area (PPS6 Out of Centre)
Residential Zone
Total No of Dwellings: 98
Survey date: MONDAY *22/10/12* *Survey Type: MANUAL*

15 NT-03-A-03 SEMI DETACHED NOTTINGHAMSHIRE
B6018 SUTTON ROAD
KIRKBY-IN-ASHFIELD

Edge of Town
Residential Zone
Total No of Dwellings: 166
Survey date: WEDNESDAY *28/06/06* *Survey Type: MANUAL*

16 NY-03-A-08 TERRACED HOUSES NORTH YORKSHIRE
NICHOLAS STREET
YORK

Suburban Area (PPS6 Out of Centre)
Residential Zone
Total No of Dwellings: 21
Survey date: MONDAY *16/09/13* *Survey Type: MANUAL*

LIST OF SITES relevant to selection parameters (Cont.)

17 SF-03-A-01 SEMI DETACHED SUFFOLK
A1156 FELIXSTOWE ROAD
IPSWICH
RACECOURSE
Suburban Area (PPS6 Out of Centre)
Residential Zone
Total No of Dwellings: 77
Survey date: WEDNESDAY 23/05/07 Survey Type: MANUAL

18 SY-03-A-01 SEMI DETACHED HOUSES SOUTH YORKSHIRE
A19 BENTLEY ROAD
DONCASTER
BENTLEY RISE
Suburban Area (PPS6 Out of Centre)
Residential Zone
Total No of Dwellings: 54
Survey date: WEDNESDAY 18/09/13 Survey Type: MANUAL

19 TW-03-A-01 SEMI DETACHED TYNE & WEAR
LEECHMERE ROAD
SUNDERLAND
HILLVIEW
Edge of Town
Residential Zone
Total No of Dwellings: 81
Survey date: WEDNESDAY 18/09/02 Survey Type: MANUAL

20 VG-03-A-01 SEMI-DETACHED & TERRACED VALE OF GLAMORGAN
ARTHUR STREET
BARRY

Edge of Town
Residential Zone
Total No of Dwellings: 12
Survey date: MONDAY 08/05/17 Survey Type: MANUAL

21 WM-03-A-02 DETACHED & SEMI DET. WEST MIDLANDS
HEATH STREET
STOURBRIDGE

Suburban Area (PPS6 Out of Centre)
Residential Zone
Total No of Dwellings: 12
Survey date: WEDNESDAY 26/04/06 Survey Type: MANUAL

22 WS-03-A-08 MIXED HOUSES WEST SUSSEX
ROUNDSTONE LANE
ANGMERING

Edge of Town
Residential Zone
Total No of Dwellings: 180
Survey date: THURSDAY 19/04/18 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.

MANUALLY DESELECTED SITES

Site Ref	Reason for Deselection
DL-03-A-08	Poor Public Transport
DL-03-A-09	No AM Veh movements
HC-03-A-22	Poor Public Transport
KC-03-A-04	Poor Public Transport
LC-03-A-29	Poor Public Transport
SC-03-A-03	Poor Public Transport
SC-03-A-05	Poor Public Transport
WK-03-A-02	Poor Public Transport
WK-03-A-04	Poor Public Transport

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

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
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	22	117	0.075	22	117	0.336	22	117	0.411
08:00 - 09:00	22	117	0.139	22	117	0.444	22	117	0.583
09:00 - 10:00	22	117	0.155	22	117	0.193	22	117	0.348
10:00 - 11:00	22	117	0.131	22	117	0.169	22	117	0.300
11:00 - 12:00	22	117	0.174	22	117	0.164	22	117	0.338
12:00 - 13:00	22	117	0.176	22	117	0.167	22	117	0.343
13:00 - 14:00	22	117	0.173	22	117	0.183	22	117	0.356
14:00 - 15:00	22	117	0.178	22	117	0.180	22	117	0.358
15:00 - 16:00	22	117	0.284	22	117	0.200	22	117	0.484
16:00 - 17:00	22	117	0.312	22	117	0.188	22	117	0.500
17:00 - 18:00	22	117	0.387	22	117	0.197	22	117	0.584
18:00 - 19:00	22	117	0.304	22	117	0.186	22	117	0.490
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			2.488			2.607			5.095

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:	12 - 371 (units:)
Survey date date range:	01/01/00 - 08/10/20
Number of weekdays (Monday-Friday):	22
Number of Saturdays:	0
Number of Sundays:	0
Surveys automatically removed from selection:	0
Surveys manually removed from selection:	9

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

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

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
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	22	117	0.002	22	117	0.003	22	117	0.005
08:00 - 09:00	22	117	0.004	22	117	0.002	22	117	0.006
09:00 - 10:00	22	117	0.005	22	117	0.004	22	117	0.009
10:00 - 11:00	22	117	0.003	22	117	0.004	22	117	0.007
11:00 - 12:00	22	117	0.001	22	117	0.002	22	117	0.003
12:00 - 13:00	22	117	0.002	22	117	0.004	22	117	0.006
13:00 - 14:00	22	117	0.003	22	117	0.003	22	117	0.006
14:00 - 15:00	22	117	0.003	22	117	0.003	22	117	0.006
15:00 - 16:00	22	117	0.001	22	117	0.003	22	117	0.004
16:00 - 17:00	22	117	0.002	22	117	0.003	22	117	0.005
17:00 - 18:00	22	117	0.002	22	117	0.001	22	117	0.003
18:00 - 19:00	22	117	0.001	22	117	0.002	22	117	0.003
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.029			0.034			0.063

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

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

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
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	22	117	0.000	22	117	0.000	22	117	0.000
08:00 - 09:00	22	117	0.001	22	117	0.001	22	117	0.002
09:00 - 10:00	22	117	0.001	22	117	0.001	22	117	0.002
10:00 - 11:00	22	117	0.000	22	117	0.000	22	117	0.000
11:00 - 12:00	22	117	0.000	22	117	0.000	22	117	0.000
12:00 - 13:00	22	117	0.000	22	117	0.000	22	117	0.000
13:00 - 14:00	22	117	0.000	22	117	0.000	22	117	0.000
14:00 - 15:00	22	117	0.001	22	117	0.001	22	117	0.002
15:00 - 16:00	22	117	0.002	22	117	0.001	22	117	0.003
16:00 - 17:00	22	117	0.000	22	117	0.000	22	117	0.000
17:00 - 18:00	22	117	0.000	22	117	0.000	22	117	0.000
18:00 - 19:00	22	117	0.000	22	117	0.000	22	117	0.000
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.005			0.004			0.009

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

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

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
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	22	117	0.009	22	117	0.015	22	117	0.024
08:00 - 09:00	22	117	0.007	22	117	0.026	22	117	0.033
09:00 - 10:00	22	117	0.006	22	117	0.005	22	117	0.011
10:00 - 11:00	22	117	0.004	22	117	0.004	22	117	0.008
11:00 - 12:00	22	117	0.004	22	117	0.005	22	117	0.009
12:00 - 13:00	22	117	0.009	22	117	0.004	22	117	0.013
13:00 - 14:00	22	117	0.003	22	117	0.002	22	117	0.005
14:00 - 15:00	22	117	0.006	22	117	0.006	22	117	0.012
15:00 - 16:00	22	117	0.019	22	117	0.009	22	117	0.028
16:00 - 17:00	22	117	0.018	22	117	0.011	22	117	0.029
17:00 - 18:00	22	117	0.024	22	117	0.011	22	117	0.035
18:00 - 19:00	22	117	0.012	22	117	0.009	22	117	0.021
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.121			0.107			0.228

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 VEHICLE OCCUPANTS
Calculation factor: 1 DWELLS
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
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	22	117	0.087	22	117	0.429	22	117	0.516
08:00 - 09:00	22	117	0.169	22	117	0.652	22	117	0.821
09:00 - 10:00	22	117	0.184	22	117	0.257	22	117	0.441
10:00 - 11:00	22	117	0.162	22	117	0.214	22	117	0.376
11:00 - 12:00	22	117	0.218	22	117	0.219	22	117	0.437
12:00 - 13:00	22	117	0.224	22	117	0.219	22	117	0.443
13:00 - 14:00	22	117	0.222	22	117	0.238	22	117	0.460
14:00 - 15:00	22	117	0.232	22	117	0.228	22	117	0.460
15:00 - 16:00	22	117	0.451	22	117	0.278	22	117	0.729
16:00 - 17:00	22	117	0.450	22	117	0.265	22	117	0.715
17:00 - 18:00	22	117	0.515	22	117	0.278	22	117	0.793
18:00 - 19:00	22	117	0.406	22	117	0.254	22	117	0.660
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			3.320			3.531			6.851

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 PEDESTRIANS
Calculation factor: 1 DWELLS
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
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	22	117	0.018	22	117	0.042	22	117	0.060
08:00 - 09:00	22	117	0.033	22	117	0.135	22	117	0.168
09:00 - 10:00	22	117	0.039	22	117	0.035	22	117	0.074
10:00 - 11:00	22	117	0.019	22	117	0.031	22	117	0.050
11:00 - 12:00	22	117	0.028	22	117	0.026	22	117	0.054
12:00 - 13:00	22	117	0.027	22	117	0.026	22	117	0.053
13:00 - 14:00	22	117	0.024	22	117	0.025	22	117	0.049
14:00 - 15:00	22	117	0.025	22	117	0.040	22	117	0.065
15:00 - 16:00	22	117	0.135	22	117	0.049	22	117	0.184
16:00 - 17:00	22	117	0.074	22	117	0.034	22	117	0.108
17:00 - 18:00	22	117	0.053	22	117	0.044	22	117	0.097
18:00 - 19:00	22	117	0.053	22	117	0.051	22	117	0.104
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.528			0.538			1.066

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

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

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
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	22	117	0.002	22	117	0.022	22	117	0.024
08:00 - 09:00	22	117	0.002	22	117	0.019	22	117	0.021
09:00 - 10:00	22	117	0.004	22	117	0.014	22	117	0.018
10:00 - 11:00	22	117	0.006	22	117	0.009	22	117	0.015
11:00 - 12:00	22	117	0.006	22	117	0.005	22	117	0.011
12:00 - 13:00	22	117	0.009	22	117	0.008	22	117	0.017
13:00 - 14:00	22	117	0.007	22	117	0.005	22	117	0.012
14:00 - 15:00	22	117	0.006	22	117	0.002	22	117	0.008
15:00 - 16:00	22	117	0.019	22	117	0.004	22	117	0.023
16:00 - 17:00	22	117	0.022	22	117	0.002	22	117	0.024
17:00 - 18:00	22	117	0.016	22	117	0.002	22	117	0.018
18:00 - 19:00	22	117	0.010	22	117	0.002	22	117	0.012
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.109			0.094			0.203

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

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

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
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	22	117	0.116	22	117	0.508	22	117	0.624
08:00 - 09:00	22	117	0.210	22	117	0.833	22	117	1.043
09:00 - 10:00	22	117	0.232	22	117	0.311	22	117	0.543
10:00 - 11:00	22	117	0.192	22	117	0.258	22	117	0.450
11:00 - 12:00	22	117	0.256	22	117	0.254	22	117	0.510
12:00 - 13:00	22	117	0.268	22	117	0.257	22	117	0.525
13:00 - 14:00	22	117	0.257	22	117	0.270	22	117	0.527
14:00 - 15:00	22	117	0.270	22	117	0.276	22	117	0.546
15:00 - 16:00	22	117	0.624	22	117	0.341	22	117	0.965
16:00 - 17:00	22	117	0.563	22	117	0.312	22	117	0.875
17:00 - 18:00	22	117	0.607	22	117	0.334	22	117	0.941
18:00 - 19:00	22	117	0.481	22	117	0.315	22	117	0.796
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			4.076			4.269			8.345

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 CALCULATION SELECTION PARAMETERS:

Land Use : 04 - EDUCATION
Category : B - SECONDARY
TOTAL VEHICLES

Selected regions and areas:

01	GREATER LONDON		
	HO	HOUNSLOW	1 days
03	SOUTH WEST		
	BR	BRISTOL CITY	1 days
	DV	DEVON	1 days
04	EAST ANGLIA		
	SF	SUFFOLK	1 days
06	WEST MIDLANDS		
	WM	WEST MIDLANDS	2 days
08	NORTH WEST		
	GM	GREATER MANCHESTER	1 days
	LC	LANCASHIRE	1 days
09	NORTH		
	TW	TYNE & WEAR	1 days
10	WALES		
	CF	CARDIFF	2 days
	MM	MONMOUTHSHIRE	1 days
	RC	RHONDDA CYNON TAFF	1 days
15	GREATER DUBLIN		
	DL	DUBLIN	1 days
17	ULSTER (NORTHERN IRELAND)		
	AN	ANTRIM	1 days

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

Primary 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 pupils
Actual Range: 247 to 1847 (units:)
Range Selected by User: 213 to 1913 (units:)

Parking Spaces Range: All Surveys Included

Public Transport Provision:
Selection by: Include all surveys

Date Range: 01/01/12 to 08/11/19

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	4 days
Tuesday	3 days
Wednesday	1 days
Thursday	1 days
Friday	6 days

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

Selected survey types:

Manual count	15 days
Directional ATC Count	0 days

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

Selected Locations:

Suburban Area (PPS6 Out of Centre)	4
Edge of Town	9
Neighbourhood Centre (PPS6 Local Centre)	2

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:

Residential Zone	13
Village	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:

D1	15 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 500m Range:

All Surveys Included

Population within 1 mile:

5,001 to 10,000	1 days
10,001 to 15,000	5 days
15,001 to 20,000	3 days
20,001 to 25,000	6 days

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

Population within 5 miles:

125,001 to 250,000	5 days
250,001 to 500,000	9 days
500,001 or More	1 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	2 days
0.6 to 1.0	7 days
1.1 to 1.5	6 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	12 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	14 days
2 Poor	1 days

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

LIST OF SITES relevant to selection parameters

1 AN-04-B-02 SECONDARY ACADEMY ANTRIM
NEWTONBREDA ROAD
BELFAST
NEWTOWNBREDA
Edge of Town
Residential Zone
Total Number of pupils: 850
Survey date: FRIDAY *23/11/18* *Survey Type: MANUAL*

2 BR-04-B-01 SECONDARY SCHOOL BRISTOL CITY
ST FRANCIS ROAD
NEAR BRISTOL
KEYNSHAM
Edge of Town
Residential Zone
Total Number of pupils: 435
Survey date: MONDAY *21/09/15* *Survey Type: MANUAL*

3 CF-04-B-01 SECONDARY SCHOOL CARDIFF
YSGOL GYFUN RADUR
CARDIFF
RADYR
Edge of Town
Residential Zone
Total Number of pupils: 1338
Survey date: FRIDAY *07/10/16* *Survey Type: MANUAL*

4 CF-04-B-02 SECONDARY SCHOOL CARDIFF
TY-DRAW ROAD
CARDIFF
LISVANE
Edge of Town
Residential Zone
Total Number of pupils: 1042
Survey date: THURSDAY *15/03/18* *Survey Type: MANUAL*

5 DL-04-B-02 SECONDARY SCHOOL DUBLIN
ZION ROAD
DUBLIN
RATHFARNHAM
Suburban Area (PPS6 Out of Centre)
Residential Zone
Total Number of pupils: 726
Survey date: MONDAY *19/10/15* *Survey Type: MANUAL*

6 DV-04-B-04 SECONDARY ACADEMY DEVON
EARL RICHARD ' SRD SOUTH
EXETER

Suburban Area (PPS6 Out of Centre)
Residential Zone
Total Number of pupils: 835
Survey date: TUESDAY *02/04/19* *Survey Type: MANUAL*

7 GM-04-B-03 SECONDARY SCHOOL GREATER MANCHESTER
MATTHEW MOSS LANE
ROCHDALE
MARLAND
Edge of Town
Residential Zone
Total Number of pupils: 780
Survey date: FRIDAY *23/09/16* *Survey Type: MANUAL*

8 HO-04-B-01 FREE SCHOOL HOUNSLOW
LAMPTON AVENUE
HOUNSLOW

Suburban Area (PPS6 Out of Centre)
Residential Zone
Total Number of pupils: 1395
Survey date: MONDAY *14/05/12* *Survey Type: MANUAL*

9 LC-04-B-02 SECONDARY ACADEMY LANCASHIRE
TODD LANE NORTH
LOSTOCK HALL

Suburban Area (PPS6 Out of Centre)
Residential Zone
Total Number of pupils: 560
Survey date: TUESDAY *06/11/18* *Survey Type: MANUAL*

LIST OF SITES relevant to selection parameters (Cont.)

10 MM-04-B-01 ROMAN CATHOLIC HIGH SCHOOL MONMOUTHSHIRE
PENCARN WAY
NEWPORT
DUFFRYN
Neighbourhood Centre (PPS6 Local Centre)
No Sub Category
Total Number of pupils: 1450
Survey date: FRIDAY *27/09/19* *Survey Type: MANUAL*

11 RC-04-B-01 SECONDARY SCHOOL RHONDDA CYNON TAFF
A470
NEAR PONTYPRIDD
CILFYNYDD
Neighbourhood Centre (PPS6 Local Centre)
Village
Total Number of pupils: 1000
Survey date: WEDNESDAY *22/10/14* *Survey Type: MANUAL*

12 SF-04-B-01 SECONDARY SCHOOL SUFFOLK
MAIN ROAD
IPSWICH
KESGRAVE
Edge of Town
Residential Zone
Total Number of pupils: 1847
Survey date: FRIDAY *18/09/15* *Survey Type: MANUAL*

13 TW-04-B-02 SECONDARY SCHOOL TYNE & WEAR
SALTWELL ROAD SOUTH
GATESHEAD
LOW FELL
Edge of Town
Residential Zone
Total Number of pupils: 1087
Survey date: FRIDAY *13/11/15* *Survey Type: MANUAL*

14 WM-04-B-04 SECONDARY SCHOOL WEST MIDLANDS
SHANNON ROAD
BIRMINGHAM

Edge of Town
Residential Zone
Total Number of pupils: 247
Survey date: MONDAY *09/11/15* *Survey Type: MANUAL*

15 WM-04-B-06 SECONDARY SCHOOL WEST MIDLANDS
PARK ROAD WEST
STOURBRIDGE
WOLLASTON
Edge of Town
Residential Zone
Total Number of pupils: 840
Survey date: TUESDAY *21/11/17* *Survey Type: MANUAL*

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

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

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. PUPILS	Trip Rate	No. Days	Ave. PUPILS	Trip Rate	No. Days	Ave. PUPILS	Trip Rate
00:00 - 01:00									
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	15	962	0.034	15	962	0.007	15	962	0.041
08:00 - 09:00	15	962	0.168	15	962	0.113	15	962	0.281
09:00 - 10:00	15	962	0.017	15	962	0.014	15	962	0.031
10:00 - 11:00	15	962	0.010	15	962	0.008	15	962	0.018
11:00 - 12:00	15	962	0.012	15	962	0.012	15	962	0.024
12:00 - 13:00	15	962	0.012	15	962	0.014	15	962	0.026
13:00 - 14:00	15	962	0.016	15	962	0.016	15	962	0.032
14:00 - 15:00	15	962	0.040	15	962	0.025	15	962	0.065
15:00 - 16:00	15	962	0.051	15	962	0.107	15	962	0.158
16:00 - 17:00	15	962	0.017	15	962	0.047	15	962	0.064
17:00 - 18:00	15	962	0.017	15	962	0.025	15	962	0.042
18:00 - 19:00	14	959	0.012	14	959	0.011	14	959	0.023
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.406			0.399			0.805

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

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Parameter summary

Trip rate parameter range selected:	247 - 1847 (units:)
Survey date date range:	01/01/12 - 08/11/19
Number of weekdays (Monday-Friday):	15
Number of Saturdays:	0
Number of Sundays:	0
Surveys automatically removed from selection:	0
Surveys manually removed from selection:	0

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

TRIP RATE for Land Use 04 - EDUCATION/B - SECONDARY
TAXIS
Calculation factor: 1 PUPILS
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. PUPILS	Trip Rate	No. Days	Ave. PUPILS	Trip Rate	No. Days	Ave. PUPILS	Trip Rate
00:00 - 01:00									
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	15	962	0.000	15	962	0.000	15	962	0.000
08:00 - 09:00	15	962	0.002	15	962	0.002	15	962	0.004
09:00 - 10:00	15	962	0.000	15	962	0.000	15	962	0.000
10:00 - 11:00	15	962	0.000	15	962	0.000	15	962	0.000
11:00 - 12:00	15	962	0.000	15	962	0.000	15	962	0.000
12:00 - 13:00	15	962	0.000	15	962	0.000	15	962	0.000
13:00 - 14:00	15	962	0.000	15	962	0.000	15	962	0.000
14:00 - 15:00	15	962	0.000	15	962	0.000	15	962	0.000
15:00 - 16:00	15	962	0.001	15	962	0.001	15	962	0.002
16:00 - 17:00	15	962	0.000	15	962	0.000	15	962	0.000
17:00 - 18:00	15	962	0.000	15	962	0.000	15	962	0.000
18:00 - 19:00	14	959	0.000	14	959	0.000	14	959	0.000
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.003			0.003			0.006

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 04 - EDUCATION/B - SECONDARY
OGVS
Calculation factor: 1 PUPILS
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. PUPILS	Trip Rate	No. Days	Ave. PUPILS	Trip Rate	No. Days	Ave. PUPILS	Trip Rate
00:00 - 01:00									
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	15	962	0.000	15	962	0.000	15	962	0.000
08:00 - 09:00	15	962	0.001	15	962	0.001	15	962	0.002
09:00 - 10:00	15	962	0.000	15	962	0.000	15	962	0.000
10:00 - 11:00	15	962	0.000	15	962	0.000	15	962	0.000
11:00 - 12:00	15	962	0.001	15	962	0.001	15	962	0.002
12:00 - 13:00	15	962	0.000	15	962	0.000	15	962	0.000
13:00 - 14:00	15	962	0.000	15	962	0.000	15	962	0.000
14:00 - 15:00	15	962	0.000	15	962	0.000	15	962	0.000
15:00 - 16:00	15	962	0.000	15	962	0.000	15	962	0.000
16:00 - 17:00	15	962	0.000	15	962	0.000	15	962	0.000
17:00 - 18:00	15	962	0.000	15	962	0.000	15	962	0.000
18:00 - 19:00	14	959	0.000	14	959	0.000	14	959	0.000
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.002			0.002			0.004

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 04 - EDUCATION/B - SECONDARY
PSVS
Calculation factor: 1 PUPILS
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. PUPILS	Trip Rate	No. Days	Ave. PUPILS	Trip Rate	No. Days	Ave. PUPILS	Trip Rate
00:00 - 01:00									
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	15	962	0.000	15	962	0.000	15	962	0.000
08:00 - 09:00	15	962	0.004	15	962	0.004	15	962	0.008
09:00 - 10:00	15	962	0.000	15	962	0.000	15	962	0.000
10:00 - 11:00	15	962	0.000	15	962	0.000	15	962	0.000
11:00 - 12:00	15	962	0.000	15	962	0.000	15	962	0.000
12:00 - 13:00	15	962	0.000	15	962	0.000	15	962	0.000
13:00 - 14:00	15	962	0.000	15	962	0.000	15	962	0.000
14:00 - 15:00	15	962	0.003	15	962	0.001	15	962	0.004
15:00 - 16:00	15	962	0.001	15	962	0.004	15	962	0.005
16:00 - 17:00	15	962	0.000	15	962	0.000	15	962	0.000
17:00 - 18:00	15	962	0.000	15	962	0.000	15	962	0.000
18:00 - 19:00	14	959	0.000	14	959	0.000	14	959	0.000
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.008			0.009			0.017

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 04 - EDUCATION/B - SECONDARY
CYCLISTS
Calculation factor: 1 PUPILS
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. PUPILS	Trip Rate	No. Days	Ave. PUPILS	Trip Rate	No. Days	Ave. PUPILS	Trip Rate
00:00 - 01:00									
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	15	962	0.002	15	962	0.000	15	962	0.002
08:00 - 09:00	15	962	0.022	15	962	0.000	15	962	0.022
09:00 - 10:00	15	962	0.004	15	962	0.000	15	962	0.004
10:00 - 11:00	15	962	0.001	15	962	0.000	15	962	0.001
11:00 - 12:00	15	962	0.000	15	962	0.000	15	962	0.000
12:00 - 13:00	15	962	0.000	15	962	0.000	15	962	0.000
13:00 - 14:00	15	962	0.001	15	962	0.001	15	962	0.002
14:00 - 15:00	15	962	0.000	15	962	0.001	15	962	0.001
15:00 - 16:00	15	962	0.000	15	962	0.016	15	962	0.016
16:00 - 17:00	15	962	0.000	15	962	0.006	15	962	0.006
17:00 - 18:00	15	962	0.000	15	962	0.004	15	962	0.004
18:00 - 19:00	14	959	0.001	14	959	0.001	14	959	0.002
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.031			0.029			0.060

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.*

vectos.

Appendix I

Census Data Sheets

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
usual residence	E02001055 : Manchester 011 (2011 super output area - middle layer)

place of work : 2011 census merged local authority district	Work mainly at or from home	Underground, metro, light rail or tram	Train	Bus, minibus or coach	Taxi	Motorcycle, scooter or moped	Driving a car or van	Passenger in a car or van	Bicycle	On foot	Other method of travel to work	Total		Vehicle Trip	
	0	11	33	710	27	15	1,378	227	97	324	5			1,647	
% All JTW	0.00%	0.39%	1.17%	25.11%	0.96%	0.53%	48.74%	8.03%	3.43%	11.46%	0.18%	2,827	100.00%		
% Known Travel		0.39%	1.17%	25.16%	0.96%	0.53%	48.83%	8.04%	3.44%	11.48%		2,822	100.00%		0.5%
													check		Threshold

place of work : 2011 census merged local authority district	Work mainly at or from home	Underground, metro, light rail or tram	Train	Bus, minibus or coach	Taxi	Motorcycle, scooter or moped	Driving a car or van	Passenger in a car or van	Bicycle	On foot	Other method of travel to work		
Hartlepool	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
Middlesbrough	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
Redcar and Cleveland	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
Stockton-on-Tees	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
Darlington	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
County Durham	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
Northumberland	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
Gateshead	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
Newcastle upon Tyne	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
North Tyneside	0	0	0	0	0	0	0	1	0	0	0	0	0.0%
South Tyneside	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
Sunderland	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
Halton	0	0	0	0	0	0	1	0	0	0	0	1	0.1%
Warrington	0	0	1	0	0	0	10	0	0	0	0	10	0.6%
Blackburn with Darwen	0	0	0	1	0	0	5	0	0	0	0	5	0.3%
Blackpool	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
Cheshire East	0	0	2	1	0	0	15	2	0	0	0	15	0.9%
Cheshire West and Che	0	0	0	0	0	0	5	3	1	0	0	5	0.3%
Allerdale	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
Barrow-in-Furness	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
Carlisle	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
Copeland	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
Eden	0	0	0	2	0	0	0	0	0	0	0	0	0.0%
South Lakeland	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
Burnley	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
Chorley	0	0	0	0	0	0	1	0	0	0	0	1	0.1%
Fylde	0	0	1	0	0	0	2	0	0	0	0	2	0.1%
Hyndburn	0	0	0	0	0	0	2	0	0	0	0	2	0.1%
Lancaster	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
Pendle	0	0	0	0	0	0	2	0	0	0	0	2	0.1%
Preston	0	0	0	0	0	0	2	0	0	0	0	2	0.1%
Ribble Valley	0	0	1	1	0	0	3	0	0	0	0	3	0.2%
Rossendale	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
South Ribble	0	0	0	0	0	0	1	0	0	0	0	1	0.1%

West Lancashire	0	0	0	0	0	0	2	0	0	0	0	2	0.1%
Wyre	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
Bolton	0	0	2	3	0	0	14	0	1	2	0	14	0.9%
Bury	0	2	0	8	0	0	26	4	0	1	0	26	1.6%
Manchester	0	2	10	459	19	7	701	157	75	249	3	727	44.1%
Oldham	0	0	0	84	4	3	176	28	6	50	0	183	11.1%
Rochdale	0	0	0	11	1	0	40	2	0	1	0	41	2.5%
Salford	0	1	0	38	1	1	92	7	4	1	0	94	5.7%
Stockport	0	5	6	18	0	1	69	2	1	2	0	70	4.3%
Tameside	0	0	0	17	1	2	66	8	3	3	0	69	4.2%
Trafford	0	0	2	34	0	1	88	11	5	3	1	89	5.4%
Wigan	0	0	0	5	0	0	8	0	0	1	0	8	0.5%
Knowsley	0	0	0	0	0	0	1	0	0	0	0	1	0.1%
Liverpool	0	0	0	1	0	0	2	0	0	0	0	2	0.1%
St. Helens	0	0	0	1	0	0	2	0	1	0	0	2	0.1%
Sefton	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
Wirral	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
Kingston upon Hull, City	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
East Riding of Yorkshire	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
North East Lincolnshire	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
North Lincolnshire	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
York	0	0	0	0	0	0	1	0	0	0	0	1	0.1%
Craven	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
Hambleton	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
Harrogate	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
Richmondshire	0	0	0	0	0	0	1	0	0	0	0	1	0.1%
Ryedale	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
Scarborough	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
Selby	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
Barnsley	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
Doncaster	0	0	1	1	0	0	0	0	0	0	0	0	0.0%
Rotherham	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
Sheffield	0	0	1	1	0	0	1	0	0	0	0	1	0.1%
Bradford	0	0	0	0	0	0	2	0	0	0	0	2	0.1%
Calderdale	0	0	0	3	1	0	3	0	0	0	0	4	0.2%
Kirklees	0	0	0	3	0	0	1	0	0	0	0	1	0.1%
Leeds	0	0	0	1	0	0	2	0	0	0	0	2	0.1%
Wakefield	0	0	0	0	0	0	0	0	0	1	0	0	0.0%
Derby	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
Leicester	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
Rutland	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
Nottingham	0	0	0	1	0	0	0	0	0	0	0	0	0.0%
Amber Valley	0	0	1	0	0	0	1	0	0	0	0	1	0.1%
Bolsover	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
Chesterfield	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
Derbyshire Dales	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
Erewash	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
High Peak	0	0	0	2	0	0	3	0	0	0	0	3	0.2%
North East Derbyshire	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
South Derbyshire	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
Blaby	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
Charnwood	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
Harborough	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
Hinckley and Bosworth	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
Melton	0	0	0	0	0	0	0	0	0	0	0	0	0.0%

North West Leicestersh	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
Oadby and Wigston	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
Boston	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
East Lindsey	0	0	0	1	0	0	0	0	0	0	0	0	0.0%
Lincoln	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
North Kesteven	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
South Holland	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
South Kesteven	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
West Lindsey	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
Corby	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
Daventry	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
East Northamptonshire	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
Kettering	0	0	0	0	0	0	1	0	0	0	0	1	0.1%
Northampton	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
South Northamptonshir	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
Wellingborough	0	0	0	0	0	0	1	0	0	0	1	1	0.1%
Ashfield	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
Bassetlaw	0	0	0	0	0	0	3	0	0	0	0	3	0.2%
Broxtowe	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
Gedling	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
Mansfield	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
Newark and Sherwood	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
Rushcliffe	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
Herefordshire, County c	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
Telford and Wrekin	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
Stoke-on-Trent	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
Shropshire	0	0	0	0	0	0	1	0	0	0	0	1	0.1%
Cannock Chase	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
East Staffordshire	0	0	0	1	0	0	2	0	0	0	0	2	0.1%
Lichfield	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
Newcastle-under-Lyme	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
South Staffordshire	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
Stafford	0	0	0	0	0	0	2	0	0	0	0	2	0.1%
Staffordshire Moorlands	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
Tamworth	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
North Warwickshire	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
Nuneaton and Bedworth	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
Rugby	0	0	0	0	0	0	1	0	0	0	0	1	0.1%
Stratford-on-Avon	0	0	1	0	0	0	0	0	0	0	0	0	0.0%
Warwick	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
Bromsgrove	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
Malvern Hills	0	0	0	0	0	0	1	0	0	0	0	1	0.1%
Redditch	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
Worcester	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
Wychavon	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
Wyre Forest	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
Birmingham	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
Coventry	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
Dudley	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
Sandwell	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
Solihull	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
Walsall	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
Wolverhampton	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
Peterborough	0	0	0	0	0	0	1	0	0	0	0	1	0.1%
Luton	0	0	0	0	0	0	0	0	0	0	0	0	0.0%

Southend-on-Sea	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
Thurrock	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
Bedford	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
Central Bedfordshire	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
Cambridge	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
East Cambridgeshire	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
Fenland	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
Huntingdonshire	0	0	0	1	0	0	0	0	0	0	0	0	0.0%
South Cambridgeshire	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
Basildon	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
Braintree	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
Brentwood	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
Castle Point	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
Chelmsford	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
Colchester	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
Epping Forest	0	0	0	0	0	0	0	1	0	0	0	0	0.0%
Harlow	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
Maldon	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
Rochford	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
Tendring	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
Uttlesford	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
Broxbourne	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
Dacorum	0	0	0	0	0	0	1	0	0	0	0	1	0.1%
East Hertfordshire	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
Hertsmere	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
North Hertfordshire	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
St Albans	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
Stevenage	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
Three Rivers	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
Watford	0	1	0	1	0	0	0	0	0	0	0	0	0.0%
Welwyn Hatfield	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
Breckland	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
Broadland	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
Great Yarmouth	0	0	0	0	0	0	1	0	0	0	0	1	0.1%
King's Lynn and West N	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
North Norfolk	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
Norwich	0	0	0	0	0	0	1	0	0	0	0	1	0.1%
South Norfolk	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
Babergh	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
Forest Heath	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
Ipswich	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
Mid Suffolk	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
St Edmundsbury	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
Suffolk Coastal	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
Waveney	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
Barking and Dagenham	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
Barnet	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
Bexley	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
Brent	0	0	0	0	0	0	1	0	0	0	0	1	0.1%
Bromley	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
Camden	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
Croydon	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
Ealing	0	0	0	0	0	0	1	0	0	0	0	1	0.1%
Enfield	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
Greenwich	0	0	0	0	0	0	0	0	0	1	0	0	0.0%

Hackney	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
Hammersmith and Fulh	0	0	1	0	0	0	0	0	0	0	0	0	0.0%
Haringey	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
Harrow	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
Havering	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
Hillingdon	0	0	0	2	0	0	1	0	0	0	0	1	0.1%
Hounslow	0	0	0	0	0	0	1	0	0	0	0	1	0.1%
Islington	0	0	0	0	0	0	1	0	0	0	0	1	0.1%
Kensington and Chelse	0	0	0	0	0	0	0	0	0	8	0	0	0.0%
Kingston upon Thames	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
Lambeth	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
Lewisham	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
Merton	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
Newham	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
Redbridge	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
Richmond upon Thame	0	0	0	1	0	0	0	0	0	0	0	0	0.0%
Southwark	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
Sutton	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
Tower Hamlets	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
Waltham Forest	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
Wandsworth	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
Westminster,City of Lor	0	0	2	2	0	0	0	0	0	0	0	0	0.0%
Medway	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
Bracknell Forest	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
West Berkshire	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
Reading	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
Slough	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
Windsor and Maidenhe	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
Wokingham	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
Milton Keynes	0	0	1	0	0	0	0	0	0	0	0	0	0.0%
Brighton and Hove	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
Portsmouth	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
Southampton	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
Isle of Wight	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
Aylesbury Vale	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
Chiltern	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
South Bucks	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
Wycombe	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
Eastbourne	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
Hastings	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
Lewes	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
Rother	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
Wealden	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
Basingstoke and Deane	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
East Hampshire	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
Eastleigh	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
Fareham	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
Gosport	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
Hart	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
Havant	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
New Forest	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
Rushmoor	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
Test Valley	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
Winchester	0	0	0	1	0	0	0	0	0	0	0	0	0.0%
Ashford	0	0	0	0	0	0	0	0	0	0	0	0	0.0%

Canterbury	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
Dartford	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
Dover	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
Gravesham	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
Maidstone	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
Sevenoaks	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
Shepway	0	0	0	2	0	0	0	0	0	0	0	0	0.0%
Swale	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
Thanet	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
Tonbridge and Malling	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
Tunbridge Wells	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
Cherwell	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
Oxford	0	0	0	0	0	0	1	0	0	0	0	1	0.1%
South Oxfordshire	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
Vale of White Horse	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
West Oxfordshire	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
Elmbridge	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
Epsom and Ewell	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
Guildford	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
Mole Valley	0	0	0	0	0	0	1	0	0	0	0	1	0.1%
Reigate and Banstead	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
Runnymede	0	0	0	0	0	0	1	0	0	0	0	1	0.1%
Spelthorne	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
Surrey Heath	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
Tandridge	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
Waverley	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
Woking	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
Adur	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
Arun	0	0	0	0	0	0	0	0	0	1	0	0	0.0%
Chichester	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
Crawley	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
Horsham	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
Mid Sussex	0	0	0	0	0	0	0	1	0	0	0	0	0.0%
Worthing	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
Bath and North East So	0	0	0	0	0	0	1	0	0	0	0	1	0.1%
Bristol, City of	0	0	0	1	0	0	0	0	0	0	0	0	0.0%
Cornwall,Isles of Scilly	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
Wiltshire	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
North Somerset	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
South Gloucestershire	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
Plymouth	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
Torbay	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
Bournemouth	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
Poole	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
Swindon	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
East Devon	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
Exeter	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
Mid Devon	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
North Devon	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
South Hams	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
Teignbridge	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
Torridge	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
West Devon	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
Christchurch	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
East Dorset	0	0	0	0	0	0	0	0	0	0	0	0	0.0%

North Dorset	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
Purbeck	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
West Dorset	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
Weymouth and Portlanc	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
Cheltenham	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
Cotswold	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
Forest of Dean	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
Gloucester	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
Stroud	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
Tewkesbury	0	0	0	1	0	0	0	0	0	0	0	0	0.0%
Mendip	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
Sedgemoor	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
South Somerset	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
Taunton Deane	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
West Somerset	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
Isle of Anglesey	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
Gwynedd	0	0	0	0	0	0	1	0	0	0	0	1	0.1%
Conwy	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
Denbighshire	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
Flintshire	0	0	0	0	0	0	1	0	0	0	0	1	0.1%
Wrexham	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
Ceredigion	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
Pembrokeshire	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
Carmarthenshire	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
Swansea	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
Neath Port Talbot	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
Bridgend	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
The Vale of Glamorgan	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
Cardiff	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
Rhondda Cynon Taf	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
Caerphilly	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
Blaenau Gwent	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
Torfaen	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
Monmouthshire	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
Newport	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
Powys	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
Merthyr Tydfil	0	0	0	0	0	0	0	0	0	0	0	0	0.0%

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.

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Appendix J

MSOA Data

MSOA	Code	Number	_%	X	Y
Manchester 011	E02001055	116	12.30%	388304.9	400243.2
Manchester 054	E02006902	78	8.27%	384567.1	398957
Manchester 055	E02006912	48	5.09%	384642.2	397847.3
Manchester 018	E02001062	44	4.67%	385303.1	396755.3
Manchester 015	E02001059	40	4.24%	387418.3	398158
Manchester 006	E02001050	38	4.03%	385858	402087.3
Oldham 028	E02001125	31	3.29%	389774.8	403423.9
Oldham 032	E02001129	31	3.29%	389298.3	401360.4
Manchester 022	E02001066	27	2.86%	386051.1	395692.2
Manchester 060	E02006917	25	2.65%	383357.7	397648
Tameside 013	E02001241	22	2.33%	393020.7	398538.1
Manchester 019	E02001063	20	2.12%	383898.1	396482.7
Manchester 012	E02001056	19	2.02%	388328.8	399090.4
Manchester 053	E02001097	19	2.02%	382401	386301.4
Manchester 013	E02001057	18	1.91%	385709.1	398630.7
Manchester 009	E02001053	17	1.80%	386211.5	401030
Manchester 020	E02001064	16	1.70%	387224.8	396211
Oldham 031	E02001128	15	1.59%	390533.3	402023.3
Manchester 056	E02006913	13	1.38%	384435.1	400505.6
Manchester 057	E02006914	13	1.38%	383952.5	397190.1
Oldham 027	E02001124	13	1.38%	390711.6	403457.6
Manchester 008	E02001052	12	1.27%	384345	401603.4
Manchester 017	E02001061	12	1.27%	388982.9	397040.9
Manchester 058	E02006915	12	1.27%	383772.2	400556.8
Oldham 015	E02001112	11	1.17%	389336.9	405633.8
Oldham 016	E02001113	11	1.17%	391620.4	405511
Oldham 024	E02001121	10	1.06%	392556.5	403824.6
Manchester 005	E02001049	8	0.85%	388814.4	402225.4
Manchester 007	E02001051	8	0.85%	387155.8	401800.8
Oldham 014	E02001111	8	0.85%	392596.8	405700.2
Oldham 029	E02001126	7	0.74%	392949.6	402999.3
Manchester 001	E02001045	6	0.64%	385008.6	404186.8
Manchester 002	E02001046	6	0.64%	385987.4	403428
Manchester 003	E02001047	6	0.64%	387779	403089.8
Manchester 026	E02001070	6	0.64%	385788.4	395103.6
Manchester 052	E02001096	6	0.64%	383474.3	386806.2
Oldham 022	E02001119	6	0.64%	393580.8	404403.1
Tameside 010	E02001238	6	0.64%	391078.3	398792.5
Tameside 017	E02001245	6	0.64%	394106.4	397661.2
Manchester 046	E02001090	5	0.53%	382940.4	389949.1
Oldham 009	E02001106	5	0.53%	392396.4	407163.7
Oldham 017	E02001114	5	0.53%	390474.1	405309
Oldham 030	E02001127	5	0.53%	391671.4	402443.9
Tameside 028	E02001256	5	0.53%	395152.4	394560.4
Manchester 024	E02001068	4	0.42%	383854	395414.4
Manchester 025	E02001069	4	0.42%	384726.5	395207.8
Manchester 036	E02001080	4	0.42%	385799.1	393355.3
Manchester 039	E02001083	4	0.42%	383797.8	392308.6
Manchester 049	E02001093	4	0.42%	382978.4	388285.7

Manchester 051	E0200109	4	0.42%	381254.5	387401.1
Oldham 002	E0200109	4	0.42%	394096.4	409567.2
Oldham 034	E0200113	4	0.42%	389505.4	400530.1
Tameside 021	E0200124	4	0.42%	392720.9	395784.8
Manchester 023	E0200106	3	0.32%	388395.2	395556.6
Manchester 027	E0200107	3	0.32%	387418.7	394913.6
Manchester 028	E0200107	3	0.32%	382731.1	394895.4
Manchester 031	E0200107	3	0.32%	387582.9	394098.1
Manchester 045	E0200108	3	0.32%	385270.5	390303.3
Manchester 047	E0200109	3	0.32%	379874.6	389672.8
Manchester 048	E0200109	3	0.32%	381325.5	388933.7
Manchester 050	E0200109	3	0.32%	382429.4	387665.2
Tameside 005	E0200123	3	0.32%	392952.2	400160.1
Tameside 012	E0200124	3	0.32%	389187.6	398608.9
Tameside 025	E0200125	3	0.32%	392051.5	395236.4
Manchester 033	E0200107	2	0.21%	382155.5	393672.9
Manchester 038	E0200108	2	0.21%	384490.2	392636.5
Manchester 040	E0200108	2	0.21%	385324.7	392392.2
Manchester 041	E0200108	2	0.21%	386349.3	392246.3
Manchester 043	E0200108	2	0.21%	384699.7	391244.8
Manchester 059	E0200691	2	0.21%	382798.6	397122.2
Oldham 003	E0200110	2	0.21%	393953.3	408938.6
Oldham 008	E0200110	2	0.21%	391419.5	407315.1
Oldham 033	E0200113	2	0.21%	390641	401044.1
Oldham 035	E0200686	2	0.21%	391646.6	403988.3
Tameside 007	E0200123	2	0.21%	394849.3	399212.4
Tameside 008	E0200123	2	0.21%	396118.5	399186.1
Tameside 014	E0200124	2	0.21%	391175.5	397921.7
Tameside 022	E0200125	2	0.21%	396088.1	395481.9
Manchester 004	E0200104	1	0.11%	384045.1	402858
Manchester 035	E0200107	1	0.11%	384348.1	393438.5
Manchester 044	E0200108	1	0.11%	381170.9	390493.4
Oldham 005	E0200110	1	0.11%	392913.3	408050.9
Oldham 012	E0200110	1	0.11%	394690.3	405942.6
Tameside 002	E0200123	1	0.11%	394112.9	401091.2
Tameside 006	E0200123	1	0.11%	394072.5	400166.9
Tameside 011	E0200123	1	0.11%	390107.2	398734.1
Tameside 019	E0200124	1	0.11%	392270.6	396869.7
Tameside 020	E0200124	1	0.11%	395094.3	396080.8
Tameside 026	E0200125	1	0.11%	393240.2	395003.4
		943		0	0

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Appendix K

A62/Monsall Rd/Grimshaw Ln Modelling Results

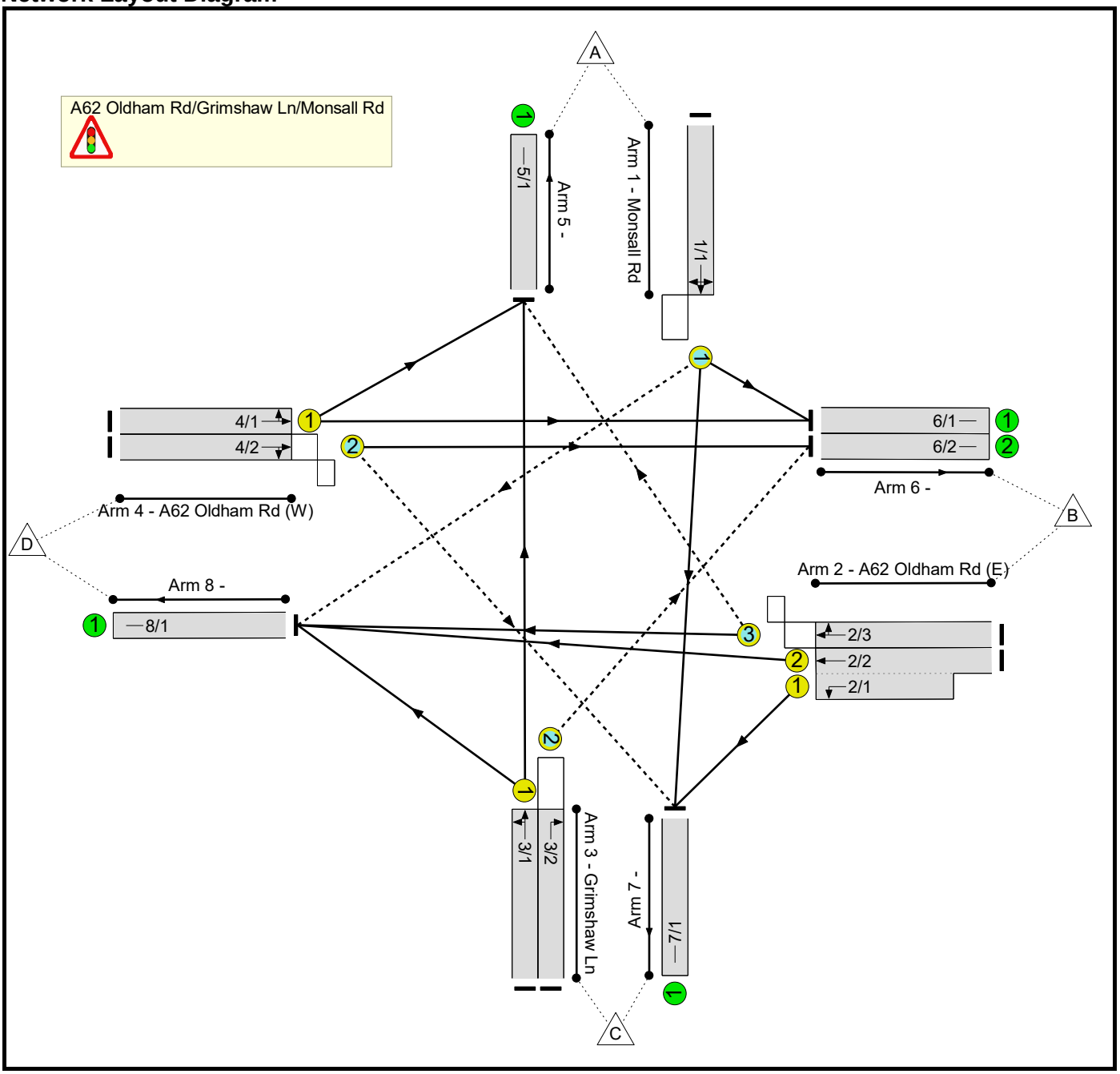
Full Input Data And Results

User and Project Details

Project:	**Jacksons Brickworks**
Title:	
Location:	Newton Heath, Manchester
Client:	Nuvu Developments
Model Purpose:	Capacity Assessment
Additional detail:	
File name:	A62 - Grimshaw Ln - Monsall Rd.lsg3x
Author:	James Whitton
Company:	Vectos North Ltd
Address:	

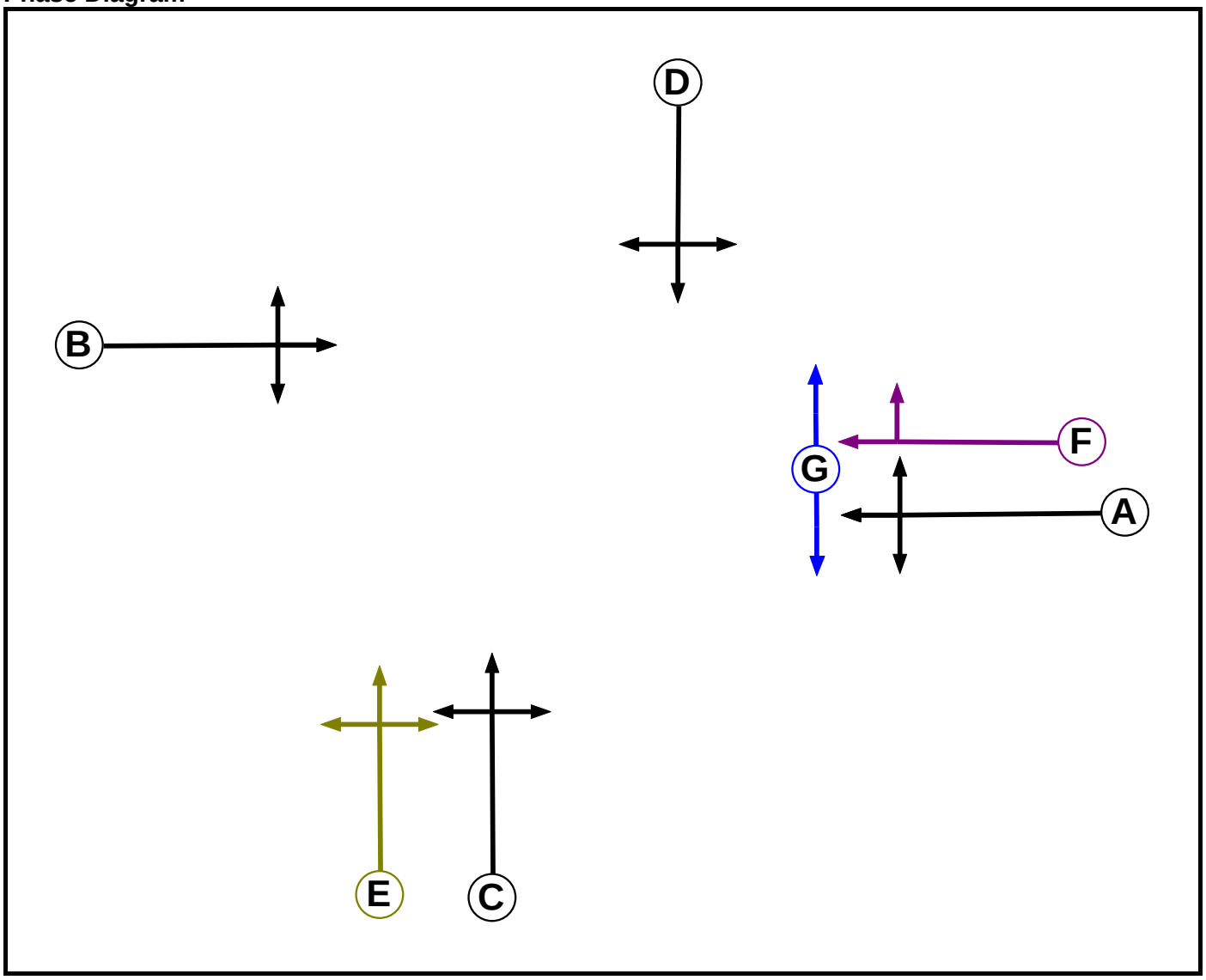
Full Input Data And Results

Network Layout Diagram



Full Input Data And Results

Phase Diagram



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
D	Traffic		7	7
E	Filter	C	7	1
F	Ind. Arrow	A	4	4
G	Pedestrian		8	8

Full Input Data And Results

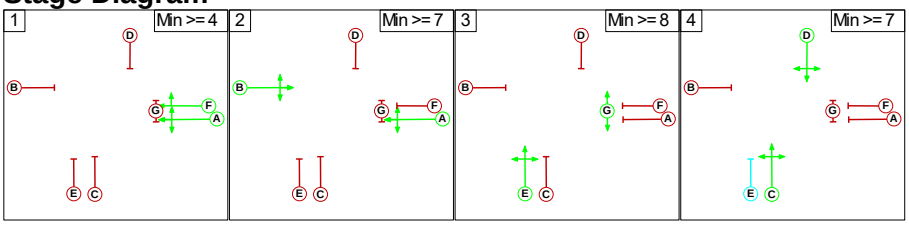
Phase Intergreens Matrix

		Starting Phase						
		A	B	C	D	E	F	G
Terminating Phase	A		-	7	7	7	-	7
	B	-		7	7	7	7	7
	C	6	6		-	-	6	6
	D	6	6	-		-	6	6
	E	6	6	-	-		6	-
	F	-	5	7	7	7		7
	G	6	6	6	6	-	6	

Phases in Stage

Stage No.	Phases in Stage
1	A F
2	A B
3	E G
4	C D

Stage Diagram



Phase Delays

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

Prohibited Stage Change

		To Stage			
		1	2	3	4
From Stage	1		5	7	7
	2	7		7	7
	3	X	X		6
	4	6	6	6	

Full Input Data And Results

Give-Way Lane Input Data

Junction: A62 Oldham Rd/Grimshaw Ln/Monsall Rd

Lane	Movement	Max Flow when Giving Way (PCU/Hr)	Min Flow when Giving Way (PCU/Hr)	Opposing Lane	Opp. Lane Coeff.	Opp. Mvmnts.	Right Turn Storage (PCU)	Non-Blocking Storage (PCU)	RTF	Right Turn Move up (s)	Max Turns in Intergreen (PCU)
1/1 (Monsall Rd)	8/1 (Right)	1439	0	3/1	1.09	All	2.60	2.60	0.50	3	2.00
2/3 (A62 Oldham Rd (E))	5/1 (Right)	1439	0	4/1	1.09	All	2.80	1.00	0.50	3	2.00
				4/2	1.09	To 6/2 (Ahead)					
3/2 (Grimshaw Ln)	6/2 (Right)	1439	0	1/1	1.09	To 6/1 (Left) To 7/1 (Ahead)	3.00	-	0.50	3	3.00
4/2 (A62 Oldham Rd (W))	7/1 (Right)	1439	0	2/2	1.09	All	2.50	1.00	0.50	3	2.00
				2/1	1.09	All					
				2/3	1.09	To 8/1 (Ahead)					

Full Input Data And Results

Lane Input Data

Junction: A62 Oldham Rd/Grimshaw Ln/Monsall Rd

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 (Monsall Rd)	O	D	2	3	60.0	Geom	-	4.85	0.00	Y	Arm 6 Left	15.00
											Arm 7 Ahead	Inf
											Arm 8 Right	22.00
2/1 (A62 Oldham Rd (E))	U	A	2	3	8.0	Geom	-	2.85	0.00	Y	Arm 7 Left	15.00
2/2 (A62 Oldham Rd (E))	U	A	2	3	60.0	Geom	-	2.85	0.00	N	Arm 8 Ahead	Inf
2/3 (A62 Oldham Rd (E))	O	A F	2	3	60.0	Geom	-	2.85	0.00	N	Arm 5 Right	15.00
											Arm 8 Ahead	Inf
3/1 (Grimshaw Ln)	U	C E	2	3	60.0	Geom	-	3.40	0.00	Y	Arm 5 Ahead	Inf
											Arm 8 Left	18.00
3/2 (Grimshaw Ln)	O	C E	2	3	60.0	Geom	-	3.25	0.00	Y	Arm 6 Right	15.00
4/1 (A62 Oldham Rd (W))	U	B	2	3	60.0	Geom	-	3.50	0.00	Y	Arm 5 Left	12.00
											Arm 6 Ahead	Inf
4/2 (A62 Oldham Rd (W))	O	B	2	3	60.0	Geom	-	3.50	0.00	N	Arm 6 Ahead	Inf
											Arm 7 Right	15.00
5/1	U		2	3	60.0	Inf	-	-	-	-	-	-
6/1	U		2	3	60.0	Inf	-	-	-	-	-	-
6/2	U		2	3	60.0	Inf	-	-	-	-	-	-
7/1	U		2	3	60.0	Inf	-	-	-	-	-	-
8/1	U		2	3	60.0	Inf	-	-	-	-	-	-

Traffic Flow Groups

Flow Group	Start Time	End Time	Duration	Formula
1: 'Base Flows AM'	08:00	09:00	01:00	
2: 'Base Flows PM'	17:00	18:00	01:00	
3: 'Base + Com Dev AM'	08:00	09:00	01:00	
4: 'Base + Com Dev PM'	17:00	18:00	01:00	
5: 'Base + Com Dev + Dev AM'	08:00	09:00	01:00	
6: 'Base + Com Dev + Dev PM'	17:00	18:00	01:00	

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

Traffic Flows, Desired

Desired Flow :

		Destination				
		A	B	C	D	Tot.
Origin	A	0	70	275	121	466
	B	151	0	165	1226	1542
	C	447	70	0	95	612
	D	64	716	9	0	789
	Tot.	662	856	449	1442	3409

Traffic Lane Flows

Lane	Scenario 1: Baseline AM
Junction: A62 Oldham Rd/Grimshaw Ln/Monsall Rd	
1/1	466
2/1 (short)	165
2/2 (with short)	953(In) 788(Out)
2/3	589
3/1	542
3/2	70
4/1	374
4/2	415
5/1	662
6/1	380
6/2	476
7/1	449
8/1	1442

Full Input Data And Results

Lane Saturation Flows

Junction: A62 Oldham Rd/Grimshaw Ln/Monsall Rd								
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 (Monsall Rd)	4.85	0.00	Y	Arm 6 Left	15.00	15.0 %	2033	2033
				Arm 7 Ahead	Inf	59.0 %		
				Arm 8 Right	22.00	26.0 %		
2/1 (A62 Oldham Rd (E))	2.85	0.00	Y	Arm 7 Left	15.00	100.0 %	1727	1727
2/2 (A62 Oldham Rd (E))	2.85	0.00	N	Arm 8 Ahead	Inf	100.0 %	2040	2040
2/3 (A62 Oldham Rd (E))	2.85	0.00	N	Arm 5 Right	15.00	25.6 %	1989	1989
				Arm 8 Ahead	Inf	74.4 %		
3/1 (Grimshaw Ln)	3.40	0.00	Y	Arm 5 Ahead	Inf	82.5 %	1927	1927
				Arm 8 Left	18.00	17.5 %		
3/2 (Grimshaw Ln)	3.25	0.00	Y	Arm 6 Right	15.00	100.0 %	1764	1764
4/1 (A62 Oldham Rd (W))	3.50	0.00	Y	Arm 5 Left	12.00	17.1 %	1924	1924
				Arm 6 Ahead	Inf	82.9 %		
4/2 (A62 Oldham Rd (W))	3.50	0.00	N	Arm 6 Ahead	Inf	97.8 %	2100	2100
				Arm 7 Right	15.00	2.2 %		
5/1	Infinite Saturation Flow						Inf	Inf
6/1	Infinite Saturation Flow						Inf	Inf
6/2	Infinite Saturation Flow						Inf	Inf
7/1	Infinite Saturation Flow						Inf	Inf
8/1	Infinite Saturation Flow						Inf	Inf

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

Traffic Flows, Desired

Desired Flow :

		Destination				
		A	B	C	D	Tot.
Origin	A	0	73	92	0	165
	B	54	0	144	684	882
	C	402	131	0	47	580
	D	1	1323	26	0	1350
	Tot.	457	1527	262	731	2977

Full Input Data And Results

Traffic Lane Flows

Lane	Scenario 2: Baseline PM
Junction: A62 Oldham Rd/Grimshaw Ln/Monsall Rd	
1/1	165
2/1 (short)	144
2/2 (with short)	828(In) 684(Out)
2/3	54
3/1	449
3/2	131
4/1	658
4/2	692
5/1	457
6/1	730
6/2	797
7/1	262
8/1	731

Full Input Data And Results

Lane Saturation Flows

Junction: A62 Oldham Rd/Grimshaw Ln/Monsall Rd								
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 (Monsall Rd)	4.85	0.00	Y	Arm 6 Left	15.00	44.2 %	2011	2011
				Arm 7 Ahead	Inf	55.8 %		
				Arm 8 Right	22.00	0.0 %		
2/1 (A62 Oldham Rd (E))	2.85	0.00	Y	Arm 7 Left	15.00	100.0 %	1727	1727
2/2 (A62 Oldham Rd (E))	2.85	0.00	N	Arm 8 Ahead	Inf	100.0 %	2040	2040
2/3 (A62 Oldham Rd (E))	2.85	0.00	N	Arm 5 Right	15.00	100.0 %	1855	1855
				Arm 8 Ahead	Inf	0.0 %		
3/1 (Grimshaw Ln)	3.40	0.00	Y	Arm 5 Ahead	Inf	89.5 %	1938	1938
				Arm 8 Left	18.00	10.5 %		
3/2 (Grimshaw Ln)	3.25	0.00	Y	Arm 6 Right	15.00	100.0 %	1764	1764
4/1 (A62 Oldham Rd (W))	3.50	0.00	Y	Arm 5 Left	12.00	0.2 %	1965	1965
				Arm 6 Ahead	Inf	99.8 %		
4/2 (A62 Oldham Rd (W))	3.50	0.00	N	Arm 6 Ahead	Inf	96.2 %	2097	2097
				Arm 7 Right	15.00	3.8 %		
5/1	Infinite Saturation Flow						Inf	Inf
6/1	Infinite Saturation Flow						Inf	Inf
6/2	Infinite Saturation Flow						Inf	Inf
7/1	Infinite Saturation Flow						Inf	Inf
8/1	Infinite Saturation Flow						Inf	Inf

Scenario 3: 'Future Year (inc CD) AM' (FG3: 'Base + Com Dev AM', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

		Destination				
		A	B	C	D	Tot.
Origin	A	0	79	286	121	486
	B	153	0	225	1243	1621
	C	459	159	0	103	721
	D	64	764	14	0	842
	Tot.	676	1002	525	1467	3670

Full Input Data And Results

Traffic Lane Flows

Lane	Scenario 3: Future Year (inc CD) AM
Junction: A62 Oldham Rd/Grimshaw Ln/Monsall Rd	
1/1	486
2/1 (short)	225
2/2 (with short)	1023(In) 798(Out)
2/3	598
3/1	562
3/2	159
4/1	396
4/2	446
5/1	676
6/1	411
6/2	591
7/1	525
8/1	1467

Full Input Data And Results

Lane Saturation Flows

Junction: A62 Oldham Rd/Grimshaw Ln/Monsall Rd								
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 (Monsall Rd)	4.85	0.00	Y	Arm 6 Left	15.00	16.3 %	2032	2032
				Arm 7 Ahead	Inf	58.8 %		
				Arm 8 Right	22.00	24.9 %		
2/1 (A62 Oldham Rd (E))	2.85	0.00	Y	Arm 7 Left	15.00	100.0 %	1727	1727
2/2 (A62 Oldham Rd (E))	2.85	0.00	N	Arm 8 Ahead	Inf	100.0 %	2040	2040
2/3 (A62 Oldham Rd (E))	2.85	0.00	N	Arm 5 Right	15.00	25.6 %	1989	1989
				Arm 8 Ahead	Inf	74.4 %		
3/1 (Grimshaw Ln)	3.40	0.00	Y	Arm 5 Ahead	Inf	81.7 %	1926	1926
				Arm 8 Left	18.00	18.3 %		
3/2 (Grimshaw Ln)	3.25	0.00	Y	Arm 6 Right	15.00	100.0 %	1764	1764
4/1 (A62 Oldham Rd (W))	3.50	0.00	Y	Arm 5 Left	12.00	16.2 %	1926	1926
				Arm 6 Ahead	Inf	83.8 %		
4/2 (A62 Oldham Rd (W))	3.50	0.00	N	Arm 6 Ahead	Inf	96.9 %	2098	2098
				Arm 7 Right	15.00	3.1 %		
5/1	Infinite Saturation Flow						Inf	Inf
6/1	Infinite Saturation Flow						Inf	Inf
6/2	Infinite Saturation Flow						Inf	Inf
7/1	Infinite Saturation Flow						Inf	Inf
8/1	Infinite Saturation Flow						Inf	Inf

Scenario 4: 'Future Year (inc CD) PM' (FG4: 'Base + Com Dev PM', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

		Destination				
		A	B	C	D	Tot.
Origin	A	0	75	97	0	172
	B	62	0	212	728	1002
	C	415	204	0	54	673
	D	1	1336	33	0	1370
	Tot.	478	1615	342	782	3217

Full Input Data And Results

Traffic Lane Flows

Lane	Scenario 4: Future Year (inc CD) PM
Junction: A62 Oldham Rd/Grimshaw Ln/Monsall Rd	
1/1	172
2/1 (short)	212
2/2 (with short)	938(In) 726(Out)
2/3	64
3/1	469
3/2	204
4/1	670
4/2	700
5/1	478
6/1	744
6/2	871
7/1	342
8/1	782

Full Input Data And Results

Lane Saturation Flows

Junction: A62 Oldham Rd/Grimshaw Ln/Monsall Rd								
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 (Monsall Rd)	4.85	0.00	Y	Arm 6 Left	15.00	43.6 %	2012	2012
				Arm 7 Ahead	Inf	56.4 %		
				Arm 8 Right	22.00	0.0 %		
2/1 (A62 Oldham Rd (E))	2.85	0.00	Y	Arm 7 Left	15.00	100.0 %	1727	1727
2/2 (A62 Oldham Rd (E))	2.85	0.00	N	Arm 8 Ahead	Inf	100.0 %	2040	2040
2/3 (A62 Oldham Rd (E))	2.85	0.00	N	Arm 5 Right	15.00	96.9 %	1860	1860
				Arm 8 Ahead	Inf	3.1 %		
3/1 (Grimshaw Ln)	3.40	0.00	Y	Arm 5 Ahead	Inf	88.5 %	1936	1936
				Arm 8 Left	18.00	11.5 %		
3/2 (Grimshaw Ln)	3.25	0.00	Y	Arm 6 Right	15.00	100.0 %	1764	1764
4/1 (A62 Oldham Rd (W))	3.50	0.00	Y	Arm 5 Left	12.00	0.1 %	1965	1965
				Arm 6 Ahead	Inf	99.9 %		
4/2 (A62 Oldham Rd (W))	3.50	0.00	N	Arm 6 Ahead	Inf	95.3 %	2095	2095
				Arm 7 Right	15.00	4.7 %		
5/1	Infinite Saturation Flow						Inf	Inf
6/1	Infinite Saturation Flow						Inf	Inf
6/2	Infinite Saturation Flow						Inf	Inf
7/1	Infinite Saturation Flow						Inf	Inf
8/1	Infinite Saturation Flow						Inf	Inf

Scenario 5: 'Future Year + Dev AM' (FG5: 'Base + Com Dev + Dev AM', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

		Destination				
		A	B	C	D	Tot.
Origin	A	0	79	286	121	486
	B	153	0	225	1295	1673
	C	459	159	0	103	721
	D	64	796	14	0	874
	Tot.	676	1034	525	1519	3754

Full Input Data And Results

Traffic Lane Flows

Lane	Scenario 5: Future Year + Dev AM
Junction: A62 Oldham Rd/Grimshaw Ln/Monsall Rd	
1/1	486
2/1 (short)	225
2/2 (with short)	1024(In) 799(Out)
2/3	649
3/1	562
3/2	159
4/1	417
4/2	457
5/1	676
6/1	432
6/2	602
7/1	525
8/1	1519

Full Input Data And Results

Lane Saturation Flows

Junction: A62 Oldham Rd/Grimshaw Ln/Monsall Rd								
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 (Monsall Rd)	4.85	0.00	Y	Arm 6 Left	15.00	16.3 %	2032	2032
				Arm 7 Ahead	Inf	58.8 %		
				Arm 8 Right	22.00	24.9 %		
2/1 (A62 Oldham Rd (E))	2.85	0.00	Y	Arm 7 Left	15.00	100.0 %	1727	1727
2/2 (A62 Oldham Rd (E))	2.85	0.00	N	Arm 8 Ahead	Inf	100.0 %	2040	2040
2/3 (A62 Oldham Rd (E))	2.85	0.00	N	Arm 5 Right	15.00	23.6 %	1993	1993
				Arm 8 Ahead	Inf	76.4 %		
3/1 (Grimshaw Ln)	3.40	0.00	Y	Arm 5 Ahead	Inf	81.7 %	1926	1926
				Arm 8 Left	18.00	18.3 %		
3/2 (Grimshaw Ln)	3.25	0.00	Y	Arm 6 Right	15.00	100.0 %	1764	1764
4/1 (A62 Oldham Rd (W))	3.50	0.00	Y	Arm 5 Left	12.00	15.3 %	1928	1928
				Arm 6 Ahead	Inf	84.7 %		
4/2 (A62 Oldham Rd (W))	3.50	0.00	N	Arm 6 Ahead	Inf	96.9 %	2099	2099
				Arm 7 Right	15.00	3.1 %		
5/1	Infinite Saturation Flow						Inf	Inf
6/1	Infinite Saturation Flow						Inf	Inf
6/2	Infinite Saturation Flow						Inf	Inf
7/1	Infinite Saturation Flow						Inf	Inf
8/1	Infinite Saturation Flow						Inf	Inf

Scenario 6: 'Future Year + Dev PM' (FG6: 'Base + Com Dev + Dev PM', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

		Destination				
		A	B	C	D	Tot.
Origin	A	0	75	97	0	172
	B	62	0	212	745	1019
	C	415	204	0	54	673
	D	1	1364	33	0	1398
	Tot.	478	1643	342	799	3262

Full Input Data And Results

Traffic Lane Flows

Lane	Scenario 6: Future Year + Dev PM
Junction: A62 Oldham Rd/Grimshaw Ln/Monsall Rd	
1/1	172
2/1 (short)	212
2/2 (with short)	864(In) 652(Out)
2/3	155
3/1	469
3/2	204
4/1	684
4/2	714
5/1	478
6/1	758
6/2	885
7/1	342
8/1	799

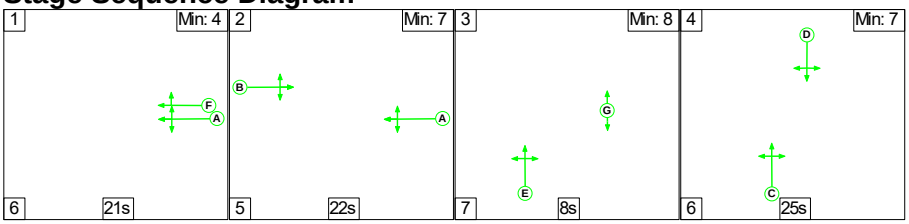
Full Input Data And Results

Lane Saturation Flows

Junction: A62 Oldham Rd/Grimshaw Ln/Monsall Rd								
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 (Monsall Rd)	4.85	0.00	Y	Arm 6 Left	15.00	43.6 %	2012	2012
				Arm 7 Ahead	Inf	56.4 %		
				Arm 8 Right	22.00	0.0 %		
2/1 (A62 Oldham Rd (E))	2.85	0.00	Y	Arm 7 Left	15.00	100.0 %	1727	1727
2/2 (A62 Oldham Rd (E))	2.85	0.00	N	Arm 8 Ahead	Inf	100.0 %	2040	2040
2/3 (A62 Oldham Rd (E))	2.85	0.00	N	Arm 5 Right	15.00	40.0 %	1962	1962
				Arm 8 Ahead	Inf	60.0 %		
3/1 (Grimshaw Ln)	3.40	0.00	Y	Arm 5 Ahead	Inf	88.5 %	1936	1936
				Arm 8 Left	18.00	11.5 %		
3/2 (Grimshaw Ln)	3.25	0.00	Y	Arm 6 Right	15.00	100.0 %	1764	1764
4/1 (A62 Oldham Rd (W))	3.50	0.00	Y	Arm 5 Left	12.00	0.1 %	1965	1965
				Arm 6 Ahead	Inf	99.9 %		
4/2 (A62 Oldham Rd (W))	3.50	0.00	N	Arm 6 Ahead	Inf	95.4 %	2095	2095
				Arm 7 Right	15.00	4.6 %		
5/1	Infinite Saturation Flow						Inf	Inf
6/1	Infinite Saturation Flow						Inf	Inf
6/2	Infinite Saturation Flow						Inf	Inf
7/1	Infinite Saturation Flow						Inf	Inf
8/1	Infinite Saturation Flow						Inf	Inf

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

Stage Sequence Diagram

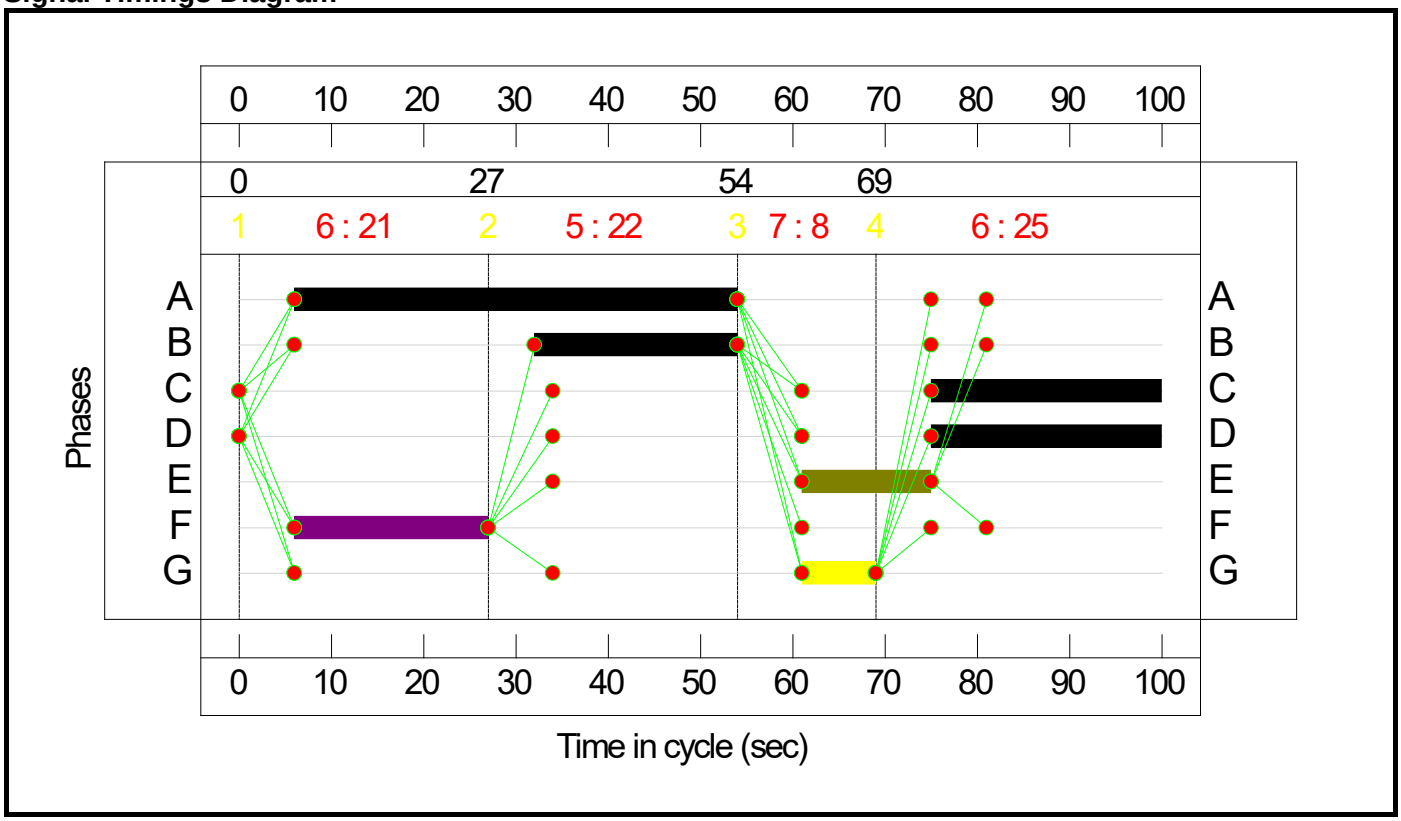


Stage Timings

Stage	1	2	3	4
Duration	21	22	8	25
Change Point	0	27	54	69

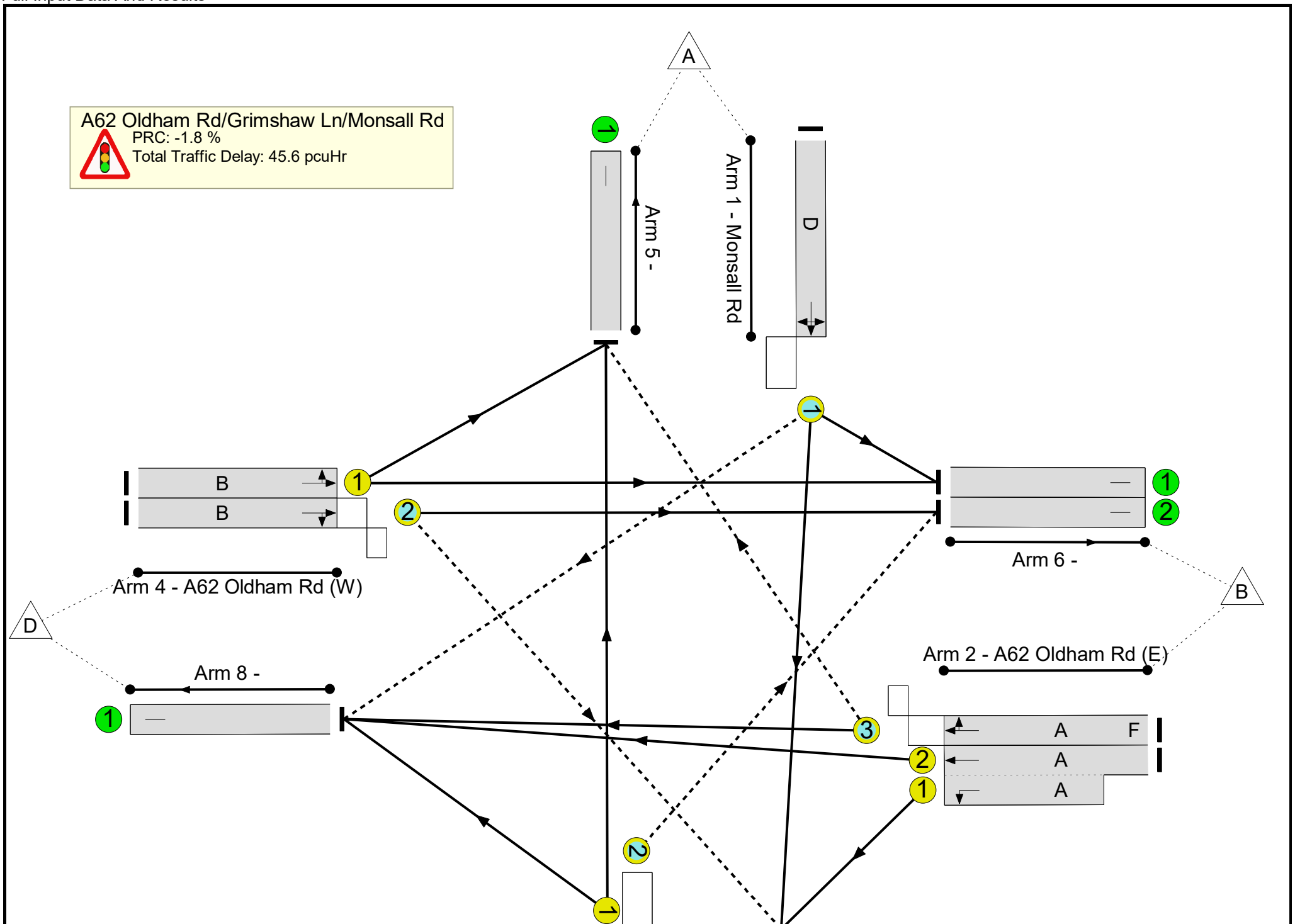
Full Input Data And Results

Signal Timings Diagram



Full Input Data And Results

Network Layout Diagram


A62 Oldham Rd/Grimshaw Ln/Monsall Rd
PRC: -1.8 %
Total Traffic Delay: 45.6 pcuHr
A
B
D
Arm 5 -
Arm 1 - Monsall Rd
Arm 6 -
Arm 4 - A62 Oldham Rd (W)
Arm 8 -
Arm 2 - A62 Oldham Rd (E)
A
F

Full Input Data And Results

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	-	-	**N/A**	-	-		-	-	-	-	-	-	**91.6%**
A62 Oldham Rd/Grimshaw Ln/Monsall Rd	-	-	**N/A**	-	-		-	-	-	-	-	-	**91.6%**
1/1	Monsall Rd Left Ahead Right	O	N/A	N/A	D		1	25	-	466	2033	511	91.1%
2/2+2/1	A62 Oldham Rd (E) Left Ahead	U	N/A	N/A	A		1	48	-	953	2040:1727	860+180	91.6 : 91.6%
2/3	A62 Oldham Rd (E) Right Ahead	O	N/A	N/A	A	F	1	48	21	589	1989	663	88.9%
3/1	Grimshaw Ln Ahead Left	U	N/A	N/A	C	E	1	39	14	542	1927	771	70.3%
3/2	Grimshaw Ln Right	O	N/A	N/A	C	E	1	39	14	70	1764	312	22.5%
4/1	A62 Oldham Rd (W) Left Ahead	U	N/A	N/A	B		1	22	-	374	1924	443	84.5%
4/2	A62 Oldham Rd (W) Ahead Right	O	N/A	N/A	B		1	22	-	415	2100	483	85.9%
5/1		U	N/A	N/A	-		-	-	-	662	Inf	Inf	0.0%
6/1		U	N/A	N/A	-		-	-	-	380	Inf	Inf	0.0%
6/2		U	N/A	N/A	-		-	-	-	476	Inf	Inf	0.0%
7/1		U	N/A	N/A	-		-	-	-	449	Inf	Inf	0.0%
8/1		U	N/A	N/A	-		-	-	-	1442	Inf	Inf	0.0%

Full Input Data And Results

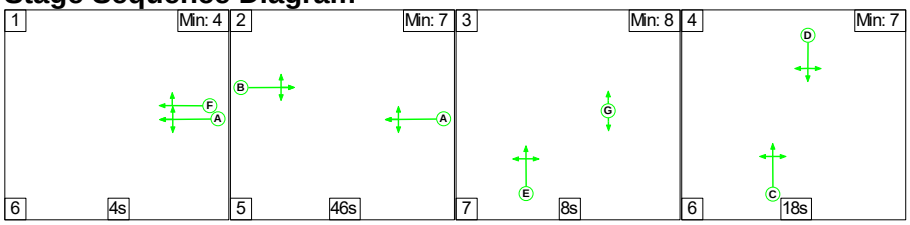
Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network	**-**	**-**	**146**	**161**	**44**	**25.7**	**19.5**	**0.4**	**45.6**	**-**	**-**	**-**	**-**
A62 Oldham Rd/Grimshaw Ln/Monsall Rd	**-**	**-**	**146**	**161**	**44**	**25.7**	**19.5**	**0.4**	**45.6**	**-**	**-**	**-**	**-**
1/1	466	466	120	0	1	4.6	4.3	0.1	9.1	70.3	12.6	4.3	16.9
2/2+2/1	953	953	-	-	-	5.9	4.9	-	10.7	40.6	22.4	4.9	27.3
2/3	589	589	6	112	33	3.0	3.6	0.2	6.8	41.6	11.8	3.6	15.4
3/1	542	542	-	-	-	3.8	1.2	-	4.9	32.8	12.5	1.2	13.7
3/2	70	70	20	50	1	0.4	0.1	0.0	0.5	28.1	1.2	0.1	1.4
4/1	374	374	-	-	-	3.8	2.5	-	6.4	61.3	9.9	2.5	12.4
4/2	415	415	1	0	8	4.3	2.8	0.0	7.1	61.7	11.0	2.8	13.8
5/1	662	662	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	380	380	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/2	476	476	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	449	449	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	1442	1442	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

C1 PRC for Signalled Lanes (%): -1.8 Total Delay for Signalled Lanes (pcuHr): 45.62 Cycle Time (s): 100
PRC Over All Lanes (%): -1.8 Total Delay Over All Lanes(pcuHr): 45.62

