Retford Transport Assessment

Bassetlaw District Council

June 2021

Prepared on Behalf of Tetra Tech Environment Planning Transport Limited. Registered in England number: 03050297

tetratecheurope.com

Tetra Tech Leicester, Executive Park, Avalon Way, Anstey, Leicester, United Kingdom, LE7 7GR
Tetra Tech Environment Planning Transport Limited. Registered in England number: 03050297
Registered Office: 3 Sovereign Square, Sovereign Street, Leeds, United Kingdom, LS1 4ER

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Primary Author	Rob Holland	Initialled:	RJH

Contributor	Ellie Smith	Initialled:	ES

Review By	Alistair Gregory	Initialled:	ASG

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1 INTRODUCTION

1.1 BACKGROUND

1.1.1 Tetra Tech has been appointed by Bassetlaw District Council (BDC) to prepare a Transport Assessment document (TA) to assess the impact of housing growth identified in the latest version of the Draft Local Plan for Bassetlaw was published for consultation in November 2020. The following sites are considered in this report as shown in **Figure 1**:

- HS7 Trinity Farm, Retford – 244 dwellings
- HS8 Milnercroft, Retford – 5 dwellings
- HS9 Former Elizabethan School, Retford – 46 dwellings
- HS10 St. Michael's View, Hallcroft Road, Retford – 20 dwellings
- HS11 Fairy Grove, Grove Road, Retford – 61 dwellings
- HS12 Station Road, Retford – 5 dwellings
- HS13 Ordsall, Retford – 800 dwellings

1.1.2 As indicated in the above list, Site HS13 is the largest of the seven sites and therefore, forms the focus of this report. **Figure 2** shows the location of Site HS13 and the site boundary is included in **Appendix A**. Nevertheless, trip generation from all the above sites has been considered in this report.

1.1.3 The findings of this report will be used to inform BDC on transport and highway matters relating to Local Plan growth.

1.1.4 The highway network near the site is maintained by Nottinghamshire County Council (NCC) in their capacity as the local highway authority. The A1(T) is maintained by Highways England. BDC is the local planning authority.

1.2 SCOPE OF TRANSPORT ASSESSMENT

1.2.1 This TA has been prepared in accordance with the Ministry of Housing, Communities and Local Government (MHCLG) Planning Practice Guidance 'Travel Plans, Transport Assessments and Statements' (2014), which presents the Government's most up-to-date guidance on the preparation of highways and transportation documents to support development proposals. It has also been prepared in accordance with the National Planning Policy Framework (NPPF).

1.2.2 Preliminary discussions were held with NCC highways in relation to the scope of this report and correspondence is included in **Appendix B**. NCC specifically advised in relation to committed developments and the TA study area. NCC also indicated that Main Road between Ollerton Road and the A638 through the village of Eaton is not well suited to a material increase in traffic. This is because of its existing characteristics.

1.2.3 It should be noted from the outset that this TA has been prepared during the ongoing Covid-19 pandemic. It has therefore not been possible to carry out new traffic surveys as the results would not be representative of typical conditions. Therefore, this TA makes best use of existing available traffic data to assess the impact of the proposed development.

1.3 TA STUDY AREA

1.3.1 The TA study area has been informed by discussions with NCC and comprises of the following off-site junctions as shown in **Figures 3** and **4**:

- A1/A620 Retford Road/B6079 Retford Road
- A1/B6420 Mansfield Road/A614 Blyth Road/A57
- A1/Elkesley Bridge Road/Jockey Lane/Eskil Way
- A1/B6387 Dover Bottom
- A1 Markham Moor Junction
- A620 Babworth Road/B6420 Mansfield Road/A620 Straight Mile/Sutton Lane
- A620 Babworth Road/Ordsall Road
- A620 Amcott Way/Bridlegate/A620 Hospital Road/A638 North Road/Hallcroft Road
- A620 Amcott Way/A620 Moorgate/A638 Arlington Way
- A638 Arlington Way/Spital Hill/Chapelgate
- A638 Arlington Way/Grove Street
- A638 Arlington Way/A638 London Road/Carolgate
- Ollerton Road/West Hill Road
- A638 London Road/Whitehouses Road
- A638 London Road / Whinney Moor Lane / Bracken Lane
- All Hollows Street / High Street / Goosemoor Lane
- Ollerton Road / Main Road
- A638 / Main Road (Eaton)
- A638 / B6387 Rectory Lane

1.4 REPORT LAYOUT

1.4.1 This TA investigates the highways and transportation issues associated with development of the site. The structure of the report is as follows:

- Chapter 2 summarises relevant planning policy documents.
- Chapter 3 describes existing conditions.
- Chapter 4 outlines development assumptions.
- Chapter 5 explores the opportunities for encouraging sustainable travel.
- Chapter 6 outlines the future assessment year, background traffic growth and committed development traffic.
- Chapter 7 calculates development trip generation.

- Chapter 8 distributes development trips.
- Chapter 9 presents highway impacts.
- Chapter 10 presents the results of capacity assessments.
- Chapter 11 considers the need for mitigation.
- Chapter 12 summarises the report.

2 PLANNING POLICY AND GUIDANCE

2.1 INTRODUCTION

2.1.1 The following planning policy and guidance documents have been considered in the preparation of this TA:

- National Planning Policy Framework (Ministry of Housing Communities and Local Government (MHCLG), February 2019)
- Draft Bassetlaw Local Plan (BDC, November 2020)
- Bassetlaw District Local Development Framework – Core Strategy and Development Management Policies DPD (BDC, 2011)
- Nottinghamshire Local Transport Plan (LTP) 2011 - 2026 (NCC, 2011)
- Nottinghamshire Highway Design Guide (NCC, 2021)
- Travel Plans, Transport Assessments and Statements (MHCLG, 2014)

2.2 NATIONAL PLANNING POLICY FRAMEWORK

The NPPF sets out the Government's planning policies for England and how these should be applied. An updated version of the NPPF was published in February 2019. At the heart of the NPPF is a presumption in favour of sustainable development. In terms of transport, Paragraph 108 states that:

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

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

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

c) any significant impacts from the development on the transport network (in terms of capacity and congestion), or on highway safety, can be cost effectively mitigated to an acceptable degree."

2.2.1 Paragraph 109 goes on to state that "Development should only be prevented or refused on highways grounds if there would be an unacceptable impact on highway safety, or the residual cumulative impacts on the road network would be severe."

2.2.2 In order to address this, applications for development should give priority to pedestrian, cycle and public transport movements; address the needs of people with disabilities and reduced mobility; create places that are safe, secure and attractive; allow for the efficient delivery of goods, service and emergency vehicles; and be designed to enable charging of plug-in vehicles.

2.2.3 Considering the above, this TA considers whether the development proposals will provide suitable access for all travel modes, as well as whether any associated increase in traffic will result in a severe cumulative impact.

2.3 DRAFT BASSETLAW LOCAL PLAN

2.3.1 The latest version of the Draft Local Plan for Bassetlaw was published for consultation in November 2020. Policy ST29, Site HS13 covers the land at Ordsall South, which is the subject of this study. For completeness, trip generation from the six other Local Plan sites in Retford is also considered in this report, namely:

- HS7 Trinity Farm, Retford – 244 dwellings
- HS8 Milnercroft, Retford – 5 dwellings
- HS9 Former Elizabethan School, Retford – 46 dwellings
- HS10 St. Michael's View, Hallcroft Road, Retford – 20 dwellings
- HS11 Fairy Grove, Grove Road, Retford – 61 dwellings
- HS12 Station Road, Retford – 5 dwellings

2.3.2 Land at Ordsall South is identified for development for residential, community and open space uses to deliver a safe, sustainable, quality living environment. Development should deliver at least 800 dwellings during the Plan period to 2037 and should incorporate a mix of housing types, sizes and tenures to meet local needs. With regards to transport and movement Policy ST29 states the following for site HS13:

"Be supported by a Transport Assessment and Travel Plan, informed by Local Highways Authority advice, detailing:

a) Safe access to the site for vehicles, cyclists and pedestrians from Ollerton Road.

b) The impact on surrounding highways and relevant mitigation measures including:

- *A financial contribution to improve the North Road/Babworth Road roundabout.*
- *A financial contribution to improve Goosemoor London Road mini roundabout.*
- *A financial contribution to improve Ordsall/Babworth mini roundabout.*
- *A traffic management scheme in Ordsall Old Village.*

c) New and improved pedestrian and cycle links from the site to neighbouring areas including:

- *A marked cycle lane along Brecks Road*
- *Improvements to the existing public rights of way that cross the site and run along its boundaries.*
- *A marked cycle lane along Ollerton Road/West Hill Road and Ordsall Park Road to Ordsall Primary School, Retford Leisure Centre and Retford Oaks School via West Carr Road.*
- *improvements to public realm in Ordsall Old Village and to Goosemoor Play Area and Sports Ground, including bike storage facility*

d) A subsidised high frequency bus service from the site to Retford town centre and the wider area supported by appropriate public transport infrastructure.

e) Appropriate off road parking provision for vehicles and cycles, and an appropriate servicing strategy for non-residential development."

2.4 BASSETLAW DISTRICT LOCAL DEVELOPMENT FRAMEWORK – CORE STRATEGY & DEVELOPMENT MANAGEMENT POLICIES DPD 2011-2028

2.4.1 Adopted by Bassetlaw District Council on 22 December 2011, the Core Strategy identifies the overarching framework for new development over an 18-year period and sets out a vision for change in Bassetlaw up to 2028.

2.4.2 Within the Vision for Bassetlaw, the Core Strategy states that future development proposals in Retford for the period up to 2028:

> "*will continue to provide an attractive range of homes and a good concentration of services and facilities, allowing it to maintain its role in supporting surrounding rural communities without compromising its market town character. Development in Retford will, therefore, protect the town's retail and service role, delivering growth of a scale that respects the town's heritage assets and, where appropriate, supporting the increased value of the Chesterfield Canal*".

2.4.3 A set of 10 Strategic Objectives are, as such set out as part of the Core Strategy. Of these 10 Objectives, the following are most applicable to future development within the Retford area:

- **SO1** – To provide a range of high-quality market and affordable houses in Worksop, Retford, Harworth Bircotes, Carlton-in-Lindrick/Langold, Tuxford, Misterton and sustainable rural settlements (as identified in the Settlement Hierarchy) to meet the diverse needs of Bassetlaw's growing population.
- **SO4** – To enhance and protect the vitality and viability of the centres of Worksop, Retford, Harworth Bircotes and Tuxford, through environmental improvements and provision of increased town centre retail, employment and leisure development.
- **SO6** – To ensure that all new development addresses the causes and effects of climate change by, as appropriate, reducing or mitigating flood risk; realising opportunities to utilise renewable and low carbon energy sources and/or infrastructure, alongside sustainable design and construction; taking opportunities to achieve sustainable transport solutions; and making use of Sustainable Drainage Systems.
- **SO7** – To ensure that all new development enhances the attractiveness and local distinctiveness of the area and, where appropriate, achieves its full potential against national and local design standards.
- **SO10** – To ensure the provision of the essential physical, social and green infrastructure required to support the District's growth.

2.4.4 This TA explores whether development of the site will positively contribute towards the vision and applicable Strategic Objectives set by BDC.

2.5 NOTTINGHAMSHIRE LOCAL TRANSPORT PLAN (LTP3) 2011-2026

2.5.1 The Nottinghamshire Local Transport Plan (LTP3) 2011-2026 was published in 2011. Replacing the second Local Transport Plan for Greater Nottingham, the LTP3 details the transport strategy for the whole of the county of Nottinghamshire for the period between April 2011 and March 2026.

2.5.2 Underpinned by 12 local transport objectives which identify how transport in Nottinghamshire will help support economic growth; protect the environment; improve health and safety; improve accessibility, and maintain and improve existing infrastructure, three transport goals are set out within the LTP3. These Transport Goals are to:

- Provide a reliable, resilient transport system which supports a thriving economy and growth whilst encouraging sustainable and healthy travel.
- Improve access to key services, particularly enabling employment and training opportunities.
- Minimise the impacts of transport on people's lives, maximise opportunities to improve the environment and help tackle carbon emissions.

2.5.3 This TA considers how development of the site accords with the aims and policies of the Nottinghamshire Local Transport Plan as it is in an area easily accessible by sustainable modes of transport.

2.6 NOTTINGHAMSHIRE HIGHWAY DESIGN GUIDE

2.6.1 The Nottinghamshire Highway Design Guide provides clear and common guidance to developers across Nottinghamshire with reasonably practicable and agreeable guidance to assist in the delivery of housing growth, encourage sustainable development and minimise the impact of development on the highway.

2.6.2 This TA has considered the Nottinghamshire Highway Design Guide in the production of this report.

2.7 TRAVEL PLANS, TRANSPORT ASSESSMENTS AND STATEMENTS

2.7.1 The Planning Practice Guidance provides information relating to the preparation of a TA, including when they are required, the scope of the report and what information to include. This TA has been prepared in accordance with the Planning Practice Guidance.

2.8 SUMMARY

2.8.1 Future development of the site should be in accordance with the policy objectives set out in the national and local planning policy summarised in this chapter.

3 EXISTING CONDITIONS

3.1 EXISTING SITE

3.1.1 The location of the Ordsall South site is illustrated on **Figures 1** and **2**. The site currently comprises of agricultural land and is bound to the north by residential development and Retford Golf Club, and to the east, west and south by agricultural land.

3.1.2 For the purpose of this TA, the site is assumed to be accessed via Ollerton Road, which bisects the site and divides the site into an eastern and western parcel. The western parcel of the site is larger than the eastern parcel.

3.2 NEARBY LOCAL FACILITIES AND AMENITIES

3.2.1 Retford town centre is approximately 4.0km from the site and provides a range of employment, retail, leisure and other needs. **Table 1** below shows the approximate distance between the site and other key local facilities/amenities nearer to the site. The distances should be treated as approximate distances as they will vary depending on where within the site the measurement is taken from.

Table 1 - Summary of Distances to Nearby Local Amenities

Nearby Local Amenities	Approximate Distance (Kilometers)
Convenience Store	1.0
Post Office	1.0
Pre-School	1.0
Pharmacy	1.1
Primary School	1.6
Retford Train Station	1.8
Secondary School	2.6
Retford Hospital	3.5
Doctor's Surgery	3.7
Dentist	3.8

3.3 WIDER CONTEXT

3.3.1 In the wider area, **Table 2** summarises approximate distances to the nearest large towns and cities.

Table 2 - Distance to Nearby Towns and Cities

Nearby Local Amenities	Approximate Distance (In Miles)
Doncaster	19.5
Lincoln	21.9
Nottingham	29.8
Sheffield	30.0

3.4 PEDESTRIAN ACCESSIBILITY

Pedestrian Infrastructure

3.4.1 There are no footways on Ollerton Road adjacent to the site frontage. To the north of the site, footways are provided on both sides of Ollerton Road and form part of a network of pedestrian routes within Retford. To the south of the site there are no footways adjacent to Ollerton Road.

3.4.2 A public footpath is aligned in an east-west direction through the western parcel of the site. The footpath connects Brecks Road in the east with a bridleway beyond the western boundary of the site. Several public footpaths are aligned through the eastern parcel of the site, along Water Lane and connecting to High Street. These footpaths form part of a network of Public Rights of Way in the local area, increasing connectivity with Ordsall and the wider countryside.

Pedestrian Catchment Area

3.4.3 In terms of what constitutes a reasonable walking distance it is necessary to consider what is realistic for a walking trip. The Chartered Institution of Highways and Transportation (CIHT) document 'Guidelines for Providing for Journeys on Foot' (2000) states that "walking accounts for over a quarter of all journeys and four fifths of journeys less than one mile". The document also provides guidance on acceptable walking distances and suggests that a preferred maximum walking distance of 2km is applicable for commuting or school trips.

3.4.4 It can therefore be concluded that distances up to 2km can be considered reasonable to be undertaken on foot, and that walking is a realistic mode to consider for trips within this distance. Whilst this does not preclude pedestrians from undertaking longer journeys, it is considered that 2km is reasonable. Based on an average walking speed of 1.4 m/s it can be concluded that a 2km walk would take approximately 24 minutes.

3.4.5 A 2km catchment from the site is presented at **Figure 5.** The catchment demonstrates that all Ordsall and surrounding areas of Retford are within 2km of the site. As a result, many residential areas and amenities such as the nearest convenience store, pharmacy, post office, pre-school and primary school are located within a reasonable walking distance to the site. **Table 1** summarises these distances.

3.4.6 Improvements will be required to existing pedestrian infrastructure to maximise accessibility of the site for pedestrians. Any new infrastructure should tie in with existing nearby infrastructure. Subject to infrastructure improvements, the location of the site near to local facilities/amenities may help to encourage a proportion of shorter trips from the area to be made on foot. It is considered that travel on foot should be the key mode of travel for trips originating from the site and the surrounding area. Walking should be encouraged as the most appropriate mode of travel for local trips.

3.5 CYCLIST ACCESSIBILITY

Cycle Infrastructure

3.5.1 Retford has the key attributes to be an attractive town to cycle around. The urban area is less than 4km from north to south and less than 3km from east to west, which coupled with the generally flat topography ensures that all major trip generators are within easy reach.

3.5.2 The corridors formed by the river and canal provide good opportunities to travel across the town without coming into conflict with general traffic, giving Retford significant potential to make cycling the mode of choice for all trips to access employment, education, healthcare and leisure facilities provided locally.

3.5.3 However, at present, the coverage and quality of infrastructure to support and encourage cyclists falls below modern standards, both in terms of on-road and off-road routes in place, including those along the canal and river. Where attractive links are provided, they are often undermined by a lack of continuity and the absence of safety features at major junctions.

3.5.4 In the immediate vicinity of the site, there are no formal cycle facilities along Ollerton Road meaning that cyclists must travel within the carriageway.

Cycle Catchment Area

3.5.5 In much the same way as pedestrian trip lengths are defined, the length of cycling trips will be governed by routes that are available and trip length, although several other factors often mitigate for or against making these trips.

3.5.6 Local Transport Note 1/20 'Cycle Infrastructure Design' (DfT, 2020) states that *"two out of every three personal trips are less than five miles in length – an achievable distance to cycle for most people*". Accounting for the fact that some people will not want to cycle five miles, a distance of three miles has been assumed in this report to inform a catchment area for cycle trips. Three miles is equivalent to approximately 5km.

3.5.7 **Figure 5** shows a 5km catchment centred on the site. A 5km distance includes all of Retford, Ordsall, Newtown and Balkfield. Cycling should also therefore be encouraged as an appropriate mode of travel for local trips.

3.6 BUS ACCESSIBILITY

3.6.1 The CIHT document 'Buses in Urban Developments' (2018) recommends a maximum walking distance to bus stops of 400m. Therefore, 400m is generally regarded as being the maximum walking distance to a public transport access point.

3.6.2 In the first instance, it should be noted that the size of the site is such that, the distance to a bus stop will vary depending on where the measurement is taken from. The far extremities of the site are more than 1km from Ollerton Road. Future development of the site should therefore facilitate bus access into the development itself. Nevertheless, for the purpose of this Chapter, existing bus provision is considered.

3.6.3 The nearest bus stops to the site are shown in **Figure 1**. A southbound bus stop is located on the eastern side of Ollerton Road, approximately 100m north of the site boundary, opposite Glen Eagles Way. The bus stop comprises of a flag and pole and timetable information.

3.6.4 Approximately 350m north of the site boundary, bus stops are located on both sides of West Hill Road (Brecks Road stops). Both stops consist of a flag, timetable information and a shelter.

3.6.5 Additional bus stops are located approximately 650m from the northern site boundary on Welbeck Road and High Street.

3.6.6 A summary of regular bus services stopping at the nearest bus stops to the site is provided in **Table 3**.

Table 3 - Summary of Bus Services Stopping near the Site

Service / Route	Bus Stop	Mon - Fri Frequency			Sat Frequency
		7am – 9am	9am – 5pm	4pm - 6pm	9am – 6pm
335: Retford - Ollerton	Glen Eagles Way	N/A	N/A	1 Bus	1 Bus
335: Newark – Retford	Brecks Road	1 Bus	N/A	N/A	1 Bus
Doncaster Shopper: Trafford Way at Doncaster Interchange – Tuxford	Glen Eagles Way	N/A	1 Bus	N/A	N/A
Doncaster Shopper: Tuxford – Trafford Way at Doncaster Interchange	Brecks Road	N/A	1 Bus	N/A	N/A
Sherwood Arrow: Retford - Nottingham	Glen Eagles Way	2 Buses	4 Buses	1 Bus	4 Buses
Sherwood Arrow: Nottingham – Retford	Brecks Road	N/A	4 Buses	1 Bus	4 Buses
47 Retford – Ordsall	Brecks Road	N/A	1 Bus Every Hour Between 09:15 and 14:15	1 Bus	1 Bus Every Hour Between 09:15 and 15:15, Then A Further 2 Buses
47 Ordsall – Retford	Brecks Road	N/A	1 Bus Every Hour Between 09:25 and 14:25	1 Bus	1 Bus Every Hour Between 09:25 and 15:25, Then A Further 2 Buses
Lincoln Shopper: Lincoln – Retford	Welbeck Road	N/A	1 Bus	N/A	N/A
Lincoln Shopper: Retford – Lincoln	Welbeck Road	N/A	1 Bus	N/A	N/A

3.6.7 As shown in **Table 4** there are four bus services that operate to the nearest bus stops to the site (Glen Eagles Way and Brecks Road). But only one of these (the Sherwood Arrow) offers frequent services, providing a connection between Ordsall and Retford.

3.6.8 However, whilst the other bus services are infrequent, they all stop directly outside Retford Bus Station, located approximately 2 miles from the site boundary. The bus station is approximately an 11 minute cycle journey or a 7 minute car journey from the site.

3.6.9 Retford Bus Station offers an additional 15 services to several key employment centres including Doncaster, Gainsborough, Newark and Nottingham. **Table 4** summarises the location and frequency of additional services departing from Retford Bus Station.

Table 4 - Summary of Bus Services Departing from Retford Bus Station

Service / Route	Monday – Friday Frequency		Saturday Frequency	
	Number of Buses Per Day	Approximate Frequency	Number of Buses Per Day	Approximate Frequency
136 Retford - Walesby	4	Approx. every two hours between 10:30 and 16:40	3	Approx. every two hours between 10:30 and 14:30
190 Retford – Tuxford	3	Approx. every 70 mins between 16:05 and 18:25	3	Approx. every 70 mins between 16:05 and 18:25
195 Retford - Gainsborough	2	06:50 and 17:10	2	06:50 and 17:10
197 Retford - Beckingham	1	12:30	1	12:30
335; Retford – Ollerton	1	17:30	1	17:30
27 Retford - Everton	6	Approx. every 2 hours between 08:45 and 15:25/15:35, then 18:15	6	Approx. every 2 hours between 08:45 and 15:35, Then 18:15
29 Retford - Doncaster	5	Approx. every 2 – 3 hours between 08:54 and 17:35	5	Approx. every 2 – 3 hours between 08:54 and 17:35
37 Retford - Newark	11	Approx. every hour between 08:00 and 18:20	11	Approx. every hour between 08:00 and 18:20
43 Retford – Worksop / Wensleydale	14	Approx. every hour between 05:45 and 19:05	14	Approx. every hour between 05:45 and 19:05
95 Retford - Gainsborough	6	Approx. every 2 hours between 08:40 and 14:30, then 16:00 and 17:50	6	Approx. every 2 hours between 08:40 and 14:30, then 16:00 and 17:50
97 Retford - Gainsborough	4	Approx. every hour between 09:30 and 15:55	4	Approx. every 2 hours between 09:30 and 15:55
99 Retford - Doncaster	10	Approx. every hour between 07:40 and 17:45	10	Approx. every hour between 07:40 and 17:45
123 Retford Town Circular Route	3	11:00, 12:00 and 13:30	3	11:00, 12:00 and 13:30

3.6.10 The information above highlights that there are regular bus services during peak travel times to key nearby towns which offer employment, retail, leisure and other opportunities to future residents.

3.7 RAIL SERVICES

3.7.1 The nearest train station is Retford Station, which is located approximately 1.1 miles north-east of the site boundary when walking or cycling. This equates to a walk of approximately 20 minutes or a cycle ride of approximately 7 minutes. When travelling by road, the train station is located approximately 2.4 miles from the site boundary. This is a drive of approximately 7 minutes. In the context of the site, the train station is therefore more suited to pedestrian and cycle trips than car trips. However, it is worth noting that the condition of the underpass beneath the railway line

between Station Road and Tunnel Road may discourage people from using this route, particularly cyclists who may struggle to negotiate the steps.

3.7.2 Many trains operate throughout the day to destinations such as London, Doncaster, York, Sheffield and Lincoln catering for peak commuter travel and as well as other journey types. **Table 5** summarises the times of the first and last weekday trains at Retford Station.

Table 5 - Time of the first and last Weekday trains at Retford Train Station

Train	Arrivals from London Kings Cross	Departures to London Kings Cross	Arrivals from Doncaster	Departures to Doncaster	Arrivals from York	Departures to York
First Train	07:33	05:51	05:50	07:34	08:32	07:56
Last Train	23:16	23:02	23:01	23:17	23:01	16:48

Train	Arrivals from Sheffield	Departures to Sheffield	Arrivals from Lincoln	Departures to Lincoln
First Train	06:23	06:13	07:19	06:24
Last Train	22:28	22:51	23:17	21:33

3.7.3 Retford Train Station is located on the LNER line between Edinburgh and London Kings Cross, calling at Newcastle, York, Doncaster, and Peterborough on the way.

3.7.4 Trains to London Kings Cross operate every day of the week, with approximately one train every one to two hours. Trains to London have an approximate journey time of between 90 and 105 minutes. During peak journey times, there are four trains between 6am and 9am and six trains between 4pm and 7pm.

3.7.5 One train departs from Retford to Edinburgh during the week at 0756 hrs, taking approximately 3 hours and 25 minutes, calling at Doncaster, York, Northallerton, Darlington, Durham and Newcastle before 1000 hrs.

3.7.6 Two trains per hour depart from Retford to Lincoln between Monday and Friday and have an approximate duration of around 35 minutes. Trains departing from Retford to Lincoln on Saturday and Sunday typically operate at a frequency of around one train per hour.

3.7.7 Trains are frequently available to Doncaster, with three trains departing from Retford at peak times between 0700 and 0900 hrs, Monday to Friday. Outside of peak times, one train is available every one to two hours. On average, trains to Doncaster typically take around 15 minutes.

3.7.8 In addition to these regular train services, two direct trains are available to Hull during the week, and three direct trains are available to Hull during the weekends, taking approximately 1 hour

and 10 minutes. One direct train is available to Beverley, taking approximately 1 hour and 40 minutes, Monday to Saturday and one direct train to Bradford, taking approximately 1 hour and 25 minutes.

3.7.9 Travel by train provides a genuine alternative to the private car and should therefore assist in encouraging modal shift away from the private car. The journey time to the station is similar when cycling or driving or driving by car due to the longer distance when travelling by car. Walking time to the train station is approximately 20 minutes, which should encourage walking and cycling between the site and the station. Furthermore, there are 38 sheltered bicycle parking spaces at Retford Train Station, providing the opportunity for staff and visitors to cycle to and from the station.

3.7.10 Additionally, bus stops located directly adjacent to the station on Victoria Road are served by the Sherwood Arrow service, which also stops at the nearest bus stops to the site boundary.

3.7.11 Using sustainable means of transport in this way is therefore an attractive and viable option between the site and the Train Station.

3.8 HIGHWAY NETWORK

To/from Retford Town Centre

3.8.1 The two most likely routes for vehicles to travel between the site and Retford town centre are via Ordsall Road/Babworth Road or Goosemoor Lane/Whitehouses Lane/London Road.

3.8.2 Ordsall Road, which is a continuation of Ollerton Road is a single carriageway subject to a 30mph speed limit. It is a typical distributor road with footways adjacent to both sides of the carriageway and is street lit. Babworth Road is aligned in an east to west direction and provides a route to the A1 in the west and the town centre in the east. It joins Ordsall Road at a mini-roundabout. Babworth Road is a single carriageway subject to a 40mph speed limit in the vicinity of Ordsall Road. To the east, the speed limit changes to 30mph and to the west, the speed limit changes to 50mph. Babworth Road has a footway adjacent to one side of the carriageway and is street lit. Bus routes operate along Ordsall Road and Babworth Road.

3.8.3 Goosemoor Lane/Whitehouses Road is aligned in an east to west direction and provides a link between Ollerton Road and London Road. It is a single carriageway subject to a 30mph speed limit. Street lighting is provided. Footways are typically provided adjacent to both sides of the carriageway, although a section of Goosemoor Lane has a footway adjacent to one side only. London Road is aligned in a north to south direction and provides a route between the A1 in the south (Markham Moor) and Retford town centre in the north. Near Whitehouses Road, London Road is subject to a 40mph speed limit. To the south, the speed limit changes to 50mph and to the north, the speed limit changes to 30mph.

3.8.4 The highway network around the town centre includes several signal-controlled junctions which are known to experience congestion during peak periods.

To/from the Markham Moor Junction

3.8.5 The Markham Moor junction on the A1 is likely to be used by vehicles travelling to/from the A1 (south) and for trips to/from Lincoln via the A57. It will also facilitate local trips to villages south of Markham Moor. The Markham Moor junction is a recently improved dumbbell layout.

3.8.6 Trips from the site would use London Road to access the Markham Moor junction. Some vehicles may use Goosemoor Lane/Whitehouses Road to travel to/from London Road. However, it is also likely that vehicles will use Main Road through the centre of Eaton village. Main Road is a single carriageway with limited footway provision and limited street lighting. Main Road is also narrow in places with reduced visibility. Furthermore, the existing bridge over the River Idle is only wide enough for one-way vehicular traffic.

To/from the A1 (north)

3.8.7 Vehicles are likely to access the A1 at its junction with the A620 Retford Road via Ordsall Road and Babworth Road. The junction with the A1 includes slip roads which facilitate all movements.

To/from Worksop

3.8.8 The most likely route for vehicles travelling to/from Worksop is via Brick Yard Lane, the A1(T) and the A57.

3.9 BACKGROUND TRAFFIC FLOWS

3.9.1 Due to the ongoing Covid-19 situation it has not been possible to undertake any new traffic surveys as the data would not be representative of typical conditions.

3.9.2 A review of available traffic survey data (highway link counts and junction survey counts) has therefore been undertaken for the local highway network surrounding the site. The following peak period classified turning counts have been obtained and used in this TA:

- A1/B6420 Mansfield Road/A614 Blyth Road/A57 (western roundabout) – Tue 16th July 2019
- A620 Babworth Rd/B6420 Mansfield Rd/A620 Straight Mile – Tue 13th December 2011
- A620 Amcott Way/A620 Moorgate/A638 Arlington Way – Mon 12th March 2018
- A638 Arlington Way/Spital Hill/Chapelgate – Mon 12th March 2018
- A638 Arlington Way/Grove Street – Mon 12th March 2018
- A638 Arlington Way/A638 London Road/Carolgate – Mon 12th March 2018
- High Street / Goosemoor Lane – Tue 4th December 2018

3.9.3 In total, there are 19 off-site junctions within the TA study area. As outlined above, traffic count data is only available for seven of these junctions, no data is available at the remaining 12 off-site junctions.

