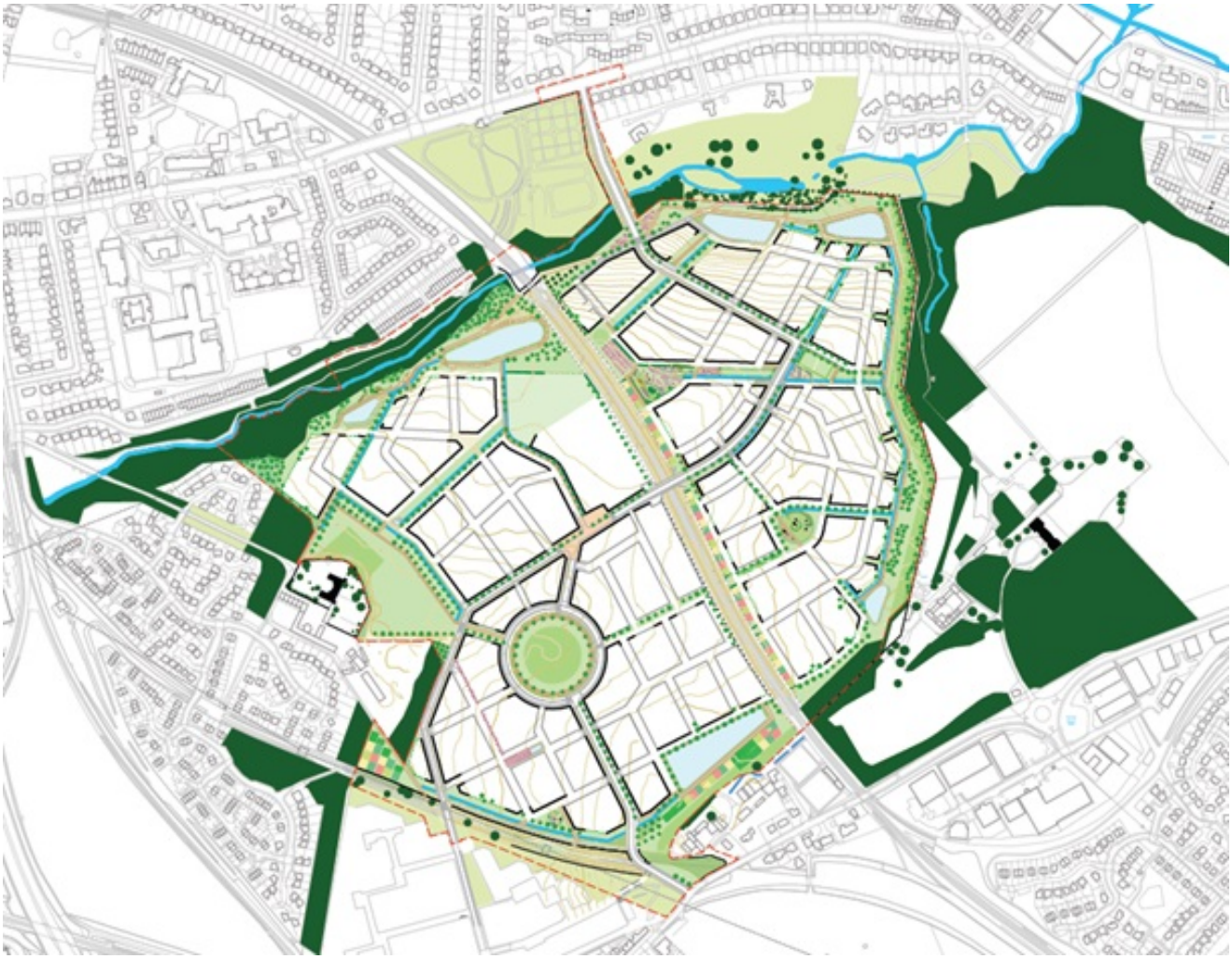
Transport Statement

Brunstane

Proposed residential development (including class 8 residential institutions, class 9 houses and sui generis flats), primary school (class 10 non-residential institutions), local centre (including class 1 retail, class 2 financial and professional services, class 3 food and drink, class 10 non-residential institutions and class 11 assembly and leisure), green network, means of access and transport links, infrastructure, and associated ancillary works at land north of Newcraighall Road and south of Milton Road East, Edinburgh

The EDI Group Limited

August 2016



The Transport Statement was completed in August 2016
to accompany the PPP Application

Contents Page

1. INTRODUCTION

Background

1.1 Transport Planning Ltd has been appointed to advise on transport related issues associated with the development of land to form a new community at Brunstane to the east of Edinburgh.

1.2 The site is located within the urban area to the south-east of Edinburgh, within the administrative boundary of the City of Edinburgh Council (CEC). A site location plan is included as Figure 1 within Appendix A.

1.3 The site location is identified in Figure 1, with the area within the red line extending to around 54.6 hectares.

1.4 To the east the site is bounded by the designed landscape of Newhailes House and mature woodland, with an existing brick built wall enclosing the grounds. The Brunstane Burn runs along the northern edge of the site, with a narrow sliver of the site extending northwards to adjoin Milton Road East. The land to the north of the burn is occupied by a mix of established residential development and the Milton Road Cemetery. The John Muir Way footpath runs parallel to the Brunstane Burn, crossing the East Coast Main Line (ECML) railway line at the western edge of the site and then running along the northern site boundary. To the west and south the site is bounded by the National Cycle Network (NCR 1) and existing residential housing in Gilberstoun and Newcraighall. Brunstane House is located to the west of the site adjacent to Gilberstoun and other steading development.

1.5 Although allocated green belt within the current Edinburgh City Local Plan (ECLP), the site is identified in the emerging Edinburgh Local Development Plan 2 (the LDP) for removal from the green belt and allocation for housing-led development with a notional capacity of 950 to 1,330 units.

1.6 The proposed development will see the creation of a new community at Brunstane through the provision of a residential-led mixed-use masterplan that incorporates a mix of land uses including:

- Up to 1,330 residential units in a mix of housing types and sizes, with 25% of the units being affordable;
- A new primary school;
- A new local centre with retail, commercial and/or community uses;
- Open space, parkland, planting buffers to the railway and existing services within the site, and protection for the setting of the on-site Scheduled Monuments;
- Other structural and amenity landscaping and planting;
- Formation of three new site accesses, one from the north and two from the south, as well as a network of internal roads and paths.

Report content

1.7 Amongst others, the following documents have been reviewed to assist in the preparation of this Transport Assessment (TA):

- LDP2;
- Scottish Planning Policy;
- Planning Advice Note 75, Planning for Transport;
- Transport Assessment Guidance; and
- Designing Streets 2010.

1.8 Scoping discussions have also taken place with CEC and their assistance in this regard is acknowledged. A copy of scoping correspondence is included in Appendix A.

1.9 This Transport Assessment therefore considers the application site in terms of its existing and potential accessibility. It considers:-

- pedestrian, cycle and public transport accessibility;
- the surrounding road network;
- policy;
- development proposals;
- development trip generation and impacts;
- road network performance; and
- summary and conclusions.

2. PEDESTRIAN, CYCLE AND PUBLIC TRANSPORT ACCESSIBILITY

Introduction

2.1 This section of the report discusses the existing transport network surrounding the development site. In line with current best practice the accessibility of the site has been considered using the following hierarchical approach:

- pedestrians;
- cyclists and
- public transport.

Pedestrians and cyclists

2.2 Figure 2 contained in Appendix A illustrates the existing connectivity of the site.

2.3 The Brunstane site is well-situated in relation to the existing pedestrian and cycle network. The site is surrounded and traversed by a network of established footpaths and footways which link it to the wider pedestrian network within Newcraighall Village, Gilberstoun and the associated local facilities.

2.4 The John Muir Way (JMW) runs along the northern site boundary. The JMW stretches 134 miles or across Scotland's heartland, running between Helensburgh in the west through to Dunbar on the east coast. More locally the JMW provides a link towards Musselburgh to the west and into Edinburgh to the east. Locally it provides opportunities for walking to Brunstane Station.

Typical JMW footpath

2.5 There are further local connections to Brunstane Mill Road and to the Newhailes Estate from the JMW at the eastern end of the site.

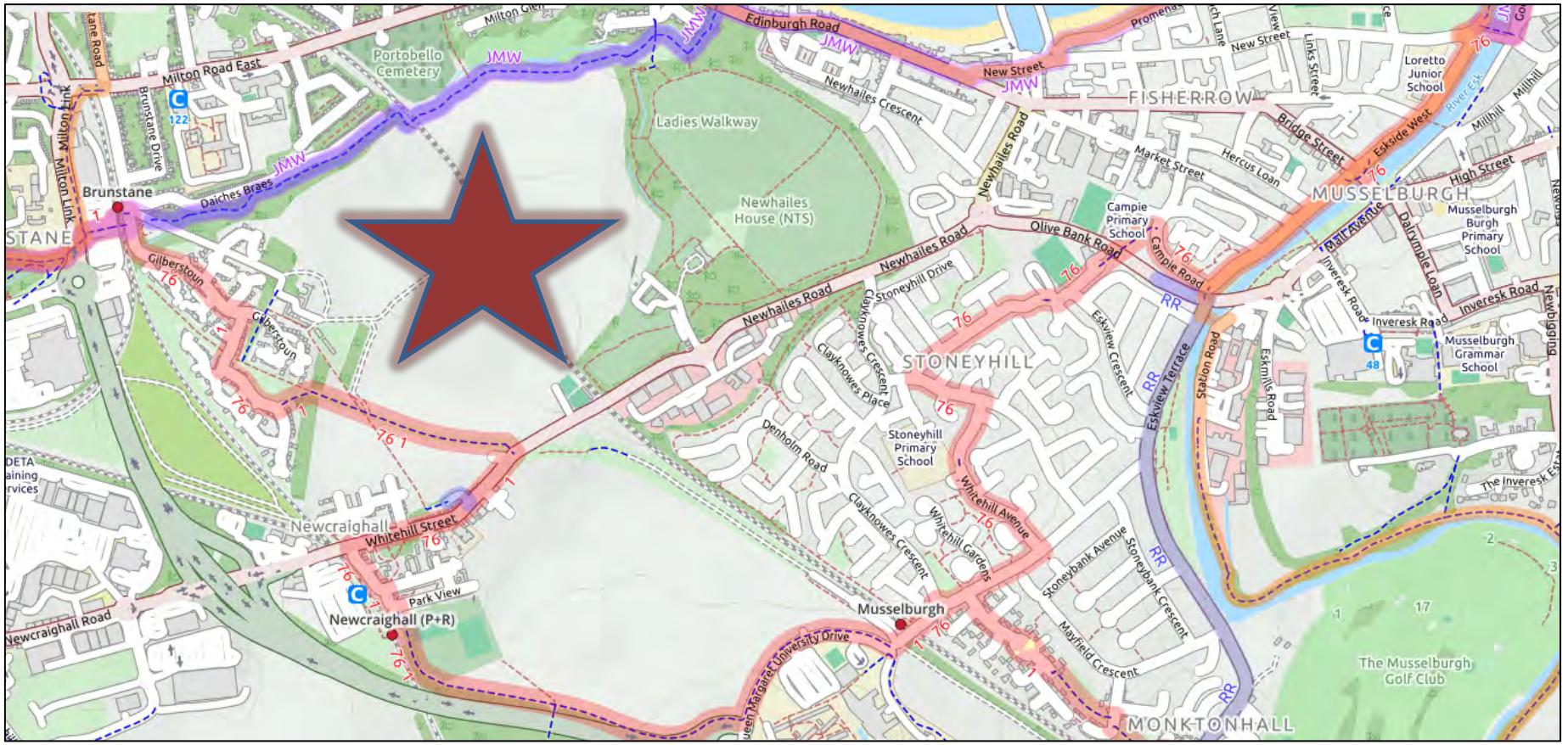
Path Junction of JMW with routes to Newhailes and Brunstane Mill Road

2.6 The site also benefits from an established network of cycleways on its doorstep affording connections to National Cycle Network Routes (NCR) 1 and 76. NCR1 continues westwards as the Innocent Railway cycle path leading towards the City.

2.7 NCR 1 provides a pedestrian and cycle route to Newcraighall (enabling access to the village and station) as well as onward links to Queen Margaret University and Musselburgh to the south including Musselburgh railway station.

2.8 It also provides a route to Brunstane Station, via the Gilberstoun area, and onward travel to Edinburgh City Centre and Portobello via a number of other routes.

NCR 1 to the south of the site



Extract from Open Street map showing site and surrounding cycle routes together with three mainline railway stations

2.9 The surrounding residential areas, including the new housing area within Newcraighall (Newcraighall North) which is currently under construction, have an established network of footways and paths providing links to local shops and facilities e.g. primary schools and bus services on Newcraighall Road and Milton Road (via Gilberstoun).

Existing Crossing on Newcraighall Road

2.10 Formal pedestrian crossing provision is provided on Newcraighall Road with the closest being some 45m west of the new access junction serving the Newcraighall North development. In addition, the access junction to the Newcraighall Park and Ride site includes pedestrian crossing provision on the eastern arm.

2.11 Most other pedestrian crossings in the area on Newcraighall Road are provided with dropped kerbs and tactile paving.

2.12 The walking route from the site to Newcraighall Station would involve using the northern footway of Newcraighall Road and crossing at the Park and Ride access as there is no footway provision on the south side of Newcraighall Road where it passes under the railway bridge.

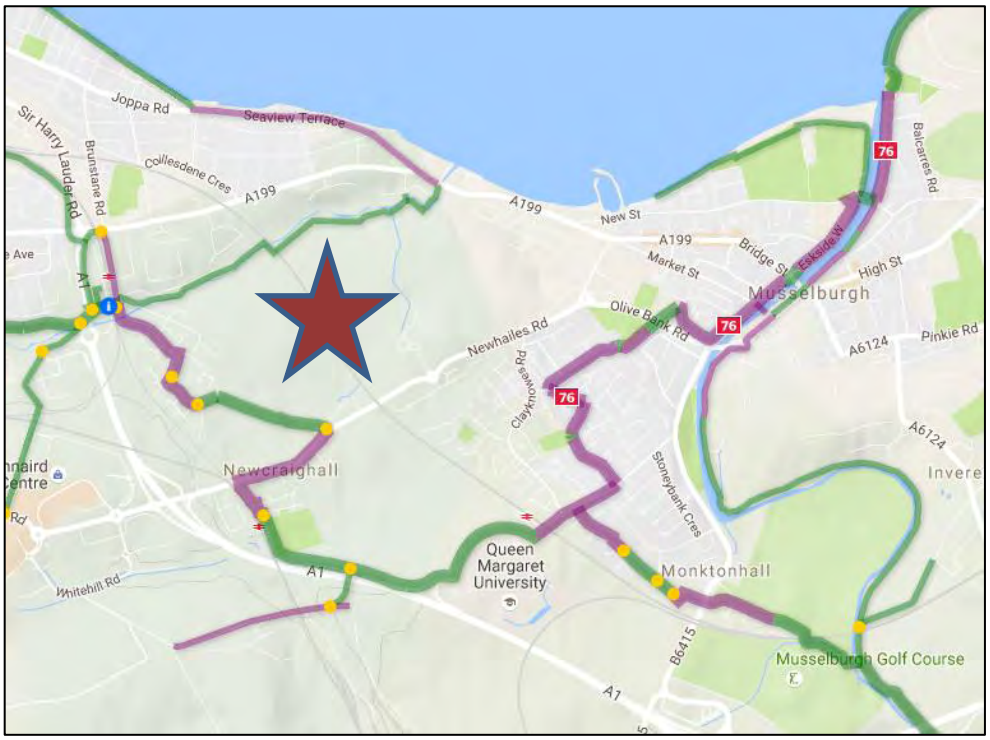
2.13 To the north of the site there are pedestrian crossing facilities provided on Milton Road East adjacent to the cemetery, shown below. There is a further crossing provided farther to the west and pedestrian facilities within the traffic signalised junctions of Milton Road East with Harry Lauder Way to the east and Edinburgh Road to the west. The Harry Lauder Way junction also has underpasses to allow pedestrians and cyclists to cross from east to west.

Pedestrian Crossing on Milton Road East

2.14 Other minor roads joining Milton Road, and Milton Road East have dropped kerbs and tactile paving provided to assist pedestrians crossing. The wider roads, including Milton Road East and Brunstane Road South include pedestrian refuges to reduce the crossing width, with examples shown below.

Dropped Kerb, tactile paving and pedestrian refuge at Brunstane Road South

2.15 The extract from SUSTRANS mapping contained below again illustrates the site location in the context of surrounding cycle routes and further cycle information is provided on the Edinburgh north east cycle map contained in Appendix B.



Extract from SUSTRANS mapping

Public transport

2.16 The majority of the site lies within 400m of a number of bus routes serving Edinburgh and East Lothian, the closest routes being along Milton Road East and Newcraighall Road.

2.17 On Newcraighall Road the closest bus stops to the development site are located at the north end of the village and also to the west of the access to the Newcraighall North site. These stops are denoted with flags but no shelters are provided on the eastbound side. Passengers are able to use the existing pedestrian crossing to access the westbound bus stops from the site.

Existing bus stop on Newcraighall Road

2.18 The closest existing bus stops on Milton Road East are to the east and west of the cemetery. Additional stops are provided at regular intervals along Milton Road East all of which are provided with bus shelters.

Milton Road East bus stop near cemetery

2.19 At the time of writing, Newcraighall Road is served by services 30 / N30 and 108 and Milton Road East is served by a number of bus services including 44, 106, 113 124 and the night service N44. This choice of services provides convenient and regular links to the City Centre, Musselburgh, and Fort Kinnaird.

2.20 A summary of bus services operating in the vicinity of the site at the time of writing is provided in the Table below.

Table 2.1 – Bus Routes Serving the Application Site

Route No.	Route Description	Frequency	
		Mon – Sat Daytime	Sun
Newcraighall Road			
30/N30	Clovenstone Drive - Westside Plaza – Longstone - Balgreen - Lothian Road (foot) - North Bridge - Commonwealth Pool - Prestonfield Avenue - Hay Drive - Fort Kinnaird - Queen Margaret University- Musselburgh Police Station - Musselburgh Grammar School	12 mins	20 mins
108	Fort Kinnaird – Musselburgh – Wallyford – Tranent - Macmerry - Haddington	60 mins	-
Milton Road East			
44	Balerno High School - Balerno Cockburn Crescent - Currie Toll - Juniper Green Post Office - Slateford Station - Haymarket (Dalry Road) - Leopold Place - Meadowbank House – Brunstane - Musselburgh Police Station - Wallyford (Park & Choose) - Wallyford (Fa'side Ave)	10 mins	15 mins
113	Western General Hospital - Queensferry Street Lane - Waterloo Place - Meadowbank House - Brunstane - Eastfield (Milton Road East) - Musselburgh Police Station - Levenhall Roundabout - Wallyford (Park & Choose) - Tranent Police Station - Ormiston Main Street - Pencaitland Park	30 mins	60 mins
124	West End - Greenside - Meadowbank - Milton Road West - Musselburgh - Wallyford - Prestonpans - Longniddry - Aberlady - Gullane - Dirleton - North Berwick	30 mins	60 mins

2.21 In addition to the bus services operating around the site, the site is perhaps unique within Edinburgh in its location as it also lies within close proximity to 3 railway stations. The site is within 800m of all three with the closest two being Brunstane and Newcraighall, with Musselburgh station slightly more remote but still readily accessible from the site. These stations offer regular and frequent services to Edinburgh City Centre. In addition, the services at Newcraighall and Brunstane as part of the Borders Railway also provide links to the south and west of the site, including to Shawfair, Eskbank, Gorebridge and Tweedbank. Musselburgh Station lies on the East Coast Main Line so provides options for travel to North Berwick and Dunbar.

Brunstane Station

2.22 Newcraighall station is also home to a 560 space park and ride facility offering further opportunities for those wishing to travel by train but unable to easily walk or cycle to the station. A summary of the rail services at the time of writing is provided in the Table below.

Table 2.2 – Existing Rail Services

First Scotrail Service	Route Description	Frequency	
		Mon – Sat	Sun
Brunstane / Newcraighall			
Borders Rail	Edinburgh - Brunstane - Newcraighall - Shawfair - Eskbank - Newtongrange - Gorebridge - Stow – Galashiels - Tweedbank	30 mins	60 mins
Musselburgh			
Edinburgh - North Berwick	Edinburgh - Musselburgh - Wallyford - Prestonpans - Longniddry - Drem - North Berwick	60 mins*	60 mins
Edinburgh - Dunbar	Edinburgh - Musselburgh - Dunbar	120 mins	-

*Additional services operate at peak times (30 minute frequency on Saturdays)

2.23 Figure 3 contained in Appendix A illustrates the degree to which the site is penetrated by the existing 400m and 800m walk distances to bus and rail services respectively. Phasing of site construction can respect these isochrones meaning that from early to mid stages of occupation, public transport remains fully accessible prior to the delivery of a bus route through the site.

Summary

2.24 The development area lies close to an established network of pedestrian and cycle routes providing safe and convenient links to local services and facilities as well as opportunities for commuter journeys to employment areas. The bus and rail network combine to provide frequent and regular access to a variety of destinations including the key employment areas of Edinburgh and wider leisure destinations in East Lothian and the Borders.

2.25 The overall connectivity and accessibility of the site is therefore considered to be excellent.

3. SURROUNDING ROAD NETWORK

Introduction

3.1 This section of the report describes the existing road infrastructure in the vicinity of the site in terms of road and junction layouts, parking and traffic flows.

Newcraighall Road

3.2 Newcraighall Road runs broadly east to west connecting the A1 to Musselburgh. Within Newcraighall village the road is typically 7m wide with traffic calming measures along its length, including speed cushions and build-outs.

Newcraighall Road with Traffic Calming

3.3 Newcraighall Road is currently subject to a 30mph speed limit with a 20mph limit imposed in the vicinity of Newcraighall Primary school at various points during the day.

3.4 To the west of the village the road passes under a low railway bridge with a restricted clearance of 3.9m (which prevents double decker buses operating along the route). Immediately to the west of the bridge there is a traffic signal controlled junction that provides access to the Newcraighall Park and Ride. The traffic signals include pedestrian facilities on the eastern and southern approaches.

Railway Bridge with Height Restriction

Newcraighall Park and Ride Access Junction

3.5 Around 200m further west Newcraighall Road joins the A1 at a grade separated junction with two at grade signalised junctions providing access to the A1 slip roads. The A1 provides access to the strategic road network to the east and Edinburgh city centre and Leith to the north and west.

Eastbound approach to Newcraighall Road / A1 traffic signals

3.6 At the eastern edge of the village Newcraighall Road passes a number of old railway abutments that impact on forward visibility, particularly for westbound traffic, and limit the ability of 2 larger vehicles or buses to pass one another easily.

3.7 The height restriction mentioned above limits the degree to which large HGVs can use this junction, but the constraint does exist.

3.8 The developed / under development Newcraighall North site has relatively recently seen the formation of two new access junctions to serve it. These have been formed as priority junctions with the westernmost one being close to the established centre of the village and the eastern one being formed in the vicinity of the disused railway abutments, with the removal of abutments on the northern side having been part of the access construction works.

Eastern Access to Newcraighall North

Milton Road East

3.9 Milton Road East runs broadly east to west between Edinburgh Road and the A1. The road is single carriageway typically around 15m wide, with parking generally permitted along the majority of its length. The road is also typically marked in four lanes.

3.10 At its eastern end the road forms a traffic signal controlled junction with Edinburgh Road. This is a four arm junction with Edinburgh Road (east and west) and Milton Road East forming the main approaches, while the fourth arm is formed by a minor cul de sac (Eastfield Place) to the north. The minor arm is only called within the signal set when a vehicle is waiting to exit so for the majority of the time the junction functions as a 3 arm junction. Pedestrian crossing facilities are provided on both Edinburgh Road approaches and the Milton Road East arm to allow safe crossing of the road.

3.11 There are footways and street lighting provided around all the roads in the vicinity of the junction with appropriate tactile paving and dropped kerbs at the crossing points.

3.12 This junction generally operates satisfactorily throughout the day with only limited queues observed to occur with them typically able to clear within a single cycle of the signals.

3.13 To the western end, Milton Road East forms a large traffic signal controlled junction with the A1, Harry Lauder Way and Milton Road. This junction is extremely busy at peak times being at the end of one of the main arterial routes into Edinburgh from the east. The existing junction layout is shown in Sketch TP056/SK/102 contained in Appendix C.

3.14 Relatively long queues are regularly observed at this junction on the north and south approaches in particular, and on Milton Road in the PM peak. The queues on the A1 approach can on occasion extend back to affect the operation of the upstream roundabout junction, and queues in the right turn lane (provided for traffic to turn into Milton Road East) are regularly observed to block the through traffic lane at the signals.

A1 Approach to junction

3.15 On Milton Road East there are also two minor access junctions situated within 100m of the junction with the A1 / Harry Lauder Way, these being formed a) with Brunstane Road South (to the south) and Brunstane Road (to the north) in a 'crossroads' format and b) a further T junction on the south side of Milton Road East formed with Brunstane Drive.

Brunstane Road / Brunstane Road South

3.16 Brunstane Road is a residential road which links through to Joppa Terrace. There is evidence of this route being used by traffic wishing to travel between Portobello and the A1. The road is traffic calmed with speed humps and has cars parked along its length which effectively reduce the carriageway to single vehicle width. In addition, there is a railway bridge which physically restricts the carriageway to single vehicle width, with priority given to northbound vehicles.

3.17 Brunstane Road South is also a predominantly residential street serving not only the properties which front onto it but also the residential properties within Gilberstoun and along Daiches Braes. The road also provides access to Brunstane Station.

Brunstane Road South

3.18 The presence of parked vehicles again effectively narrows the road (at some locations to single vehicle width) and means that vehicle speeds are kept low. There are waiting and loading restrictions in the vicinity of the station and the approach to Milton Road East but otherwise there are no restrictions relating to on-street parking.

3.19 Feedback received from the public consultation event undertaken as part of the pre application process of the development suggested that drivers experience significant issues when trying to exit from Brunstane Road South at peak times. It was advised that the queuing traffic from the upstream Harry Lauder Way signals regularly blocks back across the junction and drivers, particularly those emerging from Brunstane Road, do not observe the yellow box marking provided to keep the exit clear.

Traffic flows

3.20 Traffic flows in the area are relatively heavy, though also relatively 'peaky'.

3.21 The Brunstane development will take access onto Newcraighall Road and Milton Road East.

3.22 On Newcraighall Road, the 2015 surveyed all day traffic stood at 9702 vehicles with 6% HGVs.

3.23 Milton Road East on the other hand was surveyed to carry only 5735 vehicles with 7% HGVs.

3.24 To contextualise these figures, Eastfield Road south of Milton Road East (i.e. towards Musselburgh) was surveyed to carry 13826 vehicles per day with 7% HGVs and Duddingston Park, which is widely regarded as being lightly trafficked, carried 6680 vehicles with 2% HGV. Notably, Duddingston Park carried less vehicles than Milton Road East.

3.25 Figure 11a in Appendix D of this report shows the post all development 2025 projected traffic flow on Newcraighall Road to reach a maximum of 644 vehicles during the PM peak hour in the westbound direction.

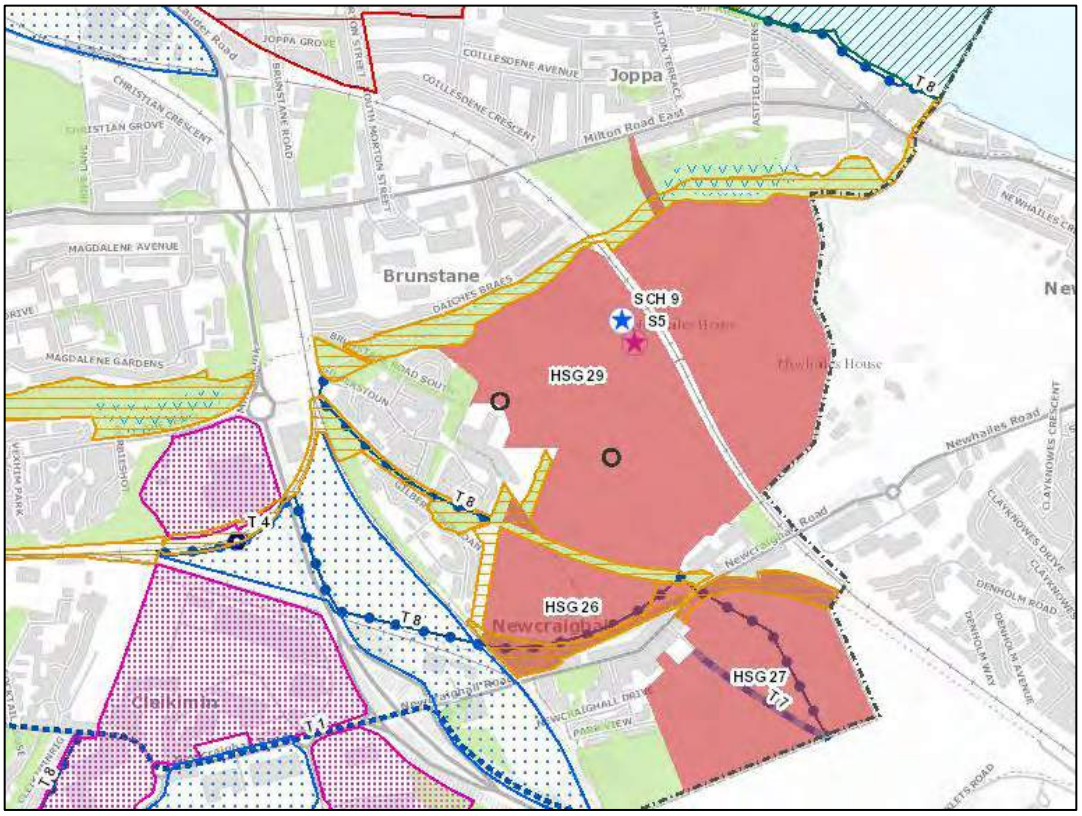
3.26 Table 2 of Design Manual for Roads and Bridges section TA79/99 'Traffic Capacity of Urban Roads' illustrates that a road of the character of Newcraighall Road has projected single lane running capacity of circa 1100 – 1300 vehicles per hour.

3.27 It can be seen that post all development including background growth and committed development, Newcraighall Road is projected to operate at around 50% of its practical link capacity.

4. POLICY

Introduction

4.1 The site subject to this Assessment comprises site HSG29 (Brunstane) in the City of Edinburgh Second Proposed Local Development Plan (LDP2). HSG29 has an estimated housing capacity range of 950 to 1330 units. The location of HSG 29 is as shown in the LDP extract reproduced below.



Local Development Plan 2 extract

4.2 HSG29 is split into two areas located east and west of the East Coast Main Line.

Edinburgh Second Proposed Local Development Plan and reporters findings

4.3 Page 64 of LDP2 contains the development brief for HSG29 and in relation to transport, the following points are noted:-

- vehicular access to be taken from Milton Road East and Newcraighall Road, forming a new vehicular crossing over the East Coast railway line. Potential for a new pedestrian/cycle bridge to east of the site.
- no vehicular access to be taken from Gilberstoun area.
- site layout must allow bus route to be formed linking Milton Road East with Newcraighall Road.

- opportunity to enhance John Muir Way on the northern boundary of the site including pedestrian crossing where vehicular access meets the path.

- new multi-user path links to be formed to the Innocent Railway Core Path along Brunstane Burn Core Path and disused railway line to the north of Newcraighall, with path connections also to housing at Gilberstoun, Newcraighall and Brunstane railway station.

4.4 As part of the development plan process, City of Edinburgh Council addressed a number of objections to the release of site HSG29 for housing. The Council's response is contained on page 303 of the report of examination into LDP2 and is reproduced in full below (in so far as it relates to transport):-

- *"Transport Infrastructure – As part of the Local Development Plan process, the Council has carried out a Transport Appraisal. (Volumes 1 and 2, 2013, Addendum, 2014) This appraised the cumulative impact of the new developments proposed in the Plan, taking account of other factors. This identifies improvements to transport infrastructure to deal with the net impact of new housing proposals in South East Edinburgh. These transport actions are set out in the Council's Proposed Action Programme pages 32-34. For Brunstane, the actions include improving pedestrian/cycle crossing facilities on Milton Road East and Newcraighall Road, safeguarding for link under the railway line, upgrading existing bus stops on Milton Road East and increasing frequency of direct city centre service. The detail of these actions is being established through transport assessments required at the planning application stage. All relevant proposals will be required to make appropriate contributions to new and improved infrastructure in line with relevant policies and guidance."*

4.5 The report of examination discusses *inter aila* transport matters in relation to HSG19 and concludes with a series of recommendations aimed at altering and updating the content of the development brief, all as summarised below:-

- *transport assessments should identify any appropriate commensurate mitigation which may be required with respect to the A1/Newcraighall Road junction and to the junctions on the A199, taking into account any cumulative impact with traffic from other development sites. Particular attention should be given to the proposed new junction on Milton Road East, and the management of additional traffic generation onto Milton Road East and Newcraighall Road including associated improvements to pedestrian and cycle crossing facilities.*

- *the site layout should allow for the proposed new bus route to be formed linking Milton Road East with Newcraighall Road. Appropriate consultation with service providers should take place in order to identify the bus service improvements which can be undertaken in the plan period, taking into account access, routes and frequency of service, and including the proposed new bus route. Proposals should provide for an appropriate upgrading of existing bus stops and an increase in cycle parking facilities at Brunstane and Newcraighall stations.*

- *vehicular access should be taken from Milton Road East and Newcraighall Road, forming a new vehicular crossing over the East Coast railway line. The potential for a new pedestrian/cycle bridge within the eastern part of the site should be investigated, together with an investigation as to whether or not a second vehicular crossing of the East Coast railway line should be provided in the interests of safety, as identified within the transport appraisal. Any crossings of the East Coast railway line should be on bridges over the railway line, and not at grade.*

- *no vehicular access should be taken from the Gilberstoun Area.*

- *opportunity to enhance existing core and other paths along the boundaries of the site, and in particular the Brunstane Burn Core Path (John Muir Way) on the northern boundary of the site including pedestrian crossing where vehicular access meets the path. New multi-user path links should be formed to the Innocent Railway Core Path, Brunstane Burn Core Path and the disused railway line to the north of Newcraighall, with path connections.*

4.6 The above points form the most up to date set of Policy parameters covering transport at HSG29 and these are repeated in the summary section of this report.

4.7 Finally, the LDP2 action programme (May 15) includes specific transport matters in relation to development at Brunstane. These are shown in the extract below:-

Edinburgh Local Development Plan — Second Proposed Action Programme – updated May 2015

Brunstane (HSG 29)

Transport Actions

Action	Delivery
Brunstane site-specific actions • Improve pedestrian/cycle crossing facilities on Milton Road East and Newcraighall Road. • Safeguard for link under the Newcraighall railway line. • Increase cycle parking at Brunstane and Newcraighall Stations. • Upgrade existing bus stops on Milton Road East. • Increase frequency of direct city centre service and also to key local facilities, to achieve PT mode share. • Review operation of A1/Newcraighall Road junction and help provide improvements, if deemed necessary.	**Who:** CEC (safeguarding) **Timescale**: with dvpt **Cost:** Not established **Funding:** S75 / developers

Extract from May15 action programme

4.8 The action programme also refers to wider South East actions and these also include two specifically related to transport as follows:-

- *Sherrifhall Junction Upgrade (T14) - Grade separation - Who: To be established at SDP level. - Timescale: TBC - Cost: Not identified - Funding: Strategic contribution zone*

- *West of Fort Kinnaird Road to the Wisp (T16) - LDP Safeguard for new link road between The Wisp and Newcraighall Road to improve traffic conditions on the approaches to Fort Kinnaird retail park. Who: CEC - Timescale: with devt - Cost: Not identified - Funding: Not established.*

4.9 The reporters findings effectively add a further action to the above list as part of new Policy DEL1 and that is "Oldcraighall Junction".

4.10 The above noted Policy items are tabulated at the end of this report with additional commentary provided on each.

5. DEVELOPMENT PROPOSALS

Introduction

5.1 The previous chapters demonstrate that the development site is located adjacent to established residential areas, with a permeable pedestrian network around the site and access to frequent bus and rail services located within a short walk of the site. The site also lies close to a network of roads that include major routes into Edinburgh from the east.

Proposed development

A plan showing the proposed site layout, description of proposed land use and the scale of the development including the number of residential units

5.2 An indicative masterplan layout (prepared by the applicant's architects and showing the indicative site layout) is included in Appendix E. As advised previously the proposed development will see the creation of a new community at Brunstane through the delivery of a residential-led mixed-use masterplan that incorporates a mix of land uses including:

- Up to 1,330 residential units in a mix of housing types and sizes, with 25% of the units being affordable;
- A new primary school;
- A new local centre with retail, commercial and/or community uses;
- Open space, parkland, planting buffers to the railway and existing services within the site, and protection for the setting of the on-site Scheduled Monuments;
- Other structural and amenity landscaping and planting;
- Formation of three new site accesses, one from the north and two from the south, as well as a network of internal roads and paths.

5.3 The movement design principles applied within the masterplan will see the creation of a network that is designed to be easily accessed from the existing movement network. In accordance with both local and national transport policy, the masterplan provides for access by all modes of transport but with an emphasis on more sustainable modes such as walking, cycling and public transport.

Access arrangements for pedestrians, cyclists and vehicles, and location of public transport facilities

Pedestrian access

5.4 The proposed development will involve pedestrians making trips to or from e.g. work, the local shops, educational facilities and public transport services. Figure 2 within Appendix A illustrates the existing amenities and facilities in relation to the development site taking cognisance of the walking distances noted within PAN75.

5.5 It is important to bear in mind that as the development is intended to form a new community there will be a number of facilities within the development itself and walking trips will be an important part of the journey profile within the development site.

5.6 The internal street layout of the proposed development will comprise well defined, pedestrian links, with footways and/or shared cycleways provided adjacent to the principal access roads creating links to the established footways on the surrounding road network. Links will also be provided to the established footpath network, including the John Muir Way and NCR 1, which will further support pedestrian movements and allow residents (both of the development and the surrounding areas) to move freely within and through the site.

Cycle access

5.7 An appropriate journey time for cycling is considered to be between 30 and 40 minutes and taking into account factors such as the time required for crossing roads and / or negotiating topography, an average speed of 10 to 20kph is considered possible equating to a cycle distance of 5km to 10km from the development site, which would comfortably allow travel by cycle to Edinburgh City Centre.

5.8 The proximity of the site to existing established cycle infrastructure in the form of e.g. NCR1 means cyclists are able to access a predominantly traffic free route to Edinburgh City Centre and also a dedicated cycle route south towards Musselburgh and Queen Margaret University. Cyclable routes being provided within the site will offer connections onto existing cycle friendly routes meaning that cycle journeys can also be undertaken within and through the site.

5.9 Discussions with SUSTRANS and Spokes in relation to cycling accessibility of the site have been positive with both raising the existing stepped access across the footbridge at Brunstane Station as a cause of frustration for cyclists using NCR1. SUSTRANS has indicated that it has identified a scheme to infill half of the stepped route to provide a ramp to allow cycles to be wheeled over the bridge (and also indicated funding may be available to deliver this).

5.10 On the above basis, the proximity of local cycle facilities and the nature of large parts of the surrounding road network will provide the opportunity for cycle based trips from the development site. This coupled with the provision of appropriate cycle parking as part of the proposals, will be adequate to accommodate the expected future demand for cycling.

Public transport accessibility

5.11 Regular and frequent bus and rail services are highly accessible from the development site, with bus stops on Newcraighall Road and Milton Road East within a short walk of the site. As the site is built out and the central spine road, with new bridge structure over the railway line is constructed, the site will open up the potential for new or existing bus services to divert through the Brunstane site.

5.12 Early discussions with Lothian Buses have suggested that this would be of interest to them as a route, particularly when coupled with the protected bus link east towards QMU that will pass through the Newcraighall East site. The link would allow double decker bus services to route through the site then south towards Musselburgh, currently not possible due to the restricted bridge clearance adjacent to the Newcraighall Park and Ride site.

5.13 As well as the existing bus services and potential to have new services directly through the development site Brunstane is situated within a short walk of Brunstane and Newcraighall Stations, with additional options for travel available at Musselburgh Station. The development masterplan includes provision for pedestrian and cycle links to these stations by way of both NCR1, the JMW and routes through existing residential areas at Gilberstoun and Newcraighall village. The level and frequency of services set out earlier within this report coupled with short journey times will ensure that rail is an attractive mode of travel to and from the Brunstane site.

5.14 The level of public transport and associated facilities available and anticpated to the development site is excellent and will be sufficient to accommodate the expected uplift in bus travel demand by future residents.

Vehicular access

5.15 New vehicular access points to the site are to be created to the north onto Milton Road East and to the south, linking into the access roads serving Newcraighall North, currently under construction. The provision of accesses to the north and south of the site open up the opportunity for public transport routes to be diverted or routed through the site and early stage discussions suggest there is potential to divert existing services and create new services to serve the site.

5.16 The key piece of infrastructure to deliver the link through the site will be the provision of a new railway bridge. This will be provided close to the existing bridge crossing and will be designed to accommodate pedestrian, cycle, public transport and vehicular traffic. It will provide access from both sides of the site to key services and facilities.

5.17 The provision of the bridge and spine road links allow any traffic generated by the development to access the surrounding road network at the most appropriate locus for its ultimate destination minimising its impacts on the surrounding road network. For example residents travelling north from the southern side of the site (or indeed the Newcraighall North site) towards Portobello or Leith will be able to do so directly rather than initially travelling east or west along Newcraighall Road and then via either Edinburgh Road or the A1 to reach their ultimate destination creating an opportunity to reduce travel distances and journey times for all traffic, including public transport.

5.18 The northern access onto Milton Road East is to be formed as a new traffic signal controlled junction with an indicative layout provided in Sketch TPL056/SK01A contained in Appendix C. This junction will include provision for pedestrians crossing Milton Road East and will replace the existing crossing provided adjacent to the cemetery. Swept path analyses of the junction has been undertaken to ensure buses are able to turn in and out of the development access road and this is shown in Sketch TPL056/SK01B.

5.19 Provision of this layout and its traffic capacity were discussed at length with CEC as part of the promotion of Brunstane through the LDP process.

5.20 The accesses to the south are formed by linking to the existing access roads and junctions formed with Newcraighall Road as part of the Newcraighall North development. The westernmost access with Newcraighall Road will connect to the Brunstane site by an extension of the main spine road through the railway embankment (with a new crossing of NCR 1). The road will be reconfigured to maintain priority towards Brunstane with the Newcraighall North arm onto this spine road becoming the minor arm. Sketch TP056/SK210 in Appendix C shows this arrangement.

5.21 The eastern access junction provided to serve Newcraighall North will also enable access into Brunstane with the road extended into the Brunstane site.

5.22 The existing junctions are formed as priority junctions with Newcraighall Road and the analysis of the junctions (presented later in this report) suggests that they would continue to be able to operate satisfactorily as priority junctions. However, it is proposed to upgrade both to traffic signal control.

5.23 At the western access the reason for the signalisation is to ensure pedestrian and cyclists are able to safely cross Newcraighall Road and the site access. There is an existing pedestrian crossing just to the west of this access which can be incorporated into the junction and upgraded to provided toucan facilities ensuring all transport users needs are met.

5.24 The signalisation of the eastern access would also allow pedestrian and cycle crossing facilities to be provided. In addition concerns have been raised during consultation events and meetings about the alignment of Newcraighall Road as it passes the disused railway abutments, and it has been suggested that the restricted forward visibility for westbound traffic and restricted road space mean that two large HGVs or buses are not able to pass one another at present. The introduction of traffic signal control would allow each approach to be separately staged, i.e. eastbound and westbound traffic on Newcraighall Road could run independent of one another, removing this potential conflict.

5.25 Sketches showing potential signal controlled layouts are contained in Appendix C as sketches TP056/SK211 and TP056/SK220.

Car parking

5.26 Parking within the development will be provided in accordance with the relevant parking standards for each of the land uses which comes forward within the Brunstane site. This will include cycle parking, motorcycle parking and provision of electric vehicle charging points and car club spaces as appropriate.

Development servicing

5.27 In relation to development servicing, all of the relevant residential land parcels will be able to be served by a refuse lorry or delivery vehicles. The site access junctions have been subject to swept path assessments to ensure they are able to be accessed by all traffic and these details can be developed as part of future Road Constriction Consent applications.

Safer Routes to School (SRS)

5.28 The site will need to consider SRS for both the development which may occur prior to the Primary School being provided within the site and the SRS when the new school is constructed.

5.29 The SRS for the area of the site to the south of the railway line would be towards Newcraighall Primary School, which would be able to be reached using either NCR1, or the footways and cycleways being provided within the development site to link to Newcraighall Road. Pedestrians would then be able to cross either at the new signalised access junctions or at the pelican/puffin crossing to be provided as part of the Newcraighall East development.

5.30 Once the new Primary School is provided within the site the SRS will need to consider routes within the site. The SRS will likely focus on the pedestrian and cycle routes along the main spine road as a key linkage. This will include the bridge crossing of the railway line which will link the eastern part of the site with the west (where the school is likely to be sited). The School will be relatively central to the site and pupils will therefore be expected to disperse across the site in a variety of directions from it.

5.31 The provision of a 3m shared cycle / footpath adjacent to the spine road will allow for crossing of the railway line. There is potential to provide additional footway width across the bridge to ensure appropriate space at times of peak pedestrian activity by reducing the road carriageway width to 6m (acting as a speed reducing measure).

5.32 There are also other routes available, along the JMW in particular, to access parts of the site to the north which may be used as traffic free routes to and from the school.

Travel plans

5.33 The promotion of a residential travel plan will be required for issue to residents upon occupation to provide upfront information on the available sustainable travel opportunities in the area. The aim of this will be to reduce reliance on private car use for travel to, from and within the site.

5.34 This residential travel plan will be provided within a welcome pack for residents and will include details of local walking and cycling routes, and public transport timetable information.

5.35 Other types of development within the site will require to prepare travel plans for staff, customers and visitors as they come forwards.

Quality Audit

5.36 A stage 1 Quality Audit has taken place aimed at examining the external linkages around the site as it reflects on all transport users. The report of items discussed and issues identified (which has also been provided under separate cover) is included within Appendix F.

Summary

5.37 The development site is highly accessible to existing walking and cycling links which offer connections to surrounding public transport facilities and various amenities / facilities within the surrounding area in line with policy requirements.

6. DEVELOPMENT TRIP GENERATION AND IMPACTS

Introduction

6.1 This section of the report examines the proposed development's likely trip generation and assesses any effects on the surrounding transport network.

Trip generation

6.2 In accordance with 'Transport Assessment Guidance', a person trip assessment has been undertaken to determine the likely multi-modal characteristics of the proposed development. To appreciate the likely future travel characteristics of the residential development, reference has been made to the Scottish Census 2011 website (www.scotlandscensus.gov.uk), which defines 'Method of Travel to Work or Study' for the "2011 Output Areas" that apply to the postcode areas that cover Edinburgh and the development site (Newcraighall and Gilberstoun areas). Reference has also been made to the national Trip Rate Information Computer System (TRICS) database.

Modal Split

6.3 A summary of the corresponding mode share statistics for the relevant postcode sectors and the City of Edinburgh is shown in Table 6.1 below, with the full 2011 National Census outputs for the local postcode sector detailed within Appendix G.

Table 6.1 – 2011 National Census 'Method of Travel to Work or Study' Statistics

Mode	Edinburgh	EH15 / EH21 (part)
Walk	25.4%	15.3%
Cycle	3.82%	5.5%
Bus	25.0%	19.8%
Train	1.6%	4.8%
Car Driver	26.5%	34.0%
Car Passenger	5.4%	8.0%
Work at Home	11.3%	11.1%
Other*	1.0%	1.5%
Total	100.0%	100.0%

** 'Other' also consists of motorcycle / scooter and taxi criteria.*

6.4 The data shows that this area of Edinburgh has a higher level of trips being made by car, cycle and train compared to the City average. The level of walking and bus based trips is lower than the City average, likely to be influenced by the large residential areas within these sectors with limited local facilities within walking distance and a propensity to travel by train rather than bus.

People trip generation rates

6.5 In order to determine the likely level of trips generated by the development an interrogation of the TRICS database for Land Use '03 – Residential' and Category 'M – Mixed Private/ Non-Private Housing' multi-modal sites has resulted in the people trip rates as shown in Table 6.2 below with the full TRICS outputs contained in Appendix J.

Table 6.2 – Proposed People Trip Rates

Time Period	Land Use	Range	People Trip Rates		
			Arrive	Depart	Total
AM Peak	Mixed Private /Non Private Housing	300 to 1750	0.126	0.495	0.621
PM Peak	Mixed Private /Non Private Housing	300 to 1750	0.308	0.192	0.500

Estimation of generated people trips

6.6 It was then possible to derive the level of predicted people trips associated with the proposed development (1300 dwellings) during the weekday AM and PM peak hours by applying the modal split data in Table 6.1 to the TRICS people trip rates in Table 6.2 with the results shown in Table 6.3 below. Note that in the census data modal split an adjustment is required to remove the 'work at home' percentage (as clearly this use would not generate external trips) and re-distribute this value proportionately across the other travel modes.

Table 6.3 – Proposed People Trip Generation (TRICS combined with census)

Travel Mode	AM Peak			PM Peak		
	Arrive	Depart	Total	Arrive	Depart	Total
Walk	28	111	139	69	43	112
Cycle	10	40	50	25	15	40
Bus	36	143	179	89	56	145
Train	9	34	43	21	13	34
Car Driver	63	247	310	153	96	249
Car Passenger	15	58	73	36	23	59
Other	3	9	12	5	3	8

6.7 Therefore based upon the TRICS approach the proposed development of 1300 dwellings would generate between 600 and 800 people trips at peak times and some 310 car based trips in the AM peak period with some 249 car based trip in the PM period.

6.8 In order to provide a 'sense check' on this TRICS data (and to be consistent with the assessments presented as part of the Newcraighall North development) the census data has also been applied to an observed traffic generation rate derived from the Gilberstoun area. This rate was shown to be equivalent to a rate of 0.426 'car driver' trips per dwelling for the AM peak, and 0.453 in the PM Peak. The remaining mode related trips were established by proportioning against the 'car driver' (development traffic generation) figure with the resulting modal split and person trips for the proposed development area indicated in Table 6.4 below.

Table 6.4 – Proposed People Trip Generation (using Gilberstoun survey)

Travel Mode	AM Peak	PM Peak
Walk	249	265
Cycle	89	94
Bus	322	342
Train	78	82
Car Driver	554	589
Car Passenger	130	139
Work at Home	181	192
Other	25	25

6.9 Based on the local car driver trip data the analysis would suggest the 1300 units proposed would generate between 1600 and 1700 people trips during the AM and PM peak periods, significantly higher that the TRICS data would have predicted. There may be a number of factors which influence the trip rate data observed for the Gilberstoun area that result in the markedly higher rates than the TRICS surveys would predict. The first of these would be the solely residential nature of the development at Gilberstoun with any trips to local facilities e.g. shops, work or schools likely to result in a trip out of that area. In addition, some of the vehicle trips captured within the survey data were trips to Brunstane Station, either as 'park and ride' or drop off journeys.

Traffic generation

6.10 The person trip information discussed shows a variation in the level of trips predicted to occur but can be used to predict the level of car trips generated by the development.

6.11 The early phases of the development, prior to the delivery of the local centre and in particular the Primary School are likely to be very similar to the locally observed travel characteristics at Gilberstoun and therefore the observed traffic generation rate derived from the Gilberstoun area would be directly applied to the unit numbers. As advised previously this is equivalent to a rate of 0.426 'car driver' trips for the AM peak, and 0.453 in the PM Peak.

6.12 As the development is built out, with the provision of the link bridge (and associated bus link) and the local facilities coming forward there will be a change in the travel characteristics at the site as trips associated with the proposed school for example change from external trips to internal trips. These trips are then contained within the site, and will no longer externalise on the surrounding junctions. As a result, the vehicular trip rate per dwelling will reduce on a per unit basis as these effects take place.

6.13 It is considered, however, that shifting directly from the observed Gilberstoun rate to the much lower TRICS rate would not be an appropriate estimation of the effects of the development build out on the trip generation but, equally, simply applying the observed Gilberstoun rate would significantly overestimate the likely external traffic generation of the fully developed site.

6.14 The change in characteristics of the site as the new public transport routes emerge, local facilities are built out, and the new community emerges will change the trip characteristics (and mode share of trips) at the site and that will require to be taken into account when considering the impact of the full development.

6.15 Instead of a switch to TRICS derived rates a comparison has been made between the existing mode share of the local areas around Brunstane to the Edinburgh data. If the Brunstane site was to achieve a shift towards the walking and bus modes to align with the Edinburgh share (increasing by 10% and 5% respectively) then there would be a consequent reduction in 'Car Driver' mode share.

6.16 Alternatively comparing the Edinburgh 'Car Driver' share to the Brunstane 'Car Driver' share shows that the Edinburgh 'Car Driver' share is some 8.5% lower than the Brunstane share. A shift away from 'Car Driver' trips to align to the Edinburgh value would result in around a 25% reduction in 'Car Driver' trip rate per unit.

6.17 Therefore, in assessing the full development traffic generation onto the external road network a reduction to the observed Gilberstoun traffic rate of 25% has been applied. This level of reduction still results in a robust vehicle trip intensity, being significantly higher than the TRICS data would predict, but allows (conservatively) for the reduction in external traffic generation from the development (on a per unit basis) which would be projected to occur once internal facilities and bus penetration are available.

6.18 When applied to a development content of 625 and 1300 dwellings, the resultant traffic generation numbers are therefore as laid out in Table 6.5 below.

Table 6.5 – Traffic Generation

	Weekday AM Peak			Weekday PM Peak		
Unit Numbers	**Arrive**	**Depart**	**Total**	**Arrive**	**Depart**	**Total**
625	84	182	266	175	109	284
1300	130	285	415	273	169	442

Assessment periods

6.19 Residential land use developments typically generate the largest amount of traffic during the weekday AM and PM peak periods. Following consultation with CEC during the scoping process the weekday AM and PM peaks have therefore been considered within this assessment.

6.20 It is recognised that weekend traffic in and around the Fort can be busy, but development impacts associated with residential traffic are far lower than during working day peak times and residential development would not be expected to trigger any assessment thresholds.

Trip distribution and development impact

6.21 The surrounding area has a significant level of residential development and traffic movements associated with journeys to or from places of study or work so the traffic associated with the development has been distributed onto the network based on observed traffic volumes entering and exiting the network.

6.22 A detailed assessment showing the development impact on the approach flows to the junctions is provided in Figures 11 and 12 of Appendix D. This demonstrates that the development has a negligible impact beyond the immediate environs of the proposed access junctions and the main roads into and out of Edinburgh e.g. the A1 and Milton Road. The two way approach flow impacts are below 10% on all links to the west of the A1 and below 5% on Milton Road.

6.23 The existing traffic surveys show that at peak times Milton Road East has peak hour two way traffic flows of between 900 and 1,150 vehicles per hour (vph), which reduce significantly east of Edinburgh College to around 400 - 500vph. The flows are in part tidal with a slightly higher proportion of eastbound traffic in the AM peak (circa 600 vph) with the flows more balanced in the PM Peak. The surveyed two way traffic flows are anticipated to increase to a peak of 1,300 vehicles as a result of other growth and to around 1,400 in the post development scenario.

6.24 On Newcraighall Road, within the village, the two way flows are around 900vph and generally well balanced, but with a marginally higher eastbound flow in the AM peak. To the west of the P&R access the flows increase to around 1,000vph, with further flow increases to the west of the A1 to between 1,700vph (AM) and 2,400vph (PM).

6.25 By comparison, two way peak hour flows on the A1 are around 2,500 vph, with flows on Harry Lauder Way and Milton Road between 1,500 and 1,700 vph. As a result of the traffic flow volumes on these routes (and indeed towards Fort Kinnaird) the development impacts on these routes are generally lower.

6.26 The trip generation of the development has been developed for the phasing of the development allowing some residential construction prior to the provision of the internal site bridge. Hence there are separate ‘north’ and ‘south’ distributions for the relevant analysis scenarios. This is explained further in Chapter 7.

6.27 In terms of assessing the road network operation the detailed analysis thresholds result in the junctions below requiring assessment:

- Newcraighall Road / site access(es)
- Milton Road East / site access
- Newcraighall Road / A1 Slip Roads traffic signals
- Milton Road East / Harry Lauder Way / A1 / Milton Road traffic signals; and
- Milton Road East / Edinburgh Road traffic signals.

Cross boundary impacts

6.28 As part of an exercise carried out by CEC to establish the transport impacts of development proposals in the LDP processes, a Transport Appraisal has been carried out. These 'cross border' traffic impacts have been included within CECs appraisal through the application of background growth. This assessment has quantified that effect further by the application of 'central' National Road Traffic Forecasts growth to background traffic flow.

Summary

6.29 The approach to developing modal share estimates and traffic distribution has been laid out.

7. ROAD NETWORK PERFORMANCE

Introduction

7.1 Analysis of the junctions noted in para 6.11 has been undertaken using the industry recognised ARCADY and PICADY software for roundabouts and priority junctions and LINSIG for traffic signal controlled junctions.

Phasing

7.1 As noted in the previous Chapter of this report, there is implied phasing of the development pre and post the completion of the internal road link. The 'assessment years' for traffic testing have been selected as 2020 and 2025. This is an onerous projection which assumes rapid build out rates – the years 2022 and 2027 may in practice be more realistic. However, by advancing the assessment years, the percentage impact of development generated traffic on the road network is slightly higher, therefore the traffic impact assessments (and therefore extent of study network) are slightly more onerous. This occurs because were the assessment years to be extended (to 2022 and 2027) then background growth applied for an additional two years in each case would raise the background traffic levels causing the percentage impact of development traffic (which is constant) to fall. The assessment years have therefore been selected to maintain robust traffic testing.

Traffic flow diagrams

7.2 Classified junction surveys were undertaken on Thursday 26 November 2015 at the junctions mentioned in para 6.11 above. The weekday AM and PM peak periods have been extracted from these junction surveys. The weekday AM peak hour period was found to occur between 08:15 and 09:15 and the weekday PM peak hour found to occur between 16:45 and 17:45.

7.3 The turning movements at the junctions within the study area during these two peak hours are shown in Diagrams 1 and 2 respectively (Appendix D). The 2016 traffic count data was fully classified by vehicle type and converted into Passenger Car Units for the purposes of the assessment.

7.4 Traffic flow diagrams are contained in Appendix D and these show:-

- Figures 3, to 10 show projected traffic flows in 2020 and 2025 excluding the development but including committed development traffic.
- Figures 11 to 14 show projected traffic flows in 2020 and 2025 with the addition of development traffic
- Figures 15 and 16 shoe the development impacts on the surrounding road network in 2025; and
- Figures D1-D16 show the development traffic flows through the development phases and their distribution of the road network.

Newcraighall Road / site access(es)

7.5 The two southern access points being used to serve the site are located at the two existing access points to the Newcraighall North site.

7.6 As indicated within Chapter 5 of this report the junctions have been assessed as priority junctions to determine whether the development traffic flows can be accommodated on the network. The summarised capacity results for each of the accesses, with the development fully built out (i.e. highest predicted traffic flow levels), are presented in Table 7.1 below.

Table 7.1 – Summary of Newcraighall Road / Site Priority accesses

East Access									
	Newcraighall Road (N)			Site Access			Newcraighall Road (E)		
	RFC	Queue	Delay	RFC	Queue	Delay	RFC	Queue	Delay
		(pcu)	(secs)		(pcu)	(secs)		(pcu)	(secs)
AM	-	-	-	0.34	0.5	16.43	0.03	0.0	5.09
PM	-	-	-	0.22	0.3	14.85	0.07	0.1	4.67
West Access									
	Newcraighall Road (N)			Site Access			Newcraighall Road (E)		
	RFC	Queue	Delay	RFC	Queue	Delay	RFC	Queue	Delay
		(pcu)	(secs)		(pcu)	(secs)		(pcu)	(secs)
AM	-	-	-	0.57	1.3	26.75	0.03	0.0	4.88
PM	-	-	-	0.42	0.7	22.25	0.14	0.4	4.80

7.7 It is clear from the analysis results reported above that both site access junctions would operate satisfactorily with minimal queuing and delays predicted to occur throughout all periods.

7.8 However, as a result of a desire to provide appropriate crossing facilities and with a view to addressing other concerns raised about the alignment and width of Newcraighall Road in the vicinity of the east access further testing was undertaken of the access junctions with traffic signal control in place. The results of the LINSIG analysis, running each approach within its own stage at the east access, are shown in Table 7.2 overleaf.

Table 7.2 – Summary of Newcraighall Road / Site Signalised accesses									
North Access									
	Newcraighall Road (N)			Site Access			Newcraighall Road (S)		
	DoS	Queue	Delay	DoS	Queue	Delay	DoS	Queue	Delay
	%	(pcu)	(secs)	%	(pcu)	(secs)	%	(pcu)	(secs)
2025 AM	70.5	13.8	45.9	64.9	4.2	84.2	70.0	17.3	33.4
2025 PM	80.3	19.9	44.1	47.4	2.4	79.5	80.0	19.5	44.1
South Access									
	Newcraighall Road (N)			Site Access			Newcraighall Road (S)		
	DoS	Queue	Delay	DoS	Queue	Delay	DoS	Queue	Delay
	%	(pcu)	(secs)	%	(pcu)	(secs)	%	(pcu)	(secs)
2025 AM	35.0	5.9	7	62.6	5.8	66.2	44.1	8.2	7.8
2025 PM	41.7	6.8	5.6	61.8	4.2	78.6	47.4	8.0	6.1

7.9 The results show that both accesses are able operate as signalised junctions. The east access, due to the separate staging of each approach, has higher levels of predicted queuing and delays but still operates satisfactorily. All of the analysis results presented above assume an 'all red' pedestrian stage being called each and every cycle and in practice this is unlikely to be the case so the actual junction performance will likely be better than the 'worst case' results reported above.

Milton Road East / site access

7.10 The development access onto Milton Road East to the north of the site is to be constructed as a new junction with Milton Road East, immediately to the east of the cemetery which fronts onto Milton Road East. Information relating to the layout and operation of this junction was provided as part of the LDP submissions in relation to the Brunstane site to demonstrate an appropriate junction layout could be provided.

7.11 The junction operation has been assessed using LINSIG with the summarised results presented below.

Table 7.3 – Summary of Milton Road East / Site Signalised Accesses									
	Milton Road East (E)			Site Access			Milton Road East (W)		
	DoS	Queue	Delay	DoS	Queue	Delay	DoS	Queue	Delay
	%	(pcu)	(secs)	%	(pcu)	(secs)	%	(pcu)	(secs)
2025 AM	75.3	8.9	49.6	73.2	8.7	45.5	64.9	9.8	32.6
2025 PM	36.8	5.5	23.9	52.5	2.7	60.1	54.0	9.3	19.5

7.12 The results above have been modelled on the basis that the pedestrian crossing stage is called each and every cycle and this still demonstrates the signals will operate satisfactorily. The maximum DoS predicted to occur is in the AM Peak on the development access, with a DoS of 75.3% and associated queue of 9 vehicles.

Newcraighall Road / A1 Slip Roads traffic signals

7.13 This junction is a linked set of traffic signalised junctions formed between the A1 on and off slips and Newcraighall Road. The junction is busy at peak times and generally busier during the PM peak than the AM peak due to the proximity to the Fort Kinnaird Retail Park. The analysis was undertaken using a previously agreed LINSIG model utilised in earlier assessments with the queues verified against the traffic survey data.

7.14 The summarised LINSIG results are shown in Table 7.4 below with the existing junction layout shown in Sketches TPL056/SK/105 and SK/106 contained in Appendix C.

Table 7.4 – Summary of LINSIG Analysis Results (Newcraighall Road / A1 Slip Roads Linked Signals)

Scenario	Newcraighall Road (E)			A1 NB Off Slip			Newcraighall Road (W)			A1 SB Off Slip		
	DoS	Queue (pcu)	Delay (secs)	DoS	Queue (pcu)	Delay (secs)	DoS	Queue (pcu)	Delay (secs)	DoS	Queue (pcu)	Delay (secs)
AM Peak												
2016	53.6	4.7	22.8	65.9	6.4	21.6	71.8	6.2	35.0	36.0	1.7	29.5
2020	57.5	5.2	23.4	72.4	7.3	23.0	72.4	6.6	33.8	37.9	1.8	29.7
2020 Dev	69.3	7.2	23.7	72.8	7.4	23.0	72.4	6.6	33.8	43.7	2.1	30.5
2025	60.2	5.5	23.8	76.2	7.9	24.2	77.1	7.4	36.7	39.5	1.9	29.8
2025 Dev	70.6	7.3	23.4	76.7	8.1	24.2	77.1	7.4	36.7	39.4	1.9	29.6
PM Peak												
2016	68.0	6.5	39.4	71.0	7.3	38.7	73.7	13.0	25.8	40.8	2.9	32.9
2020	63.9	5.9	36.8	72.9	7.9	39.4	81.8	15.7	31.0	49.5	3.0	39.5
2020 Dev	78.6	9.2	41.3	74.9	8.0	43.2	79.5	15.0	28.7	61.2	3.8	43.6
2025	76.0	7.7	42.8	80.4	9.1	44.4	84.7	17.2	32.5	62.7	4.0	45.5
2025 Dev	81.7	9.5	42.4	82.0	9.4	43.6	84.7	17.2	32.5	70.6	4.5	48.8

7.15 The analysis results show that at the present time the junction operates satisfactorily at peak times with max DoS of 73.7 occurring in the PM peak on the Newcraighall (W) / Fort Kinnaird approach. The analysis shows that the junction is predicted to continue to operate satisfactorily in the future year scenarios with all of the predicted background growth and development traffic on the network with max DoS values remaining below 85%.

Milton Road East / Harry Lauder Way / A1 / Milton Road traffic signals

7.16 This junction is a busy signalised junction that operates over capacity at peak times at present. Information provided by CEC indicates that the junction operates on a MOVA system with maximum timings applied during peak periods. This information has been used to construct a LINSIG model of the existing junction (including Brunstane Rd, and Brunstane Road South to the east) based on the existing layout shown in Sketches TPL056/SK/102 and SK/103 contained in Appendix C. In addition, comment on the operation of this junction was also received at the pre application consultation events to the effect that the queuing on the Milton Road East approach makes it difficult for traffic to exit from Brunstane Road South, particularly in the AM Peak.

7.17 The analysis bears out the on-site observations and knowledge of the junction operation with the majority of approaches in the AM peak operating satisfactorily but significant queues predicted to occur on the A1 approach to the junction. The predicted levels of queueing have potential to extend at times through the upstream junction which serves the retail park to the east of the A1 and accesses the ASDA and The Jewel (for buses only). During the PM peak the A1 approach operates more satisfactorily but with other extensive queues shown to occur on Milton Road, particularly associated with the right turn movement onto the A1.

7.18 On the basis of the on-site observations, feedback from events and base modelling of the junction it is clear that regardless of whether any development comes forward at the Brunstane site it is likely that some intervention will be required to enable the junction to accommodate traffic growth associated with other developments in the area (i.e. the background growth accounted for within the traffic network). The summarised LINSIG results for the existing junction operation are shown in Table 7.5 below.

Table 7.5 – Summary of LINSIG Analysis Results (A1 / Milton Road / Harry Lauder Way / Milton Road East Signals)

Scenario	A1			Milton Road			Harry Lauder Way			Milton Road East		
	DoS	Queue	Delay	DoS	Queue	Delay	DoS	Queue	Delay	DoS	Queue	Delay
	%	(pcu)	(secs)		(pcu)	(secs)		(pcu)	(secs)		(pcu)	(secs)
AM Peak												
2016	103.4	46.3	147.3	78.8	10.4	70.9	73.7	13.4	52.0	75.8	9.9	67.2
2020	111.6	75.2	267.3	85.2	12.1	80.1	79.6	15.1	56.1	81.3	11.1	72.8
2025	118.9	103.3	369.6	90.4	13.9	92.9	84.4	16.9	61.2	86.7	12.6	81.4
2020 Dev	112.9	80.0	285.6	86.7	12.5	83.0	80.5	15.4	57.0	85.3	12.2	79.1
PM Peak												
2016	91.3	24.3	66.3	136.6	108.3	594.7	80.2	14.6	58.9	77.0	8.5	75.8
2020	98.6	32.9	99.4	147.5	141.7	715.2	86.5	16.7	67.1	82.3	9.6	82.9
2025	102.2	42.0	134.7	163.2	176.4	848.0	89.3	18.6	70.8	86.9	10.8	92.1
2020 Dev	99.1	33.7	102.8	149.3	146.4	731.7	88.3	17.7	69.9	92.2	12.8	107.4

7.19 The analysis shows that the junction will experience operational issues in the future with the effect of additional background traffic growth. It is also clear from the analysis results that the development has a very minimal effect on the overall performance of the junction, with the possible exception of Milton Road East. It is perhaps useful to note that this arm is the one best able to accommodate additional traffic being added to it.

7.20 The results in Table 7.5 suggest that junction performance with the development traffic in 2020, is broadly comparable to the predicted operation without the development and significantly better than the predicted performance with only background growth by 2025.

7.21 As identified above it is clear that the capacity of the junction requires to be increased regardless of whether the Brunstane site comes forward or not. Therefore, the junction, the available land around it and the lane configuration has been reviewed to determine a potential layout which would provide additional capacity. The key capacity improvements (shown in Sketch TP056/SK/200 in Appendix C) can be summarised as follows:

- Widening of Harry Lauder Way north to allow 2 lane northbound exit;
- Permit 2 lanes of right turn from Milton Road into A1 southbound;
- Extend right turn lane on A1 for traffic turning into Milton Road East; and
- Signalise Brunstane Road / Brunstane Road South to improve queue management and allow traffic to safely exit.

7.22 The results of the analysis of the improved junction operation are summarised within Table 7.6 below (with the projected operation provided for ease of comparison).

Table 7.6 – Summary of LINSIG Analysis Results (Improved A1 / Milton Road / Harry Lauder Way / Milton Road East Signals)												
Scenario	A1			Milton Road			Harry Lauder Way			Milton Road East		
	DoS	Queue	Delay	DoS	Queue	Delay	DoS	Queue	Delay	DoS	Queue	Delay
	%	(pcu)	(secs)		(pcu)	(secs)		(pcu)	(secs)		(pcu)	(secs)
AM Peak												
2025	118.9	103.3	369.6	90.4	13.9	92.9	84.4	16.9	61.2	86.7	12.6	81.4
2025 Dev	96.1	30.2	80.9	94.2	15.9	107.9	86.2	17.7	63.8	94.2	15.9	107.9
PM Peak												
2025	102.2	42.0	134.7	163.2	176.4	848.0	89.3	18.6	70.8	86.9	10.8	92.1
2025 Dev	99.7	35.8	62.5	94.2	15.9	107.9	86.2	17.7	63.8	94.5	16.2	92.7

7.23 The analysis results clearly show that overall the junction operates more efficiently than it would with no intervention. The approaches to the junction are better balanced in terms of their overall operation with none of the arms operating with DoS in excess of 100%, which is in fact betterment compared to the 2016 survey results.

7.24 The proposed amendments to the layout seek to maximise the efficiency of the green time given to each approach by increasing the lanes able to make the movements which have high demands. In the improved scheme there will be 2 lanes of right turning traffic from Milton Road into the A1, which is a change from the current configuration but a similar arrangement exists at the junction at the north end of Harry Lauder Way, with 2 lanes turning right into Harry Lauder Way, and this arrangement appears to operate satisfactorily.

7.25 Similarly, the northbound A1 approach is able to be spread across 2 lanes through widening the Harry Lauder Way northbound lane for around 50m beyond which traffic has to merge into a single lane. Again a similar arrangement exists at the junction at the north end of Harry Lauder Way with traffic travelling along Seafield Road having to merge to a single lane, which appears to operate satisfactorily. Therefore the proposed changes to the layout of the junction would not result in manoeuvres and operation that would be unfamiliar to drivers.

7.26 Accordingly, it can be stated that the proposed improvements will not only address the background growth predicted to occur but also accommodate the proposed development in its entirety. The analysis has shown that the effect of the development through to 2020 (with up to 625 units split across the north and south sites) is minimal at this junction (with the traffic impact less than 2%) and the improvement would therefore only require to be in place beyond this level of development. It is also important to bear in mind that the proposed development is responsible for up to 7% of traffic flow through this junction in the 2025 full development scenario (other traffic growth accounting for 15% of traffic) and hence any contribution to the works to increase the capacity of this junction should be considered in this context.

Milton Road East / Edinburgh Road traffic signals

7.27 As identified previously whilst this junction has 4 arms the northern arm operates on an 'on demand' basis and generally the junction functions as a 3-arm traffic signal controlled arrangement (shown in TP056/SK/104) Traffic signal information from CEC was used to establish the base operation of the junction, which generally operates satisfactorily with limited queueing and delays, with all queues typically able to clear in a single cycle of the signals.

7.28 The summarised results of the analysis are presented in Table 7.7 below.

Table 7.7 – Summary of Milton Road East / Site Signalised Accesses

	Edinburgh Road (W)			Edinburgh Road (E)			Milton Road East		
	DoS	Queue	Delay	DoS	Queue	Delay	DoS	Queue	Delay
	%	(pcu)	(secs)	%	(pcu)	(secs)	%	(pcu)	(secs)
AM Peak									
2016	36.0	5.5	23.2	50.6	9.0	25.1	69.1	5.8	63.1
2020	39.8	6.2	24.6	56.0	10.1	27.0	69.6	6.1	61.3
2020 Dev	42.0	6.6	2.2	57.3	10.4	28.0	72.1	6.8	61.2
2025	42.3	6.7	25.1	59.5	11.1	27.9	74.3	6.8	65.2
2025 Dev	48.1	7.6	27.7	64.1	11.8	31.4	73.8	7.7	59.0
PM Peak									
2016	68.4	13.3	31.4	39.1	6.4	24.4	71.4	6.7	60.7
2020	73.9	15.1	33.6	42.2	7.0	25.0	77.2	7.6	66.0
2020 Dev	76.2	15.7	35.6	43.3	7.1	25.9	77.8	8.1	64.5
2025	78.7	16.9	36.2	45.0	7.6	25.5	82.0	8.5	72.2
2025 Dev	83.3	18.1	41.4	47.3	7.8	27.3	79.8	8.8	64.9

7.29 The results show that the junction is predicted to continue to operate satisfactorily with the effects of background growth and also with the addition of the development traffic. The assessment results represent a robust assessment, as the signals have been modelled with dedicated pedestrian stages and the Eastfield Place stage occurring each cycle, which in practice is unlikely to be the case.

7.30 Analysis outputs are contained within Appendix I.

Summary

7.31 The performance of the road network around the site has been considered in detail and it has been shown that the development, with the provision of a new access onto Milton Road East and upgraded junctions on Newcraighall Road, is largely able to be accommodated within the existing infrastructure.

7.32 The exception to this is at the Milton Road / Harry Lauder Way / A1 traffic signals which the analysis has identified are already under pressure without the development having occurred. The results of the traffic modelling demonstrate that the early phases of development, prior to the completion of the new site internal bridge link will have little effect on the operation of this junction, with performance comparable to that predicted without the development.

7.33 The modelling has shown that it would be likely that capacity at that junction would be necessary regardless of whether the New Brunstane site comes forward and a scheme of improvements has been identified in this report that would deliver increased capacity at the junction. These improvements have been shown to be able to accommodate both background traffic growth and the proposed development and deliver junction performance better than the present day operation. Furthermore, the identified scheme also addresses operational issues raised by local residents using Brunstane Road South and Brunstane Road, by extending the signalisation east to include these roads within a broader signalised junction arrangement.

8. SUMMARY AND CONCLUSIONS

Summary

8.1 Transport Planning Ltd has been appointed to advise on transport related issues associated with the development of land to form a new community at Brunstane to the east of Edinburgh.

8.2 The site is located within the urban area to the south-east of Edinburgh, and extends to some 54.6 hectares.

8.3 The proposed development will see the creation of a new community at Brunstane through the provision of a residential-led mixed-use masterplan that incorporates a mix of land uses including:

- Up to 1,330 residential units in a mix of housing types and sizes, with 25% of the units being affordable;
- A new primary school;
- A new local centre with retail, commercial and/or community uses;
- Open space, parkland, planting buffers to the railway and existing services within the site, and protection for the setting of the on-site Scheduled Monuments;
- Other structural and amenity landscaping and planting;
- Formation of three new site accesses, one from the north and two from the south, as well as a network of internal roads and paths.

8.4 The site is considered to be highly accessible being located directly adjacent to an established network of pedestrian and cycle routes providing safe and convenient links to local services and facilities. These links also present opportunities for commuter journeys to employment areas. The development itself will further enhance the existing provision through the permeable nature of the masterplan, which will introduce new links between Milton Road East and Newcraighall Road and provide additional access points to both the John Muir Way and National Cycle Route 1.

8.5 There is an established network of bus services which operate around the surrounding road network which will be able to serve early phases of development. Ultimately the development will deliver a new bus route between Milton Road East and Newcraighall Road providing opportunities for new or diverted bus services. Early stage discussions with operators have indicated a keen interest in introducing routes through the site.

8.6 Brunstane is within a short walk of 3 existing railway stations which present opportunities for frequent and regular access to a variety of destinations including the key employment areas of Edinburgh and wider leisure destinations in East Lothian and the Borders.

8.7 The overall connectivity and accessibility of the site is therefore considered to be excellent.

8.8 An assessment of the likely trip generation of the development at a key phase and in its final completion has been made and its impact on the surrounding road network considered.

8.9 Detailed junction modelling has been undertaken and this has shown that the proposed site access junctions onto Newcraighall Road and Milton Road East are able to accommodate the level of traffic anticipated to occur. In addition, the surrounding road network is also generally able to accommodate the development traffic, the exception being the Milton Road / Harry Lauder Way / A1 traffic signals. The modelling has shown that it would be likely that capacity at that junction would be necessary regardless of whether the Brunstane site comes forward and a scheme of improvements has been identified in this report that would deliver increased capacity at the junction. However, the results of the traffic modelling demonstrate that the early phases of development, prior to the completion of the new internal bridge link, will have little effect on the operation of this junction, with performance comparable to that predicted without the development.

8.10 The scheme of junction improvements at this location has been shown to be able to accommodate both background traffic growth and the proposed development and deliver junction performance better than the present day operation. Furthermore, the identified scheme also addresses operational issues raised by local residents using Brunstane Road South and Brunstane Road, by extending the signalisation east to include these roads within a broader signalised junction arrangement.

8.11 Scoping discussions with CEC, the LDP allocation and the reporter's findings from the LDP raised several matters in relation to transport which relate to the development of the Brunstane site. LDP comments were noted in Chapter 4 and are summarised in Table 8.1 below.

Table 8.1 – Matters raised

Reporters amendments and updates to design brief	Comments
Transport assessments should identify any appropriate commensurate mitigation which may be required with respect to the A1/Newcraighall Road junction and to the junctions on the A199, taking into account any cumulative impact with traffic from other development sites. Particular attention should be given to the proposed new junction on Milton Road East, and the management of additional traffic generation onto Milton Road East and Newcraighall Road including associated improvements to pedestrian and cycle crossing facilities.	The Transport Assessment considers these items and the locations mentioned. Junction operation is reported upon and improvements to pedestrian and cycle crossing facilities on the external network have been identified.
The site layout should allow for the proposed new bus route to be formed linking Milton Road East with Newcraighall Road. Appropriate consultation with service providers should take place in order to identify	The site layout allows for the new bus route. Early consultation has shown an appetite for new or diverted services. Any new services would need to be phased with infrastructure and development. Improvements to

the bus service improvements which can be undertaken in the plan period, taking into account access, routes and frequency of service, and including the proposed new bus route. Proposals should provide for an appropriate upgrading of existing bus stops and an increase in cycle parking facilities at Brunstane and Newcraighall stations.	cycle parking facilities can be achieved through contribution.
Vehicular access should be taken from Milton Road East and Newcraighall Road, forming a new vehicular crossing over the East Coast railway line. The potential for a new pedestrian/cycle bridge within the eastern part of the site should be investigated, together with an investigation as to whether or not a second vehicular crossing of the East Coast railway line should be provided in the interests of safety, as identified within the transport appraisal. Any crossings of the East Coast railway line should be on bridges over the railway line, and not at grade.	The layout adopts this access arrangement. A new, separate, pedestrian/cycle bridge within the eastern part of the site is not required for connectivity purposes and may be problematic to provide in terms of visual acceptance owing to ground levels and required heights to clear the railway. There is no requirement to provide a second vehicular crossing of the rail line. The eastern part of HSG29 can be accessed from two vehicular points (Milton Road East and the new bridge internal to the site) and two points of access are appropriate for the level of dwellings likely to be developed in the eastern part of the site.
No vehicular access should be taken from the Gilberstoun Area.	This is noted and none is proposed.
Opportunity to enhance existing core and other paths along the boundaries of the site, and in particular the Brunstane Burn Core Path (John Muir Way) on the northern boundary of the site including pedestrian crossing where vehicular access meets the path. New multi-user path links should be formed to the Innocent Railway Core Path, Brunstane Burn Core Path and the disused railway line to the north of Newcraighall, with path connections.	Noted – these points can be adopted within the design of the site as detail of connections emerges.
Action Programme Requirements	**Comments**
Improve pedestrian/cycle crossing facilities on Milton Road East and Newcraighall Road.	Improvements to cycle and pedestrian crossings have been identified in this report.
Safeguard for link under the Newcraighall railway line.	It is understood that this safeguard is not able to be provided as it lies outwith the applicants control in an area where infilling (believed to have been carried out by Network Rail as part of the Borders Railway) has been carried out. This requires clarification.
Increase cycle parking at Brunstane and Newcraighall Stations.	This can be attained through contribution.
Upgrade existing bus stops on Milton Road East.	This can be attained through contribution.

Increase frequency of direct city centre service and also to key local facilities, to achieve PT mode share.	This can be attained through contribution although service diversions / enhancements are likely to be provided once the through bus route is available for use.
Review operation of A1/Newcraighall Road junction and help provide improvements, if deemed necessary.	The operation of this junction has been reviewed.
Sherrifhall Junction Upgrade (T14) - Grade separation - Who: To be established at SDP level. - Timescale: TBC - Cost: Not identified - Funding: Strategic contribution zone	It is understood Transport Scotland may seek contributions to this item.
West of Fort Kinnaird Road to the Wisp (T16) - LDP Safeguard for new link road between The Wisp and Newcraighall Road to improve traffic conditions on the approaches to Fort Kinnaird retail park. Who: CEC - Timescale: with devt - Cost: Not identified - Funding: Not established.	This is outwith the control of the HSG29 applicants and is to be delivered 'with development'.
Oldcraighall Junction	It is understood Transport Scotland may seek contributions to this item.

8.12 In addition to the points contained in Table 8.1, several other issues emerged during the compilation of this report as noted in Table 8.2 below.

Table 8.2 – Other Issues

Topic	Comments
Officers at CEC have raised questions around the provision of Safe Routes to School.	This is addressed within the report but the location of the school is designed to be as accessible as possible from the whole development site. The detailed design of the development roads and bridge structure will include consideration of pedestrian crossing provision and the opportunity for localised footway/cycleway widening and associated road carriageway narrowing at key locations within the site – likely to include the area near the school.
Order Contributions	There may be a number of traffic regulation orders that require to be introduced as the development is built out to ensure e.g. the main accesses and the adjacent sections of development roads are kept clear of parked cars etc
Construction Traffic Management	It is likely that a Construction Traffic Management Plan will be required as a condition of any consent. A specimen 'heads' for a CTMP is included in Appendix J

Conclusion

8.13 This report has assessed the transport issues surrounding the development site and it is concluded that there are no transport reasons why the application should not be approved.