Full Input Data And Results

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

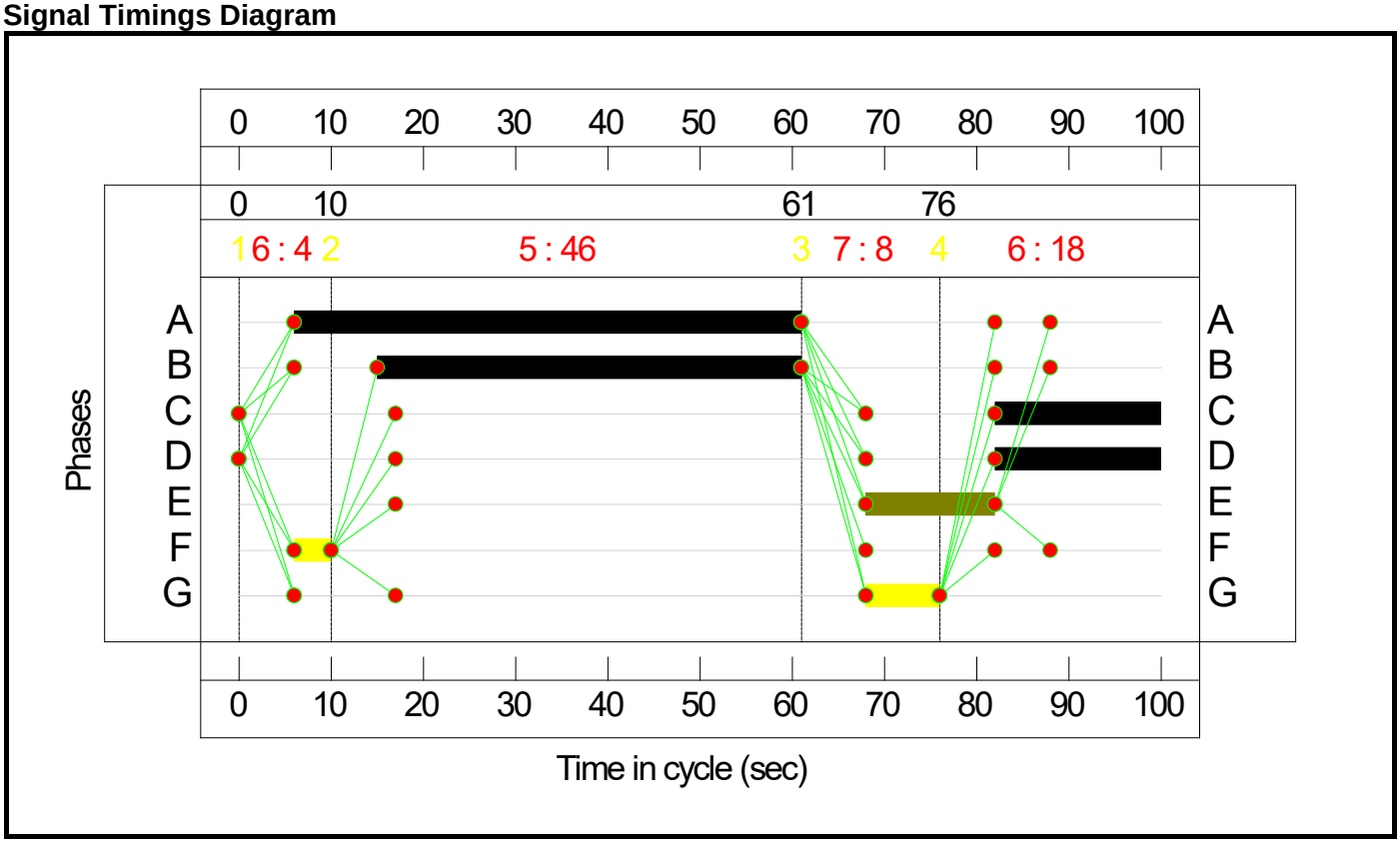
Stage Sequence Diagram



Stage Timings

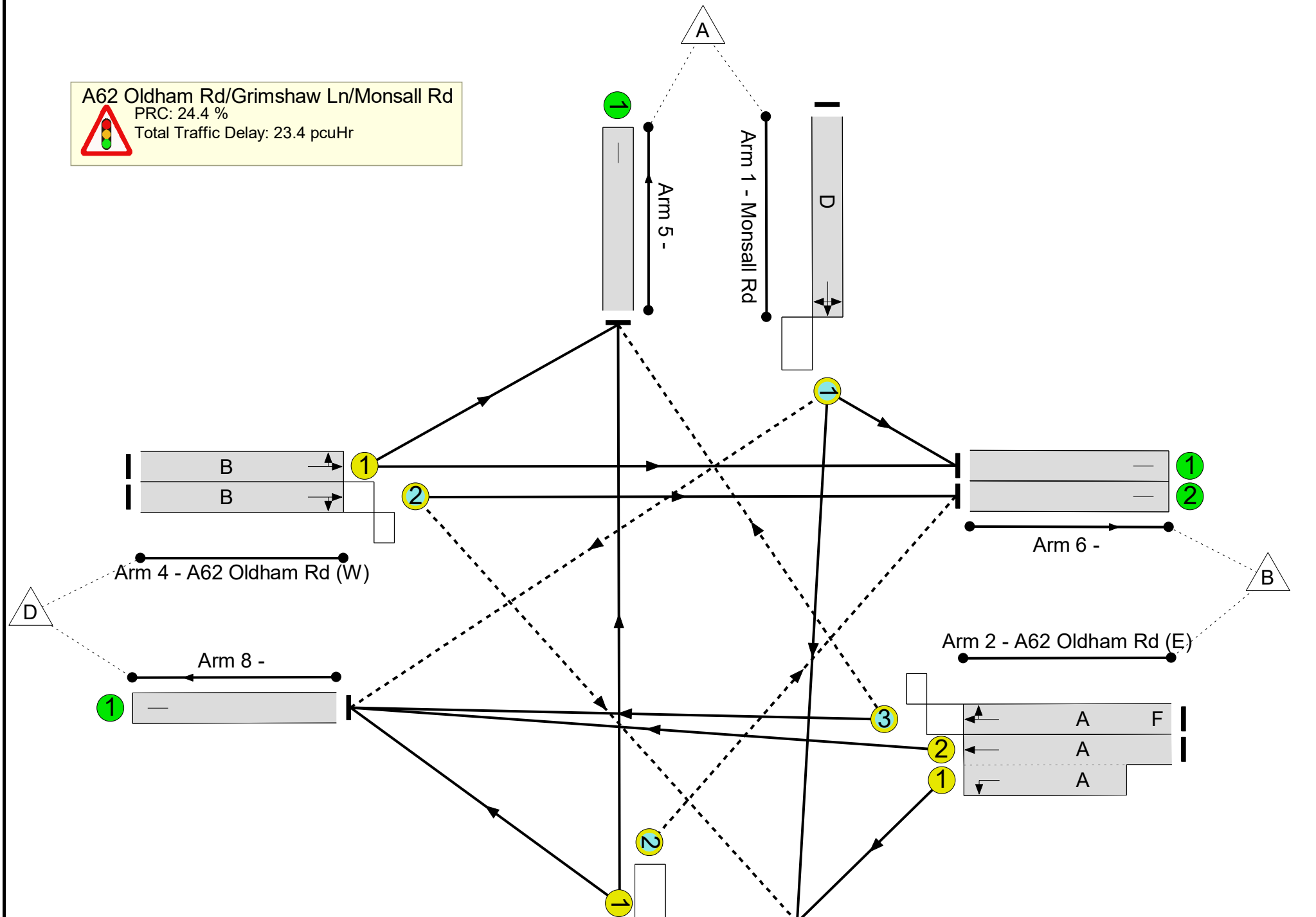
Stage	1	2	3	4
Duration	4	46	8	18
Change Point	0	10	61	76

Signal Timings Diagram



Full Input Data And Results

Network Layout Diagram


A62 Oldham Rd/Grimshaw Ln/Monsall Rd
PRC: 24.4 %
Total Traffic Delay: 23.4 pcuHr
A
B
D
Arm 5 -
Arm 1 - Monsall Rd
D
B
B
Arm 4 - A62 Oldham Rd (W)
Arm 6 -
Arm 8 -
Arm 2 - A62 Oldham Rd (E)
A
F
A
A

Full Input Data And Results

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	-	-	**N/A**	-	-		-	-	-	-	-	-	**72.3%**
A62 Oldham Rd/Grimshaw Ln/Monsall Rd	-	-	**N/A**	-	-		-	-	-	-	-	-	**72.3%**
1/1	Monsall Rd Left Ahead Right	O	N/A	N/A	D		1	18	-	165	2011	382	43.2%
2/2+2/1	A62 Oldham Rd (E) Left Ahead	U	N/A	N/A	A		1	55	-	828	2040:1727	974+205	70.2 : 70.2%
2/3	A62 Oldham Rd (E) Right Ahead	O	N/A	N/A	A	F	1	55	4	54	1855	212	25.5%
3/1	Grimshaw Ln Ahead Left	U	N/A	N/A	C	E	1	32	14	449	1938	640	70.2%
3/2	Grimshaw Ln Right	O	N/A	N/A	C	E	1	32	14	131	1764	423	31.0%
4/1	A62 Oldham Rd (W) Left Ahead	U	N/A	N/A	B		1	46	-	658	1965	924	71.2%
4/2	A62 Oldham Rd (W) Ahead Right	O	N/A	N/A	B		1	46	-	692	2097	957	72.3%
5/1		U	N/A	N/A	-		-	-	-	457	Inf	Inf	0.0%
6/1		U	N/A	N/A	-		-	-	-	730	Inf	Inf	0.0%
6/2		U	N/A	N/A	-		-	-	-	797	Inf	Inf	0.0%
7/1		U	N/A	N/A	-		-	-	-	262	Inf	Inf	0.0%
8/1		U	N/A	N/A	-		-	-	-	731	Inf	Inf	0.0%

Full Input Data And Results

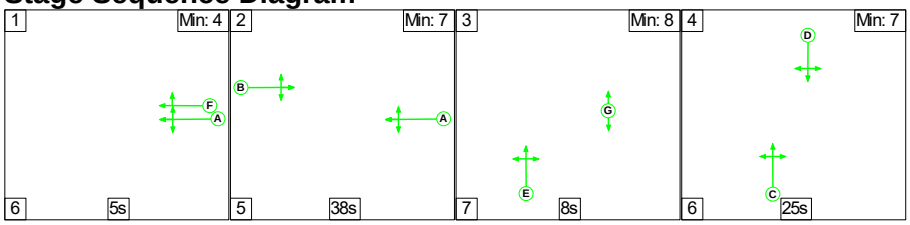
Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network	**-**	**-**	**53**	**129**	**29**	**17.6**	**5.6**	**0.2**	**23.4**	**-**	**-**	**-**	**-**
A62 Oldham Rd/Grimshaw Ln/Monsall Rd	**-**	**-**	**53**	**129**	**29**	**17.6**	**5.6**	**0.2**	**23.4**	**-**	**-**	**-**	**-**
1/1	165	165	0	0	0	1.6	0.4	0.0	2.0	44.0	4.0	0.4	4.4
2/2+2/1	828	828	-	-	-	3.3	1.2	-	4.5	19.5	14.2	1.2	15.4
2/3	54	54	0	27	27	0.2	0.2	0.2	0.5	33.8	0.7	0.2	0.8
3/1	449	449	-	-	-	3.6	1.2	-	4.8	38.5	10.9	1.2	12.0
3/2	131	131	28	102	1	0.9	0.2	0.0	1.1	30.9	2.6	0.2	2.8
4/1	658	658	-	-	-	3.9	1.2	-	5.1	27.8	14.4	1.2	15.7
4/2	692	692	25	0	1	4.1	1.3	0.0	5.4	28.1	15.4	1.3	16.7
5/1	457	457	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	730	730	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/2	797	797	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	262	262	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	731	731	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

C1 PRC for Signalled Lanes (%): 24.4 Total Delay for Signalled Lanes (pcuHr): 23.43 Cycle Time (s): 100
PRC Over All Lanes (%): 24.4 Total Delay Over All Lanes(pcuHr): 23.43

Full Input Data And Results

Scenario 3: 'Future Year (inc CD) AM' (FG3: 'Base + Com Dev AM', Plan 1: 'Network Control Plan 1')

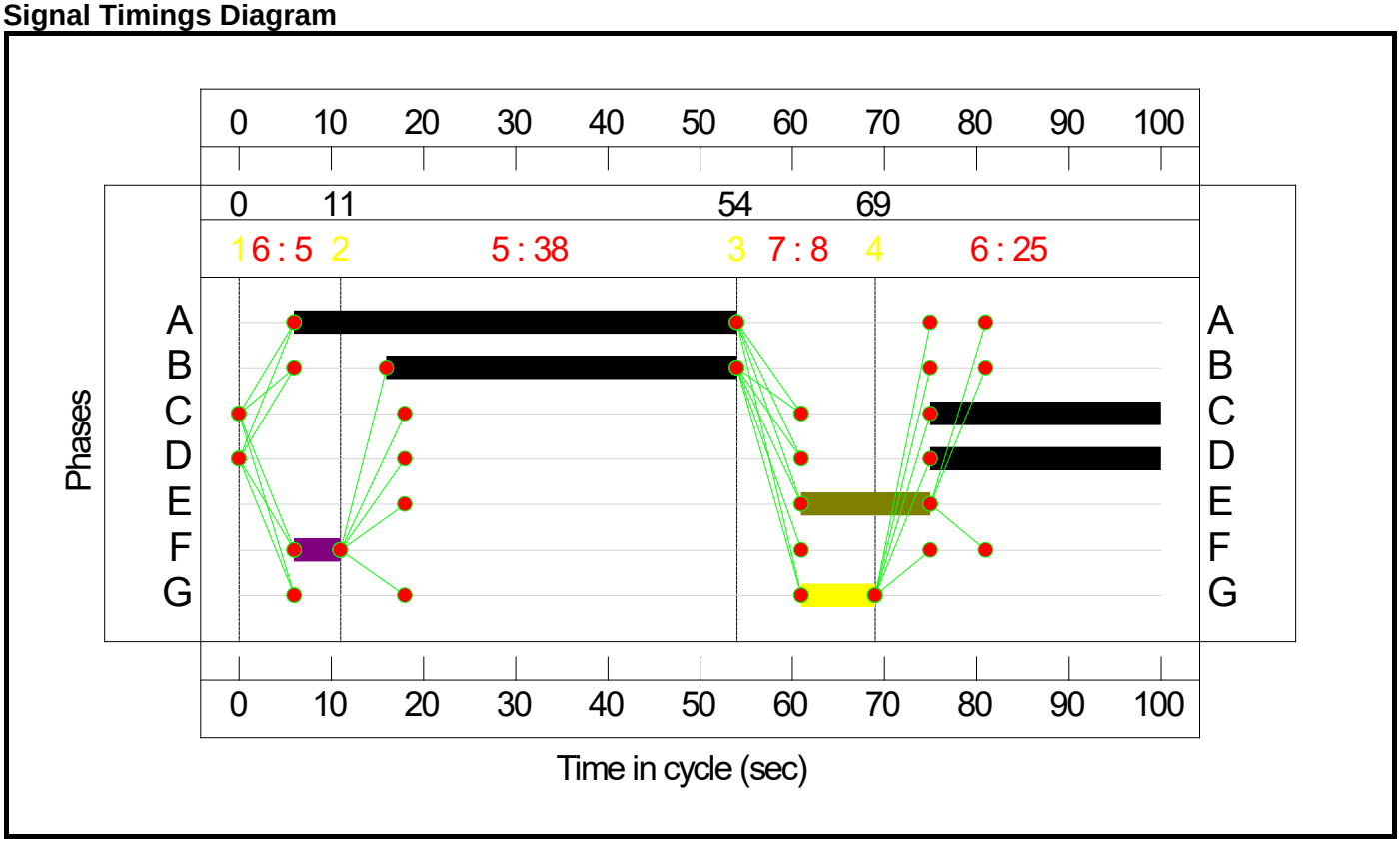
Stage Sequence Diagram



Stage Timings

Stage	1	2	3	4
Duration	5	38	8	25
Change Point	0	11	54	69

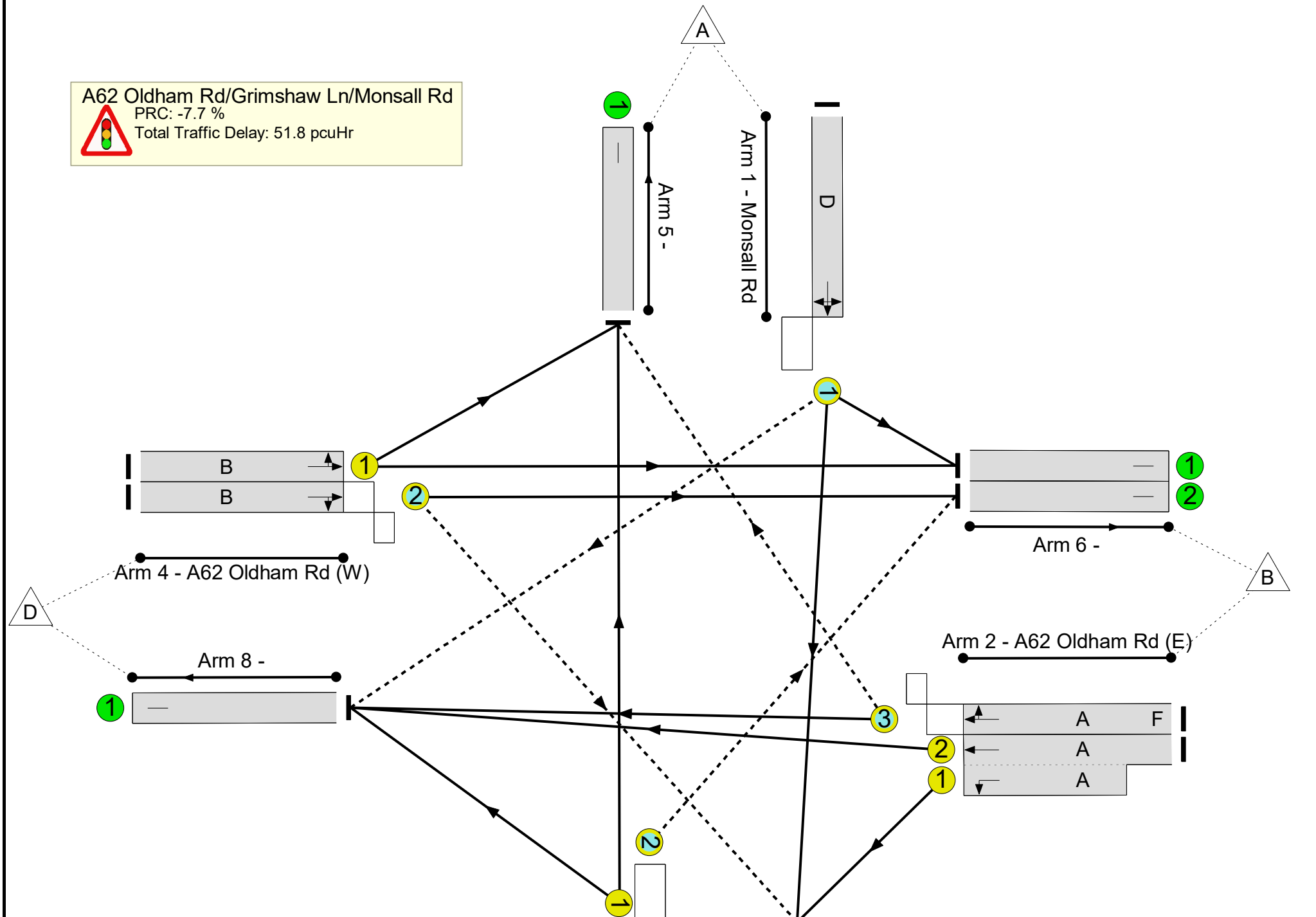
Signal Timings Diagram



Full Input Data And Results

Network Layout Diagram

Full Input Data And Results



Full Input Data And Results

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	-	-	**N/A**	-	-		-	-	-	-	-	-	**96.9%**
A62 Oldham Rd/Grimshaw Ln/Monsall Rd	-	-	**N/A**	-	-		-	-	-	-	-	-	**96.9%**
1/1	Monsall Rd Left Ahead Right	O	N/A	N/A	D		1	25	-	486	2032	503	96.6%
2/2+2/1	A62 Oldham Rd (E) Left Ahead	U	N/A	N/A	A		1	48	-	1023	2040:1727	824+232	96.9 : 96.9%
2/3	A62 Oldham Rd (E) Right Ahead	O	N/A	N/A	A	F	1	48	5	598	1989	647	92.4%
3/1	Grimshaw Ln Ahead Left	U	N/A	N/A	C	E	1	39	14	562	1926	770	72.9%
3/2	Grimshaw Ln Right	O	N/A	N/A	C	E	1	39	14	159	1764	316	50.3%
4/1	A62 Oldham Rd (W) Left Ahead	U	N/A	N/A	B		1	38	-	396	1926	751	52.7%
4/2	A62 Oldham Rd (W) Ahead Right	O	N/A	N/A	B		1	38	-	446	2098	818	54.5%
5/1		U	N/A	N/A	-		-	-	-	676	Inf	Inf	0.0%
6/1		U	N/A	N/A	-		-	-	-	411	Inf	Inf	0.0%
6/2		U	N/A	N/A	-		-	-	-	591	Inf	Inf	0.0%
7/1		U	N/A	N/A	-		-	-	-	525	Inf	Inf	0.0%
8/1		U	N/A	N/A	-		-	-	-	1467	Inf	Inf	0.0%

Full Input Data And Results

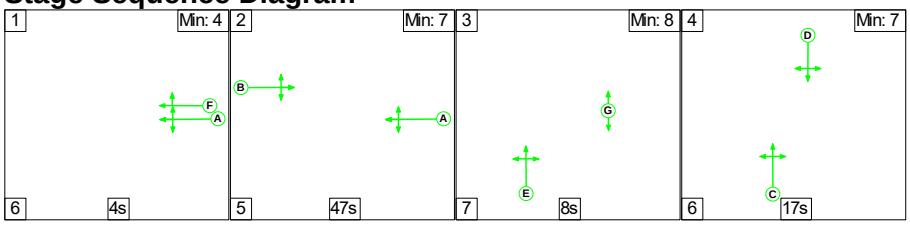
Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network	**-**	**-**	**248**	**145**	**54**	**25.7**	**25.3**	**0.8**	**51.8**	**-**	**-**	**-**	**-**
A62 Oldham Rd/Grimshaw Ln/Monsall Rd	**-**	**-**	**248**	**145**	**54**	**25.7**	**25.3**	**0.8**	**51.8**	**-**	**-**	**-**	**-**
1/1	486	486	120	0	1	4.9	7.5	0.2	12.6	93.3	13.2	7.5	20.7
2/2+2/1	1023	1023	-	-	-	6.5	9.8	-	16.3	57.3	25.0	9.8	34.8
2/3	598	598	102	33	18	3.9	5.1	0.4	9.4	56.5	16.1	5.1	21.2
3/1	562	562	-	-	-	4.0	1.3	-	5.3	33.9	13.1	1.3	14.4
3/2	159	159	26	113	20	0.9	0.5	0.1	1.5	34.1	2.9	0.5	3.4
4/1	396	396	-	-	-	2.6	0.6	-	3.1	28.5	8.4	0.6	8.9
4/2	446	446	0	0	14	2.9	0.6	0.1	3.6	29.3	9.5	0.6	10.1
5/1	676	676	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	411	411	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/2	591	591	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	525	525	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	1467	1467	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

C1 PRC for Signalled Lanes (%): -7.7 Total Delay for Signalled Lanes (pcuHr): 51.84 Cycle Time (s): 100
PRC Over All Lanes (%): -7.7 Total Delay Over All Lanes(pcuHr): 51.84

Full Input Data And Results

Scenario 4: 'Future Year (inc CD) PM' (FG4: 'Base + Com Dev PM', Plan 1: 'Network Control Plan 1')

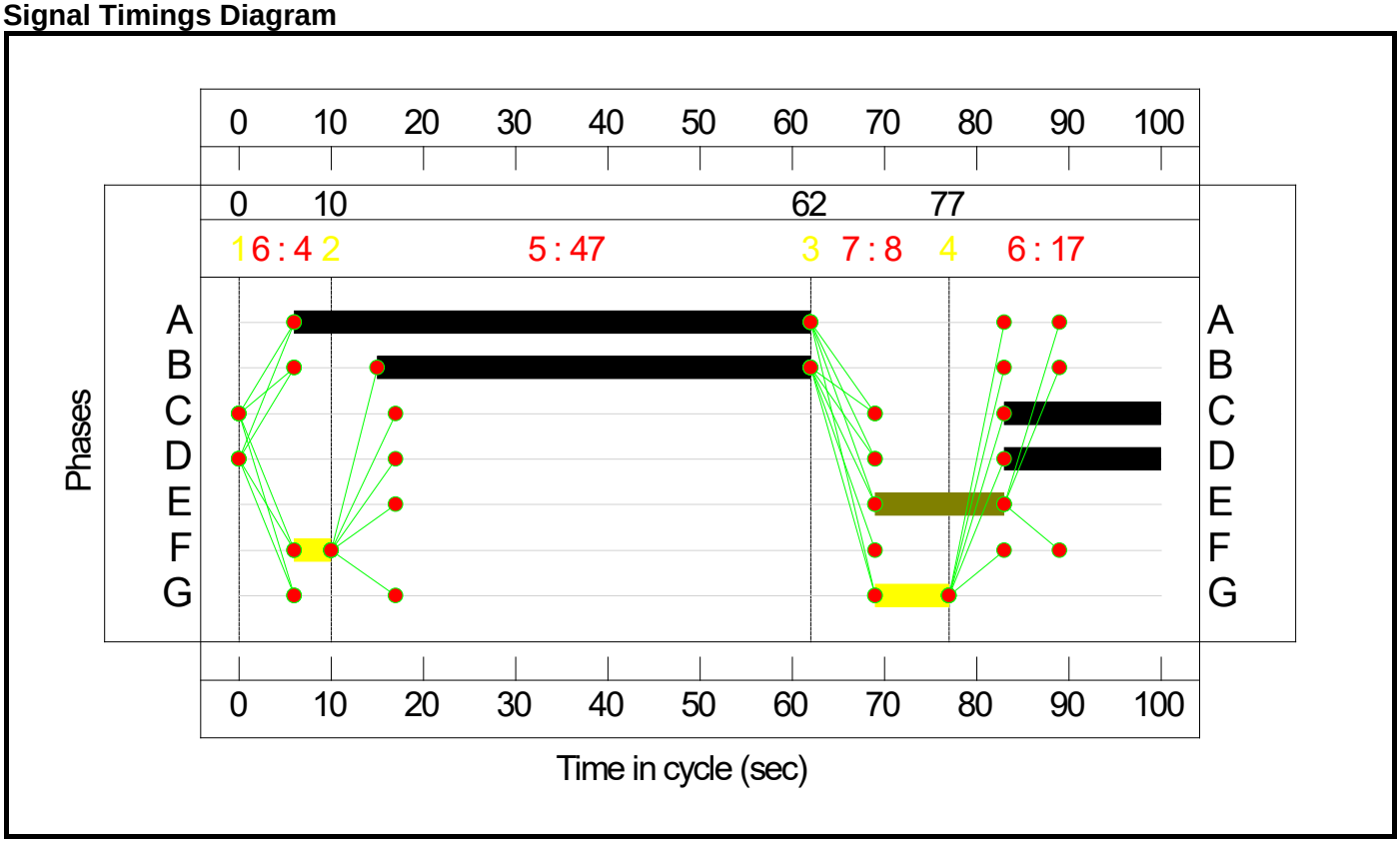
Stage Sequence Diagram



Stage Timings

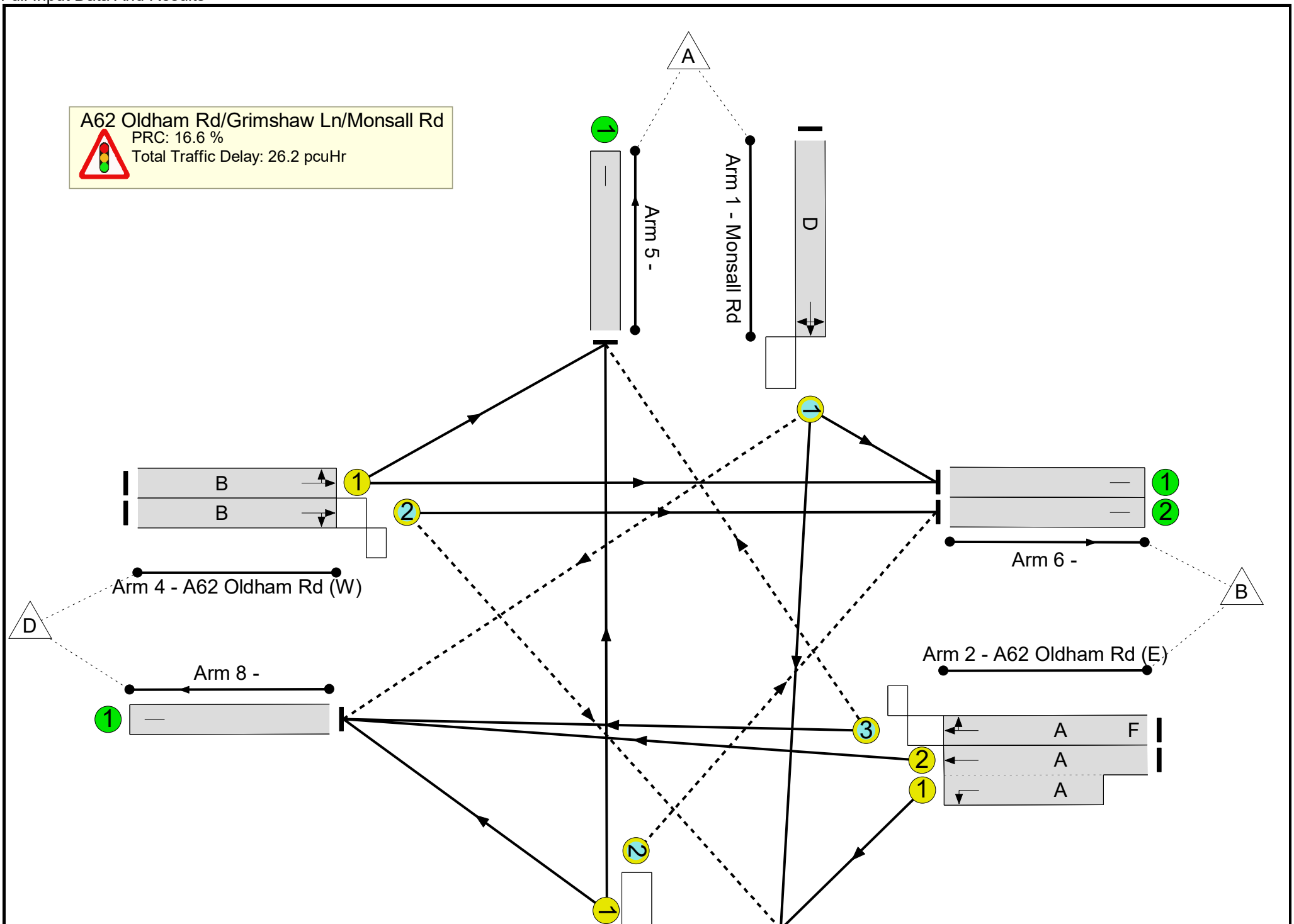
Stage	1	2	3	4
Duration	4	47	8	17
Change Point	0	10	62	77

Signal Timings Diagram



Full Input Data And Results

Network Layout Diagram


A62 Oldham Rd/Grimshaw Ln/Monsall Rd
PRC: 16.6 %
Total Traffic Delay: 26.2 pcuHr
A
B
D
Arm 5 -
Arm 1 - Monsall Rd
Arm 6 -
Arm 4 - A62 Oldham Rd (W)
Arm 8 -
Arm 2 - A62 Oldham Rd (E)
B
B
A
F
A
A

Full Input Data And Results

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	-	-	**N/A**	-	-		-	-	-	-	-	-	**77.2%**
A62 Oldham Rd/Grimshaw Ln/Monsall Rd	-	-	**N/A**	-	-		-	-	-	-	-	-	**77.2%**
1/1	Monsall Rd Left Ahead Right	O	N/A	N/A	D		1	17	-	172	2012	362	47.5%
2/2+2/1	A62 Oldham Rd (E) Left Ahead	U	N/A	N/A	A		1	56	-	938	2040:1727	940+275	77.2 : 77.2%
2/3	A62 Oldham Rd (E) Right Ahead	O	N/A	N/A	A	F	1	56	4	64	1860	214	30.0%
3/1	Grimshaw Ln Ahead Left	U	N/A	N/A	C	E	1	31	14	469	1936	620	75.7%
3/2	Grimshaw Ln Right	O	N/A	N/A	C	E	1	31	14	204	1764	390	52.3%
4/1	A62 Oldham Rd (W) Left Ahead	U	N/A	N/A	B		1	47	-	670	1965	943	71.0%
4/2	A62 Oldham Rd (W) Ahead Right	O	N/A	N/A	B		1	47	-	700	2095	969	72.2%
5/1		U	N/A	N/A	-		-	-	-	478	Inf	Inf	0.0%
6/1		U	N/A	N/A	-		-	-	-	744	Inf	Inf	0.0%
6/2		U	N/A	N/A	-		-	-	-	871	Inf	Inf	0.0%
7/1		U	N/A	N/A	-		-	-	-	342	Inf	Inf	0.0%
8/1		U	N/A	N/A	-		-	-	-	782	Inf	Inf	0.0%

Full Input Data And Results

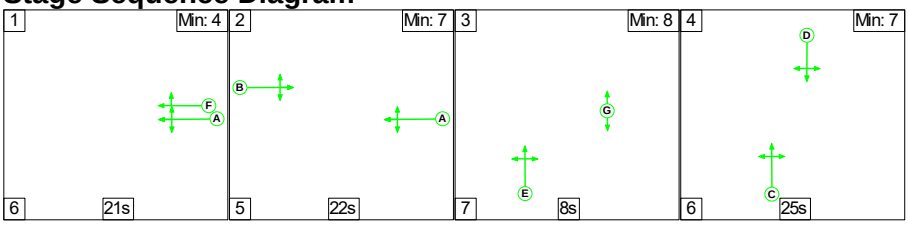
Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network	**-**	**-**	**73**	**192**	**34**	**18.9**	**6.9**	**0.3**	**26.2**	**-**	**-**	**-**	**-**
A62 Oldham Rd/Grimshaw Ln/Monsall Rd	**-**	**-**	**73**	**192**	**34**	**18.9**	**6.9**	**0.3**	**26.2**	**-**	**-**	**-**	**-**
1/1	172	172	0	0	0	1.8	0.5	0.0	2.2	46.2	4.3	0.5	4.7
2/2+2/1	938	938	-	-	-	3.8	1.7	-	5.5	20.9	16.4	1.7	18.1
2/3	64	64	0	30	32	0.2	0.2	0.2	0.6	34.2	0.8	0.2	1.0
3/1	469	469	-	-	-	4.0	1.5	-	5.5	42.2	11.6	1.5	13.1
3/2	204	204	41	161	2	1.5	0.5	0.0	2.1	36.4	4.3	0.5	4.9
4/1	670	670	-	-	-	3.8	1.2	-	5.0	27.0	14.5	1.2	15.7
4/2	700	700	32	0	1	4.0	1.3	0.1	5.3	27.5	15.6	1.3	16.8
5/1	478	478	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	744	744	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/2	871	871	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	342	342	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	782	782	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

C1 PRC for Signalled Lanes (%): 16.6 Total Delay for Signalled Lanes (pcuHr): 26.20 Cycle Time (s): 100
PRC Over All Lanes (%): 16.6 Total Delay Over All Lanes(pcuHr): 26.20

Full Input Data And Results

Scenario 5: 'Future Year + Dev AM' (FG5: 'Base + Com Dev + Dev AM', Plan 1: 'Network Control Plan 1')

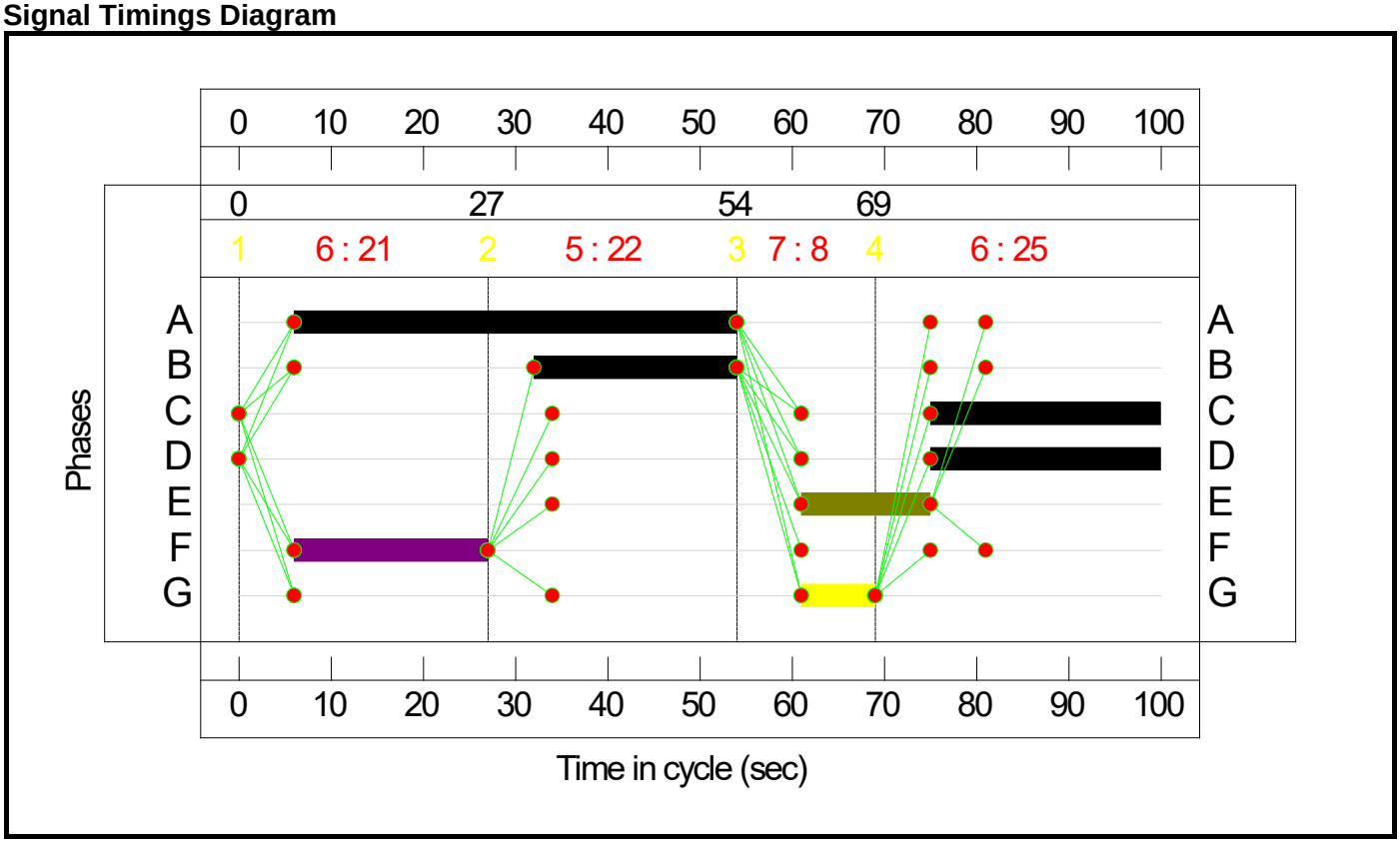
Stage Sequence Diagram



Stage Timings

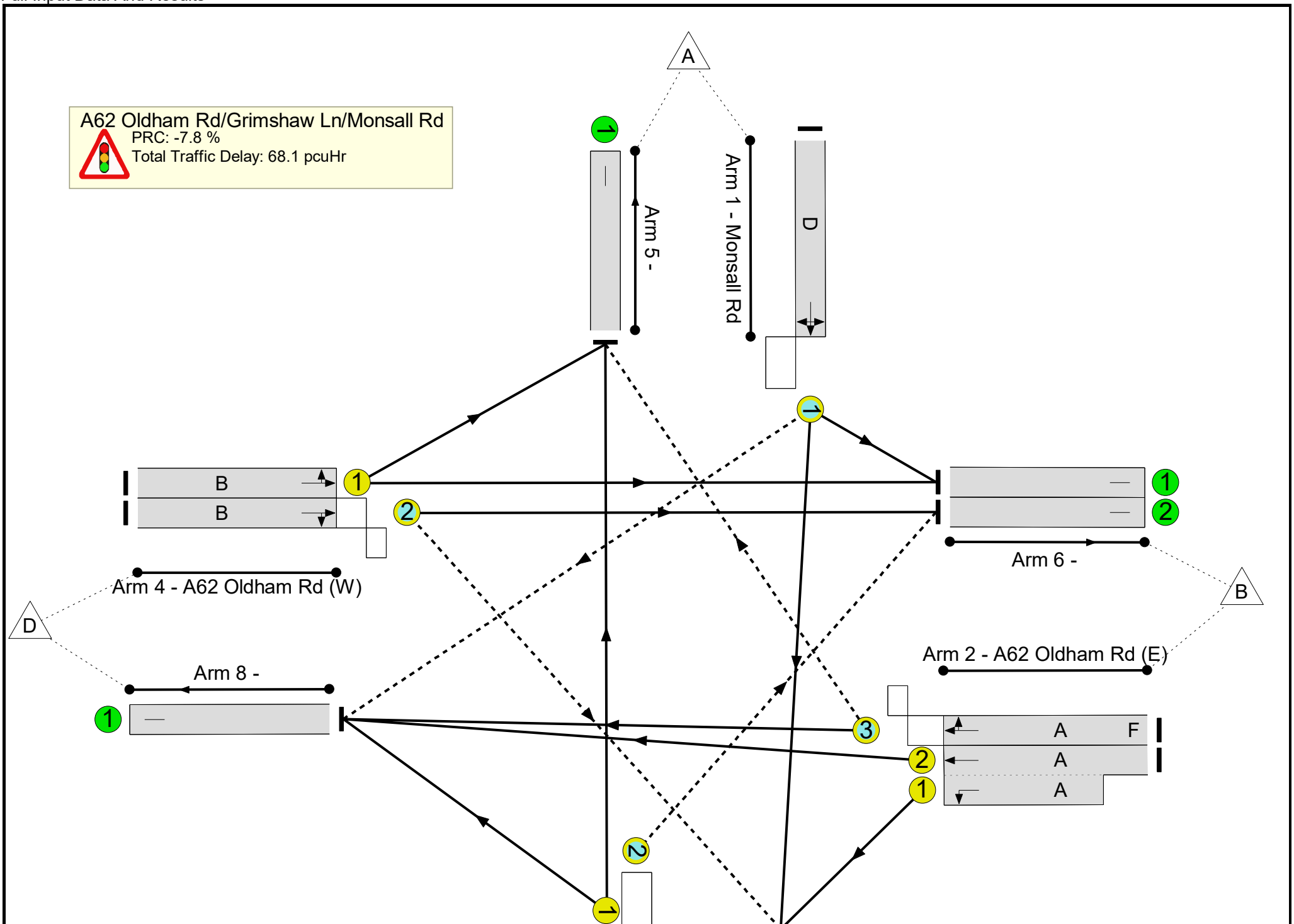
Stage	1	2	3	4
Duration	21	22	8	25
Change Point	0	27	54	69

Signal Timings Diagram



Full Input Data And Results

Network Layout Diagram


A62 Oldham Rd/Grimshaw Ln/Monsall Rd
PRC: -7.8 %
Total Traffic Delay: 68.1 pcuHr
A
B
D
Arm 5 -
Arm 1 - Monsall Rd
Arm 4 - A62 Oldham Rd (W)
Arm 6 -
Arm 8 -
Arm 2 - A62 Oldham Rd (E)
A
F

Full Input Data And Results

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	-	-	**N/A**	-	-		-	-	-	-	-	-	**97.0%**
A62 Oldham Rd/Grimshaw Ln/Monsall Rd	-	-	**N/A**	-	-		-	-	-	-	-	-	**97.0%**
1/1	Monsall Rd Left Ahead Right	O	N/A	N/A	D		1	25	-	486	2032	503	96.6%
2/2+2/1	A62 Oldham Rd (E) Left Ahead	U	N/A	N/A	A		1	48	-	1024	2040:1727	824+232	97.0 : 97.0%
2/3	A62 Oldham Rd (E) Right Ahead	O	N/A	N/A	A	F	1	48	21	649	1993	676	96.0%
3/1	Grimshaw Ln Ahead Left	U	N/A	N/A	C	E	1	39	14	562	1926	770	72.9%
3/2	Grimshaw Ln Right	O	N/A	N/A	C	E	1	39	14	159	1764	316	50.3%
4/1	A62 Oldham Rd (W) Left Ahead	U	N/A	N/A	B		1	22	-	417	1928	443	94.0%
4/2	A62 Oldham Rd (W) Ahead Right	O	N/A	N/A	B		1	22	-	457	2099	483	94.7%
5/1		U	N/A	N/A	-		-	-	-	676	Inf	Inf	0.0%
6/1		U	N/A	N/A	-		-	-	-	432	Inf	Inf	0.0%
6/2		U	N/A	N/A	-		-	-	-	602	Inf	Inf	0.0%
7/1		U	N/A	N/A	-		-	-	-	525	Inf	Inf	0.0%
8/1		U	N/A	N/A	-		-	-	-	1519	Inf	Inf	0.0%

Full Input Data And Results

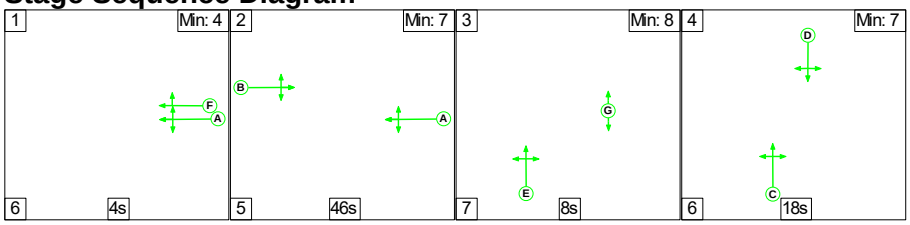
Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network	**-**	**-**	**149**	**221**	**77**	**29.0**	**38.5**	**0.5**	**68.1**	**-**	**-**	**-**	**-**
A62 Oldham Rd/Grimshaw Ln/Monsall Rd	**-**	**-**	**149**	**221**	**77**	**29.0**	**38.5**	**0.5**	**68.1**	**-**	**-**	**-**	**-**
1/1	486	486	120	0	1	4.9	7.5	0.2	12.6	93.3	13.2	7.5	20.7
2/2+2/1	1024	1024	-	-	-	6.5	9.9	-	16.5	57.8	25.1	9.9	35.0
2/3	649	649	0	108	45	3.5	7.7	0.2	11.3	62.9	13.5	7.7	21.2
3/1	562	562	-	-	-	4.0	1.3	-	5.3	33.9	13.1	1.3	14.4
3/2	159	159	26	113	20	0.9	0.5	0.1	1.5	34.1	2.9	0.5	3.4
4/1	417	417	-	-	-	4.4	5.6	-	9.9	85.8	11.4	5.6	16.9
4/2	457	457	4	0	10	4.9	6.0	0.0	10.9	86.1	12.4	6.0	18.5
5/1	676	676	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	432	432	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/2	602	602	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	525	525	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	1519	1519	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

C1 PRC for Signalled Lanes (%): -7.8 Total Delay for Signalled Lanes (pcuHr): 68.06 Cycle Time (s): 100
PRC Over All Lanes (%): -7.8 Total Delay Over All Lanes(pcuHr): 68.06

Full Input Data And Results

Scenario 6: 'Future Year + Dev PM' (FG6: 'Base + Com Dev + Dev PM', Plan 1: 'Network Control Plan 1')

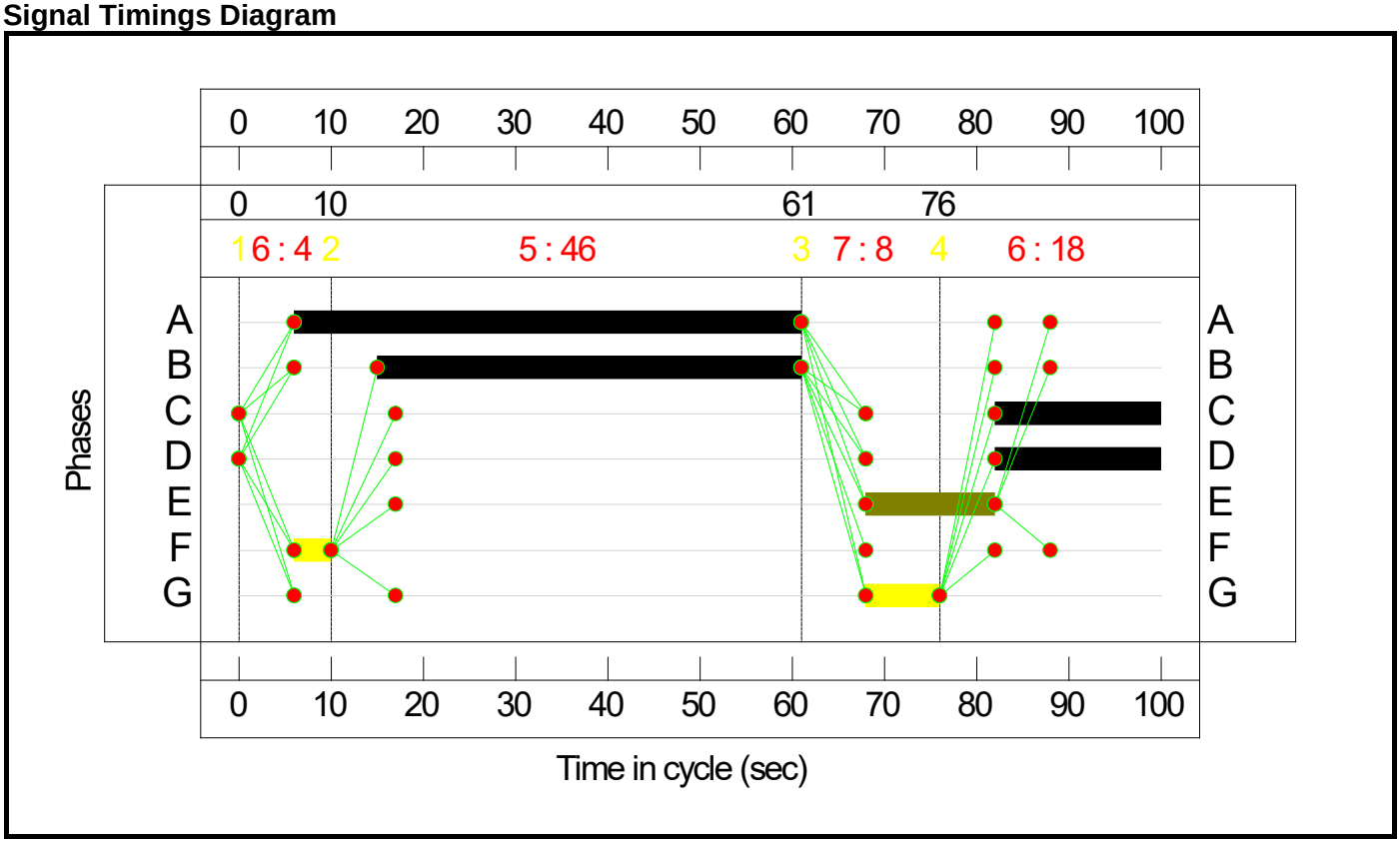
Stage Sequence Diagram



Stage Timings

Stage	1	2	3	4
Duration	4	46	8	18
Change Point	0	10	61	76

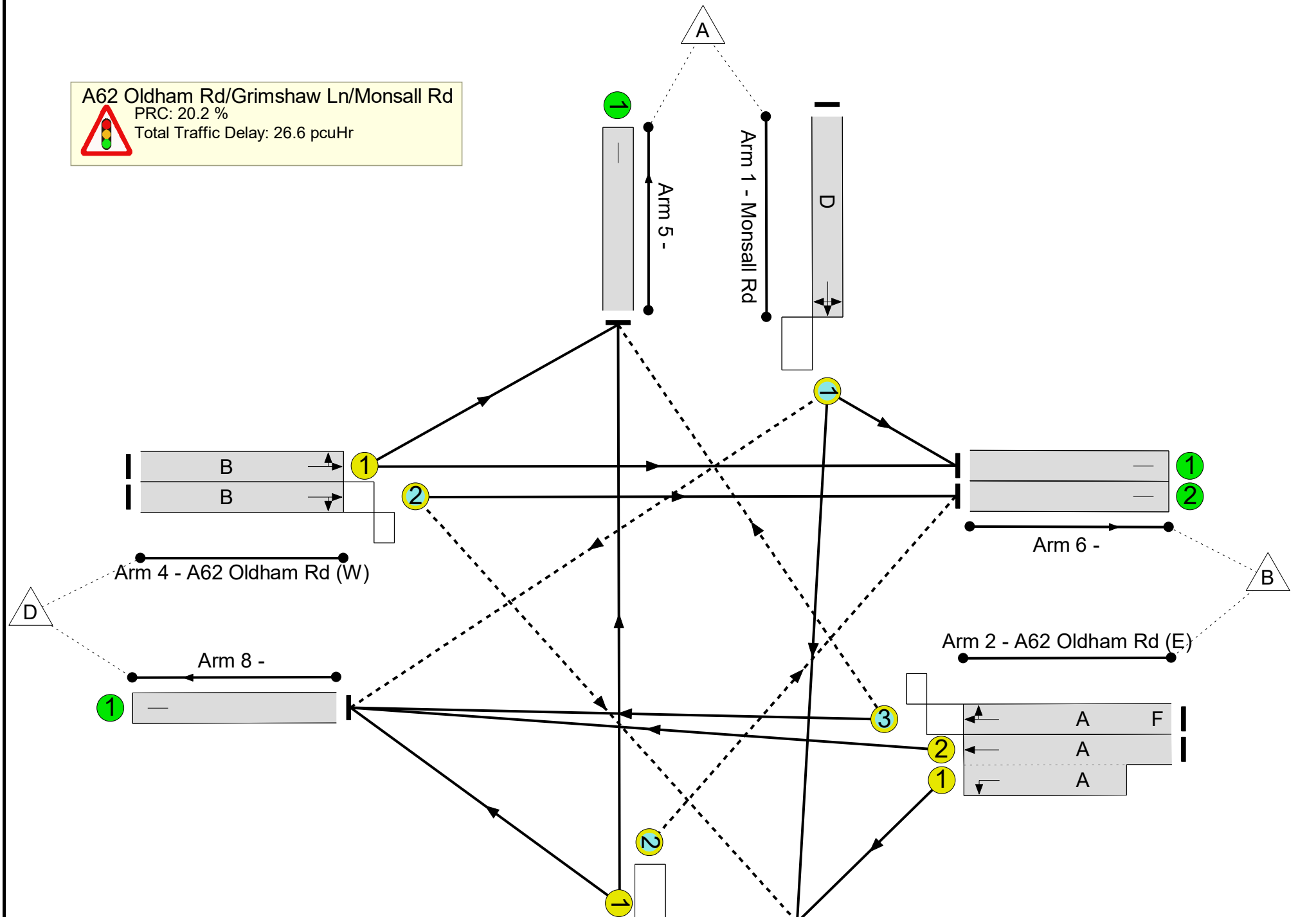
Signal Timings Diagram



Full Input Data And Results

Network Layout Diagram

Full Input Data And Results



Full Input Data And Results

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	-	-	**N/A**	-	-		-	-	-	-	-	-	**74.9%**
A62 Oldham Rd/Grimshaw Ln/Monsall Rd	-	-	**N/A**	-	-		-	-	-	-	-	-	**74.9%**
1/1	Monsall Rd Left Ahead Right	O	N/A	N/A	D		1	18	-	172	2012	382	45.0%
2/2+2/1	A62 Oldham Rd (E) Left Ahead	U	N/A	N/A	A		1	55	-	864	2040:1727	907+295	71.9 : 71.9%
2/3	A62 Oldham Rd (E) Right Ahead	O	N/A	N/A	A	F	1	55	4	155	1962	273	56.9%
3/1	Grimshaw Ln Ahead Left	U	N/A	N/A	C	E	1	32	14	469	1936	639	73.4%
3/2	Grimshaw Ln Right	O	N/A	N/A	C	E	1	32	14	204	1764	416	49.1%
4/1	A62 Oldham Rd (W) Left Ahead	U	N/A	N/A	B		1	46	-	684	1965	924	74.1%
4/2	A62 Oldham Rd (W) Ahead Right	O	N/A	N/A	B		1	46	-	714	2095	954	74.9%
5/1		U	N/A	N/A	-		-	-	-	478	Inf	Inf	0.0%
6/1		U	N/A	N/A	-		-	-	-	758	Inf	Inf	0.0%
6/2		U	N/A	N/A	-		-	-	-	885	Inf	Inf	0.0%
7/1		U	N/A	N/A	-		-	-	-	342	Inf	Inf	0.0%
8/1		U	N/A	N/A	-		-	-	-	799	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	**-**	**-**	**75**	**190**	**34**	**19.2**	**7.0**	**0.3**	**26.6**	**-**	**-**	**-**	**-**
A62 Oldham Rd/Grimshaw Ln/Monsall Rd	**-**	**-**	**75**	**190**	**34**	**19.2**	**7.0**	**0.3**	**26.6**	**-**	**-**	**-**	**-**
1/1	172	172	0	0	0	1.7	0.4	0.0	2.1	44.4	4.2	0.4	4.6
2/2+2/1	864	864	-	-	-	3.4	1.3	-	4.6	19.4	13.7	1.3	15.0
2/3	155	155	0	31	31	0.5	0.7	0.2	1.3	30.6	2.0	0.7	2.7
3/1	469	469	-	-	-	3.9	1.4	-	5.2	40.1	11.5	1.4	12.8
3/2	204	204	43	159	2	1.4	0.5	0.0	2.0	34.4	4.3	0.5	4.7
4/1	684	684	-	-	-	4.1	1.4	-	5.5	29.0	15.4	1.4	16.8
4/2	714	714	32	0	1	4.3	1.5	0.1	5.8	29.3	16.3	1.5	17.7
5/1	478	478	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	758	758	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/2	885	885	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	342	342	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	799	799	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

C1 PRC for Signalled Lanes (%): 20.2 Total Delay for Signalled Lanes (pcuHr): 26.56 Cycle Time (s): 100
PRC Over All Lanes (%): 20.2 Total Delay Over All Lanes(pcuHr): 26.56

vectos.

Appendix L

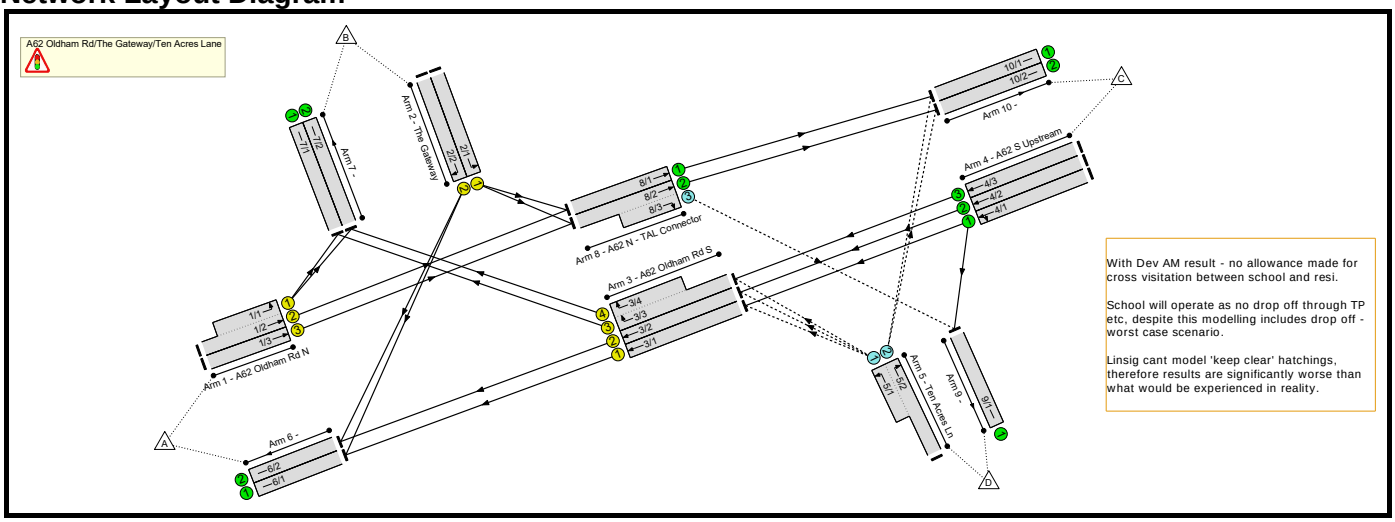
A62/The Gateway/Ten Acres Ln Modelling Results

Full Input Data And Results

User and Project Details

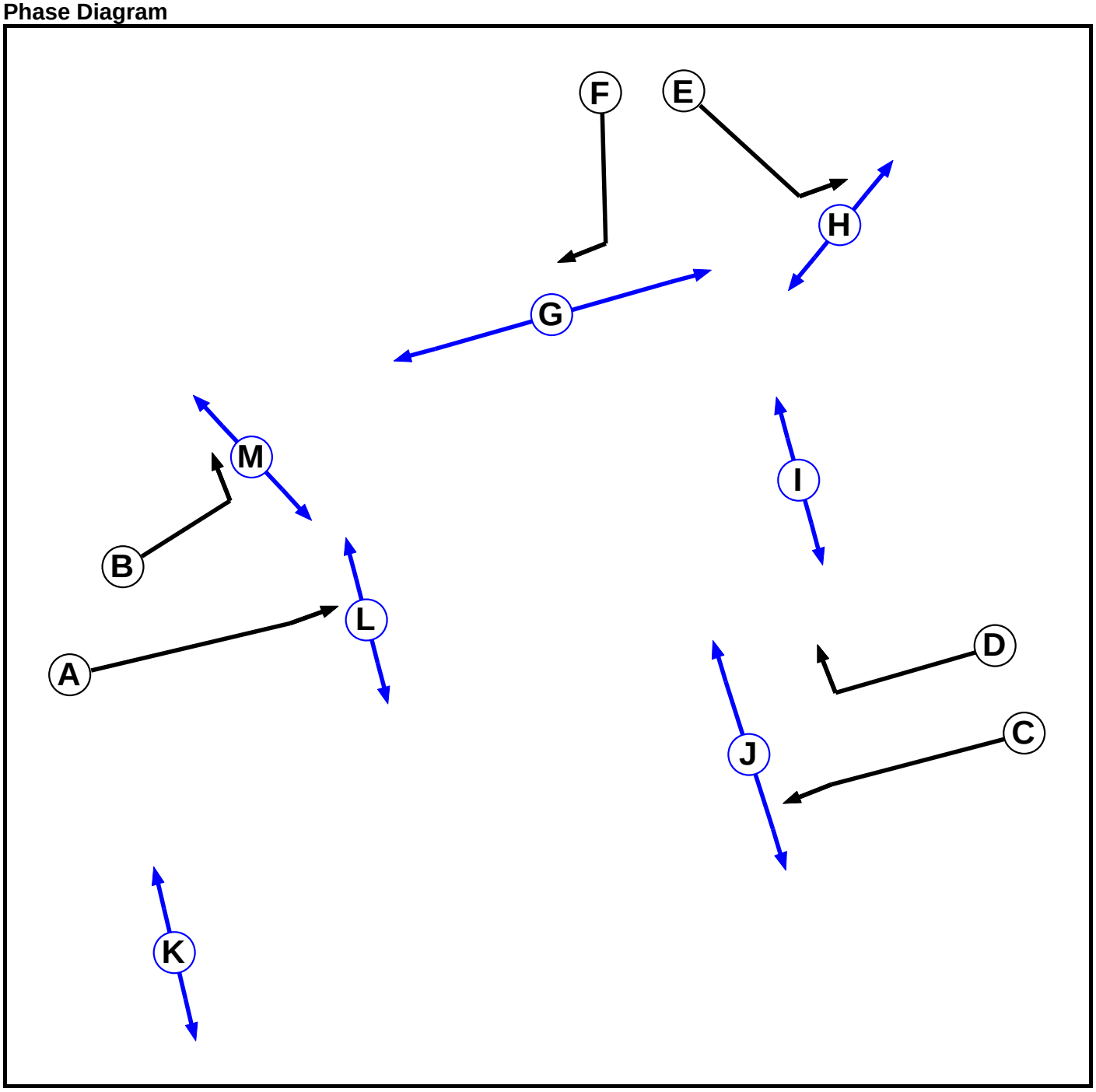
Project:	**Jacksons Brickworks**
Title:	
Location:	Newton Heath, Manchester
Client:	Nuvu Developments
Additional detail:	
File name:	A62-The Gateway-Ten Acres Ln junction.lsg3x
Author:	James Whitton
Company:	Vectos North
Address:	

Network Layout Diagram



Full Input Data And Results

Phase Diagram



Full Input Data And Results

Phase Input Data

Phase Name	Phase Type	Assoc. Phase	Street Min	Cont Min
A	Traffic		7	5
B	Traffic		7	7
C	Traffic		7	7
D	Traffic		7	7
E	Traffic		7	7
F	Traffic		7	7
G	Pedestrian		5	5
H	Pedestrian		5	1
I	Pedestrian		5	3
J	Pedestrian		10	10
K	Pedestrian		5	5
L	Pedestrian		5	5
M	Pedestrian		5	0

Phase Intergreens Matrix

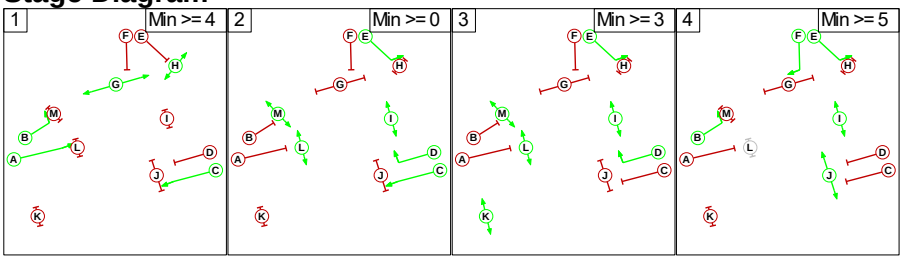
		Starting Phase												
		A	B	C	D	E	F	G	H	I	J	K	L	M
Terminating Phase	A		-	-	5	8	6	-	-	9	-	-	5	-
	B	-		-	4	-	-	-	-	-	-	-	-	5
	C	-	-		-	-	5	-	-	-	5	10	-	-
	D	8	10	-		-	5	9	-	-	5	-	-	-
	E	4	-	-	-		-	-	5	-	-	-	-	-
	F	5	-	6	6	-		5	-	-	-	11	-	-
	G	-	-	-	8	-	8		-	-	-	-	-	-
	H	-	-	-	-	6	-	-		-	-	-	-	-
	I	6	-	-	-	-	-	-	-		-	-	-	-
	J	-	-	11	11	-	-	-	-	-		-	-	-
	K	-	-	6	-	-	5	-	-	-	-		-	-
	L	8	-	-	-	-	-	-	-	-	-	-		-
	M	-	5	-	-	-	-	-	-	-	-	-	-	

Phases in Stage

Stage No.	Phases in Stage
1	A B C G H
2	C D E I L M
3	D E I K L M
4	B E F I J

Full Input Data And Results

Stage Diagram



Phase Delays

Term. Stage	Start Stage	Phase	Type	Value	Cont value
1	2	A	Losing	3	3
1	2	B	Losing	4	4
1	2	H	Losing	5	5
1	3	A	Losing	3	3
1	3	B	Losing	4	4
1	3	H	Losing	5	5
1	4	A	Losing	2	2
1	4	C	Losing	3	3
1	4	H	Losing	4	4
2	1	I	Losing	2	2
2	1	M	Losing	5	5
2	4	M	Losing	5	5
3	1	I	Losing	2	2
3	1	M	Losing	5	5
3	4	M	Losing	5	5
4	1	E	Losing	12	12
4	1	F	Losing	12	12
4	1	I	Losing	12	12

Prohibited Stage Change

From Stage \ To Stage	1	2	3	4
1		12	12	11
2	10		10	10
3	10	6		10
4	18	11	11	

Full Input Data And Results

Give-Way Lane Input Data

Junction: A62 Oldham Rd/The Gateway/Ten Acres Lane

Lane	Movement	Max Flow when Giving Way (PCU/Hr)	Min Flow when Giving Way (PCU/Hr)	Opposing Lane	Opp. Lane Coeff.	Opp. Mvmnts.	Right Turn Storage (PCU)	Non-Blocking Storage (PCU)	RTF	Right Turn Move up (s)	Max Turns in Intergreen (PCU)
5/1 (Ten Acres Ln)	3/1 (Left)	715	0	4/1	0.22	To 3/1 (Ahead)	-	-	-	-	-
				4/2	0.22	To 3/2 (Ahead)					
				4/3	0.22	To 3/3 (Ahead)					
	3/2 (Left)	715	0	4/1	0.22	To 3/1 (Ahead)					
				4/2	0.22	To 3/2 (Ahead)					
				4/3	0.22	To 3/3 (Ahead)					
	3/3 (Left)	715	0	4/1	0.22	To 3/1 (Ahead)					
				4/2	0.22	To 3/2 (Ahead)					
				4/3	0.22	To 3/3 (Ahead)					
5/2 (Ten Acres Ln)	10/1 (Right)	600	0	4/1	0.22	To 3/1 (Ahead)	-	-	-	-	-
				4/2	0.22	To 3/2 (Ahead)					
				4/3	0.22	To 3/3 (Ahead)					
				8/1	0.19	To 10/1 (Ahead)					
				8/2	0.19	To 10/2 (Ahead)					
				8/3	0.19	To 9/1 (Right)					
	10/2 (Right)	600	0	4/1	0.22	To 3/1 (Ahead)					
				4/2	0.22	To 3/2 (Ahead)					
				4/3	0.22	To 3/3 (Ahead)					
				8/1	0.19	To 10/1 (Ahead)					
				8/2	0.19	To 10/2 (Ahead)					
				8/3	0.19	To 9/1 (Right)					
8/3 (A62 N - TAL Connector)	9/1 (Right)	850	0	4/1	0.35	All	-	-	-	-	-
				4/2	0.35	All					

Full Input Data And Results

				4/3	0.35	All					

Full Input Data And Results

Lane Input Data

Junction: A62 Oldham Rd/The Gateway/Ten Acres Lane

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 (A62 Oldham Rd N)	U	B	2	3	9.6	Geom	-	2.60	0.00	Y	Arm 7 Left	30.00
1/2 (A62 Oldham Rd N)	U	A	2	3	60.0	Geom	-	3.25	0.00	Y	Arm 8 Ahead	Inf
1/3 (A62 Oldham Rd N)	U	A	2	3	60.0	Geom	-	4.00	0.00	N	Arm 8 Ahead	Inf
2/1 (The Gateway)	U	E	2	3	60.0	Geom	-	3.80	0.00	Y	Arm 8 Left	25.00
2/2 (The Gateway)	U	F	2	3	60.0	Geom	-	3.75	0.00	N	Arm 6 Right	25.00
3/1 (A62 Oldham Rd S)	U	C	2	3	60.0	Geom	-	3.75	0.00	Y	Arm 6 Ahead	Inf
3/2 (A62 Oldham Rd S)	U	C	2	3	60.0	Geom	-	3.75	0.00	N	Arm 6 Ahead	Inf
3/3 (A62 Oldham Rd S)	U	D	2	3	60.0	Geom	-	3.60	0.00	Y	Arm 7 Right	25.00
3/4 (A62 Oldham Rd S)	U	D	2	3	8.0	Geom	-	3.60	0.00	N	Arm 7 Right	22.00
4/1 (A62 S Upstream)	U		2	3	60.0	Geom	-	3.50	0.00	Y	Arm 3 Ahead	Inf
											Arm 9 Left	10.00
4/2 (A62 S Upstream)	U		2	3	60.0	Geom	-	3.45	0.00	N	Arm 3 Ahead	Inf
4/3 (A62 S Upstream)	U		2	3	23.5	Geom	-	3.75	0.00	N	Arm 3 Ahead	Inf
5/1 (Ten Acres Ln)	O		2	3	6.0	Geom	-	4.80	0.00	Y	Arm 3 Left	20.00
5/2 (Ten Acres Ln)	O		2	3	60.0	Geom	-	4.80	0.00	N	Arm 10 Right	20.00
6/1	U		2	3	60.0	Inf	-	-	-	-	-	-
6/2	U		2	3	60.0	Inf	-	-	-	-	-	-
7/1	U		2	3	60.0	Inf	-	-	-	-	-	-
7/2	U		2	3	60.0	Inf	-	-	-	-	-	-
8/1 (A62 N - TAL Connector)	U		2	3	60.0	Geom	-	3.50	0.00	Y	Arm 10 Ahead	Inf

Full Input Data And Results

8/2 (A62 N - TAL Connector)	U		2	3	60.0	Geom	-	3.90	0.00	N	Arm 10 Ahead	Inf
8/3 (A62 N - TAL Connector)	O		2	3	6.4	Geom	-	3.25	0.00	N	Arm 9 Right	9.00
9/1	U		2	3	60.0	Inf	-	-	-	-	-	-
10/1	U		2	3	60.0	Inf	-	-	-	-	-	-
10/2	U		2	3	60.0	Inf	-	-	-	-	-	-

Traffic Flow Groups

Flow Group	Start Time	End Time	Duration	Formula
1: 'Base AM'	08:00	09:00	01:00	
2: 'Base PM'	17:00	18:00	01:00	
3: 'Base + Com Dev AM'	08:00	09:00	01:00	
4: 'Base + Com Dev PM'	17:00	18:00	01:00	
5: 'Base + Com Dev + Dev AM'	08:00	09:00	01:00	
6: 'Base + Com Dev + Dev PM'	17:00	18:00	01:00	

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

Traffic Flows, Desired

Desired Flow :

		Destination				
		A	B	C	D	Tot.
Origin	A	0	14	274	42	330
	B	86	0	32	5	123
	C	1255	31	0	181	1467
	D	63	2	67	0	132
	Tot.	1404	47	373	228	2052

Full Input Data And Results

Traffic Lane Flows

Lane	Scenario 1: Base AM
Junction: A62 Oldham Rd/The Gateway/Ten Acres Lane	
1/1 (short)	14
1/2 (with short)	211(In) 197(Out)
1/3	119
2/1	37
2/2	86
3/1	603
3/2	715
3/3 (with short)	33(In) 17(Out)
3/4 (short)	16
4/1	771
4/2	665
4/3	31
5/1 (short)	65
5/2 (with short)	132(In) 67(Out)
6/1	646
6/2	758
7/1	24
7/2	23
8/1	229
8/2 (with short)	124(In) 77(Out)
8/3 (short)	47
9/1	228
10/1	263
10/2	110

Full Input Data And Results

Lane Saturation Flows

Junction: A62 Oldham Rd/The Gateway/Ten Acres Lane								
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 (A62 Oldham Rd N)	2.60	0.00	Y	Arm 7 Left	30.00	100.0 %	1786	1786
1/2 (A62 Oldham Rd N)	3.25	0.00	Y	Arm 8 Ahead	Inf	100.0 %	1940	1940
1/3 (A62 Oldham Rd N)	4.00	0.00	N	Arm 8 Ahead	Inf	100.0 %	2155	2155
2/1 (The Gateway)	3.80	0.00	Y	Arm 8 Left	25.00	100.0 %	1882	1882
2/2 (The Gateway)	3.75	0.00	N	Arm 6 Right	25.00	100.0 %	2009	2009
3/1 (A62 Oldham Rd S)	3.75	0.00	Y	Arm 6 Ahead	Inf	100.0 %	1990	1990
3/2 (A62 Oldham Rd S)	3.75	0.00	N	Arm 6 Ahead	Inf	100.0 %	2130	2130
3/3 (A62 Oldham Rd S)	3.60	0.00	Y	Arm 7 Right	25.00	100.0 %	1863	1863
3/4 (A62 Oldham Rd S)	3.60	0.00	N	Arm 7 Right	22.00	100.0 %	1980	1980
4/1 (A62 S Upstream)	3.50	0.00	Y	Arm 3 Ahead	Inf	76.5 %	1898	1898
				Arm 9 Left	10.00	23.5 %		
4/2 (A62 S Upstream)	3.45	0.00	N	Arm 3 Ahead	Inf	100.0 %	2100	2100
4/3 (A62 S Upstream)	3.75	0.00	N	Arm 3 Ahead	Inf	100.0 %	2130	2130
5/1 (Ten Acres Ln)	4.80	0.00	Y	Arm 3 Left	20.00	100.0 %	1949	1949
5/2 (Ten Acres Ln)	4.80	0.00	N	Arm 10 Right	20.00	100.0 %	2079	2079
6/1	Infinite Saturation Flow						Inf	Inf
6/2	Infinite Saturation Flow						Inf	Inf
7/1	Infinite Saturation Flow						Inf	Inf
7/2	Infinite Saturation Flow						Inf	Inf
8/1 (A62 N - TAL Connector)	3.50	0.00	Y	Arm 10 Ahead	Inf	100.0 %	1965	1965
8/2 (A62 N - TAL Connector)	3.90	0.00	N	Arm 10 Ahead	Inf	100.0 %	2145	2145
8/3 (A62 N - TAL Connector)	3.25	0.00	N	Arm 9 Right	9.00	100.0 %	1783	1783
9/1	Infinite Saturation Flow						Inf	Inf
10/1	Infinite Saturation Flow						Inf	Inf
10/2	Infinite Saturation Flow						Inf	Inf

Full Input Data And Results

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

Traffic Flows, Desired

Desired Flow :

		Destination				
		A	B	C	D	Tot.
Origin	A	0	175	1135	84	1394
	B	141	0	107	8	256
	C	538	9	0	129	676
	D	23	0	58	0	81
	Tot.	702	184	1300	221	2407

Traffic Lane Flows

Lane	Scenario 2: Base PM
Junction: A62 Oldham Rd/The Gateway/Ten Acres Lane	
1/1 (short)	175
1/2 (with short)	722(In) 547(Out)
1/3	672
2/1	115
2/2	141
3/1	252
3/2	309
3/3 (with short)	9(In) 5(Out)
3/4 (short)	4
4/1	364
4/2	303
4/3	9
5/1 (short)	23
5/2 (with short)	81(In) 58(Out)
6/1	322
6/2	380
7/1	93
7/2	91
8/1	630
8/2 (with short)	704(In) 612(Out)
8/3 (short)	92
9/1	221
10/1	659
10/2	641

Full Input Data And Results

Lane Saturation Flows

Junction: A62 Oldham Rd/The Gateway/Ten Acres Lane								
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 (A62 Oldham Rd N)	2.60	0.00	Y	Arm 7 Left	30.00	100.0 %	1786	1786
1/2 (A62 Oldham Rd N)	3.25	0.00	Y	Arm 8 Ahead	Inf	100.0 %	1940	1940
1/3 (A62 Oldham Rd N)	4.00	0.00	N	Arm 8 Ahead	Inf	100.0 %	2155	2155
2/1 (The Gateway)	3.80	0.00	Y	Arm 8 Left	25.00	100.0 %	1882	1882
2/2 (The Gateway)	3.75	0.00	N	Arm 6 Right	25.00	100.0 %	2009	2009
3/1 (A62 Oldham Rd S)	3.75	0.00	Y	Arm 6 Ahead	Inf	100.0 %	1990	1990
3/2 (A62 Oldham Rd S)	3.75	0.00	N	Arm 6 Ahead	Inf	100.0 %	2130	2130
3/3 (A62 Oldham Rd S)	3.60	0.00	Y	Arm 7 Right	25.00	100.0 %	1863	1863
3/4 (A62 Oldham Rd S)	3.60	0.00	N	Arm 7 Right	22.00	100.0 %	1980	1980
4/1 (A62 S Upstream)	3.50	0.00	Y	Arm 3 Ahead	Inf	64.6 %	1866	1866
				Arm 9 Left	10.00	35.4 %		
4/2 (A62 S Upstream)	3.45	0.00	N	Arm 3 Ahead	Inf	100.0 %	2100	2100
4/3 (A62 S Upstream)	3.75	0.00	N	Arm 3 Ahead	Inf	100.0 %	2130	2130
5/1 (Ten Acres Ln)	4.80	0.00	Y	Arm 3 Left	20.00	100.0 %	1949	1949
5/2 (Ten Acres Ln)	4.80	0.00	N	Arm 10 Right	20.00	100.0 %	2079	2079
6/1	Infinite Saturation Flow						Inf	Inf
6/2	Infinite Saturation Flow						Inf	Inf
7/1	Infinite Saturation Flow						Inf	Inf
7/2	Infinite Saturation Flow						Inf	Inf
8/1 (A62 N - TAL Connector)	3.50	0.00	Y	Arm 10 Ahead	Inf	100.0 %	1965	1965
8/2 (A62 N - TAL Connector)	3.90	0.00	N	Arm 10 Ahead	Inf	100.0 %	2145	2145
8/3 (A62 N - TAL Connector)	3.25	0.00	N	Arm 9 Right	9.00	100.0 %	1783	1783
9/1	Infinite Saturation Flow						Inf	Inf
10/1	Infinite Saturation Flow						Inf	Inf
10/2	Infinite Saturation Flow						Inf	Inf

Full Input Data And Results

Scenario 3: 'Future Year Base (Inc CD) - AM' (FG3: 'Base + Com Dev AM', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

Origin	Destination					
		A	B	C	D	Tot.
	A	0	24	363	44	431
	B	128	0	37	5	170
	C	1403	31	0	182	1616
	D	71	2	67	0	140
	Tot.	1602	57	467	231	2357

Traffic Lane Flows

Lane	Scenario 3: Future Year Base (Inc CD) - AM
Junction: A62 Oldham Rd/The Gateway/Ten Acres Lane	
1/1 (short)	24
1/2 (with short)	246(In) 222(Out)
1/3	185
2/1	42
2/2	128
3/1	685
3/2	789
3/3 (with short)	33(In) 17(Out)
3/4 (short)	16
4/1	844
4/2	741
4/3	31
5/1 (short)	73
5/2 (with short)	140(In) 67(Out)
6/1	749
6/2	853
7/1	29
7/2	28
8/1	259
8/2 (with short)	190(In) 141(Out)
8/3 (short)	49
9/1	231
10/1	293
10/2	174

Full Input Data And Results

Lane Saturation Flows

Junction: A62 Oldham Rd/The Gateway/Ten Acres Lane								
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 (A62 Oldham Rd N)	2.60	0.00	Y	Arm 7 Left	30.00	100.0 %	1786	1786
1/2 (A62 Oldham Rd N)	3.25	0.00	Y	Arm 8 Ahead	Inf	100.0 %	1940	1940
1/3 (A62 Oldham Rd N)	4.00	0.00	N	Arm 8 Ahead	Inf	100.0 %	2155	2155
2/1 (The Gateway)	3.80	0.00	Y	Arm 8 Left	25.00	100.0 %	1882	1882
2/2 (The Gateway)	3.75	0.00	N	Arm 6 Right	25.00	100.0 %	2009	2009
3/1 (A62 Oldham Rd S)	3.75	0.00	Y	Arm 6 Ahead	Inf	100.0 %	1990	1990
3/2 (A62 Oldham Rd S)	3.75	0.00	N	Arm 6 Ahead	Inf	100.0 %	2130	2130
3/3 (A62 Oldham Rd S)	3.60	0.00	Y	Arm 7 Right	25.00	100.0 %	1863	1863
3/4 (A62 Oldham Rd S)	3.60	0.00	N	Arm 7 Right	22.00	100.0 %	1980	1980
4/1 (A62 S Upstream)	3.50	0.00	Y	Arm 3 Ahead	Inf	78.4 %	1903	1903
				Arm 9 Left	10.00	21.6 %		
4/2 (A62 S Upstream)	3.45	0.00	N	Arm 3 Ahead	Inf	100.0 %	2100	2100
4/3 (A62 S Upstream)	3.75	0.00	N	Arm 3 Ahead	Inf	100.0 %	2130	2130
5/1 (Ten Acres Ln)	4.80	0.00	Y	Arm 3 Left	20.00	100.0 %	1949	1949
5/2 (Ten Acres Ln)	4.80	0.00	N	Arm 10 Right	20.00	100.0 %	2079	2079
6/1	Infinite Saturation Flow						Inf	Inf
6/2	Infinite Saturation Flow						Inf	Inf
7/1	Infinite Saturation Flow						Inf	Inf
7/2	Infinite Saturation Flow						Inf	Inf
8/1 (A62 N - TAL Connector)	3.50	0.00	Y	Arm 10 Ahead	Inf	100.0 %	1965	1965
8/2 (A62 N - TAL Connector)	3.90	0.00	N	Arm 10 Ahead	Inf	100.0 %	2145	2145
8/3 (A62 N - TAL Connector)	3.25	0.00	N	Arm 9 Right	9.00	100.0 %	1783	1783
9/1	Infinite Saturation Flow						Inf	Inf
10/1	Infinite Saturation Flow						Inf	Inf
10/2	Infinite Saturation Flow						Inf	Inf

Full Input Data And Results

Scenario 4: 'Future Year Base (Inc CD) - PM' (FG4: 'Base + Com Dev PM', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

Origin	Destination					
		A	B	C	D	Tot.
	A	0	213	1363	90	1666
	B	149	0	107	8	264
	C	609	9	0	130	748
	D	24	0	58	0	82
	Tot.	782	222	1528	228	2760

Traffic Lane Flows

Lane	Scenario 4: Future Year Base (Inc CD) - PM
Junction: A62 Oldham Rd/The Gateway/Ten Acres Lane	
1/1 (short)	213
1/2 (with short)	849(In) 636(Out)
1/3	817
2/1	115
2/2	149
3/1	288
3/2	345
3/3 (with short)	9(In) 5(Out)
3/4 (short)	4
4/1	398
4/2	341
4/3	9
5/1 (short)	24
5/2 (with short)	82(In) 58(Out)
6/1	362
6/2	420
7/1	112
7/2	110
8/1	731
8/2 (with short)	837(In) 739(Out)
8/3 (short)	98
9/1	228
10/1	760
10/2	768

Full Input Data And Results

Lane Saturation Flows

Junction: A62 Oldham Rd/The Gateway/Ten Acres Lane								
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 (A62 Oldham Rd N)	2.60	0.00	Y	Arm 7 Left	30.00	100.0 %	1786	1786
1/2 (A62 Oldham Rd N)	3.25	0.00	Y	Arm 8 Ahead	Inf	100.0 %	1940	1940
1/3 (A62 Oldham Rd N)	4.00	0.00	N	Arm 8 Ahead	Inf	100.0 %	2155	2155
2/1 (The Gateway)	3.80	0.00	Y	Arm 8 Left	25.00	100.0 %	1882	1882
2/2 (The Gateway)	3.75	0.00	N	Arm 6 Right	25.00	100.0 %	2009	2009
3/1 (A62 Oldham Rd S)	3.75	0.00	Y	Arm 6 Ahead	Inf	100.0 %	1990	1990
3/2 (A62 Oldham Rd S)	3.75	0.00	N	Arm 6 Ahead	Inf	100.0 %	2130	2130
3/3 (A62 Oldham Rd S)	3.60	0.00	Y	Arm 7 Right	25.00	100.0 %	1863	1863
3/4 (A62 Oldham Rd S)	3.60	0.00	N	Arm 7 Right	22.00	100.0 %	1980	1980
4/1 (A62 S Upstream)	3.50	0.00	Y	Arm 3 Ahead	Inf	67.3 %	1873	1873
				Arm 9 Left	10.00	32.7 %		
4/2 (A62 S Upstream)	3.45	0.00	N	Arm 3 Ahead	Inf	100.0 %	2100	2100
4/3 (A62 S Upstream)	3.75	0.00	N	Arm 3 Ahead	Inf	100.0 %	2130	2130
5/1 (Ten Acres Ln)	4.80	0.00	Y	Arm 3 Left	20.00	100.0 %	1949	1949
5/2 (Ten Acres Ln)	4.80	0.00	N	Arm 10 Right	20.00	100.0 %	2079	2079
6/1	Infinite Saturation Flow						Inf	Inf
6/2	Infinite Saturation Flow						Inf	Inf
7/1	Infinite Saturation Flow						Inf	Inf
7/2	Infinite Saturation Flow						Inf	Inf
8/1 (A62 N - TAL Connector)	3.50	0.00	Y	Arm 10 Ahead	Inf	100.0 %	1965	1965
8/2 (A62 N - TAL Connector)	3.90	0.00	N	Arm 10 Ahead	Inf	100.0 %	2145	2145
8/3 (A62 N - TAL Connector)	3.25	0.00	N	Arm 9 Right	9.00	100.0 %	1783	1783
9/1	Infinite Saturation Flow						Inf	Inf
10/1	Infinite Saturation Flow						Inf	Inf
10/2	Infinite Saturation Flow						Inf	Inf

Full Input Data And Results

Scenario 5: 'Future Year + Dev - AM ' (FG5: 'Base + Com Dev + Dev AM', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

Origin	Destination					
		A	B	C	D	Tot.
	A	0	24	363	76	463
	B	128	0	37	17	182
	C	1403	31	0	238	1672
	D	142	2	157	0	301
	Tot.	1673	57	557	331	2618

Traffic Lane Flows

Lane	Scenario 5: Future Year + Dev - AM
Junction: A62 Oldham Rd/The Gateway/Ten Acres Lane	
1/1 (short)	24
1/2 (with short)	383(In) 359(Out)
1/3	80
2/1	54
2/2	128
3/1	714
3/2	831
3/3 (with short)	33(In) 17(Out)
3/4 (short)	16
4/1	898
4/2	743
4/3	31
5/1 (short)	144
5/2 (with short)	301(In) 157(Out)
6/1	778
6/2	895
7/1	29
7/2	28
8/1	396
8/2 (with short)	97(In) 4(Out)
8/3 (short)	93
9/1	331
10/1	475
10/2	82