3.10 COLLISION ANALYSIS

3.10.1 Personal Injury Collision (PIC) data has been obtained from NCC for the most recently available five-year period between 1st January 2015 and 30th September 2020. The Study Area comprises of Ollerton Road/Ordsall Road between its junctions with the A620 Babworth Road to the north of the site and Main Road (west of Eaton) to the south of the site. The study area also includes High Street and Goosemoor Lane.

3.10.2 Collision data is presented in **Appendix C** and **Table 6** below summarises the recorded PICs. A plot of collision locations and severity is included as **Figure 6**.

Table 6 – Personal Injury Collision Data January 2015 to September 2020

Year	Severity			Total
	Slight	Serious	Fatal	
2015	3	1	0	4
2016	1	0	0	1
2017	3	2	0	5
2018	4	1	0	5
2019	0	2	0	2
2020	1	0	1	2
Totals	12	6	1	19

3.10.3 In total, there were nineteen collisions that occurred within the study area and of these collisions, 12 were classified as slight in severity, six were classified as serious in severity and one was classified as fatal in severity. No recorded collisions involved cyclists. However, a total of four collisions involved pedestrians.

3.10.4 A total of four collisions occurred at the Babworth Road/Ordsall Road mini-roundabout junction, with three of these classified as slight in severity and one classified as serious in severity. All of these collisions involved vehicles only and involved vehicles performing conflicting movements at the mini roundabout junction.

3.10.5 A total of four collisions involving pedestrians occurred within the study area, three of which occurred along Ordsall Road and West Hill Road. Only one of these incidents involving pedestrians was classified as serious in severity and involved a car colliding with a child outside Ordsall Primary School. The remaining two collisions were classified as slight in severity, one of which involved a car colliding with a young pedestrian after daylight hours, whilst the other involved a goods vehicle colliding with a pedestrian.

3.10.6 Five further collisions involving vehicles only occurred along Ordsall Road and West Hill Road. Four of these incidents were classified as slight in severity, three of which involved cars performing conflicting movements at junctions, whilst the remaining collision involved a standing passenger on a bus falling. The remaining one incident at was classified as serious in severity and involved two cars travelling in opposite directions colliding during hours of darkness.

3.10.7 Two incidents occurred at the Ollerton Road/West Hill Road junction. These incidents involved vehicles only, one of which was classified as slight in severity and involved a car turning right onto Ollerton Road (south) and colliding with a motorcycle travelling south on Ollerton Road in wet conditions. The remaining collision was classified as serious in severity and involved one vehicle turning left onto Ollerton Road (south) and colliding with a car travelling north on Ollerton Road.

3.10.8 One incident occurred along the National Speed Limit section of Ollerton Road at the Ollerton Road/Main Road junction and involved vehicles only. The incident was classified as slight in severity.

3.10.9 A total of four collisions occurred along Goosemoor Lane and Whitehouses Road, two of which occurred at the London Road/Whitehouses Road mini roundabout junction. Both incidents at the mini roundabout were classified as slight in severity and involved cars performing conflicting movements at the junction. The one fatality in the study area occurred on Goosemoor Lane/Whitehouses Road and involved a car turning right into Goosemoor Produce Farm Shop and colliding with a motorcycle. The final incident that occurred on Goosemoor Lane involved a car colliding with a pedestrian during the early hours of the morning and was classified as slight in severity.

3.10.10 The collisions that occurred throughout the study area do not suggest any spatial clustering or clear causational trends. No collisions occurred at or near to the Ollerton Road site frontage. It is therefore concluded that there are no existing road safety issues which are likely to be exacerbated by future development at the site.

4 DEVELOPMENT ASSUMPTIONS

4.1 INTRODUCTION

4.1.1 For the purpose of this TA, a development consisting of 800 dwellings at the Ordsall South site has been assumed.

4.2 SITE ACCESS STRATEGY

4.2.1 Ollerton Road bisects the site and is the only existing adopted highway from which vehicular access could be provided. For the purposes of this study it has been assumed that the site would be accessed from two new roundabouts onto Ollerton Road with land to the east and west of Ollerton Road accessed from separate arms onto the roundabouts. Land to the west would be accessed from both roundabouts and land to the east would be accessed from one roundabout. A concept layout depicting a possible site access strategy is provided in **Appendix D**. Each roundabout has the following characteristics:

- 40m inscribed circle diameter (ICD).
- One lane entries on each approach arm.
- 7.3m width carriageway on both site access arms.
- 3m wide shared footway/cycleway to the north of the site on Ollerton Road, adjacent to each site access arm and between both roundabouts.

4.2.2 The concept layout does not impact on any existing public rights of way (PROW).

4.3 INTERNAL SITE LAYOUT

4.3.1 The internal layout of the site will need to be designed to provide a road network in which pedestrian and cyclist movements are prioritised. The road network should allow for future bus access into the site as set out in **Chapter 5**. The internal layout of the site should have a 20mph speed limit throughout.

4.3.2 The opportunity should be taken to maximise connectivity for pedestrians and cyclists with adjoining areas. Wherever possible, it is recommended that the alignment of any existing PROW remains as per existing.

4.4 SERVICE AND EMERGENCY VEHICLES

4.4.1 Service and emergency vehicles will gain access to the development via the same route as other vehicular traffic.

4.5 PEOPLE WITH DISABILITIES AND OTHER MOBILITY IMPAIRMENTS

4.5.1 The detailed design of the development and its internal transport infrastructure will be undertaken in accordance with the requirements of the 2010 Equality Act and in accordance with current good practice as embodied within the DfT's 'Inclusive Mobility' document.

4.5.2 This approach will ensure that the completed development is fully inclusive and meets the needs of all users, including those with disabilities or temporary mobility impairments.

4.5.3 The requirement to design for disabled people will permeate all aspects of the design process and will include access to and movement within the site, but also the interface between the development and the surrounding highway network and in particular, the pedestrian routes and public transport facilities.

5 OPPORTUNITIES TO IMPROVE SUSTAINABLE TRANSPORT INFRASTRUCTURE

5.1 WALKING AND CYCLING

5.1.1 As outlined in **Chapter 3**, southern parts of Retford are within reasonable walking distance of the site and all of Retford is within reasonable cycling distance.

5.1.2 The 'Grey to Green Retford Walking and Cycling Audit' prepared by Tetra Tech in December 2020 identified a series of recommendations and priorities for improving walking and cycling in Retford. There would be the opportunity for development of the Ordsall site to contribute towards delivery of some of these recommendations and priorities.

5.1.3 As a minimum, development at the site should provide connections with existing infrastructure adjoining and near to the site.

5.1.4 Pedestrian infrastructure is already of a reasonable standard but there may be locations for example, where improved crossing facilities could be provided, or a footway could be widened. As any development proposals are worked up, consideration should be given to likely pedestrian desire lines and this should inform improvements to pedestrian infrastructure. This should focus on routes to key trip attractors such as schools, shops and the train station.

5.1.5 Improvements to cycle infrastructure should focus on routes to Retford town centre and Retford Train Station. There could be an opportunity for some of the priority links identified in the 'Grey to Green Retford Walking and Cycling Audit' to be improved as part of development at the site, particularly the Babworth Road and London Road corridors.

5.1.6 The opportunity to contribute to or safeguard a new strategic walking or cycling route should also be taken e.g. any proposals for a walking/cycling corridor between Retford and Worksop; and/or improved links to Retford Train Station.

5.2 BUS SERVICES

5.2.1 Whilst existing bus stops are located within the recommended 400m of the site boundary, large parts of the site are further than 400m from an existing bus stop. In addition, existing bus services stopping at the nearest bus stops to the site are not high frequency services.

5.2.2 The site layout should be designed in a manner that allows bus access into the site. As a minimum, bus services should access the western parcel of the site. Subject to discussions with NCC and local bus operators, if bus stops are provided on Ollerton Road near the site access, the need for buses to access the eastern parcel of the site could be removed.

5.2.3 To future proof the site, the western and eastern parcels should both be designed to allow future bus access. The western parcel of the site should include a loop road arrangement to allow bus penetration into the site. A development of 800 dwellings should be of a suitable scale to enable developer funding of a new or extended bus service. To encourage modal shift from single occupancy car to bus, it is likely that a 30-minute frequency service would be required. It is typically the case that developers would fund a bus service for five years. After five years the idea is that the service would be sustainable without the need for financial support. This would need to be explored in further detail. The risk is that if the service is not sustainable and additional support is not available, the bus service would cease to operate or would operate a reduced timetable.

5.2.4 As a guide, the cost to operate one single deck bus for one year is circa £120k - £140k excluding any revenue generated from ticket sales.

5.3 TRAIN SERVICES

5.3.1 The site benefits from its proximity to Retford Train Station and as set out in this chapter, efforts should be made to maximise connectivity with the train station. Travel by train provides a genuine opportunity for future residents to undertake longer journeys by train rather than single occupancy car. As noted earlier in this report, the condition of the underpass beneath the railway line between Station Road and Tunnel Road may discourage people from using this route. Development of the site may provide an opportunity to improve the condition of the underpass.

6 FUTURE TRAFFIC FLOWS

6.1 FORECAST GROWTH

6.1.1 Traffic growth factors for a 2021 and 2031 future design year have been derived using TEMPro software, for the 'Bassetlaw 010' Middle Super Output Area (MSOA). The TEMPro outputs are presented in **Appendix E** and the resulting growth factors are shown below.

- 2011 to 2021 AM = 1.136
- 2011 to 2021 PM = 1.132
- 2018 to 2021 AM = 1.048
- 2018 to 2021 PM = 1.045
- 2019 to 2021 AM = 1.033
- 2019 to 2021 PM = 1.031
- 2021 to 2031 AM = 1.111
- 2021 to 2031 PM = 1.111

6.1.2 It should be noted that there is considerable uncertainty regarding future traffic flows in the years ahead and whether traffic will return to pre-Covid levels. It is widely accepted that there will be an increase in home working and therefore less commuter travel in typical rush hour periods. The Department for Transport has not issued revised growth forecasts, but the increases indicated in TEMPro for the period to 2031 are perhaps higher than may ultimately prove to be the case. Nevertheless, this TA uses TEMPro growth forecasts and therefore presents a robust assessment of future background traffic levels.

6.2 COMMITTED DEVELOPMENTS

6.2.1 Committed schemes are defined as developments or transport schemes which have current planning consent, but which are unimplemented or incomplete, and could in the future have a significant impact on transport conditions or the layout of the local highway network. NCC has confirmed that the following committed development should be included in this TA:

- Application 14/00503/OUT - Outline Application for the Erection of up to 175 Dwellings Including Public Open Space, Attenuation Drainage Basin and Associated Works.
- Application 15/00493/OUT - Outline Planning Application for a Mixed Use Development of up to 196 dwellings and 11.11ha of Employment Land with All Matters Reserved Except Access

- Application 16/00015/FUL - Hybrid Planning Application, comprising: A) Full Application for New Manufacturing Building (Class B2) and Two Storey Offices (B1), with Associated Parking and Refurbishment and Change of Use to Class A1/A3/B1 or D1 Use for Former Northern Rubber Tower Building. B) Outline Application for the Erection of A Convenience Supermarket (A1), Freestanding Hot Food Restaurant or Take Away (A3/A5) and A Single Storey Building for Non Food Retail and Leisure Use (A1/D2) With Associated Access, Car Park, and Service Infrastructure.

- Application 16/01777/FUL – Demolition of Nursery Buildings and Erection of 113 Dwellings together with Access to London Road and Creation of Public Open Space.

- Application 18/00695/FUL – Erect 109 Dwellings and Construct New Access Including Provision of Public Open Space and Surface Water Balancing Pond.

6.2.2 The TAs for the above developments have been reviewed and the development traffic flows have been obtained. Committed development trips have been added to the background traffic flows in this TA. Committed development flows are presented in **Appendix F**.

6.3 OTHER POSSIBLE DEVELOPMENT SITES

6.3.1 As requested by BDC, development trips from the other six housing allocation sites in the Draft Local Plan (i.e. in addition to Ordsall South) have also been taken into consideration in this TA. The following housing allocations have been considered:

- HS7 Trinity Farm, Retford – 244 dwellings
- HS8 Milnercroft, Retford – 5 dwellings
- HS9 Former Elizabethan School, Retford – 46 dwellings
- HS10 St. Michael's View, Hallcroft Road, Retford – 20 dwellings
- HS11 Fairy Grove, Grove Road, Retford – 61 dwellings
- HS12 Station Road, Retford – 5 dwellings

6.3.2 Development trip generation has been calculated and trips have been distributed onto the existing highway network. The approach taken for trip generation and distribution is the same as the approach taken for the Ordsall site. This is explained in **Chapters 7** and **8**. Traffic flows from these sites are presented in **Appendix G**.

6.3.3 This TA includes assessments 'with' and 'without' trips associated with the other possible development sites taken into consideration. No additional sites other than those identified in this Chapter have been taken into consideration.

7 TRIP GENERATION

7.1 TRIP GENERATION

7.1.1 Development trip generation has been calculated using the TRICS database. The category 'Residential – Houses Privately Owned' was searched for sites in England, Scotland and Wales, excluding Greater London. The data was obtained for the highway peak periods of 0800-0900 hrs and 1700-1800hrs. As requested by NCC, sites listed as 'mixed housing' or 'flats' were removed from the selection.

7.1.2 The full TRICS output is presented in **Appendix H** and the resultant trip rates are summarised in **Table 7** as follows. The same trip rates have been used to calculate trip generation of all Local Plan allocation sites identified in **Section 6.3**.

Table 7 - Residential Trip Rates by Mode (Houses Privately Owned)

Mode	AM (08:00-09:00)			PM (17:00-18:00)		
	Arrivals	Departures	Total	Arrivals	Departures	Total
Vehicles	0.125	0.366	0.491	0.286	0.146	0.432
Taxis	0.004	0.004	0.008	0.002	0.002	0.004
OGVs	0.002	0.002	0.004	0.000	0.000	0.000
PSVs	0.001	0.001	0.002	0.000	0.000	0.000
Cyclists	0.005	0.013	0.018	0.010	0.006	0.016
Vehicle Occupants	0.150	0.576	0.726	0.419	0.200	0.619
Pedestrians	0.049	0.122	0.171	0.062	0.034	0.096
Public Transport Users	0.001	0.026	0.027	0.012	0.005	0.017
Total People	0.206	0.737	0.943	0.503	0.245	0.748

7.1.3 Using the trip rates presented in **Table 7** the resultant development trip generation of all allocation sites is shown in the following tables.

Table 8 - Residential Trip Generation by Mode (allocation HS13 - 800 Dwellings)

Mode	AM (08:00-09:00)			PM (17:00-18:00)		
	Arrivals	Departures	Total	Arrivals	Departures	Total
Vehicles	100	293	393	229	117	346
Taxis	3	3	6	0	0	0
OGVs	2	2	3	0	0	0
PSVs	1	1	2	0	0	0
Cyclists	4	10	14	8	5	13
Vehicle Occupants	120	461	581	335	160	495
Pedestrians	39	98	137	50	27	77
Public Transport Users	1	21	22	10	4	14
Total People	165	590	754	402	196	598

Table 9 - Residential Trip Generation by Mode (Allocation HS7 - 244 Dwellings)

Mode	AM (08:00-09:00)			PM (17:00-18:00)		
	Arrivals	Departures	Total	Arrivals	Departures	Total
Vehicles	31	89	120	70	36	105
Taxis	1	1	2	0	0	1
OGVs	0	0	1	0	0	0
PSVs	0	0	0	0	0	0
Cyclists	1	3	4	2	1	4
Vehicle Occupants	37	141	177	102	49	151
Pedestrians	12	30	42	15	8	23
Public Transport Users	0	6	7	3	1	4
Total People	50	180	230	123	60	183
PCUs	31	90	121	70	36	105

Table 10 - Residential Trip Generation by Mode (Allocation HS8 - 5 Dwellings)

Mode	AM (08:00-09:00)			PM (17:00-18:00)		
	Arrivals	Departures	Total	Arrivals	Departures	Total
Vehicles	1	2	2	1	1	2
Taxis	0	0	0	0	0	0
OGVs	0	0	0	0	0	0
PSVs	0	0	0	0	0	0
Cyclists	0	0	0	0	0	0
Vehicle Occupants	1	3	4	2	1	3
Pedestrians	0	1	1	0	0	0
Public Transport Users	0	0	0	0	0	0
Total People	1	4	5	3	1	4
PCUs	1	2	2	1	1	2

Table 11 - Residential Trip Generation by Mode (Allocation HS9 - 46 Dwellings)

Mode	AM (08:00-09:00)			PM (17:00-18:00)		
	Arrivals	Departures	Total	Arrivals	Departures	Total
Vehicles	6	0	0	0	0	0
Taxis	0	0	0	0	0	0
OGVs	0	0	0	0	0	0
PSVs	0	0	0	0	0	0
Cyclists	0	0	0	0	0	0
Vehicle Occupants	0	0	0	0	0	0
Pedestrians	0	0	0	0	0	0
Public Transport Users	0	0	0	0	0	0
Total People	0	0	0	0	0	0
PCUs	6	0	0	0	0	0

Table 12 - Residential Trip Generation by Mode (Allocation HS10 - 20 Dwellings)

Mode	AM (08:00-09:00)			PM (17:00-18:00)		
	Arrivals	Departures	Total	Arrivals	Departures	Total
Vehicles	3	7	10	6	3	9
Taxis	0	0	0	0	0	0
OGVs	0	0	0	0	0	0
PSVs	0	0	0	0	0	0
Cyclists	0	0	0	0	0	0
Vehicle Occupants	3	12	15	8	4	12
Pedestrians	1	2	3	1	1	2
Public Transport Users	0	1	1	0	0	0
Total People	4	15	19	10	5	15
PCUs	3	7	10	6	3	9

Table 13 - Residential Trip Generation by Mode (Allocation HS11 - 61 Dwellings)

Mode	AM (08:00-09:00)			PM (17:00-18:00)		
	Arrivals	Departures	Total	Arrivals	Departures	Total
Vehicles	8	22	30	17	9	26
Taxis	0	0	0	0	0	0
OGVs	0	0	0	0	0	0
PSVs	0	0	0	0	0	0
Cyclists	0	1	1	1	0	1
Vehicle Occupants	9	35	44	26	12	38
Pedestrians	3	7	10	4	2	6
Public Transport Users	0	2	2	1	0	1
Total People	13	45	58	31	15	46
PCUs	8	22	30	17	9	26

Table 14 - Residential Trip Generation by Mode (Allocation HS12 - 5 Dwellings)

Mode	AM (08:00-09:00)			PM (17:00-18:00)		
	Arrivals	Departures	Total	Arrivals	Departures	Total
Vehicles	1	2	2	1	1	2
Taxis	0	0	0	0	0	0
OGVs	0	0	0	0	0	0
PSVs	0	0	0	0	0	0
Cyclists	0	0	0	0	0	0
Vehicle Occupants	1	3	4	2	1	3
Pedestrians	0	1	1	0	0	0
Public Transport Users	0	0	0	0	0	0
Total People	1	4	5	3	1	4
PCUs	1	2	2	1	1	2

8 TRIP DISTRIBUTION

8.1 TRIP DISTRIBUTION

8.1.1 The external vehicle trip generation summarised in **Table 8** has been distributed onto the local highway network based upon 2011 Journey to Work (JTW) data for Bassetlaw 010 middle super output area (MSOA). Using GIS and HERE road data, the trips identified within the JTW data were routed to their corresponding origin/destination MSOAs using the Ollerton Road site frontage as the origin point for Bassetlaw 010 MSOA.

8.1.2 Trips that remain within the Bassetlaw 010 MSOA within the 2011 census data are assumed to travel to/from a point on Ollerton Road north of the Ollerton Road/West Hill Road but south of Babworth Road.

8.1.3 The road network used in this assessment covers the Bassetlaw district. Within the network area there are zones that match the MSOA boundaries, the connection of these zones to the network (model connectors), where trips enter and leave the network for the purposes of assignment, is taken to be a point in the largest urban centre within the MSOA. Trips that do not originate or terminate at an MSOA within the network area are allocated an 'exit' zone of the network on the link that they would exit the network along. The distribution percentage for all MSOAs that would use each exit zone is aggregated together to provide a distribution percentage for that zone.

8.1.4 Development trips have been distributed as follows:

- A1 (north) – 11%
- Retford Road (to/from Worksop) – 7%
- A57 (to/from Worksop) – 5%
- Blyth Road – 8%
- Dover Bottom – 2%
- A57 (to/from Lincoln) – 2%
- A1 (south) and Great North Road – 21%
- Carolgate (to/from Retford town centre) – 11%
- Chapel Gate (to/from Retford town centre) – 4%
- Moorgate (east of Retford) – 5%
- Hallcroft Road – 9%
- Sutton Lane - 11%
- Whiney Moor Lane - 4%

8.2 TRIP ASSIGNMENT

8.2.1 VISUM software was used to assign the generated development trips onto the network. The development trips were compiled into a matrix based upon the distribution percentages to each

zone from the JTW MSOA analysis. The trips were assigned to the network using an 'all or nothing' assignment, with trips taking the shortest route based upon journey time. There is no trip reassignment or congestion included within the model.

8.2.2 The link speeds within VISUM were based upon the mandatory speed limits which were adjusted where required to reflect observed driver behaviour. The routing generated within the model was compared to suggested routings from Google's mapping engine that considers historic average traveling speeds on links based on congestion and the quality of the link. This indicated that in some cases rural national speed limit (60mph) links were being selected by VISUM, when in practice the actual speed of travel would be lower and an alternative route may provide a quicker journey as it would be possible to travel faster albeit with a lower mandatory speed limit. Therefore, link speeds were adjusted on some links to force routing to match the routes observed in Google Maps.

8.2.3 In addition, specific consideration has been given to the route between the site and the Markham Moor junction. The VISUM model initially distributed all trips between the site and the Markham Moor junction (except A1 (north) trips) via Main Road through Eaton village. Whilst Main Road is subject to the National Speed Limit, some sections are narrow, and visibility is reduced in places. As such, the journey time along Main Road can be slower than for other routes which could make it less attractive than some alternative route options **Table 15** indicates the distance and journey time between the site and the Markham Moor junction using different route options.

Table 15 - Distance and Journey Time to Markham Moor Junction

Route	Distance	Journey Time
Via Main Road (Eaton)	6.9km	7 minutes
Via High Street and Goosemoor Lane	8.2km	8 minutes
Via Brick Yard Lane	8.9km	8 minutes

8.2.4 Driver choice will vary between individual but on balance, for the purpose of this TA, trips to/from the Markham Moor junction have been split equally between the three route options in **Table 15**.

8.2.5 For the purpose of this TA, it is assumed that 75% of development trips would be to/from the western parcel of the site and 25% would be to/from the eastern parcel of the site.

8.2.6 The resultant AM/PM peak period development trip distribution on the highway network near the site is shown in **Appendix I**. Distribution plots from the VISUM model are also in **Appendix I** and extracts for Retford are shown in the following images.

VISUM Trip Distribution in Retford – AM Peak

VISUM Trip Distribution in Retford – PM Peak

9 HIGHWAY IMPACTS

9.1 IMPACTS

9.1.1 The estimated two-way development traffic impacts on key local links is shown in **Table 16** below.

Table 16 - Two-Way Development Traffic Impacts on Links

Road Link	Development Flows	
	AM Peak	PM Peak
Babworth Road (west of Ordsall Road)	166	145
Babworth Road (east of Ordsall Road)	55	48
A1 (north)	43	38
A1 (south)	46	32
A620 Amcott Way	20	17
A620 Moorgate	20	17
A638 Arlington Way	16	14
A638 London Road	79	69
A638 (south of Main Road)	71	59
Main Road	37	31
Goosemoor Lane	110	96
Brick Yard Lane	30	26
A57 (east)	8	7
A57 (west)	20	17
Great North Road	14	32

9.1.2 **Table 17** on the next page shows the increase in vehicle trips at each study area junction. Full calculations are presented in **Appendix I**.

Table 17 - Two-Way Development Traffic Impacts at Junctions

Ref	Junction	Development Flows		Test
		AM Peak	PM Peak	
1A	A1 / B6079 Retford Road	60	37	*
1B	A1 / A620 Retford Road	71	62	*
2A	Apleyhead Interchange (A57 /Blyth Road / A1)	51	45	*
2B	A1 / B6420 Mansfield Road / A614 Blyth Road / A57	51	45	*
3	Elkesley Bridge Road / A1 Worksop Road	30	26	*
3A	A1 / Elkesley Bridge Road	23	9	
3B	Jockey Lane / Eskil Way	30	26	*
4A	A1 / B6387 Dover Bottom (North)	8	7	
4B	A1 / B6387 Dover Bottom (South)	8	7	
5A	Markham Moor Interchange (A638 / A57 Cliff gate / A57 / A1)	61	53	*
5B	A1 Markham Moor (A1 / Great N Road / Main Street / A57)	21	48	*
6	A620 Babworth Road / B6420 Mansfield Road / A620 Straight Mile / Sutton Lane	166	145	*
7	A620 Babworth Road / Ordsall Road	222	194	*
8	A620 Amcott Way / Bridlegate / A620 Hospital Road / A638 North Road / Hallcroft Road	55	48	*
9	A620 Amcott Way / A620 Moorgate / A638 Arlington Way	20	17	
10	A638 Arlington Way / Spital Hill / Chapelgate	16	14	
11	A638 Arlington Way / Grove Street	12	5	
12	A638 Arlington Way / A638 London Road / Carolgate	59	52	*
13	Ollerton Road / W Hill Road	331	289	*
14	London Road / Whitehouses Road	130	96	*
15	London Road / Whinney Moor Lane / Bracken Lane	75	66	*
16	All Hallows Street / High Street / Goosemoor Lane	110	96	*
17	Site Access / Ollerton Road	396	331	
18	Ollerton Road / Brick Yard Road	65	56	*
19	A638 / Main Road	68	58	*
20	A638 / B6387 Rectory Lane	72	61	*

Note: Highlighted junctions are discussed further in Chapter 11.

9.1.3 NCC has indicated that capacity assessments should be undertaken at locations where an increase of 30 or more trips is forecast in the AM or PM peak hour. Based on the highway impacts in **Table 17**, capacity assessments would be required at the 19 off-site junctions indicated with red asterisks for a development comprising of 800 dwellings at Ordsall South.

9.1.4 The number of junctions where an increase of 30 or more trips is forecast in the AM or PM peak hour is significant (19). Only six study area junctions are shown to have an increase of less than 30 trips. It is worth noting that three of the junctions with an increase of less than 30 trips in the AM or PM peak hours are three of the busier junctions around Retford town centre. Based on NCC advice and subject to their approval of the approach in this TA, this should remove the need for capacity assessments at these locations and as such, the potential need for mitigation at these locations. The three junctions are:

- A620 Amcott Way/A620 Moorgate/A638 Arlington Way
- A638 Arlington Way/Spital Hill/Chapelgate
- A638 Arlington Way/Grove Street

9.1.5 For any junctions shown to operate above capacity following the addition of development traffic, NCC may require mitigation. Any mitigation will need to be directly related to the proposed development and must be proportionate to the scale of impact.

9.1.6 At locations where highway capacity is exceeded, it is usually the case that junction capacity is the issue rather than link capacity. Nevertheless, the capacity of Main Road through Eaton village is worth specific consideration in this instance as it was identified by NCC as a potential constraint during preliminary discussions. Trip distribution calculations show an increase of 37 and 31 PCUs during the AM and PM peak hours respectively. Main Road is therefore likely to require further consideration as part of any planning application. This is discussed further in **Chapter 11**.

9.2 EFFECTS OF THE SCALE OF DEVELOPMENT

9.2.1 Ordsall South is providing a minimum of 800 new dwellings over the Plan period. However, there is the potential for additional growth to support infrastructure, housing need and support the viability of the development. Any uplift to housing provision will be agreed between the landowner/ agent and the Council. Any uplift must not have a detrimental impact on infrastructure capacity.

9.2.2 For the purposes of this study a development comprising 800 dwellings at Ordsall South has been assumed. However, it should be noted that a smaller development would result in correspondingly smaller off-site traffic impacts on the local highway network. A reduced development would therefore reduce off-site traffic impacts proportionately. In simple terms, if the number of dwellings was reduced by 50%, off-site highway impacts would reduce by 50%.

9.2.3 To understand the scale of development that would result in fewer junctions with an increase of 30 or more trips in the peak hours a simple analysis has been undertaken that applies a pro-rata reduction to the flows presented in **Table 17**. The results of this analysis demonstrate that the

scale of development would need to be significantly reduced before off-site junction impacts would be meaningfully reduced. This is summarised in **Table 18**.

Table 18 – Effects of Scale of Development on Off-Site Junctions

Dwellings	Number of off-site Junctions Requiring Assessment
800	19
700	17
600	17
500	17
400	12
300	5

9.2.4 This is a very simplistic test, but it demonstrates that the scale of the development would need to be significantly reduced to achieve a meaningful reduction in the number of off-site junctions requiring detailed assessment.

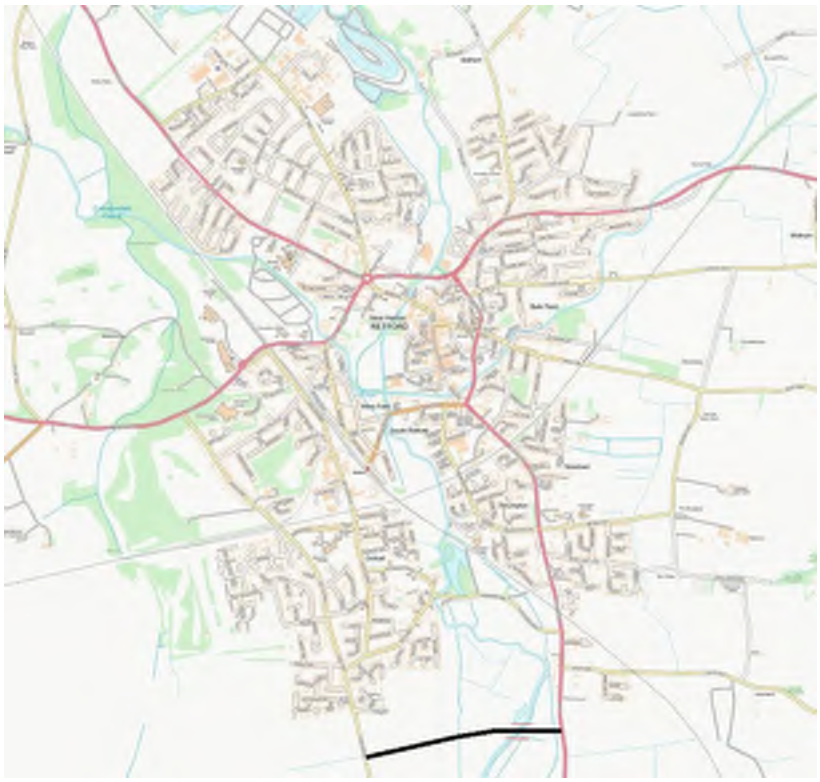
9.2.5 However, it should be noted that just because a junction is forecast to have an increase in trips greater than 30 PCUs in the AM or PM peak hour does not necessarily mean that physical mitigation in the form of highway improvements will be required. There may be 'spare' traffic capacity available at some junctions that can accommodate development trips without improvement. Alternatively, providing enhanced walking, cycling and public transport connections will also help to reduce development traffic impacts at off-site junctions.