APPENDIX A

FIGURES AND SCOPING CORRESPONDENCE

Brunstane, Edinburgh

Site Location Plan

Key

A Site of Proposed Development

Brunstane, Edinburgh	EDI		
Site Location Plan	Drawing Number: TP056 Figure 1		Scale: NTS @ A3
	Drawn by: NW	Date: Apr 2016	Checked by: AS

TRANSPORT PLANNING

Brunstane, Edinburgh

Accessibility Plan

Key

- A Site of Proposed Development
- B Jewel & Esk College
- C Brunstane Primary School
- D Newcraighall Primary School
- E Queen Margaret University
- F Stoneyhill Primary School
- G Campie Primary School
- H Southfield Medical Practice
- J Portobello Surgery
- K Newcraighall Park & Ride
- L Asda Superstore
- M ALDI Foodstore
- N LIDL Foodstore
- O Co-operative Foodstore
- P Fort Kinnaird Retail Park
- Core Path
- Cycle Route
- Bus Stop/Route
- Train Station/Route
- 800m Isochrone from Site
- 1600m Isochrone from Site

N	Brunstane, Edinburgh	EDI	
	Accessibility Plan	Drawing Number: TP056 Figure 2	Scale: NTS @ A3
		Drawn by: NW / Date: Apr 2016	Checked by: AS

TRANSPORT PLANNING

Brunstane, Edinburgh

Public Transport Isochrones

Key

- A — Site of Proposed Development
- Core Path
- Cycle Route
- Bus Stop/Route
- Train Station/Route
- 400m Isochrone from Bus Stop
- 800m Isochrone from Railway Station

N	Brunstane, Edinburgh	EDI	
	Public Transport Isochrones	Drawing Number: TP056 Figure 3	Scale: NTS @ A3
		Drawn by: NW / Date: Aug 2016	Checked by: AS

TRANSPORT PLANNING

From: Alex Sneddon
Sent: 13 November 2015 19:47
To: 'Lynn Russell' <Lynn.Russell@edinburgh.gov.uk>
Cc: 'kenny@tranplanworld.co.uk' <kenny@tranplanworld.co.uk>
Subject: RE: Proposed Residential Development, Brunstane, Edinburgh

Lynn

I refer to our meeting held on Wed 11th regarding the above project during which we discussed the scoping for the Transport Assessment. We are now looking to formally scope out the study and set out below our suggested approach.

Given the development is over the 100 dwelling threshold we would propose to prepare a Transport Assessment for this to be prepared in line with the guidance contained in 'Transport Assessment Guidance'. Chapter 4 of the Guidance lays out the broad headings and those we expect to cover are laid out below:-

Existing Conditions

• existing site information – description of the current physical infrastructure and characteristics of the site and its surroundings;
• baseline transport conditions – existing transport infrastructure and services, and background transport data.

Existing Site Information

• a site location plan showing the proposed development site in relation to the surrounding area and transport system;
• the permitted and existing use of the site;
• the existing land uses in the vicinity of the site;
• existing site access arrangements including access constraints, where applicable.

Baseline Transport Data

• a qualitative description of the travel characteristics of the existing site, including pedestrian and cyclist movements and facilities, where applicable;
• existing public transport provision, including frequency of services, operators, location of bus stops/train stations, etc;
• details of any proposed transport improvements related to the sites development;
• a description and functional classification of the road network in the vicinity of the site including AM and PM peak traffic surveys at the following locations:

- Milton Road / Duddingston park 4 way signals
- A1 / Milton Road / Harry lauder Road 4 way signals
- Brunstane Road / Milton Road / Gilberstoun 4 way priority
- Milton Road / Eastfield 3 way signals
- Newcraighall Road A1 east ramps – signals
- Newcraighall Road A1 west ramps – signals
- Newcraighall Road / fort shopping centre (east) – 5 arm roundabout
- Newcraighall Road / fort shopping centre (west) - 4 arm roundabout

• an analysis of the injury accident records on the road network in the vicinity of the site for the most recent three-year period.

Proposed Development

• a plan showing the proposed site layout;
• description of proposed land use;
• the scale of the development,
• access arrangements for pedestrians, cyclist and vehicles, and location of public transport facilities;
• the transport impacts of the development including trip generation and mode share – in the TA we will report on the previous work done and agreed with CEC to establish trip rates and distribution in the assessment of taking the development access onto Milton Road and we will also update the information used in that analysis where required – we will report on this in the TA and include previous extracts
• servicing arrangements (incl swept path assessments);
• a framework residential travel pack

We also understand that the development will likely require a Quality Audit and as discussed we may split this into an 'external' (perimeter) audit with a separate internal layout one to follow.

We will also report on the content of the Local Development Plan action programme and site brief and describe how the proposal deals with these matters in relation to transport.

I trust you will find the above in order Lynn and that it reflects our discussion, however should you have any queries on the above then please do not hesitate to contact me.

Regards

Alex.

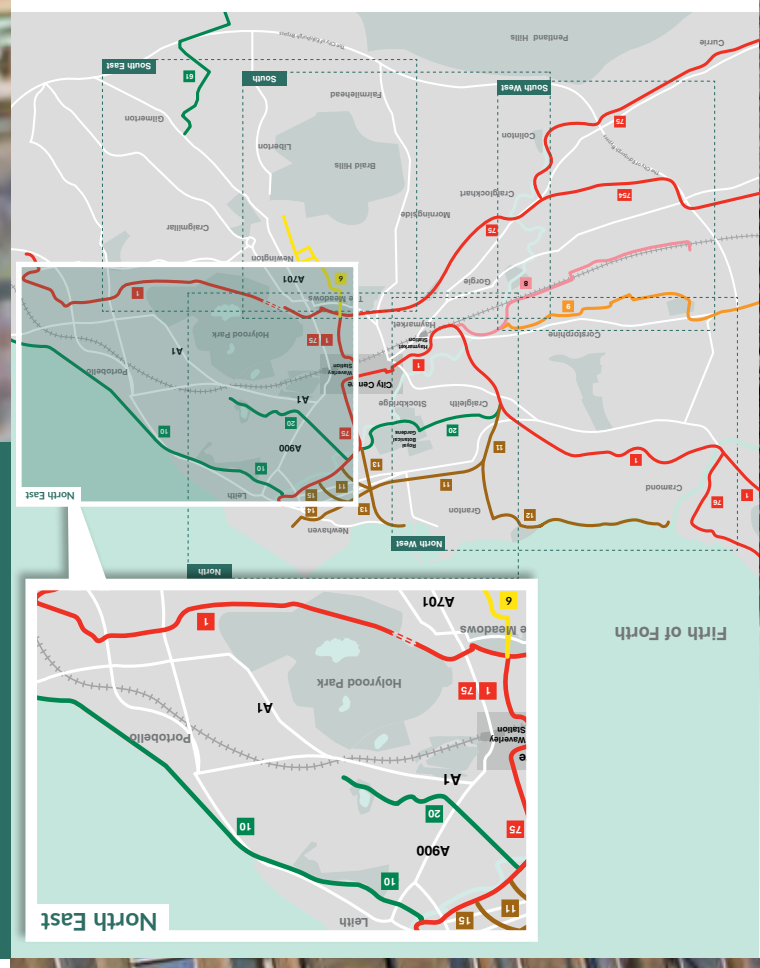
Alex Sneddon
Director
Transport Planning Ltd
93 George Street
EDINBURGH
EH2 3ES
T 0131 208 1267

M 07837 563313
E alex@tranplanworld.co.uk

Transport Planning Ltd
4 West Philpstoun Steadings
Old Philpstoun
LINLITHGOW
EH49 7RY
T 01506 830893

APPENDIX B

CYCLE MAP



Have fun discovering Edinburgh On Foot, By Bike.

For more information and to view maps on getting around Edinburgh on foot and by bike go to: **edinburgh.gov.uk/cyclewalkmap** or give us a call on **0131 469 3778.**

Designed and printed by the City of Edinburgh Council. Corporate Governance 15.111ne/SFC/SGe/Sept/2015.
Printed on 100% recycled paper, FSC® Recycled certified.

HAPPY TO TRANSLATE

You can get this document on tape, in Braille, large print and various computer formats if you ask us. Please contact ITS on 0131 242 8181 and quote reference number 15-0841. The ITS can also give information on community language translations.

Transport for Edinburgh

THE CITY OF EDINBURGH COUNCIL

North East

On Foot By Bike

How do you choose to travel?

Leith - Restalrig - Portobello
Newcraighall - Craigmillar
Duddingston - Holyrood Park

The Meadows, Holyrood Park and the Innocent Railway Path – National Cycle Route 1

The Meadows and Holyrood Park are two of Edinburgh's premier greenspaces. The Meadows' playgrounds, tennis courts, cafés and open space are hugely popular, whilst Holyrood Park offers unparalleled city views in a mountainesque environment. The Innocent Railway Path offers the opportunity to take a tunnel under Holyrood Park and beside Duddingston Nature Reserve.

2015 route improvements:

New crossings and cycle paths protected from traffic so that everyone can travel from the Meadows to the Innocent Path avoiding all busy roads.

QuietRoutes

The Council is developing a network of QuietRoutes, which are routes for everyone, on paths and low traffic roads. When completed they will provide convenient and high quality routes where users of all abilities can be confident of getting to where they want to go. Perfect for commuting in comfort and for trips out exploring Edinburgh.

Each route has a number and colour to help identify them on maps and signs. When complete, every route will have blue signs that indicate the route's number, colour, destinations and distances to help you find your way (see photo on the next page).

Leith and Portobello Promenade – QuietRoute 10

Explore Edinburgh's eastern seaside on signed purpose built paths. You can go from Leith Links to Portobello and Joppa avoiding all busy traffic. Portobello's sandy beach and promenade is a vibrant place to visit with cafés, pubs, swim and soft-play centres.

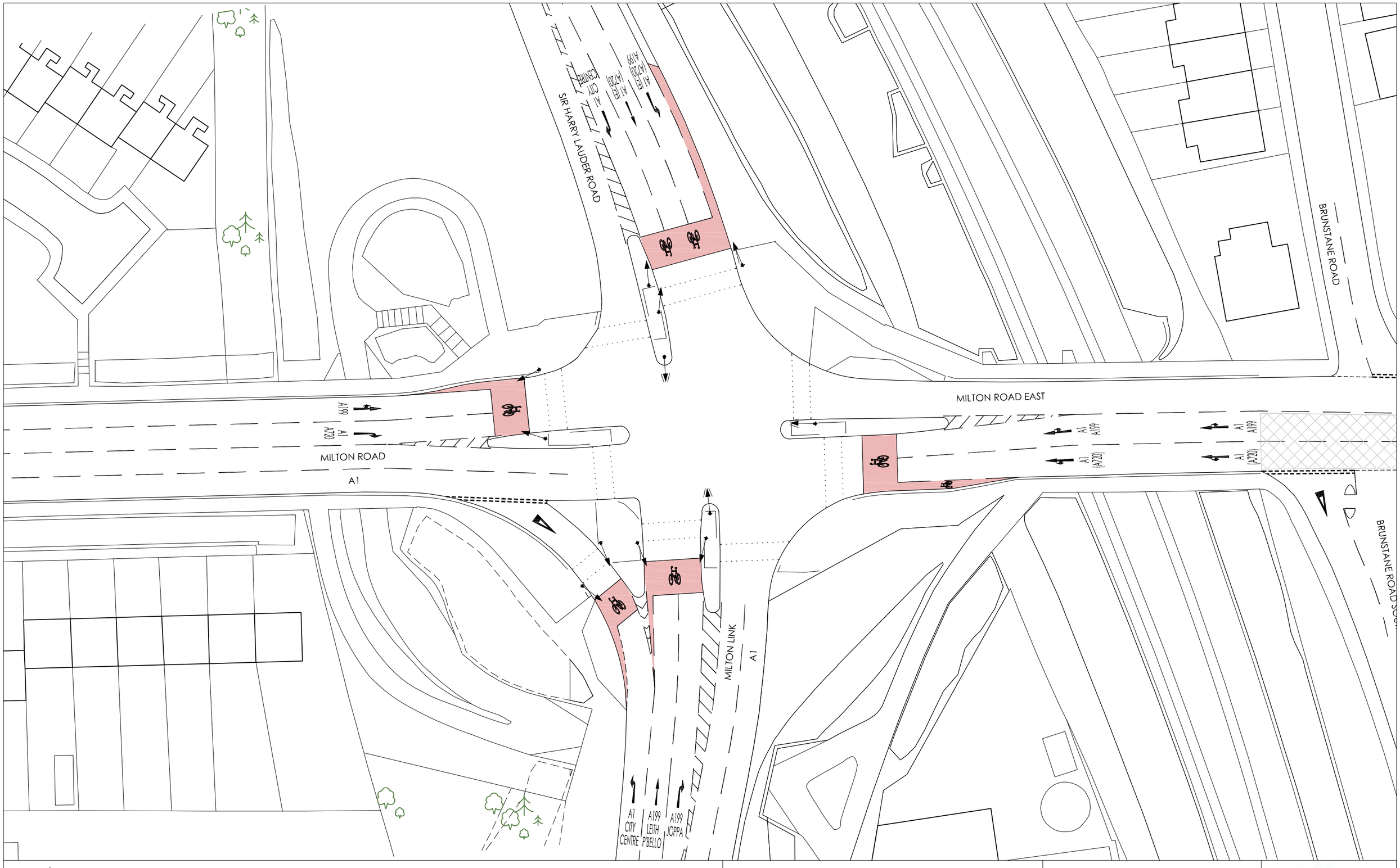
Recent route improvements:

- Widened and resurfaced paths in Leith Links and Seafield
- New and improved crossings and bridges.


North East
EDINBURGH
This map is reproduced from Ordnance Survey material with permission of Ordnance Survey on behalf of the Controller of Her Majesty's Stationery Office. © Crown Copyright. Unauthorised reproduction infringes Crown Copyright and may lead to prosecution or civil proceedings. Licence Number 100023420. © City of Edinburgh Council 2015. ©Map design by Tim Smith.
0
0.5
1 mile
1 mile = 10 mins easy cycling or 6 mins fast
FIRTH OF FORTH
QuietRoutes
10 On path, road
6 George Sq – King's Buildings
10 Leith – Portobello
11 Roseburn – Pilton – Leith
14 Trinity – Newhaven
Route under development
(Cyclists may need to take extra care on some sections)
20 Craigleith – Leith Walk – Restalrig
1 National Cycle Route
(NCR) on path, road
1 Queensferry – Musselburgh
75 Leith – City Centre – Balerno
76 'Round The Forth'
ROUTES
Main cycle path, wider, usually better surface
Access points: level, ramp, steps
Other cycle path, rough surface or narrower
Short cut for cyclists, level / with steps
Traffic-calmed road/ 20 mph zone
Suggested quieter road link to cycle path
Informal path
FB Footbridge
Main road with fast or heavy traffic at times.
(Some cyclists may find conditions uncomfortable)
Bus, taxi & cycle lane
Cycle (only) lane
Light-controlled pedestrian crossing
(excluding traffic lights)
Pedestrian and cycle crossing (Toucan)
Tram, tram stop
Railway, station
FEATURES
Built-up area
Shopping, superstore
Business / Industry
Woodland
Public parks
Other green space
Tennis, bowls
Playing field
Golf course
Allotments
Cemetery
Playground: large, small
Pav Pavilion
CH Club house
Sport / leisure centre
Swimming pool
Primary school
Secondary school
Special school
Cycle shop
Library
Cinema
Theatre
Museum
Art gallery
Hospital
Public toilets
LEITH
Broughton
Pilrig
Restalrig
Craigentinny
Piershill
Willowbrae
Northfield
Telferton
PORTOBELLO
Joppa
Eastfield
Canongate
Dumbiedykes
HOLYROOD PARK
Arthur's Seat
Salisbury Crags
Duddingston
Bingham
Brunstane
Newcraighall
Niddrie
Craigmillar
Greendykes
Prestonfield
NEWINGTON
Grange
Take care: rough path surface
Many steps!
Road may be closed overnight in winter
Roads closed to traffic on Sundays from 08:30–18:00 (16:00 winter) except for cycles, access and emergency vehicles.
76 follows 1 to city centre
Motorway-style road. Cycling not advisable
To Queen Margaret University
BRUNSTANE BURN PATH
INNOCENT RAILWAY PATH
PORTOBELLO PROMENADE
Seafield Sewage Works
Leith South Rail Depot
Waste Recycling Depot
Edinburgh Dog & Cat Home
Portobello Indoor Bowls and Leisure Centre
'Pitz' 5-a-side football
Portobello Swim Centre
Duddingston Loch (Bird Sanctuary)
Dunsapie Loch
St Margaret's Loch
Lochend Park
Meadowbank Stadium
Palace of Holyrood House
Scottish Parliament
Our Dynamic Earth
Calton Hill
Regent Gardens
Princes St Gdns
The Meadows
Waverley
CITY OF EDIN.
EAST LOTHIAN
C. OF EDIN.
MIDLOTHIAN

APPENDIX C

SKETCHES



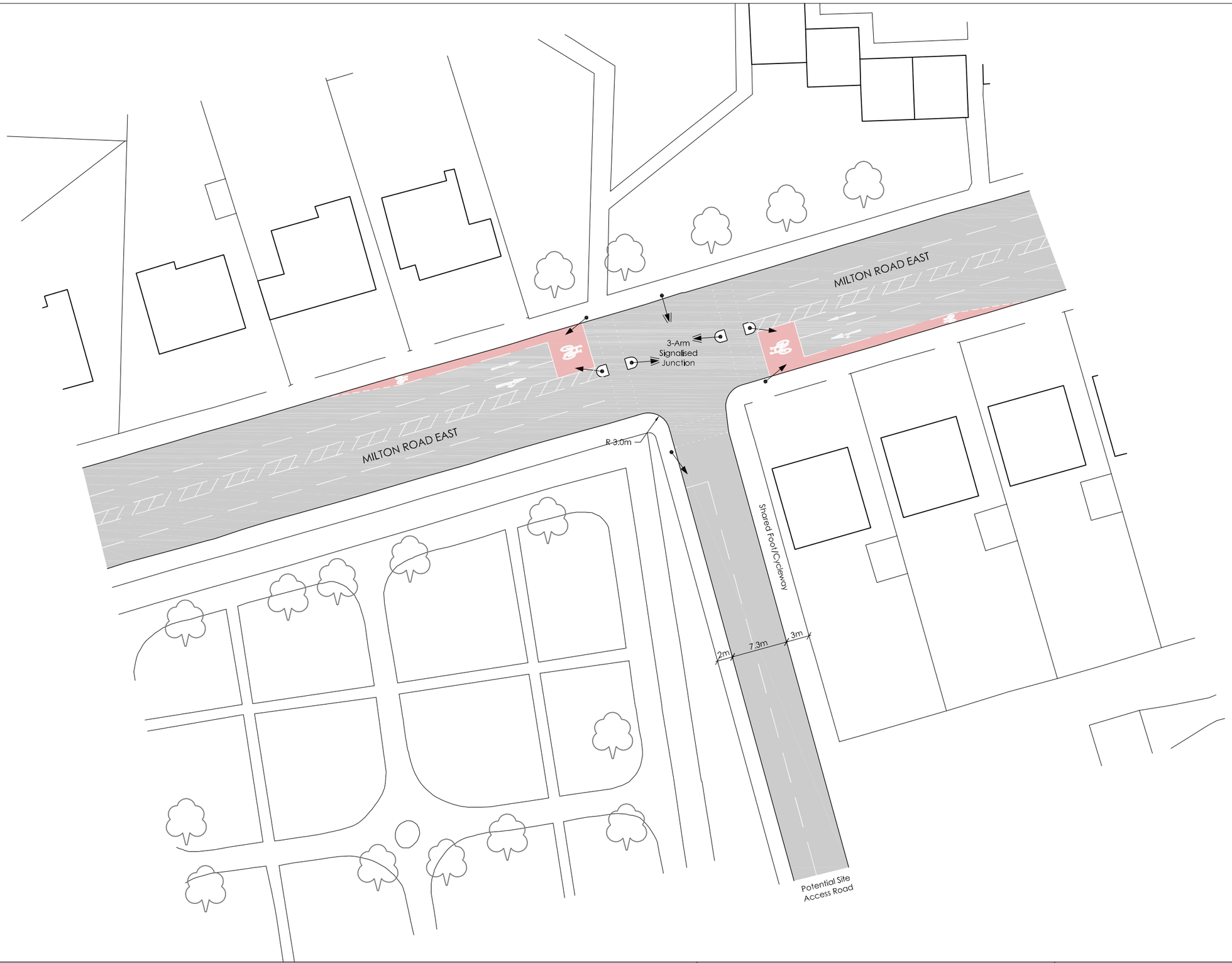
Brunstane Framework Site

EDI

A1 / Milton Road / Sir Harry Lauder Road
Existing Signalised Junction Layout

Drawing Number:		Scale:
TP056/SK/102		1:500 @ A3
Drawn by: NW	Date: Mar 2016	Checked by: AS

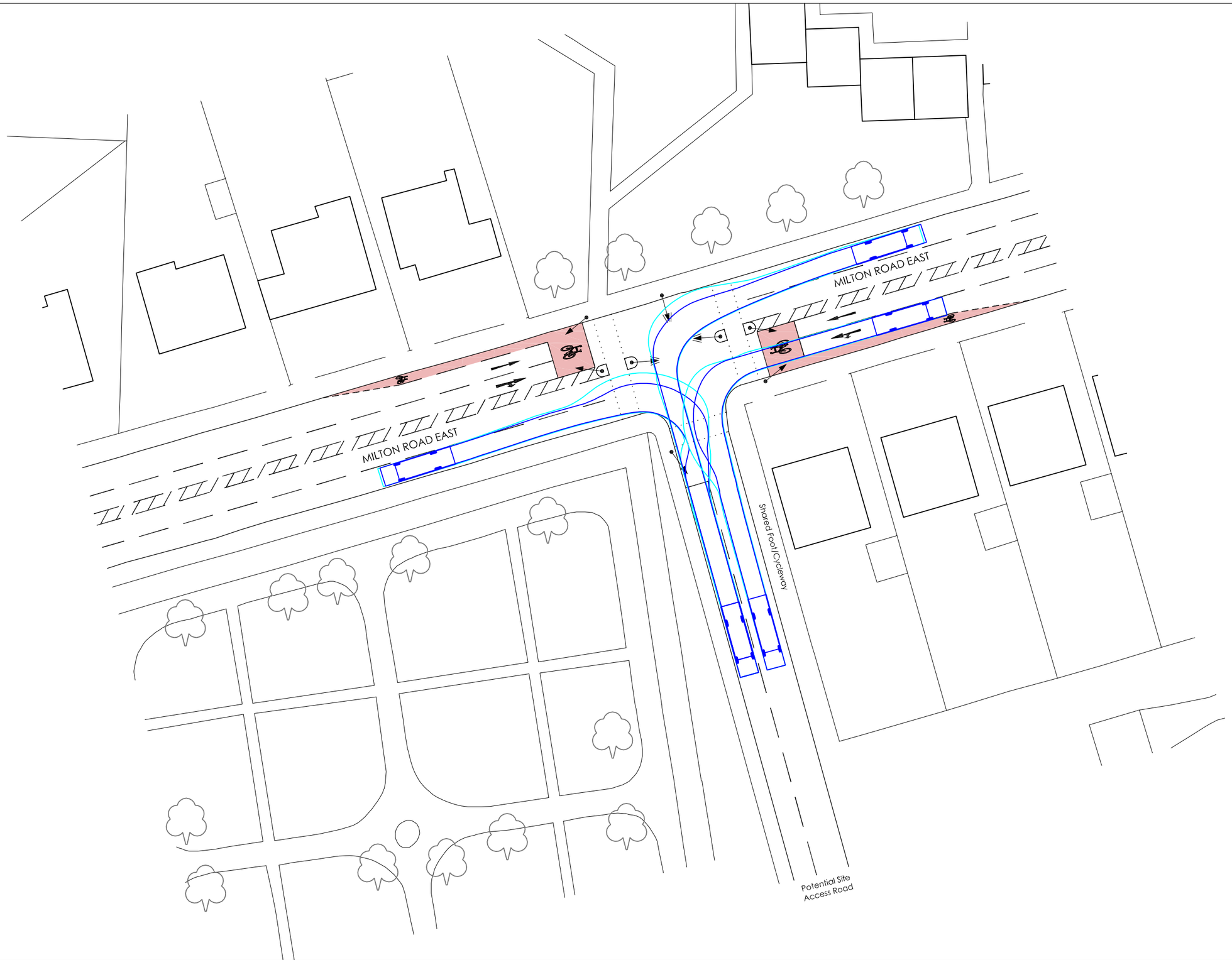
TRANSPORT PLANNING



N

Brunstane Farmland	EDI		
Potential Site Access	Drawing Number: TP056/SK/001B		Scale: 1:500 @ A3
	Drawn by: NW	Date: Dec 2012	Checked by: AS

TRANSPORT PLANNING



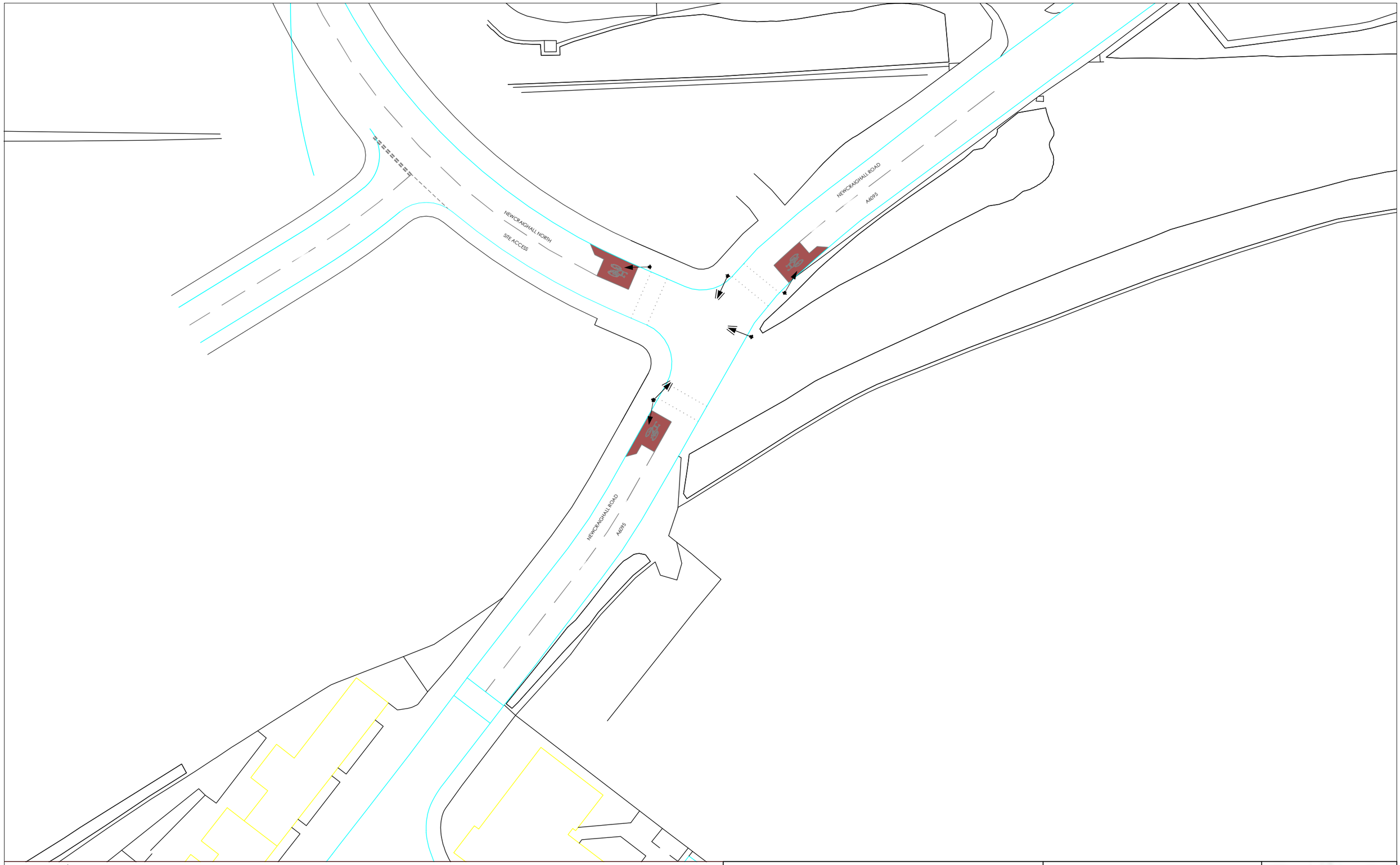
Brunstane Farmland	EDI		
Swept Path Analysis Tracking Bus in to/out of Potential Site Access	Drawing Number: TP056/SK/001B_tracking		Scale: 1:500 @ A3
	Drawn by: NW	Date: Dec 2012	Checked by: AS

TRANSPORT PLANNING

N

New Brunstane	EDI		
Indicative PriorityJunction Layout Newcraighall Road East Access	Drawing Number: TP056/SK/210		Scale: 1:500 @ A3
	Drawn by: KF	Date: Jun 2016	Checked by: AS

TRANSPORT PLANNING



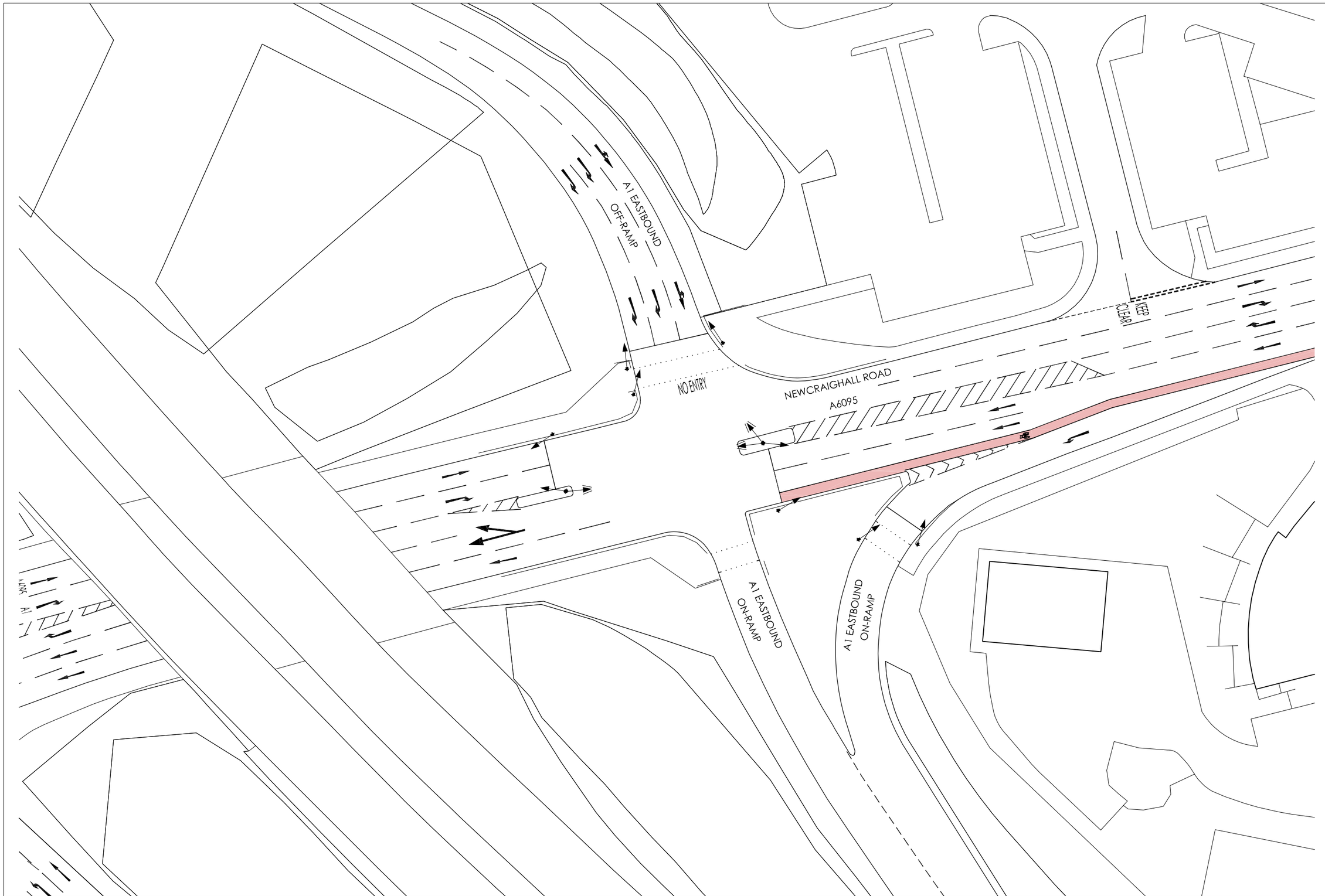
New Brunstane	EDI		
Indicative Signalised Junction Layout Newcraighall Road East Access	Drawing Number: TP056/SK/211		Scale: 1:500 @ A3
	Drawn by: KF	Date: Jun 2016	Checked by: AS

TRANSPORT PLANNING

N

New Brunstane	EDI		
Indicative Signalised Junction Layout Newcraighall Road West Access	Drawing Number: TP056/SK/220		Scale: 1:500 @ A3
	Drawn by: KF	Date: Jun 2016	Checked by: AS

TRANSPORT PLANNING



N

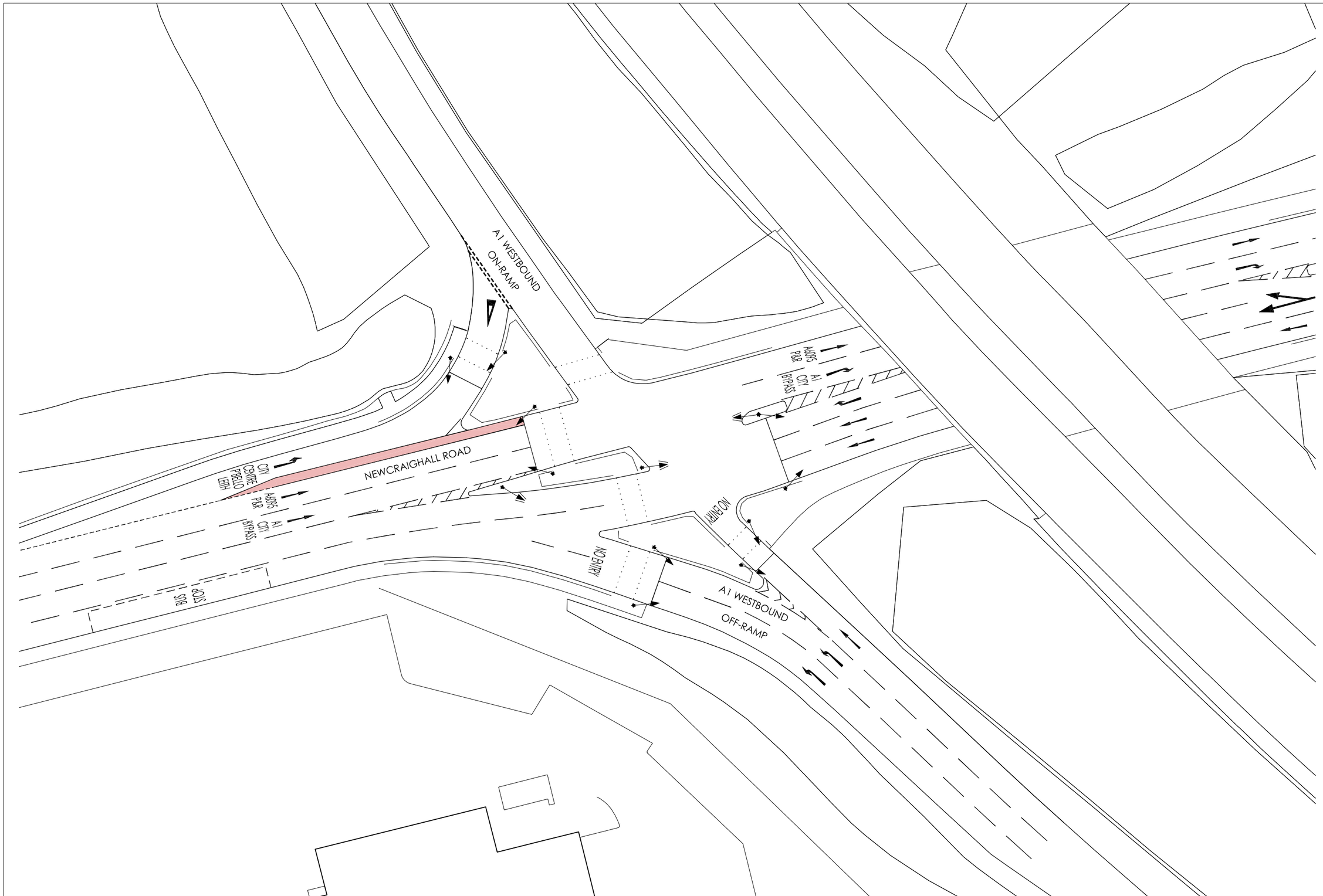
Brunstane Framework Site

EDI

Newcraighall Road / A1 Eastbound On Ramp / A1 Eastbound Off Ramp Existing Signalised Junction Layout

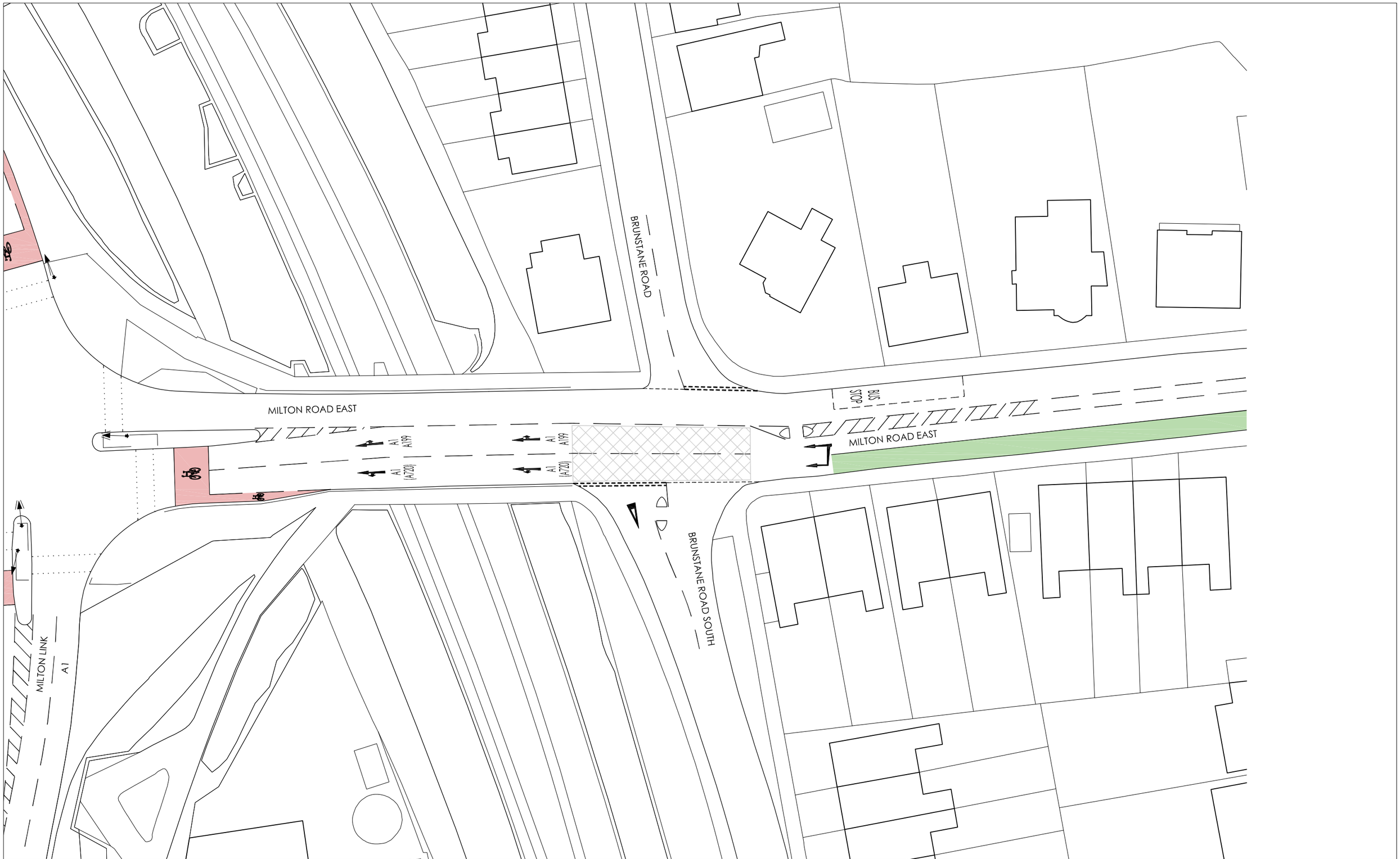
Drawing Number:		Scale:
TP056/SK/105		1:500 @ A3
Drawn by:	Date:	Checked by:
NW	Mar 2016	AS

TRANSPORT PLANNING



Brunstane Framework Site	EDI		
Newcraighall Road / A1 Westbound On Ramp / A1 Westbound Off Ramp Existing Signalised Junction Layout	Drawing Number: TP056/SK/106		Scale: 1:500 @ A3
	Drawn by: NW	Date: Mar 2016	Checked by: AS

TRANSPORT PLANNING



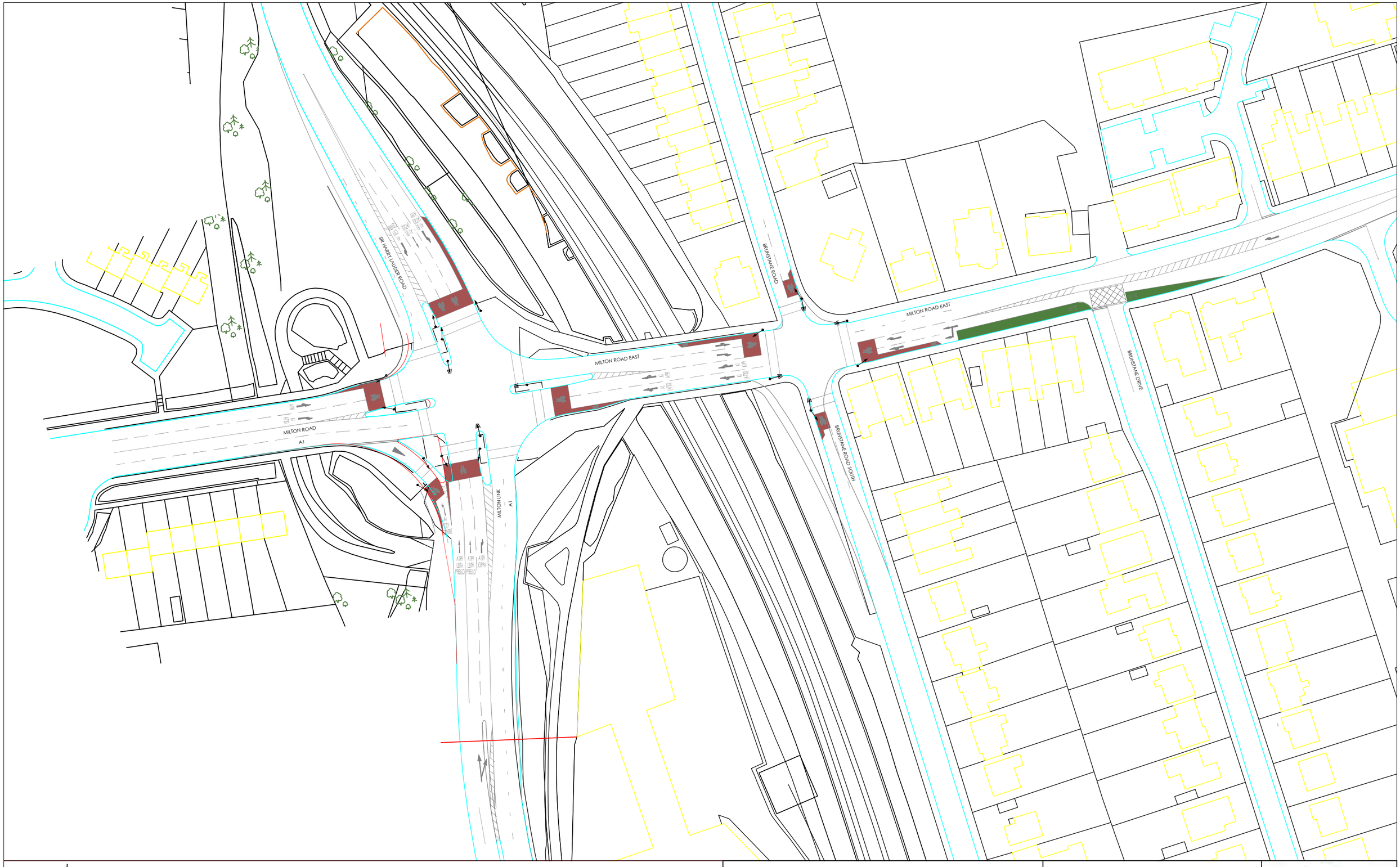
Brunstane Framework Site

EDI

Milton Road East / Brunstane Road / Brunstane Road South
Existing 4-Way Priority Junction Layout

Drawing Number:		Scale:
TP056/SK/103		1:500 @ A3
Drawn by:	Date:	Checked by:
NW	Mar 2016	AS

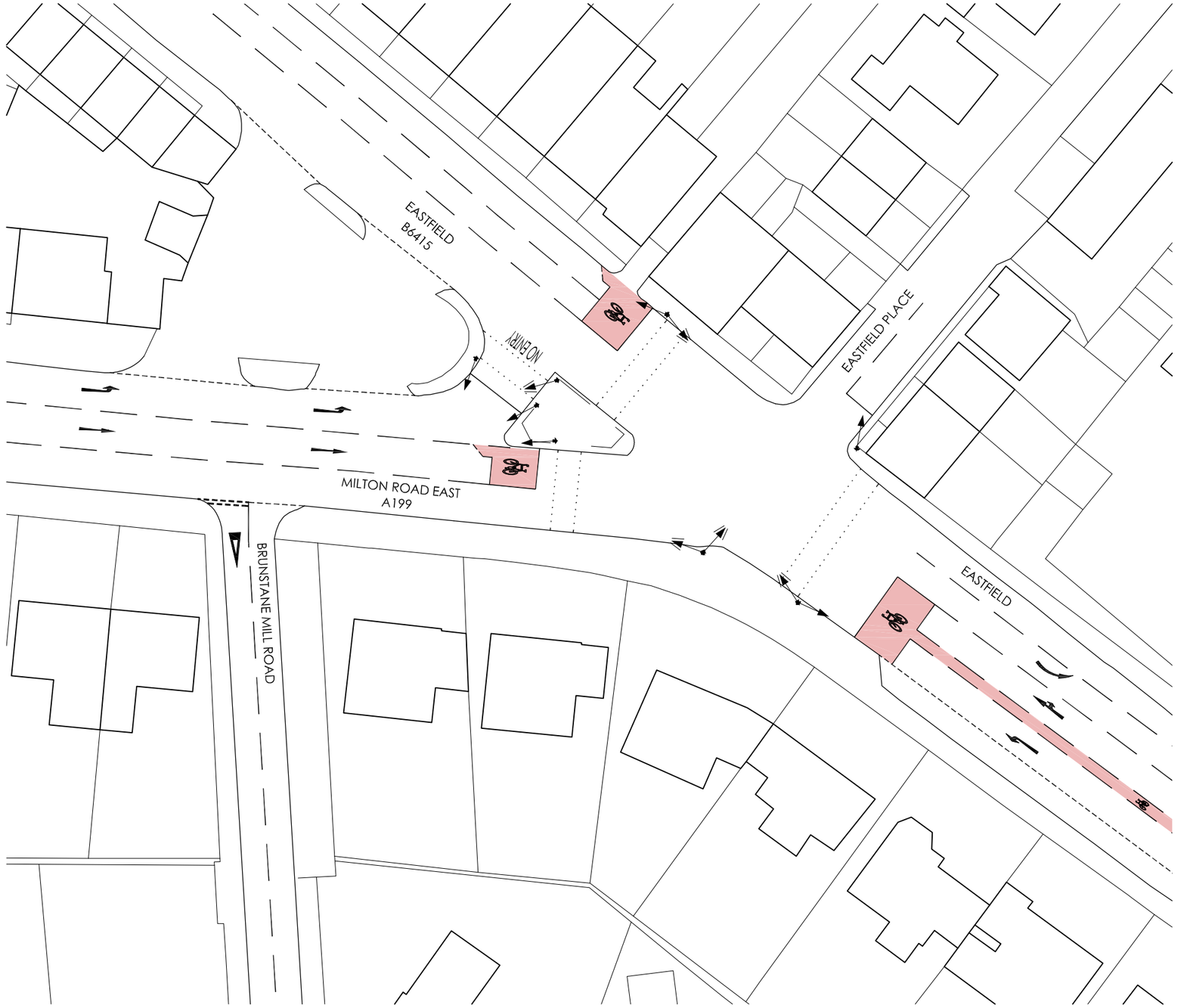
TRANSPORT PLANNING



N

New Brunstane	EDI		
Indicative Junction Layout Milton Road East / Harry Lauder Way / Brunstane Road	Drawing Number: TP056/SK/200		Scale: 1:500 @ A3
	Drawn by: KF	Date: Jun 2016	Checked by: AS

TRANSPORT PLANNING



N

Brunstane Framework Site

EDI

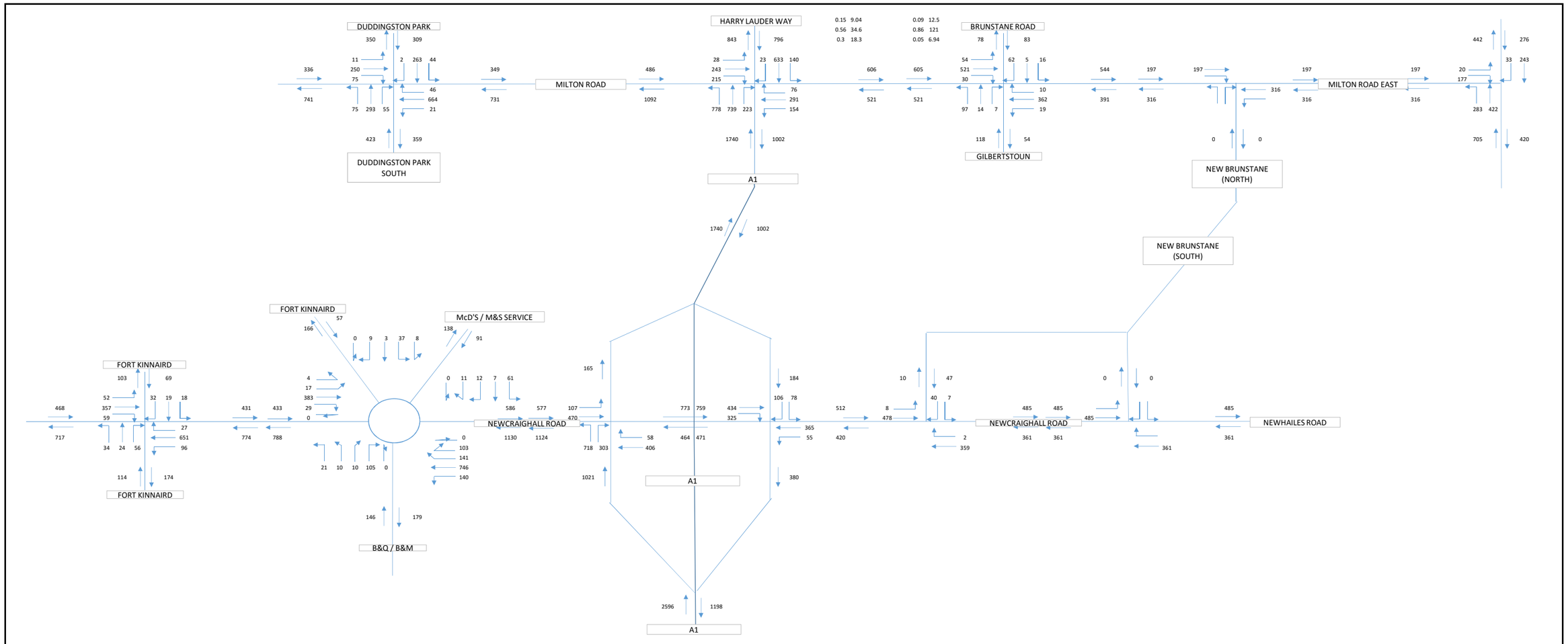
Milton Road / Easttfield / Eastfield Place
Existing Signalised Junction Layout

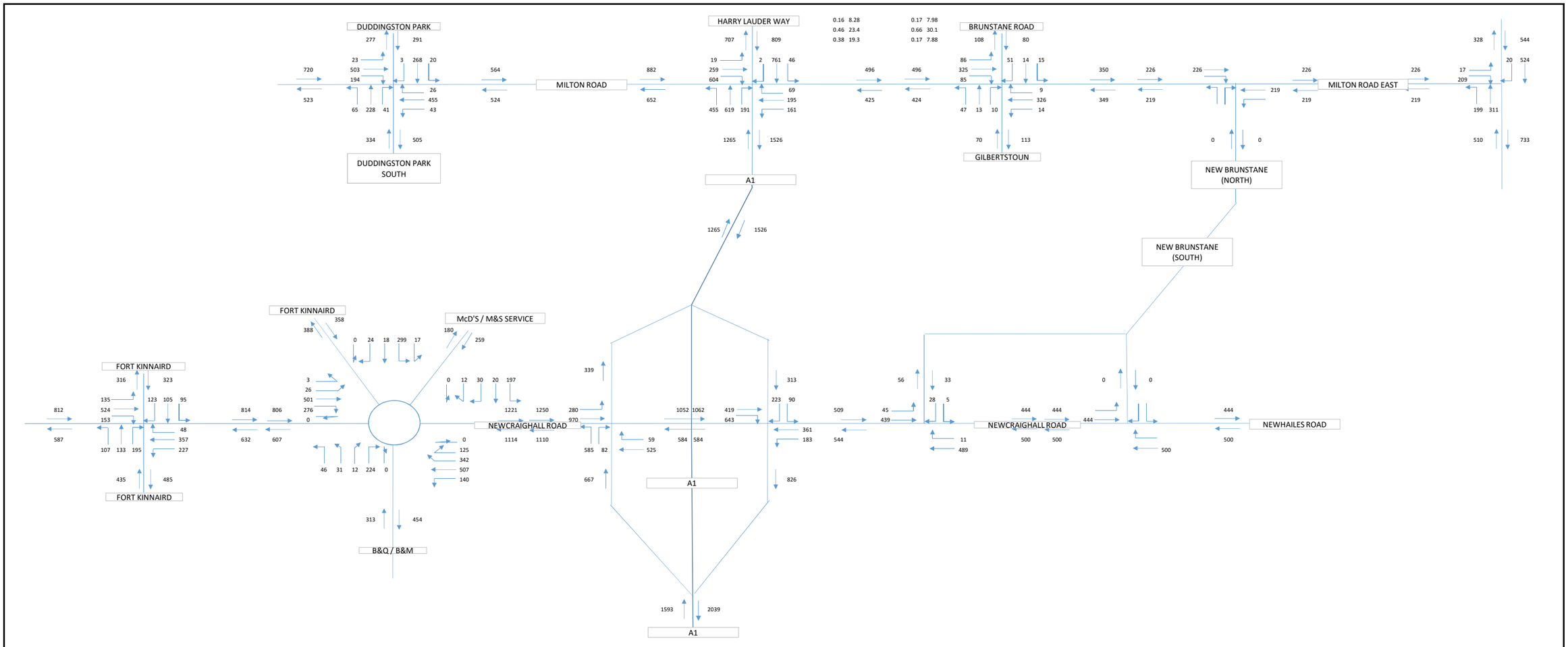
Drawing Number:	Scale:
TP056/SK/104	1:500 @ A3
Drawn by: NW	Date: Mar 2016
Checked by: AS	

TRANSPORT PLANNING

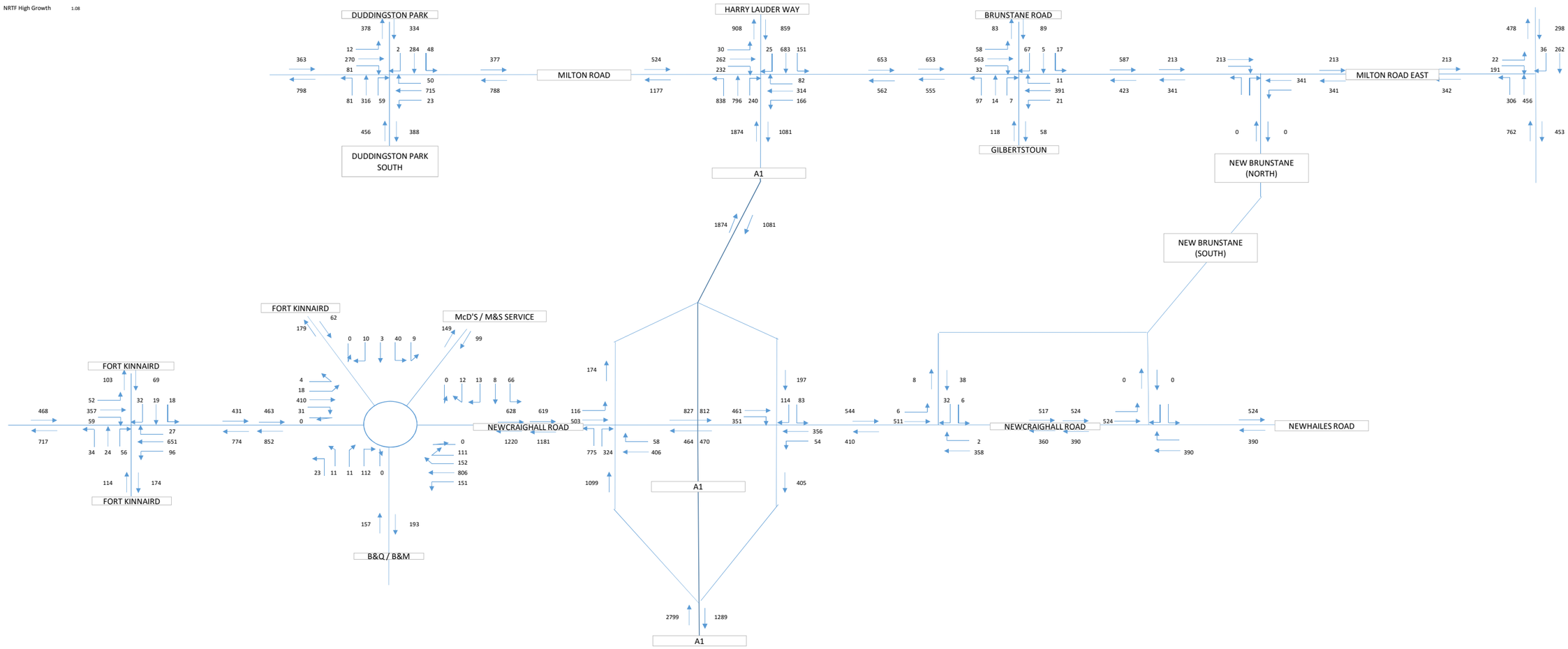
APPENDIX D

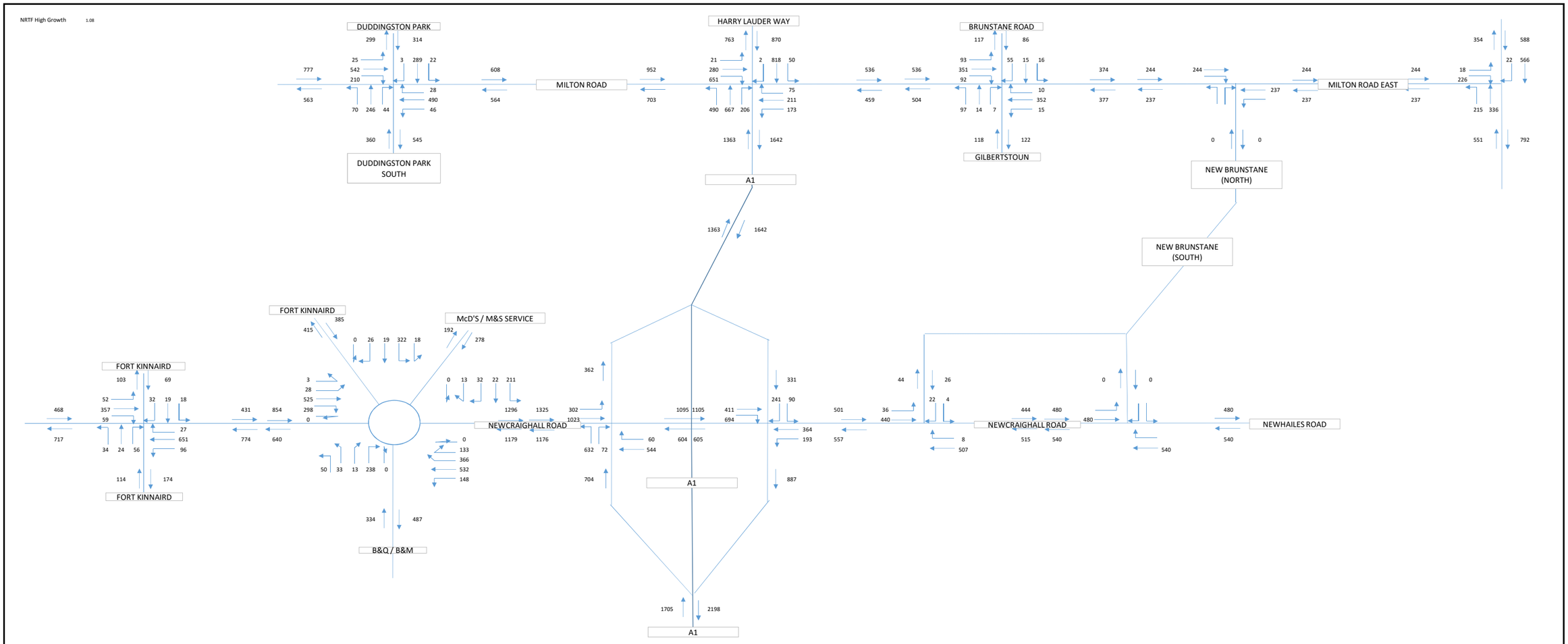
TRAFFIC FLOW DIAGRAMS


DUDDINGSTON PARK
DUDDINGSTON PARK SOUTH
MILTON ROAD
HARRY LAUDER WAY
A1
BRUNSTANE ROAD
GILBERTSTOUN
NEW BRUNSTANE (NORTH)
NEW BRUNSTANE (SOUTH)
MILTON ROAD EAST
FORT KINNAIRD
McD'S / M&S SERVICE
NEWCRAIGHALL ROAD
NEWHAILES ROAD
B&Q / B&M

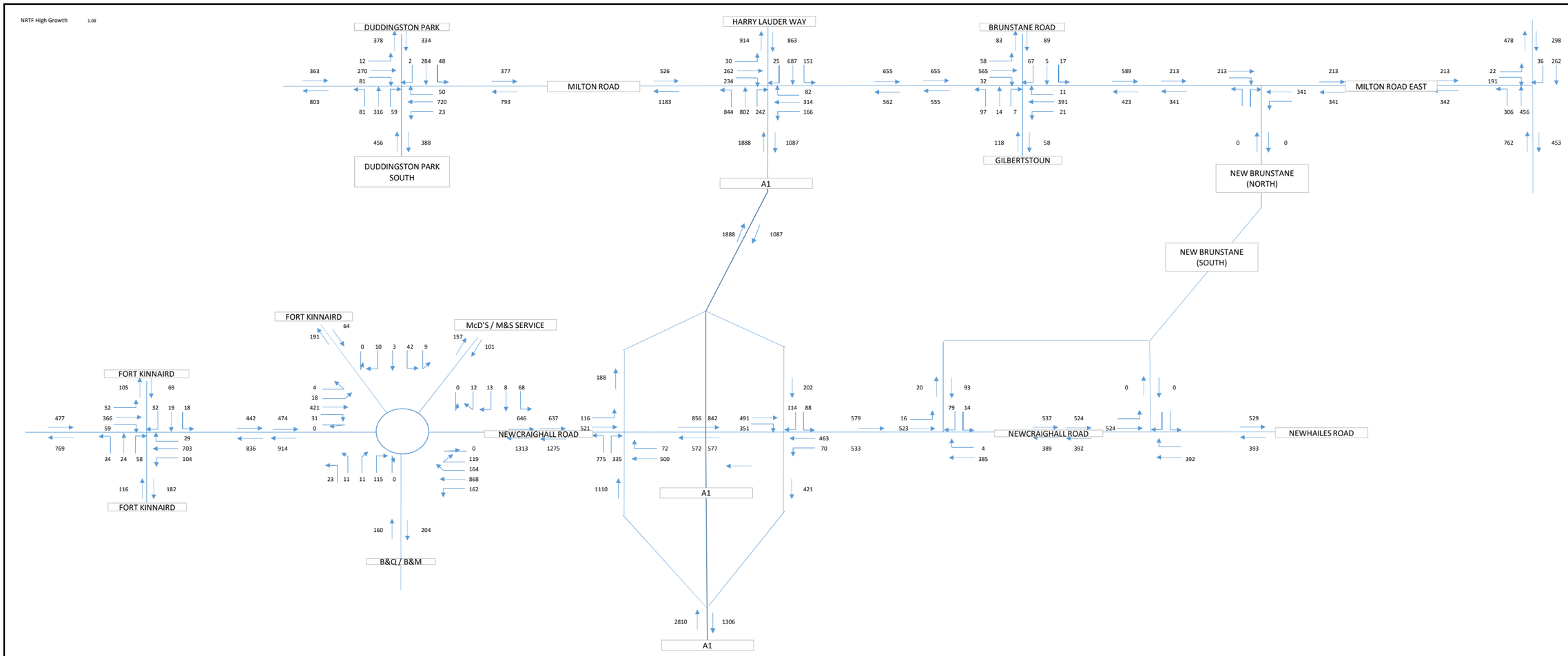

DUDDINGSTON PARK
DUDDINGSTON PARK SOUTH
MILTON ROAD
HARRY LAUDER WAY
A1
BRUNSTANE ROAD
GILBERTSTOUN
NEW BRUNSTANE (NORTH)
NEW BRUNSTANE (SOUTH)
MILTON ROAD EAST
FORT KINNAIRD
FORT KINNAIRD
McD'S / M&S SERVICE
B&Q / B&M
NEWCRAIGHALL ROAD
NEWCRAIGHALL ROAD
NEWHAILES ROAD
A1

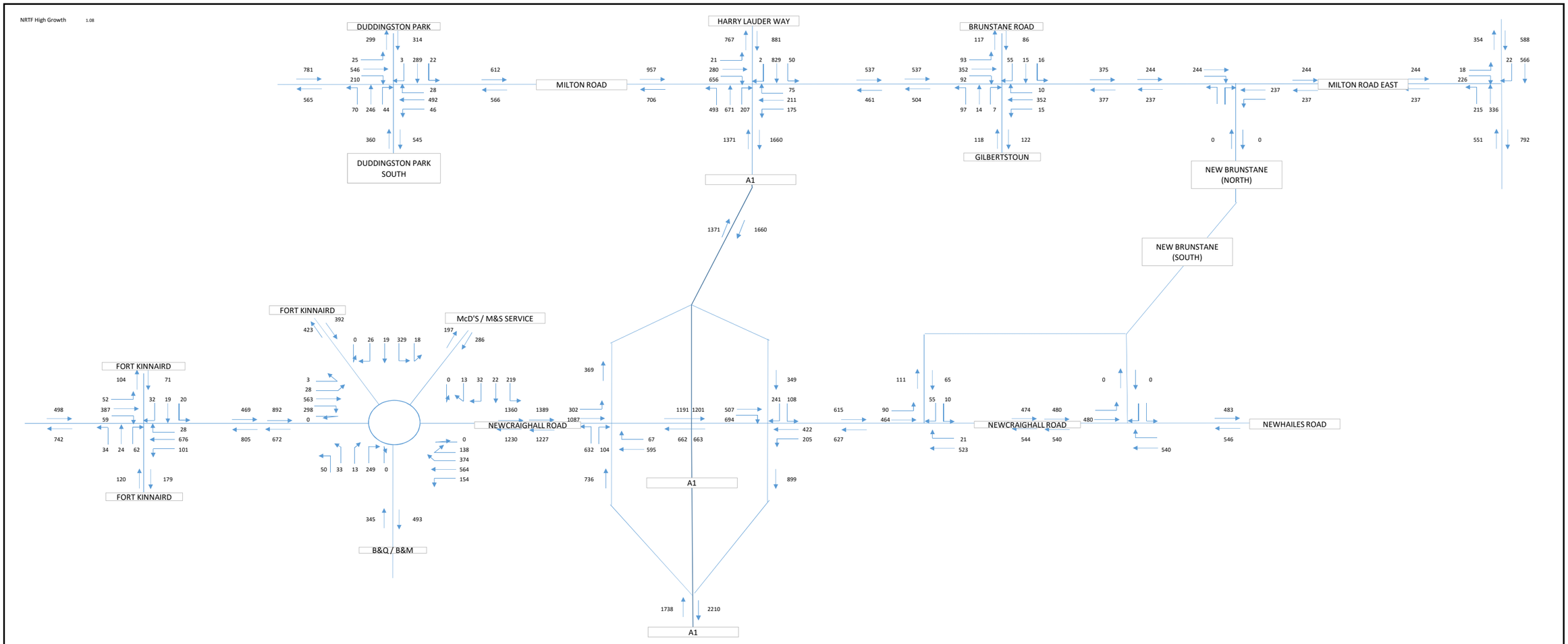
NRTF High Growth 1.08



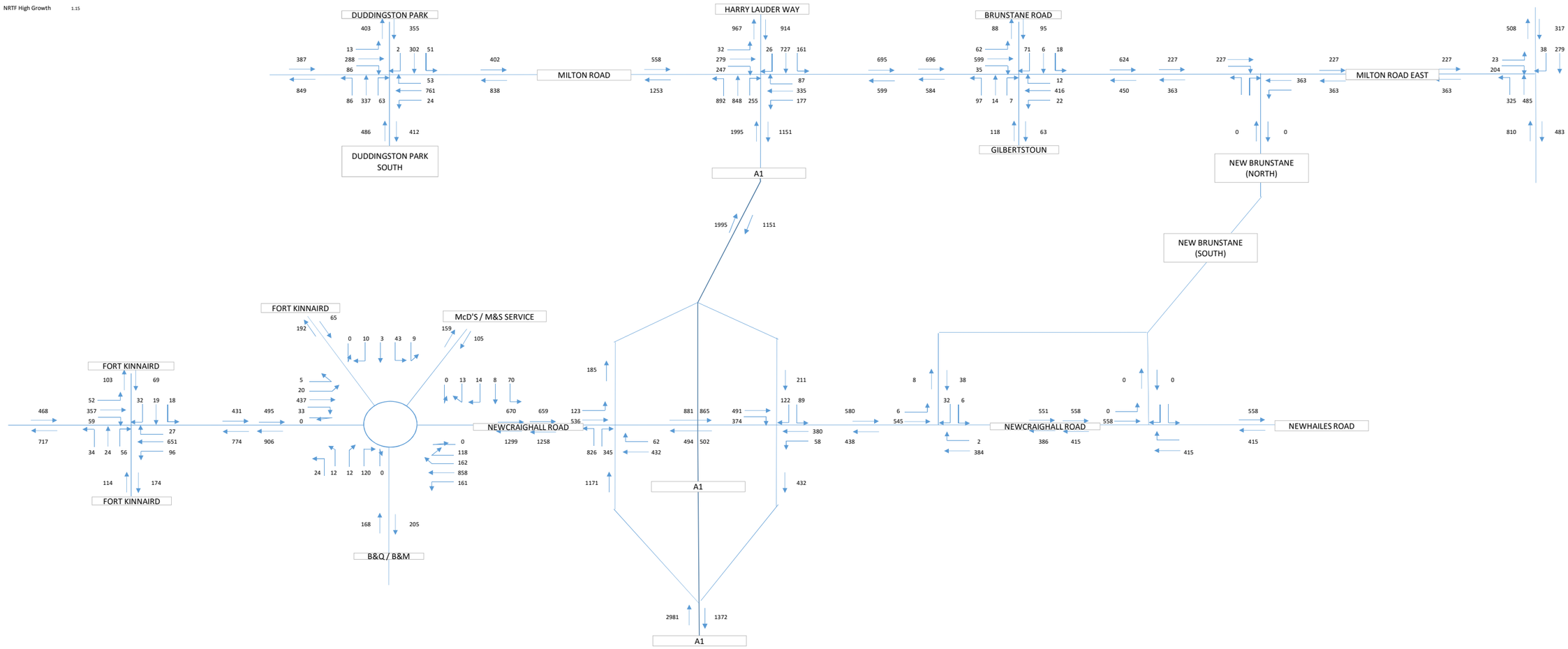

NRTF High Growth
1.08
DUDDINGSTON PARK
DUDDINGSTON PARK SOUTH
MILTON ROAD
HARRY LAUDER WAY
A1
BRUNSTANE ROAD
GILBERTSTOUN
MILTON ROAD EAST
NEW BRUNSTANE (NORTH)
NEW BRUNSTANE (SOUTH)
FORT KINNAIRD
McD'S / M&S SERVICE
B&Q / B&M
NEWCRAIGHALL ROAD
NEWHAILES ROAD

NRTF High Growth 1.08

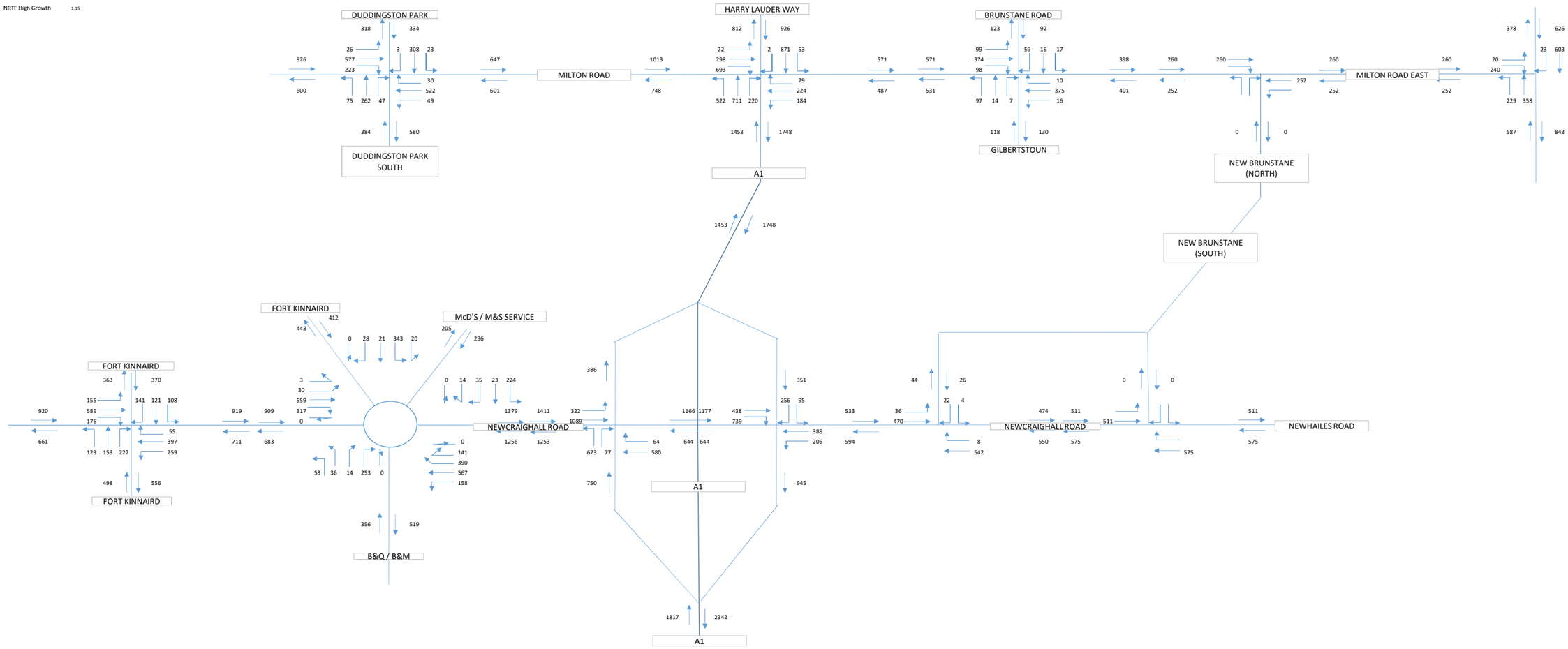



NRTF High Growth
1.08
DUDDINGSTON PARK
DUDDINGSTON PARK SOUTH
MILTON ROAD
HARRY LAUDER WAY
A1
BRUNSTANE ROAD
GILBERTSTOUN
MILTON ROAD EAST
NEW BRUNSTANE (NORTH)
NEW BRUNSTANE (SOUTH)
FORT KINNAIRD
FORT KINNAIRD
McD'S / M&S SERVICE
B&Q / B&M
NEWCRAIGHALL ROAD
NEWCRAIGHALL ROAD
NEWHAILES ROAD
A1
A1