Full Input Data And Results

Lane Saturation Flows

Junction: A62 Oldham Rd/The Gateway/Ten Acres Lane								
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 (A62 Oldham Rd N)	2.60	0.00	Y	Arm 7 Left	30.00	100.0 %	1786	1786
1/2 (A62 Oldham Rd N)	3.25	0.00	Y	Arm 8 Ahead	Inf	100.0 %	1940	1940
1/3 (A62 Oldham Rd N)	4.00	0.00	N	Arm 8 Ahead	Inf	100.0 %	2155	2155
2/1 (The Gateway)	3.80	0.00	Y	Arm 8 Left	25.00	100.0 %	1882	1882
2/2 (The Gateway)	3.75	0.00	N	Arm 6 Right	25.00	100.0 %	2009	2009
3/1 (A62 Oldham Rd S)	3.75	0.00	Y	Arm 6 Ahead	Inf	100.0 %	1990	1990
3/2 (A62 Oldham Rd S)	3.75	0.00	N	Arm 6 Ahead	Inf	100.0 %	2130	2130
3/3 (A62 Oldham Rd S)	3.60	0.00	Y	Arm 7 Right	25.00	100.0 %	1863	1863
3/4 (A62 Oldham Rd S)	3.60	0.00	N	Arm 7 Right	22.00	100.0 %	1980	1980
4/1 (A62 S Upstream)	3.50	0.00	Y	Arm 3 Ahead	Inf	73.5 %	1890	1890
				Arm 9 Left	10.00	26.5 %		
4/2 (A62 S Upstream)	3.45	0.00	N	Arm 3 Ahead	Inf	100.0 %	2100	2100
4/3 (A62 S Upstream)	3.75	0.00	N	Arm 3 Ahead	Inf	100.0 %	2130	2130
5/1 (Ten Acres Ln)	4.80	0.00	Y	Arm 3 Left	20.00	100.0 %	1949	1949
5/2 (Ten Acres Ln)	4.80	0.00	N	Arm 10 Right	20.00	100.0 %	2079	2079
6/1	Infinite Saturation Flow						Inf	Inf
6/2	Infinite Saturation Flow						Inf	Inf
7/1	Infinite Saturation Flow						Inf	Inf
7/2	Infinite Saturation Flow						Inf	Inf
8/1 (A62 N - TAL Connector)	3.50	0.00	Y	Arm 10 Ahead	Inf	100.0 %	1965	1965
8/2 (A62 N - TAL Connector)	3.90	0.00	N	Arm 10 Ahead	Inf	100.0 %	2145	2145
8/3 (A62 N - TAL Connector)	3.25	0.00	N	Arm 9 Right	9.00	100.0 %	1783	1783
9/1	Infinite Saturation Flow						Inf	Inf
10/1	Infinite Saturation Flow						Inf	Inf
10/2	Infinite Saturation Flow						Inf	Inf

Full Input Data And Results

Scenario 6: 'Future Year + Dev - PM ' (FG6: 'Base + Com Dev + Dev PM', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

		Destination				
		A	B	C	D	Tot.
Origin	A	0	213	1363	118	1694
	B	149	0	107	19	275
	C	609	9	0	179	797
	D	41	6	87	0	134
	Tot.	799	228	1557	316	2900

Traffic Lane Flows

Lane	Scenario 6: Future Year + Dev - PM
Junction: A62 Oldham Rd/The Gateway/Ten Acres Lane	
1/1 (short)	213
1/2 (with short)	861(In) 648(Out)
1/3	833
2/1	126
2/2	149
3/1	295
3/2	355
3/3 (with short)	15(In) 8(Out)
3/4 (short)	7
4/1	438
4/2	350
4/3	9
5/1 (short)	47
5/2 (with short)	134(In) 87(Out)
6/1	369
6/2	430
7/1	115
7/2	113
8/1	747
8/2 (with short)	860(In) 723(Out)
8/3 (short)	137
9/1	316
10/1	791
10/2	766

Full Input Data And Results

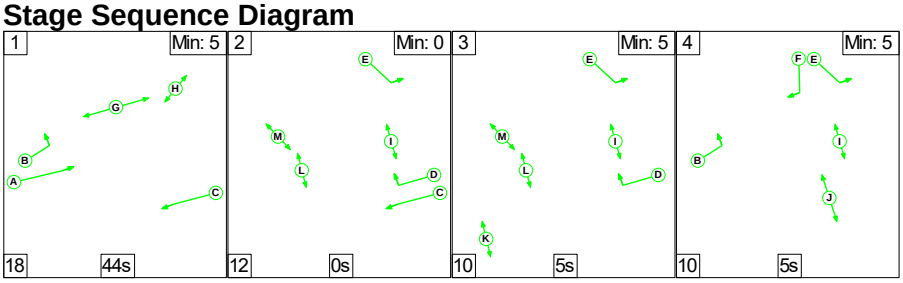
Lane Saturation Flows

Junction: A62 Oldham Rd/The Gateway/Ten Acres Lane								
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 (A62 Oldham Rd N)	2.60	0.00	Y	Arm 7 Left	30.00	100.0 %	1786	1786
1/2 (A62 Oldham Rd N)	3.25	0.00	Y	Arm 8 Ahead	Inf	100.0 %	1940	1940
1/3 (A62 Oldham Rd N)	4.00	0.00	N	Arm 8 Ahead	Inf	100.0 %	2155	2155
2/1 (The Gateway)	3.80	0.00	Y	Arm 8 Left	25.00	100.0 %	1882	1882
2/2 (The Gateway)	3.75	0.00	N	Arm 6 Right	25.00	100.0 %	2009	2009
3/1 (A62 Oldham Rd S)	3.75	0.00	Y	Arm 6 Ahead	Inf	100.0 %	1990	1990
3/2 (A62 Oldham Rd S)	3.75	0.00	N	Arm 6 Ahead	Inf	100.0 %	2130	2130
3/3 (A62 Oldham Rd S)	3.60	0.00	Y	Arm 7 Right	25.00	100.0 %	1863	1863
3/4 (A62 Oldham Rd S)	3.60	0.00	N	Arm 7 Right	22.00	100.0 %	1980	1980
4/1 (A62 S Upstream)	3.50	0.00	Y	Arm 3 Ahead	Inf	59.1 %	1852	1852
				Arm 9 Left	10.00	40.9 %		
4/2 (A62 S Upstream)	3.45	0.00	N	Arm 3 Ahead	Inf	100.0 %	2100	2100
4/3 (A62 S Upstream)	3.75	0.00	N	Arm 3 Ahead	Inf	100.0 %	2130	2130
5/1 (Ten Acres Ln)	4.80	0.00	Y	Arm 3 Left	20.00	100.0 %	1949	1949
5/2 (Ten Acres Ln)	4.80	0.00	N	Arm 10 Right	20.00	100.0 %	2079	2079
6/1	Infinite Saturation Flow						Inf	Inf
6/2	Infinite Saturation Flow						Inf	Inf
7/1	Infinite Saturation Flow						Inf	Inf
7/2	Infinite Saturation Flow						Inf	Inf
8/1 (A62 N - TAL Connector)	3.50	0.00	Y	Arm 10 Ahead	Inf	100.0 %	1965	1965
8/2 (A62 N - TAL Connector)	3.90	0.00	N	Arm 10 Ahead	Inf	100.0 %	2145	2145
8/3 (A62 N - TAL Connector)	3.25	0.00	N	Arm 9 Right	9.00	100.0 %	1783	1783
9/1	Infinite Saturation Flow						Inf	Inf
10/1	Infinite Saturation Flow						Inf	Inf
10/2	Infinite Saturation Flow						Inf	Inf

Full Input Data And Results

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

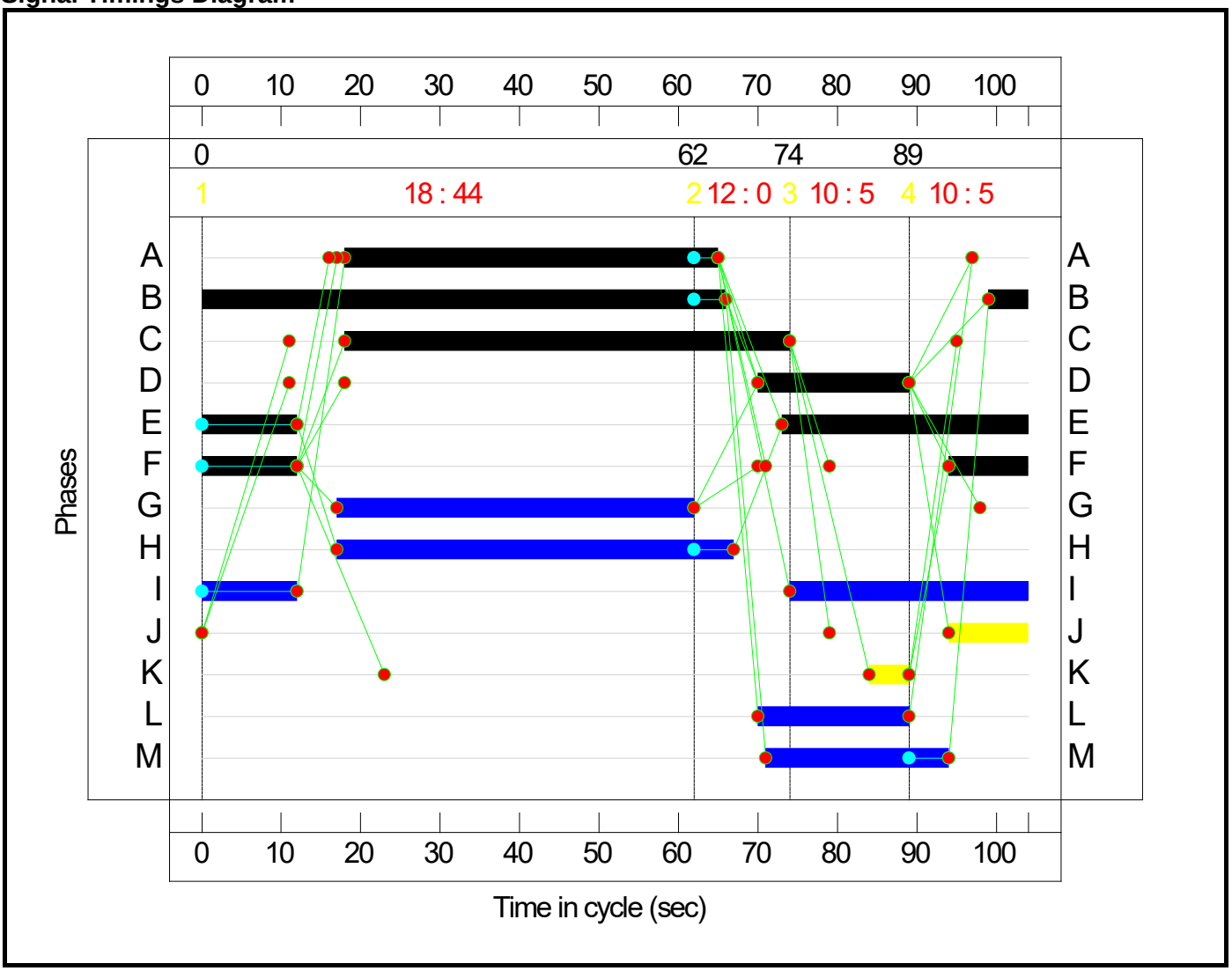
Stage Sequence Diagram



Stage Timings

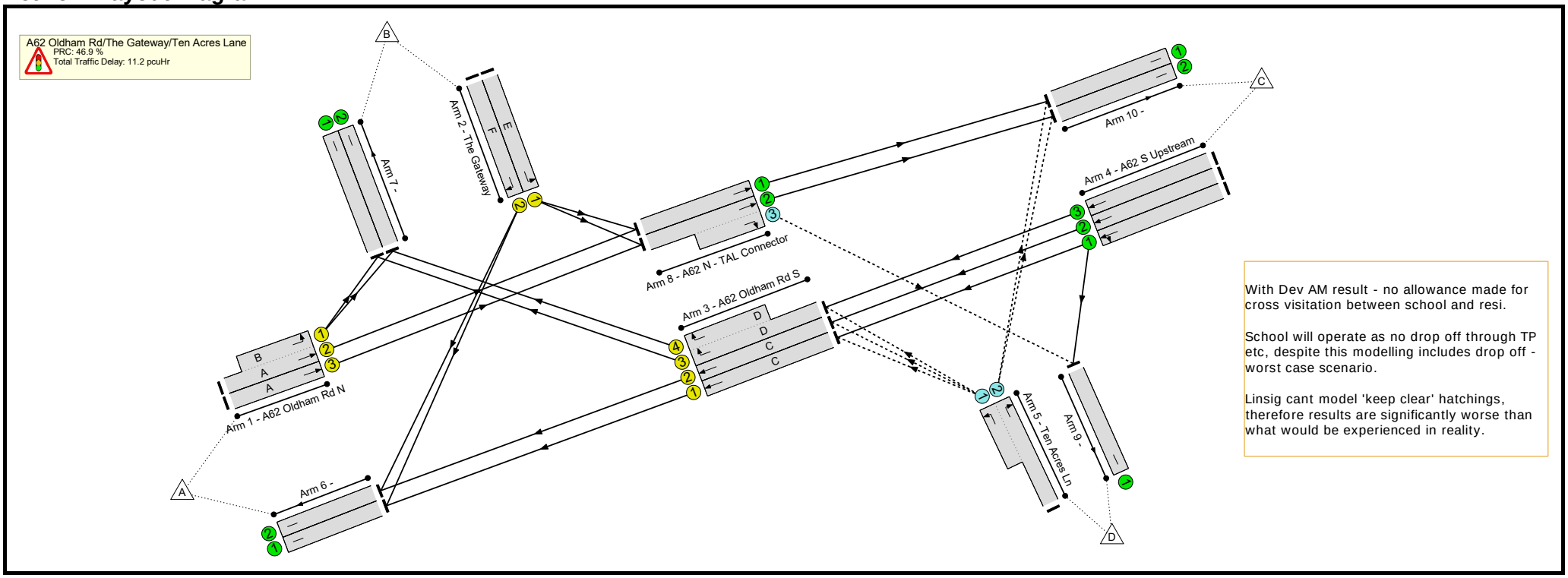
Stage	1	2	3	4
Duration	44	0	5	5
Change Point	0	62	74	89

Signal Timings Diagram



Full Input Data And Results

Network Layout Diagram



Full Input Data And Results

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	-	-	**N/A**	-	-		-	-	-	-	-	-	**61.2%**
A62 Oldham Rd/The Gateway/Ten Acres Lane	-	-	**N/A**	-	-		-	-	-	-	-	-	**61.2%**
1/2+1/1	A62 Oldham Rd N Left Ahead	U	N/A	N/A	A B		1	47:71	-	211	1940:1786	859+61	22.9 : 22.9%
1/3	A62 Oldham Rd N Ahead	U	N/A	N/A	A		1	47	-	119	2155	995	12.0%
2/1	The Gateway Left	U	N/A	N/A	E		1	43	-	37	1882	796	4.6%
2/2	The Gateway Right	U	N/A	N/A	F		1	22	-	86	2009	444	19.4%
3/1	A62 Oldham Rd S Ahead	U	N/A	N/A	C		1	56	-	603	1990	1091	55.3%
3/2	A62 Oldham Rd S Ahead	U	N/A	N/A	C		1	56	-	715	2130	1167	61.2%
3/3+3/4	A62 Oldham Rd S Right	U	N/A	N/A	D		1	19	-	33	1863:1980	324+305	5.2 : 5.2%
4/1	A62 S Upstream Ahead Left	U	N/A	N/A	-		-	-	-	771	1898	1898	40.6%
4/2	A62 S Upstream Ahead	U	N/A	N/A	-		-	-	-	665	2100	2100	31.7%
4/3	A62 S Upstream Ahead	U	N/A	N/A	-		-	-	-	31	2130	2130	1.5%
5/2+5/1	Ten Acres Ln Left Right	O	N/A	N/A	-		-	-	-	132	2079:1949	259+251	25.9 : 25.9%
6/1		U	N/A	N/A	-		-	-	-	646	Inf	Inf	0.0%
6/2		U	N/A	N/A	-		-	-	-	758	Inf	Inf	0.0%
7/1		U	N/A	N/A	-		-	-	-	24	Inf	Inf	0.0%
7/2		U	N/A	N/A	-		-	-	-	23	Inf	Inf	0.0%
8/1	A62 N - TAL Connector Ahead	U	N/A	N/A	-		-	-	-	229	1965	1965	11.7%

Full Input Data And Results

8/2+8/3	A62 N - TAL Connector Right Ahead	U+O	N/A	N/A	-		-	-	-	124	2145:1783	551+337	14.0 : 14.0%
9/1		U	N/A	N/A	-		-	-	-	228	Inf	Inf	0.0%
10/1		U	N/A	N/A	-		-	-	-	263	Inf	Inf	0.0%
10/2		U	N/A	N/A	-		-	-	-	110	Inf	Inf	0.0%

Full Input Data And Results

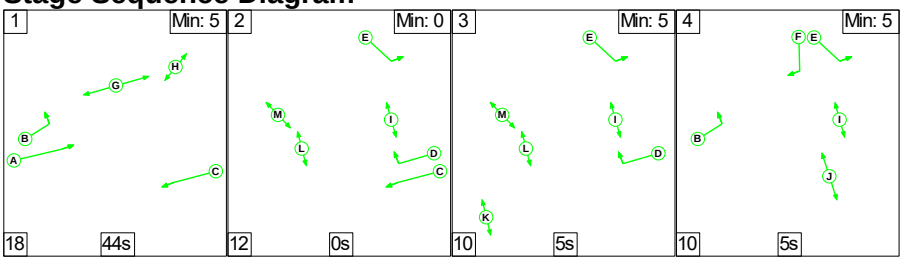
Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network	**-**	**-**	**311**	**0**	**0**	**8.5**	**2.7**	**0.0**	**11.2**	**-**	**-**	**-**	**-**
A62 Oldham Rd/The Gateway/Ten Acres Lane	**-**	**-**	**311**	**0**	**0**	**8.5**	**2.7**	**0.0**	**11.2**	**-**	**-**	**-**	**-**
1/2+1/1	211	211	-	-	-	0.9	0.1	-	1.1	18.6	3.4	0.1	3.5
1/3	119	119	-	-	-	0.5	0.1	-	0.6	18.0	2.0	0.1	2.0
2/1	37	37	-	-	-	0.2	0.0	-	0.2	20.1	0.6	0.0	0.7
2/2	86	86	-	-	-	0.8	0.1	-	0.9	38.0	2.0	0.1	2.1
3/1	603	603	-	-	-	2.6	0.6	-	3.2	18.9	11.2	0.6	11.8
3/2	715	715	-	-	-	3.2	0.8	-	4.0	20.0	13.9	0.8	14.7
3/3+3/4	33	33	-	-	-	0.3	0.0	-	0.3	37.3	0.4	0.0	0.4
4/1	771	771	-	-	-	0.0	0.3	-	0.3	1.6	0.0	0.3	0.3
4/2	665	665	-	-	-	0.0	0.2	-	0.2	1.3	0.0	0.2	0.2
4/3	31	31	-	-	-	0.0	0.0	-	0.0	0.9	0.0	0.0	0.0
5/2+5/1	132	132	264	0	0	0.0	0.2	-	0.2	5.0	0.2	0.2	0.4
6/1	646	646	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/2	758	758	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	24	24	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/2	23	23	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	229	229	-	-	-	0.0	0.1	-	0.1	1.0	0.0	0.1	0.1
8/2+8/3	124	124	47	0	0	0.0	0.1	-	0.1	2.6	7.0	0.1	7.0
9/1	228	228	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
10/1	263	263	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
10/2	110	110	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

C1 PRC for Signalled Lanes (%): 46.9 Total Delay for Signalled Lanes (pcuHr): 10.27 Cycle Time (s): 104
PRC Over All Lanes (%): 46.9 Total Delay Over All Lanes(pcuHr): 11.19

Full Input Data And Results

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

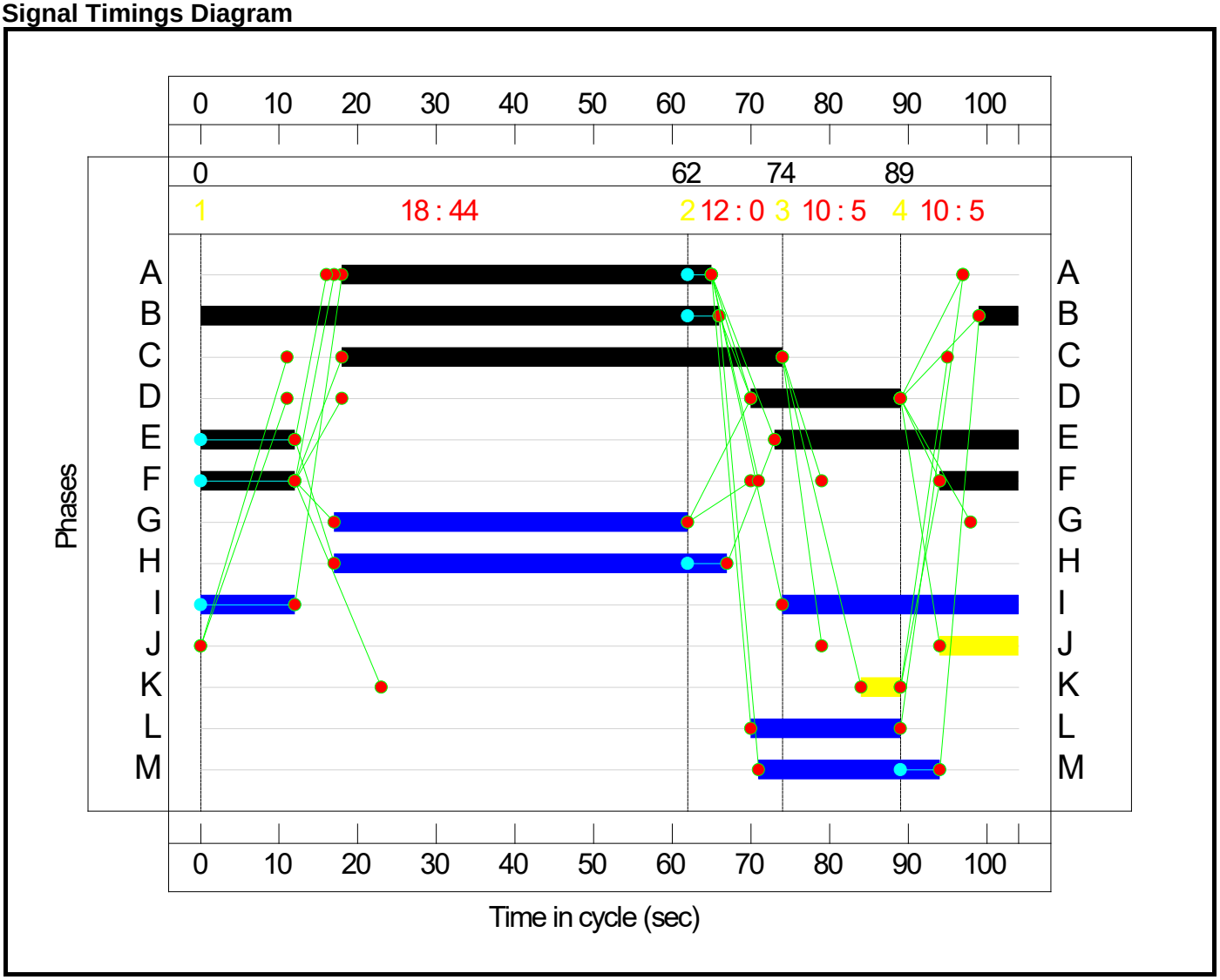
Stage Sequence Diagram



Stage Timings

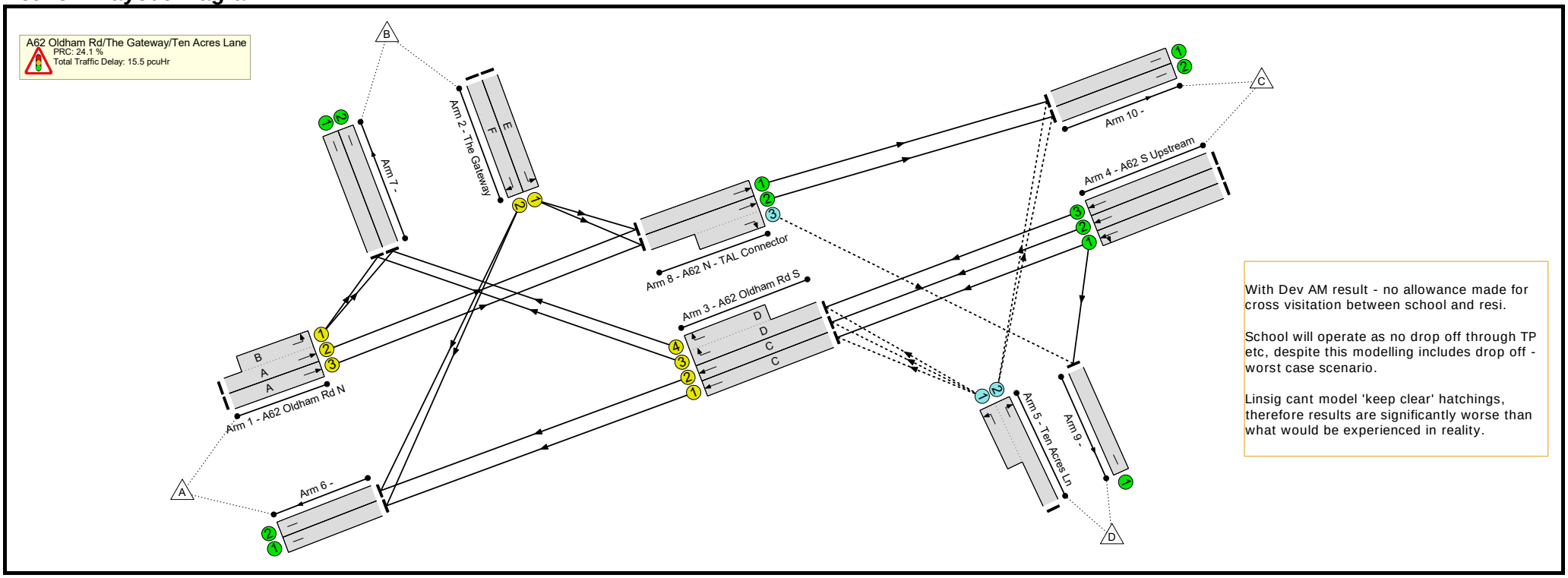
Stage	1	2	3	4
Duration	44	0	5	5
Change Point	0	62	74	89

Signal Timings Diagram



Full Input Data And Results

Network Layout Diagram



Full Input Data And Results

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	-	-	**N/A**	-	-		-	-	-	-	-	-	**72.5%**
A62 Oldham Rd/The Gateway/Ten Acres Lane	-	-	**N/A**	-	-		-	-	-	-	-	-	**72.5%**
1/2+1/1	A62 Oldham Rd N Left Ahead	U	N/A	N/A	A B		1	47:71	-	722	1940:1786	754+241	72.5 : 72.5%
1/3	A62 Oldham Rd N Ahead	U	N/A	N/A	A		1	47	-	672	2155	995	67.6%
2/1	The Gateway Left	U	N/A	N/A	E		1	43	-	115	1882	796	14.4%
2/2	The Gateway Right	U	N/A	N/A	F		1	22	-	141	2009	444	31.7%
3/1	A62 Oldham Rd S Ahead	U	N/A	N/A	C		1	56	-	252	1990	1091	23.1%
3/2	A62 Oldham Rd S Ahead	U	N/A	N/A	C		1	56	-	309	2130	1167	26.5%
3/3+3/4	A62 Oldham Rd S Right	U	N/A	N/A	D		1	19	-	9	1863:1980	328+262	1.5 : 1.5%
4/1	A62 S Upstream Ahead Left	U	N/A	N/A	-		-	-	-	364	1866	1866	19.5%
4/2	A62 S Upstream Ahead	U	N/A	N/A	-		-	-	-	303	2100	2100	14.4%
4/3	A62 S Upstream Ahead	U	N/A	N/A	-		-	-	-	9	2130	2130	0.4%
5/2+5/1	Ten Acres Ln Left Right	O	N/A	N/A	-		-	-	-	81	2079:1949	283+112	20.5 : 20.5%
6/1		U	N/A	N/A	-		-	-	-	322	Inf	Inf	0.0%
6/2		U	N/A	N/A	-		-	-	-	380	Inf	Inf	0.0%
7/1		U	N/A	N/A	-		-	-	-	93	Inf	Inf	0.0%
7/2		U	N/A	N/A	-		-	-	-	91	Inf	Inf	0.0%
8/1	A62 N - TAL Connector Ahead	U	N/A	N/A	-		-	-	-	630	1965	1965	32.1%

Full Input Data And Results

8/2+8/3	A62 N - TAL Connector Right Ahead	U+O	N/A	N/A	-		-	-	-	704	2145:1783	1816+273	33.7 : 33.7%
9/1		U	N/A	N/A	-		-	-	-	221	Inf	Inf	0.0%
10/1		U	N/A	N/A	-		-	-	-	659	Inf	Inf	0.0%
10/2		U	N/A	N/A	-		-	-	-	641	Inf	Inf	0.0%

Full Input Data And Results

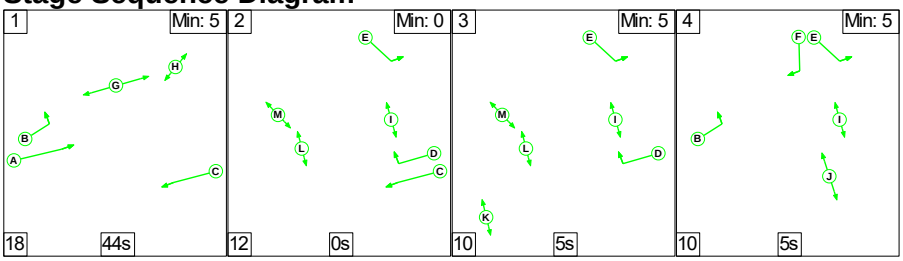
Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network	**-**	**-**	**254**	**0**	**0**	**11.6**	**3.8**	**0.0**	**15.5**	**-**	**-**	**-**	**-**
A62 Oldham Rd/The Gateway/Ten Acres Lane	**-**	**-**	**254**	**0**	**0**	**11.6**	**3.8**	**0.0**	**15.5**	**-**	**-**	**-**	**-**
1/2+1/1	722	722	-	-	-	3.5	1.3	-	4.8	24.0	12.8	1.3	14.1
1/3	672	672	-	-	-	4.1	1.0	-	5.1	27.5	15.1	1.0	16.2
2/1	115	115	-	-	-	0.6	0.1	-	0.7	21.1	2.0	0.1	2.1
2/2	141	141	-	-	-	1.3	0.2	-	1.6	39.9	3.4	0.2	3.6
3/1	252	252	-	-	-	0.9	0.2	-	1.0	14.3	3.7	0.2	3.9
3/2	309	309	-	-	-	1.1	0.2	-	1.2	14.5	4.6	0.2	4.8
3/3+3/4	9	9	-	-	-	0.1	0.0	-	0.1	37.4	0.1	0.0	0.1
4/1	364	364	-	-	-	0.0	0.1	-	0.1	1.2	0.0	0.1	0.1
4/2	303	303	-	-	-	0.0	0.1	-	0.1	1.0	0.0	0.1	0.1
4/3	9	9	-	-	-	0.0	0.0	-	0.0	0.8	0.0	0.0	0.0
5/2+5/1	81	81	162	0	0	0.1	0.1	-	0.2	8.9	0.5	0.1	0.7
6/1	322	322	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/2	380	380	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	93	93	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/2	91	91	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	630	630	-	-	-	0.0	0.2	-	0.2	1.3	0.0	0.2	0.2
8/2+8/3	704	704	92	0	0	0.0	0.3	-	0.3	1.5	20.0	0.3	20.2
9/1	221	221	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
10/1	659	659	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
10/2	641	641	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

C1 PRC for Signalled Lanes (%): 24.1 Total Delay for Signalled Lanes (pcuHr): 14.52 Cycle Time (s): 104
PRC Over All Lanes (%): 24.1 Total Delay Over All Lanes(pcuHr): 15.45

Full Input Data And Results

Scenario 3: 'Future Year Base (Inc CD) - AM' (FG3: 'Base + Com Dev AM', Plan 1: 'Network Control Plan 1')

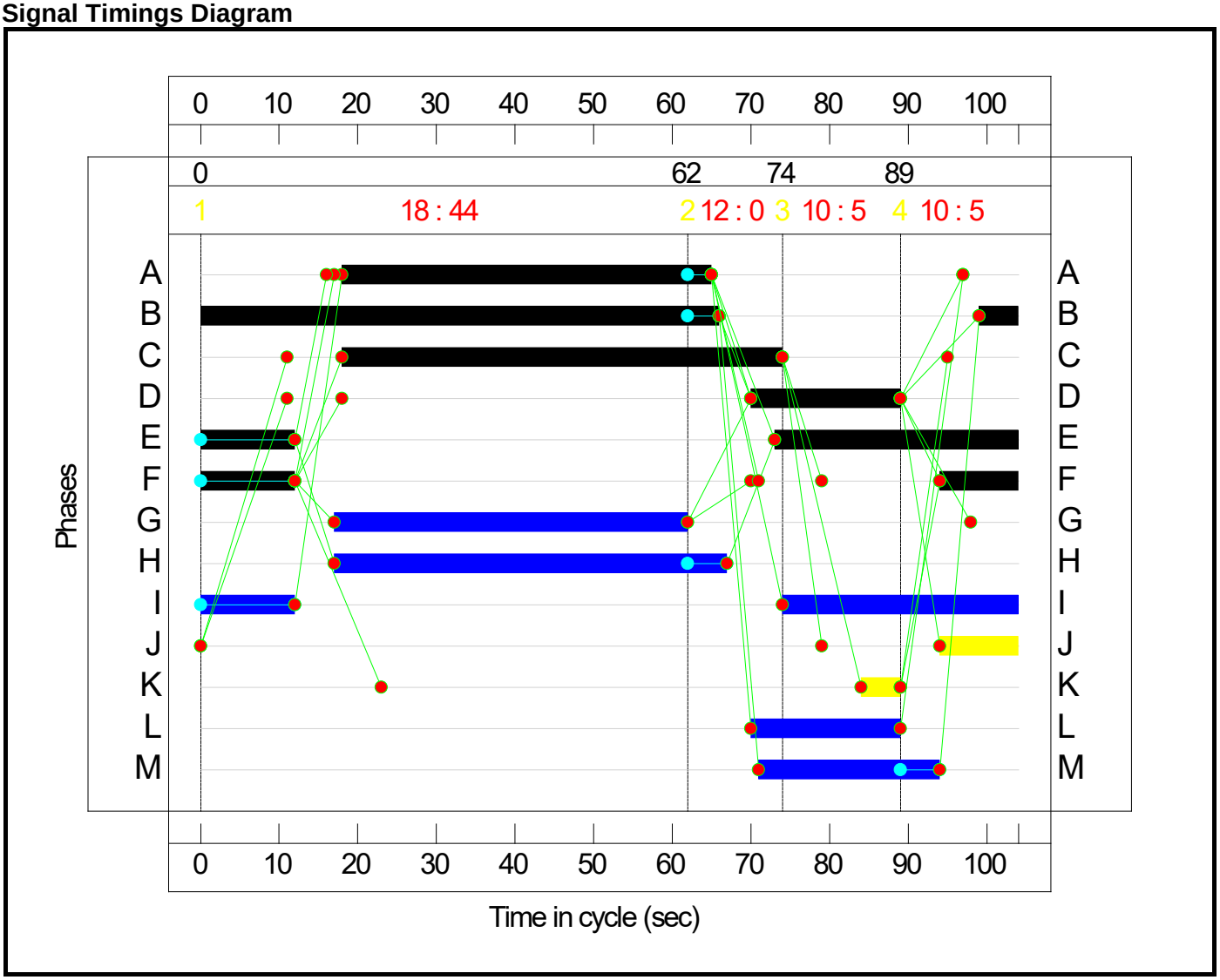
Stage Sequence Diagram



Stage Timings

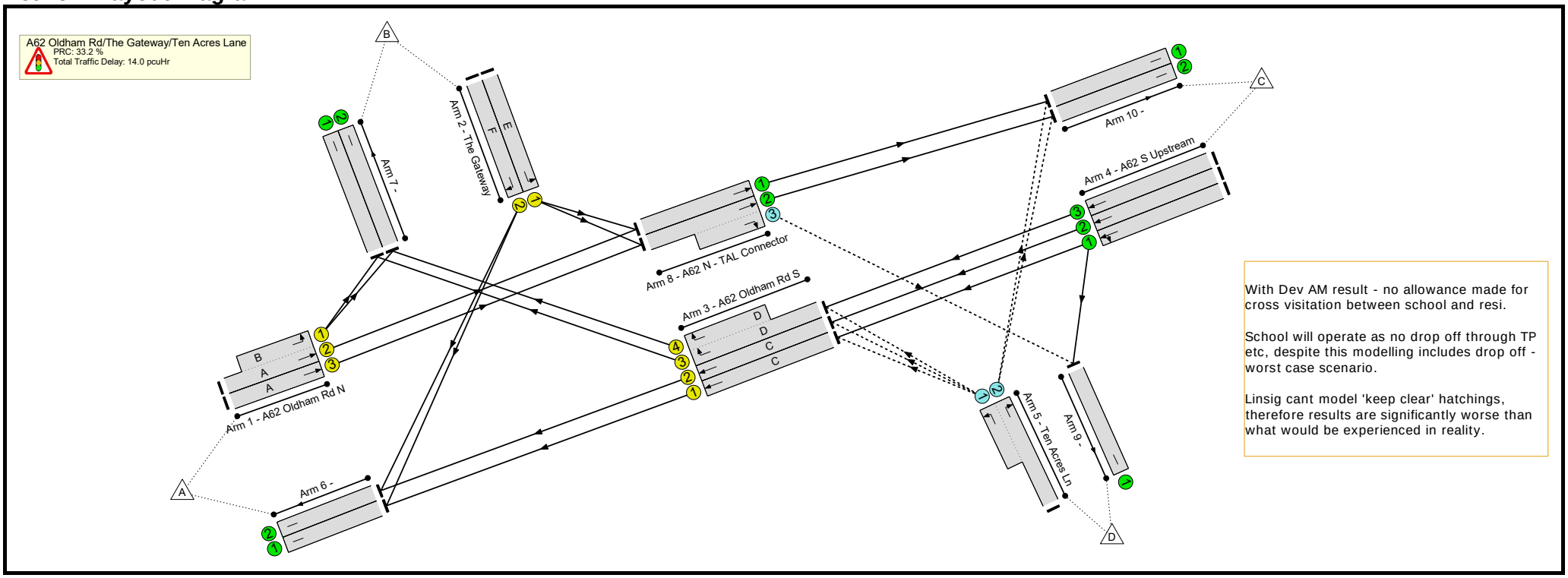
Stage	1	2	3	4
Duration	44	0	5	5
Change Point	0	62	74	89

Signal Timings Diagram



Full Input Data And Results

Network Layout Diagram



Full Input Data And Results

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	-	-	**N/A**	-	-		-	-	-	-	-	-	**67.6%**
A62 Oldham Rd/The Gateway/Ten Acres Lane	-	-	**N/A**	-	-		-	-	-	-	-	-	**67.6%**
1/2+1/1	A62 Oldham Rd N Left Ahead	U	N/A	N/A	A B		1	47:71	-	246	1940:1786	840+91	26.4 : 26.4%
1/3	A62 Oldham Rd N Ahead	U	N/A	N/A	A		1	47	-	185	2155	995	18.6%
2/1	The Gateway Left	U	N/A	N/A	E		1	43	-	42	1882	796	5.3%
2/2	The Gateway Right	U	N/A	N/A	F		1	22	-	128	2009	444	28.8%
3/1	A62 Oldham Rd S Ahead	U	N/A	N/A	C		1	56	-	685	1990	1091	62.8%
3/2	A62 Oldham Rd S Ahead	U	N/A	N/A	C		1	56	-	789	2130	1167	67.6%
3/3+3/4	A62 Oldham Rd S Right	U	N/A	N/A	D		1	19	-	33	1863:1980	324+305	5.2 : 5.2%
4/1	A62 S Upstream Ahead Left	U	N/A	N/A	-		-	-	-	844	1903	1903	44.4%
4/2	A62 S Upstream Ahead	U	N/A	N/A	-		-	-	-	741	2100	2100	35.3%
4/3	A62 S Upstream Ahead	U	N/A	N/A	-		-	-	-	31	2130	2130	1.5%
5/2+5/1	Ten Acres Ln Left Right	O	N/A	N/A	-		-	-	-	140	2079:1949	218+237	30.7 : 30.7%
6/1		U	N/A	N/A	-		-	-	-	749	Inf	Inf	0.0%
6/2		U	N/A	N/A	-		-	-	-	853	Inf	Inf	0.0%
7/1		U	N/A	N/A	-		-	-	-	29	Inf	Inf	0.0%
7/2		U	N/A	N/A	-		-	-	-	28	Inf	Inf	0.0%
8/1	A62 N - TAL Connector Ahead	U	N/A	N/A	-		-	-	-	259	1965	1965	13.2%

Full Input Data And Results

8/2+8/3	A62 N - TAL Connector Right Ahead	U+O	N/A	N/A	-		-	-	-	190	2145:1783	818+284	17.2 : 17.2%
9/1		U	N/A	N/A	-		-	-	-	231	Inf	Inf	0.0%
10/1		U	N/A	N/A	-		-	-	-	293	Inf	Inf	0.0%
10/2		U	N/A	N/A	-		-	-	-	174	Inf	Inf	0.0%

Full Input Data And Results

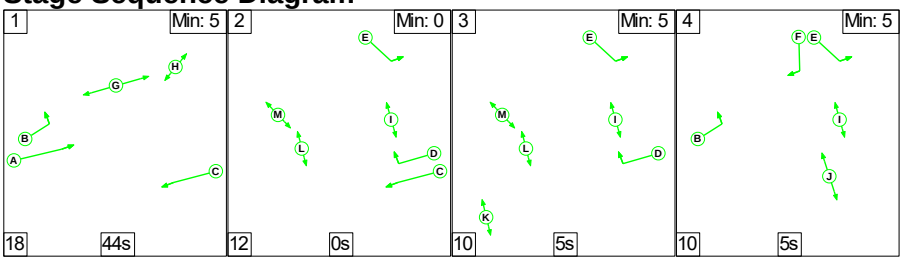
Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network	**-**	**-**	**329**	**0**	**0**	**10.5**	**3.5**	**0.0**	**14.0**	**-**	**-**	**-**	**-**
A62 Oldham Rd/The Gateway/Ten Acres Lane	**-**	**-**	**329**	**0**	**0**	**10.5**	**3.5**	**0.0**	**14.0**	**-**	**-**	**-**	**-**
1/2+1/1	246	246	-	-	-	1.1	0.2	-	1.3	18.5	3.9	0.2	4.1
1/3	185	185	-	-	-	0.8	0.1	-	1.0	18.7	3.1	0.1	3.2
2/1	42	42	-	-	-	0.2	0.0	-	0.2	20.1	0.7	0.0	0.7
2/2	128	128	-	-	-	1.2	0.2	-	1.4	39.4	3.1	0.2	3.3
3/1	685	685	-	-	-	3.1	0.8	-	3.9	20.6	13.5	0.8	14.4
3/2	789	789	-	-	-	3.7	1.0	-	4.7	21.6	16.2	1.0	17.3
3/3+3/4	33	33	-	-	-	0.3	0.0	-	0.3	37.3	0.4	0.0	0.4
4/1	844	844	-	-	-	0.0	0.4	-	0.4	1.7	0.0	0.4	0.4
4/2	741	741	-	-	-	0.0	0.3	-	0.3	1.3	0.0	0.3	0.3
4/3	31	31	-	-	-	0.0	0.0	-	0.0	0.9	0.0	0.0	0.0
5/2+5/1	140	140	280	0	0	0.0	0.2	-	0.2	6.1	0.3	0.2	0.5
6/1	749	749	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/2	853	853	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	29	29	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/2	28	28	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	259	259	-	-	-	0.0	0.1	-	0.1	1.1	0.0	0.1	0.1
8/2+8/3	190	190	49	0	0	0.0	0.1	-	0.1	2.2	7.6	0.1	7.7
9/1	231	231	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
10/1	293	293	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
10/2	174	174	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

C1 PRC for Signalled Lanes (%): 33.2 Total Delay for Signalled Lanes (pcuHr): 12.86 Cycle Time (s): 104
PRC Over All Lanes (%): 33.2 Total Delay Over All Lanes(pcuHr): 13.97

Full Input Data And Results

Scenario 4: 'Future Year Base (Inc CD) - PM' (FG4: 'Base + Com Dev PM', Plan 1: 'Network Control Plan 1')

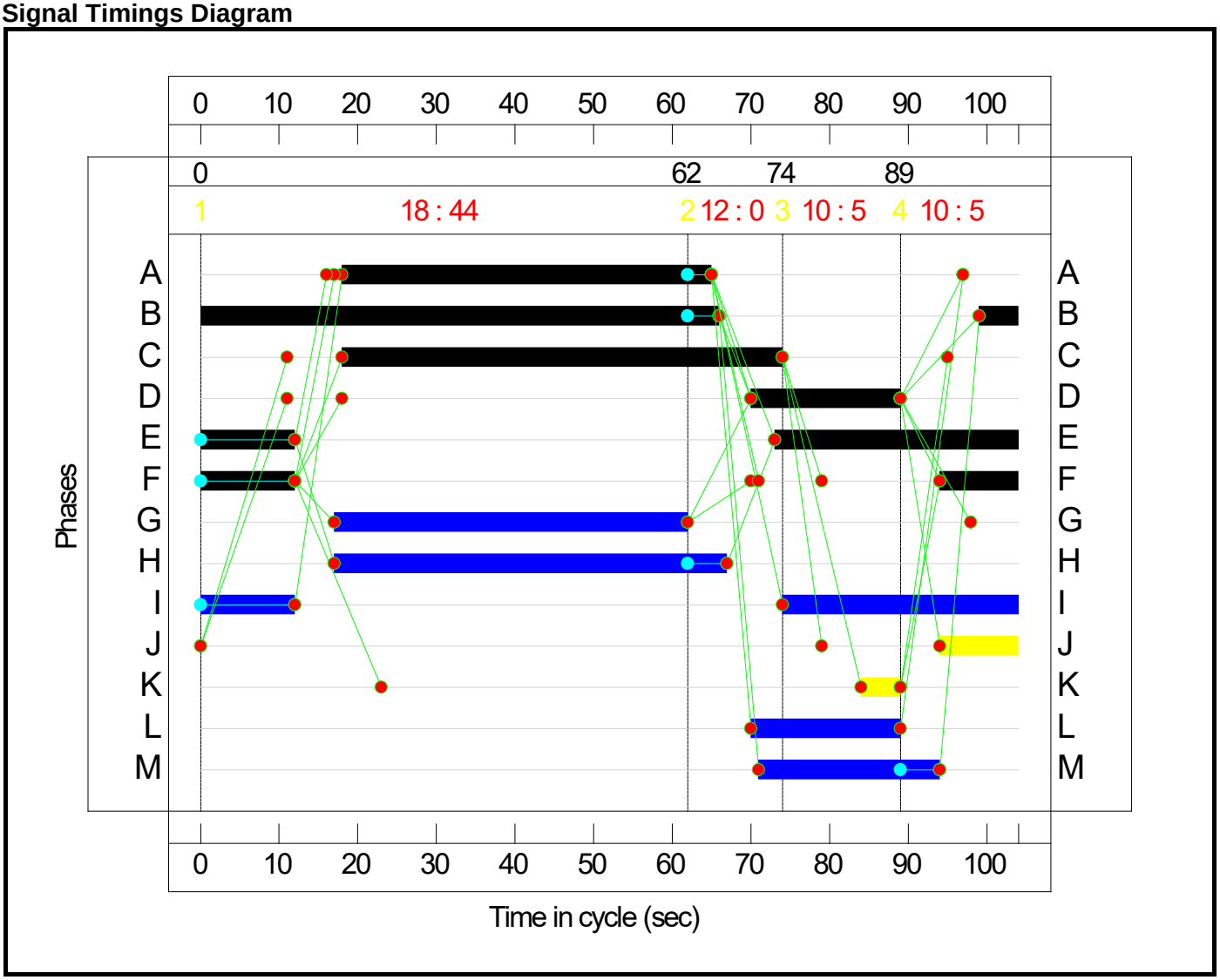
Stage Sequence Diagram



Stage Timings

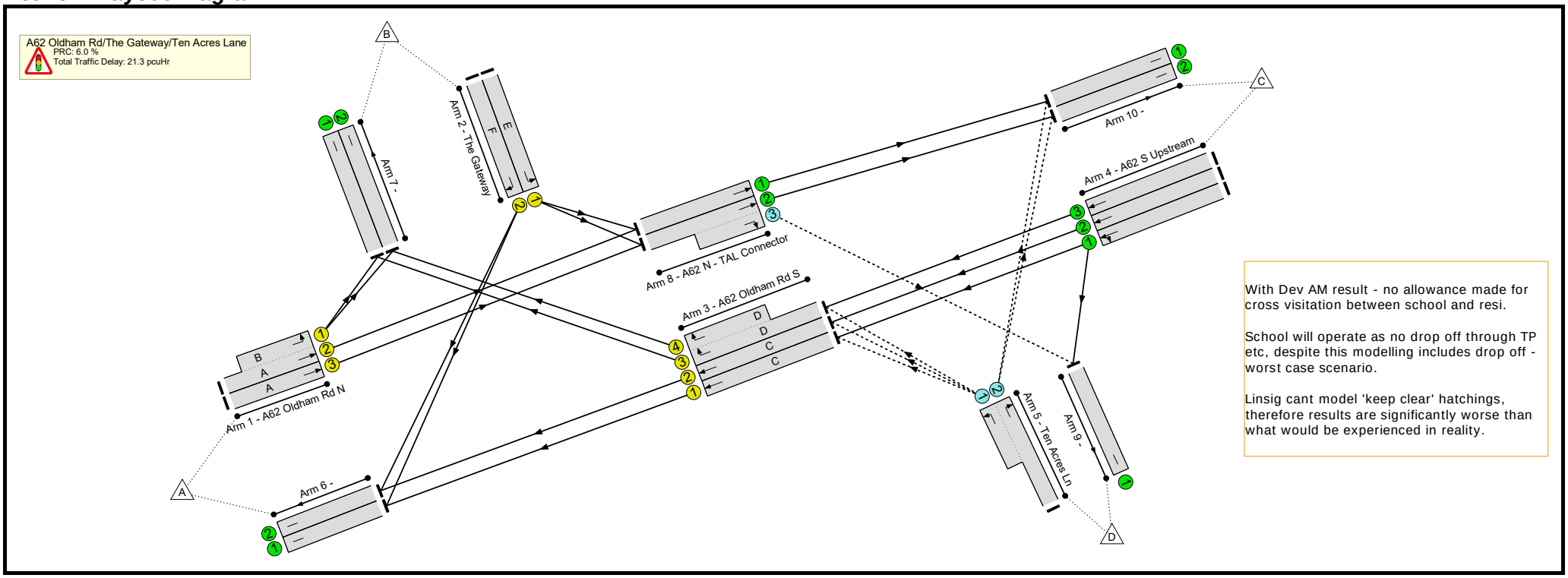
Stage	1	2	3	4
Duration	44	0	5	5
Change Point	0	62	74	89

Signal Timings Diagram



Full Input Data And Results

Network Layout Diagram



Full Input Data And Results

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	-	-	**N/A**	-	-		-	-	-	-	-	-	**84.9%**
A62 Oldham Rd/The Gateway/Ten Acres Lane	-	-	**N/A**	-	-		-	-	-	-	-	-	**84.9%**
1/2+1/1	A62 Oldham Rd N Left Ahead	U	N/A	N/A	A B		1	47:71	-	849	1940:1786	749+251	84.9 : 84.9%
1/3	A62 Oldham Rd N Ahead	U	N/A	N/A	A		1	47	-	817	2155	995	82.1%
2/1	The Gateway Left	U	N/A	N/A	E		1	43	-	115	1882	796	14.4%
2/2	The Gateway Right	U	N/A	N/A	F		1	22	-	149	2009	444	33.5%
3/1	A62 Oldham Rd S Ahead	U	N/A	N/A	C		1	56	-	288	1990	1091	26.4%
3/2	A62 Oldham Rd S Ahead	U	N/A	N/A	C		1	56	-	345	2130	1167	29.6%
3/3+3/4	A62 Oldham Rd S Right	U	N/A	N/A	D		1	19	-	9	1863:1980	328+262	1.5 : 1.5%
4/1	A62 S Upstream Ahead Left	U	N/A	N/A	-		-	-	-	398	1873	1873	21.2%
4/2	A62 S Upstream Ahead	U	N/A	N/A	-		-	-	-	341	2100	2100	16.2%
4/3	A62 S Upstream Ahead	U	N/A	N/A	-		-	-	-	9	2130	2130	0.4%
5/2+5/1	Ten Acres Ln Left Right	O	N/A	N/A	-		-	-	-	82	2079:1949	246+102	23.6 : 23.6%
6/1		U	N/A	N/A	-		-	-	-	362	Inf	Inf	0.0%
6/2		U	N/A	N/A	-		-	-	-	420	Inf	Inf	0.0%
7/1		U	N/A	N/A	-		-	-	-	112	Inf	Inf	0.0%
7/2		U	N/A	N/A	-		-	-	-	110	Inf	Inf	0.0%
8/1	A62 N - TAL Connector Ahead	U	N/A	N/A	-		-	-	-	731	1965	1965	37.2%

Full Input Data And Results

8/2+8/3	A62 N - TAL Connector Right Ahead	U+O	N/A	N/A	-		-	-	-	837	2145:1783	1850+245	39.9 : 39.9%
9/1		U	N/A	N/A	-		-	-	-	228	Inf	Inf	0.0%
10/1		U	N/A	N/A	-		-	-	-	760	Inf	Inf	0.0%
10/2		U	N/A	N/A	-		-	-	-	768	Inf	Inf	0.0%

Full Input Data And Results

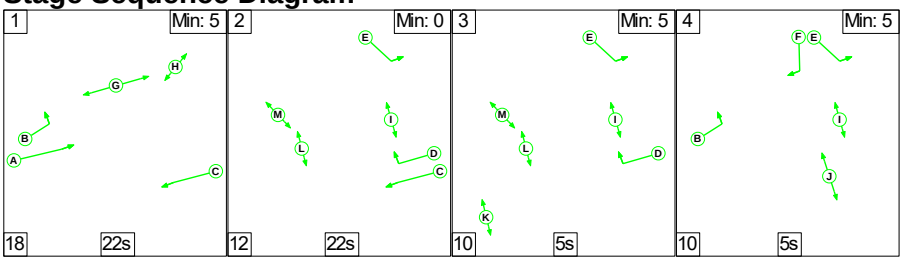
Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network	**-**	**-**	**262**	**0**	**0**	**14.6**	**6.7**	**0.0**	**21.3**	**-**	**-**	**-**	**-**
A62 Oldham Rd/The Gateway/Ten Acres Lane	**-**	**-**	**262**	**0**	**0**	**14.6**	**6.7**	**0.0**	**21.3**	**-**	**-**	**-**	**-**
1/2+1/1	849	849	-	-	-	4.6	2.7	-	7.3	30.9	17.9	2.7	20.6
1/3	817	817	-	-	-	5.5	2.2	-	7.8	34.2	20.4	2.2	22.7
2/1	115	115	-	-	-	0.6	0.1	-	0.7	21.1	2.0	0.1	2.1
2/2	149	149	-	-	-	1.4	0.3	-	1.7	40.2	3.6	0.3	3.9
3/1	288	288	-	-	-	1.0	0.2	-	1.2	14.7	4.3	0.2	4.5
3/2	345	345	-	-	-	1.2	0.2	-	1.4	14.9	5.4	0.2	5.6
3/3+3/4	9	9	-	-	-	0.1	0.0	-	0.1	37.4	0.1	0.0	0.1
4/1	398	398	-	-	-	0.0	0.1	-	0.1	1.2	0.0	0.1	0.1
4/2	341	341	-	-	-	0.0	0.1	-	0.1	1.0	0.0	0.1	0.1
4/3	9	9	-	-	-	0.0	0.0	-	0.0	0.8	0.0	0.0	0.0
5/2+5/1	82	82	164	0	0	0.1	0.2	-	0.3	13.0	0.8	0.2	0.9
6/1	362	362	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/2	420	420	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	112	112	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/2	110	110	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	731	731	-	-	-	0.0	0.3	-	0.3	1.5	0.0	0.3	0.3
8/2+8/3	837	837	98	0	0	0.1	0.3	-	0.4	1.7	25.1	0.3	25.4
9/1	228	228	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
10/1	760	760	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
10/2	768	768	-	-	-	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): 20.06 Cycle Time (s): 104
PRC Over All Lanes (%): 6.0 Total Delay Over All Lanes(pcuHr): 21.29

Full Input Data And Results

Scenario 5: 'Future Year + Dev - AM ' (FG5: 'Base + Com Dev + Dev AM', Plan 1: 'Network Control Plan 1')

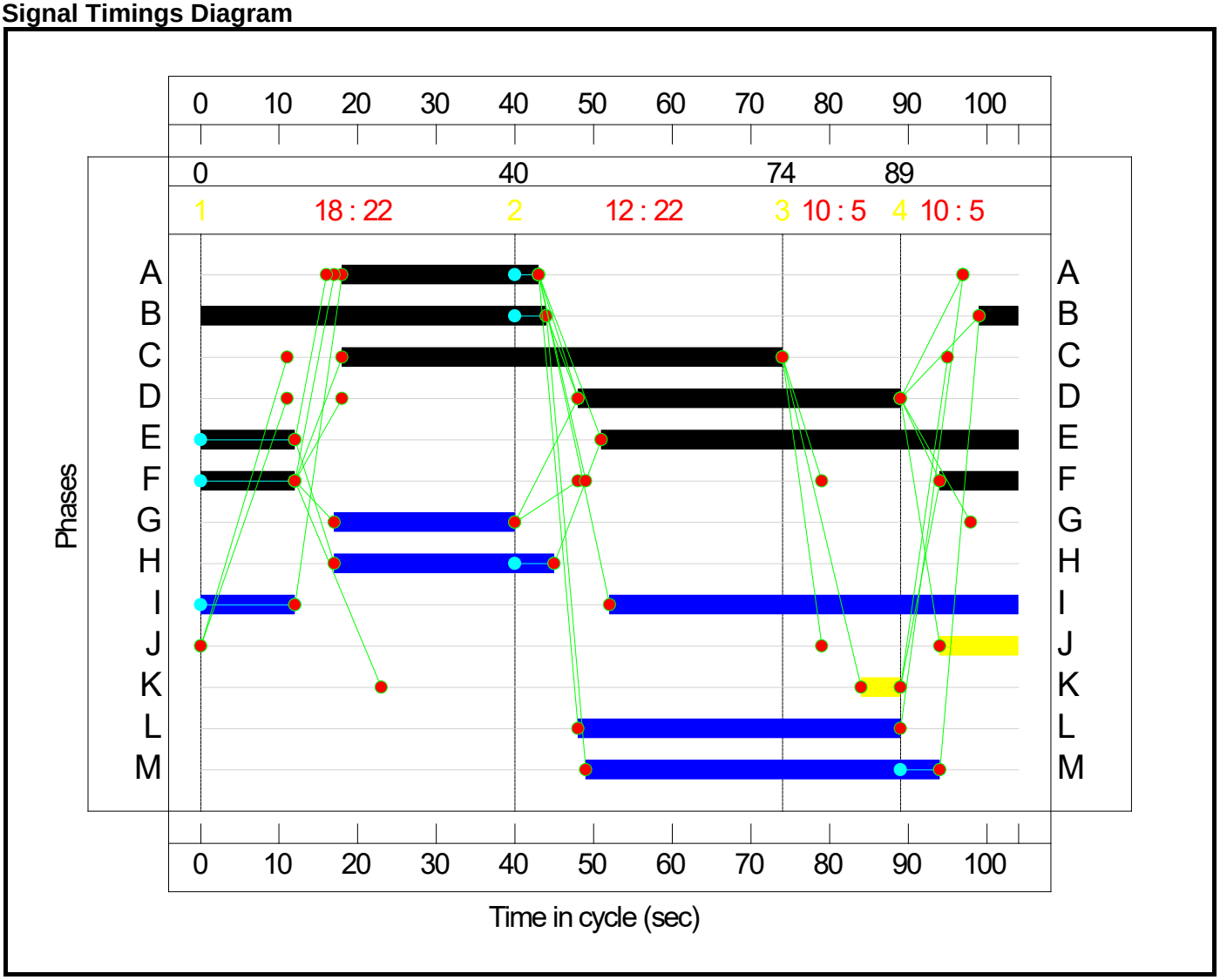
Stage Sequence Diagram



Stage Timings

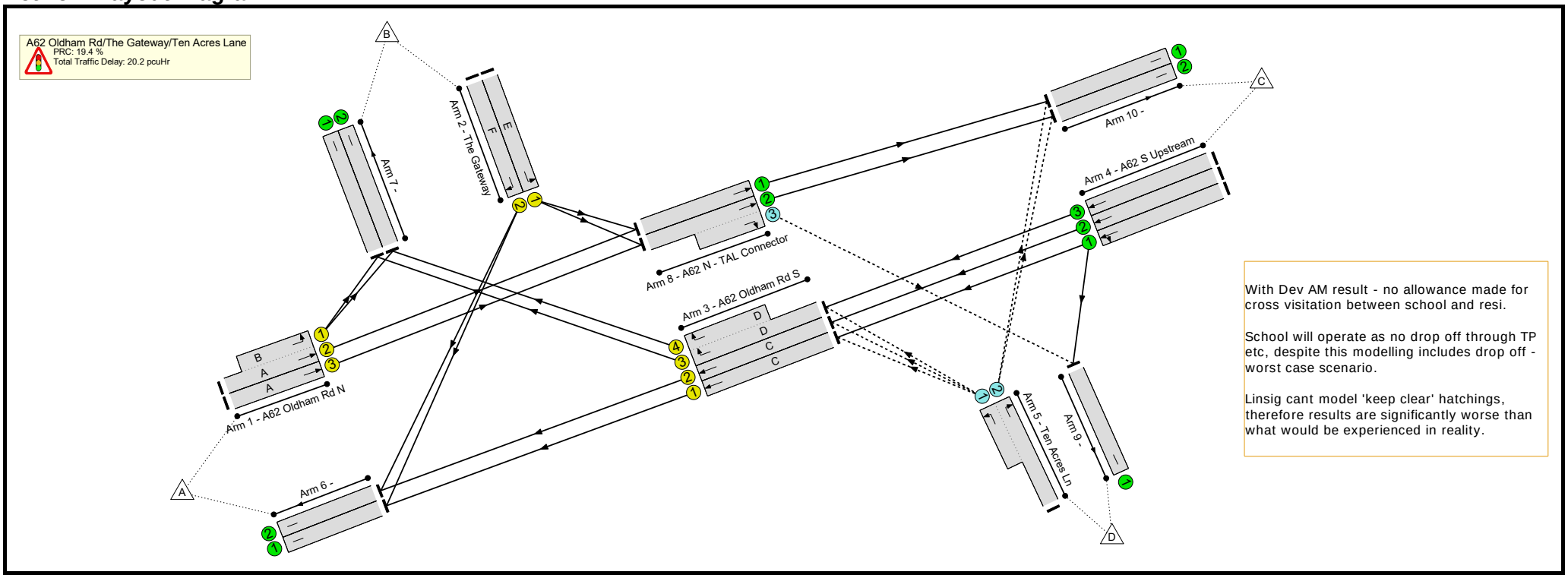
Stage	1	2	3	4
Duration	22	22	5	5
Change Point	0	40	74	89

Signal Timings Diagram



Full Input Data And Results

Network Layout Diagram



Full Input Data And Results

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	-	-	**N/A**	-	-		-	-	-	-	-	-	**75.4%**
A62 Oldham Rd/The Gateway/Ten Acres Lane	-	-	**N/A**	-	-		-	-	-	-	-	-	**75.4%**
1/2+1/1	A62 Oldham Rd N Left Ahead	U	N/A	N/A	A B		1	25:49	-	383	1940:1786	479+32	75.0 : 75.0%
1/3	A62 Oldham Rd N Ahead	U	N/A	N/A	A		1	25	-	80	2155	539	14.8%
2/1	The Gateway Left	U	N/A	N/A	E		1	65	-	54	1882	1194	4.5%
2/2	The Gateway Right	U	N/A	N/A	F		1	22	-	128	2009	444	28.8%
3/1	A62 Oldham Rd S Ahead	U	N/A	N/A	C		1	56	-	714	1990	1091	65.5%
3/2	A62 Oldham Rd S Ahead	U	N/A	N/A	C		1	56	-	831	2130	1167	71.2%
3/3+3/4	A62 Oldham Rd S Right	U	N/A	N/A	D		1	41	-	33	1863:1980	533+502	3.2 : 3.2%
4/1	A62 S Upstream Ahead Left	U	N/A	N/A	-		-	-	-	898	1890	1890	47.5%
4/2	A62 S Upstream Ahead	U	N/A	N/A	-		-	-	-	743	2100	2100	35.4%
4/3	A62 S Upstream Ahead	U	N/A	N/A	-		-	-	-	31	2130	2130	1.5%
5/2+5/1	Ten Acres Ln Left Right	O	N/A	N/A	-		-	-	-	301	2079:1949	208+191	75.4 : 75.4%
6/1		U	N/A	N/A	-		-	-	-	778	Inf	Inf	0.0%
6/2		U	N/A	N/A	-		-	-	-	895	Inf	Inf	0.0%
7/1		U	N/A	N/A	-		-	-	-	29	Inf	Inf	0.0%
7/2		U	N/A	N/A	-		-	-	-	28	Inf	Inf	0.0%
8/1	A62 N - TAL Connector Ahead	U	N/A	N/A	-		-	-	-	396	1965	1965	20.2%

Full Input Data And Results

8/2+8/3	A62 N - TAL Connector Right Ahead	U+O	N/A	N/A	-		-	-	-	97	2145:1783	11+265	35.1 : 35.1%
9/1		U	N/A	N/A	-		-	-	-	331	Inf	Inf	0.0%
10/1		U	N/A	N/A	-		-	-	-	475	Inf	Inf	0.0%
10/2		U	N/A	N/A	-		-	-	-	82	Inf	Inf	0.0%

Full Input Data And Results

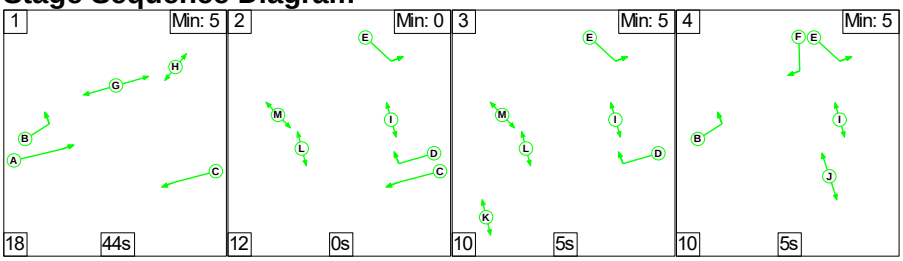
Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network	**-**	**-**	**695**	**0**	**0**	**13.6**	**6.6**	**0.0**	**20.2**	**-**	**-**	**-**	**-**
A62 Oldham Rd/The Gateway/Ten Acres Lane	**-**	**-**	**695**	**0**	**0**	**13.6**	**6.6**	**0.0**	**20.2**	**-**	**-**	**-**	**-**
1/2+1/1	383	383	-	-	-	3.7	1.5	-	5.1	48.3	9.5	1.5	10.9
1/3	80	80	-	-	-	0.7	0.1	-	0.8	34.3	1.8	0.1	1.9
2/1	54	54	-	-	-	0.1	0.0	-	0.1	8.7	0.6	0.0	0.6
2/2	128	128	-	-	-	1.2	0.2	-	1.4	39.4	3.1	0.2	3.3
3/1	714	714	-	-	-	3.3	0.9	-	4.2	21.3	14.5	0.9	15.4
3/2	831	831	-	-	-	4.0	1.2	-	5.2	22.7	17.8	1.2	19.0
3/3+3/4	33	33	-	-	-	0.2	0.0	-	0.2	20.6	0.3	0.0	0.3
4/1	898	898	-	-	-	0.0	0.5	-	0.5	1.8	0.0	0.5	0.5
4/2	743	743	-	-	-	0.0	0.3	-	0.3	1.3	0.0	0.3	0.3
4/3	31	31	-	-	-	0.0	0.0	-	0.0	0.9	0.0	0.0	0.0
5/2+5/1	301	301	602	0	0	0.3	1.5	-	1.8	21.2	2.5	1.5	4.0
6/1	778	778	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/2	895	895	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	29	29	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/2	28	28	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	396	396	-	-	-	0.0	0.1	-	0.1	1.1	0.0	0.1	0.1
8/2+8/3	97	97	93	0	0	0.2	0.3	-	0.5	17.7	7.0	0.3	7.2
9/1	331	331	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
10/1	475	475	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
10/2	82	82	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

C1 PRC for Signalled Lanes (%): 20.0 Total Delay for Signalled Lanes (pcuHr): 17.10 Cycle Time (s): 104
PRC Over All Lanes (%): 19.4 Total Delay Over All Lanes(pcuHr): 20.21

Full Input Data And Results

Scenario 6: 'Future Year + Dev - PM ' (FG6: 'Base + Com Dev + Dev PM', Plan 1: 'Network Control Plan 1')

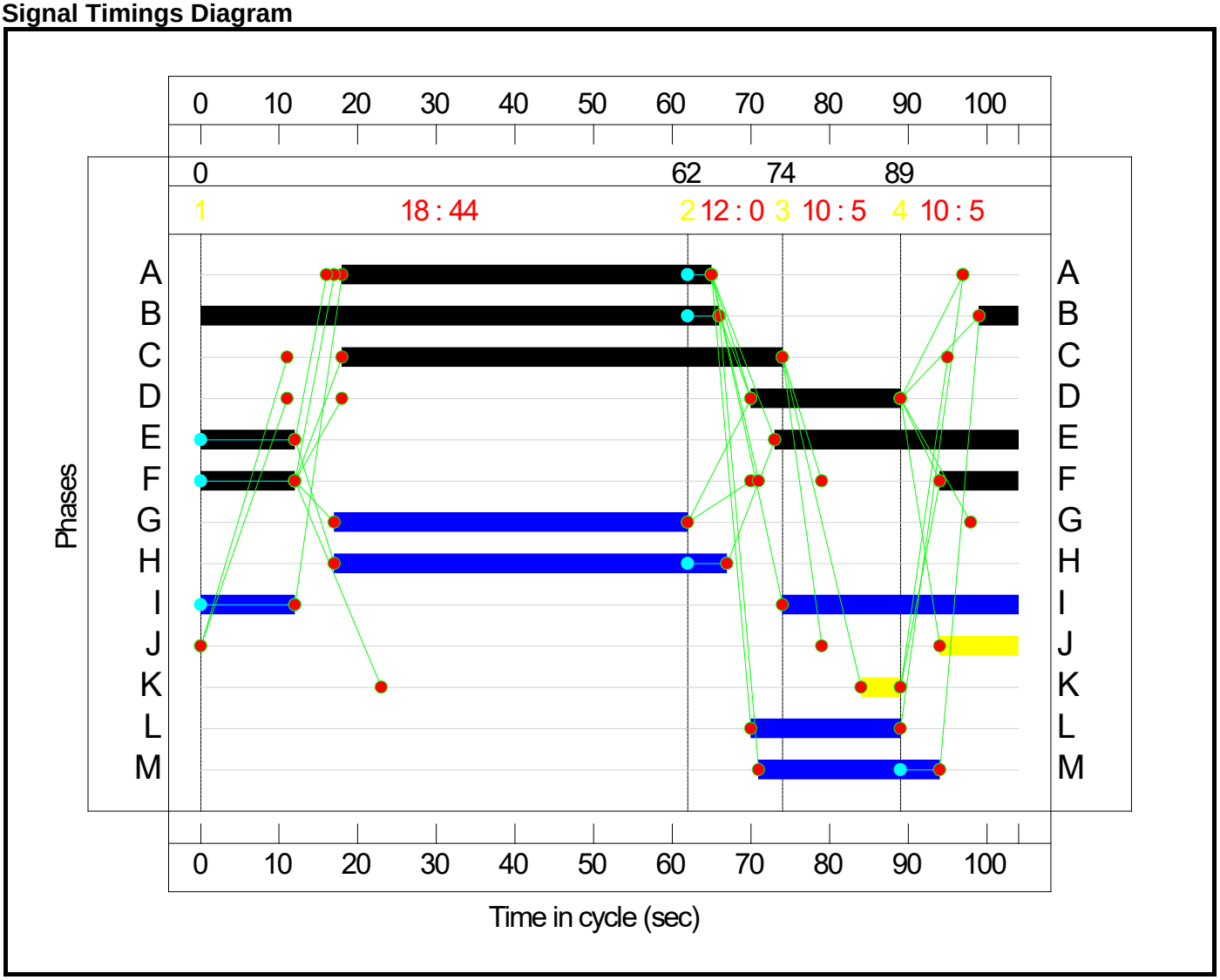
Stage Sequence Diagram



Stage Timings

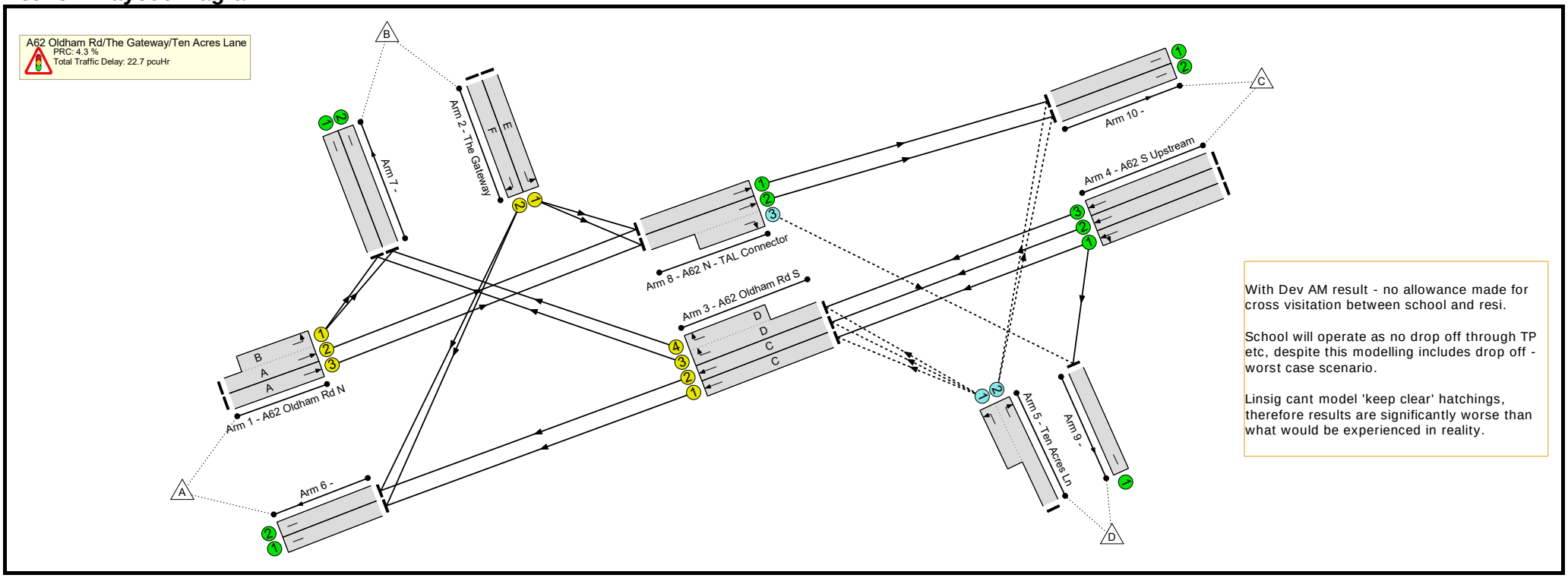
Stage	1	2	3	4
Duration	44	0	5	5
Change Point	0	62	74	89

Signal Timings Diagram



Full Input Data And Results

Network Layout Diagram



Full Input Data And Results

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	-	-	**N/A**	-	-		-	-	-	-	-	-	**86.3%**
A62 Oldham Rd/The Gateway/Ten Acres Lane	-	-	**N/A**	-	-		-	-	-	-	-	-	**86.3%**
1/2+1/1	A62 Oldham Rd N Left Ahead	U	N/A	N/A	A B		1	47:71	-	861	1940:1786	751+247	86.3 : 86.3%
1/3	A62 Oldham Rd N Ahead	U	N/A	N/A	A		1	47	-	833	2155	995	83.8%
2/1	The Gateway Left	U	N/A	N/A	E		1	43	-	126	1882	796	15.8%
2/2	The Gateway Right	U	N/A	N/A	F		1	22	-	149	2009	444	33.5%
3/1	A62 Oldham Rd S Ahead	U	N/A	N/A	C		1	56	-	295	1990	1091	27.0%
3/2	A62 Oldham Rd S Ahead	U	N/A	N/A	C		1	56	-	355	2130	1167	30.4%
3/3+3/4	A62 Oldham Rd S Right	U	N/A	N/A	D		1	19	-	15	1863:1980	326+285	2.5 : 2.5%
4/1	A62 S Upstream Ahead Left	U	N/A	N/A	-		-	-	-	438	1852	1852	23.7%
4/2	A62 S Upstream Ahead	U	N/A	N/A	-		-	-	-	350	2100	2100	16.7%
4/3	A62 S Upstream Ahead	U	N/A	N/A	-		-	-	-	9	2130	2130	0.4%
5/2+5/1	Ten Acres Ln Left Right	O	N/A	N/A	-		-	-	-	134	2079:1949	240+130	36.3 : 36.3%
6/1		U	N/A	N/A	-		-	-	-	369	Inf	Inf	0.0%
6/2		U	N/A	N/A	-		-	-	-	430	Inf	Inf	0.0%
7/1		U	N/A	N/A	-		-	-	-	115	Inf	Inf	0.0%
7/2		U	N/A	N/A	-		-	-	-	113	Inf	Inf	0.0%
8/1	A62 N - TAL Connector Ahead	U	N/A	N/A	-		-	-	-	747	1965	1965	38.0%

Full Input Data And Results

8/2+8/3	A62 N - TAL Connector Right Ahead	U+O	N/A	N/A	-		-	-	-	860	2145:1783	1747+331	41.4 : 41.4%
9/1		U	N/A	N/A	-		-	-	-	316	Inf	Inf	0.0%
10/1		U	N/A	N/A	-		-	-	-	791	Inf	Inf	0.0%
10/2		U	N/A	N/A	-		-	-	-	766	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	**-**	**-**	**405**	**0**	**0**	**15.2**	**7.5**	**0.0**	**22.7**	**-**	**-**	**-**	**-**
A62 Oldham Rd/The Gateway/Ten Acres Lane	**-**	**-**	**405**	**0**	**0**	**15.2**	**7.5**	**0.0**	**22.7**	**-**	**-**	**-**	**-**
1/2+1/1	861	861	-	-	-	4.7	3.0	-	7.7	32.3	18.4	3.0	21.5
1/3	833	833	-	-	-	5.7	2.5	-	8.2	35.4	21.1	2.5	23.6
2/1	126	126	-	-	-	0.6	0.1	-	0.7	21.2	2.2	0.1	2.3
2/2	149	149	-	-	-	1.4	0.3	-	1.7	40.2	3.6	0.3	3.9
3/1	295	295	-	-	-	1.0	0.2	-	1.2	14.7	4.5	0.2	4.7
3/2	355	355	-	-	-	1.3	0.2	-	1.5	15.0	5.5	0.2	5.7
3/3+3/4	15	15	-	-	-	0.1	0.0	-	0.2	37.3	0.2	0.0	0.2
4/1	438	438	-	-	-	0.0	0.2	-	0.2	1.3	0.0	0.2	0.2
4/2	350	350	-	-	-	0.0	0.1	-	0.1	1.0	0.0	0.1	0.1
4/3	9	9	-	-	-	0.0	0.0	-	0.0	0.8	0.0	0.0	0.0
5/2+5/1	134	134	268	0	0	0.3	0.3	-	0.5	14.6	1.3	0.3	1.6
6/1	369	369	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/2	430	430	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	115	115	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/2	113	113	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	747	747	-	-	-	0.0	0.3	-	0.3	1.5	0.0	0.3	0.3
8/2+8/3	860	860	137	0	0	0.1	0.4	-	0.4	1.9	26.3	0.4	26.6
9/1	316	316	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
10/1	791	791	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
10/2	766	766	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

C1 PRC for Signalled Lanes (%): 4.3 Total Delay for Signalled Lanes (pcuHr): 21.16 Cycle Time (s): 104
PRC Over All Lanes (%): 4.3 Total Delay Over All Lanes(pcuHr): 22.71

vectos.