9.2.6 Similarly, a larger number of dwellings would increase off-site highway impacts, but a significantly larger development could potentially enable more comprehensive mitigation measures to be funded. Any additional mitigation cannot be determined without knowing the amount of uplift to the 800 dwellings assumed in this report.

9.2.7 A previous suggestion from residents in the Ordsall area is for the provision of a new link road between Ollerton Road and the A638. The logic behind this suggestion is that a new link road would help to relieve existing pressure on Goosemoor Lane and its junctions onto High Street at its western end and London road at its eastern end. A new link road would also allow development traffic to easily access the A638 London Road without having to use Main Road through Eaton Village, which is unsuitable for any significant increase in use due to its alignment, width and character through the village.

9.2.8 An indicative location and alignment for the suggested new link road is shown in the image on the following page.

Indicative Link Road between Ollerton Road and the A638



9.2.9 A very high-level appraisal has been undertaken which has identified that delivering a new link road at this location would not be straight forward because the road would be crossing flood plain and a new bridge would be required over the River Idle. To avoid potential flooding issues the road would probably need to be constructed as an elevated carriageway, which would have implications for cost, flood risk and environmental impacts. Further detailed appraisal would therefore be required to investigate its feasibility.

9.2.10 Based on a very high-level appraisal the anticipated cost to provide a new link road at this location could be in the order of £10m considering the length of the link road (circa 1.15km) and the constraints mentioned above. This order of cost would be difficult for a developer to fund entirely and would probably require a combination of a significantly larger scale of development (potentially a few thousand dwellings) together with external funding assistance.

9.2.11 Providing a new link road is therefore likely to prove technically very challenging and prohibitively expensive. Based on the scale of development assessed in this TA, provision of a link road would not satisfy the requirements of item 122(2) of The Community Infrastructure Levy Regulations 2010 which requires planning obligations to be necessary to make the development acceptable in planning terms; directly related to the development; and fairly and reasonably related in scale and kind to the development.

9.2.12 A link road would also only help to address traffic impacts associated with development traffic wishing to access destinations to the south and east and would provide no relief for development trips to/from the north that would be passing through or around Retford. At some of these locations (e.g. in Retford town centre) it will be very difficult to deliver any meaningful mitigation in the form of increased junction capacity due to the physical space constraints that exist within the urban environment.

10 CAPACITY ASSESSMENTS

10.1 INTRODUCTION

10.1.1 Given the limited availability of traffic survey data, capacity assessments cannot be undertaken at all the 19 junctions identified in **Table 17**. Capacity assessments have therefore been undertaken at the three junctions where traffic survey data is available and off-site impacts of 30 PCUs or more are forecast in the AM or PM peak hours, namely:

2A - A1/B6420 Mansfield Road/A614 Blyth Road/A57 (western roundabout only)
12 - A638 Arlington Way/A638 London Road/Carolgate
16 - High Street / Goosemoor Lane

10.1.2 Capacity assessments have been undertaken for the following scenarios:

- 2021 base + committed developments
- 2031 base + committed developments
- 2031 base + committed developments + Ordsall development
- 2031 base + committed developments + Ordsall development + optional developments

10.1.3 The assessments have been undertaken using the Junctions 9 computer programme, which is the 'industry standard' traffic modelling computer software package used for assessing the capacity of priority junctions and roundabouts.

10.1.4 A Ratio of Flow to Capacity (RFC) value below 0.85 indicates that a junction operates 'within' capacity. An RFC value between 0.85 and 1.00 indicates that there may be occasions during the period modelled when queues will develop, and delays occur. An RFC value greater than 1.00 indicates that a junction operates 'above' capacity.

10.2 CAPACITY ASSESSMENT RESULTS

10.2.1 A summary of the capacity assessment results is presented in **Table 19** and **Table 20** on the next page and full outputs are presented in **Appendix J**.

Table 19 - Capacity Assessment Results

Junction	Arm	2021 Background + Committed				2031 Background + Committed			
		Morning Peak Hour		Evening Peak Hour		Morning Peak Hour		Morning Peak Hour	
		DoS / RFC	MMQ	DoS / RFC	MMQ	DoS / RFC	MMQ	DoS / RFC	MMQ
2A. A1/ B6420 Mansfield Road/A614 Blyth Road/A57 (western roundabout only)	A57	0.35	0.5	0.39	0.6	0.40	0.7	0.44	0.8
	B6420 Mansfield Road	0.45	0.8	0.45	0.8	0.50	1.0	0.50	1.0
	A1 NB Off Slip	0.31	0.5	0.33	0.5	0.36	0.6	0.38	0.6
	A614 Blyth Road	0.29	0.4	0.25	0.3	0.33	0.5	0.28	0.4
12. A638 Arlington Way/A638 London Road/Carolgate	Carolgate	26.5%	2.2	74.2%	8.7	30.2%	2.5	84.4%	12.2
	A368 Arlington Way	43.6%	5.9	55.1%	9.0	49.9%	7.2	64.6%	11.9
	A368 London Road	99.0%	28.0	86.4%	16.8	116.1 %	87.1	98.8%	29.4
	Albert Road	98.5%	13.5	87.3%	8.2	116.2 %	34.0	98.8%	13.6
	Practical Reserve Capacity	-10.0%		3.1%		-29.1%		-9.8%	
16. High Street / Goosemoor Lane	All Hallows Street	-	-	-	-	-	-	-	-
	Goosemoor Lane	0.58	1.4	0.66	1.9	0.66	1.9	0.74	2.7
	High Street	0.28	0.4	0.16	0.2	0.31	0.5	0.18	0.2

Table 20 - Capacity Assessment Results

Junction	Arm	2031 Background + Committed + Development				2031 Background + Committed + Development + Other Developments			
		Evening Peak Hour		Evening Peak Hour		Evening Peak Hour		Evening Peak Hour	
		DoS / RFC	MMQ	DoS / RFC	MMQ	DoS / RFC	MMQ	DoS / RFC	MMQ
2A. A1/ B6420 Mansfield Road/A614 Blyth Road/A57 (western roundabout only)	A57	0.40	0.7	0.46	0.8	0.41	0.7	0.46	0.8
	B6420 Mansfield Road	0.53	1.1	0.51	1.0	0.54	1.2	0.52	1.1
	A1 NB Off Slip	0.36	0.6	0.38	0.6	0.37	0.6	0.39	0.6
	A614 Blyth Road	0.34	0.5	0.30	0.4	0.34	0.5	0.30	0.4
12. A638 Arlington Way/A638 London Road/Carolgate	Carolgate	32.5%	2.8	89.6%	14.6	32.5%	2.8	89.6%	14.6
	A368 Arlington Way	50.3%	7.4	65.5%	12.3	53.7%	8.4	67.2%	13.0
	A368 London Road	120.4 %	105.1	100.5 %	33.3	119.9 %	105.6	103.1 %	42.4
	Albert Road	116.2 %	34.0	98.8%	13.6	122.6 %	41.0	104.9 %	18.6
	Practical Reserve Capacity	-33.7%		-11.6%		-36.2%		-16.5%	
16. High Street / Goosemoor Lane	All Hallows Street	-	-	-	-	-	-	-	-
	Goosemoor Lane	0.75	2.8	0.86	5.4	0.77	3.1	0.87	5.7
	High Street	0.48	0.9	0.24	0.3	0.48	0.9	0.24	0.3

10.2.2 As demonstrated by the capacity assessment results in **Table 19** and **Table 20**, the A1/B6420 Mansfield Road/A614 Blyth Road/A57 roundabout is shown to operate within capacity in all scenarios.

10.2.3 The A638 Arlington Way/A638 London Road/Carolgate junction is shown to operate at capacity in 2021. In each of the 2031 scenarios, the junction is shown to operate above capacity i.e. the junction is shown to operate above capacity prior to the introduction of Ordsall development traffic. Ordsall development traffic decreases PRC by 4.6% and 1.8% in the AM and PM peak hours respectively. The introduction of trips associated with the other possible development sites reduces PRC by a further 2.5% and 4.9% in the AM and PM peak hours respectively.

10.2.4 The All Hollows Street / High Street / Goosemoor Lane junction is shown to operate within capacity prior to the introduction of Ordsall development traffic. The introduction of Ordsall development traffic is such that the RFC value on Goosemoor Lane exceeds 0.85 in the PM peak in 2031 (RFC of 0.86). The junction operates within capacity in the AM peak. The introduction of development trips from the other possible development sites reduces the RFC value by a further small amount.

11 MITIGATION

11.1 INTRODUCTION

11.1.1 Due to the absence of traffic data at all but three off-site junctions where an increase of 30 or more PCUs is forecast in the AM or PM peak hour, it is not possible to identify preliminary mitigation schemes at specific locations. However, a high-level overview is provided in this Chapter based on the forecast increase in traffic flows, preliminary discussions with NCC and our experience and knowledge of the highway network in this area.

11.2 SUSTAINABLE TRAVEL INFRASTRUCTURE/MEASURES

11.2.1 Current best practice recommends that the transport implications of developments should be assessed having regard to:

- **Measures to encourage environmental sustainability** – i.e. reducing the need to travel, especially by car, providing sustainable transport information and choices and measures to assist in influencing travel behaviour.
- **Managing the existing network** – i.e. making best use of existing transport infrastructure, low cost improvements such as signal control systems and intelligent transport systems.
- **Mitigating residual impacts** – through demand management; improvements to public transport networks, walking and cycling infrastructure; and through minor physical improvements to existing roads.

11.2.2 In accordance with the NPPF all developments which generate significant amounts of movement will be required to provide a Travel Plan. As part of the travel planning process developers will be required to nominate a Travel Plan Coordinator and make financial contributions for the annual monitoring of travel plan performance against agreed targets for an agreed time period following occupation of the development. In addition, bond payments will also be sought to cover the provision of supplementary sustainable travel infrastructure/measures if agreed targets are not met.

11.2.3 The detailed content of the Travel Plan will be site specific and will need to be agreed with the highway and planning authorities at the planning application stage but in general terms will set out the process for monitoring future travel behavior, and the site-specific strategy and measures that will be introduced to influence modal choice with a view to reducing dependency upon the private car. The broad aims of Travel Plan reports being to:

- Encourage the use of alternative modes of transport to the private car and to better manage private car usage in order to reduce environmental impacts for all journeys associated with the proposed development.
- Include 'smarter choices' (e.g. car sharing, car clubs, teleworking, teleconferencing, home shopping, electric vehicle infrastructure etc.) to help change the way people travel.
- Deliver long-term commitments to changing travel habits by minimising the percentage of single occupancy car journeys associated with the proposal and maximising the proportion of trips made by public transport, by car share, on foot and by cycle.
- Identify and achieve the support of stakeholders for the Travel Plan and encourage a sustainable transport culture, which will develop and grow with time.
- To educate residents and employees regarding the health benefits of walking and cycling.
- To seek to reduce traffic generated by development to a lower level of car trips than would occur without the implementation of a Travel Plan.
- Promote healthy lifestyles and vibrant communities.

11.2.4 The site developer will be required to fund (via S106 Agreements) measures and/or infrastructure improvements required to mitigate the direct transport impacts of the development. This will include funding for items such as Smarter Choices measures and initiatives, Travel Plan, on and off-site cycling and walking infrastructure, bus network/infrastructure enhancements and new/enhanced bus services, where these can be demonstrated to be financially self-supporting in the long term.

11.3 BUS TRANSPORT

11.3.1 As discussed earlier in this report the existing bus services stopping close to the site are not high frequency services. Enhancements to these services, or the provision of new complimentary services should therefore be provided by the developer to ensure that residents on the completed development have sustainable travel choices available. The layout of the site should also be configured to allow bus penetration into the western parcel of land, as a minimum.

11.3.2 Consultation with existing bus service providers is recommended to test the commerciality of (and therefore reduce the subsidy required for) any potential service improvements.

11.3.3 Regarding timing it is essential to implement new and improved bus services and infrastructure very early in the life of a development, ideally before any units on the site are occupied, so that facilities are available and operational for new residents to use immediately. This is an important aspect of establishing good, sustainable travel behaviour and should be a conditional requirement of planning permissions for new development.

11.3.4 Detailed investigations should be undertaken at the planning application stage in order to identify the appropriate level of new/improved bus services and complementary infrastructure improvements required in order to cater for forecast demands and achieve modal split targets. Delivery of an appropriate package of improvements should be a conditional requirement of planning permission and should be implemented prior to development occupation in order to encourage good, sustainable travel behaviour.

11.3.5 Improvements to bus networks/infrastructure should therefore be timed to coincide with development to meet forecast demand.

11.3.6 The cost of providing additional bus resources will depend on the service specifics identified at the planning application stage and will be dependent upon the details of the bus contract specifications, numbers of vehicles required, routes, service frequencies and any new/improved infrastructure required.

11.3.7 However, as a general 'rule of thumb' a new bus service with a single vehicle costs in the order of £400 to £450 per day to operate, or approximately £120,000 to £140,000 per vehicle per annum for a 7-day service.

11.3.8 Improvements are funded to a specified level for specific time periods and are not therefore "open-ended" (usually secured via a Section 106 Agreement). It is typically the case that developers would fund a bus service for a minimum of five years. After five years the idea is that the service would be sustainable without the need for financial support. This would need to be explored in further detail. The risk is that if the service is not sustainable and additional support is not available, the bus service would cease to operate or would operate a reduced timetable.

11.3.9 Based on the assumption that a new service comprising two buses is required this would equate to a total cost of circa £1.4m for the service to be fully funded for a five year period, assuming no revenue generation from fares.

11.4 CYCLING AND WALKING INFRASTRUCTURE

11.4.1 The site developer will be required to deliver new and improved walking and cycling infrastructure to connect the development to neighbouring areas and facilitate safe travel by these modes. A detailed access strategy will need to be identified at the planning application stage. However, as a minimum this should provide for 3.0m wide shared cycle/footways along Ollerton Road to connect the site to Ordsall plus the new and improved pedestrian and cycle links as detailed in Policy ST29 (for Site HS13) of the November 2020 Draft Local Plan, which requires provision of the following:

- A marked cycle lane along Brecks Road. It should be noted that part of Brecks Road is a public footpath, meaning cycling is prohibited. Permissive cycling rights would be required from the landowner to allow cycling.

- Improvements to the existing public rights of way that cross the site and run along its boundaries.
- A marked cycle lane along Ollerton Road/West Hill Road and Ordsall Park Road to Ordsall Primary School, Retford Leisure Centre and Retford Oaks School via West Carr Road.
- Improvements to public realm in Ordsall Old Village and to Goosemoor Play Area and Sports Ground, including bike storage facility.

11.4.2 Cycle infrastructure improvements should be carried out in accordance with Department for Transport (DfT) Local Transport Note 1/20 'Cycle Infrastructure Design'.

11.4.3 Regarding timing it is important to implement this new/improved walking and cycling infrastructure very early in the life of the development, ideally before any units on the site are occupied, so that the facilities are available and operational for new residents to use immediately. This is an important aspect of establishing good, sustainable travel behaviour and should be a conditional requirement of planning permissions for new development.

11.4.4 Indicative construction costs for developing new cycling and walking facilities are in the region of:

- New footway/ cycleway – £150,000 to £300,000 per km particularly dependent upon the number and complexity of side road junctions
- New on carriageway cycle lane – £25,000 to £50,000 per km depending upon number of junctions/ signalised junctions, existing highway layout, on street parking constraints etc.
- Rural/ off carriageway route – £50,000 to £100,000 per km primarily dependent upon surfacing material required
- Controlled crossing (toucan) in urban area – £60,000 per site (likely to be higher if on higher speed road or requires Pegasus arrangement to cater for equestrian use also)
- New pair of dropped (uncontrolled) crossings – £2,500 per site.

11.5 MITIGATION OF RESIDUAL HIGHWAY IMPACTS

11.5.1 The site developer will also be required to deliver off-site highway infrastructure improvements to mitigate residual traffic impacts. Details of which will need to be determined at the planning application stage through the submission of a Transport Assessment produced in accordance with the NPPF. The developer will be required to assess the transport implication of the site and the cumulative implications of any other committed land-use development and transport schemes in the local area. Appropriate transport mitigation will need to be identified and agreed with the highway authority to address residual traffic impacts. Delivery of mitigation will be secured through the planning approval process.

11.6 MITIGATION OVERVIEW

11.6.1 Initially it should be noted that just because a junction is forecast to have an increase in trips greater than 30 PCUs in the AM or PM peak hour does not mean mitigation will automatically be required. If junction modelling shows a junction to operate above capacity following the addition of development trips, NCC highways is likely to seek mitigation. If a junction is shown to operate above capacity prior to the introduction of development trips, the developer will be required to mitigate the impact of the development but will not be required to fix existing problems i.e. mitigation should be determined on a 'nil-detriment' basis.

11.6.2 Based on the impacts summarised in **Table 17** on page 38 the junctions listed in **Table 21** below are considered to be those most likely to require mitigation in the form of highway improvements.

Table 21 – Junctions Most Likely to Require Highway Mitigation

Ref	Junction	Development Flows	
		AM Peak	PM Peak
6	A620 Babworth Road / B6420 Mansfield Road / A620 Straight Mile / Sutton Lane	166	145
7	A620 Babworth Road / Ordsall Road	222	194
8	A620 Amcott Way / Bridlegate / A620 Hospital Road / A638 North Road / Hallcroft Road	55	48
12	A638 Arlington Way / A638 London Road / Carolgate	59	52
13	Ollerton Road / W Hill Road	331	289
14	London Road / Whitehouses Road	130	96
19	A638 / Main Road	68	58

11.6.3 The list of junctions in **Table 21** is based on a combination of forecast traffic impacts, junction character and local knowledge of existing performance at these locations. It has not been possible to undertake detailed traffic capacity assessments at these locations (except junction 12) and the site developer will be required to assess this in detail at the planning application stage.

11.6.4 Initial thoughts on the scale and type of mitigation that is likely to be possible at each of these locations is discussed in the following paragraphs. It is worth reiterating that the developer will be required to mitigate the impact of the development on a 'nil-detriment' basis and may not necessarily deliver mitigation schemes in full.

11.7 A620 BABWORTH ROAD / B6420 MANSFIELD ROAD / A620 STRAIGHT MILE / SUTTON LANE

11.7.1 The layout of the existing junction is shown in the image on the following page.

(Map data © 2021 Google)

11.7.2 The junction currently operates as a staggered priority crossroad arrangement with right turn ghost islands provided on the A620. The junction also incorporates a private access to the north. General background traffic growth and the addition of Ordsall development along the A620 is likely to reduce the available gaps in traffic for vehicles approaching the junction from Mansfield Road and Sutton Lane. This could result in junction capacity being exceeded.

11.7.3 It is unlikely that any meaningful junction improvements could be delivered with the junction remaining in its current staggered priority crossroad arrangement. The most likely form of improvement would be either introducing traffic signal control or replacing the junction with a roundabout. Either of these options are likely to require additional land from adjacent third-party landowners and as such would probably therefore need to be delivered as part of an NCC led improvement scheme, whereby Compulsory Purchase Order powers could be used if necessary to acquire the additional land.

11.7.4 The cost to deliver an alternative junction arrangement at this location could be in the £1.5m to £3.0m range, depending on the nature of the improvement scheme, excluding any exceptional costs such as third-party land acquisition, or utility diversions.

11.8 A620 BABWORTH ROAD / ORDSALL ROAD

11.8.1 The layout of the existing junction is shown in the image below.

(Map data © 2021 Google)

11.8.2 This is one of the off-site junctions where the greatest increase in trips is forecast. The existing junction is a three-arm mini-roundabout. Given the significant increase in development flows travelling to and from the site via Ordsall Road, is considered highly likely that a mitigation scheme will be required.

11.8.3 It is unlikely that any meaningful junction improvements could be delivered with the junction remaining in its current mini-roundabout format. The most likely form of improvement would be replacing the mini-roundabout with traffic signal control.

11.8.4 The cost to replace the existing mini-roundabout with traffic signal control could be in the £1m to £1.5m range, depending on the nature of the improvement scheme, excluding any exceptional costs such as third-party land acquisition, or utility diversions.

11.9 A620 AMCOTT WAY / BRIDLEGATE / A620 HOSPITAL ROAD / A638 NORTH ROAD / HALLCROFT ROAD

11.9.1 The layout of the existing junction is shown in the image below.

(Map data © 2021 Google)

11.9.2 During peak times, queues often develop along Hospital Road and Amcott Way. In addition to queues at this junction, queues often extend the full length of Arlington Way.

11.9.3 Subject to obtaining traffic survey data, the increase in trips at this junction is likely to be less significant than at some other study area junctions due to the higher background flows. However, any increase in traffic through the already congested A620/A638 roundabout is likely to require capacity improvements to the junction. The existing junction is a 5-arm priority roundabout with existing residential development on all sides which constrains options for improvement.

11.9.4 Options to influence development modal splits (i.e. increasing use of sustainable transport in order to reduce car trips) should therefore be fully explored to help reduce traffic impacts at this junction.

11.9.5 If modal shift alone can not address forecast impacts at this junction then the most likely form of improvement that could be delivered would be either the introduction of signal control on the roundabout or replacing the junction with a signal-controlled crossroads. However, both of these options would be very difficult to deliver in practice due to the constrained nature of the junction, so modal shift should be the initial priority. The site developers would be expected to deliver/fund any improvements required to achieve 'nil detriment'.

11.9.6 The cost to provide signal control on the existing roundabout, or replace the roundabout with a signal controlled crossroads junction could be in the £1m to £3m range, depending on the nature of the improvement scheme, excluding any exceptional costs such as third-party land acquisition, or utility diversions.

11.10 A638 ARLINGTON WAY / A638 LONDON ROAD / CAROLGATE

11.10.1 The layout of the existing junction is shown in the image below.

(Map data © 2021 Google)

11.10.2 The existing junction is a four-arm signal-controlled junction and is the only junction identified in this chapter where a capacity assessment has been undertaken. Based on the results of the capacity assessment some form of mitigation is likely to be required. However, because the

junction is shown to exceed capacity prior to the introduction of Ordsall development trips, any developer would only be required to mitigate their impact and not fix existing capacity problems.

11.10.3 The scope for mitigating impact at this location could be limited. The junction already operates with traffic signal control. Signal-controlled junctions provide the greatest amount of capacity compared to other junction types. There appears to be limited land available for increasing capacity further.

11.10.4 The cost to provide capacity improvements at the existing signal controlled junction could be in the £250k to £1m range, depending on the nature of the improvement scheme, excluding any exceptional costs such as third-party land acquisition, or utility diversions.

11.11 OLLERTON ROAD / W HILL ROAD

11.11.1 The layout of the existing junction is shown in the image below.

(Map data © 2021 Google)

11.11.2 The existing junction layout is a staggered crossroad arrangement. The junction is located a short distance north of the site on Ollerton Road and is the junction with the greatest increase in trips forecast as a result of development at the Ordsall site.

11.11.3 In the absence of traffic survey data at this location, it is anticipated that traffic flows along Ollerton Road are relatively low in the context of highway capacity. A capacity assessment at this location may indicate that the junction has spare capacity despite the significant increase in trips. This would be subject to further investigation. Should mitigation be required, there could be scope to increase capacity by providing a short flare on the Ollerton Road (east) minor arm of the junction and maintain the existing junction type. It may also be possible to introduce right turn ghost islands on Ollerton Road if desired. Alternatively, there could be scope to introduce mini-roundabouts as part of a wider traffic calming scheme, although it should be noted that double mini-roundabout junctions are not always favoured by highway authorities.

11.11.4 Based on the type of improvements described above the cost to provide capacity improvements at the existing junction could be in the £250k to £500k range, depending on the nature of the improvement scheme, excluding any exceptional costs such as third-party land acquisition, or utility diversions.

11.12 A638 / MAIN ROAD

11.12.1 The layout of the existing junction is shown in the image below.

(Map data © 2021 Google)

11.12.2 As indicated previously in this report, NCC has expressed concern relating to any increase in traffic using Main Road. This is due to the character of Main Road which is a historic village

layout with a winding road alignment, buildings directly abutting the carriageway, with poor forwards and side-road visibility in places. Immediately to the west of the village Main Road crosses the River Idle via a narrow bridge with no footways and a carriageway that is only wide enough for one-way traffic.

11.12.3 Whilst it may be possible to deliver improvements to the A638/Main Road junction and possibly introduce one-way traffic signal controlled working at the bridge it is unlikely to be appropriate to do so in practice because such improvements would only encourage more traffic to pass through the village.

11.12.4 The most likely form of mitigation is therefore the introduction of measures to discourage development-related traffic to drive between Ollerton Road and the A638 through the village. This could comprise a package of signing/lining measures and, if appropriate, traffic calming measures. Drawings showing an indicative traffic calming scheme for Main Road are presented in **Appendix K**.

11.13 MITIGATION SUMMARY

11.13.1 A summary of the possible mitigation discussed in this chapter is presented in **Table 22** below. It should be noted that due to the unavailability of traffic data a lot of assumptions have had to be made and a detailed transport appraisal will be required at the planning application stage. All costs are very preliminary 'ball park' estimates intended to provide an approximate indication of the likely scale of costs involved.

Table 22 – Summary of Potential Mitigation

Description	Likely Improvement	Indicative Costs
Public Transport Improvements	New bus service funded for 5 years	£1.4m
Walking & Cycling	New and improved walking and cycling connections to the site	£0.75m
A620 Babworth Road / B6420 Mansfield Road / A620 Straight Mile / Sutton Lane	Replace junction with signals or roundabout	£1.5 to £3.0m
A620 Babworth Road / Ordsall Road	Replace mini roundabout with signals	£1.0m to £1.5m
A620 Amcott Way / Bridlegate / A620 Hospital Road / A638 North Road / Hallcroft Road	Signalise roundabout or replace with signal controlled crossroads	£1.0m to £3.0m
A638 Arlington Way / A638 London Road / Carolgate	Improve existing signal junction	£0.25m to £1.0m
Ollerton Road / W Hill Road	Improve existing junction layout	£0.25m to £0.5m
A638 / Main Road	Package of signs, lining and traffic calming	£0.1m to £0.2m

11.13.2 Off-site highway infrastructure improvements to mitigate residual traffic impacts will need to be determined at the planning application stage through the submission of a Transport Assessment produced in accordance with the NPPF. The developer will be required to assess the transport implication of the site and the cumulative implications of any other committed land-use development and transport schemes in the local area. Appropriate transport mitigation will need to be identified and agreed with the highway authority to address residual traffic impacts.

12 SUMMARY

12.1 INTRODUCTION

12.1.1 This study assesses the impact of a potential development of circa 800 dwellings at the Ordsall South site on Ollerton Road, Retford. The site is allocated in the Draft Bassetlaw Local Plan dated November 2020 under reference HS13 for a minimum of 800 dwellings.

12.1.2 The site currently comprises of agricultural land and is bound to the north by residential development and Retford Golf Club, and to the east, west and south by agricultural land.

12.1.3 For the purposes of this study it has been assumed that the site would be accessed from two new roundabouts onto Ollerton Road with land to the east and west of Ollerton Road accessed from separate arms onto the roundabouts. Land to the west would be accessed from both roundabouts and land to the east would be accessed from one roundabout.

12.1.4 Existing bus services stopping close to the site are not high frequency services. Enhancements to these services, or the provision of new complimentary services should therefore be provided by the developer to ensure that residents on the completed development have sustainable travel choices available. The layout of the site should also be configured to allow bus penetration into the western parcel of land, as a minimum.

12.1.5 The site developer will be required to deliver new and improved walking and cycling infrastructure to connect the development to neighbouring areas and facilitate safe travel by these modes. A detailed access strategy will need to be identified at the planning application stage. However, as a minimum this should provide for 3.0m wide shared cycle/footways along Ollerton Road to connect the site to Ordsall plus the new and improved pedestrian and cycle links as detailed in Policy ST29 (for Site HS13) of the November 2020 Draft Local Plan.

12.1.6 Based on the forecast highway impacts, capacity assessments would be required at 19 off-site junctions considered in this TA for a development comprising of 800 dwellings. It is likely that the scale of the development would need to be significantly reduced to achieve a meaningful reduction in the number of off-site junctions requiring detailed assessment.

12.1.7 A larger number of dwellings would increase off-site highway impacts. A significant increase could potentially enable more comprehensive mitigation measures to be provided. One previous suggestion from residents in the Ordsall area is for the provision of a new link road between Ollerton Road and the A638. Providing a new link road is likely to prove technically very challenging and prohibitively expensive. It would also only help to address traffic impacts associated with development traffic wishing to access destinations to the south and east and would provide no relief for development trips to/from the north that would be passing through or around Retford. At some of these locations (e.g. in Retford town centre) it will be very difficult to

deliver any meaningful mitigation in the form of increased junction capacity due to the physical space constraints that exist within the urban environment and because at many locations opportunities to achieve additional traffic capacity appear to have already been taken.

12.1.8 The site developer will also be required to deliver off-site highway infrastructure improvements to mitigate residual traffic impacts. Details of which will need to be determined at the planning application stage through the submission of a Transport Assessment produced in accordance with the NPPF. The developer will be required to assess the transport implication of the site and the cumulative implications of any other committed land-use development and transport schemes in the local area. Appropriate transport mitigation will need to be identified and agreed with the highway authority to address residual traffic impacts. Delivery of mitigation will be secured through the planning approval process. Mitigation could take the form of a S106 contribution towards a scheme(s) or delivery of a scheme(s) in full. NCC may opt for a comprehensive scheme at a specific junction rather than several smaller piecemeal improvements at several junctions. In this scenario, a comprehensive scheme would also address existing capacity problems as well as the impact of the development.