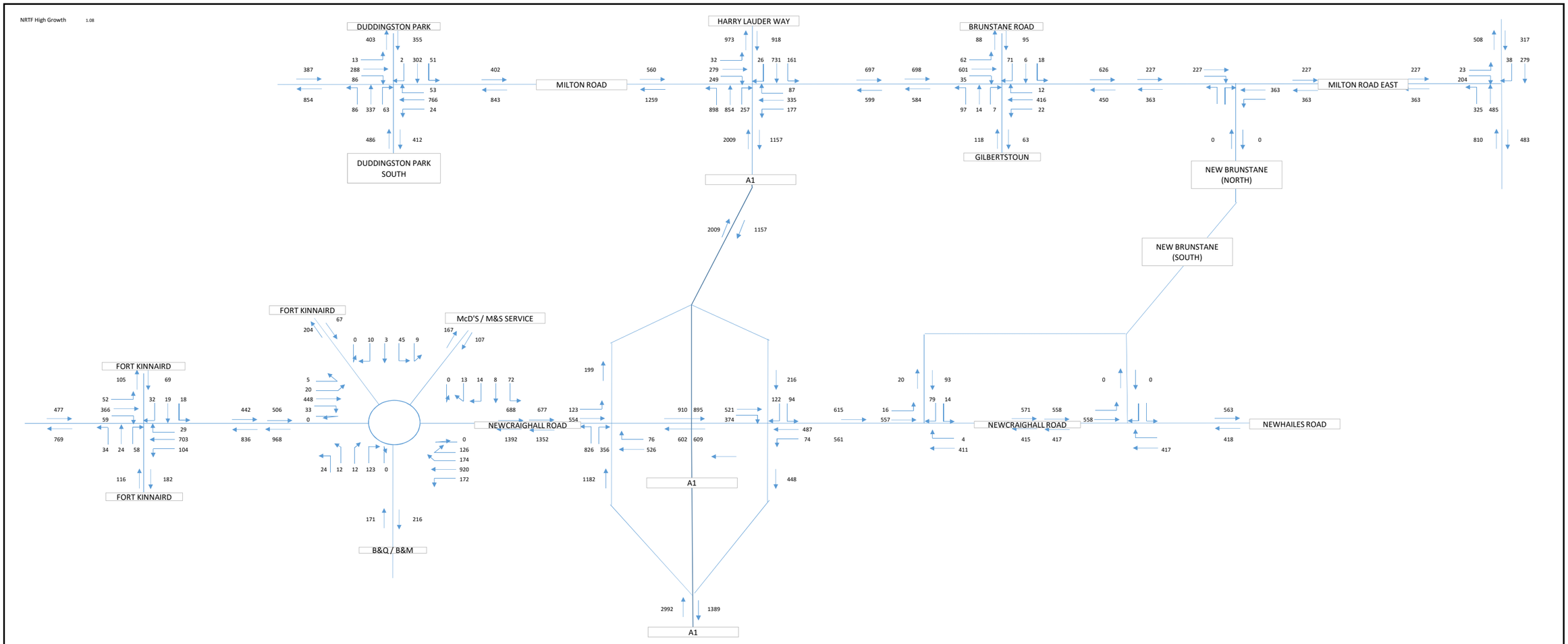
NRTF High Growth 1.15

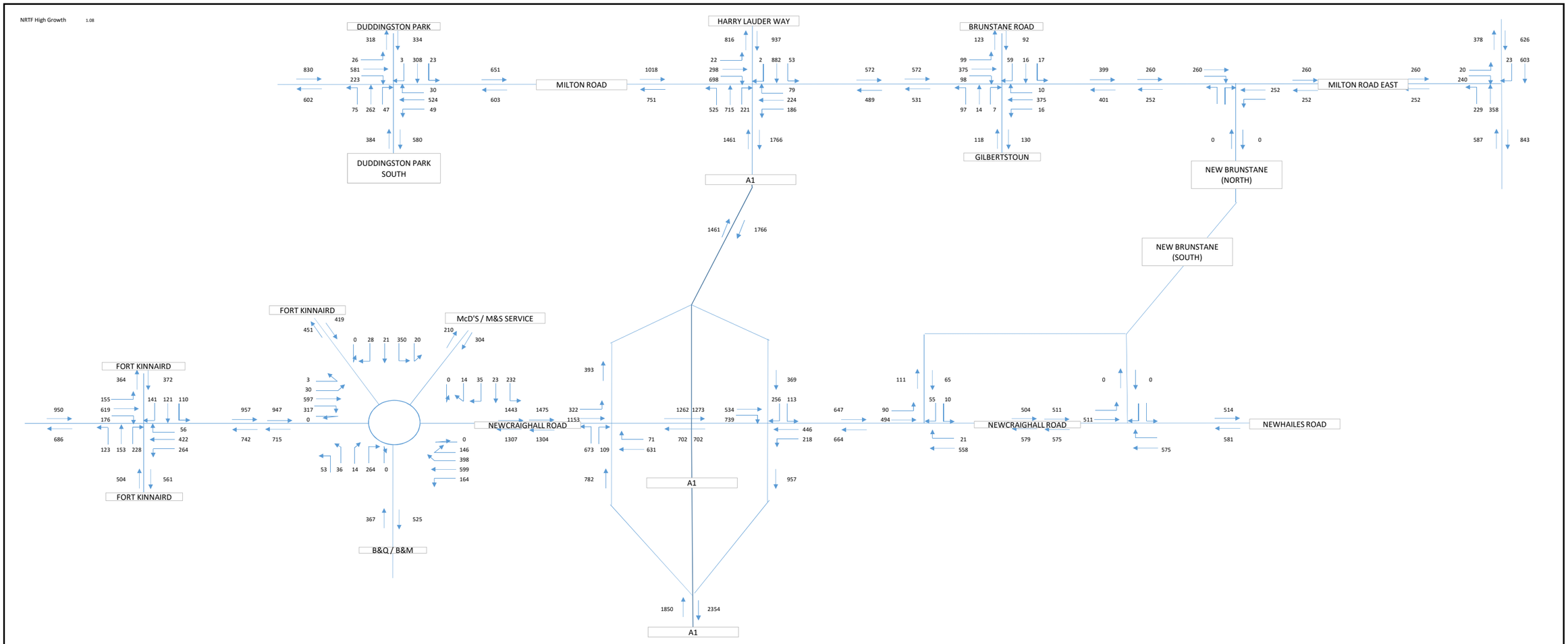


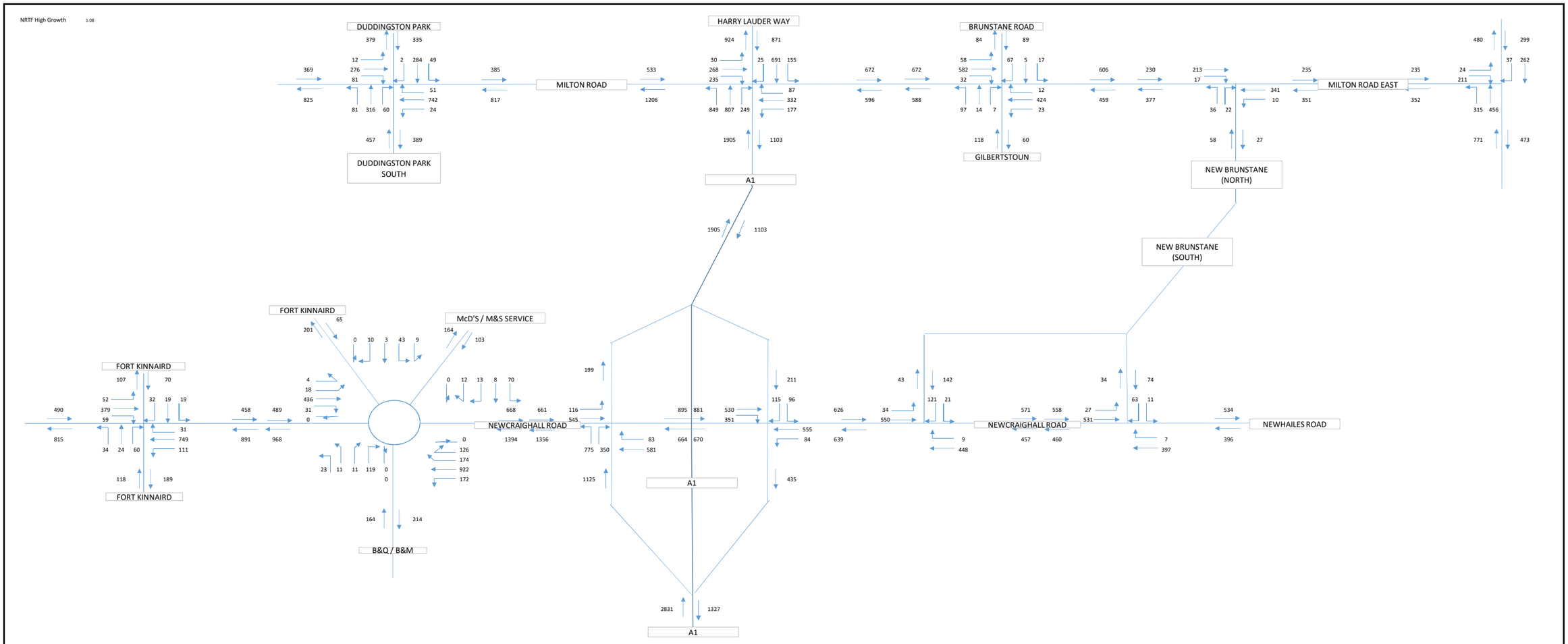
NRTF High Growth 1.15



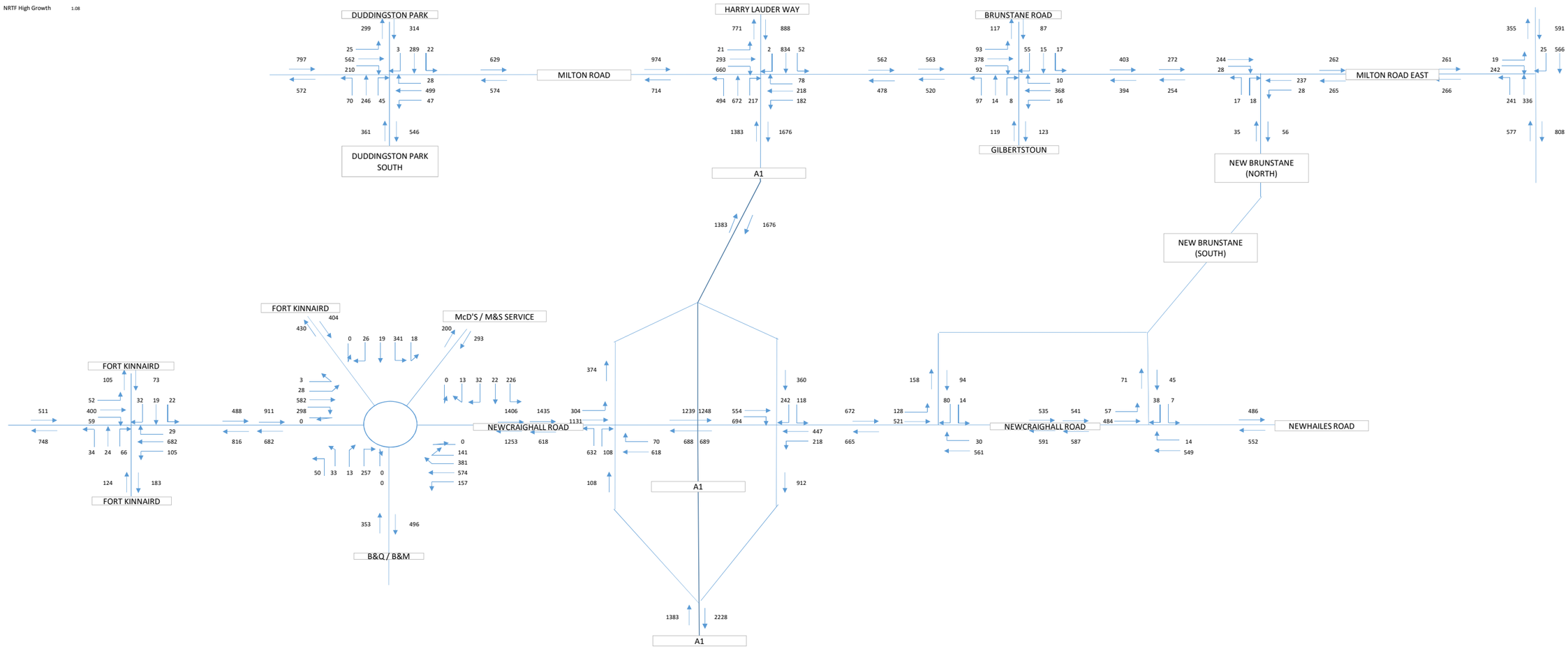
NRTF High Growth 1.08

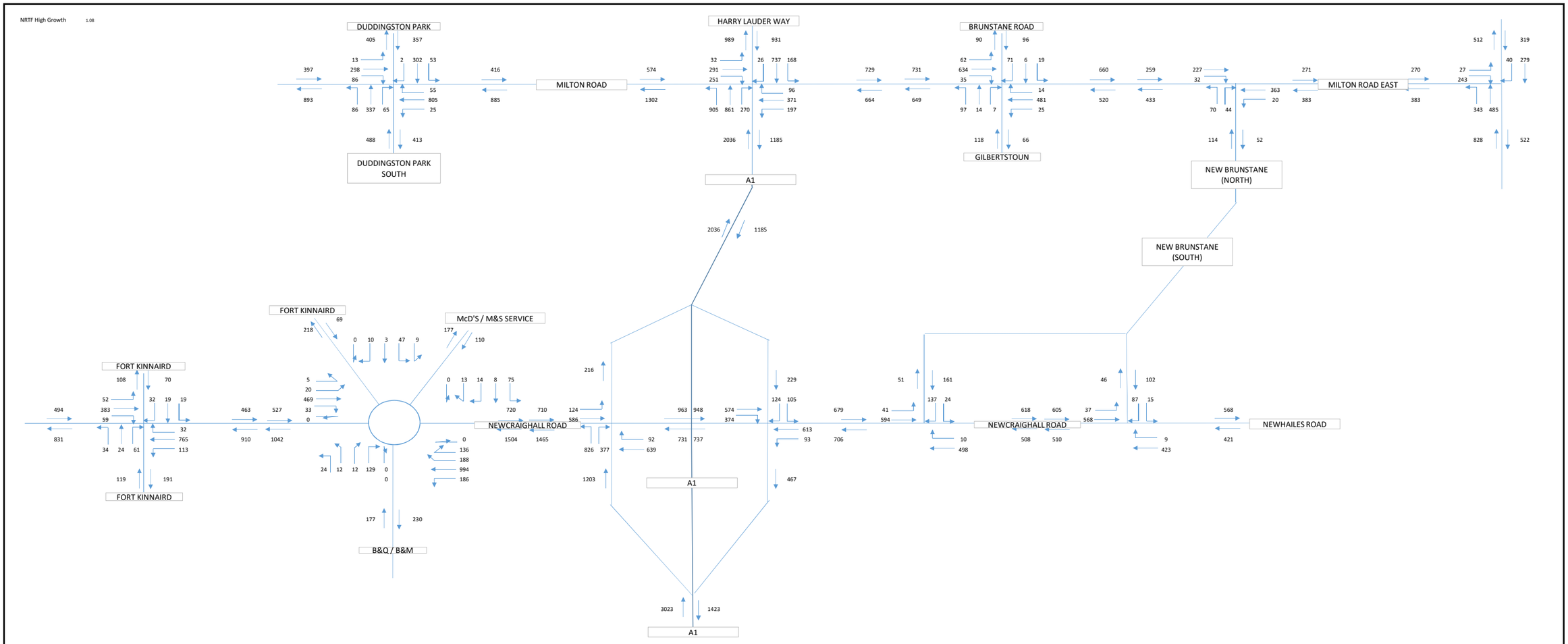


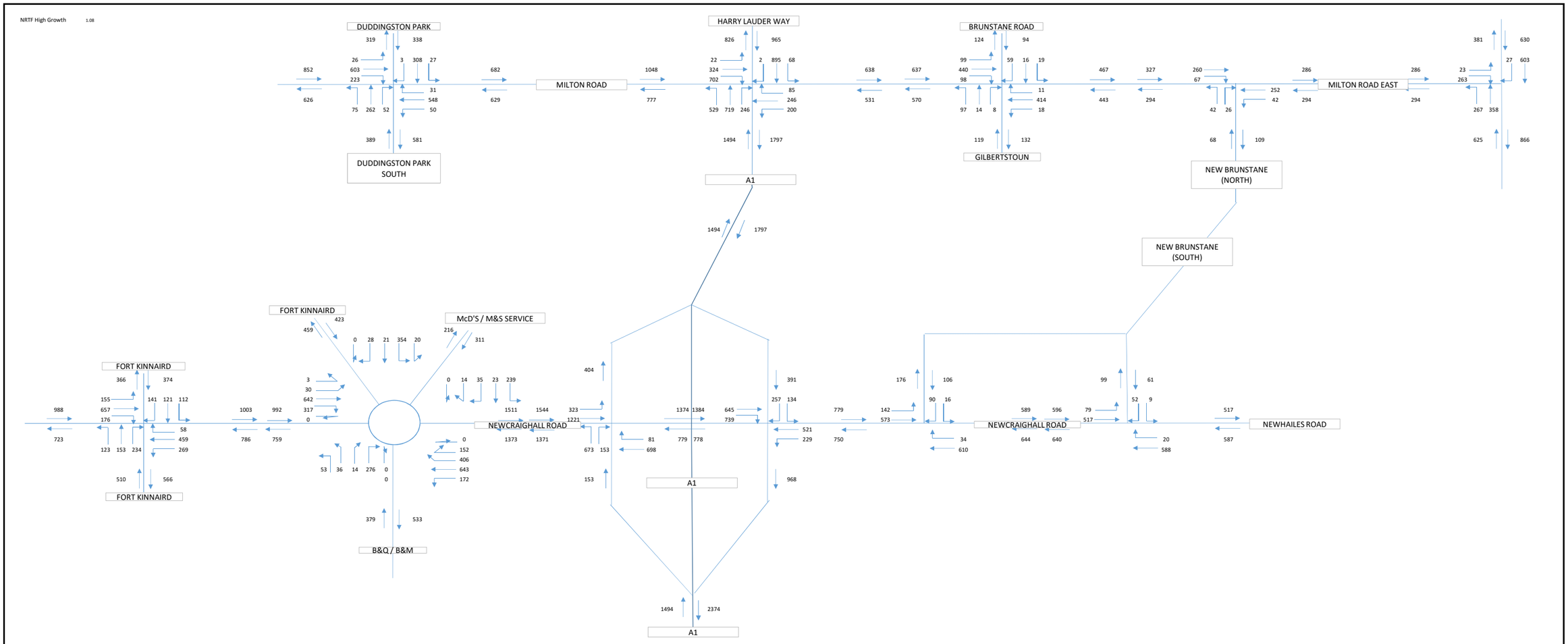

NRTF High Growth
1.08
DUDDINGSTON PARK
DUDDINGSTON PARK SOUTH
MILTON ROAD
HARRY LAUDER WAY
A1
BRUNSTANE ROAD
GILBERTSTOUN
MILTON ROAD EAST
NEW BRUNSTANE (NORTH)
NEW BRUNSTANE (SOUTH)
FORT KINNAIRD
McD'S / M&S SERVICE
NEWCRAIGHALL ROAD
NEWHAILES ROAD
B&Q / B&M

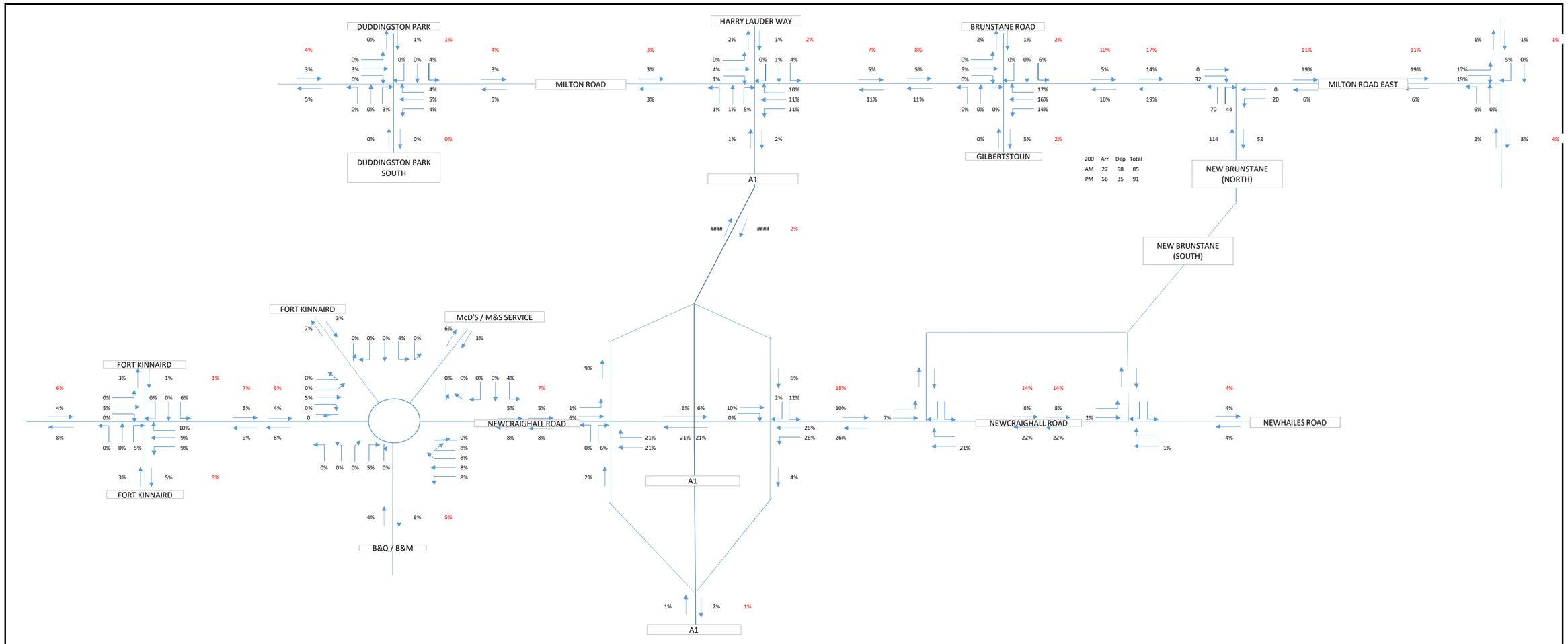

NRTF High Growth
1.08
DUDDINGSTON PARK
DUDDINGSTON PARK SOUTH
MILTON ROAD
HARRY LAUDER WAY
A1
BRUNSTANE ROAD
GILBERTSTOUN
NEW BRUNSTANE (NORTH)
NEW BRUNSTANE (SOUTH)
MILTON ROAD EAST
FORT KINNAIRD
FORT KINNAIRD
McD'S / M&S SERVICE
B&Q / B&M
NEWCRAIGHALL ROAD
NEWCRAIGHALL ROAD
NEWHAILES ROAD
A1

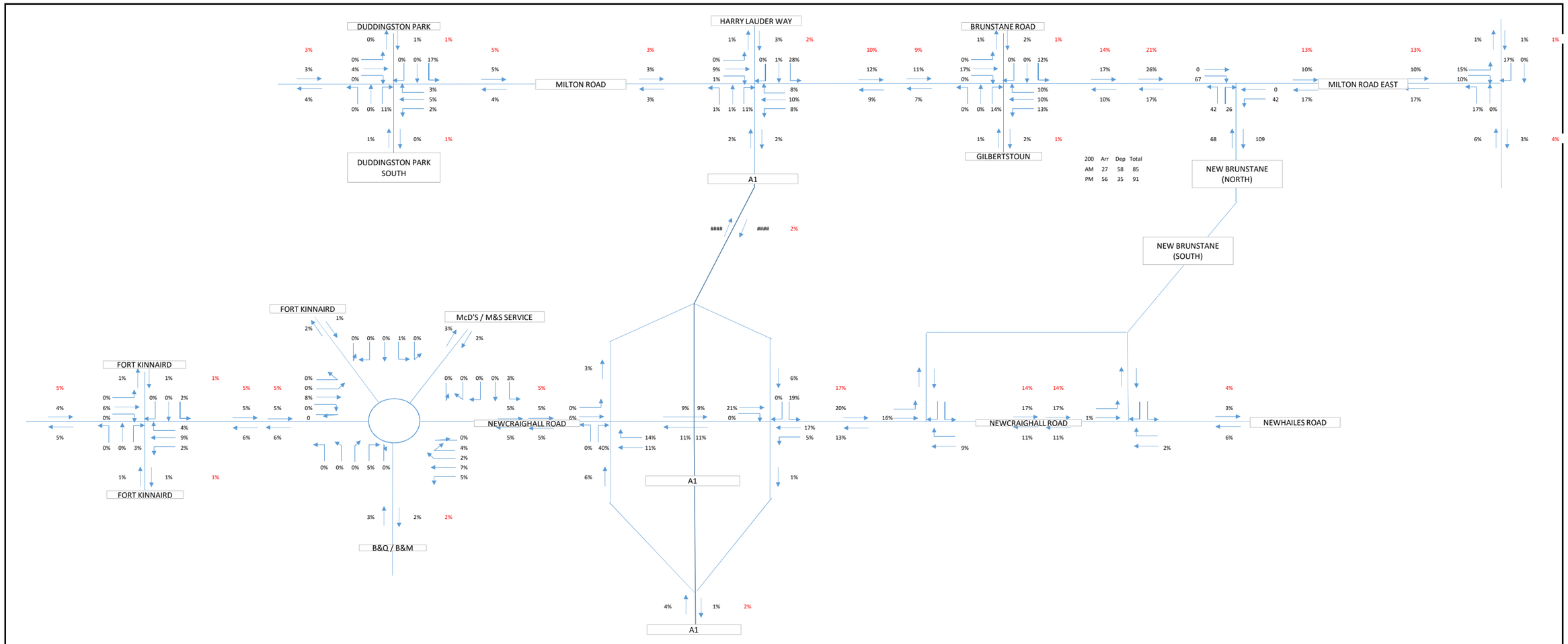
NRTF High Growth 1.08




NRTF High Growth
1.08
DUDDINGSTON PARK
DUDDINGSTON PARK SOUTH
MILTON ROAD
HARRY LAUDER WAY
A1
BRUNSTANE ROAD
GILBERTSTOUN
NEW BRUNSTANE (NORTH)
NEW BRUNSTANE (SOUTH)
MILTON ROAD EAST
FORT KINNAIRD
FORT KINNAIRD
McD'S / M&S SERVICE
B&Q / B&M
NEWCRAIGHALL ROAD
NEWCRAIGHALL ROAD
NEWHAILES ROAD
A1


NRTF High Growth
1.08
DUDDINGSTON PARK
DUDDINGSTON PARK SOUTH
MILTON ROAD
HARRY LAUDER WAY
A1
BRUNSTANE ROAD
GILBERTSTOUN
NEW BRUNSTANE (NORTH)
NEW BRUNSTANE (SOUTH)
MILTON ROAD EAST
FORT KINNAIRD
FORT KINNAIRD
McD'S / M&S SERVICE
B&Q / B&M
NEWCRAIGHALL ROAD
NEWCRAIGHALL ROAD
NEWHAILES ROAD
A1
A1


DUDDINGSTON PARK
DUDDINGSTON PARK SOUTH
MILTON ROAD
HARRY LAUDER WAY
A1
BRUNSTANE ROAD
GILBERTSTOUN
MILTON ROAD EAST
NEW BRUNSTANE (NORTH)
NEW BRUNSTANE (SOUTH)
200 Arr Dep Total
AM 27 58 85
PM 56 35 91
FORT KINNAIRD
FORT KINNAIRD
McD'S / M&S SERVICE
B&Q / B&M
NEWCRAIGHALL ROAD
NEWCRAIGHALL ROAD
NEWHAILES ROAD
A1
A1


DUDDINGSTON PARK
DUDDINGSTON PARK SOUTH
MILTON ROAD
HARRY LAUDER WAY
A1
BRUNSTANE ROAD
GILBERTSTOUN
MILTON ROAD EAST
NEW BRUNSTANE (NORTH)
NEW BRUNSTANE (SOUTH)
200 Arr Dep Total
AM 27 58 85
PM 56 35 91
FORT KINNAIRD
FORT KINNAIRD
McD'S / M&S SERVICE
B&Q / B&M
NEWCRAIGHALL ROAD
NEWCRAIGHALL ROAD
A1
A1
NEWHAILES ROAD

APPENDIX E

MASTERPLAN

NOTES: Do not scale from this drawing. All illustrative information is for design communication purposes only and is not to be relied upon for completeness or accuracy. Please report any discrepancies to AREA before proceeding.

DWG FILES IMPORTANT NOTE:
The completeness of the content of this file is not guaranteed by AREA URBAN DESIGN & ARCHITECTURE LLP and should be checked against the adjoining pdf. The fills and textures may not transfer in all cases and should be checked by the recipient.

Key

- Site boundary
- Key frontages
- Turf wall / hedge, builtform addressing landscape
- Stone wall
- Existing greenspace
- Existing woodland
- Proposed parks and soft landscape
- Proposed woodland
- Proposed SUDS pond
- Proposed aquatic margin
- Proposed swale
- Proposed individual trees
- Proposed fence
- Proposed accoustic fence
- Proposed footpaths
- 3m combined foot&cycle path
- Proposed allotments & commuity growing
- Proposed orchard trees
- 0.5m contours

0 100 200 300m

Date	Rev	Description	Drawn	Check
120816	A	Revised for submission	JN	

AREA
URBAN DESIGN
ARCHITECTURE

Grange Linlithgow West Lothian EH49 7RH
T 01506 843247
W area.uk.com

N

Project	NEW BRUNSTANE				
Client	THE EDI GROUP				
Title	**STRATEGIC MASTERPLAN**				
Status	PLANNNING	Drawn	JN	Checked	KC
Date	080618	Scale/ Format	1:5000 @A3		
Job ref.	NB_P_06	Rev	A		

APPENDIX F

COPY OF QUALITY AUDIT CORRESPONDENCE

TRANSPORT PLANNING

Matthew Simpson
Transport Policy and Planning
Services for Communities
Business Centre C2
City of Edinburgh Council
Waverley Court
4 East Market Street
Edinburgh
EH8 8BG

Our refs: AS/HD/TP56
Your ref:
Date: 9 June 2016

Dear Matthew

Brunstane: Site HSG29 - Quality Audit Walkover

Thank you for attending the initial quality audit walkover held at the above site on Tuesday 10th May. The audit walkover was attended by yourself, myself, Kenny Fearnside of Transport Planning and Lynn Russell and Catriona Recce-Heal of the Council.

The purpose of the audit walkover was to walk the perimeter of the proposed allocation site particularly to help identify those items that could in future help deliver linkages between the site and the surrounding network.

The walkover was conducted mindful of the nationally established hierarchy of travel modes and considered the possible future needs of pedestrians, cyclists, public transport users and private car users in that general order.

This short letter essentially forms a report back on the items identified with the attached numbered plan illustrating the general location of the items discussed. The items are simply bulleted below and this report of the audit walkover will be fed into the development of the initial site layout plans to assist in:-

a) the development of the site layout; and
b) identifying commitments that may ultimately emerge from the planning process in the shape of conditions and/or contributions.

Audit Items (plan number bracketed)

- Newcraighall Road was visited and the team felt that connections towards Newcraighall Station should be considered (1). This was associated with accessibility to existing cycle pathing that leads southwards towards Queen Margaret University. The now existing access into the under construction Barratt site at Newcraighall North was discussed and the possibility of signal control at this access considered which would also provide signal controlled crossing facilities (2).

Existing Barratt access

- **Action** – CEC were to check the position in relation to contributions / conditions related to the Newcraighall North and East sites to determine if monies or actions are proposed for these sites that could conflict with (or complement) actions emerging from Brunstane.

- Matthew / Lynn mentioned the possibility of redetermination of the Newcraighall Road north footway for shared cycle use owing to its current width, although existing parking was noted on this path (3 on plan - approximate length shown as 4). The existing footway is – for the most part – approximately 4 metres wide.

Newcraighall Road north footway

- Related to the action point above an obligation on Newcraighall East to provide a crossing point (location yet to be determined) was discussed, although the obvious point for location of a new crossing would be on the curve outside the primary school, owing to forward visibility.

- It was noted that a three metre wide shared new cycle path section has been constructed as part of the Barratts east access.

- At this location (5) there was discussion over the possibility of removing the south bridge abutment. This is owing to the 'tight' nature of the existing bend on the road. An alternative of signalling the junction such that main road traffic 'takes turns' on the bend was also discussed.

Existing Barratts east access showing abutment opposite

- Moving into the site, the existing path under the pylons (6) was walked and noted as a connection route between Newcraighall, Gilberstoun and Brunstane Station.

- The walk then moved into the western portion of HSG29 and the trodden route between the front of Brunstane House and the existing railway crossing (7) was noted. Catriona felt that this link should be retained in the masterplan.

Track running towards existing bridge crossing

- It was also noted that future housing in this area should have a connection point as noted at (8). To ensure that access from this area of the site to the station is simple.

- From this point, the possible location of a second crossing of the railway at (9) was observed. It was noted that this would provide a circular / perimeter route with access to Newhailes House also possible. The visual impact of crossing at this location was also noted, owing to site levels and the need for any bridge to clear overhead electric train cabling.

- The East Coast Main Line (east side) was followed northwards to the Brunstane Burn path / John Muir Way and the underpass beneath the railway noted at (10).

Path under railway

- A detour was taken to (11) to view the area across the burn where access can be extended to Milton Road. A Construction Traffic Management Plan was discussed at this location as was the proximity to the burial ground. The ability of the Path / John Muir Way to cross any new access road was touched upon and this crossing point requires consideration.

- At the area around (12) it was noted that new housing to the south of this point may have no direct link to Brunstane Station. Path routing onto Daiches Braes was discussed. Existing gaps in planting showing foot use of the burn path and Daiches Braes were noted in this area.

- The possibility of a future second platform at Brunstane Station was discussed [Post walk note – we understand that network rail may now be examining improvements to the overbridge at this location to provide ramped access] (13).

- Brunstane Road South was then walked south-eastwards towards Gilberstoun Place.

Brunstane Road South emerging into Gilberstoun

- At this location (14) it was noted no pathing between existing housing was available to connect into the portion of HSG29 south of the Burn. The prospect of taking a path around the north of the existing housing (15) was discussed and is to be considered further.

- Continuing along Brunstane Road South, the corner and field gate at (16) were noted as dovetailing with the route first seen at (8), so providing a connection point with direct access towards the Station.

Field gate at (16)

- **Action** – CEC were going to check the adopted extents of Brunstane Road South.

- At Brunstane Farm, the Premier Homes Courtyard Development site outside Brunstane House was walked through and the team emerged onto HSG29 close to the west end of the path at (7) – it is desirable that this route is retained open.

- The team retraced steps back to vehicles and drove around to point (17) where the existing path linkages were viewed. These connect to the east end of the Brunstane Burn path and also afford a connection with Newhailes House.

Signage at (17)

The above notes lay out the key items that were discussed during the Quality Audit walkover and this letter and its attachments effectively form the report of the Stage One Quality Audit for this proposed site area.

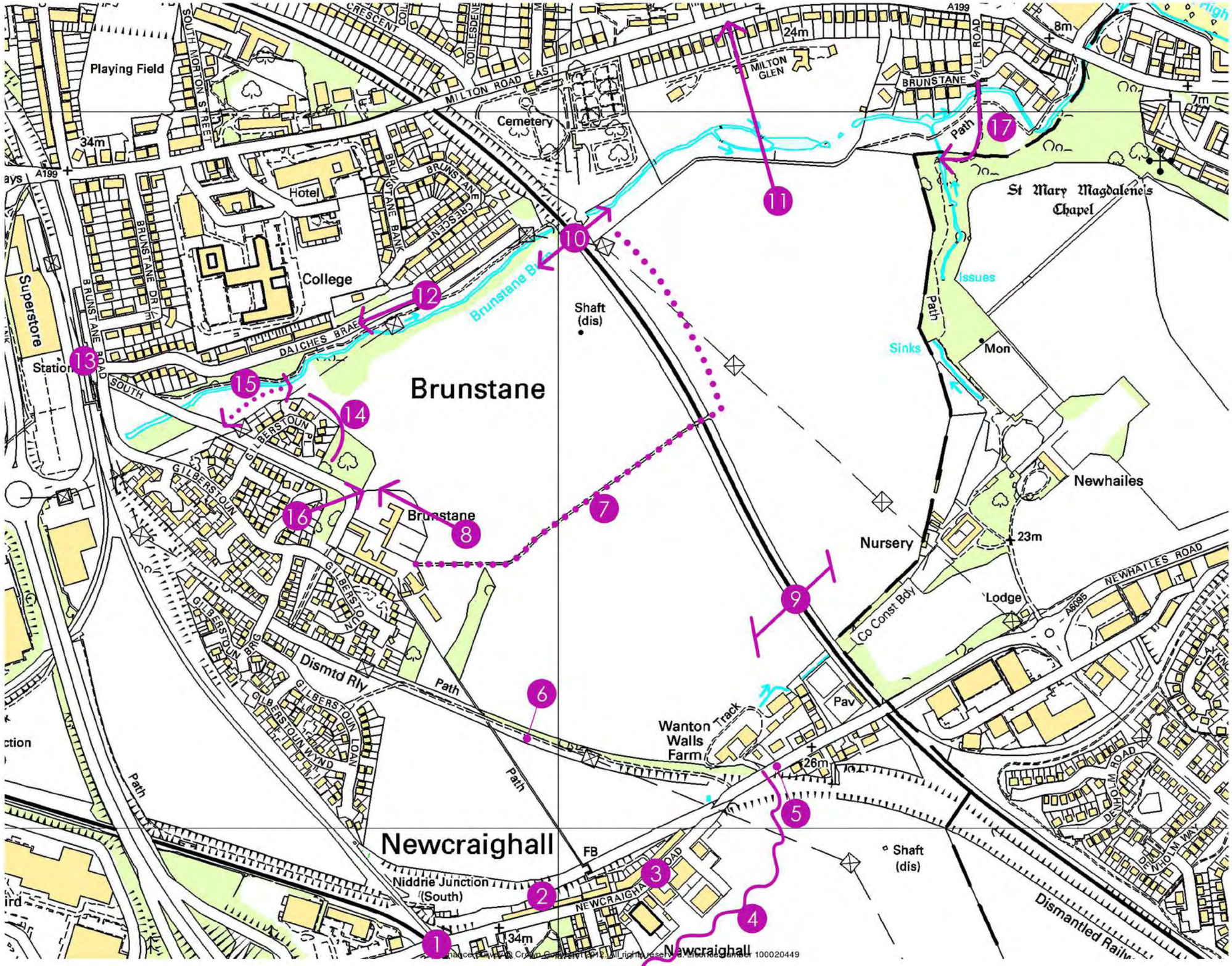
Yours sincerely

Alex Sneddon
for **Transport Planning Ltd**
email: alex@tranplanworld.co.uk

Enclosures:-

Numbered plan

c.c. Attendees
Kuan Loh – EDI Group
Rob Newton -GVA



APPENDIX G

MODAL SPLIT INFORMATION

National Records of Scotland

Census 2011

Table QS702SC - Method of travel to work or study (1)
All people aged 4 and over who are studying or aged 16 to 74 in employment in the week before the census

Detailed/Local Characteristics by Transport to place of work or study by Term-time Address (Indicator) and In education or employment
Counting: Person

Filters:

Default Summation Person
Term-time Address Resident
In education or emp In education or employment - Part time students

Transport to place of work or study	All people	Work or study mainly at or from	Underground, metro, light rail or	Train	Bus, minibus or coach	Taxi or minicab	Driving a car or van	Passenger in a car or van	Motorcycle, scooter or moped	Bicycle	On foot	Other
Detailed/Local Characteristics												
Edinburgh	328663	37070	198	5169	82186	1260	86025	17835	1074	12565	83386	1895
	100.0%	11.3%	0.1%	1.6%	25.0%	0.4%	26.2%	5.4%	0.3%	3.8%	25.4%	0.6%
EH15 2	4472	494	4	212	884	17	1523	362	19	246	680	31
EH21 8 (part)	220	27	0	9	44	2	74	14	1	10	39	0
Total	4692	521	4	221	928	19	1597	376	20	256	719	31
Share	100.0%	11.1%	0.1%	4.7%	19.8%	0.4%	34.0%	8.0%	0.4%	5.5%	15.3%	0.7%
AM Peak	1628	181	1	77	322	7	554	130	7	89	249	11
PM Peak	1730	192	1	81	342	7	589	139	7	94	265	11

(1) Excludes some 4 and 5 year olds (a total of 11,867 in Scotland) who were reported as being in full-time education but for whom no information on their place of study or method of travel to study was provided.

APPENDIX H

TRICS DATA

Calculation Reference: AUDIT-552501-160812-0855

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 03 - RESIDENTIAL
Category : M - MIXED PRIVATE/AFFORDABLE HOUSING
MULTI-MODAL VEHICLES

Selected regions and areas:

01	GREATER LONDON		
	HM	HAMMERSMITH AND FULHAM	1 days
02	SOUTH EAST		
	HC	HAMPSHIRE	1 days
	SC	SURREY	2 days

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

Filtering Stage 2 selection:

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

Parameter:	Number of dwellings
Actual Range:	328 to 1751 (units:)
Range Selected by User:	300 to 1751 (units:)

Public Transport Provision:
Selection by: Include all surveys

Date Range: 01/01/08 to 04/11/15

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:

Wednesday	4 days

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

Selected survey types:

Manual count	4 days
Directional ATC Count	0 days

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

Selected Locations:

Edge of Town	2
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	3
Village	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.

Filtering Stage 3 selection:

Use Class:

C3	4 days

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

Population within 1 mile:

1,001 to 5,000	1 days
5,001 to 10,000	1 days
20,001 to 25,000	1 days
100,001 or More	1 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
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	1 days
1.1 to 1.5	1 days
1.6 to 2.0	2 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	1 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.

LIST OF SITES relevant to selection parameters

1	HC-03-M-06	HOUSES & FLATS		HAMPSHIRE
	HUNTS POND ROAD			
	TITCHFIELD			
	NEAR FAREHAM			
	Edge of Town			
	Residential Zone			
	Total Number of dwellings:		328	
	Survey date: WEDNESDAY		04/11/15	Survey Type: MANUAL
2	HM-03-M-01	BLOCKS OF FLATS		HAMMERSMITH AND FULHAM
	TOWNMEAD ROAD			
	FULHAM			
	Neighbourhood Centre (PPS6 Local Centre)			
	Residential Zone			
	Total Number of dwellings:		1751	
	Survey date: WEDNESDAY		21/05/14	Survey Type: MANUAL
3	SC-03-M-02	HOUSES & FLATS		SURREY
	DEEPCUT BRIDGE ROAD			
	DEEPCUT			
	NEAR FRIMLEY			
	Neighbourhood Centre (PPS6 Local Centre)			
	Village			
	Total Number of dwellings:		342	
	Survey date: WEDNESDAY		10/02/10	Survey Type: MANUAL
4	SC-03-M-06	HOUSES & FLATS		SURREY
	ST ANNE'S DRIVE			
	REDHILL			
	Edge of Town			
	Residential Zone			
	Total Number of dwellings:		500	
	Survey date: WEDNESDAY		11/12/13	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 03 - RESIDENTIAL/M - MIXED PRIVATE/AFFORDABLE HOUSING
MULTI-MODAL VEHICLES
Calculation factor: 1 DWELLS
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00	1	1751	0.011	1	1751	0.016	1	1751	0.027
07:00 - 08:00	4	730	0.041	4	730	0.117	4	730	0.158
08:00 - 09:00	4	730	0.070	4	730	0.177	4	730	0.247
09:00 - 10:00	4	730	0.069	4	730	0.075	4	730	0.144
10:00 - 11:00	4	730	0.056	4	730	0.069	4	730	0.125
11:00 - 12:00	4	730	0.055	4	730	0.074	4	730	0.129
12:00 - 13:00	4	730	0.067	4	730	0.067	4	730	0.134
13:00 - 14:00	4	730	0.069	4	730	0.065	4	730	0.134
14:00 - 15:00	4	730	0.057	4	730	0.083	4	730	0.140
15:00 - 16:00	4	730	0.123	4	730	0.102	4	730	0.225
16:00 - 17:00	4	730	0.110	4	730	0.072	4	730	0.182
17:00 - 18:00	4	730	0.129	4	730	0.076	4	730	0.205
18:00 - 19:00	4	730	0.125	4	730	0.069	4	730	0.194
19:00 - 20:00	1	1751	0.047	1	1751	0.049	1	1751	0.096
20:00 - 21:00	1	1751	0.038	1	1751	0.035	1	1751	0.073
21:00 - 22:00	1	1751	0.030	1	1751	0.025	1	1751	0.055
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			1.097			1.171			2.268

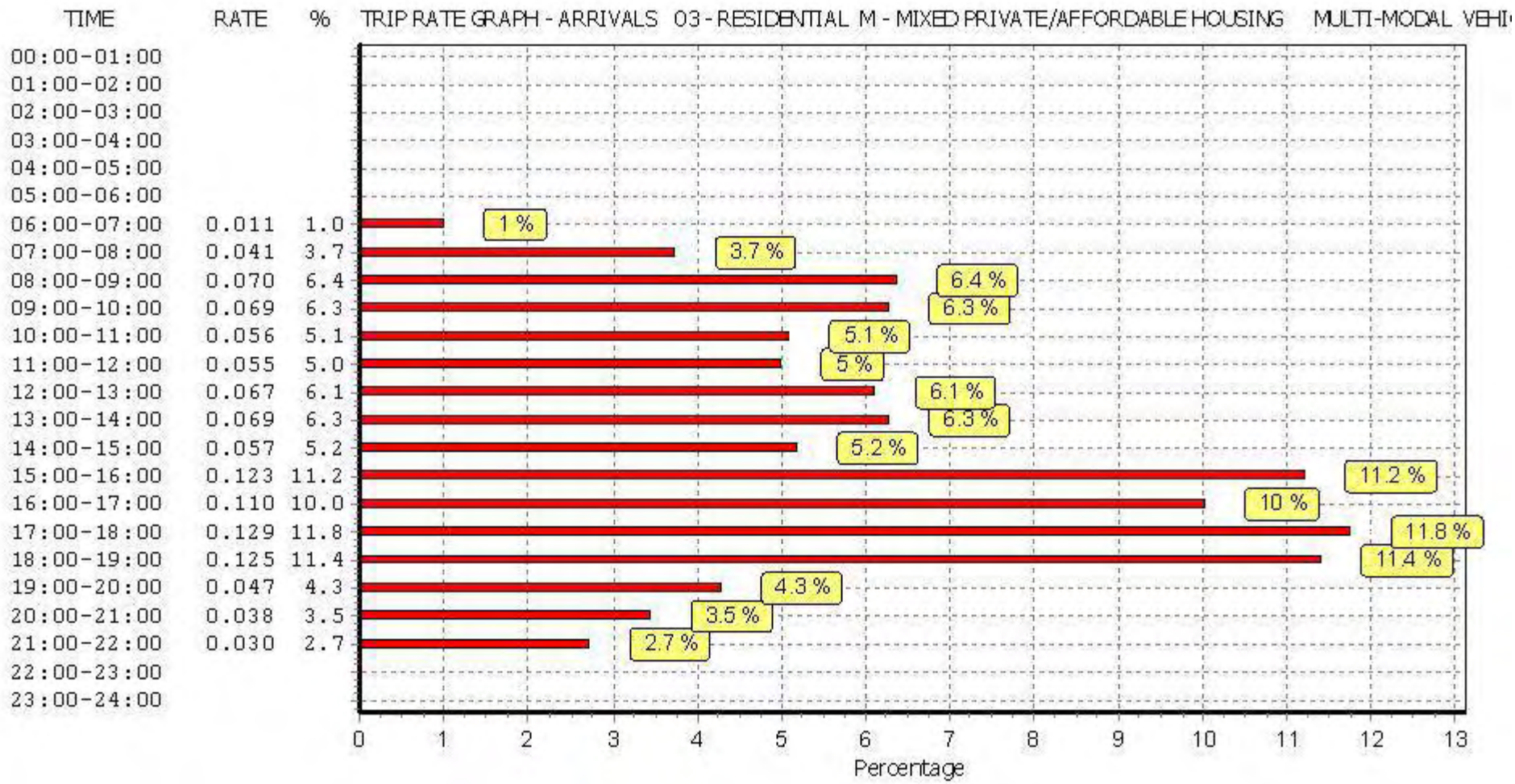
This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are 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.

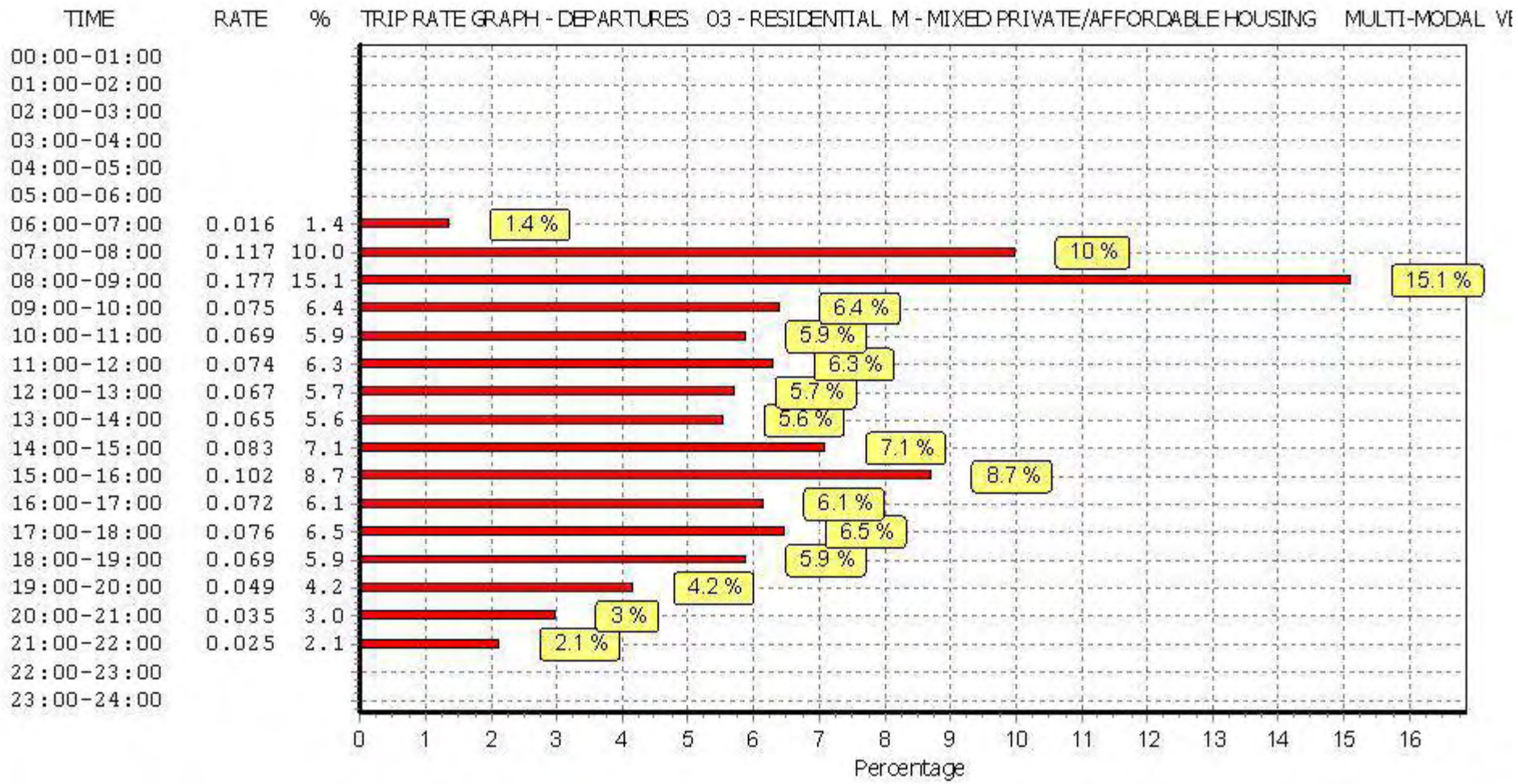
Parameter summary

Trip rate parameter range selected:	328 - 1751 (units:)
Survey date date range:	01/01/08 - 04/11/15
Number of weekdays (Monday-Friday):	4
Number of Saturdays:	0
Number of Sundays:	0
Surveys automatically removed from selection:	2
Surveys manually removed from selection:	0

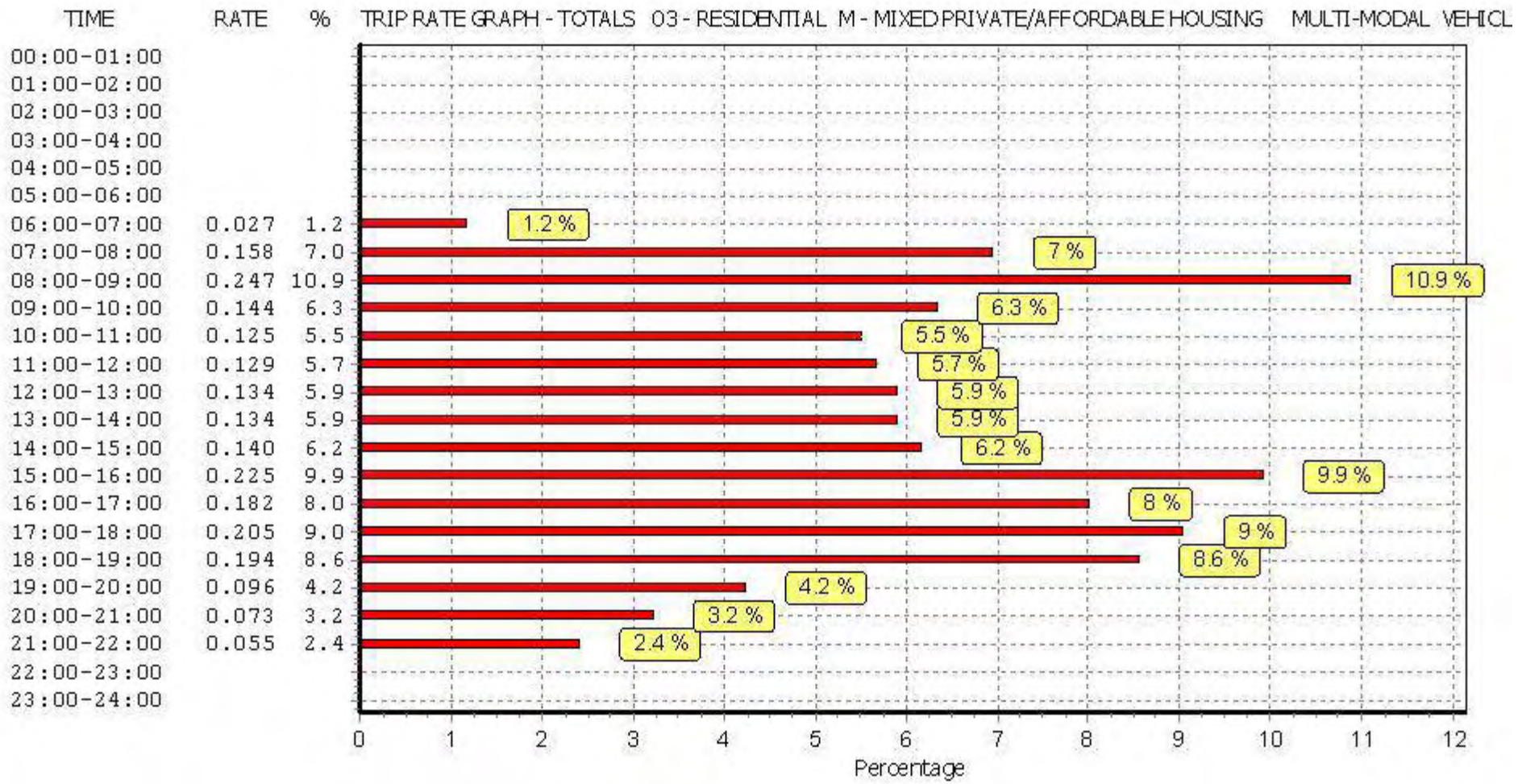
This section displays a quick summary of some of the data filtering selections made by the TRICS® user. The trip rate calculation parameter range of all selected surveys is displayed first, followed by the range of minimum and maximum survey dates selected by the user. Then, the total number of selected 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.



This graph is a visual representation of the trip rate calculation results screen. The same time periods and trip rates are displayed, but in addition there is an additional column showing the percentage of the total trip rate by individual time period, allowing peak periods to be easily identified through observation. Note that the type of count and the selected direction is shown at the top of the graph.



This graph is a visual representation of the trip rate calculation results screen. The same time periods and trip rates are displayed, but in addition there is an additional column showing the percentage of the total trip rate by individual time period, allowing peak periods to be easily identified through observation. Note that the type of count and the selected direction is shown at the top of the graph.



This graph is a visual representation of the trip rate calculation results screen. The same time periods and trip rates are displayed, but in addition there is an additional column showing the percentage of the total trip rate by individual time period, allowing peak periods to be easily identified through observation. Note that the type of count and the selected direction is shown at the top of the graph.

TRIP RATE for Land Use 03 - RESIDENTIAL/M - MIXED PRIVATE/AFFORDABLE HOUSING
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	1	1751	0.001	1	1751	0.001	1	1751	0.002
07:00 - 08:00	4	730	0.003	4	730	0.002	4	730	0.005
08:00 - 09:00	4	730	0.004	4	730	0.004	4	730	0.008
09:00 - 10:00	4	730	0.001	4	730	0.002	4	730	0.003
10:00 - 11:00	4	730	0.001	4	730	0.001	4	730	0.002
11:00 - 12:00	4	730	0.004	4	730	0.004	4	730	0.008
12:00 - 13:00	4	730	0.003	4	730	0.003	4	730	0.006
13:00 - 14:00	4	730	0.002	4	730	0.002	4	730	0.004
14:00 - 15:00	4	730	0.002	4	730	0.002	4	730	0.004
15:00 - 16:00	4	730	0.008	4	730	0.008	4	730	0.016
16:00 - 17:00	4	730	0.002	4	730	0.002	4	730	0.004
17:00 - 18:00	4	730	0.004	4	730	0.004	4	730	0.008
18:00 - 19:00	4	730	0.002	4	730	0.001	4	730	0.003
19:00 - 20:00	1	1751	0.009	1	1751	0.009	1	1751	0.018
20:00 - 21:00	1	1751	0.005	1	1751	0.005	1	1751	0.010
21:00 - 22:00	1	1751	0.003	1	1751	0.003	1	1751	0.006
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.054			0.053			0.107

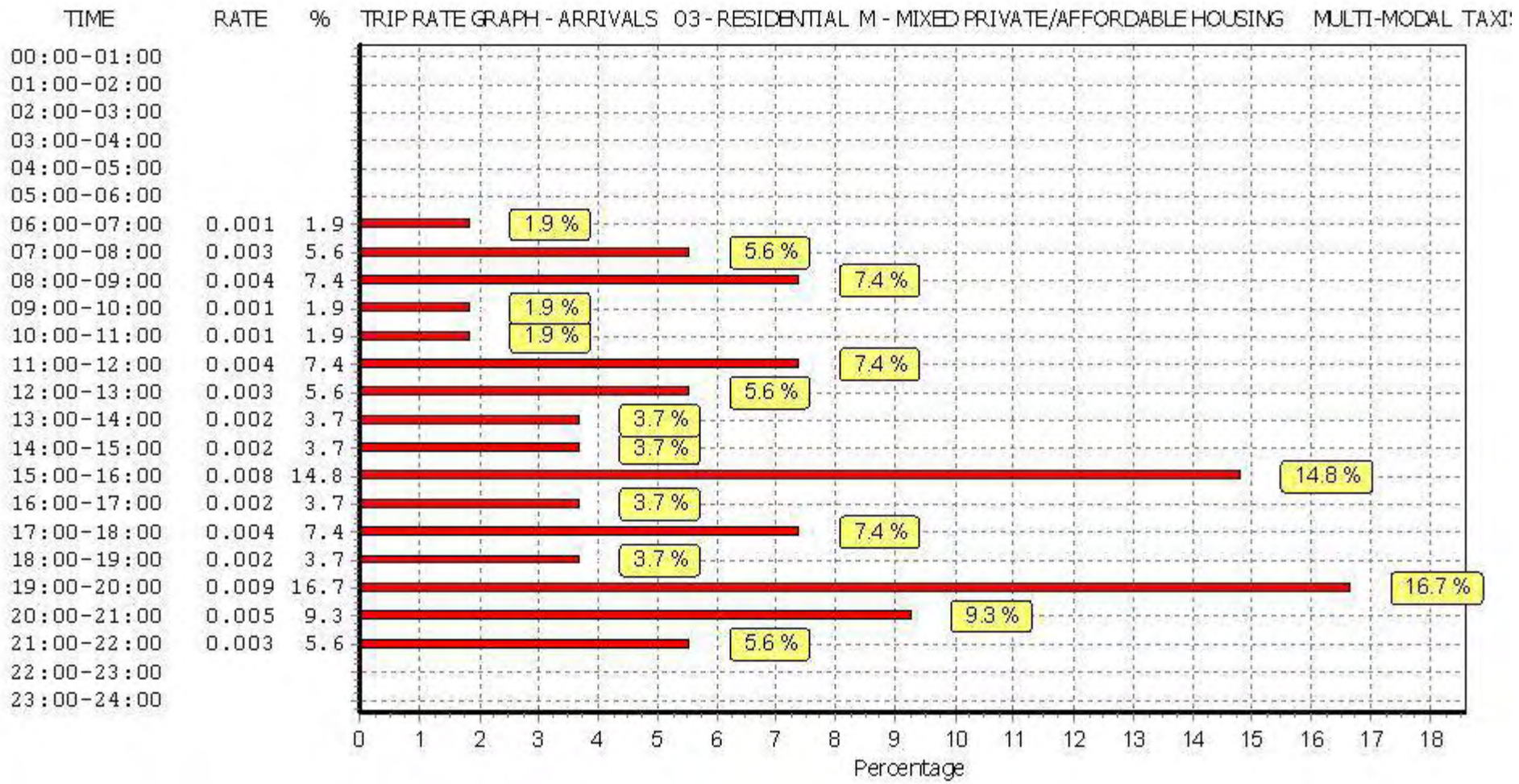
This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are 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.

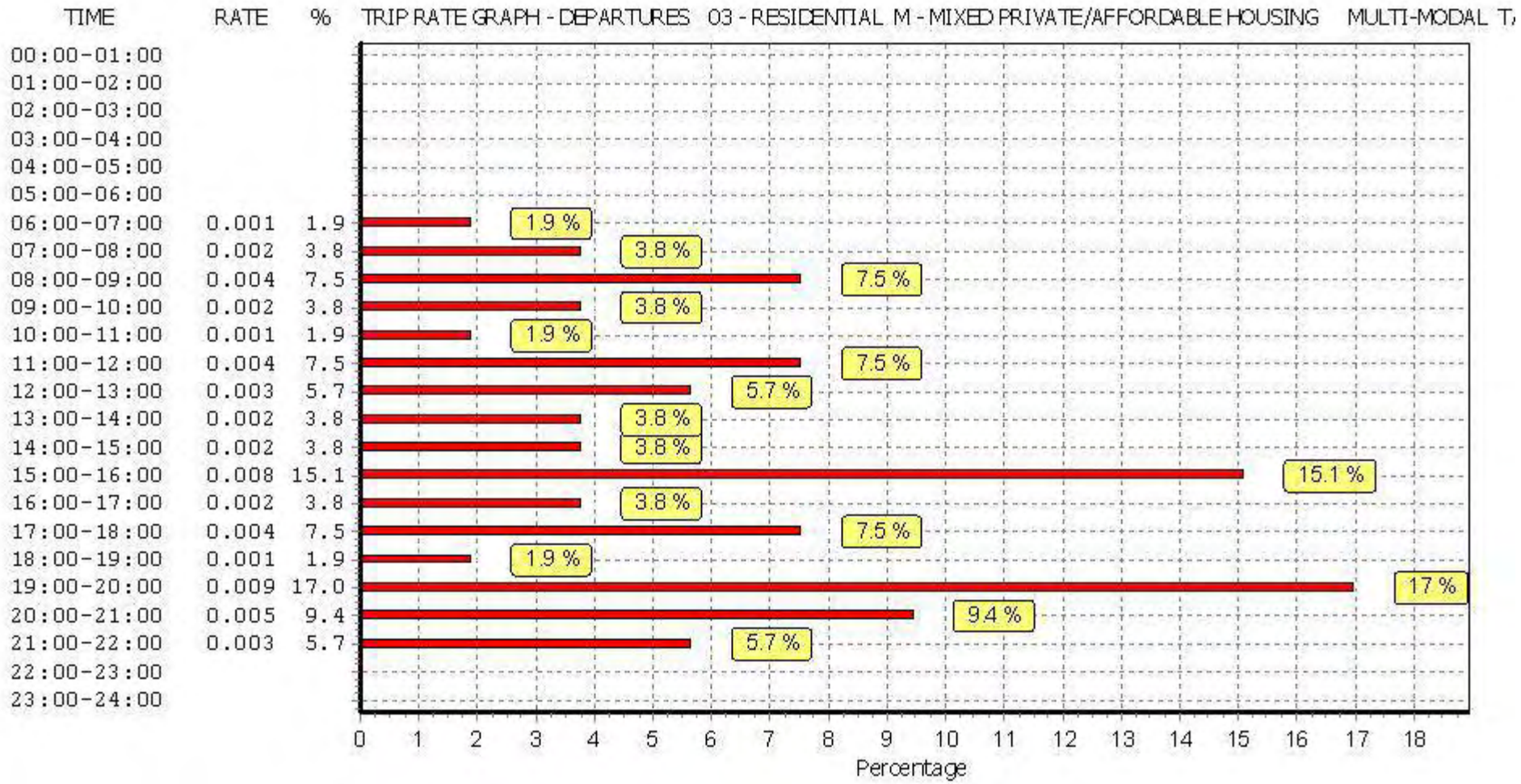
Parameter summary

Trip rate parameter range selected:	328 - 1751 (units:)
Survey date date range:	01/01/08 - 04/11/15
Number of weekdays (Monday-Friday):	4
Number of Saturdays:	0
Number of Sundays:	0
Surveys automatically removed from selection:	2
Surveys manually removed from selection:	0

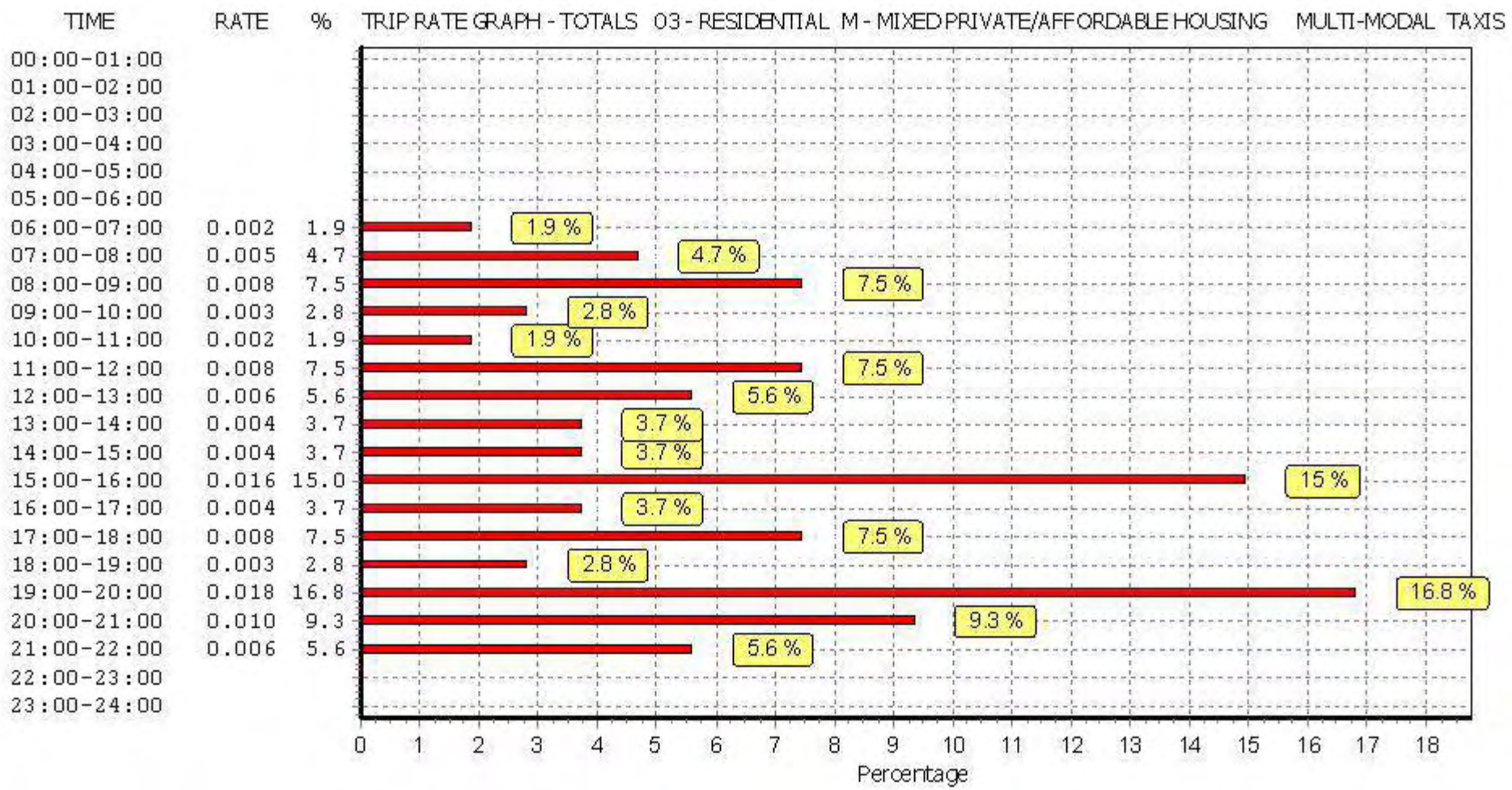
This section displays a quick summary of some of the data filtering selections made by the TRICS® user. The trip rate calculation parameter range of all selected surveys is displayed first, followed by the range of minimum and maximum survey dates selected by the user. Then, the total number of selected 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.



This graph is a visual representation of the trip rate calculation results screen. The same time periods and trip rates are displayed, but in addition there is an additional column showing the percentage of the total trip rate by individual time period, allowing peak periods to be easily identified through observation. Note that the type of count and the selected direction is shown at the top of the graph.



This graph is a visual representation of the trip rate calculation results screen. The same time periods and trip rates are displayed, but in addition there is an additional column showing the percentage of the total trip rate by individual time period, allowing peak periods to be easily identified through observation. Note that the type of count and the selected direction is shown at the top of the graph.



This graph is a visual representation of the trip rate calculation results screen. The same time periods and trip rates are displayed, but in addition there is an additional column showing the percentage of the total trip rate by individual time period, allowing peak periods to be easily identified through observation. Note that the type of count and the selected direction is shown at the top of the graph.

TRIP RATE for Land Use 03 - RESIDENTIAL/M - MIXED PRIVATE/AFFORDABLE HOUSING
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	1	1751	0.000	1	1751	0.000	1	1751	0.000
07:00 - 08:00	4	730	0.000	4	730	0.000	4	730	0.000
08:00 - 09:00	4	730	0.002	4	730	0.002	4	730	0.004
09:00 - 10:00	4	730	0.003	4	730	0.002	4	730	0.005
10:00 - 11:00	4	730	0.002	4	730	0.003	4	730	0.005
11:00 - 12:00	4	730	0.002	4	730	0.002	4	730	0.004
12:00 - 13:00	4	730	0.002	4	730	0.001	4	730	0.003
13:00 - 14:00	4	730	0.001	4	730	0.001	4	730	0.002
14:00 - 15:00	4	730	0.001	4	730	0.002	4	730	0.003
15:00 - 16:00	4	730	0.000	4	730	0.000	4	730	0.000
16:00 - 17:00	4	730	0.001	4	730	0.001	4	730	0.002
17:00 - 18:00	4	730	0.000	4	730	0.000	4	730	0.000
18:00 - 19:00	4	730	0.001	4	730	0.001	4	730	0.002
19:00 - 20:00	1	1751	0.001	1	1751	0.001	1	1751	0.002
20:00 - 21:00	1	1751	0.001	1	1751	0.001	1	1751	0.002
21:00 - 22:00	1	1751	0.000	1	1751	0.000	1	1751	0.000
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.017			0.017			0.034

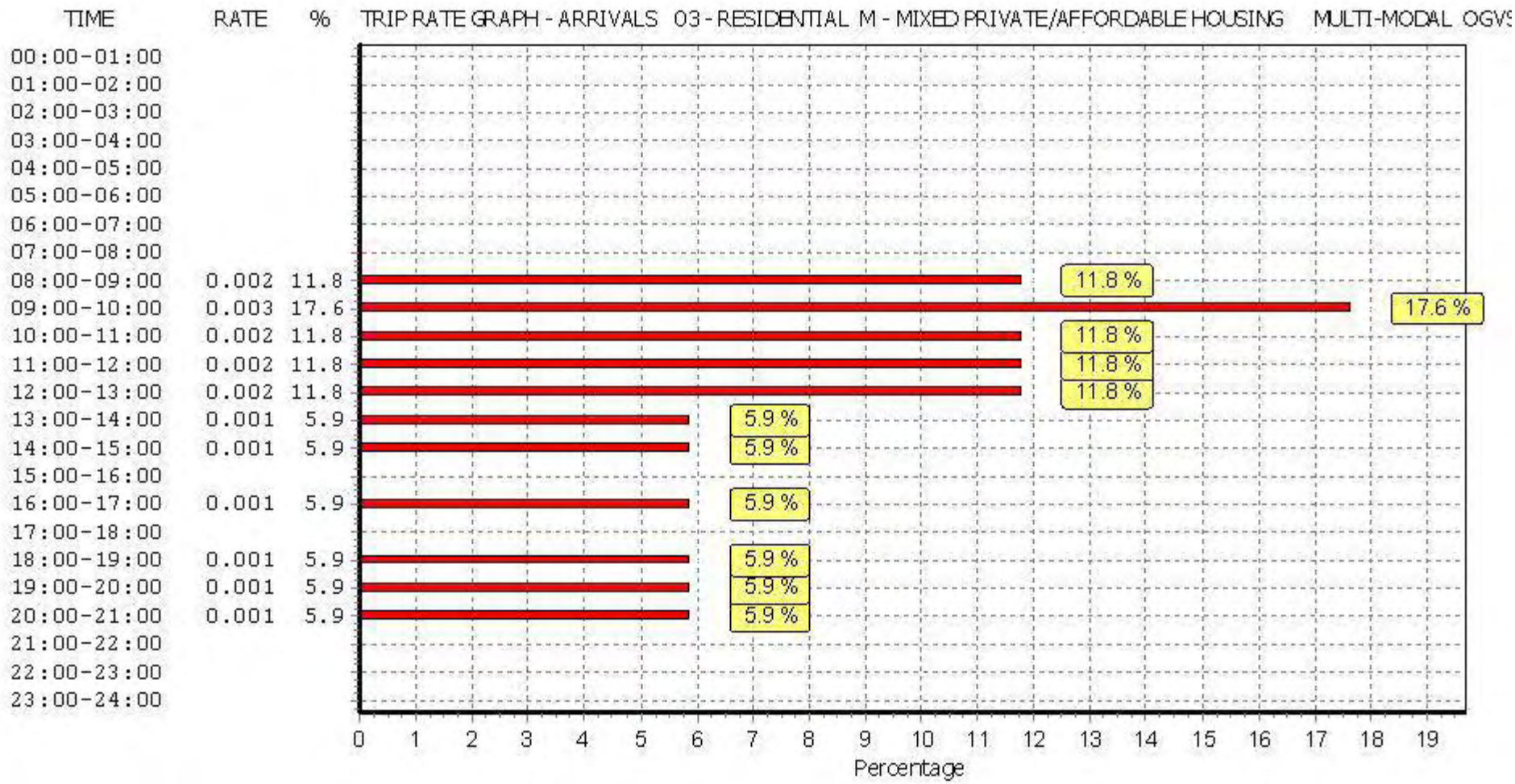
This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are 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.

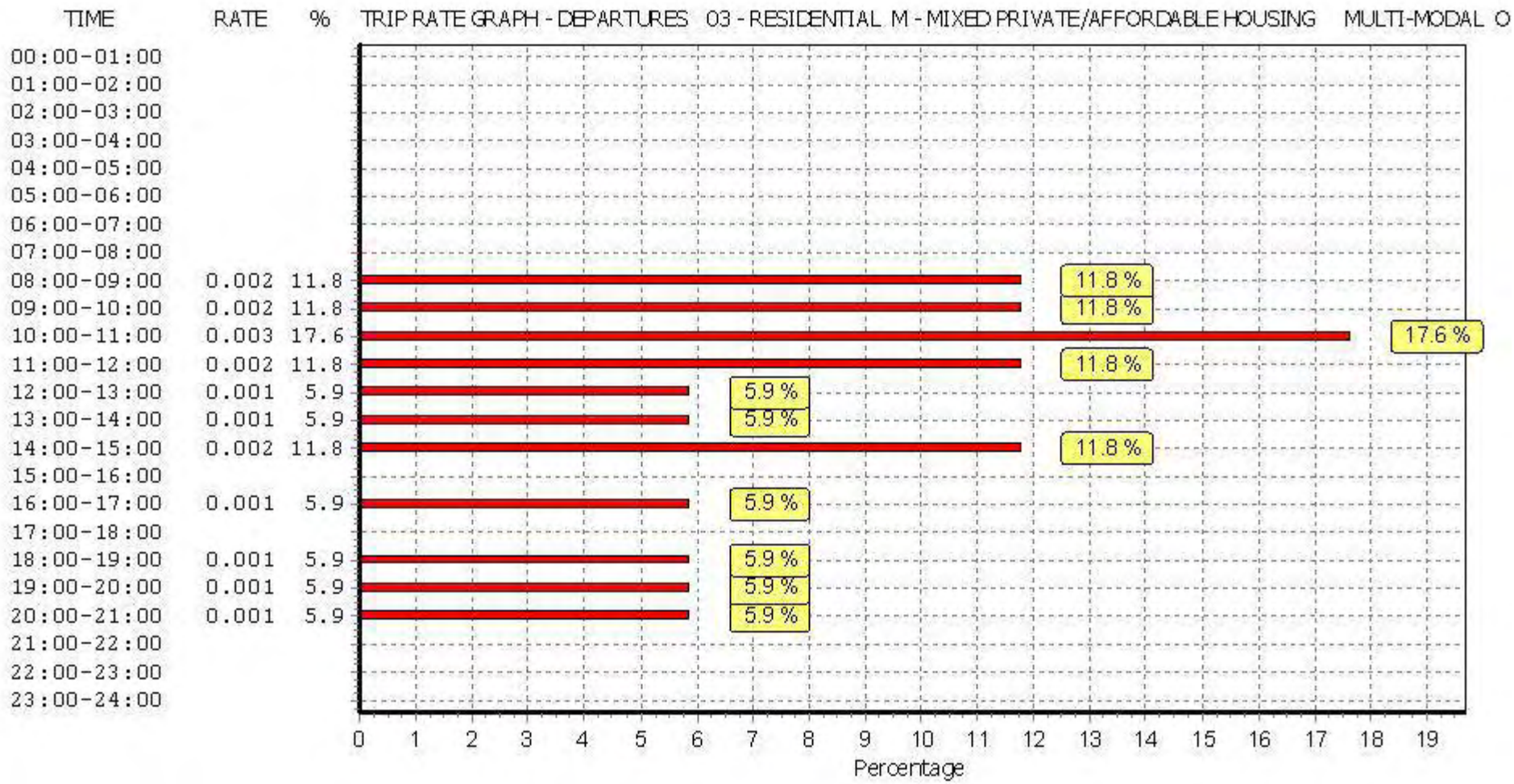
Parameter summary

Trip rate parameter range selected:	328 - 1751 (units:)
Survey date date range:	01/01/08 - 04/11/15
Number of weekdays (Monday-Friday):	4
Number of Saturdays:	0
Number of Sundays:	0
Surveys automatically removed from selection:	2
Surveys manually removed from selection:	0

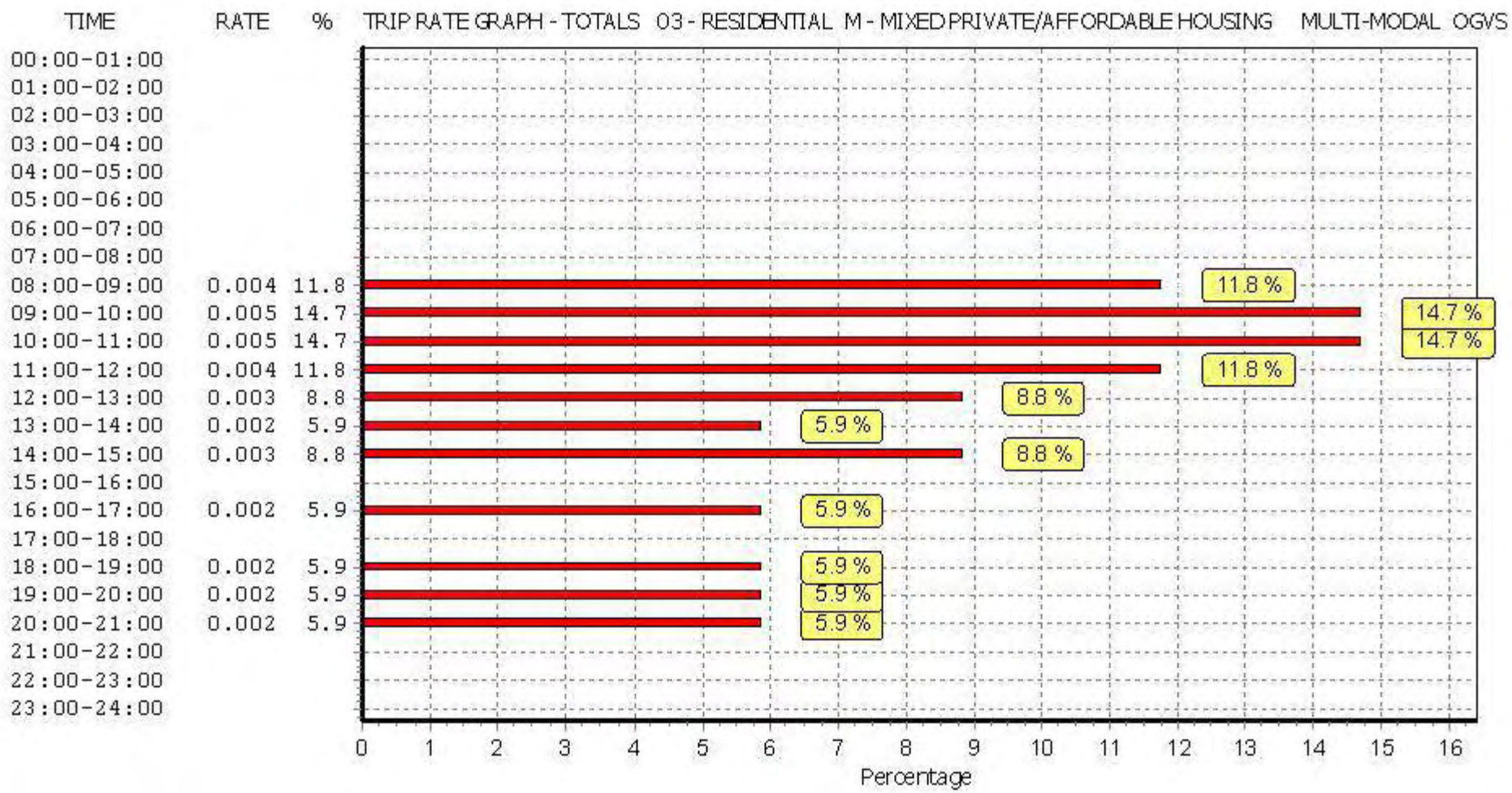
This section displays a quick summary of some of the data filtering selections made by the TRICS® user. The trip rate calculation parameter range of all selected surveys is displayed first, followed by the range of minimum and maximum survey dates selected by the user. Then, the total number of selected 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.



This graph is a visual representation of the trip rate calculation results screen. The same time periods and trip rates are displayed, but in addition there is an additional column showing the percentage of the total trip rate by individual time period, allowing peak periods to be easily identified through observation. Note that the type of count and the selected direction is shown at the top of the graph.



This graph is a visual representation of the trip rate calculation results screen. The same time periods and trip rates are displayed, but in addition there is an additional column showing the percentage of the total trip rate by individual time period, allowing peak periods to be easily identified through observation. Note that the type of count and the selected direction is shown at the top of the graph.



This graph is a visual representation of the trip rate calculation results screen. The same time periods and trip rates are displayed, but in addition there is an additional column showing the percentage of the total trip rate by individual time period, allowing peak periods to be easily identified through observation. Note that the type of count and the selected direction is shown at the top of the graph.

TRIP RATE for Land Use 03 - RESIDENTIAL/M - MIXED PRIVATE/AFFORDABLE HOUSING
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	1	1751	0.000	1	1751	0.000	1	1751	0.000
07:00 - 08:00	4	730	0.000	4	730	0.000	4	730	0.000
08:00 - 09:00	4	730	0.000	4	730	0.000	4	730	0.000
09:00 - 10:00	4	730	0.000	4	730	0.000	4	730	0.000
10:00 - 11:00	4	730	0.000	4	730	0.000	4	730	0.000
11:00 - 12:00	4	730	0.000	4	730	0.000	4	730	0.000
12:00 - 13:00	4	730	0.000	4	730	0.000	4	730	0.000
13:00 - 14:00	4	730	0.000	4	730	0.000	4	730	0.000
14:00 - 15:00	4	730	0.000	4	730	0.000	4	730	0.000
15:00 - 16:00	4	730	0.000	4	730	0.000	4	730	0.000
16:00 - 17:00	4	730	0.000	4	730	0.000	4	730	0.000
17:00 - 18:00	4	730	0.000	4	730	0.000	4	730	0.000
18:00 - 19:00	4	730	0.000	4	730	0.000	4	730	0.000
19:00 - 20:00	1	1751	0.000	1	1751	0.000	1	1751	0.000
20:00 - 21:00	1	1751	0.000	1	1751	0.000	1	1751	0.000
21:00 - 22:00	1	1751	0.000	1	1751	0.000	1	1751	0.000
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.000			0.000			0.000

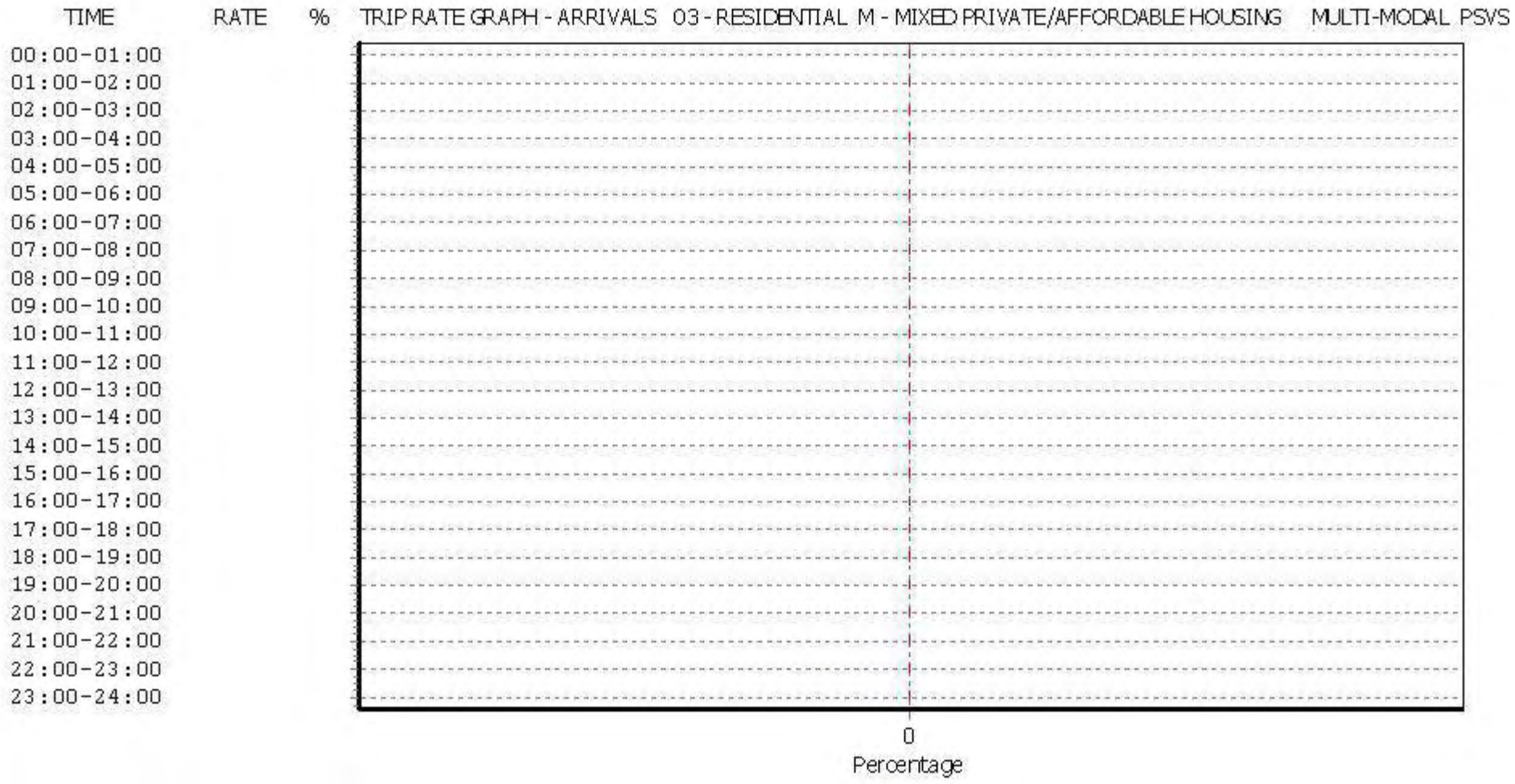
This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are 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.