Appendix M

A62/Thorp Rd/Lowcross Rd Modelling Results

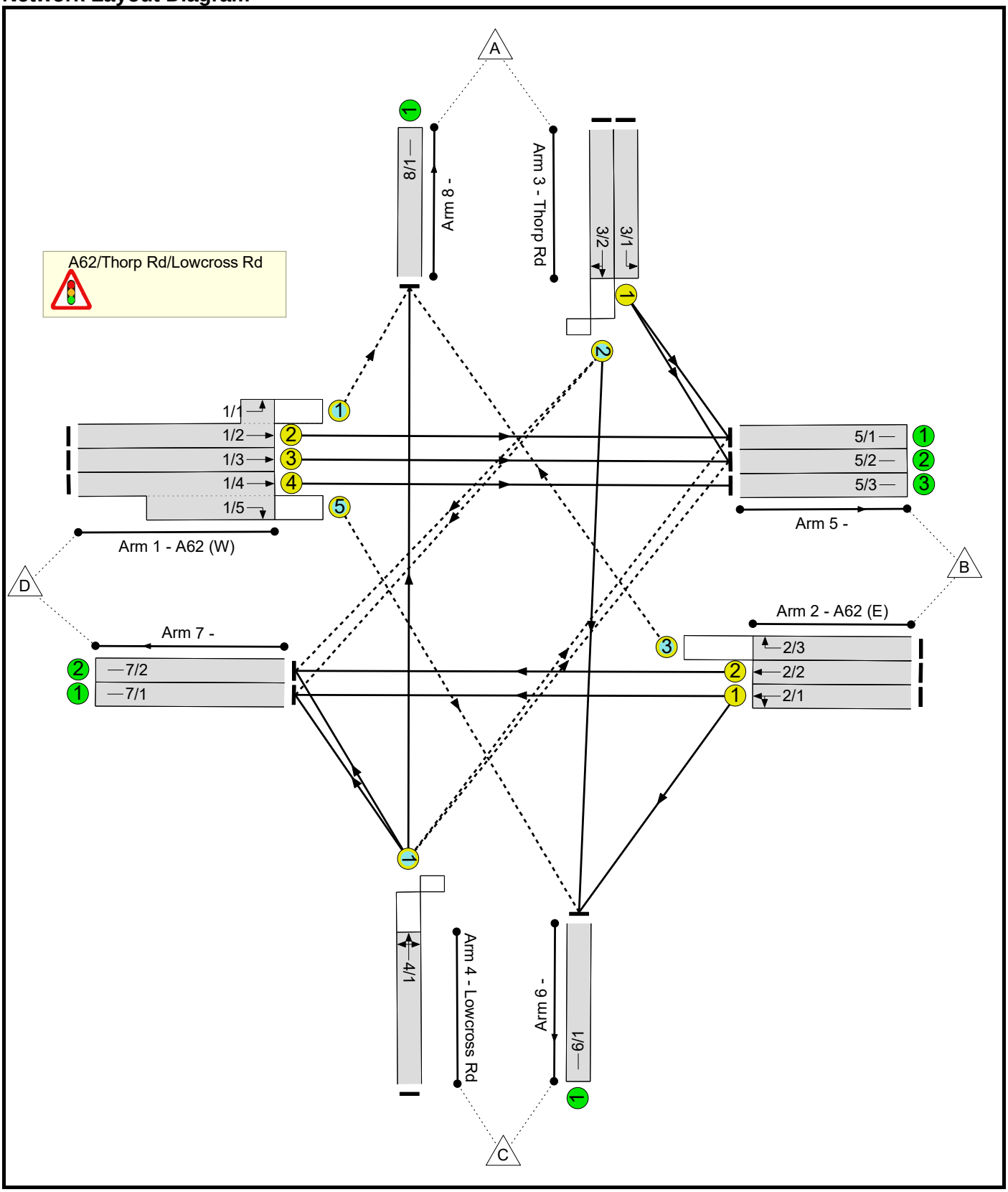
Full Input Data And Results

User and Project Details

Project:	**Jacksons Brickworks**
Title:	
Location:	
Client:	Nuvu Development Ltd
Additional detail:	
File name:	A62 - Thorp Rd - Lowcross Rd.lsg3x
Author:	James Whitton
Company:	Vectos North
Address:	

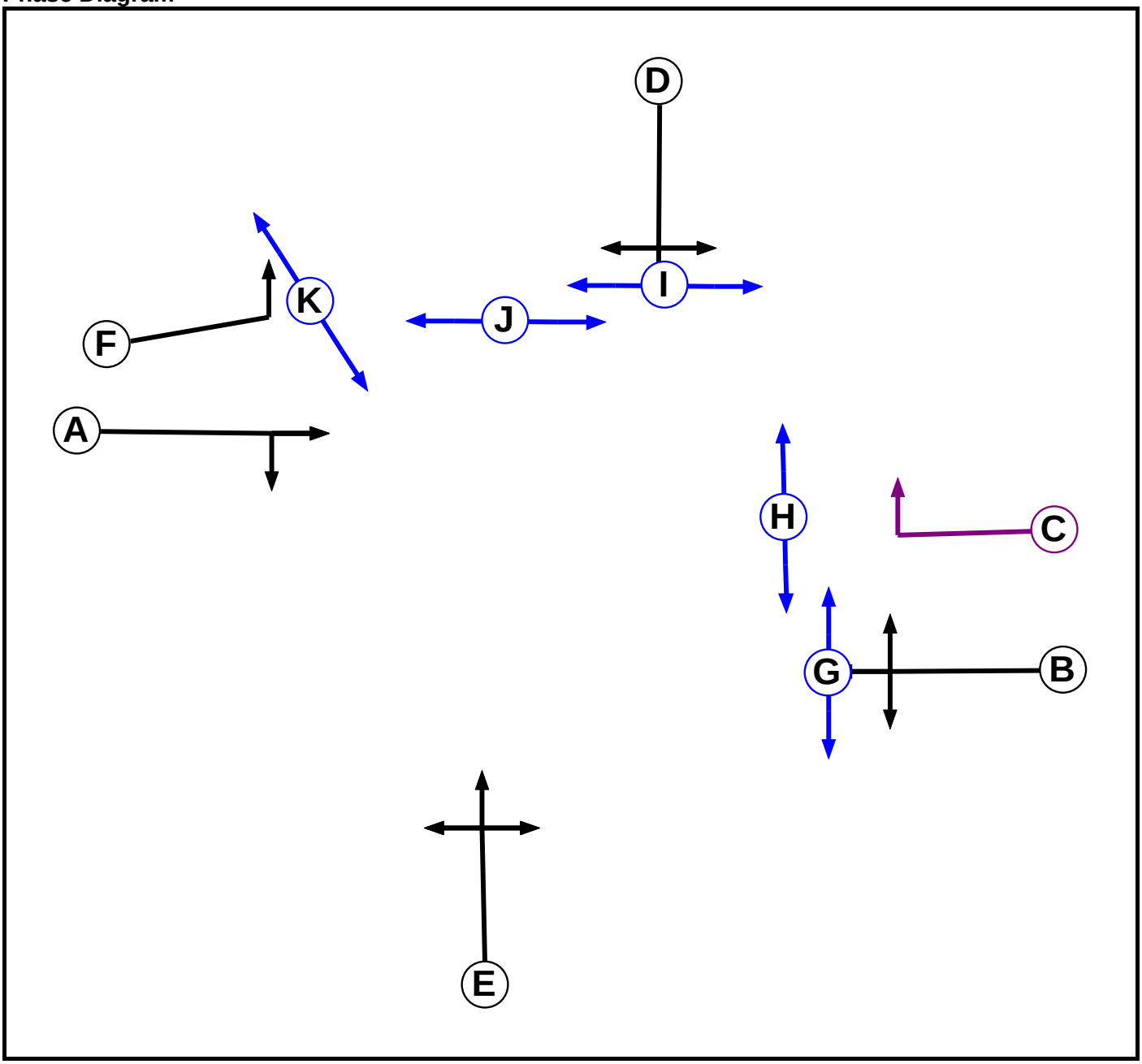
Full Input Data And Results

Network Layout Diagram



Full Input Data And Results

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	Ind. Arrow	B	5	5
D	Traffic		7	7
E	Traffic		7	7
F	Traffic		7	7
G	Pedestrian		6	6
H	Pedestrian		6	6
I	Pedestrian		5	5
J	Pedestrian		5	5
K	Pedestrian		5	5

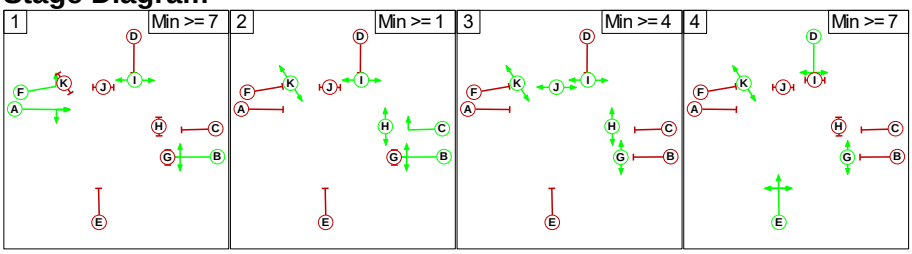
Phase Intergreens Matrix

Terminating Phase \ Starting Phase	A	B	C	D	E	F	G	H	I	J	K
A		-	4	6	6	-	-	8	-	-	-
B	-		-	6	6	-	5	-	-	10	-
C	7	-		6	6	-	5	-	-	10	-
D	7	7	7		-	-	-	8	5	-	-
E	7	7	7	-		8	-	9	-	8	-
F	-	-	-	-	4		-	-	-	-	5
G	-	8	8	-	-	-		-	-	-	-
H	8	-	-	8	8	-	-		-	-	-
I	-	-	-	5	-	-	-	-		-	-
J	-	5	5	-	5	-	-	-	-		-
K	-	-	-	-	-	5	-	-	-	-	

Phases in Stage

Stage No.	Phases in Stage
1	A B F I
2	B C H I K
3	G H I J K
4	D E G K

Stage Diagram



Full Input Data And Results

Phase Delays

Term. Stage	Start Stage	Phase	Type	Value	Cont value
1	3	F	Losing	5	5
1	4	F	Losing	1	1
1	4	I	Losing	1	1
2	4	B	Losing	2	2
2	4	I	Losing	3	3
4	1	D	Losing	1	1
4	1	E	Losing	1	1
4	1	K	Losing	3	3
4	3	D	Losing	1	1

Prohibited Stage Change

From Stage \ To Stage	1	2	3	4
1		8	10	6
2	8		10	8
3	8	8		8
4	9	9	9	

Full Input Data And Results

Give-Way Lane Input Data

Junction: A62/Thorp Rd/Lowcross Rd

Lane	Movement	Max Flow when Giving Way (PCU/Hr)	Min Flow when Giving Way (PCU/Hr)	Opposing Lane	Opp. Lane Coeff.	Opp. Mvmnts.	Right Turn Storage (PCU)	Non-Blocking Storage (PCU)	RTF	Right Turn Move up (s)	Max Turns in Intergreen (PCU)
1/1 (A62 (W))	8/1 (Left)	715	0	2/3	0.22	To 8/1 (Right)	3.00	-	0.50	3	3.00
1/5 (A62 (W))	6/1 (Right)	1439	0	2/1	1.09	All	3.00	-	0.50	3	3.00
				2/2	1.09	To 7/2 (Ahead)					
2/3 (A62 (E))	8/1 (Right)	1439	0	1/1	1.09	All	4.30	-	0.50	4	3.00
				1/2	1.09	All					
				1/3	1.09	All					
				1/4	1.09	All					
3/2 (Thorp Rd)	7/1 (Right)	1439	0	4/1	1.09	To 7/1 (Left) To 7/2 (Left) To 8/1 (Ahead)	3.50	1.00	0.50	4	3.50
	7/2 (Right)	1439	0	4/1	1.09	To 7/1 (Left) To 7/2 (Left) To 8/1 (Ahead)					
4/1 (Lowcross Rd)	5/1 (Right)	1439	0	3/2	1.09	To 6/1 (Ahead)	3.50	1.00	0.50	4	3.50
				3/1	1.09	All					
	5/2 (Right)	1439	0	3/1	1.09	All					
				3/2	1.09	To 6/1 (Ahead)					

Full Input Data And Results

Lane Input Data

Junction: A62/Thorp Rd/Lowcross Rd

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 (A62 (W))	O	F	2	3	2.1	Geom	-	4.25	0.00	Y	Arm 8 Left	30.00
1/2 (A62 (W))	U	A	2	3	60.0	Geom	-	3.25	0.00	Y	Arm 5 Ahead	Inf
1/3 (A62 (W))	U	A	2	3	60.0	Geom	-	3.25	0.00	N	Arm 5 Ahead	Inf
1/4 (A62 (W))	U	A	2	3	60.0	Geom	-	3.25	0.00	N	Arm 5 Ahead	Inf
1/5 (A62 (W))	O	A	2	3	8.0	Geom	-	3.25	0.00	Y	Arm 6 Right	20.00
2/1 (A62 (E))	U	B	2	3	60.0	Geom	-	3.00	0.00	Y	Arm 6 Left	10.00
											Arm 7 Ahead	Inf
2/2 (A62 (E))	U	B	2	3	60.0	Geom	-	3.00	0.00	N	Arm 7 Ahead	Inf
2/3 (A62 (E))	O	B C	2	3	12.2	Geom	-	3.25	0.00	Y	Arm 8 Right	15.00
3/1 (Thorp Rd)	U	D	2	3	11.0	Geom	-	3.25	0.00	Y	Arm 5 Left	15.00
3/2 (Thorp Rd)	O	D	2	3	60.0	Geom	-	3.25	0.00	Y	Arm 6 Ahead	Inf
											Arm 7 Right	15.00
4/1 (Lowcross Rd)	O	E	2	3	60.0	Geom	-	3.25	0.00	Y	Arm 5 Right	Inf
											Arm 7 Left	Inf
											Arm 8 Ahead	Inf
5/1	U		2	3	60.0	Inf	-	-	-	-	-	-
5/2	U		2	3	60.0	Inf	-	-	-	-	-	-
5/3	U		2	3	60.0	Inf	-	-	-	-	-	-
6/1	U		2	3	60.0	Inf	-	-	-	-	-	-
7/1	U		2	3	60.0	Inf	-	-	-	-	-	-
7/2	U		2	3	60.0	Inf	-	-	-	-	-	-
8/1	U		2	3	60.0	Inf	-	-	-	-	-	-

Full Input Data And Results

Traffic Flow Groups

Flow Group	Start Time	End Time	Duration	Formula
1: 'Base AM'	08:00	09:00	01:00	
2: 'Base PM'	17:00	18:00	01:00	
3: 'Base + Com Dev AM'	08:00	09:00	01:00	
4: 'Base + Com Dev PM'	17:00	18:00	01:00	
5: 'Base + Com Dev + Dev AM'	08:00	09:00	01:00	
6: 'Base + Com Dev + Dev PM'	17:00	18:00	01:00	

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

Traffic Flows, Desired

Desired Flow :

		Destination				
		A	B	C	D	Tot.
Origin	A	0	135	2	384	521
	B	74	0	13	1068	1155
	C	2	27	0	57	86
	D	48	310	16	0	374
	Tot.	124	472	31	1509	2136

Full Input Data And Results

Traffic Lane Flows

Lane	Scenario 1: Baseline AM
Junction: A62/Thorp Rd/Lowcross Rd	
1/1 (short)	48
1/2 (with short)	134(In) 86(Out)
1/3	107
1/4 (with short)	133(In) 117(Out)
1/5 (short)	16
2/1	516
2/2	565
2/3	74
3/1	135
3/2	386
4/1	86
5/1	166
5/2	189
5/3	117
6/1	31
7/1	723
7/2	786
8/1	124

Full Input Data And Results

Lane Saturation Flows

Junction: A62/Thorp Rd/Lowcross Rd								
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 (A62 (W))	4.25	0.00	Y	Arm 8 Left	30.00	100.0 %	1943	1943
1/2 (A62 (W))	3.25	0.00	Y	Arm 5 Ahead	Inf	100.0 %	1940	1940
1/3 (A62 (W))	3.25	0.00	N	Arm 5 Ahead	Inf	100.0 %	2080	2080
1/4 (A62 (W))	3.25	0.00	N	Arm 5 Ahead	Inf	100.0 %	2080	2080
1/5 (A62 (W))	3.25	0.00	Y	Arm 6 Right	20.00	100.0 %	1805	1805
2/1 (A62 (E))	3.00	0.00	Y	Arm 6 Left	10.00	2.5 %	1908	1908
				Arm 7 Ahead	Inf	97.5 %		
2/2 (A62 (E))	3.00	0.00	N	Arm 7 Ahead	Inf	100.0 %	2055	2055
2/3 (A62 (E))	3.25	0.00	Y	Arm 8 Right	15.00	100.0 %	1764	1764
3/1 (Thorp Rd)	3.25	0.00	Y	Arm 5 Left	15.00	100.0 %	1764	1764
3/2 (Thorp Rd)	3.25	0.00	Y	Arm 6 Ahead	Inf	0.5 %	1764	1764
				Arm 7 Right	15.00	99.5 %		
4/1 (Lowcross Rd)	3.25	0.00	Y	Arm 5 Right	Inf	31.4 %	1940	1940
				Arm 7 Left	Inf	66.3 %		
				Arm 8 Ahead	Inf	2.3 %		
5/1	Infinite Saturation Flow						Inf	Inf
5/2	Infinite Saturation Flow						Inf	Inf
5/3	Infinite Saturation Flow						Inf	Inf
6/1	Infinite Saturation Flow						Inf	Inf
7/1	Infinite Saturation Flow						Inf	Inf
7/2	Infinite Saturation Flow						Inf	Inf
8/1	Infinite Saturation Flow						Inf	Inf

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

Traffic Flows, Desired

Desired Flow :

		Destination				
		A	B	C	D	Tot.
Origin	A	0	264	0	136	400
	B	205	0	16	525	746
	C	0	181	0	63	244
	D	30	1244	26	0	1300
	Tot.	235	1689	42	724	2690

Full Input Data And Results

Traffic Lane Flows

Lane	Scenario 2: Baseline PM
Junction: A62/Thorp Rd/Lowcross Rd	
1/1 (short)	30
1/2 (with short)	404(In) 374(Out)
1/3	440
1/4 (with short)	456(In) 430(Out)
1/5 (short)	26
2/1	252
2/2	289
2/3	205
3/1	264
3/2	136
4/1	244
5/1	596
5/2	663
5/3	430
6/1	42
7/1	335
7/2	389
8/1	235

Full Input Data And Results

Lane Saturation Flows

Junction: A62/Thorp Rd/Lowcross Rd								
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 (A62 (W))	4.25	0.00	Y	Arm 8 Left	30.00	100.0 %	1943	1943
1/2 (A62 (W))	3.25	0.00	Y	Arm 5 Ahead	Inf	100.0 %	1940	1940
1/3 (A62 (W))	3.25	0.00	N	Arm 5 Ahead	Inf	100.0 %	2080	2080
1/4 (A62 (W))	3.25	0.00	N	Arm 5 Ahead	Inf	100.0 %	2080	2080
1/5 (A62 (W))	3.25	0.00	Y	Arm 6 Right	20.00	100.0 %	1805	1805
2/1 (A62 (E))	3.00	0.00	Y	Arm 6 Left	10.00	6.3 %	1897	1897
				Arm 7 Ahead	Inf	93.7 %		
2/2 (A62 (E))	3.00	0.00	N	Arm 7 Ahead	Inf	100.0 %	2055	2055
2/3 (A62 (E))	3.25	0.00	Y	Arm 8 Right	15.00	100.0 %	1764	1764
3/1 (Thorp Rd)	3.25	0.00	Y	Arm 5 Left	15.00	100.0 %	1764	1764
3/2 (Thorp Rd)	3.25	0.00	Y	Arm 6 Ahead	Inf	0.0 %	1764	1764
				Arm 7 Right	15.00	100.0 %		
4/1 (Lowcross Rd)	3.25	0.00	Y	Arm 5 Right	Inf	74.2 %	1940	1940
				Arm 7 Left	Inf	25.8 %		
				Arm 8 Ahead	Inf	0.0 %		
5/1	Infinite Saturation Flow						Inf	Inf
5/2	Infinite Saturation Flow						Inf	Inf
5/3	Infinite Saturation Flow						Inf	Inf
6/1	Infinite Saturation Flow						Inf	Inf
7/1	Infinite Saturation Flow						Inf	Inf
7/2	Infinite Saturation Flow						Inf	Inf
8/1	Infinite Saturation Flow						Inf	Inf

Scenario 3: 'Future Year (inc CD) AM' (FG3: 'Base + Com Dev AM', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

		Destination				
		A	B	C	D	Tot.
Origin	A	0	137	2	384	523
	B	74	0	13	1217	1304
	C	2	27	0	57	86
	D	48	399	16	0	463
	Tot.	124	563	31	1658	2376

Full Input Data And Results

Traffic Lane Flows

Lane	Scenario 3: Future Year (inc CD) AM
Junction: A62/Thorp Rd/Lowcross Rd	
1/1 (short)	48
1/2 (with short)	160(In) 112(Out)
1/3	141
1/4 (with short)	162(In) 146(Out)
1/5 (short)	16
2/1	589
2/2	641
2/3	74
3/1	137
3/2	386
4/1	86
5/1	193
5/2	224
5/3	146
6/1	31
7/1	796
7/2	862
8/1	124

Full Input Data And Results

Lane Saturation Flows

Junction: A62/Thorp Rd/Lowcross Rd								
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 (A62 (W))	4.25	0.00	Y	Arm 8 Left	30.00	100.0 %	1943	1943
1/2 (A62 (W))	3.25	0.00	Y	Arm 5 Ahead	Inf	100.0 %	1940	1940
1/3 (A62 (W))	3.25	0.00	N	Arm 5 Ahead	Inf	100.0 %	2080	2080
1/4 (A62 (W))	3.25	0.00	N	Arm 5 Ahead	Inf	100.0 %	2080	2080
1/5 (A62 (W))	3.25	0.00	Y	Arm 6 Right	20.00	100.0 %	1805	1805
2/1 (A62 (E))	3.00	0.00	Y	Arm 6 Left	10.00	2.2 %	1909	1909
				Arm 7 Ahead	Inf	97.8 %		
2/2 (A62 (E))	3.00	0.00	N	Arm 7 Ahead	Inf	100.0 %	2055	2055
2/3 (A62 (E))	3.25	0.00	Y	Arm 8 Right	15.00	100.0 %	1764	1764
3/1 (Thorp Rd)	3.25	0.00	Y	Arm 5 Left	15.00	100.0 %	1764	1764
3/2 (Thorp Rd)	3.25	0.00	Y	Arm 6 Ahead	Inf	0.5 %	1764	1764
				Arm 7 Right	15.00	99.5 %		
4/1 (Lowcross Rd)	3.25	0.00	Y	Arm 5 Right	Inf	31.4 %	1940	1940
				Arm 7 Left	Inf	66.3 %		
				Arm 8 Ahead	Inf	2.3 %		
5/1	Infinite Saturation Flow						Inf	Inf
5/2	Infinite Saturation Flow						Inf	Inf
5/3	Infinite Saturation Flow						Inf	Inf
6/1	Infinite Saturation Flow						Inf	Inf
7/1	Infinite Saturation Flow						Inf	Inf
7/2	Infinite Saturation Flow						Inf	Inf
8/1	Infinite Saturation Flow						Inf	Inf

Scenario 4: 'Future Year (inc CD) PM' (FG4: 'Base + Com Dev PM', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

		Destination				
		A	B	C	D	Tot.
Origin	A	0	265	0	136	401
	B	207	0	16	597	820
	C	0	181	0	63	244
	D	30	1393	26	0	1449
	Tot.	237	1839	42	796	2914

Full Input Data And Results

Traffic Lane Flows

Lane	Scenario 4: Future Year (inc CD) PM
Junction: A62/Thorp Rd/Lowcross Rd	
1/1 (short)	30
1/2 (with short)	453(In) 423(Out)
1/3	491
1/4 (with short)	505(In) 479(Out)
1/5 (short)	26
2/1	286
2/2	327
2/3	207
3/1	265
3/2	136
4/1	244
5/1	645
5/2	715
5/3	479
6/1	42
7/1	369
7/2	427
8/1	237

Full Input Data And Results

Lane Saturation Flows

Junction: A62/Thorp Rd/Lowcross Rd								
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 (A62 (W))	4.25	0.00	Y	Arm 8 Left	30.00	100.0 %	1943	1943
1/2 (A62 (W))	3.25	0.00	Y	Arm 5 Ahead	Inf	100.0 %	1940	1940
1/3 (A62 (W))	3.25	0.00	N	Arm 5 Ahead	Inf	100.0 %	2080	2080
1/4 (A62 (W))	3.25	0.00	N	Arm 5 Ahead	Inf	100.0 %	2080	2080
1/5 (A62 (W))	3.25	0.00	Y	Arm 6 Right	20.00	100.0 %	1805	1805
2/1 (A62 (E))	3.00	0.00	Y	Arm 6 Left	10.00	5.6 %	1899	1899
				Arm 7 Ahead	Inf	94.4 %		
2/2 (A62 (E))	3.00	0.00	N	Arm 7 Ahead	Inf	100.0 %	2055	2055
2/3 (A62 (E))	3.25	0.00	Y	Arm 8 Right	15.00	100.0 %	1764	1764
3/1 (Thorp Rd)	3.25	0.00	Y	Arm 5 Left	15.00	100.0 %	1764	1764
3/2 (Thorp Rd)	3.25	0.00	Y	Arm 6 Ahead	Inf	0.0 %	1764	1764
				Arm 7 Right	15.00	100.0 %		
4/1 (Lowcross Rd)	3.25	0.00	Y	Arm 5 Right	Inf	74.2 %	1940	1940
				Arm 7 Left	Inf	25.8 %		
				Arm 8 Ahead	Inf	0.0 %		
5/1	Infinite Saturation Flow						Inf	Inf
5/2	Infinite Saturation Flow						Inf	Inf
5/3	Infinite Saturation Flow						Inf	Inf
6/1	Infinite Saturation Flow						Inf	Inf
7/1	Infinite Saturation Flow						Inf	Inf
7/2	Infinite Saturation Flow						Inf	Inf
8/1	Infinite Saturation Flow						Inf	Inf

Scenario 5: 'Future Year + Dev AM' (FG5: 'Base + Com Dev + Dev AM', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

		Destination				
		A	B	C	D	Tot.
Origin	A	0	137	2	405	544
	B	74	0	13	1252	1339
	C	2	27	0	57	86
	D	81	456	16	0	553
	Tot.	157	620	31	1714	2522

Full Input Data And Results

Traffic Lane Flows

Lane	Scenario 5: Future Year + Dev AM
Junction: A62/Thorp Rd/Lowcross Rd	
1/1 (short)	81
1/2 (with short)	209(In) 128(Out)
1/3	164
1/4 (with short)	180(In) 164(Out)
1/5 (short)	16
2/1	601
2/2	664
2/3	74
3/1	137
3/2	407
4/1	86
5/1	209
5/2	247
5/3	164
6/1	31
7/1	818
7/2	896
8/1	157

Full Input Data And Results

Lane Saturation Flows

Junction: A62/Thorp Rd/Lowcross Rd								
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 (A62 (W))	4.25	0.00	Y	Arm 8 Left	30.00	100.0 %	1943	1943
1/2 (A62 (W))	3.25	0.00	Y	Arm 5 Ahead	Inf	100.0 %	1940	1940
1/3 (A62 (W))	3.25	0.00	N	Arm 5 Ahead	Inf	100.0 %	2080	2080
1/4 (A62 (W))	3.25	0.00	N	Arm 5 Ahead	Inf	100.0 %	2080	2080
1/5 (A62 (W))	3.25	0.00	Y	Arm 6 Right	20.00	100.0 %	1805	1805
2/1 (A62 (E))	3.00	0.00	Y	Arm 6 Left	10.00	2.2 %	1909	1909
				Arm 7 Ahead	Inf	97.8 %		
2/2 (A62 (E))	3.00	0.00	N	Arm 7 Ahead	Inf	100.0 %	2055	2055
2/3 (A62 (E))	3.25	0.00	Y	Arm 8 Right	15.00	100.0 %	1764	1764
3/1 (Thorp Rd)	3.25	0.00	Y	Arm 5 Left	15.00	100.0 %	1764	1764
3/2 (Thorp Rd)	3.25	0.00	Y	Arm 6 Ahead	Inf	0.5 %	1764	1764
				Arm 7 Right	15.00	99.5 %		
4/1 (Lowcross Rd)	3.25	0.00	Y	Arm 5 Right	Inf	31.4 %	1940	1940
				Arm 7 Left	Inf	66.3 %		
				Arm 8 Ahead	Inf	2.3 %		
5/1	Infinite Saturation Flow						Inf	Inf
5/2	Infinite Saturation Flow						Inf	Inf
5/3	Infinite Saturation Flow						Inf	Inf
6/1	Infinite Saturation Flow						Inf	Inf
7/1	Infinite Saturation Flow						Inf	Inf
7/2	Infinite Saturation Flow						Inf	Inf
8/1	Infinite Saturation Flow						Inf	Inf

Scenario 6: 'Future Year + Dev PM' (FG6: 'Base + Com Dev + Dev PM', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

		Destination				
		A	B	C	D	Tot.
Origin	A	0	265	0	154	419
	B	207	0	16	641	864
	C	0	181	0	63	244
	D	41	1411	26	0	1478
	Tot.	248	1857	42	858	3005

Full Input Data And Results

Traffic Lane Flows

Lane	Scenario 6: Future Year + Dev PM
Junction: A62/Thorp Rd/Lowcross Rd	
1/1 (short)	41
1/2 (with short)	461(In) 420(Out)
1/3	499
1/4 (with short)	518(In) 492(Out)
1/5 (short)	26
2/1	305
2/2	352
2/3	207
3/1	265
3/2	154
4/1	244
5/1	642
5/2	723
5/3	492
6/1	42
7/1	397
7/2	461
8/1	248

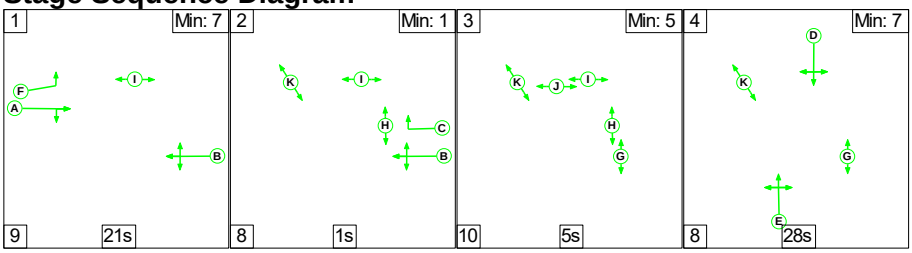
Full Input Data And Results

Lane Saturation Flows

Junction: A62/Thorp Rd/Lowcross Rd								
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 (A62 (W))	4.25	0.00	Y	Arm 8 Left	30.00	100.0 %	1943	1943
1/2 (A62 (W))	3.25	0.00	Y	Arm 5 Ahead	Inf	100.0 %	1940	1940
1/3 (A62 (W))	3.25	0.00	N	Arm 5 Ahead	Inf	100.0 %	2080	2080
1/4 (A62 (W))	3.25	0.00	N	Arm 5 Ahead	Inf	100.0 %	2080	2080
1/5 (A62 (W))	3.25	0.00	Y	Arm 6 Right	20.00	100.0 %	1805	1805
2/1 (A62 (E))	3.00	0.00	Y	Arm 6 Left	10.00	5.2 %	1900	1900
				Arm 7 Ahead	Inf	94.8 %		
2/2 (A62 (E))	3.00	0.00	N	Arm 7 Ahead	Inf	100.0 %	2055	2055
2/3 (A62 (E))	3.25	0.00	Y	Arm 8 Right	15.00	100.0 %	1764	1764
3/1 (Thorp Rd)	3.25	0.00	Y	Arm 5 Left	15.00	100.0 %	1764	1764
3/2 (Thorp Rd)	3.25	0.00	Y	Arm 6 Ahead	Inf	0.0 %	1764	1764
				Arm 7 Right	15.00	100.0 %		
4/1 (Lowcross Rd)	3.25	0.00	Y	Arm 5 Right	Inf	74.2 %	1940	1940
				Arm 7 Left	Inf	25.8 %		
				Arm 8 Ahead	Inf	0.0 %		
5/1	Infinite Saturation Flow						Inf	Inf
5/2	Infinite Saturation Flow						Inf	Inf
5/3	Infinite Saturation Flow						Inf	Inf
6/1	Infinite Saturation Flow						Inf	Inf
7/1	Infinite Saturation Flow						Inf	Inf
7/2	Infinite Saturation Flow						Inf	Inf
8/1	Infinite Saturation Flow						Inf	Inf

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

Stage Sequence Diagram

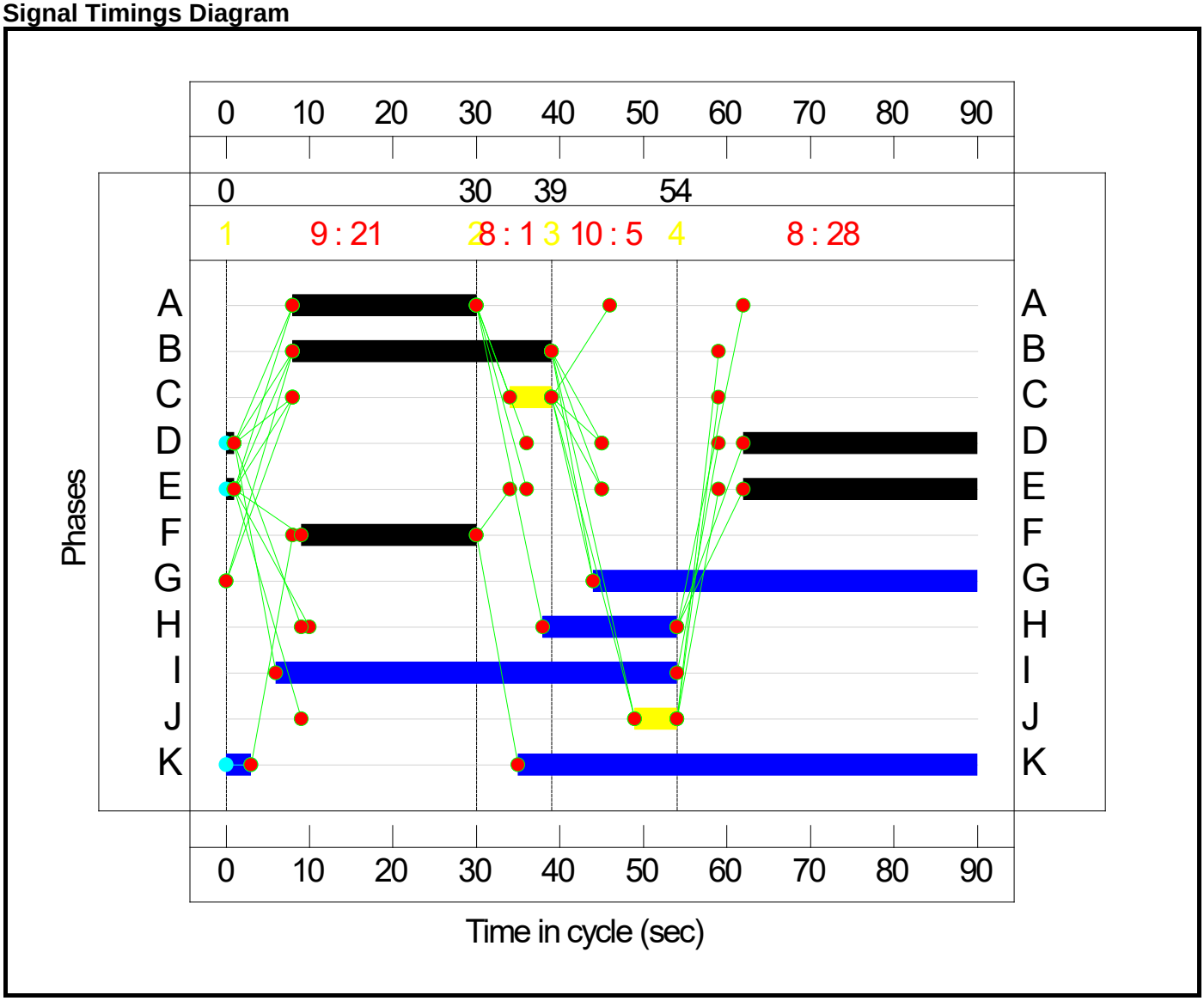


Full Input Data And Results

Stage Timings

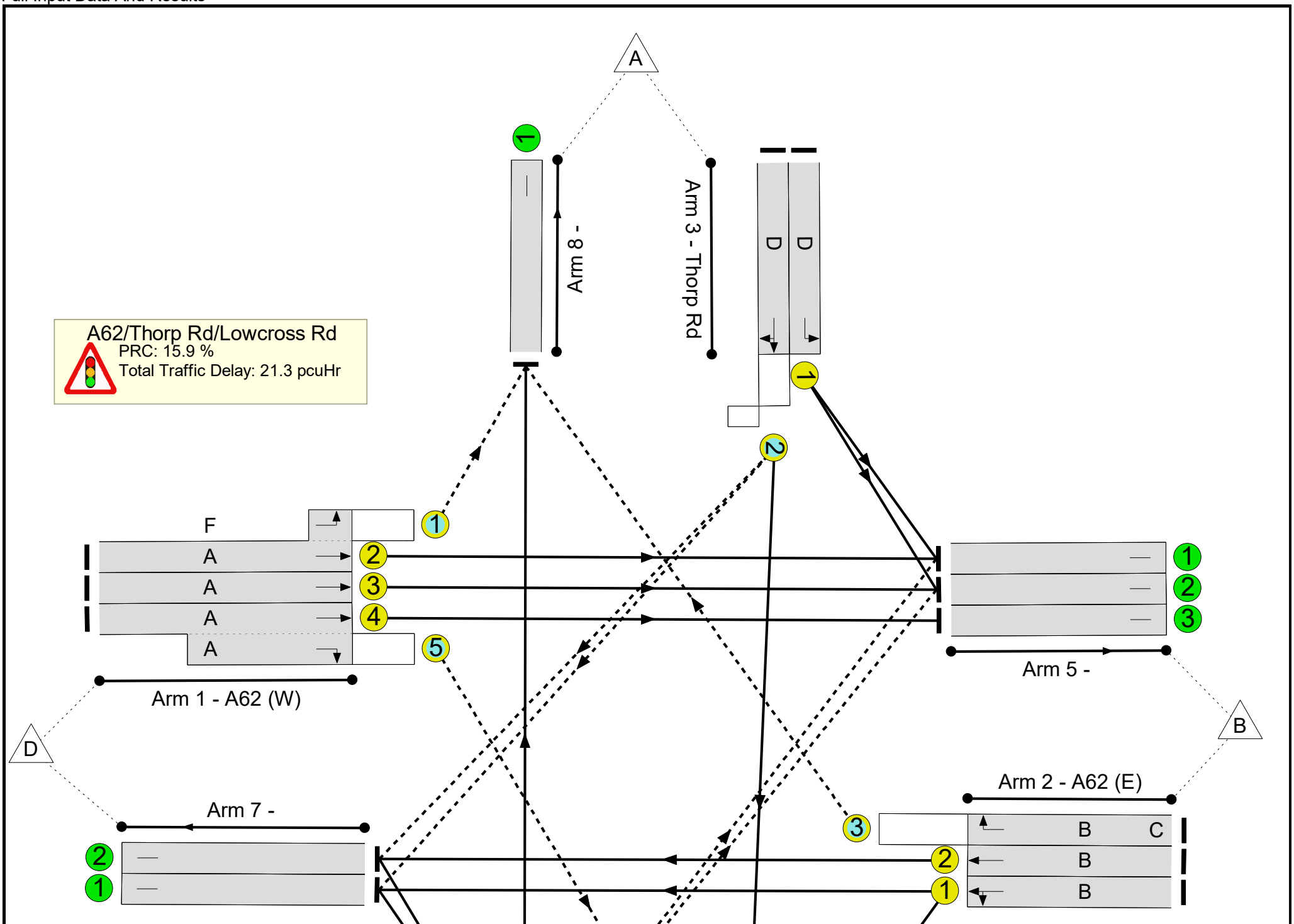
Stage	1	2	3	4
Duration	21	1	5	28
Change Point	0	30	39	54

Signal Timings Diagram



Full Input Data And Results

Network Layout Diagram


A62/Thorp Rd/Lowcross Rd
PRC: 15.9 %
Total Traffic Delay: 21.3 pcuHr
A
B
D
Arm 8 -
Arm 3 - Thorp Rd
D
D
F
A
A
A
A
Arm 1 - A62 (W)
Arm 5 -
Arm 7 -
Arm 2 - A62 (E)
B
C
B
B

Full Input Data And Results

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	-	-	**N/A**	-	-		-	-	-	-	-	-	**77.6%**
A62/Thorp Rd/Lowcross Rd	-	-	**N/A**	-	-		-	-	-	-	-	-	**77.6%**
1/2+1/1	A62 (W) Ahead Left	U+O	N/A	N/A	A F		1	22:21	-	134	1940:1943	346+193	24.9 : 24.9%
1/3	A62 (W) Ahead	U	N/A	N/A	A		1	22	-	107	2080	532	20.1%
1/4+1/5	A62 (W) Ahead Right	U+O	N/A	N/A	A		1	22	-	133	2080:1805	500+68	23.4 : 23.4%
2/1	A62 (E) Left Ahead	U	N/A	N/A	B		1	31	-	516	1908	678	76.1%
2/2	A62 (E) Ahead	U	N/A	N/A	B		1	31	-	565	2055	731	77.3%
2/3	A62 (E) Right	O	N/A	N/A	B	C	1	31	5	74	1764	439	16.9%
3/1	Thorp Rd Left	U	N/A	N/A	D		1	29	-	135	1764	588	23.0%
3/2	Thorp Rd Ahead Right	O	N/A	N/A	D		1	29	-	386	1764	497	77.6%
4/1	Lowcross Rd Right Left Ahead	O	N/A	N/A	E		1	29	-	86	1940	613	14.0%
5/1		U	N/A	N/A	-		-	-	-	166	Inf	Inf	0.0%
5/2		U	N/A	N/A	-		-	-	-	189	Inf	Inf	0.0%
5/3		U	N/A	N/A	-		-	-	-	117	Inf	Inf	0.0%
6/1		U	N/A	N/A	-		-	-	-	31	Inf	Inf	0.0%
7/1		U	N/A	N/A	-		-	-	-	723	Inf	Inf	0.0%
7/2		U	N/A	N/A	-		-	-	-	786	Inf	Inf	0.0%
8/1		U	N/A	N/A	-		-	-	-	124	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	**-**	**-**	**526**	**6**	**17**	**15.0**	**5.7**	**0.6**	**21.3**	**-**	**-**	**-**	**-**
A62/Thorp Rd/Lowcross Rd	**-**	**-**	**526**	**6**	**17**	**15.0**	**5.7**	**0.6**	**21.3**	**-**	**-**	**-**	**-**
1/2+1/1	134	134	48	0	0	1.0	0.2	0.0	1.2	31.1	1.7	0.2	1.8
1/3	107	107	-	-	-	0.8	0.1	-	0.9	30.6	2.1	0.1	2.2
1/4+1/5	133	133	16	0	0	1.0	0.2	0.1	1.2	32.9	2.3	0.2	2.4
2/1	516	516	-	-	-	3.7	1.6	-	5.2	36.5	11.3	1.6	12.9
2/2	565	565	-	-	-	4.0	1.7	-	5.7	36.4	12.4	1.7	14.1
2/3	74	74	65	6	3	0.4	0.1	0.1	0.6	28.6	1.2	0.1	1.3
3/1	135	135	-	-	-	0.8	0.1	-	1.0	25.6	2.4	0.1	2.5
3/2	386	386	371	0	13	2.9	1.7	0.4	4.9	46.0	8.6	1.7	10.3
4/1	86	86	26	0	1	0.5	0.1	0.0	0.6	24.9	1.5	0.1	1.6
5/1	166	166	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/2	189	189	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/3	117	117	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	31	31	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	723	723	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/2	786	786	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	124	124	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

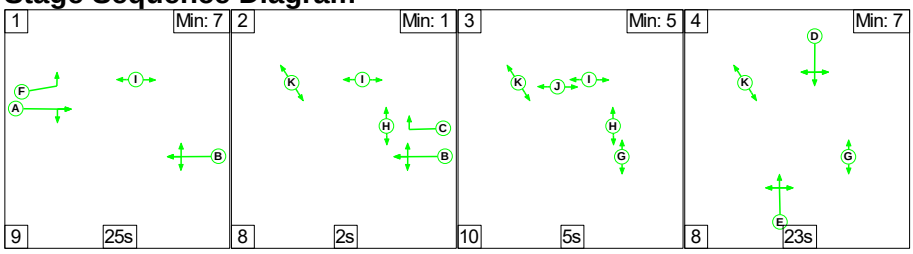
C1 PRC for Signalled Lanes (%): 15.9 Total Delay for Signalled Lanes (pcuHr): 21.30 Cycle Time (s): 90

PRC Over All Lanes (%): 15.9 Total Delay Over All Lanes(pcuHr): 21.30

Full Input Data And Results

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

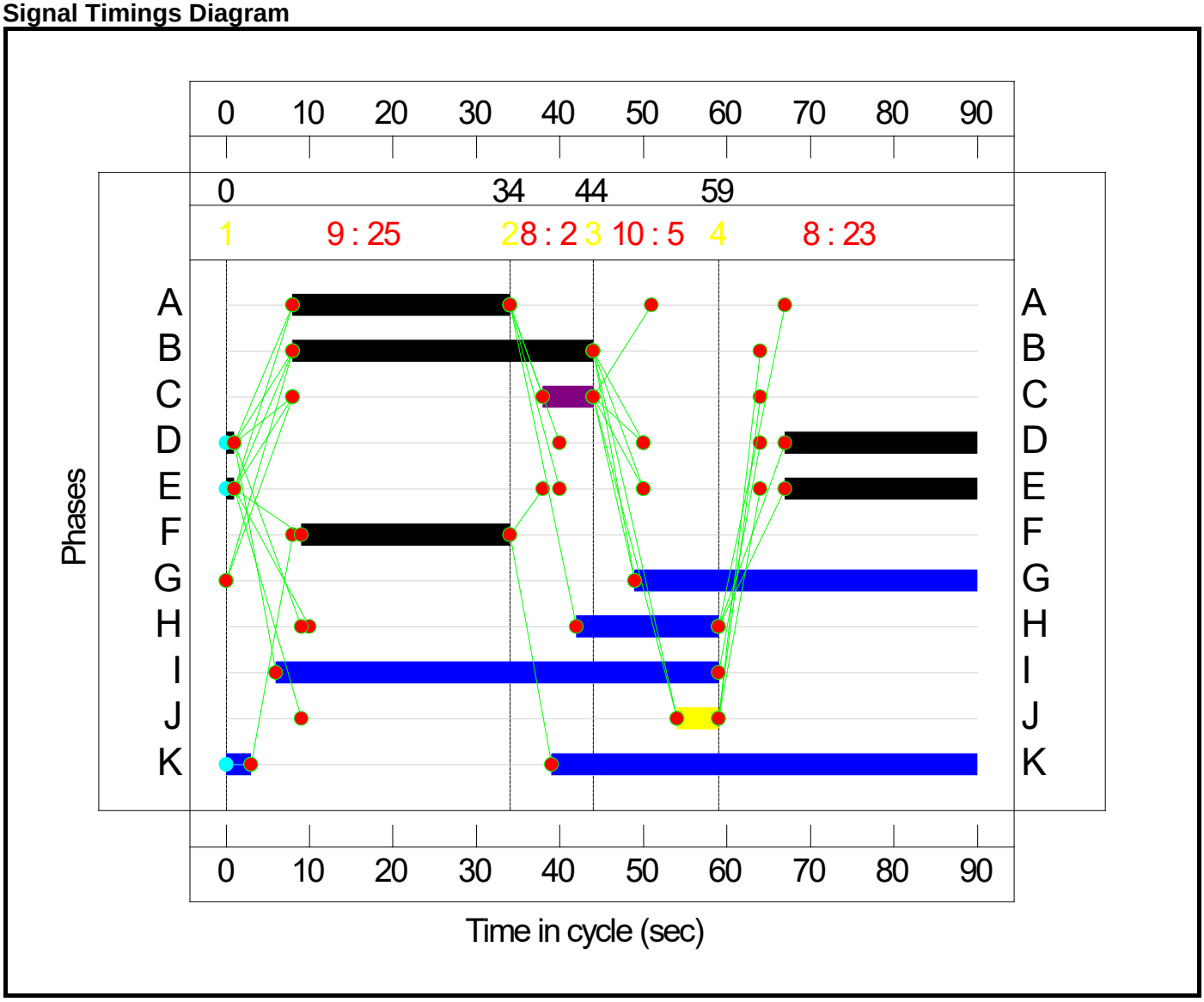
Stage Sequence Diagram



Stage Timings

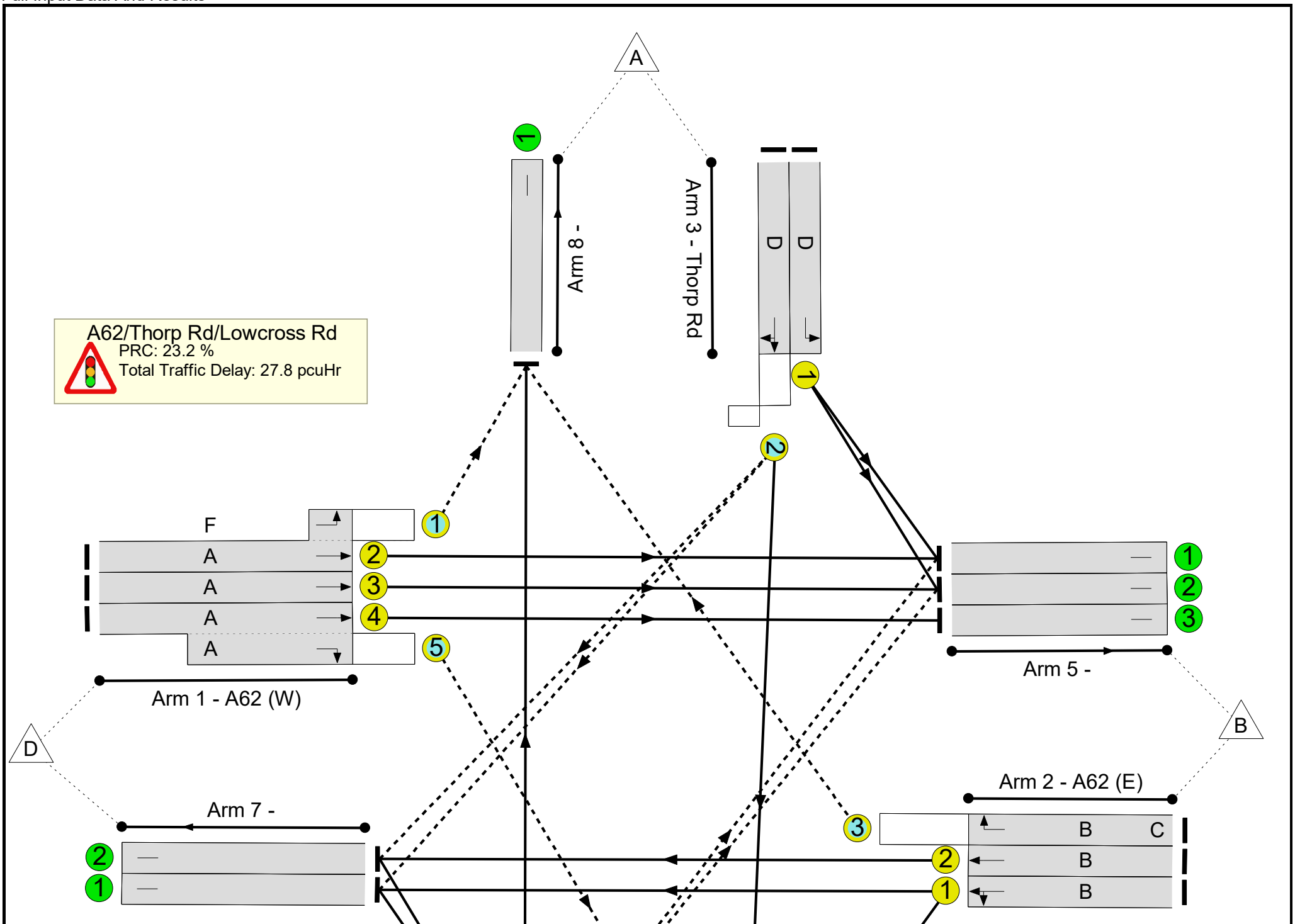
Stage	1	2	3	4
Duration	25	2	5	23
Change Point	0	34	44	59

Signal Timings Diagram



Full Input Data And Results

Network Layout Diagram


A62/Thorp Rd/Lowcross Rd
PRC: 23.2 %
Total Traffic Delay: 27.8 pcuHr
A
B
D
Arm 8 -
Arm 3 - Thorp Rd
D
D
F
A
A
A
A
Arm 1 - A62 (W)
Arm 5 -
Arm 7 -
Arm 2 - A62 (E)
B
C
B
B

Full Input Data And Results

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	-	-	**N/A**	-	-		-	-	-	-	-	-	**73.0%**
A62/Thorp Rd/Lowcross Rd	-	-	**N/A**	-	-		-	-	-	-	-	-	**73.0%**
1/2+1/1	A62 (W) Ahead Left	U+O	N/A	N/A	A F		1	26:25	-	404	1940:1943	541+43	69.1 : 69.1%
1/3	A62 (W) Ahead	U	N/A	N/A	A		1	26	-	440	2080	624	70.5%
1/4+1/5	A62 (W) Ahead Right	U+O	N/A	N/A	A		1	26	-	456	2080:1805	601+36	71.6 : 71.6%
2/1	A62 (E) Left Ahead	U	N/A	N/A	B		1	36	-	252	1897	780	32.3%
2/2	A62 (E) Ahead	U	N/A	N/A	B		1	36	-	289	2055	845	34.2%
2/3	A62 (E) Right	O	N/A	N/A	B	C	1	36	6	205	1764	281	73.0%
3/1	Thorp Rd Left	U	N/A	N/A	D		1	24	-	264	1764	490	53.9%
3/2	Thorp Rd Ahead Right	O	N/A	N/A	D		1	24	-	136	1764	416	32.7%
4/1	Lowcross Rd Right Left Ahead	O	N/A	N/A	E		1	24	-	244	1940	337	72.4%
5/1		U	N/A	N/A	-		-	-	-	596	Inf	Inf	0.0%
5/2		U	N/A	N/A	-		-	-	-	663	Inf	Inf	0.0%
5/3		U	N/A	N/A	-		-	-	-	430	Inf	Inf	0.0%
6/1		U	N/A	N/A	-		-	-	-	42	Inf	Inf	0.0%
7/1		U	N/A	N/A	-		-	-	-	335	Inf	Inf	0.0%
7/2		U	N/A	N/A	-		-	-	-	389	Inf	Inf	0.0%
8/1		U	N/A	N/A	-		-	-	-	235	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	**-**	**-**	**362**	**157**	**59**	**18.7**	**7.4**	**1.6**	**27.8**	**-**	**-**	**-**	**-**
A62/Thorp Rd/Lowcross Rd	**-**	**-**	**362**	**157**	**59**	**18.7**	**7.4**	**1.6**	**27.8**	**-**	**-**	**-**	**-**
1/2+1/1	404	404	30	0	0	3.1	1.1	0.0	4.2	37.6	8.7	1.1	9.8
1/3	440	440	-	-	-	3.4	1.2	-	4.6	37.6	9.7	1.2	10.8
1/4+1/5	456	456	26	0	0	3.5	1.2	0.0	4.8	37.7	9.5	1.2	10.8
2/1	252	252	-	-	-	1.3	0.2	-	1.5	21.4	4.3	0.2	4.5
2/2	289	289	-	-	-	1.5	0.3	-	1.7	21.4	4.9	0.3	5.2
2/3	205	205	4	157	44	1.0	1.3	1.1	3.5	61.0	3.4	1.3	4.7
3/1	264	264	-	-	-	2.0	0.6	-	2.6	35.5	5.6	0.6	6.2
3/2	136	136	131	0	5	1.0	0.2	0.0	1.2	32.9	2.6	0.2	2.9
4/1	244	244	171	0	10	2.0	1.3	0.4	3.6	53.6	5.8	1.3	7.0
5/1	596	596	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/2	663	663	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/3	430	430	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	42	42	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	335	335	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/2	389	389	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	235	235	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

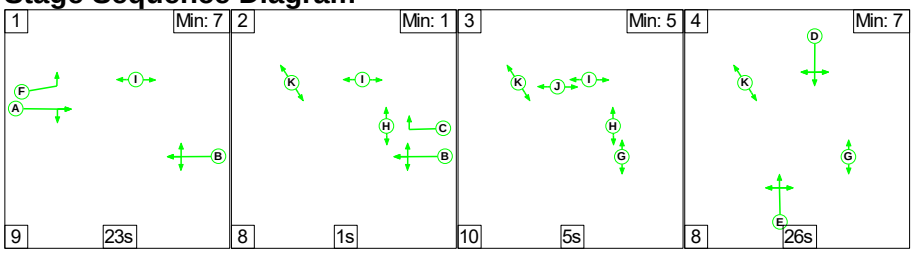
C1 PRC for Signalled Lanes (%): 23.2 Total Delay for Signalled Lanes (pcuHr): 27.77 Cycle Time (s): 90

PRC Over All Lanes (%): 23.2 Total Delay Over All Lanes(pcuHr): 27.77

Full Input Data And Results

Scenario 3: 'Future Year (inc CD) AM' (FG3: 'Base + Com Dev AM', Plan 1: 'Network Control Plan 1')

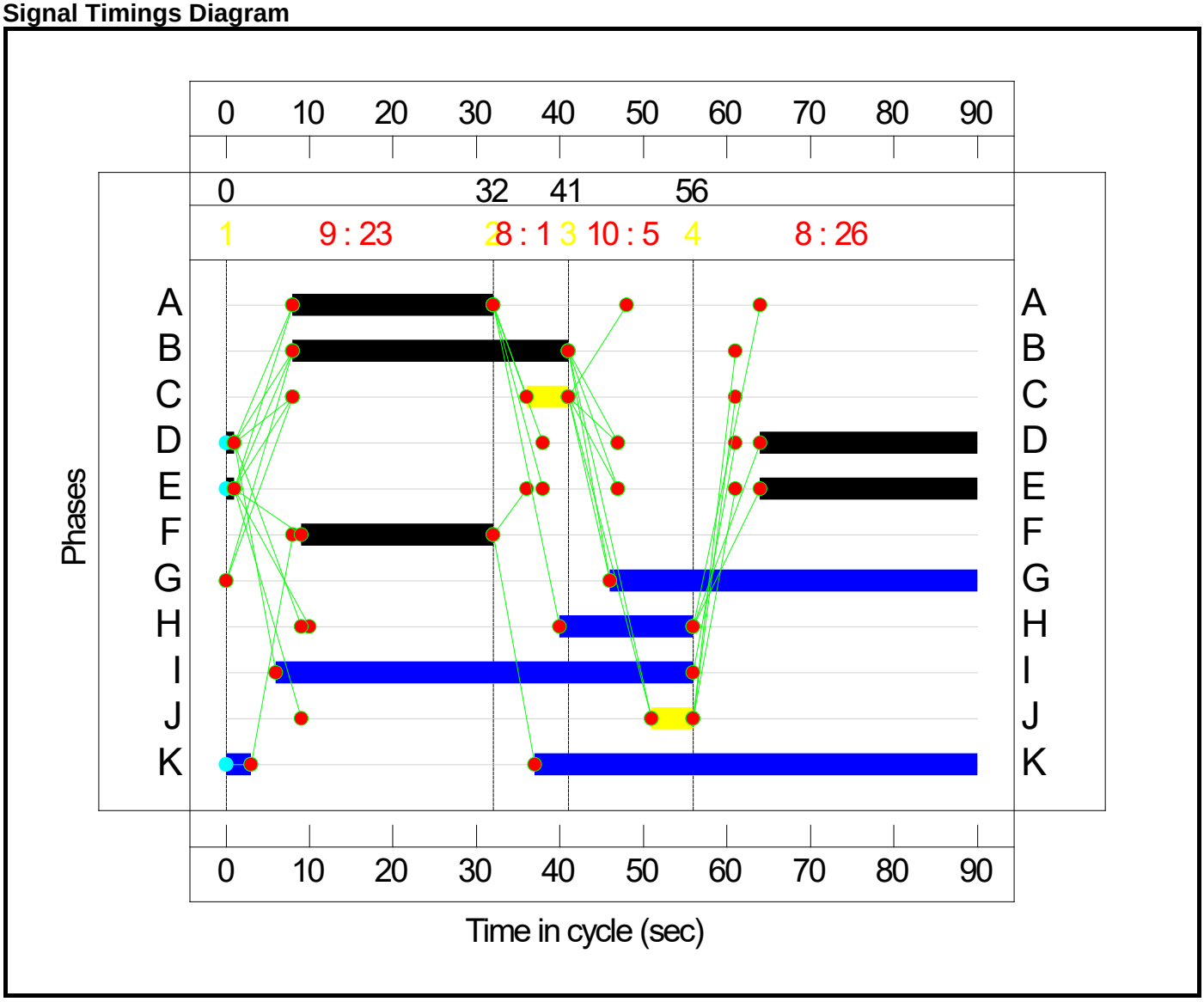
Stage Sequence Diagram



Stage Timings

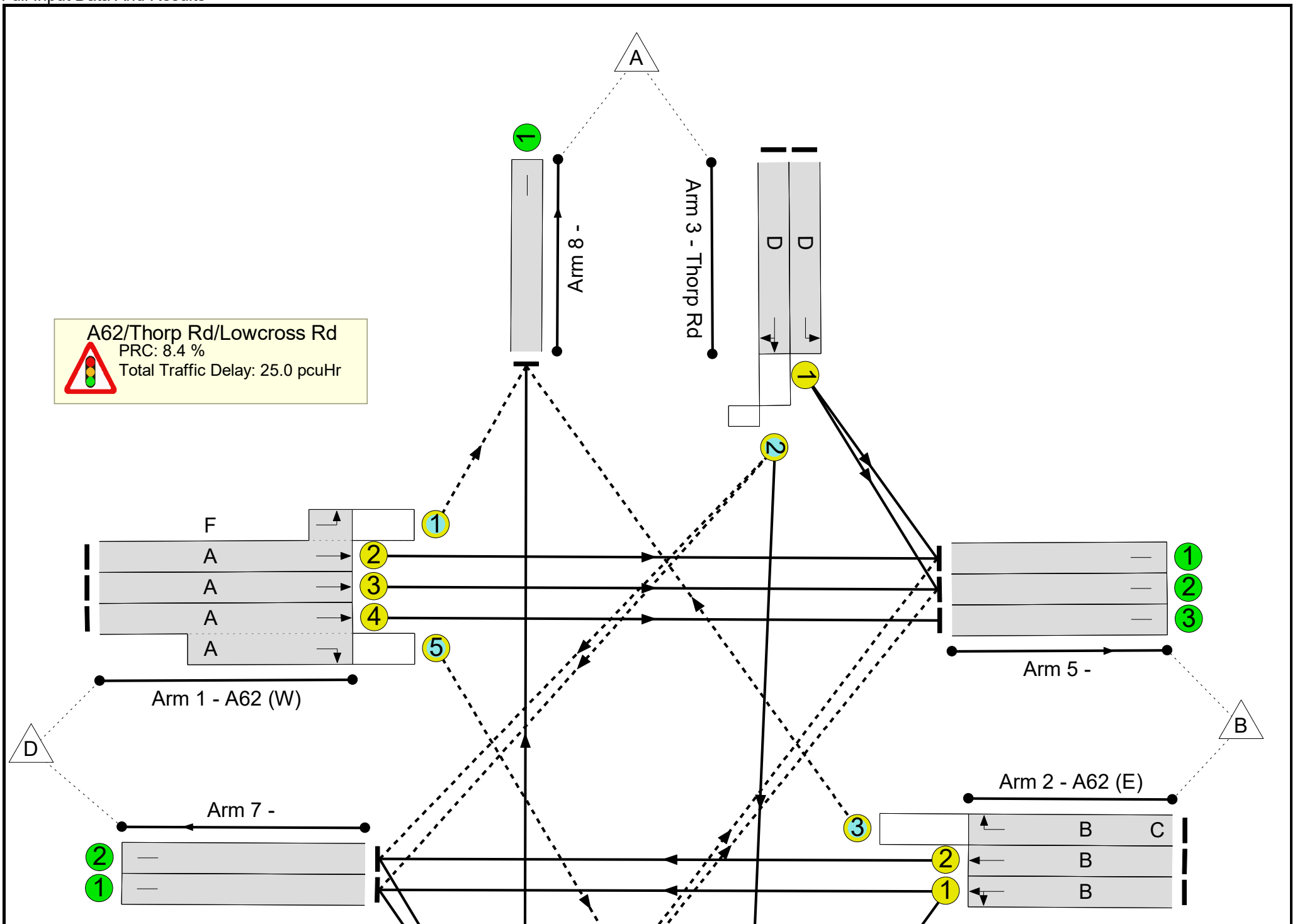
Stage	1	2	3	4
Duration	23	1	5	26
Change Point	0	32	41	56

Signal Timings Diagram



Full Input Data And Results

Network Layout Diagram


A62/Thorp Rd/Lowcross Rd
PRC: 8.4 %
Total Traffic Delay: 25.0 pcuHr
A
B
D
Arm 8 -
Arm 3 - Thorp Rd
D
D
F
A
A
A
A
Arm 1 - A62 (W)
Arm 5 -
Arm 7 -
Arm 2 - A62 (E)
B
C
B
B

Full Input Data And Results

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	-	-	**N/A**	-	-		-	-	-	-	-	-	**83.0%**
A62/Thorp Rd/Lowcross Rd	-	-	**N/A**	-	-		-	-	-	-	-	-	**83.0%**
1/2+1/1	A62 (W) Ahead Left	U+O	N/A	N/A	A F		1	24:23	-	160	1940:1943	400+171	28.0 : 28.0%
1/3	A62 (W) Ahead	U	N/A	N/A	A		1	24	-	141	2080	578	24.4%
1/4+1/5	A62 (W) Ahead Right	U+O	N/A	N/A	A		1	24	-	162	2080:1805	546+60	26.8 : 26.8%
2/1	A62 (E) Left Ahead	U	N/A	N/A	B		1	33	-	589	1909	721	81.7%
2/2	A62 (E) Ahead	U	N/A	N/A	B		1	33	-	641	2055	776	82.6%
2/3	A62 (E) Right	O	N/A	N/A	B	C	1	33	5	74	1764	438	16.9%
3/1	Thorp Rd Left	U	N/A	N/A	D		1	27	-	137	1764	549	25.0%
3/2	Thorp Rd Ahead Right	O	N/A	N/A	D		1	27	-	386	1764	465	83.0%
4/1	Lowcross Rd Right Left Ahead	O	N/A	N/A	E		1	27	-	86	1940	570	15.1%
5/1		U	N/A	N/A	-		-	-	-	193	Inf	Inf	0.0%
5/2		U	N/A	N/A	-		-	-	-	224	Inf	Inf	0.0%
5/3		U	N/A	N/A	-		-	-	-	146	Inf	Inf	0.0%
6/1		U	N/A	N/A	-		-	-	-	31	Inf	Inf	0.0%
7/1		U	N/A	N/A	-		-	-	-	796	Inf	Inf	0.0%
7/2		U	N/A	N/A	-		-	-	-	862	Inf	Inf	0.0%
8/1		U	N/A	N/A	-		-	-	-	124	Inf	Inf	0.0%

Full Input Data And Results

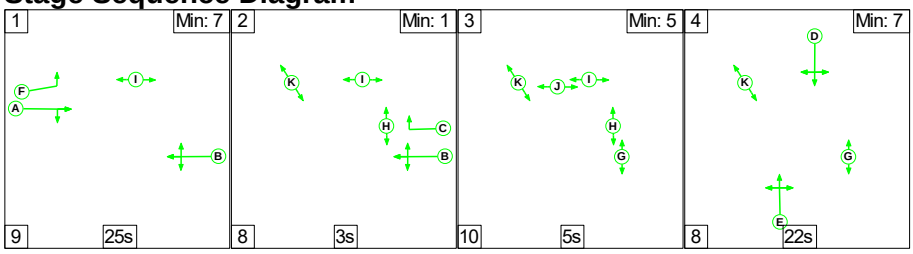
Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network	**-**	**-**	**502**	**6**	**42**	**16.7**	**7.6**	**0.6**	**25.0**	**-**	**-**	**-**	**-**
A62/Thorp Rd/Lowcross Rd	**-**	**-**	**502**	**6**	**42**	**16.7**	**7.6**	**0.6**	**25.0**	**-**	**-**	**-**	**-**
1/2+1/1	160	160	48	0	0	1.1	0.2	0.0	1.3	29.6	2.2	0.2	2.4
1/3	141	141	-	-	-	1.0	0.2	-	1.1	29.3	2.7	0.2	2.9
1/4+1/5	162	162	9	0	7	1.1	0.2	0.1	1.4	31.9	2.8	0.2	3.0
2/1	589	589	-	-	-	4.1	2.2	-	6.3	38.4	13.1	2.2	15.2
2/2	641	641	-	-	-	4.5	2.3	-	6.8	38.2	14.4	2.3	16.7
2/3	74	74	65	6	3	0.4	0.1	0.1	0.6	27.8	1.2	0.1	1.3
3/1	137	137	-	-	-	0.9	0.2	-	1.0	27.5	2.5	0.2	2.7
3/2	386	386	354	0	30	3.1	2.3	0.4	5.8	53.8	8.8	2.3	11.1
4/1	86	86	26	0	1	0.5	0.1	0.0	0.6	26.7	1.5	0.1	1.6
5/1	193	193	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/2	224	224	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/3	146	146	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	31	31	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	796	796	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/2	862	862	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	124	124	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

C1 PRC for Signalled Lanes (%): 8.4 Total Delay for Signalled Lanes (pcuHr): 25.00 Cycle Time (s): 90
PRC Over All Lanes (%): 8.4 Total Delay Over All Lanes(pcuHr): 25.00

Full Input Data And Results

Scenario 4: 'Future Year (inc CD) PM' (FG4: 'Base + Com Dev PM', Plan 1: 'Network Control Plan 1')

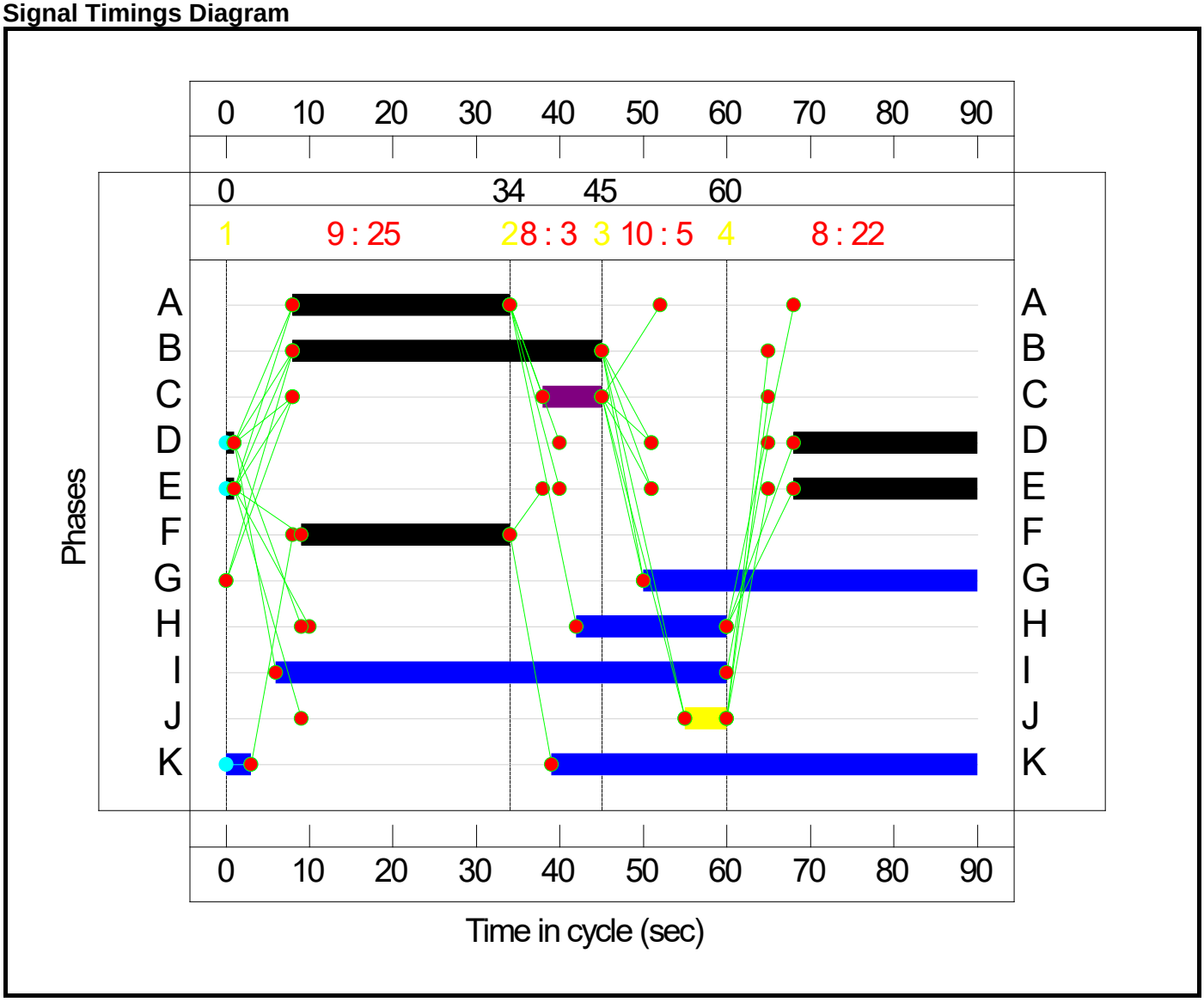
Stage Sequence Diagram



Stage Timings

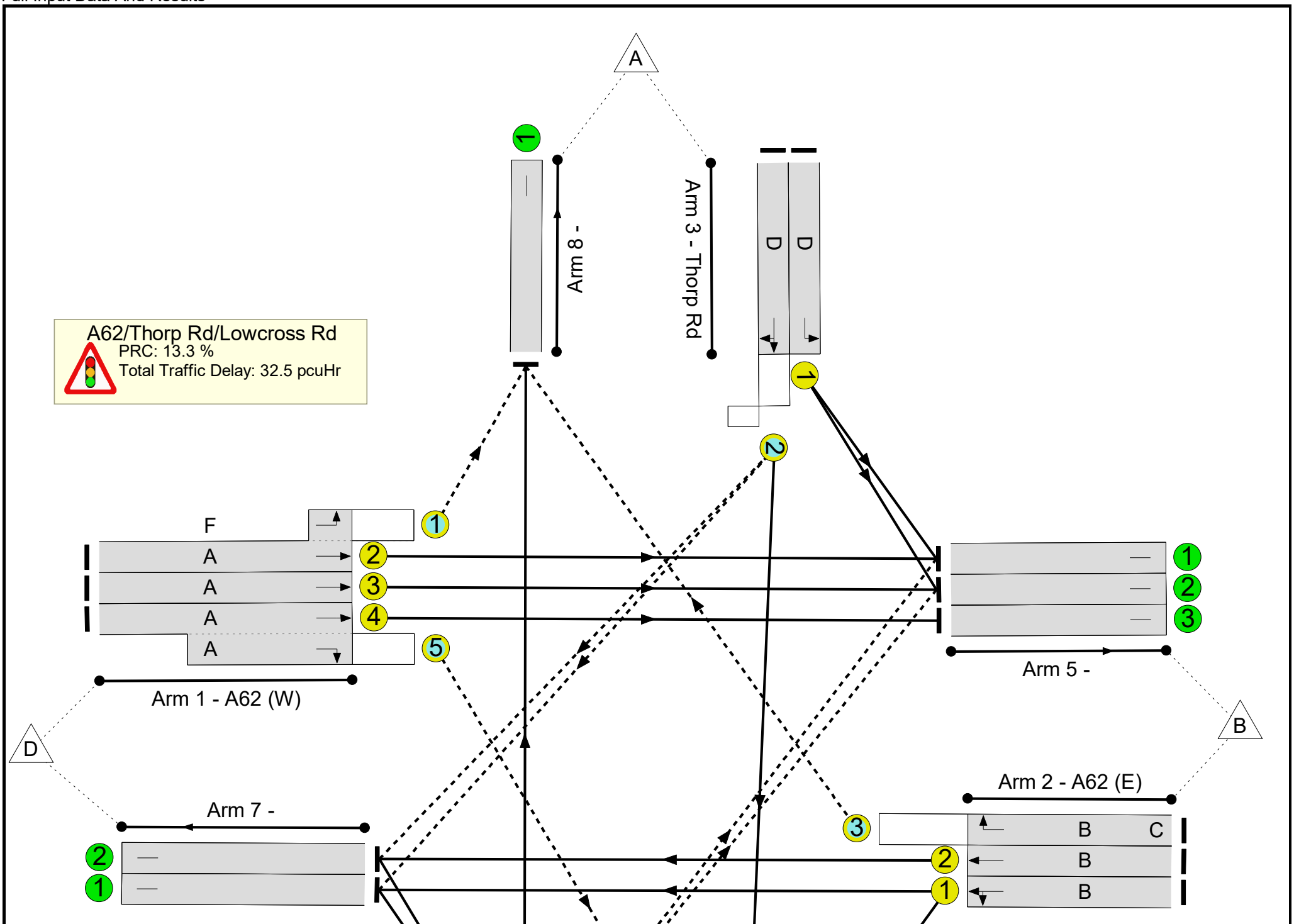
Stage	1	2	3	4
Duration	25	3	5	22
Change Point	0	34	45	60

Signal Timings Diagram



Full Input Data And Results

Network Layout Diagram


A62/Thorp Rd/Lowcross Rd
PRC: 13.3 %
Total Traffic Delay: 32.5 pcuHr
A
B
D
Arm 8 -
Arm 3 - Thorp Rd
D
D
F
A
A
A
A
Arm 1 - A62 (W)
Arm 5 -
Arm 7 -
Arm 2 - A62 (E)
B
C
B
B

Full Input Data And Results

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	-	-	**N/A**	-	-		-	-	-	-	-	-	**79.5%**
A62/Thorp Rd/Lowcross Rd	-	-	**N/A**	-	-		-	-	-	-	-	-	**79.5%**
1/2+1/1	A62 (W) Ahead Left	U+O	N/A	N/A	A F		1	26:25	-	453	1940:1943	545+39	77.6 : 77.6%
1/3	A62 (W) Ahead	U	N/A	N/A	A		1	26	-	491	2080	624	78.7%
1/4+1/5	A62 (W) Ahead Right	U+O	N/A	N/A	A		1	26	-	505	2080:1805	603+33	79.5 : 79.5%
2/1	A62 (E) Left Ahead	U	N/A	N/A	B		1	37	-	286	1899	802	35.7%
2/2	A62 (E) Ahead	U	N/A	N/A	B		1	37	-	327	2055	868	37.7%
2/3	A62 (E) Right	O	N/A	N/A	B	C	1	37	7	207	1764	264	78.4%
3/1	Thorp Rd Left	U	N/A	N/A	D		1	23	-	265	1764	470	56.3%
3/2	Thorp Rd Ahead Right	O	N/A	N/A	D		1	23	-	136	1764	407	33.4%
4/1	Lowcross Rd Right Left Ahead	O	N/A	N/A	E		1	23	-	244	1940	316	77.3%
5/1		U	N/A	N/A	-		-	-	-	645	Inf	Inf	0.0%
5/2		U	N/A	N/A	-		-	-	-	715	Inf	Inf	0.0%
5/3		U	N/A	N/A	-		-	-	-	479	Inf	Inf	0.0%
6/1		U	N/A	N/A	-		-	-	-	42	Inf	Inf	0.0%
7/1		U	N/A	N/A	-		-	-	-	369	Inf	Inf	0.0%
7/2		U	N/A	N/A	-		-	-	-	427	Inf	Inf	0.0%
8/1		U	N/A	N/A	-		-	-	-	237	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	**-**	**-**	**341**	**176**	**62**	**20.7**	**10.2**	**1.6**	**32.5**	**-**	**-**	**-**	**-**
A62/Thorp Rd/Lowcross Rd	**-**	**-**	**341**	**176**	**62**	**20.7**	**10.2**	**1.6**	**32.5**	**-**	**-**	**-**	**-**
1/2+1/1	453	453	30	0	0	3.6	1.7	0.0	5.3	42.1	10.2	1.7	11.9
1/3	491	491	-	-	-	3.9	1.8	-	5.7	42.0	11.2	1.8	13.0
1/4+1/5	505	505	26	0	0	4.0	1.9	0.0	5.9	42.3	11.1	1.9	12.9
2/1	286	286	-	-	-	1.4	0.3	-	1.7	21.2	4.8	0.3	5.1
2/2	327	327	-	-	-	1.6	0.3	-	1.9	21.2	5.5	0.3	5.8
2/3	207	207	0	176	31	1.0	1.7	1.1	3.9	67.1	3.3	1.7	5.0
3/1	265	265	-	-	-	2.1	0.6	-	2.7	37.2	5.7	0.6	6.3
3/2	136	136	131	0	5	1.0	0.3	0.0	1.3	34.0	2.7	0.3	2.9
4/1	244	244	154	0	27	2.0	1.6	0.4	4.1	60.1	5.8	1.6	7.5
5/1	645	645	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/2	715	715	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/3	479	479	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	42	42	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	369	369	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/2	427	427	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	237	237	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

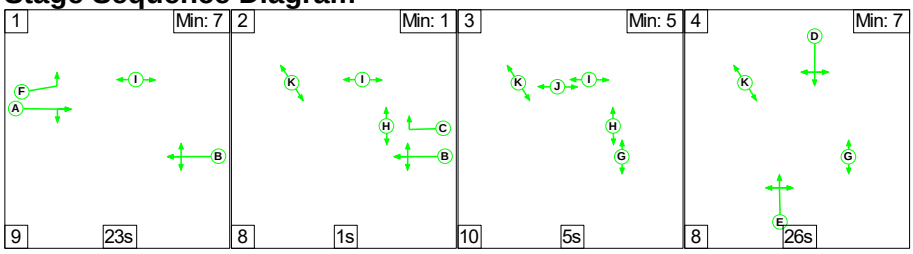
C1 PRC for Signalled Lanes (%): 13.3 Total Delay for Signalled Lanes (pcuHr): 32.52 Cycle Time (s): 90

PRC Over All Lanes (%): 13.3 Total Delay Over All Lanes(pcuHr): 32.52

Full Input Data And Results

Scenario 5: 'Future Year + Dev AM' (FG5: 'Base + Com Dev + Dev AM', Plan 1: 'Network Control Plan 1')

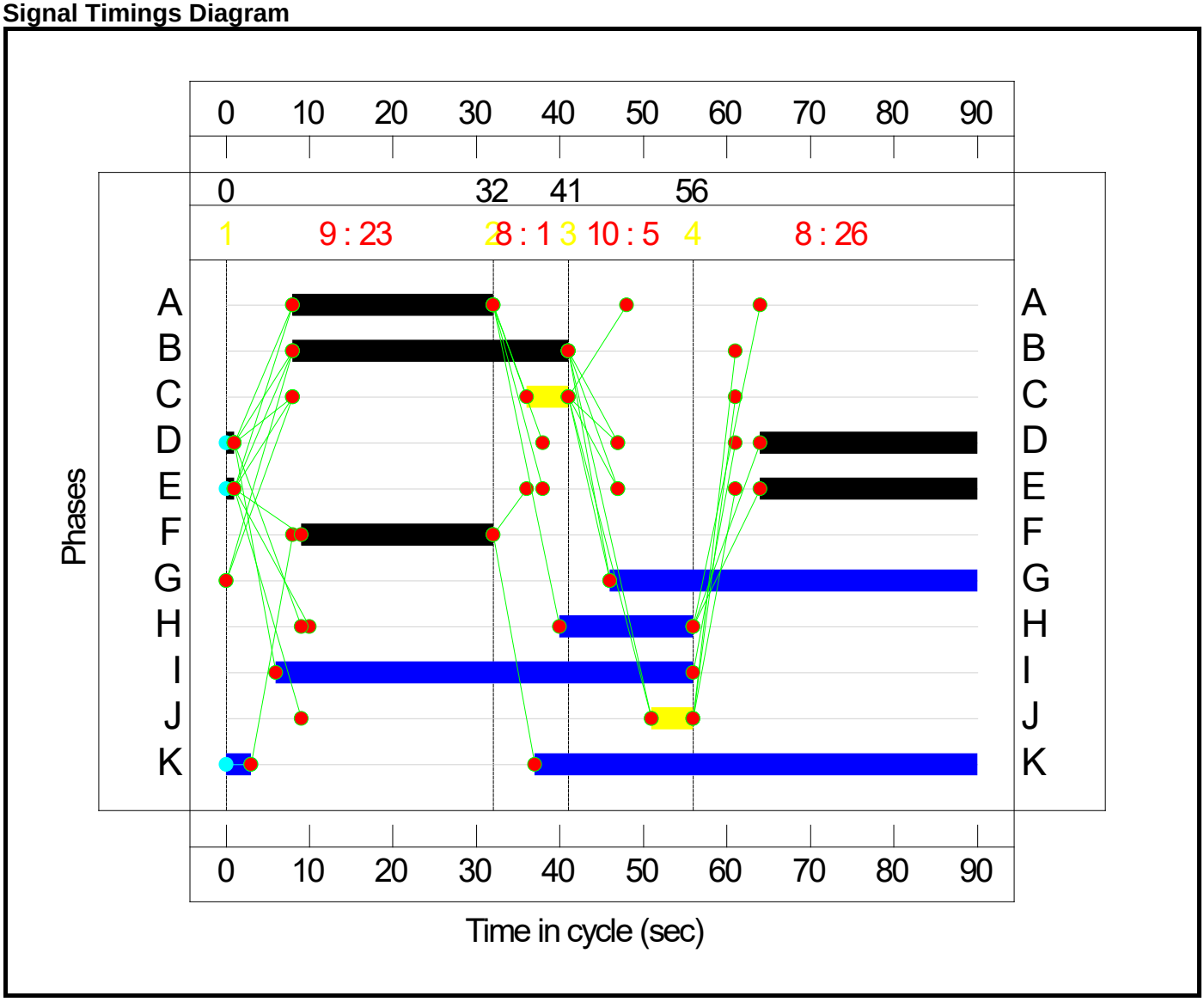
Stage Sequence Diagram



Stage Timings

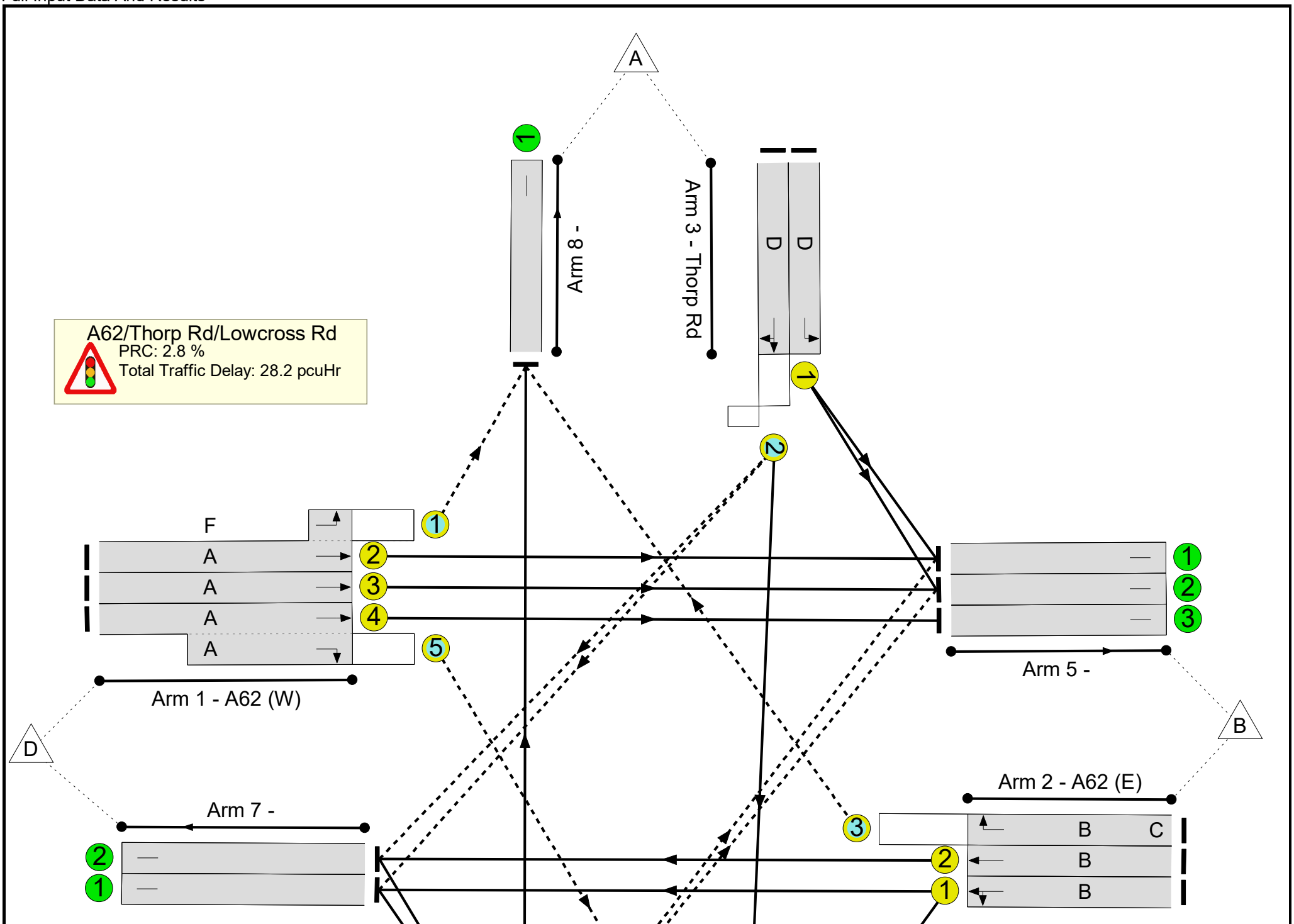
Stage	1	2	3	4
Duration	23	1	5	26
Change Point	0	32	41	56

Signal Timings Diagram



Full Input Data And Results

Network Layout Diagram


A62/Thorp Rd/Lowcross Rd
PRC: 2.8 %
Total Traffic Delay: 28.2 pcuHr
A
B
D
Arm 8 -
Arm 3 - Thorp Rd
D
D
F
A
A
A
A
Arm 1 - A62 (W)
Arm 5 -
Arm 7 -
Arm 2 - A62 (E)
B
C
B
B

Full Input Data And Results

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	-	-	**N/A**	-	-		-	-	-	-	-	-	**87.5%**
A62/Thorp Rd/Lowcross Rd	-	-	**N/A**	-	-		-	-	-	-	-	-	**87.5%**
1/2+1/1	A62 (W) Ahead Left	U+O	N/A	N/A	A F		1	24:23	-	209	1940:1943	361+228	35.5 : 35.5%
1/3	A62 (W) Ahead	U	N/A	N/A	A		1	24	-	164	2080	578	28.4%
1/4+1/5	A62 (W) Ahead Right	U+O	N/A	N/A	A		1	24	-	180	2080:1805	549+54	29.9 : 29.9%
2/1	A62 (E) Left Ahead	U	N/A	N/A	B		1	33	-	601	1909	721	83.3%
2/2	A62 (E) Ahead	U	N/A	N/A	B		1	33	-	664	2055	776	85.5%
2/3	A62 (E) Right	O	N/A	N/A	B	C	1	33	5	74	1764	388	19.1%
3/1	Thorp Rd Left	U	N/A	N/A	D		1	27	-	137	1764	549	25.0%
3/2	Thorp Rd Ahead Right	O	N/A	N/A	D		1	27	-	407	1764	465	87.5%
4/1	Lowcross Rd Right Left Ahead	O	N/A	N/A	E		1	27	-	86	1940	570	15.1%
5/1		U	N/A	N/A	-		-	-	-	209	Inf	Inf	0.0%
5/2		U	N/A	N/A	-		-	-	-	247	Inf	Inf	0.0%
5/3		U	N/A	N/A	-		-	-	-	164	Inf	Inf	0.0%
6/1		U	N/A	N/A	-		-	-	-	31	Inf	Inf	0.0%
7/1		U	N/A	N/A	-		-	-	-	818	Inf	Inf	0.0%
7/2		U	N/A	N/A	-		-	-	-	896	Inf	Inf	0.0%
8/1		U	N/A	N/A	-		-	-	-	157	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	**-**	**-**	**531**	**6**	**67**	**18.0**	**9.4**	**0.8**	**28.2**	**-**	**-**	**-**	**-**
A62/Thorp Rd/Lowcross Rd	**-**	**-**	**531**	**6**	**67**	**18.0**	**9.4**	**0.8**	**28.2**	**-**	**-**	**-**	**-**
1/2+1/1	209	209	81	0	0	1.5	0.3	0.0	1.8	30.7	2.7	0.3	3.0
1/3	164	164	-	-	-	1.2	0.2	-	1.4	29.8	3.2	0.2	3.4
1/4+1/5	180	180	5	0	11	1.3	0.2	0.1	1.6	32.1	3.2	0.2	3.4
2/1	601	601	-	-	-	4.2	2.4	-	6.6	39.8	13.5	2.4	15.9
2/2	664	664	-	-	-	4.7	2.8	-	7.6	41.0	15.1	2.8	17.9
2/3	74	74	65	6	3	0.4	0.1	0.1	0.6	31.2	1.2	0.1	1.3
3/1	137	137	-	-	-	0.9	0.2	-	1.0	27.5	2.5	0.2	2.7
3/2	407	407	354	0	51	3.3	3.2	0.4	6.9	61.0	9.5	3.2	12.7
4/1	86	86	26	0	1	0.5	0.1	0.0	0.6	26.7	1.5	0.1	1.6
5/1	209	209	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/2	247	247	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/3	164	164	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	31	31	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	818	818	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/2	896	896	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	157	157	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

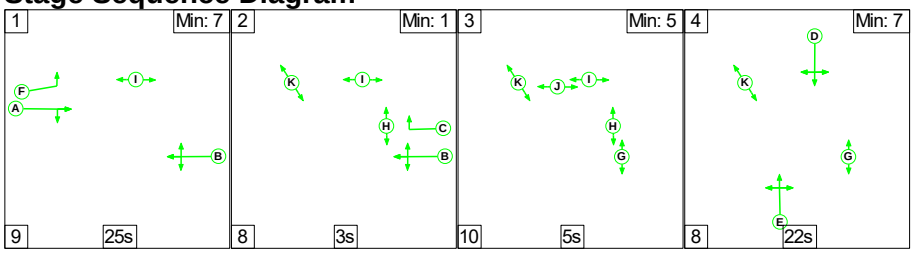
C1 PRC for Signalled Lanes (%): 2.8 Total Delay for Signalled Lanes (pcuHr): 28.18 Cycle Time (s): 90

PRC Over All Lanes (%): 2.8 Total Delay Over All Lanes(pcuHr): 28.18

Full Input Data And Results

Scenario 6: 'Future Year + Dev PM' (FG6: 'Base + Com Dev + Dev PM', Plan 1: 'Network Control Plan 1')

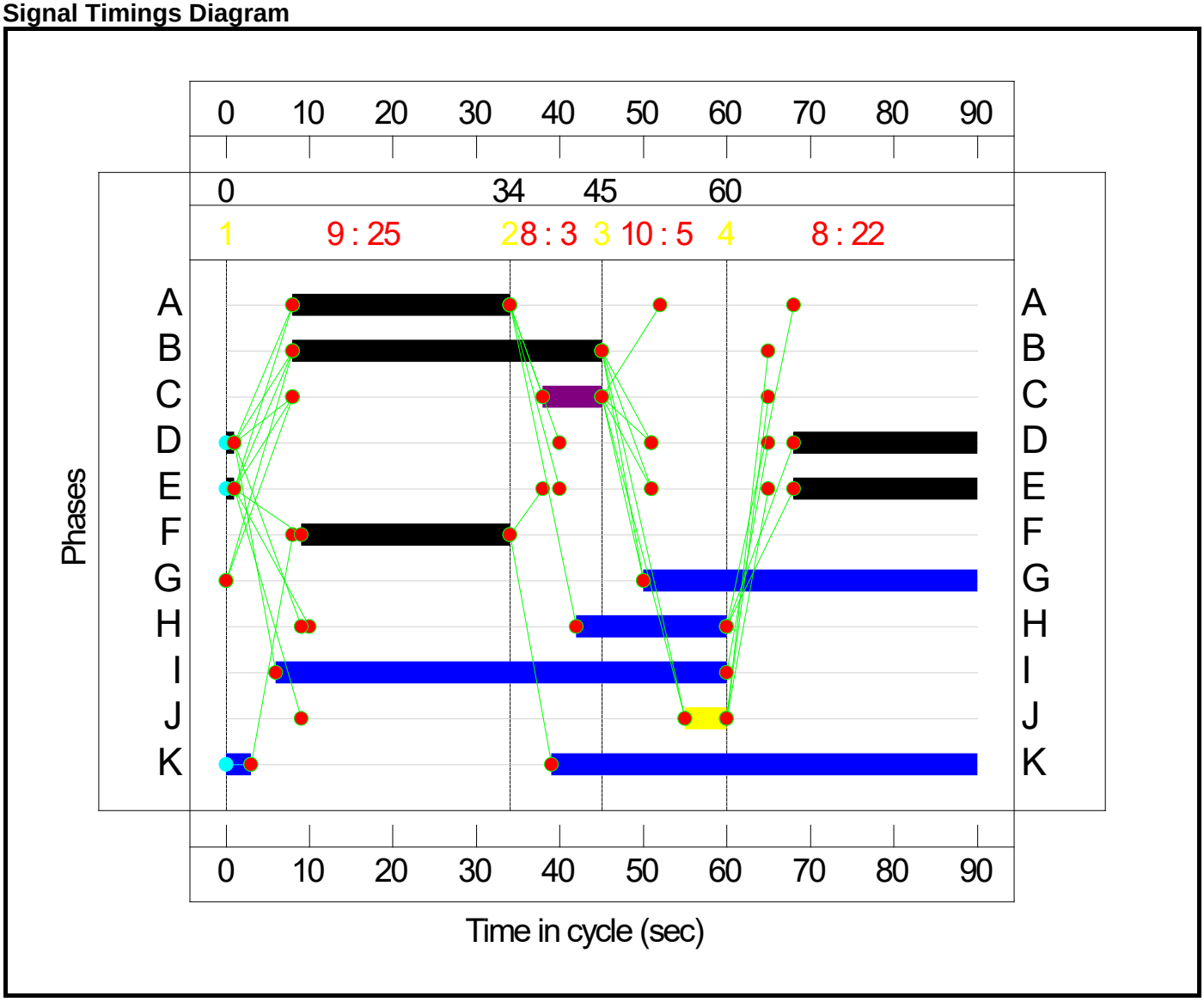
Stage Sequence Diagram



Stage Timings

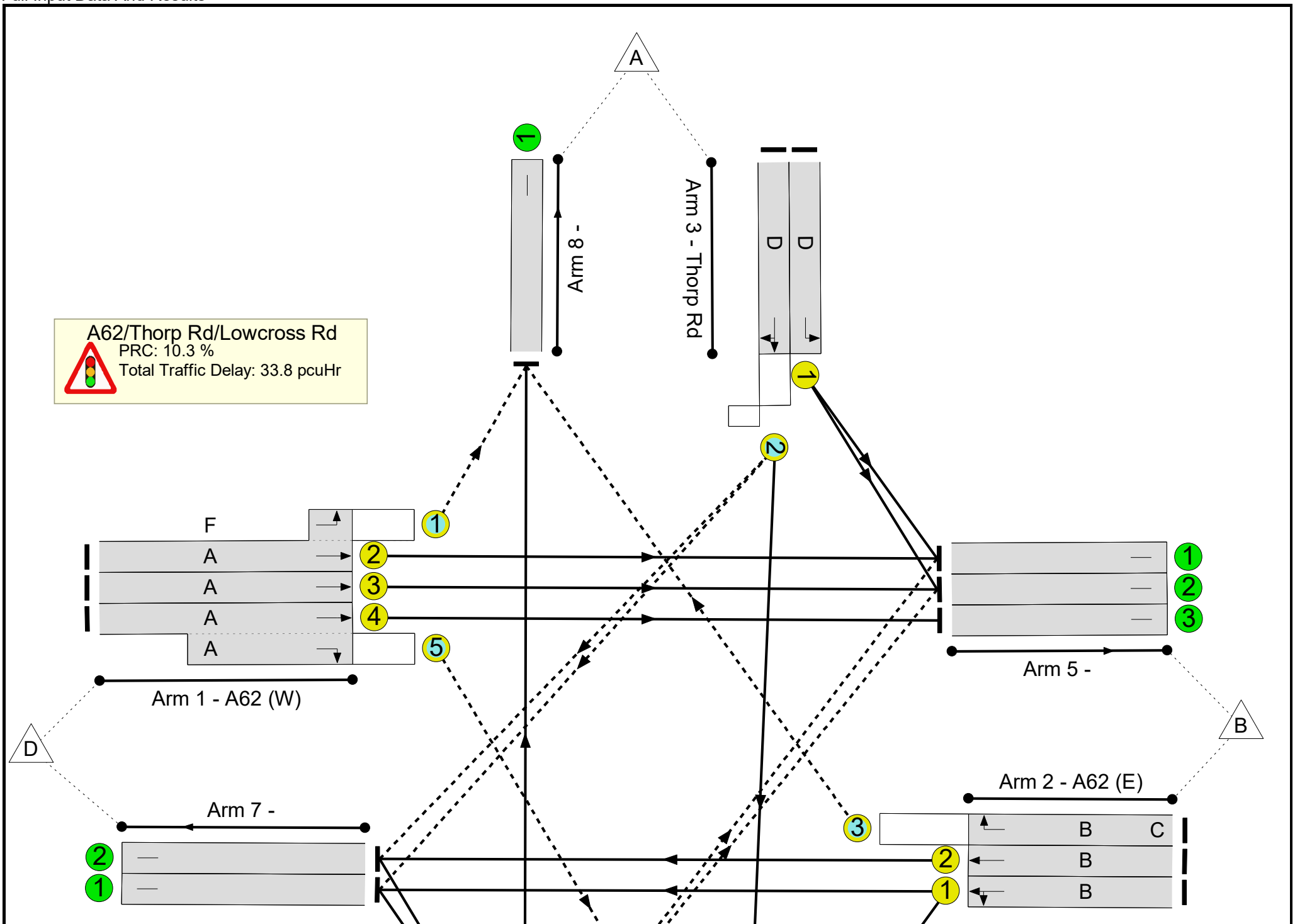
Stage	1	2	3	4
Duration	25	3	5	22
Change Point	0	34	45	60

Signal Timings Diagram



Full Input Data And Results

Network Layout Diagram


A62/Thorp Rd/Lowcross Rd
PRC: 10.3 %
Total Traffic Delay: 33.8 pcuHr
A
B
D
Arm 8 -
Arm 3 - Thorp Rd
D
D
F
A
A
A
A
Arm 1 - A62 (W)
Arm 5 -
Arm 7 -
Arm 2 - A62 (E)
B
C
B
B

Full Input Data And Results

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	-	-	**N/A**	-	-		-	-	-	-	-	-	**81.6%**
A62/Thorp Rd/Lowcross Rd	-	-	**N/A**	-	-		-	-	-	-	-	-	**81.6%**
1/2+1/1	A62 (W) Ahead Left	U+O	N/A	N/A	A F		1	26:25	-	461	1940:1943	534+52	78.7 : 78.7%
1/3	A62 (W) Ahead	U	N/A	N/A	A		1	26	-	499	2080	624	80.0%
1/4+1/5	A62 (W) Ahead Right	U+O	N/A	N/A	A		1	26	-	518	2080:1805	603+32	81.6 : 81.6%
2/1	A62 (E) Left Ahead	U	N/A	N/A	B		1	37	-	305	1900	802	38.0%
2/2	A62 (E) Ahead	U	N/A	N/A	B		1	37	-	352	2055	868	40.6%
2/3	A62 (E) Right	O	N/A	N/A	B	C	1	37	7	207	1764	264	78.4%
3/1	Thorp Rd Left	U	N/A	N/A	D		1	23	-	265	1764	470	56.3%
3/2	Thorp Rd Ahead Right	O	N/A	N/A	D		1	23	-	154	1764	407	37.9%
4/1	Lowcross Rd Right Left Ahead	O	N/A	N/A	E		1	23	-	244	1940	316	77.3%
5/1		U	N/A	N/A	-		-	-	-	642	Inf	Inf	0.0%
5/2		U	N/A	N/A	-		-	-	-	723	Inf	Inf	0.0%
5/3		U	N/A	N/A	-		-	-	-	492	Inf	Inf	0.0%
6/1		U	N/A	N/A	-		-	-	-	42	Inf	Inf	0.0%
7/1		U	N/A	N/A	-		-	-	-	397	Inf	Inf	0.0%
7/2		U	N/A	N/A	-		-	-	-	461	Inf	Inf	0.0%
8/1		U	N/A	N/A	-		-	-	-	248	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	**-**	**-**	**370**	**176**	**63**	**21.4**	**10.8**	**1.6**	**33.8**	**-**	**-**	**-**	**-**
A62/Thorp Rd/Lowcross Rd	**-**	**-**	**370**	**176**	**63**	**21.4**	**10.8**	**1.6**	**33.8**	**-**	**-**	**-**	**-**
1/2+1/1	461	461	41	0	0	3.7	1.8	0.0	5.5	42.7	10.3	1.8	12.1
1/3	499	499	-	-	-	4.0	1.9	-	6.0	43.0	11.4	1.9	13.3
1/4+1/5	518	518	26	0	0	4.1	2.1	0.1	6.3	44.0	11.5	2.1	13.7
2/1	305	305	-	-	-	1.5	0.3	-	1.8	21.5	5.2	0.3	5.5
2/2	352	352	-	-	-	1.8	0.3	-	2.1	21.6	6.1	0.3	6.4
2/3	207	207	0	176	31	1.0	1.7	1.1	3.9	67.1	3.3	1.7	5.0
3/1	265	265	-	-	-	2.1	0.6	-	2.7	37.2	5.7	0.6	6.3
3/2	154	154	149	0	5	1.1	0.3	0.1	1.5	34.8	3.1	0.3	3.4
4/1	244	244	154	0	27	2.0	1.6	0.4	4.1	60.1	5.8	1.6	7.5
5/1	642	642	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/2	723	723	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/3	492	492	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	42	42	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	397	397	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/2	461	461	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	248	248	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

C1 PRC for Signalled Lanes (%): 10.3 Total Delay for Signalled Lanes (pcuHr): 33.85 Cycle Time (s): 90

PRC Over All Lanes (%): 10.3 Total Delay Over All Lanes(pcuHr): 33.85

vectos.