Figures

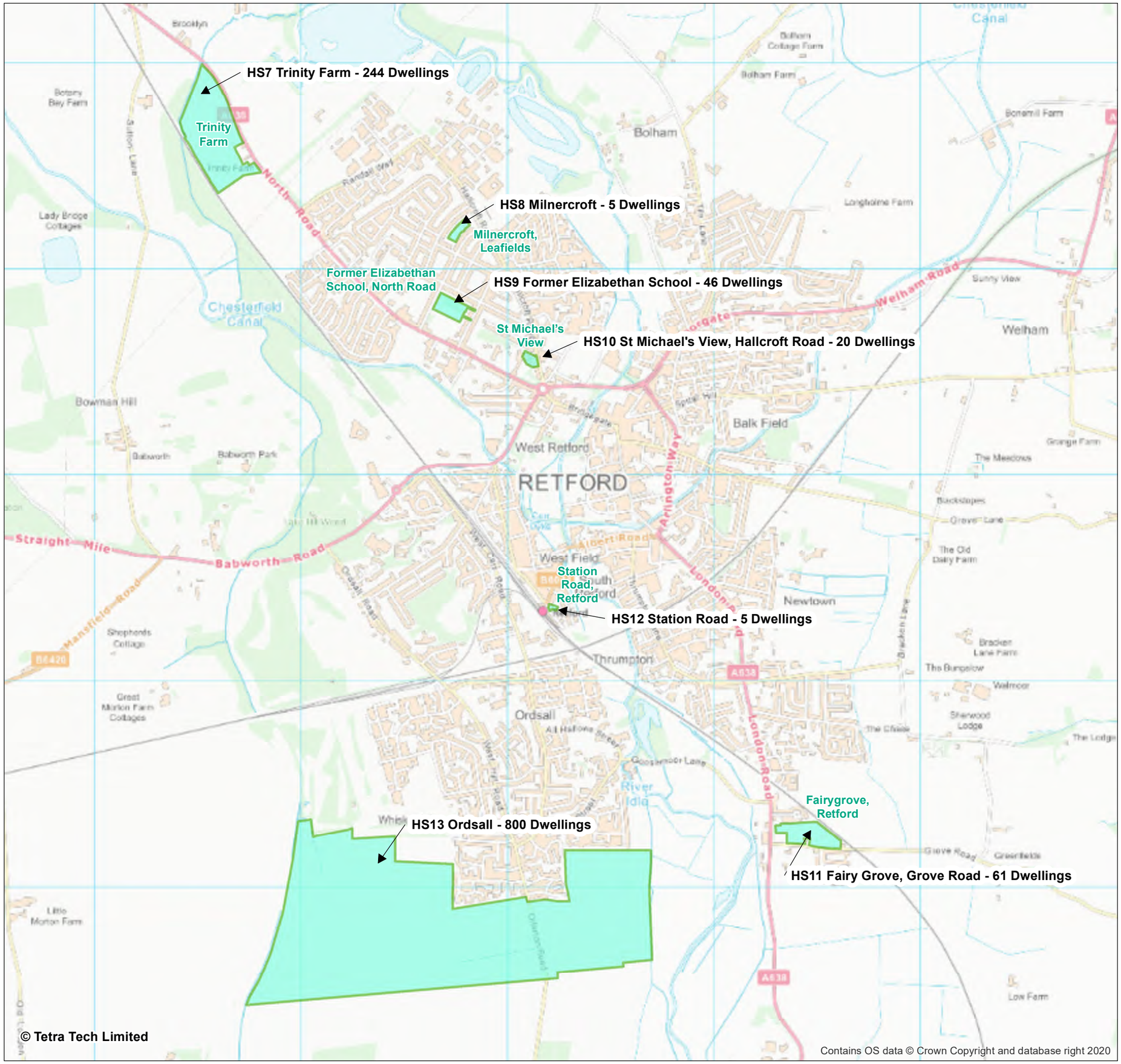


Figure 1 Retford Development Sites

Ordsall, Retford

Bassetlaw District Council

Legend

Allocation Sites

Notes:

Drawn by: JC

Checked by: RJH

Approved by: ASG

Drawing No. 006

Revision No. -

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Scale: 1:18,000 @A3

04 June 2021

NGR: 470,255 E / 380,729 N

TETRA TECH

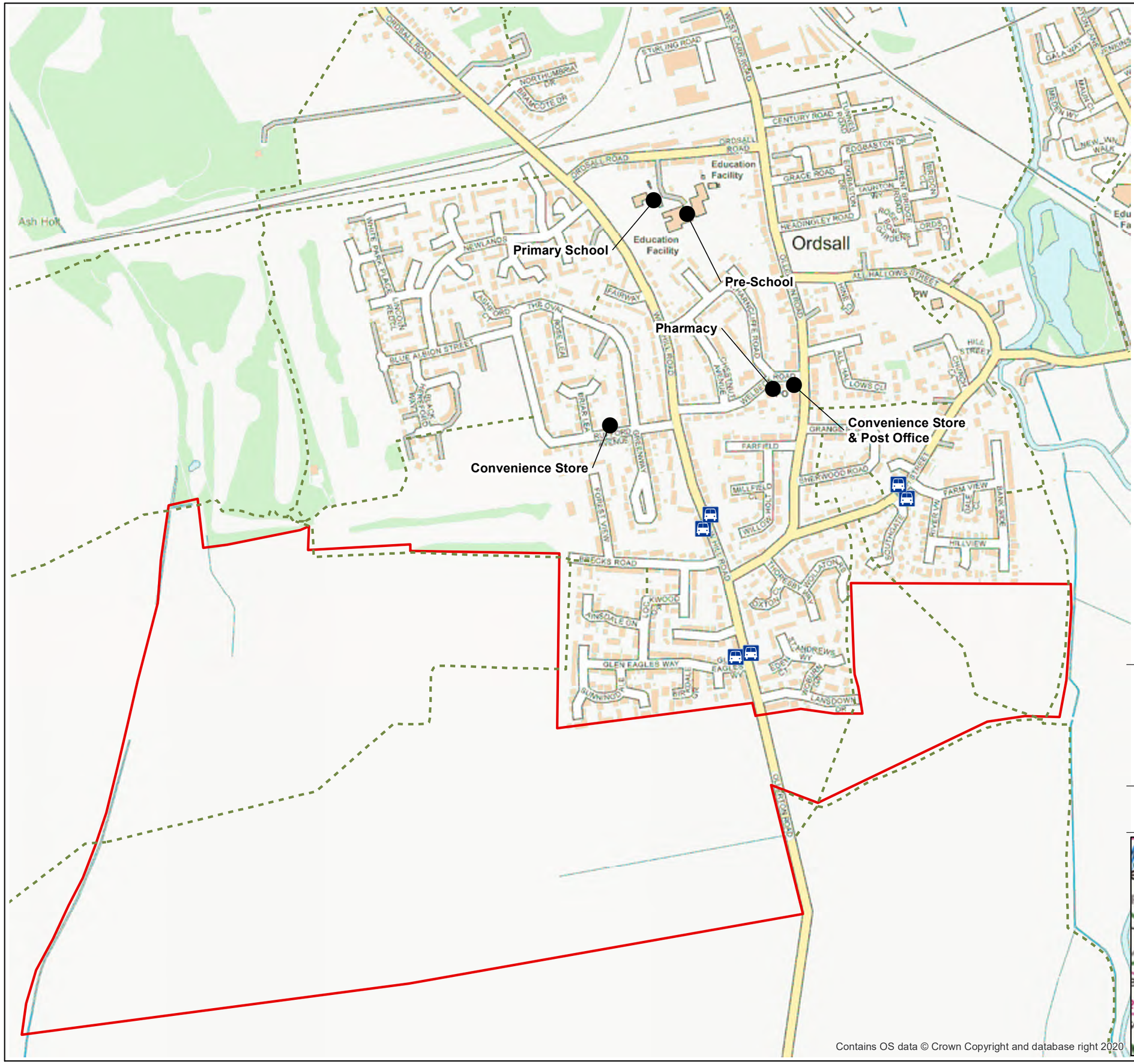
Executive Park
Avalon Way
Anstey
Leicester
Leicestershire
LE7 7GR

TEL: 0116 234 8000
Email: europe@tetratech.com

Figure 2 Ordsall South Site Location

Ordsall, Retford

Bassetlaw District Council



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Legend

- Local Amenities
- Bus Stops
- PROWs
- Site Boundary

Notes:

Drawn by: LW

Checked by: RJH

Office: Nottingham

Drawing No. 001

Revision No. -

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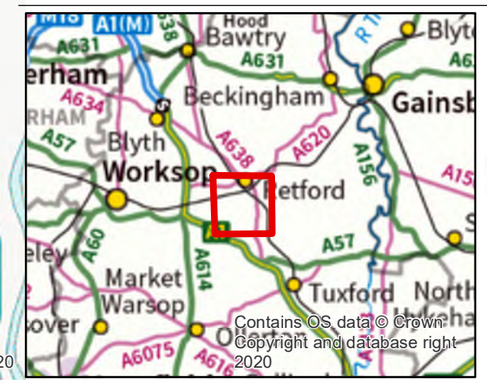
Scale: 1:560,462 @A3

07 June 2021

NGR: 470,949 E / 379,835 N



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Geneva Building
Lake View Drive
Sherwood Business Park
Nottingham
NG15 0ED

TEL: +44 (0)1623 684550
Email: nottingham@tetratech.com

Figure 3 - Retford Traffic Data Locations Existing NCC Traffic Count Availability

Ordsall, Retford

Bassetlaw District Council

Legend

Junctions (Year of available counts)

- No data
- Pre-2015
- 2018
- 2019

Reference	Description
1A/1B	A1/A620 Retford Road/B6079 Retford Road
2A/2B	A1/B6420 Mansfield Road/A614 Blyth Road/A57
3/3A/3B	A1/Elkesley Bridge Road/Jockey Lane/Eskil Way
4A/4B	A1/B6387 Dover Bottom
5A/5B	A1 Markham Moor Junction
6	A620 Babworth Road/B6420 Mansfield Road/A620 Straight Mile/Sutton Lane
7	A620 Babworth Road/Ordsall Road
8	A620 Amcott Way/Bridlegate/A620 Hospital Road/A638 North Road/Hallcroft Road
9	A620 Amcott Way/A620 Moorgate/A638 Arlington Way
10	A638 Arlington Way/Spital Hill/Chapelgate
11	A638 Arlington Way/Grove Street
12	A638 Arlington Way/A638 London Road/Carolgate
13	Ollerton Road/West Hill Road
14	A638 London Road/Whitehouses Road
15	A638 London Road / Whinney Moor Lane / Bracken Lane
16	All Hollows Street / High Street / Goosemoor Lane
18	Ollerton Road / Brick Yard Lane
19	A638 / Main Road
20	A638 / B6387 Rectory Lane

Notes:

Drawn by: JC
Checked by: RJH
Approved by: ASG

Drawing No. 004
Revision No. -

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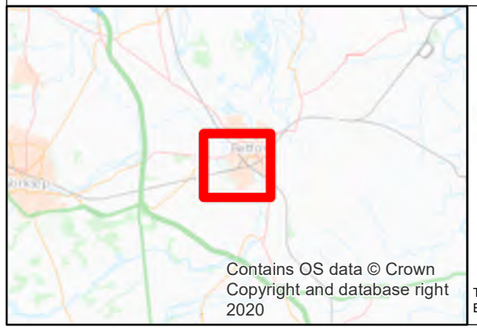
04 June 2021

NGR: 469,753 E / 380,223 N



TETRA TECH

Executive Park
Avalon Way
Anstey
Leicester
Leicestershire
LE7 7GR

TEL: 0116 234 8000
Email: europe@tetratech.com

Figure 4 - Study Area Traffic Data Locations Existing NCC Traffic Count Availability

Ordsall, Retford

Bassetlaw District Council

Legend

Junctions (Year of available counts)

- No data
- Pre-2015
- 2018
- 2019

Reference	Description
1A/1B	A1/A620 Retford Road/B6079 Retford Road
2A/2B	A1/B6420 Mansfield Road/A614 Blyth Road/A57
3/3A/3B	A1/Elkesley Bridge Road/Jockey Lane/Eskil Way
4A/4B	A1/B6387 Dover Bottom
5A/5B	A1 Markham Moor Junction
6	A620 Babworth Road/B6420 Mansfield Road/A620 Straight Mile/Sutton Lane
7	A620 Babworth Road/Ordsall Road
8	A620 Amcott Way/Bridlegate/A620 Hospital Road/A638 North Road/Hallcroft Road
9	A620 Amcott Way/A620 Moorgate/A638 Arlington Way
10	A638 Arlington Way/Spital Hill/Chapelgate
11	A638 Arlington Way/Grove Street
12	A638 Arlington Way/A638 London Road/Carolgate
13	Ollerton Road/West Hill Road
14	A638 London Road/Whitehouses Road
15	A638 London Road / Whinney Moor Lane / Bracken Lane
16	All Hollows Street / High Street / Goosemoor Lane
18	Ollerton Road / Brick Yard Lane
19	A638 / Main Road
20	A638 / B6387 Rectory Lane

Notes:

Drawn by: JC

Checked by: RJH

Approved by: ASG

Drawing No. 005

Revision No. -

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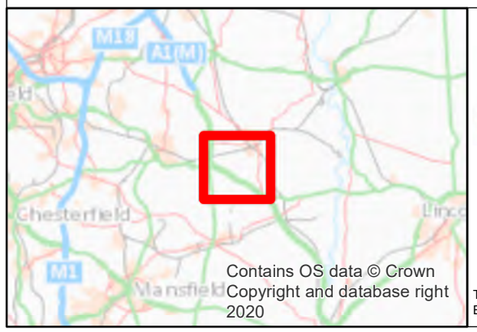
04 June 2021

NGR: 468,452 E / 377,473 N



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Avalon Way
Anstey
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Figure 5 - 2km and 5km Catchment Plan

Ordsall, Retford

Bassetlaw District Council

Legend

- Site Boundary
- 2km Walking Catchment
- 5km Cycling Catchment

Notes:

Drawn by: LW

Checked by: RJH

Office: Nottingham

Drawing No. 002

Revision No. -

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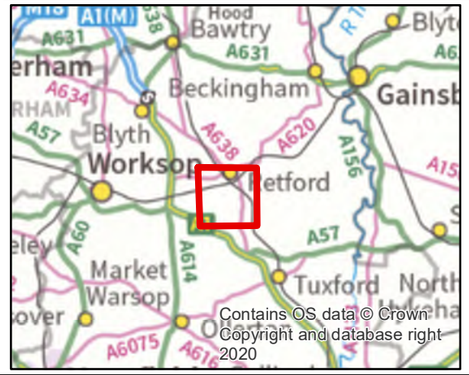
Scale: 1:560,462 @A3

07 June 2021

NGR: 470,949 E / 379,835 N



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Geneva Building
Lake View Drive
Sherwood Business Park
Nottingham
NG15 0ED

TEL: +44 (0)1623 684550
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Figure 6 - Personal Injury Collision Data

Ordsall, Retford

Bassetlaw District Council

Legend

- Site Boundary
- Collision Data Study Area

Severity/Road User Involved

- Slight Collision Pedestrian Involved
- Slight Collision Vehicle Only
- Serious Collision Pedestrian Involved
- Serious Collision Vehicle Only
- Fatal Collision Vehicle Only

Notes:

Drawn by: ES
Checked by: RJH
Office: Nottingham

Drawing No. 003
Revision No. -

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Scale: 1:10,000 @A3

07 June 2021

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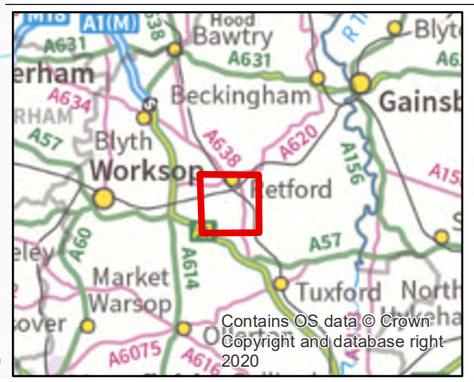
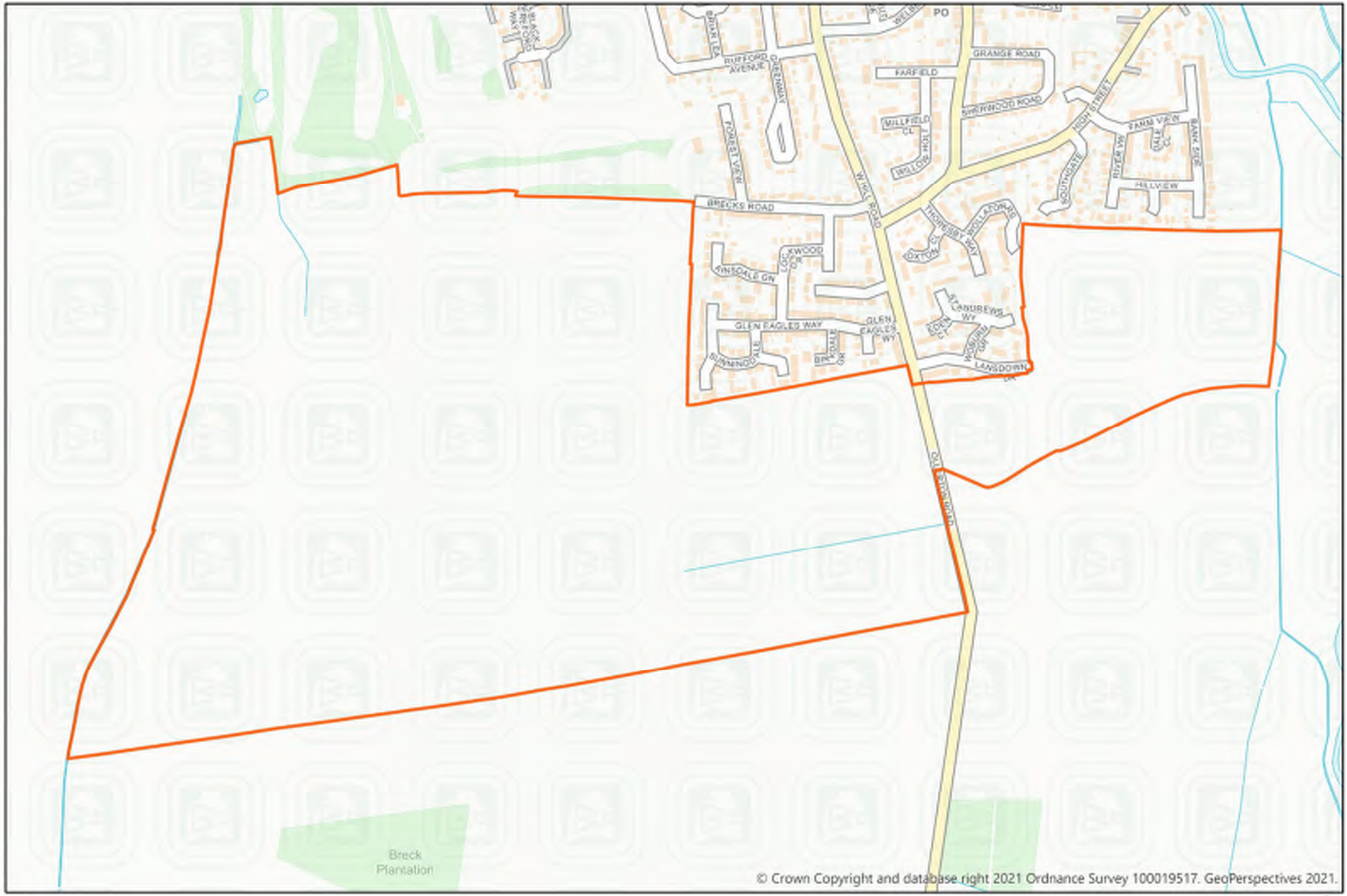


TETRA TECH

Geneva Building
Lake View Drive
Sherwood Business Park
Nottingham
NG15 0ED

TEL: +44 (0)1623 684550
Email: nottingham@tetratech.com

Appendix A - Site Boundary



Bassetlaw DISTRICT COUNCIL North Nottinghamshire

Appendix B – TA Scoping Correspondence

Holland, Robert

From: Martin Green <martin.green@nottscc.gov.uk>
Sent: 04 December 2020 08:01
To: Holland, Robert
Subject: RE: Land at Ollerton Road, Ordsall

Hi Robert

The committed developments I mentioned earlier would be applicable here; residential development at Tiln Lane (14/00503/OUT), mixed use development at North Road, Retford (15/00493/OUT), retail park London Road/South Street including a Lidl (16/00015/FUL). I probably should have also mentioned, with respect the Garden Village; the residential development at the former Kenilworth Nurseries on London Road (16/01777/FUL & 18/00695/FUL), and the residential development at Bracken Lane, Retford (19/00765/OUT) which will also need consideration.

The scope of the assessment will need to include Main Street Eaton which links Ollerton Road to London Road. There's a narrow bridge, poor alignment, accesses with limited visibility splays, no footways etc. This could be a show stopper if it would be likely to experience a material increase in traffic. Unfortunately it's a more convenient route to the south than Goosemoor Lane. I'd also be grateful if you could include the Goosemoor Lane/High Street and Whinney Moor Lane/London Road junctions. More generally I will be seeking all main junctions that will experience greater the 30 two-way peak hour movements to be included within the scope of the assessment. The A638/B6387 is a popular route towards Ollerton, but I'm not sure whether it would exceed the threshold.

I do not have a copy of the completed S106 but I believe application reference 18/00695/FUL mentioned above includes a financial contribution of £250,000 towards either a scheme to provide improvements to mitigate the impact of the scheme on the London Road/Whinney Moor Lane junction, or to provide measures to reduce traffic and congestion on the London Road transport corridor.

Kind regards

Martin Green
Principal Officer
Nottinghamshire County Council
Telephone 0115 9773963
www.nottinghamshire.gov.uk

From: Holland, Robert <Robert.Holland@tetratech.com>
Sent: 03 December 2020 18:02
To: Martin Green <martin.green@nottscc.gov.uk>
Subject: Land at Ollerton Road, Ordsall

Hi Martin

We've been appointed by Bassetlaw District Council (BDC) to undertake a transport study of a potential residential development to the south of Ordsall to help inform Local Plan work. It will essentially be a Transport Assessment but the document won't form part of a planning application, not for now anyway. I've attached a plan showing the site boundary. We've been asked to consider 800 dwellings at the site with vehicular access from Ollerton Road.

We'd be grateful for your thoughts on the site in general and the approach we're taking as we're keen to ensure anything we do now isn't abortive if a planning application is prepared further down the line. We will be taking the following general approach:

- A description of proposed uses for the site.
- Summary of relevant planning policy documents.

- Analysis of existing conditions.
- Review of local sustainable transport facilities (walking, cycling, bus and rail), including walking and cycling catchments (2.0km for walking and 5.0km for cycling). Explore the opportunities and constraints. Identify improvements where necessary.
- Analysis of the most recently available 5 year period of collision data for the area shown on the attached plan.
- Study area for trip distribution to consist of the site access(es) on Ollerton Road and off-site junctions as advised by NCC. As a starting point, we propose the following as shown on the attached plan:
    1. A1/A620 Retford Road/B6079 Retford Road
    2. A1/B6420 Mansfield Road/A614 Blyth Road/A57
    3. A1/Elkesley Bridge Road/Jockey Lane/Eskil Way
    4. A1/B6387 Dover Bottom
    5. A1 Markham Moor Junction
    6. A620 Babworth Road/B6420 Mansfield Road/A620 Straight Mile/Sutton Lane
    7. A620 Babworth Road/Ordsall Road
    8. A620 Amcott Way/Bridlegate/A620 Hospital Road/A638 North Road/Hallcroft Road
    9. A620 Amcott Way/A620 Moorgate/A638 Arlington Way
    10. A638 Arlington Way/Spital Hill/Chapelgate
    11. A638 Arlington Way/Grove Street
    12. A638 Arlington Way/A638 London Road/Carolgate
    13. Ollerton Road/West Hill Road
    14. A638 London Road/Whitehouses Road
- Trip generation calculated using trip rates from the TRICS database.
- Trip distribution using Travel to Work data from the 2011 Census with route choices obtained from the VISSIM model that we've used to distribute trips when looking at the Cottam Power Station and Morton Garden Village sites for BDC. We will use the 'Bassetlaw 010' Middle Super Output Area.
- TA assessment year of 2031 i.e. 10 years from 2021. Assessments to consider the weekday AM and PM peak hours.
- Traffic growth using TEMPRO adjusted NTM growth factors for the local area.
- Capacity assessments at the site access junction(s) and off-site junctions where we have a severe impact. At this stage we will include any junction with a peak hour impact greater than 30 vehicles.

Please could you advise of any committed developments/schemes we should take into account. BDC has indicated that NCC may have an improvement scheme in the pipeline for a nearby junction – London Road/Whitehouses Road? Please advise of any implications for our site.

Any further comments you can add at this stage would be appreciated e.g. anything on likely S106 contributions.

Please let me know if you have any queries.

Many thanks

Rob Holland
Associate Director

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WYG
Geneva Building, Lake View Drive, Sherwood Business Park, Annesley, Nottingham, NG15 0ED
Tel: +44 116 234 8176
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Appendix C – Collision Data

Accident Details Report

Ordsall Rd - Ollerton Rd - Goosemoor Rd - Ordsall Period 1-1-15 to 30-9-20 by nthing DR4644

Total number of reports = **19**

Total number of pages (including this page) = **20**

No. 1	District Bassetlaw		VRUs	Grid Reference 470093 / 377887
SEVERITY **SLIGHT**	Ref.No 2B167619	**Accident Details**		Police Officer Attend: Yes

Date	21/09/2019	Day Saturday	ROAD U
Time	10:11		LOCATION OLLERTON ROAD, at its Junction with U/C UNAMED ROAD,1060M SW LANSDOWN DRIVE RETFORD
Weather	Fine		
Road Surface	Dry		
Street Lighting	Daylight		

SITE DETAILS	
Speed Limit	60 MPH
Carriageway	Single c'way
Lane markings	Centre/hazard line
Junction Detail	Crossroads
Junction Control	Give way sign or uncontrolled
2nd Road Number	U
Pedestrian Facilities	No Human control within 50m
and	No crossing facility within 50m

SPECIAL SITE CONDITIONS

None

CARRIAGEWAY HAZARDS

None

VEHICLES INVOLVED 2

Veh.No. 1 Vehicle type Van/Goods < 3.5t
Manoeuvre Going ahead other
Direction from South west to North east Towing? No
Skidded Yes
Veh location at impact (restricted lane) On main carriageway
Junct. location of veh. at 1st impact Approaching or parked on approach to junction
Veh left carriageway? Did not leave c'way
Hit object in c'way? None
Hit object off c'way? None
First point of impact Front
Drivers age 39 yrs Sex Male Other veh.hit (ref.) 2 Hit and run No
Foreign vehicle Not foreign Breath test Negative
Journey purpose

Veh.No. 2 Vehicle type Car
Manoeuvre Turning right
Direction from South west to South east Towing? No
Skidded No
Veh location at impact (restricted lane) On main carriageway
Junct. location of veh. at 1st impact Leaving main road
Veh left carriageway? Did not leave c'way
Hit object in c'way? None
Hit object off c'way? None
First point of impact Back
Drivers age 52 yrs Sex Male Other veh.hit (ref.) 1 Hit and run No
Foreign vehicle Not foreign Breath test Negative
Journey purpose

CASUALTIES INVOLVED 2

Cas No 1 Cas Class Driver or Rider Veh ref No 2
Severity **SLIGHT** Age 52 yrs Sex Male
Car Passenger? No PSV Passenger? No
Ped Movement Not a pedestrian
Ped location Not a pedestrian
Ped Direction to Not a pedestrian
School Pupil Other
Roadworker injured No

Cas No 2 Cas Class Passenger Veh ref No 2
Severity **SLIGHT** Age 56 yrs Sex Female
Car Passenger? Front PSV Passenger? No
Ped Movement Not a pedestrian
Ped location Not a pedestrian
Ped Direction to Not a pedestrian
School Pupil Other
Roadworker injured No

No. 2	District Bassetlaw		VRUs	Grid Reference 470036 / 379196
SEVERITY **SERIOUS**	Ref.No 2B163717	**Accident Details**		Police Officer Attend: Yes

Date	26/07/2017	Day Wednesday	ROAD U
Time	18:47		LOCATION U/C WEST HILL ROAD, at its Junction with U/C OLLERTON ROAD, RETFORD
Weather	Fine		
Road Surface	Dry		
Street Lighting	Daylight		

Speed Limit	30 MPH	SITE DETAILS	SPECIAL SITE CONDITIONS: None
Carriageway	Single c'way		CARRIAGEWAY HAZARDS: None
Lane markings	Centre/hazard line		
Junction Detail	T or Staggered junction		
Junction Control	Give way sign or uncontrolled		
2nd Road Number	U		
Pedestrian Facilities	No Human control within 50m		
and	No crossing facility within 50m		

VEHICLES INVOLVED 2

Veh.No. 1 Vehicle type Car
Manoeuvre Turning left
Direction from North east to South Towing? No
Skidded Yes
Veh location at impact (restricted lane) On main carriageway
Junct. location of veh. at 1st impact Entering main road
Veh left carriageway? Did not leave c'way
Hit object in c'way? None
Hit object off c'way? None
First point of impact Front
Drivers age U/K yrs Sex Male Other veh.hit (ref.) 2 Hit and run No
Foreign vehicle Not foreign Breath test Not contacted
Journey purpose Other/Not known

Veh.No. 2 Vehicle type Car
Manoeuvre Going ahead other
Direction from South to North Towing? No
Skidded No
Veh location at impact (restricted lane) On main carriageway
Junct. location of veh. at 1st impact Mid junction
Veh left carriageway? Did not leave c'way
Hit object in c'way? None
Hit object off c'way? None
First point of impact Front
Drivers age 75 yrs Sex Female Other veh.hit (ref.) 1 Hit and run No
Foreign vehicle Not foreign Breath test Negative
Journey purpose Other/Not known

CASUALTIES INVOLVED 1

Cas No 1 Cas Class Driver or Rider Veh ref No 2
Severity **SERIOUS** Age 75 yrs Sex Female
Car Passenger? No PSV Passenger? No
Ped Movement Not a pedestrian
Ped location Not a pedestrian
Ped Direction to Not a pedestrian
School Pupil Other
Roadworker injured No

No. 3	District Bassetlaw	Accident Details	VRUs Motorcycle	Grid Reference 470023 / 379226
SEVERITY SLIGHT	Ref.No 2B260318			Police Officer Attend: Yes

Date	12/12/2018 Day Wednesday	ROAD	U
Time	22:16	LOCATION	U/C WEST HILL ROAD, at its Junction with U/C BRECKS ROAD, RETFORD
Weather	Fine		
Road Surface	Wet		
Street Lighting	Dark/lights lit		

SITE DETAILS	
Speed Limit	30 MPH
Carriageway	Single c'way
Lane markings	Centre/hazard line
Junction Detail	T or Staggered junction
Junction Control	Give way sign or uncontrolled
2nd Road Number	U
Pedestrian Facilities	No Human control within 50m
and	No crossing facility within 50m

SPECIAL SITE CONDITIONS

None

CARRIAGEWAY HAZARDS

None

VEHICLES INVOLVED 2

Veh.No. 1 Vehicle type M/cycle 50 - 125cc
Manoeuvre Going ahead other
Direction from North west to South east Towing? No
Skidded Yes
Veh location at impact (restricted lane) On main carriageway
Junct. location of veh. at 1st impact Mid junction
Veh left carriageway? Did not leave c'way
Hit object in c'way? None
Hit object off c'way? None
First point of impact Front
Drivers age 18 yrs Sex Male Other veh.hit (ref.) 2 Hit and run No
Foreign vehicle Not foreign Breath test Negative
Journey purpose Other/Not known

Veh.No. 2 Vehicle type Car
Manoeuvre Turning right
Direction from South west to South east Towing? No
Skidded No
Veh location at impact (restricted lane) On main carriageway
Junct. location of veh. at 1st impact Entering main road
Veh left carriageway? Did not leave c'way
Hit object in c'way? None
Hit object off c'way? None
First point of impact Nearside
Drivers age 28 yrs Sex Male Other veh.hit (ref.) 1 Hit and run No
Foreign vehicle Not foreign Breath test Negative
Journey purpose

CASUALTIES INVOLVED 1

Cas No 1 Cas Class Driver or Rider Veh ref No 1
Severity SLIGHT Age 18 yrs Sex Male
Car Passenger? No PSV Passenger? No
Ped Movement Not a pedestrian
Ped location Not a pedestrian
Ped Direction to Not a pedestrian
School Pupil Other
Roadworker injured No

No. 4	District Bassetlaw		VRUs	Grid Reference 471274 / 379409
SEVERITY **SLIGHT**	Ref.No 2B161418	**Accident Details**		Police Officer Attend: Yes