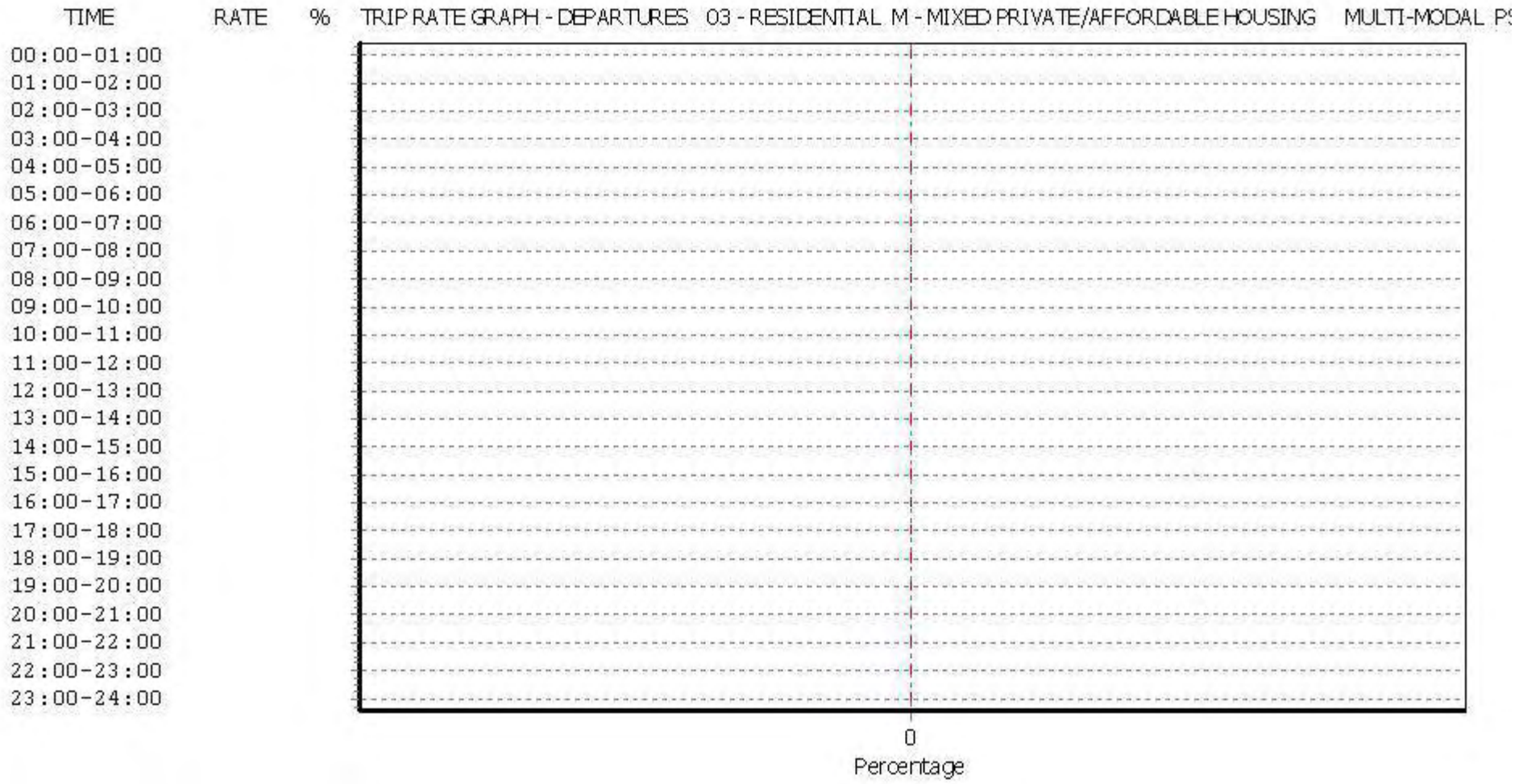
Parameter summary

Trip rate parameter range selected:	328 - 1751 (units:)
Survey date date range:	01/01/08 - 04/11/15
Number of weekdays (Monday-Friday):	4
Number of Saturdays:	0
Number of Sundays:	0
Surveys automatically removed from selection:	2
Surveys manually removed from selection:	0

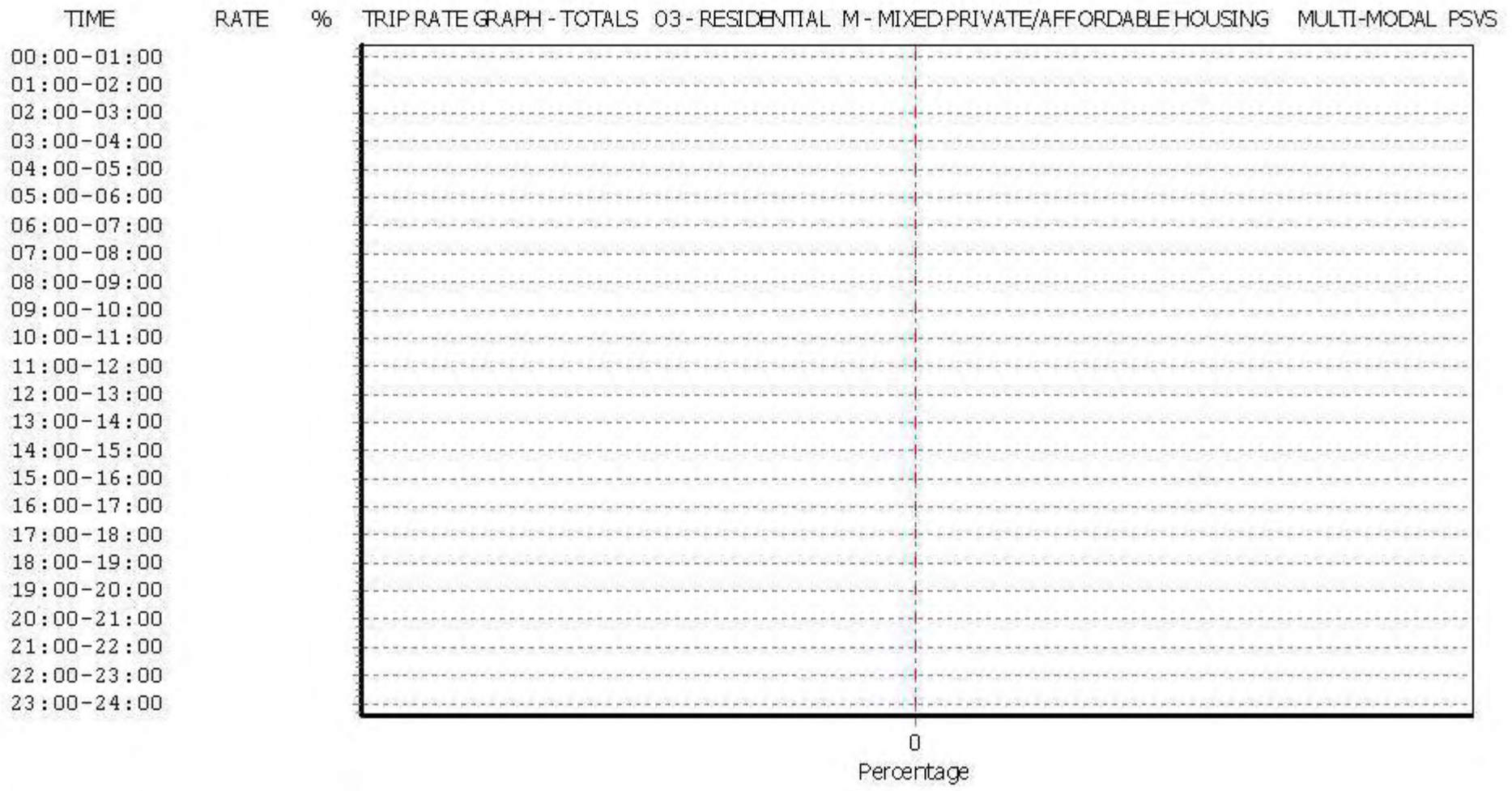
This section displays a quick summary of some of the data filtering selections made by the TRICS® user. The trip rate calculation parameter range of all selected surveys is displayed first, followed by the range of minimum and maximum survey dates selected by the user. Then, the total number of selected 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.



This graph is a visual representation of the trip rate calculation results screen. The same time periods and trip rates are displayed, but in addition there is an additional column showing the percentage of the total trip rate by individual time period, allowing peak periods to be easily identified through observation. Note that the type of count and the selected direction is shown at the top of the graph.



This graph is a visual representation of the trip rate calculation results screen. The same time periods and trip rates are displayed, but in addition there is an additional column showing the percentage of the total trip rate by individual time period, allowing peak periods to be easily identified through observation. Note that the type of count and the selected direction is shown at the top of the graph.



This graph is a visual representation of the trip rate calculation results screen. The same time periods and trip rates are displayed, but in addition there is an additional column showing the percentage of the total trip rate by individual time period, allowing peak periods to be easily identified through observation. Note that the type of count and the selected direction is shown at the top of the graph.

TRIP RATE for Land Use 03 - RESIDENTIAL/M - MIXED PRIVATE/AFFORDABLE HOUSING
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	1	1751	0.001	1	1751	0.002	1	1751	0.003
07:00 - 08:00	4	730	0.001	4	730	0.006	4	730	0.007
08:00 - 09:00	4	730	0.002	4	730	0.012	4	730	0.014
09:00 - 10:00	4	730	0.003	4	730	0.007	4	730	0.010
10:00 - 11:00	4	730	0.003	4	730	0.003	4	730	0.006
11:00 - 12:00	4	730	0.003	4	730	0.003	4	730	0.006
12:00 - 13:00	4	730	0.003	4	730	0.004	4	730	0.007
13:00 - 14:00	4	730	0.003	4	730	0.004	4	730	0.007
14:00 - 15:00	4	730	0.004	4	730	0.004	4	730	0.008
15:00 - 16:00	4	730	0.007	4	730	0.004	4	730	0.011
16:00 - 17:00	4	730	0.007	4	730	0.004	4	730	0.011
17:00 - 18:00	4	730	0.007	4	730	0.003	4	730	0.010
18:00 - 19:00	4	730	0.005	4	730	0.003	4	730	0.008
19:00 - 20:00	1	1751	0.007	1	1751	0.005	1	1751	0.012
20:00 - 21:00	1	1751	0.005	1	1751	0.003	1	1751	0.008
21:00 - 22:00	1	1751	0.005	1	1751	0.003	1	1751	0.008
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.066			0.070			0.136

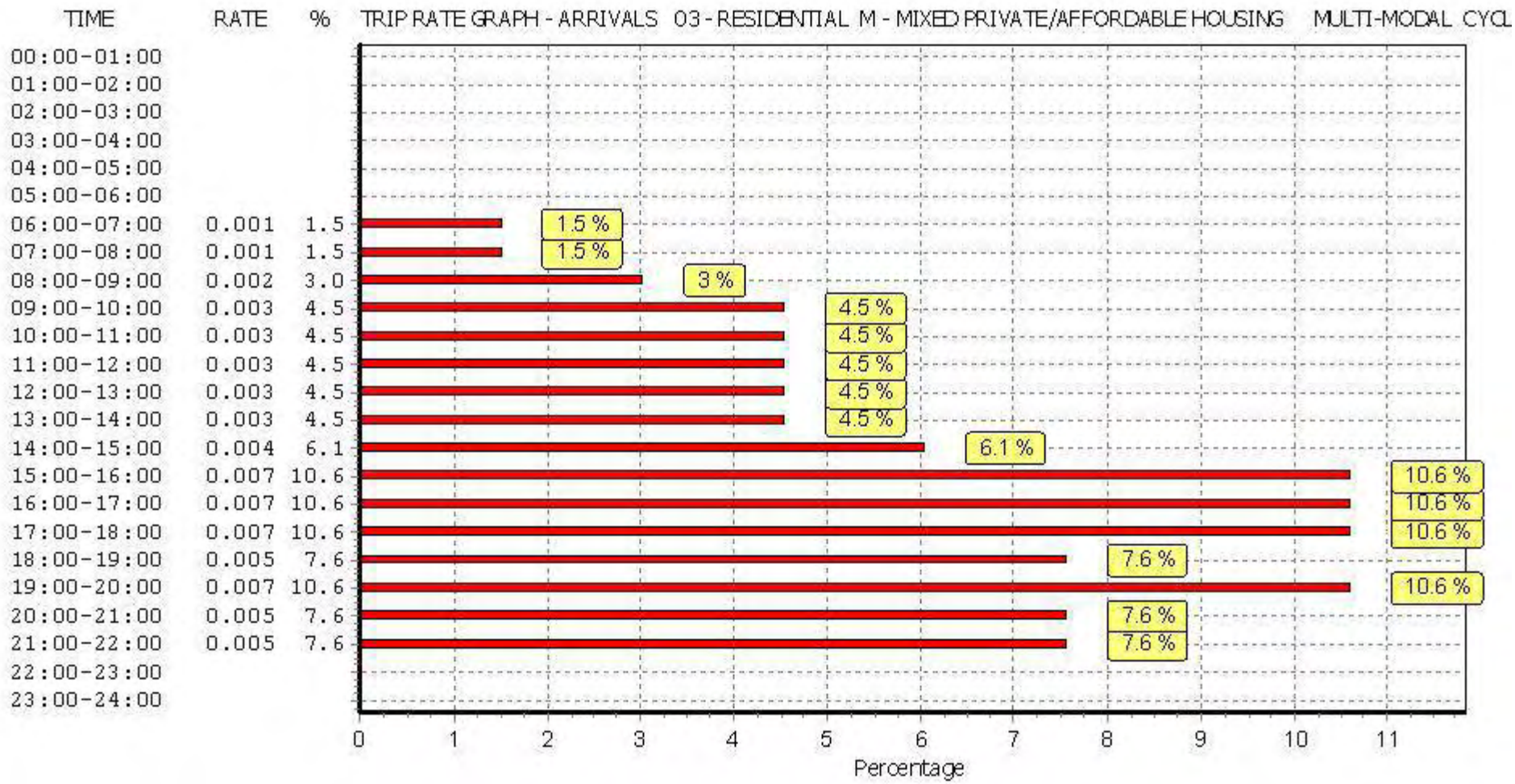
This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are 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.

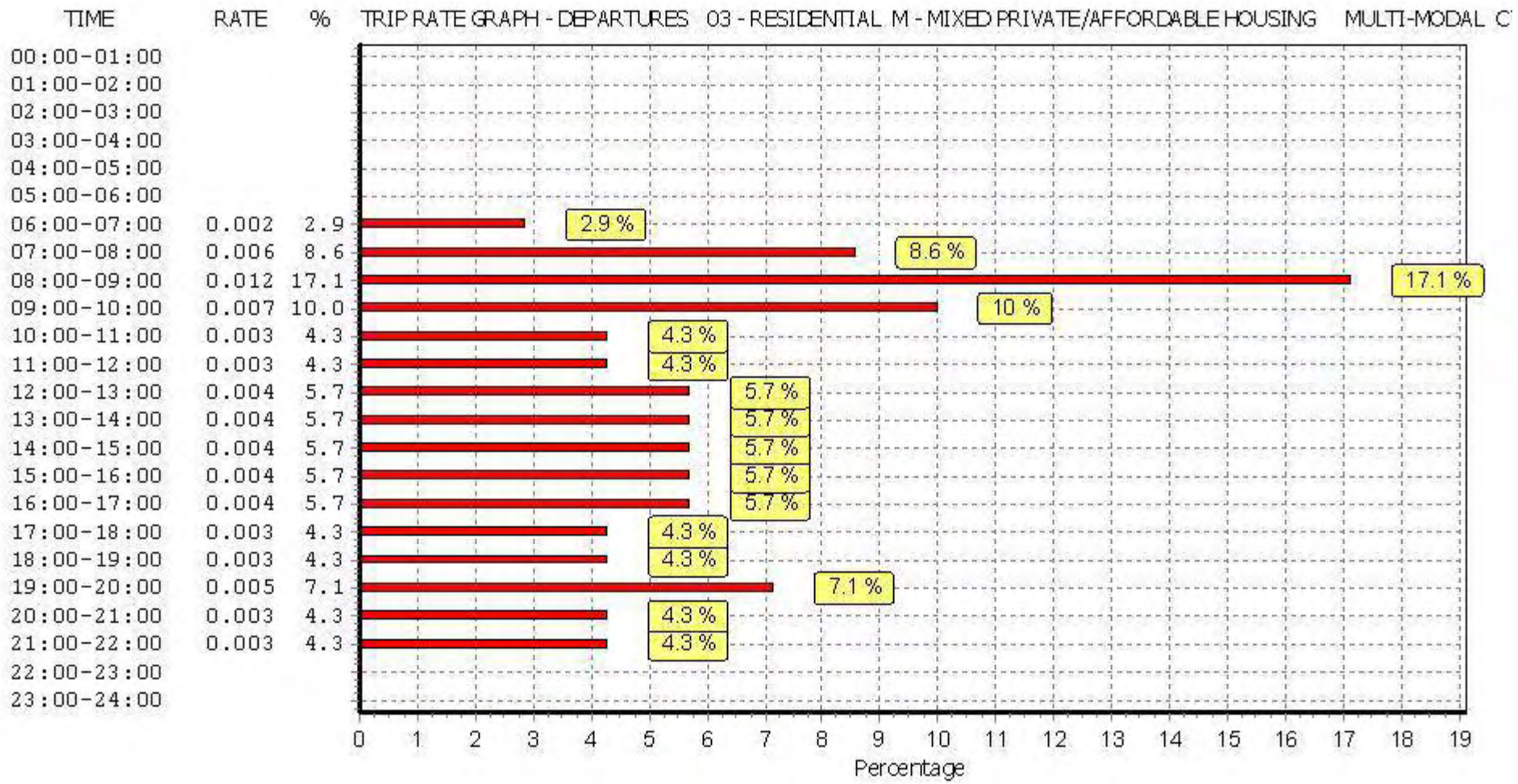
Parameter summary

Trip rate parameter range selected:	328 - 1751 (units:)
Survey date date range:	01/01/08 - 04/11/15
Number of weekdays (Monday-Friday):	4
Number of Saturdays:	0
Number of Sundays:	0
Surveys automatically removed from selection:	2
Surveys manually removed from selection:	0

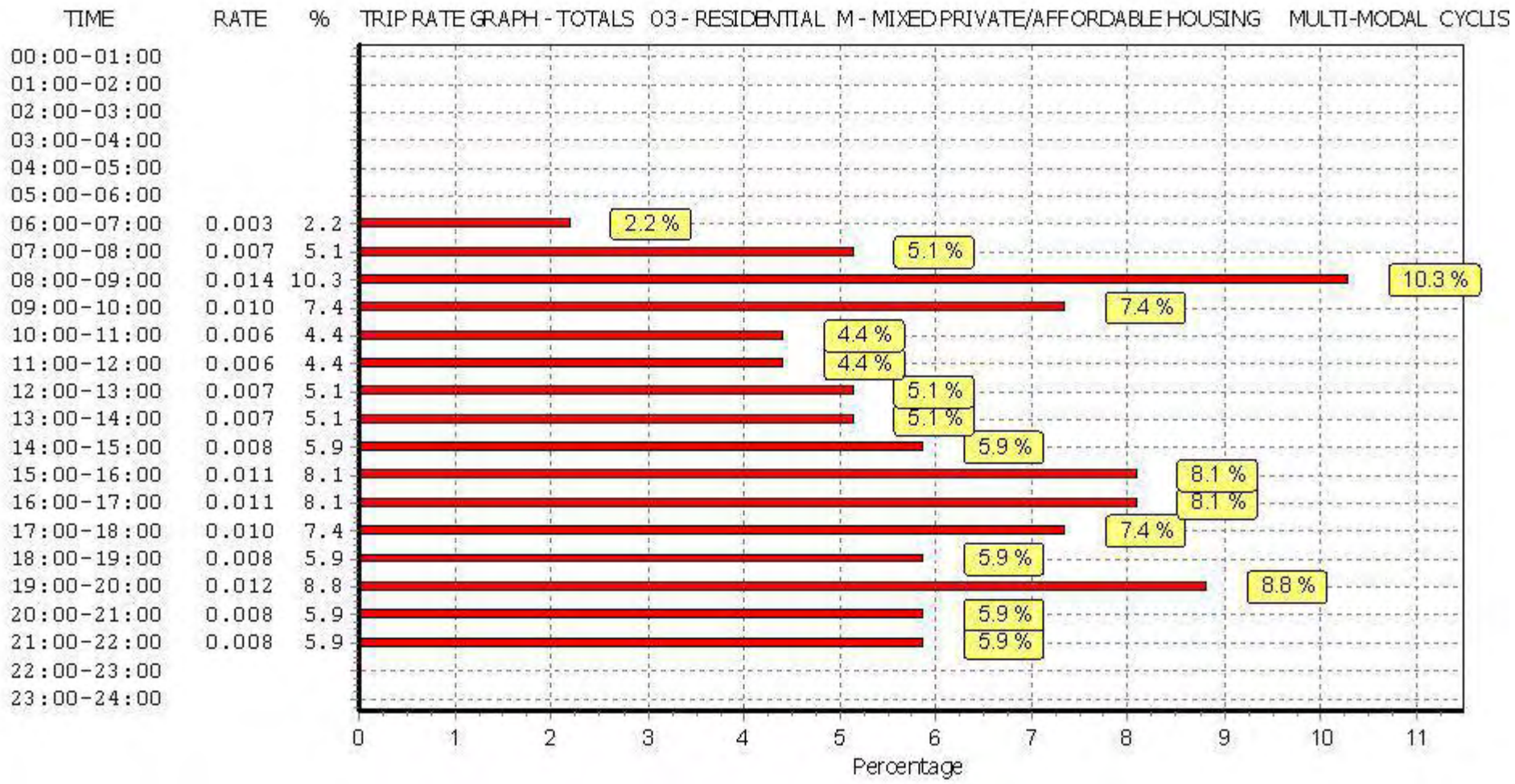
This section displays a quick summary of some of the data filtering selections made by the TRICS® user. The trip rate calculation parameter range of all selected surveys is displayed first, followed by the range of minimum and maximum survey dates selected by the user. Then, the total number of selected 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.



This graph is a visual representation of the trip rate calculation results screen. The same time periods and trip rates are displayed, but in addition there is an additional column showing the percentage of the total trip rate by individual time period, allowing peak periods to be easily identified through observation. Note that the type of count and the selected direction is shown at the top of the graph.



This graph is a visual representation of the trip rate calculation results screen. The same time periods and trip rates are displayed, but in addition there is an additional column showing the percentage of the total trip rate by individual time period, allowing peak periods to be easily identified through observation. Note that the type of count and the selected direction is shown at the top of the graph.



This graph is a visual representation of the trip rate calculation results screen. The same time periods and trip rates are displayed, but in addition there is an additional column showing the percentage of the total trip rate by individual time period, allowing peak periods to be easily identified through observation. Note that the type of count and the selected direction is shown at the top of the graph.

TRIP RATE for Land Use 03 - RESIDENTIAL/M - MIXED PRIVATE/AFFORDABLE HOUSING
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	1	1751	0.013	1	1751	0.022	1	1751	0.035
07:00 - 08:00	4	730	0.047	4	730	0.144	4	730	0.191
08:00 - 09:00	4	730	0.081	4	730	0.266	4	730	0.347
09:00 - 10:00	4	730	0.081	4	730	0.089	4	730	0.170
10:00 - 11:00	4	730	0.061	4	730	0.080	4	730	0.141
11:00 - 12:00	4	730	0.065	4	730	0.089	4	730	0.154
12:00 - 13:00	4	730	0.081	4	730	0.076	4	730	0.157
13:00 - 14:00	4	730	0.084	4	730	0.076	4	730	0.160
14:00 - 15:00	4	730	0.068	4	730	0.097	4	730	0.165
15:00 - 16:00	4	730	0.186	4	730	0.123	4	730	0.309
16:00 - 17:00	4	730	0.142	4	730	0.088	4	730	0.230
17:00 - 18:00	4	730	0.158	4	730	0.089	4	730	0.247
18:00 - 19:00	4	730	0.144	4	730	0.080	4	730	0.224
19:00 - 20:00	1	1751	0.068	1	1751	0.055	1	1751	0.123
20:00 - 21:00	1	1751	0.050	1	1751	0.038	1	1751	0.088
21:00 - 22:00	1	1751	0.039	1	1751	0.029	1	1751	0.068
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			1.368			1.441			2.809

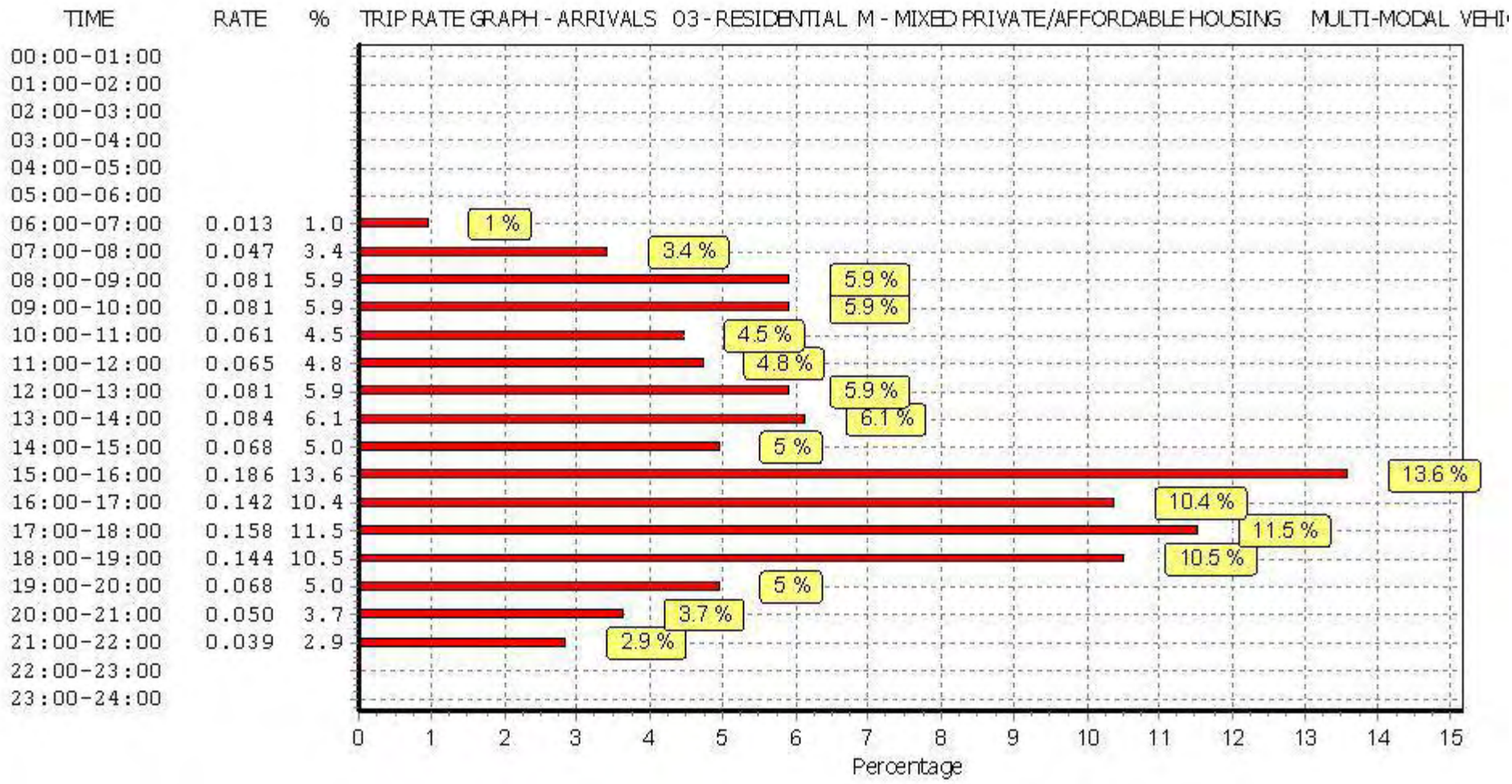
This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are 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.

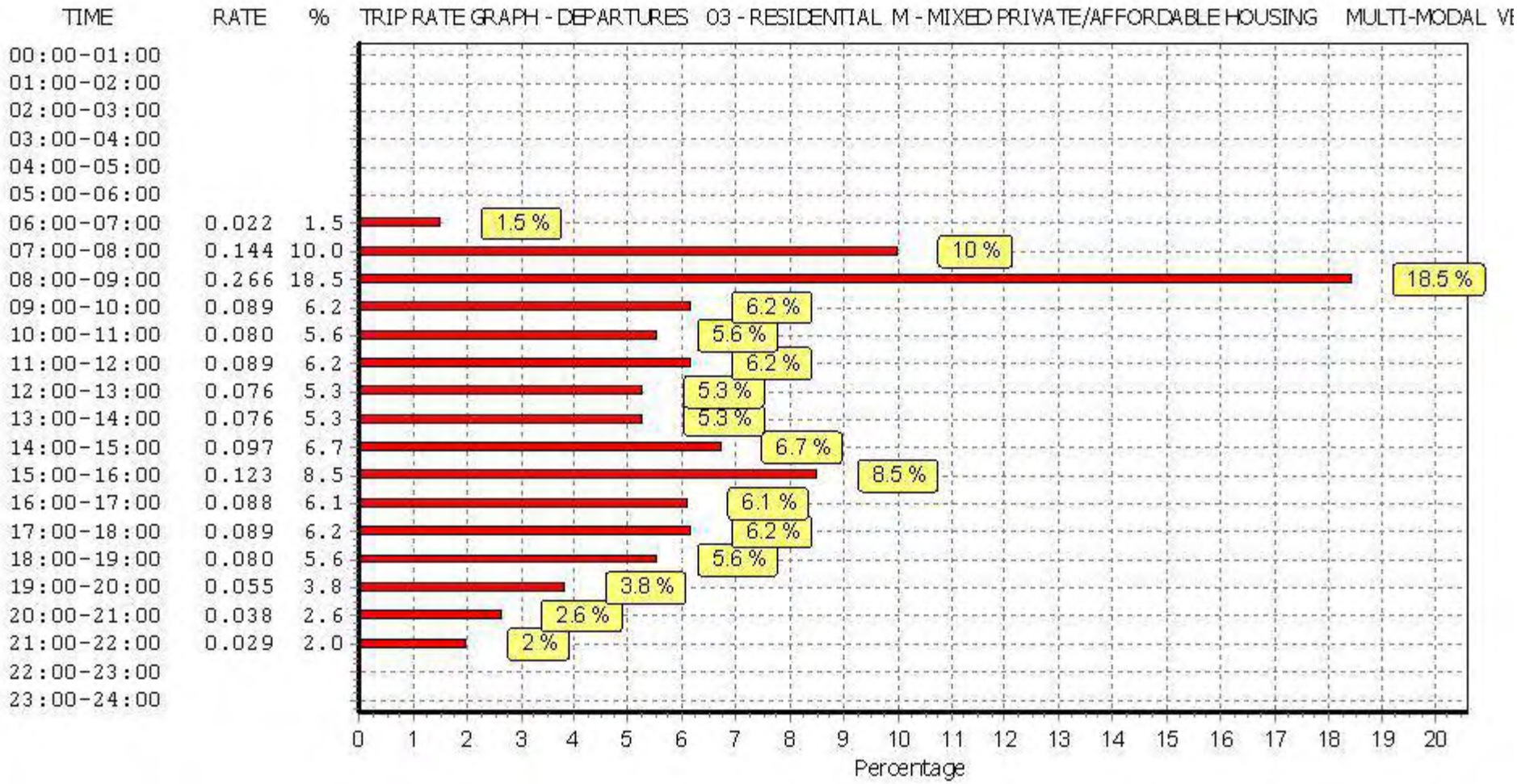
Parameter summary

Trip rate parameter range selected:	328 - 1751 (units:)
Survey date date range:	01/01/08 - 04/11/15
Number of weekdays (Monday-Friday):	4
Number of Saturdays:	0
Number of Sundays:	0
Surveys automatically removed from selection:	2
Surveys manually removed from selection:	0

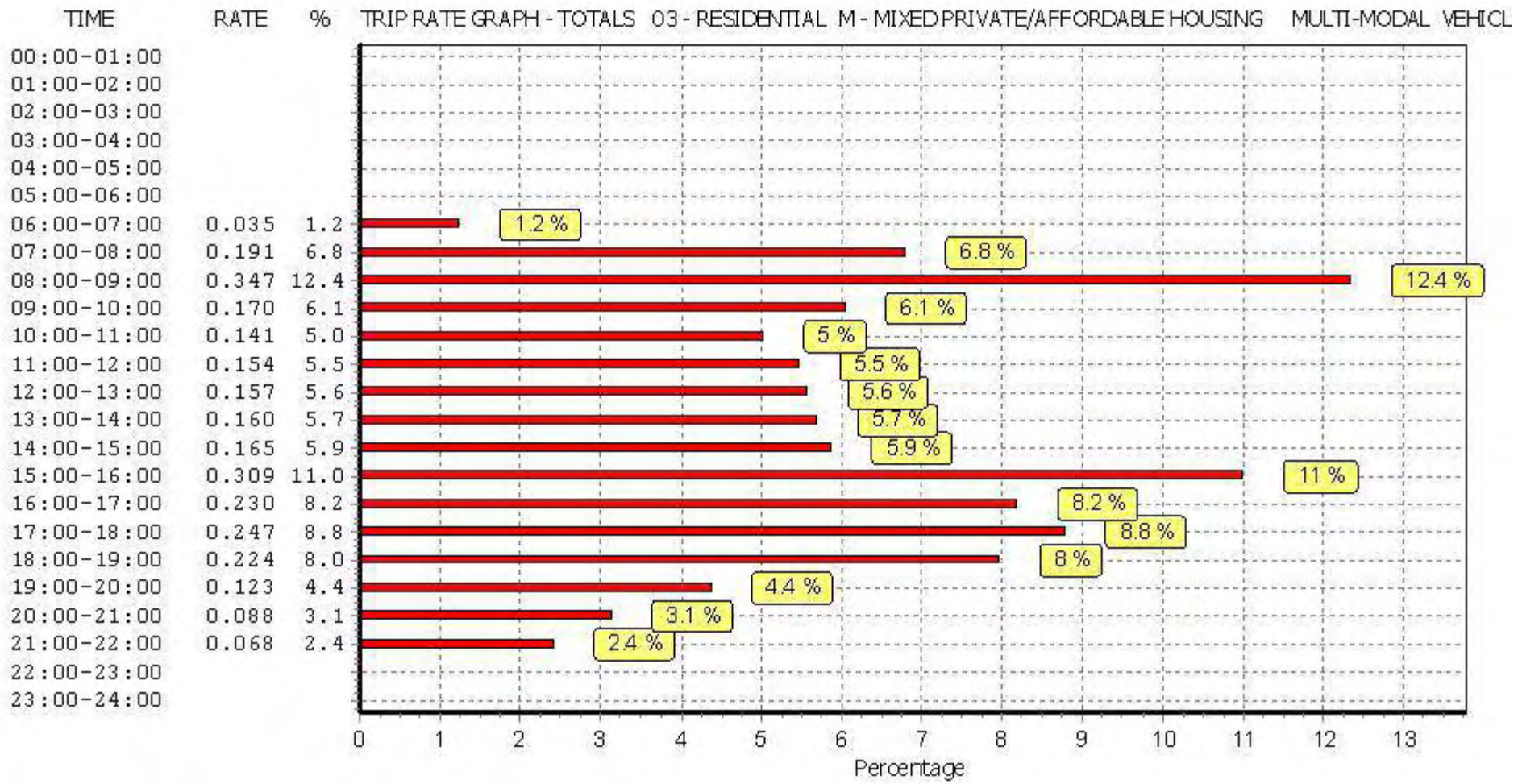
This section displays a quick summary of some of the data filtering selections made by the TRICS® user. The trip rate calculation parameter range of all selected surveys is displayed first, followed by the range of minimum and maximum survey dates selected by the user. Then, the total number of selected 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.



This graph is a visual representation of the trip rate calculation results screen. The same time periods and trip rates are displayed, but in addition there is an additional column showing the percentage of the total trip rate by individual time period, allowing peak periods to be easily identified through observation. Note that the type of count and the selected direction is shown at the top of the graph.



This graph is a visual representation of the trip rate calculation results screen. The same time periods and trip rates are displayed, but in addition there is an additional column showing the percentage of the total trip rate by individual time period, allowing peak periods to be easily identified through observation. Note that the type of count and the selected direction is shown at the top of the graph.



This graph is a visual representation of the trip rate calculation results screen. The same time periods and trip rates are displayed, but in addition there is an additional column showing the percentage of the total trip rate by individual time period, allowing peak periods to be easily identified through observation. Note that the type of count and the selected direction is shown at the top of the graph.

TRIP RATE for Land Use 03 - RESIDENTIAL/M - MIXED PRIVATE/AFFORDABLE HOUSING
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	1	1751	0.004	1	1751	0.017	1	1751	0.021
07:00 - 08:00	4	730	0.011	4	730	0.038	4	730	0.049
08:00 - 09:00	4	730	0.018	4	730	0.084	4	730	0.102
09:00 - 10:00	4	730	0.022	4	730	0.034	4	730	0.056
10:00 - 11:00	4	730	0.020	4	730	0.026	4	730	0.046
11:00 - 12:00	4	730	0.023	4	730	0.029	4	730	0.052
12:00 - 13:00	4	730	0.025	4	730	0.031	4	730	0.056
13:00 - 14:00	4	730	0.024	4	730	0.024	4	730	0.048
14:00 - 15:00	4	730	0.029	4	730	0.030	4	730	0.059
15:00 - 16:00	4	730	0.047	4	730	0.026	4	730	0.073
16:00 - 17:00	4	730	0.042	4	730	0.033	4	730	0.075
17:00 - 18:00	4	730	0.042	4	730	0.025	4	730	0.067
18:00 - 19:00	4	730	0.042	4	730	0.025	4	730	0.067
19:00 - 20:00	1	1751	0.054	1	1751	0.036	1	1751	0.090
20:00 - 21:00	1	1751	0.039	1	1751	0.027	1	1751	0.066
21:00 - 22:00	1	1751	0.042	1	1751	0.027	1	1751	0.069
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.484			0.512			0.996

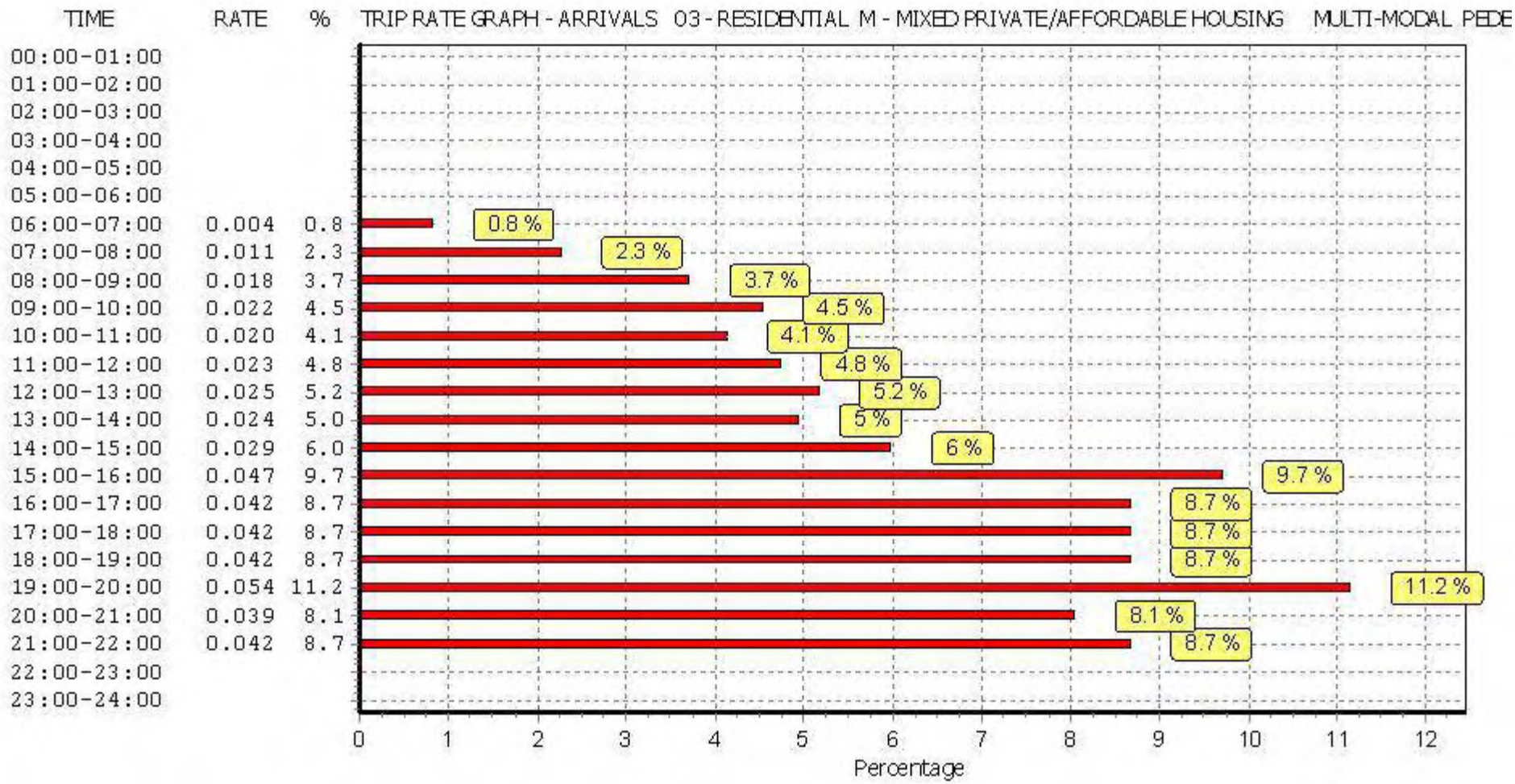
This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are 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.

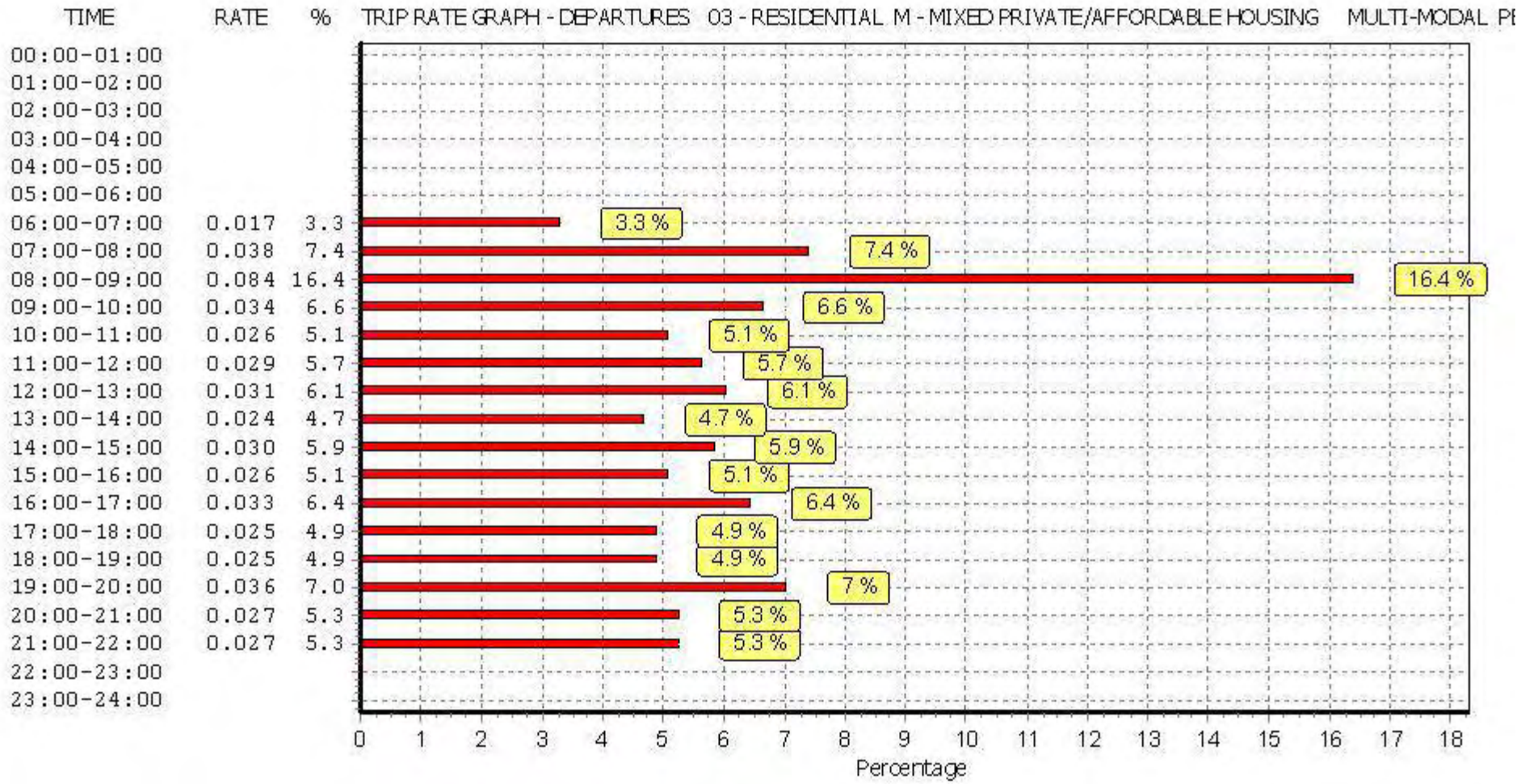
Parameter summary

Trip rate parameter range selected:	328 - 1751 (units:)
Survey date date range:	01/01/08 - 04/11/15
Number of weekdays (Monday-Friday):	4
Number of Saturdays:	0
Number of Sundays:	0
Surveys automatically removed from selection:	2
Surveys manually removed from selection:	0

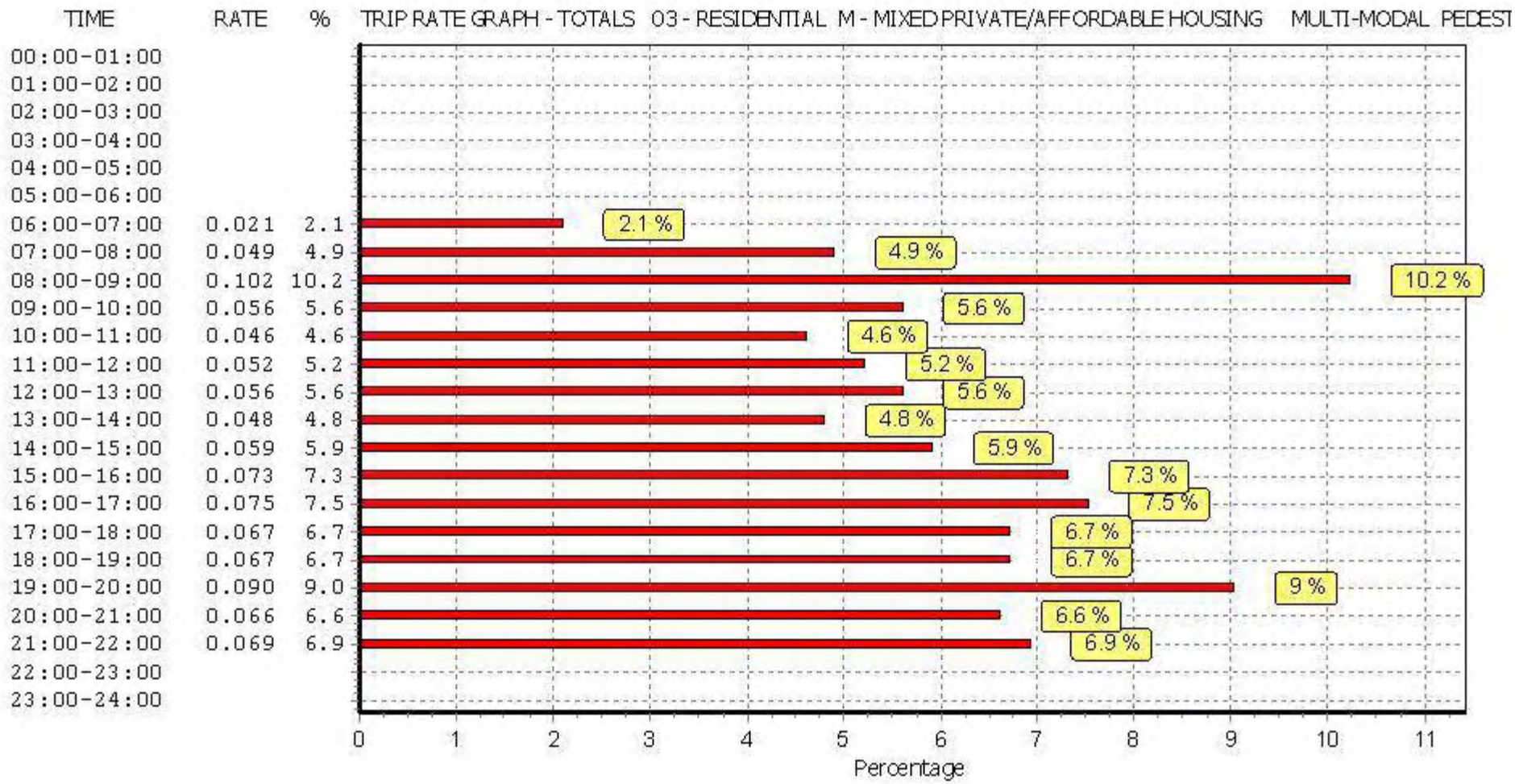
This section displays a quick summary of some of the data filtering selections made by the TRICS® user. The trip rate calculation parameter range of all selected surveys is displayed first, followed by the range of minimum and maximum survey dates selected by the user. Then, the total number of selected 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.



This graph is a visual representation of the trip rate calculation results screen. The same time periods and trip rates are displayed, but in addition there is an additional column showing the percentage of the total trip rate by individual time period, allowing peak periods to be easily identified through observation. Note that the type of count and the selected direction is shown at the top of the graph.



This graph is a visual representation of the trip rate calculation results screen. The same time periods and trip rates are displayed, but in addition there is an additional column showing the percentage of the total trip rate by individual time period, allowing peak periods to be easily identified through observation. Note that the type of count and the selected direction is shown at the top of the graph.



This graph is a visual representation of the trip rate calculation results screen. The same time periods and trip rates are displayed, but in addition there is an additional column showing the percentage of the total trip rate by individual time period, allowing peak periods to be easily identified through observation. Note that the type of count and the selected direction is shown at the top of the graph.

TRIP RATE for Land Use 03 - RESIDENTIAL/M - MIXED PRIVATE/AFFORDABLE HOUSING
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	1	1751	0.002	1	1751	0.010	1	1751	0.012
07:00 - 08:00	4	730	0.005	4	730	0.025	4	730	0.030
08:00 - 09:00	4	730	0.008	4	730	0.048	4	730	0.056
09:00 - 10:00	4	730	0.009	4	730	0.015	4	730	0.024
10:00 - 11:00	4	730	0.009	4	730	0.015	4	730	0.024
11:00 - 12:00	4	730	0.011	4	730	0.015	4	730	0.026
12:00 - 13:00	4	730	0.012	4	730	0.014	4	730	0.026
13:00 - 14:00	4	730	0.011	4	730	0.011	4	730	0.022
14:00 - 15:00	4	730	0.015	4	730	0.016	4	730	0.031
15:00 - 16:00	4	730	0.028	4	730	0.012	4	730	0.040
16:00 - 17:00	4	730	0.025	4	730	0.016	4	730	0.041
17:00 - 18:00	4	730	0.021	4	730	0.011	4	730	0.032
18:00 - 19:00	4	730	0.020	4	730	0.012	4	730	0.032
19:00 - 20:00	1	1751	0.032	1	1751	0.021	1	1751	0.053
20:00 - 21:00	1	1751	0.023	1	1751	0.016	1	1751	0.039
21:00 - 22:00	1	1751	0.025	1	1751	0.016	1	1751	0.041
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.256			0.273			0.529

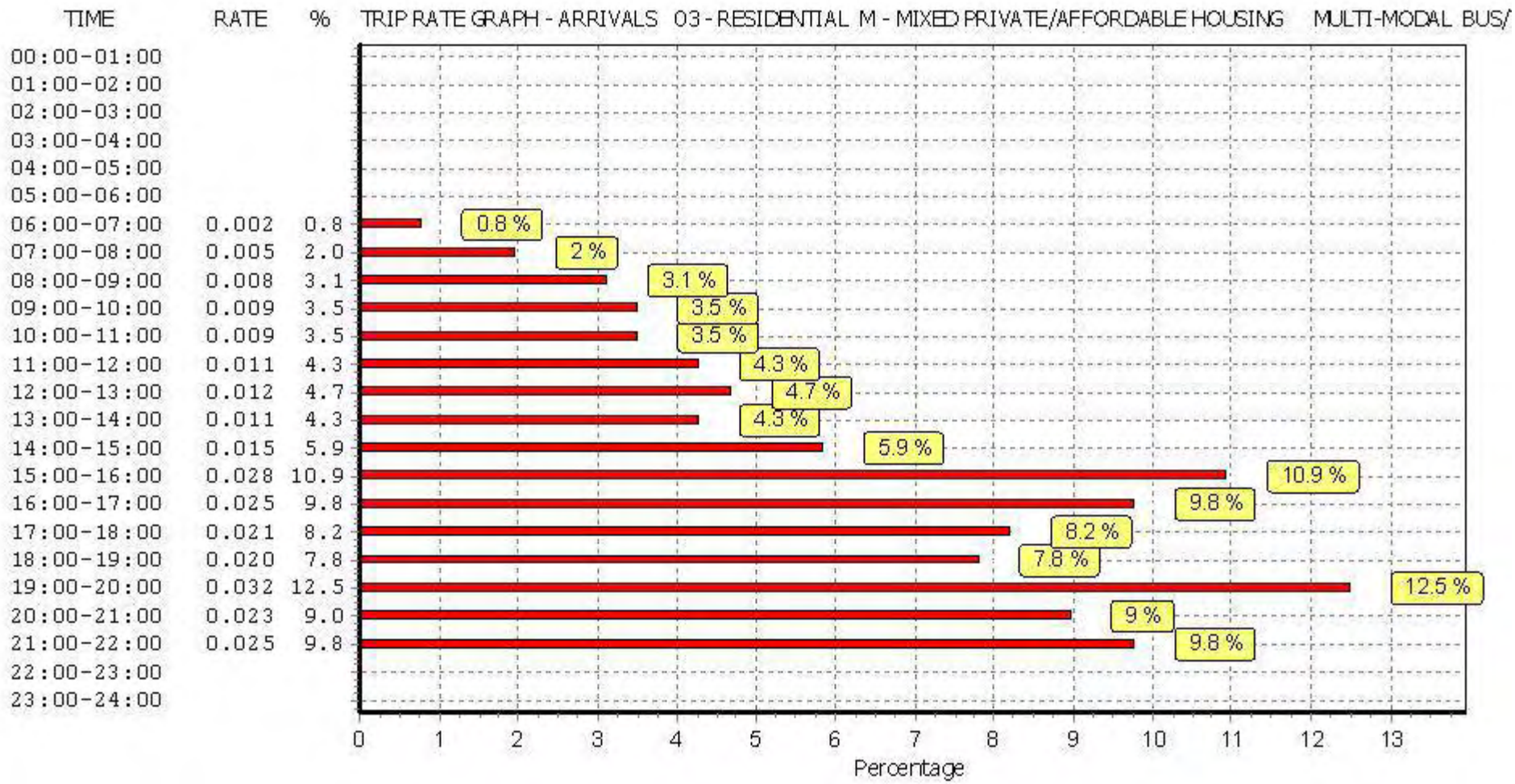
This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are 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.

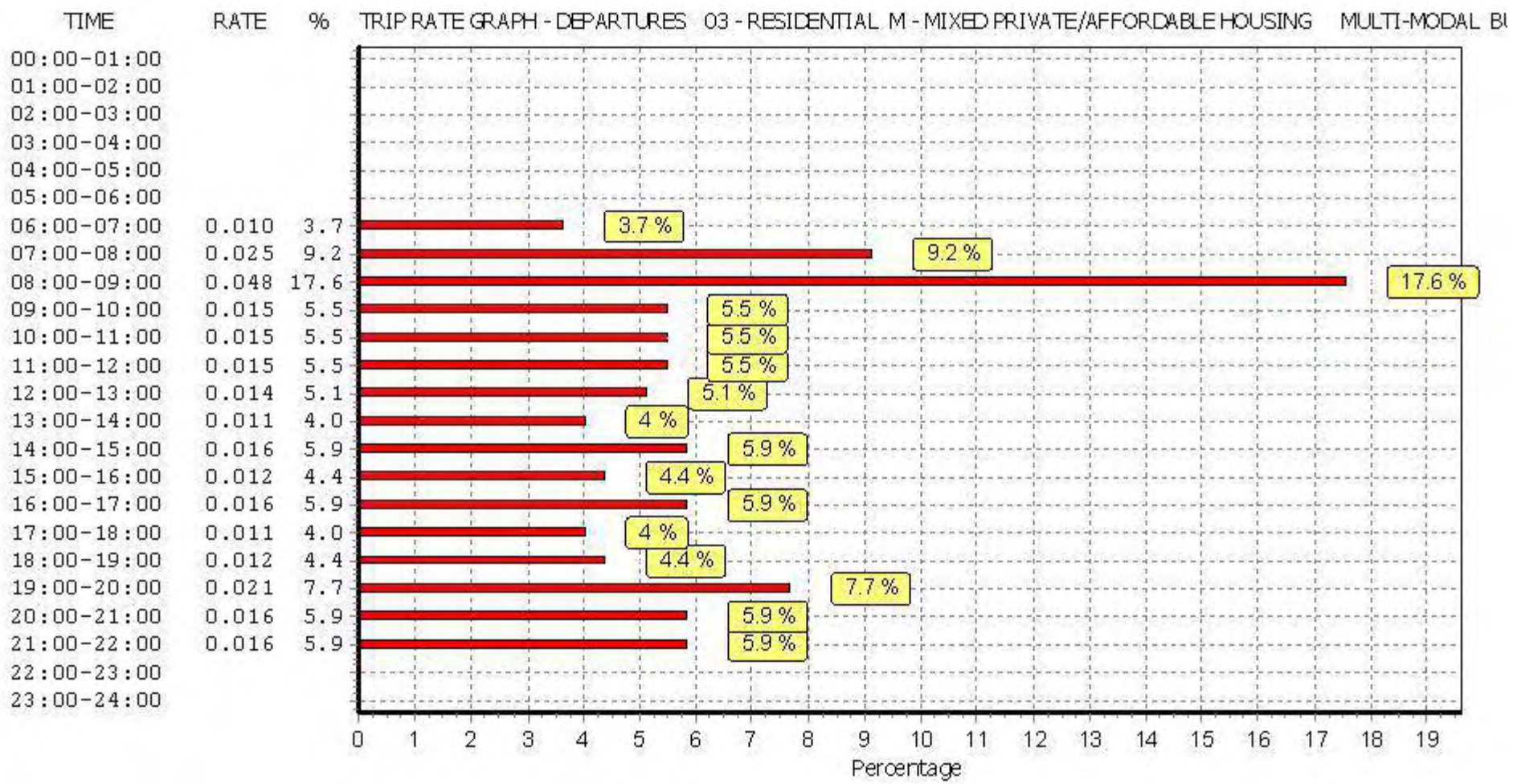
Parameter summary

Trip rate parameter range selected:	328 - 1751 (units:)
Survey date date range:	01/01/08 - 04/11/15
Number of weekdays (Monday-Friday):	4
Number of Saturdays:	0
Number of Sundays:	0
Surveys automatically removed from selection:	2
Surveys manually removed from selection:	0

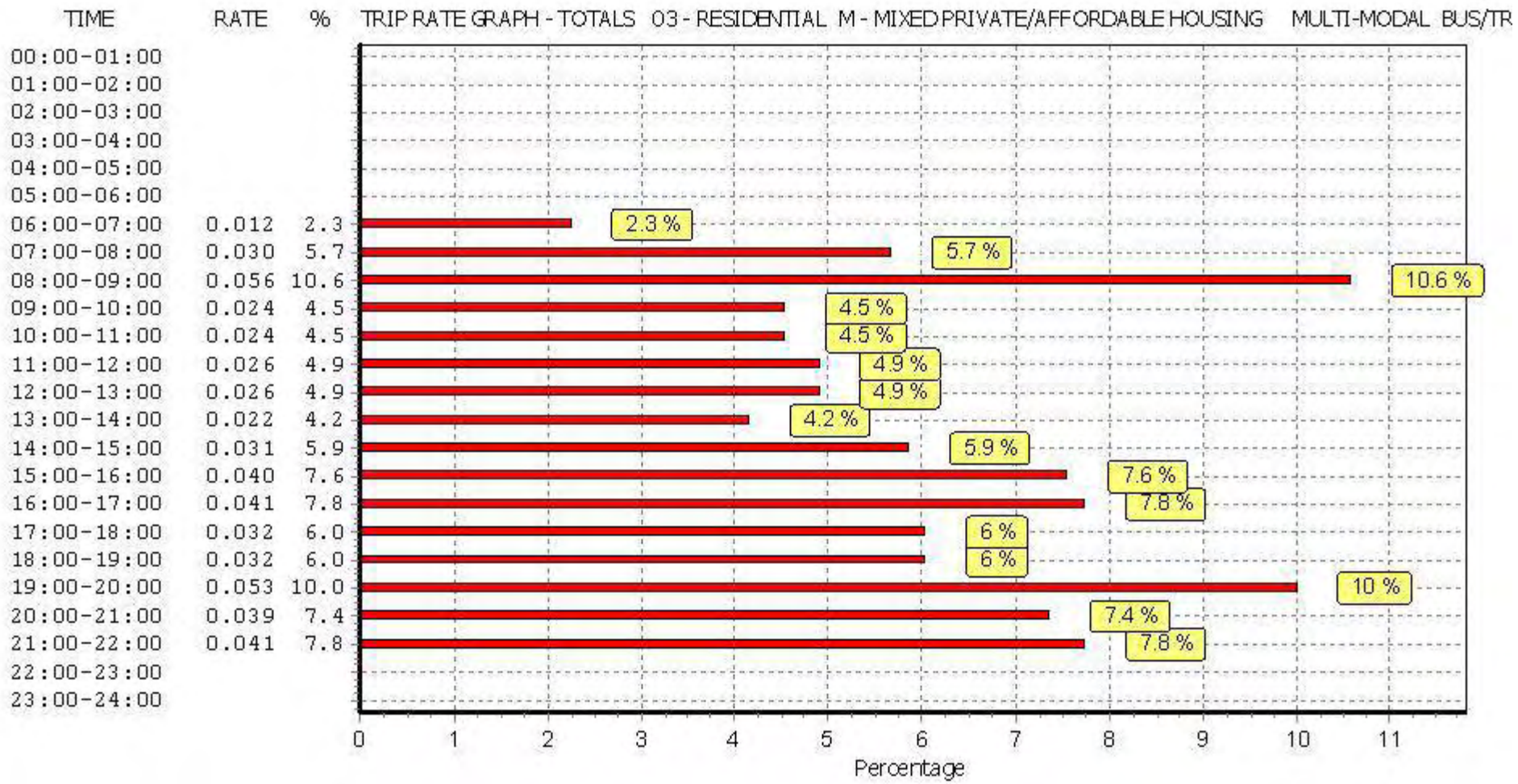
This section displays a quick summary of some of the data filtering selections made by the TRICS® user. The trip rate calculation parameter range of all selected surveys is displayed first, followed by the range of minimum and maximum survey dates selected by the user. Then, the total number of selected 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.



This graph is a visual representation of the trip rate calculation results screen. The same time periods and trip rates are displayed, but in addition there is an additional column showing the percentage of the total trip rate by individual time period, allowing peak periods to be easily identified through observation. Note that the type of count and the selected direction is shown at the top of the graph.



This graph is a visual representation of the trip rate calculation results screen. The same time periods and trip rates are displayed, but in addition there is an additional column showing the percentage of the total trip rate by individual time period, allowing peak periods to be easily identified through observation. Note that the type of count and the selected direction is shown at the top of the graph.



This graph is a visual representation of the trip rate calculation results screen. The same time periods and trip rates are displayed, but in addition there is an additional column showing the percentage of the total trip rate by individual time period, allowing peak periods to be easily identified through observation. Note that the type of count and the selected direction is shown at the top of the graph.

TRIP RATE for Land Use 03 - RESIDENTIAL/M - MIXED PRIVATE/AFFORDABLE HOUSING
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	1	1751	0.006	1	1751	0.022	1	1751	0.028
07:00 - 08:00	4	730	0.011	4	730	0.045	4	730	0.056
08:00 - 09:00	4	730	0.017	4	730	0.085	4	730	0.102
09:00 - 10:00	4	730	0.018	4	730	0.034	4	730	0.052
10:00 - 11:00	4	730	0.020	4	730	0.031	4	730	0.051
11:00 - 12:00	4	730	0.024	4	730	0.031	4	730	0.055
12:00 - 13:00	4	730	0.024	4	730	0.030	4	730	0.054
13:00 - 14:00	4	730	0.023	4	730	0.025	4	730	0.048
14:00 - 15:00	4	730	0.032	4	730	0.031	4	730	0.063
15:00 - 16:00	4	730	0.039	4	730	0.027	4	730	0.066
16:00 - 17:00	4	730	0.046	4	730	0.035	4	730	0.081
17:00 - 18:00	4	730	0.045	4	730	0.025	4	730	0.070
18:00 - 19:00	4	730	0.043	4	730	0.027	4	730	0.070
19:00 - 20:00	1	1751	0.072	1	1751	0.048	1	1751	0.120
20:00 - 21:00	1	1751	0.051	1	1751	0.036	1	1751	0.087
21:00 - 22:00	1	1751	0.055	1	1751	0.036	1	1751	0.091
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.526			0.568			1.094

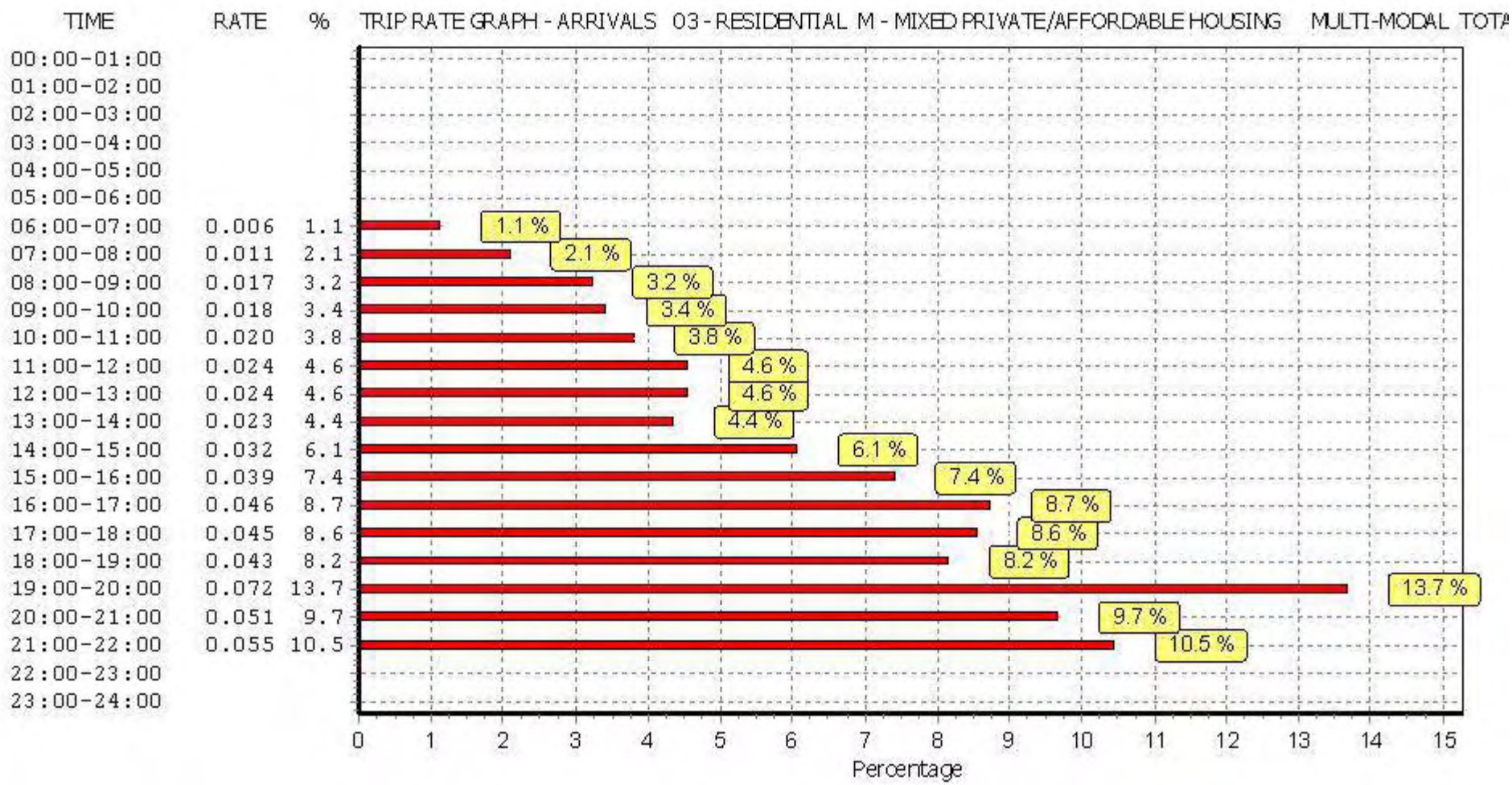
This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are 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.

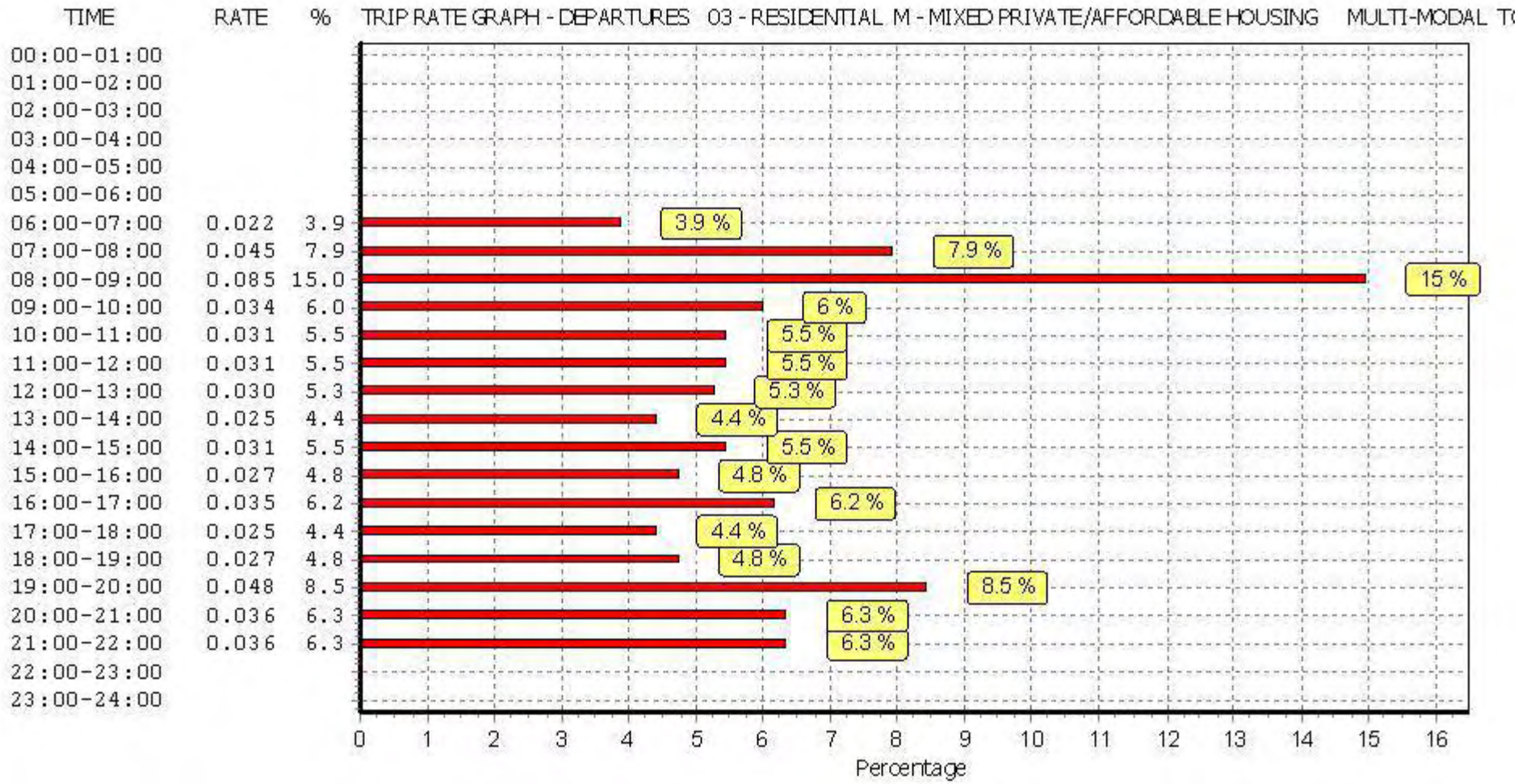
Parameter summary

Trip rate parameter range selected:	328 - 1751 (units:)
Survey date date range:	01/01/08 - 04/11/15
Number of weekdays (Monday-Friday):	4
Number of Saturdays:	0
Number of Sundays:	0
Surveys automatically removed from selection:	2
Surveys manually removed from selection:	0

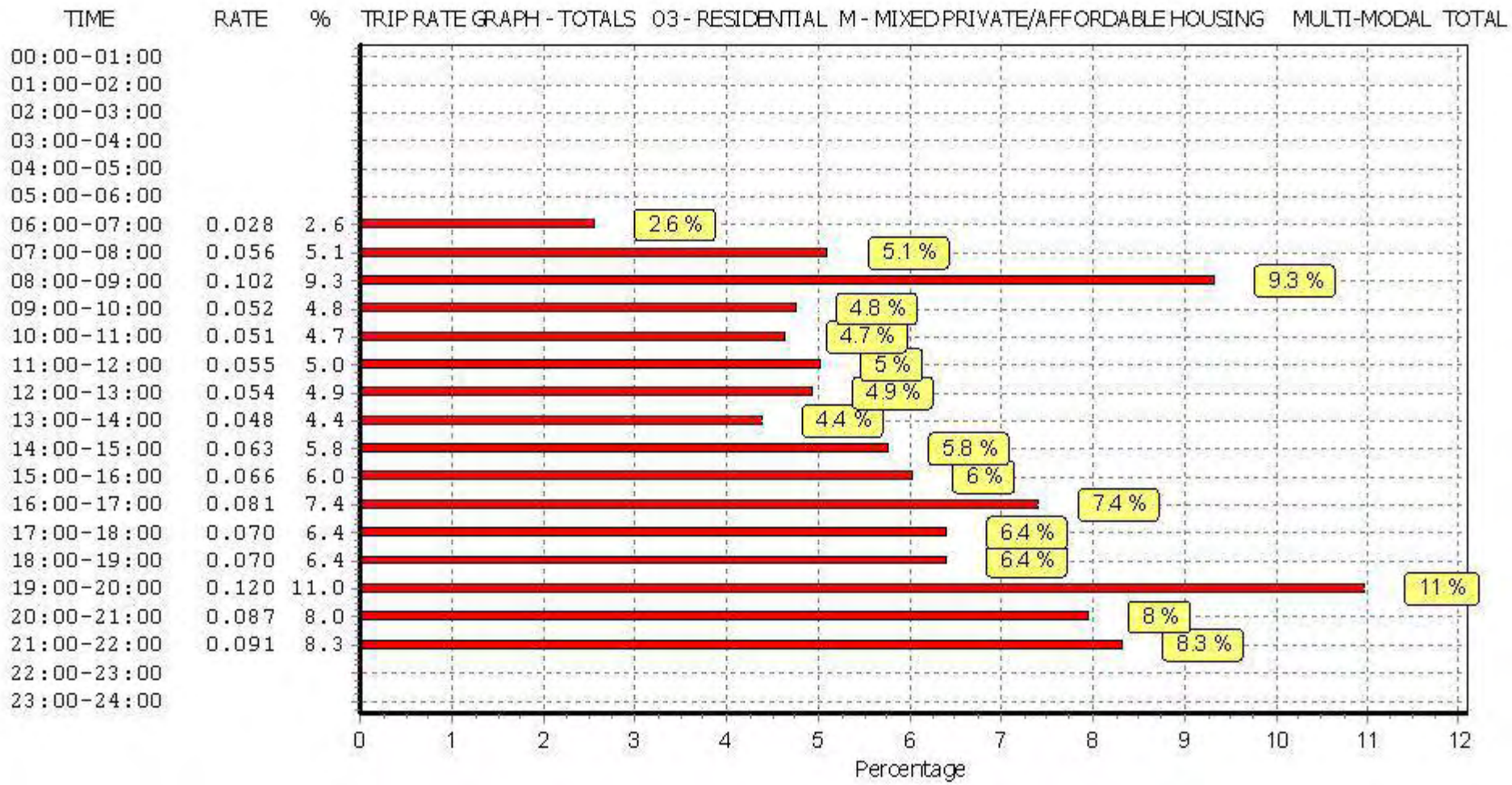
This section displays a quick summary of some of the data filtering selections made by the TRICS® user. The trip rate calculation parameter range of all selected surveys is displayed first, followed by the range of minimum and maximum survey dates selected by the user. Then, the total number of selected 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.



This graph is a visual representation of the trip rate calculation results screen. The same time periods and trip rates are displayed, but in addition there is an additional column showing the percentage of the total trip rate by individual time period, allowing peak periods to be easily identified through observation. Note that the type of count and the selected direction is shown at the top of the graph.



This graph is a visual representation of the trip rate calculation results screen. The same time periods and trip rates are displayed, but in addition there is an additional column showing the percentage of the total trip rate by individual time period, allowing peak periods to be easily identified through observation. Note that the type of count and the selected direction is shown at the top of the graph.



This graph is a visual representation of the trip rate calculation results screen. The same time periods and trip rates are displayed, but in addition there is an additional column showing the percentage of the total trip rate by individual time period, allowing peak periods to be easily identified through observation. Note that the type of count and the selected direction is shown at the top of the graph.

TRIP RATE for Land Use 03 - RESIDENTIAL/M - MIXED PRIVATE/AFFORDABLE HOUSING
MULTI-MODAL COACH 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	1	1751	0.000	1	1751	0.000	1	1751	0.000
07:00 - 08:00	4	730	0.000	4	730	0.000	4	730	0.000
08:00 - 09:00	4	730	0.000	4	730	0.000	4	730	0.000
09:00 - 10:00	4	730	0.000	4	730	0.000	4	730	0.000
10:00 - 11:00	4	730	0.000	4	730	0.000	4	730	0.000
11:00 - 12:00	4	730	0.000	4	730	0.000	4	730	0.000
12:00 - 13:00	4	730	0.000	4	730	0.000	4	730	0.000
13:00 - 14:00	4	730	0.000	4	730	0.000	4	730	0.000
14:00 - 15:00	4	730	0.000	4	730	0.000	4	730	0.000
15:00 - 16:00	4	730	0.000	4	730	0.000	4	730	0.000
16:00 - 17:00	4	730	0.000	4	730	0.000	4	730	0.000
17:00 - 18:00	4	730	0.000	4	730	0.000	4	730	0.000
18:00 - 19:00	4	730	0.000	4	730	0.000	4	730	0.000
19:00 - 20:00	1	1751	0.000	1	1751	0.000	1	1751	0.000
20:00 - 21:00	1	1751	0.000	1	1751	0.000	1	1751	0.000
21:00 - 22:00	1	1751	0.000	1	1751	0.000	1	1751	0.000
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.000			0.000			0.000

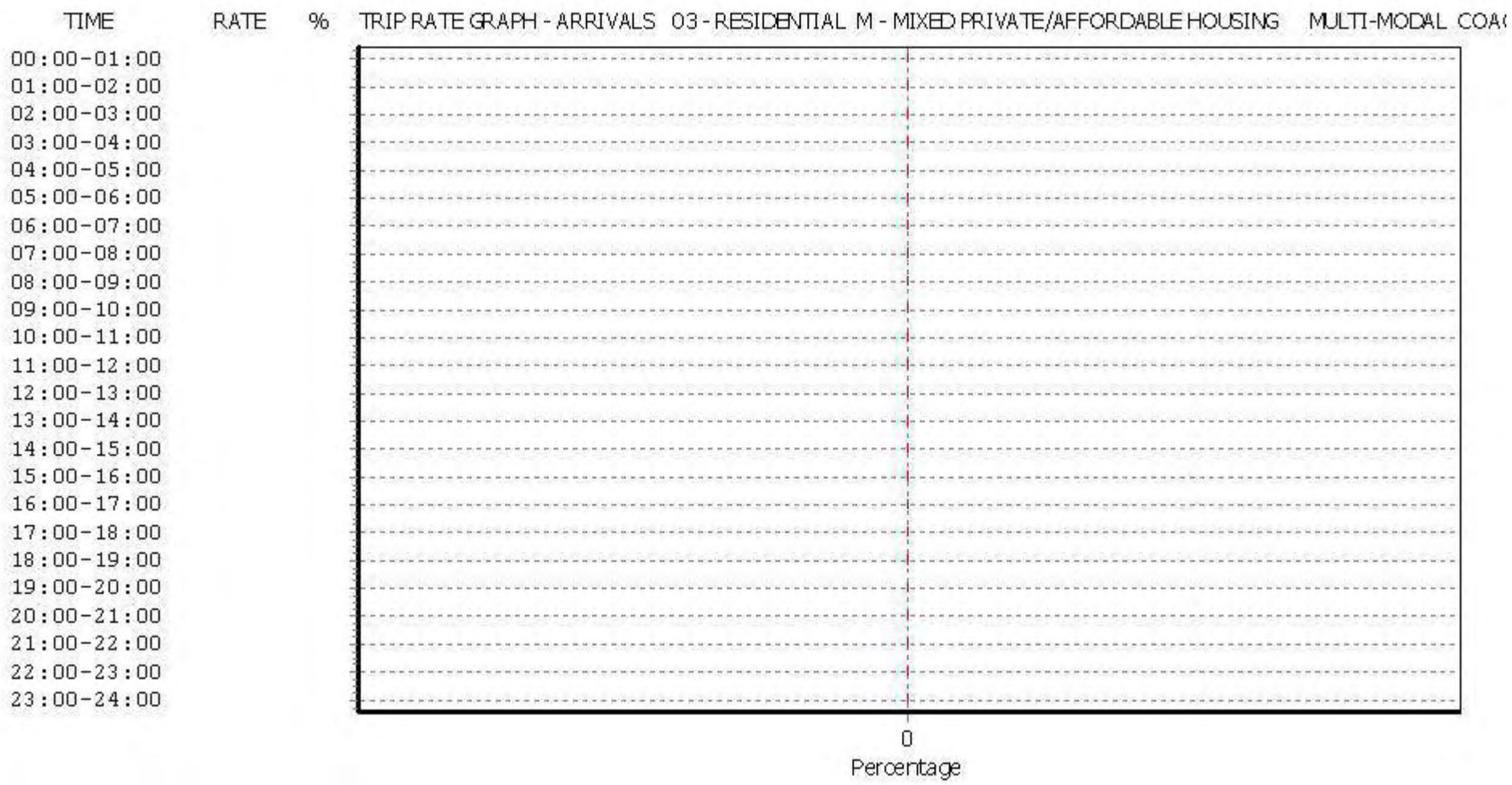
This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are 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.