Appendix N

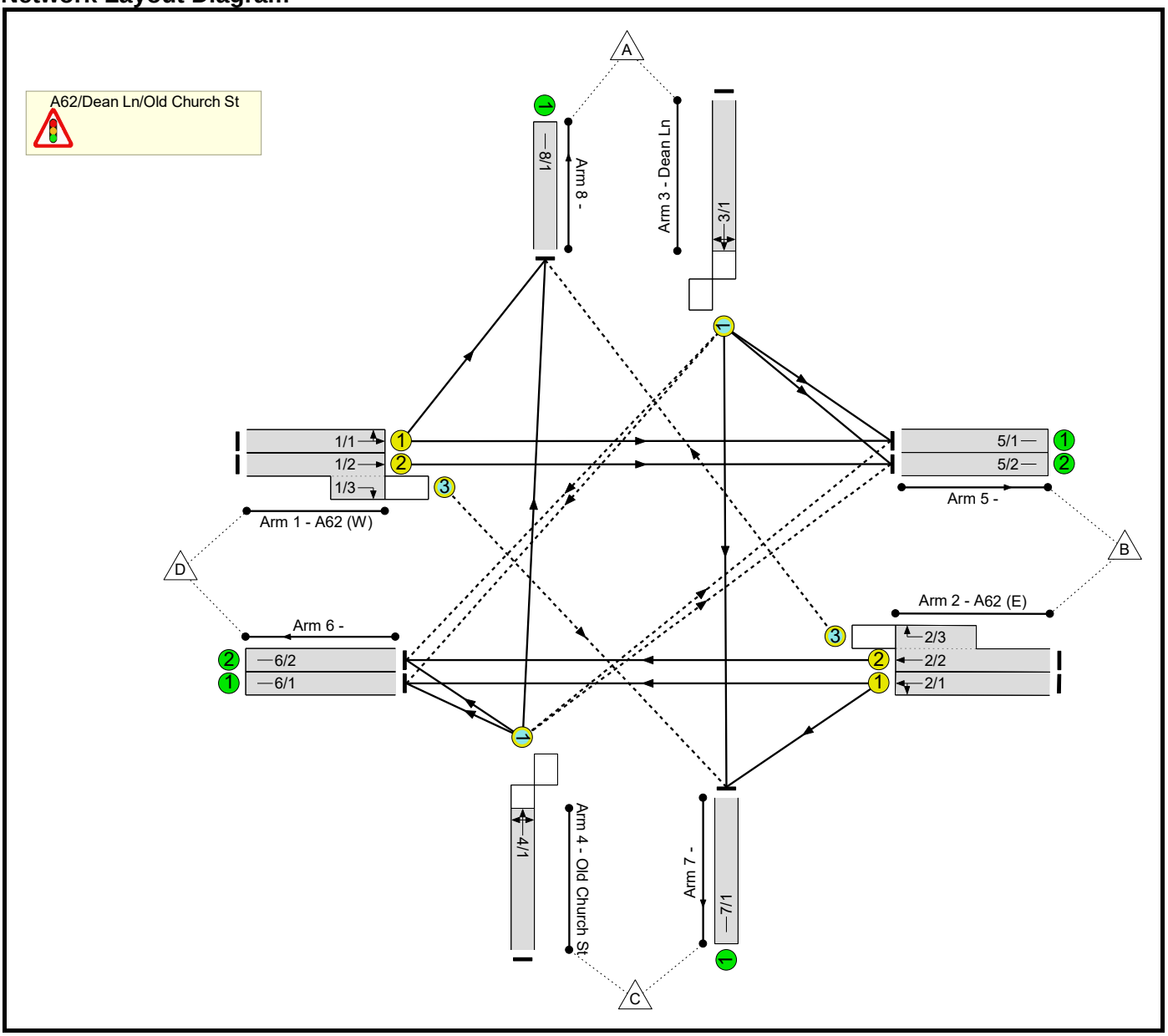
A62/Dean Ln/Old Church St Modelling Results

Full Input Data And Results

User and Project Details

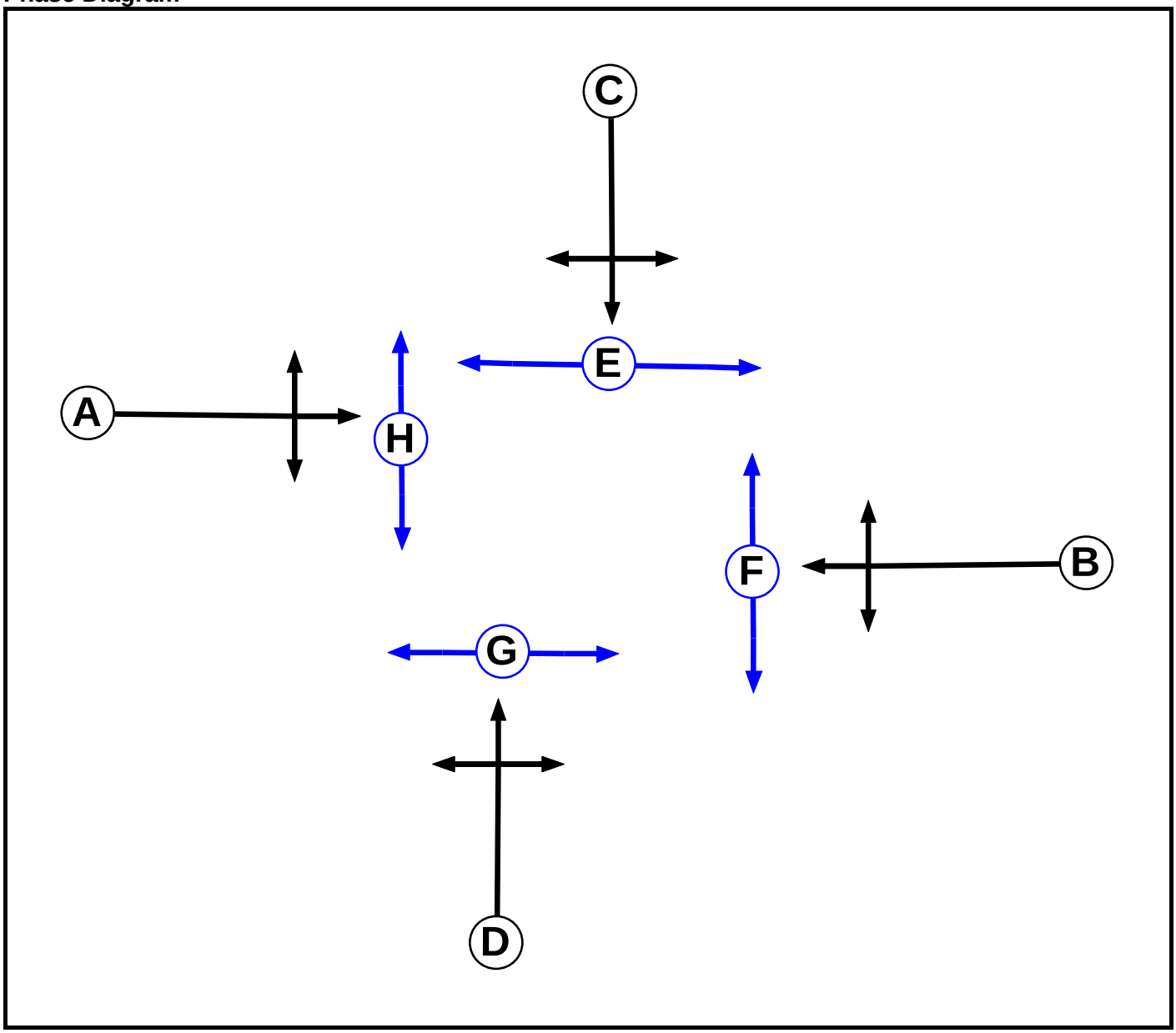
Project:	**Jacksons Brickworks**
Title:	
Location:	
Client:	Nuvu Development Ltd
Additional detail:	
File name:	A62 - Dean Ln - Old Church St.lsg3x
Author:	James Whitton
Company:	Vectos North
Address:	

Network Layout Diagram



Full Input Data And Results

Phase Diagram



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
D	Traffic		7	7
E	Pedestrian		7	7
F	Pedestrian		9	9
G	Pedestrian		6	6
H	Pedestrian		10	10

Full Input Data And Results

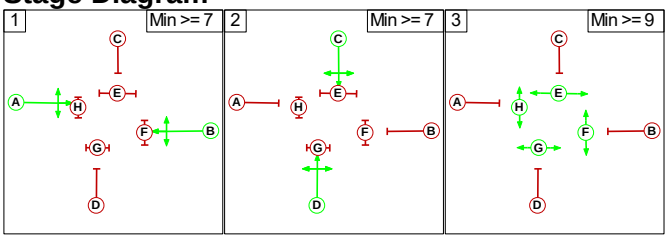
Phase Intergreens Matrix

		Starting Phase							
		A	B	C	D	E	F	G	H
Terminating Phase	A		-	7	7	6	8	8	5
	B	-		7	7	8	5	6	8
	C	7	7		-	5	7	9	8
	D	7	7	-		9	9	5	7
	E	11	11	11	11		-	-	-
	F	16	16	16	16	-		-	-
	G	9	9	9	9	-	-		-
	H	17	17	17	17	-	-	-	

Phases in Stage

Stage No.	Phases in Stage
1	A B
2	C D
3	E F G H

Stage Diagram



Phase Delays

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

Prohibited Stage Change

		To Stage		
		1	2	3
From Stage	1		7	8
	2	7		9
	3	17	17	

Full Input Data And Results

Give-Way Lane Input Data

Junction: A62/Dean Ln/Old Church St

Lane	Movement	Max Flow when Giving Way (PCU/Hr)	Min Flow when Giving Way (PCU/Hr)	Opposing Lane	Opp. Lane Coeff.	Opp. Mvmnts.	Right Turn Storage (PCU)	Non-Blocking Storage (PCU)	RTF	Right Turn Move up (s)	Max Turns in Intergreen (PCU)
1/3 (A62 (W))	7/1 (Right)	1439	0	2/2	1.09	All	2.80	-	0.50	3	2.00
				2/1	1.09	All					
2/3 (A62 (E))	8/1 (Right)	1439	0	1/1	1.09	All	2.80	-	0.50	3	2.00
				1/2	1.09	All					
3/1 (Dean Ln)	6/1 (Right)	1439	0	4/1	1.09	To 6/1 (Left) To 6/2 (Left) To 8/1 (Ahead)	3.80	2.00	0.50	4	3.00
	6/2 (Right)	1439	0	4/1	1.09	To 6/1 (Left) To 6/2 (Left) To 8/1 (Ahead)					
4/1 (Old Church St)	5/1 (Right)	1439	0	3/1	1.09	To 5/1 (Left) To 5/2 (Left) To 7/1 (Ahead)	3.50	2.00	0.50	4	3.00
	5/2 (Right)	1439	0	3/1	1.09	To 5/1 (Left) To 5/2 (Left) To 7/1 (Ahead)					

Full Input Data And Results

Lane Input Data

Junction: A62/Dean Ln/Old Church St

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 (A62 (W))	U	A	2	3	60.0	Geom	-	3.00	0.00	Y	Arm 5 Ahead	Inf
											Arm 8 Left	20.00
1/2 (A62 (W))	U	A	2	3	60.0	Geom	-	3.00	0.00	N	Arm 5 Ahead	Inf
1/3 (A62 (W))	O	A	2	3	3.5	Geom	-	3.00	0.00	N	Arm 7 Right	15.00
2/1 (A62 (E))	U	B	2	3	60.0	Geom	-	3.00	0.00	Y	Arm 6 Ahead	Inf
											Arm 7 Left	8.00
2/2 (A62 (E))	U	B	2	3	60.0	Geom	-	3.00	0.00	N	Arm 6 Ahead	Inf
2/3 (A62 (E))	O	B	2	3	5.2	Geom	-	3.00	0.00	N	Arm 8 Right	15.00
3/1 (Dean Ln)	O	C	2	3	60.0	Geom	-	4.50	0.00	Y	Arm 5 Left	15.00
											Arm 6 Right	15.00
											Arm 7 Ahead	Inf
4/1 (Old Church St)	O	D	2	3	60.0	Geom	-	3.50	0.00	Y	Arm 5 Right	15.00
											Arm 6 Left	15.00
											Arm 8 Ahead	Inf
5/1	U		2	3	60.0	Inf	-	-	-	-	-	-
5/2	U		2	3	60.0	Inf	-	-	-	-	-	-
6/1	U		2	3	60.0	Inf	-	-	-	-	-	-
6/2	U		2	3	60.0	Inf	-	-	-	-	-	-
7/1	U		2	3	60.0	Inf	-	-	-	-	-	-
8/1	U		2	3	60.0	Inf	-	-	-	-	-	-

Traffic Flow Groups

Flow Group	Start Time	End Time	Duration	Formula
1: 'Base AM'	08:00	09:00	01:00	
2: 'Base PM'	17:00	18:00	01:00	
3: 'Base + Com Dev AM'	08:00	09:00	01:00	
4: 'Base + Com Dev PM'	17:00	18:00	01:00	
5: 'Base + Com Dev + Dev AM'	08:00	09:00	01:00	
6: 'Base + Com Dev + Dev PM'	17:00	18:00	01:00	

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

Traffic Flows, Desired

Desired Flow :

		Destination				
		A	B	C	D	Tot.
Origin	A	0	3	265	169	437
	B	29	0	1	1264	1294
	C	50	231	0	68	349
	D	214	265	7	0	486
	Tot.	293	499	273	1501	2566

Traffic Lane Flows

Lane	Scenario 1: Baseline AM
Junction: A62/Dean Ln/Old Church St	
1/1	214
1/2 (with short)	272(In) 265(Out)
1/3 (short)	7
2/1	618
2/2 (with short)	676(In) 647(Out)
2/3 (short)	29
3/1	437
4/1	349
5/1	118
5/2	381
6/1	735
6/2	766
7/1	273
8/1	293

Full Input Data And Results

Lane Saturation Flows

Junction: A62/Dean Ln/Old Church St								
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 (A62 (W))	3.00	0.00	Y	Arm 5 Ahead	Inf	0.0 %	1781	1781
				Arm 8 Left	20.00	100.0 %		
1/2 (A62 (W))	3.00	0.00	N	Arm 5 Ahead	Inf	100.0 %	2055	2055
1/3 (A62 (W))	3.00	0.00	N	Arm 7 Right	15.00	100.0 %	1868	1868
2/1 (A62 (E))	3.00	0.00	Y	Arm 6 Ahead	Inf	99.8 %	1914	1914
				Arm 7 Left	8.00	0.2 %		
2/2 (A62 (E))	3.00	0.00	N	Arm 6 Ahead	Inf	100.0 %	2055	2055
2/3 (A62 (E))	3.00	0.00	N	Arm 8 Right	15.00	100.0 %	1868	1868
3/1 (Dean Ln)	4.50	0.00	Y	Arm 5 Left	15.00	0.7 %	1987	1987
				Arm 6 Right	15.00	38.7 %		
				Arm 7 Ahead	Inf	60.6 %		
4/1 (Old Church St)	3.50	0.00	Y	Arm 5 Right	15.00	66.2 %	1810	1810
				Arm 6 Left	15.00	19.5 %		
				Arm 8 Ahead	Inf	14.3 %		
5/1	Infinite Saturation Flow						Inf	Inf
5/2	Infinite Saturation Flow						Inf	Inf
6/1	Infinite Saturation Flow						Inf	Inf
6/2	Infinite Saturation Flow						Inf	Inf
7/1	Infinite Saturation Flow						Inf	Inf
8/1	Infinite Saturation Flow						Inf	Inf

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

Traffic Flows, Desired

Desired Flow :

		Destination				
		A	B	C	D	Tot.
Origin	A	0	88	248	46	382
	B	27	0	0	789	816
	C	324	25	0	67	416
	D	645	1115	140	0	1900
	Tot.	996	1228	388	902	3514

Full Input Data And Results

Traffic Lane Flows

Lane	Scenario 2: Baseline PM
Junction: A62/Dean Ln/Old Church St	
1/1	877
1/2 (with short)	1023(In) 883(Out)
1/3 (short)	140
2/1	378
2/2 (with short)	438(In) 411(Out)
2/3 (short)	27
3/1	382
4/1	416
5/1	289
5/2	939
6/1	434
6/2	468
7/1	388
8/1	996

Full Input Data And Results

Lane Saturation Flows

Junction: A62/Dean Ln/Old Church St								
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 (A62 (W))	3.00	0.00	Y	Arm 5 Ahead	Inf	26.5 %	1815	1815
				Arm 8 Left	20.00	73.5 %		
1/2 (A62 (W))	3.00	0.00	N	Arm 5 Ahead	Inf	100.0 %	2055	2055
1/3 (A62 (W))	3.00	0.00	N	Arm 7 Right	15.00	100.0 %	1868	1868
2/1 (A62 (E))	3.00	0.00	Y	Arm 6 Ahead	Inf	100.0 %	1915	1915
				Arm 7 Left	8.00	0.0 %		
2/2 (A62 (E))	3.00	0.00	N	Arm 6 Ahead	Inf	100.0 %	2055	2055
2/3 (A62 (E))	3.00	0.00	N	Arm 8 Right	15.00	100.0 %	1868	1868
3/1 (Dean Ln)	4.50	0.00	Y	Arm 5 Left	15.00	23.0 %	1995	1995
				Arm 6 Right	15.00	12.0 %		
				Arm 7 Ahead	Inf	64.9 %		
4/1 (Old Church St)	3.50	0.00	Y	Arm 5 Right	15.00	6.0 %	1922	1922
				Arm 6 Left	15.00	16.1 %		
				Arm 8 Ahead	Inf	77.9 %		
5/1	Infinite Saturation Flow						Inf	Inf
5/2	Infinite Saturation Flow						Inf	Inf
6/1	Infinite Saturation Flow						Inf	Inf
6/2	Infinite Saturation Flow						Inf	Inf
7/1	Infinite Saturation Flow						Inf	Inf
8/1	Infinite Saturation Flow						Inf	Inf

Scenario 3: 'Future Year (inc CD) AM' (FG3: 'Base + Com Dev AM', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

		Destination				
		A	B	C	D	Tot.
Origin	A	0	3	265	179	447
	B	30	0	1	1399	1430
	C	50	235	0	72	357
	D	221	345	11	0	577
	Tot.	301	583	277	1650	2811

Full Input Data And Results

Traffic Lane Flows

Lane	Scenario 3: Future Year (inc CD) AM
Junction: A62/Dean Ln/Old Church St	
1/1	251
1/2 (with short)	326(In) 315(Out)
1/3 (short)	11
2/1	684
2/2 (with short)	746(In) 716(Out)
2/3 (short)	30
3/1	447
4/1	357
5/1	150
5/2	433
6/1	808
6/2	842
7/1	277
8/1	301

Full Input Data And Results

Lane Saturation Flows

Junction: A62/Dean Ln/Old Church St								
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 (A62 (W))	3.00	0.00	Y	Arm 5 Ahead	Inf	12.0 %	1796	1796
				Arm 8 Left	20.00	88.0 %		
1/2 (A62 (W))	3.00	0.00	N	Arm 5 Ahead	Inf	100.0 %	2055	2055
1/3 (A62 (W))	3.00	0.00	N	Arm 7 Right	15.00	100.0 %	1868	1868
2/1 (A62 (E))	3.00	0.00	Y	Arm 6 Ahead	Inf	99.9 %	1914	1914
				Arm 7 Left	8.00	0.1 %		
2/2 (A62 (E))	3.00	0.00	N	Arm 6 Ahead	Inf	100.0 %	2055	2055
2/3 (A62 (E))	3.00	0.00	N	Arm 8 Right	15.00	100.0 %	1868	1868
3/1 (Dean Ln)	4.50	0.00	Y	Arm 5 Left	15.00	0.7 %	1984	1984
				Arm 6 Right	15.00	40.0 %		
				Arm 7 Ahead	Inf	59.3 %		
4/1 (Old Church St)	3.50	0.00	Y	Arm 5 Right	15.00	65.8 %	1809	1809
				Arm 6 Left	15.00	20.2 %		
				Arm 8 Ahead	Inf	14.0 %		
5/1	Infinite Saturation Flow						Inf	Inf
5/2	Infinite Saturation Flow						Inf	Inf
6/1	Infinite Saturation Flow						Inf	Inf
6/2	Infinite Saturation Flow						Inf	Inf
7/1	Infinite Saturation Flow						Inf	Inf
8/1	Infinite Saturation Flow						Inf	Inf

Scenario 4: 'Future Year (inc CD) PM' (FG4: 'Base + Com Dev PM', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

		Destination				
		A	B	C	D	Tot.
Origin	A	0	88	249	46	383
	B	28	0	0	862	890
	C	324	30	0	68	422
	D	670	1229	151	0	2050
	Tot.	1022	1347	400	976	3745

Full Input Data And Results

Traffic Lane Flows

Lane	Scenario 4: Future Year (inc CD) PM
Junction: A62/Dean Ln/Old Church St	
1/1	951
1/2 (with short)	1099(In) 948(Out)
1/3 (short)	151
2/1	414
2/2 (with short)	476(In) 448(Out)
2/3 (short)	28
3/1	383
4/1	422
5/1	340
5/2	1007
6/1	471
6/2	505
7/1	400
8/1	1022

Full Input Data And Results

Lane Saturation Flows

Junction: A62/Dean Ln/Old Church St								
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 (A62 (W))	3.00	0.00	Y	Arm 5 Ahead	Inf	29.5 %	1819	1819
				Arm 8 Left	20.00	70.5 %		
1/2 (A62 (W))	3.00	0.00	N	Arm 5 Ahead	Inf	100.0 %	2055	2055
1/3 (A62 (W))	3.00	0.00	N	Arm 7 Right	15.00	100.0 %	1868	1868
2/1 (A62 (E))	3.00	0.00	Y	Arm 6 Ahead	Inf	100.0 %	1915	1915
				Arm 7 Left	8.00	0.0 %		
2/2 (A62 (E))	3.00	0.00	N	Arm 6 Ahead	Inf	100.0 %	2055	2055
2/3 (A62 (E))	3.00	0.00	N	Arm 8 Right	15.00	100.0 %	1868	1868
3/1 (Dean Ln)	4.50	0.00	Y	Arm 5 Left	15.00	23.0 %	1995	1995
				Arm 6 Right	15.00	12.0 %		
				Arm 7 Ahead	Inf	65.0 %		
4/1 (Old Church St)	3.50	0.00	Y	Arm 5 Right	15.00	7.1 %	1920	1920
				Arm 6 Left	15.00	16.1 %		
				Arm 8 Ahead	Inf	76.8 %		
5/1	Infinite Saturation Flow						Inf	Inf
5/2	Infinite Saturation Flow						Inf	Inf
6/1	Infinite Saturation Flow						Inf	Inf
6/2	Infinite Saturation Flow						Inf	Inf
7/1	Infinite Saturation Flow						Inf	Inf
8/1	Infinite Saturation Flow						Inf	Inf

Scenario 5: 'Future Year + Dev AM' (FG5: 'Base + Com Dev + Dev AM', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

		Destination				
		A	B	C	D	Tot.
Origin	A	0	3	265	179	447
	B	30	0	1	1434	1465
	C	50	235	0	72	357
	D	221	402	11	0	634
	Tot.	301	640	277	1685	2903

Full Input Data And Results

Traffic Lane Flows

Lane	Scenario 5: Future Year + Dev AM
Junction: A62/Dean Ln/Old Church St	
1/1	280
1/2 (with short)	354(In) 343(Out)
1/3 (short)	11
2/1	703
2/2 (with short)	762(In) 732(Out)
2/3 (short)	30
3/1	447
4/1	357
5/1	179
5/2	461
6/1	827
6/2	858
7/1	277
8/1	301

Full Input Data And Results

Lane Saturation Flows

Junction: A62/Dean Ln/Old Church St								
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 (A62 (W))	3.00	0.00	Y	Arm 5 Ahead	Inf	21.1 %	1808	1808
				Arm 8 Left	20.00	78.9 %		
1/2 (A62 (W))	3.00	0.00	N	Arm 5 Ahead	Inf	100.0 %	2055	2055
1/3 (A62 (W))	3.00	0.00	N	Arm 7 Right	15.00	100.0 %	1868	1868
2/1 (A62 (E))	3.00	0.00	Y	Arm 6 Ahead	Inf	99.9 %	1914	1914
				Arm 7 Left	8.00	0.1 %		
2/2 (A62 (E))	3.00	0.00	N	Arm 6 Ahead	Inf	100.0 %	2055	2055
2/3 (A62 (E))	3.00	0.00	N	Arm 8 Right	15.00	100.0 %	1868	1868
3/1 (Dean Ln)	4.50	0.00	Y	Arm 5 Left	15.00	0.7 %	1984	1984
				Arm 6 Right	15.00	40.0 %		
				Arm 7 Ahead	Inf	59.3 %		
4/1 (Old Church St)	3.50	0.00	Y	Arm 5 Right	15.00	65.8 %	1809	1809
				Arm 6 Left	15.00	20.2 %		
				Arm 8 Ahead	Inf	14.0 %		
5/1	Infinite Saturation Flow						Inf	Inf
5/2	Infinite Saturation Flow						Inf	Inf
6/1	Infinite Saturation Flow						Inf	Inf
6/2	Infinite Saturation Flow						Inf	Inf
7/1	Infinite Saturation Flow						Inf	Inf
8/1	Infinite Saturation Flow						Inf	Inf

Scenario 6: 'Future Year + Dev PM' (FG6: 'Base + Com Dev + Dev PM', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

		Destination				
		A	B	C	D	Tot.
Origin	A	0	88	249	46	383
	B	28	0	0	893	921
	C	324	30	0	68	422
	D	670	1247	151	0	2068
	Tot.	1022	1365	400	1007	3794

Full Input Data And Results

Traffic Lane Flows

Lane	Scenario 6: Future Year + Dev PM
Junction: A62/Dean Ln/Old Church St	
1/1	960
1/2 (with short)	1108(In) 957(Out)
1/3 (short)	151
2/1	430
2/2 (with short)	491(In) 463(Out)
2/3 (short)	28
3/1	383
4/1	422
5/1	349
5/2	1016
6/1	487
6/2	520
7/1	400
8/1	1022

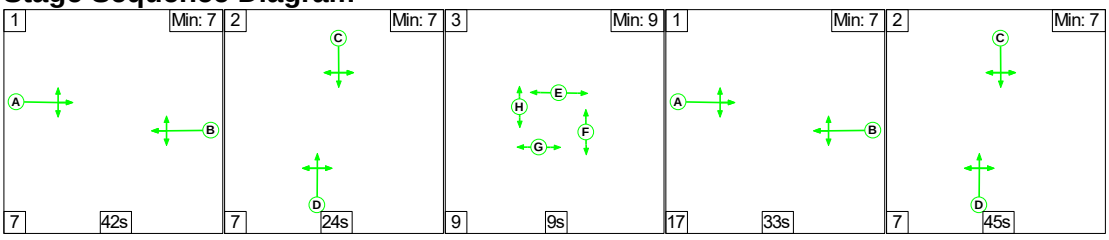
Full Input Data And Results

Lane Saturation Flows

Junction: A62/Dean Ln/Old Church St								
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 (A62 (W))	3.00	0.00	Y	Arm 5 Ahead	Inf	30.2 %	1820	1820
				Arm 8 Left	20.00	69.8 %		
1/2 (A62 (W))	3.00	0.00	N	Arm 5 Ahead	Inf	100.0 %	2055	2055
1/3 (A62 (W))	3.00	0.00	N	Arm 7 Right	15.00	100.0 %	1868	1868
2/1 (A62 (E))	3.00	0.00	Y	Arm 6 Ahead	Inf	100.0 %	1915	1915
				Arm 7 Left	8.00	0.0 %		
2/2 (A62 (E))	3.00	0.00	N	Arm 6 Ahead	Inf	100.0 %	2055	2055
2/3 (A62 (E))	3.00	0.00	N	Arm 8 Right	15.00	100.0 %	1868	1868
3/1 (Dean Ln)	4.50	0.00	Y	Arm 5 Left	15.00	23.0 %	1995	1995
				Arm 6 Right	15.00	12.0 %		
				Arm 7 Ahead	Inf	65.0 %		
4/1 (Old Church St)	3.50	0.00	Y	Arm 5 Right	15.00	7.1 %	1920	1920
				Arm 6 Left	15.00	16.1 %		
				Arm 8 Ahead	Inf	76.8 %		
5/1	Infinite Saturation Flow						Inf	Inf
5/2	Infinite Saturation Flow						Inf	Inf
6/1	Infinite Saturation Flow						Inf	Inf
6/2	Infinite Saturation Flow						Inf	Inf
7/1	Infinite Saturation Flow						Inf	Inf
8/1	Infinite Saturation Flow						Inf	Inf

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

Stage Sequence Diagram

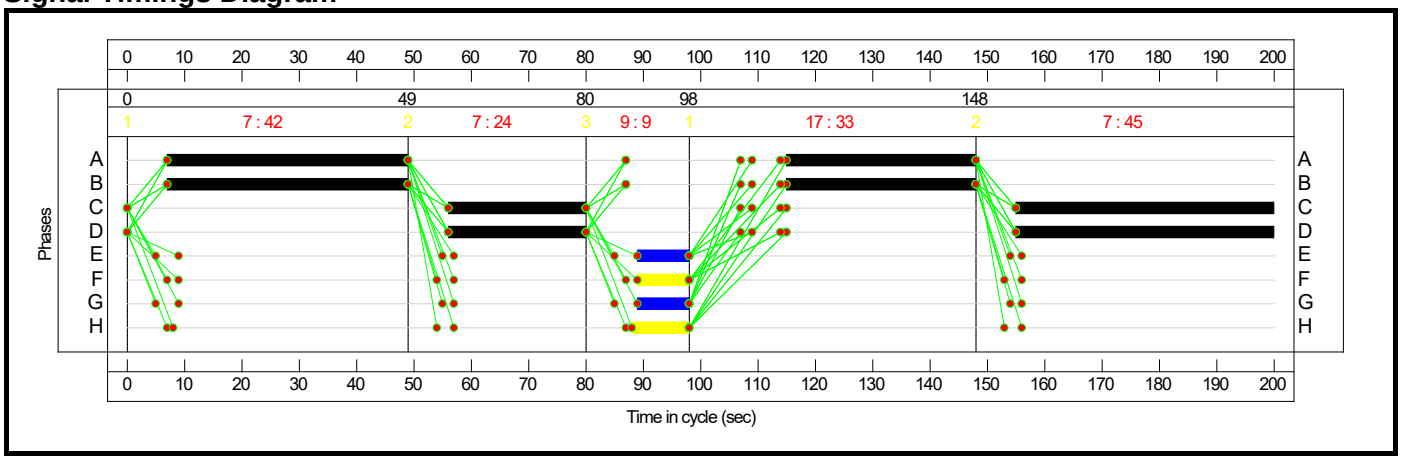


Stage Timings

Stage	1	2	3	1	2
Duration	42	24	9	33	45
Change Point	0	49	80	98	148

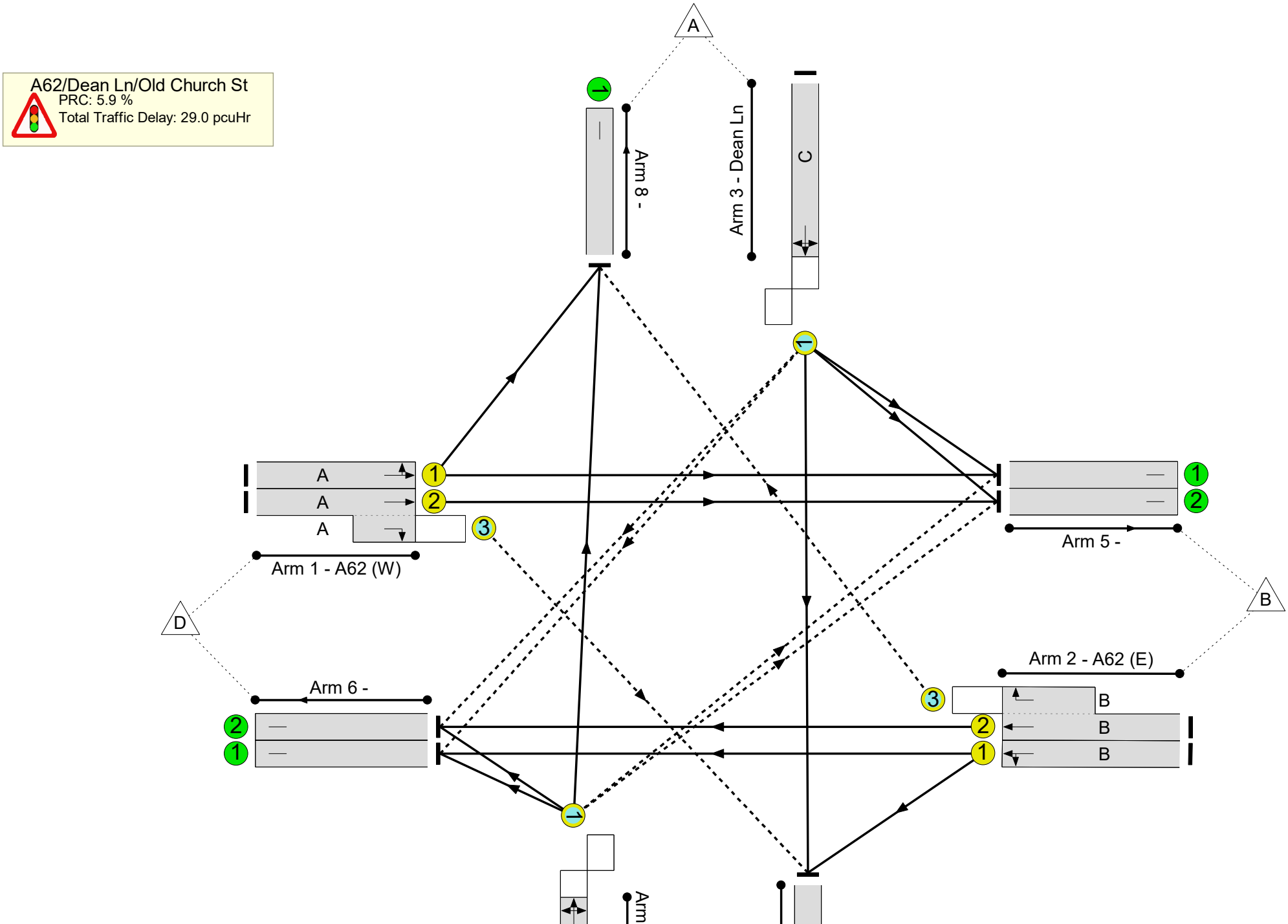
Full Input Data And Results

Signal Timings Diagram



Full Input Data And Results

Network Layout Diagram


A62/Dean Ln/Old Church St
PRC: 5.9 %
Total Traffic Delay: 29.0 pcuHr
A
Arm 8 -
Arm 3 - Dean Ln
C
A
A
A
Arm 1 - A62 (W)
Arm 5 -
B
D
Arm 6 -
Arm 2 - A62 (E)
B
B
B

Full Input Data And Results

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	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**85.0%**
A62/Dean Ln/Old Church St	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**85.0%**
1/1	A62 (W) Ahead Left	U	N/A	N/A	A		2	75	-	214	1781	686	31.2%
1/2+1/3	A62 (W) Ahead Right	U+O	N/A	N/A	A		2	75	-	272	2055:1868	785+21	33.8 : 33.8%
2/1	A62 (E) Ahead Left	U	N/A	N/A	B		2	75	-	618	1914	737	83.9%
2/2+2/3	A62 (E) Ahead Right	U+O	N/A	N/A	B		2	75	-	676	2055:1868	761+34	85.0 : 85.0%
3/1	Dean Ln Left Right Ahead	O	N/A	N/A	C		2	69	-	437	1987	705	62.0%
4/1	Old Church St Right Left Ahead	O	N/A	N/A	D		2	69	-	349	1810	416	83.9%
5/1		U	N/A	N/A	-		-	-	-	118	Inf	Inf	0.0%
5/2		U	N/A	N/A	-		-	-	-	381	Inf	Inf	0.0%
6/1		U	N/A	N/A	-		-	-	-	735	Inf	Inf	0.0%
6/2		U	N/A	N/A	-		-	-	-	766	Inf	Inf	0.0%
7/1		U	N/A	N/A	-		-	-	-	273	Inf	Inf	0.0%
8/1		U	N/A	N/A	-		-	-	-	293	Inf	Inf	0.0%

Full Input Data And Results

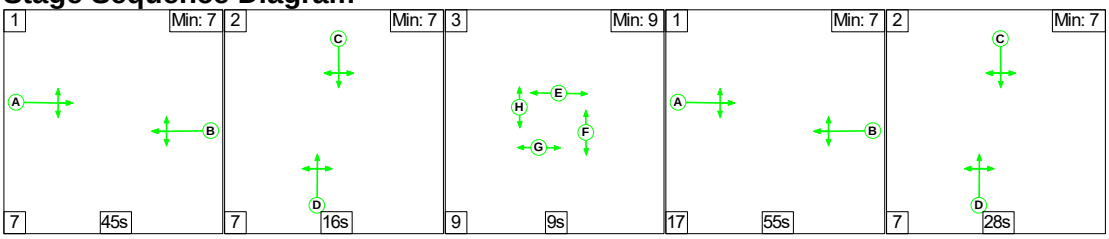
Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network	**-**	**-**	**387**	**0**	**49**	**19.3**	**8.9**	**0.7**	**29.0**	**-**	**-**	**-**	**-**
A62/Dean Ln/Old Church St	**-**	**-**	**387**	**0**	**49**	**19.3**	**8.9**	**0.7**	**29.0**	**-**	**-**	**-**	**-**
1/1	214	214	-	-	-	1.3	0.2	-	1.5	25.4	4.3	0.2	4.6
1/2+1/3	272	272	4	0	3	1.6	0.3	0.0	1.9	25.8	5.5	0.3	5.8
2/1	618	618	-	-	-	4.8	2.5	-	7.3	42.6	16.3	2.5	18.8
2/2+2/3	676	676	29	0	0	5.3	2.7	0.0	8.0	42.5	17.8	2.7	20.5
3/1	437	437	166	0	3	3.3	0.8	0.0	4.1	33.9	11.4	0.8	12.2
4/1	349	349	189	0	42	3.0	2.4	0.6	6.1	63.2	10.8	2.4	13.2
5/1	118	118	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/2	381	381	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	735	735	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/2	766	766	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	273	273	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	293	293	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

C1 PRC for Signalled Lanes (%): 5.9 Total Delay for Signalled Lanes (pcuHr): 28.99 Cycle Time (s): 200
PRC Over All Lanes (%): 5.9 Total Delay Over All Lanes(pcuHr): 28.99

Full Input Data And Results

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

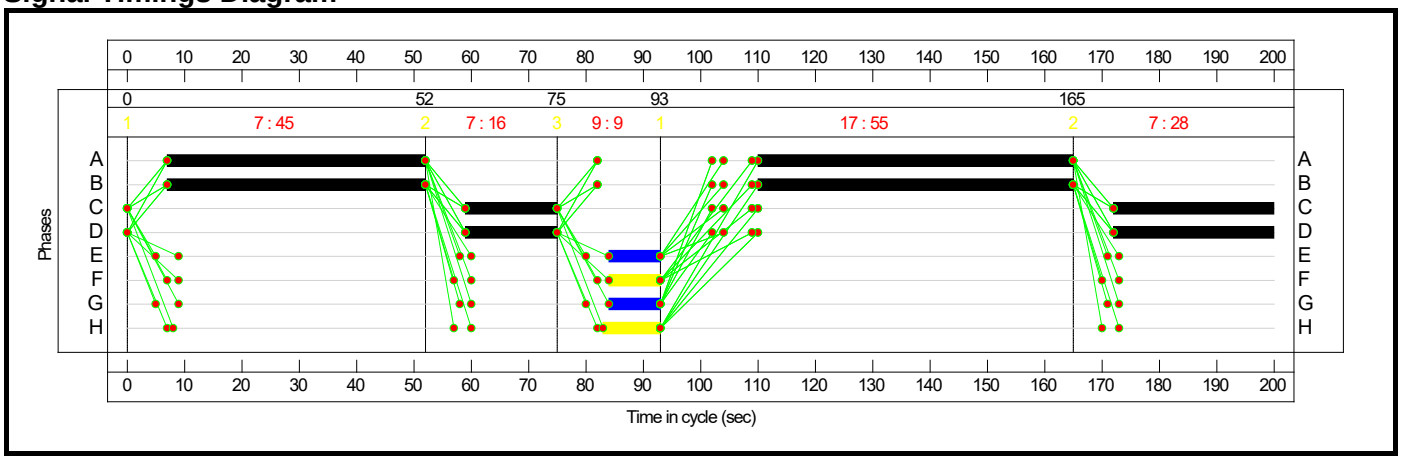
Stage Sequence Diagram



Stage Timings

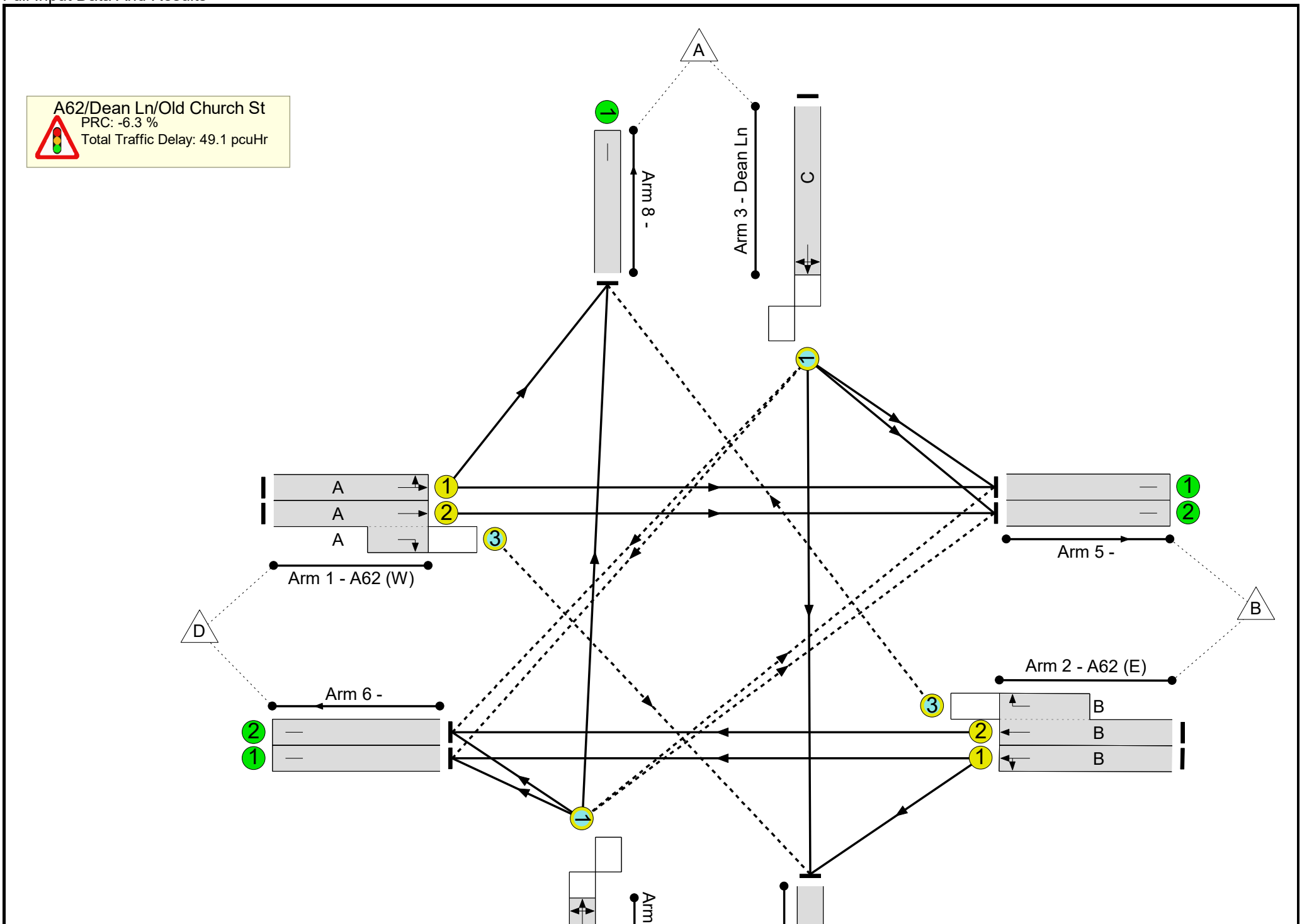
Stage	1	2	3	1	2
Duration	45	16	9	55	28
Change Point	0	52	75	93	165

Signal Timings Diagram



Full Input Data And Results

Network Layout Diagram


A62/Dean Ln/Old Church St
PRC: -6.3 %
Total Traffic Delay: 49.1 pcuHr
A
Arm 8 -
Arm 3 - Dean Ln
C
A
A
A
Arm 1 - A62 (W)
Arm 5 -
B
D
Arm 6 -
Arm 2 - A62 (E)
B
B
B

Full Input Data And Results

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	-	-	**N/A**	-	-		-	-	-	-	-	-	**95.7%**
A62/Dean Ln/Old Church St	-	-	**N/A**	-	-		-	-	-	-	-	-	**95.7%**
1/1	A62 (W) Ahead Left	U	N/A	N/A	A		2	100	-	877	1815	926	94.7%
1/2+1/3	A62 (W) Ahead Right	U+O	N/A	N/A	A		2	100	-	1023	2055:1868	923+146	95.7 : 95.7%
2/1	A62 (E) Ahead Left	U	N/A	N/A	B		2	100	-	378	1915	977	38.7%
2/2+2/3	A62 (E) Ahead Right	U+O	N/A	N/A	B		2	100	-	438	2055:1868	989+65	41.6 : 41.6%
3/1	Dean Ln Left Right Ahead	O	N/A	N/A	C		2	44	-	382	1995	459	83.3%
4/1	Old Church St Right Left Ahead	O	N/A	N/A	D		2	44	-	416	1922	442	94.1%
5/1		U	N/A	N/A	-		-	-	-	289	Inf	Inf	0.0%
5/2		U	N/A	N/A	-		-	-	-	939	Inf	Inf	0.0%
6/1		U	N/A	N/A	-		-	-	-	434	Inf	Inf	0.0%
6/2		U	N/A	N/A	-		-	-	-	468	Inf	Inf	0.0%
7/1		U	N/A	N/A	-		-	-	-	388	Inf	Inf	0.0%
8/1		U	N/A	N/A	-		-	-	-	996	Inf	Inf	0.0%

Full Input Data And Results

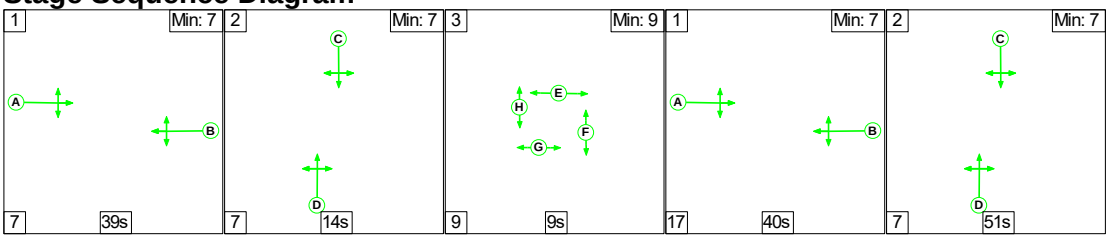
Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network	**-**	**-**	**162**	**0**	**76**	**24.7**	**23.8**	**0.6**	**49.1**	**-**	**-**	**-**	**-**
A62/Dean Ln/Old Church St	**-**	**-**	**162**	**0**	**76**	**24.7**	**23.8**	**0.6**	**49.1**	**-**	**-**	**-**	**-**
1/1	877	877	-	-	-	5.8	7.0	-	12.8	52.6	26.8	7.0	33.8
1/2+1/3	1023	1023	138	0	2	6.6	8.2	0.1	15.0	52.7	31.0	8.2	39.2
2/1	378	378	-	-	-	1.6	0.3	-	1.9	18.4	7.5	0.3	7.8
2/2+2/3	438	438	0	0	27	1.9	0.4	0.3	2.5	20.5	8.3	0.4	8.7
3/1	382	382	6	0	40	4.1	2.3	0.2	6.6	62.4	12.5	2.3	14.9
4/1	416	416	17	0	8	4.6	5.6	0.1	10.3	89.0	14.1	5.6	19.7
5/1	289	289	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/2	939	939	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	434	434	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/2	468	468	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	388	388	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	996	996	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

C1 PRC for Signalled Lanes (%): -6.3 Total Delay for Signalled Lanes (pcuHr): 49.12 Cycle Time (s): 200
PRC Over All Lanes (%): -6.3 Total Delay Over All Lanes(pcuHr): 49.12

Full Input Data And Results

Scenario 3: 'Future Year (inc CD) AM' (FG3: 'Base + Com Dev AM', Plan 1: 'Network Control Plan 1')

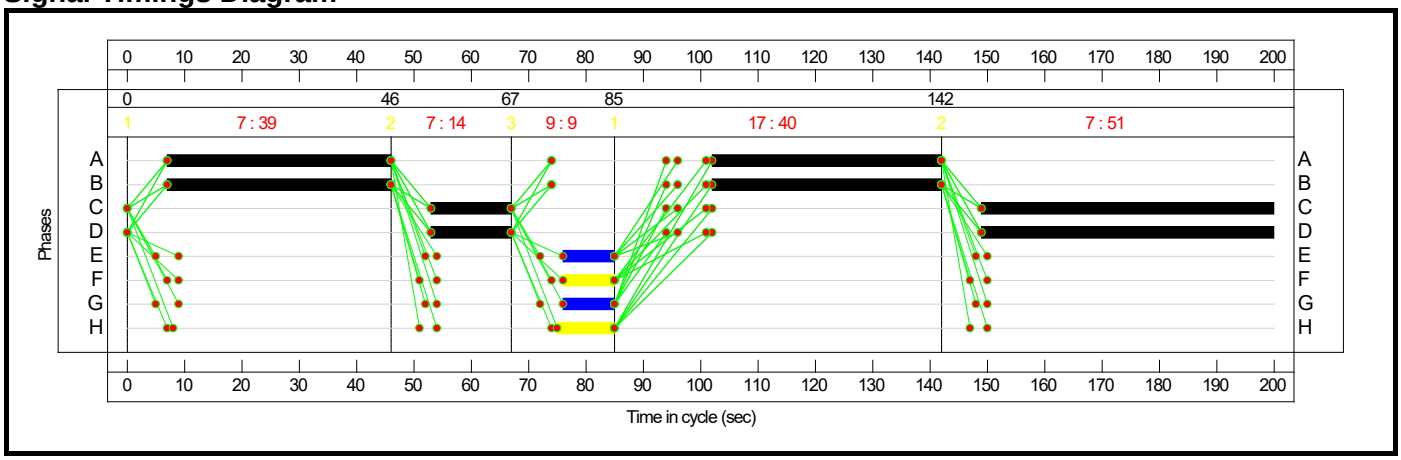
Stage Sequence Diagram



Stage Timings

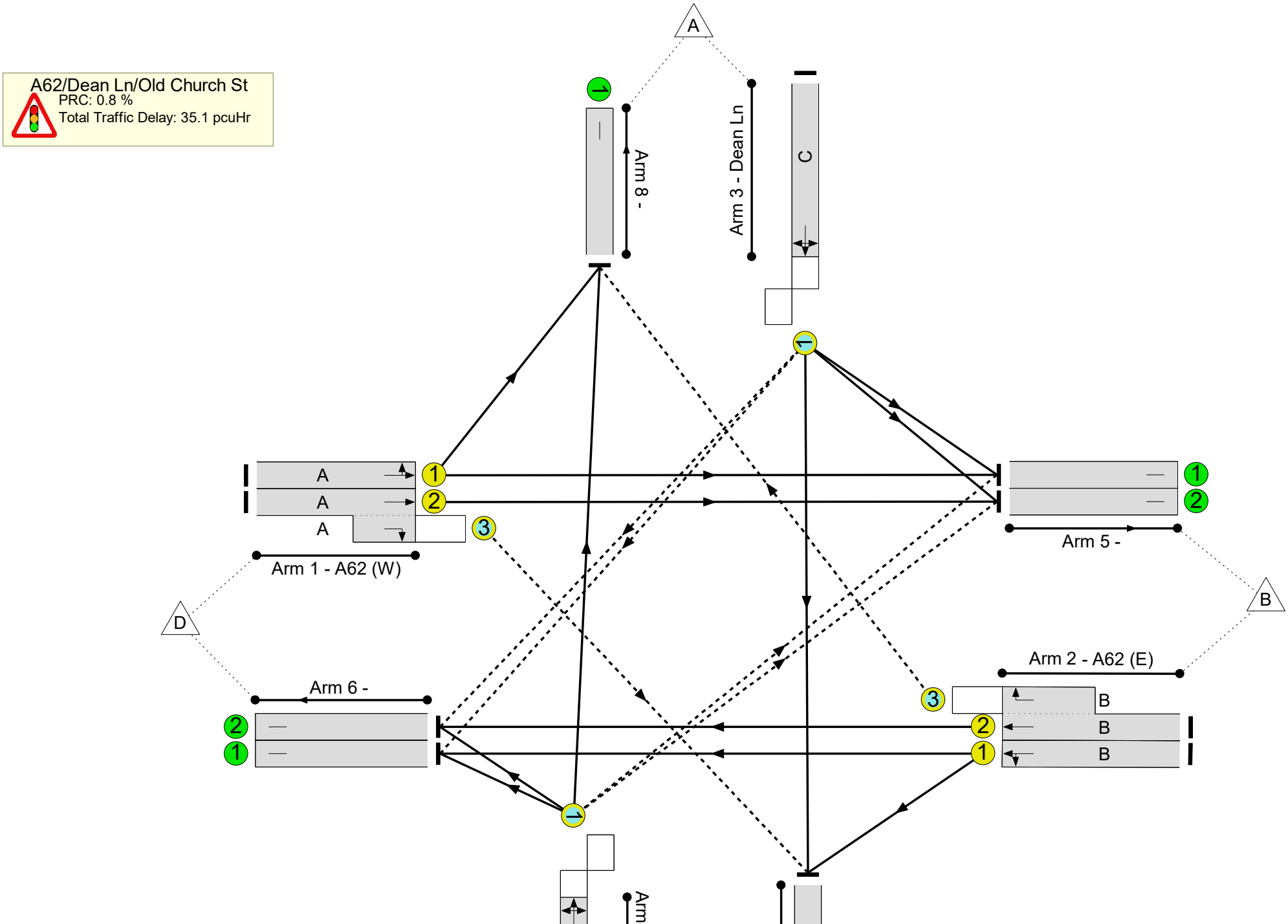
Stage	1	2	3	1	2
Duration	39	14	9	40	51
Change Point	0	46	67	85	142

Signal Timings Diagram



Full Input Data And Results

Network Layout Diagram


A62/Dean Ln/Old Church St
PRC: 0.8 %
Total Traffic Delay: 35.1 pcuHr
A
Arm 8 -
Arm 3 - Dean Ln
C
A
A
A
Arm 1 - A62 (W)
Arm 5 -
B
D
Arm 6 -
Arm 2 - A62 (E)
B
B
B

Full Input Data And Results

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	-	-	**N/A**	-	-		-	-	-	-	-	-	**89.3%**
A62/Dean Ln/Old Church St	-	-	**N/A**	-	-		-	-	-	-	-	-	**89.3%**
1/1	A62 (W) Ahead Left	U	N/A	N/A	A		2	79	-	251	1796	727	34.5%
1/2+1/3	A62 (W) Ahead Right	U+O	N/A	N/A	A		2	79	-	326	2055:1868	819+29	38.5 : 38.5%
2/1	A62 (E) Ahead Left	U	N/A	N/A	B		2	79	-	684	1914	775	88.2%
2/2+2/3	A62 (E) Ahead Right	U+O	N/A	N/A	B		2	79	-	746	2055:1868	802+34	89.3 : 89.3%
3/1	Dean Ln Left Right Ahead	O	N/A	N/A	C		2	65	-	447	1984	665	67.3%
4/1	Old Church St Right Left Ahead	O	N/A	N/A	D		2	65	-	357	1809	408	87.4%
5/1		U	N/A	N/A	-		-	-	-	150	Inf	Inf	0.0%
5/2		U	N/A	N/A	-		-	-	-	433	Inf	Inf	0.0%
6/1		U	N/A	N/A	-		-	-	-	808	Inf	Inf	0.0%
6/2		U	N/A	N/A	-		-	-	-	842	Inf	Inf	0.0%
7/1		U	N/A	N/A	-		-	-	-	277	Inf	Inf	0.0%
8/1		U	N/A	N/A	-		-	-	-	301	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	**-**	**-**	**376**	**0**	**79**	**22.3**	**12.0**	**0.8**	**35.1**	**-**	**-**	**-**	**-**
A62/Dean Ln/Old Church St	**-**	**-**	**376**	**0**	**79**	**22.3**	**12.0**	**0.8**	**35.1**	**-**	**-**	**-**	**-**
1/1	251	251	-	-	-	1.4	0.3	-	1.7	24.5	5.2	0.3	5.4
1/2+1/3	326	326	0	0	11	1.9	0.3	0.1	2.3	25.4	6.7	0.3	7.0
2/1	684	684	-	-	-	5.3	3.5	-	8.7	46.0	18.8	3.5	22.3
2/2+2/3	746	746	30	0	0	5.7	3.8	0.0	9.6	46.3	20.5	3.8	24.3
3/1	447	447	169	0	10	3.7	1.0	0.0	4.8	38.5	13.0	1.0	14.0
4/1	357	357	177	0	58	4.2	3.1	0.6	7.9	80.1	13.8	3.1	16.9
5/1	150	150	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/2	433	433	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	808	808	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/2	842	842	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	277	277	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	301	301	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

C1

PRC for Signalled Lanes (%): 0.8
PRC Over All Lanes (%): 0.8

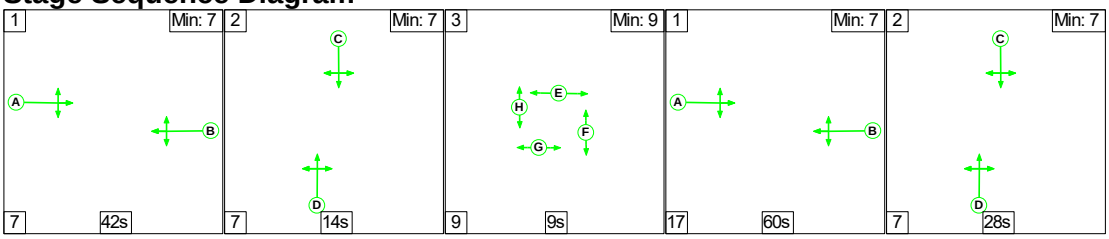
Total Delay for Signalled Lanes (pcuHr): 35.06
Total Delay Over All Lanes(pcuHr): 35.06

Cycle Time (s): 200

Full Input Data And Results

Scenario 4: 'Future Year (inc CD) PM' (FG4: 'Base + Com Dev PM', Plan 1: 'Network Control Plan 1')

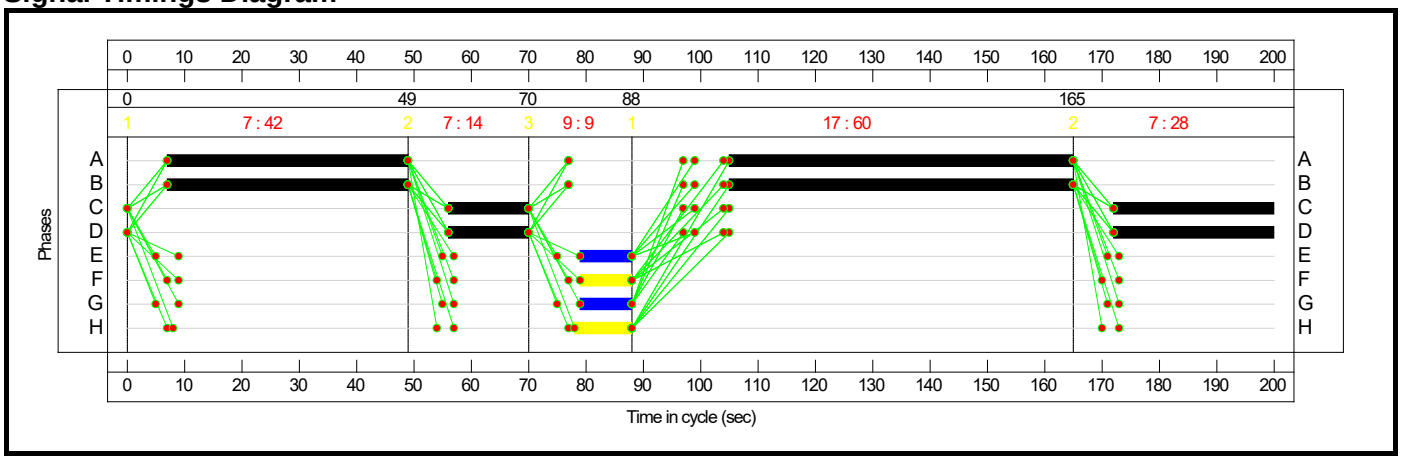
Stage Sequence Diagram



Stage Timings

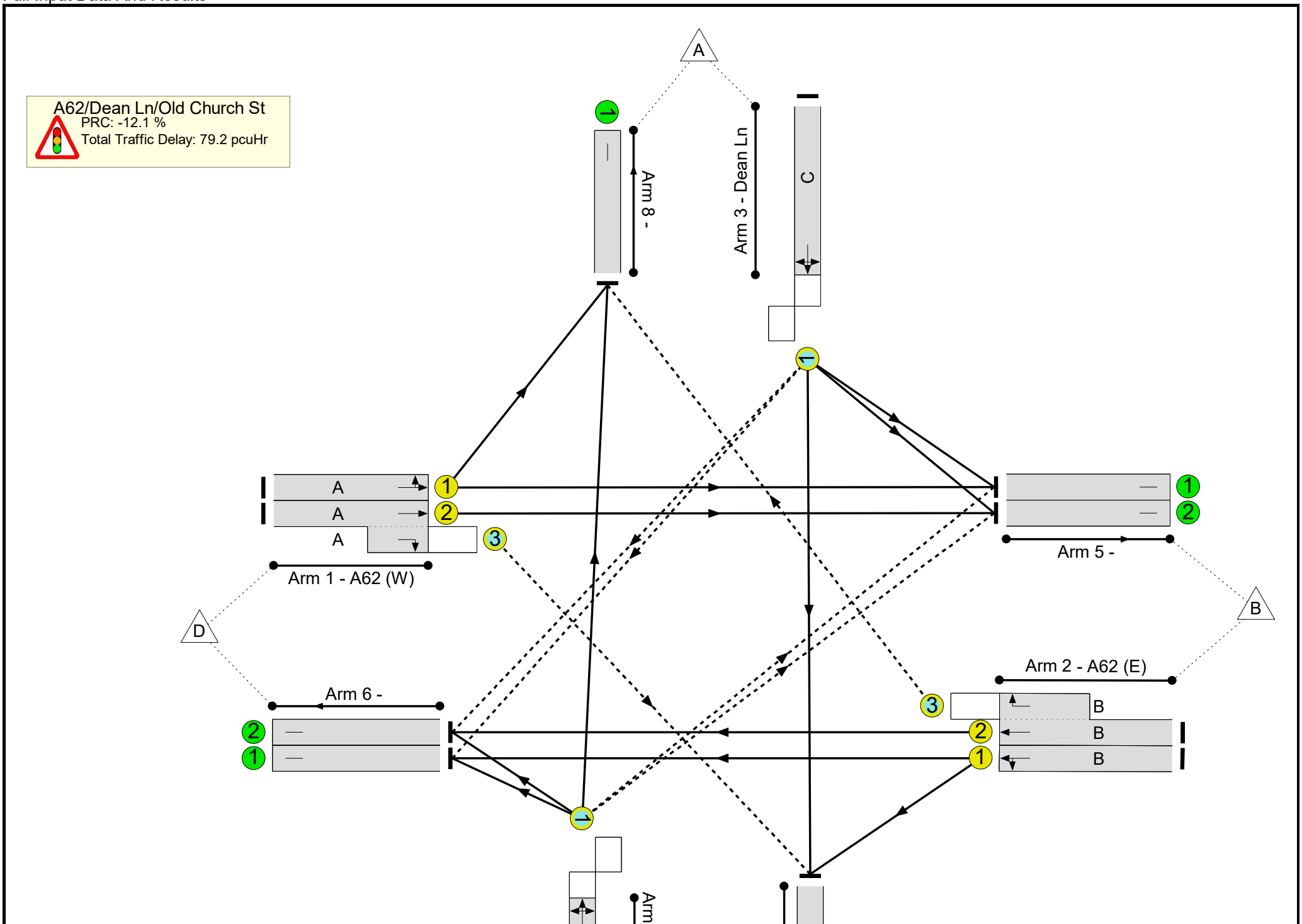
Stage	1	2	3	1	2
Duration	42	14	9	60	28
Change Point	0	49	70	88	165

Signal Timings Diagram



Full Input Data And Results

Network Layout Diagram


A62/Dean Ln/Old Church St
PRC: -12.1 %
Total Traffic Delay: 79.2 pcuHr
A
Arm 8 -
Arm 3 - Dean Ln
C
A
A
A
Arm 1 - A62 (W)
Arm 5 -
B
D
Arm 6 -
Arm 2 - A62 (E)
B
B
B

Full Input Data And Results

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	-	-	**N/A**	-	-		-	-	-	-	-	-	**100.9%**
A62/Dean Ln/Old Church St	-	-	**N/A**	-	-		-	-	-	-	-	-	**100.9%**
1/1	A62 (W) Ahead Left	U	N/A	N/A	A		2	102	-	951	1819	946	100.5%
1/2+1/3	A62 (W) Ahead Right	U+O	N/A	N/A	A		2	102	-	1099	2055:1868	940+150	100.9 : 100.9%
2/1	A62 (E) Ahead Left	U	N/A	N/A	B		2	102	-	414	1915	996	41.6%
2/2+2/3	A62 (E) Ahead Right	U+O	N/A	N/A	B		2	102	-	476	2055:1868	1010+63	44.3 : 44.3%
3/1	Dean Ln Left Right Ahead	O	N/A	N/A	C		2	42	-	383	1995	439	87.3%
4/1	Old Church St Right Left Ahead	O	N/A	N/A	D		2	42	-	422	1920	422	99.9%
5/1		U	N/A	N/A	-		-	-	-	340	Inf	Inf	0.0%
5/2		U	N/A	N/A	-		-	-	-	1007	Inf	Inf	0.0%
6/1		U	N/A	N/A	-		-	-	-	471	Inf	Inf	0.0%
6/2		U	N/A	N/A	-		-	-	-	505	Inf	Inf	0.0%
7/1		U	N/A	N/A	-		-	-	-	400	Inf	Inf	0.0%
8/1		U	N/A	N/A	-		-	-	-	1022	Inf	Inf	0.0%

Full Input Data And Results

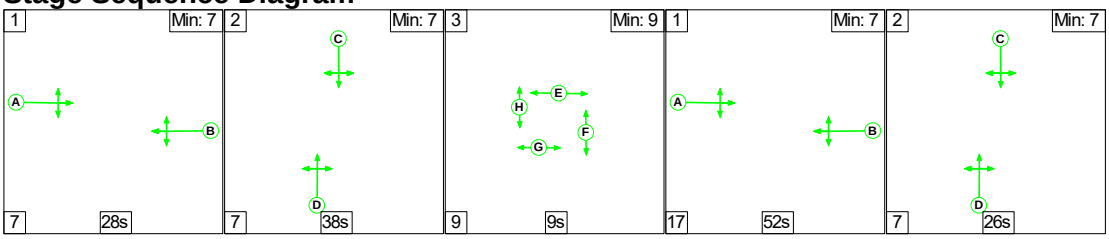
Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network	**-**	**-**	**164**	**0**	**90**	**28.6**	**49.9**	**0.7**	**79.2**	**-**	**-**	**-**	**-**
A62/Dean Ln/Old Church St	**-**	**-**	**164**	**0**	**90**	**28.6**	**49.9**	**0.7**	**79.2**	**-**	**-**	**-**	**-**
1/1	951	946	-	-	-	7.1	16.8	-	23.9	90.3	31.4	16.8	48.1
1/2+1/3	1099	1089	147	0	3	8.3	19.1	0.2	27.6	90.6	36.5	19.1	55.6
2/1	414	414	-	-	-	1.7	0.4	-	2.1	18.1	8.1	0.4	8.4
2/2+2/3	476	476	0	0	28	2.0	0.4	0.3	2.7	20.2	8.9	0.4	9.3
3/1	383	383	1	0	45	4.4	3.1	0.2	7.6	71.4	13.2	3.1	16.3
4/1	422	422	16	0	14	5.1	10.2	0.1	15.4	131.0	15.3	10.2	25.5
5/1	338	338	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/2	999	999	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	471	471	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/2	505	505	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	399	399	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	1020	1020	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

C1 PRC for Signalled Lanes (%): -12.1 Total Delay for Signalled Lanes (pcuHr): 79.22 Cycle Time (s): 200
PRC Over All Lanes (%): -12.1 Total Delay Over All Lanes(pcuHr): 79.22

Full Input Data And Results

Scenario 5: 'Future Year + Dev AM' (FG5: 'Base + Com Dev + Dev AM', Plan 1: 'Network Control Plan 1')

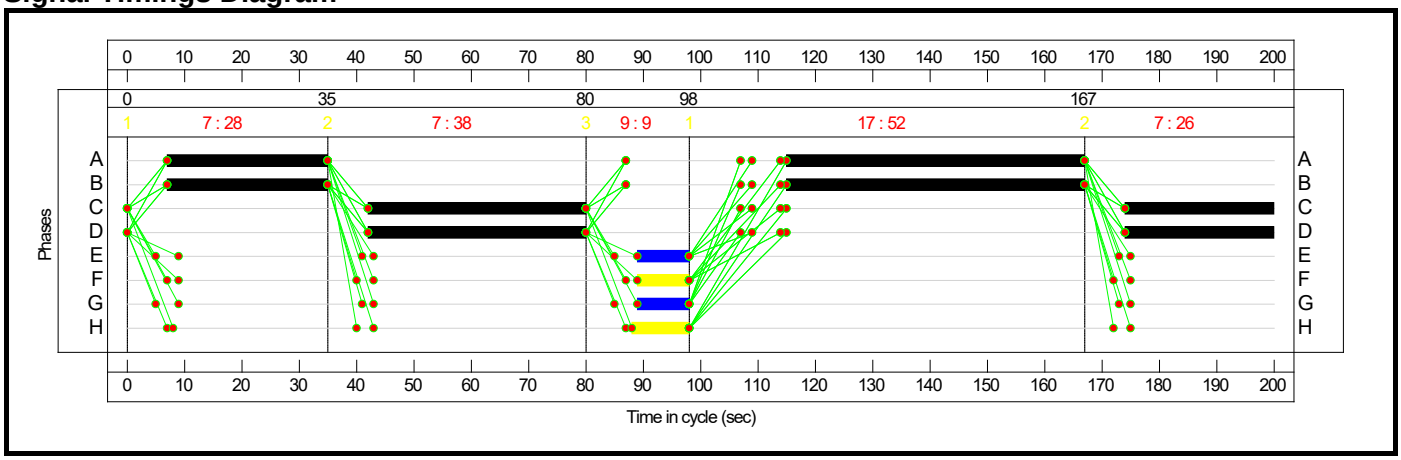
Stage Sequence Diagram



Stage Timings

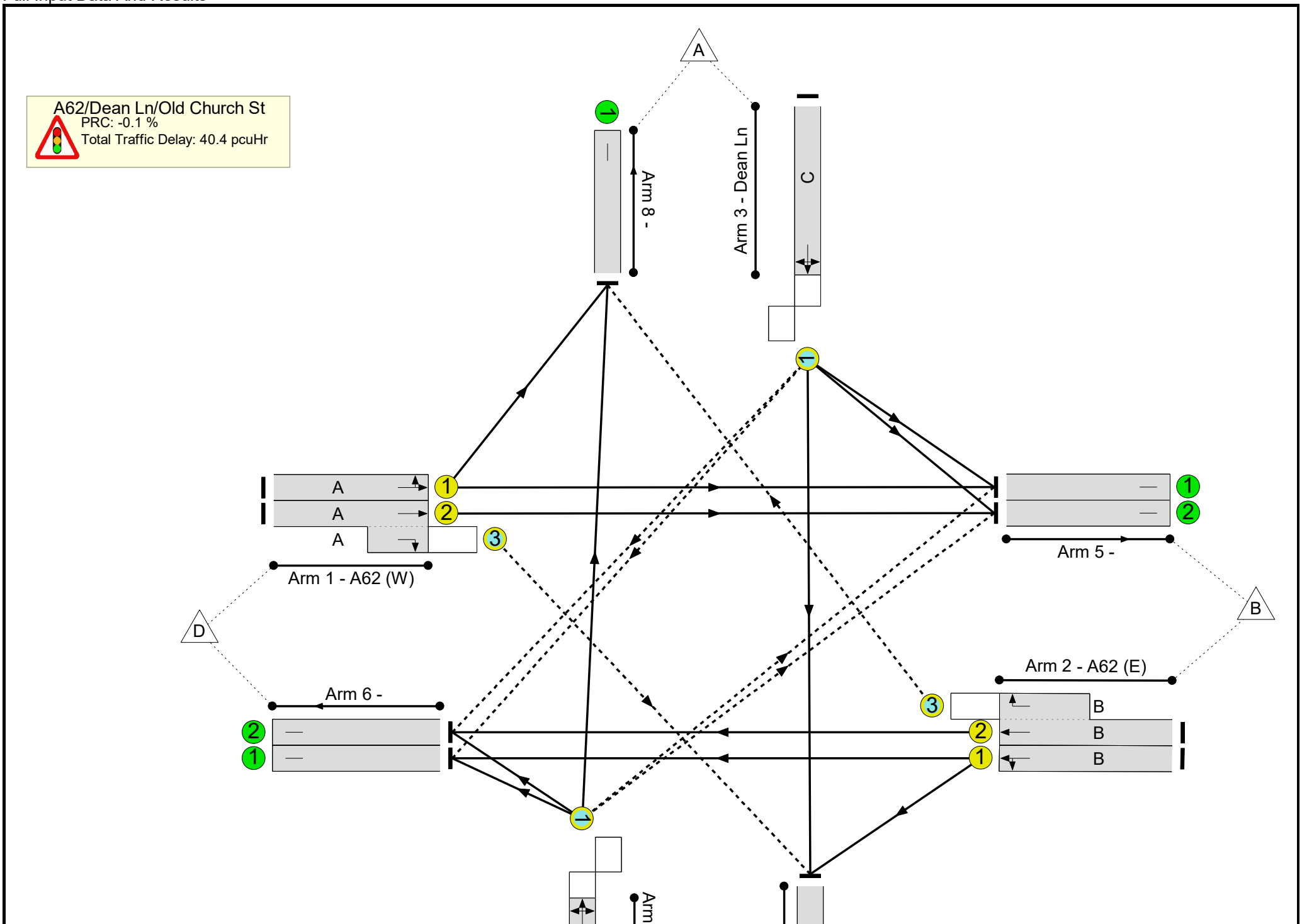
Stage	1	2	3	1	2
Duration	28	38	9	52	26
Change Point	0	35	80	98	167

Signal Timings Diagram



Full Input Data And Results

Network Layout Diagram


A62/Dean Ln/Old Church St
PRC: -0.1 %
Total Traffic Delay: 40.4 pcuHr
A
Arm 8 -
Arm 3 - Dean Ln
C
A
A
A
Arm 1 - A62 (W)
Arm 5 -
B
D
Arm 6 -
Arm 2 - A62 (E)
B
B
B

Full Input Data And Results

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	-	-	**N/A**	-	-		-	-	-	-	-	-	**90.1%**
A62/Dean Ln/Old Church St	-	-	**N/A**	-	-		-	-	-	-	-	-	**90.1%**
1/1	A62 (W) Ahead Left	U	N/A	N/A	A		2	80	-	280	1808	741	37.8%
1/2+1/3	A62 (W) Ahead Right	U+O	N/A	N/A	A		2	80	-	354	2055:1868	831+27	41.3 : 41.3%
2/1	A62 (E) Ahead Left	U	N/A	N/A	B		2	80	-	703	1914	785	89.6%
2/2+2/3	A62 (E) Ahead Right	U+O	N/A	N/A	B		2	80	-	762	2055:1868	813+33	90.1 : 90.1%
3/1	Dean Ln Left Right Ahead	O	N/A	N/A	C		2	64	-	447	1984	655	68.3%
4/1	Old Church St Right Left Ahead	O	N/A	N/A	D		2	64	-	357	1809	398	89.8%
5/1		U	N/A	N/A	-		-	-	-	179	Inf	Inf	0.0%
5/2		U	N/A	N/A	-		-	-	-	461	Inf	Inf	0.0%
6/1		U	N/A	N/A	-		-	-	-	827	Inf	Inf	0.0%
6/2		U	N/A	N/A	-		-	-	-	858	Inf	Inf	0.0%
7/1		U	N/A	N/A	-		-	-	-	277	Inf	Inf	0.0%
8/1		U	N/A	N/A	-		-	-	-	301	Inf	Inf	0.0%