Date	23/08/2018 Day Thursday	ROAD	A638
Time	13:17	LOCATION	A638 LONDON ROAD M-RBT, at its Junction with U/C WHITEHOUSES ROAD, RETFORD
Weather	Fine		
Road Surface	Dry		
Street Lighting	Daylight		

SITE DETAILS		SPECIAL SITE CONDITIONS
Speed Limit	40 MPH	None
Carriageway	Roundabout	
Lane markings	Centre/hazard line	CARRIAGEWAY HAZARDS
Junction Detail	Mini Roundabout	None
Junction Control	Give way sign or uncontrolled	
2nd Road Number	U	
Pedestrian Facilities	No Human control within 50m	
and	Central Refuge only	

VEHICLES INVOLVED 2

Veh.No. 1 Vehicle type Car
Manoeuvre Going ahead other
Direction from South to North Towing? No
Skidded No
Veh location at impact (restricted lane) On main carriageway
Junct. location of veh. at 1st impact Entering roundabout
Veh left carriageway? Did not leave c'way
Hit object in c'way? None
Hit object off c'way? None
First point of impact Offside
Drivers age 70 yrs Sex Female Other veh.hit (ref.) 2 Hit and run No
Foreign vehicle Not foreign Breath test Negative
Journey purpose Other/Not known

Veh.No. 2 Vehicle type Car
Manoeuvre Turning right
Direction from North to West Towing? No
Skidded No
Veh location at impact (restricted lane) On main carriageway
Junct. location of veh. at 1st impact Mid junction
Veh left carriageway? Did not leave c'way
Hit object in c'way? None
Hit object off c'way? None
First point of impact Front
Drivers age 21 yrs Sex Female Other veh.hit (ref.) 1 Hit and run No
Foreign vehicle Not foreign Breath test Negative
Journey purpose Other/Not known

CASUALTIES INVOLVED 1

Cas No 1 Cas Class Driver or Rider Veh ref No 1
Severity **SLIGHT** Age 70 yrs Sex Female
Car Passenger? No PSV Passenger? No
Ped Movement Not a pedestrian
Ped location Not a pedestrian
Ped Direction to Not a pedestrian
School Pupil Other
Roadworker injured No

No. 5	District Bassetlaw		VRUs	Grid Reference 471268 / 379417
SEVERITY **SLIGHT**	Ref.No 2B136515	**Accident Details**		Police Officer Attend: No - reported over the counter

Date	13/07/2015 Day Monday	ROAD	A638
Time	11:30	LOCATION	A638 LONDON ROAD, at its M-RBT Junction with Unclassified Road WHITEHOUSE ROAD (AKA GOOSEMOOR LN), EAST RETFORD
Weather	Fine		
Road Surface	Dry		
Street Lighting	Daylight		

SITE DETAILS	
Speed Limit	40 MPH
Carriageway	Roundabout
Lane markings	Centre/hazard line
Junction Detail	Mini Roundabout
Junction Control	Give way sign or uncontrolled
2nd Road Number	U
Pedestrian Facilities	No Human control within 50m
and	No crossing facility within 50m

SPECIAL SITE CONDITIONS

None

CARRIAGEWAY HAZARDS

None

VEHICLES INVOLVED 2

Veh.No. 1 Vehicle type Car
Manoeuvre Turning right
Direction from West to South Towing? No
Skidded No
Veh location at impact (restricted lane) On main carriageway
Junct. location of veh. at 1st impact Entering roundabout
Veh left carriageway? Did not leave c'way
Hit object in c'way? None
Hit object off c'way? None
First point of impact Offside
Drivers age 18 yrs Sex Female Other veh.hit (ref.) 2 Hit and run No
Foreign vehicle Not foreign Breath test Not requested
Journey purpose Other/Not known

Veh.No. 2 Vehicle type Car
Manoeuvre Going ahead other
Direction from South to North Towing? No
Skidded No
Veh location at impact (restricted lane) On main carriageway
Junct. location of veh. at 1st impact Mid junction
Veh left carriageway? Did not leave c'way
Hit object in c'way? None
Hit object off c'way? None
First point of impact Front
Drivers age 34 yrs Sex Male Other veh.hit (ref.) 1 Hit and run No
Foreign vehicle Not foreign Breath test Not requested
Journey purpose

CASUALTIES INVOLVED 1

Cas No 1 Cas Class Driver or Rider Veh ref No 1
Severity **SLIGHT** Age 18 yrs Sex Female
Car Passenger? No PSV Passenger? No
Ped Movement Not a pedestrian
Ped location Not a pedestrian
Ped Direction to Not a pedestrian
School Pupil Other
Roadworker injured No

No. 6	District Bassetlaw	Accident Details	VRUs Motorcycle	Grid Reference 471054 / 379510
SEVERITY FATAL	Ref.No 4B078220			Police Officer Attend: Yes

Date	19/07/2020	Day Sunday	ROAD U
Time	13:29		LOCATION U/C GOOSEMOOR LAN/WHITEHOUSES ROAD, at its Junction with U/C PTE ENT/EXT TO GOOSEMOOR PRODUCE FARM SHOP, RETFORD
Weather	Fine		
Road Surface	Dry		
Street Lighting	Daylight		

SITE DETAILS	
Speed Limit	40 MPH
Carriageway	Single c'way
Lane markings	Centre/hazard line
Junction Detail	Using private drive or entrance
Junction Control	Give way sign or uncontrolled
2nd Road Number	U
Pedestrian Facilities	No Human control within 50m
and	No crossing facility within 50m

SPECIAL SITE CONDITIONS

None

CARRIAGEWAY HAZARDS

None

VEHICLES INVOLVED 2

Veh.No. 1 Vehicle type M/cycle > 500cc
Manoeuvre Going ahead other
Direction from South east to North west Towing? No
Skidded No
Veh location at impact (restricted lane) On main carriageway
Junct. location of veh. at 1st impact Mid junction
Veh left carriageway? Did not leave c'way
Hit object in c'way? None
Hit object off c'way? None
First point of impact Front
Drivers age 26 yrs Sex Male Other veh.hit (ref.) 2 Hit and run No
Foreign vehicle Not foreign Breath test Not provided
Journey purpose

Veh.No. 2 Vehicle type Car
Manoeuvre Turning right
Direction from North west to West Towing? No
Skidded No
Veh location at impact (restricted lane) On main carriageway
Junct. location of veh. at 1st impact Leaving main road
Veh left carriageway? Did not leave c'way
Hit object in c'way? None
Hit object off c'way? None
First point of impact Nearside
Drivers age 53 yrs Sex Female Other veh.hit (ref.) 1 Hit and run No
Foreign vehicle Not foreign Breath test Negative
Journey purpose Other/Not known

CASUALTIES INVOLVED 1

Cas No 1 Cas Class Driver or Rider Veh ref No 1
Severity FATAL Age 26 yrs Sex Male
Car Passenger? No PSV Passenger? No
Ped Movement Not a pedestrian
Ped location Not a pedestrian
Ped Direction to Not a pedestrian
School Pupil Other
Roadworker injured No

No. 7	District Bassetlaw	Accident Details	VRUs	Grid Reference 469938 / 379515
SEVERITY SLIGHT	Ref.No 2B057318			Police Officer Attend: Yes

Date 26/03/2018 Day Monday
Time 13:04
Weather Fine
Road Surface Dry
Street Lighting Daylight

ROAD U

LOCATION U/C WEST HILL ROAD, at its Junction with U/C WELBECK ROAD, RETFORD

SITE DETAILS

Speed Limit 30 MPH
Carriageway Single c'way
Lane markings Centre/hazard line
Junction Detail T or Staggered junction
Junction Control Give way sign or uncontrolled
2nd Road Number U
Pedestrian Facilities No Human control within 50m
and No crossing facility within 50m

SPECIAL SITE CONDITIONS

None

CARRIAGEWAY HAZARDS

None

VEHICLES INVOLVED 2

Veh.No. 1 Vehicle type Car
Manoeuvre Turning right
Direction from South to East Towing? No
Skidded No
Veh location at impact (restricted lane) On main carriageway
Junct. location of veh. at 1st impact Leaving main road
Veh left carriageway? Did not leave c'way
Hit object in c'way? None
Hit object off c'way? None
First point of impact Front
Drivers age 19 yrs Sex Male Other veh.hit (ref.) 2 Hit and run No
Foreign vehicle Not foreign Breath test Not requested
Journey purpose Other/Not known

Veh.No. 2 Vehicle type Car
Manoeuvre Going ahead other
Direction from North to South Towing? No
Skidded No
Veh location at impact (restricted lane) On main carriageway
Junct. location of veh. at 1st impact Mid junction
Veh left carriageway? Did not leave c'way
Hit object in c'way? None
Hit object off c'way? None
First point of impact Front
Drivers age 28 yrs Sex Male Other veh.hit (ref.) 1 Hit and run No
Foreign vehicle Not foreign Breath test Not requested
Journey purpose Commuting to/from work

CASUALTIES INVOLVED 2

Cas No 1 Cas Class Driver or Rider Veh ref No 1
Severity SLIGHT Age 19 yrs Sex Male
Car Passenger? No PSV Passenger? No
Ped Movement Not a pedestrian
Ped location Not a pedestrian
Ped Direction to Not a pedestrian
School Pupil Other
Roadworker injured No

Cas No 2 Cas Class Driver or Rider Veh ref No 2
Severity SLIGHT Age 28 yrs Sex Male
Car Passenger? No PSV Passenger? No
Ped Movement Not a pedestrian
Ped location Not a pedestrian
Ped Direction to Not a pedestrian
School Pupil Other
Roadworker injured No

No. 8	District Bassetlaw		VRUs	Grid Reference 469936 / 379549
SEVERITY **SLIGHT**	Ref.No 2B139817	**Accident Details**		Police Officer Attend: No - reported over the counter

Date 08/08/2017 Day Tuesday	ROAD U
Time 12:31	LOCATION U/C WEST HILL ROAD (BUS STOP), (APPROX) 24 metres north of WELBECK ROAD, RETFORD
Weather Rain	
Road Surface Wet	
Street Lighting Daylight	

Speed Limit 30 MPH	SITE DETAILS
Carriageway Single c'way	
Lane markings Centre/hazard line	
Junction Detail Not at or within 20m of junction	
Junction Control	
2nd Road Number	
Pedestrian Facilities No Human control within 50m and No crossing facility within 50m	

SPECIAL SITE CONDITIONS

None

CARRIAGEWAY HAZARDS

None

VEHICLES INVOLVED 1

Veh.No. 1	Vehicle type Bus or Coach
Manoeuvre	Stopping
Direction from	South to North
Towing?	No
Skidded	No
Veh location at impact (restricted lane)	On main carriageway
Junct. location of veh. at 1st impact	Not at junction
Veh left carriageway?	Did not leave c'way
Hit object in c'way?	None
Hit object off c'way?	None
First point of impact	Did not impact
Drivers age U/K yrs Sex	Male
Other veh.hit (ref.)	0
Hit and run	No
Foreign vehicle	Not foreign
Breath test	Not contacted
Journey purpose	Journey as part of work

CASUALTIES INVOLVED 1

Cas No 1	Cas Class Passenger
Veh ref No	1
Severity **SLIGHT**	Age U/K yrs Sex Female
Car Passenger?	No
PSV Passenger?	Standing
Ped Movement	Not a pedestrian
Ped location	Not a pedestrian
Ped Direction to	Not a pedestrian
School Pupil	Other
Roadworker injured	No

No. 9	District Bassetlaw		VRUs	Grid Reference 470784 / 379621
SEVERITY **SLIGHT**	Ref.No 2B158417	**Accident Details**	**Pedestrian**	Police Officer Attend: Yes

Date	27/08/2017	Day Sunday	ROAD U
Time	03:00		LOCATION U/C GOOSEMOOR LANE, RETFORD
Weather	Fine		
Road Surface	Dry		
Street Lighting	Dark/lights lit		

Speed Limit	40 MPH	SITE DETAILS	SPECIAL SITE CONDITIONS: None
Carriageway	Single c'way		CARRIAGEWAY HAZARDS: None
Lane markings	Centre/hazard line		
Junction Detail	Not at or within 20m of junction		
Junction Control			
2nd Road Number			
Pedestrian Facilities	No Human control within 50m		
and	No crossing facility within 50m		

VEHICLES INVOLVED 1

Veh.No. 1	Vehicle type Car		
Manoeuvre	Going ahead other		
Direction from East to West		Towing? No	
Skidded	No		
Veh location at impact (restricted lane)	On main carriageway		
Junct. location of veh. at 1st impact	Not at junction		
Veh left carriageway?	Did not leave c'way		
Hit object in c'way?	None		
Hit object off c'way?	None		
First point of impact	Front		
Drivers age U/K yrs	Sex Not traced	Other veh.hit (ref.) 0	Hit and run Yes
Foreign vehicle	Not foreign		Breath test Not contacted
Journey purpose			

CASUALTIES INVOLVED 1

Cas No 1	Cas Class Pedestrian		Veh ref No 1
Severity **SLIGHT**	Age 31 yrs	Sex Male	
Car Passenger?	No	PSV Passenger? No	
Ped Movement	Crossing from drivers nearside		
Ped location	In c'way crossing elsewhere		
Ped Direction to	North		
School Pupil	Other		
Roadworker injured	No		

No. 10	District Bassetlaw		VRUs	Grid Reference 469796 / 379877
SEVERITY **SERIOUS**	Ref.No 2B224615	**Accident Details**	**Pedestrian**	Police Officer Attend: Yes

Date	19/10/2015	Day Monday	ROAD C45
Time	15:30		LOCATION C45 WEST HILL ROAD, 30 metres southeast of /NEWLANDS (OUTSIDE ORDSALL PRIMARY SCHOOL), RETFORD
Weather	Fine		
Road Surface	Dry		
Street Lighting	Daylight		

Speed Limit	30 MPH	SITE DETAILS	SPECIAL SITE CONDITIONS: None
Carriageway	Single c'way		
Lane markings	Centre/hazard line		CARRIAGEWAY HAZARDS: None
Junction Detail	Not at or within 20m of junction		
Junction Control			
2nd Road Number			
Pedestrian Facilities	No Human control within 50m		
and	No crossing facility within 50m		

VEHICLES INVOLVED 1

Veh.No.	1	Vehicle type	Car		
Manoeuvre	Going ahead other				
Direction from	North west to South east	Towing?	No		
Skidded	No				
Veh location at impact (restricted lane)	On main carriageway				
Junct. location of veh. at 1st impact	Not at junction				
Veh left carriageway?	Did not leave c'way				
Hit object in c'way?	None				
Hit object off c'way?	None				
First point of impact	Nearside				
Drivers age	53 yrs	Sex	Female	Other veh.hit (ref.) 0	Hit and run No
Foreign vehicle	Not foreign				Breath test Negative
Journey purpose	Other/Not known				

CASUALTIES INVOLVED 1

Cas No	1	Cas Class	Pedestrian	Veh ref No	1
Severity	**SERIOUS**	Age	6 yrs	Sex	Female
Car Passenger?	No	PSV Passenger?	No		
Ped Movement	Crossing from drivers nearside				
Ped location	In c'way crossing elsewhere				
Ped Direction to	South west				
School Pupil	Other				
Roadworker injured	No				

No. 11	District Bassetlaw		VRUs	Grid Reference 469733 / 379949
SEVERITY **SLIGHT**	Ref.No 2B142116	**Accident Details**		Police Officer Attend: Yes

Date	18/02/2016 Day Thursday	ROAD	U
Time	11:45	LOCATION	Unclassified Road WEST HILL ROAD/ORDSALL ROAD (NW), at its Junction with Unclassified Road ORDSALL ROAD (E), RETFORD
Weather	Fine		
Road Surface	Dry		
Street Lighting	Daylight		

Speed Limit	30 MPH	SITE DETAILS	
Carriageway	Single c'way		
Lane markings	Centre/hazard line		
Junction Detail	T or Staggered junction		
Junction Control	Give way sign or uncontrolled		
2nd Road Number	U		
Pedestrian Facilities	No Human control within 50m		
and	No crossing facility within 50m		

SPECIAL SITE CONDITIONS

None

CARRIAGEWAY HAZARDS

None

VEHICLES INVOLVED 2

Veh.No. 1 Vehicle type Car
Manoeuvre Turning right
Direction from East to North west Towing? No
Skidded No
Veh location at impact (restricted lane) On main carriageway
Junct. location of veh. at 1st impact Entering main road
Veh left carriageway? Did not leave c'way
Hit object in c'way? None
Hit object off c'way? None
First point of impact Front
Drivers age 67 yrs Sex Male Other veh.hit (ref.) 2 Hit and run No
Foreign vehicle Not foreign Breath test Negative
Journey purpose Commuting to/from work

Veh.No. 2 Vehicle type Car
Manoeuvre Going ahead other
Direction from North west to South east Towing? No
Skidded No
Veh location at impact (restricted lane) On main carriageway
Junct. location of veh. at 1st impact Mid junction
Veh left carriageway? Did not leave c'way
Hit object in c'way? None
Hit object off c'way? None
First point of impact Nearside
Drivers age 69 yrs Sex Male Other veh.hit (ref.) 1 Hit and run No
Foreign vehicle Not foreign Breath test Negative
Journey purpose

CASUALTIES INVOLVED 2

Cas No 1 Cas Class Driver or Rider Veh ref No 2
Severity **SLIGHT** Age 69 yrs Sex Male
Car Passenger? No PSV Passenger? No
Ped Movement Not a pedestrian
Ped location Not a pedestrian
Ped Direction to Not a pedestrian
School Pupil Other
Roadworker injured No

Cas No 2 Cas Class Passenger Veh ref No 2
Severity **SLIGHT** Age U/K yrs Sex Male
Car Passenger? Front PSV Passenger? No
Ped Movement Not a pedestrian
Ped location Not a pedestrian
Ped Direction to Not a pedestrian
School Pupil Other
Roadworker injured No

No. 12	District Bassetlaw	Accident Details	VRUs	Grid Reference 469638 / 380035
SEVERITY SLIGHT	Ref.No 2B084617		Pedestrian	Police Officer Attend: Yes

Date 05/05/2017 Day Friday
Time 16:28
Weather Fine
Road Surface Dry
Street Lighting Daylight

ROAD U

LOCATION Unclassified Road ORDSALL ROAD at House Number 97, RETFORD

Speed Limit 30 MPH
Carriageway Single c'way
Lane markings Centre/hazard line
Junction Detail Not at or within 20m of junction
Junction Control
2nd Road Number
Pedestrian Facilities and No Human control within 50m No crossing facility within 50m

SITE DETAILS

SPECIAL SITE CONDITIONS

None

CARRIAGEWAY HAZARDS

None

VEHICLES INVOLVED 1

Veh.No. 1 Vehicle type Car
Manoeuvre Going ahead other
Direction from North west to South east Towing? No
Skidded No
Veh location at impact (restricted lane) On main carriageway
Junct. location of veh. at 1st impact Not at junction
Veh left carriageway? Did not leave c'way
Hit object in c'way? None
Hit object off c'way? None
First point of impact Front
Drivers age 53 yrs Sex Male Other veh.hit (ref.) 0 Hit and run No
Foreign vehicle Not foreign Breath test Not requested
Journey purpose Other/Not known

CASUALTIES INVOLVED 1

Cas No 1 Cas Class Pedestrian Veh ref No 1
Severity SLIGHT Age 12 yrs Sex Male
Car Passenger? No PSV Passenger? No
Ped Movement Crossing from drivers nearside
Ped location In c'way crossing elsewhere
Ped Direction to South west
School Pupil Yes on way to or from school
Roadworker injured No

No. 13	District Bassetlaw		VRUs	Grid Reference 469603 / 380060
SEVERITY **SLIGHT**	Ref.No 2B053920	**Accident Details**	**Pedestrian**	Police Officer Attend: No - reported over the counter

Date 20/04/2020 Day Monday
Time 18:55
Weather Fine
Road Surface Dry
Street Lighting Daylight

ROAD U

LOCATION U/C ORDSALL ROAD at House Number OPP 89, 21 metres southeast of NORTHUMBRIA DRIVE, RETFORD

Speed Limit 30 MPH
Carriageway Single c'way
Lane markings Centre/hazard line
Junction Detail Not at or within 20m of junction
Junction Control
2nd Road Number
Pedestrian Facilities and No Human control within 50m No crossing facility within 50m

SITE DETAILS

SPECIAL SITE CONDITIONS

None

CARRIAGEWAY HAZARDS

None

VEHICLES INVOLVED 1

Veh.No. 1 Vehicle type Car
Manoeuvre Going ahead other
Direction from South east to North west Towing? No
Skidded No
Veh location at impact (restricted lane) On main carriageway
Junct. location of veh. at 1st impact Not at junction
Veh left carriageway? Did not leave c'way
Hit object in c'way? None
Hit object off c'way? None
First point of impact Nearside
Drivers age 37 yrs Sex Male Other veh.hit (ref.) 0 Hit and run No
Foreign vehicle Not foreign Breath test Not contacted
Journey purpose

CASUALTIES INVOLVED 1

Cas No 1 Cas Class Pedestrian Veh ref No 1
Severity **SLIGHT** Age 35 yrs Sex Male
Car Passenger? No PSV Passenger? No
Ped Movement Crossing from drivers offside
Ped location In c'way crossing elsewhere
Ped Direction to South west
School Pupil Other
Roadworker injured No

No. 14	District Bassetlaw	Accident Details	VRUs	Grid Reference 469447 / 380206
SEVERITY SERIOUS	Ref.No 2B068318			Police Officer Attend: Yes

Date	26/03/2018	Day Monday	ROAD U
Time	19:56		LOCATION U/C ORDSALL ROAD, 236 metres southeast of U/C ORDSALL PARK ROAD, RETFORD
Weather	Fine		
Road Surface	Dry		
Street Lighting	Dark/lights lit		

Speed Limit	30 MPH	SITE DETAILS	SPECIAL SITE CONDITIONS
Carriageway	Single c'way		None
Lane markings	Centre/hazard line		CARRIAGEWAY HAZARDS
Junction Detail	Not at or within 20m of junction		None
Junction Control			
2nd Road Number			
Pedestrian Facilities	No Human control within 50m		
and	No crossing facility within 50m		

VEHICLES INVOLVED 2

Veh.No. 1 Vehicle type Car
Manoeuvre Going ahead other
Direction from North west to South east Towing? No
Skidded No
Veh location at impact (restricted lane) On main carriageway
Junct. location of veh. at 1st impact Not at junction
Veh left carriageway? Did not leave c'way
Hit object in c'way? None
Hit object off c'way? None
First point of impact Front
Drivers age 59 yrs Sex Male Other veh.hit (ref.) 2 Hit and run No
Foreign vehicle Not foreign Breath test Not requested
Journey purpose Commuting to/from work

Veh.No. 2 Vehicle type Car
Manoeuvre Going ahead other
Direction from South east to North west Towing? No
Skidded No
Veh location at impact (restricted lane) On main carriageway
Junct. location of veh. at 1st impact Not at junction
Veh left carriageway? Did not leave c'way
Hit object in c'way? None
Hit object off c'way? None
First point of impact Front
Drivers age 39 yrs Sex Male Other veh.hit (ref.) 1 Hit and run No
Foreign vehicle Not foreign Breath test Not requested
Journey purpose Commuting to/from work

CASUALTIES INVOLVED 2

Cas No 1 Cas Class Driver or Rider Veh ref No 1
Severity **SERIOUS** Age 59 yrs Sex Male
Car Passenger? No PSV Passenger? No
Ped Movement Not a pedestrian
Ped location Not a pedestrian
Ped Direction to Not a pedestrian
School Pupil Other
Roadworker injured No

Cas No 2 Cas Class Driver or Rider Veh ref No 2
Severity **SLIGHT** Age 39 yrs Sex Male
Car Passenger? No PSV Passenger? No
Ped Movement Not a pedestrian
Ped location Not a pedestrian
Ped Direction to Not a pedestrian
School Pupil Other
Roadworker injured No

No. 15	District Bassetlaw	# Accident Details	VRUs	Grid Reference 469318 / 380377
SEVERITY **SLIGHT**	Ref.No 2B137815		**Pedestrian**	Police Officer Attend: No - reported over the counter

Date	08/06/2015	Day Monday	ROAD U
Time	08:15		LOCATION Unclassified Road ORDSALL ROAD, 21 metres southeast of Unclassified Road ORDSALL PARK ROAD, RETFORD
Weather	Other		
Road Surface	Dry		
Street Lighting	Daylight		

SITE DETAILS	
Speed Limit	30 MPH
Carriageway	Single c'way
Lane markings	Centre/hazard line
Junction Detail	Not at or within 20m of junction
Junction Control	
2nd Road Number	
Pedestrian Facilities	No Human control within 50m
and	No crossing facility within 50m

SPECIAL SITE CONDITIONS

None

CARRIAGEWAY HAZARDS

None

VEHICLES INVOLVED 1

Veh.No.	1	Vehicle type	Goods 3.5 - 7.5t		
Manoeuvre	Going ahead other				
Direction from	South east to North west	Towing?	No		
Skidded	No				
Veh location at impact (restricted lane)	On main carriageway				
Junct. location of veh. at 1st impact	Not at junction				
Veh left carriageway?	Did not leave c'way				
Hit object in c'way?	None				
Hit object off c'way?	None				
First point of impact	Nearside				
Drivers age	48 yrs	Sex	Male	Other veh.hit (ref.) 0	Hit and run No
Foreign vehicle	Not foreign				Breath test Not contacted
Journey purpose	Journey as part of work				

CASUALTIES INVOLVED 1

Cas No	1	Cas Class	Pedestrian	Veh ref No	1
Severity	**SLIGHT**	Age	16 yrs	Sex	Male
Car Passenger?	No	PSV Passenger?	No		
Ped Movement	Unknown or other				
Ped location	On footway or verge				
Ped Direction to	South west				
School Pupil	Yes on way to or from school				
Roadworker injured	No				

No. 16	District Bassetlaw	Accident Details	VRUs Motorcycle	Grid Reference 469125 / 380649
SEVERITY SERIOUS	Ref.No 2B072117			Police Officer Attend: Yes

Date	04/02/2017 Day Saturday	ROAD	A620
Time	11:42	LOCATION	A620 BABWORTH ROAD RBT, at its Junction with Unclassified Road ORDSALL ROAD, RETFORD
Weather	Fine		
Road Surface	Dry		
Street Lighting	Daylight		

SITE DETAILS	
Speed Limit	40 MPH
Carriageway	Roundabout
Lane markings	Centre/hazard line
Junction Detail	Mini Roundabout
Junction Control	Give way sign or uncontrolled
2nd Road Number	U
Pedestrian Facilities	No Human control within 50m
and	No crossing facility within 50m

SPECIAL SITE CONDITIONS

None

CARRIAGEWAY HAZARDS

None

VEHICLES INVOLVED 2

Veh.No. 1 Vehicle type M/cycle 50 - 125cc
Manoeuvre Going ahead other
Direction from North east to South west Towing? No
Skidded No
Veh location at impact (restricted lane) On main carriageway
Junct. location of veh. at 1st impact Mid junction
Veh left carriageway? Did not leave c'way
Hit object in c'way? None
Hit object off c'way? None
First point of impact Front
Drivers age 19 yrs Sex Male Other veh.hit (ref.) 2 Hit and run No
Foreign vehicle Not foreign Breath test Not requested
Journey purpose

Veh.No. 2 Vehicle type Car
Manoeuvre Turning right
Direction from South east to North east Towing? No
Skidded No
Veh location at impact (restricted lane) On main carriageway
Junct. location of veh. at 1st impact Entering roundabout
Veh left carriageway? Did not leave c'way
Hit object in c'way? None
Hit object off c'way? None
First point of impact Offside
Drivers age 73 yrs Sex Male Other veh.hit (ref.) 1 Hit and run No
Foreign vehicle Not foreign Breath test Not requested
Journey purpose

CASUALTIES INVOLVED 1

Cas No 1 Cas Class Driver or Rider Veh ref No 1
Severity SERIOUS Age 19 yrs Sex Male
Car Passenger? No PSV Passenger? No
Ped Movement Not a pedestrian
Ped location Not a pedestrian
Ped Direction to Not a pedestrian
School Pupil Other
Roadworker injured No

No. 17	District Bassetlaw		VRUs	Grid Reference 469129 / 380651
SEVERITY **SLIGHT**	Ref.No 2B183215	**Accident Details**		Police Officer Attend: Yes

Date	30/07/2015	Day Thursday	ROAD A620
Time	20:29		LOCATION A620 BABWORTH ROAD, at its M-RBT Junction with Unclassified Road ORDSALL ROAD, RETFORD
Weather	Fine		
Road Surface	Dry		
Street Lighting	Daylight		

Speed Limit	30 MPH	SITE DETAILS	SPECIAL SITE CONDITIONS: None
Carriageway	Roundabout		CARRIAGEWAY HAZARDS: None
Lane markings	Centre/hazard line		
Junction Detail	Mini Roundabout		
Junction Control	Give way sign or uncontrolled		
2nd Road Number	U		
Pedestrian Facilities	No Human control within 50m		
and	No crossing facility within 50m		

VEHICLES INVOLVED 2

Veh.No. 1 Vehicle type Car
Manoeuvre Turning right
Direction from South east to North east Towing? No
Skidded No
Veh location at impact (restricted lane) On main carriageway
Junct. location of veh. at 1st impact Entering roundabout
Veh left carriageway? Did not leave c'way
Hit object in c'way? None
Hit object off c'way? None
First point of impact Front
Drivers age 19 yrs Sex Female Other veh.hit (ref.) 2 Hit and run No
Foreign vehicle Not foreign Breath test Negative
Journey purpose Journey as part of work

Veh.No. 2 Vehicle type Car
Manoeuvre Going ahead other
Direction from North east to South west Towing? No
Skidded No
Veh location at impact (restricted lane) On main carriageway
Junct. location of veh. at 1st impact Mid junction
Veh left carriageway? Did not leave c'way
Hit object in c'way? Bollard/refuge
Hit object off c'way? None
First point of impact Nearside
Drivers age 29 yrs Sex Male Other veh.hit (ref.) 1 Hit and run No
Foreign vehicle Not foreign Breath test Negative
Journey purpose Journey as part of work

CASUALTIES INVOLVED 2

Cas No 1 Cas Class Driver or Rider Veh ref No 1
Severity **SLIGHT** Age 19 yrs Sex Female
Car Passenger? No PSV Passenger? No
Ped Movement Not a pedestrian
Ped location Not a pedestrian
Ped Direction to Not a pedestrian
School Pupil Other
Roadworker injured No

Cas No 2 Cas Class Driver or Rider Veh ref No 2
Severity **SLIGHT** Age 29 yrs Sex Male
Car Passenger? No PSV Passenger? No
Ped Movement Not a pedestrian
Ped location Not a pedestrian
Ped Direction to Not a pedestrian
School Pupil Other
Roadworker injured No

No. 18	District Bassetlaw		VRUs	Grid Reference 469125 / 380653
SEVERITY **SLIGHT**	Ref.No 2B082719	**Accident Details**		Police Officer Attend: Yes

Date	24/05/2019 Day Friday	ROAD	A620
Time	12:40	LOCATION	A620 BABWORTH ROAD M-RBT, at its Junction with U/C ORDSALL ROAD, RETFORD
Weather	Fine		
Road Surface	Dry		
Street Lighting	Daylight		