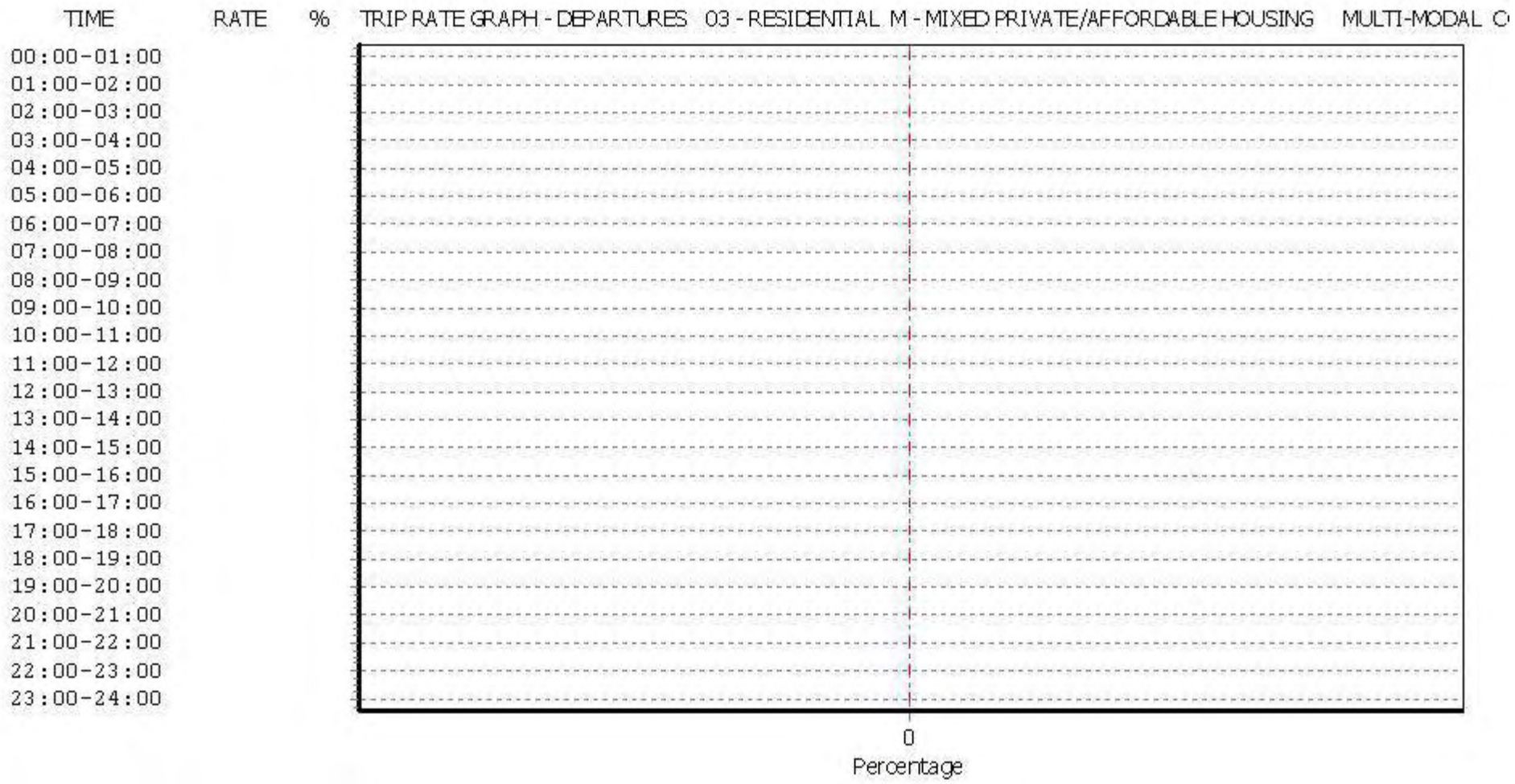
Parameter summary

Trip rate parameter range selected:	328 - 1751 (units:)
Survey date date range:	01/01/08 - 04/11/15
Number of weekdays (Monday-Friday):	4
Number of Saturdays:	0
Number of Sundays:	0
Surveys automatically removed from selection:	2
Surveys manually removed from selection:	0

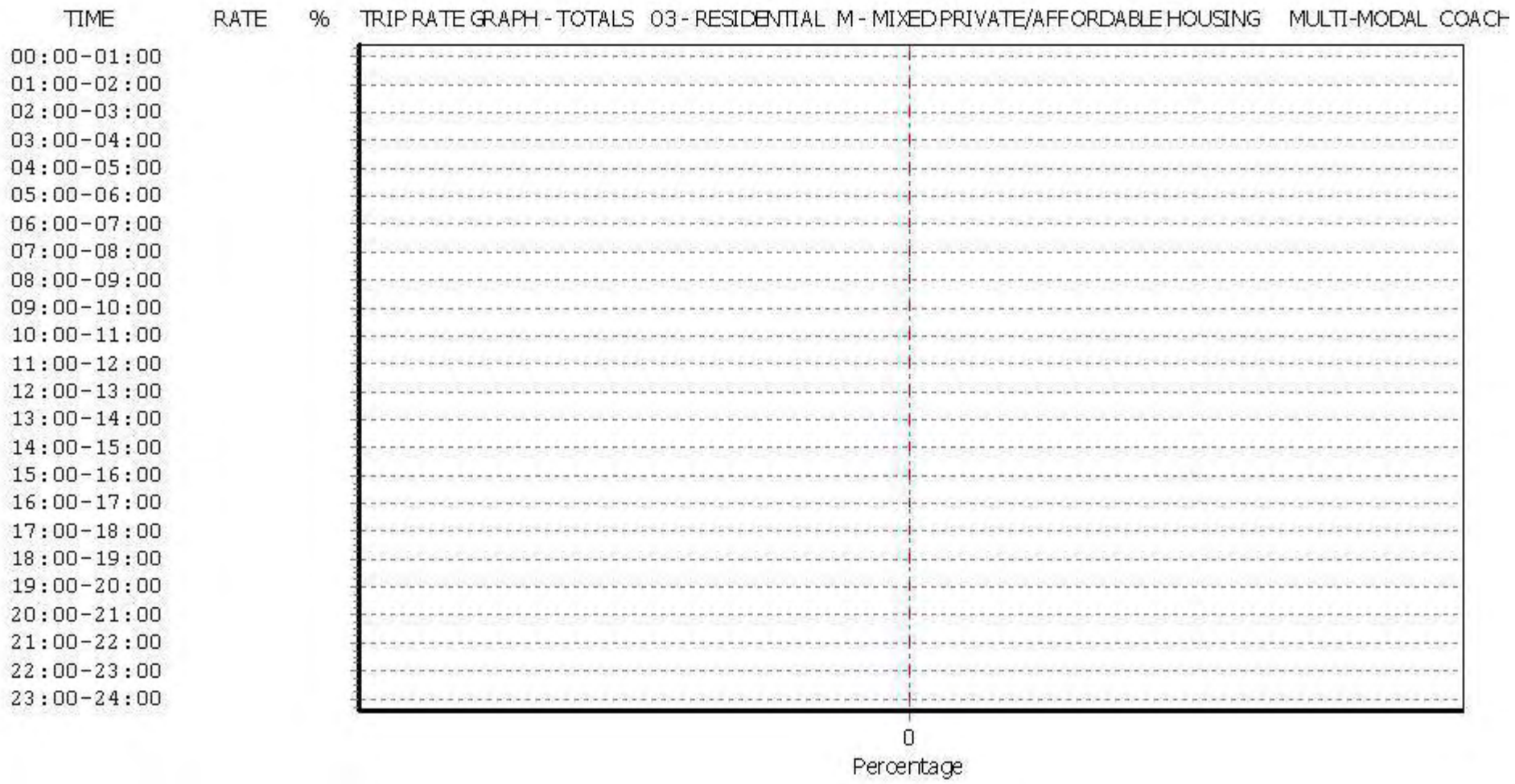
This section displays a quick summary of some of the data filtering selections made by the TRICS® user. The trip rate calculation parameter range of all selected surveys is displayed first, followed by the range of minimum and maximum survey dates selected by the user. Then, the total number of selected 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.



This graph is a visual representation of the trip rate calculation results screen. The same time periods and trip rates are displayed, but in addition there is an additional column showing the percentage of the total trip rate by individual time period, allowing peak periods to be easily identified through observation. Note that the type of count and the selected direction is shown at the top of the graph.



This graph is a visual representation of the trip rate calculation results screen. The same time periods and trip rates are displayed, but in addition there is an additional column showing the percentage of the total trip rate by individual time period, allowing peak periods to be easily identified through observation. Note that the type of count and the selected direction is shown at the top of the graph.



This graph is a visual representation of the trip rate calculation results screen. The same time periods and trip rates are displayed, but in addition there is an additional column showing the percentage of the total trip rate by individual time period, allowing peak periods to be easily identified through observation. Note that the type of count and the selected direction is shown at the top of the graph.

TRIP RATE for Land Use 03 - RESIDENTIAL/M - MIXED PRIVATE/AFFORDABLE HOUSING
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	1	1751	0.008	1	1751	0.033	1	1751	0.041
07:00 - 08:00	4	730	0.016	4	730	0.071	4	730	0.087
08:00 - 09:00	4	730	0.025	4	730	0.134	4	730	0.159
09:00 - 10:00	4	730	0.027	4	730	0.050	4	730	0.077
10:00 - 11:00	4	730	0.029	4	730	0.047	4	730	0.076
11:00 - 12:00	4	730	0.036	4	730	0.047	4	730	0.083
12:00 - 13:00	4	730	0.036	4	730	0.045	4	730	0.081
13:00 - 14:00	4	730	0.035	4	730	0.037	4	730	0.072
14:00 - 15:00	4	730	0.048	4	730	0.047	4	730	0.095
15:00 - 16:00	4	730	0.069	4	730	0.040	4	730	0.109
16:00 - 17:00	4	730	0.071	4	730	0.051	4	730	0.122
17:00 - 18:00	4	730	0.066	4	730	0.037	4	730	0.103
18:00 - 19:00	4	730	0.064	4	730	0.040	4	730	0.104
19:00 - 20:00	1	1751	0.106	1	1751	0.070	1	1751	0.176
20:00 - 21:00	1	1751	0.075	1	1751	0.053	1	1751	0.128
21:00 - 22:00	1	1751	0.081	1	1751	0.053	1	1751	0.134
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.792			0.855			1.647

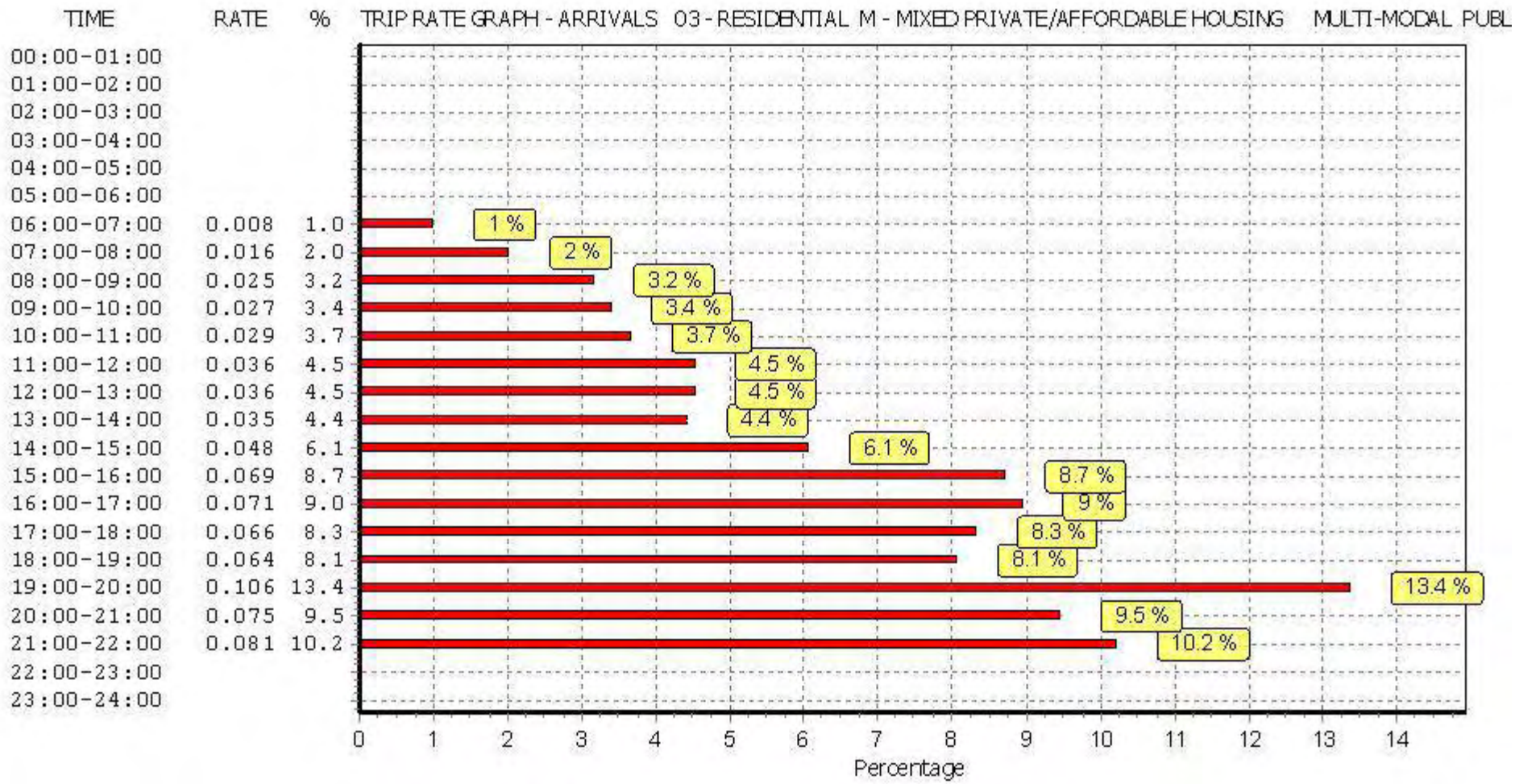
This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are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

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

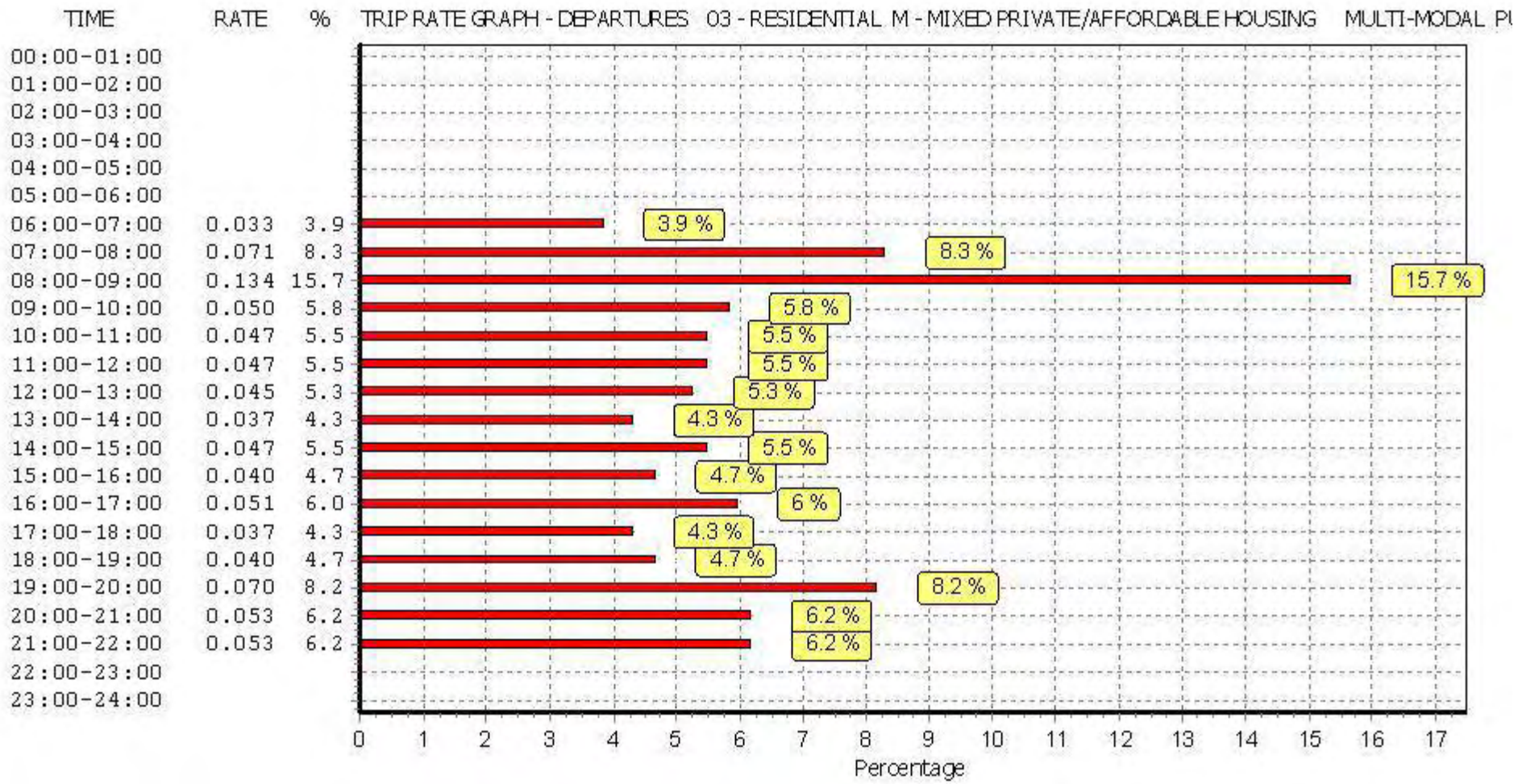
Parameter summary

Trip rate parameter range selected:	328 - 1751 (units:)
Survey date date range:	01/01/08 - 04/11/15
Number of weekdays (Monday-Friday):	4
Number of Saturdays:	0
Number of Sundays:	0
Surveys automatically removed from selection:	2
Surveys manually removed from selection:	0

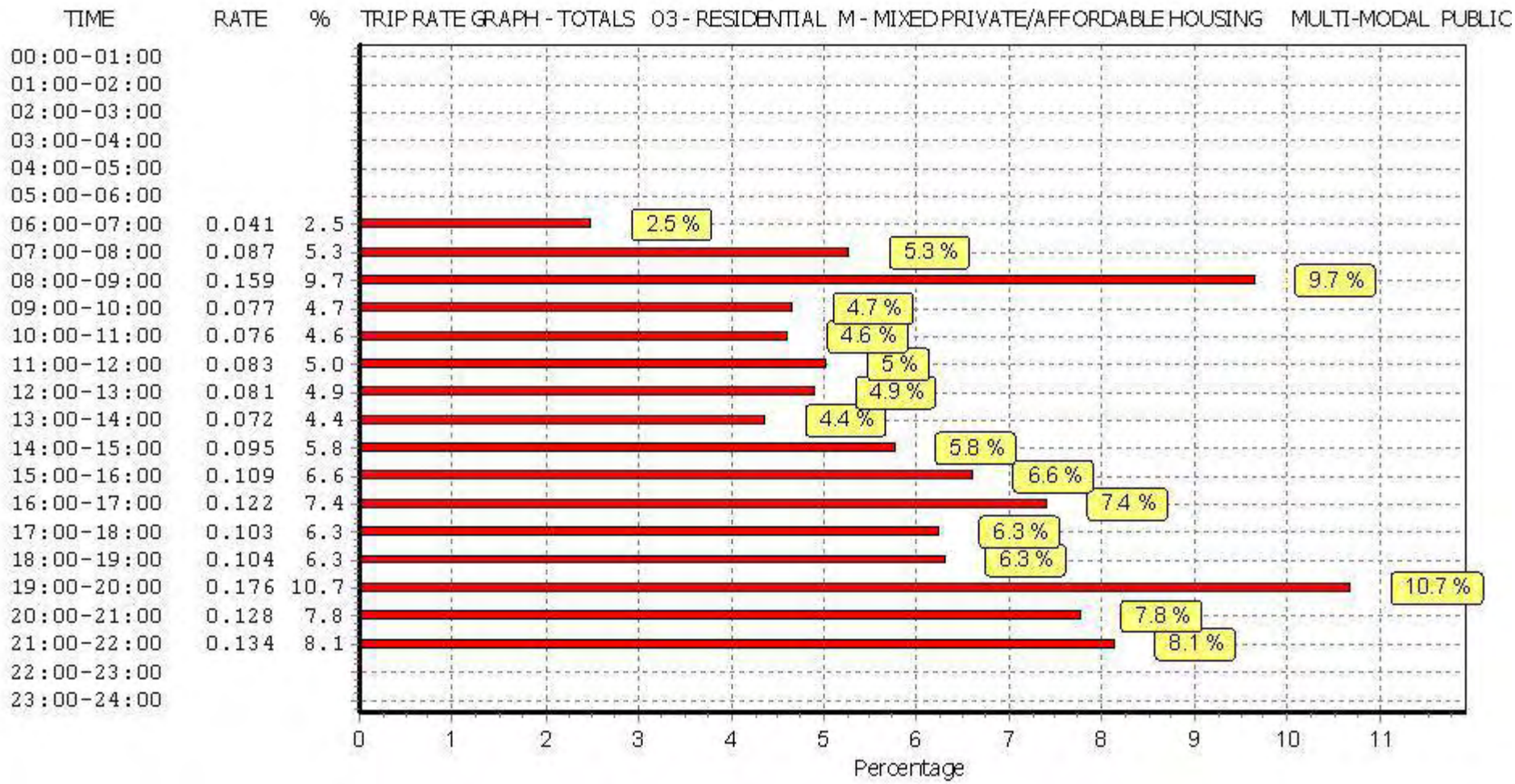
This section displays a quick summary of some of the data filtering selections made by the TRICS® user. The trip rate calculation parameter range of all selected surveys is displayed first, followed by the range of minimum and maximum survey dates selected by the user. Then, the total number of selected 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.



This graph is a visual representation of the trip rate calculation results screen. The same time periods and trip rates are displayed, but in addition there is an additional column showing the percentage of the total trip rate by individual time period, allowing peak periods to be easily identified through observation. Note that the type of count and the selected direction is shown at the top of the graph.



This graph is a visual representation of the trip rate calculation results screen. The same time periods and trip rates are displayed, but in addition there is an additional column showing the percentage of the total trip rate by individual time period, allowing peak periods to be easily identified through observation. Note that the type of count and the selected direction is shown at the top of the graph.



This graph is a visual representation of the trip rate calculation results screen. The same time periods and trip rates are displayed, but in addition there is an additional column showing the percentage of the total trip rate by individual time period, allowing peak periods to be easily identified through observation. Note that the type of count and the selected direction is shown at the top of the graph.

TRIP RATE for Land Use 03 - RESIDENTIAL/M - MIXED PRIVATE/AFFORDABLE HOUSING
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	1	1751	0.025	1	1751	0.074	1	1751	0.099
07:00 - 08:00	4	730	0.076	4	730	0.260	4	730	0.336
08:00 - 09:00	4	730	0.126	4	730	0.495	4	730	0.621
09:00 - 10:00	4	730	0.134	4	730	0.179	4	730	0.313
10:00 - 11:00	4	730	0.113	4	730	0.156	4	730	0.269
11:00 - 12:00	4	730	0.127	4	730	0.167	4	730	0.294
12:00 - 13:00	4	730	0.146	4	730	0.156	4	730	0.302
13:00 - 14:00	4	730	0.146	4	730	0.141	4	730	0.287
14:00 - 15:00	4	730	0.149	4	730	0.178	4	730	0.327
15:00 - 16:00	4	730	0.308	4	730	0.192	4	730	0.500
16:00 - 17:00	4	730	0.263	4	730	0.176	4	730	0.439
17:00 - 18:00	4	730	0.273	4	730	0.155	4	730	0.428
18:00 - 19:00	4	730	0.255	4	730	0.148	4	730	0.403
19:00 - 20:00	1	1751	0.235	1	1751	0.166	1	1751	0.401
20:00 - 21:00	1	1751	0.168	1	1751	0.122	1	1751	0.290
21:00 - 22:00	1	1751	0.167	1	1751	0.113	1	1751	0.280
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			2.711			2.878			5.589

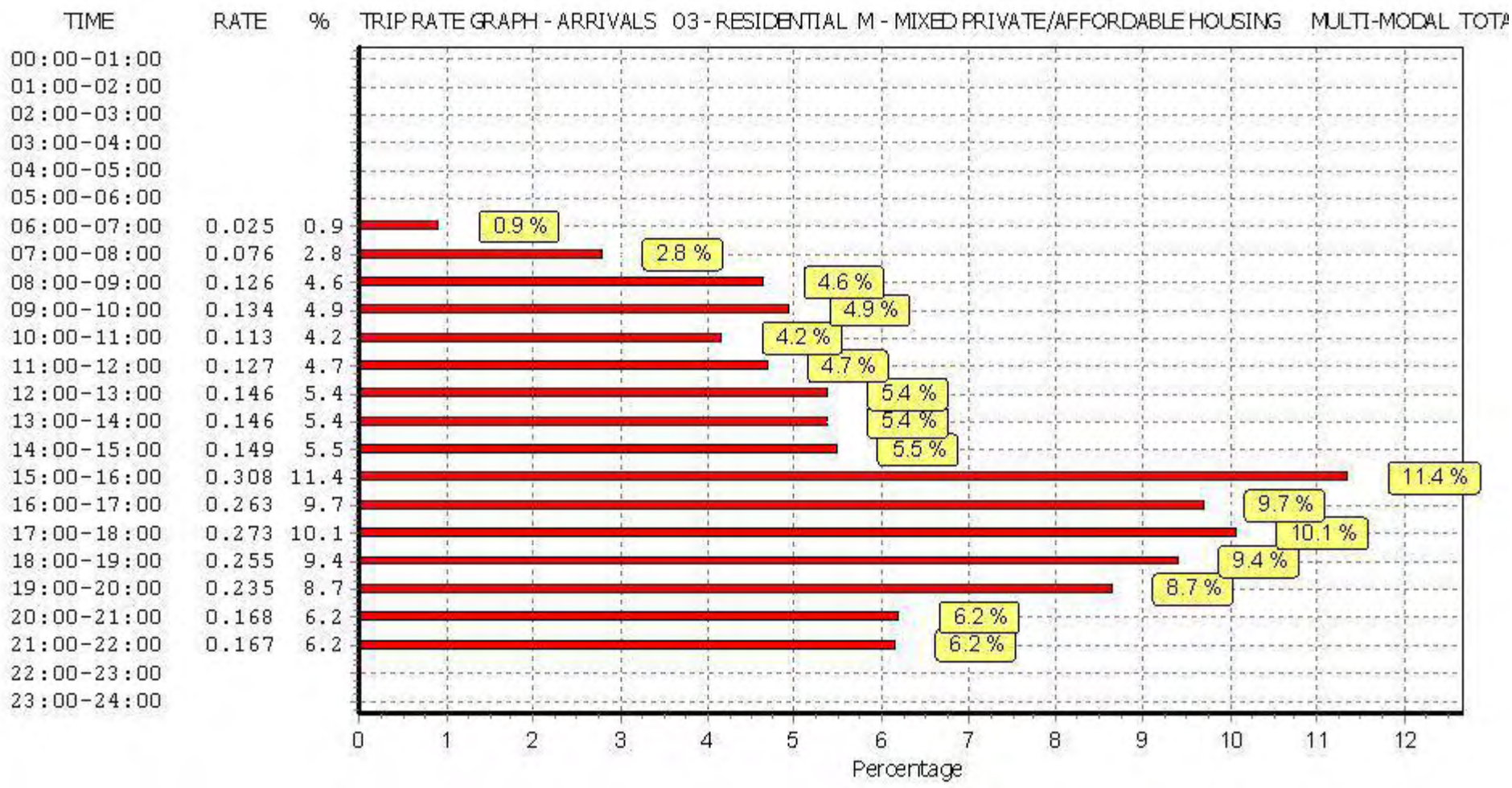
This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are 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.

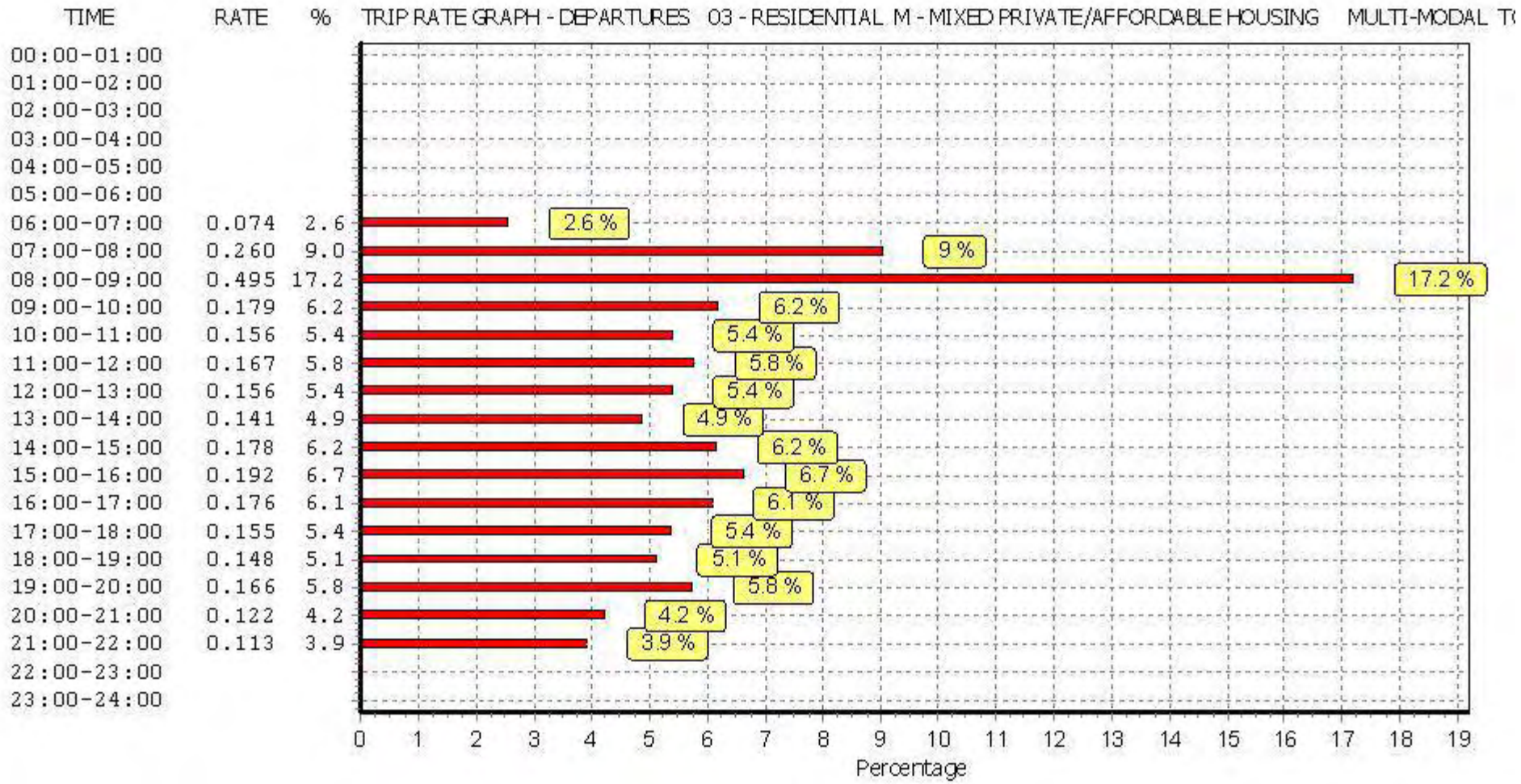
Parameter summary

Trip rate parameter range selected:	328 - 1751 (units:)
Survey date date range:	01/01/08 - 04/11/15
Number of weekdays (Monday-Friday):	4
Number of Saturdays:	0
Number of Sundays:	0
Surveys automatically removed from selection:	2
Surveys manually removed from selection:	0

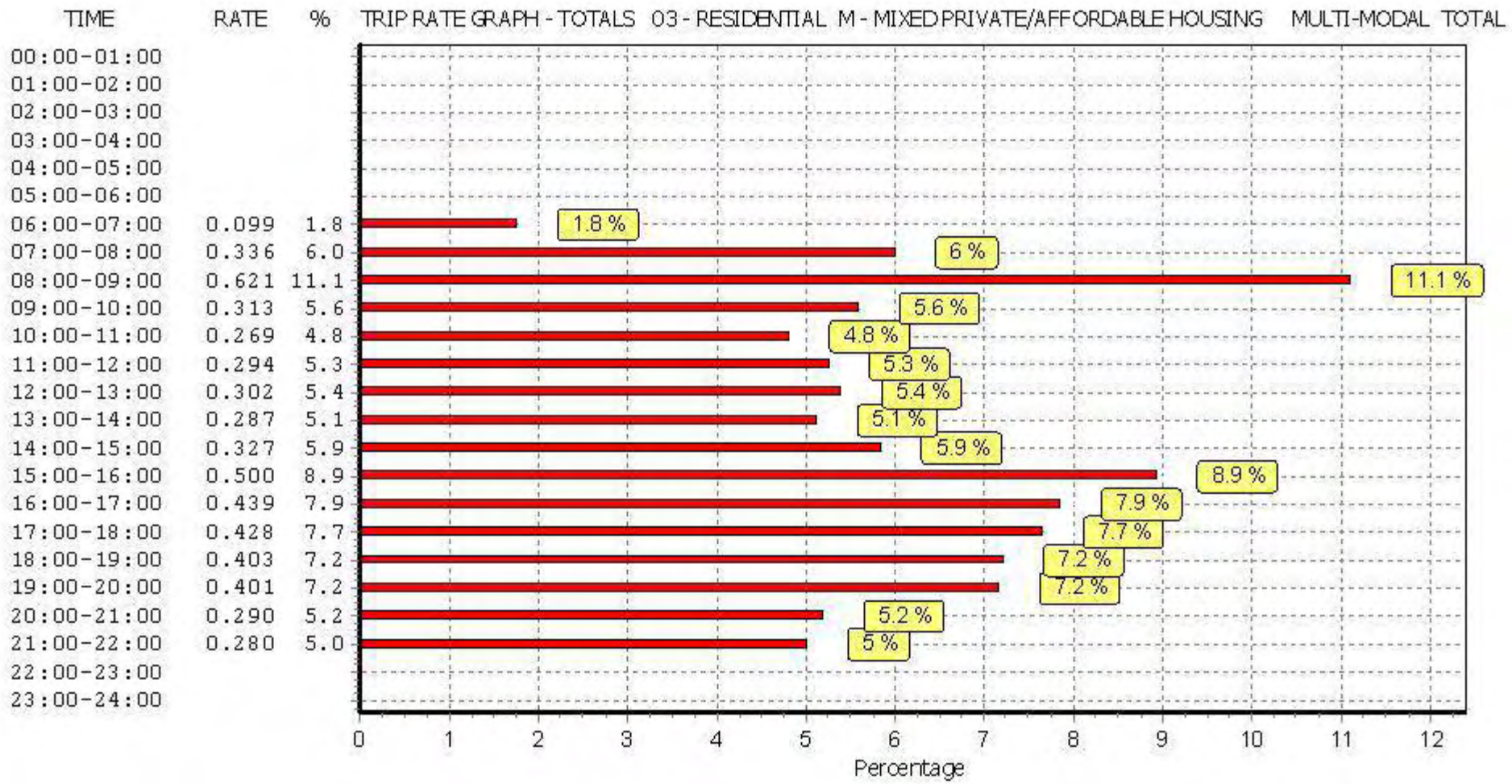
This section displays a quick summary of some of the data filtering selections made by the TRICS® user. The trip rate calculation parameter range of all selected surveys is displayed first, followed by the range of minimum and maximum survey dates selected by the user. Then, the total number of selected 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.



This graph is a visual representation of the trip rate calculation results screen. The same time periods and trip rates are displayed, but in addition there is an additional column showing the percentage of the total trip rate by individual time period, allowing peak periods to be easily identified through observation. Note that the type of count and the selected direction is shown at the top of the graph.



This graph is a visual representation of the trip rate calculation results screen. The same time periods and trip rates are displayed, but in addition there is an additional column showing the percentage of the total trip rate by individual time period, allowing peak periods to be easily identified through observation. Note that the type of count and the selected direction is shown at the top of the graph.



This graph is a visual representation of the trip rate calculation results screen. The same time periods and trip rates are displayed, but in addition there is an additional column showing the percentage of the total trip rate by individual time period, allowing peak periods to be easily identified through observation. Note that the type of count and the selected direction is shown at the top of the graph.

APPENDIX I

JUNCTION ANALYSIS

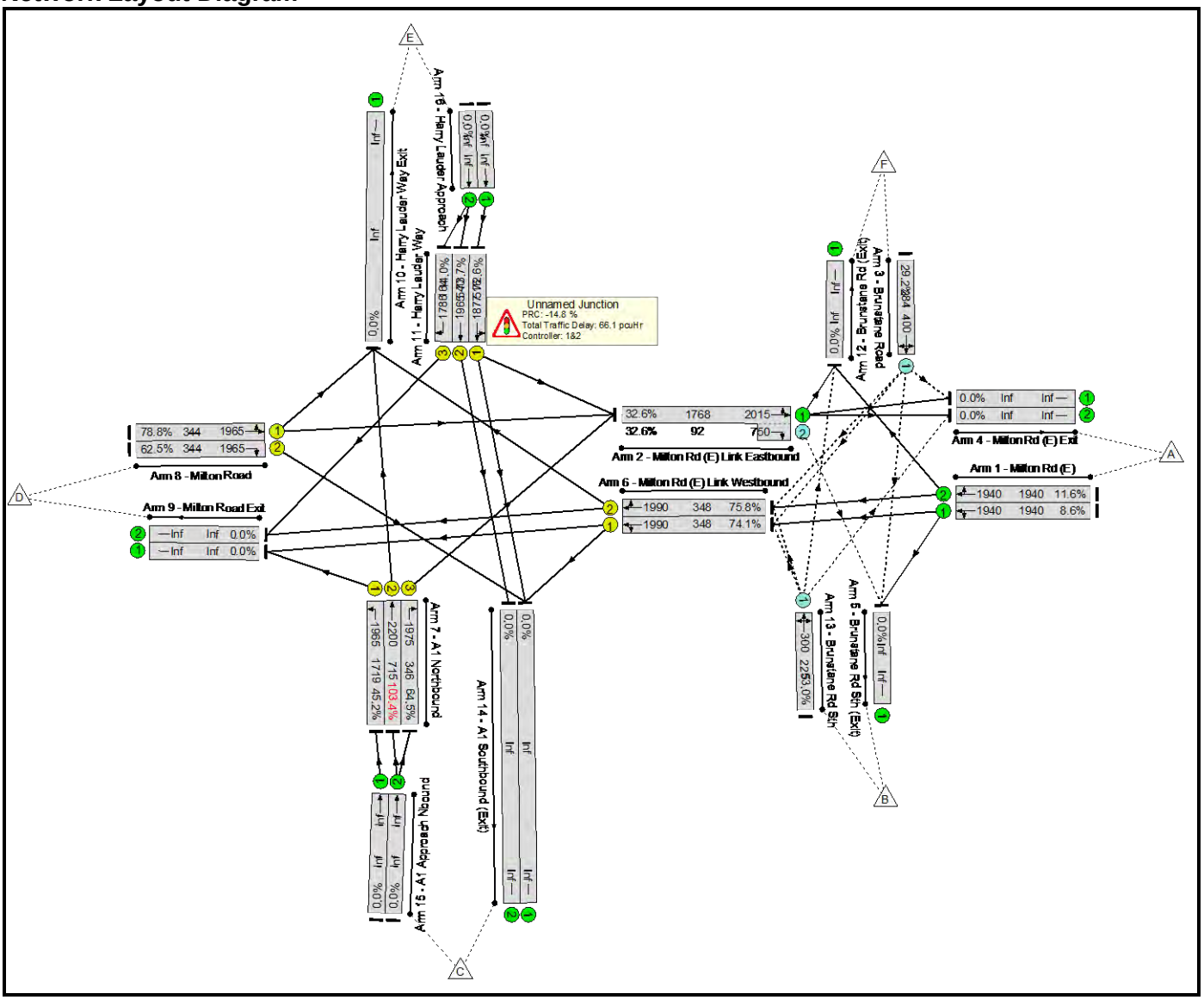
Basic Results Summary

User and Project Details

Project:	
Title:	
Location:	
File name:	A1 Harry Lauder Milton_base_am.lsg3x
Author:	
Company:	
Address:	
Notes:	

Scenario 1: 'Scenario 1' (FG1: '2016 AM Survey', Plan 1: 'Network Control Plan 1')

Network Layout Diagram



Basic Results Summary

Network Results

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network	-	-	-		-	-	-	-	-	-	**103.4%**	**232**	**0**	**0**	**66.1**	-	-
Unnamed Junction	-	-	-		-	-	-	-	-	-	**103.4%**	**232**	**0**	**0**	**66.1**	-	-
1/1	Milton Rd (E) Left Ahead	U	-		-	-	-	166	1940	1940	8.6%	-	-	-	0.0	1.0	0.0
1/2	Milton Rd (E) Ahead Right	U	-		-	-	-	225	1940	1940	11.6%	-	-	-	0.1	1.0	0.1
2/1+2/2	Milton Rd (E) Link Eastbound Ahead Right Left	U+O	-		-	-	-	606	2015:750	1768+92	32.6 : 32.6%	30	0	0	0.3	1.5	8.6
3/1	Brunstane Road Left Ahead Right	O	-		-	-	-	83	400	284	29.2%	83	0	0	0.3	11.4	0.7
6/1	Milton Rd (E) Link Westbound Ahead Left	U	C1:A		1	20	-	258	1990	348	74.1%	-	-	-	4.7	65.0	9.5
6/2	Milton Rd (E) Link Westbound Ahead Right	U	C1:A		1	20	-	264	1990	348	75.8%	-	-	-	4.9	67.2	9.9
7/1	A1 Northbound Left	U	C1:O		1	104	-	778	1965	1719	45.2%	-	-	-	0.7	3.5	5.6
7/2	A1 Northbound Ahead	U	C1:B		1	38	-	739	2200	715	103.4%	-	-	-	30.2	147.3	46.3
7/3	A1 Northbound Right	U	C1:E		1	20	-	223	1975	346	64.5%	-	-	-	3.7	60.5	7.8
8/1	Milton Road Ahead Left	U	C1:C		1	20	-	271	1965	344	78.8%	-	-	-	5.3	70.9	10.4
8/2	Milton Road Right	U	C1:C		1	20	-	215	1965	344	62.5%	-	-	-	3.6	59.7	7.5
11/1	Harry Lauder Way Left Ahead	U	C1:D		1	32	-	375	1877	516	72.6%	-	-	-	5.4	51.9	12.6
11/2	Harry Lauder Way Ahead	U	C1:D		1	32	-	398	1965	540	73.7%	-	-	-	5.7	52.0	13.4

Basic Results Summary

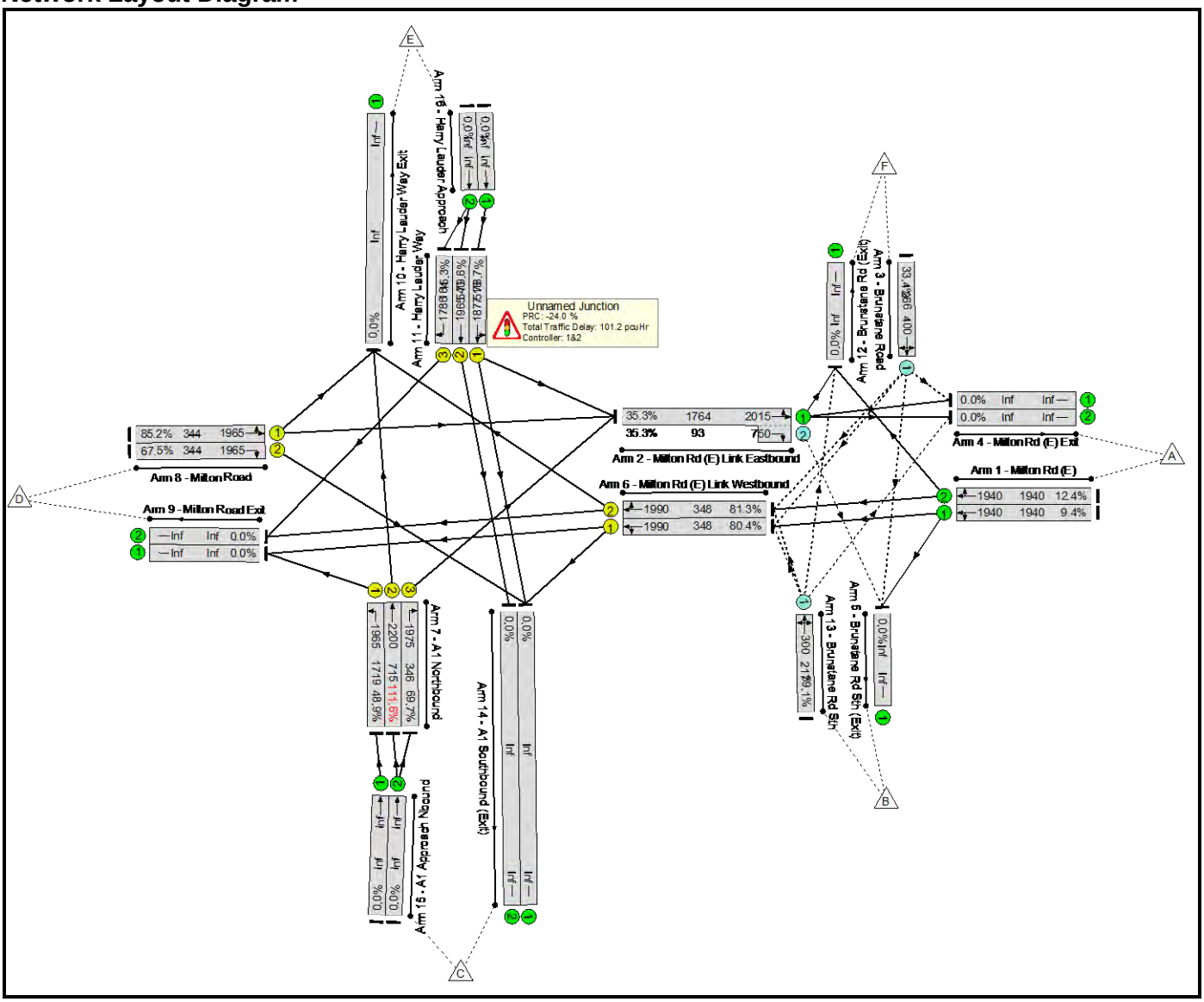
11/3	Harry Lauder Way Right	U	C1:F		1	10	-	23	1786	164	14.0%	-	-	-	0.4	63.0	0.8
13/1	Brunstane Rd Sth Right Left Ahead	O	-		-	-	-	119	300	225	53.0%	119	0	0	0.7	20.0	1.4

C1 - A1 Harry Lauder Junction	Stream: 1 PRC for Signalled Lanes (%):	-14.8	Total Delay for Signalled Lanes (pcuHr):	64.04	Cycle Time (s):	120
C1 - A1 Harry Lauder Junction	Stream: 2 PRC for Signalled Lanes (%):	98.9	Total Delay for Signalled Lanes (pcuHr):	0.75	Cycle Time (s):	120
C2 - Brunstane	Stream: 1 PRC for Signalled Lanes (%):	0.0	Total Delay for Signalled Lanes (pcuHr):	0.00	Cycle Time (s):	120
C2 - Brunstane	Stream: 2 PRC for Signalled Lanes (%):	0.0	Total Delay for Signalled Lanes (pcuHr):	0.00	Cycle Time (s):	120
	PRC Over All Lanes (%):	-14.8	Total Delay Over All Lanes(pcuHr):	66.08		

Basic Results Summary

Scenario 2: 'Scenario 2' (FG2: '2020 AM Growth', Plan 1: 'Network Control Plan 1')

Network Layout Diagram



Basic Results Summary

Network Results

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network	-	-	-		-	-	-	-	-	-	**111.6%**	**250**	**0**	**0**	**101.2**	-	-
Unnamed Junction	-	-	-		-	-	-	-	-	-	**111.6%**	**250**	**0**	**0**	**101.2**	-	-
1/1	Milton Rd (E) Left Ahead	U	-		-	-	-	182	1940	1940	9.4%	-	-	-	0.1	1.0	0.1
1/2	Milton Rd (E) Ahead Right	U	-		-	-	-	241	1940	1940	12.4%	-	-	-	0.1	1.1	0.1
2/1+2/2	Milton Rd (E) Link Eastbound Ahead Right Left	U+O	-		-	-	-	656	2015:750	1764+93	35.3 : 35.3%	33	0	0	0.3	1.6	9.2
3/1	Brunstane Road Left Ahead Right	O	-		-	-	-	89	400	266	33.4%	89	0	0	0.3	13.1	0.8
6/1	Milton Rd (E) Link Westbound Ahead Left	U	C1:A		1	20	-	280	1990	348	80.4%	-	-	-	5.5	70.7	10.9
6/2	Milton Rd (E) Link Westbound Ahead Right	U	C1:A		1	20	-	283	1990	348	81.3%	-	-	-	5.7	72.8	11.1
7/1	A1 Northbound Left	U	C1:O		1	104	-	840	1965	1719	48.9%	-	-	-	0.9	3.7	6.5
7/2	A1 Northbound Ahead	U	C1:B		1	38	-	798	2200	715	111.6%	-	-	-	59.3	267.3	75.2
7/3	A1 Northbound Right	U	C1:E		1	20	-	241	1975	346	69.7%	-	-	-	4.2	63.4	8.6
8/1	Milton Road Ahead Left	U	C1:C		1	20	-	293	1965	344	85.2%	-	-	-	6.5	80.1	12.1
8/2	Milton Road Right	U	C1:C		1	20	-	232	1965	344	67.5%	-	-	-	4.0	62.1	8.2
11/1	Harry Lauder Way Left Ahead	U	C1:D		1	32	-	406	1877	516	78.7%	-	-	-	6.3	56.1	14.3
11/2	Harry Lauder Way Ahead	U	C1:D		1	32	-	430	1965	540	79.6%	-	-	-	6.7	56.1	15.1

Basic Results Summary

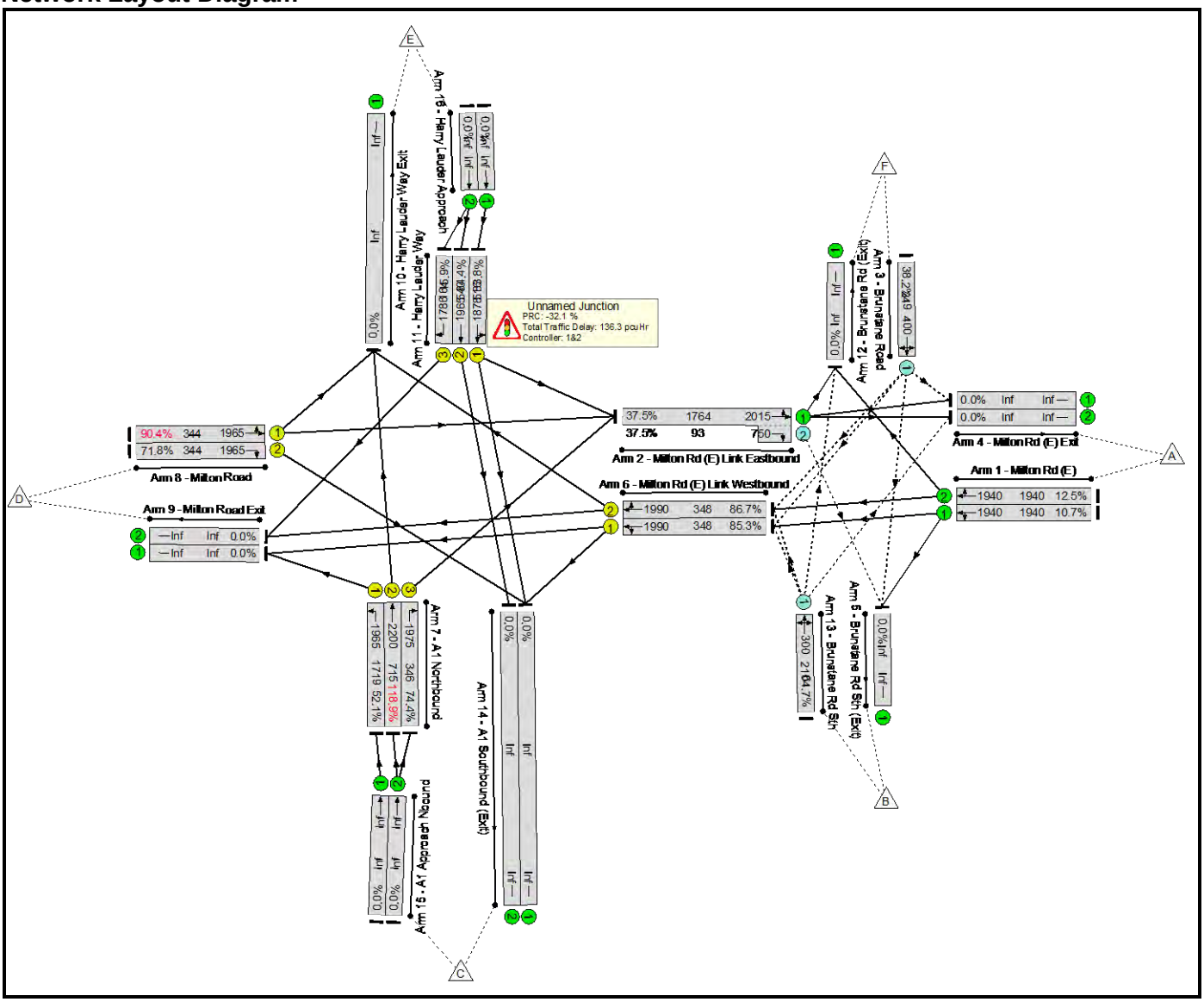
11/3	Harry Lauder Way Right	U	C1:F		1	10	-	25	1786	164	15.3%	-	-	-	0.4	63.2	0.9
13/1	Brunstane Rd Sth Right Left Ahead	O	-		-	-	-	128	300	217	59.1%	128	0	0	0.9	25.0	2.7

C1 - A1 Harry Lauder Junction	Stream: 1 PRC for Signalled Lanes (%):	-24.0	Total Delay for Signalled Lanes (pcuHr):	98.71	Cycle Time (s):	120
C1 - A1 Harry Lauder Junction	Stream: 2 PRC for Signalled Lanes (%):	84.2	Total Delay for Signalled Lanes (pcuHr):	0.86	Cycle Time (s):	120
C2 - Brunstane	Stream: 1 PRC for Signalled Lanes (%):	0.0	Total Delay for Signalled Lanes (pcuHr):	0.00	Cycle Time (s):	120
C2 - Brunstane	Stream: 2 PRC for Signalled Lanes (%):	0.0	Total Delay for Signalled Lanes (pcuHr):	0.00	Cycle Time (s):	120
	PRC Over All Lanes (%):	-24.0	Total Delay Over All Lanes(pcuHr):	101.19		

Basic Results Summary

Scenario 3: 'Scenario 3 - 2025 Growth' (FG3: '2025 Growth', Plan 1: 'Network Control Plan 1')

Network Layout Diagram



Basic Results Summary

Network Results

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network	-	-	-		-	-	-	-	-	-	**118.9%**	**266**	**0**	**0**	**136.3**	-	-
Unnamed Junction	-	-	-		-	-	-	-	-	-	**118.9%**	**266**	**0**	**0**	**136.3**	-	-
1/1	Milton Rd (E) Left Ahead	U	-		-	-	-	208	1940	1940	10.7%	-	-	-	0.1	1.0	0.1
1/2	Milton Rd (E) Ahead Right	U	-		-	-	-	242	1940	1940	12.5%	-	-	-	0.1	1.1	0.1
2/1+2/2	Milton Rd (E) Link Eastbound Ahead Right Left	U+O	-		-	-	-	697	2015:750	1764+93	37.5 : 37.5%	35	0	0	0.3	1.6	10.0
3/1	Brunstane Road Left Ahead Right	O	-		-	-	-	95	400	249	38.2%	95	0	0	0.4	15.2	1.0
6/1	Milton Rd (E) Link Westbound Ahead Left	U	C1:A		1	20	-	297	1990	348	85.3%	-	-	-	6.4	77.8	12.2
6/2	Milton Rd (E) Link Westbound Ahead Right	U	C1:A		1	20	-	302	1990	348	86.7%	-	-	-	6.8	81.4	12.6
7/1	A1 Northbound Left	U	C1:O		1	104	-	895	1965	1719	52.1%	-	-	-	1.0	3.9	7.3
7/2	A1 Northbound Ahead	U	C1:B		1	38	-	850	2200	715	118.9%	-	-	-	87.3	369.6	103.3
7/3	A1 Northbound Right	U	C1:E		1	20	-	257	1975	346	74.4%	-	-	-	4.8	66.6	9.5
8/1	Milton Road Ahead Left	U	C1:C		1	20	-	311	1965	344	90.4%	-	-	-	8.0	92.9	13.9
8/2	Milton Road Right	U	C1:C		1	20	-	247	1965	344	71.8%	-	-	-	4.4	64.8	9.0
11/1	Harry Lauder Way Left Ahead	U	C1:D		1	32	-	433	1878	516	83.8%	-	-	-	7.4	61.4	16.0
11/2	Harry Lauder Way Ahead	U	C1:D		1	32	-	456	1965	540	84.4%	-	-	-	7.8	61.2	16.9

Basic Results Summary

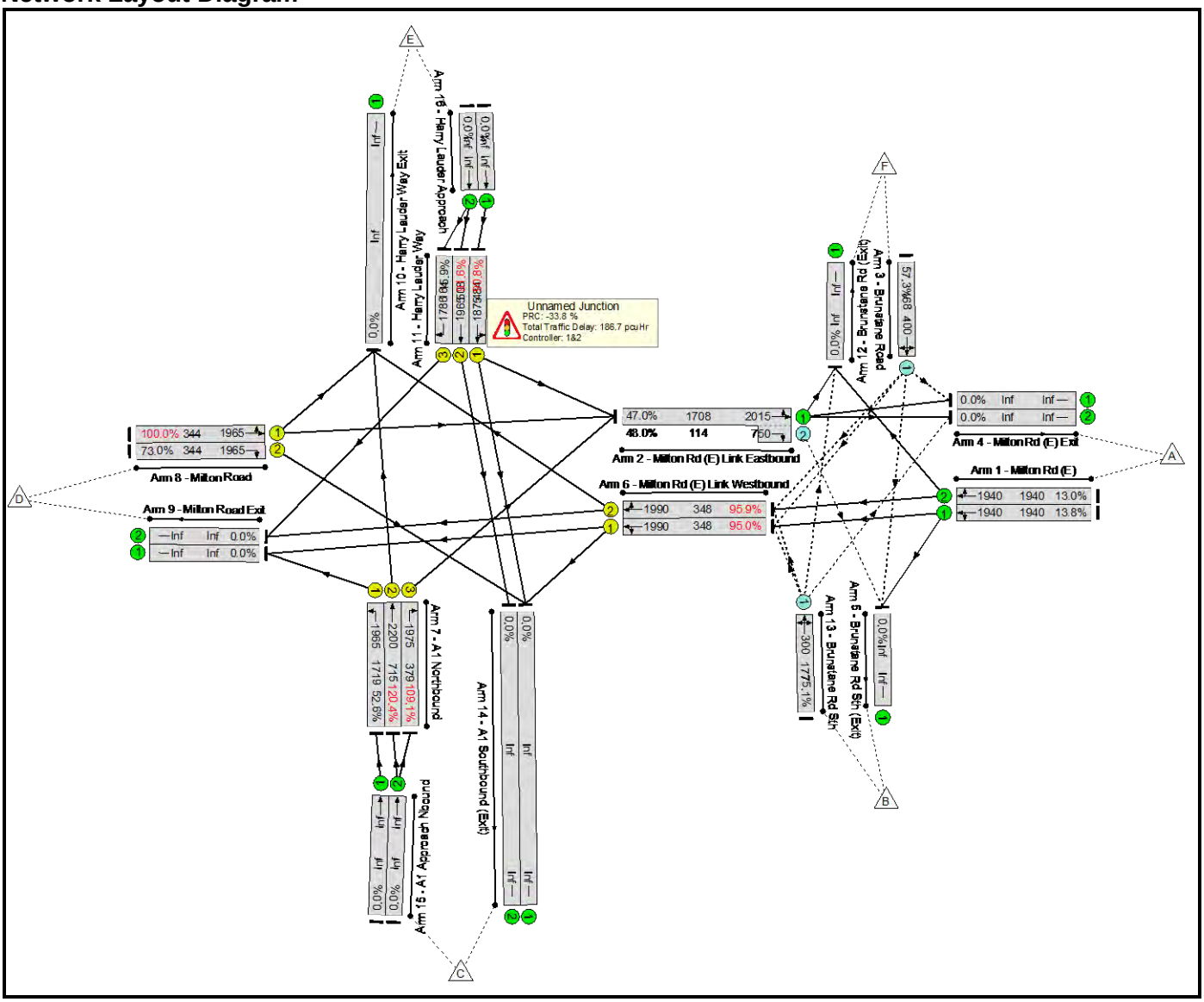
11/3	Harry Lauder Way Right	U	C1:F		1	10	-	26	1786	164	15.9%	-	-	-	0.5	63.4	0.9
13/1	Brunstane Rd Sth Right Left Ahead	O	-		-	-	-	136	300	210	64.7%	136	0	0	1.2	30.5	3.3

C1 - A1 Harry Lauder Junction	Stream: 1 PRC for Signalled Lanes (%):	-32.1	Total Delay for Signalled Lanes (pcuHr):	133.35	Cycle Time (s):	120
C1 - A1 Harry Lauder Junction	Stream: 2 PRC for Signalled Lanes (%):	72.9	Total Delay for Signalled Lanes (pcuHr):	0.97	Cycle Time (s):	120
C2 - Brunstane	Stream: 1 PRC for Signalled Lanes (%):	0.0	Total Delay for Signalled Lanes (pcuHr):	0.00	Cycle Time (s):	120
C2 - Brunstane	Stream: 2 PRC for Signalled Lanes (%):	0.0	Total Delay for Signalled Lanes (pcuHr):	0.00	Cycle Time (s):	120
	PRC Over All Lanes (%):	-32.1	Total Delay Over All Lanes(pcuHr):	136.32		

Basic Results Summary

Scenario 4: 'Scenario 4 - 2025 AM Dev' (FG4: '2025 AM Full Development', Plan 1: 'Network Control Plan 1')

Network Layout Diagram



Basic Results Summary

Network Results

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network	-	-	-		-	-	-	-	-	-	**120.4%**	**284**	**0**	**0**	**186.7**	-	-
Unnamed Junction	-	-	-		-	-	-	-	-	-	**120.4%**	**284**	**0**	**0**	**186.7**	-	-
1/1	Milton Rd (E) Left Ahead	U	-		-	-	-	268	1940	1940	13.8%	-	-	-	0.1	1.1	0.1
1/2	Milton Rd (E) Ahead Right	U	-		-	-	-	253	1940	1940	13.0%	-	-	-	0.1	1.1	0.1
2/1+2/2	Milton Rd (E) Link Eastbound Ahead Right Left	U+O	-		-	-	-	893	2015:750	1708+114	47.0 : 48.0%	55	0	0	0.5	2.1	14.6
3/1	Brunstane Road Left Ahead Right	O	-		-	-	-	96	400	168	57.3%	96	0	0	0.9	34.4	2.3
6/1	Milton Rd (E) Link Westbound Ahead Left	U	C1:A		1	20	-	331	1990	348	95.0%	-	-	-	10.1	109.9	16.6
6/2	Milton Rd (E) Link Westbound Ahead Right	U	C1:A		1	20	-	334	1990	348	95.9%	-	-	-	10.6	114.2	17.2
7/1	A1 Northbound Left	U	C1:O		1	104	-	905	1965	1719	52.6%	-	-	-	1.0	3.9	7.3
7/2	A1 Northbound Ahead	U	C1:B		1	38	-	861	2200	715	120.4%	-	-	-	93.3	390.2	109.4
7/3	A1 Northbound Right	U	C1:E		1	22	-	413	1975	379	109.1%	-	-	-	29.6	258.0	36.9
8/1	Milton Road Ahead Left	U	C1:C		1	20	-	344	1965	344	100.0%	-	-	-	14.0	147.0	20.8
8/2	Milton Road Right	U	C1:C		1	20	-	251	1965	344	73.0%	-	-	-	4.6	65.7	9.2
11/1	Harry Lauder Way Left Ahead	U	C1:D		1	30	-	440	1875	484	90.8%	-	-	-	9.4	77.3	18.4
11/2	Harry Lauder Way Ahead	U	C1:D		1	30	-	465	1965	508	91.6%	-	-	-	10.1	78.1	19.5

Basic Results Summary

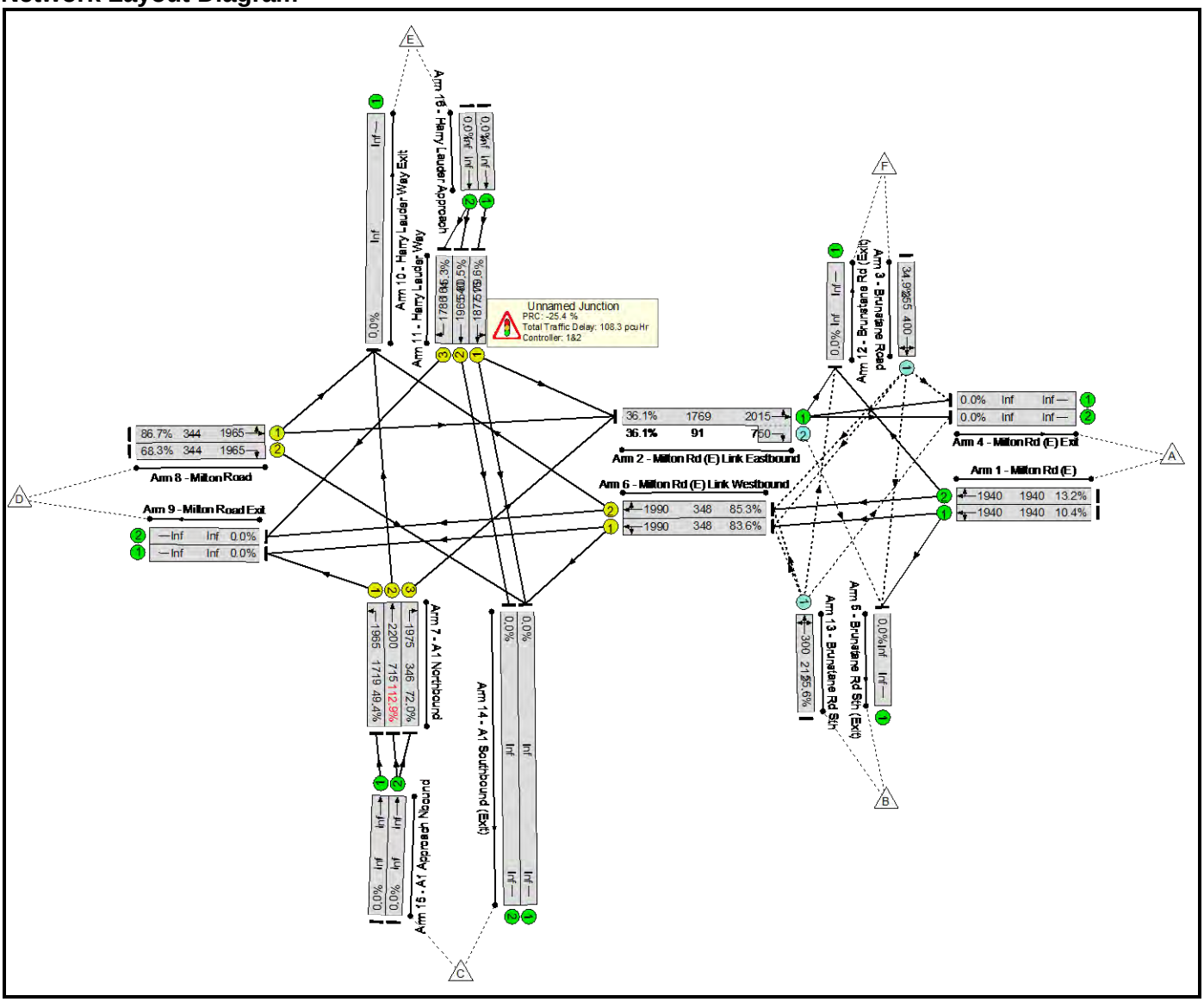
11/3	Harry Lauder Way Right	U	C1:F		1	10	-	26	1786	164	15.9%	-	-	-	0.5	63.4	0.9
13/1	Brunstane Rd Sth Right Left Ahead	O	-		-	-	-	133	300	177	75.1%	133	0	0	1.9	52.1	4.6

C1 - A1 Harry Lauder Junction	Stream: 1 PRC for Signalled Lanes (%):	-33.8	Total Delay for Signalled Lanes (pcuHr):	182.22	Cycle Time (s):	120
C1 - A1 Harry Lauder Junction	Stream: 2 PRC for Signalled Lanes (%):	71.0	Total Delay for Signalled Lanes (pcuHr):	0.99	Cycle Time (s):	120
C2 - Brunstane	Stream: 1 PRC for Signalled Lanes (%):	0.0	Total Delay for Signalled Lanes (pcuHr):	0.00	Cycle Time (s):	120
C2 - Brunstane	Stream: 2 PRC for Signalled Lanes (%):	0.0	Total Delay for Signalled Lanes (pcuHr):	0.00	Cycle Time (s):	120
	PRC Over All Lanes (%):	-33.8	Total Delay Over All Lanes(pcuHr):	186.72		

Basic Results Summary

Scenario 5: 'Scenario 4 - 2020 AM Dev' (FG5: '2020 AM Full Development', Plan 1: 'Network Control Plan 1')

Network Layout Diagram



Basic Results Summary

Network Results

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network	-	-	-		-	-	-	-	-	-	**112.9%**	**240**	**0**	**0**	**108.3**	-	-
Unnamed Junction	-	-	-		-	-	-	-	-	-	**112.9%**	**240**	**0**	**0**	**108.3**	-	-
1/1	Milton Rd (E) Left Ahead	U	-		-	-	-	202	1940	1940	10.4%	-	-	-	0.1	1.0	0.1
1/2	Milton Rd (E) Ahead Right	U	-		-	-	-	257	1940	1940	13.2%	-	-	-	0.1	1.1	0.1
2/1+2/2	Milton Rd (E) Link Eastbound Ahead Right Left	U+O	-		-	-	-	672	2015:750	1769+91	36.1 : 36.1%	33	0	0	0.3	1.6	9.6
3/1	Brunstane Road Left Ahead Right	O	-		-	-	-	89	400	255	34.9%	89	0	0	0.3	14.0	0.8
6/1	Milton Rd (E) Link Westbound Ahead Left	U	C1:A		1	20	-	291	1990	348	83.6%	-	-	-	6.1	75.3	11.6
6/2	Milton Rd (E) Link Westbound Ahead Right	U	C1:A		1	20	-	297	1990	348	85.3%	-	-	-	6.5	79.1	12.2
7/1	A1 Northbound Left	U	C1:O		1	104	-	849	1965	1719	49.4%	-	-	-	0.9	3.7	6.6
7/2	A1 Northbound Ahead	U	C1:B		1	38	-	807	2200	715	112.9%	-	-	-	64.0	285.6	80.0
7/3	A1 Northbound Right	U	C1:E		1	20	-	249	1975	346	72.0%	-	-	-	4.5	64.9	9.1
8/1	Milton Road Ahead Left	U	C1:C		1	20	-	298	1965	344	86.7%	-	-	-	6.9	83.0	12.5
8/2	Milton Road Right	U	C1:C		1	20	-	235	1965	344	68.3%	-	-	-	4.1	62.6	8.4
11/1	Harry Lauder Way Left Ahead	U	C1:D		1	32	-	411	1877	516	79.6%	-	-	-	6.5	56.9	14.6
11/2	Harry Lauder Way Ahead	U	C1:D		1	32	-	435	1965	540	80.5%	-	-	-	6.9	57.0	15.4

Basic Results Summary

11/3	Harry Lauder Way Right	U	C1:F		1	10	-	25	1786	164	15.3%	-	-	-	0.4	63.2	0.9
13/1	Brunstane Rd Sth Right Left Ahead	O	-		-	-	-	118	300	212	55.6%	118	0	0	0.8	23.6	2.5

C1 - A1 Harry Lauder Junction	Stream: 1 PRC for Signalled Lanes (%):	-25.4	Total Delay for Signalled Lanes (pcuHr):	105.90	Cycle Time (s):	120
C1 - A1 Harry Lauder Junction	Stream: 2 PRC for Signalled Lanes (%):	82.3	Total Delay for Signalled Lanes (pcuHr):	0.88	Cycle Time (s):	120
C2 - Brunstane	Stream: 1 PRC for Signalled Lanes (%):	0.0	Total Delay for Signalled Lanes (pcuHr):	0.00	Cycle Time (s):	120
C2 - Brunstane	Stream: 2 PRC for Signalled Lanes (%):	0.0	Total Delay for Signalled Lanes (pcuHr):	0.00	Cycle Time (s):	120
	PRC Over All Lanes (%):	-25.4	Total Delay Over All Lanes(pcuHr):	108.33		

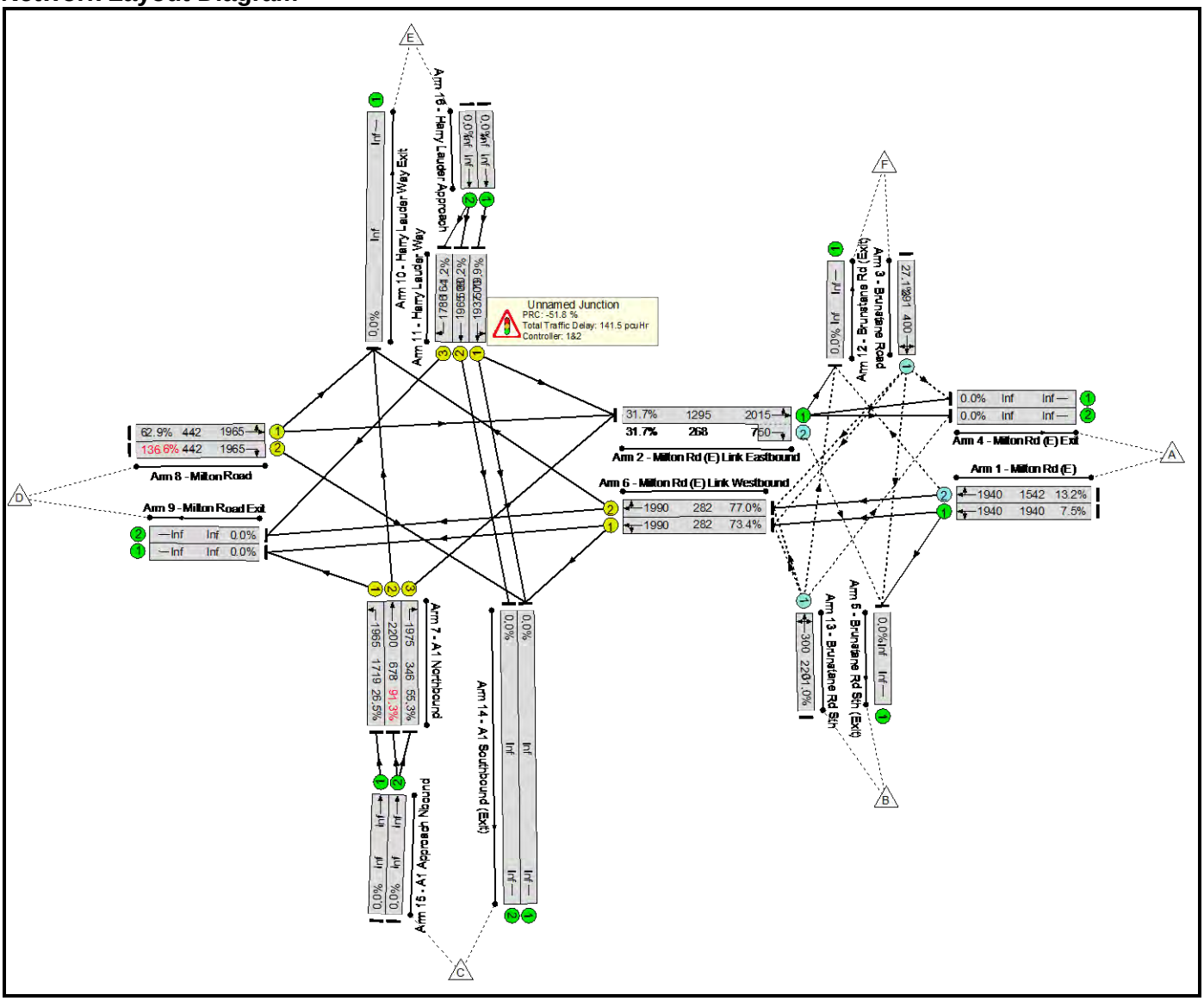
Basic Results Summary

User and Project Details

Project:	
Title:	
Location:	
File name:	A1 Harry Lauder Milton_base_pm.lsg3x
Author:	
Company:	
Address:	
Notes:	

Scenario 1: '2016 PM survey' (FG1: '2016 PM Survey', Plan 1: 'Network Control Plan 1')

Network Layout Diagram



Basic Results Summary

Network Results

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network	-	-	-		-	-	-	-	-	-	**136.6%**	**241**	**0**	**0**	**141.5**	-	-
Unnamed Junction	-	-	-		-	-	-	-	-	-	**136.6%**	**241**	**0**	**0**	**141.5**	-	-
1/1	Milton Rd (E) Left Ahead	U	-		-	-	-	146	1940	1940	7.5%	-	-	-	0.0	1.0	0.0
1/2	Milton Rd (E) Ahead Right	O	-		-	-	-	203	1940	1542	13.2%	9	0	0	0.1	1.3	0.1
2/1+2/2	Milton Rd (E) Link Eastbound Ahead Right Left	U+O	-		-	-	-	496	2015:750	1295+268	31.7 : 31.7%	85	0	0	0.3	2.5	10.4
3/1	Brunstane Road Left Ahead Right	O	-		-	-	-	79	400	291	27.1%	79	0	0	0.2	11.2	0.7
6/1	Milton Rd (E) Link Westbound Ahead Left	U	C1:A		1	16	-	207	1990	282	73.4%	-	-	-	4.1	71.6	7.9
6/2	Milton Rd (E) Link Westbound Ahead Right	U	C1:A		1	16	-	217	1990	282	77.0%	-	-	-	4.6	75.8	8.5
7/1	A1 Northbound Left	U	C1:O		1	104	-	455	1965	1719	26.5%	-	-	-	0.3	2.6	2.6
7/2	A1 Northbound Ahead	U	C1:B		1	36	-	619	2200	678	91.3%	-	-	-	11.4	66.3	24.3
7/3	A1 Northbound Right	U	C1:E		1	20	-	191	1975	346	55.3%	-	-	-	3.0	56.8	6.4
8/1	Milton Road Ahead Left	U	C1:C		1	26	-	278	1965	442	62.9%	-	-	-	4.1	52.8	9.2
8/2	Milton Road Right	U	C1:C		1	26	-	604	1965	442	136.6%	-	-	-	99.8	594.7	108.3
11/1	Harry Lauder Way Left Ahead	U	C1:D		1	30	-	400	1937	500	79.9%	-	-	-	6.5	58.9	14.4
11/2	Harry Lauder Way Ahead	U	C1:D		1	30	-	407	1965	508	80.2%	-	-	-	6.7	58.9	14.6

Basic Results Summary

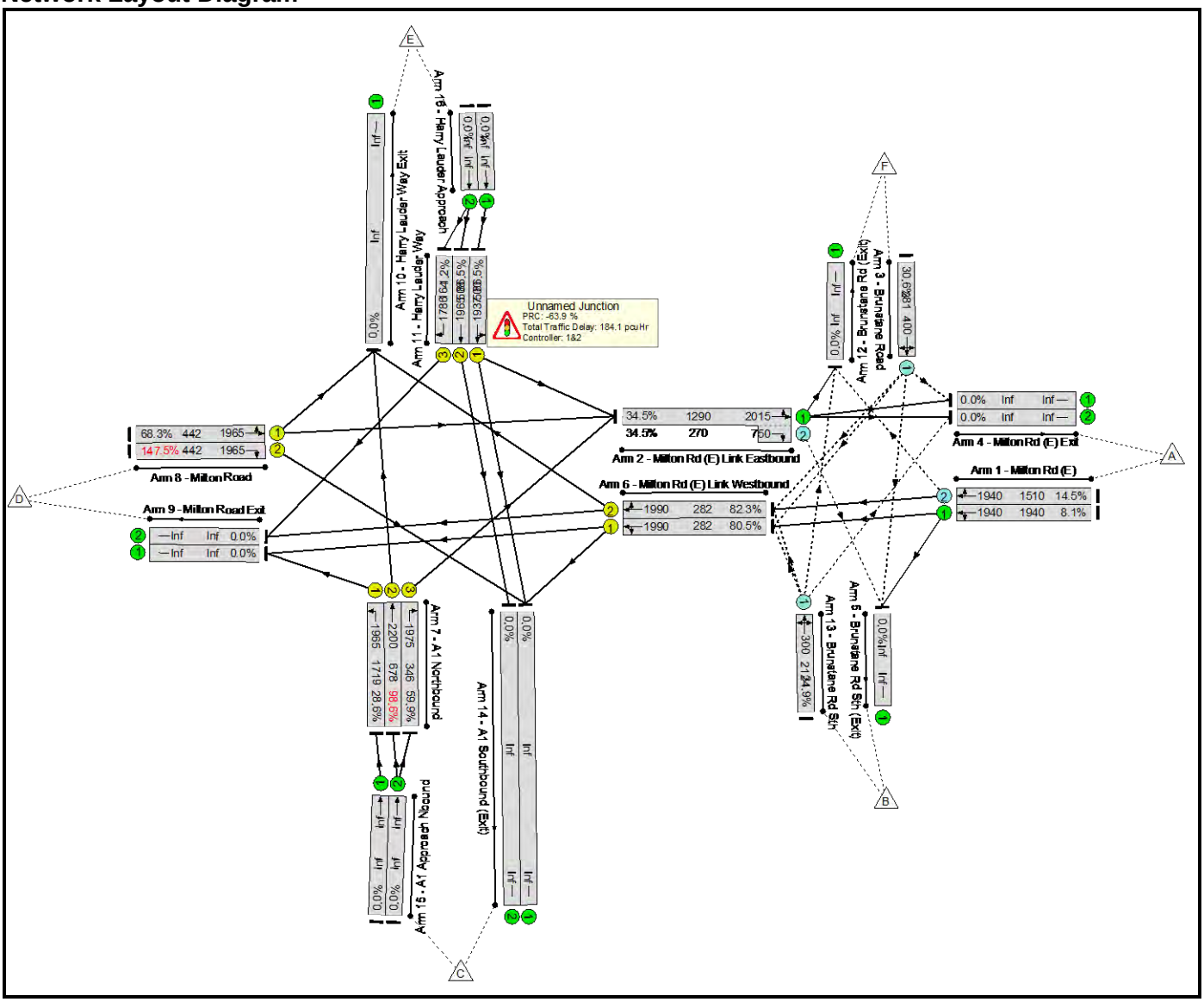
11/3	Harry Lauder Way Right	U	C1:F		1	10	-	2	1786	164	1.2%	-	-	-	0.0	61.1	0.1
13/1	Brunstane Rd Sth Right Left Ahead	O	-		-	-	-	68	300	220	31.0%	68	0	0	0.3	14.6	0.6