Full Input Data And Results

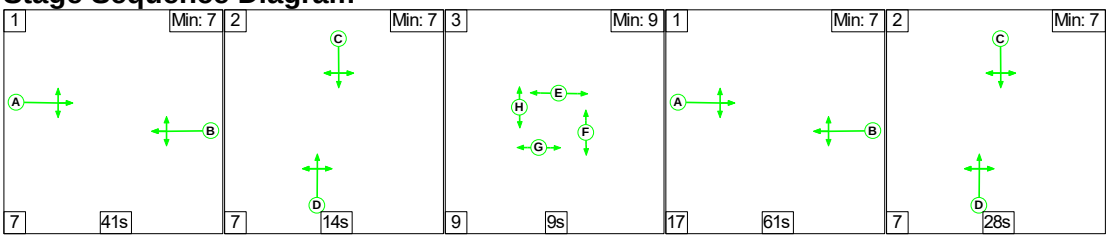
Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network	**-**	**-**	**369**	**0**	**86**	**26.2**	**13.5**	**0.8**	**40.4**	**-**	**-**	**-**	**-**
A62/Dean Ln/Old Church St	**-**	**-**	**369**	**0**	**86**	**26.2**	**13.5**	**0.8**	**40.4**	**-**	**-**	**-**	**-**
1/1	280	280	-	-	-	1.8	0.3	-	2.1	26.9	7.2	0.3	7.5
1/2+1/3	354	354	0	0	11	2.3	0.4	0.1	2.7	27.8	9.1	0.4	9.5
2/1	703	703	-	-	-	6.0	3.9	-	9.9	50.8	24.2	3.9	28.1
2/2+2/3	762	762	30	0	0	6.5	4.1	0.0	10.6	50.3	26.2	4.1	30.4
3/1	447	447	169	0	10	4.1	1.1	0.0	5.2	42.0	14.9	1.1	16.0
4/1	357	357	170	0	65	5.5	3.7	0.6	9.8	99.2	13.3	3.7	17.0
5/1	179	179	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/2	461	461	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	827	827	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/2	858	858	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	277	277	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	301	301	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

C1 PRC for Signalled Lanes (%): -0.1 Total Delay for Signalled Lanes (pcuHr): 40.44 Cycle Time (s): 200
PRC Over All Lanes (%): -0.1 Total Delay Over All Lanes(pcuHr): 40.44

Full Input Data And Results

Scenario 6: 'Future Year + Dev PM' (FG6: 'Base + Com Dev + Dev PM', Plan 1: 'Network Control Plan 1')

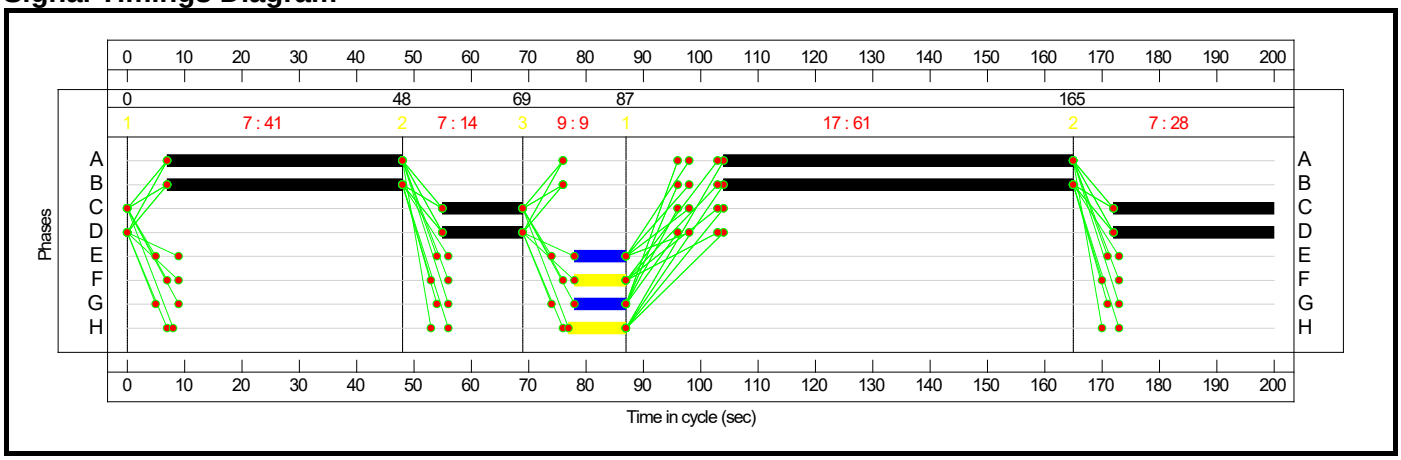
Stage Sequence Diagram



Stage Timings

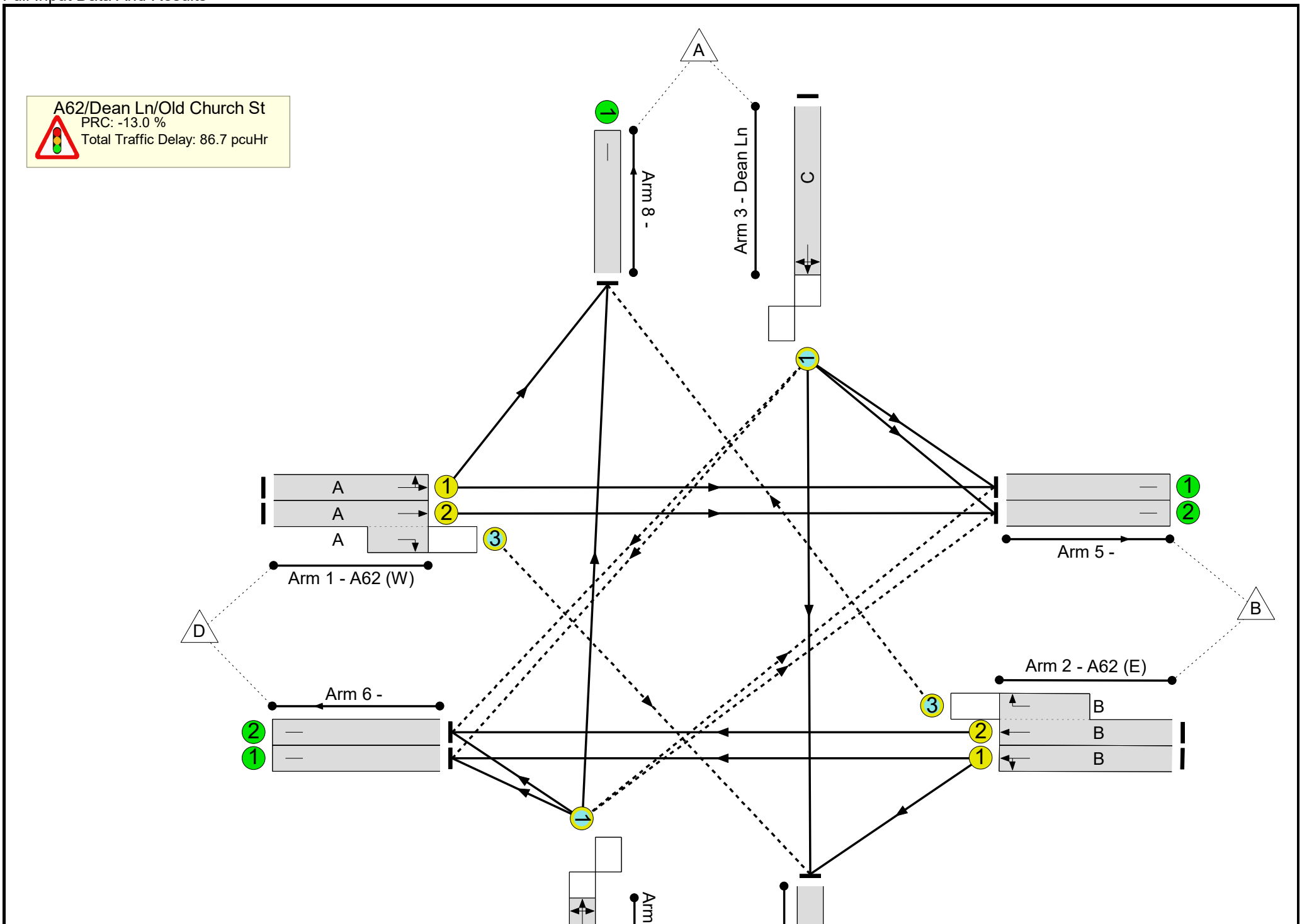
Stage	1	2	3	1	2
Duration	41	14	9	61	28
Change Point	0	48	69	87	165

Signal Timings Diagram



Full Input Data And Results

Network Layout Diagram


A62/Dean Ln/Old Church St
PRC: -13.0 %
Total Traffic Delay: 86.7 pcuHr
A
B
C
D
Arm 8 -
Arm 3 - Dean Ln
Arm 1 - A62 (W)
Arm 5 -
Arm 6 -
Arm 2 - A62 (E)
A
A
A
B
B
B

Full Input Data And Results

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	-	-	**N/A**	-	-		-	-	-	-	-	-	**101.7%**
A62/Dean Ln/Old Church St	-	-	**N/A**	-	-		-	-	-	-	-	-	**101.7%**
1/1	A62 (W) Ahead Left	U	N/A	N/A	A		2	102	-	960	1820	946	101.4%
1/2+1/3	A62 (W) Ahead Right	U+O	N/A	N/A	A		2	102	-	1108	2055:1868	941+148	101.7 : 101.7%
2/1	A62 (E) Ahead Left	U	N/A	N/A	B		2	102	-	430	1915	996	43.2%
2/2+2/3	A62 (E) Ahead Right	U+O	N/A	N/A	B		2	102	-	491	2055:1868	1012+61	45.7 : 45.7%
3/1	Dean Ln Left Right Ahead	O	N/A	N/A	C		2	42	-	383	1995	439	87.3%
4/1	Old Church St Right Left Ahead	O	N/A	N/A	D		2	42	-	422	1920	422	99.9%
5/1		U	N/A	N/A	-		-	-	-	349	Inf	Inf	0.0%
5/2		U	N/A	N/A	-		-	-	-	1016	Inf	Inf	0.0%
6/1		U	N/A	N/A	-		-	-	-	487	Inf	Inf	0.0%
6/2		U	N/A	N/A	-		-	-	-	520	Inf	Inf	0.0%
7/1		U	N/A	N/A	-		-	-	-	400	Inf	Inf	0.0%
8/1		U	N/A	N/A	-		-	-	-	1022	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	**-**	**-**	**161**	**0**	**91**	**30.7**	**55.2**	**0.8**	**86.7**	**-**	**-**	**-**	**-**
A62/Dean Ln/Old Church St	**-**	**-**	**161**	**0**	**91**	**30.7**	**55.2**	**0.8**	**86.7**	**-**	**-**	**-**	**-**
1/1	960	946	-	-	-	8.0	19.3	-	27.3	102.4	32.9	19.3	52.1
1/2+1/3	1108	1089	146	0	3	9.3	21.9	0.2	31.5	102.4	38.1	21.9	60.1
2/1	430	430	-	-	-	1.8	0.4	-	2.2	18.4	8.4	0.4	8.7
2/2+2/3	491	491	0	0	28	2.1	0.4	0.3	2.8	20.4	9.4	0.4	9.8
3/1	383	383	1	0	45	4.4	3.1	0.2	7.6	71.7	13.4	3.1	16.5
4/1	422	422	15	0	15	5.1	10.2	0.1	15.3	130.6	15.3	10.2	25.5
5/1	345	345	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/2	1000	1000	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	487	487	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/2	520	520	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	397	397	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	1013	1013	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

C1 PRC for Signalled Lanes (%): -13.0 Total Delay for Signalled Lanes (pcuHr): 86.74 Cycle Time (s): 200
PRC Over All Lanes (%): -13.0 Total Delay Over All Lanes(pcuHr): 86.74

Appendix O

All Saints St/Culcheth Ln/Briscoe Ln/Old Church St Modelling Results

Junctions 8

PICADY 8 - Priority Intersection Module

Version: 8.0.6.541 [19821,26/11/2015]
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Filename: Briscoe Ln - Culcheth Ln - All Saints St.arc8
Path: N:\Vectos Job Data\2020\VN201804 Jacksons Brickworks, Manchester\Picady
Report generation date: 29/04/2022 15:39:43

» (Default Analysis Set) - Base, AM
» (Default Analysis Set) - Base, PM
» (Default Analysis Set) - Future Year inc CD, AM
» (Default Analysis Set) - Future Year inc CD, PM
» (Default Analysis Set) - Future Year inc CD + Dev, AM
» (Default Analysis Set) - Future Year inc CD + Dev, PM

Summary of junction performance

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

	AM		PM	
	Queue (PCU)	RFC	Queue (PCU)	RFC
	A1 - Base			
Stream B-CD	0.68	0.41	74.17	1.28
Stream B-A	0.12	0.11	25.13	1.25
Stream A-B	-	-	-	-
Stream A-C	-	-	-	-
Stream A-D	-	-	-	-
Stream AB-CD	0.43	0.23	2.26	0.63
Stream AB-C	-	-	-	-
Stream D-ABC	20.85	1.19	0.78	0.44
Stream C-D	-	-	-	-
Stream C-A	-	-	-	-
Stream C-B	-	-	-	-
Stream CD-AB	9.07	0.96	1.06	0.48
Stream CD-A	-	-	-	-
	A1 - Future Year inc CD			
Stream B-CD	0.69	0.41	77.64	1.29
Stream B-A	0.12	0.11	26.02	1.26
Stream A-B	-	-	-	-
Stream A-C	-	-	-	-
Stream A-D	-	-	-	-
Stream AB-CD	0.44	0.23	2.27	0.63
Stream AB-C	-	-	-	-
Stream D-ABC	21.00	1.19	0.78	0.44
Stream C-D	-	-	-	-
Stream C-A	-	-	-	-
Stream C-B	-	-	-	-

Stream CD-AB	9.12	0.96	1.06	0.48
Stream CD-A	-	-	-	-
	A1 - Future Year inc CD + Dev			
Stream B-CD	0.84	0.46	89.98	1.33
Stream B-A	0.17	0.15	29.72	1.30
Stream A-B	-	-	-	-
Stream A-C	-	-	-	-
Stream A-D	-	-	-	-
Stream AB-CD	0.56	0.28	2.25	0.63
Stream AB-C	-	-	-	-
Stream D-ABC	41.68	1.22	0.93	0.49
Stream C-D	-	-	-	-
Stream C-A	-	-	-	-
Stream C-B	-	-	-	-
Stream CD-AB	6.39	0.89	1.22	0.51
Stream CD-A	-	-	-	-

Values shown are the maximum values over all time segments. Delay is the maximum value of average delay per arriving vehicle.

"D1 - Base, AM " model duration: 07:45 - 09:15
"D2 - Base, PM" model duration: 16:45 - 18:15
"D3 - Future Year inc CD, AM" model duration: 07:45 - 09:15
"D4 - Future Year inc CD, PM" model duration: 16:45 - 18:15
"D5 - Future Year inc CD + Dev, AM" model duration: 07:45 - 09:15
"D6 - Future Year inc CD + Dev, PM" model duration: 16:45 - 18:15

Run using Junctions 8.0.6.541 at 29/04/2022 15:39:33

File summary

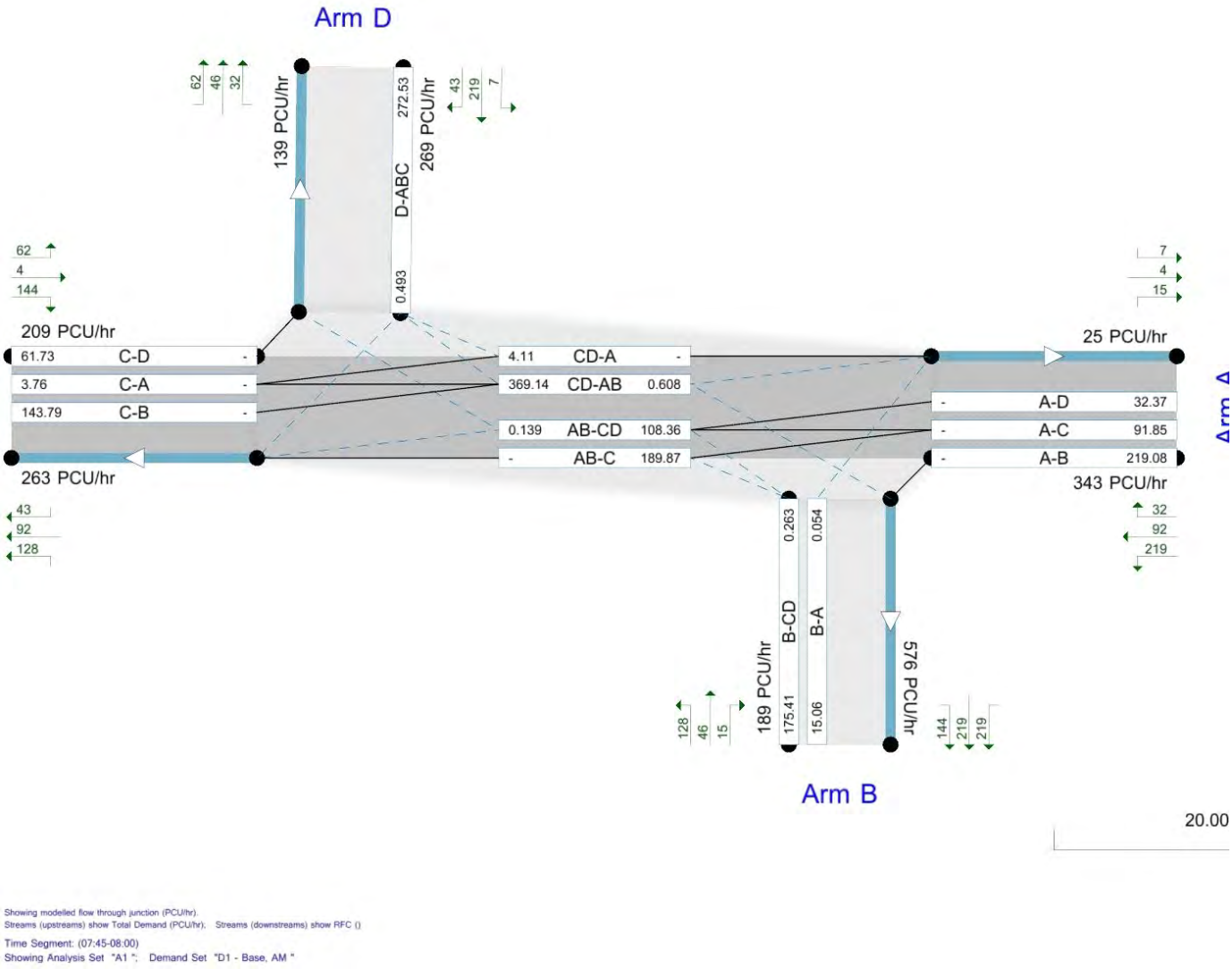
Title	(untitled)
Location	
Site Number	
Date	20/04/2021
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	james.whitton
Description	

Analysis Options

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

Units

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



Showing modelled flow through junction (PCU/hr).
Streams (upstreams) show Total Demand (PCU/hr). Streams (downstreams) show RFC ()
Time Segment: (07:45-08:00)
Showing Analysis Set "A1 "; Demand Set "D1 - Base, AM "

The junction diagram reflects the last run of ARCADY.

(Default Analysis Set) - Base, AM

Data Errors and Warnings

Severity	Area	Item	Description
Last Run	Last Run	Stream D-ABC	Capacity of Minor Stream D-ABC has been reduced in timesegment(s) 4 due to traffic queuing at the center of the junction.

Analysis Set Details

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

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Results For Central Hour Only	Single Time Segment Only	Locked	Run Automatically	Use Relationship	Relationship
Base, AM	Base	AM		ONE HOUR	07:45	09:15	90	15				✓		

Junction Network

Junctions

Junction	Name	Junction Type	Major Road Direction	Arm Order	Do Geometric Delay	Junction Delay (s)	Junction LOS
1	(untitled)	NS-OS Stagger (UK LR Stagger)	Two-way	A,B,C,D		65.98	F

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Arm	Name	Description	Arm Type
A	A	Culcheth Ln		Major
B	B	Briscoe Ln		Minor
C	C	Old Church St		Major
D	D	All Saints St		Minor

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
A	7.70		0.00		2.20	200.00	✓	0.00
C	6.50		0.00		2.20	200.00	✓	0.00

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

Minor Arm Geometry

Arm	Minor Arm Type	Lane Width (m)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
B	One lane plus flare				10.00	6.00	4.40	4.40	4.40	✓	3.00	30	30
D	One lane	2.75										26	40

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for A-D	Slope for B-C	Slope for B-D	Slope for C-A	Slope for C-B	Slope for C-D	Slope for D-A	Slope for D-B
1	AB-D	689.785	-	-	-	-	-	0.247	0.247	0.247	-	-
1	B-A	422.068	0.075	0.190	0.190	-	-	0.120	0.272	-	0.120	0.272
1	B-CD	734.938	0.110	0.279	0.279	-	-	-	-	-	-	-
1	CD-B	689.785	0.261	0.261	0.261	-	-	-	-	-	-	-
1	D-AB	632.871	-	-	-	-	-	0.227	0.227	0.090	-	-
1	D-C	493.003	-	0.132	0.300	0.132	0.300	0.210	0.210	0.083	-	-

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

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

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

Traffic Flows

Demand Set Data Options

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

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
A	ONE HOUR	✓	456.00	100.000
B	ONE HOUR	✓	253.00	100.000
C	ONE HOUR	✓	278.00	100.000
D	ONE HOUR	✓	362.00	100.000

Turning Proportions

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

		To			
		A	B	C	D
From	A	0.000	291.000	122.000	43.000
	B	20.000	0.000	172.000	61.000
	C	5.000	191.000	0.000	82.000
	D	9.000	295.000	58.000	0.000

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

		To			
		A	B	C	D
From	A	0.00	0.64	0.27	0.09
	B	0.08	0.00	0.68	0.24
	C	0.02	0.69	0.00	0.29
	D	0.02	0.81	0.16	0.00

Vehicle Mix

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

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

Heavy Vehicle Percentages - Junction 1 (for whole period)

		To			
		A	B	C	D
From	A	0.0	0.0	0.0	0.0
	B	0.0	0.0	0.0	0.0
	C	0.0	0.0	0.0	0.0
	D	0.0	0.0	0.0	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)	Total Queueing Delay (PCU-min)	Average Queueing Delay (s)	Rate Of Queueing Delay (PCU-min/min)	Inclusive Total Queueing Delay (PCU-min)	Inclusive Average Queueing Delay (s)
B-CD	0.41	9.61	0.68	A	213.80	320.71	44.76	8.37	0.50	44.77	8.38
B-A	0.11	19.96	0.12	C	18.35	27.53	7.61	16.58	0.08	7.61	16.58
A-B	-	-	-	-	267.03	400.54	-	-	-	-	-
A-C	-	-	-	-	111.95	167.92	-	-	-	-	-
A-D	-	-	-	-	39.46	59.19	-	-	-	-	-
AB-CD	0.23	5.64	0.43	A	145.00	217.50	28.72	7.92	0.32	28.72	7.92
AB-C	-	-	-	-	219.97	329.95	-	-	-	-	-
D-ABC	1.19	144.78	20.85	F	332.18	498.27	355.41	42.80	3.95	355.46	42.80
C-D	-	-	-	-	75.24	112.87	-	-	-	-	-
C-A	-	-	-	-	4.59	6.88	-	-	-	-	-
C-B	-	-	-	-	175.26	262.90	-	-	-	-	-
CD-AB	0.96	56.03	9.07	F	455.76	683.64	430.35	37.77	4.78	430.50	37.78
CD-A	-	-	-	-	2.49	3.73	-	-	-	-	-

Main Results for each time segment

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

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
B-CD	175.41	43.85	174.00	0.00	667.15	0.263	0.00	0.35	7.280	A
B-A	15.06	3.76	14.83	0.00	281.08	0.054	0.00	0.06	13.510	B
A-B	219.08	54.77	219.08	0.00	-	-	-	-	-	-
A-C	91.85	22.96	91.85	0.00	-	-	-	-	-	-
A-D	32.37	8.09	32.37	0.00	-	-	-	-	-	-
AB-CD	108.36	27.09	107.48	0.00	779.97	0.139	0.00	0.22	5.351	A
AB-C	189.87	47.47	189.87	0.00	-	-	-	-	-	-
D-ABC	272.53	68.13	268.74	0.00	552.27	0.493	0.00	0.95	12.539	B
C-D	61.73	15.43	61.73	0.00	-	-	-	-	-	-
C-A	3.76	0.94	3.76	0.00	-	-	-	-	-	-
C-B	143.79	35.95	143.79	0.00	-	-	-	-	-	-
CD-AB	369.14	92.28	363.13	0.00	606.99	0.608	0.00	1.50	14.439	B
CD-A	4.11	1.03	4.11	0.00	-	-	-	-	-	-

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

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
B-CD	209.46	52.37	209.01	0.00	652.70	0.321	0.35	0.47	8.105	A
B-A	17.98	4.49	17.90	0.00	250.93	0.072	0.06	0.08	15.443	C
A-B	261.60	65.40	261.60	0.00	-	-	-	-	-	-
A-C	109.68	27.42	109.68	0.00	-	-	-	-	-	-
A-D	38.66	9.66	38.66	0.00	-	-	-	-	-	-
AB-CD	138.98	34.75	138.68	0.00	799.42	0.174	0.22	0.30	5.453	A
AB-C	218.36	54.59	218.36	0.00	-	-	-	-	-	-
D-ABC	325.43	81.36	323.44	0.00	541.36	0.601	0.95	1.45	16.362	C
C-D	73.72	18.43	73.72	0.00	-	-	-	-	-	-
C-A	4.49	1.12	4.49	0.00	-	-	-	-	-	-
C-B	171.71	42.93	171.71	0.00	-	-	-	-	-	-
CD-AB	444.74	111.19	439.57	0.00	591.11	0.752	1.50	2.80	22.994	C
CD-A	3.08	0.77	3.08	0.00	-	-	-	-	-	-

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

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
B-CD	256.54	64.13	255.72	0.00	631.85	0.406	0.47	0.67	9.550	A
B-A	22.02	5.51	21.87	0.00	210.20	0.105	0.08	0.11	19.098	C
A-B	320.40	80.10	320.40	0.00	-	-	-	-	-	-
A-C	134.32	33.58	134.32	0.00	-	-	-	-	-	-
A-D	47.34	11.84	47.34	0.00	-	-	-	-	-	-
AB-CD	186.49	46.62	185.96	0.00	826.00	0.226	0.30	0.43	5.631	A
AB-C	250.90	62.72	250.90	0.00	-	-	-	-	-	-
D-ABC	398.57	99.64	393.11	0.00	526.11	0.758	1.45	2.81	26.015	D
C-D	90.28	22.57	90.28	0.00	-	-	-	-	-	-
C-A	5.51	1.38	5.51	0.00	-	-	-	-	-	-
C-B	210.29	52.57	210.29	0.00	-	-	-	-	-	-
CD-AB	545.37	136.34	520.28	0.00	569.12	0.958	2.80	9.07	56.031	F
CD-A	0.56	0.14	0.56	0.00	-	-	-	-	-	-

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

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
B-CD	256.54	64.13	256.51	0.00	631.02	0.407	0.67	0.68	9.610	A
B-A	22.02	5.51	22.00	0.00	202.34	0.109	0.11	0.12	19.958	C
A-B	320.40	80.10	320.40	0.00	-	-	-	-	-	-
A-C	134.32	33.58	134.32	0.00	-	-	-	-	-	-
A-D	47.34	11.84	47.34	0.00	-	-	-	-	-	-
AB-CD	187.05	46.76	187.03	0.00	826.46	0.226	0.43	0.43	5.639	A
AB-C	251.13	62.78	251.13	0.00	-	-	-	-	-	-
D-ABC	398.57	99.64	326.39	0.00	336.34	1.185	2.81	20.85	144.782	F
C-D	90.28	22.57	90.28	0.00	-	-	-	-	-	-
C-A	5.51	1.38	5.51	0.00	-	-	-	-	-	-
C-B	210.29	52.57	210.29	0.00	-	-	-	-	-	-
CD-AB	488.30	122.07	495.04	0.00	568.16	0.859	9.07	7.38	53.669	F
CD-A	1.60	0.40	1.60	0.00	-	-	-	-	-	-

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

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
B-CD	209.46	52.37	210.26	0.00	651.15	0.322	0.68	0.48	8.181	A
B-A	17.98	4.49	18.11	0.00	226.88	0.079	0.12	0.09	17.256	C
A-B	261.60	65.40	261.60	0.00	-	-	-	-	-	-
A-C	109.68	27.42	109.68	0.00	-	-	-	-	-	-
A-D	38.66	9.66	38.66	0.00	-	-	-	-	-	-
AB-CD	139.74	34.94	140.25	0.00	800.12	0.175	0.43	0.31	5.467	A
AB-C	218.85	54.71	218.85	0.00	-	-	-	-	-	-
D-ABC	325.43	81.36	402.42	0.00	541.23	0.601	20.85	1.61	40.270	E
C-D	73.72	18.43	73.72	0.00	-	-	-	-	-	-
C-A	4.49	1.12	4.49	0.00	-	-	-	-	-	-
C-B	171.71	42.93	171.71	0.00	-	-	-	-	-	-
CD-AB	512.46	128.12	513.48	0.00	592.61	0.865	7.38	7.13	47.548	E
CD-A	1.68	0.42	1.68	0.00	-	-	-	-	-	-

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

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
B-CD	175.41	43.85	175.89	0.00	666.49	0.263	0.48	0.36	7.347	A
B-A	15.06	3.76	15.17	0.00	272.08	0.055	0.09	0.06	14.018	B
A-B	219.08	54.77	219.08	0.00	-	-	-	-	-	-
A-C	91.85	22.96	91.85	0.00	-	-	-	-	-	-
A-D	32.37	8.09	32.37	0.00	-	-	-	-	-	-
AB-CD	109.40	27.35	109.71	0.00	780.98	0.140	0.31	0.23	5.369	A
AB-C	190.71	47.68	190.71	0.00	-	-	-	-	-	-
D-ABC	272.53	68.13	274.96	0.00	552.08	0.494	1.61	1.00	13.104	B
C-D	61.73	15.43	61.73	0.00	-	-	-	-	-	-
C-A	3.76	0.94	3.76	0.00	-	-	-	-	-	-
C-B	143.79	35.95	143.79	0.00	-	-	-	-	-	-
CD-AB	374.56	93.64	396.27	0.00	607.24	0.617	7.13	1.70	18.667	C
CD-A	3.91	0.98	3.91	0.00	-	-	-	-	-	-

Queueing Delay Results for each time segment

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

Stream	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-CD	5.09	0.34	7.280	A	A
B-A	0.79	0.05	13.510	B	B
A-B	-	-	-	-	-
A-C	-	-	-	-	-
A-D	-	-	-	-	-
AB-CD	3.27	0.22	5.351	A	A
AB-C	-	-	-	-	-
D-ABC	13.23	0.88	12.539	B	B
C-D	-	-	-	-	-
C-A	-	-	-	-	-
C-B	-	-	-	-	-
CD-AB	21.69	1.45	14.439	B	B
CD-A	-	-	-	-	-

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

Stream	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-CD	6.81	0.45	8.105	A	A
B-A	1.10	0.07	15.443	C	B
A-B	-	-	-	-	-
A-C	-	-	-	-	-
A-D	-	-	-	-	-
AB-CD	4.48	0.30	5.453	A	A
AB-C	-	-	-	-	-
D-ABC	20.34	1.36	16.362	C	B
C-D	-	-	-	-	-
C-A	-	-	-	-	-
C-B	-	-	-	-	-
CD-AB	41.98	2.80	22.994	C	C
CD-A	-	-	-	-	-

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

Stream	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-CD	9.72	0.65	9.550	A	A
B-A	1.64	0.11	19.098	C	B
A-B	-	-	-	-	-
A-C	-	-	-	-	-
A-D	-	-	-	-	-
AB-CD	6.45	0.43	5.631	A	A
AB-C	-	-	-	-	-
D-ABC	37.37	2.49	26.015	D	C
C-D	-	-	-	-	-
C-A	-	-	-	-	-
C-B	-	-	-	-	-
CD-AB	118.48	7.90	56.031	F	E
CD-A	-	-	-	-	-

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

Stream	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-CD	10.14	0.68	9.610	A	A
B-A	1.77	0.12	19.958	C	B
A-B	-	-	-	-	-
A-C	-	-	-	-	-
A-D	-	-	-	-	-
AB-CD	6.53	0.44	5.639	A	A
AB-C	-	-	-	-	-
D-ABC	185.01	12.33	144.782	F	F
C-D	-	-	-	-	-
C-A	-	-	-	-	-
C-B	-	-	-	-	-
CD-AB	112.67	7.51	53.669	F	D
CD-A	-	-	-	-	-

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

Stream	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-CD	7.44	0.50	8.181	A	A
B-A	1.37	0.09	17.256	C	B
A-B	-	-	-	-	-
A-C	-	-	-	-	-
A-D	-	-	-	-	-
AB-CD	4.58	0.31	5.467	A	A
AB-C	-	-	-	-	-
D-ABC	83.58	5.57	40.270	E	D
C-D	-	-	-	-	-
C-A	-	-	-	-	-
C-B	-	-	-	-	-
CD-AB	103.03	6.87	47.548	E	D
CD-A	-	-	-	-	-

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

Stream	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-CD	5.56	0.37	7.347	A	A
B-A	0.93	0.06	14.018	B	B
A-B	-	-	-	-	-
A-C	-	-	-	-	-
A-D	-	-	-	-	-
AB-CD	3.40	0.23	5.369	A	A
AB-C	-	-	-	-	-
D-ABC	15.90	1.06	13.104	B	B
C-D	-	-	-	-	-
C-A	-	-	-	-	-
C-B	-	-	-	-	-
CD-AB	32.51	2.17	18.667	C	B
CD-A	-	-	-	-	-

(Default Analysis Set) - Base, PM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

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

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Results For Central Hour Only	Single Time Segment Only	Locked	Run Automatically	Use Relationship	Relationship
Base, PM	Base	PM		ONE HOUR	16:45	18:15	90	15				✓		

Junction Network

Junctions

Junction	Name	Junction Type	Major Road Direction	Arm Order	Do Geometric Delay	Junction Delay (s)	Junction LOS
1	(untitled)	NS-OS Stagger (UK LR Stagger)	Two-way	A,B,C,D		237.16	F

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Arm	Name	Description	Arm Type
A	A	Culcheth Ln		Major
B	B	Briscoe Ln		Minor
C	C	Old Church St		Major
D	D	All Saints St		Minor

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
A	7.70		0.00		2.20	200.00	✓	0.00
C	6.50		0.00		2.20	200.00	✓	0.00

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

Minor Arm Geometry

Arm	Minor Arm Type	Lane Width (m)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
B	One lane plus flare				10.00	6.00	4.40	4.40	4.40	✓	3.00	30	30
D	One lane	2.75										26	40

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for A-D	Slope for B-C	Slope for B-D	Slope for C-A	Slope for C-B	Slope for C-D	Slope for D-A	Slope for D-B
1	AB-D	689.785	-	-	-	-	-	0.247	0.247	0.247	-	-
1	B-A	448.950	0.080	0.202	0.202	-	-	0.127	0.289	-	0.127	0.289
1	B-CD	700.518	0.105	0.266	0.266	-	-	-	-	-	-	-
1	CD-B	689.785	0.261	0.261	0.261	-	-	-	-	-	-	-
1	D-AB	632.871	-	-	-	-	-	0.227	0.227	0.090	-	-
1	D-C	493.003	-	0.132	0.300	0.132	0.300	0.210	0.210	0.083	-	-

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

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

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

Traffic Flows

Demand Set Data Options

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

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
A	ONE HOUR	✓	238.00	100.000
B	ONE HOUR	✓	757.00	100.000
C	ONE HOUR	✓	392.00	100.000
D	ONE HOUR	✓	167.00	100.000

Turning Proportions

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

		To			
		A	B	C	D
From	A	0.000	107.000	71.000	60.000
	B	186.000	0.000	311.000	260.000
	C	105.000	164.000	0.000	123.000
	D	50.000	79.000	38.000	0.000

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

		To			
		A	B	C	D
From	A	0.00	0.45	0.30	0.25
	B	0.25	0.00	0.41	0.34
	C	0.27	0.42	0.00	0.31
	D	0.30	0.47	0.23	0.00

Vehicle Mix

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

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

Heavy Vehicle Percentages - Junction 1 (for whole period)

		To			
		A	B	C	D
From	A	0.0	0.0	0.0	0.0
	B	0.0	0.0	0.0	0.0
	C	0.0	0.0	0.0	0.0
	D	0.0	0.0	0.0	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)	Total Queueing Delay (PCU-min)	Average Queueing Delay (s)	Rate Of Queueing Delay (PCU-min/min)	Inclusive Total Queueing Delay (PCU-min)	Inclusive Average Queueing Delay (s)
B-CD	1.28	522.25	74.17	F	523.96	785.94	3316.51	253.19	36.85	3458.88	264.06
B-A	1.25	552.25	25.13	F	170.68	256.02	1151.66	269.90	12.80	1205.23	282.46
A-B	-	-	-	-	98.19	147.28	-	-	-	-	-
A-C	-	-	-	-	65.15	97.73	-	-	-	-	-
A-D	-	-	-	-	55.06	82.59	-	-	-	-	-
AB-CD	0.63	11.91	2.26	B	468.75	703.12	164.50	14.04	1.83	164.62	14.05
AB-C	-	-	-	-	141.90	212.85	-	-	-	-	-
D-ABC	0.44	15.53	0.78	C	153.24	229.86	47.57	12.42	0.53	47.58	12.42
C-D	-	-	-	-	112.87	169.30	-	-	-	-	-
C-A	-	-	-	-	96.35	144.52	-	-	-	-	-
C-B	-	-	-	-	150.49	225.73	-	-	-	-	-
CD-AB	0.48	9.39	1.06	A	279.24	418.86	67.40	9.66	0.75	67.42	9.66
CD-A	-	-	-	-	85.78	128.67	-	-	-	-	-

Main Results for each time segment

Main results: (16:45-17:00)

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
B-CD	429.88	107.47	420.21	0.00	594.03	0.724	0.00	2.42	19.757	C
B-A	140.03	35.01	136.96	0.00	315.34	0.444	0.00	0.77	19.865	C
A-B	80.56	20.14	80.56	0.00	-	-	-	-	-	-
A-C	53.45	13.36	53.45	0.00	-	-	-	-	-	-
A-D	45.17	11.29	45.17	0.00	-	-	-	-	-	-
AB-CD	363.23	90.81	358.97	0.00	801.73	0.453	0.00	1.07	8.092	A
AB-C	155.60	38.90	155.60	0.00	-	-	-	-	-	-
D-ABC	125.73	31.43	124.38	0.00	495.12	0.254	0.00	0.34	9.676	A
C-D	92.60	23.15	92.60	0.00	-	-	-	-	-	-
C-A	79.05	19.76	79.05	0.00	-	-	-	-	-	-
C-B	123.47	30.87	123.47	0.00	-	-	-	-	-	-
CD-AB	217.50	54.37	215.54	0.00	717.67	0.303	0.00	0.49	7.148	A
CD-A	81.10	20.28	81.10	0.00	-	-	-	-	-	-

Main results: (17:00-17:15)

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
B-CD	513.32	128.33	494.48	0.00	555.26	0.924	2.42	7.13	48.421	E
B-A	167.21	41.80	159.24	0.00	213.35	0.784	0.77	2.76	59.705	F
A-B	96.19	24.05	96.19	0.00	-	-	-	-	-	-
A-C	63.83	15.96	63.83	0.00	-	-	-	-	-	-
A-D	53.94	13.48	53.94	0.00	-	-	-	-	-	-
AB-CD	468.18	117.04	465.57	0.00	824.17	0.568	1.07	1.72	10.058	B
AB-C	144.07	36.02	144.07	0.00	-	-	-	-	-	-
D-ABC	150.13	37.53	149.63	0.00	471.01	0.319	0.34	0.46	11.183	B
C-D	110.57	27.64	110.57	0.00	-	-	-	-	-	-
C-A	94.39	23.60	94.39	0.00	-	-	-	-	-	-
C-B	147.43	36.86	147.43	0.00	-	-	-	-	-	-
CD-AB	270.28	67.57	269.53	0.00	724.13	0.373	0.49	0.68	7.918	A
CD-A	87.13	21.78	87.13	0.00	-	-	-	-	-	-

Main results: (17:15-17:30)

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
B-CD	628.68	157.17	505.78	0.00	511.07	1.230	7.13	37.85	180.018	F
B-A	204.79	51.20	160.94	0.00	167.84	1.220	2.76	13.72	224.265	F
A-B	117.81	29.45	117.81	0.00	-	-	-	-	-	-
A-C	78.17	19.54	78.17	0.00	-	-	-	-	-	-
A-D	66.06	16.52	66.06	0.00	-	-	-	-	-	-
AB-CD	519.82	129.95	517.66	0.00	822.15	0.632	1.72	2.26	11.906	B
AB-C	130.19	32.55	130.19	0.00	-	-	-	-	-	-
D-ABC	183.87	45.97	182.85	0.00	434.05	0.424	0.46	0.72	14.270	B
C-D	135.43	33.86	135.43	0.00	-	-	-	-	-	-
C-A	115.61	28.90	115.61	0.00	-	-	-	-	-	-
C-B	180.57	45.14	180.57	0.00	-	-	-	-	-	-
CD-AB	348.07	87.02	346.61	0.00	732.98	0.475	0.68	1.04	9.310	A
CD-A	89.34	22.34	89.34	0.00	-	-	-	-	-	-

Main results: (17:30-17:45)

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
B-CD	628.68	157.17	490.20	0.00	490.89	1.281	37.85	72.47	414.501	F
B-A	204.79	51.20	161.88	0.00	163.41	1.253	13.72	24.45	455.905	F
A-B	117.81	29.45	117.81	0.00	-	-	-	-	-	-
A-C	78.17	19.54	78.17	0.00	-	-	-	-	-	-
A-D	66.06	16.52	66.06	0.00	-	-	-	-	-	-
AB-CD	501.29	125.32	501.43	0.00	816.66	0.614	2.26	2.22	11.598	B
AB-C	133.14	33.28	133.14	0.00	-	-	-	-	-	-
D-ABC	183.87	45.97	183.63	0.00	415.01	0.443	0.72	0.78	15.535	C
C-D	135.43	33.86	135.43	0.00	-	-	-	-	-	-
C-A	115.61	28.90	115.61	0.00	-	-	-	-	-	-
C-B	180.57	45.14	180.57	0.00	-	-	-	-	-	-
CD-AB	348.90	87.22	348.84	0.00	733.33	0.476	1.04	1.06	9.389	A
CD-A	89.12	22.28	89.12	0.00	-	-	-	-	-	-

Main results: (17:45-18:00)

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
B-CD	513.32	128.33	506.54	0.00	509.21	1.008	72.47	74.17	522.248	F
B-A	167.21	41.80	164.48	0.00	168.01	0.995	24.45	25.13	552.249	F
A-B	96.19	24.05	96.19	0.00	-	-	-	-	-	-
A-C	63.83	15.96	63.83	0.00	-	-	-	-	-	-
A-D	53.94	13.48	53.94	0.00	-	-	-	-	-	-
AB-CD	482.53	120.63	483.61	0.00	828.89	0.582	2.22	1.96	10.585	B
AB-C	141.77	35.44	141.77	0.00	-	-	-	-	-	-
D-ABC	150.13	37.53	151.06	0.00	432.27	0.347	0.78	0.54	12.844	B
C-D	110.57	27.64	110.57	0.00	-	-	-	-	-	-
C-A	94.39	23.60	94.39	0.00	-	-	-	-	-	-
C-B	147.43	36.86	147.43	0.00	-	-	-	-	-	-
CD-AB	271.57	67.89	272.97	0.00	724.70	0.375	1.06	0.71	8.008	A
CD-A	86.95	21.74	86.95	0.00	-	-	-	-	-	-

Main results: (18:00-18:15)

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
B-CD	429.88	107.47	525.46	0.00	532.55	0.807	74.17	50.27	428.483	F
B-A	140.03	35.01	169.58	0.00	176.32	0.794	25.13	17.75	460.848	F
A-B	80.56	20.14	80.56	0.00	-	-	-	-	-	-
A-C	53.45	13.36	53.45	0.00	-	-	-	-	-	-
A-D	45.17	11.29	45.17	0.00	-	-	-	-	-	-
AB-CD	477.44	119.36	477.95	0.00	840.18	0.568	1.96	1.83	10.060	B
AB-C	146.64	36.66	146.64	0.00	-	-	-	-	-	-
D-ABC	125.73	31.43	126.36	0.00	458.27	0.274	0.54	0.38	10.869	B
C-D	92.60	23.15	92.60	0.00	-	-	-	-	-	-
C-A	79.05	19.76	79.05	0.00	-	-	-	-	-	-
C-B	123.47	30.87	123.47	0.00	-	-	-	-	-	-
CD-AB	219.11	54.78	219.90	0.00	718.29	0.305	0.71	0.51	7.241	A
CD-A	81.02	20.25	81.02	0.00	-	-	-	-	-	-

Queueing Delay Results for each time segment

Queueing Delay results: (16:45-17:00)

Stream	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-CD	31.64	2.11	19.757	C	B
B-A	10.49	0.70	19.865	C	B
A-B	-	-	-	-	-
A-C	-	-	-	-	-
A-D	-	-	-	-	-
AB-CD	15.61	1.04	8.092	A	A
AB-C	-	-	-	-	-
D-ABC	4.80	0.32	9.676	A	A
C-D	-	-	-	-	-
C-A	-	-	-	-	-
C-B	-	-	-	-	-
CD-AB	7.23	0.48	7.148	A	A
CD-A	-	-	-	-	-

Queueing Delay results: (17:00-17:15)

Stream	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-CD	82.56	5.50	48.421	E	D
B-A	33.13	2.21	59.705	F	E
A-B	-	-	-	-	-
A-C	-	-	-	-	-
A-D	-	-	-	-	-
AB-CD	25.95	1.73	10.058	B	B
AB-C	-	-	-	-	-
D-ABC	6.66	0.44	11.183	B	B
C-D	-	-	-	-	-
C-A	-	-	-	-	-
C-B	-	-	-	-	-
CD-AB	10.23	0.68	7.918	A	A
CD-A	-	-	-	-	-

Queueing Delay results: (17:15-17:30)

Stream	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-CD	341.43	22.76	180.018	F	F
B-A	127.83	8.52	224.265	F	F
A-B	-	-	-	-	-
A-C	-	-	-	-	-
A-D	-	-	-	-	-
AB-CD	34.53	2.30	11.906	B	B
AB-C	-	-	-	-	-
D-ABC	10.21	0.68	14.270	B	B
C-D	-	-	-	-	-
C-A	-	-	-	-	-
C-B	-	-	-	-	-
CD-AB	15.73	1.05	9.310	A	A
CD-A	-	-	-	-	-

Queueing Delay results: (17:30-17:45)

Stream	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-CD	827.71	55.18	414.501	F	F
B-A	286.74	19.12	455.905	F	F
A-B	-	-	-	-	-
A-C	-	-	-	-	-
A-D	-	-	-	-	-
AB-CD	32.77	2.18	11.598	B	B
AB-C	-	-	-	-	-
D-ABC	11.40	0.76	15.535	C	B
C-D	-	-	-	-	-
C-A	-	-	-	-	-
C-B	-	-	-	-	-
CD-AB	16.04	1.07	9.389	A	A
CD-A	-	-	-	-	-

Queueing Delay results: (17:45-18:00)

Stream	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-CD	1099.85	73.32	522.248	F	F
B-A	371.89	24.79	552.249	F	F
A-B	-	-	-	-	-
A-C	-	-	-	-	-
A-D	-	-	-	-	-
AB-CD	28.76	1.92	10.585	B	B
AB-C	-	-	-	-	-
D-ABC	8.51	0.57	12.844	B	B
C-D	-	-	-	-	-
C-A	-	-	-	-	-
C-B	-	-	-	-	-
CD-AB	10.59	0.71	8.008	A	A
CD-A	-	-	-	-	-

Queueing Delay results: (18:00-18:15)

Stream	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-CD	933.31	62.22	428.483	F	F
B-A	321.58	21.44	460.848	F	F
A-B	-	-	-	-	-
A-C	-	-	-	-	-
A-D	-	-	-	-	-
AB-CD	26.88	1.79	10.060	B	B
AB-C	-	-	-	-	-
D-ABC	5.98	0.40	10.869	B	B
C-D	-	-	-	-	-
C-A	-	-	-	-	-
C-B	-	-	-	-	-
CD-AB	7.58	0.51	7.241	A	A
CD-A	-	-	-	-	-

(Default Analysis Set) - Future Year inc CD, AM

Data Errors and Warnings

Severity	Area	Item	Description
Last Run	Last Run	Stream D-ABC	Capacity of Minor Stream D-ABC has been reduced in timesegment(s) 4 due to traffic queuing at the center of the junction.

Analysis Set Details

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

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Results For Central Hour Only	Single Time Segment Only	Locked	Run Automatically	Use Relationship	Relationship
Future Year inc CD, AM	Future Year inc CD	AM		ONE HOUR	07:45	09:15	90	15				✓		

Junction Network

Junctions

Junction	Name	Junction Type	Major Road Direction	Arm Order	Do Geometric Delay	Junction Delay (s)	Junction LOS
1	(untitled)	NS-OS Stagger (UK LR Stagger)	Two-way	A,B,C,D		66.23	F

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Arm	Name	Description	Arm Type
A	A	Culcheth Ln		Major
B	B	Briscoe Ln		Minor
C	C	Old Church St		Major
D	D	All Saints St		Minor

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
A	7.70		0.00		2.20	200.00	✓	0.00
C	6.50		0.00		2.20	200.00	✓	0.00

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

Minor Arm Geometry

Arm	Minor Arm Type	Lane Width (m)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
B	One lane plus flare				10.00	6.00	4.40	4.40	4.40	✓	3.00	30	30
D	One lane	2.75										26	40

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for A-D	Slope for B-C	Slope for B-D	Slope for C-A	Slope for C-B	Slope for C-D	Slope for D-A	Slope for D-B
1	AB-D	689.785	-	-	-	-	-	0.247	0.247	0.247	-	-
1	B-A	421.986	0.075	0.190	0.190	-	-	0.120	0.271	-	0.120	0.271
1	B-CD	735.043	0.110	0.279	0.279	-	-	-	-	-	-	-
1	CD-B	689.785	0.261	0.261	0.261	-	-	-	-	-	-	-
1	D-AB	632.871	-	-	-	-	-	0.227	0.227	0.090	-	-
1	D-C	493.003	-	0.132	0.300	0.132	0.300	0.210	0.210	0.083	-	-

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

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

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

Traffic Flows

Demand Set Data Options

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

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
A	ONE HOUR	✓	458.00	100.000
B	ONE HOUR	✓	255.00	100.000
C	ONE HOUR	✓	278.00	100.000
D	ONE HOUR	✓	362.00	100.000

Turning Proportions

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

		To			
		A	B	C	D
From	A	0.000	291.000	124.000	43.000
	B	20.000	0.000	174.000	61.000
	C	5.000	191.000	0.000	82.000
	D	9.000	295.000	58.000	0.000

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

		To			
		A	B	C	D
From	A	0.00	0.64	0.27	0.09
	B	0.08	0.00	0.68	0.24
	C	0.02	0.69	0.00	0.29
	D	0.02	0.81	0.16	0.00

Vehicle Mix

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

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

Heavy Vehicle Percentages - Junction 1 (for whole period)

		To			
		A	B	C	D
From	A	0.0	0.0	0.0	0.0
	B	0.0	0.0	0.0	0.0
	C	0.0	0.0	0.0	0.0
	D	0.0	0.0	0.0	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)	Total Queueing Delay (PCU-min)	Average Queueing Delay (s)	Rate Of Queueing Delay (PCU-min/min)	Inclusive Total Queueing Delay (PCU-min)	Inclusive Average Queueing Delay (s)
B-CD	0.41	9.68	0.69	A	215.64	323.46	45.40	8.42	0.50	45.41	8.42
B-A	0.11	20.03	0.12	C	18.35	27.53	7.62	16.62	0.08	7.62	16.62
A-B	-	-	-	-	267.03	400.54	-	-	-	-	-
A-C	-	-	-	-	113.78	170.68	-	-	-	-	-
A-D	-	-	-	-	39.46	59.19	-	-	-	-	-
AB-CD	0.23	5.62	0.44	A	145.78	218.68	28.92	7.94	0.32	28.92	7.94
AB-C	-	-	-	-	222.85	334.28	-	-	-	-	-
D-ABC	1.19	145.68	21.00	F	332.18	498.27	357.49	43.05	3.97	357.55	43.05
C-D	-	-	-	-	75.24	112.87	-	-	-	-	-
C-A	-	-	-	-	4.59	6.88	-	-	-	-	-
C-B	-	-	-	-	175.26	262.90	-	-	-	-	-
CD-AB	0.96	56.33	9.12	F	455.77	683.66	432.52	37.96	4.81	432.66	37.97
CD-A	-	-	-	-	2.48	3.72	-	-	-	-	-

Main Results for each time segment

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

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
B-CD	176.92	44.23	175.49	0.00	666.82	0.265	0.00	0.36	7.307	A
B-A	15.06	3.76	14.83	0.00	280.73	0.054	0.00	0.06	13.528	B
A-B	219.08	54.77	219.08	0.00	-	-	-	-	-	-
A-C	93.35	23.34	93.35	0.00	-	-	-	-	-	-
A-D	32.37	8.09	32.37	0.00	-	-	-	-	-	-
AB-CD	108.82	27.21	107.93	0.00	781.89	0.139	0.00	0.22	5.339	A
AB-C	192.40	48.10	192.40	0.00	-	-	-	-	-	-
D-ABC	272.53	68.13	268.74	0.00	552.15	0.494	0.00	0.95	12.544	B
C-D	61.73	15.43	61.73	0.00	-	-	-	-	-	-
C-A	3.76	0.94	3.76	0.00	-	-	-	-	-	-
C-B	143.79	35.95	143.79	0.00	-	-	-	-	-	-
CD-AB	369.14	92.28	363.12	0.00	606.60	0.609	0.00	1.50	14.460	B
CD-A	4.10	1.03	4.10	0.00	-	-	-	-	-	-

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

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
B-CD	211.26	52.82	210.80	0.00	652.28	0.324	0.36	0.47	8.146	A
B-A	17.98	4.49	17.90	0.00	250.50	0.072	0.06	0.08	15.471	C
A-B	261.60	65.40	261.60	0.00	-	-	-	-	-	-
A-C	111.47	27.87	111.47	0.00	-	-	-	-	-	-
A-D	38.66	9.66	38.66	0.00	-	-	-	-	-	-
AB-CD	139.69	34.92	139.38	0.00	801.73	0.174	0.22	0.30	5.437	A
AB-C	221.23	55.31	221.23	0.00	-	-	-	-	-	-
D-ABC	325.43	81.36	323.44	0.00	541.21	0.601	0.95	1.45	16.372	C
C-D	73.72	18.43	73.72	0.00	-	-	-	-	-	-
C-A	4.49	1.12	4.49	0.00	-	-	-	-	-	-
C-B	171.71	42.93	171.71	0.00	-	-	-	-	-	-
CD-AB	444.75	111.19	439.55	0.00	590.65	0.753	1.50	2.80	23.059	C
CD-A	3.07	0.77	3.07	0.00	-	-	-	-	-	-

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

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
B-CD	258.74	64.68	257.90	0.00	631.30	0.410	0.47	0.68	9.618	A
B-A	22.02	5.51	21.87	0.00	209.64	0.105	0.08	0.11	19.155	C
A-B	320.40	80.10	320.40	0.00	-	-	-	-	-	-
A-C	136.53	34.13	136.53	0.00	-	-	-	-	-	-
A-D	47.34	11.84	47.34	0.00	-	-	-	-	-	-
AB-CD	187.64	46.91	187.11	0.00	828.84	0.226	0.30	0.43	5.616	A
AB-C	254.13	63.53	254.13	0.00	-	-	-	-	-	-
D-ABC	398.57	99.64	393.10	0.00	525.91	0.758	1.45	2.81	26.047	D
C-D	90.28	22.57	90.28	0.00	-	-	-	-	-	-
C-A	5.51	1.38	5.51	0.00	-	-	-	-	-	-
C-B	210.29	52.57	210.29	0.00	-	-	-	-	-	-
CD-AB	545.37	136.34	520.09	0.00	568.55	0.959	2.80	9.12	56.327	F
CD-A	0.54	0.14	0.54	0.00	-	-	-	-	-	-

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

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
B-CD	258.74	64.68	258.71	0.00	630.47	0.410	0.68	0.69	9.682	A
B-A	22.02	5.51	22.00	0.00	201.73	0.109	0.11	0.12	20.025	C
A-B	320.40	80.10	320.40	0.00	-	-	-	-	-	-
A-C	136.53	34.13	136.53	0.00	-	-	-	-	-	-
A-D	47.34	11.84	47.34	0.00	-	-	-	-	-	-
AB-CD	188.21	47.05	188.20	0.00	829.31	0.227	0.43	0.44	5.624	A
AB-C	254.37	63.59	254.37	0.00	-	-	-	-	-	-
D-ABC	398.57	99.64	325.81	0.00	335.64	1.188	2.81	21.00	145.679	F
C-D	90.28	22.57	90.28	0.00	-	-	-	-	-	-
C-A	5.51	1.38	5.51	0.00	-	-	-	-	-	-
C-B	210.29	52.57	210.29	0.00	-	-	-	-	-	-
CD-AB	487.81	121.95	494.74	0.00	567.58	0.859	9.12	7.39	53.913	F
CD-A	1.60	0.40	1.60	0.00	-	-	-	-	-	-

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

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
B-CD	211.26	52.82	212.07	0.00	650.72	0.325	0.69	0.49	8.221	A
B-A	17.98	4.49	18.11	0.00	226.31	0.079	0.12	0.09	17.302	C
A-B	261.60	65.40	261.60	0.00	-	-	-	-	-	-
A-C	111.47	27.87	111.47	0.00	-	-	-	-	-	-
A-D	38.66	9.66	38.66	0.00	-	-	-	-	-	-
AB-CD	140.47	35.12	140.98	0.00	802.45	0.175	0.44	0.31	5.454	A
AB-C	221.73	55.43	221.73	0.00	-	-	-	-	-	-
D-ABC	325.43	81.36	403.01	0.00	541.08	0.601	21.00	1.61	40.669	E
C-D	73.72	18.43	73.72	0.00	-	-	-	-	-	-
C-A	4.49	1.12	4.49	0.00	-	-	-	-	-	-
C-B	171.71	42.93	171.71	0.00	-	-	-	-	-	-
CD-AB	512.98	128.24	513.83	0.00	592.16	0.866	7.39	7.18	47.929	E
CD-A	1.66	0.41	1.66	0.00	-	-	-	-	-	-

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

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
B-CD	176.92	44.23	177.41	0.00	666.16	0.266	0.49	0.37	7.375	A
B-A	15.06	3.76	15.17	0.00	271.67	0.055	0.09	0.06	14.040	B
A-B	219.08	54.77	219.08	0.00	-	-	-	-	-	-
A-C	93.35	23.34	93.35	0.00	-	-	-	-	-	-
A-D	32.37	8.09	32.37	0.00	-	-	-	-	-	-
AB-CD	109.87	27.47	110.19	0.00	782.91	0.140	0.31	0.23	5.357	A
AB-C	193.26	48.31	193.26	0.00	-	-	-	-	-	-
D-ABC	272.53	68.13	274.97	0.00	551.96	0.494	1.61	1.00	13.108	B
C-D	61.73	15.43	61.73	0.00	-	-	-	-	-	-
C-A	3.76	0.94	3.76	0.00	-	-	-	-	-	-
C-B	143.79	35.95	143.79	0.00	-	-	-	-	-	-
CD-AB	374.57	93.64	396.47	0.00	606.85	0.617	7.18	1.70	18.739	C
CD-A	3.90	0.98	3.90	0.00	-	-	-	-	-	-

Queueing Delay Results for each time segment

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

Stream	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-CD	5.15	0.34	7.307	A	A
B-A	0.79	0.05	13.528	B	B
A-B	-	-	-	-	-
A-C	-	-	-	-	-
A-D	-	-	-	-	-
AB-CD	3.29	0.22	5.339	A	A
AB-C	-	-	-	-	-
D-ABC	13.23	0.88	12.544	B	B
C-D	-	-	-	-	-
C-A	-	-	-	-	-
C-B	-	-	-	-	-
CD-AB	21.72	1.45	14.460	B	B
CD-A	-	-	-	-	-

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

Stream	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-CD	6.90	0.46	8.146	A	A
B-A	1.10	0.07	15.471	C	B
A-B	-	-	-	-	-
A-C	-	-	-	-	-
A-D	-	-	-	-	-
AB-CD	4.51	0.30	5.437	A	A
AB-C	-	-	-	-	-
D-ABC	20.35	1.36	16.372	C	B
C-D	-	-	-	-	-
C-A	-	-	-	-	-
C-B	-	-	-	-	-
CD-AB	42.09	2.81	23.059	C	C
CD-A	-	-	-	-	-

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

Stream	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-CD	9.87	0.66	9.618	A	A
B-A	1.64	0.11	19.155	C	B
A-B	-	-	-	-	-
A-C	-	-	-	-	-
A-D	-	-	-	-	-
AB-CD	6.50	0.43	5.616	A	A
AB-C	-	-	-	-	-
D-ABC	37.41	2.49	26.047	D	C
C-D	-	-	-	-	-
C-A	-	-	-	-	-
C-B	-	-	-	-	-
CD-AB	119.05	7.94	56.327	F	E
CD-A	-	-	-	-	-

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

Stream	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-CD	10.30	0.69	9.682	A	A
B-A	1.78	0.12	20.025	C	C
A-B	-	-	-	-	-
A-C	-	-	-	-	-
A-D	-	-	-	-	-
AB-CD	6.58	0.44	5.624	A	A
AB-C	-	-	-	-	-
D-ABC	186.11	12.41	145.679	F	F
C-D	-	-	-	-	-
C-A	-	-	-	-	-
C-B	-	-	-	-	-
CD-AB	113.12	7.54	53.913	F	D
CD-A	-	-	-	-	-

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

Stream	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-CD	7.55	0.50	8.221	A	A
B-A	1.38	0.09	17.302	C	B
A-B	-	-	-	-	-
A-C	-	-	-	-	-
A-D	-	-	-	-	-
AB-CD	4.62	0.31	5.454	A	A
AB-C	-	-	-	-	-
D-ABC	84.49	5.63	40.669	E	D
C-D	-	-	-	-	-
C-A	-	-	-	-	-
C-B	-	-	-	-	-
CD-AB	103.88	6.93	47.929	E	D
CD-A	-	-	-	-	-

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

Stream	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-CD	5.63	0.38	7.375	A	A
B-A	0.93	0.06	14.040	B	B
A-B	-	-	-	-	-
A-C	-	-	-	-	-
A-D	-	-	-	-	-
AB-CD	3.42	0.23	5.357	A	A
AB-C	-	-	-	-	-
D-ABC	15.91	1.06	13.108	B	B
C-D	-	-	-	-	-
C-A	-	-	-	-	-
C-B	-	-	-	-	-
CD-AB	32.66	2.18	18.739	C	B
CD-A	-	-	-	-	-

(Default Analysis Set) - Future Year inc CD, PM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

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

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Results For Central Hour Only	Single Time Segment Only	Locked	Run Automatically	Use Relationship	Relationship
Future Year inc CD, PM	Future Year inc CD	PM		ONE HOUR	16:45	18:15	90	15				✓		

Junction Network

Junctions

Junction	Name	Junction Type	Major Road Direction	Arm Order	Do Geometric Delay	Junction Delay (s)	Junction LOS
1	(untitled)	NS-OS Stagger (UK LR Stagger)	Two-way	A,B,C,D		247.12	F

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Arm	Name	Description	Arm Type
A	A	Culcheth Ln		Major
B	B	Briscoe Ln		Minor
C	C	Old Church St		Major
D	D	All Saints St		Minor

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
A	7.70		0.00		2.20	200.00	✓	0.00
C	6.50		0.00		2.20	200.00	✓	0.00

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

Minor Arm Geometry

Arm	Minor Arm Type	Lane Width (m)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
B	One lane plus flare				10.00	6.00	4.40	4.40	4.40	✓	3.00	30	30
D	One lane	2.75										26	40

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for A-D	Slope for B-C	Slope for B-D	Slope for C-A	Slope for C-B	Slope for C-D	Slope for D-A	Slope for D-B
1	AB-D	689.785	-	-	-	-	-	0.247	0.247	0.247	-	-
1	B-A	448.701	0.080	0.202	0.202	-	-	0.127	0.289	-	0.127	0.289
1	B-CD	700.837	0.105	0.266	0.266	-	-	-	-	-	-	-
1	CD-B	689.785	0.261	0.261	0.261	-	-	-	-	-	-	-
1	D-AB	632.871	-	-	-	-	-	0.227	0.227	0.090	-	-
1	D-C	493.003	-	0.132	0.300	0.132	0.300	0.210	0.210	0.083	-	-

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

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

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

Traffic Flows

Demand Set Data Options

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

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
A	ONE HOUR	✓	239.00	100.000
B	ONE HOUR	✓	761.00	100.000
C	ONE HOUR	✓	392.00	100.000
D	ONE HOUR	✓	167.00	100.000

Turning Proportions

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

		To			
		A	B	C	D
From	A	0.000	107.000	72.000	60.000
	B	186.000	0.000	313.000	262.000
	C	105.000	164.000	0.000	123.000
	D	50.000	79.000	38.000	0.000

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

		To			
		A	B	C	D
From	A	0.00	0.45	0.30	0.25
	B	0.24	0.00	0.41	0.34
	C	0.27	0.42	0.00	0.31
	D	0.30	0.47	0.23	0.00

Vehicle Mix

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

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

Heavy Vehicle Percentages - Junction 1 (for whole period)

		To			
		A	B	C	D
From	A	0.0	0.0	0.0	0.0
	B	0.0	0.0	0.0	0.0
	C	0.0	0.0	0.0	0.0
	D	0.0	0.0	0.0	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)	Total Queueing Delay (PCU-min)	Average Queueing Delay (s)	Rate Of Queueing Delay (PCU-min/min)	Inclusive Total Queueing Delay (PCU-min)	Inclusive Average Queueing Delay (s)
B-CD	1.29	544.09	77.64	F	527.63	791.45	3466.51	262.80	38.52	3635.15	275.58
B-A	1.26	573.94	26.02	F	170.68	256.02	1192.13	279.39	13.25	1254.23	293.94
A-B	-	-	-	-	98.19	147.28	-	-	-	-	-
A-C	-	-	-	-	66.07	99.10	-	-	-	-	-
A-D	-	-	-	-	55.06	82.59	-	-	-	-	-
AB-CD	0.63	11.93	2.27	B	470.32	705.48	165.44	14.07	1.84	165.56	14.08
AB-C	-	-	-	-	141.99	212.99	-	-	-	-	-
D-ABC	0.44	15.65	0.78	C	153.24	229.86	47.81	12.48	0.53	47.82	12.48
C-D	-	-	-	-	112.87	169.30	-	-	-	-	-
C-A	-	-	-	-	96.35	144.52	-	-	-	-	-
C-B	-	-	-	-	150.49	225.73	-	-	-	-	-
CD-AB	0.48	9.40	1.06	A	279.26	418.89	67.45	9.66	0.75	67.46	9.66
CD-A	-	-	-	-	85.75	128.63	-	-	-	-	-

Main Results for each time segment

Main results: (16:45-17:00)

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
B-CD	432.89	108.22	422.99	0.00	593.98	0.729	0.00	2.47	20.049	C
B-A	140.03	35.01	136.93	0.00	313.57	0.447	0.00	0.78	20.055	C
A-B	80.56	20.14	80.56	0.00	-	-	-	-	-	-
A-C	54.21	13.55	54.21	0.00	-	-	-	-	-	-
A-D	45.17	11.29	45.17	0.00	-	-	-	-	-	-
AB-CD	366.50	91.62	362.18	0.00	803.12	0.456	0.00	1.08	8.124	A
AB-C	155.87	38.97	155.87	0.00	-	-	-	-	-	-
D-ABC	125.73	31.43	124.38	0.00	494.74	0.254	0.00	0.34	9.686	A
C-D	92.60	23.15	92.60	0.00	-	-	-	-	-	-
C-A	79.05	19.76	79.05	0.00	-	-	-	-	-	-
C-B	123.47	30.87	123.47	0.00	-	-	-	-	-	-
CD-AB	217.51	54.38	215.55	0.00	717.49	0.303	0.00	0.49	7.151	A
CD-A	81.09	20.27	81.09	0.00	-	-	-	-	-	-

Main results: (17:00-17:15)

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
B-CD	516.91	129.23	496.97	0.00	554.92	0.932	2.47	7.46	50.047	F
B-A	167.21	41.80	158.44	0.00	208.32	0.803	0.78	2.97	63.788	F
A-B	96.19	24.05	96.19	0.00	-	-	-	-	-	-
A-C	64.73	16.18	64.73	0.00	-	-	-	-	-	-
A-D	53.94	13.48	53.94	0.00	-	-	-	-	-	-
AB-CD	471.80	117.95	469.15	0.00	825.57	0.571	1.08	1.74	10.121	B
AB-C	143.84	35.96	143.84	0.00	-	-	-	-	-	-
D-ABC	150.13	37.53	149.63	0.00	470.47	0.319	0.34	0.46	11.202	B
C-D	110.57	27.64	110.57	0.00	-	-	-	-	-	-
C-A	94.39	23.60	94.39	0.00	-	-	-	-	-	-
C-B	147.43	36.86	147.43	0.00	-	-	-	-	-	-
CD-AB	270.30	67.58	269.55	0.00	723.91	0.373	0.49	0.68	7.922	A
CD-A	87.11	21.78	87.11	0.00	-	-	-	-	-	-

Main results: (17:15-17:30)

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
B-CD	633.09	158.27	505.95	0.00	510.85	1.239	7.46	39.24	186.044	F
B-A	204.79	51.20	160.46	0.00	166.96	1.227	2.97	14.05	231.238	F
A-B	117.81	29.45	117.81	0.00	-	-	-	-	-	-
A-C	79.27	19.82	79.27	0.00	-	-	-	-	-	-
A-D	66.06	16.52	66.06	0.00	-	-	-	-	-	-
AB-CD	521.05	130.26	518.95	0.00	822.86	0.633	1.74	2.27	11.932	B
AB-C	130.24	32.56	130.24	0.00	-	-	-	-	-	-
D-ABC	183.87	45.97	182.84	0.00	433.09	0.425	0.46	0.72	14.325	B
C-D	135.43	33.86	135.43	0.00	-	-	-	-	-	-
C-A	115.61	28.90	115.61	0.00	-	-	-	-	-	-
C-B	180.57	45.14	180.57	0.00	-	-	-	-	-	-
CD-AB	348.10	87.03	346.64	0.00	732.71	0.475	0.68	1.04	9.317	A
CD-A	89.30	22.33	89.30	0.00	-	-	-	-	-	-

Main results: (17:30-17:45)

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
B-CD	633.09	158.27	489.99	0.00	490.62	1.290	39.24	75.02	428.787	F
B-A	204.79	51.20	160.64	0.00	162.07	1.264	14.05	25.09	469.895	F
A-B	117.81	29.45	117.81	0.00	-	-	-	-	-	-
A-C	79.27	19.82	79.27	0.00	-	-	-	-	-	-
A-D	66.06	16.52	66.06	0.00	-	-	-	-	-	-
AB-CD	502.03	125.51	502.18	0.00	817.24	0.614	2.27	2.23	11.609	B
AB-C	133.30	33.32	133.30	0.00	-	-	-	-	-	-
D-ABC	183.87	45.97	183.62	0.00	413.23	0.445	0.72	0.78	15.654	C
C-D	135.43	33.86	135.43	0.00	-	-	-	-	-	-
C-A	115.61	28.90	115.61	0.00	-	-	-	-	-	-
C-B	180.57	45.14	180.57	0.00	-	-	-	-	-	-
CD-AB	348.93	87.23	348.87	0.00	733.06	0.476	1.04	1.06	9.398	A
CD-A	89.08	22.27	89.08	0.00	-	-	-	-	-	-

Main results: (17:45-18:00)

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
B-CD	516.91	129.23	506.41	0.00	508.45	1.017	75.02	77.64	544.086	F
B-A	167.21	41.80	163.47	0.00	166.51	1.004	25.09	26.02	573.937	F
A-B	96.19	24.05	96.19	0.00	-	-	-	-	-	-
A-C	64.73	16.18	64.73	0.00	-	-	-	-	-	-
A-D	53.94	13.48	53.94	0.00	-	-	-	-	-	-
AB-CD	483.18	120.79	484.26	0.00	829.35	0.583	2.23	1.96	10.592	B
AB-C	141.90	35.47	141.90	0.00	-	-	-	-	-	-
D-ABC	150.13	37.53	151.07	0.00	429.98	0.349	0.78	0.55	12.952	B
C-D	110.57	27.64	110.57	0.00	-	-	-	-	-	-
C-A	94.39	23.60	94.39	0.00	-	-	-	-	-	-
C-B	147.43	36.86	147.43	0.00	-	-	-	-	-	-
CD-AB	271.59	67.90	273.00	0.00	724.48	0.375	1.06	0.71	8.011	A
CD-A	86.93	21.73	86.93	0.00	-	-	-	-	-	-

Main results: (18:00-18:15)

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
B-CD	432.89	108.22	524.81	0.00	531.57	0.814	77.64	54.66	455.755	F
B-A	140.03	35.01	168.07	0.00	174.53	0.802	26.02	19.01	487.390	F
A-B	80.56	20.14	80.56	0.00	-	-	-	-	-	-
A-C	54.21	13.55	54.21	0.00	-	-	-	-	-	-
A-D	45.17	11.29	45.17	0.00	-	-	-	-	-	-
AB-CD	477.38	119.35	477.91	0.00	840.34	0.568	1.96	1.83	10.055	B
AB-C	146.81	36.70	146.81	0.00	-	-	-	-	-	-
D-ABC	125.73	31.43	126.37	0.00	455.81	0.276	0.55	0.39	10.948	B
C-D	92.60	23.15	92.60	0.00	-	-	-	-	-	-
C-A	79.05	19.76	79.05	0.00	-	-	-	-	-	-
C-B	123.47	30.87	123.47	0.00	-	-	-	-	-	-
CD-AB	219.12	54.78	219.92	0.00	718.11	0.305	0.71	0.51	7.243	A
CD-A	81.01	20.25	81.01	0.00	-	-	-	-	-	-

Queueing Delay Results for each time segment

Queueing Delay results: (16:45-17:00)

Stream	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-CD	32.30	2.15	20.049	C	C
B-A	10.58	0.71	20.055	C	C
A-B	-	-	-	-	-
A-C	-	-	-	-	-
A-D	-	-	-	-	-
AB-CD	15.83	1.06	8.124	A	A
AB-C	-	-	-	-	-
D-ABC	4.80	0.32	9.686	A	A
C-D	-	-	-	-	-
C-A	-	-	-	-	-
C-B	-	-	-	-	-
CD-AB	7.23	0.48	7.151	A	A
CD-A	-	-	-	-	-

Queueing Delay results: (17:00-17:15)

Stream	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-CD	85.66	5.71	50.047	F	D
B-A	35.07	2.34	63.788	F	E
A-B	-	-	-	-	-
A-C	-	-	-	-	-
A-D	-	-	-	-	-
AB-CD	26.33	1.76	10.121	B	B
AB-C	-	-	-	-	-
D-ABC	6.67	0.44	11.202	B	B
C-D	-	-	-	-	-
C-A	-	-	-	-	-
C-B	-	-	-	-	-
CD-AB	10.24	0.68	7.922	A	A
CD-A	-	-	-	-	-

Queueing Delay results: (17:15-17:30)

Stream	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-CD	354.07	23.60	186.044	F	F
B-A	131.53	8.77	231.238	F	F
A-B	-	-	-	-	-
A-C	-	-	-	-	-
A-D	-	-	-	-	-
AB-CD	34.72	2.31	11.932	B	B
AB-C	-	-	-	-	-
D-ABC	10.25	0.68	14.325	B	B
C-D	-	-	-	-	-
C-A	-	-	-	-	-
C-B	-	-	-	-	-
CD-AB	15.74	1.05	9.317	A	A
CD-A	-	-	-	-	-

Queueing Delay results: (17:30-17:45)

Stream	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-CD	857.19	57.15	428.787	F	F
B-A	293.92	19.59	469.895	F	F
A-B	-	-	-	-	-
A-C	-	-	-	-	-
A-D	-	-	-	-	-
AB-CD	32.87	2.19	11.609	B	B
AB-C	-	-	-	-	-
D-ABC	11.48	0.77	15.654	C	B
C-D	-	-	-	-	-
C-A	-	-	-	-	-
C-B	-	-	-	-	-
CD-AB	16.06	1.07	9.398	A	A
CD-A	-	-	-	-	-

Queueing Delay results: (17:45-18:00)

Stream	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-CD	1144.99	76.33	544.086	F	F
B-A	383.32	25.55	573.937	F	F
A-B	-	-	-	-	-
A-C	-	-	-	-	-
A-D	-	-	-	-	-
AB-CD	28.83	1.92	10.592	B	B
AB-C	-	-	-	-	-
D-ABC	8.59	0.57	12.952	B	B
C-D	-	-	-	-	-
C-A	-	-	-	-	-
C-B	-	-	-	-	-
CD-AB	10.59	0.71	8.011	A	A
CD-A	-	-	-	-	-

Queueing Delay results: (18:00-18:15)

Stream	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-CD	992.30	66.15	455.755	F	F
B-A	337.71	22.51	487.390	F	F
A-B	-	-	-	-	-
A-C	-	-	-	-	-
A-D	-	-	-	-	-
AB-CD	26.87	1.79	10.055	B	B
AB-C	-	-	-	-	-
D-ABC	6.03	0.40	10.948	B	B
C-D	-	-	-	-	-
C-A	-	-	-	-	-
C-B	-	-	-	-	-
CD-AB	7.59	0.51	7.243	A	A
CD-A	-	-	-	-	-

(Default Analysis Set) - Future Year inc CD + Dev, AM

Data Errors and Warnings

Severity	Area	Item	Description
Last Run	Last Run	Stream D-ABC	Capacity of Minor Stream D-ABC has been reduced in timesegment(s) 3,4,5 due to traffic queuing at the center of the junction.