SITE DETAILS	
Speed Limit	40 MPH
Carriageway	Roundabout
Lane markings	Centre/hazard line
Junction Detail	Mini Roundabout
Junction Control	Give way sign or uncontrolled
2nd Road Number	U
Pedestrian Facilities	No Human control within 50m
and	Central Refuge only

SPECIAL SITE CONDITIONS

None

CARRIAGEWAY HAZARDS

None

VEHICLES INVOLVED 2

Veh.No. 1 Vehicle type Car
Manoeuvre Turning right
Direction from South west to South east Towing? No
Skidded No
Veh location at impact (restricted lane) On main carriageway
Junct. location of veh. at 1st impact Mid junction
Veh left carriageway? Did not leave c'way
Hit object in c'way? None
Hit object off c'way? None
First point of impact Front
Drivers age 22 yrs Sex Male Other veh.hit (ref.) 2 Hit and run No
Foreign vehicle Not foreign Breath test Negative
Journey purpose Commuting to/from work

Veh.No. 2 Vehicle type Car
Manoeuvre Going ahead other
Direction from North east to South west Towing? No
Skidded No
Veh location at impact (restricted lane) On main carriageway
Junct. location of veh. at 1st impact Entering roundabout
Veh left carriageway? Did not leave c'way
Hit object in c'way? None
Hit object off c'way? None
First point of impact Front
Drivers age 20 yrs Sex Female Other veh.hit (ref.) 1 Hit and run No
Foreign vehicle Not foreign Breath test Negative
Journey purpose Commuting to/from work

CASUALTIES INVOLVED 1

Cas No 1 Cas Class Driver or Rider Veh ref No 2
Severity **SLIGHT** Age 20 yrs Sex Female
Car Passenger? No PSV Passenger? No
Ped Movement Not a pedestrian
Ped location Not a pedestrian
Ped Direction to Not a pedestrian
School Pupil Other
Roadworker injured No

No. 19	District Bassetlaw	Accident Details	VRUs Motorcycle	Grid Reference 469124 / 380655
SEVERITY SLIGHT	Ref.No 2B204718			Police Officer Attend: No - reported over the counter

Date	13/10/2018	Day	Saturday
Time	08:00		
Weather	Fine		
Road Surface	Dry		
Street Lighting	Daylight		

ROAD A620

LOCATION A620 BABWORTH ROAD M-RBT, at its Junction with U/C ORDSALL ROAD, RETFORD

SITE DETAILS	
Speed Limit	40 MPH
Carriageway	Roundabout
Lane markings	Centre/hazard line
Junction Detail	Mini Roundabout
Junction Control	Give way sign or uncontrolled
2nd Road Number	U
Pedestrian Facilities	No Human control within 50m
and	No crossing facility within 50m

SPECIAL SITE CONDITIONS

Oil or diesel

CARRIAGEWAY HAZARDS

None

VEHICLES INVOLVED 1

Veh.No. 1 Vehicle type M/cycle <= 50cc
Manoeuvre Turning right
Direction from South east to North east Towing? No
Skidded Yes
Veh location at impact (restricted lane) On main carriageway
Junct. location of veh. at 1st impact Entering roundabout
Veh left carriageway? Left c'way near-side
Hit object in c'way? None
Hit object off c'way? None
First point of impact Offside
Drivers age 17 yrs Sex Female Other veh.hit (ref.) 0 Hit and run No
Foreign vehicle Not foreign Breath test Not requested
Journey purpose

CASUALTIES INVOLVED 1

Cas No 1 Cas Class Driver or Rider Veh ref No 1
Severity SLIGHT Age 17 yrs Sex Female
Car Passenger? No PSV Passenger? No
Ped Movement Not a pedestrian
Ped location Not a pedestrian
Ped Direction to Not a pedestrian
School Pupil Other
Roadworker injured No

Appendix D – Concept Access Layout

Key:

- New Carriageway
- New Footway
- New Refuges
- Landscaping
- Site Boundary
- Pedestrian/Cycle Permeability

PRELIMINARY ISSUE

P01	PRELIMINARY FIRST ISSUE	08.06.2021	NJ	RJH	RJH

Tetra Tech Leicester
Executive Park, Avalon Way, Anstey,
Leicester, United Kingdom, LE7 7GR
Tel: +44 (0)11 6234 8000
www.tetratecheurope.com

TETRA TECH

Bassetlaw District Council

Ordsall Transport Assessment

Potential Site Access Roundabouts

B023665	NJ 06 June 21	RJH 08 June 21	RJH 08 June 21	1:2000	S2
B023665	TTE	00	XX	SK	O	0011	P01

Appendix E – Tempro Outputs

Level Area

E02005844 Bassetlaw 010

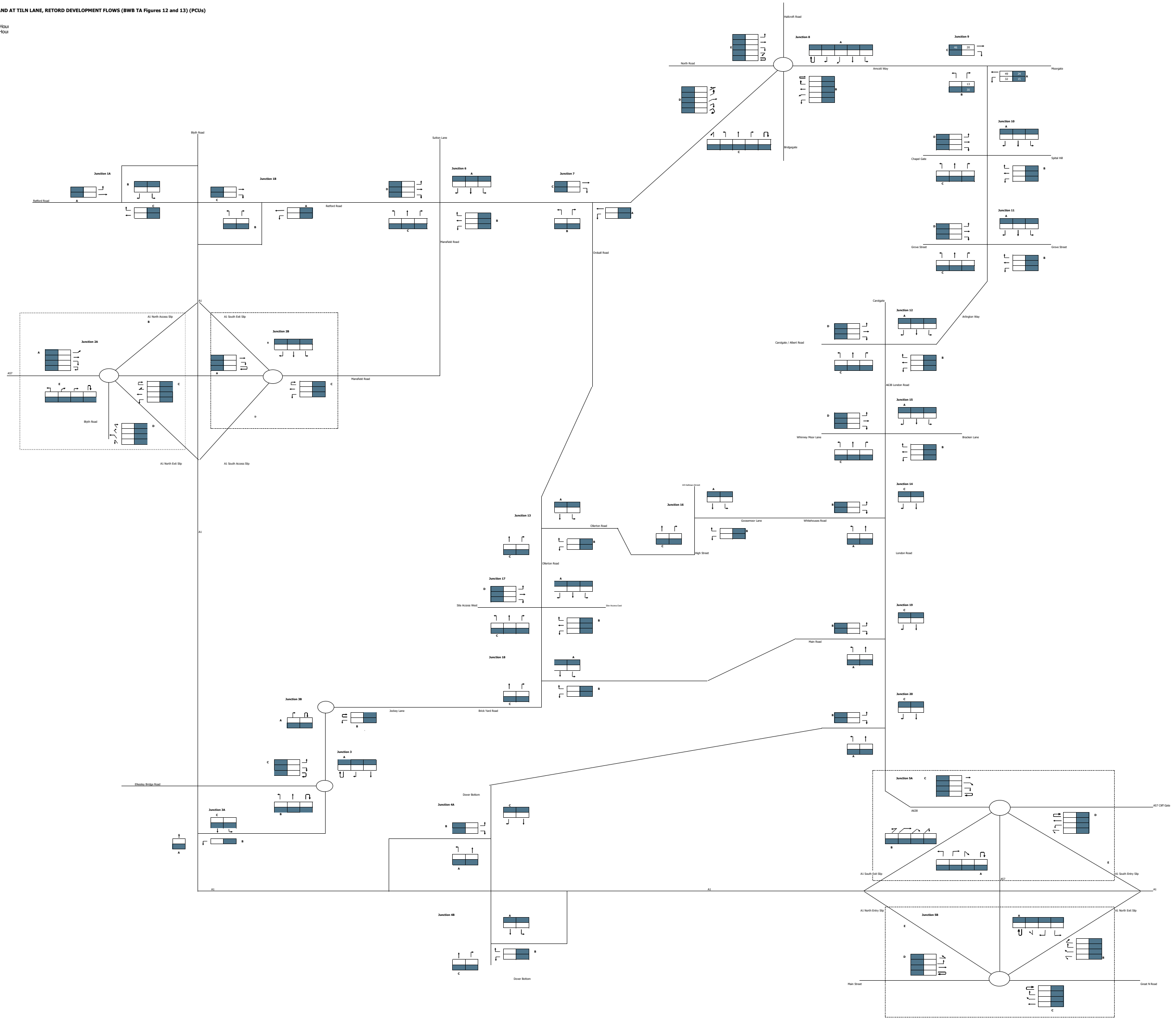
From	To	Period	Local Growth Figure
2011	2021	AM	1.136427167
2011	2021	PM	1.132265056
2018	2021	AM	1.048154416
2018	2021	PM	1.045408693
2019	2021	AM	1.032731155
2019	2021	PM	1.030959746
2021	2031	AM	1.111559297
2021	2031	PM	1.110880498

Appendix F – Committed Development Flows

14/00503/OUT LAND AT TILN LANE, RETORD DEVELOPMENT FLOWS (BWB TA Figures 12 and 13) (PCUs)

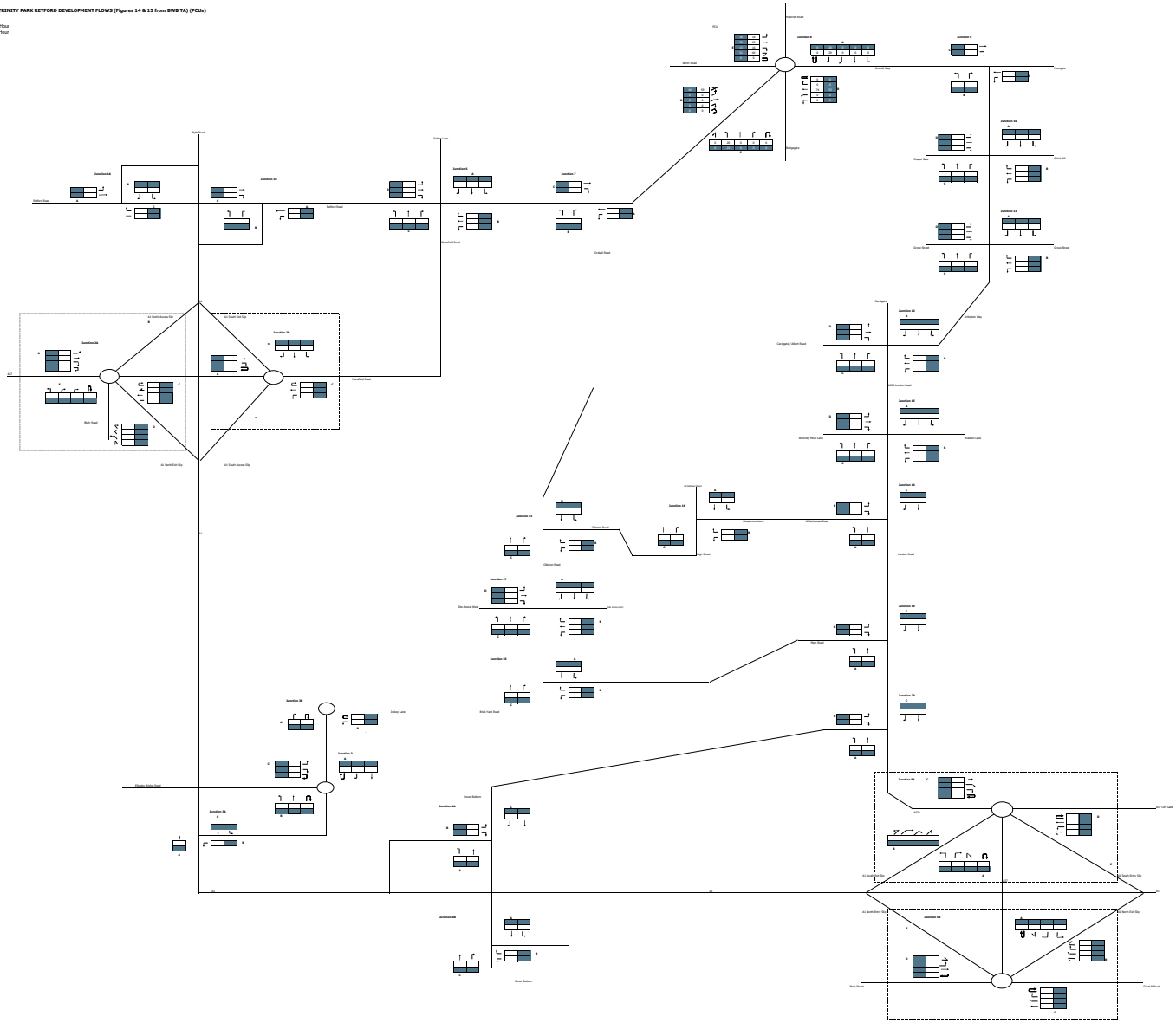
KEY

x	Morning Peak Hour
x	Evening Peak Hour



15/00493/OUT - TRINITY PARK RETFORD DEVELOPMENT FLOWS (Figures 14 & 15 from BWB TA) (PCUs)

KEY
AM Morning Peak Hour
PM Evening Peak Hour

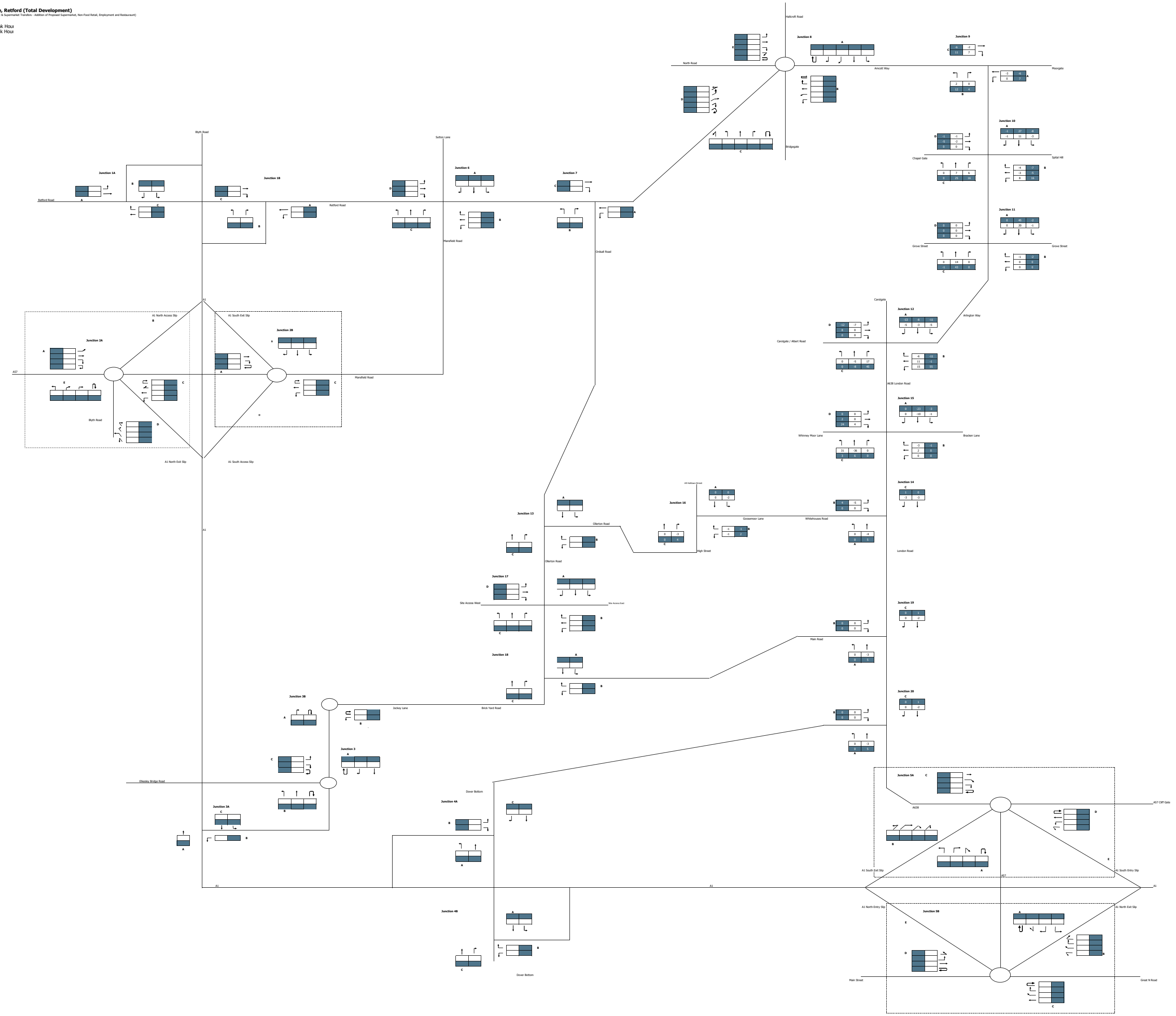


Thrumpton Lane, Retford (Total Development)

(Removed Current Employment & Supermarket Transfers - Addition of Proposed Supermarket, Non-Food Retail, Employment and Restauraunt)

KEY

x	Morning Peak Houı
x	Evening Peak Houı



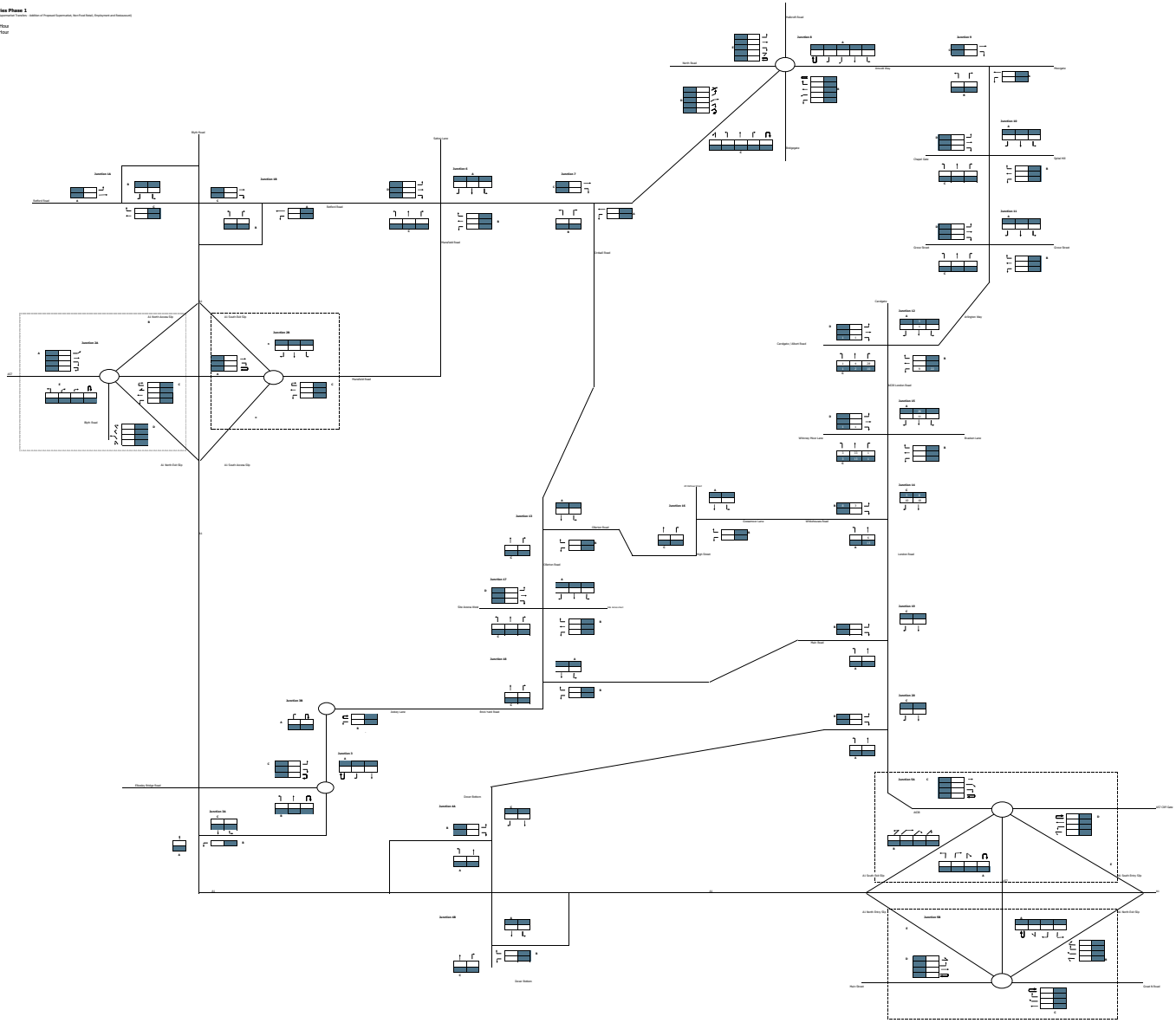
Kenilworth Nurseries Phase 1

(Reference Cumm Employment & Supermarket Tranches - Addition of Proposed Supermarket, Non-Food Retail, Employment and Restaurant)

KEY

Morning Peak Hour

Evening Peak Hour



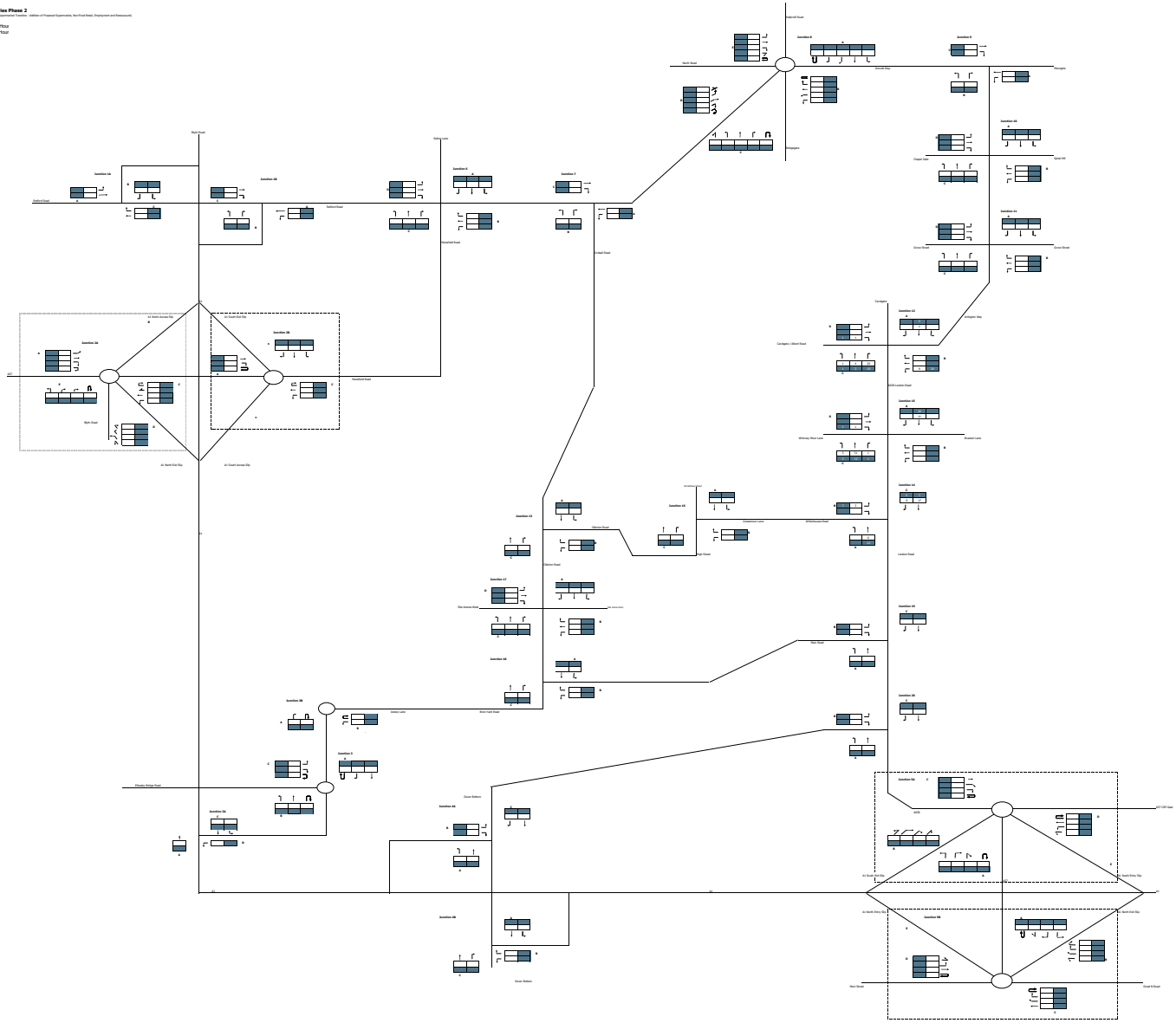
Kenilworth Nurseries Phase 2

(Reference Future Employment & Supermarket Transfers - Addition of Proposed Supermarket, Non-Food Retail, Employment and Restaurant)

KEY

Morning Peak Hour

Evening Peak Hour

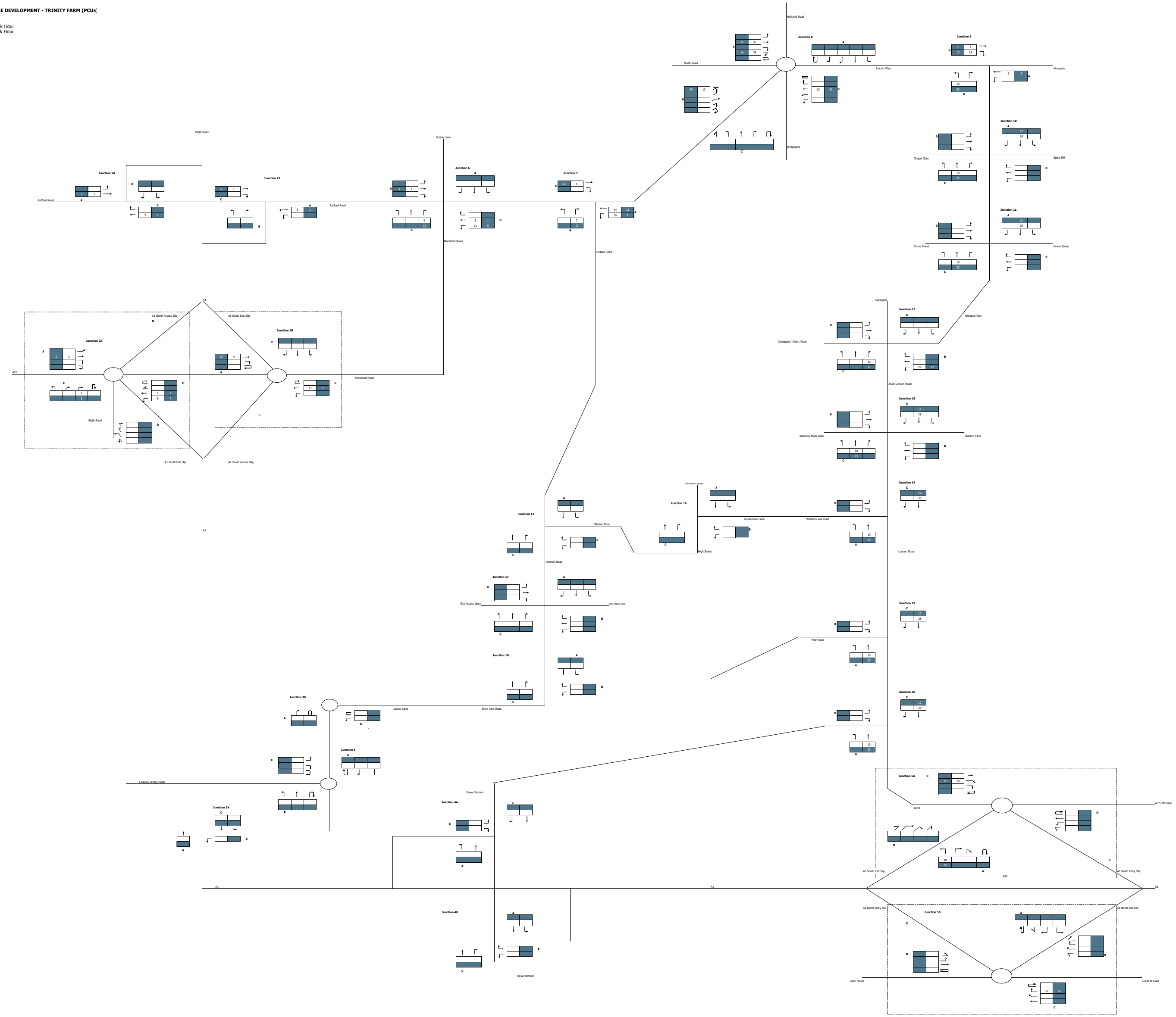


Appendix G – Development Flows for Other Allocations

OTHER POSSIBLE DEVELOPMENT - TRINITY FARM (PCUs)

KEY

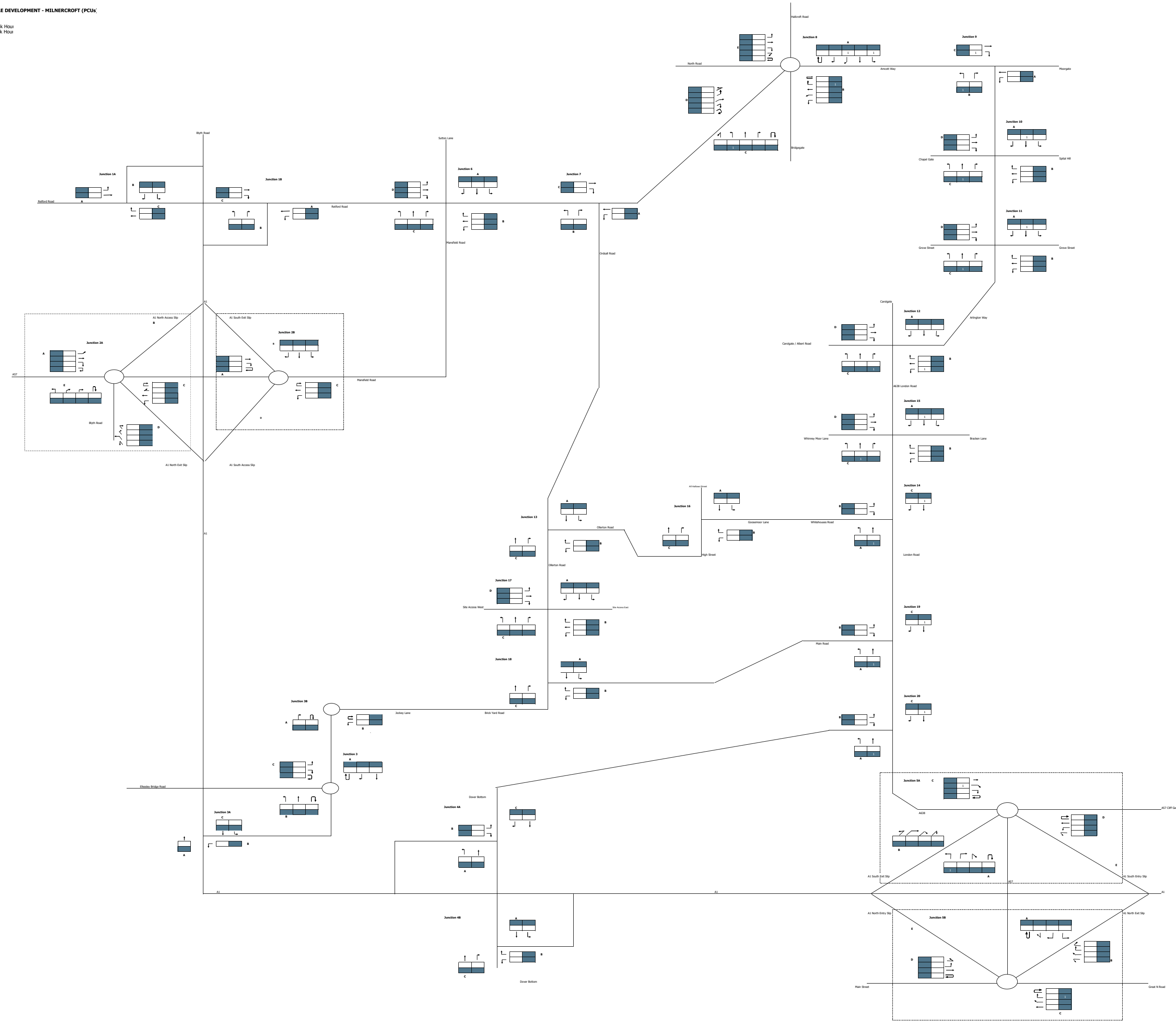
x	Morning Peak Hour
x	Evening Peak Hour



OTHER POSSIBLE DEVELOPMENT - MILNERCROFT (PCUs)