C1 - A1 Harry Lauder Junction	Stream: 1 PRC for Signalled Lanes (%):	-51.8	Total Delay for Signalled Lanes (pcuHr):	140.18	Cycle Time (s): 120
C1 - A1 Harry Lauder Junction	Stream: 2 PRC for Signalled Lanes (%):	240.1	Total Delay for Signalled Lanes (pcuHr):	0.33	Cycle Time (s): 120
C2 - Brunstane	Stream: 1 PRC for Signalled Lanes (%):	0.0	Total Delay for Signalled Lanes (pcuHr):	0.00	Cycle Time (s): 120
C2 - Brunstane	Stream: 2 PRC for Signalled Lanes (%):	0.0	Total Delay for Signalled Lanes (pcuHr):	0.00	Cycle Time (s): 120
	PRC Over All Lanes (%):	-51.8	Total Delay Over All Lanes(pcuHr):	141.49	

Basic Results Summary

Scenario 2: '2020 Projected Base' (FG4: '2020 PM projected', Plan 1: 'Network Control Plan 1')

Network Layout Diagram



Basic Results Summary

Network Results

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network	-	-	-		-	-	-	-	-	-	**147.5%**	**263**	**0**	**0**	**184.1**	-	-
Unnamed Junction	-	-	-		-	-	-	-	-	-	**147.5%**	**263**	**0**	**0**	**184.1**	-	-
1/1	Milton Rd (E) Left Ahead	U	-		-	-	-	158	1940	1940	8.1%	-	-	-	0.0	1.0	0.0
1/2	Milton Rd (E) Ahead Right	O	-		-	-	-	219	1940	1510	14.5%	10	0	0	0.1	1.4	0.1
2/1+2/2	Milton Rd (E) Link Eastbound Ahead Right Left	U+O	-		-	-	-	538	2015:750	1290+270	34.5 : 34.5%	93	0	0	0.4	2.7	11.3
3/1	Brunstane Road Left Ahead Right	O	-		-	-	-	86	400	281	30.6%	86	0	0	0.3	12.6	0.8
6/1	Milton Rd (E) Link Westbound Ahead Left	U	C1:A		1	16	-	227	1990	282	80.5%	-	-	-	5.0	79.3	9.2
6/2	Milton Rd (E) Link Westbound Ahead Right	U	C1:A		1	16	-	232	1990	282	82.3%	-	-	-	5.3	82.9	9.6
7/1	A1 Northbound Left	U	C1:O		1	104	-	491	1965	1719	28.6%	-	-	-	0.4	2.7	2.8
7/2	A1 Northbound Ahead	U	C1:B		1	36	-	669	2200	678	98.6%	-	-	-	18.5	99.4	32.9
7/3	A1 Northbound Right	U	C1:E		1	20	-	207	1975	346	59.9%	-	-	-	3.4	58.5	7.1
8/1	Milton Road Ahead Left	U	C1:C		1	26	-	302	1965	442	68.3%	-	-	-	4.6	55.2	10.2
8/2	Milton Road Right	U	C1:C		1	26	-	652	1965	442	147.5%	-	-	-	129.5	715.2	141.7
11/1	Harry Lauder Way Left Ahead	U	C1:D		1	30	-	433	1937	500	86.5%	-	-	-	8.1	67.1	16.7
11/2	Harry Lauder Way Ahead	U	C1:D		1	30	-	439	1965	508	86.5%	-	-	-	8.1	66.7	16.8

Basic Results Summary

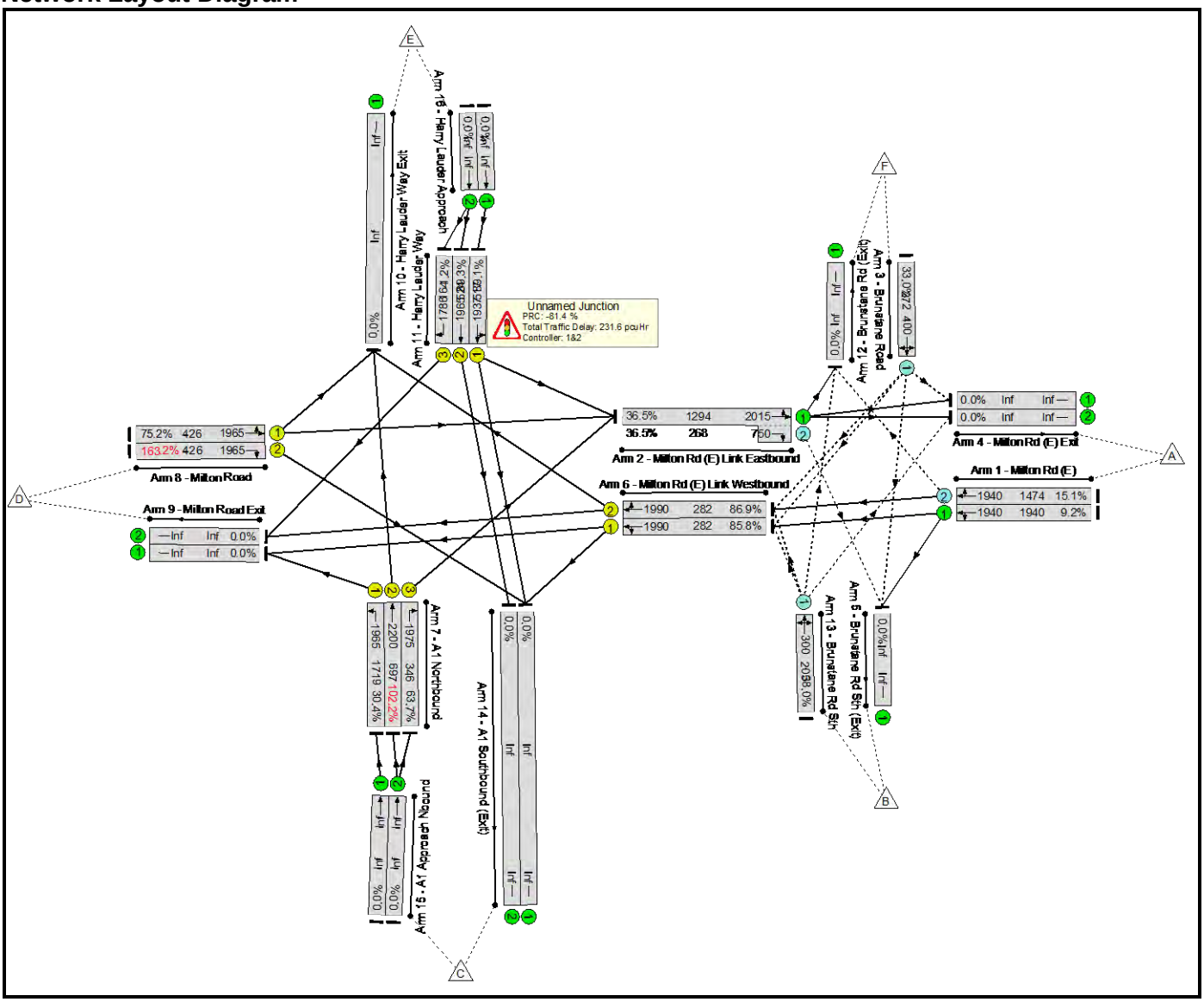
11/3	Harry Lauder Way Right	U	C1:F		1	10	-	2	1786	164	1.2%	-	-	-	0.0	61.1	0.1
13/1	Brunstane Rd Sth Right Left Ahead	O	-		-	-	-	74	300	212	34.9%	74	0	0	0.3	16.3	0.8

C1 - A1 Harry Lauder Junction	Stream: 1 PRC for Signalled Lanes (%):	-63.9	Total Delay for Signalled Lanes (pcuHr):	182.56	Cycle Time (s):	120
C1 - A1 Harry Lauder Junction	Stream: 2 PRC for Signalled Lanes (%):	215.2	Total Delay for Signalled Lanes (pcuHr):	0.37	Cycle Time (s):	120
C2 - Brunstane	Stream: 1 PRC for Signalled Lanes (%):	0.0	Total Delay for Signalled Lanes (pcuHr):	0.00	Cycle Time (s):	120
C2 - Brunstane	Stream: 2 PRC for Signalled Lanes (%):	0.0	Total Delay for Signalled Lanes (pcuHr):	0.00	Cycle Time (s):	120
	PRC Over All Lanes (%):	-63.9	Total Delay Over All Lanes(pcuHr):	184.10		

Basic Results Summary

Scenario 3: '2025 Projected Base' (FG3: '2025 PM projected', Plan 1: 'Network Control Plan 1')

Network Layout Diagram



Basic Results Summary

Network Results

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network	-	-	-		-	-	-	-	-	-	**163.2%**	**276**	**0**	**0**	**231.6**	-	-
Unnamed Junction	-	-	-		-	-	-	-	-	-	**163.2%**	**276**	**0**	**0**	**231.6**	-	-
1/1	Milton Rd (E) Left Ahead	U	-		-	-	-	179	1940	1940	9.2%	-	-	-	0.1	1.0	0.1
1/2	Milton Rd (E) Ahead Right	O	-		-	-	-	222	1940	1474	15.1%	10	0	0	0.1	1.4	0.1
2/1+2/2	Milton Rd (E) Link Eastbound Ahead Right Left	U+O	-		-	-	-	571	2015:750	1294+268	36.5 : 36.5%	98	0	0	0.5	2.9	12.1
3/1	Brunstane Road Left Ahead Right	O	-		-	-	-	90	400	272	33.0%	90	0	0	0.3	13.9	0.9
6/1	Milton Rd (E) Link Westbound Ahead Left	U	C1:A		1	16	-	242	1990	282	85.8%	-	-	-	6.0	88.8	10.5
6/2	Milton Rd (E) Link Westbound Ahead Right	U	C1:A		1	16	-	245	1990	282	86.9%	-	-	-	6.3	92.1	10.8
7/1	A1 Northbound Left	U	C1:O		1	104	-	523	1965	1719	30.4%	-	-	-	0.4	2.8	3.1
7/2	A1 Northbound Ahead	U	C1:B		1	37	-	712	2200	697	102.2%	-	-	-	26.6	134.7	42.0
7/3	A1 Northbound Right	U	C1:E		1	20	-	220	1975	346	63.7%	-	-	-	3.7	60.1	7.6
8/1	Milton Road Ahead Left	U	C1:C		1	25	-	320	1965	426	75.2%	-	-	-	5.4	60.5	11.4
8/2	Milton Road Right	U	C1:C		1	25	-	695	1965	426	163.2%	-	-	-	163.7	848.0	176.4
11/1	Harry Lauder Way Left Ahead	U	C1:D		1	31	-	460	1937	517	89.1%	-	-	-	9.0	70.6	18.3
11/2	Harry Lauder Way Ahead	U	C1:D		1	31	-	468	1965	524	89.3%	-	-	-	9.2	70.8	18.6

Basic Results Summary

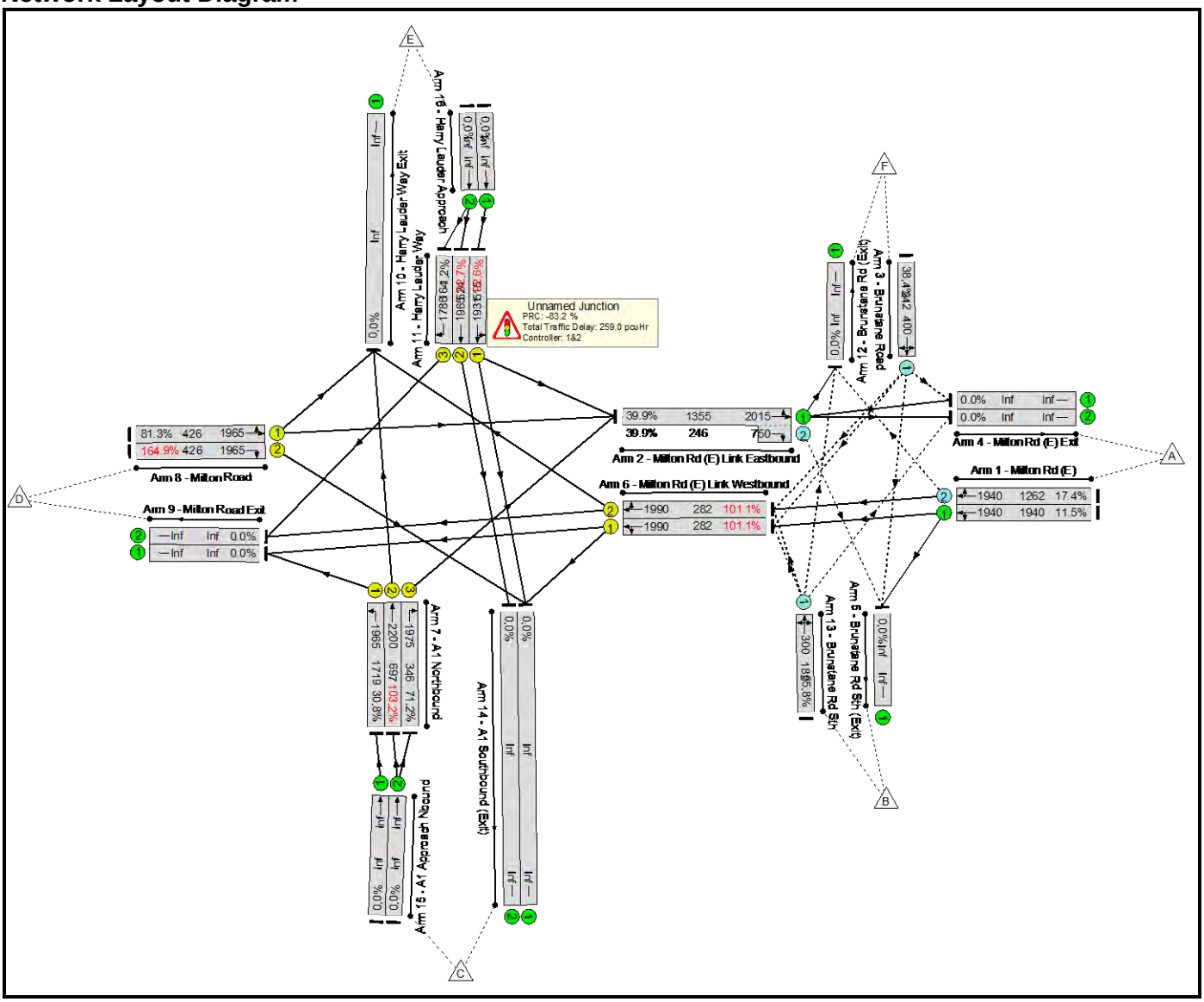
11/3	Harry Lauder Way Right	U	C1:F		1	10	-	2	1786	164	1.2%	-	-	-	0.0	61.1	0.1
13/1	Brunstane Rd Sth Right Left Ahead	O	-		-	-	-	78	300	205	38.0%	78	0	0	0.4	18.3	0.9

C1 - A1 Harry Lauder Junction	Stream: 1 PRC for Signalled Lanes (%):	-81.4	Total Delay for Signalled Lanes (pcuHr):	229.89	Cycle Time (s): 120
C1 - A1 Harry Lauder Junction	Stream: 2 PRC for Signalled Lanes (%):	195.9	Total Delay for Signalled Lanes (pcuHr):	0.40	Cycle Time (s): 120
C2 - Brunstane	Stream: 1 PRC for Signalled Lanes (%):	0.0	Total Delay for Signalled Lanes (pcuHr):	0.00	Cycle Time (s): 120
C2 - Brunstane	Stream: 2 PRC for Signalled Lanes (%):	0.0	Total Delay for Signalled Lanes (pcuHr):	0.00	Cycle Time (s): 120
	PRC Over All Lanes (%):	-81.4	Total Delay Over All Lanes(pcuHr):	231.63	

Basic Results Summary

Scenario 4: '2025 PM Dev' (FG2: '2025 PM Full Development', Plan 1: 'Network Control Plan 1')

Network Layout Diagram



Basic Results Summary

Network Results

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network	-	-	-		-	-	-	-	-	-	**164.9%**	**322**	**0**	**0**	**259.0**	-	-
Unnamed Junction	-	-	-		-	-	-	-	-	-	**164.9%**	**322**	**0**	**0**	**259.0**	-	-
1/1	Milton Rd (E) Left Ahead	U	-		-	-	-	224	1940	1940	11.5%	-	-	-	0.1	1.0	0.1
1/2	Milton Rd (E) Ahead Right	O	-		-	-	-	219	1940	1262	17.4%	11	0	0	0.3	5.4	1.6
2/1+2/2	Milton Rd (E) Link Eastbound Ahead Right Left	U+O	-		-	-	-	638	2015:750	1355+246	39.9 : 39.9%	98	0	0	0.5	2.9	13.2
3/1	Brunstane Road Left Ahead Right	O	-		-	-	-	93	400	242	38.4%	93	0	0	0.5	19.4	1.9
6/1	Milton Rd (E) Link Westbound Ahead Left	U	C1:A		1	16	-	285	1990	282	101.1%	-	-	-	13.2	167.1	18.8
6/2	Milton Rd (E) Link Westbound Ahead Right	U	C1:A		1	16	-	285	1990	282	101.1%	-	-	-	13.0	164.5	18.8
7/1	A1 Northbound Left	U	C1:O		1	104	-	529	1965	1719	30.8%	-	-	-	0.4	2.8	3.2
7/2	A1 Northbound Ahead	U	C1:B		1	37	-	719	2200	697	103.2%	-	-	-	29.5	147.7	44.8
7/3	A1 Northbound Right	U	C1:E		1	20	-	246	1975	346	71.2%	-	-	-	4.4	64.3	8.9
8/1	Milton Road Ahead Left	U	C1:C		1	25	-	346	1965	426	81.3%	-	-	-	6.4	66.1	13.0
8/2	Milton Road Right	U	C1:C		1	25	-	702	1965	426	164.9%	-	-	-	167.8	860.4	180.6
11/1	Harry Lauder Way Left Ahead	U	C1:D		1	31	-	477	1931	515	92.6%	-	-	-	10.7	80.4	20.3
11/2	Harry Lauder Way Ahead	U	C1:D		1	31	-	486	1965	524	92.7%	-	-	-	10.8	80.3	20.7

Basic Results Summary

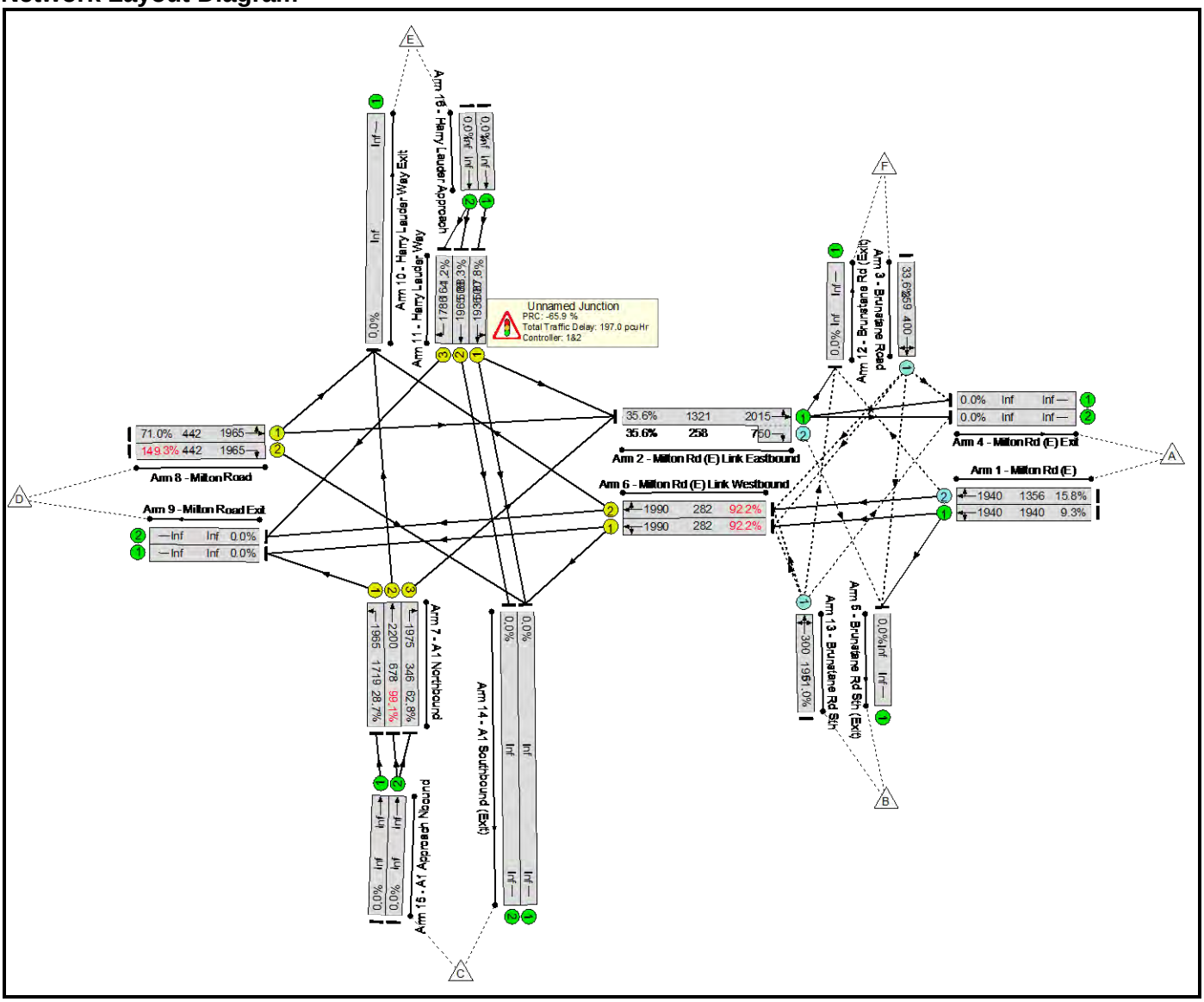
11/3	Harry Lauder Way Right	U	C1:F		1	10	-	2	1786	164	1.2%	-	-	-	0.0	61.1	0.1
13/1	Brunstane Rd Sth Right Left Ahead	O	-		-	-	-	120	300	182	65.8%	120	0	0	1.4	40.6	3.5

C1 - A1 Harry Lauder Junction	Stream: 1 PRC for Signalled Lanes (%):	-83.2	Total Delay for Signalled Lanes (pcuHr):	255.79	Cycle Time (s): 120
C1 - A1 Harry Lauder Junction	Stream: 2 PRC for Signalled Lanes (%):	192.5	Total Delay for Signalled Lanes (pcuHr):	0.41	Cycle Time (s): 120
C2 - Brunstane	Stream: 1 PRC for Signalled Lanes (%):	0.0	Total Delay for Signalled Lanes (pcuHr):	0.00	Cycle Time (s): 120
C2 - Brunstane	Stream: 2 PRC for Signalled Lanes (%):	0.0	Total Delay for Signalled Lanes (pcuHr):	0.00	Cycle Time (s): 120
	PRC Over All Lanes (%):	-83.2	Total Delay Over All Lanes(pcuHr):	258.97	

Basic Results Summary

Scenario 5: '2020 PM Dev' (FG5: '2020 PM Full Development', Plan 1: 'Network Control Plan 1')

Network Layout Diagram



Basic Results Summary

Network Results

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network	-	-	-		-	-	-	-	-	-	**149.3%**	**308**	**0**	**0**	**197.0**	-	-
Unnamed Junction	-	-	-		-	-	-	-	-	-	**149.3%**	**308**	**0**	**0**	**197.0**	-	-
1/1	Milton Rd (E) Left Ahead	U	-		-	-	-	180	1940	1940	9.3%	-	-	-	0.1	1.0	0.1
1/2	Milton Rd (E) Ahead Right	O	-		-	-	-	214	1940	1356	15.8%	10	0	0	0.3	4.3	1.3
2/1+2/2	Milton Rd (E) Link Eastbound Ahead Right Left	U+O	-		-	-	-	563	2015:750	1321+258	35.6 : 35.6%	92	0	0	0.4	2.7	11.8
3/1	Brunstane Road Left Ahead Right	O	-		-	-	-	87	400	259	33.6%	87	0	0	0.4	15.0	1.0
6/1	Milton Rd (E) Link Westbound Ahead Left	U	C1:A		1	16	-	260	1990	282	92.2%	-	-	-	7.8	107.4	12.8
6/2	Milton Rd (E) Link Westbound Ahead Right	U	C1:A		1	16	-	260	1990	282	92.2%	-	-	-	7.7	106.4	12.8
7/1	A1 Northbound Left	U	C1:O		1	104	-	494	1965	1719	28.7%	-	-	-	0.4	2.7	2.9
7/2	A1 Northbound Ahead	U	C1:B		1	36	-	672	2200	678	99.1%	-	-	-	19.2	102.8	33.7
7/3	A1 Northbound Right	U	C1:E		1	20	-	217	1975	346	62.8%	-	-	-	3.6	59.7	7.5
8/1	Milton Road Ahead Left	U	C1:C		1	26	-	314	1965	442	71.0%	-	-	-	4.9	56.7	10.8
8/2	Milton Road Right	U	C1:C		1	26	-	660	1965	442	149.3%	-	-	-	134.1	731.7	146.4
11/1	Harry Lauder Way Left Ahead	U	C1:D		1	30	-	439	1936	500	87.8%	-	-	-	8.5	69.3	17.3
11/2	Harry Lauder Way Ahead	U	C1:D		1	30	-	448	1965	508	88.3%	-	-	-	8.7	69.9	17.7

Basic Results Summary

11/3	Harry Lauder Way Right	U	C1:F		1	10	-	2	1786	164	1.2%	-	-	-	0.0	61.1	0.1
13/1	Brunstane Rd Sth Right Left Ahead	O	-		-	-	-	119	300	195	61.0%	119	0	0	1.0	31.4	3.0

C1 - A1 Harry Lauder Junction	Stream: 1 PRC for Signalled Lanes (%):	-65.9	Total Delay for Signalled Lanes (pcuHr):	194.50	Cycle Time (s): 120
C1 - A1 Harry Lauder Junction	Stream: 2 PRC for Signalled Lanes (%):	213.2	Total Delay for Signalled Lanes (pcuHr):	0.37	Cycle Time (s): 120
C2 - Brunstane	Stream: 1 PRC for Signalled Lanes (%):	0.0	Total Delay for Signalled Lanes (pcuHr):	0.00	Cycle Time (s): 120
C2 - Brunstane	Stream: 2 PRC for Signalled Lanes (%):	0.0	Total Delay for Signalled Lanes (pcuHr):	0.00	Cycle Time (s): 120
	PRC Over All Lanes (%):	-65.9	Total Delay Over All Lanes(pcuHr):	197.00	

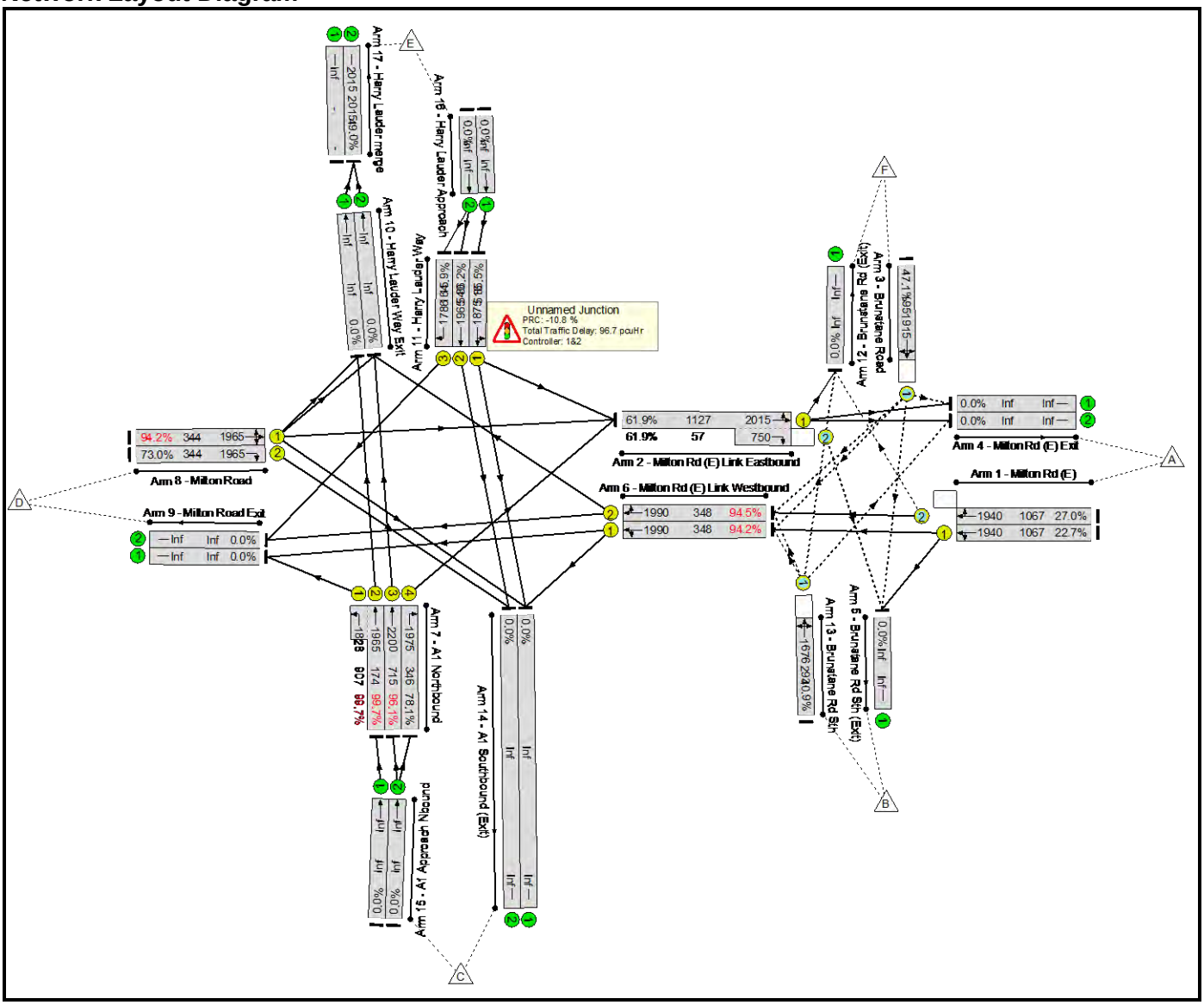
Basic Results Summary

User and Project Details

Project:	
Title:	
Location:	
File name:	A1 Harry Lauder Milton_imp_am_2lane.lsg3x
Author:	
Company:	
Address:	
Notes:	

Scenario 1: 'Scenario 1' (FG1: '2016 AM Survey', Plan 1: 'Network Control Plan 1')

Network Layout Diagram



Basic Results Summary

Network Results

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network	-	-	-		-	-	-	-	-	-	**99.7%**	**118**	**136**	**6**	**96.7**	-	-
Unnamed Junction	-	-	-		-	-	-	-	-	-	**99.7%**	**118**	**136**	**6**	**96.7**	-	-
1/1	Milton Rd (E) Left Ahead	U	C2:B		1	65	-	242	1940	1067	22.7%	-	-	-	1.1	16.1	4.2
1/2	Milton Rd (E) Ahead Right	O	C2:B		1	65	-	288	1940	1067	27.0%	13	0	1	1.3	16.8	5.2
2/1+2/2	Milton Rd (E) Link Eastbound Ahead Right Left	U+O	C2:A	C2:E	1	74	4	732	2015:750	1127+57	61.9 : 61.9%	33	1	2	1.9 (1.6+0.2)	9.1 (8.4:23.5)	13.3
3/1	Brunstane Road Left Ahead Right	O	C2:C		1	20	-	92	1915	195	47.1%	66	25	2	1.7	65.9	3.1
6/1	Milton Rd (E) Link Westbound Ahead Left	U	C1:A		1	20	-	328	1990	348	94.2%	-	-	-	8.3	91.2	16.0
6/2	Milton Rd (E) Link Westbound Ahead Right	U	C1:A		1	20	-	329	1990	348	94.5%	-	-	-	8.5	92.7	16.2
7/2+7/1	A1 Northbound Left Ahead	U	C1:B C1:O		1	38:104	-	1079	1965:1828	174+907	99.7 : 99.7%	-	-	-	18.7 (4.1+14.6)	62.5 (85.4:58.1)	35.8
7/3	A1 Northbound Ahead	U	C1:B		1	38	-	687	2200	715	96.1%	-	-	-	15.4	80.9	30.2
7/4	A1 Northbound Right	U	C1:E		1	20	-	270	1975	346	78.1%	-	-	-	5.3	70.1	10.3
8/1	Milton Road Ahead Left Right	U	C1:C		1	20	-	324	1965	344	94.2%	-	-	-	9.7	107.9	15.9
8/2	Milton Road Right	U	C1:C		1	20	-	251	1965	344	73.0%	-	-	-	4.6	65.7	9.2
11/1	Harry Lauder Way Left Ahead	U	C1:D		1	32	-	441	1875	516	85.5%	-	-	-	7.8	63.7	16.6

Basic Results Summary

11/2	Harry Lauder Way Ahead	U	C1:D		1	32	-	466	1965	540	86.2%	-	-	-	8.3	63.8	17.7
11/3	Harry Lauder Way Right	U	C1:F		1	10	-	26	1786	164	15.9%	-	-	-	0.5	63.4	0.9
13/1	Brunstane Rd Sth Right Left Ahead	O	C2:D		1	20	-	120	1676	293	40.9%	7	111	2	1.8	54.4	3.9
17/2	Harry Lauder merge	U	-		-	-	-	988	2015	2015	49.0%	-	-	-	1.9	6.9	28.3

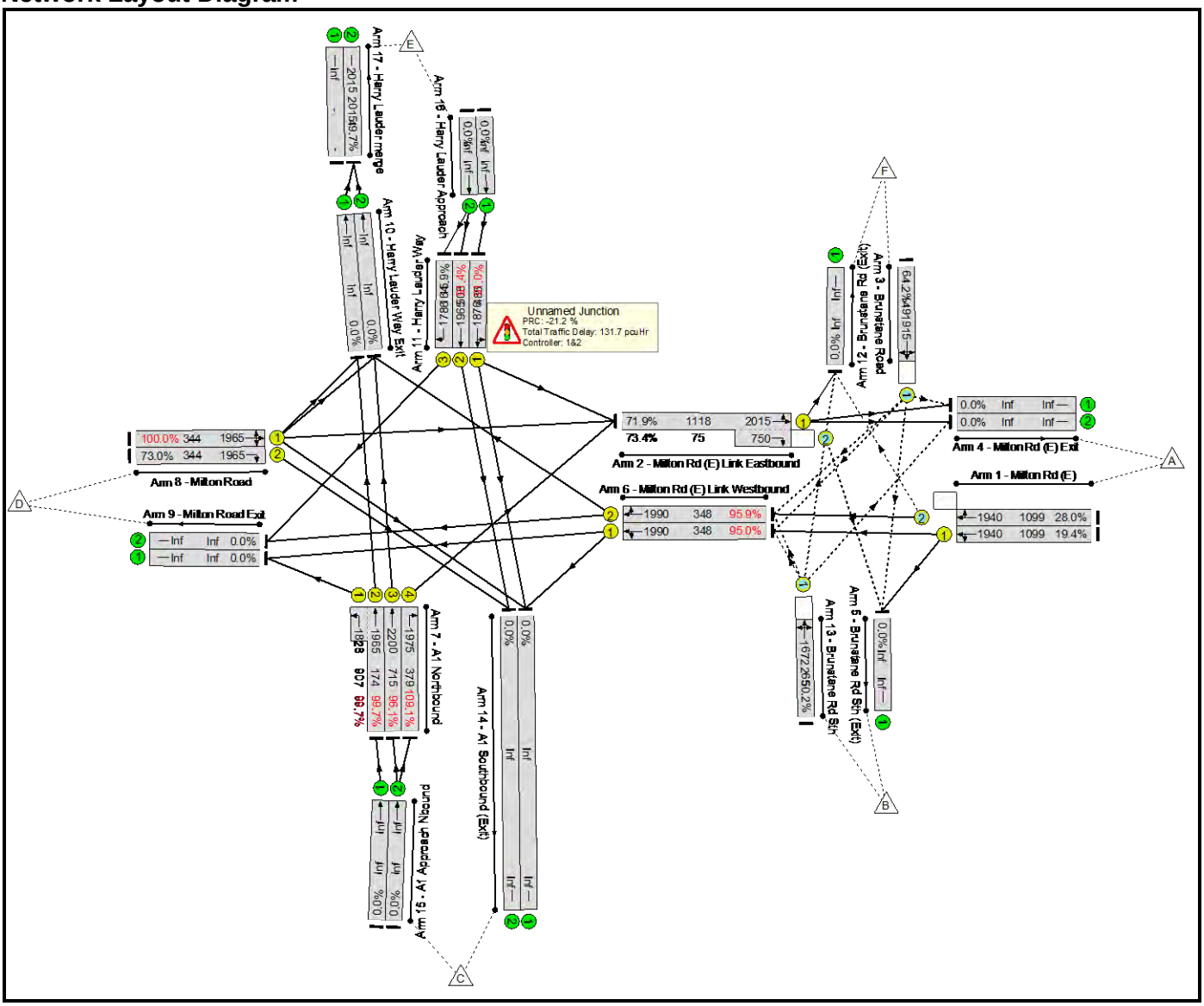
C1 - A1 Harry Lauder Junction	Stream: 1 PRC for Signalled Lanes (%):	-10.8	Total Delay for Signalled Lanes (pcuHr):	87.03
C1 - A1 Harry Lauder Junction	Stream: 2 PRC for Signalled Lanes (%):	0.0	Total Delay for Signalled Lanes (pcuHr):	0.00
C2 - Brunstane	Stream: 1 PRC for Signalled Lanes (%):	45.5	Total Delay for Signalled Lanes (pcuHr):	7.78
	PRC Over All Lanes (%):	-10.8	Total Delay Over All Lanes(pcuHr):	96.70

Cycle Time (s):	120
Cycle Time (s):	120
Cycle Time (s):	120

Basic Results Summary

Scenario 2: 'Scenario 3 - 2025 AM Dev' (FG2: '2025 AM Full Development', Plan 1: 'Network Control Plan 1')

Network Layout Diagram



Basic Results Summary

Network Results

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network	-	-	-		-	-	-	-	-	-	**109.1%**	**139**	**152**	**6**	**131.7**	-	-
Unnamed Junction	-	-	-		-	-	-	-	-	-	**109.1%**	**139**	**152**	**6**	**131.7**	-	-
1/1	Milton Rd (E) Left Ahead	U	C2:B		1	67	-	213	1940	1099	19.4%	-	-	-	0.9	14.7	3.6
1/2	Milton Rd (E) Ahead Right	O	C2:B		1	67	-	308	1940	1099	28.0%	12	0	2	1.4	16.0	5.4
2/1+2/2	Milton Rd (E) Link Eastbound Ahead Right Left	U+O	C2:A	C2:E	1	76	4	893	2015:750	1118+75	71.9 : 73.4%	50	4	1	2.5 (2.2+0.2)	10.4 (10.0:15.1)	17.8
3/1	Brunstane Road Left Ahead Right	O	C2:C		1	18	-	96	1915	149	64.2%	70	25	2	2.2	84.1	3.7
6/1	Milton Rd (E) Link Westbound Ahead Left	U	C1:A		1	20	-	331	1990	348	95.0%	-	-	-	8.7	94.8	16.3
6/2	Milton Rd (E) Link Westbound Ahead Right	U	C1:A		1	20	-	334	1990	348	95.9%	-	-	-	9.5	102.9	16.8
7/2+7/1	A1 Northbound Left Ahead	U	C1:B C1:O		1	38:104	-	1079	1965:1828	174+907	99.7 : 99.7%	-	-	-	18.7 (4.1+14.6)	62.5 (85.4:58.1)	35.8
7/3	A1 Northbound Ahead	U	C1:B		1	38	-	687	2200	715	96.1%	-	-	-	15.4	80.9	30.2
7/4	A1 Northbound Right	U	C1:E		1	22	-	413	1975	379	109.1%	-	-	-	29.6	258.0	36.9
8/1	Milton Road Ahead Left Right	U	C1:C		1	20	-	344	1965	344	100.0%	-	-	-	14.0	147.0	20.8
8/2	Milton Road Right	U	C1:C		1	20	-	251	1965	344	73.0%	-	-	-	4.6	65.7	9.2
11/1	Harry Lauder Way Left Ahead	U	C1:D		1	30	-	441	1876	485	91.0%	-	-	-	9.5	77.7	18.4

Basic Results Summary

11/2	Harry Lauder Way Ahead	U	C1:D		1	30	-	464	1965	508	91.4%	-	-	-	10.0	77.5	19.4
11/3	Harry Lauder Way Right	U	C1:F		1	10	-	26	1786	164	15.9%	-	-	-	0.5	63.4	0.9
13/1	Brunstane Rd Sth Right Left Ahead	O	C2:D		1	18	-	133	1672	265	50.2%	7	124	2	2.2	59.8	4.5
17/2	Harry Lauder merge	U	-		-	-	-	1002	2015	2015	49.7%	-	-	-	1.9	6.8	28.3

C1 - A1 Harry Lauder Junction	Stream: 1 PRC for Signalled Lanes (%):	-21.2	Total Delay for Signalled Lanes (pcuHr):	120.64
C1 - A1 Harry Lauder Junction	Stream: 2 PRC for Signalled Lanes (%):	0.0	Total Delay for Signalled Lanes (pcuHr):	0.00
C2 - Brunstane	Stream: 1 PRC for Signalled Lanes (%):	22.6	Total Delay for Signalled Lanes (pcuHr):	9.16
	PRC Over All Lanes (%):	-21.2	Total Delay Over All Lanes(pcuHr):	131.71

Cycle Time (s):	120
Cycle Time (s):	120
Cycle Time (s):	120

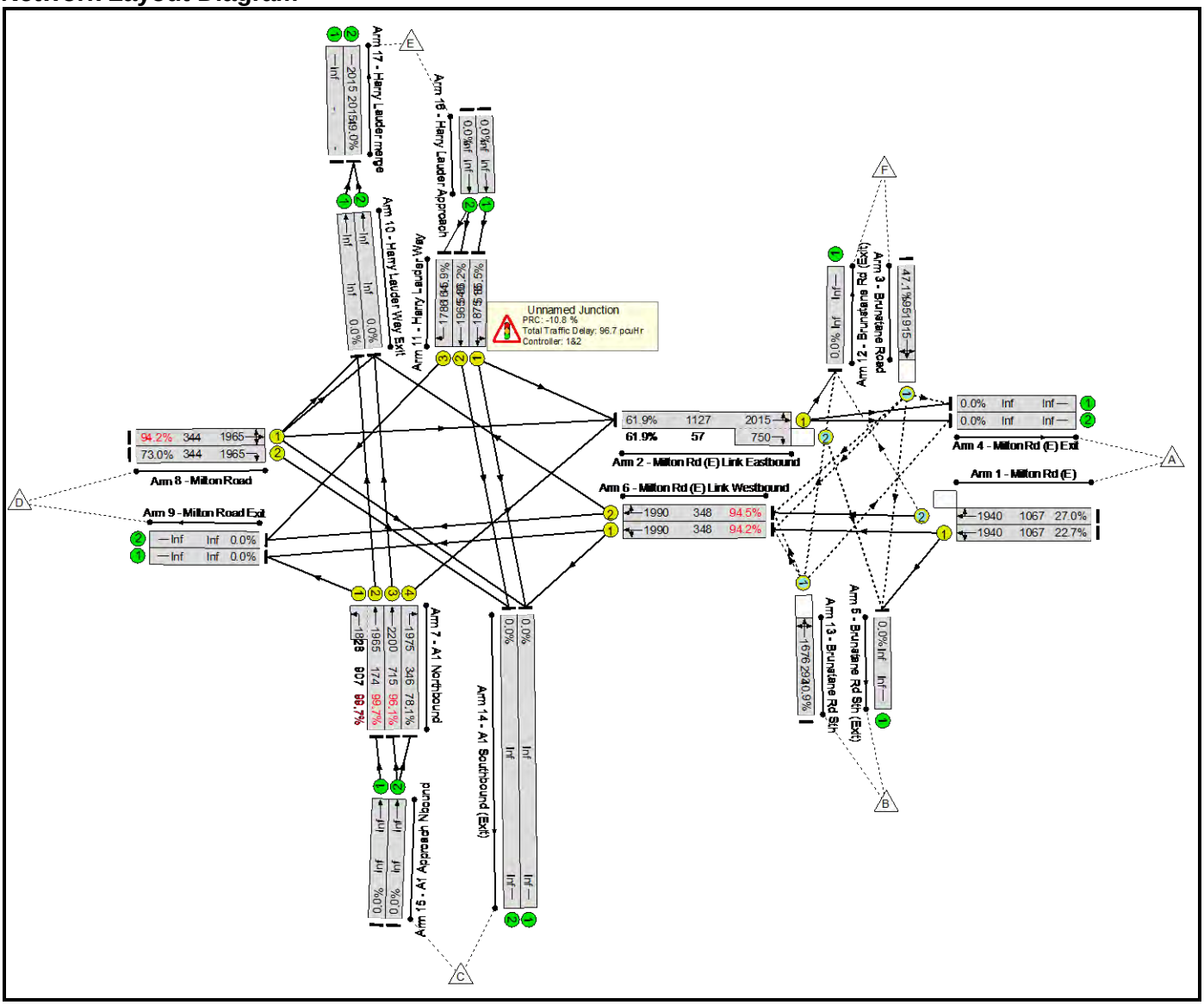
Basic Results Summary

User and Project Details

Project:	
Title:	
Location:	
File name:	A1 Harry Lauder Milton_imp_pm_2lane.lsg3x
Author:	
Company:	
Address:	
Notes:	

Scenario 1: 'PM base' (FG1: '2016 PM Survey', Plan 1: 'Network Control Plan 1')

Network Layout Diagram



Basic Results Summary

Network Results

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network	-	-	-		-	-	-	-	-	-	**99.7%**	**118**	**136**	**6**	**96.7**	-	-
Unnamed Junction	-	-	-		-	-	-	-	-	-	**99.7%**	**118**	**136**	**6**	**96.7**	-	-
1/1	Milton Rd (E) Left Ahead	U	C2:B		1	65	-	242	1940	1067	22.7%	-	-	-	1.1	16.1	4.2
1/2	Milton Rd (E) Ahead Right	O	C2:B		1	65	-	288	1940	1067	27.0%	13	0	1	1.3	16.8	5.2
2/1+2/2	Milton Rd (E) Link Eastbound Ahead Right Left	U+O	C2:A	C2:E	1	74	4	732	2015:750	1127+57	61.9 : 61.9%	33	1	2	1.9 (1.6+0.2)	9.1 (8.4:23.5)	13.3
3/1	Brunstane Road Left Ahead Right	O	C2:C		1	20	-	92	1915	195	47.1%	66	25	2	1.7	65.9	3.1
6/1	Milton Rd (E) Link Westbound Ahead Left	U	C1:A		1	20	-	328	1990	348	94.2%	-	-	-	8.3	91.2	16.0
6/2	Milton Rd (E) Link Westbound Ahead Right	U	C1:A		1	20	-	329	1990	348	94.5%	-	-	-	8.5	92.7	16.2
7/2+7/1	A1 Northbound Left Ahead	U	C1:B C1:O		1	38:104	-	1079	1965:1828	174+907	99.7 : 99.7%	-	-	-	18.7 (4.1+14.6)	62.5 (85.4:58.1)	35.8
7/3	A1 Northbound Ahead	U	C1:B		1	38	-	687	2200	715	96.1%	-	-	-	15.4	80.9	30.2
7/4	A1 Northbound Right	U	C1:E		1	20	-	270	1975	346	78.1%	-	-	-	5.3	70.1	10.3
8/1	Milton Road Ahead Left Right	U	C1:C		1	20	-	324	1965	344	94.2%	-	-	-	9.7	107.9	15.9
8/2	Milton Road Right	U	C1:C		1	20	-	251	1965	344	73.0%	-	-	-	4.6	65.7	9.2
11/1	Harry Lauder Way Left Ahead	U	C1:D		1	32	-	441	1875	516	85.5%	-	-	-	7.8	63.7	16.6

Basic Results Summary

11/2	Harry Lauder Way Ahead	U	C1:D		1	32	-	466	1965	540	86.2%	-	-	-	8.3	63.8	17.7
11/3	Harry Lauder Way Right	U	C1:F		1	10	-	26	1786	164	15.9%	-	-	-	0.5	63.4	0.9
13/1	Brunstane Rd Sth Right Left Ahead	O	C2:D		1	20	-	120	1676	293	40.9%	7	111	2	1.8	54.4	3.9
17/2	Harry Lauder merge	U	-		-	-	-	988	2015	2015	49.0%	-	-	-	1.9	6.9	28.3

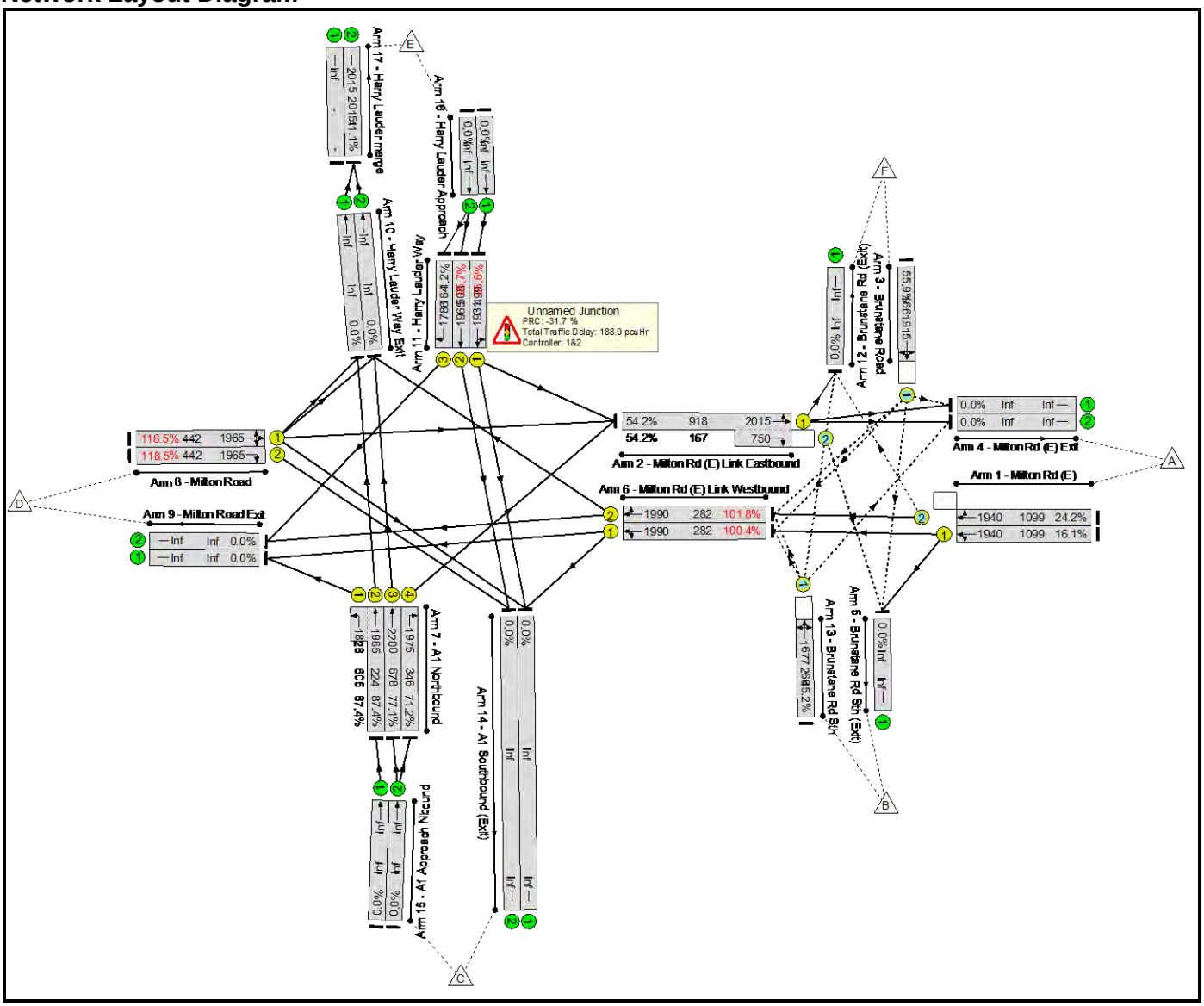
C1 - A1 Harry Lauder Junction	Stream: 1 PRC for Signalled Lanes (%):	-10.8	Total Delay for Signalled Lanes (pcuHr):	87.03
C1 - A1 Harry Lauder Junction	Stream: 2 PRC for Signalled Lanes (%):	0.0	Total Delay for Signalled Lanes (pcuHr):	0.00
C2 - Brunstane	Stream: 1 PRC for Signalled Lanes (%):	45.5	Total Delay for Signalled Lanes (pcuHr):	7.78
	PRC Over All Lanes (%):	-10.8	Total Delay Over All Lanes(pcuHr):	96.70

Cycle Time (s):	120
Cycle Time (s):	120
Cycle Time (s):	120

Basic Results Summary

Scenario 2: '2025 PM Dev' (FG2: '2025 PM Full Development', Plan 1: 'Network Control Plan 1')

Network Layout Diagram



Basic Results Summary

Network Results

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network	-	-	-		-	-	-	-	-	-	**118.5%**	**158**	**147**	**9**	**188.9**	-	-
Unnamed Junction	-	-	-		-	-	-	-	-	-	**118.5%**	**158**	**147**	**9**	**188.9**	-	-
1/1	Milton Rd (E) Left Ahead	U	C2:B		1	67	-	177	1940	1099	16.1%	-	-	-	0.7	14.4	2.9
1/2	Milton Rd (E) Ahead Right	O	C2:B		1	67	-	266	1940	1099	24.2%	10	0	1	1.1	15.3	4.6
2/1+2/2	Milton Rd (E) Link Eastbound Ahead Right Left	U+O	C2:A	C2:E	1	76	4	638	2015:750	918+167	54.2 : 54.2%	83	3	5	1.5 (0.9+0.5)	8.9 (6.6:21.9)	13.4
3/1	Brunstane Road Left Ahead Right	O	C2:C		1	18	-	93	1915	166	55.9%	57	34	2	1.9	74.7	3.4
6/1	Milton Rd (E) Link Westbound Ahead Left	U	C1:A		1	16	-	283	1990	282	100.4%	-	-	-	11.4	145.2	18.2
6/2	Milton Rd (E) Link Westbound Ahead Right	U	C1:A		1	16	-	287	1990	282	101.8%	-	-	-	13.0	163.7	19.6
7/2+7/1	A1 Northbound Left Ahead	U	C1:B C1:O		1	36:104	-	725	1965:1828	224+605	87.4 : 87.4%	-	-	-	6.2 (2.7+3.5)	30.8 (50.3:23.6)	16.9
7/3	A1 Northbound Ahead	U	C1:B		1	36	-	523	2200	678	77.1%	-	-	-	7.1	49.0	17.3
7/4	A1 Northbound Right	U	C1:E		1	20	-	246	1975	346	71.2%	-	-	-	4.4	64.3	8.9
8/1	Milton Road Ahead Left Right	U	C1:C		1	26	-	524	1965	442	118.5%	-	-	-	56.4	387.5	66.4
8/2	Milton Road Right	U	C1:C		1	26	-	524	1965	442	118.5%	-	-	-	56.4	387.5	66.4
11/1	Harry Lauder Way Left Ahead	U	C1:D		1	30	-	477	1931	499	95.6%	-	-	-	12.6	94.8	22.4

Basic Results Summary

11/2	Harry Lauder Way Ahead	U	C1:D		1	30	-	486	1965	508	95.7%	-	-	-	12.8	94.7	22.8
11/3	Harry Lauder Way Right	U	C1:F		1	10	-	2	1786	164	1.2%	-	-	-	0.0	61.1	0.1
13/1	Brunstane Rd Sth Right Left Ahead	O	C2:D		1	18	-	120	1677	266	45.2%	8	110	2	1.9	58.2	4.0
17/2	Harry Lauder merge	U	-		-	-	-	832	2015	2015	41.1%	-	-	-	1.4	6.2	23.2

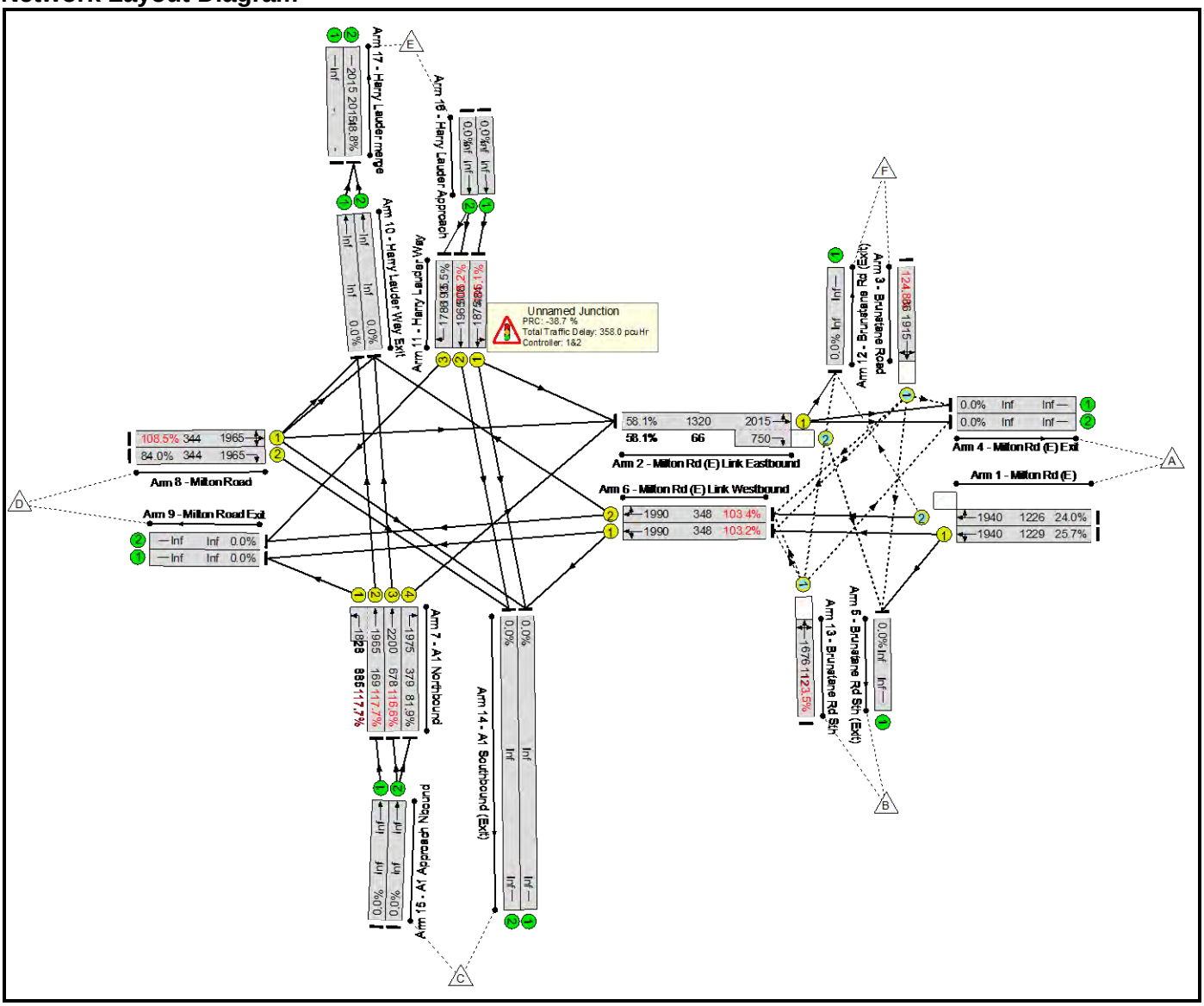
C1 - A1 Harry Lauder Junction	Stream: 1 PRC for Signalled Lanes (%):	-31.7	Total Delay for Signalled Lanes (pcuHr):	180.35
C1 - A1 Harry Lauder Junction	Stream: 2 PRC for Signalled Lanes (%):	0.0	Total Delay for Signalled Lanes (pcuHr):	0.00
C2 - Brunstane	Stream: 1 PRC for Signalled Lanes (%):	60.9	Total Delay for Signalled Lanes (pcuHr):	7.16
	PRC Over All Lanes (%):	-31.7	Total Delay Over All Lanes(pcuHr):	188.93

Cycle Time (s):	120
Cycle Time (s):	120
Cycle Time (s):	120

Basic Results Summary

Scenario 3: '2025 PM Base' (FG3: '2025 projected', Plan 1: 'Network Control Plan 1')

Network Layout Diagram



Basic Results Summary

Network Results

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network	-	-	-		-	-	-	-	-	-	**124.8%**	**78**	**84**	**90**	**358.0**	-	-
Unnamed Junction	-	-	-		-	-	-	-	-	-	**124.8%**	**78**	**84**	**90**	**358.0**	-	-
1/1	Milton Rd (E) Left Ahead	U	C2:B		1	75	-	316	1940	1229	25.7%	-	-	-	1.0	11.6	4.7
1/2	Milton Rd (E) Ahead Right	O	C2:B		1	75	-	294	1940	1226	24.0%	16	0	0	1.0	12.5	4.3
2/1+2/2	Milton Rd (E) Link Eastbound Ahead Right Left	U+O	C2:A	C2:E	1	87	7	841	2015:750	1320+66	58.1 : 58.1%	38	0	0	4.1 (3.9+0.2)	18.1 (18.2:16.7)	21.2
3/1	Brunstane Road Left Ahead Right	O	C2:C		1	7	-	107	1915	86	124.8%	19	7	60	15.7	528.4	17.5
6/1	Milton Rd (E) Link Westbound Ahead Left	U	C1:A		1	20	-	377	1990	348	103.2%	-	-	-	18.2	182.6	25.3
6/2	Milton Rd (E) Link Westbound Ahead Right	U	C1:A		1	20	-	380	1990	348	103.4%	-	-	-	18.9	189.3	25.7
7/2+7/1	A1 Northbound Left Ahead	U	C1:B C1:O		1	36:104	-	1240	1965:1828	169+885	117.7 : 117.7%	-	-	-	109.5 (19.0+90.5)	318.0 (343.7:313.0)	144.0
7/3	A1 Northbound Ahead	U	C1:B		1	36	-	791	2200	678	116.6%	-	-	-	74.7	340.2	89.8
7/4	A1 Northbound Right	U	C1:E		1	22	-	310	1975	379	81.9%	-	-	-	6.1	71.2	12.0
8/1	Milton Road Ahead Left Right	U	C1:C		1	20	-	373	1965	344	108.5%	-	-	-	26.5	255.9	33.4
8/2	Milton Road Right	U	C1:C		1	20	-	289	1965	344	84.0%	-	-	-	6.3	78.0	11.7

Basic Results Summary

11/1	Harry Lauder Way Left Ahead	U	C1:D		1	30	-	509	1875	484	105.1%	-	-	-	26.6	188.0	36.8
11/2	Harry Lauder Way Ahead	U	C1:D		1	30	-	534	1965	508	105.2%	-	-	-	27.9	187.9	38.6
11/3	Harry Lauder Way Right	U	C1:F		1	12	-	30	1786	193	15.5%	-	-	-	0.5	59.6	1.0
13/1	Brunstane Rd Sth Right Left Ahead	O	C2:D		1	7	-	138	1676	112	123.5%	5	77	30	19.1	497.3	21.4
17/2	Harry Lauder merge	U	-		-	-	-	1137	2015	2015	48.8%	-	-	-	1.8	6.8	28.1

C1 - A1 Harry Lauder Junction	Stream: 1 PRC for Signalled Lanes (%):	-30.7	Total Delay for Signalled Lanes (pcuHr):	315.31
C1 - A1 Harry Lauder Junction	Stream: 2 PRC for Signalled Lanes (%):	0.0	Total Delay for Signalled Lanes (pcuHr):	0.00
C2 - Brunstane	Stream: 1 PRC for Signalled Lanes (%):	-38.7	Total Delay for Signalled Lanes (pcuHr):	40.86
	PRC Over All Lanes (%):	-38.7	Total Delay Over All Lanes(pcuHr):	358.02

Cycle Time (s):	120
Cycle Time (s):	120
Cycle Time (s):	120

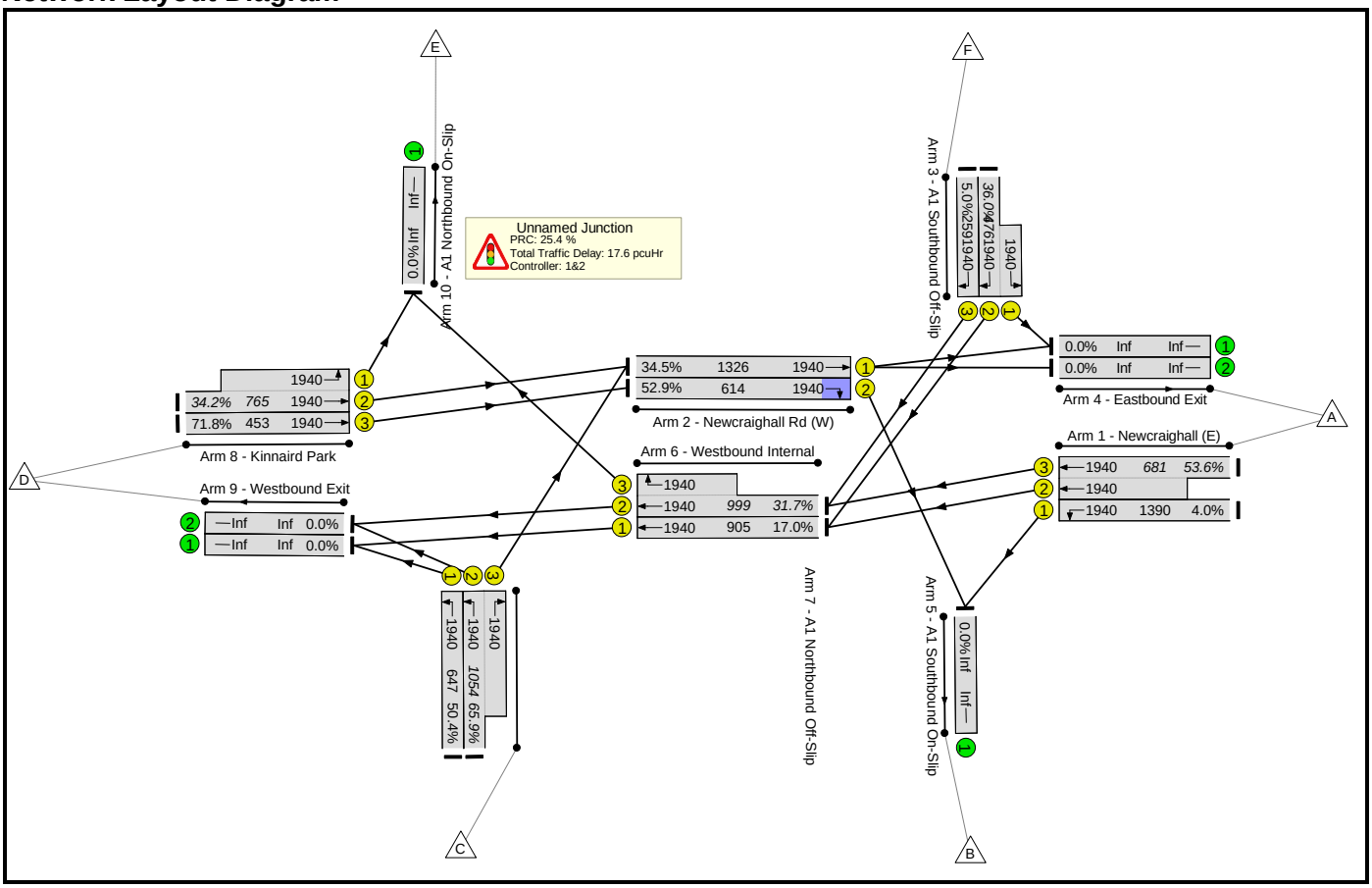
Basic Results Summary

User and Project Details

Project:	
Title:	
Location:	
File name:	A1 Newcraighall Rd Interchange.lsg3x
Author:	
Company:	
Address:	
Notes:	

Scenario 1: 'Scenario 1' (FG1: '2016 AM Survey', Plan 1: 'Network Control Plan 1')

Network Layout Diagram



Basic Results Summary

Network Results

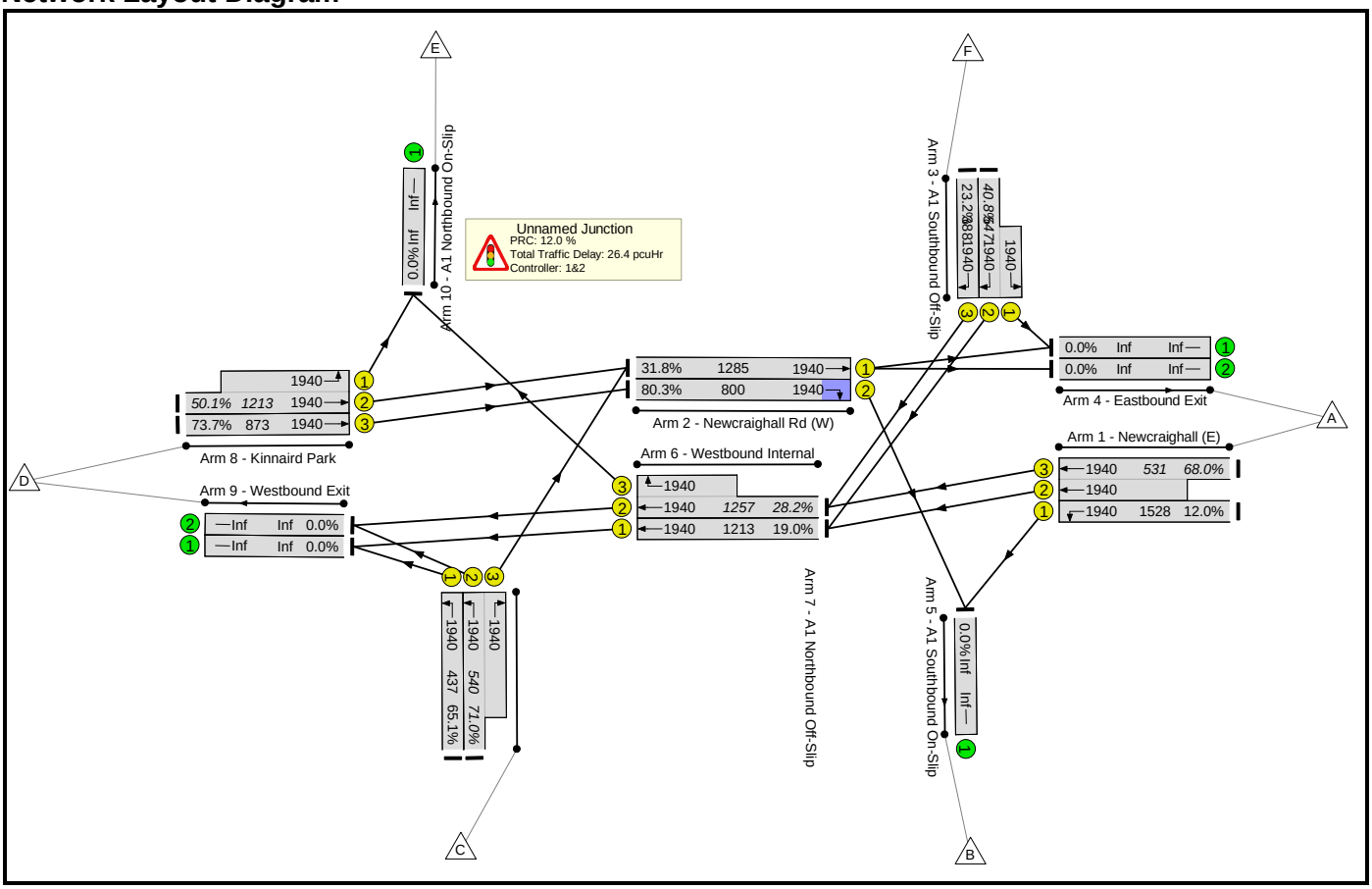
Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network	-	-	-		-	-	-	-	-	-	**71.8%**	**0**	**0**	**0**	**17.6**	-	-
Unnamed Junction	-	-	-		-	-	-	-	-	-	**71.8%**	**0**	**0**	**0**	**17.6**	-	-
1/1	Newcraighall (E) Left	U	C1:G		1	42	-	55	1940	1390	4.0%	-	-	-	0.1	3.9	0.3
1/3+1/2	Newcraighall (E) Ahead	U	C1:A		1	17	-	365	1940:1940	681	53.6%	-	-	-	2.3	22.8	4.7
2/1	Newcraighall Rd (W) Ahead	U	C1:B		1	40	-	458	1940	1326	34.5%	-	-	-	0.7	5.2	2.5
2/2	Newcraighall Rd (W) Right	U	C1:C		1	18	-	325	1940	614	52.9%	-	-	-	2.2	24.6	6.0
3/2+3/1	A1 Southbound Off-Slip Left Right	U	C1:D		1	7	-	171	1940:1940	476	36.0%	-	-	-	1.4	29.5	1.7
3/3	A1 Southbound Off-Slip Right	U	C1:D		1	7	-	13	1940	259	5.0%	-	-	-	0.1	30.3	0.2
6/1	Westbound Internal Ahead	U	C2:B		1	27	-	154	1940	905	17.0%	-	-	-	0.2	5.7	1.6
6/2+6/3	Westbound Internal Ahead Right	U	C2:B C2:C		1	27:7	-	317	1940:1940	999	31.7%	-	-	-	0.3	3.9	1.1
7/1	A1 Northbound Off-Slip Left	U	C2:E		1	19	-	326	1940	647	50.4%	-	-	-	2.0	21.6	4.9
7/2+7/3	A1 Northbound Off-Slip Right Left	U	C2:E C2:D		1	19:21	-	695	1940:1940	1054	65.9%	-	-	-	4.0	20.6	6.4
8/2+8/1	Kinnaird Park Ahead Left	U	C2:A C2:K		1	13:42	-	262	1940:1940	765	34.2%	-	-	-	1.2	16.0	2.4
8/3	Kinnaird Park Ahead	U	C2:A		1	13	-	325	1940	453	71.8%	-	-	-	3.2	35.0	6.2

C1 - East Junction	Stream: 1 PRC for Signalled Lanes (%): 67.8	Total Delay for Signalled Lanes (pcuHr): 6.70	Cycle Time (s): 60
C1 - East Junction	Stream: 2 PRC for Signalled Lanes (%): 2175.1	Total Delay for Signalled Lanes (pcuHr): 0.06	Cycle Time (s): 60
C2 - Western Junction	Stream: 1 PRC for Signalled Lanes (%): 25.4	Total Delay for Signalled Lanes (pcuHr): 10.85	Cycle Time (s): 60
C2 - Western Junction	Stream: 2 PRC for Signalled Lanes (%): 0.0	Total Delay for Signalled Lanes (pcuHr): 0.00	Cycle Time (s): 60
	PRC Over All Lanes (%): 25.4	Total Delay Over All Lanes(pcuHr): 17.61	

Basic Results Summary

Scenario 2: 'Scenario 2' (FG4: '2016 PM Survey', Plan 1: 'Network Control Plan 1')

Network Layout Diagram



Basic Results Summary

Network Results

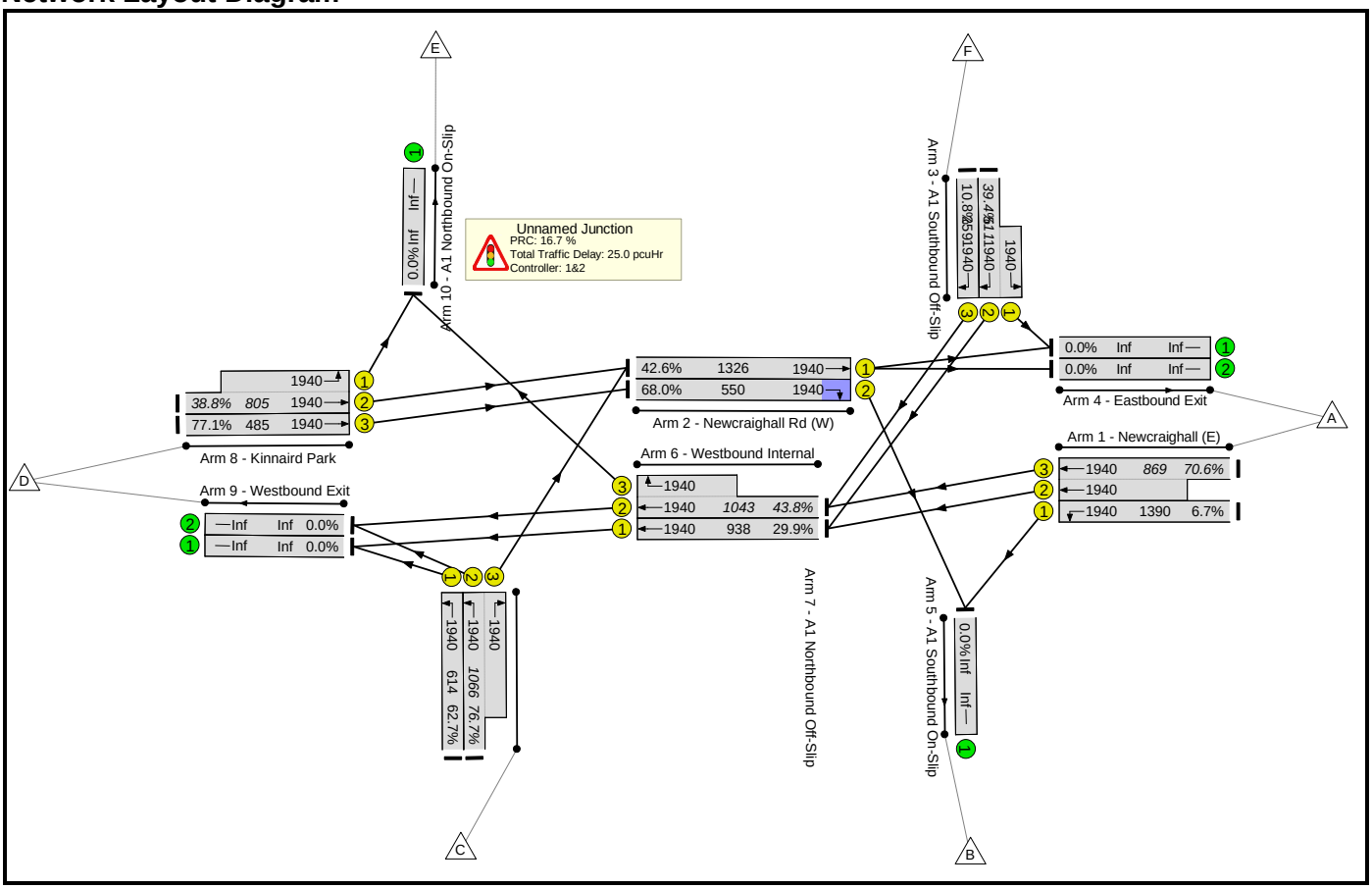
Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network	-	-	-		-	-	-	-	-	-	**80.3%**	**0**	**0**	**0**	**26.4**	-	-
Unnamed Junction	-	-	-		-	-	-	-	-	-	**80.3%**	**0**	**0**	**0**	**26.4**	-	-
1/1	Newcraighall (E) Left	U	C1:G		1	62	-	183	1940	1528	12.0%	-	-	-	0.2	3.3	1.0
1/3+1/2	Newcraighall (E) Ahead	U	C1:A		1	15	-	361	1940:1940	531	68.0%	-	-	-	4.0	39.4	6.5
2/1	Newcraighall Rd (W) Ahead	U	C1:B		1	52	-	409	1940	1285	31.8%	-	-	-	0.5	4.4	2.3
2/2	Newcraighall Rd (W) Right	U	C1:C		1	32	-	643	1940	800	80.3%	-	-	-	2.6	14.7	3.1
3/2+3/1	A1 Southbound Off-Slip Left Right	U	C1:D		1	15	-	223	1940:1940	547	40.8%	-	-	-	2.0	32.8	2.9
3/3	A1 Southbound Off-Slip Right	U	C1:D		1	15	-	90	1940	388	23.2%	-	-	-	0.8	32.9	1.8
6/1	Westbound Internal Ahead	U	C2:B		1	49	-	230	1940	1213	19.0%	-	-	-	0.8	12.6	3.3
6/2+6/3	Westbound Internal Ahead Right	U	C2:B C2:C		1	49:7	-	354	1940:1940	1257	28.2%	-	-	-	1.7	17.1	5.1
7/1	A1 Northbound Off-Slip Left	U	C2:E		1	17	-	284	1940	437	65.1%	-	-	-	3.1	39.8	6.6
7/2+7/3	A1 Northbound Off-Slip Right Left	U	C2:E C2:D		1	17:19	-	383	1940:1940	540	71.0%	-	-	-	4.1	38.7	7.3
8/2+8/1	Kinnaird Park Ahead Left	U	C2:A C2:K		1	35:62	-	607	1940:1940	1213	50.1%	-	-	-	2.0	11.8	5.2
8/3	Kinnaird Park Ahead	U	C2:A		1	35	-	643	1940	873	73.7%	-	-	-	4.6	25.8	13.0

C1 - East Junction	Stream: 1 PRC for Signalled Lanes (%): 12.0	Total Delay for Signalled Lanes (pcuHr): 9.93	Cycle Time (s): 80
C1 - East Junction	Stream: 2 PRC for Signalled Lanes (%): 651.4	Total Delay for Signalled Lanes (pcuHr): 0.17	Cycle Time (s): 80
C2 - Western Junction	Stream: 1 PRC for Signalled Lanes (%): 22.2	Total Delay for Signalled Lanes (pcuHr): 16.35	Cycle Time (s): 80
C2 - Western Junction	Stream: 2 PRC for Signalled Lanes (%): 0.0	Total Delay for Signalled Lanes (pcuHr): 0.00	Cycle Time (s): 80
	PRC Over All Lanes (%): 12.0	Total Delay Over All Lanes(pcuHr): 26.45	

Basic Results Summary

Scenario 3: 'Scenario 3 - 2025 AM Dev' (FG7: '2025 AM Full Development', Plan 1: 'Network Control Plan 1')