Analysis Set Details

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

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Results For Central Hour Only	Single Time Segment Only	Locked	Run Automatically	Use Relationship	Relationship
Future Year inc CD + Dev, AM	Future Year inc CD + Dev	AM		HOUR	07:45	09:15	90	15						

Junction Network

Junctions

Junction	Name	Junction Type	Major Road Direction	Arm Order	Do Geometric Delay	Junction Delay (s)	Junction LOS
1	(untitled)	NS-OS Stagger (UK LR Stagger)	Two-way	A,B,C,D		117.11	F

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Arm	Name	Description	Arm Type
A	A	Culcheth Ln		Major
B	B	Briscoe Ln		Minor
C	C	Old Church St		Major
D	D	All Saints St		Minor

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
A	7.70		0.00		2.20	200.00	✓	0.00
C	6.50		0.00		2.20	200.00	✓	0.00

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

Minor Arm Geometry

Arm	Minor Arm Type	Lane Width (m)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
B	One lane plus flare				10.00	6.00	4.40	4.40	4.40	✓	3.00	30	30
D	One lane	2.75										26	40

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for A-D	Slope for B-C	Slope for B-D	Slope for C-A	Slope for C-B	Slope for C-D	Slope for D-A	Slope for D-B
1	AB-D	689.785	-	-	-	-	-	0.247	0.247	0.247	-	-
1	B-A	423.259	0.075	0.191	0.191	-	-	0.120	0.272	-	0.120	0.272
1	B-CD	733.413	0.110	0.278	0.278	-	-	-	-	-	-	-
1	CD-B	689.785	0.261	0.261	0.261	-	-	-	-	-	-	-
1	D-AB	632.871	-	-	-	-	-	0.227	0.227	0.090	-	-
1	D-C	493.003	-	0.132	0.300	0.132	0.300	0.210	0.210	0.083	-	-

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

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

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

Traffic Flows

Demand Set Data Options

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

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
A	ONE HOUR	✓	461.00	100.000
B	ONE HOUR	✓	284.00	100.000
C	ONE HOUR	✓	278.00	100.000
D	ONE HOUR	✓	379.00	100.000

Turning Proportions

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

		To			
		A	B	C	D
From	A	0.000	294.000	124.000	43.000
	B	25.000	0.000	174.000	85.000
	C	5.000	191.000	0.000	82.000
	D	9.000	312.000	58.000	0.000

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

		To			
		A	B	C	D
From	A	0.00	0.64	0.27	0.09
	B	0.09	0.00	0.61	0.30
	C	0.02	0.69	0.00	0.29
	D	0.02	0.82	0.15	0.00

Vehicle Mix

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

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

Heavy Vehicle Percentages - Junction 1 (for whole period)

		To			
		A	B	C	D
From	A	0.0	0.0	0.0	0.0
	B	0.0	0.0	0.0	0.0
	C	0.0	0.0	0.0	0.0
	D	0.0	0.0	0.0	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)	Total Queueing Delay (PCU-min)	Average Queueing Delay (s)	Rate Of Queueing Delay (PCU-min/min)	Inclusive Total Queueing Delay (PCU-min)	Inclusive Average Queueing Delay (s)
B-CD	0.46	10.69	0.84	B	237.66	356.49	53.78	9.05	0.60	53.79	9.05
B-A	0.15	23.25	0.17	C	22.94	34.41	10.47	18.26	0.12	10.47	18.26
A-B	-	-	-	-	269.78	404.67	-	-	-	-	-
A-C	-	-	-	-	113.78	170.68	-	-	-	-	-
A-D	-	-	-	-	39.46	59.19	-	-	-	-	-
AB-CD	0.28	6.03	0.56	A	179.37	269.05	36.69	8.18	0.41	36.69	8.18
AB-C	-	-	-	-	211.25	316.88	-	-	-	-	-
D-ABC	1.22	345.77	41.68	F	347.78	521.67	1359.15	156.32	15.10	1359.22	156.33
C-D	-	-	-	-	75.24	112.87	-	-	-	-	-
C-A	-	-	-	-	4.59	6.88	-	-	-	-	-
C-B	-	-	-	-	175.26	262.90	-	-	-	-	-
CD-AB	0.89	48.92	6.39	E	471.46	707.20	413.92	35.12	4.60	414.87	35.20
CD-A	-	-	-	-	2.31	3.46	-	-	-	-	-

Main Results for each time segment

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

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
B-CD	194.99	48.75	193.34	0.00	662.72	0.294	0.00	0.41	7.643	A
B-A	18.82	4.71	18.54	0.00	277.74	0.068	0.00	0.07	13.873	B
A-B	221.34	55.33	221.34	0.00	-	-	-	-	-	-
A-C	93.35	23.34	93.35	0.00	-	-	-	-	-	-
A-D	32.37	8.09	32.37	0.00	-	-	-	-	-	-
AB-CD	133.81	33.45	132.70	0.00	781.86	0.171	0.00	0.28	5.541	A
AB-C	185.26	46.32	185.26	0.00	-	-	-	-	-	-
D-ABC	285.33	71.33	281.18	0.00	552.31	0.517	0.00	1.04	13.088	B
C-D	61.73	15.43	61.73	0.00	-	-	-	-	-	-
C-A	3.76	0.94	3.76	0.00	-	-	-	-	-	-
C-B	143.79	35.95	143.79	0.00	-	-	-	-	-	-
CD-AB	381.84	95.46	375.27	0.00	606.01	0.630	0.00	1.64	15.211	C
CD-A	3.88	0.97	3.88	0.00	-	-	-	-	-	-

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

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
B-CD	232.84	58.21	232.27	0.00	647.29	0.360	0.41	0.55	8.661	A
B-A	22.47	5.62	22.37	0.00	246.22	0.091	0.07	0.10	16.072	C
A-B	264.30	66.07	264.30	0.00	-	-	-	-	-	-
A-C	111.47	27.87	111.47	0.00	-	-	-	-	-	-
A-D	38.66	9.66	38.66	0.00	-	-	-	-	-	-
AB-CD	171.84	42.96	171.44	0.00	801.72	0.214	0.28	0.38	5.717	A
AB-C	210.56	52.64	210.56	0.00	-	-	-	-	-	-
D-ABC	340.71	85.18	338.38	0.00	541.06	0.630	1.04	1.62	17.549	C
C-D	73.72	18.43	73.72	0.00	-	-	-	-	-	-
C-A	4.49	1.12	4.49	0.00	-	-	-	-	-	-
C-B	171.71	42.93	171.71	0.00	-	-	-	-	-	-
CD-AB	460.07	115.02	453.87	0.00	589.94	0.780	1.64	3.19	25.354	D
CD-A	2.73	0.68	2.73	0.00	-	-	-	-	-	-

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

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
B-CD	285.16	71.29	284.09	0.00	624.67	0.457	0.55	0.82	10.536	B
B-A	27.53	6.88	27.31	0.00	203.19	0.135	0.10	0.15	20.443	C
A-B	323.70	80.93	323.70	0.00	-	-	-	-	-	-
A-C	136.53	34.13	136.53	0.00	-	-	-	-	-	-
A-D	47.34	11.84	47.34	0.00	-	-	-	-	-	-
AB-CD	230.73	57.68	230.02	0.00	828.81	0.278	0.38	0.55	6.018	A
AB-C	237.23	59.31	237.23	0.00	-	-	-	-	-	-
D-ABC	417.29	104.32	334.38	0.00	345.45	1.208	1.62	22.35	152.117	F
C-D	90.28	22.57	90.28	0.00	-	-	-	-	-	-
C-A	5.51	1.38	5.51	0.00	-	-	-	-	-	-
C-B	210.29	52.57	210.29	0.00	-	-	-	-	-	-
CD-AB	497.45	124.36	488.11	0.00	566.43	0.878	3.19	5.53	41.220	E
CD-A	1.55	0.39	1.55	0.00	-	-	-	-	-	-

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

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
B-CD	285.16	71.29	285.11	0.00	621.88	0.459	0.82	0.84	10.686	B
B-A	27.53	6.88	27.44	0.00	182.18	0.151	0.15	0.17	23.250	C
A-B	323.70	80.93	323.70	0.00	-	-	-	-	-	-
A-C	136.53	34.13	136.53	0.00	-	-	-	-	-	-
A-D	47.34	11.84	47.34	0.00	-	-	-	-	-	-
AB-CD	231.58	57.89	231.56	0.00	829.35	0.279	0.55	0.56	6.034	A
AB-C	237.40	59.35	237.40	0.00	-	-	-	-	-	-
D-ABC	417.29	104.32	339.97	0.00	341.43	1.222	22.35	41.68	345.770	F
C-D	90.28	22.57	90.28	0.00	-	-	-	-	-	-
C-A	5.51	1.38	5.51	0.00	-	-	-	-	-	-
C-B	210.29	52.57	210.29	0.00	-	-	-	-	-	-
CD-AB	502.40	125.60	498.94	0.00	566.61	0.887	5.53	6.39	48.919	E
CD-A	1.34	0.33	1.34	0.00	-	-	-	-	-	-

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

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
B-CD	232.84	58.21	233.88	0.00	643.71	0.362	0.84	0.58	8.806	A
B-A	22.47	5.62	22.66	0.00	204.46	0.110	0.17	0.13	19.824	C
A-B	264.30	66.07	264.30	0.00	-	-	-	-	-	-
A-C	111.47	27.87	111.47	0.00	-	-	-	-	-	-
A-D	38.66	9.66	38.66	0.00	-	-	-	-	-	-
AB-CD	172.99	43.25	173.67	0.00	802.57	0.216	0.56	0.39	5.737	A
AB-C	211.02	52.75	211.02	0.00	-	-	-	-	-	-
D-ABC	340.71	85.18	388.58	0.00	397.91	0.856	41.68	29.71	320.187	F
C-D	73.72	18.43	73.72	0.00	-	-	-	-	-	-
C-A	4.49	1.12	4.49	0.00	-	-	-	-	-	-
C-B	171.71	42.93	171.71	0.00	-	-	-	-	-	-
CD-AB	503.51	125.88	504.06	0.00	590.89	0.852	6.39	6.26	42.697	E
CD-A	1.81	0.45	1.81	0.00	-	-	-	-	-	-

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

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
B-CD	194.99	48.75	195.59	0.00	660.62	0.295	0.58	0.42	7.751	A
B-A	18.82	4.71	18.99	0.00	244.17	0.077	0.13	0.09	15.998	C
A-B	221.34	55.33	221.34	0.00	-	-	-	-	-	-
A-C	93.35	23.34	93.35	0.00	-	-	-	-	-	-
A-D	32.37	8.09	32.37	0.00	-	-	-	-	-	-
AB-CD	135.27	33.82	135.69	0.00	782.97	0.173	0.39	0.29	5.571	A
AB-C	186.05	46.51	186.05	0.00	-	-	-	-	-	-
D-ABC	285.33	71.33	399.67	0.00	552.08	0.517	29.71	1.12	46.261	E
C-D	61.73	15.43	61.73	0.00	-	-	-	-	-	-
C-A	3.76	0.94	3.76	0.00	-	-	-	-	-	-
C-B	143.79	35.95	143.79	0.00	-	-	-	-	-	-
CD-AB	483.52	120.88	490.97	0.00	608.02	0.795	6.26	4.39	32.584	D
CD-A	2.55	0.64	2.55	0.00	-	-	-	-	-	-

Queueing Delay Results for each time segment

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

Stream	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-CD	5.93	0.40	7.643	A	A
B-A	1.02	0.07	13.873	B	B
A-B	-	-	-	-	-
A-C	-	-	-	-	-
A-D	-	-	-	-	-
AB-CD	4.10	0.27	5.541	A	A
AB-C	-	-	-	-	-
D-ABC	14.41	0.96	13.088	B	B
C-D	-	-	-	-	-
C-A	-	-	-	-	-
C-B	-	-	-	-	-
CD-AB	23.59	1.57	15.211	C	B
CD-A	-	-	-	-	-

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

Stream	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-CD	8.06	0.54	8.661	A	A
B-A	1.43	0.10	16.072	C	B
A-B	-	-	-	-	-
A-C	-	-	-	-	-
A-D	-	-	-	-	-
AB-CD	5.68	0.38	5.717	A	A
AB-C	-	-	-	-	-
D-ABC	22.66	1.51	17.549	C	B
C-D	-	-	-	-	-
C-A	-	-	-	-	-
C-B	-	-	-	-	-
CD-AB	47.69	3.18	25.354	D	C
CD-A	-	-	-	-	-

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

Stream	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-CD	11.84	0.79	10.536	B	B
B-A	2.18	0.15	20.443	C	C
A-B	-	-	-	-	-
A-C	-	-	-	-	-
A-D	-	-	-	-	-
AB-CD	8.33	0.56	6.018	A	A
AB-C	-	-	-	-	-
D-ABC	189.82	12.65	152.117	F	F
C-D	-	-	-	-	-
C-A	-	-	-	-	-
C-B	-	-	-	-	-
CD-AB	82.82	5.52	41.220	E	D
CD-A	-	-	-	-	-

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

Stream	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-CD	12.47	0.83	10.686	B	B
B-A	2.53	0.17	23.250	C	C
A-B	-	-	-	-	-
A-C	-	-	-	-	-
A-D	-	-	-	-	-
AB-CD	8.45	0.56	6.034	A	A
AB-C	-	-	-	-	-
D-ABC	480.68	32.05	345.770	F	F
C-D	-	-	-	-	-
C-A	-	-	-	-	-
C-B	-	-	-	-	-
CD-AB	101.07	6.74	48.919	E	D
CD-A	-	-	-	-	-

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

Stream	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-CD	8.95	0.60	8.806	A	A
B-A	1.98	0.13	19.824	C	B
A-B	-	-	-	-	-
A-C	-	-	-	-	-
A-D	-	-	-	-	-
AB-CD	5.84	0.39	5.737	A	A
AB-C	-	-	-	-	-
D-ABC	535.41	35.69	320.187	F	F
C-D	-	-	-	-	-
C-A	-	-	-	-	-
C-B	-	-	-	-	-
CD-AB	90.70	6.05	42.697	E	D
CD-A	-	-	-	-	-

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

Stream	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-CD	6.54	0.44	7.751	A	A
B-A	1.33	0.09	15.998	C	B
A-B	-	-	-	-	-
A-C	-	-	-	-	-
A-D	-	-	-	-	-
AB-CD	4.28	0.29	5.571	A	A
AB-C	-	-	-	-	-
D-ABC	116.18	7.75	46.261	E	D
C-D	-	-	-	-	-
C-A	-	-	-	-	-
C-B	-	-	-	-	-
CD-AB	68.05	4.54	32.584	D	C
CD-A	-	-	-	-	-

(Default Analysis Set) - Future Year inc CD + Dev, PM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

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

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Results For Central Hour Only	Single Time Segment Only	Locked	Run Automatically	Use Relationship	Relationship
Future Year inc CD + Dev, PM	Future Year inc CD + Dev	PM		ONE HOUR	16:45	18:15	90	15				✓		

Junction Network

Junctions

Junction	Name	Junction Type	Major Road Direction	Arm Order	Do Geometric Delay	Junction Delay (s)	Junction LOS
1	(untitled)	NS-OS Stagger (UK LR Stagger)	Two-way	A,B,C,D		278.80	F

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Arm	Name	Description	Arm Type
A	A	Culcheth Ln		Major
B	B	Briscoe Ln		Minor
C	C	Old Church St		Major
D	D	All Saints St		Minor

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
A	7.70		0.00		2.20	200.00	✓	0.00
C	6.50		0.00		2.20	200.00	✓	0.00

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

Minor Arm Geometry

Arm	Minor Arm Type	Lane Width (m)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
B	One lane plus flare				10.00	6.00	4.40	4.40	4.40	✓	3.00	30	30
D	One lane	2.75										26	40

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for A-D	Slope for B-C	Slope for B-D	Slope for C-A	Slope for C-B	Slope for C-D	Slope for D-A	Slope for D-B
1	AB-D	689.785	-	-	-	-	-	0.247	0.247	0.247	-	-
1	B-A	448.590	0.080	0.202	0.202	-	-	0.127	0.289	-	0.127	0.289
1	B-CD	700.980	0.105	0.266	0.266	-	-	-	-	-	-	-
1	CD-B	689.785	0.261	0.261	0.261	-	-	-	-	-	-	-
1	D-AB	632.871	-	-	-	-	-	0.227	0.227	0.090	-	-
1	D-C	493.003	-	0.132	0.300	0.132	0.300	0.210	0.210	0.083	-	-

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

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

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

Traffic Flows

Demand Set Data Options

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

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
A	ONE HOUR	✓	242.00	100.000
B	ONE HOUR	✓	771.00	100.000
C	ONE HOUR	✓	392.00	100.000
D	ONE HOUR	✓	186.00	100.000

Turning Proportions

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

		To			
		A	B	C	D
From	A	0.000	110.000	72.000	60.000
	B	188.000	0.000	313.000	270.000
	C	105.000	164.000	0.000	123.000
	D	50.000	98.000	38.000	0.000

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

		To			
		A	B	C	D
From	A	0.00	0.45	0.30	0.25
	B	0.24	0.00	0.41	0.35
	C	0.27	0.42	0.00	0.31
	D	0.27	0.53	0.20	0.00

Vehicle Mix

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

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

Heavy Vehicle Percentages - Junction 1 (for whole period)

		To			
		A	B	C	D
From	A	0.0	0.0	0.0	0.0
	B	0.0	0.0	0.0	0.0
	C	0.0	0.0	0.0	0.0
	D	0.0	0.0	0.0	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)	Total Queueing Delay (PCU-min)	Average Queueing Delay (s)	Rate Of Queueing Delay (PCU-min/min)	Inclusive Total Queueing Delay (PCU-min)	Inclusive Average Queueing Delay (s)
B-CD	1.33	626.58	89.98	F	534.97	802.46	3992.78	298.54	44.36	4276.43	319.75
B-A	1.30	655.56	29.72	F	172.51	258.77	1361.64	315.72	15.13	1461.68	338.92
A-B	-	-	-	-	100.94	151.41	-	-	-	-	-
A-C	-	-	-	-	66.07	99.10	-	-	-	-	-
A-D	-	-	-	-	55.06	82.59	-	-	-	-	-
AB-CD	0.63	11.99	2.25	B	470.07	705.11	165.61	14.09	1.84	165.73	14.10
AB-C	-	-	-	-	139.13	208.70	-	-	-	-	-
D-ABC	0.49	16.74	0.93	C	170.68	256.02	55.75	13.07	0.62	55.77	13.07
C-D	-	-	-	-	112.87	169.30	-	-	-	-	-
C-A	-	-	-	-	96.35	144.52	-	-	-	-	-
C-B	-	-	-	-	150.49	225.73	-	-	-	-	-
CD-AB	0.51	10.14	1.22	B	301.13	451.69	76.78	10.20	0.85	76.80	10.20
CD-A	-	-	-	-	81.28	121.92	-	-	-	-	-

Main Results for each time segment

Main results: (16:45-17:00)

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
B-CD	438.91	109.73	428.42	0.00	591.65	0.742	0.00	2.62	20.903	C
B-A	141.54	35.38	138.25	0.00	306.27	0.462	0.00	0.82	21.046	C
A-B	82.81	20.70	82.81	0.00	-	-	-	-	-	-
A-C	54.21	13.55	54.21	0.00	-	-	-	-	-	-
A-D	45.17	11.29	45.17	0.00	-	-	-	-	-	-
AB-CD	375.10	93.78	370.60	0.00	802.96	0.467	0.00	1.12	8.283	A
AB-C	152.69	38.17	152.69	0.00	-	-	-	-	-	-
D-ABC	140.03	35.01	138.50	0.00	501.32	0.279	0.00	0.38	9.882	A
C-D	92.60	23.15	92.60	0.00	-	-	-	-	-	-
C-A	79.05	19.76	79.05	0.00	-	-	-	-	-	-
C-B	123.47	30.87	123.47	0.00	-	-	-	-	-	-
CD-AB	234.40	58.60	232.23	0.00	716.93	0.327	0.00	0.54	7.408	A
CD-A	78.32	19.58	78.32	0.00	-	-	-	-	-	-

Main results: (17:00-17:15)

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
B-CD	524.11	131.03	500.26	0.00	549.75	0.953	2.62	8.59	55.675	F
B-A	169.01	42.25	156.52	0.00	192.85	0.876	0.82	3.94	81.490	F
A-B	98.89	24.72	98.89	0.00	-	-	-	-	-	-
A-C	64.73	16.18	64.73	0.00	-	-	-	-	-	-
A-D	53.94	13.48	53.94	0.00	-	-	-	-	-	-
AB-CD	479.22	119.81	476.50	0.00	824.28	0.581	1.13	1.81	10.373	B
AB-C	139.70	34.92	139.70	0.00	-	-	-	-	-	-
D-ABC	167.21	41.80	166.62	0.00	477.62	0.350	0.38	0.53	11.553	B
C-D	110.57	27.64	110.57	0.00	-	-	-	-	-	-
C-A	94.39	23.60	94.39	0.00	-	-	-	-	-	-
C-B	147.43	36.86	147.43	0.00	-	-	-	-	-	-
CD-AB	291.42	72.85	290.54	0.00	723.27	0.403	0.54	0.76	8.313	A
CD-A	82.99	20.75	82.99	0.00	-	-	-	-	-	-

Main results: (17:15-17:30)

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
B-CD	641.89	160.47	499.96	0.00	503.69	1.274	8.59	44.07	209.478	F
B-A	206.99	51.75	160.83	0.00	165.93	1.247	3.94	15.48	259.324	F
A-B	121.11	30.28	121.11	0.00	-	-	-	-	-	-
A-C	79.27	19.82	79.27	0.00	-	-	-	-	-	-
A-D	66.06	16.52	66.06	0.00	-	-	-	-	-	-
AB-CD	517.39	129.35	515.61	0.00	818.17	0.632	1.81	2.25	11.993	B
AB-C	127.91	31.98	127.91	0.00	-	-	-	-	-	-
D-ABC	204.79	51.20	203.53	0.00	440.52	0.465	0.53	0.84	15.109	C
C-D	135.43	33.86	135.43	0.00	-	-	-	-	-	-
C-A	115.61	28.90	115.61	0.00	-	-	-	-	-	-
C-B	180.57	45.14	180.57	0.00	-	-	-	-	-	-
CD-AB	375.24	93.81	373.48	0.00	731.94	0.513	0.76	1.20	10.030	B
CD-A	82.89	20.72	82.89	0.00	-	-	-	-	-	-

Main results: (17:30-17:45)

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
B-CD	641.89	160.47	482.92	0.00	483.39	1.328	44.07	83.81	484.289	F
B-A	206.99	51.75	157.79	0.00	158.89	1.303	15.48	27.79	524.158	F
A-B	121.11	30.28	121.11	0.00	-	-	-	-	-	-
A-C	79.27	19.82	79.27	0.00	-	-	-	-	-	-
A-D	66.06	16.52	66.06	0.00	-	-	-	-	-	-
AB-CD	497.10	124.28	497.30	0.00	812.22	0.612	2.25	2.20	11.612	B
AB-C	131.15	32.79	131.15	0.00	-	-	-	-	-	-
D-ABC	204.79	51.20	204.45	0.00	418.98	0.489	0.84	0.93	16.736	C
C-D	135.43	33.86	135.43	0.00	-	-	-	-	-	-
C-A	115.61	28.90	115.61	0.00	-	-	-	-	-	-
C-B	180.57	45.14	180.57	0.00	-	-	-	-	-	-
CD-AB	376.25	94.06	376.17	0.00	732.34	0.514	1.20	1.22	10.141	B
CD-A	82.60	20.65	82.60	0.00	-	-	-	-	-	-

Main results: (17:45-18:00)

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
B-CD	524.11	131.03	499.43	0.00	500.40	1.047	83.81	89.98	626.576	F
B-A	169.01	42.25	161.26	0.00	163.13	1.036	27.79	29.72	655.564	F
A-B	98.89	24.72	98.89	0.00	-	-	-	-	-	-
A-C	64.73	16.18	64.73	0.00	-	-	-	-	-	-
A-D	53.94	13.48	53.94	0.00	-	-	-	-	-	-
AB-CD	478.76	119.69	479.83	0.00	824.36	0.581	2.20	1.93	10.608	B
AB-C	139.33	34.83	139.33	0.00	-	-	-	-	-	-
D-ABC	167.21	41.80	168.36	0.00	433.65	0.386	0.93	0.64	13.631	B
C-D	110.57	27.64	110.57	0.00	-	-	-	-	-	-
C-A	94.39	23.60	94.39	0.00	-	-	-	-	-	-
C-B	147.43	36.86	147.43	0.00	-	-	-	-	-	-
CD-AB	293.06	73.26	294.75	0.00	723.92	0.405	1.22	0.80	8.437	A
CD-A	82.73	20.68	82.73	0.00	-	-	-	-	-	-

Main results: (18:00-18:15)

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
B-CD	438.91	109.73	517.50	0.00	523.25	0.839	89.98	70.34	558.976	F
B-A	141.54	35.38	165.03	0.00	170.58	0.830	29.72	23.85	587.911	F
A-B	82.81	20.70	82.81	0.00	-	-	-	-	-	-
A-C	54.21	13.55	54.21	0.00	-	-	-	-	-	-
A-D	45.17	11.29	45.17	0.00	-	-	-	-	-	-
AB-CD	472.85	118.21	473.37	0.00	835.21	0.566	1.93	1.80	10.069	B
AB-C	144.02	36.01	144.02	0.00	-	-	-	-	-	-
D-ABC	140.03	35.01	140.81	0.00	457.74	0.306	0.64	0.45	11.388	B
C-D	92.60	23.15	92.60	0.00	-	-	-	-	-	-
C-A	79.05	19.76	79.05	0.00	-	-	-	-	-	-
C-B	123.47	30.87	123.47	0.00	-	-	-	-	-	-
CD-AB	236.39	59.10	237.32	0.00	717.60	0.329	0.80	0.57	7.520	A
CD-A	78.17	19.54	78.17	0.00	-	-	-	-	-	-

Queueing Delay Results for each time segment

Queueing Delay results: (16:45-17:00)

Stream	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-CD	34.02	2.27	20.903	C	C
B-A	11.18	0.75	21.046	C	C
A-B	-	-	-	-	-
A-C	-	-	-	-	-
A-D	-	-	-	-	-
AB-CD	16.47	1.10	8.283	A	A
AB-C	-	-	-	-	-
D-ABC	5.45	0.36	9.882	A	A
C-D	-	-	-	-	-
C-A	-	-	-	-	-
C-B	-	-	-	-	-
CD-AB	8.03	0.54	7.408	A	A
CD-A	-	-	-	-	-

Queueing Delay results: (17:00-17:15)

Stream	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-CD	95.74	6.38	55.675	F	E
B-A	43.82	2.92	81.490	F	F
A-B	-	-	-	-	-
A-C	-	-	-	-	-
A-D	-	-	-	-	-
AB-CD	27.30	1.82	10.373	B	B
AB-C	-	-	-	-	-
D-ABC	7.64	0.51	11.553	B	B
C-D	-	-	-	-	-
C-A	-	-	-	-	-
C-B	-	-	-	-	-
CD-AB	11.53	0.77	8.313	A	A
CD-A	-	-	-	-	-

Queueing Delay results: (17:15-17:30)

Stream	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-CD	397.87	26.52	209.478	F	F
B-A	148.61	9.91	259.324	F	F
A-B	-	-	-	-	-
A-C	-	-	-	-	-
A-D	-	-	-	-	-
AB-CD	34.52	2.30	11.993	B	B
AB-C	-	-	-	-	-
D-ABC	11.97	0.80	15.109	C	B
C-D	-	-	-	-	-
C-A	-	-	-	-	-
C-B	-	-	-	-	-
CD-AB	18.16	1.21	10.030	B	B
CD-A	-	-	-	-	-

Queueing Delay results: (17:30-17:45)

Stream	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-CD	959.28	63.95	484.289	F	F
B-A	324.87	21.66	524.158	F	F
A-B	-	-	-	-	-
A-C	-	-	-	-	-
A-D	-	-	-	-	-
AB-CD	32.39	2.16	11.612	B	B
AB-C	-	-	-	-	-
D-ABC	13.59	0.91	16.736	C	B
C-D	-	-	-	-	-
C-A	-	-	-	-	-
C-B	-	-	-	-	-
CD-AB	18.59	1.24	10.141	B	B
CD-A	-	-	-	-	-

Queueing Delay results: (17:45-18:00)

Stream	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-CD	1303.49	86.90	626.576	F	F
B-A	431.37	28.76	655.564	F	F
A-B	-	-	-	-	-
A-C	-	-	-	-	-
A-D	-	-	-	-	-
AB-CD	28.44	1.90	10.608	B	B
AB-C	-	-	-	-	-
D-ABC	10.10	0.67	13.631	B	B
C-D	-	-	-	-	-
C-A	-	-	-	-	-
C-B	-	-	-	-	-
CD-AB	12.00	0.80	8.437	A	A
CD-A	-	-	-	-	-

Queueing Delay results: (18:00-18:15)

Stream	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-CD	1202.38	80.16	558.976	F	F
B-A	401.79	26.79	587.911	F	F
A-B	-	-	-	-	-
A-C	-	-	-	-	-
A-D	-	-	-	-	-
AB-CD	26.50	1.77	10.069	B	B
AB-C	-	-	-	-	-
D-ABC	7.00	0.47	11.388	B	B
C-D	-	-	-	-	-
C-A	-	-	-	-	-
C-B	-	-	-	-	-
CD-AB	8.47	0.56	7.520	A	A
CD-A	-	-	-	-	-

vectos.

Appendix P

Briscoe Ln/Mitchell St Modelling Results

Junctions 8

PICADY 8 - Priority Intersection Module

Version: 8.0.6.541 [19821,26/11/2015]
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Filename: Mitchell St - Briscoe Ln priority junc.arc8
Path: N:\Vectos Job Data\2020\VN201804 Jacksons Brickworks, Manchester\Picady
Report generation date: 29/04/2022 15:44:39

« (Default Analysis Set) - Base, AM
» Junction Network
» Arms
» Traffic Flows
» Entry Flows
» Direct/Resultant Flows
» Turning Proportions
» Vehicle Mix
» Results

Summary of junction performance

	AM		PM	
	Queue (PCU)	RFC	Queue (PCU)	RFC
	A1 - Base			
Stream B-AC	0.03	0.03	0.16	0.14
Stream C-AB	0.05	0.04	0.03	0.02
Stream C-A	-	-	-	-
Stream A-B	-	-	-	-
Stream A-C	-	-	-	-
	A1 - Future Year inc CD			
Stream B-AC	0.03	0.03	0.16	0.14
Stream C-AB	0.05	0.04	0.03	0.02
Stream C-A	-	-	-	-
Stream A-B	-	-	-	-
Stream A-C	-	-	-	-
	A1 - Future Year inc CD + Dev			
Stream B-AC	0.35	0.26	0.32	0.24
Stream C-AB	0.21	0.10	0.12	0.07
Stream C-A	-	-	-	-
Stream A-B	-	-	-	-
Stream A-C	-	-	-	-

Values shown are the maximum values over all time segments. Delay is the maximum value of average delay per arriving vehicle.

"D1 - Base, AM " model duration: 07:45 - 09:15
"D2 - Base, PM" model duration: 16:45 - 18:15
"D3 - Future Year inc CD, AM" model duration: 07:45 - 09:15
"D4 - Future Year inc CD, PM" model duration: 16:45 - 18:15
"D5 - Future Year inc CD + Dev, AM" model duration: 07:45 - 09:15
"D6 - Future Year inc CD + Dev, PM" model duration: 16:45 - 18:15

Run using Junctions 8.0.6.541 at 29/04/2022 15:44:37

File summary

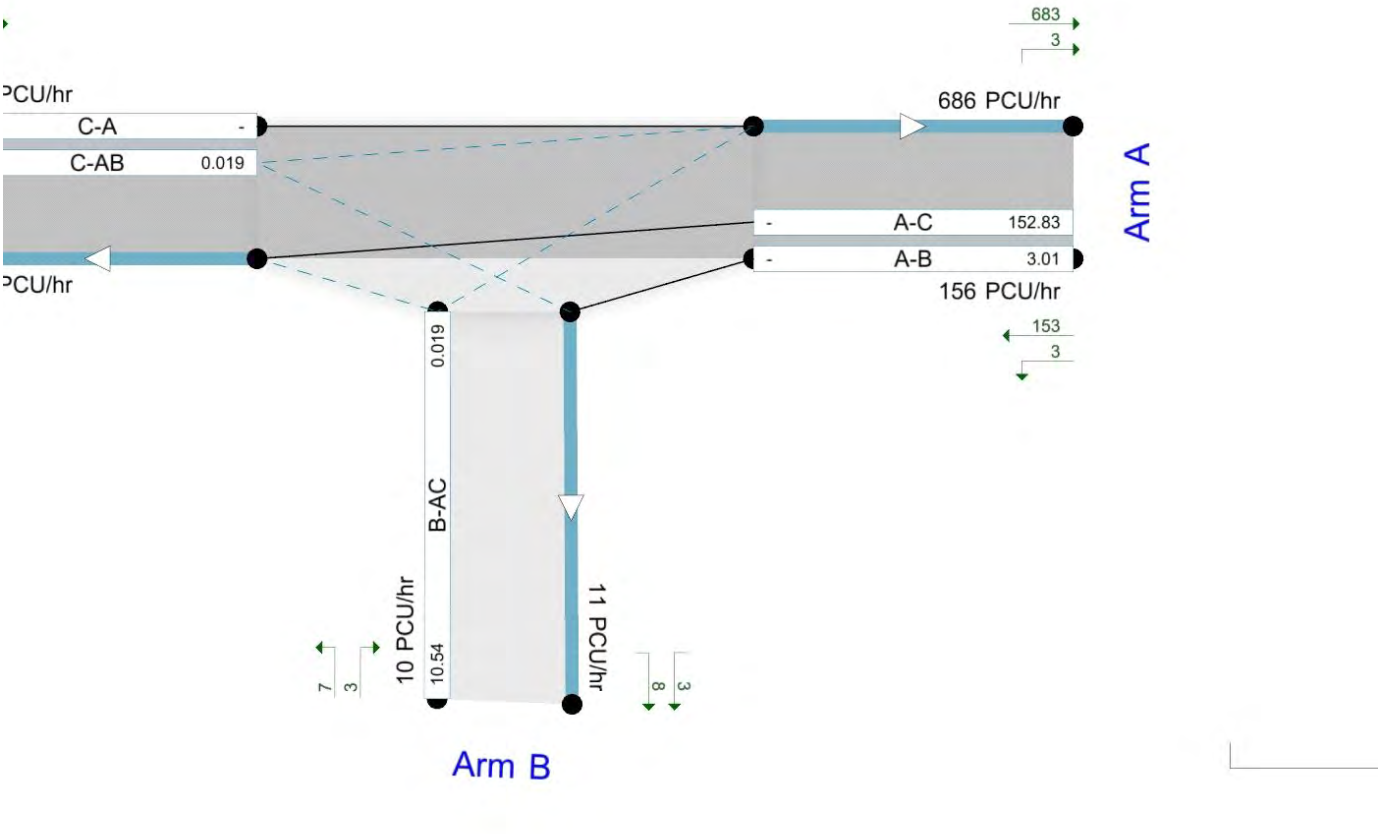
Title	(untitled)
Location	
Site Number	
Date	11/02/2021
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	james.whitton
Description	

Analysis Options

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

Units

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



Showing modelled flow through junction (PCU/hr).
Streams (upstreams) show Total Demand (PCU/hr); Streams (downstreams) show RFC ()
Time Segment: (07:45-08:00)
Showing Analysis Set "A1 "; Demand Set "D1 - Base, AM "

The junction diagram reflects the last run of ARCADY.

(Default Analysis Set) - Base, AM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

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

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Results For Central Hour Only	Single Time Segment Only	Locked	Run Automatically	Use Relationship	Relationship
Base, AM	Base	AM		ONE HOUR	07:45	09:15	90	15				✓		

Junction Network

Junctions

Junction	Name	Junction Type	Major Road Direction	Arm Order	Do Geometric Delay	Junction Delay (s)	Junction LOS
1	(untitled)	T-Junction	Two-way	A,B,C		4.72	A

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Arm	Name	Description	Arm Type
A	A	Briscoe Lane (West)		Major
B	B	Mitchell Street		Minor
C	C	Briscoe Lane (East)		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
C	8.00		0.00		2.20	120.00	✓	0.00

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

Minor Arm Geometry

Arm	Minor Arm Type	Lane Width (m)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
B	One lane	3.75										21	22

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
1	B-A	532.407	0.089	0.224	0.141	0.320
1	B-C	685.676	0.096	0.243	-	-
1	C-B	643.457	0.228	0.228	-	-

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

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

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

Traffic Flows

Demand Set Data Options

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

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
A	ONE HOUR	✓	207.00	100.000
B	ONE HOUR	✓	14.00	100.000
C	ONE HOUR	✓	918.00	100.000

Direct/Resultant Flows

Direct Flows Data

Time Segment	Arm	Direct Demand Entry Flow (PCU/hr)	DirectDemandEntryFlowInPCU (PCU/hr)	Direct Demand Exit Flow (PCU/hr)	Direct Demand Pedestrian Flow (Ped/hr)
07:45-08:00	A	155.84	155.84		
07:45-08:00	B	10.54	10.54		
07:45-08:00	C	691.12	691.12		
08:00-08:15	A	186.09	186.09		
08:00-08:15	B	12.59	12.59		
08:00-08:15	C	825.26	825.26		
08:15-08:30	A	227.91	227.91		
08:15-08:30	B	15.41	15.41		
08:15-08:30	C	1010.74	1010.74		
08:30-08:45	A	227.91	227.91		
08:30-08:45	B	15.41	15.41		
08:30-08:45	C	1010.74	1010.74		
08:45-09:00	A	186.09	186.09		
08:45-09:00	B	12.59	12.59		
08:45-09:00	C	825.26	825.26		
09:00-09:15	A	155.84	155.84		
09:00-09:15	B	10.54	10.54		
09:00-09:15	C	691.12	691.12		

Turning Proportions

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

		To		
		A	B	C
From	A	0.000	4.000	203.000
	B	4.000	0.000	10.000
	C	907.000	11.000	0.000

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

		To		
		A	B	C
From	A	0.00	0.02	0.98
	B	0.29	0.00	0.71
	C	0.99	0.01	0.00

Vehicle Mix

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

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

Heavy Vehicle Percentages - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.0	0.0	0.0
	B	0.0	0.0	0.0
	C	0.0	0.0	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)	Total Queueing Delay (PCU-min)	Average Queueing Delay (s)	Rate Of Queueing Delay (PCU-min/min)	Inclusive Total Queueing Delay (PCU-min)	Inclusive Average Queueing Delay (s)
B-AC	0.03	7.35	0.03	A	12.85	19.27	2.24	6.97	0.02	2.24	6.97
C-AB	0.04	3.60	0.05	A	30.36	45.54	3.17	4.17	0.04	3.17	4.17
C-A	-	-	-	-	812.01	1218.02	-	-	-	-	-
A-B	-	-	-	-	3.67	5.51	-	-	-	-	-
A-C	-	-	-	-	186.28	279.41	-	-	-	-	-

Main Results for each time segment

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

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
B-AC	10.54	2.63	10.46	0.00	550.20	0.019	0.00	0.02	6.670	A
C-AB	19.12	4.78	19.03	0.00	1017.46	0.019	0.00	0.02	3.605	A
C-A	672.00	168.00	672.00	0.00	-	-	-	-	-	-
A-B	3.01	0.75	3.01	0.00	-	-	-	-	-	-
A-C	152.83	38.21	152.83	0.00	-	-	-	-	-	-

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

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
B-AC	12.59	3.15	12.57	0.00	532.02	0.024	0.02	0.02	6.929	A
C-AB	25.81	6.45	25.78	0.00	1077.00	0.024	0.02	0.03	3.423	A
C-A	799.46	199.86	799.46	0.00	-	-	-	-	-	-
A-B	3.60	0.90	3.60	0.00	-	-	-	-	-	-
A-C	182.49	45.62	182.49	0.00	-	-	-	-	-	-

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

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
B-AC	15.41	3.85	15.39	0.00	505.45	0.031	0.02	0.03	7.345	A
C-AB	46.10	11.53	46.01	0.00	1205.74	0.038	0.03	0.05	3.103	A
C-A	964.63	241.16	964.63	0.00	-	-	-	-	-	-
A-B	4.40	1.10	4.40	0.00	-	-	-	-	-	-
A-C	223.51	55.88	223.51	0.00	-	-	-	-	-	-

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

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
B-AC	15.41	3.85	15.41	0.00	505.44	0.031	0.03	0.03	7.345	A
C-AB	46.13	11.53	46.13	0.00	1205.78	0.038	0.05	0.05	3.106	A
C-A	964.60	241.15	964.60	0.00	-	-	-	-	-	-
A-B	4.40	1.10	4.40	0.00	-	-	-	-	-	-
A-C	223.51	55.88	223.51	0.00	-	-	-	-	-	-

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

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
B-AC	12.59	3.15	12.61	0.00	532.01	0.024	0.03	0.02	6.930	A
C-AB	25.83	6.46	25.93	0.00	1077.05	0.024	0.05	0.03	3.424	A
C-A	799.43	199.86	799.43	0.00	-	-	-	-	-	-
A-B	3.60	0.90	3.60	0.00	-	-	-	-	-	-
A-C	182.49	45.62	182.49	0.00	-	-	-	-	-	-

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

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
B-AC	10.54	2.63	10.56	0.00	550.18	0.019	0.02	0.02	6.670	A
C-AB	19.18	4.79	19.21	0.00	1017.50	0.019	0.03	0.02	3.605	A
C-A	671.94	167.99	671.94	0.00	-	-	-	-	-	-
A-B	3.01	0.75	3.01	0.00	-	-	-	-	-	-
A-C	152.83	38.21	152.83	0.00	-	-	-	-	-	-

Queueing Delay Results for each time segment

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

Stream	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-AC	0.28	0.02	6.670	A	A
C-AB	0.33	0.02	3.605	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

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

Stream	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-AC	0.35	0.02	6.929	A	A
C-AB	0.45	0.03	3.423	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

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

Stream	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-AC	0.46	0.03	7.345	A	A
C-AB	0.80	0.05	3.103	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

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

Stream	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-AC	0.47	0.03	7.345	A	A
C-AB	0.80	0.05	3.106	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

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

Stream	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-AC	0.37	0.02	6.930	A	A
C-AB	0.45	0.03	3.424	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

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

Stream	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-AC	0.30	0.02	6.670	A	A
C-AB	0.34	0.02	3.605	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

vectos.

Appendix Q

Briscoe Ln/Ten Acres Ln Modelling Results

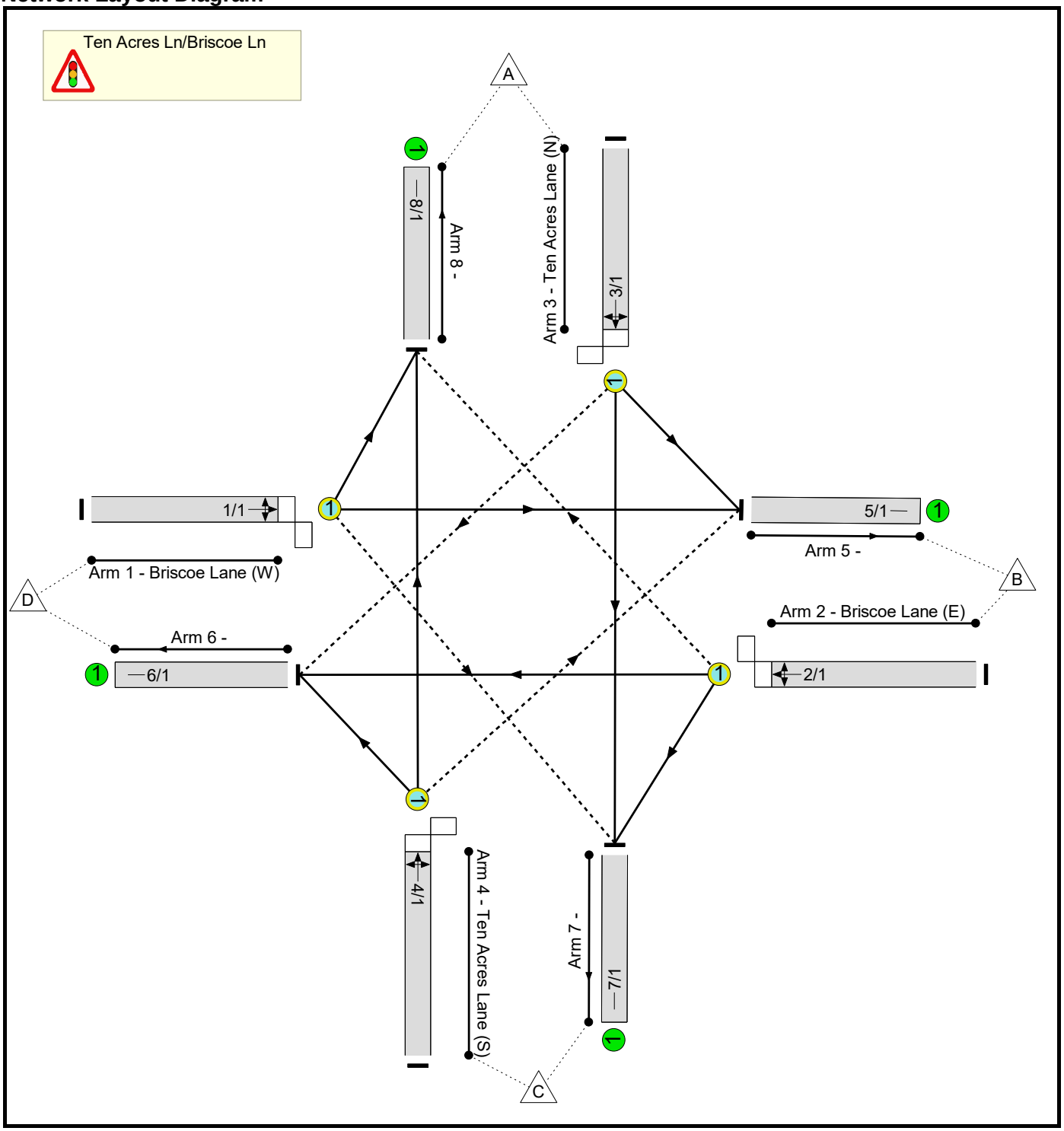
Full Input Data And Results

User and Project Details

Project:	**Jacksons Brickworks**
Title:	
Location:	
Client:	Nuvu Development Ltd
Additional detail:	
File name:	Ten Acres Ln-Briscoe Ln junction - Existing format.lsg3x
Author:	James Whitton
Company:	Vectos North
Address:	

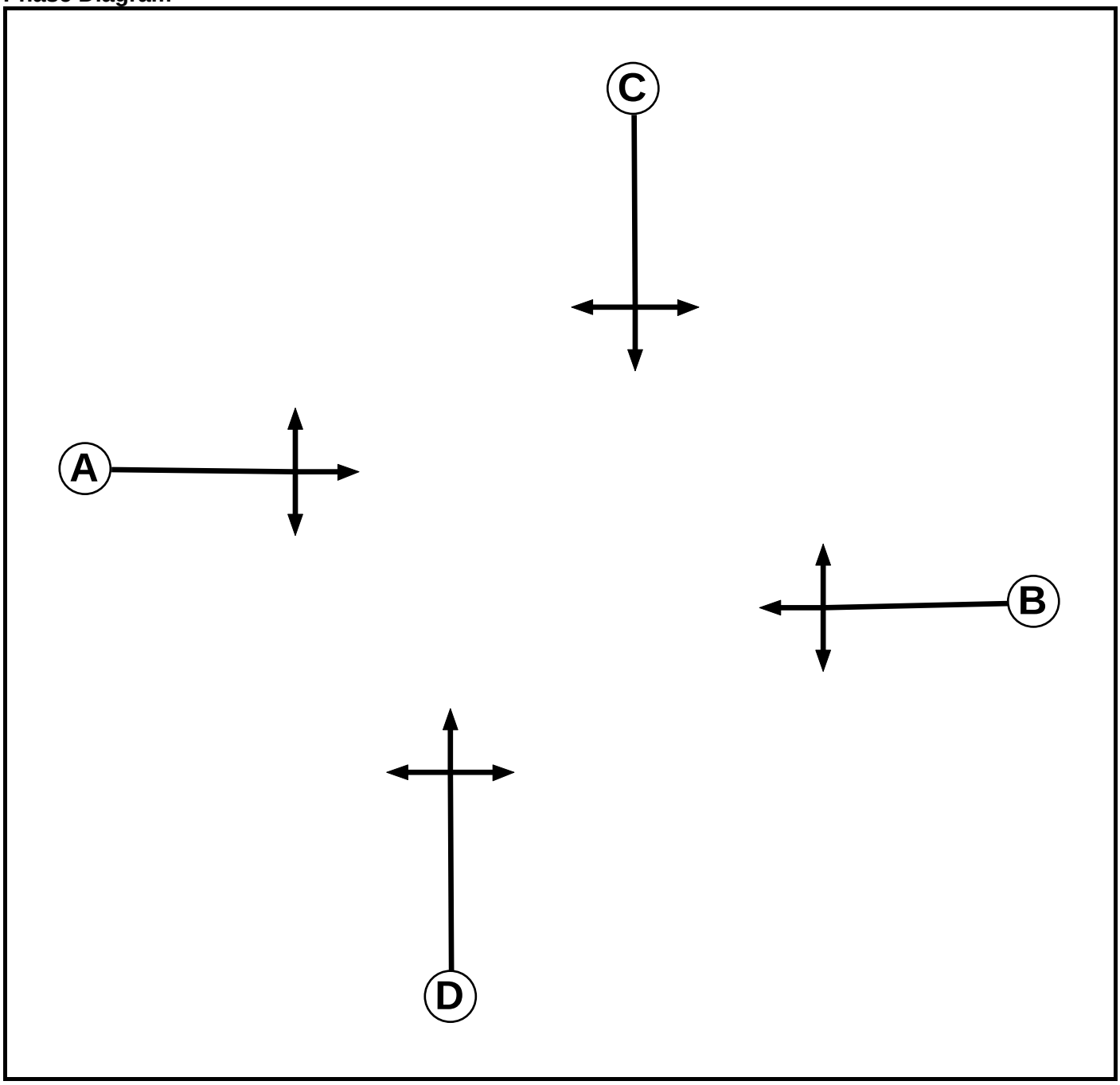
Full Input Data And Results

Network Layout Diagram



Full Input Data And Results

Phase Diagram



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
D	Traffic		7	7

Full Input Data And Results

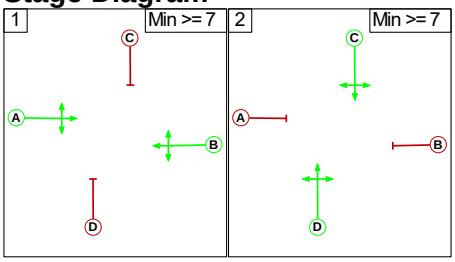
Phase Intergreens Matrix

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

Phases in Stage

Stage No.	Phases in Stage
1	A B
2	C D

Stage Diagram



Phase Delays

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

Prohibited Stage Change

		To Stage	
		1	2
From Stage	1		7
	2	7	

Full Input Data And Results

Give-Way Lane Input Data

Junction: Ten Acres Ln/Briscoe Ln

Lane	Movement	Max Flow when Giving Way (PCU/Hr)	Min Flow when Giving Way (PCU/Hr)	Opposing Lane	Opp. Lane Coeff.	Opp. Mvmnts.	Right Turn Storage (PCU)	Non-Blocking Storage (PCU)	RTF	Right Turn Move up (s)	Max Turns in Intergreen (PCU)
1/1 (Briscoe Lane (W))	7/1 (Right)	1439	0	2/1	1.09	To 6/1 (Ahead) To 7/1 (Left)	2.00	1.00	0.50	2	2.00
2/1 (Briscoe Lane (E))	8/1 (Right)	1439	0	1/1	1.09	To 5/1 (Ahead) To 8/1 (Left)	2.00	1.00	0.50	2	2.00
3/1 (Ten Acres Lane (N))	6/1 (Right)	1439	0	4/1	1.09	To 6/1 (Left) To 8/1 (Ahead)	2.00	1.00	0.50	2	2.00
4/1 (Ten Acres Lane (S))	5/1 (Right)	1439	0	3/1	1.09	To 5/1 (Left) To 7/1 (Ahead)	2.00	1.00	0.50	2	2.00

Full Input Data And Results

Lane Input Data

Junction: Ten Acres Ln/Briscoe Ln

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 (Briscoe Lane (W))	O	A	2	3	60.0	Geom	-	3.75	0.00	Y	Arm 5 Ahead	Inf
											Arm 7 Right	12.00
											Arm 8 Left	15.00
2/1 (Briscoe Lane (E))	O	B	2	3	60.0	Geom	-	3.75	0.00	Y	Arm 6 Ahead	Inf
											Arm 7 Left	15.00
											Arm 8 Right	12.00
3/1 (Ten Acres Lane (N))	O	C	2	3	60.0	Geom	-	4.00	0.00	Y	Arm 5 Left	15.00
											Arm 6 Right	12.00
											Arm 7 Ahead	Inf
4/1 (Ten Acres Lane (S))	O	D	2	3	60.0	Geom	-	3.75	0.00	Y	Arm 5 Right	12.00
											Arm 6 Left	10.00
											Arm 8 Ahead	Inf
5/1	U		2	3	60.0	Inf	-	-	-	-	-	-
6/1	U		2	3	60.0	Inf	-	-	-	-	-	-
7/1	U		2	3	60.0	Inf	-	-	-	-	-	-
8/1	U		2	3	60.0	Inf	-	-	-	-	-	-

Traffic Flow Groups

Flow Group	Start Time	End Time	Duration	Formula
1: 'Base - AM'	08:00	09:00	01:00	
2: 'Base - PM'	17:00	18:00	01:00	
3: 'Base + Com Dev - AM'	08:00	09:00	01:00	
4: 'Base + Com Dev - PM'	17:00	18:00	01:00	
5: 'Base + Com Dev + Dev - AM'	08:00	09:00	01:00	
6: 'Base + Com Dev + Dev - PM'	17:00	18:00	01:00	

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

Traffic Flows, Desired

Desired Flow :

Origin	Destination					
		A	B	C	D	Tot.
	A	0	17	50	163	230
	B	35	0	7	831	873
	C	139	14	0	24	177
	D	73	238	4	0	315
	Tot.	247	269	61	1018	1595

Traffic Lane Flows

Lane	Scenario 1: Baseline - AM
Junction: Ten Acres Ln/Briscoe Ln	
1/1	315
2/1	873
3/1	230
4/1	177
5/1	269
6/1	1018
7/1	61
8/1	247

Full Input Data And Results

Lane Saturation Flows

Junction: Ten Acres Ln/Briscoe Ln								
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 (Briscoe Lane (W))	3.75	0.00	Y	Arm 5 Ahead	Inf	75.6 %	1942	1942
				Arm 7 Right	12.00	1.3 %		
				Arm 8 Left	15.00	23.2 %		
2/1 (Briscoe Lane (E))	3.75	0.00	Y	Arm 6 Ahead	Inf	95.2 %	1978	1978
				Arm 7 Left	15.00	0.8 %		
				Arm 8 Right	12.00	4.0 %		
3/1 (Ten Acres Lane (N))	4.00	0.00	Y	Arm 5 Left	15.00	7.4 %	1839	1839
				Arm 6 Right	12.00	70.9 %		
				Arm 7 Ahead	Inf	21.7 %		
4/1 (Ten Acres Lane (S))	3.75	0.00	Y	Arm 5 Right	12.00	7.9 %	1932	1932
				Arm 6 Left	10.00	13.6 %		
				Arm 8 Ahead	Inf	78.5 %		
5/1	Infinite Saturation Flow						Inf	Inf
6/1	Infinite Saturation Flow						Inf	Inf
7/1	Infinite Saturation Flow						Inf	Inf
8/1	Infinite Saturation Flow						Inf	Inf

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

Traffic Flows, Desired

Desired Flow :

		Destination				
		A	B	C	D	Tot.
Origin	A	0	158	146	81	385
	B	18	0	27	220	265
	C	56	139	0	5	200
	D	27	838	1	0	866
	Tot.	101	1135	174	306	1716

Full Input Data And Results

Traffic Lane Flows

Lane	Scenario 2: Baseline - PM
Junction: Ten Acres Ln/Briscoe Ln	
1/1	866
2/1	265
3/1	385
4/1	200
5/1	1135
6/1	306
7/1	174
8/1	101

Lane Saturation Flows

Junction: Ten Acres Ln/Briscoe Ln

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 (Briscoe Lane (W))	3.75	0.00	Y	Arm 5 Ahead	Inf	96.8 %	1984	1984
				Arm 7 Right	12.00	0.1 %		
				Arm 8 Left	15.00	3.1 %		
2/1 (Briscoe Lane (E))	3.75	0.00	Y	Arm 6 Ahead	Inf	83.0 %	1954	1954
				Arm 7 Left	15.00	10.2 %		
				Arm 8 Right	12.00	6.8 %		
3/1 (Ten Acres Lane (N))	4.00	0.00	Y	Arm 5 Left	15.00	41.0 %	1888	1888
				Arm 6 Right	12.00	21.0 %		
				Arm 7 Ahead	Inf	37.9 %		
4/1 (Ten Acres Lane (S))	3.75	0.00	Y	Arm 5 Right	12.00	69.5 %	1825	1825
				Arm 6 Left	10.00	2.5 %		
				Arm 8 Ahead	Inf	28.0 %		
5/1	Infinite Saturation Flow						Inf	Inf
6/1	Infinite Saturation Flow						Inf	Inf
7/1	Infinite Saturation Flow						Inf	Inf
8/1	Infinite Saturation Flow						Inf	Inf

Full Input Data And Results

Scenario 3: 'Future Year (inc CD) - AM' (FG3: 'Base + Com Dev - AM', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

		Destination				
		A	B	C	D	Tot.
Origin	A	0	17	50	166	233
	B	36	0	7	831	874
	C	141	14	0	24	179
	D	76	240	4	0	320
	Tot.	253	271	61	1021	1606

Traffic Lane Flows

Lane	Scenario 3: Future Year (inc CD) - AM
Junction: Ten Acres Ln/Briscoe Ln	
1/1	320
2/1	874
3/1	233
4/1	179
5/1	271
6/1	1021
7/1	61
8/1	253

Full Input Data And Results

Lane Saturation Flows

Junction: Ten Acres Ln/Briscoe Ln								
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 (Briscoe Lane (W))	3.75	0.00	Y	Arm 5 Ahead	Inf	75.0 %	1941	1941
				Arm 7 Right	12.00	1.3 %		
				Arm 8 Left	15.00	23.8 %		
2/1 (Briscoe Lane (E))	3.75	0.00	Y	Arm 6 Ahead	Inf	95.1 %	1978	1978
				Arm 7 Left	15.00	0.8 %		
				Arm 8 Right	12.00	4.1 %		
3/1 (Ten Acres Lane (N))	4.00	0.00	Y	Arm 5 Left	15.00	7.3 %	1838	1838
				Arm 6 Right	12.00	71.2 %		
				Arm 7 Ahead	Inf	21.5 %		
4/1 (Ten Acres Lane (S))	3.75	0.00	Y	Arm 5 Right	12.00	7.8 %	1932	1932
				Arm 6 Left	10.00	13.4 %		
				Arm 8 Ahead	Inf	78.8 %		
5/1	Infinite Saturation Flow						Inf	Inf
6/1	Infinite Saturation Flow						Inf	Inf
7/1	Infinite Saturation Flow						Inf	Inf
8/1	Infinite Saturation Flow						Inf	Inf

Scenario 4: 'Future Year (inc CD) - PM' (FG4: 'Base + Com Dev - PM', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

		Destination				
		A	B	C	D	Tot.
Origin	A	0	161	149	82	392
	B	18	0	27	220	265
	C	57	139	0	5	201
	D	27	842	1	0	870
	Tot.	102	1142	177	307	1728

Full Input Data And Results

Traffic Lane Flows

Lane	Scenario 4: Future Year (inc CD) - PM
Junction: Ten Acres Ln/Briscoe Ln	
1/1	870
2/1	265
3/1	392
4/1	201
5/1	1142
6/1	307
7/1	177
8/1	102

Lane Saturation Flows

Junction: Ten Acres Ln/Briscoe Ln								
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 (Briscoe Lane (W))	3.75	0.00	Y	Arm 5 Ahead	Inf	96.8 %	1984	1984
				Arm 7 Right	12.00	0.1 %		
				Arm 8 Left	15.00	3.1 %		
2/1 (Briscoe Lane (E))	3.75	0.00	Y	Arm 6 Ahead	Inf	83.0 %	1954	1954
				Arm 7 Left	15.00	10.2 %		
				Arm 8 Right	12.00	6.8 %		
3/1 (Ten Acres Lane (N))	4.00	0.00	Y	Arm 5 Left	15.00	41.1 %	1888	1888
				Arm 6 Right	12.00	20.9 %		
				Arm 7 Ahead	Inf	38.0 %		
4/1 (Ten Acres Lane (S))	3.75	0.00	Y	Arm 5 Right	12.00	69.2 %	1825	1825
				Arm 6 Left	10.00	2.5 %		
				Arm 8 Ahead	Inf	28.4 %		
5/1	Infinite Saturation Flow						Inf	Inf
6/1	Infinite Saturation Flow						Inf	Inf
7/1	Infinite Saturation Flow						Inf	Inf
8/1	Infinite Saturation Flow						Inf	Inf

Full Input Data And Results

Scenario 5: 'Future Year + Dev - AM' (FG5: 'Base + Com Dev + Dev - AM', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

Origin	Destination					
		A	B	C	D	Tot.
	A	0	22	98	276	396
	B	47	0	26	857	930
	C	167	26	0	26	219
	D	140	256	4	0	400
	Tot.	354	304	128	1159	1945

Traffic Lane Flows

Lane	Scenario 5: Future Year + Dev - AM
Junction: Ten Acres Ln/Briscoe Ln	
1/1	400
2/1	930
3/1	396
4/1	219
5/1	304
6/1	1159
7/1	128
8/1	354

Full Input Data And Results

Lane Saturation Flows

Junction: Ten Acres Ln/Briscoe Ln								
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 (Briscoe Lane (W))	3.75	0.00	Y	Arm 5 Ahead	Inf	64.0 %	1920	1920
				Arm 7 Right	12.00	1.0 %		
				Arm 8 Left	15.00	35.0 %		
2/1 (Briscoe Lane (E))	3.75	0.00	Y	Arm 6 Ahead	Inf	92.2 %	1972	1972
				Arm 7 Left	15.00	2.8 %		
				Arm 8 Right	12.00	5.1 %		
3/1 (Ten Acres Lane (N))	4.00	0.00	Y	Arm 5 Left	15.00	5.6 %	1844	1844
				Arm 6 Right	12.00	69.7 %		
				Arm 7 Ahead	Inf	24.7 %		
4/1 (Ten Acres Lane (S))	3.75	0.00	Y	Arm 5 Right	12.00	11.9 %	1927	1927
				Arm 6 Left	10.00	11.9 %		
				Arm 8 Ahead	Inf	76.3 %		
5/1	Infinite Saturation Flow						Inf	Inf
6/1	Infinite Saturation Flow						Inf	Inf
7/1	Infinite Saturation Flow						Inf	Inf
8/1	Infinite Saturation Flow						Inf	Inf

Scenario 6: 'Future Year + Dev - PM' (FG6: 'Base + Com Dev + Dev - PM', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

		Destination				
		A	B	C	D	Tot.
Origin	A	0	162	168	122	452
	B	23	0	33	228	284
	C	80	149	0	5	234
	D	83	856	1	0	940
	Tot.	186	1167	202	355	1910

Full Input Data And Results

Traffic Lane Flows

Lane	Scenario 6: Future Year + Dev - PM
Junction: Ten Acres Ln/Briscoe Ln	
1/1	940
2/1	284
3/1	452
4/1	234
5/1	1167
6/1	355
7/1	202
8/1	186

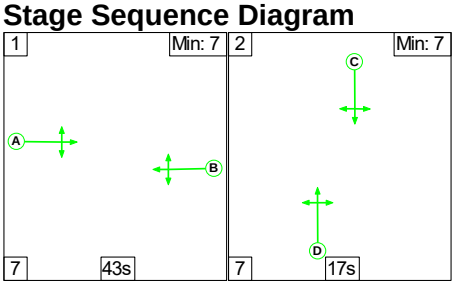
Lane Saturation Flows

Junction: Ten Acres Ln/Briscoe Ln

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 (Briscoe Lane (W))	3.75	0.00	Y	Arm 5 Ahead	Inf	91.1 %	1972	1972
				Arm 7 Right	12.00	0.1 %		
				Arm 8 Left	15.00	8.8 %		
2/1 (Briscoe Lane (E))	3.75	0.00	Y	Arm 6 Ahead	Inf	80.3 %	1948	1948
				Arm 7 Left	15.00	11.6 %		
				Arm 8 Right	12.00	8.1 %		
3/1 (Ten Acres Lane (N))	4.00	0.00	Y	Arm 5 Left	15.00	35.8 %	1884	1884
				Arm 6 Right	12.00	27.0 %		
				Arm 7 Ahead	Inf	37.2 %		
4/1 (Ten Acres Lane (S))	3.75	0.00	Y	Arm 5 Right	12.00	63.7 %	1838	1838
				Arm 6 Left	10.00	2.1 %		
				Arm 8 Ahead	Inf	34.2 %		
5/1	Infinite Saturation Flow						Inf	Inf
6/1	Infinite Saturation Flow						Inf	Inf
7/1	Infinite Saturation Flow						Inf	Inf
8/1	Infinite Saturation Flow						Inf	Inf

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

Stage Sequence Diagram

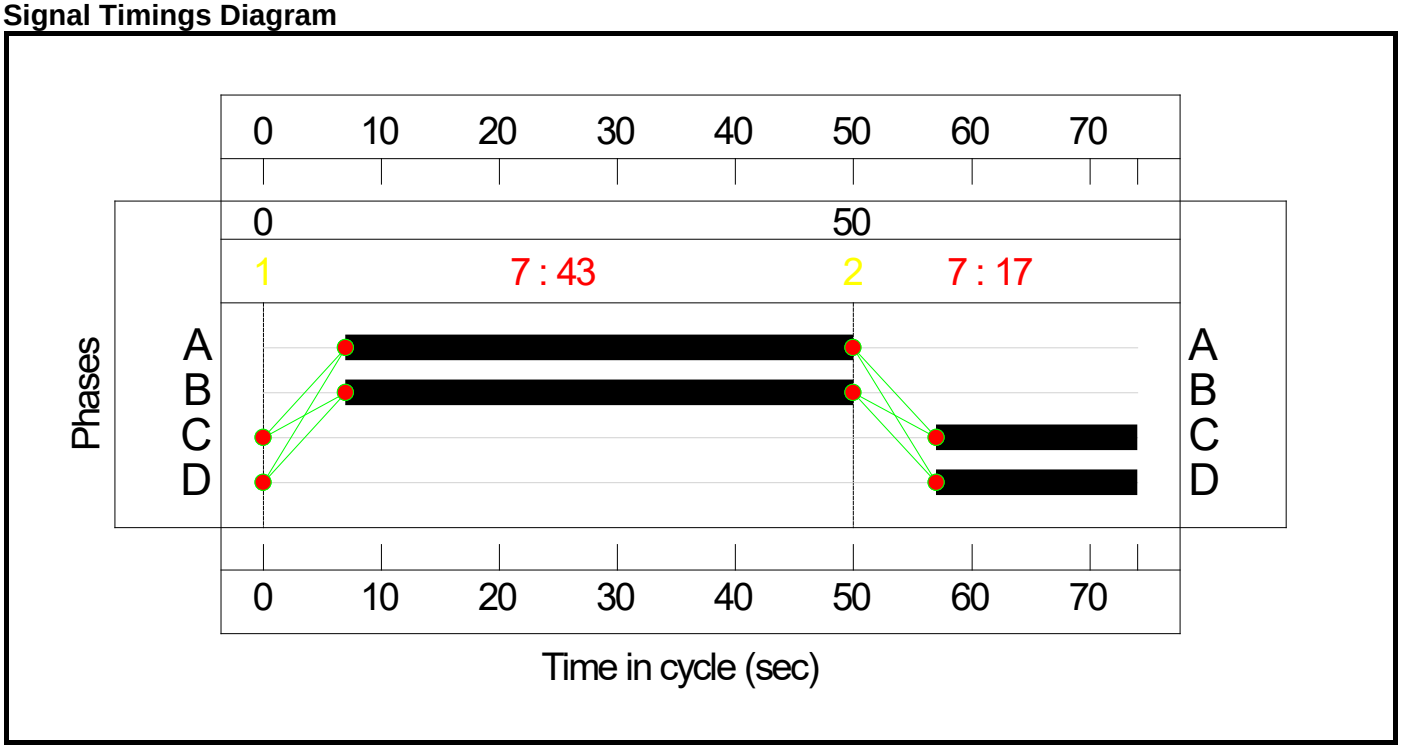


Full Input Data And Results

Stage Timings

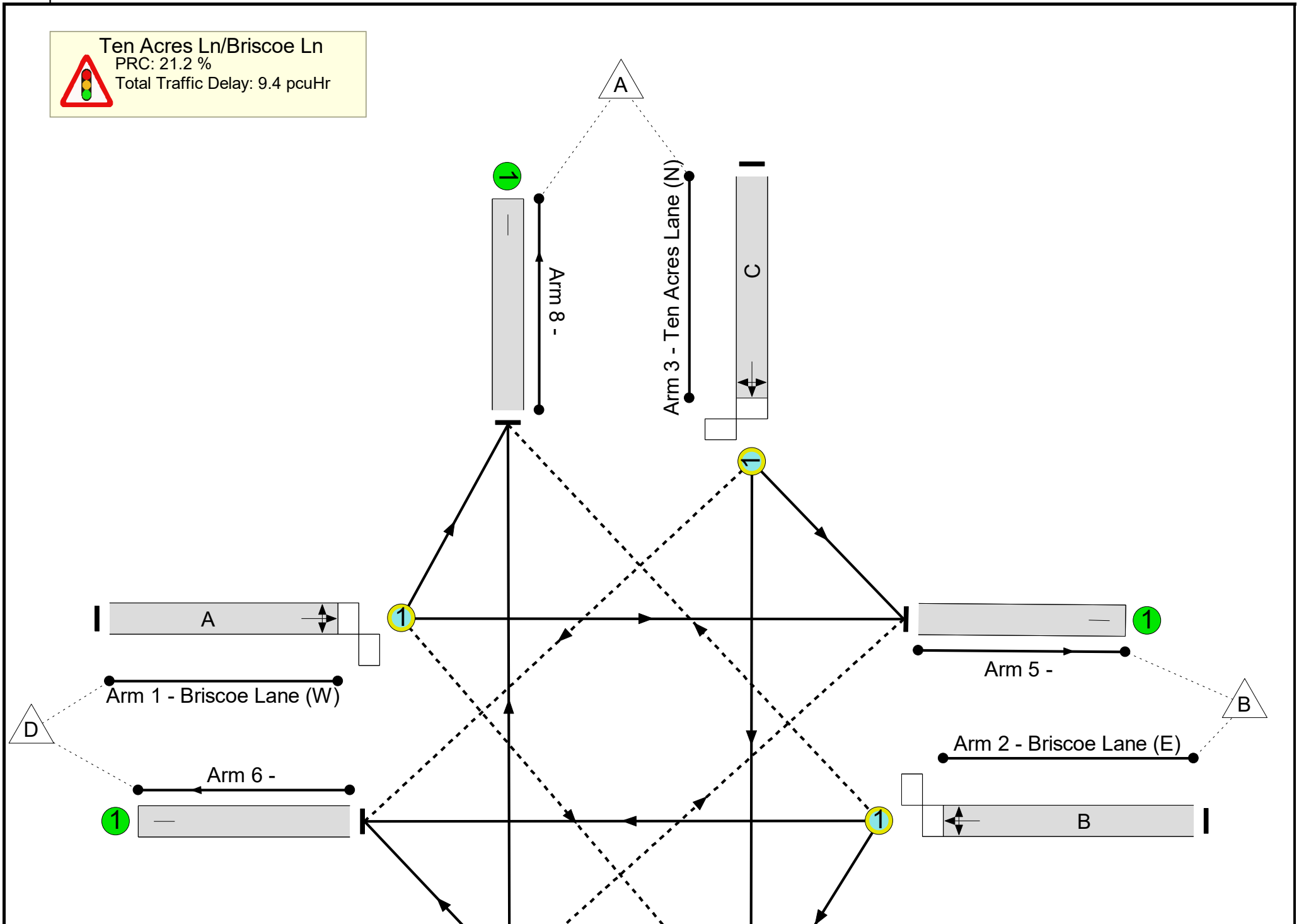
Stage	1	2
Duration	43	17
Change Point	0	50

Signal Timings Diagram



Full Input Data And Results

Network Layout Diagram


Ten Acres Ln/Briscoe Ln
PRC: 21.2 %
Total Traffic Delay: 9.4 pcuHr
A
Arm 8 -
Arm 3 - Ten Acres Lane (N)
C
A
Arm 1 - Briscoe Lane (W)
D
Arm 6 -
Arm 5 -
B
Arm 2 - Briscoe Lane (E)
B

Full Input Data And Results

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	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**74.2%**
Ten Acres Ln/Briscoe Ln	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**74.2%**
1/1	Briscoe Lane (W) Ahead Right Left	O	N/A	N/A	A		1	43	-	315	1942	1155	27.3%
2/1	Briscoe Lane (E) Ahead Left Right	O	N/A	N/A	B		1	43	-	873	1978	1176	74.2%
3/1	Ten Acres Lane (N) Left Right Ahead	O	N/A	N/A	C		1	17	-	230	1839	319	72.0%
4/1	Ten Acres Lane (S) Right Left Ahead	O	N/A	N/A	D		1	17	-	177	1932	470	37.7%
5/1		U	N/A	N/A	-		-	-	-	269	Inf	Inf	0.0%
6/1		U	N/A	N/A	-		-	-	-	1018	Inf	Inf	0.0%
7/1		U	N/A	N/A	-		-	-	-	61	Inf	Inf	0.0%
8/1		U	N/A	N/A	-		-	-	-	247	Inf	Inf	0.0%

Full Input Data And Results

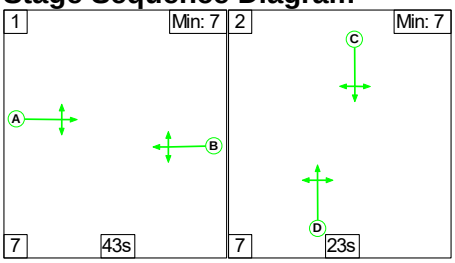
Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network	**-**	**-**	**213**	**0**	**3**	**6.1**	**3.2**	**0.2**	**9.4**	**-**	**-**	**-**	**-**
Ten Acres Ln/Briscoe Ln	**-**	**-**	**213**	**0**	**3**	**6.1**	**3.2**	**0.2**	**9.4**	**-**	**-**	**-**	**-**
1/1	315	315	4	0	0	0.6	0.2	0.0	0.8	9.5	3.1	0.2	3.2
2/1	873	873	35	0	0	2.6	1.4	0.0	4.1	16.8	12.9	1.4	14.3
3/1	230	230	161	0	2	1.6	1.3	0.2	3.0	47.7	4.4	1.3	5.7
4/1	177	177	14	0	0	1.1	0.3	0.0	1.4	29.5	3.0	0.3	3.3
5/1	269	269	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	1018	1018	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	61	61	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	247	247	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

C1 PRC for Signalled Lanes (%): 21.2 Total Delay for Signalled Lanes (pcuHr): 9.40 Cycle Time (s): 74
PRC Over All Lanes (%): 21.2 Total Delay Over All Lanes(pcuHr): 9.40

Full Input Data And Results

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

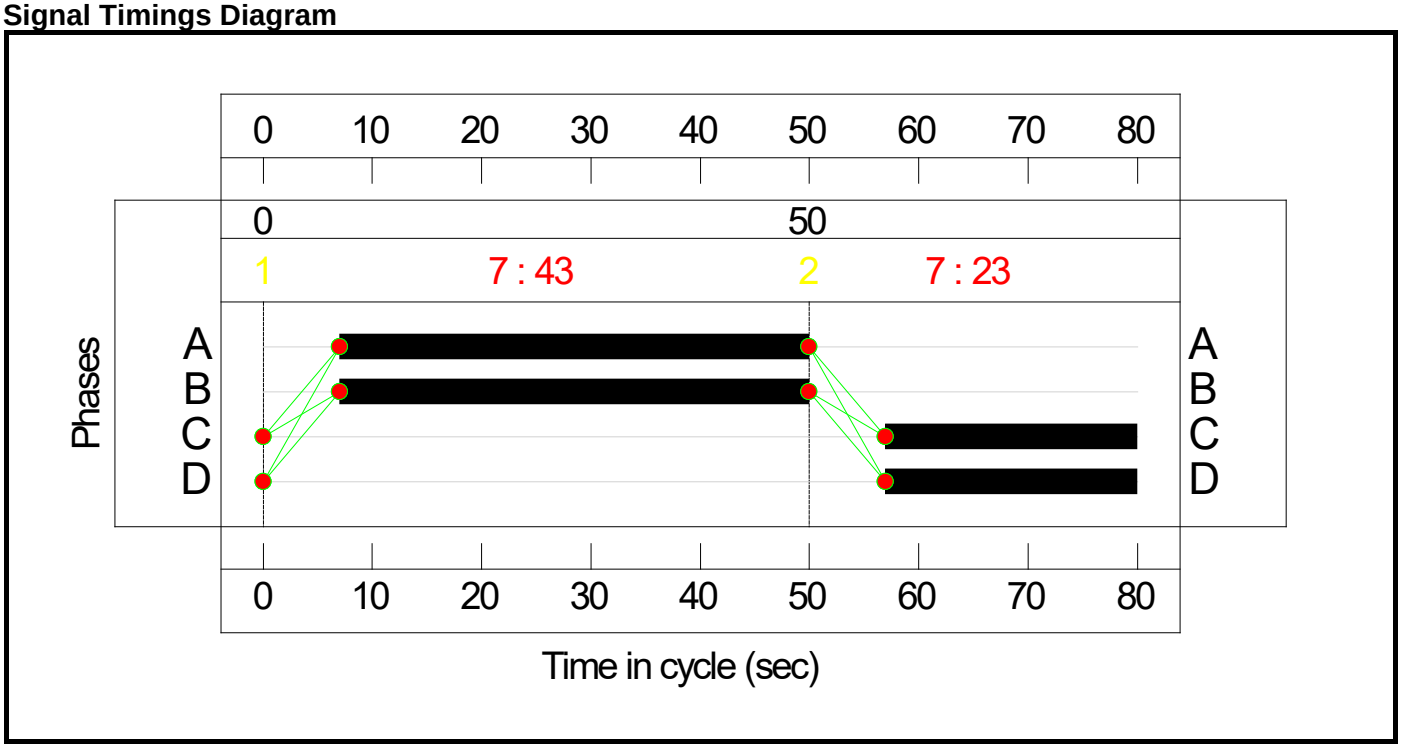
Stage Sequence Diagram



Stage Timings

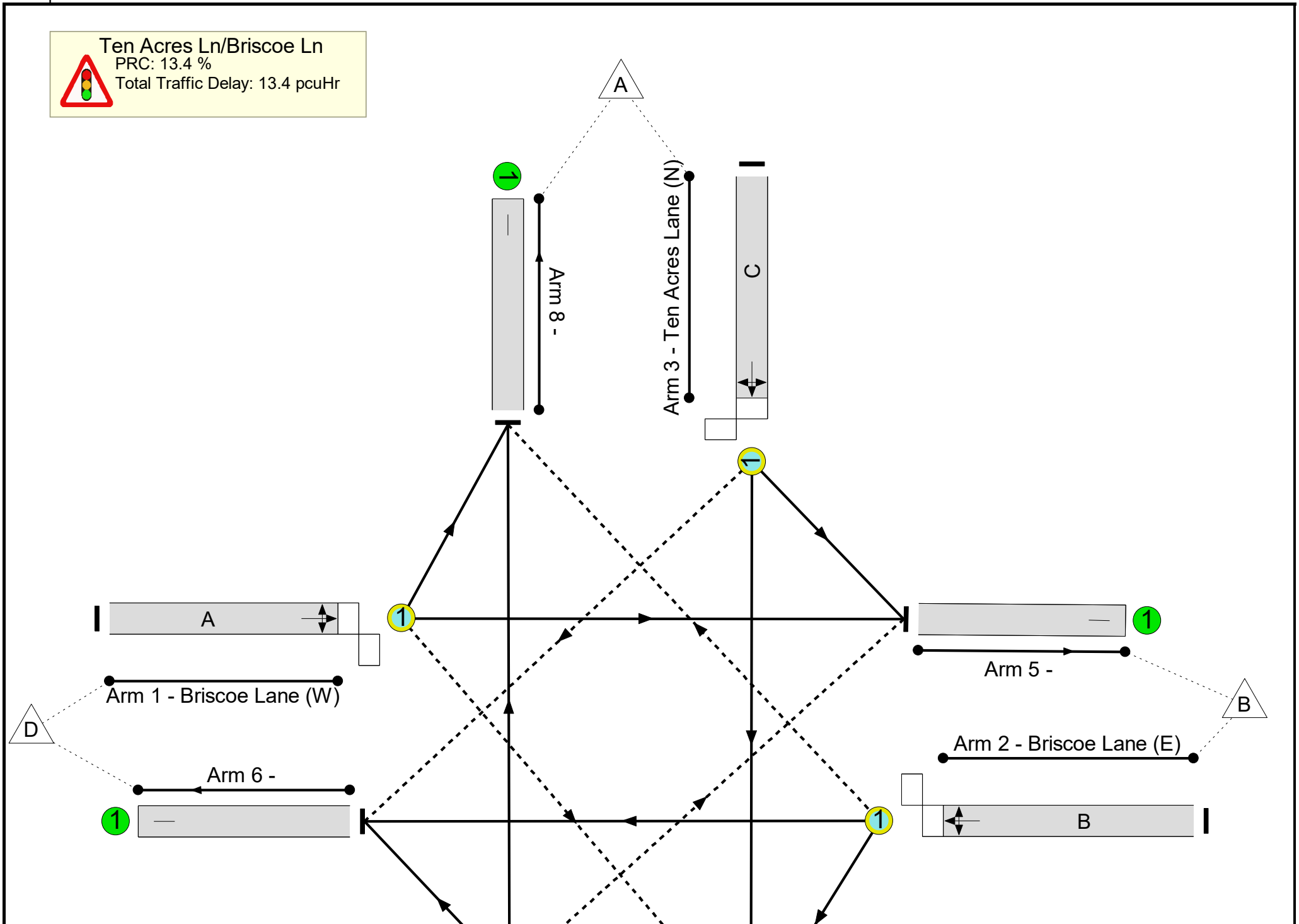
Stage	1	2
Duration	43	23
Change Point	0	50

Signal Timings Diagram



Full Input Data And Results

Network Layout Diagram


Ten Acres Ln/Briscoe Ln
PRC: 13.4 %
Total Traffic Delay: 13.4 pcuHr
A
Arm 8 -
Arm 3 - Ten Acres Lane (N)
C
A
Arm 1 - Briscoe Lane (W)
D
Arm 5 -
B
Arm 2 - Briscoe Lane (E)
Arm 6 -
B

Full Input Data And Results

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	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**79.4%**
Ten Acres Ln/Briscoe Ln	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**79.4%**
1/1	Briscoe Lane (W) Ahead Right Left	O	N/A	N/A	A		1	43	-	866	1984	1091	79.4%
2/1	Briscoe Lane (E) Ahead Left Right	O	N/A	N/A	B		1	43	-	265	1954	1020	26.0%
3/1	Ten Acres Lane (N) Left Right Ahead	O	N/A	N/A	C		1	23	-	385	1888	566	68.0%
4/1	Ten Acres Lane (S) Right Left Ahead	O	N/A	N/A	D		1	23	-	200	1825	253	79.0%
5/1		U	N/A	N/A	-		-	-	-	1135	Inf	Inf	0.0%
6/1		U	N/A	N/A	-		-	-	-	306	Inf	Inf	0.0%
7/1		U	N/A	N/A	-		-	-	-	174	Inf	Inf	0.0%
8/1		U	N/A	N/A	-		-	-	-	101	Inf	Inf	0.0%

Full Input Data And Results

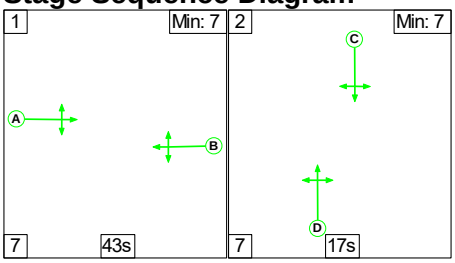
Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network	**-**	**-**	**231**	**0**	**8**	**8.1**	**4.9**	**0.4**	**13.4**	**-**	**-**	**-**	**-**
Ten Acres Ln/Briscoe Ln	**-**	**-**	**231**	**0**	**8**	**8.1**	**4.9**	**0.4**	**13.4**	**-**	**-**	**-**	**-**
1/1	866	866	1	0	0	3.5	1.9	0.0	5.3	22.2	15.2	1.9	17.0
2/1	265	265	18	0	0	0.7	0.2	0.0	0.9	12.3	3.0	0.2	3.2
3/1	385	385	80	0	1	2.6	1.0	0.0	3.7	34.5	7.5	1.0	8.5
4/1	200	200	133	0	6	1.4	1.8	0.3	3.5	62.5	4.3	1.8	6.0
5/1	1135	1135	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	306	306	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	174	174	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	101	101	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

C1 PRC for Signalled Lanes (%): 13.4 Total Delay for Signalled Lanes (pcuHr): 13.41 Cycle Time (s): 80
PRC Over All Lanes (%): 13.4 Total Delay Over All Lanes(pcuHr): 13.41

Full Input Data And Results

Scenario 3: 'Future Year (inc CD) - AM' (FG3: 'Base + Com Dev - AM', Plan 1: 'Network Control Plan 1')

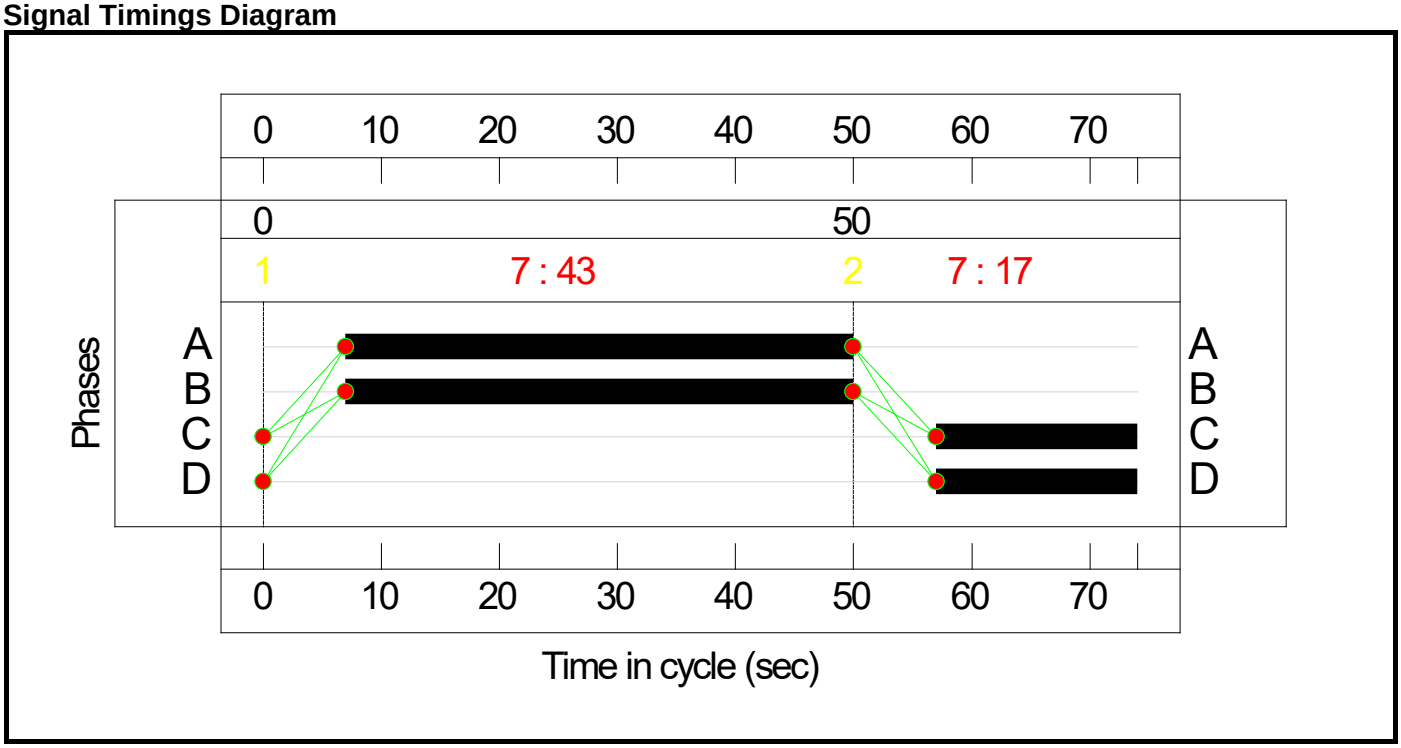
Stage Sequence Diagram



Stage Timings

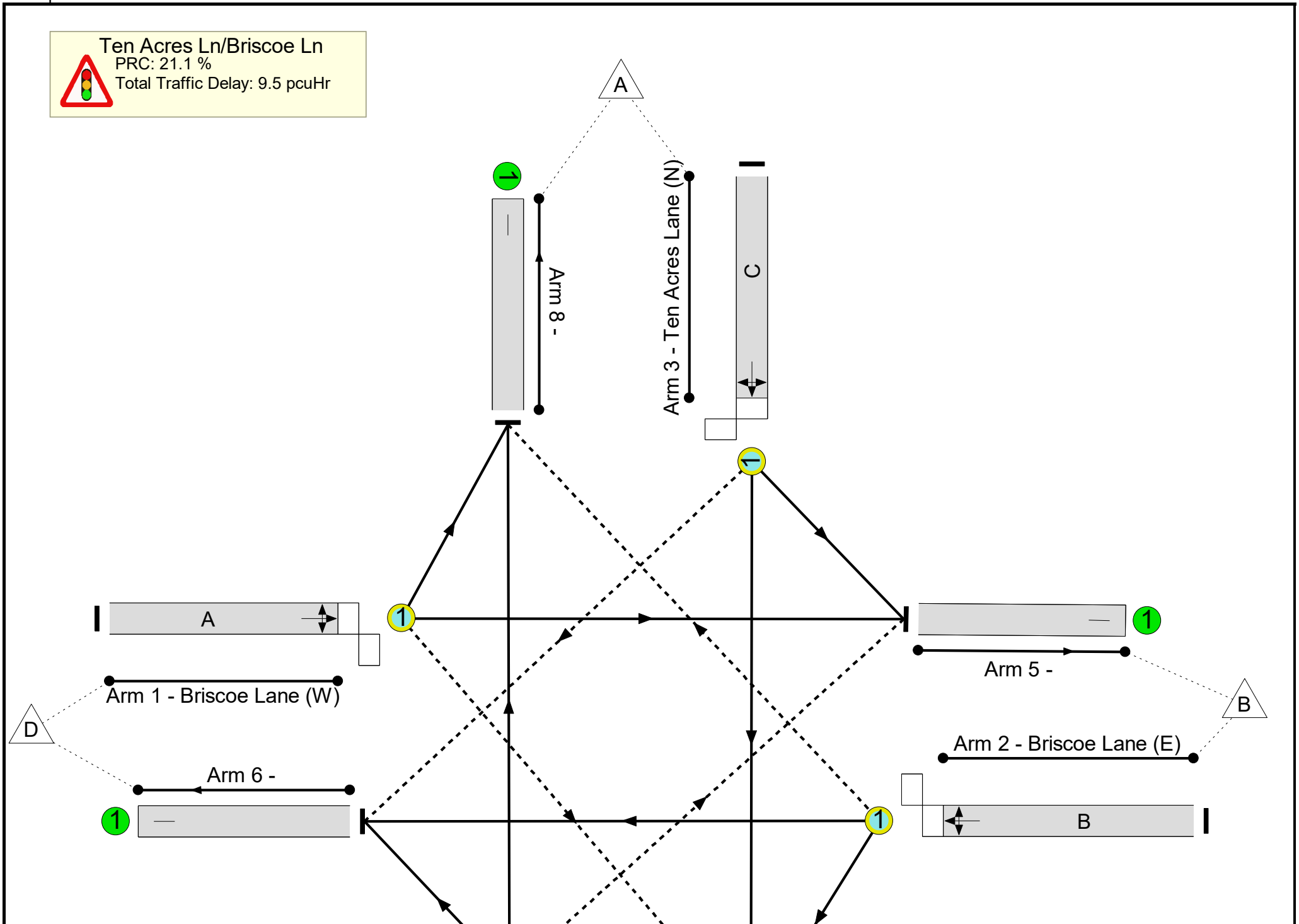
Stage	1	2
Duration	43	17
Change Point	0	50

Signal Timings Diagram



Full Input Data And Results

Network Layout Diagram


Ten Acres Ln/Briscoe Ln
PRC: 21.1 %
Total Traffic Delay: 9.5 pcuHr
A
Arm 8 -
Arm 3 - Ten Acres Lane (N)
C
A
Arm 1 - Briscoe Lane (W)
D
Arm 6 -
Arm 5 -
B
Arm 2 - Briscoe Lane (E)
B

Full Input Data And Results

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	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**74.3%**
Ten Acres Ln/Briscoe Ln	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**74.3%**
1/1	Briscoe Lane (W) Ahead Right Left	O	N/A	N/A	A		1	43	-	320	1941	1154	27.7%
2/1	Briscoe Lane (E) Ahead Left Right	O	N/A	N/A	B		1	43	-	874	1978	1176	74.3%
3/1	Ten Acres Lane (N) Left Right Ahead	O	N/A	N/A	C		1	17	-	233	1838	319	73.1%
4/1	Ten Acres Lane (S) Right Left Ahead	O	N/A	N/A	D		1	17	-	179	1932	470	38.1%
5/1		U	N/A	N/A	-		-	-	-	271	Inf	Inf	0.0%
6/1		U	N/A	N/A	-		-	-	-	1021	Inf	Inf	0.0%
7/1		U	N/A	N/A	-		-	-	-	61	Inf	Inf	0.0%
8/1		U	N/A	N/A	-		-	-	-	253	Inf	Inf	0.0%

Full Input Data And Results

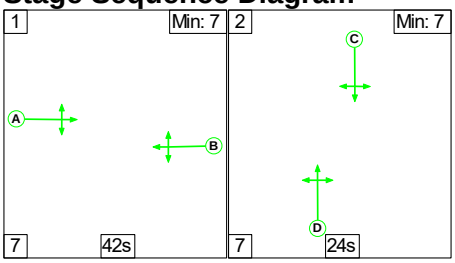
Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network	**-**	**-**	**217**	**0**	**3**	**6.1**	**3.2**	**0.2**	**9.5**	**-**	**-**	**-**	**-**
Ten Acres Ln/Briscoe Ln	**-**	**-**	**217**	**0**	**3**	**6.1**	**3.2**	**0.2**	**9.5**	**-**	**-**	**-**	**-**
1/1	320	320	4	0	0	0.6	0.2	0.0	0.8	9.5	3.1	0.2	3.3
2/1	874	874	36	0	0	2.6	1.4	0.0	4.1	16.8	12.9	1.4	14.3
3/1	233	233	164	0	2	1.7	1.3	0.2	3.1	48.6	4.5	1.3	5.8
4/1	179	179	14	0	0	1.2	0.3	0.0	1.5	29.6	3.0	0.3	3.3
5/1	271	271	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	1021	1021	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	61	61	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	253	253	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

C1 PRC for Signalled Lanes (%): 21.1 Total Delay for Signalled Lanes (pcuHr): 9.55 Cycle Time (s): 74
PRC Over All Lanes (%): 21.1 Total Delay Over All Lanes(pcuHr): 9.55

Full Input Data And Results

Scenario 4: 'Future Year (inc CD) - PM' (FG4: 'Base + Com Dev - PM', Plan 1: 'Network Control Plan 1')