KEY

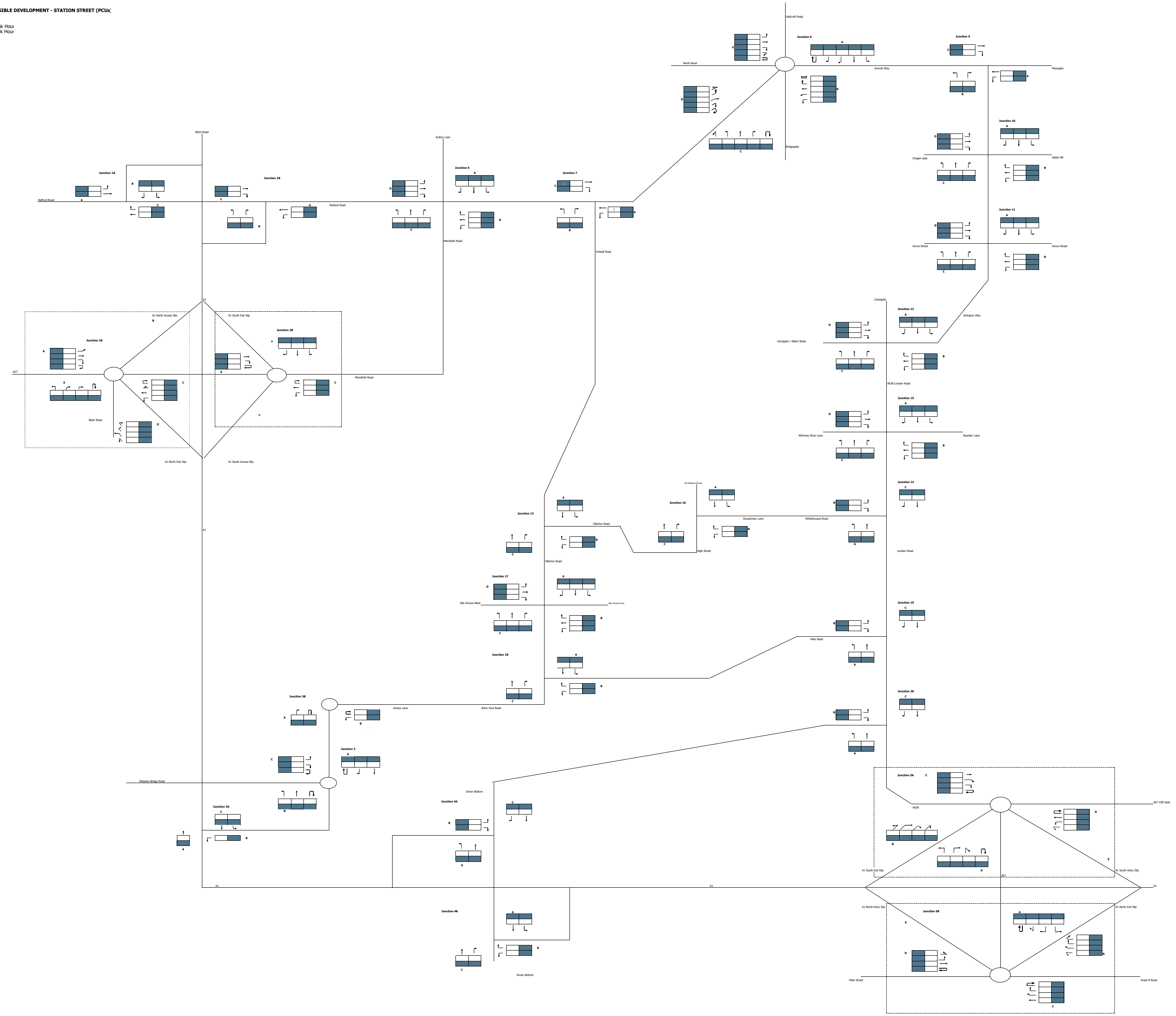
x	Morning Peak Hour
x	Evening Peak Hour



OPTIONAL POSSIBLE DEVELOPMENT - STATION STREET (PCUs)

KEY

x	Morning Peak Hour
x	Evening Peak Hour

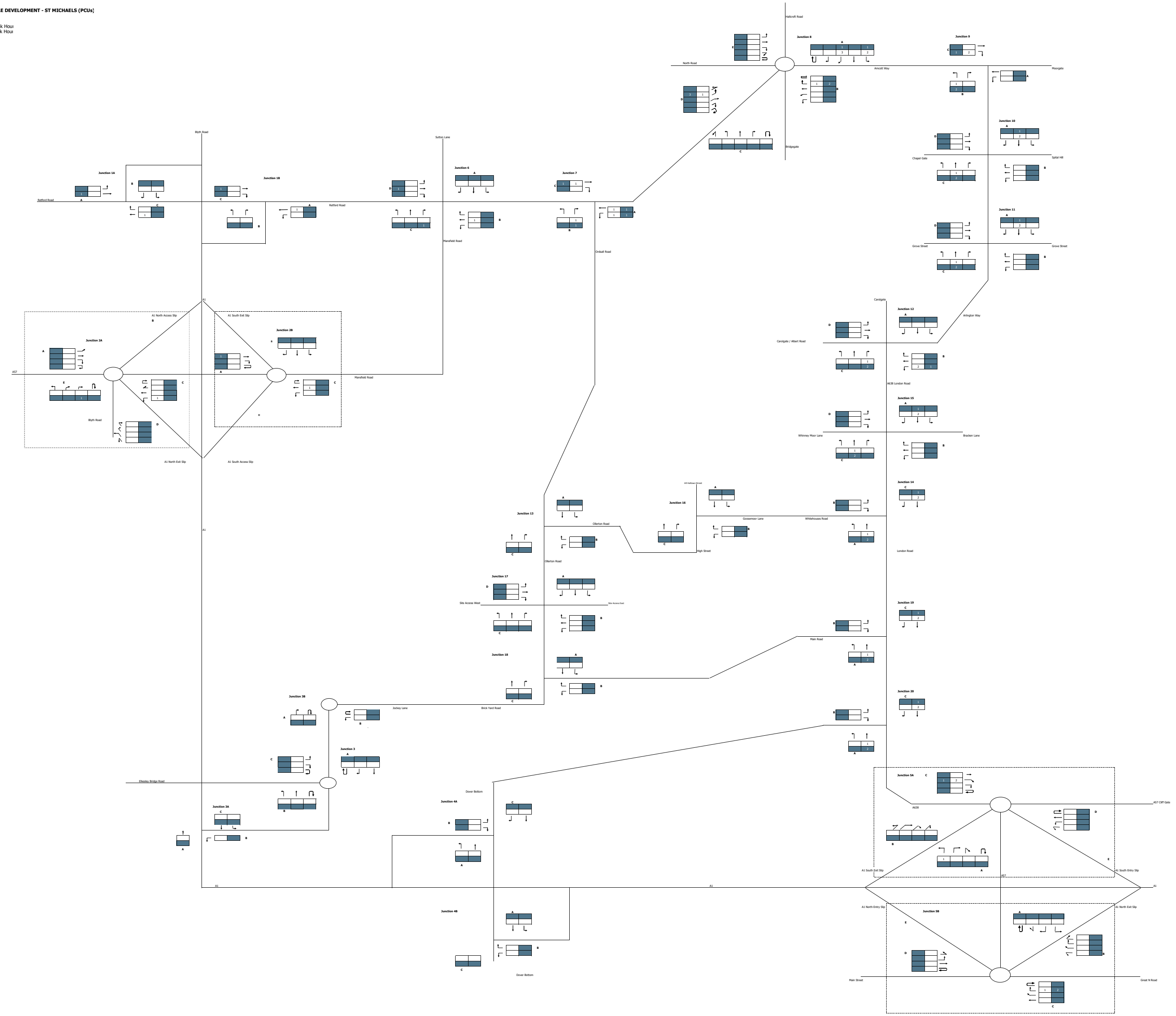


OTHER POSSIBLE DEVELOPMENT - ST MICHAELS (PCUs)

KEY

Morning Peak Hour

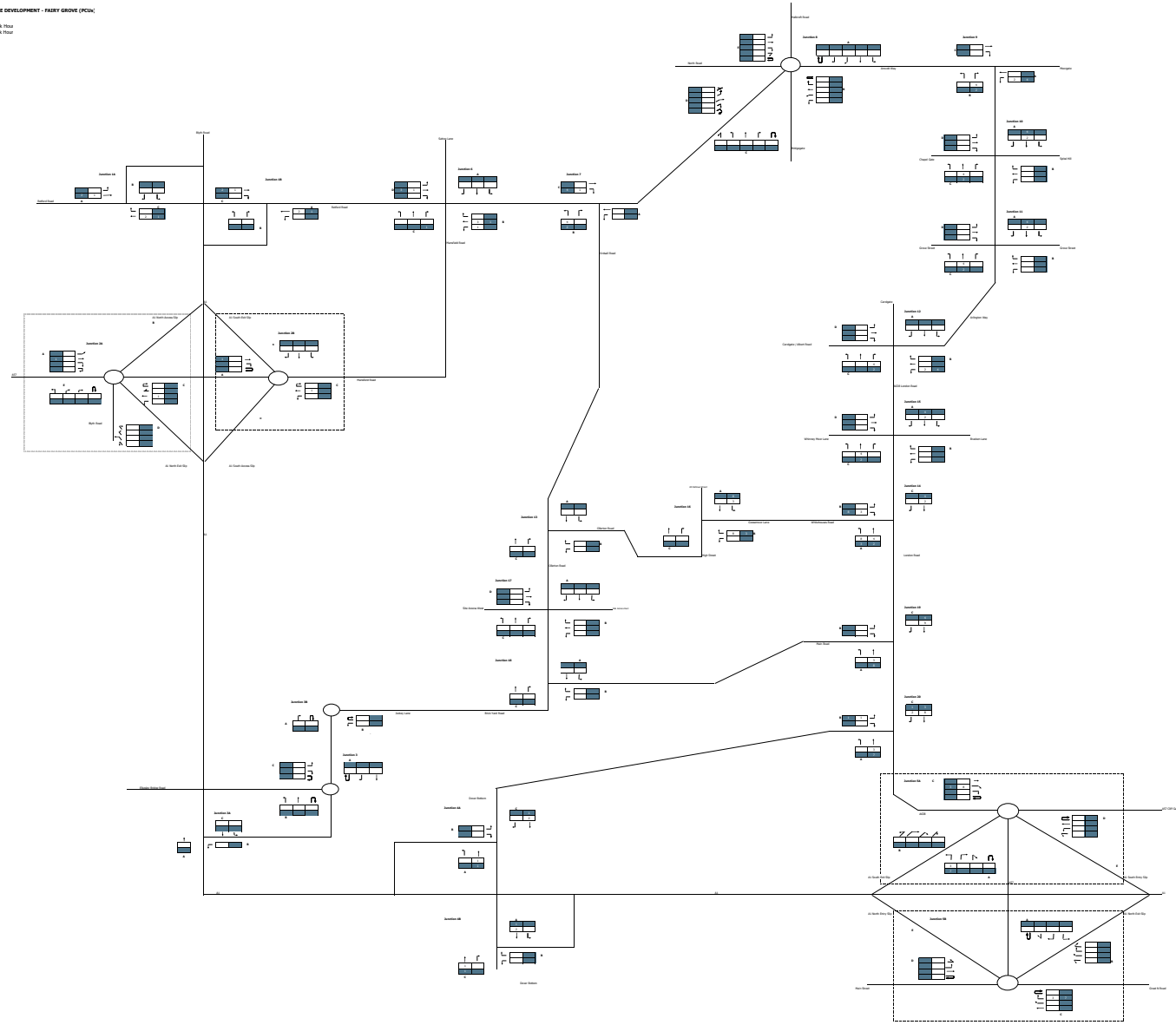
Evening Peak Hour



OTHER POSSIBLE DEVELOPMENT - FAIRY GROVE (PCUs)

KEY

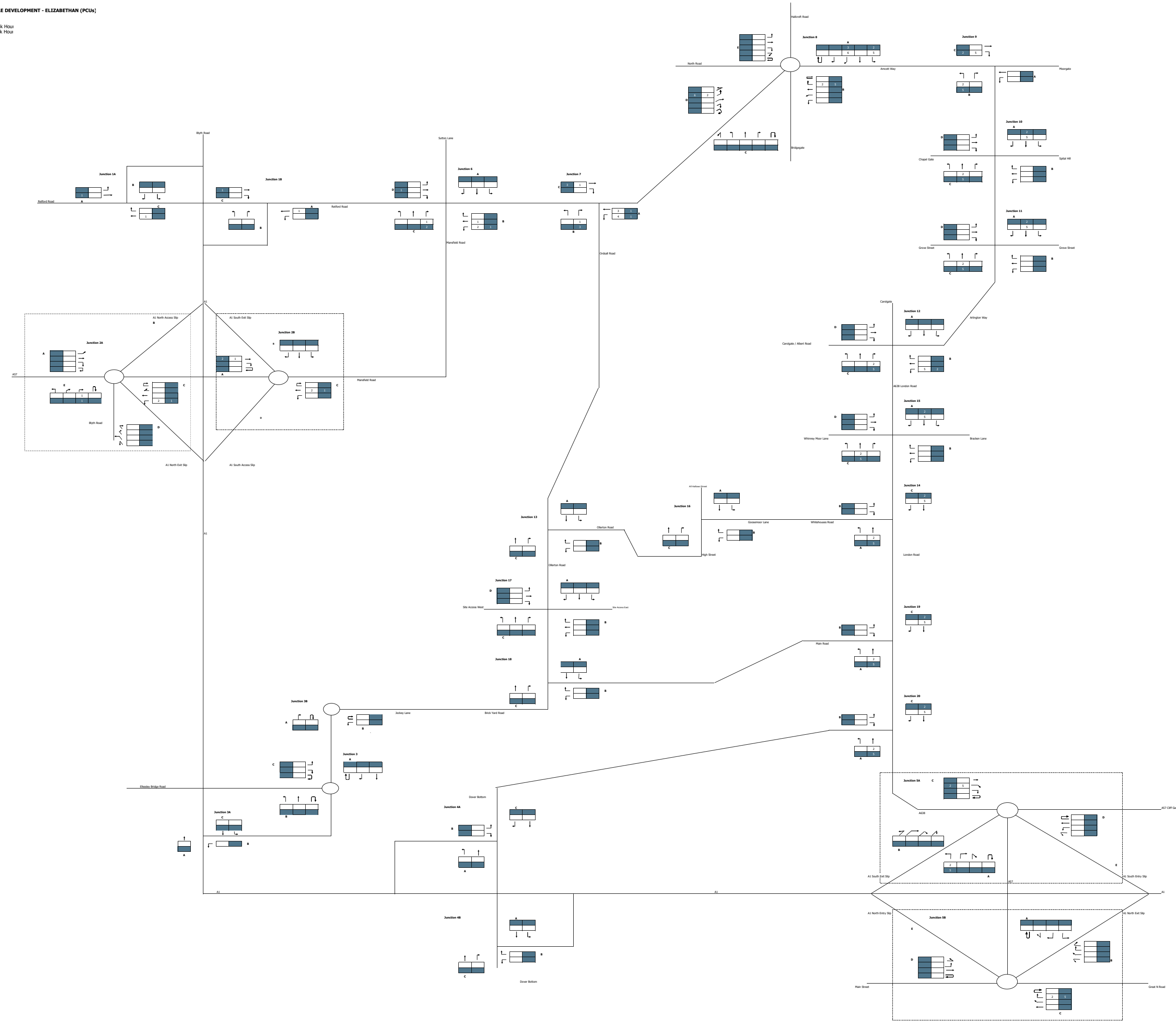
- Morning Peak Hour
- Evening Peak Hour



OTHER POSSIBLE DEVELOPMENT - ELIZABETHAN (PCUs)

KEY

x	Morning Peak Hour
x	Evening Peak Hour

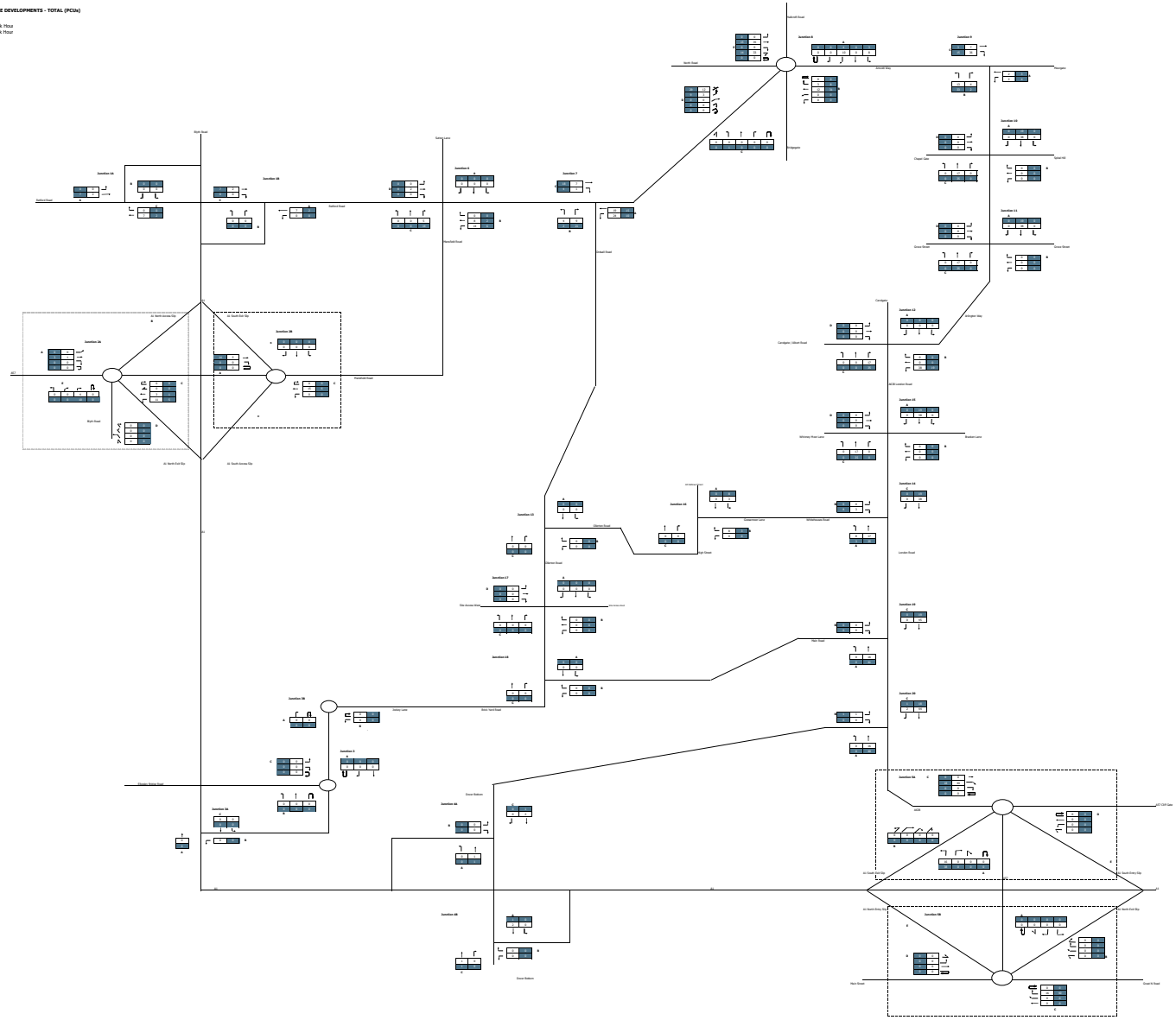


OTHER POSSIBLE DEVELOPMENTS - TOTAL (PCUs)

KEY

Morning Peak Hour

Evening Peak Hour



Appendix H – Trip Generation & Distribution

B023665 - Proposed Residential Development Ordsall, Retford
Trip Generation

Proposed number of dwellings 800

Trip generation has been estimated using trip rates from the Residential (Privately Owned) category in the TRICS database. Trip rates are shown in **Table 1**.

Table 1 - TRICS 'Residential (Houses Privately Owned)' Trip Rates

Mode	AM (08:00-09:00)			PM (17:00-18:00)		
	Arrivals	Departures	Total	Arrivals	Departures	Total
Vehicles	0.125	0.366	0.491	0.286	0.146	0.432
Taxis	0.004	0.004	0.008	0.002	0.002	0.004
OGVs	0.002	0.002	0.004	0.000	0.000	0.000
PSVs	0.001	0.001	0.002	0.000	0.000	0.000
Cyclists	0.005	0.013	0.018	0.010	0.006	0.016
Vehicle Occupants	0.150	0.576	0.726	0.419	0.200	0.619
Pedestrians	0.049	0.122	0.171	0.062	0.034	0.096
Public Transport Users	0.001	0.026	0.027	0.012	0.005	0.017
Total People	0.206	0.737	0.943	0.503	0.245	0.748

Using the trip rates in **Table 1**, trip generation for a residential development with 800 dwellings is shown in **Table 2**.

Table 2 - Trip Generation

Mode	AM (08:00-09:00)			PM (17:00-18:00)		
	Arrivals	Departures	Total	Arrivals	Departures	Total
Vehicles	100	293	393	229	117	346
Taxis	3	3	6	2	2	3
OGVs	2	2	3	0	0	0
PSVs	1	1	2	0	0	0
Cyclists	4	10	14	8	5	13
Vehicle Occupants	120	461	581	335	160	495
Pedestrians	39	98	137	50	27	77
Public Transport Users	1	21	22	10	4	14
Total People	165	590	754	402	196	598
PCUs	102	294	396	229	117	346

Calculation Reference: AUDIT-705102-210429-0456

TRIP RATE CALCULATION SELECTION PARAMETERS:

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

MULTI-MODAL TOTAL VEHICLES

Selected regions and areas:

02	**SOUTH EAST**		
	HC	HAMPSHIRE	1 days
	KC	KENT	2 days
	SC	SURREY	1 days
	WS	WEST SUSSEX	1 days
03	**SOUTH WEST**		
	DC	DORSET	1 days
	DV	DEVON	3 days
	SM	SOMERSET	1 days
	WL	WILTSHIRE	1 days
04	**EAST ANGLIA**		
	CA	CAMBRIDGESHIRE	1 days
	NF	NORFOLK	1 days
	SF	SUFFOLK	2 days
05	**EAST MIDLANDS**		
	LE	LEICESTERSHIRE	1 days
06	**WEST MIDLANDS**		
	SH	SHROPSHIRE	2 days
	ST	STAFFORDSHIRE	1 days
	WK	WARWICKSHIRE	2 days
	WM	WEST MIDLANDS	1 days
07	**YORKSHIRE & NORTH LINCOLNSHIRE**		
	NE	NORTH EAST LINCOLNSHIRE	1 days
	NY	NORTH YORKSHIRE	3 days
	SY	SOUTH YORKSHIRE	1 days
08	**NORTH WEST**		
	CH	CHESHIRE	3 days
	MS	MERSEYSIDE	1 days
09	**NORTH**		
	DH	DURHAM	2 days
	TW	TYNE & WEAR	1 days
10	**WALES**		
	PS	POWYS	1 days
	VG	VALE OF GLAMORGAN	1 days
11	**SCOTLAND**		
	FA	FALKIRK	1 days
	HI	HIGHLAND	1 days

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

Primary Filtering selection:

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

Parameter: No of Dwellings
Actual Range: 8 to 432 (units:)
Range Selected by User: 6 to 1817 (units:)

Parking Spaces Range: All Surveys Included

Parking Spaces per Dwelling Range: All Surveys Included

Bedrooms per Dwelling Range: All Surveys Included

Percentage of dwellings privately owned: All Surveys Included

Public Transport Provision:
Selection by: Include all surveys

Date Range: 01/01/13 to 08/10/20

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

Selected survey days:

Monday	10 days
Tuesday	3 days
Wednesday	8 days
Thursday	10 days
Friday	7 days

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

Selected survey types:

Manual count	38 days
Directional ATC Count	0 days

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

Selected Locations:

Suburban Area (PPS6 Out of Centre)	15
Edge of Town	18
Neighbourhood Centre (PPS6 Local Centre)	5

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

Selected Location Sub Categories:

Residential Zone	33
Village	4
No Sub Category	1

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

Secondary Filtering selection:

Use Class:

C3	38 days

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

Population within 500m Range:
All Surveys Included

Secondary Filtering selection (Cont.):

Population within 1 mile:

1,000 or Less	1 days
1,001 to 5,000	3 days
5,001 to 10,000	11 days
10,001 to 15,000	10 days
15,001 to 20,000	6 days
20,001 to 25,000	2 days
25,001 to 50,000	5 days

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

Population within 5 miles:

5,001 to 25,000	4 days
25,001 to 50,000	4 days
50,001 to 75,000	8 days
75,001 to 100,000	5 days
100,001 to 125,000	1 days
125,001 to 250,000	9 days
250,001 to 500,000	7 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	12 days
1.1 to 1.5	24 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	35 days

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

PTAL Rating:

No PTAL Present	38 days

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

LIST OF SITES relevant to selection parameters

1 **CA-03-A-05** **DETACHED HOUSES** **CAMBRIDGESHIRE**
EASTFIELD ROAD
PETERBOROUGH

Suburban Area (PPS6 Out of Centre)
Residential Zone
Total No of Dwellings: 28
Survey date: MONDAY *17/10/16* *Survey Type: MANUAL*

2 **CH-03-A-09** **TERRACED HOUSES** **CHESHIRE**
GREYSTOKE ROAD
MACCLESFIELD
HURDSFIELD
Edge of Town
Residential Zone
Total No of Dwellings: 24
Survey date: MONDAY *24/11/14* *Survey Type: MANUAL*

3 **CH-03-A-10** **SEMI-DETACHED & TERRACED** **CHESHIRE**
MEADOW DRIVE
NORTHWICH
BARNTON
Edge of Town
Residential Zone
Total No of Dwellings: 40
Survey date: TUESDAY *04/06/19* *Survey Type: MANUAL*

4 **CH-03-A-11** **TOWN HOUSES** **CHESHIRE**
LONDON ROAD
NORTHWICH
LEFTWICH
Suburban Area (PPS6 Out of Centre)
Residential Zone
Total No of Dwellings: 24
Survey date: THURSDAY *06/06/19* *Survey Type: MANUAL*

5 **DC-03-A-08** **BUNGALOWS** **DORSET**
HURSTDENE ROAD
BOURNEMOUTH
CASTLE LANE WEST
Edge of Town
Residential Zone
Total No of Dwellings: 28
Survey date: MONDAY *24/03/14* *Survey Type: MANUAL*

6 **DH-03-A-01** **SEMI DETACHED** **DURHAM**
GREENFIELDS ROAD
BISHOP AUCKLAND

Suburban Area (PPS6 Out of Centre)
Residential Zone
Total No of Dwellings: 50
Survey date: TUESDAY *28/03/17* *Survey Type: MANUAL*

7 **DH-03-A-03** **SEMI-DETACHED & TERRACED** **DURHAM**
PILGRIMS WAY
DURHAM

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

8 **DV-03-A-01** **TERRACED HOUSES** **DEVON**
BRONSHILL ROAD
TORQUAY

Suburban Area (PPS6 Out of Centre)
Residential Zone
Total No of Dwellings: 37
Survey date: WEDNESDAY *30/09/15* *Survey Type: MANUAL*

LIST OF SITES relevant to selection parameters (Cont.)

9 **DV-03-A-02** **HOUSES & BUNGALOWS** **DEVON**
MILLHEAD ROAD
HONITON

Suburban Area (PPS6 Out of Centre)
Residential Zone
Total No of Dwellings: 116
Survey date: FRIDAY *25/09/15* *Survey Type: MANUAL*

10 **DV-03-A-03** **TERRACED & SEMI DETACHED** **DEVON**
LOWER BRAND LANE
HONITON

Suburban Area (PPS6 Out of Centre)
Residential Zone
Total No of Dwellings: 70
Survey date: MONDAY *28/09/15* *Survey Type: MANUAL*

11 **FA-03-A-01** **SEMI-DETACHED/TERRACED** **FALKIRK**
MANDELA AVENUE
FALKIRK

Suburban Area (PPS6 Out of Centre)
Residential Zone
Total No of Dwellings: 37
Survey date: THURSDAY *30/05/13* *Survey Type: MANUAL*

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

13 **HI-03-A-14** **SEMI-DETACHED & TERRACED** **HIGHLAND**
KING BRUDE ROAD
INVERNESS
SCORGUIE
Suburban Area (PPS6 Out of Centre)
Residential Zone
Total No of Dwellings: 40
Survey date: WEDNESDAY *23/03/16* *Survey Type: MANUAL*

14 **KC-03-A-04** **SEMI-DETACHED & TERRACED** **KENT**
KILN BARN ROAD
AYLESFORD
DITTON
Edge of Town
Residential Zone
Total No of Dwellings: 110
Survey date: FRIDAY *22/09/17* *Survey Type: MANUAL*

15 **KC-03-A-05** **DETACHED & SEMI-DETACHED** **KENT**
ROCHESTER ROAD
NEAR CHATHAM
BURHAM
Neighbourhood Centre (PPS6 Local Centre)
Village
Total No of Dwellings: 8
Survey date: FRIDAY *22/09/17* *Survey Type: MANUAL*

16 **LE-03-A-02** **DETACHED & OTHERS** **LEICESTERSHIRE**
MELBOURNE ROAD
IBSTOCK

Neighbourhood Centre (PPS6 Local Centre)
Village
Total No of Dwellings: 85
Survey date: THURSDAY *28/06/18* *Survey Type: MANUAL*

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

LIST OF SITES relevant to selection parameters (Cont.)