Network Layout Diagram



Basic Results Summary

Network Results

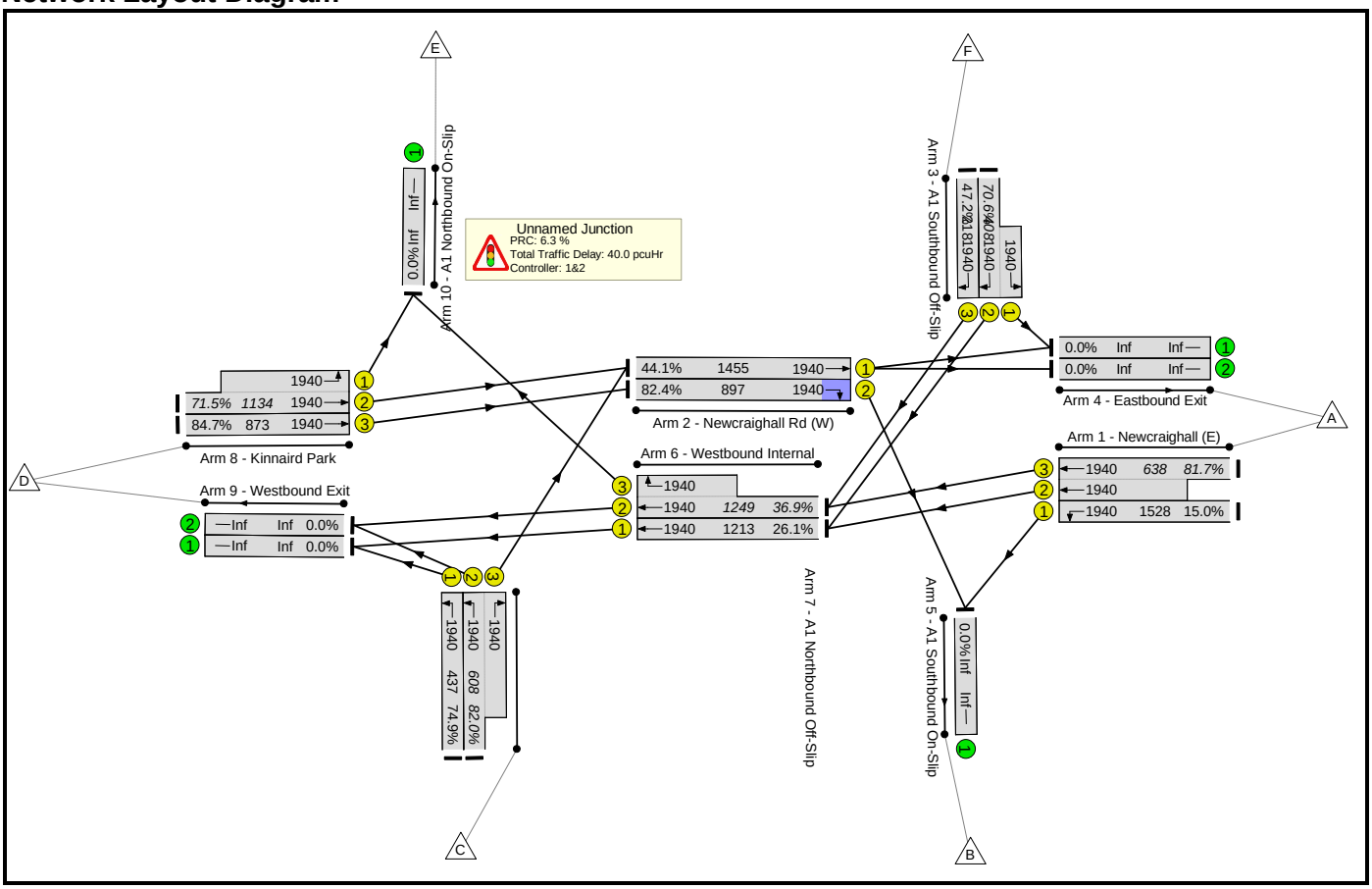
Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network	-	-	-		-	-	-	-	-	-	**77.1%**	**0**	**0**	**0**	**25.0**	-	-
Unnamed Junction	-	-	-		-	-	-	-	-	-	**77.1%**	**0**	**0**	**0**	**25.0**	-	-
1/1	Newcraighall (E) Left	U	C1:G		1	42	-	93	1940	1390	6.7%	-	-	-	0.1	3.9	0.5
1/3+1/2	Newcraighall (E) Ahead	U	C1:A		1	19	-	613	1940:1940	869	70.6%	-	-	-	4.0	23.4	7.3
2/1	Newcraighall Rd (W) Ahead	U	C1:B		1	40	-	565	1940	1326	42.6%	-	-	-	1.1	6.9	6.4
2/2	Newcraighall Rd (W) Right	U	C1:C		1	16	-	374	1940	550	68.0%	-	-	-	1.4	13.7	3.0
3/2+3/1	A1 Southbound Off-Slip Left Right	U	C1:D		1	7	-	201	1940:1940	511	39.4%	-	-	-	1.7	29.6	1.9
3/3	A1 Southbound Off-Slip Right	U	C1:D		1	7	-	28	1940	259	10.8%	-	-	-	0.2	30.8	0.5
6/1	Westbound Internal Ahead	U	C2:B		1	28	-	280	1940	938	29.9%	-	-	-	1.3	16.8	4.7
6/2+6/3	Westbound Internal Ahead Right	U	C2:B C2:C		1	28:7	-	457	1940:1940	1043	43.8%	-	-	-	1.8	14.0	6.4
7/1	A1 Northbound Off-Slip Left	U	C2:E		1	18	-	385	1940	614	62.7%	-	-	-	2.7	25.3	6.3
7/2+7/3	A1 Northbound Off-Slip Right Left	U	C2:E C2:D		1	18:20	-	818	1940:1940	1066	76.7%	-	-	-	5.5	24.2	8.1
8/2+8/1	Kinnaird Park Ahead Left	U	C2:A C2:K		1	14:42	-	312	1940:1940	805	38.8%	-	-	-	1.4	15.9	2.9
8/3	Kinnaird Park Ahead	U	C2:A		1	14	-	374	1940	485	77.1%	-	-	-	3.8	36.7	7.4

C1 - East Junction	Stream: 1 PRC for Signalled Lanes (%): 27.5	Total Delay for Signalled Lanes (pcuHr): 8.37	Cycle Time (s): 60
C1 - East Junction	Stream: 2 PRC for Signalled Lanes (%): 1245.5	Total Delay for Signalled Lanes (pcuHr): 0.10	Cycle Time (s): 60
C2 - Western Junction	Stream: 1 PRC for Signalled Lanes (%): 16.7	Total Delay for Signalled Lanes (pcuHr): 16.48	Cycle Time (s): 60
C2 - Western Junction	Stream: 2 PRC for Signalled Lanes (%): 0.0	Total Delay for Signalled Lanes (pcuHr): 0.00	Cycle Time (s): 60
	PRC Over All Lanes (%): 16.7	Total Delay Over All Lanes(pcuHr): 24.95	

Basic Results Summary

Scenario 4: 'Scenario 4 - 2025 PM Dev' (FG8: '2025 PM Full Development', Plan 1: 'Network Control Plan 1')

Network Layout Diagram



Basic Results Summary

Network Results

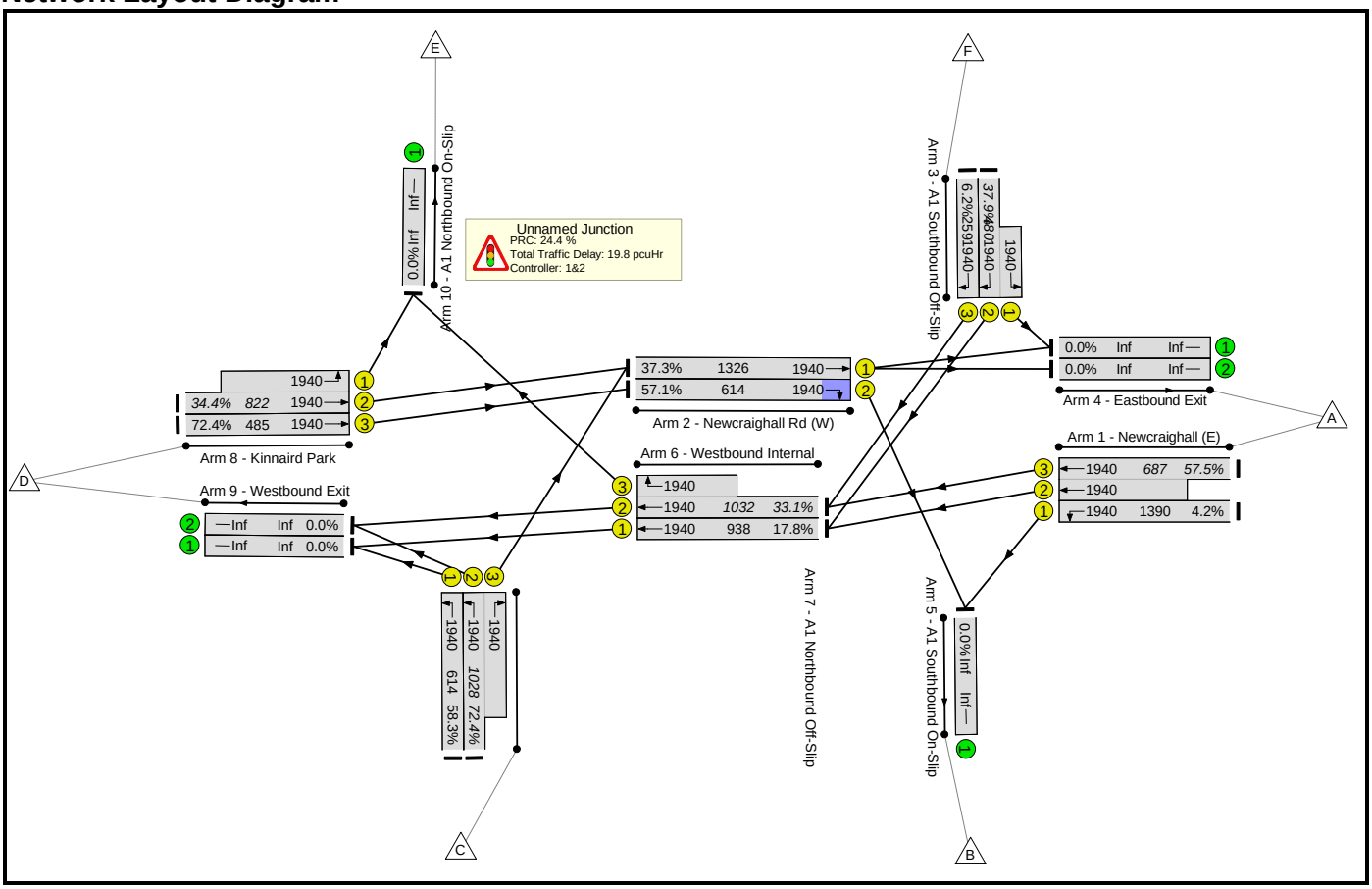
Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network	-	-	-		-	-	-	-	-	-	**84.7%**	**0**	**0**	**0**	**40.0**	-	-
Unnamed Junction	-	-	-		-	-	-	-	-	-	**84.7%**	**0**	**0**	**0**	**40.0**	-	-
1/1	Newcraighall (E) Left	U	C1:G		1	62	-	229	1940	1528	15.0%	-	-	-	0.2	3.4	1.3
1/3+1/2	Newcraighall (E) Ahead	U	C1:A		1	18	-	521	1940:1940	638	81.7%	-	-	-	6.1	42.4	9.5
2/1	Newcraighall Rd (W) Ahead	U	C1:B		1	59	-	641	1940	1455	44.1%	-	-	-	0.6	3.6	3.4
2/2	Newcraighall Rd (W) Right	U	C1:C		1	36	-	739	1940	897	82.4%	-	-	-	2.8	13.5	3.8
3/2+3/1	A1 Southbound Off-Slip Left Right	U	C1:D		1	8	-	288	1940:1940	408	70.6%	-	-	-	3.9	48.8	4.5
3/3	A1 Southbound Off-Slip Right	U	C1:D		1	8	-	103	1940	218	47.2%	-	-	-	1.4	48.8	2.6
6/1	Westbound Internal Ahead	U	C2:B		1	49	-	317	1940	1213	26.1%	-	-	-	1.8	20.6	7.2
6/2+6/3	Westbound Internal Ahead Right	U	C2:B C2:C		1	49:7	-	461	1940:1940	1249	36.9%	-	-	-	2.7	21.3	9.2
7/1	A1 Northbound Off-Slip Left	U	C2:E		1	17	-	327	1940	437	74.9%	-	-	-	4.1	44.9	8.2
7/2+7/3	A1 Northbound Off-Slip Right Left	U	C2:E C2:D		1	17:19	-	499	1940:1940	608	82.0%	-	-	-	6.0	43.6	9.4
8/2+8/1	Kinnaird Park Ahead Left	U	C2:A C2:K		1	35:62	-	811	1940:1940	1134	71.5%	-	-	-	3.6	16.1	9.1
8/3	Kinnaird Park Ahead	U	C2:A		1	35	-	739	1940	873	84.7%	-	-	-	6.7	32.5	17.2

C1 - East Junction	Stream: 1 PRC for Signalled Lanes (%):	9.3	Total Delay for Signalled Lanes (pcuHr):	14.85	Cycle Time (s): 80
C1 - East Junction	Stream: 2 PRC for Signalled Lanes (%):	500.4	Total Delay for Signalled Lanes (pcuHr):	0.22	Cycle Time (s): 80
C2 - Western Junction	Stream: 1 PRC for Signalled Lanes (%):	6.3	Total Delay for Signalled Lanes (pcuHr):	24.96	Cycle Time (s): 80
C2 - Western Junction	Stream: 2 PRC for Signalled Lanes (%):	0.0	Total Delay for Signalled Lanes (pcuHr):	0.00	Cycle Time (s): 80
	PRC Over All Lanes (%):	6.3	Total Delay Over All Lanes(pcuHr):	40.03	

Basic Results Summary

Scenario 5: '2020AM' (FG2: '2020 AM', Plan 1: 'Network Control Plan 1')

Network Layout Diagram



Basic Results Summary

Network Results

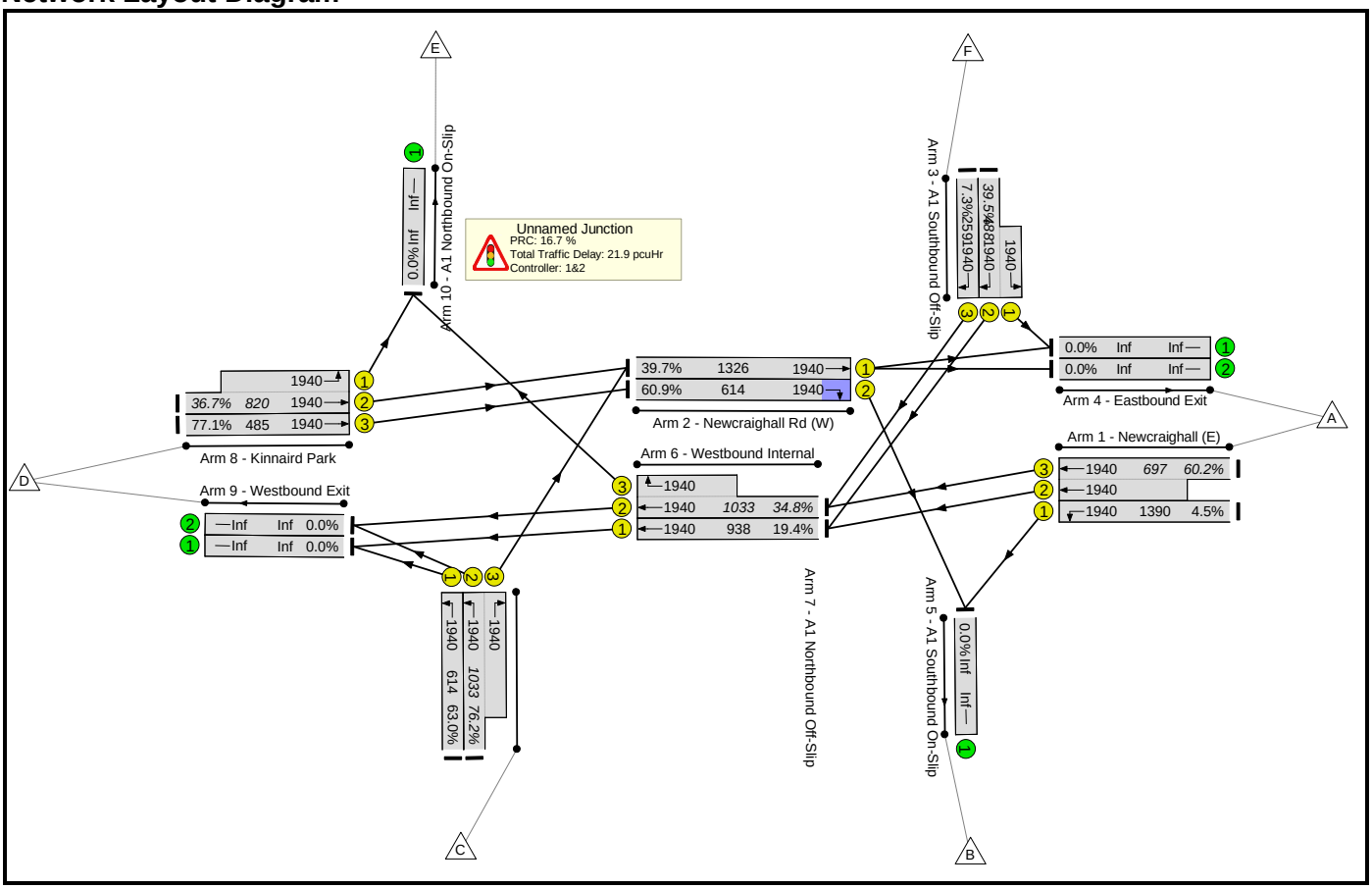
Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network	-	-	-		-	-	-	-	-	-	**72.4%**	**0**	**0**	**0**	**19.8**	-	-
Unnamed Junction	-	-	-		-	-	-	-	-	-	**72.4%**	**0**	**0**	**0**	**19.8**	-	-
1/1	Newcraighall (E) Left	U	C1:G		1	42	-	59	1940	1390	4.2%	-	-	-	0.1	3.9	0.3
1/3+1/2	Newcraighall (E) Ahead	U	C1:A		1	17	-	395	1940:1940	687	57.5%	-	-	-	2.6	23.4	5.2
2/1	Newcraighall Rd (W) Ahead	U	C1:B		1	40	-	494	1940	1326	37.3%	-	-	-	0.8	5.9	5.3
2/2	Newcraighall Rd (W) Right	U	C1:C		1	18	-	351	1940	614	57.1%	-	-	-	0.7	7.5	1.3
3/2+3/1	A1 Southbound Off-Slip Left Right	U	C1:D		1	7	-	182	1940:1940	480	37.9%	-	-	-	1.5	29.7	1.8
3/3	A1 Southbound Off-Slip Right	U	C1:D		1	7	-	16	1940	259	6.2%	-	-	-	0.1	30.4	0.3
6/1	Westbound Internal Ahead	U	C2:B		1	28	-	167	1940	938	17.8%	-	-	-	0.9	20.4	2.8
6/2+6/3	Westbound Internal Ahead Right	U	C2:B C2:C		1	28:7	-	342	1940:1940	1032	33.1%	-	-	-	1.3	14.2	4.8
7/1	A1 Northbound Off-Slip Left	U	C2:E		1	18	-	358	1940	614	58.3%	-	-	-	2.4	24.2	5.7
7/2+7/3	A1 Northbound Off-Slip Right Left	U	C2:E C2:D		1	18:20	-	744	1940:1940	1028	72.4%	-	-	-	4.8	23.0	7.3
8/2+8/1	Kinnaird Park Ahead Left	U	C2:A C2:K		1	14:42	-	283	1940:1940	822	34.4%	-	-	-	1.2	15.3	2.5
8/3	Kinnaird Park Ahead	U	C2:A		1	14	-	351	1940	485	72.4%	-	-	-	3.3	33.8	6.6

C1 - East Junction	Stream: 1 PRC for Signalled Lanes (%):	56.4	Total Delay for Signalled Lanes (pcuHr):	5.75	Cycle Time (s): 60
C1 - East Junction	Stream: 2 PRC for Signalled Lanes (%):	2020.8	Total Delay for Signalled Lanes (pcuHr):	0.06	Cycle Time (s): 60
C2 - Western Junction	Stream: 1 PRC for Signalled Lanes (%):	24.4	Total Delay for Signalled Lanes (pcuHr):	13.94	Cycle Time (s): 60
C2 - Western Junction	Stream: 2 PRC for Signalled Lanes (%):	0.0	Total Delay for Signalled Lanes (pcuHr):	0.00	Cycle Time (s): 60
	PRC Over All Lanes (%):	24.4	Total Delay Over All Lanes(pcuHr):	19.76	

Basic Results Summary

Scenario 6: '2025AM' (FG3: '2025 AM', Plan 1: 'Network Control Plan 1')

Network Layout Diagram



Basic Results Summary

Network Results

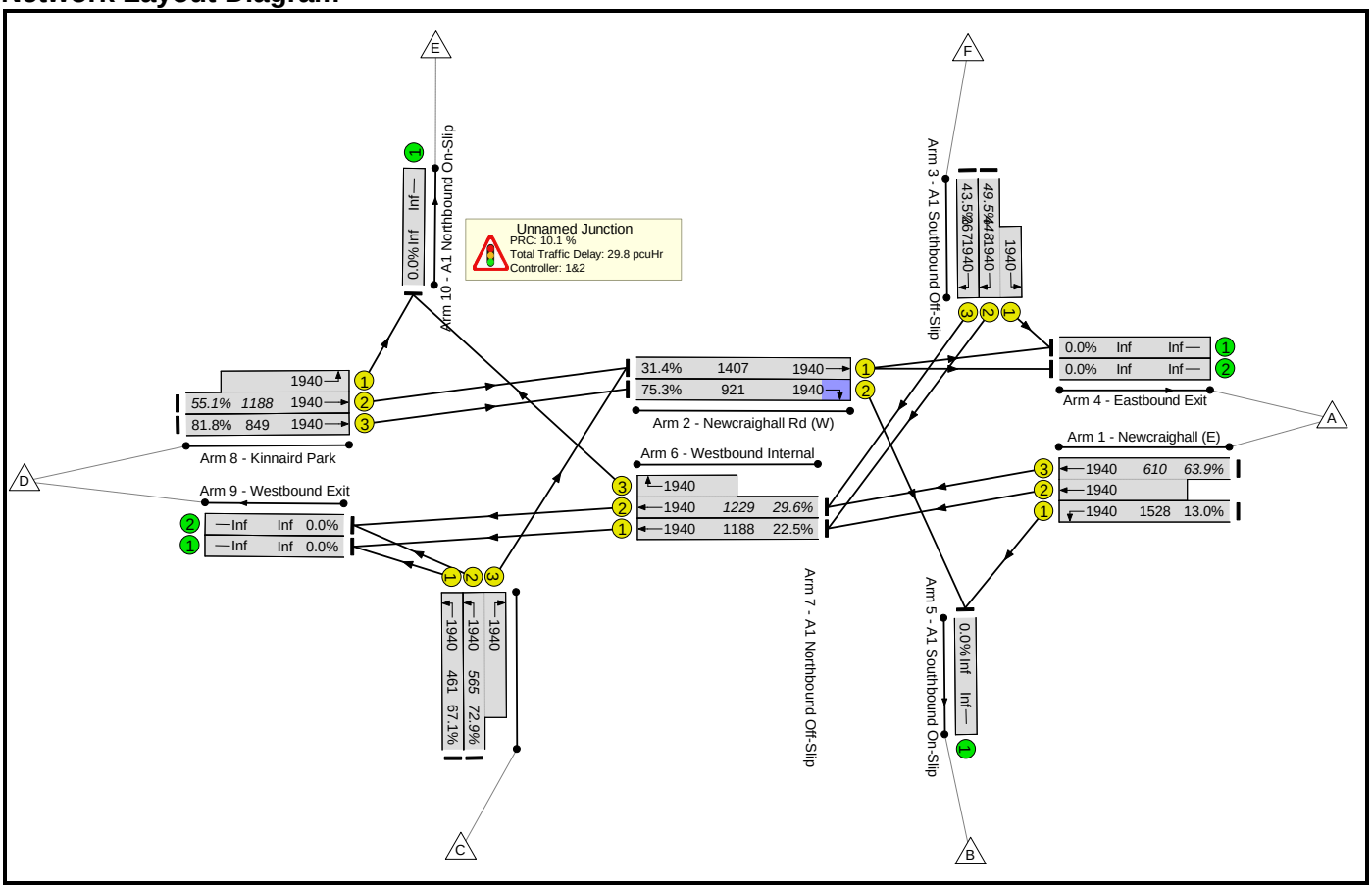
Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network	-	-	-		-	-	-	-	-	-	**77.1%**	**0**	**0**	**0**	**21.9**	-	-
Unnamed Junction	-	-	-		-	-	-	-	-	-	**77.1%**	**0**	**0**	**0**	**21.9**	-	-
1/1	Newcraighall (E) Left	U	C1:G		1	42	-	63	1940	1390	4.5%	-	-	-	0.1	3.9	0.3
1/3+1/2	Newcraighall (E) Ahead	U	C1:A		1	17	-	420	1940:1940	697	60.2%	-	-	-	2.8	23.8	5.5
2/1	Newcraighall Rd (W) Ahead	U	C1:B		1	40	-	526	1940	1326	39.7%	-	-	-	0.9	6.0	5.6
2/2	Newcraighall Rd (W) Right	U	C1:C		1	18	-	374	1940	614	60.9%	-	-	-	0.8	8.2	1.4
3/2+3/1	A1 Southbound Off-Slip Left Right	U	C1:D		1	7	-	193	1940:1940	488	39.5%	-	-	-	1.6	29.8	1.9
3/3	A1 Southbound Off-Slip Right	U	C1:D		1	7	-	19	1940	259	7.3%	-	-	-	0.2	30.5	0.3
6/1	Westbound Internal Ahead	U	C2:B		1	28	-	182	1940	938	19.4%	-	-	-	1.0	20.3	3.1
6/2+6/3	Westbound Internal Ahead Right	U	C2:B C2:C		1	28:7	-	360	1940:1940	1033	34.8%	-	-	-	1.4	14.4	5.2
7/1	A1 Northbound Off-Slip Left	U	C2:E		1	18	-	387	1940	614	63.0%	-	-	-	2.7	25.4	6.3
7/2+7/3	A1 Northbound Off-Slip Right Left	U	C2:E C2:D		1	18:20	-	787	1940:1940	1033	76.2%	-	-	-	5.3	24.2	7.9
8/2+8/1	Kinnaird Park Ahead Left	U	C2:A C2:K		1	14:42	-	301	1940:1940	820	36.7%	-	-	-	1.3	15.5	2.7
8/3	Kinnaird Park Ahead	U	C2:A		1	14	-	374	1940	485	77.1%	-	-	-	3.8	36.7	7.4

C1 - East Junction	Stream: 1 PRC for Signalled Lanes (%): 47.8	Total Delay for Signalled Lanes (pcuHr): 6.27	Cycle Time (s): 60
C1 - East Junction	Stream: 2 PRC for Signalled Lanes (%): 1886.2	Total Delay for Signalled Lanes (pcuHr): 0.07	Cycle Time (s): 60
C2 - Western Junction	Stream: 1 PRC for Signalled Lanes (%): 16.7	Total Delay for Signalled Lanes (pcuHr): 15.59	Cycle Time (s): 60
C2 - Western Junction	Stream: 2 PRC for Signalled Lanes (%): 0.0	Total Delay for Signalled Lanes (pcuHr): 0.00	Cycle Time (s): 60
	PRC Over All Lanes (%): 16.7	Total Delay Over All Lanes(pcuHr): 21.92	

Basic Results Summary

Scenario 7: '2020PM' (FG5: '2020 PM', Plan 1: 'Network Control Plan 1')

Network Layout Diagram



Basic Results Summary

Network Results

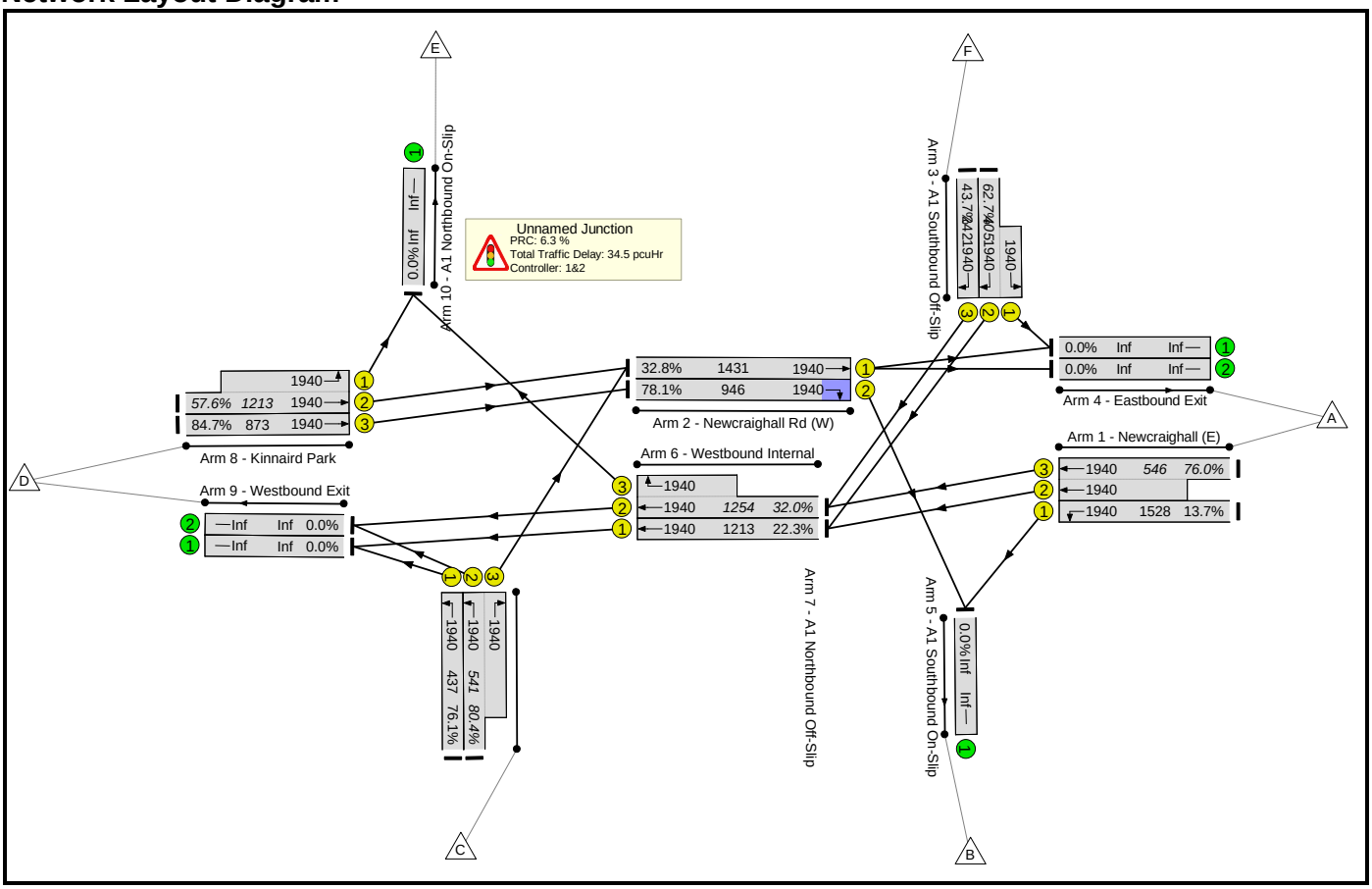
Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network	-	-	-		-	-	-	-	-	-	**81.8%**	**0**	**0**	**0**	**29.8**	-	-
Unnamed Junction	-	-	-		-	-	-	-	-	-	**81.8%**	**0**	**0**	**0**	**29.8**	-	-
1/1	Newcraighall (E) Left	U	C1:G		1	62	-	198	1940	1528	13.0%	-	-	-	0.2	3.4	1.1
1/3+1/2	Newcraighall (E) Ahead	U	C1:A		1	15	-	390	1940:1940	610	63.9%	-	-	-	4.0	36.8	5.9
2/1	Newcraighall Rd (W) Ahead	U	C1:B		1	57	-	442	1940	1407	31.4%	-	-	-	0.4	3.3	2.0
2/2	Newcraighall Rd (W) Right	U	C1:C		1	37	-	694	1940	921	75.3%	-	-	-	1.6	8.5	2.1
3/2+3/1	A1 Southbound Off-Slip Left Right	U	C1:D		1	10	-	222	1940:1940	448	49.5%	-	-	-	2.4	39.5	3.0
3/3	A1 Southbound Off-Slip Right	U	C1:D		1	10	-	116	1940	267	43.5%	-	-	-	1.4	43.6	2.7
6/1	Westbound Internal Ahead	U	C2:B		1	48	-	267	1940	1188	22.5%	-	-	-	1.5	19.8	6.1
6/2+6/3	Westbound Internal Ahead Right	U	C2:B C2:C		1	48:7	-	364	1940:1940	1229	29.6%	-	-	-	2.3	22.4	6.9
7/1	A1 Northbound Off-Slip Left	U	C2:E		1	18	-	309	1940	461	67.1%	-	-	-	3.4	39.4	7.2
7/2+7/3	A1 Northbound Off-Slip Right Left	U	C2:E C2:D		1	18:20	-	412	1940:1940	565	72.9%	-	-	-	4.4	38.4	7.9
8/2+8/1	Kinnaird Park Ahead Left	U	C2:A C2:K		1	34:62	-	655	1940:1940	1188	55.1%	-	-	-	2.3	12.7	6.0
8/3	Kinnaird Park Ahead	U	C2:A		1	34	-	694	1940	849	81.8%	-	-	-	6.0	31.0	15.7

C1 - East Junction	Stream: 1 PRC for Signalled Lanes (%): 19.5	Total Delay for Signalled Lanes (pcuHr): 9.87	Cycle Time (s): 80
C1 - East Junction	Stream: 2 PRC for Signalled Lanes (%): 594.4	Total Delay for Signalled Lanes (pcuHr): 0.19	Cycle Time (s): 80
C2 - Western Junction	Stream: 1 PRC for Signalled Lanes (%): 10.1	Total Delay for Signalled Lanes (pcuHr): 19.79	Cycle Time (s): 80
C2 - Western Junction	Stream: 2 PRC for Signalled Lanes (%): 0.0	Total Delay for Signalled Lanes (pcuHr): 0.00	Cycle Time (s): 80
	PRC Over All Lanes (%): 10.1	Total Delay Over All Lanes(pcuHr): 29.85	

Basic Results Summary

Scenario 8: '2025PM' (FG6: '2025 PM', Plan 1: 'Network Control Plan 1')

Network Layout Diagram



Basic Results Summary

Network Results

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network	-	-	-		-	-	-	-	-	-	**84.7%**	**0**	**0**	**0**	**34.5**	-	-
Unnamed Junction	-	-	-		-	-	-	-	-	-	**84.7%**	**0**	**0**	**0**	**34.5**	-	-
1/1	Newcraighall (E) Left	U	C1:G		1	62	-	210	1940	1528	13.7%	-	-	-	0.2	3.4	1.2
1/3+1/2	Newcraighall (E) Ahead	U	C1:A		1	15	-	415	1940:1940	546	76.0%	-	-	-	4.9	42.8	7.7
2/1	Newcraighall Rd (W) Ahead	U	C1:B		1	58	-	470	1940	1431	32.8%	-	-	-	0.4	3.2	2.1
2/2	Newcraighall Rd (W) Right	U	C1:C		1	38	-	739	1940	946	78.1%	-	-	-	1.9	9.2	2.4
3/2+3/1	A1 Southbound Off-Slip Left Right	U	C1:D		1	9	-	254	1940:1940	405	62.7%	-	-	-	3.1	44.6	4.0
3/3	A1 Southbound Off-Slip Right	U	C1:D		1	9	-	106	1940	242	43.7%	-	-	-	1.3	45.5	2.6
6/1	Westbound Internal Ahead	U	C2:B		1	49	-	270	1940	1213	22.3%	-	-	-	1.6	20.7	6.1
6/2+6/3	Westbound Internal Ahead Right	U	C2:B C2:C		1	49:7	-	401	1940:1940	1254	32.0%	-	-	-	2.3	21.0	7.8
7/1	A1 Northbound Off-Slip Left	U	C2:E		1	17	-	332	1940	437	76.1%	-	-	-	4.2	45.7	8.4
7/2+7/3	A1 Northbound Off-Slip Right Left	U	C2:E C2:D		1	17:19	-	435	1940:1940	541	80.4%	-	-	-	5.4	44.4	9.1
8/2+8/1	Kinnaird Park Ahead Left	U	C2:A C2:K		1	35:62	-	698	1940:1940	1213	57.6%	-	-	-	2.4	12.6	6.3
8/3	Kinnaird Park Ahead	U	C2:A		1	35	-	739	1940	873	84.7%	-	-	-	6.7	32.5	17.2

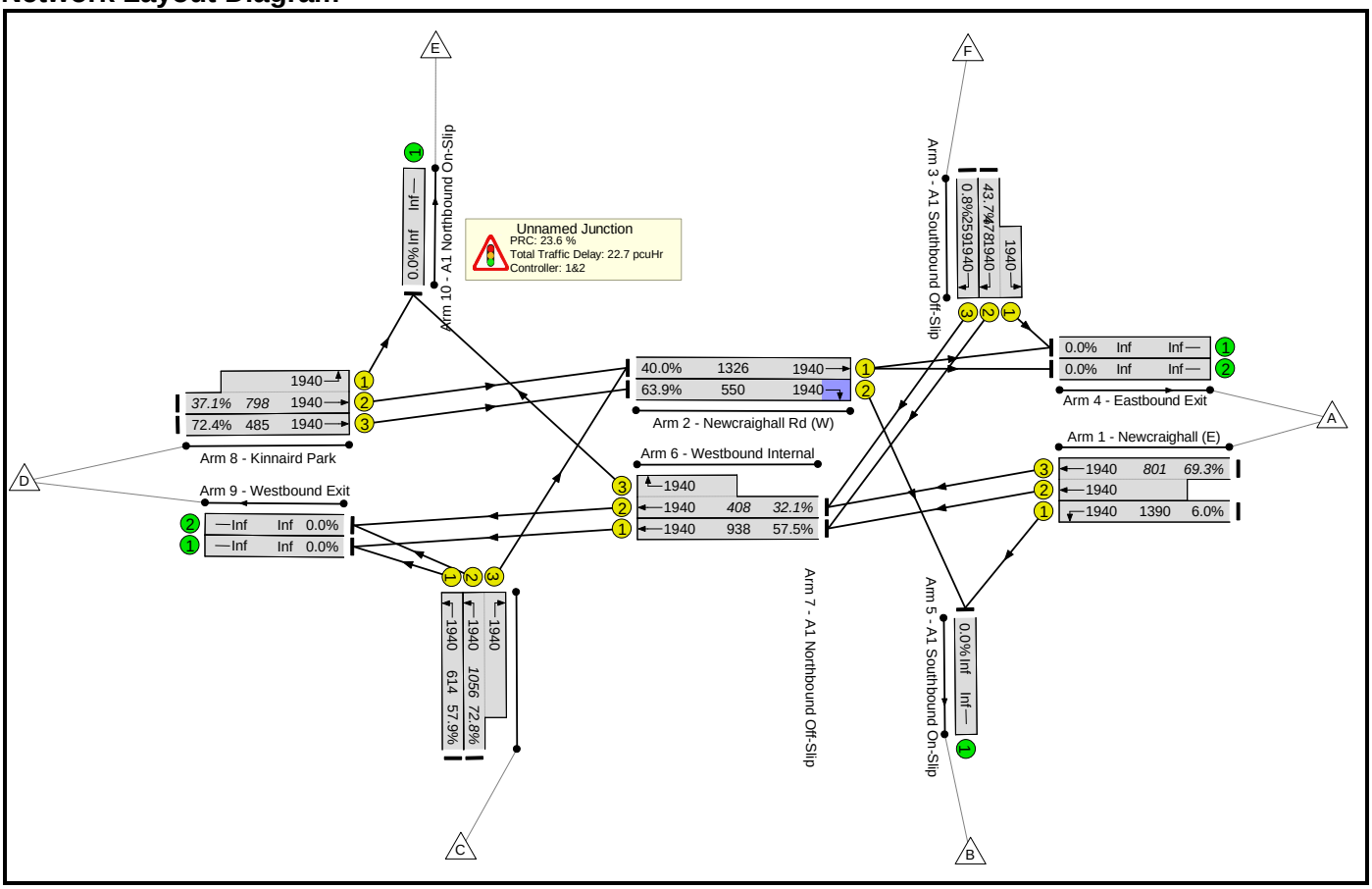
C1 - East Junction	Stream: 1 PRC for Signalled Lanes (%):	15.2	Total Delay for Signalled Lanes (pcuHr):	11.73
C1 - East Junction	Stream: 2 PRC for Signalled Lanes (%):	554.8	Total Delay for Signalled Lanes (pcuHr):	0.20
C2 - Western Junction	Stream: 1 PRC for Signalled Lanes (%):	6.3	Total Delay for Signalled Lanes (pcuHr):	22.58
C2 - Western Junction	Stream: 2 PRC for Signalled Lanes (%):	0.0	Total Delay for Signalled Lanes (pcuHr):	0.00
	PRC Over All Lanes (%):	6.3	Total Delay Over All Lanes(pcuHr):	34.51

Cycle Time (s):	80
Cycle Time (s):	80
Cycle Time (s):	80
Cycle Time (s):	80

Basic Results Summary

Scenario 9: '2020 AM Dev' (FG9: '2020 AM Development', Plan 1: 'Network Control Plan 1')

Network Layout Diagram



Basic Results Summary

Network Results

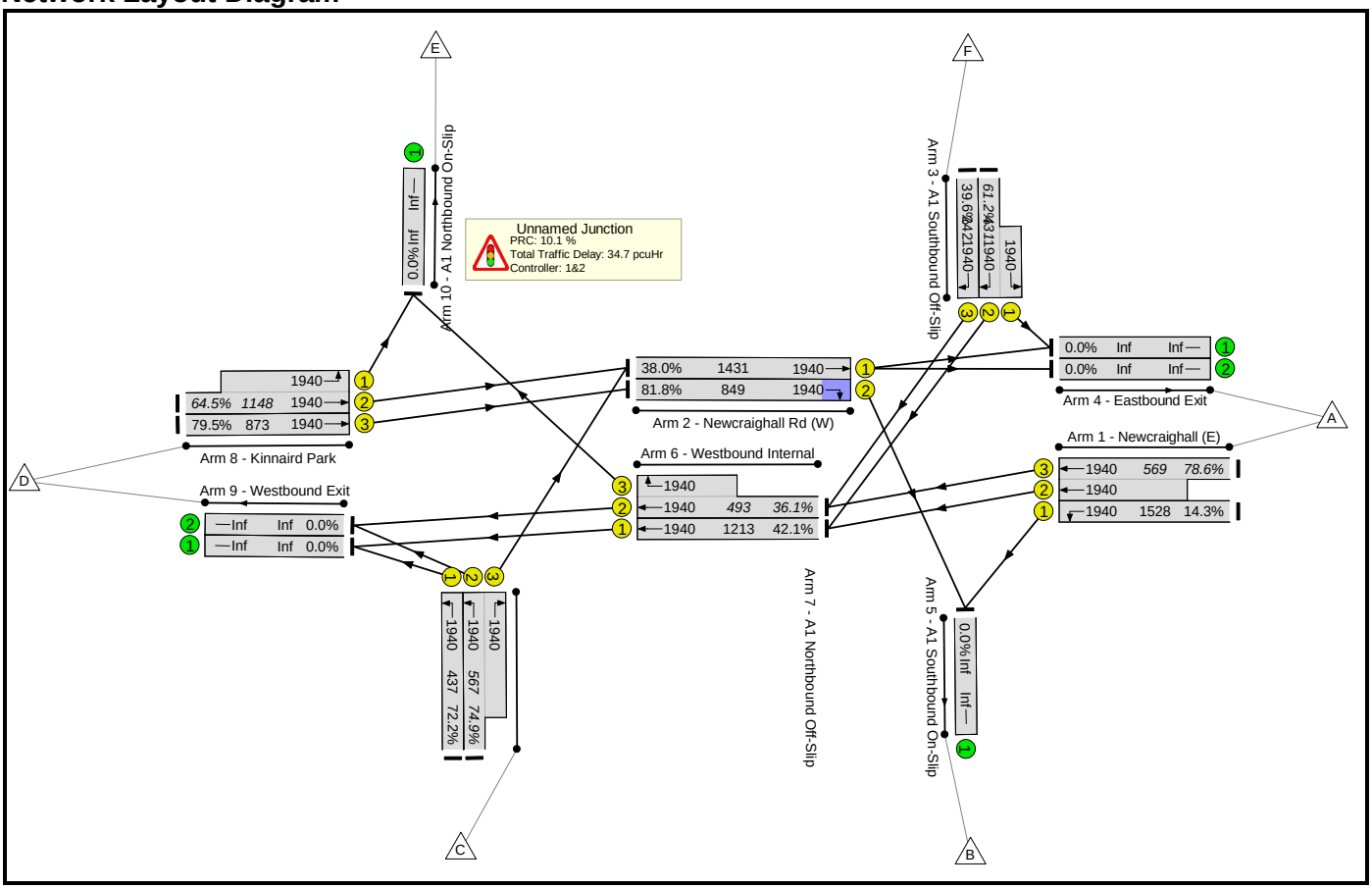
Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network	-	-	-		-	-	-	-	-	-	**72.8%**	**0**	**0**	**0**	**22.7**	-	-
Unnamed Junction	-	-	-		-	-	-	-	-	-	**72.8%**	**0**	**0**	**0**	**22.7**	-	-
1/1	Newcraighall (E) Left	U	C1:G		1	42	-	84	1940	1390	6.0%	-	-	-	0.1	3.9	0.4
1/3+1/2	Newcraighall (E) Ahead	U	C1:A		1	19	-	555	1940:1940	801	69.3%	-	-	-	3.7	23.7	7.2
2/1	Newcraighall Rd (W) Ahead	U	C1:B		1	40	-	530	1940	1326	40.0%	-	-	-	0.9	6.0	4.5
2/2	Newcraighall Rd (W) Right	U	C1:C		1	16	-	351	1940	550	63.9%	-	-	-	3.1	31.4	6.7
3/2+3/1	A1 Southbound Off-Slip Left Right	U	C1:D		1	7	-	209	1940:1940	478	43.7%	-	-	-	1.8	30.5	2.1
3/3	A1 Southbound Off-Slip Right	U	C1:D		1	7	-	2	1940	259	0.8%	-	-	-	0.0	30.0	0.0
6/1	Westbound Internal Ahead	U	C2:B		1	28	-	539	1940	938	57.5%	-	-	-	0.9	5.9	2.6
6/2+6/3	Westbound Internal Ahead Right	U	C2:B C2:C		1	28:7	-	131	1940:1940	408	32.1%	-	-	-	0.5	12.8	1.5
7/1	A1 Northbound Off-Slip Left	U	C2:E		1	18	-	356	1940	614	57.9%	-	-	-	2.4	24.1	5.6
7/2+7/3	A1 Northbound Off-Slip Right Left	U	C2:E C2:D		1	18:20	-	769	1940:1940	1056	72.8%	-	-	-	4.9	23.0	7.4
8/2+8/1	Kinnaird Park Ahead Left	U	C2:A C2:K		1	14:42	-	296	1940:1940	798	37.1%	-	-	-	1.3	15.9	2.7
8/3	Kinnaird Park Ahead	U	C2:A		1	14	-	351	1940	485	72.4%	-	-	-	3.3	33.8	6.6

C1 - East Junction	Stream: 1 PRC for Signalled Lanes (%): 29.8	Total Delay for Signalled Lanes (pcuHr): 9.38	Cycle Time (s): 60
C1 - East Junction	Stream: 2 PRC for Signalled Lanes (%): 1389.6	Total Delay for Signalled Lanes (pcuHr): 0.09	Cycle Time (s): 60
C2 - Western Junction	Stream: 1 PRC for Signalled Lanes (%): 23.6	Total Delay for Signalled Lanes (pcuHr): 13.24	Cycle Time (s): 60
C2 - Western Junction	Stream: 2 PRC for Signalled Lanes (%): 0.0	Total Delay for Signalled Lanes (pcuHr): 0.00	Cycle Time (s): 60
	PRC Over All Lanes (%): 23.6	Total Delay Over All Lanes(pcuHr): 22.71	

Basic Results Summary

Scenario 10: '2020 PM Dev' (FG10: '2020 PM Development', Plan 1: 'Network Control Plan 1')

Network Layout Diagram



Basic Results Summary

Network Results

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network	-	-	-		-	-	-	-	-	-	**81.8%**	**0**	**0**	**0**	**34.7**	-	-
Unnamed Junction	-	-	-		-	-	-	-	-	-	**81.8%**	**0**	**0**	**0**	**34.7**	-	-
1/1	Newcraighall (E) Left	U	C1:G		1	62	-	218	1940	1528	14.3%	-	-	-	0.2	3.4	1.2
1/3+1/2	Newcraighall (E) Ahead	U	C1:A		1	19	-	447	1940:1940	569	78.6%	-	-	-	5.1	41.3	9.2
2/1	Newcraighall Rd (W) Ahead	U	C1:B		1	58	-	544	1940	1431	38.0%	-	-	-	0.5	3.2	2.4
2/2	Newcraighall Rd (W) Right	U	C1:C		1	34	-	694	1940	849	81.8%	-	-	-	2.8	14.7	4.2
3/2+3/1	A1 Southbound Off-Slip Left Right	U	C1:D		1	9	-	264	1940:1940	431	61.2%	-	-	-	3.2	43.6	3.8
3/3	A1 Southbound Off-Slip Right	U	C1:D		1	9	-	96	1940	242	39.6%	-	-	-	1.2	44.5	2.3
6/1	Westbound Internal Ahead	U	C2:B		1	49	-	511	1940	1213	42.1%	-	-	-	2.8	19.9	11.7
6/2+6/3	Westbound Internal Ahead Right	U	C2:B C2:C		1	49:7	-	178	1940:1940	493	36.1%	-	-	-	1.9	37.6	2.7
7/1	A1 Northbound Off-Slip Left	U	C2:E		1	17	-	315	1940	437	72.2%	-	-	-	3.8	43.2	7.7
7/2+7/3	A1 Northbound Off-Slip Right Left	U	C2:E C2:D		1	17:19	-	425	1940:1940	567	74.9%	-	-	-	4.7	39.9	8.0
8/2+8/1	Kinnaird Park Ahead Left	U	C2:A C2:K		1	35:62	-	740	1940:1940	1148	64.5%	-	-	-	3.0	14.5	7.7
8/3	Kinnaird Park Ahead	U	C2:A		1	35	-	694	1940	873	79.5%	-	-	-	5.5	28.7	15.0

C1 - East Junction	Stream: 1 PRC for Signalled Lanes (%): 10.1	Total Delay for Signalled Lanes (pcuHr): 12.82	Cycle Time (s): 80
C1 - East Junction	Stream: 2 PRC for Signalled Lanes (%): 530.7	Total Delay for Signalled Lanes (pcuHr): 0.21	Cycle Time (s): 80
C2 - Western Junction	Stream: 1 PRC for Signalled Lanes (%): 13.2	Total Delay for Signalled Lanes (pcuHr): 21.67	Cycle Time (s): 80
C2 - Western Junction	Stream: 2 PRC for Signalled Lanes (%): 0.0	Total Delay for Signalled Lanes (pcuHr): 0.00	Cycle Time (s): 80
	PRC Over All Lanes (%): 10.1	Total Delay Over All Lanes(pcuHr): 34.70	

Junctions 9

PICADY 9 - Priority Intersection Module

Version: 9.0.0.4211 []

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

Filename: analysis_site access.j9
Path: F:\TPL\TP56 Brunstane\Work\2016 Analysis
Report generation date: 12/08/2016 11:47:06

Summary of junction performance

	AM				PM			
	Queue (PCU)	Delay (s)	RFC	LOS	Queue (PCU)	Delay (s)	RFC	LOS
	2020 North							
Stream B-AC	0.3	13.51	0.23	B	0.2	12.78	0.15	B
Stream C-AB	0.0	5.11	0.02	A	0.1	4.68	0.05	A
Stream C-A								
Stream A-B								
Stream A-C								
	2025 North							
Stream B-AC	0.5	16.43	0.34	C	0.3	14.85	0.22	B
Stream C-AB	0.0	5.09	0.03	A	0.1	4.67	0.07	A
Stream C-A								
Stream A-B								
Stream A-C								
	2025 South							
Stream B-AC	1.3	26.75	0.57	D	0.7	22.25	0.42	C
Stream C-AB	0.0	4.88	0.03	A	0.4	4.80	0.14	A
Stream C-A								
Stream A-B								
Stream A-C								

Values shown are the highest values encountered over all time segments. Delay is the maximum value of average delay per arriving vehicle.

File summary

File Description

Title	(untitled)
Location	
Site number	
Date	31/05/2016
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	KENNY-PC"Kenny
Description	

Units

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

Analysis Options

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

Demand Set Summary

Scenario name	Time Period name	Traffic profile type	Model start time (HH:mm)	Model finish time (HH:mm)	Time segment length (min)	Run automatically
2020 North	AM	ONE HOUR	08:00	09:30	15	✓
2020 North	PM	ONE HOUR	17:00	18:30	15	✓
2025 North	AM	ONE HOUR	08:00	09:30	15	✓
2025 North	PM	ONE HOUR	17:00	18:30	15	✓
2025 South	AM	ONE HOUR	08:00	09:30	15	✓
2025 South	PM	ONE HOUR	17:00	18:30	15	✓

2020 North, AM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

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

Junction Network

Junctions

Junction	Name	Junction Type	Major road direction	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way	1.03	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Name	Description	Arm type
A	untitled		Major
B	untitled		Minor
C	untitled		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Has right turn bay	Visibility for right turn (m)	Blocks?	Blocking queue (PCU)
C	6.50			40.0	✓	0.00

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

Minor Arm Geometry

Arm	Minor arm type	Lane width (m)	Visibility to left (m)	Visibility to right (m)
B	One lane	3.50	50	50

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	544.462	0.097	0.245	0.154	0.350
1	B-C	688.222	0.103	0.261	-	-
1	C-B	597.128	0.226	0.226	-	-

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

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

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

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Model start time (HH:mm)	Model finish time (HH:mm)	Time segment length (min)	Run automatically
D1	2020 North	AM	ONE HOUR	08:00	09:30	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		ONE HOUR	✓	558.00	100.000
B		ONE HOUR	✓	74.00	100.000
C		ONE HOUR	✓	404.00	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A	B	C
From	A	0.000	27.000	531.000
	B	63.000	0.000	11.000
	C	397.000	7.000	0.000

Proportions

		To		
		A	B	C
From	A	0.00	0.05	0.95
	B	0.85	0.00	0.15
	C	0.98	0.02	0.00

Vehicle Mix

Heavy Vehicle proportion

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

Average PCU Per Veh

		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

Results

Results Summary for whole modelled period

Stream	Max RFC	Max delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-AC	0.23	13.51	0.3	B	67.90	101.86
C-AB	0.02	5.11	0.0	A	12.13	18.19
C-A					358.59	537.89
A-B					24.78	37.16
A-C					487.25	730.88

Main Results for each time segment

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

Stream	Total Demand (PCU/hr)	Junction demand (PCU/hr)	Junction Arrivals (PCU)	Bypass demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-AC	55.71	55.71	13.93	0.00	416.22	0.134	55.10	0.0	0.2	9.952	A
C-AB	8.72	8.72	2.18	0.00	712.59	0.012	8.67	0.0	0.0	5.114	A
C-A	295.43	295.43	73.86	0.00			295.43				
A-B	20.33	20.33	5.08	0.00			20.33				
A-C	399.76	399.76	99.94	0.00			399.76				

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

Stream	Total Demand (PCU/hr)	Junction demand (PCU/hr)	Junction Arrivals (PCU)	Bypass demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-AC	66.52	66.52	16.63	0.00	387.64	0.172	66.32	0.2	0.2	11.197	B
C-AB	11.51	11.51	2.88	0.00	736.33	0.016	11.49	0.0	0.0	4.966	A
C-A	351.68	351.68	87.92	0.00			351.68				
A-B	24.27	24.27	6.07	0.00			24.27				
A-C	477.36	477.36	119.34	0.00			477.36				

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

Stream	Total Demand (PCU/hr)	Junction demand (PCU/hr)	Junction Arrivals (PCU)	Bypass demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-AC	81.48	81.48	20.37	0.00	347.94	0.234	81.09	0.2	0.3	13.472	B
C-AB	16.13	16.13	4.03	0.00	769.21	0.021	16.10	0.0	0.0	4.779	A
C-A	428.69	428.69	107.17	0.00			428.69				
A-B	29.73	29.73	7.43	0.00			29.73				
A-C	584.64	584.64	146.16	0.00			584.64				

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

Stream	Total Demand (PCU/hr)	Junction demand (PCU/hr)	Junction Arrivals (PCU)	Bypass demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-AC	81.48	81.48	20.37	0.00	347.93	0.234	81.46	0.3	0.3	13.509	B
C-AB	16.14	16.14	4.03	0.00	769.22	0.021	16.14	0.0	0.0	4.781	A
C-A	428.68	428.68	107.17	0.00			428.68				
A-B	29.73	29.73	7.43	0.00			29.73				
A-C	584.64	584.64	146.16	0.00			584.64				

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

Stream	Total Demand (PCU/hr)	Junction demand (PCU/hr)	Junction Arrivals (PCU)	Bypass demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-AC	66.52	66.52	16.63	0.00	387.63	0.172	66.90	0.3	0.2	11.238	B
C-AB	11.52	11.52	2.88	0.00	736.35	0.016	11.55	0.0	0.0	4.966	A
C-A	351.67	351.67	87.92	0.00			351.67				
A-B	24.27	24.27	6.07	0.00			24.27				
A-C	477.36	477.36	119.34	0.00			477.36				

Main results: (09:15-09:30)

Stream	Total Demand (PCU/hr)	Junction demand (PCU/hr)	Junction Arrivals (PCU)	Bypass demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-AC	55.71	55.71	13.93	0.00	416.20	0.134	55.93	0.2	0.2	9.999	A
C-AB	8.75	8.75	2.19	0.00	712.61	0.012	8.77	0.0	0.0	5.114	A
C-A	295.40	295.40	73.85	0.00			295.40				
A-B	20.33	20.33	5.08	0.00			20.33				
A-C	399.76	399.76	99.94	0.00			399.76				

2020 North, PM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

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

Junction Network

Junctions

Junction	Name	Junction Type	Major road direction	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way	0.64	A

Junction Network Options

[same as above]

Arms

Arms

[same as above]

Major Arm Geometry

[same as above]

Minor Arm Geometry

[same as above]

Slope / Intercept / Capacity

[same as above]

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Model start time (HH:mm)	Model finish time (HH:mm)	Time segment length (min)	Run automatically
D2	2020 North	PM	ONE HOUR	17:00	18:30	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		ONE HOUR	✓	541.00	100.000
B		ONE HOUR	✓	45.00	100.000
C		ONE HOUR	✓	563.00	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A	B	C
From	A	0.000	57.000	484.000
	B	38.000	0.000	7.000
	C	549.000	14.000	0.000

Proportions

		To		
		A	B	C
From	A	0.00	0.11	0.89
	B	0.84	0.00	0.16
	C	0.98	0.02	0.00

Vehicle Mix

Heavy Vehicle proportion

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

Average PCU Per Veh

		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

Results

Results Summary for whole modelled period

Stream	Max RFC	Max delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-AC	0.15	12.78	0.2	B	41.29	61.94
C-AB	0.05	4.68	0.1	A	30.43	45.64
C-A					486.19	729.28
A-B					52.30	78.46
A-C					444.13	666.19

Main Results for each time segment

Main results: (17:00-17:15)

Stream	Total Demand (PCU/hr)	Junction demand (PCU/hr)	Junction Arrivals (PCU)	Bypass demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-AC	33.88	33.88	8.47	0.00	405.49	0.084	33.52	0.0	0.1	9.670	A
C-AB	20.28	20.28	5.07	0.00	790.09	0.026	20.15	0.0	0.0	4.676	A
C-A	403.58	403.58	100.89	0.00			403.58				
A-B	42.91	42.91	10.73	0.00			42.91				
A-C	364.38	364.38	91.10	0.00			364.38				

Main results: (17:15-17:30)

Stream	Total Demand (PCU/hr)	Junction demand (PCU/hr)	Junction Arrivals (PCU)	Bypass demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-AC	40.45	40.45	10.11	0.00	374.45	0.108	40.34	0.1	0.1	10.771	B
C-AB	27.31	27.31	6.83	0.00	827.03	0.033	27.26	0.0	0.0	4.501	A
C-A	478.82	478.82	119.70	0.00			478.82				
A-B	51.24	51.24	12.81	0.00			51.24				
A-C	435.11	435.11	108.78	0.00			435.11				

Main results: (17:30-17:45)

Stream	Total Demand (PCU/hr)	Junction demand (PCU/hr)	Junction Arrivals (PCU)	Bypass demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-AC	49.55	49.55	12.39	0.00	331.21	0.150	49.33	0.1	0.2	12.771	B
C-AB	43.62	43.62	10.91	0.00	900.15	0.048	43.51	0.0	0.1	4.202	A
C-A	576.25	576.25	144.06	0.00			576.25				
A-B	62.76	62.76	15.69	0.00			62.76				
A-C	532.89	532.89	133.22	0.00			532.89				

Main results: (17:45-18:00)

Stream	Total Demand (PCU/hr)	Junction demand (PCU/hr)	Junction Arrivals (PCU)	Bypass demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-AC	49.55	49.55	12.39	0.00	331.19	0.150	49.54	0.2	0.2	12.781	B
C-AB	43.66	43.66	10.92	0.00	900.21	0.049	43.66	0.1	0.1	4.203	A
C-A	576.21	576.21	144.05	0.00			576.21				
A-B	62.76	62.76	15.69	0.00			62.76				
A-C	532.89	532.89	133.22	0.00			532.89				

Main results: (18:00-18:15)

Stream	Total Demand (PCU/hr)	Junction demand (PCU/hr)	Junction Arrivals (PCU)	Bypass demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-AC	40.45	40.45	10.11	0.00	374.41	0.108	40.66	0.2	0.1	10.794	B
C-AB	27.35	27.35	6.84	0.00	827.11	0.033	27.46	0.1	0.0	4.504	A
C-A	478.78	478.78	119.69	0.00			478.78				
A-B	51.24	51.24	12.81	0.00			51.24				
A-C	435.11	435.11	108.78	0.00			435.11				

Main results: (18:15-18:30)

Stream	Total Demand (PCU/hr)	Junction demand (PCU/hr)	Junction Arrivals (PCU)	Bypass demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-AC	33.88	33.88	8.47	0.00	405.45	0.084	34.00	0.1	0.1	9.694	A
C-AB	20.35	20.35	5.09	0.00	790.15	0.026	20.40	0.0	0.0	4.678	A
C-A	403.50	403.50	100.88	0.00			403.50				
A-B	42.91	42.91	10.73	0.00			42.91				
A-C	364.38	364.38	91.10	0.00			364.38				

2025 North, AM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

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

Junction Network

Junctions

Junction	Name	Junction Type	Major road direction	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way	1.55	A

Junction Network Options

[same as above]

Arms

Arms

[same as above]

Major Arm Geometry

[same as above]

Minor Arm Geometry

[same as above]

Slope / Intercept / Capacity

[same as above]

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Model start time (HH:mm)	Model finish time (HH:mm)	Time segment length (min)	Run automatically
D3	2025 North	AM	ONE HOUR	08:00	09:30	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		ONE HOUR	✓	605.00	100.000
B		ONE HOUR	✓	102.00	100.000
C		ONE HOUR	✓	432.00	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A	B	C
From	A	0.000	37.000	568.000
	B	87.000	0.000	15.000
	C	423.000	9.000	0.000

Proportions

		To		
		A	B	C
From	A	0.00	0.06	0.94
	B	0.85	0.00	0.15
	C	0.98	0.02	0.00

Vehicle Mix

Heavy Vehicle proportion

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

Average PCU Per Veh

		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

Results

Results Summary for whole modelled period

Stream	Max RFC	Max delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-AC	0.34	16.43	0.5	C	93.60	140.40
C-AB	0.03	5.09	0.0	A	16.30	24.45
C-A					380.11	570.17
A-B					33.95	50.93
A-C					521.21	781.81

Main Results for each time segment

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

Stream	Total Demand (PCU/hr)	Junction demand (PCU/hr)	Junction Arrivals (PCU)	Bypass demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-AC	76.79	76.79	19.20	0.00	404.96	0.190	75.87	0.0	0.2	10.909	B
C-AB	11.61	11.61	2.90	0.00	719.11	0.016	11.53	0.0	0.0	5.087	A
C-A	313.63	313.63	78.41	0.00			313.63				
A-B	27.86	27.86	6.96	0.00			27.86				
A-C	427.62	427.62	106.91	0.00			427.62				

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

Stream	Total Demand (PCU/hr)	Junction demand (PCU/hr)	Junction Arrivals (PCU)	Bypass demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-AC	91.70	91.70	22.92	0.00	374.18	0.245	91.34	0.2	0.3	12.711	B
C-AB	15.42	15.42	3.86	0.00	744.22	0.021	15.40	0.0	0.0	4.939	A
C-A	372.93	372.93	93.23	0.00			372.93				
A-B	33.26	33.26	8.32	0.00			33.26				
A-C	510.62	510.62	127.66	0.00			510.62				

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

Stream	Total Demand (PCU/hr)	Junction demand (PCU/hr)	Junction Arrivals (PCU)	Bypass demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-AC	112.30	112.30	28.08	0.00	331.38	0.339	111.58	0.3	0.5	16.322	C
C-AB	21.83	21.83	5.46	0.00	778.95	0.028	21.78	0.0	0.0	4.754	A
C-A	453.81	453.81	113.45	0.00			453.81				
A-B	40.74	40.74	10.18	0.00			40.74				
A-C	625.38	625.38	156.34	0.00			625.38				

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

Stream	Total Demand (PCU/hr)	Junction demand (PCU/hr)	Junction Arrivals (PCU)	Bypass demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-AC	112.30	112.30	28.08	0.00	331.38	0.339	112.28	0.5	0.5	16.426	C
C-AB	21.84	21.84	5.46	0.00	778.97	0.028	21.84	0.0	0.0	4.754	A
C-A	453.80	453.80	113.45	0.00			453.80				
A-B	40.74	40.74	10.18	0.00			40.74				
A-C	625.38	625.38	156.34	0.00			625.38				

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

Stream	Total Demand (PCU/hr)	Junction demand (PCU/hr)	Junction Arrivals (PCU)	Bypass demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-AC	91.70	91.70	22.92	0.00	374.16	0.245	92.40	0.5	0.3	12.807	B
C-AB	15.44	15.44	3.86	0.00	744.25	0.021	15.49	0.0	0.0	4.941	A
C-A	372.91	372.91	93.23	0.00			372.91				
A-B	33.26	33.26	8.32	0.00			33.26				
A-C	510.62	510.62	127.66	0.00			510.62				

Main results: (09:15-09:30)

Stream	Total Demand (PCU/hr)	Junction demand (PCU/hr)	Junction Arrivals (PCU)	Bypass demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-AC	76.79	76.79	19.20	0.00	404.94	0.190	77.16	0.3	0.2	10.995	B
C-AB	11.65	11.65	2.91	0.00	719.14	0.016	11.67	0.0	0.0	5.090	A
C-A	313.59	313.59	78.40	0.00			313.59				
A-B	27.86	27.86	6.96	0.00			27.86				
A-C	427.62	427.62	106.91	0.00			427.62				

2025 North, PM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

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

Junction Network

Junctions

Junction	Name	Junction Type	Major road direction	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way	0.91	A

Junction Network Options

[same as above]

Arms

Arms

[same as above]

Major Arm Geometry

[same as above]

Minor Arm Geometry

[same as above]

Slope / Intercept / Capacity

[same as above]

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Model start time (HH:mm)	Model finish time (HH:mm)	Time segment length (min)	Run automatically
D4	2025 North	PM	ONE HOUR	17:00	18:30	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		ONE HOUR	✓	596.00	100.000
B		ONE HOUR	✓	61.00	100.000
C		ONE HOUR	✓	608.00	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A	B	C
From	A	0.000	79.000	517.000
	B	52.000	0.000	9.000
	C	588.000	20.000	0.000

Proportions

		To		
		A	B	C
From	A	0.00	0.13	0.87
	B	0.85	0.00	0.15
	C	0.97	0.03	0.00

Vehicle Mix

Heavy Vehicle proportion

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

Average PCU Per Veh

		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

Results

Results Summary for whole modelled period

Stream	Max RFC	Max delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-AC	0.22	14.85	0.3	B	55.97	83.96
C-AB	0.07	4.67	0.1	A	47.63	71.44
C-A					510.28	765.42
A-B					72.49	108.74
A-C					474.41	711.61

Main Results for each time segment

Main results: (17:00-17:15)

Stream	Total Demand (PCU/hr)	Junction demand (PCU/hr)	Junction Arrivals (PCU)	Bypass demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-AC	45.92	45.92	11.48	0.00	390.63	0.118	45.40	0.0	0.1	10.412	B
C-AB	30.34	30.34	7.59	0.00	801.52	0.038	30.13	0.0	0.1	4.665	A
C-A	427.39	427.39	106.85	0.00			427.39				
A-B	59.48	59.48	14.87	0.00			59.48				
A-C	389.22	389.22	97.31	0.00			389.22				

Main results: (17:15-17:30)

Stream	Total Demand (PCU/hr)	Junction demand (PCU/hr)	Junction Arrivals (PCU)	Bypass demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-AC	54.84	54.84	13.71	0.00	356.78	0.154	54.65	0.1	0.2	11.908	B
C-AB	44.87	44.87	11.22	0.00	857.78	0.052	44.76	0.1	0.1	4.428	A
C-A	501.71	501.71	125.43	0.00			501.71				
A-B	71.02	71.02	17.75	0.00			71.02				
A-C	464.77	464.77	116.19	0.00			464.77				

Main results: (17:30-17:45)

Stream	Total Demand (PCU/hr)	Junction demand (PCU/hr)	Junction Arrivals (PCU)	Bypass demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-AC	67.16	67.16	16.79	0.00	309.62	0.217	66.79	0.2	0.3	14.803	B
C-AB	67.51	67.51	16.88	0.00	920.06	0.073	67.31	0.1	0.1	4.223	A
C-A	601.91	601.91	150.48	0.00			601.91				
A-B	86.98	86.98	21.75	0.00			86.98				
A-C	569.23	569.23	142.31	0.00			569.23				

Main results: (17:45-18:00)

Stream	Total Demand (PCU/hr)	Junction demand (PCU/hr)	Junction Arrivals (PCU)	Bypass demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-AC	67.16	67.16	16.79	0.00	309.58	0.217	67.15	0.3	0.3	14.849	B
C-AB	67.59	67.59	16.90	0.00	920.17	0.073	67.59	0.1	0.1	4.224	A
C-A	601.83	601.83	150.46	0.00			601.83				
A-B	86.98	86.98	21.75	0.00			86.98				
A-C	569.23	569.23	142.31	0.00			569.23				

Main results: (18:00-18:15)

Stream	Total Demand (PCU/hr)	Junction demand (PCU/hr)	Junction Arrivals (PCU)	Bypass demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-AC	54.84	54.84	13.71	0.00	356.72	0.154	55.20	0.3	0.2	11.955	B
C-AB	44.98	44.98	11.24	0.00	857.95	0.052	45.17	0.1	0.1	4.431	A
C-A	501.60	501.60	125.40	0.00			501.60				
A-B	71.02	71.02	17.75	0.00			71.02				
A-C	464.77	464.77	116.19	0.00			464.77				

Main results: (18:15-18:30)

Stream	Total Demand (PCU/hr)	Junction demand (PCU/hr)	Junction Arrivals (PCU)	Bypass demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-AC	45.92	45.92	11.48	0.00	390.55	0.118	46.12	0.2	0.1	10.457	B
C-AB	30.48	30.48	7.62	0.00	801.65	0.038	30.59	0.1	0.1	4.669	A
C-A	427.26	427.26	106.81	0.00			427.26				
A-B	59.48	59.48	14.87	0.00			59.48				
A-C	389.22	389.22	97.31	0.00			389.22				

2025 South, AM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

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

Junction Network

Junctions

Junction	Name	Junction Type	Major road direction	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way	3.38	A

Junction Network Options

[same as above]

Arms

Arms

[same as above]

Major Arm Geometry

[same as above]

Minor Arm Geometry

[same as above]

Slope / Intercept / Capacity

[same as above]

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Model start time (HH:mm)	Model finish time (HH:mm)	Time segment length (min)	Run automatically
D5	2025 South	AM	ONE HOUR	08:00	09:30	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		ONE HOUR	✓	635.00	100.000
B		ONE HOUR	✓	161.00	100.000
C		ONE HOUR	✓	508.00	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A	B	C
From	A	0.000	41.000	594.000
	B	137.000	0.000	24.000
	C	498.000	10.000	0.000

Proportions

		To		
		A	B	C
From	A	0.00	0.06	0.94
	B	0.85	0.00	0.15
	C	0.98	0.02	0.00

Vehicle Mix

Heavy Vehicle proportion

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

Average PCU Per Veh

		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

Results

Results Summary for whole modelled period

Stream	Max RFC	Max delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-AC	0.57	26.75	1.3	D	147.74	221.60
C-AB	0.03	4.88	0.0	A	20.01	30.01
C-A					446.14	669.22
A-B					37.62	56.43
A-C					545.06	817.60

Main Results for each time segment

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

Stream	Total Demand (PCU/hr)	Junction demand (PCU/hr)	Junction Arrivals (PCU)	Bypass demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-AC	121.21	121.21	30.30	0.00	391.58	0.310	119.45	0.0	0.4	13.147	B
C-AB	14.00	14.00	3.50	0.00	752.55	0.019	13.91	0.0	0.0	4.874	A
C-A	368.45	368.45	92.11	0.00			368.45				
A-B	30.87	30.87	7.72	0.00			30.87				
A-C	447.19	447.19	111.80	0.00			447.19				

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

Stream	Total Demand (PCU/hr)	Junction demand (PCU/hr)	Junction Arrivals (PCU)	Bypass demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-AC	144.74	144.74	36.18	0.00	358.02	0.404	143.86	0.4	0.7	16.739	C
C-AB	18.85	18.85	4.71	0.00	783.63	0.024	18.82	0.0	0.0	4.706	A
C-A	437.83	437.83	109.46	0.00			437.83				
A-B	36.86	36.86	9.21	0.00			36.86				
A-C	533.99	533.99	133.50	0.00			533.99				

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

Stream	Total Demand (PCU/hr)	Junction demand (PCU/hr)	Junction Arrivals (PCU)	Bypass demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-AC	177.26	177.26	44.32	0.00	311.31	0.569	174.93	0.7	1.2	25.951	D
C-AB	27.12	27.12	6.78	0.00	826.01	0.033	27.06	0.0	0.0	4.505	A
C-A	532.20	532.20	133.05	0.00			532.20				
A-B	45.14	45.14	11.29	0.00			45.14				
A-C	654.01	654.01	163.50	0.00			654.01				

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

Stream	Total Demand (PCU/hr)	Junction demand (PCU/hr)	Junction Arrivals (PCU)	Bypass demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-AC	177.26	177.26	44.32	0.00	311.30	0.569	177.12	1.2	1.3	26.748	D
C-AB	27.14	27.14	6.78	0.00	826.04	0.033	27.14	0.0	0.0	4.507	A
C-A	532.18	532.18	133.05	0.00			532.18				
A-B	45.14	45.14	11.29	0.00			45.14				
A-C	654.01	654.01	163.50	0.00			654.01				

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

Stream	Total Demand (PCU/hr)	Junction demand (PCU/hr)	Junction Arrivals (PCU)	Bypass demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-AC	144.74	144.74	36.18	0.00	358.01	0.404	147.06	1.3	0.7	17.246	C
C-AB	18.88	18.88	4.72	0.00	783.67	0.024	18.93	0.0	0.0	4.707	A
C-A	437.81	437.81	109.45	0.00			437.81				
A-B	36.86	36.86	9.21	0.00			36.86				
A-C	533.99	533.99	133.50	0.00			533.99				

Main results: (09:15-09:30)

Stream	Total Demand (PCU/hr)	Junction demand (PCU/hr)	Junction Arrivals (PCU)	Bypass demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-AC	121.21	121.21	30.30	0.00	391.55	0.310	122.18	0.7	0.5	13.413	B
C-AB	14.05	14.05	3.51	0.00	752.59	0.019	14.08	0.0	0.0	4.876	A
C-A	368.40	368.40	92.10	0.00			368.40				
A-B	30.87	30.87	7.72	0.00			30.87				
A-C	447.19	447.19	111.80	0.00			447.19				

2025 South, PM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

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

Junction Network

Junctions

Junction	Name	Junction Type	Major road direction	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way	1.93	A

Junction Network Options

[same as above]

Arms

Arms

[same as above]

Major Arm Geometry

[same as above]

Minor Arm Geometry

[same as above]

Slope / Intercept / Capacity

[same as above]

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Model start time (HH:mm)	Model finish time (HH:mm)	Time segment length (min)	Run automatically
D6	2025 South	PM	ONE HOUR	17:00	18:30	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		ONE HOUR	✓	715.00	100.000
B		ONE HOUR	✓	106.00	100.000
C		ONE HOUR	✓	644.00	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A	B	C
From	A	0.000	142.000	573.000
	B	90.000	0.000	16.000
	C	610.000	34.000	0.000

Proportions

		To		
		A	B	C
From	A	0.00	0.20	0.80
	B	0.85	0.00	0.15
	C	0.95	0.05	0.00

Vehicle Mix

Heavy Vehicle proportion

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

Average PCU Per Veh

		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

Results

Results Summary for whole modelled period

Stream	Max RFC	Max delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-AC	0.42	22.25	0.7	C	97.27	145.90
C-AB	0.14	4.80	0.4	A	89.89	134.84
C-A					501.05	751.58
A-B					130.30	195.45
A-C					525.79	788.69

Main Results for each time segment

Main results: (17:00-17:15)

Stream	Total Demand (PCU/hr)	Junction demand (PCU/hr)	Junction Arrivals (PCU)	Bypass demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-AC	79.80	79.80	19.95	0.00	369.88	0.216	78.72	0.0	0.3	12.320	B
C-AB	57.53	57.53	14.38	0.00	809.08	0.071	57.03	0.0	0.1	4.785	A
C-A	427.31	427.31	106.83	0.00			427.31				
A-B	106.91	106.91	26.73	0.00			106.91				
A-C	431.38	431.38	107.85	0.00			431.38				

Main results: (17:15-17:30)

Stream	Total Demand (PCU/hr)	Junction demand (PCU/hr)	Junction Arrivals (PCU)	Bypass demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-AC	95.29	95.29	23.82	0.00	331.68	0.287	94.80	0.3	0.4	15.165	C
C-AB	81.16	81.16	20.29	0.00	854.48	0.095	80.89	0.1	0.2	4.657	A
C-A	497.78	497.78	124.45	0.00			497.78				
A-B	127.66	127.66	31.91	0.00			127.66				
A-C	515.12	515.12	128.78	0.00			515.12				

Main results: (17:30-17:45)

Stream	Total Demand (PCU/hr)	Junction demand (PCU/hr)	Junction Arrivals (PCU)	Bypass demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-AC	116.71	116.71	29.18	0.00	278.39	0.419	115.51	0.4	0.7	21.938	C
C-AB	130.45	130.45	32.61	0.00	928.30	0.141	129.76	0.2	0.4	4.514	A
C-A	578.61	578.61	144.65	0.00			578.61				
A-B	156.34	156.34	39.09	0.00			156.34				
A-C	630.88	630.88	157.72	0.00			630.88				

Main results: (17:45-18:00)

Stream	Total Demand (PCU/hr)	Junction demand (PCU/hr)	Junction Arrivals (PCU)	Bypass demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-AC	116.71	116.71	29.18	0.00	278.26	0.419	116.65	0.7	0.7	22.254	C
C-AB	130.80	130.80	32.70	0.00	928.70	0.141	130.78	0.4	0.4	4.522	A
C-A	578.26	578.26	144.57	0.00			578.26				
A-B	156.34	156.34	39.09	0.00			156.34				
A-C	630.88	630.88	157.72	0.00			630.88				

Main results: (18:00-18:15)

Stream	Total Demand (PCU/hr)	Junction demand (PCU/hr)	Junction Arrivals (PCU)	Bypass demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-AC	95.29	95.29	23.82	0.00	331.50	0.287	96.47	0.7	0.4	15.392	C
C-AB	81.51	81.51	20.38	0.00	855.02	0.095	82.19	0.4	0.2	4.666	A
C-A	497.43	497.43	124.36	0.00			497.43				
A-B	127.66	127.66	31.91	0.00			127.66				
A-C	515.12	515.12	128.78	0.00			515.12				

Main results: (18:15-18:30)

Stream	Total Demand (PCU/hr)	Junction demand (PCU/hr)	Junction Arrivals (PCU)	Bypass demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-AC	79.80	79.80	19.95	0.00	369.71	0.216	80.33	0.4	0.3	12.462	B
C-AB	57.91	57.91	14.48	0.00	809.42	0.072	58.19	0.2	0.1	4.796	A
C-A	426.93	426.93	106.73	0.00			426.93				
A-B	106.91	106.91	26.73	0.00			106.91				
A-C	431.38	431.38	107.85	0.00			431.38				

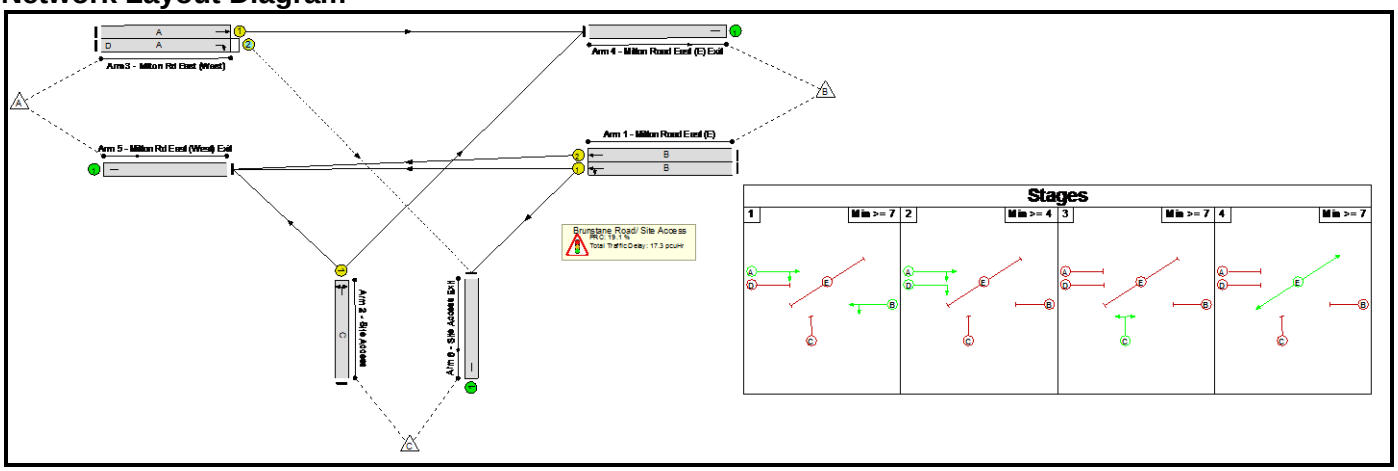
Basic Results Summary

User and Project Details

Project:	**Brunstane, Edinburgh**
Title:	**Proposed Resident Development**
Location:	Milton Road East, Edinburgh
File name:	Milton Rd_Site Access.lsg3x
Author:	Stuart
Company:	TPL
Address:	
Notes:	TP056

Scenario 1: 'Scenario 1' (FG1: '2025 Weekday AM Peak + Dev', Plan 1: 'Network Control Plan 1')