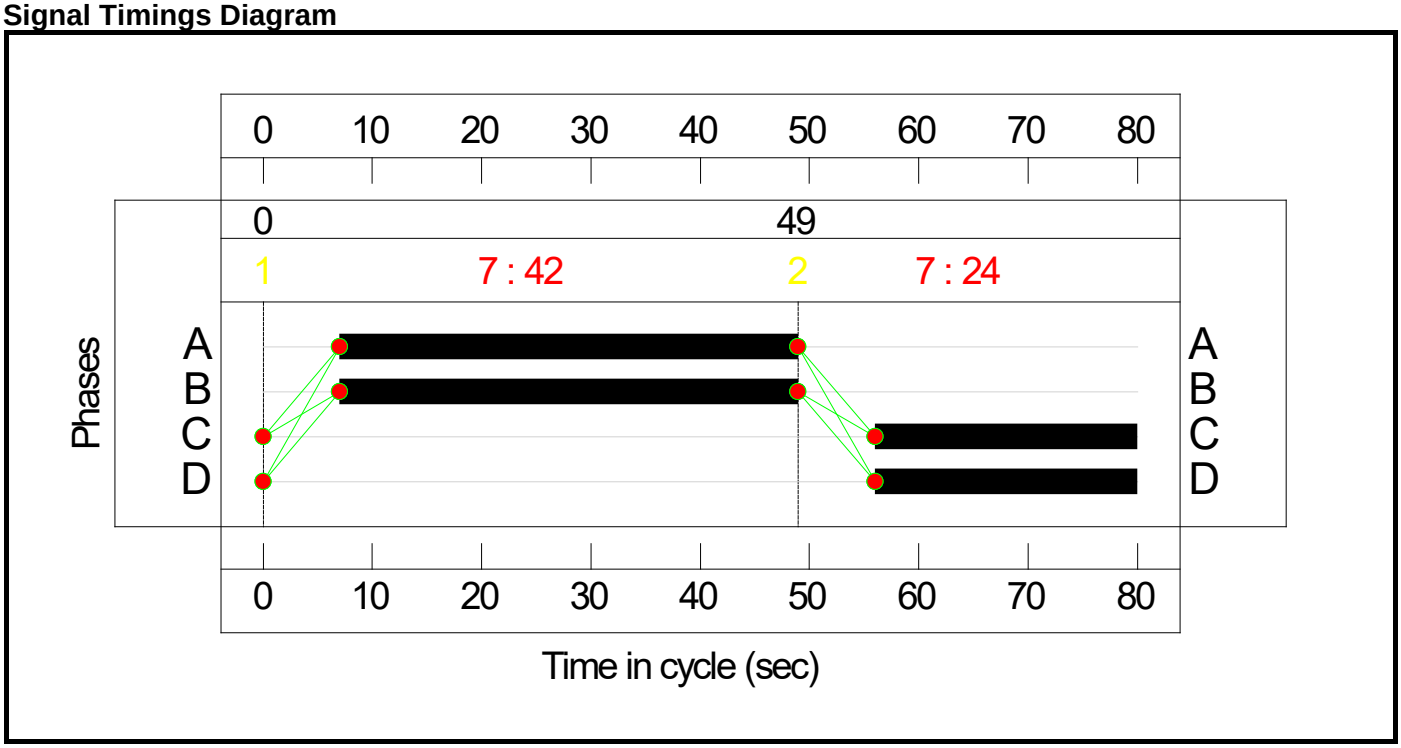
Stage Sequence Diagram



Stage Timings

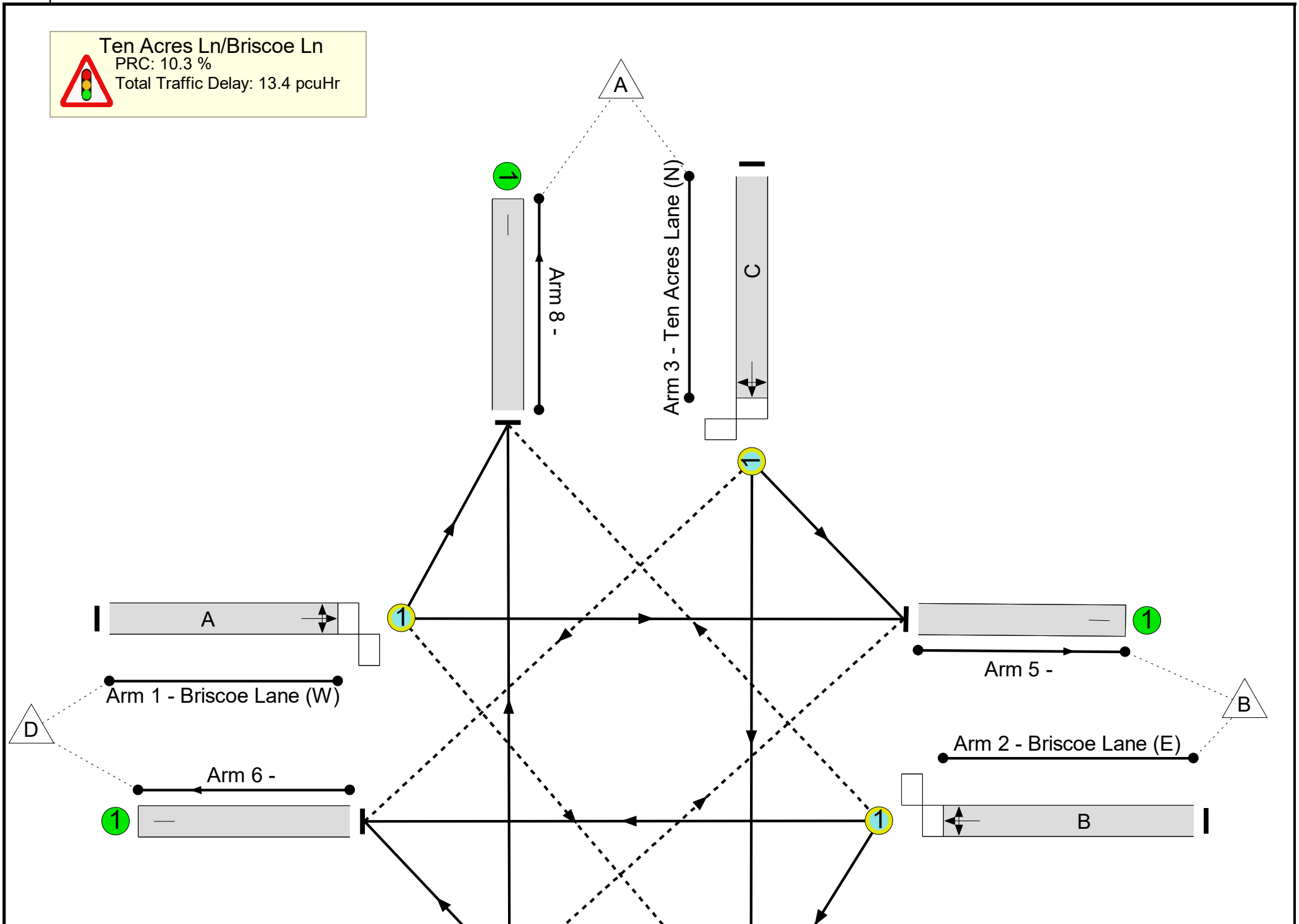
Stage	1	2
Duration	42	24
Change Point	0	49

Signal Timings Diagram



Full Input Data And Results

Network Layout Diagram


Ten Acres Ln/Briscoe Ln
PRC: 10.3 %
Total Traffic Delay: 13.4 pcuHr
A
Arm 8 -
Arm 3 - Ten Acres Lane (N)
C
A
Arm 1 - Briscoe Lane (W)
D
Arm 5 -
B
Arm 2 - Briscoe Lane (E)
Arm 6 -
B

Full Input Data And Results

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	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**81.6%**
Ten Acres Ln/Briscoe Ln	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**81.6%**
1/1	Briscoe Lane (W) Ahead Right Left	O	N/A	N/A	A		1	42	-	870	1984	1066	81.6%
2/1	Briscoe Lane (E) Ahead Left Right	O	N/A	N/A	B		1	42	-	265	1954	986	26.9%
3/1	Ten Acres Lane (N) Left Right Ahead	O	N/A	N/A	C		1	24	-	392	1888	590	66.4%
4/1	Ten Acres Lane (S) Right Left Ahead	O	N/A	N/A	D		1	24	-	201	1825	272	74.0%
5/1		U	N/A	N/A	-		-	-	-	1142	Inf	Inf	0.0%
6/1		U	N/A	N/A	-		-	-	-	307	Inf	Inf	0.0%
7/1		U	N/A	N/A	-		-	-	-	177	Inf	Inf	0.0%
8/1		U	N/A	N/A	-		-	-	-	102	Inf	Inf	0.0%

Full Input Data And Results

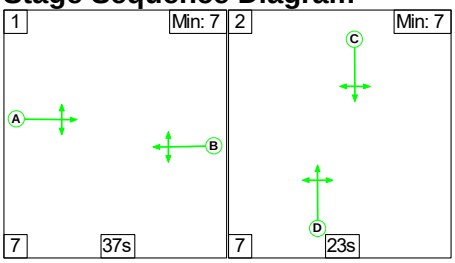
Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network	**-**	**-**	**237**	**0**	**3**	**8.3**	**4.7**	**0.4**	**13.4**	**-**	**-**	**-**	**-**
Ten Acres Ln/Briscoe Ln	**-**	**-**	**237**	**0**	**3**	**8.3**	**4.7**	**0.4**	**13.4**	**-**	**-**	**-**	**-**
1/1	870	870	1	0	0	3.7	2.2	0.0	5.9	24.2	15.7	2.2	17.9
2/1	265	265	18	0	0	0.7	0.2	0.0	1.0	13.0	3.1	0.2	3.3
3/1	392	392	81	0	1	2.6	1.0	0.0	3.6	32.9	7.5	1.0	8.5
4/1	201	201	137	0	2	1.3	1.4	0.3	3.0	54.3	4.2	1.4	5.6
5/1	1142	1142	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	307	307	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	177	177	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	102	102	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

C1 PRC for Signalled Lanes (%): 10.3 Total Delay for Signalled Lanes (pcuHr): 13.42 Cycle Time (s): 80
PRC Over All Lanes (%): 10.3 Total Delay Over All Lanes(pcuHr): 13.42

Full Input Data And Results

Scenario 5: 'Future Year + Dev - AM' (FG5: 'Base + Com Dev + Dev - AM', Plan 1: 'Network Control Plan 1')

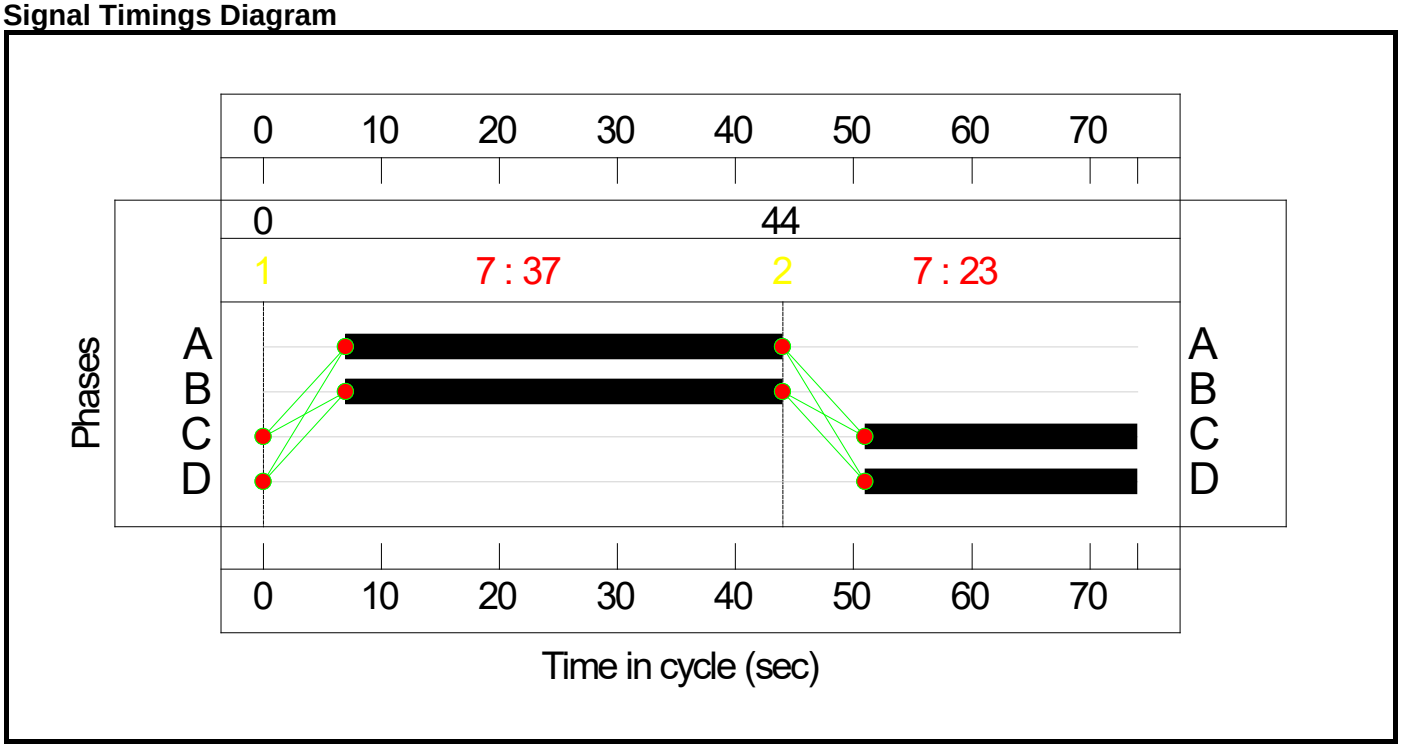
Stage Sequence Diagram



Stage Timings

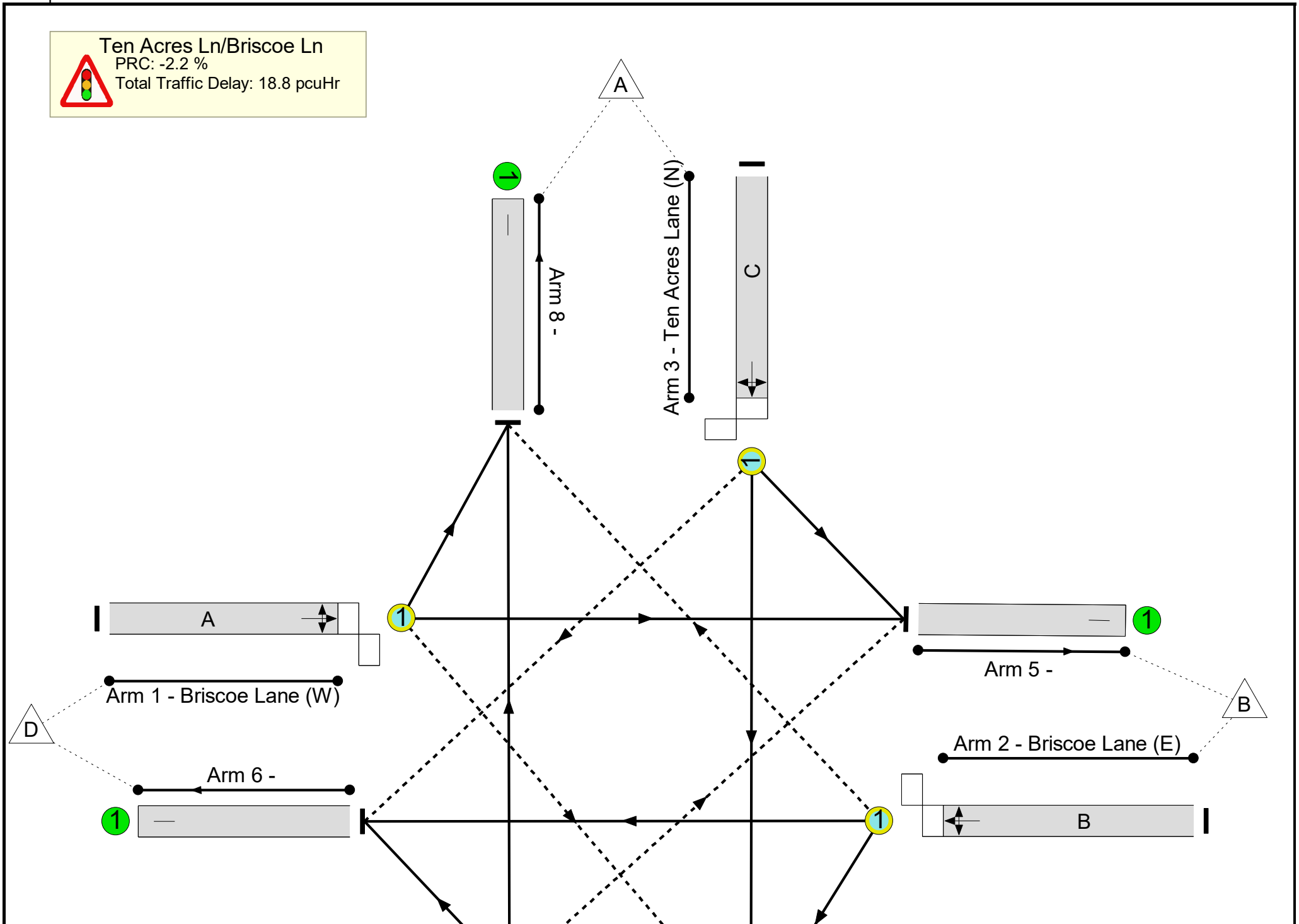
Stage	1	2
Duration	37	23
Change Point	0	44

Signal Timings Diagram



Full Input Data And Results

Network Layout Diagram


Ten Acres Ln/Briscoe Ln
PRC: -2.2 %
Total Traffic Delay: 18.8 pcuHr
A
Arm 8 -
Arm 3 - Ten Acres Lane (N)
C
A
1
1
Arm 5 -
B
D
Arm 1 - Briscoe Lane (W)
Arm 2 - Briscoe Lane (E)
Arm 6 -
1
1
B

Full Input Data And Results

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	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**92.0%**
Ten Acres Ln/Briscoe Ln	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**92.0%**
1/1	Briscoe Lane (W) Ahead Right Left	O	N/A	N/A	A		1	37	-	400	1920	986	40.6%
2/1	Briscoe Lane (E) Ahead Left Right	O	N/A	N/A	B		1	37	-	930	1972	1011	92.0%
3/1	Ten Acres Lane (N) Left Right Ahead	O	N/A	N/A	C		1	23	-	396	1844	447	88.6%
4/1	Ten Acres Lane (S) Right Left Ahead	O	N/A	N/A	D		1	23	-	219	1927	625	35.0%
5/1		U	N/A	N/A	-		-	-	-	304	Inf	Inf	0.0%
6/1		U	N/A	N/A	-		-	-	-	1159	Inf	Inf	0.0%
7/1		U	N/A	N/A	-		-	-	-	128	Inf	Inf	0.0%
8/1		U	N/A	N/A	-		-	-	-	354	Inf	Inf	0.0%

Full Input Data And Results

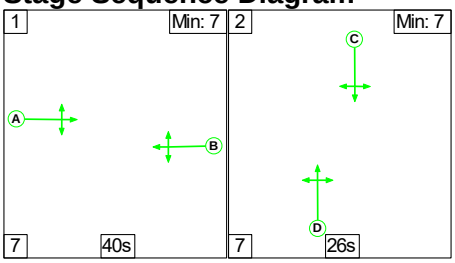
Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network	**-**	**-**	**348**	**0**	**5**	**9.4**	**9.1**	**0.3**	**18.8**	**-**	**-**	**-**	**-**
Ten Acres Ln/Briscoe Ln	**-**	**-**	**348**	**0**	**5**	**9.4**	**9.1**	**0.3**	**18.8**	**-**	**-**	**-**	**-**
1/1	400	400	4	0	0	1.2	0.3	0.0	1.6	14.3	5.0	0.3	5.3
2/1	930	930	46	0	1	4.3	5.1	0.0	9.4	36.4	17.6	5.1	22.7
3/1	396	396	272	0	4	2.7	3.4	0.2	6.4	58.0	7.8	3.4	11.2
4/1	219	219	26	0	0	1.2	0.3	0.0	1.4	23.5	3.4	0.3	3.7
5/1	304	304	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	1159	1159	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	128	128	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	354	354	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

C1 PRC for Signalled Lanes (%): -2.2 Total Delay for Signalled Lanes (pcuHr): 18.79 Cycle Time (s): 74
PRC Over All Lanes (%): -2.2 Total Delay Over All Lanes(pcuHr): 18.79

Full Input Data And Results

Scenario 6: 'Future Year + Dev - PM' (FG6: 'Base + Com Dev + Dev - PM', Plan 1: 'Network Control Plan 1')

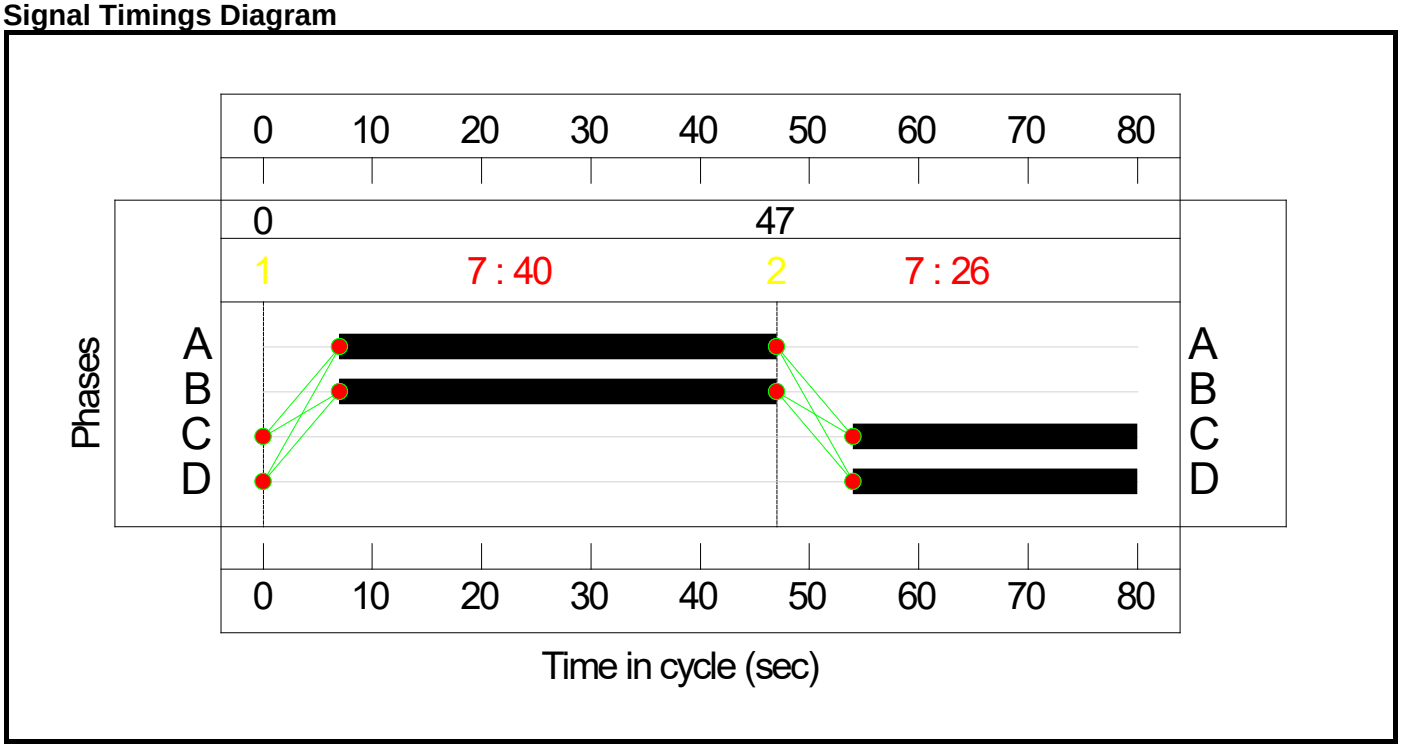
Stage Sequence Diagram



Stage Timings

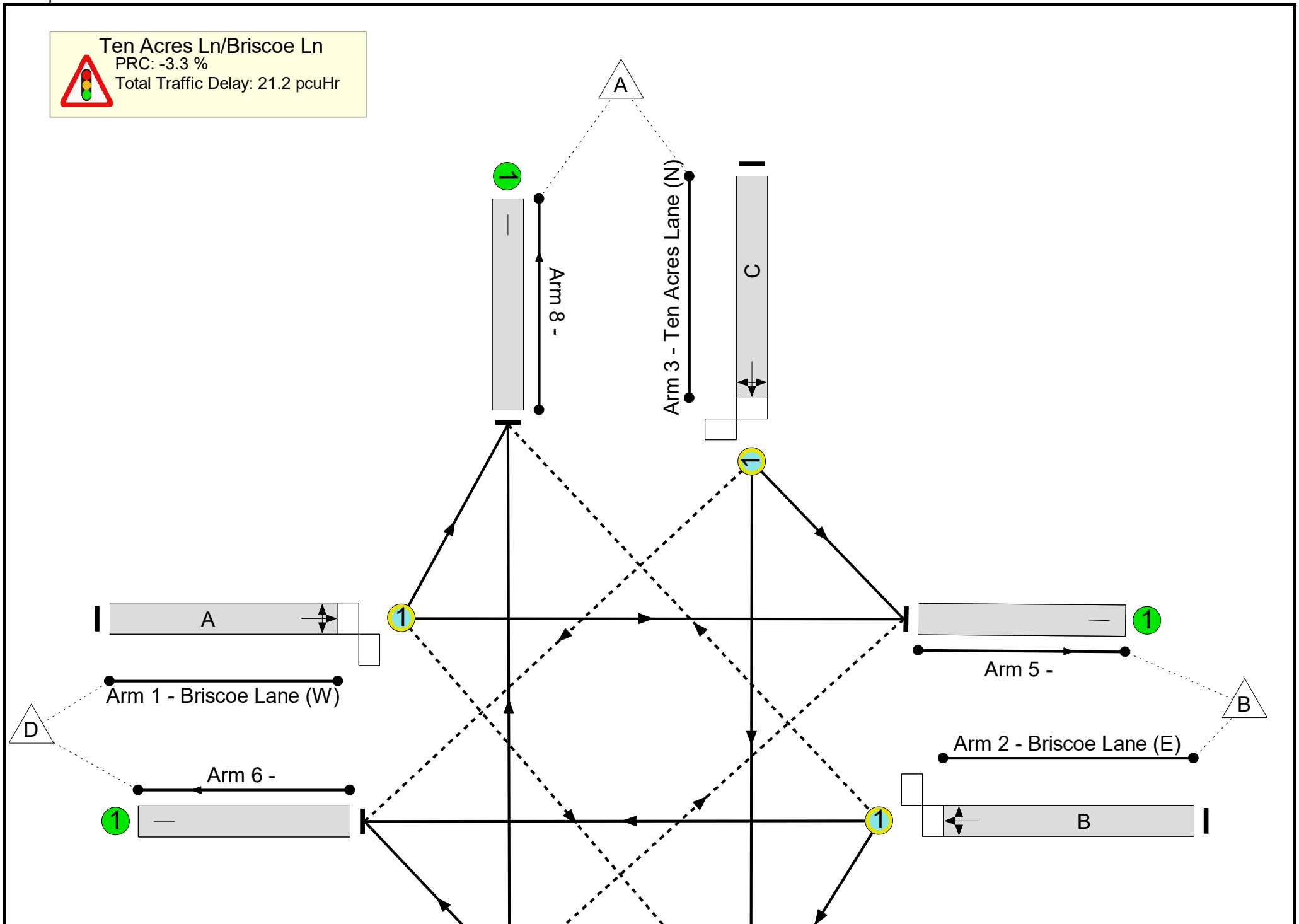
Stage	1	2
Duration	40	26
Change Point	0	47

Signal Timings Diagram



Full Input Data And Results

Network Layout Diagram


Ten Acres Ln/Briscoe Ln
PRC: -3.3 %
Total Traffic Delay: 21.2 pcuHr
A
Arm 8 -
Arm 3 - Ten Acres Lane (N)
C
A
Arm 1 - Briscoe Lane (W)
D
Arm 6 -
Arm 5 -
B
Arm 2 - Briscoe Lane (E)
B

Full Input Data And Results

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	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**93.0%**
Ten Acres Ln/Briscoe Ln	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**93.0%**
1/1	Briscoe Lane (W) Ahead Right Left	O	N/A	N/A	A		1	40	-	940	1972	1011	93.0%
2/1	Briscoe Lane (E) Ahead Left Right	O	N/A	N/A	B		1	40	-	284	1948	704	40.4%
3/1	Ten Acres Lane (N) Left Right Ahead	O	N/A	N/A	C		1	26	-	452	1884	636	71.1%
4/1	Ten Acres Lane (S) Right Left Ahead	O	N/A	N/A	D		1	26	-	234	1838	262	89.2%
5/1		U	N/A	N/A	-		-	-	-	1167	Inf	Inf	0.0%
6/1		U	N/A	N/A	-		-	-	-	355	Inf	Inf	0.0%
7/1		U	N/A	N/A	-		-	-	-	202	Inf	Inf	0.0%
8/1		U	N/A	N/A	-		-	-	-	186	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	**-**	**-**	**283**	**0**	**12**	**10.1**	**10.6**	**0.5**	**21.2**	**-**	**-**	**-**	**-**
Ten Acres Ln/Briscoe Ln	**-**	**-**	**283**	**0**	**12**	**10.1**	**10.6**	**0.5**	**21.2**	**-**	**-**	**-**	**-**
1/1	940	940	1	0	0	4.7	5.7	0.0	10.5	40.1	19.3	5.7	25.0
2/1	284	284	23	0	0	0.9	0.3	0.1	1.3	16.5	3.6	0.3	3.9
3/1	452	452	120	0	2	2.9	1.2	0.0	4.1	32.8	8.7	1.2	9.9
4/1	234	234	139	0	10	1.6	3.3	0.4	5.3	81.0	5.1	3.3	8.4
5/1	1167	1167	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	355	355	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	202	202	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	186	186	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

C1 PRC for Signalled Lanes (%): -3.3 Total Delay for Signalled Lanes (pcuHr): 21.16 Cycle Time (s): 80
PRC Over All Lanes (%): -3.3 Total Delay Over All Lanes(pcuHr): 21.16

vectos.

Appendix R

Briscoe Ln/Ten Acres Ln (Amended Layout) Modelling Results

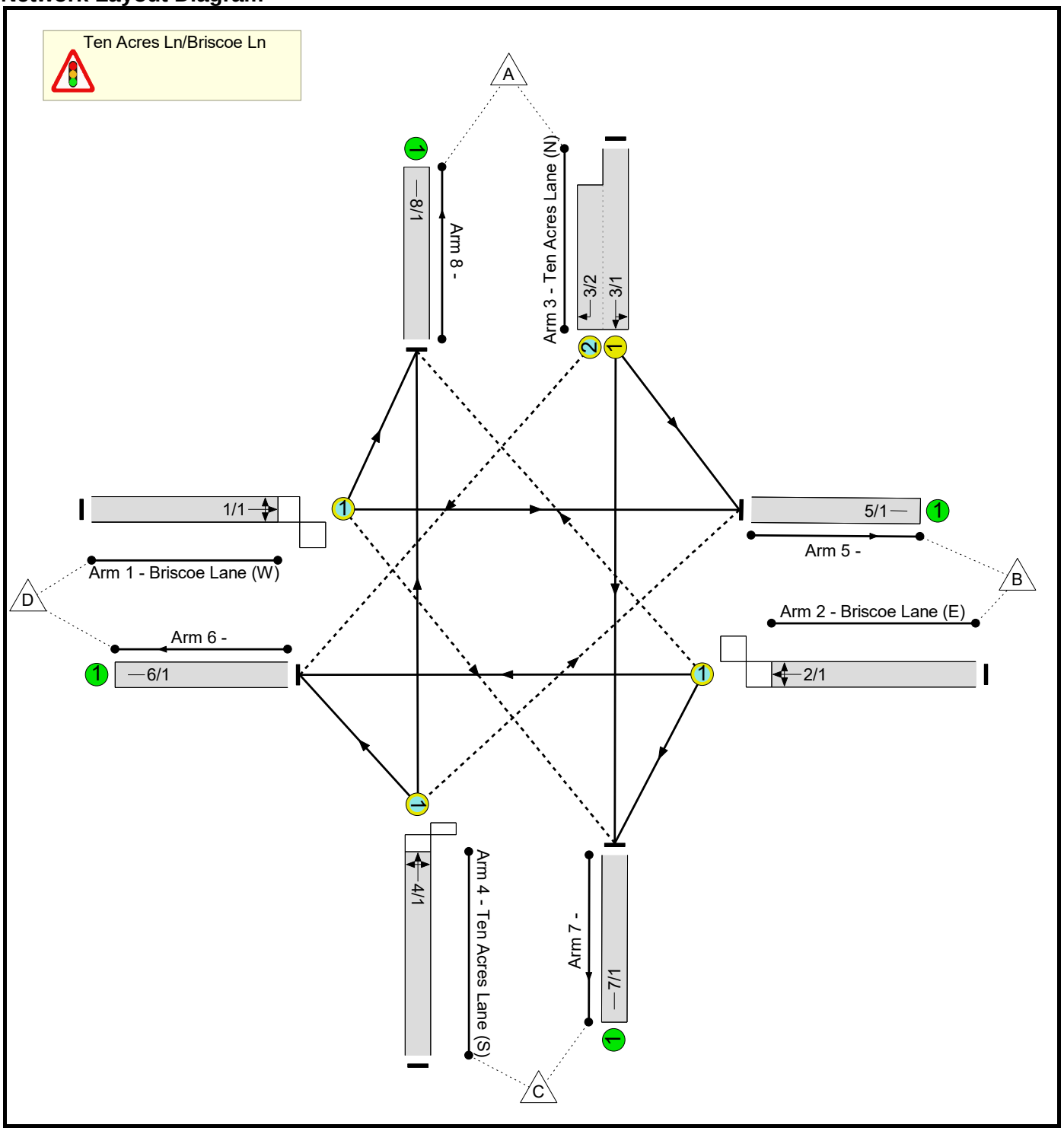
Full Input Data And Results

User and Project Details

Project:	**Jacksons Brickworks**
Title:	
Location:	
Client:	Nuvu Development Ltd
Additional detail:	
File name:	Ten Acres Ln-Briscoe Ln junction - Proposed format.lsg3x
Author:	James Whitton
Company:	Vectos North
Address:	

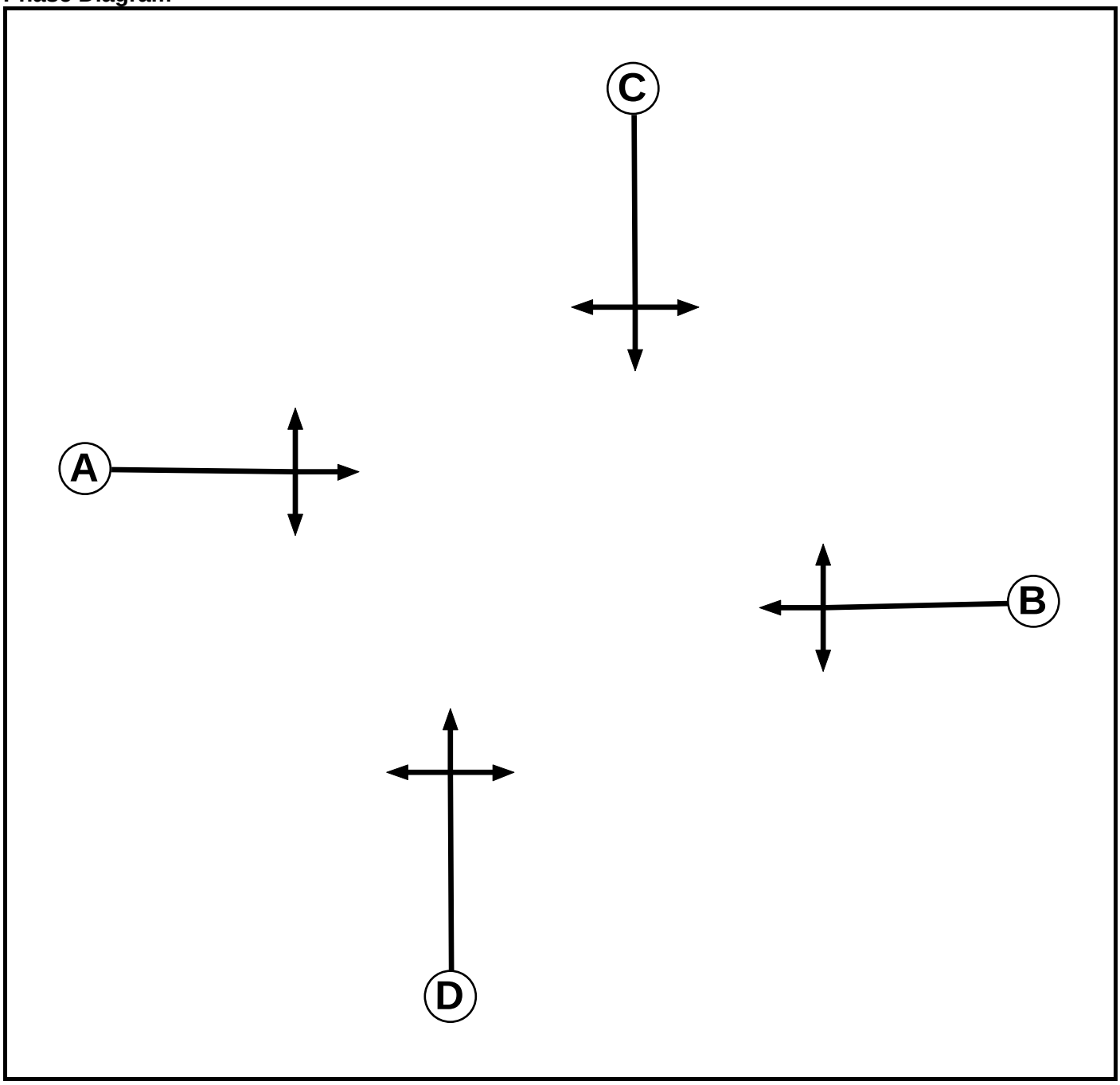
Full Input Data And Results

Network Layout Diagram



Full Input Data And Results

Phase Diagram



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
D	Traffic		7	7

Full Input Data And Results

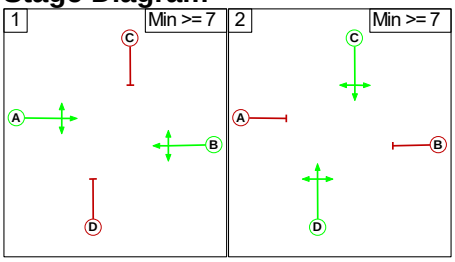
Phase Intergreens Matrix

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

Phases in Stage

Stage No.	Phases in Stage
1	A B
2	C D

Stage Diagram



Phase Delays

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

Prohibited Stage Change

		To Stage	
		1	2
From Stage	1		7
	2	7	

Full Input Data And Results

Give-Way Lane Input Data

Junction: Ten Acres Ln/Briscoe Ln

Lane	Movement	Max Flow when Giving Way (PCU/Hr)	Min Flow when Giving Way (PCU/Hr)	Opposing Lane	Opp. Lane Coeff.	Opp. Mvmnts.	Right Turn Storage (PCU)	Non-Blocking Storage (PCU)	RTF	Right Turn Move up (s)	Max Turns in Intergreen (PCU)
1/1 (Briscoe Lane (W))	7/1 (Right)	1439	0	2/1	1.09	To 6/1 (Ahead) To 7/1 (Left)	2.80	1.50	0.50	3	2.00
2/1 (Briscoe Lane (E))	8/1 (Right)	1439	0	1/1	1.09	To 5/1 (Ahead) To 8/1 (Left)	3.00	1.50	0.50	3	2.00
3/2 (Ten Acres Lane (N))	6/1 (Right)	1439	0	4/1	1.09	To 6/1 (Left) To 8/1 (Ahead)	-	-	-	-	-
4/1 (Ten Acres Lane (S))	5/1 (Right)	1439	0	3/1	1.09	To 5/1 (Left) To 7/1 (Ahead)	1.70	0.70	0.50	2	1.70

Full Input Data And Results

Lane Input Data

Junction: Ten Acres Ln/Briscoe Ln

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 (Briscoe Lane (W))	O	A	2	3	60.0	Geom	-	3.75	0.00	Y	Arm 5 Ahead	Inf
											Arm 7 Right	12.00
											Arm 8 Left	15.00
2/1 (Briscoe Lane (E))	O	B	2	3	60.0	Geom	-	3.75	0.00	Y	Arm 6 Ahead	Inf
											Arm 7 Left	15.00
											Arm 8 Right	12.00
3/1 (Ten Acres Lane (N))	U	C	2	3	60.0	Geom	-	4.00	0.00	Y	Arm 5 Left	15.00
											Arm 7 Ahead	Inf
3/2 (Ten Acres Lane (N))	O	C	2	3	13.0	Geom	-	3.25	0.00	N	Arm 6 Right	25.00
											Arm 5 Right	12.00
4/1 (Ten Acres Lane (S))	O	D	2	3	60.0	Geom	-	3.75	0.00	Y	Arm 6 Left	10.00
											Arm 8 Ahead	Inf
5/1	U		2	3	60.0	Inf	-	-	-	-	-	-
6/1	U		2	3	60.0	Inf	-	-	-	-	-	-
7/1	U		2	3	60.0	Inf	-	-	-	-	-	-
8/1	U		2	3	60.0	Inf	-	-	-	-	-	-

Traffic Flow Groups

Flow Group	Start Time	End Time	Duration	Formula
1: 'Base + Com Dev + Dev - AM'	08:00	09:00	01:00	
2: 'Base + Com Dev + Dev - PM'	17:00	18:00	01:00	

Full Input Data And Results

Scenario 1: 'Future Year + Dev - AM' (FG1: 'Base + Com Dev + Dev - AM', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

		Destination				
		A	B	C	D	Tot.
Origin	A	0	22	98	276	396
	B	47	0	26	857	930
	C	167	26	0	24	217
	D	140	256	4	0	400
	Tot.	354	304	128	1157	1943

Traffic Lane Flows

Lane	Scenario 1: Future Year + Dev - AM
Junction: Ten Acres Ln/Briscoe Ln	
1/1	400
2/1	930
3/1 (with short)	396(In) 120(Out)
3/2 (short)	276
4/1	217
5/1	304
6/1	1157
7/1	128
8/1	354

Full Input Data And Results

Lane Saturation Flows

Junction: Ten Acres Ln/Briscoe Ln								
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 (Briscoe Lane (W))	3.75	0.00	Y	Arm 5 Ahead	Inf	64.0 %	1920	1920
				Arm 7 Right	12.00	1.0 %		
				Arm 8 Left	15.00	35.0 %		
2/1 (Briscoe Lane (E))	3.75	0.00	Y	Arm 6 Ahead	Inf	92.2 %	1972	1972
				Arm 7 Left	15.00	2.8 %		
				Arm 8 Right	12.00	5.1 %		
3/1 (Ten Acres Lane (N))	4.00	0.00	Y	Arm 5 Left	15.00	18.3 %	1979	1979
				Arm 7 Ahead	Inf	81.7 %		
3/2 (Ten Acres Lane (N))	3.25	0.00	N	Arm 6 Right	25.00	100.0 %	1962	1962
4/1 (Ten Acres Lane (S))	3.75	0.00	Y	Arm 5 Right	12.00	12.0 %	1929	1929
				Arm 6 Left	10.00	11.1 %		
				Arm 8 Ahead	Inf	77.0 %		
5/1	Infinite Saturation Flow						Inf	Inf
6/1	Infinite Saturation Flow						Inf	Inf
7/1	Infinite Saturation Flow						Inf	Inf
8/1	Infinite Saturation Flow						Inf	Inf

Scenario 2: 'Future Year + Dev - PM' (FG2: 'Base + Com Dev + Dev - PM', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

		Destination				
		A	B	C	D	Tot.
Origin	A	0	162	168	122	452
	B	23	0	33	228	284
	C	80	149	0	5	234
	D	83	856	1	0	940
	Tot.	186	1167	202	355	1910

Full Input Data And Results

Traffic Lane Flows

Lane	Scenario 2: Future Year + Dev - PM
Junction: Ten Acres Ln/Briscoe Ln	
1/1	940
2/1	284
3/1 (with short)	452(In) 330(Out)
3/2 (short)	122
4/1	234
5/1	1167
6/1	355
7/1	202
8/1	186

Lane Saturation Flows

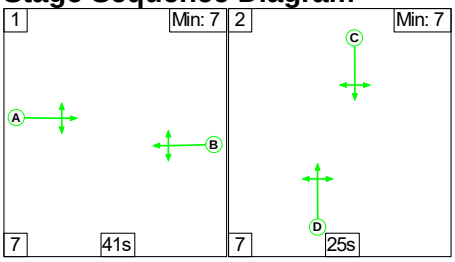
Junction: Ten Acres Ln/Briscoe Ln

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 (Briscoe Lane (W))	3.75	0.00	Y	Arm 5 Ahead	Inf	91.1 %	1972	1972
				Arm 7 Right	12.00	0.1 %		
				Arm 8 Left	15.00	8.8 %		
2/1 (Briscoe Lane (E))	3.75	0.00	Y	Arm 6 Ahead	Inf	80.3 %	1948	1948
				Arm 7 Left	15.00	11.6 %		
				Arm 8 Right	12.00	8.1 %		
3/1 (Ten Acres Lane (N))	4.00	0.00	Y	Arm 5 Left	15.00	49.1 %	1921	1921
				Arm 7 Ahead	Inf	50.9 %		
3/2 (Ten Acres Lane (N))	3.25	0.00	N	Arm 6 Right	25.00	100.0 %	1962	1962
4/1 (Ten Acres Lane (S))	3.75	0.00	Y	Arm 5 Right	12.00	63.7 %	1838	1838
				Arm 6 Left	10.00	2.1 %		
				Arm 8 Ahead	Inf	34.2 %		
5/1	Infinite Saturation Flow						Inf	Inf
6/1	Infinite Saturation Flow						Inf	Inf
7/1	Infinite Saturation Flow						Inf	Inf
8/1	Infinite Saturation Flow						Inf	Inf

Full Input Data And Results

Scenario 1: 'Future Year + Dev - AM' (FG1: 'Base + Com Dev + Dev - AM', Plan 1: 'Network Control Plan 1')

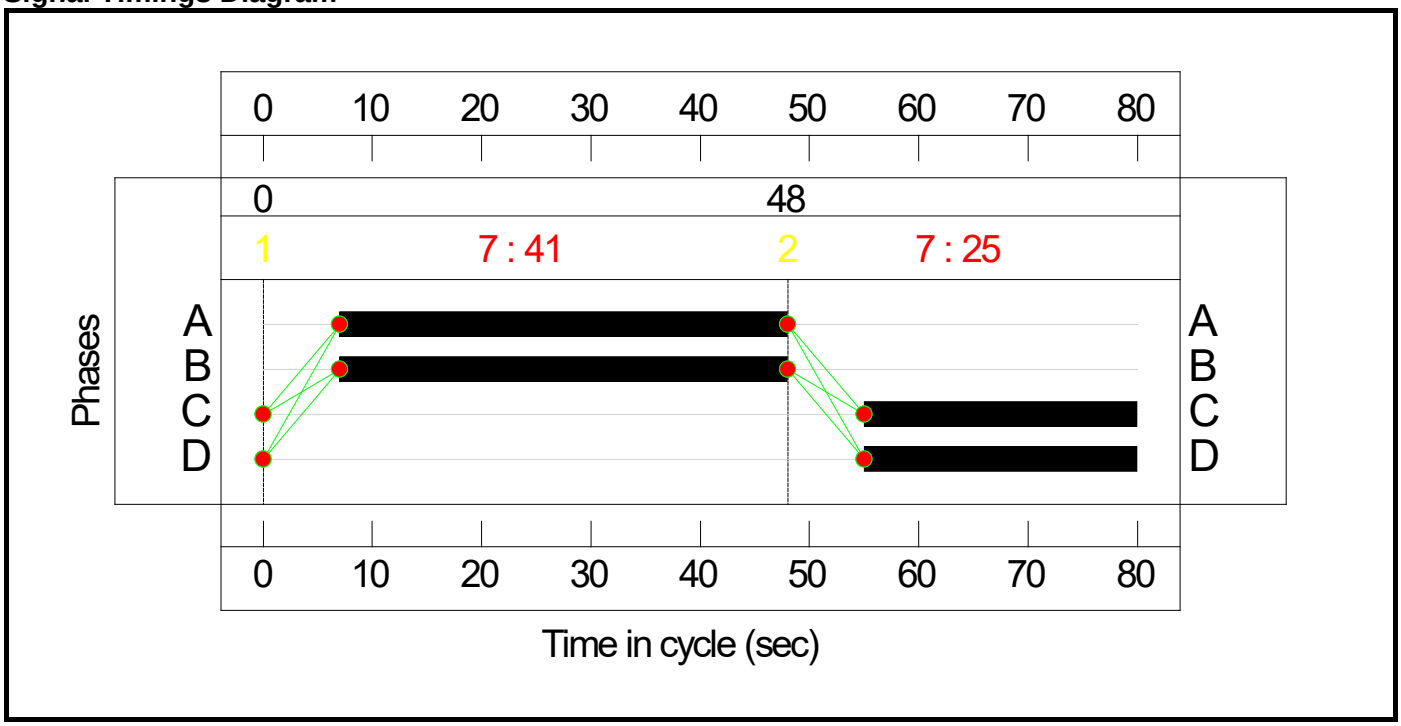
Stage Sequence Diagram



Stage Timings

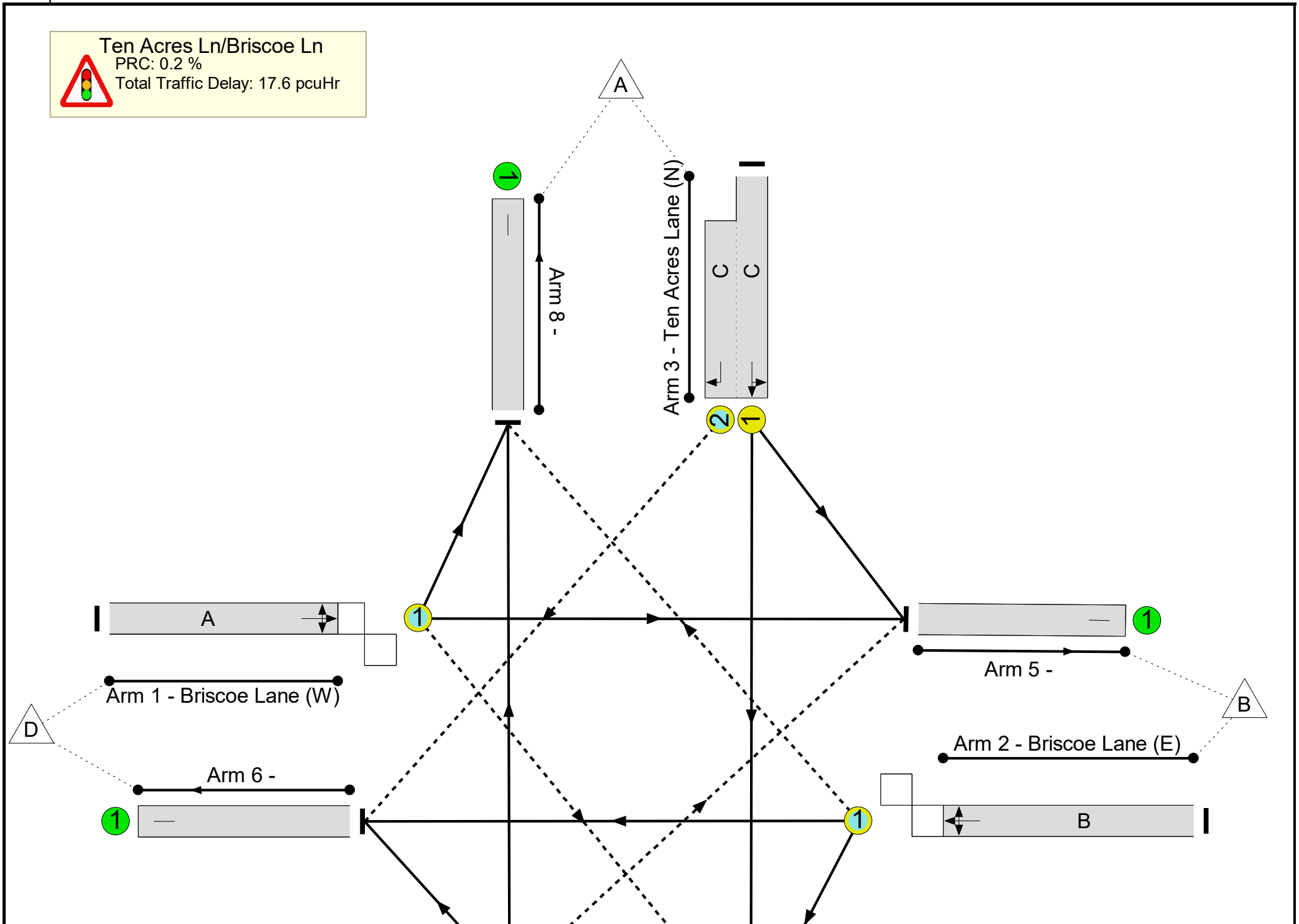
Stage	1	2
Duration	41	25
Change Point	0	48

Signal Timings Diagram



Full Input Data And Results

Network Layout Diagram


Ten Acres Ln/Briscoe Ln
PRC: 0.2 %
Total Traffic Delay: 17.6 pcuHr
A
Arm 8 -
Arm 3 - Ten Acres Lane (N)
C
C
A
Arm 1 - Briscoe Lane (W)
Arm 5 -
B
D
Arm 2 - Briscoe Lane (E)
Arm 6 -
B

Full Input Data And Results

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	-	-	**N/A**	-	-		-	-	-	-	-	-	**89.8%**
Ten Acres Ln/Briscoe Ln	-	-	**N/A**	-	-		-	-	-	-	-	-	**89.8%**
1/1	Briscoe Lane (W) Ahead Right Left	O	N/A	N/A	A		1	41	-	400	1920	1008	39.7%
2/1	Briscoe Lane (E) Ahead Left Right	O	N/A	N/A	B		1	41	-	930	1972	1035	89.8%
3/1+3/2	Ten Acres Lane (N) Left Right Ahead	U+O	N/A	N/A	C		1	25	-	396	1979:1962	137+314	87.8 : 87.8%
4/1	Ten Acres Lane (S) Right Left Ahead	O	N/A	N/A	D		1	25	-	217	1929	607	35.7%
5/1		U	N/A	N/A	-		-	-	-	304	Inf	Inf	0.0%
6/1		U	N/A	N/A	-		-	-	-	1157	Inf	Inf	0.0%
7/1		U	N/A	N/A	-		-	-	-	128	Inf	Inf	0.0%
8/1		U	N/A	N/A	-		-	-	-	354	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	**-**	**-**	**303**	**49**	**1**	**9.6**	**7.9**	**0.0**	**17.6**	**-**	**-**	**-**	**-**
Ten Acres Ln/Briscoe Ln	**-**	**-**	**303**	**49**	**1**	**9.6**	**7.9**	**0.0**	**17.6**	**-**	**-**	**-**	**-**
1/1	400	400	4	0	0	1.3	0.3	0.0	1.6	14.5	5.2	0.3	5.6
2/1	930	930	46	0	1	4.4	4.1	0.0	8.5	33.0	18.3	4.1	22.4
3/1+3/2	396	396	227	49	0	2.7	3.2	-	5.9	53.9	5.8	3.2	9.1
4/1	217	217	26	0	0	1.2	0.3	0.0	1.5	25.4	3.7	0.3	4.0
5/1	304	304	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	1157	1157	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	128	128	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	354	354	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

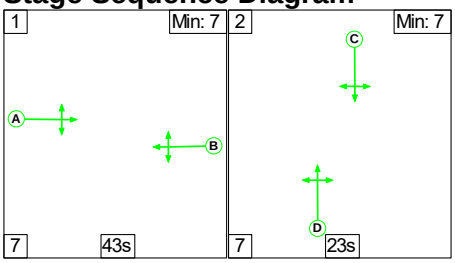
C1 PRC for Signalled Lanes (%): 0.2 Total Delay for Signalled Lanes (pcuHr): 17.61 Cycle Time (s): 80

PRC Over All Lanes (%): 0.2 Total Delay Over All Lanes(pcuHr): 17.61

Full Input Data And Results

Scenario 2: 'Future Year + Dev - PM' (FG2: 'Base + Com Dev + Dev - PM', Plan 1: 'Network Control Plan 1')

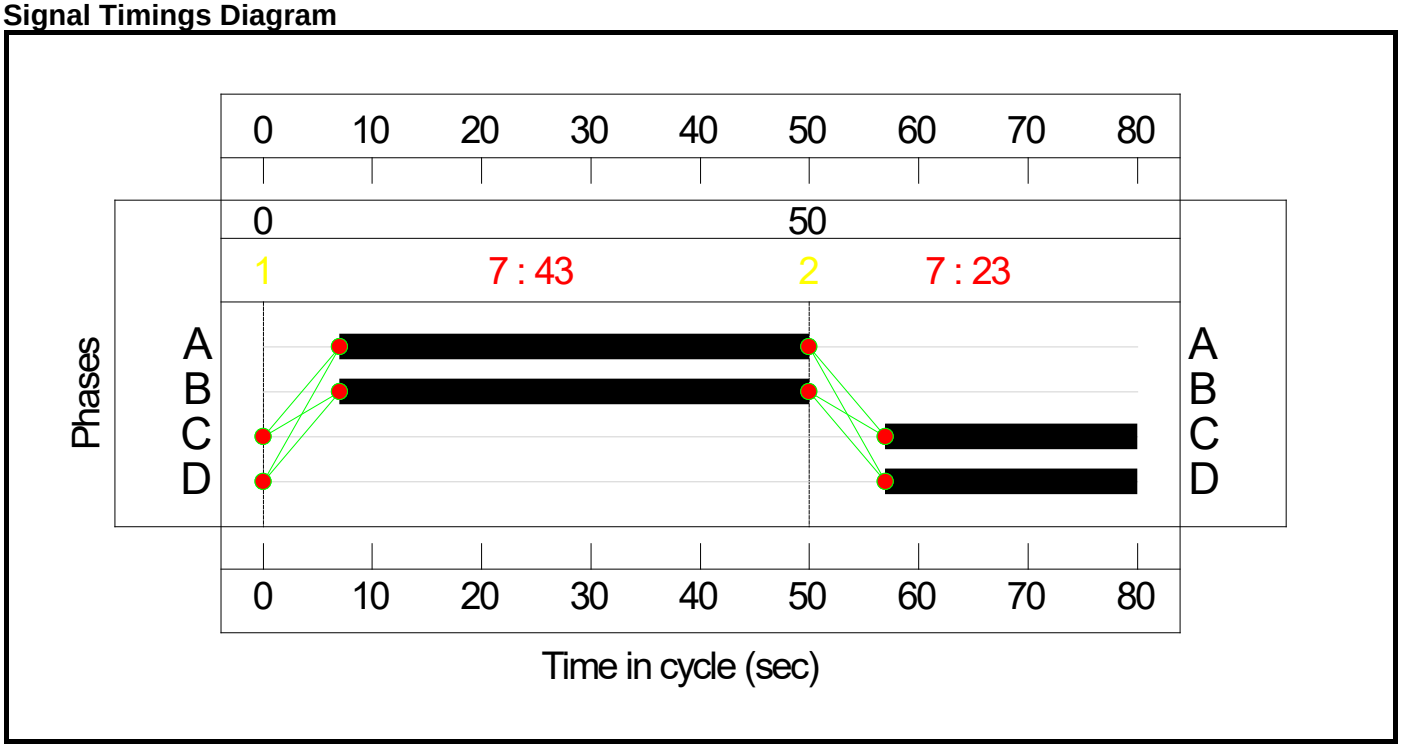
Stage Sequence Diagram



Stage Timings

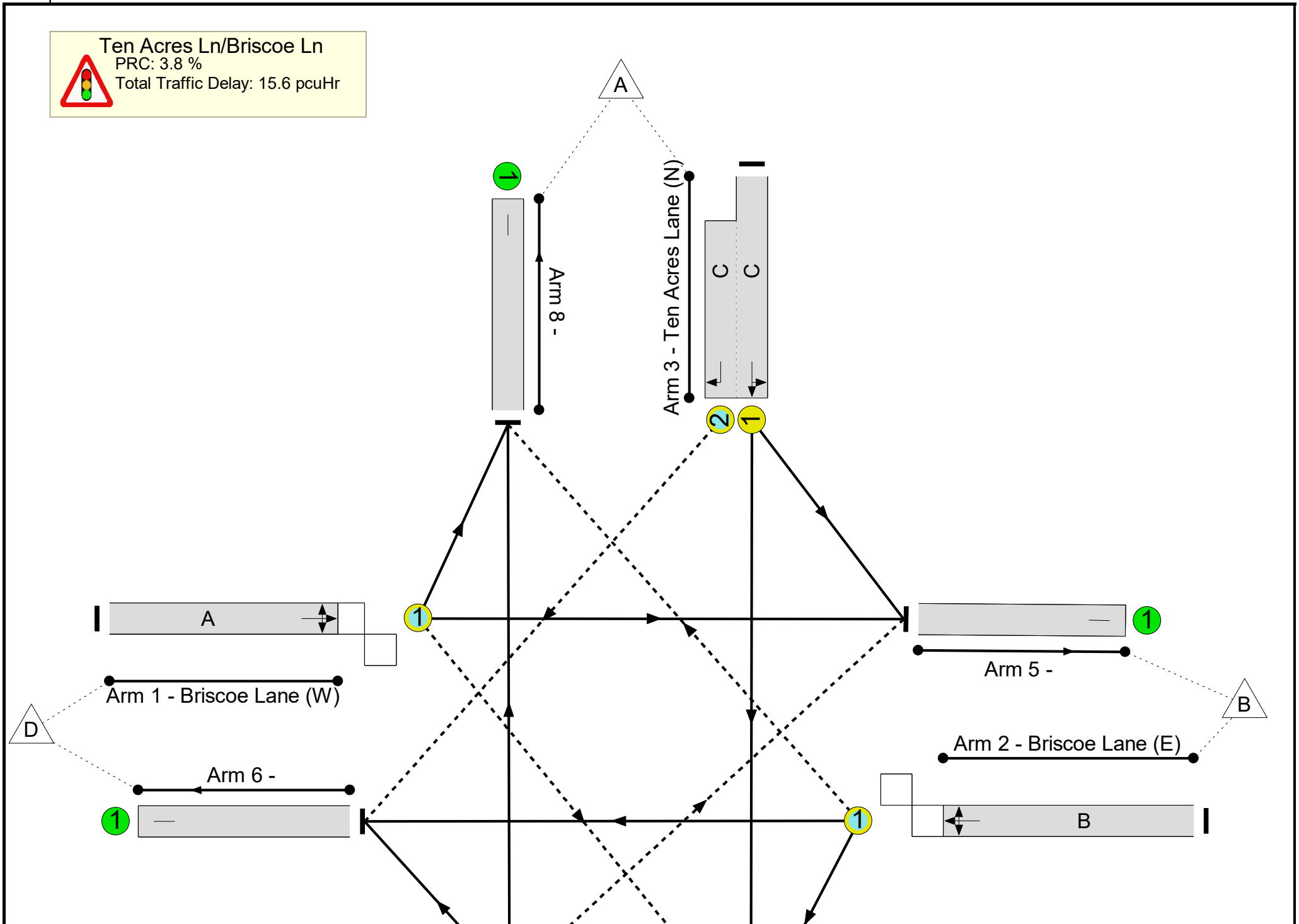
Stage	1	2
Duration	43	23
Change Point	0	50

Signal Timings Diagram



Full Input Data And Results

Network Layout Diagram


Ten Acres Ln/Briscoe Ln
PRC: 3.8 %
Total Traffic Delay: 15.6 pcuHr
A
B
D
Arm 8 -
Arm 3 - Ten Acres Lane (N)
C
C
A
Arm 1 - Briscoe Lane (W)
Arm 5 -
Arm 2 - Briscoe Lane (E)
Arm 6 -
B

Full Input Data And Results

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	-	-	**N/A**	-	-		-	-	-	-	-	-	**86.7%**
Ten Acres Ln/Briscoe Ln	-	-	**N/A**	-	-		-	-	-	-	-	-	**86.7%**
1/1	Briscoe Lane (W) Ahead Right Left	O	N/A	N/A	A		1	43	-	940	1972	1085	86.7%
2/1	Briscoe Lane (E) Ahead Left Right	O	N/A	N/A	B		1	43	-	284	1948	1018	27.9%
3/1+3/2	Ten Acres Lane (N) Left Right Ahead	U+O	N/A	N/A	C		1	23	-	452	1921:1962	576+213	57.3 : 57.3%
4/1	Ten Acres Lane (S) Right Left Ahead	O	N/A	N/A	D		1	23	-	234	1838	296	79.1%
5/1		U	N/A	N/A	-		-	-	-	1167	Inf	Inf	0.0%
6/1		U	N/A	N/A	-		-	-	-	355	Inf	Inf	0.0%
7/1		U	N/A	N/A	-		-	-	-	202	Inf	Inf	0.0%
8/1		U	N/A	N/A	-		-	-	-	186	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	**-**	**-**	**244**	**49**	**2**	**9.5**	**5.8**	**0.3**	**15.6**	**-**	**-**	**-**	**-**
Ten Acres Ln/Briscoe Ln	**-**	**-**	**244**	**49**	**2**	**9.5**	**5.8**	**0.3**	**15.6**	**-**	**-**	**-**	**-**
1/1	940	940	1	0	0	4.0	3.1	0.0	7.2	27.4	17.8	3.1	20.9
2/1	284	284	23	0	0	0.7	0.2	0.1	1.0	13.0	3.3	0.2	3.5
3/1+3/2	452	452	73	49	0	2.9	0.7	-	3.6	28.3	6.1	0.7	6.8
4/1	234	234	147	0	2	1.8	1.8	0.2	3.8	58.9	4.9	1.8	6.7
5/1	1167	1167	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	355	355	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	202	202	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	186	186	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

C1 PRC for Signalled Lanes (%): 3.8 Total Delay for Signalled Lanes (pcuHr): 15.56 Cycle Time (s): 80
PRC Over All Lanes (%): 3.8 Total Delay Over All Lanes(pcuHr): 15.56

vectos.

Appendix S

Ten Acres Ln/Proposed Site Access Modelling Results

Junctions 8

PICADY 8 - Priority Intersection Module

Version: 8.0.6.541 [19821,26/11/2015]
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Filename: Site Access - Ten Acres Lane initial model - multi lane exit.arc8
Path: N:\Vectos Job Data\2020\VN201804 Jacksons Brickworks, Manchester\Picady
Report generation date: 29/04/2022 16:52:51

» (Default Analysis Set) - All Dev Traffic, AM
» (Default Analysis Set) - All Dev Traffic, PM

Summary of junction performance

	AM		PM	
	Queue (PCU)	RFC	Queue (PCU)	RFC
	A1 - All Dev Traffic			
Stream B-C	0.49	0.33	0.11	0.10
Stream B-A	0.81	0.45	0.16	0.14
Stream C-AB	0.21	0.18	0.18	0.15
Stream C-A	-	-	-	-
Stream A-B	-	-	-	-
Stream A-C	-	-	-	-

Values shown are the maximum values over all time segments. Delay is the maximum value of average delay per arriving vehicle.

"D1 - All Dev Traffic, AM " model duration: 07:45 - 09:15
"D2 - All Dev Traffic, PM" model duration: 16:45 - 18:15

Run using Junctions 8.0.6.541 at 29/04/2022 16:52:48

File summary

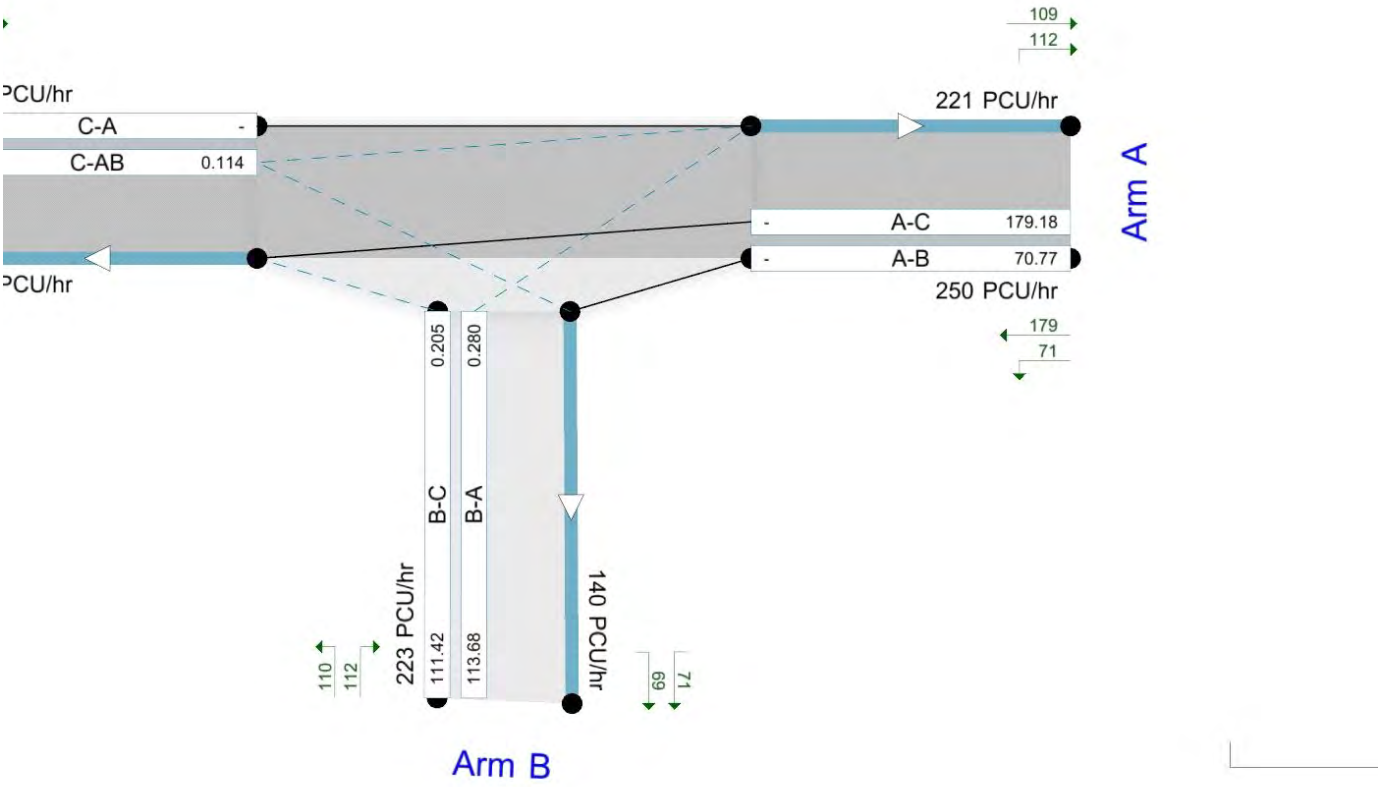
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Location	
Site Number	
Date	23/12/2020
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	james.whitton
Description	

Analysis Options

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

Units

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



Showing modelled flow through junction (PCU/hr).
Streams (upstreams) show Total Demand (PCU/hr); Streams (downstreams) show RFC ()
Time Segment: (07:45-08:00)
Showing Analysis Set "A1 "; Demand Set "D1 - All Dev Traffic, AM "

The junction diagram reflects the last run of ARCADY.

(Default Analysis Set) - All Dev Traffic, AM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

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

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Results For Central Hour Only	Single Time Segment Only	Locked	Run Automatically	Use Relationship	Relationshi
All Dev Traffic, AM	All Dev Traffic	AM		ONE HOUR	07:45	09:15	90	15				✓		

Junction Network

Junctions

Junction	Name	Junction Type	Major Road Direction	Arm Order	Do Geometric Delay	Junction Delay (s)	Junction LOS
1	(untitled)	T-Junction	Two-way	A,B,C		12.79	B

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Arm	Name	Description	Arm Type
A	A	Ten Acres Lane (N)		Major
B	B	Site Access		Minor
C	C	Ten Acres Lane (S)		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
C	6.00		0.00	✓	3.00	75.00	✓	6.00

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

Minor Arm Geometry

Arm	Minor Arm Type	Lane Width (m)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
B	Two lanes		3.00	3.00								17	17

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
1	B-A	491.496	0.090	0.226	0.142	0.323
1	B-C	634.639	0.097	0.246	-	-
1	C-B	671.152	0.260	0.260	-	-

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

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

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

Traffic Flows

Demand Set Data Options

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

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
A	ONE HOUR	✓	332.00	100.000
B	ONE HOUR	✓	299.00	100.000
C	ONE HOUR	✓	237.00	100.000

Direct/Resultant Flows

Direct Flows Data

Time Segment	Arm	Direct Demand Entry Flow (PCU/hr)	DirectDemandEntryFlowInPCU (PCU/hr)	Direct Demand Exit Flow (PCU/hr)	Direct Demand Pedestrian Flow (Ped/hr)
07:45-08:00	A	249.95	249.95		
07:45-08:00	B	225.10	225.10		
07:45-08:00	C	178.43	178.43		
08:00-08:15	A	298.46	298.46		
08:00-08:15	B	268.79	268.79		
08:00-08:15	C	213.06	213.06		
08:15-08:30	A	365.54	365.54		
08:15-08:30	B	329.21	329.21		
08:15-08:30	C	260.94	260.94		
08:30-08:45	A	365.54	365.54		
08:30-08:45	B	329.21	329.21		
08:30-08:45	C	260.94	260.94		
08:45-09:00	A	298.46	298.46		
08:45-09:00	B	268.79	268.79		
08:45-09:00	C	213.06	213.06		
09:00-09:15	A	249.95	249.95		
09:00-09:15	B	225.10	225.10		
09:00-09:15	C	178.43	178.43		

Turning Proportions

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

		To		
		A	B	C
From	A	0.000	94.000	238.000
	B	151.000	0.000	148.000
	C	145.000	92.000	0.000

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

		To		
		A	B	C
From	A	0.00	0.28	0.72
	B	0.51	0.00	0.49
	C	0.61	0.39	0.00

Vehicle Mix

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

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

Heavy Vehicle Percentages - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.0	0.0	0.0
	B	0.0	0.0	0.0
	C	0.0	0.0	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)	Total Queueing Delay (PCU-min)	Average Queueing Delay (s)	Rate Of Queueing Delay (PCU-min/min)	Inclusive Total Queueing Delay (PCU-min)	Inclusive Average Queueing Delay (s)
B-C	0.33	10.82	0.49	B	135.81	203.71	32.20	9.48	0.36	32.20	9.48
B-A	0.45	17.90	0.81	C	138.56	207.84	51.13	14.76	0.57	51.14	14.76
C-AB	0.18	7.58	0.21	A	84.42	126.63	15.09	7.15	0.17	15.09	7.15
C-A	-	-	-	-	133.05	199.58	-	-	-	-	-
A-B	-	-	-	-	86.26	129.38	-	-	-	-	-
A-C	-	-	-	-	218.39	327.59	-	-	-	-	-

Main Results for each time segment

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

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
B-C	111.42	27.86	110.40	0.00	542.91	0.205	0.00	0.26	8.305	A
B-A	113.68	28.42	112.16	0.00	406.69	0.280	0.00	0.38	12.163	B
C-AB	69.26	17.32	68.75	0.00	606.16	0.114	0.00	0.13	6.693	A
C-A	109.16	27.29	109.16	0.00	-	-	-	-	-	-
A-B	70.77	17.69	70.77	0.00	-	-	-	-	-	-
A-C	179.18	44.79	179.18	0.00	-	-	-	-	-	-

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

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
B-C	133.05	33.26	132.72	0.00	523.33	0.254	0.26	0.34	9.209	A
B-A	135.75	33.94	135.18	0.00	390.06	0.348	0.38	0.52	14.091	B
C-AB	82.71	20.68	82.58	0.00	593.54	0.139	0.13	0.16	7.043	A
C-A	130.35	32.59	130.35	0.00	-	-	-	-	-	-
A-B	84.50	21.13	84.50	0.00	-	-	-	-	-	-
A-C	213.96	53.49	213.96	0.00	-	-	-	-	-	-

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

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
B-C	162.95	40.74	162.37	0.00	495.95	0.329	0.34	0.48	10.772	B
B-A	166.25	41.56	165.14	0.00	367.26	0.453	0.52	0.80	17.709	C
C-AB	101.29	25.32	101.09	0.00	576.10	0.176	0.16	0.21	7.575	A
C-A	159.65	39.91	159.65	0.00	-	-	-	-	-	-
A-B	103.50	25.87	103.50	0.00	-	-	-	-	-	-
A-C	262.04	65.51	262.04	0.00	-	-	-	-	-	-

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

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
B-C	162.95	40.74	162.93	0.00	495.51	0.329	0.48	0.49	10.822	B
B-A	166.25	41.56	166.20	0.00	367.20	0.453	0.80	0.81	17.897	C
C-AB	101.29	25.32	101.29	0.00	576.10	0.176	0.21	0.21	7.581	A
C-A	159.65	39.91	159.65	0.00	-	-	-	-	-	-
A-B	103.50	25.87	103.50	0.00	-	-	-	-	-	-
A-C	262.04	65.51	262.04	0.00	-	-	-	-	-	-

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

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
B-C	133.05	33.26	133.61	0.00	522.68	0.255	0.49	0.35	9.265	A
B-A	135.75	33.94	136.81	0.00	389.96	0.348	0.81	0.55	14.280	B
C-AB	82.71	20.68	82.90	0.00	593.54	0.139	0.21	0.16	7.054	A
C-A	130.35	32.59	130.35	0.00	-	-	-	-	-	-
A-B	84.50	21.13	84.50	0.00	-	-	-	-	-	-
A-C	213.96	53.49	213.96	0.00	-	-	-	-	-	-

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

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
B-C	111.42	27.86	111.76	0.00	542.10	0.206	0.35	0.26	8.371	A
B-A	113.68	28.42	114.28	0.00	406.48	0.280	0.55	0.40	12.348	B
C-AB	69.26	17.32	69.40	0.00	606.16	0.114	0.16	0.13	6.710	A
C-A	109.16	27.29	109.16	0.00	-	-	-	-	-	-
A-B	70.77	17.69	70.77	0.00	-	-	-	-	-	-
A-C	179.18	44.79	179.18	0.00	-	-	-	-	-	-

Queueing Delay Results for each time segment

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

Stream	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-C	3.68	0.25	8.305	A	A
B-A	5.40	0.36	12.163	B	B
C-AB	1.90	0.13	6.693	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

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

Stream	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-C	4.91	0.33	9.209	A	A
B-A	7.52	0.50	14.091	B	B
C-AB	2.41	0.16	7.043	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

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

Stream	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-C	6.96	0.46	10.772	B	B
B-A	11.33	0.76	17.709	C	B
C-AB	3.17	0.21	7.575	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

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

Stream	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-C	7.26	0.48	10.822	B	B
B-A	12.12	0.81	17.897	C	B
C-AB	3.20	0.21	7.581	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

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

Stream	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-C	5.36	0.36	9.265	A	A
B-A	8.60	0.57	14.280	B	B
C-AB	2.45	0.16	7.054	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

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

Stream	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-C	4.03	0.27	8.371	A	A
B-A	6.17	0.41	12.348	B	B
C-AB	1.95	0.13	6.710	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

(Default Analysis Set) - All Dev Traffic, PM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

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

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Results For Central Hour Only	Single Time Segment Only	Locked	Run Automatically	Use Relationship	Relationshi
All Dev Traffic, PM	All Dev Traffic	PM		ONE HOUR	16:45	18:15	90	15				✓		

Junction Network

Junctions

Junction	Name	Junction Type	Major Road Direction	Arm Order	Do Geometric Delay	Junction Delay (s)	Junction LOS
1	(untitled)	T-Junction	Two-way	A,B,C		8.33	A

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Arm	Name	Description	Arm Type
A	A	Ten Acres Lane (N)		Major
B	B	Site Access		Minor
C	C	Ten Acres Lane (S)		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
C	6.00		0.00	✓	3.00	75.00	✓	6.00

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

Minor Arm Geometry

Arm	Minor Arm Type	Lane Width (m)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
B	Two lanes		3.00	3.00								17	17

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
1	B-A	491.496	0.090	0.226	0.142	0.323
1	B-C	634.639	0.097	0.246	-	-
1	C-B	671.152	0.260	0.260	-	-

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

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

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

Traffic Flows

Demand Set Data Options

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

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
A	ONE HOUR	✓	317.00	100.000
B	ONE HOUR	✓	96.00	100.000
C	ONE HOUR	✓	166.00	100.000

Direct/Resultant Flows

Direct Flows Data

Time Segment	Arm	Direct Demand Entry Flow (PCU/hr)	DirectDemandEntryFlowInPCU (PCU/hr)	Direct Demand Exit Flow (PCU/hr)	Direct Demand Pedestrian Flow (Ped/hr)
16:45-17:00	A	238.65	238.65		
16:45-17:00	B	72.27	72.27		
16:45-17:00	C	124.97	124.97		
17:00-17:15	A	284.98	284.98		
17:00-17:15	B	86.30	86.30		
17:00-17:15	C	149.23	149.23		
17:15-17:30	A	349.02	349.02		
17:15-17:30	B	105.70	105.70		
17:15-17:30	C	182.77	182.77		
17:30-17:45	A	349.02	349.02		
17:30-17:45	B	105.70	105.70		
17:30-17:45	C	182.77	182.77		
17:45-18:00	A	284.98	284.98		
17:45-18:00	B	86.30	86.30		
17:45-18:00	C	149.23	149.23		
18:00-18:15	A	238.65	238.65		
18:00-18:15	B	72.27	72.27		
18:00-18:15	C	124.97	124.97		

Turning Proportions

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

		To		
		A	B	C
From	A	0.000	83.000	234.000
	B	49.000	0.000	47.000
	C	85.000	81.000	0.000

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

		To		
		A	B	C
From	A	0.00	0.26	0.74
	B	0.51	0.00	0.49
	C	0.51	0.49	0.00

Vehicle Mix

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

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

Heavy Vehicle Percentages - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.0	0.0	0.0
	B	0.0	0.0	0.0
	C	0.0	0.0	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)	Total Queueing Delay (PCU-min)	Average Queueing Delay (s)	Rate Of Queueing Delay (PCU-min/min)	Inclusive Total Queueing Delay (PCU-min)	Inclusive Average Queueing Delay (s)
B-C	0.10	7.34	0.11	A	43.13	64.69	7.53	6.98	0.08	7.53	6.98
B-A	0.14	10.95	0.16	B	44.96	67.44	11.38	10.13	0.13	11.38	10.13
C-AB	0.15	7.33	0.18	A	74.33	111.49	12.92	6.95	0.14	12.92	6.95
C-A	-	-	-	-	78.00	117.00	-	-	-	-	-
A-B	-	-	-	-	76.16	114.24	-	-	-	-	-
A-C	-	-	-	-	214.72	322.08	-	-	-	-	-

Main Results for each time segment

Main results: (16:45-17:00)

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
B-C	35.38	8.85	35.12	0.00	572.31	0.062	0.00	0.07	6.698	A
B-A	36.89	9.22	36.51	0.00	417.22	0.088	0.00	0.10	9.446	A
C-AB	60.98	15.25	60.54	0.00	609.09	0.100	0.00	0.11	6.556	A
C-A	63.99	16.00	63.99	0.00	-	-	-	-	-	-
A-B	62.49	15.62	62.49	0.00	-	-	-	-	-	-
A-C	176.17	44.04	176.17	0.00	-	-	-	-	-	-

Main results: (17:00-17:15)

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
B-C	42.25	10.56	42.19	0.00	559.77	0.075	0.07	0.08	6.955	A
B-A	44.05	11.01	43.95	0.00	402.66	0.109	0.10	0.12	10.032	B
C-AB	72.82	18.20	72.71	0.00	597.05	0.122	0.11	0.14	6.863	A
C-A	76.41	19.10	76.41	0.00	-	-	-	-	-	-
A-B	74.62	18.65	74.62	0.00	-	-	-	-	-	-
A-C	210.36	52.59	210.36	0.00	-	-	-	-	-	-

Main results: (17:15-17:30)

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
B-C	51.75	12.94	51.65	0.00	542.40	0.095	0.08	0.10	7.333	A
B-A	53.95	13.49	53.79	0.00	382.69	0.141	0.12	0.16	10.939	B
C-AB	89.18	22.30	89.01	0.00	580.39	0.154	0.14	0.18	7.325	A
C-A	93.59	23.40	93.59	0.00	-	-	-	-	-	-
A-B	91.38	22.85	91.38	0.00	-	-	-	-	-	-
A-C	257.64	64.41	257.64	0.00	-	-	-	-	-	-

Main results: (17:30-17:45)

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
B-C	51.75	12.94	51.75	0.00	542.34	0.095	0.10	0.11	7.337	A
B-A	53.95	13.49	53.95	0.00	382.64	0.141	0.16	0.16	10.952	B
C-AB	89.18	22.30	89.18	0.00	580.39	0.154	0.18	0.18	7.327	A
C-A	93.59	23.40	93.59	0.00	-	-	-	-	-	-
A-B	91.38	22.85	91.38	0.00	-	-	-	-	-	-
A-C	257.64	64.41	257.64	0.00	-	-	-	-	-	-

Main results: (17:45-18:00)

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
B-C	42.25	10.56	42.34	0.00	559.67	0.075	0.11	0.08	6.961	A
B-A	44.05	11.01	44.20	0.00	402.57	0.109	0.16	0.12	10.051	B
C-AB	72.82	18.20	72.98	0.00	597.05	0.122	0.18	0.14	6.873	A
C-A	76.41	19.10	76.41	0.00	-	-	-	-	-	-
A-B	74.62	18.65	74.62	0.00	-	-	-	-	-	-
A-C	210.36	52.59	210.36	0.00	-	-	-	-	-	-

Main results: (18:00-18:15)

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
B-C	35.38	8.85	35.45	0.00	572.13	0.062	0.08	0.07	6.710	A
B-A	36.89	9.22	36.99	0.00	417.04	0.088	0.12	0.10	9.476	A
C-AB	60.98	15.25	61.09	0.00	609.09	0.100	0.14	0.11	6.572	A
C-A	63.99	16.00	63.99	0.00	-	-	-	-	-	-
A-B	62.49	15.62	62.49	0.00	-	-	-	-	-	-
A-C	176.17	44.04	176.17	0.00	-	-	-	-	-	-

Queueing Delay Results for each time segment

Queueing Delay results: (16:45-17:00)

Stream	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-C	0.95	0.06	6.698	A	A
B-A	1.38	0.09	9.446	A	A
C-AB	1.64	0.11	6.556	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

Queueing Delay results: (17:00-17:15)

Stream	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-C	1.19	0.08	6.955	A	A
B-A	1.78	0.12	10.032	B	B
C-AB	2.07	0.14	6.863	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

Queueing Delay results: (17:15-17:30)

Stream	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-C	1.54	0.10	7.333	A	A
B-A	2.36	0.16	10.939	B	B
C-AB	2.70	0.18	7.325	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

Queueing Delay results: (17:30-17:45)

Stream	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-C	1.57	0.10	7.337	A	A
B-A	2.44	0.16	10.952	B	B
C-AB	2.72	0.18	7.327	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

Queueing Delay results: (17:45-18:00)

Stream	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-C	1.26	0.08	6.961	A	A
B-A	1.92	0.13	10.051	B	B
C-AB	2.10	0.14	6.873	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

Queueing Delay results: (18:00-18:15)

Stream	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-C	1.02	0.07	6.710	A	A
B-A	1.51	0.10	9.476	A	A
C-AB	1.68	0.11	6.572	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

vectos.

Contact

London
Network Building,
97 Tottenham Court Road,
London W1T 4TP.
Tel: 020 7580 7373

Bristol
5th Floor, 4 Colston Avenue,
Bristol BS1 4ST
Tel: 0117 203 5240

Cardiff
Helmont House, Churchill Way,
Cardiff CF10 2HE
Tel: 029 2072 0860

Exeter
6 Victory House,
Dean Clarke Gardens,
Exeter EX2 4AA
Tel: 01392 422 315

Birmingham
Great Charles Street,
Birmingham B3 3JY
Tel: 0121 2895 624

Manchester
Oxford Place, 61 Oxford Street,
Manchester M1 6EQ.
Tel: 0161 228 1008

Leeds
7 Park Row, Leeds LS1 5HD
Tel: 0113 512 0293

Bonn
Stockenstrasse 5, 53113,
Bonn, Germany
Tel: +49 176 8609 1360
www.vectos.eu

Registered Office
Vectos (North) Limited
Oxford Place
61 Oxford Street
Manchester M1 6EQ.
Company no. 07794057