Network Layout Diagram



Basic Results Summary

Network Results

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network: Proposed Resident Development	**-**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**75.5%**	**31**	**3**	**0**	**17.3**	**-**	**-**
Brunstane Road/ Site Access	**-**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**75.5%**	**31**	**3**	**0**	**17.3**	**-**	**-**
1/1	Milton Road East (E) Ahead Left	U	B		1	19	-	316	1889	420	75.3%	-	-	-	4.3	49.6	8.9
1/2	Milton Road East (E) Ahead	U	B		1	19	-	345	2055	457	75.5%	-	-	-	4.6	48.4	9.6
2/1	Site Access Right Left	U	C		1	22	-	324	1733	443	73.2%	-	-	-	4.1	45.5	8.7
3/1	Milton Rd East (West) Ahead	U	A		1	30	-	428	1915	660	64.9%	-	-	-	3.9	32.6	9.8
3/2	Milton Rd East (West) Right	O	A	D	1	30	4	35	1798	292	12.0%	31	3	0	0.4	38.5	0.7

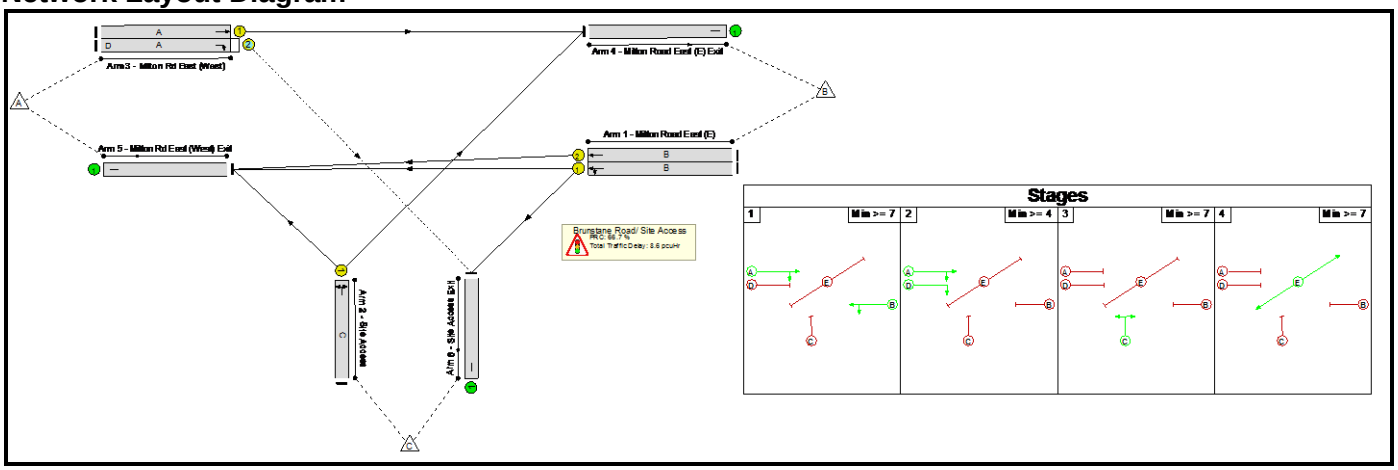
C1 PRC for Signalled Lanes (%): 19.1 Total Delay for Signalled Lanes (pcuHr): 17.34 Cycle Time (s): 90

PRC Over All Lanes (%): 19.1 Total Delay Over All Lanes(pcuHr): 17.34

Basic Results Summary

Scenario 2: 'Scenario 2' (FG2: '2025 Weekday PM Peak + Dev', Plan 1: 'Network Control Plan 1')

Network Layout Diagram



Basic Results Summary

Network Results

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network: Proposed Resident Development	**-**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**54.0%**	**104**	**12**	**1**	**8.6**	**-**	**-**
Brunstane Road/ Site Access	**-**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**54.0%**	**104**	**12**	**1**	**8.6**	**-**	**-**
1/1	Milton Road East (E) Ahead Left	U	B		1	33	-	244	1843	696	35.0%	-	-	-	1.6	24.1	4.6
1/2	Milton Road East (E) Ahead	U	B		1	33	-	286	2055	776	36.8%	-	-	-	1.9	23.9	5.5
2/1	Site Access Right Left	U	C		1	8	-	91	1733	173	52.5%	-	-	-	1.5	60.1	2.7
3/1	Milton Rd East (West) Ahead	U	A		1	44	-	517	1915	957	54.0%	-	-	-	2.8	19.5	9.3
3/2	Milton Rd East (West) Right	O	A	D	1	44	4	117	1798	548	21.3%	104	12	1	0.7	22.7	2.0

C1 PRC for Signalled Lanes (%): 66.7 Total Delay for Signalled Lanes (pcuHr): 8.59 Cycle Time (s): 90

PRC Over All Lanes (%): 66.7 Total Delay Over All Lanes(pcuHr): 8.59

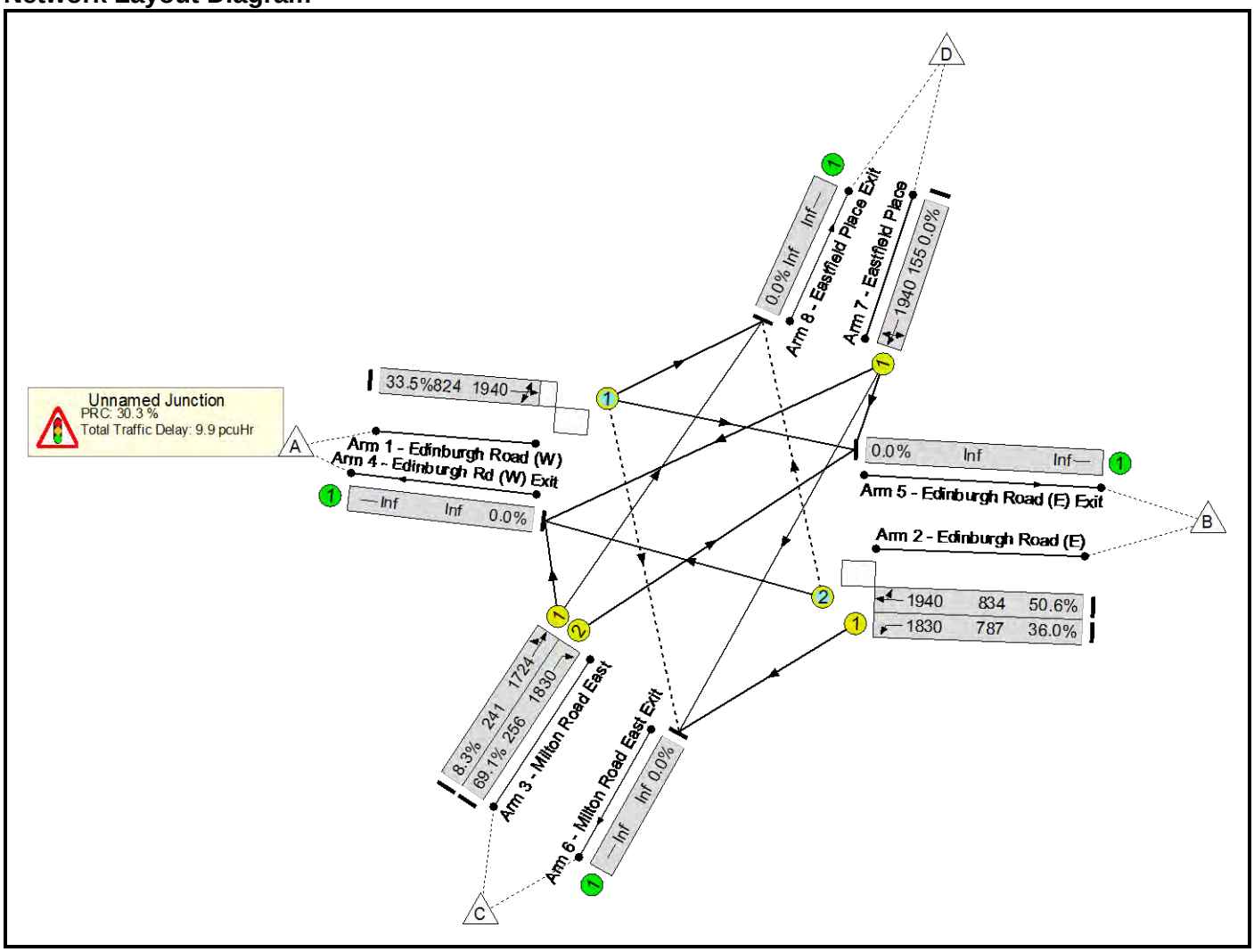
Basic Results Summary

User and Project Details

Project:	
Title:	
Location:	
File name:	Milton Road East_Edinburgh Road.lsg3x
Author:	
Company:	
Address:	
Notes:	

Scenario 1: 'AM Survey' (FG1: '2016 AM Survey', Plan 1: 'Network Control Plan 1')

Network Layout Diagram



Basic Results Summary

Network Results

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network	-	-	-		-	-	-	-	-	-	**69.1%**	**33**	**0**	**0**	**9.9**	-	-
Unnamed Junction	-	-	-		-	-	-	-	-	-	**69.1%**	**33**	**0**	**0**	**9.9**	-	-
1/1	Edinburgh Road (W) Ahead Right Left	O	A		1	42	-	276	1940	824	33.5%	33	0	0	1.8	23.2	5.3
2/1	Edinburgh Road (E) Left	U	B		1	42	-	283	1830	787	36.0%	-	-	-	1.8	22.8	5.5
2/2	Edinburgh Road (E) Ahead Right	O	B		1	42	-	422	1940	834	50.6%	0	0	0	2.9	25.1	9.0
3/1	Milton Road East Left Ahead	U	C		1	13	-	20	1724	241	8.3%	-	-	-	0.3	45.5	0.5
3/2	Milton Road East Right	U	C		1	13	-	177	1830	256	69.1%	-	-	-	3.1	63.1	5.8
7/1	Eastfield Place Right Left Ahead	U	D		1	7	-	0	1940	155	0.0%	-	-	-	0.0	0.0	0.0

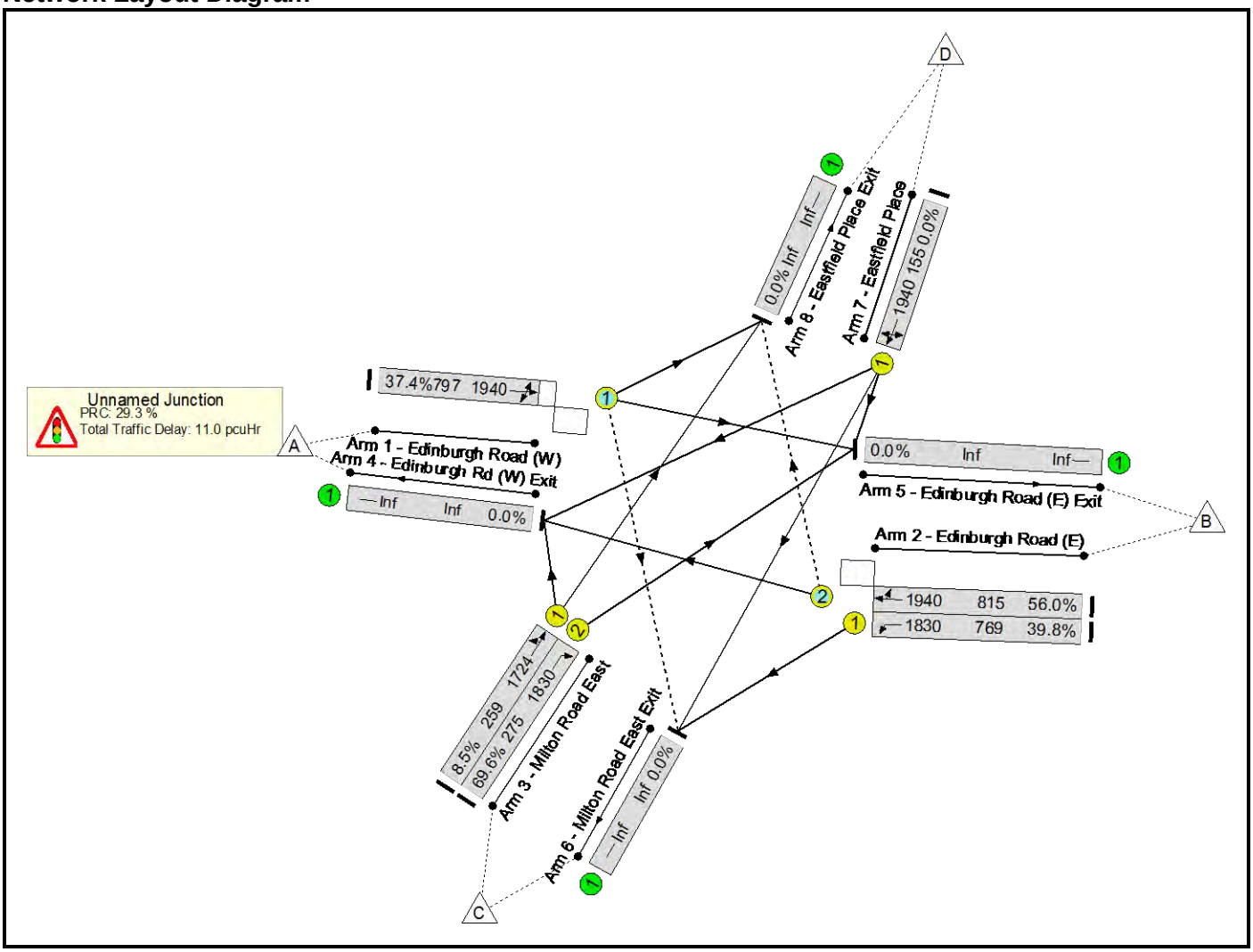
C1 PRC for Signalled Lanes (%): 30.3 Total Delay for Signalled Lanes (pcuHr): 9.87 Cycle Time (s): 100

PRC Over All Lanes (%): 30.3 Total Delay Over All Lanes(pcuHr): 9.87

Basic Results Summary

Scenario 2: '2020 AM Base' (FG2: '2020 AM Base', Plan 1: 'Network Control Plan 1')

Network Layout Diagram



Basic Results Summary

Network Results

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network	-	-	-		-	-	-	-	-	-	**69.6%**	**36**	**0**	**0**	**11.0**	-	-
Unnamed Junction	-	-	-		-	-	-	-	-	-	**69.6%**	**36**	**0**	**0**	**11.0**	-	-
1/1	Edinburgh Road (W) Ahead Right Left	O	A		1	41	-	298	1940	797	37.4%	36	0	0	2.0	24.6	5.9
2/1	Edinburgh Road (E) Left	U	B		1	41	-	306	1830	769	39.8%	-	-	-	2.0	24.1	6.2
2/2	Edinburgh Road (E) Ahead Right	O	B		1	41	-	456	1940	815	56.0%	0	0	0	3.4	27.0	10.1
3/1	Milton Road East Left Ahead	U	C		1	14	-	22	1724	259	8.5%	-	-	-	0.3	44.2	0.6
3/2	Milton Road East Right	U	C		1	14	-	191	1830	275	69.6%	-	-	-	3.3	61.3	6.1
7/1	Eastfield Place Right Left Ahead	U	D		1	7	-	0	1940	155	0.0%	-	-	-	0.0	0.0	0.0

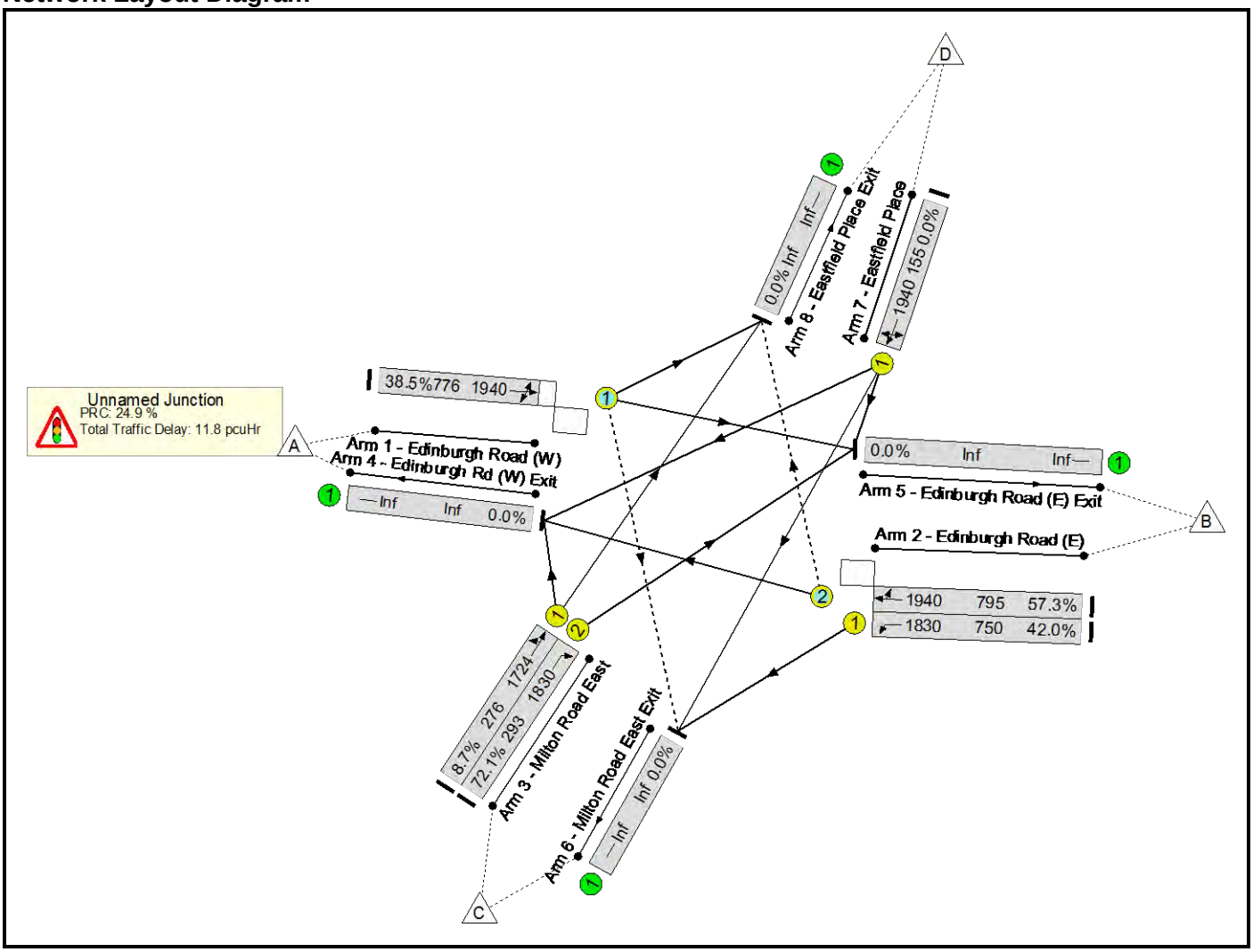
C1 PRC for Signalled Lanes (%): 29.3 Total Delay for Signalled Lanes (pcuHr): 11.03 Cycle Time (s): 100

PRC Over All Lanes (%): 29.3 Total Delay Over All Lanes(pcuHr): 11.03

Basic Results Summary

Scenario 3: '2020 AM Dev' (FG5: '2020 AM Dev', Plan 1: 'Network Control Plan 1')

Network Layout Diagram



Basic Results Summary

Network Results

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network	-	-	-		-	-	-	-	-	-	**72.1%**	**37**	**0**	**0**	**11.8**	-	-
Unnamed Junction	-	-	-		-	-	-	-	-	-	**72.1%**	**37**	**0**	**0**	**11.8**	-	-
1/1	Edinburgh Road (W) Ahead Right Left	O	A		1	40	-	299	1940	776	38.5%	37	0	0	2.1	25.6	6.0
2/1	Edinburgh Road (E) Left	U	B		1	40	-	315	1830	750	42.0%	-	-	-	2.2	25.2	6.6
2/2	Edinburgh Road (E) Ahead Right	O	B		1	40	-	456	1940	795	57.3%	0	0	0	3.6	28.0	10.4
3/1	Milton Road East Left Ahead	U	C		1	15	-	24	1724	276	8.7%	-	-	-	0.3	43.0	0.6
3/2	Milton Road East Right	U	C		1	15	-	211	1830	293	72.1%	-	-	-	3.6	61.2	6.8
7/1	Eastfield Place Right Left Ahead	U	D		1	7	-	0	1940	155	0.0%	-	-	-	0.0	0.0	0.0

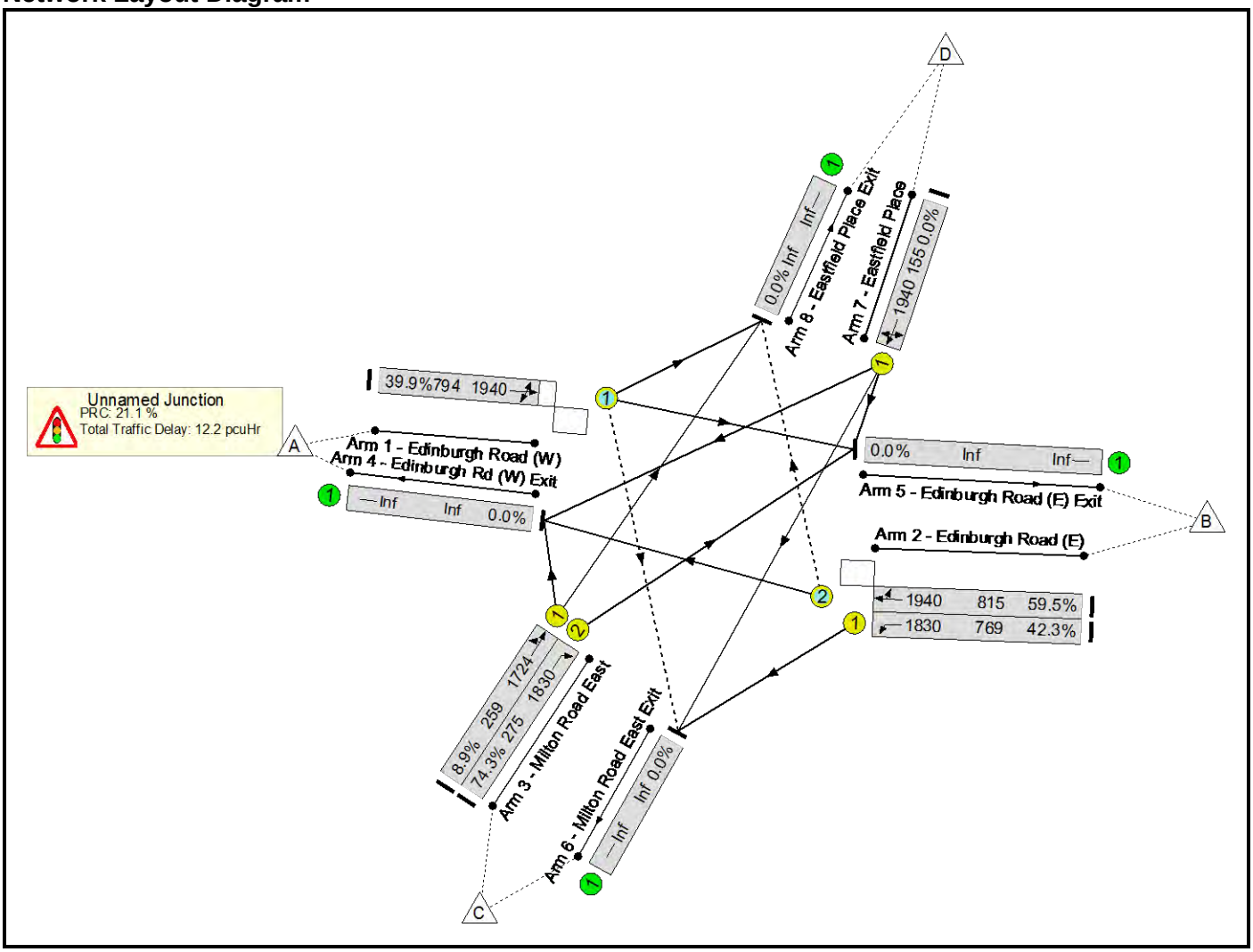
C1 PRC for Signalled Lanes (%): 24.9 Total Delay for Signalled Lanes (pcuHr): 11.75 Cycle Time (s): 100

PRC Over All Lanes (%): 24.9 Total Delay Over All Lanes(pcuHr): 11.75

Basic Results Summary

Scenario 4: '2025 AM Base' (FG3: '2025 AM Base', Plan 1: 'Network Control Plan 1')

Network Layout Diagram



Basic Results Summary

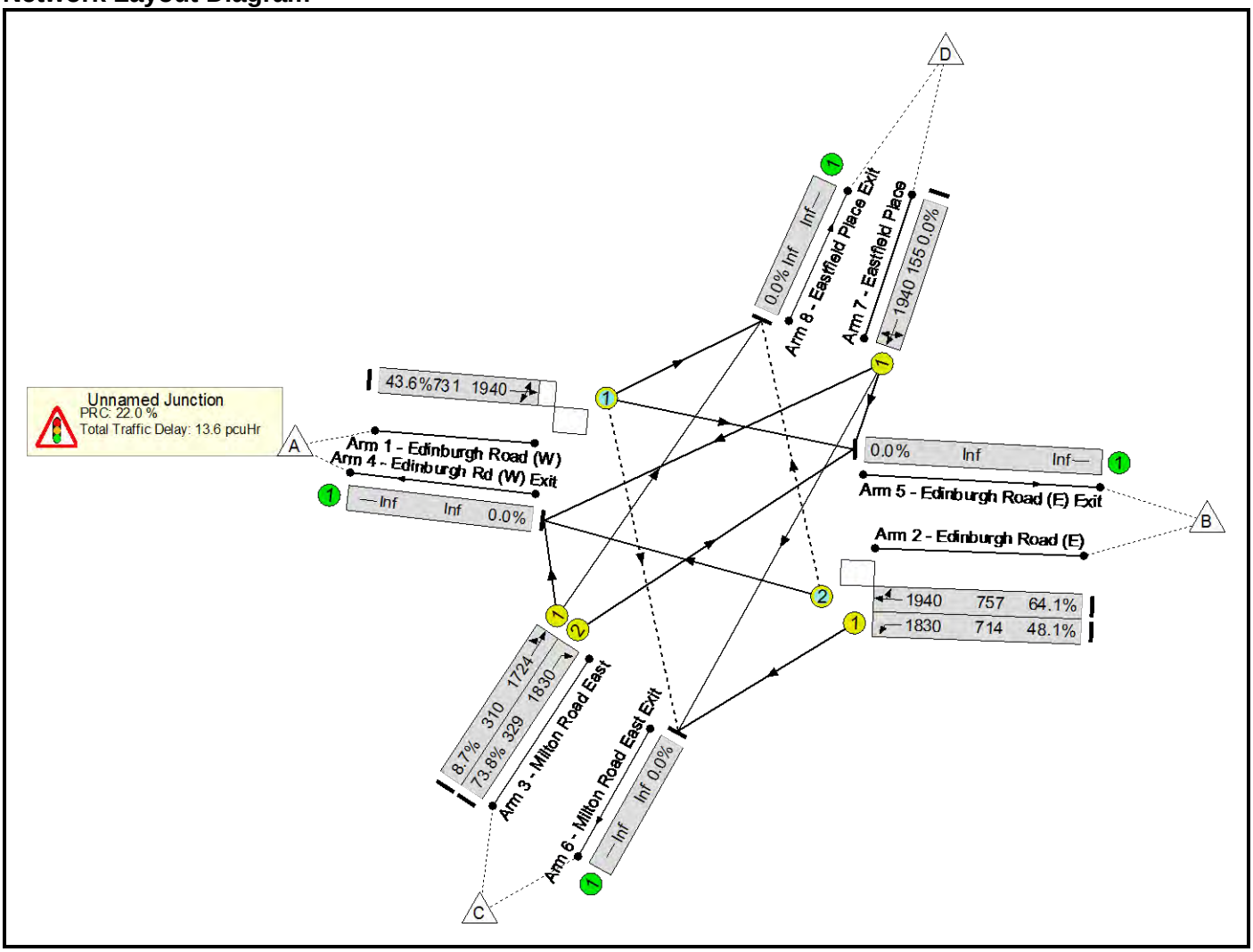
Network Results

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network	**-**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**74.3%**	**38**	**0**	**0**	**12.2**	**-**	**-**
Unnamed Junction	**-**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**74.3%**	**38**	**0**	**0**	**12.2**	**-**	**-**
1/1	Edinburgh Road (W) Ahead Right Left	O	A		1	41	-	317	1940	794	39.9%	38	0	0	2.2	25.1	6.4
2/1	Edinburgh Road (E) Left	U	B		1	41	-	325	1830	769	42.3%	-	-	-	2.2	24.5	6.7
2/2	Edinburgh Road (E) Ahead Right	O	B		1	41	-	485	1940	815	59.5%	0	0	0	3.8	27.9	11.1
3/1	Milton Road East Left Ahead	U	C		1	14	-	23	1724	259	8.9%	-	-	-	0.3	44.3	0.6
3/2	Milton Road East Right	U	C		1	14	-	204	1830	275	74.3%	-	-	-	3.7	65.2	6.8
7/1	Eastfield Place Right Left Ahead	U	D		1	7	-	0	1940	155	0.0%	-	-	-	0.0	0.0	0.0

C1 PRC for Signalled Lanes (%): 21.1 Total Delay for Signalled Lanes (pcuHr): 12.16 Cycle Time (s): 100

PRC Over All Lanes (%): 21.1 Total Delay Over All Lanes(pcuHr): 12.16

Basic Results Summary
Scenario 5: '2025 AM Dev' (FG4: '2025 AM Dev', Plan 1: 'Network Control Plan 1')
Network Layout Diagram



Basic Results Summary

Network Results

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network	-	-	-		-	-	-	-	-	-	**73.8%**	**40**	**0**	**0**	**13.6**	-	-
Unnamed Junction	-	-	-		-	-	-	-	-	-	**73.8%**	**40**	**0**	**0**	**13.6**	-	-
1/1	Edinburgh Road (W) Ahead Right Left	O	A		1	38	-	319	1940	731	43.6%	40	0	0	2.5	28.1	6.9
2/1	Edinburgh Road (E) Left	U	B		1	38	-	343	1830	714	48.1%	-	-	-	2.6	27.7	7.6
2/2	Edinburgh Road (E) Ahead Right	O	B		1	38	-	485	1940	757	64.1%	0	0	0	4.2	31.4	11.8
3/1	Milton Road East Left Ahead	U	C		1	17	-	27	1724	310	8.7%	-	-	-	0.3	40.6	0.7
3/2	Milton Road East Right	U	C		1	17	-	243	1830	329	73.8%	-	-	-	4.0	59.0	7.7
7/1	Eastfield Place Right Left Ahead	U	D		1	7	-	0	1940	155	0.0%	-	-	-	0.0	0.0	0.0

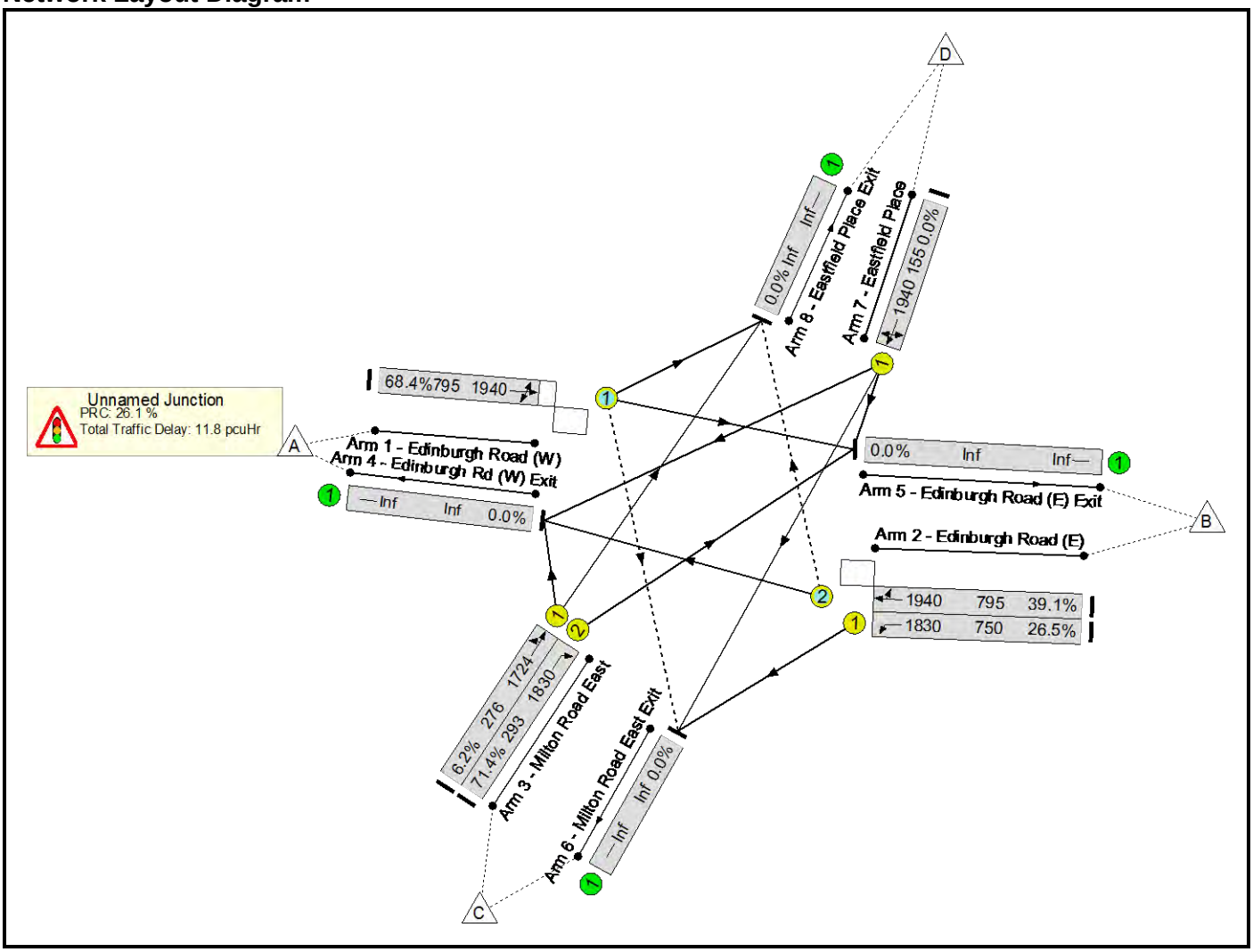
C1 PRC for Signalled Lanes (%): 22.0 Total Delay for Signalled Lanes (pcuHr): 13.65 Cycle Time (s): 100

PRC Over All Lanes (%): 22.0 Total Delay Over All Lanes(pcuHr): 13.65

Basic Results Summary

Scenario 6: 'PM Survey' (FG6: '2016 PM Survey', Plan 1: 'Network Control Plan 1')

Network Layout Diagram



Basic Results Summary

Network Results

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network	-	-	-		-	-	-	-	-	-	**71.4%**	**20**	**0**	**0**	**11.8**	-	-
Unnamed Junction	-	-	-		-	-	-	-	-	-	**71.4%**	**20**	**0**	**0**	**11.8**	-	-
1/1	Edinburgh Road (W) Ahead Right Left	O	A		1	40	-	544	1940	795	68.4%	20	0	0	4.7	31.4	13.3
2/1	Edinburgh Road (E) Left	U	B		1	40	-	199	1830	750	26.5%	-	-	-	1.3	22.8	3.8
2/2	Edinburgh Road (E) Ahead Right	O	B		1	40	-	311	1940	795	39.1%	0	0	0	2.1	24.4	6.4
3/1	Milton Road East Left Ahead	U	C		1	15	-	17	1724	276	6.2%	-	-	-	0.2	42.7	0.4
3/2	Milton Road East Right	U	C		1	15	-	209	1830	293	71.4%	-	-	-	3.5	60.7	6.7
7/1	Eastfield Place Right Left Ahead	U	D		1	7	-	0	1940	155	0.0%	-	-	-	0.0	0.0	0.0

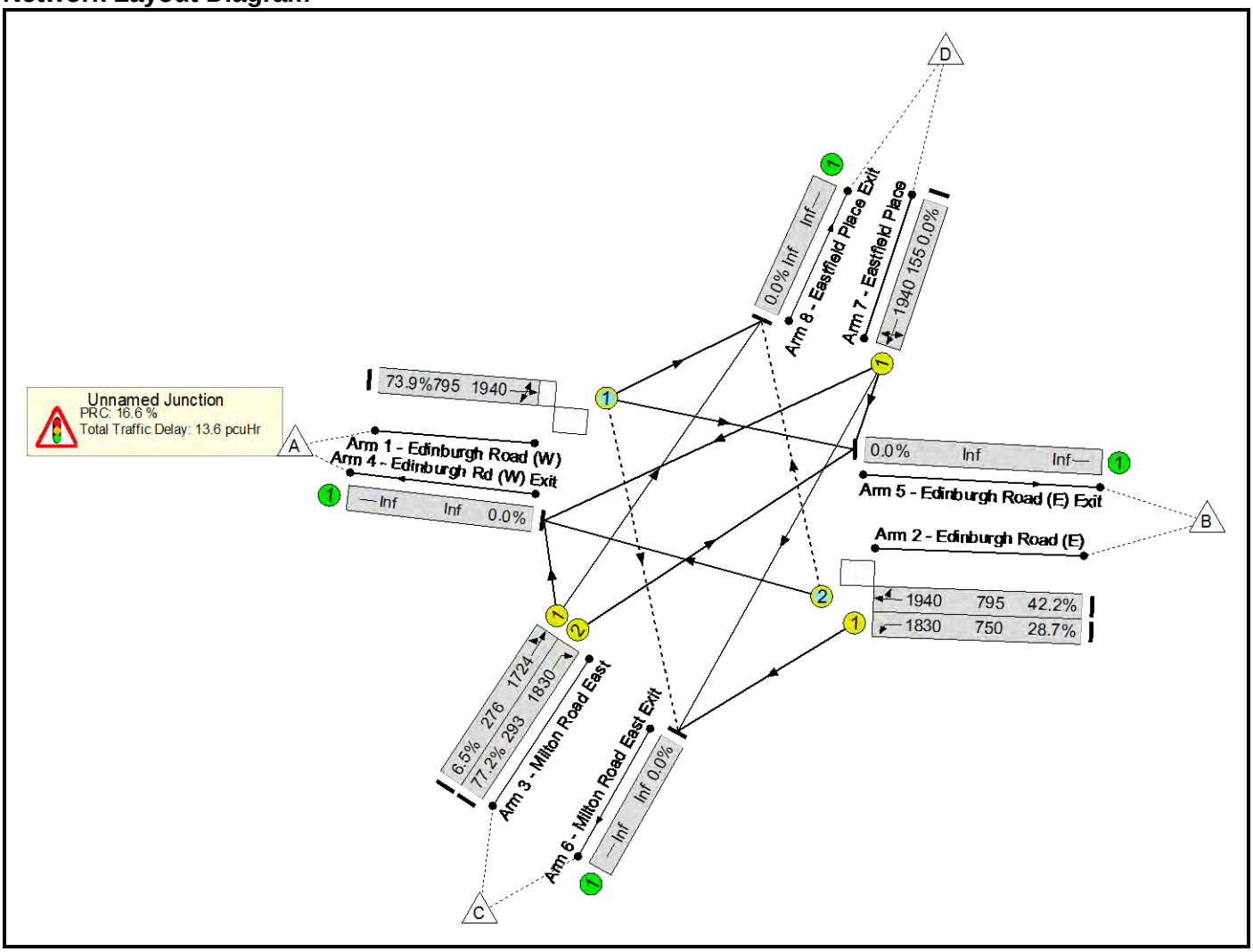
C1 PRC for Signalled Lanes (%): 26.1 Total Delay for Signalled Lanes (pcuHr): 11.84 Cycle Time (s): 100

PRC Over All Lanes (%): 26.1 Total Delay Over All Lanes(pcuHr): 11.84

Basic Results Summary

Scenario 7: '2020 PM Base' (FG7: '2020 PM Base', Plan 1: 'Network Control Plan 1')

Network Layout Diagram



Basic Results Summary

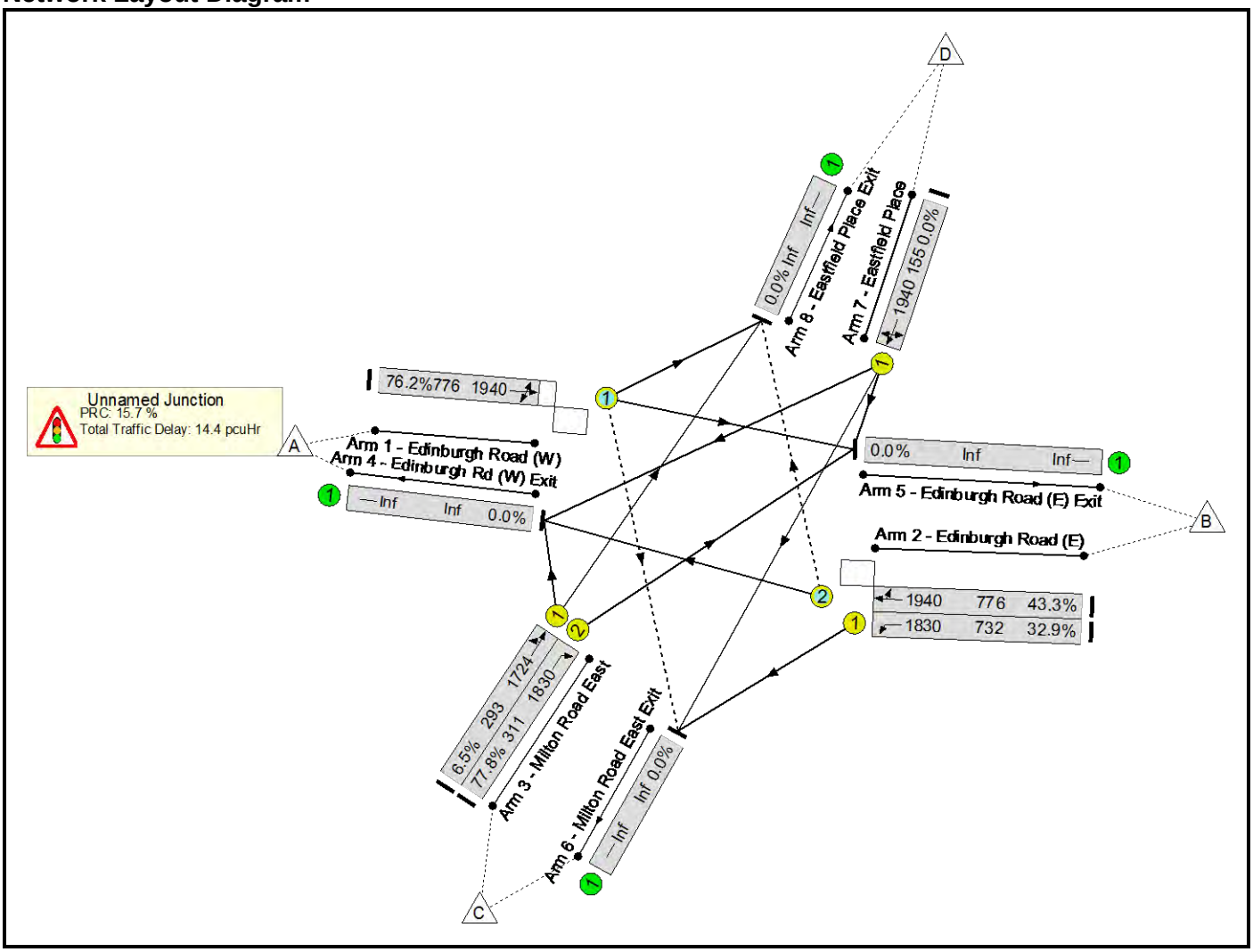
Network Results

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network	-	-	-		-	-	-	-	-	-	**77.2%**	**22**	**0**	**0**	**13.6**	-	-
Unnamed Junction	-	-	-		-	-	-	-	-	-	**77.2%**	**22**	**0**	**0**	**13.6**	-	-
1/1	Edinburgh Road (W) Ahead Right Left	O	A		1	40	-	588	1940	795	73.9%	22	0	0	5.5	33.6	15.1
2/1	Edinburgh Road (E) Left	U	B		1	40	-	215	1830	750	28.7%	-	-	-	1.4	23.1	4.1
2/2	Edinburgh Road (E) Ahead Right	O	B		1	40	-	336	1940	795	42.2%	0	0	0	2.3	25.0	7.0
3/1	Milton Road East Left Ahead	U	C		1	15	-	18	1724	276	6.5%	-	-	-	0.2	42.7	0.5
3/2	Milton Road East Right	U	C		1	15	-	226	1830	293	77.2%	-	-	-	4.1	66.0	7.6
7/1	Eastfield Place Right Left Ahead	U	D		1	7	-	0	1940	155	0.0%	-	-	-	0.0	0.0	0.0

C1 PRC for Signalled Lanes (%): 16.6 Total Delay for Signalled Lanes (pcuHr): 13.56 Cycle Time (s): 100

PRC Over All Lanes (%): 16.6 Total Delay Over All Lanes(pcuHr): 13.56

Basic Results Summary
Scenario 8: '2020 PM Dev' (FG10: '2020 PM Dev', Plan 1: 'Network Control Plan 1')
Network Layout Diagram



Basic Results Summary

Network Results

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network	-	-	-		-	-	-	-	-	-	**77.8%**	**25**	**0**	**0**	**14.4**	-	-
Unnamed Junction	-	-	-		-	-	-	-	-	-	**77.8%**	**25**	**0**	**0**	**14.4**	-	-
1/1	Edinburgh Road (W) Ahead Right Left	O	A		1	39	-	591	1940	776	76.2%	25	0	0	5.8	35.6	15.7
2/1	Edinburgh Road (E) Left	U	B		1	39	-	241	1830	732	32.9%	-	-	-	1.6	24.4	4.9
2/2	Edinburgh Road (E) Ahead Right	O	B		1	39	-	336	1940	776	43.3%	0	0	0	2.4	25.9	7.1
3/1	Milton Road East Left Ahead	U	C		1	16	-	19	1724	293	6.5%	-	-	-	0.2	41.4	0.5
3/2	Milton Road East Right	U	C		1	16	-	242	1830	311	77.8%	-	-	-	4.3	64.5	8.1
7/1	Eastfield Place Right Left Ahead	U	D		1	7	-	0	1940	155	0.0%	-	-	-	0.0	0.0	0.0

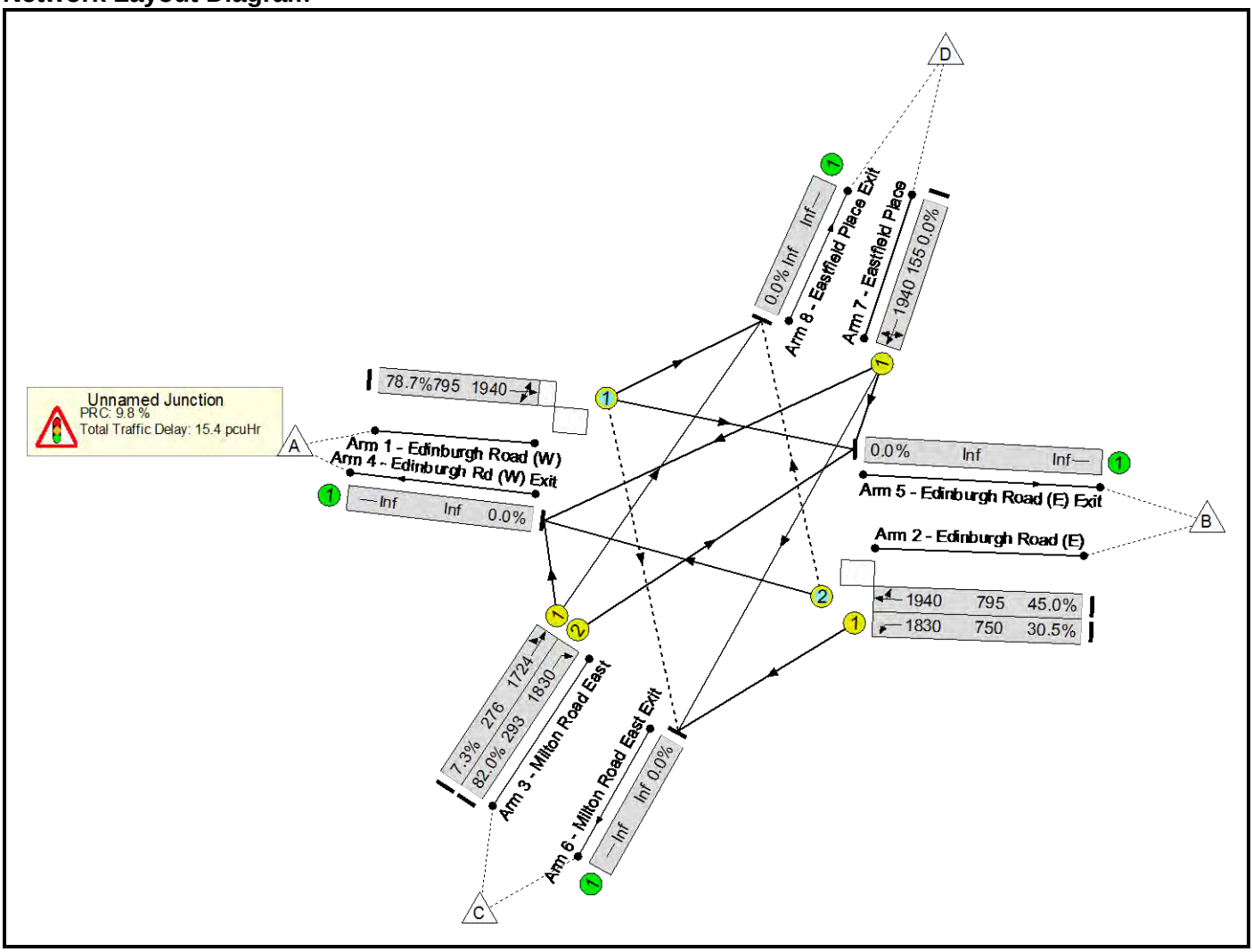
C1 PRC for Signalled Lanes (%): 15.7 Total Delay for Signalled Lanes (pcuHr): 14.44 Cycle Time (s): 100

PRC Over All Lanes (%): 15.7 Total Delay Over All Lanes(pcuHr): 14.44

Basic Results Summary

Scenario 9: '2025 PM Base' (FG8: '2025 PM Base', Plan 1: 'Network Control Plan 1')

Network Layout Diagram



Basic Results Summary

Network Results

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network	-	-	-		-	-	-	-	-	-	**82.0%**	**23**	**0**	**0**	**15.4**	-	-
Unnamed Junction	-	-	-		-	-	-	-	-	-	**82.0%**	**23**	**0**	**0**	**15.4**	-	-
1/1	Edinburgh Road (W) Ahead Right Left	O	A		1	40	-	626	1940	795	78.7%	23	0	0	6.3	36.2	16.9
2/1	Edinburgh Road (E) Left	U	B		1	40	-	229	1830	750	30.5%	-	-	-	1.5	23.4	4.5
2/2	Edinburgh Road (E) Ahead Right	O	B		1	40	-	358	1940	795	45.0%	0	0	0	2.5	25.5	7.6
3/1	Milton Road East Left Ahead	U	C		1	15	-	20	1724	276	7.3%	-	-	-	0.2	42.7	0.5
3/2	Milton Road East Right	U	C		1	15	-	240	1830	293	82.0%	-	-	-	4.8	72.2	8.5
7/1	Eastfield Place Right Left Ahead	U	D		1	7	-	0	1940	155	0.0%	-	-	-	0.0	0.0	0.0

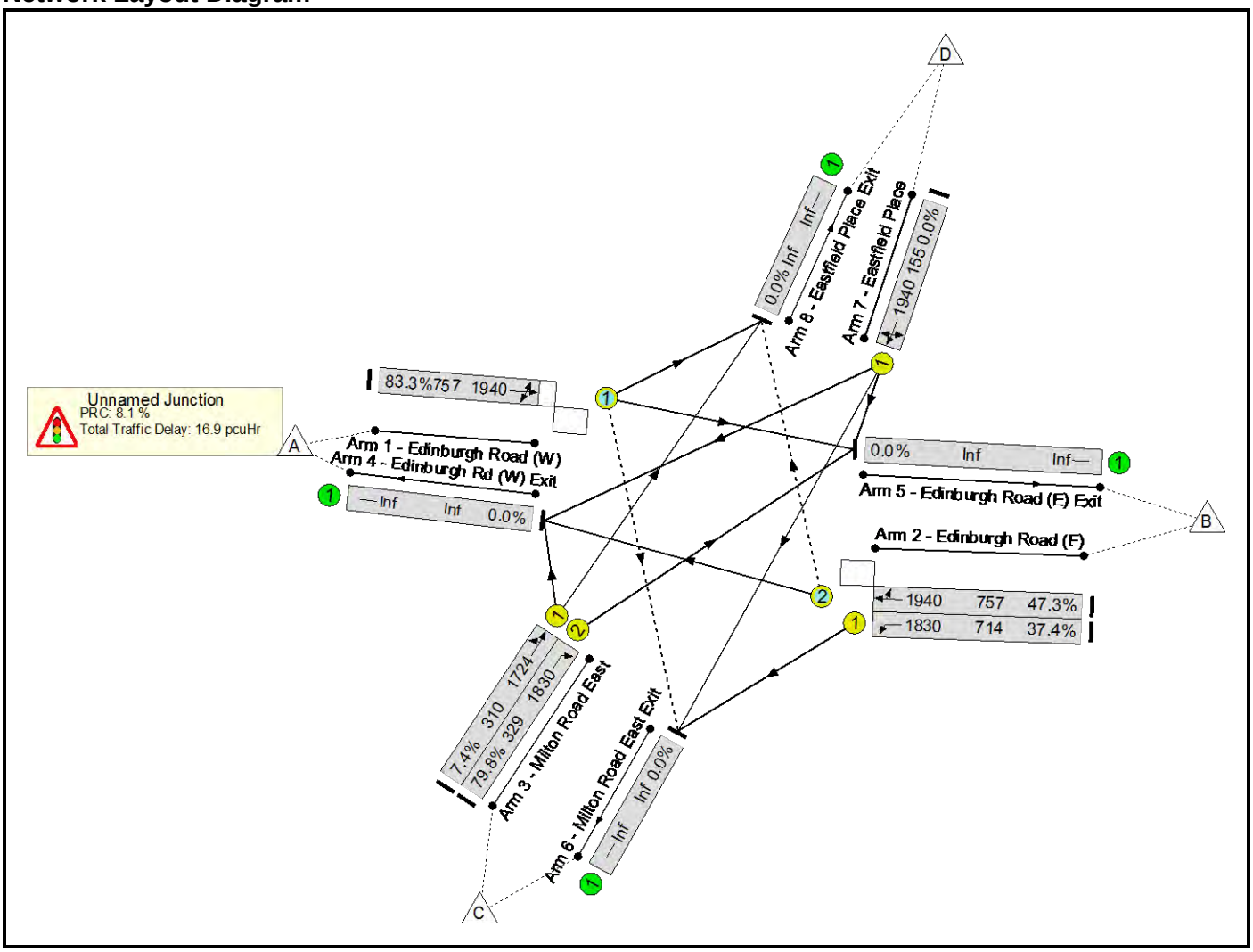
C1 PRC for Signalled Lanes (%): 9.8 Total Delay for Signalled Lanes (pcuHr): 15.36 Cycle Time (s): 100

PRC Over All Lanes (%): 9.8 Total Delay Over All Lanes(pcuHr): 15.36

Basic Results Summary

Scenario 10: '2025 PM Dev' (FG9: '2025 PM Dev', Plan 1: 'Network Control Plan 1')

Network Layout Diagram



Basic Results Summary

Network Results

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network	-	-	-		-	-	-	-	-	-	**83.3%**	**27**	**0**	**0**	**16.9**	-	-
Unnamed Junction	-	-	-		-	-	-	-	-	-	**83.3%**	**27**	**0**	**0**	**16.9**	-	-
1/1	Edinburgh Road (W) Ahead Right Left	O	A		1	38	-	630	1940	757	83.3%	27	0	0	7.2	41.4	18.1
2/1	Edinburgh Road (E) Left	U	B		1	38	-	267	1830	714	37.4%	-	-	-	1.9	25.8	5.6
2/2	Edinburgh Road (E) Ahead Right	O	B		1	38	-	358	1940	757	47.3%	0	0	0	2.7	27.3	7.8
3/1	Milton Road East Left Ahead	U	C		1	17	-	23	1724	310	7.4%	-	-	-	0.3	40.4	0.6
3/2	Milton Road East Right	U	C		1	17	-	263	1830	329	79.8%	-	-	-	4.7	64.9	8.8
7/1	Eastfield Place Right Left Ahead	U	D		1	7	-	0	1940	155	0.0%	-	-	-	0.0	0.0	0.0

C1 PRC for Signalled Lanes (%): 8.1 Total Delay for Signalled Lanes (pcuHr): 16.88 Cycle Time (s): 100

PRC Over All Lanes (%): 8.1 Total Delay Over All Lanes(pcuHr): 16.88

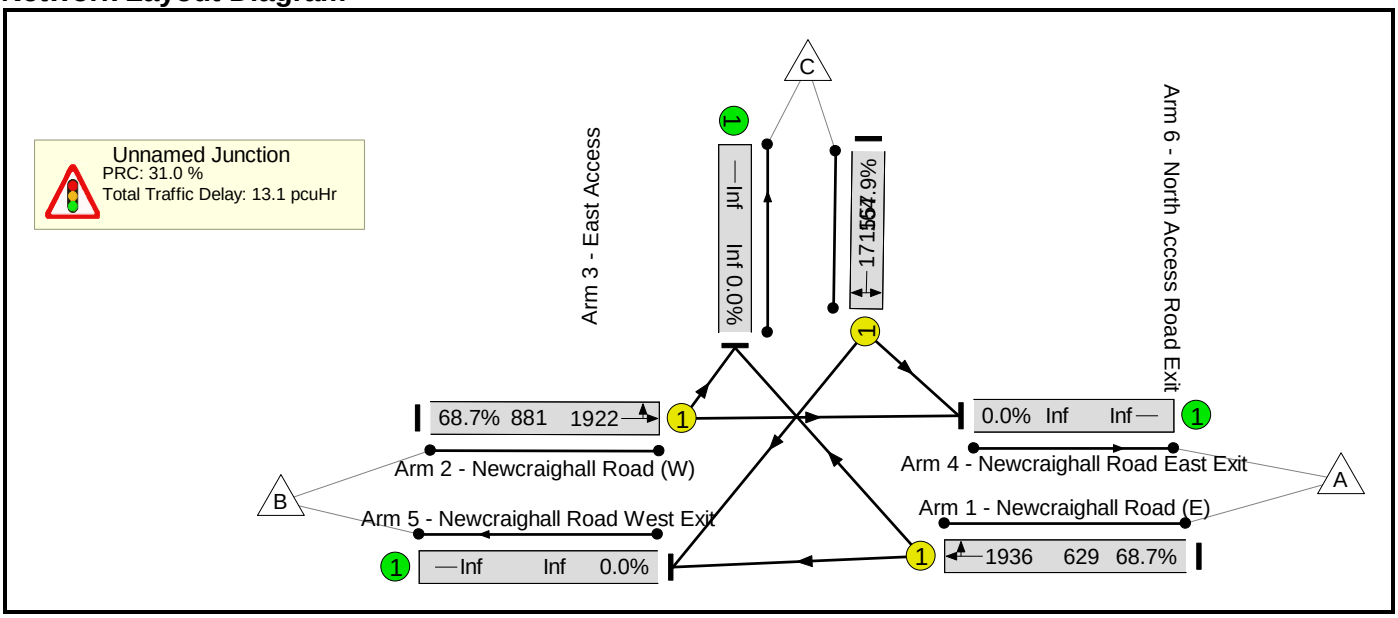
Basic Results Summary

User and Project Details

Project:	
Title:	
Location:	
File name:	Newcraighall Road North Access_test.lsg3x
Author:	
Company:	
Address:	
Notes:	

Scenario 1: 'AM FULL DEV NORTH' (FG1: 'AM FULL DEV NORTH', Plan 1: 'Network Control Plan 1')

Network Layout Diagram



Basic Results Summary

Network Results

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network	-	-	-		-	-	-	-	-	-	**68.7%**	**0**	**0**	**0**	**13.1**	-	-
Unnamed Junction	-	-	-		-	-	-	-	-	-	**68.7%**	**0**	**0**	**0**	**13.1**	-	-
1/1	Newcraighall Road (E) Ahead Right	U	A		1	38	-	432	1936	629	68.7%	-	-	-	5.3	44.2	13.6
2/1	Newcraighall Road (W) Ahead Left	U	B		1	54	-	605	1922	881	68.7%	-	-	-	5.4	32.2	16.9
3/1	East Access Left Right	U	C		1	10	-	102	1715	157	64.9%	-	-	-	2.4	84.2	4.2

C1

PRC for Signalled Lanes (%): 31.0
PRC Over All Lanes (%): 31.0

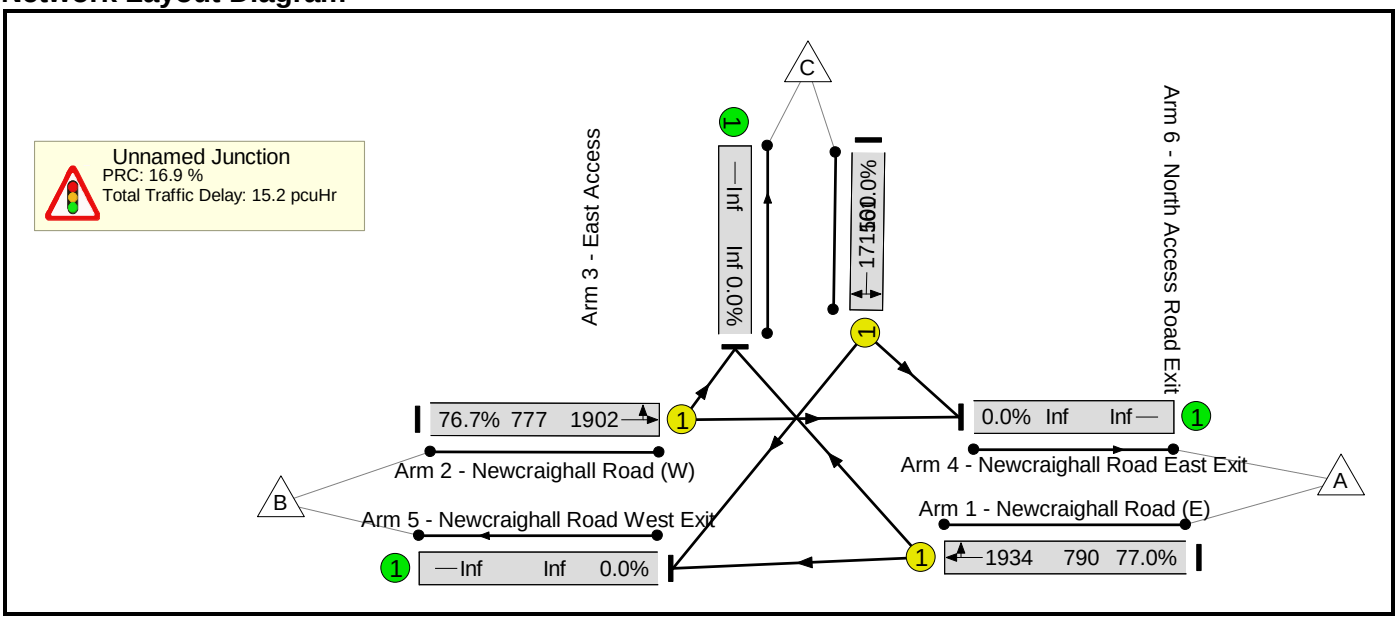
Total Delay for Signalled Lanes (pcuHr): 13.10
Total Delay Over All Lanes(pcuHr): 13.10

Cycle Time (s): 120

Basic Results Summary

Scenario 2: 'PM FULL DEV NORTH' (FG2: 'PM FULL DEV NORTH', Plan 1: 'Network Control Plan 1')

Network Layout Diagram



Basic Results Summary

Network Results

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network	**-**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**77.0%**	**0**	**0**	**0**	**15.2**	**-**	**-**
Unnamed Junction	**-**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**77.0%**	**0**	**0**	**0**	**15.2**	**-**	**-**
1/1	Newcraighall Road (E) Ahead Right	U	A		1	48	-	608	1934	790	77.0%	-	-	-	6.8	40.4	19.0
2/1	Newcraighall Road (W) Ahead Left	U	B		1	48	-	596	1902	777	76.7%	-	-	-	6.7	40.4	18.7
3/1	East Access Left Right	U	C		1	6	-	61	1715	100	61.0%	-	-	-	1.7	99.6	2.7

C1

PRC for Signalled Lanes (%): 16.9
PRC Over All Lanes (%): 16.9

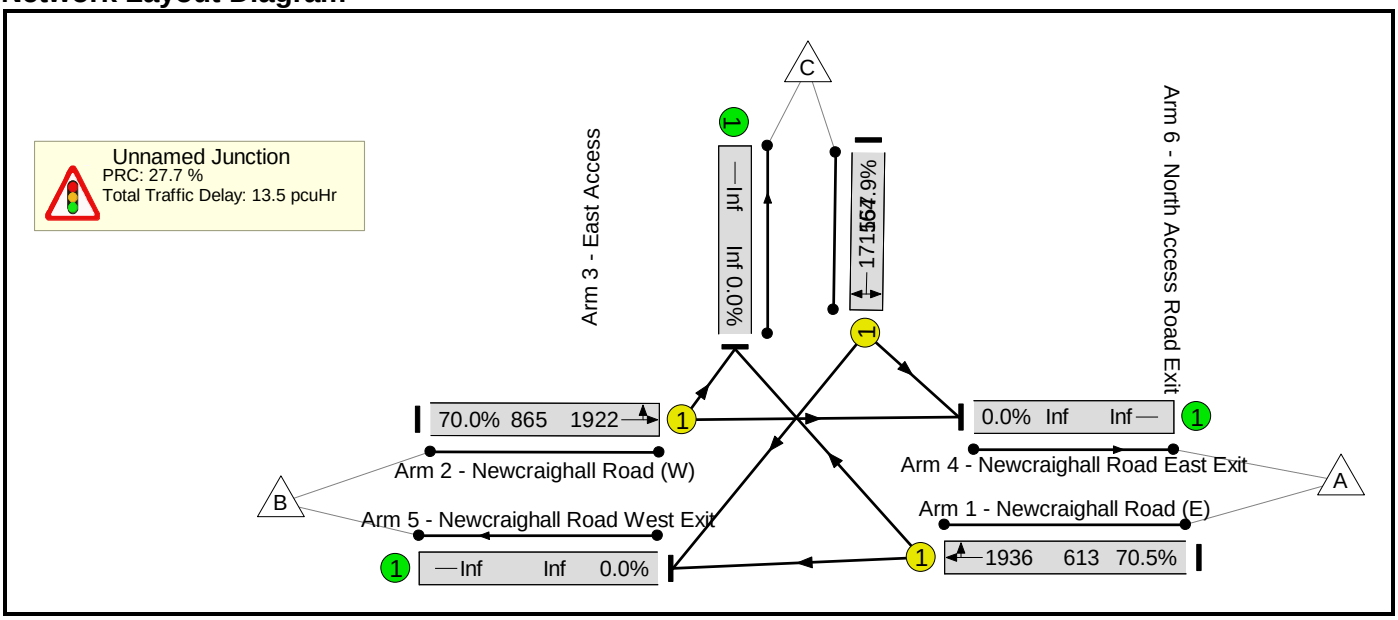
Total Delay for Signalled Lanes (pcuHr): 15.19
Total Delay Over All Lanes(pcuHr): 15.19

Cycle Time (s): 120

Basic Results Summary

Scenario 3: 'Copy of AM FULL DEV NORTH' (FG1: 'AM FULL DEV NORTH', Plan 2: 'Network Control Plan 2')

Network Layout Diagram



Basic Results Summary

Network Results

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network	-	-	-		-	-	-	-	-	-	**70.5%**	**0**	**0**	**0**	**13.5**	-	-
Unnamed Junction	-	-	-		-	-	-	-	-	-	**70.5%**	**0**	**0**	**0**	**13.5**	-	-
1/1	Newcraighall Road (E) Ahead Right	U	A		1	37	-	432	1936	613	70.5%	-	-	-	5.5	45.9	13.8
2/1	Newcraighall Road (W) Ahead Left	U	B		1	53	-	605	1922	865	70.0%	-	-	-	5.6	33.4	17.3
3/1	East Access Left Right	U	C		1	10	-	102	1715	157	64.9%	-	-	-	2.4	84.2	4.2

C1

PRC for Signalled Lanes (%): 27.7
PRC Over All Lanes (%): 27.7

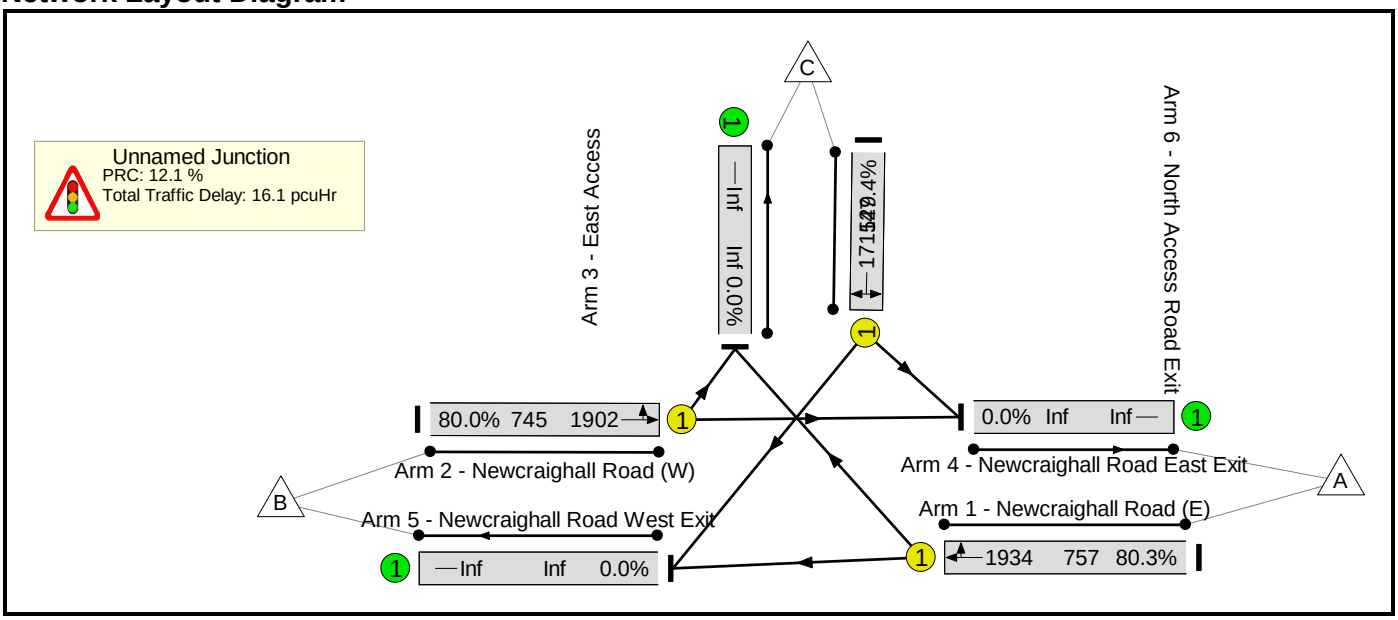
Total Delay for Signalled Lanes (pcuHr): 13.50
Total Delay Over All Lanes(pcuHr): 13.50

Cycle Time (s): 120

Basic Results Summary

Scenario 4: 'Copy of PM FULL DEV NORTH' (FG2: 'PM FULL DEV NORTH', Plan 2: 'Network Control Plan 2')

Network Layout Diagram



Basic Results Summary

Network Results

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network	-	-	-		-	-	-	-	-	-	**80.3%**	**0**	**0**	**0**	**16.1**	-	-
Unnamed Junction	-	-	-		-	-	-	-	-	-	**80.3%**	**0**	**0**	**0**	**16.1**	-	-
1/1	Newcraighall Road (E) Ahead Right	U	A		1	46	-	608	1934	757	80.3%	-	-	-	7.5	44.1	19.9
2/1	Newcraighall Road (W) Ahead Left	U	B		1	46	-	596	1902	745	80.0%	-	-	-	7.3	44.1	19.5
3/1	East Access Left Right	U	C		1	8	-	61	1715	129	47.4%	-	-	-	1.3	79.5	2.4

C1

PRC for Signalled Lanes (%): 12.1
PRC Over All Lanes (%): 12.1

Total Delay for Signalled Lanes (pcuHr): 16.10
Total Delay Over All Lanes(pcuHr): 16.10

Cycle Time (s): 120

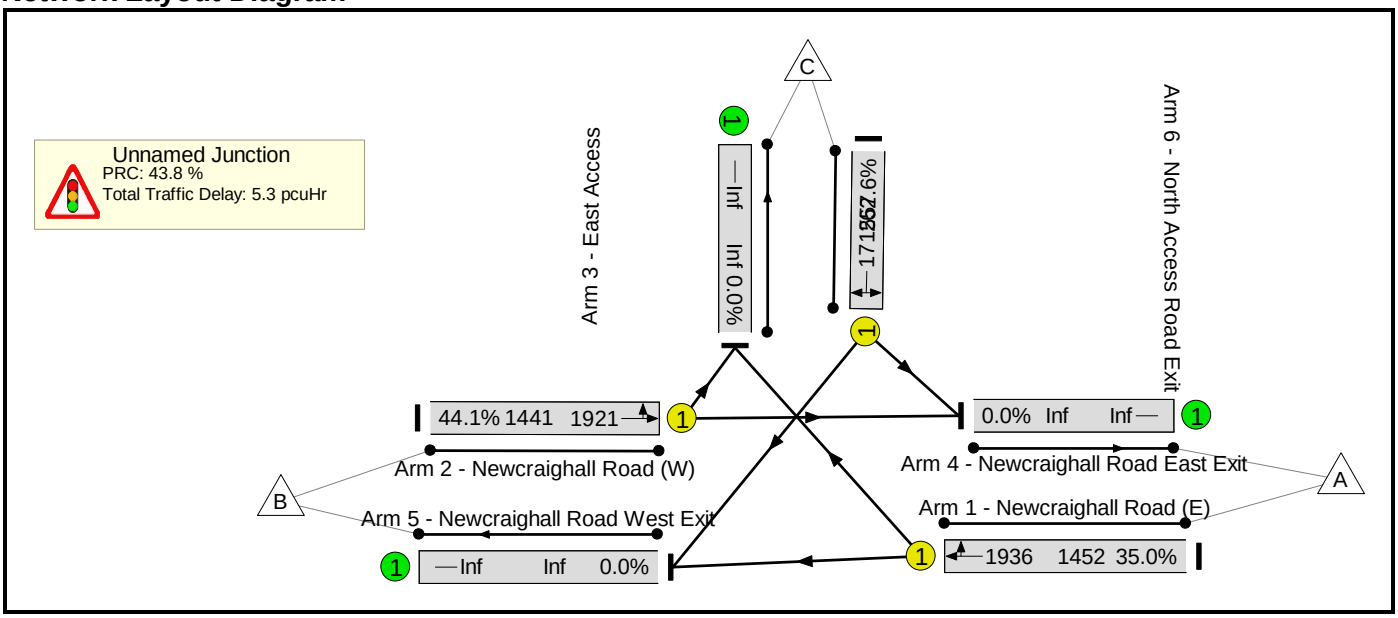
Basic Results Summary

User and Project Details

Project:	
Title:	
Location:	
File name:	Newcraighall Road South Access_test.lsg3x
Author:	
Company:	
Address:	
Notes:	

Scenario 1: 'AM FULL DEV SOUTH' (FG3: 'AM FULL DEV SOUTH', Plan 1: 'Network Control Plan 1')

Network Layout Diagram



Basic Results Summary

Network Results

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network	-	-	-		-	-	-	-	-	-	**62.6%**	**0**	**0**	**0**	**5.3**	-	-
Unnamed Junction	-	-	-		-	-	-	-	-	-	**62.6%**	**0**	**0**	**0**	**5.3**	-	-
1/1	Newcraighall Road (E) Ahead Right	U	A		1	89	-	508	1936	1452	35.0%	-	-	-	1.0	7.0	5.9
2/1	Newcraighall Road (W) Ahead Left	U	B		1	89	-	635	1921	1441	44.1%	-	-	-	1.4	7.8	8.2
3/1	East Access Left Right	U	C		1	17	-	161	1715	257	62.6%	-	-	-	3.0	66.2	5.8

C1

PRC for Signalled Lanes (%): 43.8
PRC Over All Lanes (%): 43.8

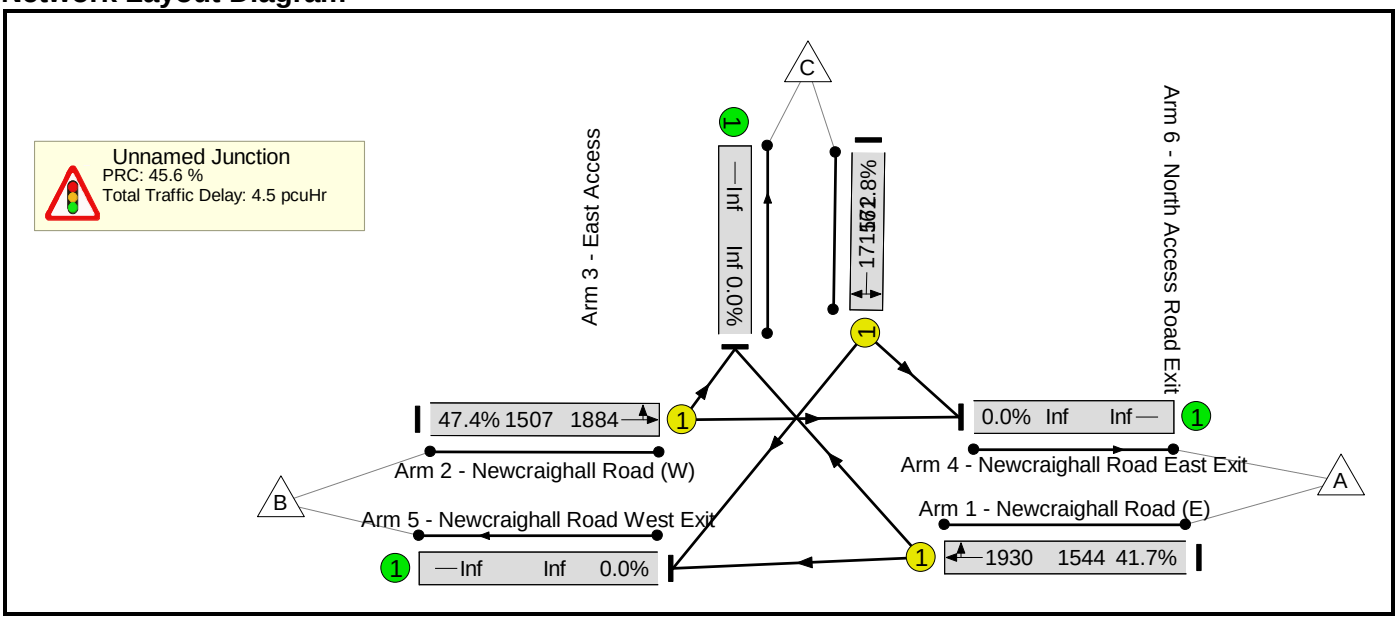
Total Delay for Signalled Lanes (pcuHr): 5.33
Total Delay Over All Lanes(pcuHr): 5.33

Cycle Time (s): 120

Basic Results Summary

Scenario 2: 'PM FULL DEV SOUTH' (FG4: 'PM FULL DEV SOUTH', Plan 1: 'Network Control Plan 1')

Network Layout Diagram



Basic Results Summary

Network Results

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network	**-**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**61.8%**	**0**	**0**	**0**	**4.5**	**-**	**-**
Unnamed Junction	**-**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**61.8%**	**0**	**0**	**0**	**4.5**	**-**	**-**
1/1	Newcraighall Road (E) Ahead Right	U	A		1	95	-	644	1930	1544	41.7%	-	-	-	1.0	5.6	6.8
2/1	Newcraighall Road (W) Ahead Left	U	B		1	95	-	715	1884	1507	47.4%	-	-	-	1.2	6.1	8.0
3/1	East Access Left Right	U	C		1	11	-	106	1715	172	61.8%	-	-	-	2.3	78.6	4.2

C1

PRC for Signalled Lanes (%): 45.6
PRC Over All Lanes (%): 45.6

Total Delay for Signalled Lanes (pcuHr): 4.54
Total Delay Over All Lanes(pcuHr): 4.54

Cycle Time (s): 120

APPENDIX J

CTMP HEADS

Brunstane

Heads of terms for a Construction Traffic Management Plan

August 2016

The following bullet points form the suggested heads of terms for a future Construction Traffic Management Plan to assist in the control of traffic during construction and further downtaking phases of the delivery of the Brunstane masterplan.

- Routeing of demolition, excavation and construction vehicles including plans illustrating same;
- Routeing of vehicles to consider material origin / destination and seek access to strategic road network (A1/A720) by direct routes;
- Details of links to the strategic road network;
- Whether time restrictions are proposed on vehicle movements to avoid conflicts with e.g. schools on proposed routes;
- Direct access arrangements to the site which may require plans and phasing details;
- Any particular information on abnormal vehicles (e.g. cranes)
- Hours of working for operational traffic
- How will any access controls be operated and staffed?
- Policy for reversing if turning within a site is not possible (use of banksmen);
- HGVs to only move in a forward direction onto the public road, i.e. reverse in, forward out;
- The estimated number of vehicles per day/week;
- Type of vehicle breakdown e.g. HGVs, vans, cars, minibuses;
- Staff compound locations and arrangements for staff parking;
- Arrangements for waiting vehicles;
- Details of the vehicle call up procedure if any;
- What are the arrangements for slot times for vehicles? How are vehicles coordinated to arrive on site, e.g. set times, phone call to site foreman to ensure clear site before setting out, etc;
- Who has responsibility for supervising and controlling vehicle movements to/from the site;
- What are the arrangements to ensure site is clear before arriving;
- Estimates for the number and type of parking suspensions / Temporary Traffic regulation Orders that may be required;

- Details of any diversion, disruption or other abnormal use of the public road during demolition, excavation and construction works;
- What are the impacts on vulnerable road users in particular, including cyclists, and how are these being mitigated;
- What are the measures to protect pedestrian safety from adjacent works;
- What are details of safety, signage and accessibility (by mobility impaired) measures for footway diversions;
- Require liaison by developer with the Council's Waste Management Service to ensure no conflict with rubbish collections;
- Have utility companies been contacted? What works are they undertaking in the area?
- Evidence of contact with the utilities and their responses should be included as an appendix to the main plan;
- Work programme and/or timescale for each phase of the demolition, excavation and construction works;
- Has a total timescale been provided?
- Details regarding vehicle sheeting / wheel cleaning etc.;
- A drivers code of practice;

Other considerations

- Procedures for monitoring and review of the Plan
- Coordination of arrangements with other existing/planned development sites in the area
- Procedure for dealing with any direct or indirect complaints from local residents, businesses etc.
- Details of how contractors, deliverers, visitors etc will be made aware of routeings and on-site restrictions prior to undertaking the journey eg. information leaflets / webpage.

Brunstane, Edinburgh
Proposed New Community
Transport Assessment

August 2016

Prepared for:

The EDI Group ltd

Prepared by:

Transport Planning Ltd
Forsyth House
93 George Street
Edinburgh
EH2 3ES

www.tranplanworld.co.uk