18 **NE-03-A-02** **SEMI DETACHED & DETACHED** **NORTH EAST LINCOLNSHIRE**
HANOVER WALK
SCUNTHORPE

Edge of Town
No Sub Category
Total No of Dwellings: 432
Survey date: MONDAY *12/05/14* *Survey Type: MANUAL*

19 **NF-03-A-03** **DETACHED HOUSES** **NORFOLK**
HALING WAY
THETFORD

Edge of Town
Residential Zone
Total No of Dwellings: 10
Survey date: WEDNESDAY *16/09/15* *Survey Type: MANUAL*

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

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

21 **NY-03-A-11** **PRIVATE HOUSING** **NORTH YORKSHIRE**
HORSEFAIR
BOROUGHBRIDGE

Edge of Town
Residential Zone
Total No of Dwellings: 23
Survey date: WEDNESDAY *18/09/13* *Survey Type: MANUAL*

22 **NY-03-A-13** **TERRACED HOUSES** **NORTH YORKSHIRE**
CATTERICK ROAD
CATTERICK GARRISON
OLD HOSPITAL COMPOUND
Suburban Area (PPS6 Out of Centre)
Residential Zone
Total No of Dwellings: 10
Survey date: WEDNESDAY *10/05/17* *Survey Type: MANUAL*

23 **PS-03-A-02** **DETACHED/SEMI-DETACHED** **POWYS**
GUNROG ROAD
WELSHPOOL

Suburban Area (PPS6 Out of Centre)
Residential Zone
Total No of Dwellings: 28
Survey date: MONDAY *11/05/15* *Survey Type: MANUAL*

24 **SC-03-A-04** **DETACHED & TERRACED** **SURREY**
HIGH ROAD
BYFLEET

Edge of Town
Residential Zone
Total No of Dwellings: 71
Survey date: THURSDAY *23/01/14* *Survey Type: MANUAL*

25 **SF-03-A-05** **DETACHED HOUSES** **SUFFOLK**
VALE LANE
BURY ST EDMUNDS

Edge of Town
Residential Zone
Total No of Dwellings: 18
Survey date: WEDNESDAY *09/09/15* *Survey Type: MANUAL*

LIST OF SITES relevant to selection parameters (Cont.)

26 **SF-03-A-06** **DETACHED & SEMI-DETACHED** **SUFFOLK**
BURY ROAD
KENTFORD

Neighbourhood Centre (PPS6 Local Centre)
Village
Total No of Dwellings: 38
Survey date: FRIDAY *22/09/17* *Survey Type: MANUAL*

27 **SH-03-A-05** **SEMI-DETACHED/TERRACED** **SHROPSHIRE**
SANDCROFT
TELFORD
SUTTON HILL
Edge of Town
Residential Zone
Total No of Dwellings: 54
Survey date: THURSDAY *24/10/13* *Survey Type: MANUAL*

28 **SH-03-A-06** **BUNGALOWS** **SHROPSHIRE**
ELLESMERE ROAD
SHREWSBURY

Edge of Town
Residential Zone
Total No of Dwellings: 16
Survey date: THURSDAY *22/05/14* *Survey Type: MANUAL*

29 **SM-03-A-01** **DETACHED & SEMI** **SOMERSET**
WEMBDON ROAD
BRIDGWATER
NORTHFIELD
Edge of Town
Residential Zone
Total No of Dwellings: 33
Survey date: THURSDAY *24/09/15* *Survey Type: MANUAL*

30 **ST-03-A-07** **DETACHED & SEMI-DETACHED** **STAFFORDSHIRE**
BEACONSIDE
STAFFORD
MARSTON GATE
Edge of Town
Residential Zone
Total No of Dwellings: 248
Survey date: WEDNESDAY *22/11/17* *Survey Type: MANUAL*

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

32 **TW-03-A-02** **SEMI-DETACHED** **TYNE & WEAR**
WEST PARK ROAD
GATESHEAD

Suburban Area (PPS6 Out of Centre)
Residential Zone
Total No of Dwellings: 16
Survey date: MONDAY *07/10/13* *Survey Type: MANUAL*

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

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

34 **WK-03-A-02** **BUNGALOWS** **WARWICKSHIRE**
NARBERTH WAY
COVENTRY
POTTERS GREEN
Edge of Town
Residential Zone
Total No of Dwellings: 17
Survey date: THURSDAY *17/10/13* *Survey Type: MANUAL*

LIST OF SITES relevant to selection parameters (Cont.)

35 **WK-03-A-04** **DETACHED HOUSES** **WARWICKSHIRE**
DALEHOUSE LANE
KENILWORTH

Edge of Town
Residential Zone
Total No of Dwellings: 49
Survey date: FRIDAY *27/09/19* *Survey Type: MANUAL*

36 **WL-03-A-02** **SEMI DETACHED** **WILTSHIRE**
HEADLANDS GROVE
SWINDON

Suburban Area (PPS6 Out of Centre)
Residential Zone
Total No of Dwellings: 27
Survey date: THURSDAY *22/09/16* *Survey Type: MANUAL*

37 **WM-03-A-04** **TERRACED HOUSES** **WEST MIDLANDS**
OSBORNE ROAD
COVENTRY
EARLSDON
Neighbourhood Centre (PPS6 Local Centre)
Residential Zone
Total No of Dwellings: 39
Survey date: MONDAY *21/11/16* *Survey Type: MANUAL*

38 **WS-03-A-07** **BUNGALOWS** **WEST SUSSEX**
EMMS LANE
NEAR HORSHAM
BROOKS GREEN
Neighbourhood Centre (PPS6 Local Centre)
Village
Total No of Dwellings: 57
Survey date: THURSDAY *19/10/17* *Survey Type: MANUAL*

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

MANUALLY DESELECTED SITES

Site Ref	Reason for Deselection
DH-03-A-02	as requested by NCC
DS-03-A-02	as requested by NCC
ES-03-A-03	as requested by NCC
ES-03-A-04	as requested by NCC
ES-03-A-05	as requested by NCC
FA-03-A-02	as requested by NCC
HC-03-A-22	as requested by NCC
HC-03-A-23	as requested by NCC
HF-03-A-03	as requested by NCC
KC-03-A-03	as requested by NCC
KC-03-A-06	as requested by NCC
KC-03-A-07	as requested by NCC
KC-03-A-08	as requested by NCC
NF-03-A-04	as requested by NCC
NF-03-A-05	as requested by NCC
NF-03-A-06	as requested by NCC
NY-03-A-09	as requested by NCC
NY-03-A-10	as requested by NCC
SC-03-A-05	as requested by NCC
SC-03-A-06	as requested by NCC
SF-03-A-07	as requested by NCC
SM-03-A-02	as requested by NCC
SM-03-A-03	as requested by NCC
WS-03-A-08	as requested by NCC
WS-03-A-09	as requested by NCC
WS-03-A-10	as requested by NCC
WS-03-A-11	as requested by NCC

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

MULTI-MODAL TOTAL VEHICLES

Calculation factor: 1 DWELLS

BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	38	55	0.078	38	55	0.255	38	55	0.333
08:00 - 09:00	38	55	0.125	**38**	**55**	**0.366**	**38**	**55**	**0.491**
09:00 - 10:00	38	55	0.137	38	55	0.156	38	55	0.293
10:00 - 11:00	38	55	0.125	38	55	0.154	38	55	0.279
11:00 - 12:00	38	55	0.128	38	55	0.143	38	55	0.271
12:00 - 13:00	38	55	0.162	38	55	0.163	38	55	0.325
13:00 - 14:00	38	55	0.154	38	55	0.155	38	55	0.309
14:00 - 15:00	38	55	0.164	38	55	0.174	38	55	0.338
15:00 - 16:00	38	55	0.255	38	55	0.180	38	55	0.435
16:00 - 17:00	38	55	0.264	38	55	0.173	38	55	0.437
17:00 - 18:00	**38**	**55**	**0.286**	38	55	0.146	38	55	0.432
18:00 - 19:00	38	55	0.235	38	55	0.149	38	55	0.384
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			2.113			2.214			4.327

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:	8 - 432 (units:)
Survey date date range:	01/01/13 - 08/10/20
Number of weekdays (Monday-Friday):	38
Number of Saturdays:	0
Number of Sundays:	0
Surveys automatically removed from selection:	8
Surveys manually removed from selection:	27

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

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

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	38	55	0.004	38	55	0.003	38	55	0.007
08:00 - 09:00	38	55	0.004	38	55	0.004	38	55	0.008
09:00 - 10:00	**38**	**55**	**0.004**	38	55	0.004	38	55	0.008
10:00 - 11:00	38	55	0.003	38	55	0.003	38	55	0.006
11:00 - 12:00	38	55	0.001	38	55	0.001	38	55	0.002
12:00 - 13:00	38	55	0.002	38	55	0.001	38	55	0.003
13:00 - 14:00	38	55	0.003	38	55	0.004	38	55	0.007
14:00 - 15:00	38	55	0.003	38	55	0.002	38	55	0.005
15:00 - 16:00	38	55	0.003	38	55	0.004	38	55	0.007
16:00 - 17:00	38	55	0.003	38	55	0.003	38	55	0.006
17:00 - 18:00	38	55	0.002	38	55	0.002	38	55	0.004
18:00 - 19:00	38	55	0.004	**38**	**55**	**0.005**	**38**	**55**	**0.009**
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.036			0.036			0.072

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

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

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

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	38	55	0.000	38	55	0.000	38	55	0.000
08:00 - 09:00	38	55	0.002	38	55	0.002	38	55	0.004
09:00 - 10:00	38	55	0.002	38	55	0.001	38	55	0.003
10:00 - 11:00	38	55	0.003	38	55	0.002	38	55	0.005
11:00 - 12:00	38	55	0.002	38	55	0.000	38	55	0.002
12:00 - 13:00	38	55	0.003	**38**	**55**	**0.004**	**38**	**55**	**0.007**
13:00 - 14:00	**38**	**55**	**0.003**	38	55	0.002	38	55	0.005
14:00 - 15:00	38	55	0.000	38	55	0.002	38	55	0.002
15:00 - 16:00	38	55	0.001	38	55	0.002	38	55	0.003
16:00 - 17:00	38	55	0.002	38	55	0.001	38	55	0.003
17:00 - 18:00	38	55	0.000	38	55	0.000	38	55	0.000
18:00 - 19:00	38	55	0.000	38	55	0.000	38	55	0.000
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.018			0.016			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.*

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

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	38	55	0.000	38	55	0.000	38	55	0.000
08:00 - 09:00	**38**	**55**	**0.001**	**38**	**55**	**0.001**	**38**	**55**	**0.002**
09:00 - 10:00	38	55	0.000	38	55	0.000	38	55	0.000
10:00 - 11:00	38	55	0.000	38	55	0.000	38	55	0.000
11:00 - 12:00	38	55	0.001	38	55	0.001	38	55	0.002
12:00 - 13:00	38	55	0.000	38	55	0.000	38	55	0.000
13:00 - 14:00	38	55	0.000	38	55	0.000	38	55	0.000
14:00 - 15:00	38	55	0.000	38	55	0.000	38	55	0.000
15:00 - 16:00	38	55	0.001	38	55	0.001	38	55	0.002
16:00 - 17:00	38	55	0.000	38	55	0.000	38	55	0.000
17:00 - 18:00	38	55	0.000	38	55	0.000	38	55	0.000
18:00 - 19:00	38	55	0.000	38	55	0.000	38	55	0.000
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.003			0.003			0.006

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

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

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

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	38	55	0.007	**38**	**55**	**0.014**	**38**	**55**	**0.021**
08:00 - 09:00	38	55	0.005	38	55	0.013	38	55	0.018
09:00 - 10:00	38	55	0.001	38	55	0.005	38	55	0.006
10:00 - 11:00	38	55	0.002	38	55	0.005	38	55	0.007
11:00 - 12:00	38	55	0.002	38	55	0.004	38	55	0.006
12:00 - 13:00	38	55	0.005	38	55	0.005	38	55	0.010
13:00 - 14:00	38	55	0.004	38	55	0.002	38	55	0.006
14:00 - 15:00	38	55	0.004	38	55	0.002	38	55	0.006
15:00 - 16:00	**38**	**55**	**0.010**	38	55	0.004	38	55	0.014
16:00 - 17:00	38	55	0.007	38	55	0.003	38	55	0.010
17:00 - 18:00	38	55	0.010	38	55	0.006	38	55	0.016
18:00 - 19:00	38	55	0.009	38	55	0.004	38	55	0.013
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.066			0.067			0.133

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

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

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

MULTI-MODAL VEHICLE OCCUPANTS

Calculation factor: 1 DWELLS

BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	38	55	0.097	38	55	0.361	38	55	0.458
08:00 - 09:00	38	55	0.150	**38**	**55**	**0.576**	**38**	**55**	**0.726**
09:00 - 10:00	38	55	0.165	38	55	0.216	38	55	0.381
10:00 - 11:00	38	55	0.152	38	55	0.209	38	55	0.361
11:00 - 12:00	38	55	0.166	38	55	0.185	38	55	0.351
12:00 - 13:00	38	55	0.211	38	55	0.212	38	55	0.423
13:00 - 14:00	38	55	0.202	38	55	0.207	38	55	0.409
14:00 - 15:00	38	55	0.223	38	55	0.229	38	55	0.452
15:00 - 16:00	38	55	0.404	38	55	0.249	38	55	0.653
16:00 - 17:00	38	55	0.407	38	55	0.249	38	55	0.656
17:00 - 18:00	**38**	**55**	**0.419**	38	55	0.200	38	55	0.619
18:00 - 19:00	38	55	0.335	38	55	0.211	38	55	0.546
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			2.931			3.104			6.035

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

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

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

MULTI-MODAL PEDESTRIANS

Calculation factor: 1 DWELLS

BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	38	55	0.017	38	55	0.041	38	55	0.058
08:00 - 09:00	38	55	0.049	**38**	**55**	**0.122**	38	55	0.171
09:00 - 10:00	38	55	0.044	38	55	0.046	38	55	0.090
10:00 - 11:00	38	55	0.033	38	55	0.044	38	55	0.077
11:00 - 12:00	38	55	0.030	38	55	0.032	38	55	0.062
12:00 - 13:00	38	55	0.035	38	55	0.028	38	55	0.063
13:00 - 14:00	38	55	0.028	38	55	0.034	38	55	0.062
14:00 - 15:00	38	55	0.039	38	55	0.045	38	55	0.084
15:00 - 16:00	**38**	**55**	**0.122**	38	55	0.073	**38**	**55**	**0.195**
16:00 - 17:00	38	55	0.070	38	55	0.037	38	55	0.107
17:00 - 18:00	38	55	0.062	38	55	0.034	38	55	0.096
18:00 - 19:00	38	55	0.041	38	55	0.029	38	55	0.070
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.570			0.565			1.135

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

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

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

MULTI-MODAL BUS/TRAM PASSENGERS

Calculation factor: 1 DWELLS

BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	38	55	0.002	38	55	0.010	38	55	0.012
08:00 - 09:00	38	55	0.001	**38**	**55**	**0.021**	38	55	0.022
09:00 - 10:00	38	55	0.002	38	55	0.009	38	55	0.011
10:00 - 11:00	38	55	0.007	38	55	0.004	38	55	0.011
11:00 - 12:00	38	55	0.003	38	55	0.005	38	55	0.008
12:00 - 13:00	38	55	0.009	38	55	0.006	38	55	0.015
13:00 - 14:00	38	55	0.003	38	55	0.002	38	55	0.005
14:00 - 15:00	38	55	0.005	38	55	0.005	38	55	0.010
15:00 - 16:00	38	55	0.016	38	55	0.007	**38**	**55**	**0.023**
16:00 - 17:00	38	55	0.012	38	55	0.005	38	55	0.017
17:00 - 18:00	38	55	0.011	38	55	0.005	38	55	0.016
18:00 - 19:00	**38**	**55**	**0.016**	38	55	0.001	38	55	0.017
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.087			0.080			0.167

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

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

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

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	38	55	0.000	**38**	**55**	**0.005**	**38**	**55**	**0.005**
08:00 - 09:00	38	55	0.000	38	55	0.004	38	55	0.004
09:00 - 10:00	38	55	0.000	38	55	0.001	38	55	0.001
10:00 - 11:00	38	55	0.000	38	55	0.001	38	55	0.001
11:00 - 12:00	38	55	0.001	38	55	0.001	38	55	0.002
12:00 - 13:00	38	55	0.000	38	55	0.001	38	55	0.001
13:00 - 14:00	38	55	0.000	38	55	0.000	38	55	0.000
14:00 - 15:00	38	55	0.002	38	55	0.000	38	55	0.002
15:00 - 16:00	**38**	**55**	**0.003**	38	55	0.000	38	55	0.003
16:00 - 17:00	38	55	0.003	38	55	0.000	38	55	0.003
17:00 - 18:00	38	55	0.001	38	55	0.000	38	55	0.001
18:00 - 19:00	38	55	0.002	38	55	0.000	38	55	0.002
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.012			0.013			0.025

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

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

TRIP RATE for Land Use 03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED
MULTI-MODAL 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									
07:00 - 08:00	38	55	0.000	38	55	0.000	38	55	0.000
08:00 - 09:00	38	55	0.000	**38**	**55**	**0.001**	**38**	**55**	**0.001**
09:00 - 10:00	38	55	0.000	38	55	0.000	38	55	0.000
10:00 - 11:00	38	55	0.000	38	55	0.000	38	55	0.000
11:00 - 12:00	38	55	0.000	38	55	0.000	38	55	0.000
12:00 - 13:00	38	55	0.000	38	55	0.000	38	55	0.000
13:00 - 14:00	38	55	0.000	38	55	0.000	38	55	0.000
14:00 - 15:00	38	55	0.000	38	55	0.000	38	55	0.000
15:00 - 16:00	**38**	**55**	**0.001**	38	55	0.000	38	55	0.001
16:00 - 17:00	38	55	0.000	38	55	0.000	38	55	0.000
17:00 - 18:00	38	55	0.000	38	55	0.000	38	55	0.000
18:00 - 19:00	38	55	0.000	38	55	0.000	38	55	0.000
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.001			0.001			0.002

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

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

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

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	38	55	0.002	38	55	0.015	38	55	0.017
08:00 - 09:00	38	55	0.001	**38**	**55**	**0.026**	**38**	**55**	**0.027**
09:00 - 10:00	38	55	0.002	38	55	0.010	38	55	0.012
10:00 - 11:00	38	55	0.007	38	55	0.006	38	55	0.013
11:00 - 12:00	38	55	0.004	38	55	0.006	38	55	0.010
12:00 - 13:00	38	55	0.009	38	55	0.007	38	55	0.016
13:00 - 14:00	38	55	0.003	38	55	0.002	38	55	0.005
14:00 - 15:00	38	55	0.007	38	55	0.005	38	55	0.012
15:00 - 16:00	**38**	**55**	**0.020**	38	55	0.007	38	55	0.027
16:00 - 17:00	38	55	0.015	38	55	0.005	38	55	0.020
17:00 - 18:00	38	55	0.012	38	55	0.005	38	55	0.017
18:00 - 19:00	38	55	0.018	38	55	0.001	38	55	0.019
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.100			0.095			0.195

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

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

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

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	38	55	0.123	38	55	0.431	38	55	0.554
08:00 - 09:00	38	55	0.206	**38**	**55**	**0.737**	**38**	**55**	**0.943**
09:00 - 10:00	38	55	0.213	38	55	0.277	38	55	0.490
10:00 - 11:00	38	55	0.194	38	55	0.264	38	55	0.458
11:00 - 12:00	38	55	0.203	38	55	0.227	38	55	0.430
12:00 - 13:00	38	55	0.259	38	55	0.252	38	55	0.511
13:00 - 14:00	38	55	0.237	38	55	0.246	38	55	0.483
14:00 - 15:00	38	55	0.273	38	55	0.282	38	55	0.555
15:00 - 16:00	**38**	**55**	**0.556**	38	55	0.333	38	55	0.889
16:00 - 17:00	38	55	0.500	38	55	0.295	38	55	0.795
17:00 - 18:00	38	55	0.503	38	55	0.245	38	55	0.748
18:00 - 19:00	38	55	0.403	38	55	0.245	38	55	0.648
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			3.670			3.834			7.504

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

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

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

MULTI-MODAL CARS

Calculation factor: 1 DWELLS

BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	38	55	0.043	38	55	0.156	38	55	0.199
08:00 - 09:00	38	55	0.073	**38**	**55**	**0.215**	**38**	**55**	**0.288**
09:00 - 10:00	38	55	0.070	38	55	0.090	38	55	0.160
10:00 - 11:00	38	55	0.066	38	55	0.092	38	55	0.158
11:00 - 12:00	38	55	0.069	38	55	0.077	38	55	0.146
12:00 - 13:00	38	55	0.087	38	55	0.093	38	55	0.180
13:00 - 14:00	38	55	0.088	38	55	0.085	38	55	0.173
14:00 - 15:00	38	55	0.091	38	55	0.094	38	55	0.185
15:00 - 16:00	38	55	0.148	38	55	0.090	38	55	0.238
16:00 - 17:00	38	55	0.156	38	55	0.100	38	55	0.256
17:00 - 18:00	**38**	**55**	**0.172**	38	55	0.089	38	55	0.261
18:00 - 19:00	38	55	0.131	38	55	0.078	38	55	0.209
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			1.194			1.259			2.453

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

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

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

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	38	55	0.017	**38**	**55**	**0.032**	**38**	**55**	**0.049**
08:00 - 09:00	38	55	0.019	38	55	0.025	38	55	0.044
09:00 - 10:00	38	55	0.021	38	55	0.019	38	55	0.040
10:00 - 11:00	38	55	0.020	38	55	0.020	38	55	0.040
11:00 - 12:00	38	55	0.015	38	55	0.019	38	55	0.034
12:00 - 13:00	38	55	0.021	38	55	0.021	38	55	0.042
13:00 - 14:00	38	55	0.022	38	55	0.021	38	55	0.043
14:00 - 15:00	38	55	0.017	38	55	0.018	38	55	0.035
15:00 - 16:00	38	55	0.024	38	55	0.023	38	55	0.047
16:00 - 17:00	38	55	0.018	38	55	0.022	38	55	0.040
17:00 - 18:00	**38**	**55**	**0.034**	38	55	0.010	38	55	0.044
18:00 - 19:00	38	55	0.021	38	55	0.011	38	55	0.032
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.249			0.241			0.490

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

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

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

MULTI-MODAL MOTOR CYCLES

Calculation factor: 1 DWELLS

BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	38	55	0.000	38	55	0.000	38	55	0.000
08:00 - 09:00	38	55	0.000	**38**	**55**	**0.002**	38	55	0.002
09:00 - 10:00	38	55	0.000	38	55	0.001	38	55	0.001
10:00 - 11:00	38	55	0.001	38	55	0.000	38	55	0.001
11:00 - 12:00	38	55	0.001	38	55	0.000	38	55	0.001
12:00 - 13:00	38	55	0.000	38	55	0.002	38	55	0.002
13:00 - 14:00	38	55	0.000	38	55	0.000	38	55	0.000
14:00 - 15:00	38	55	0.002	38	55	0.002	**38**	**55**	**0.004**
15:00 - 16:00	38	55	0.001	38	55	0.000	38	55	0.001
16:00 - 17:00	38	55	0.002	38	55	0.000	38	55	0.002
17:00 - 18:00	**38**	**55**	**0.003**	38	55	0.001	38	55	0.004
18:00 - 19:00	38	55	0.000	38	55	0.000	38	55	0.000
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.010			0.008			0.018

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.*

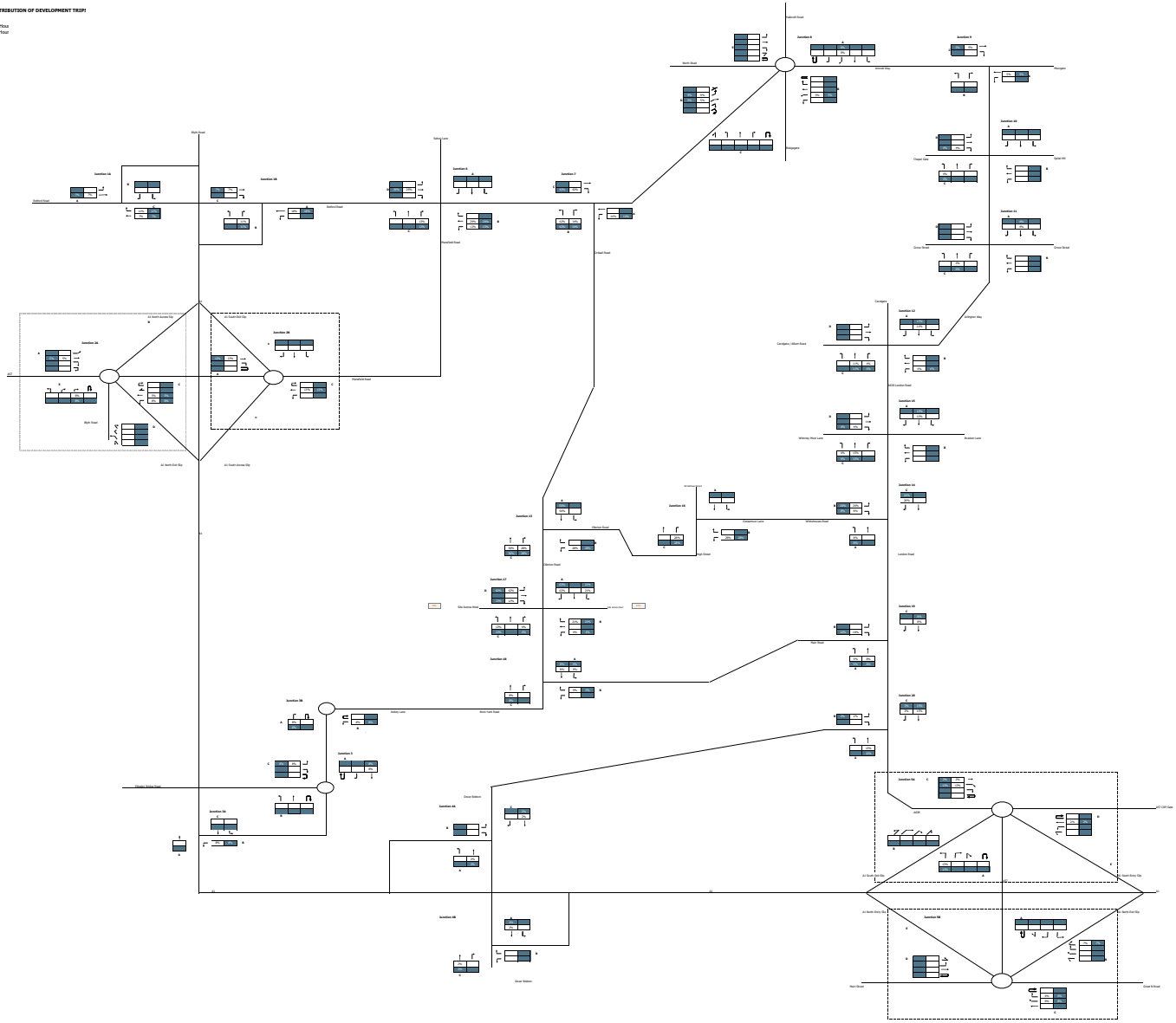
Appendix I – Traffic Data

PERCENTAGE DISTRIBUTION OF DEVELOPMENT TRIP!

KEY

AM Morning Peak Hour

PM Evening Peak Hour



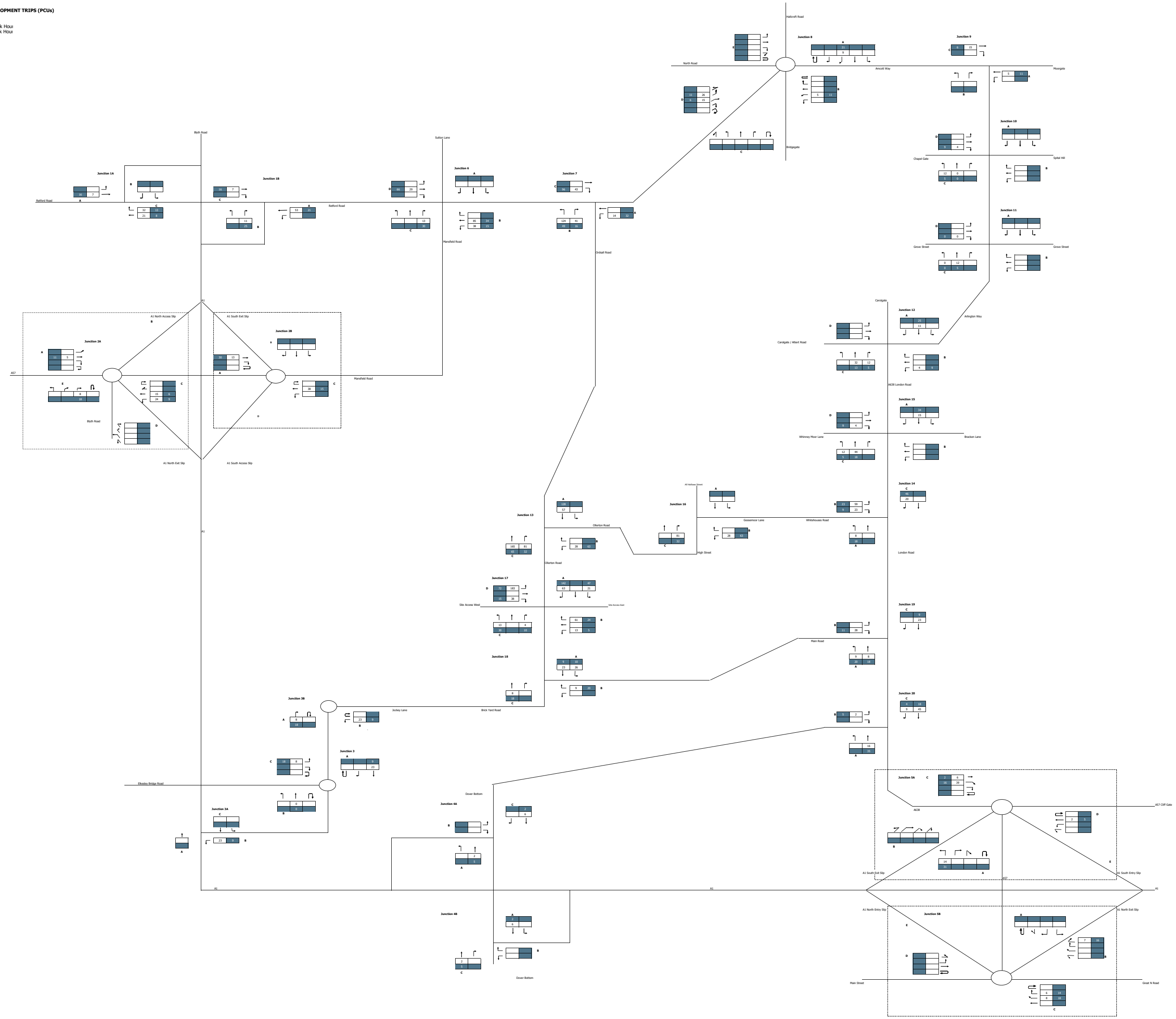
ORDSALL DEVELOPMENT TRIPS (PCUs)

KEY

x	Morning Peak Hour
x	Evening Peak Hour

Trip Generation

	Out	In
AM	294	102
PM	117	229

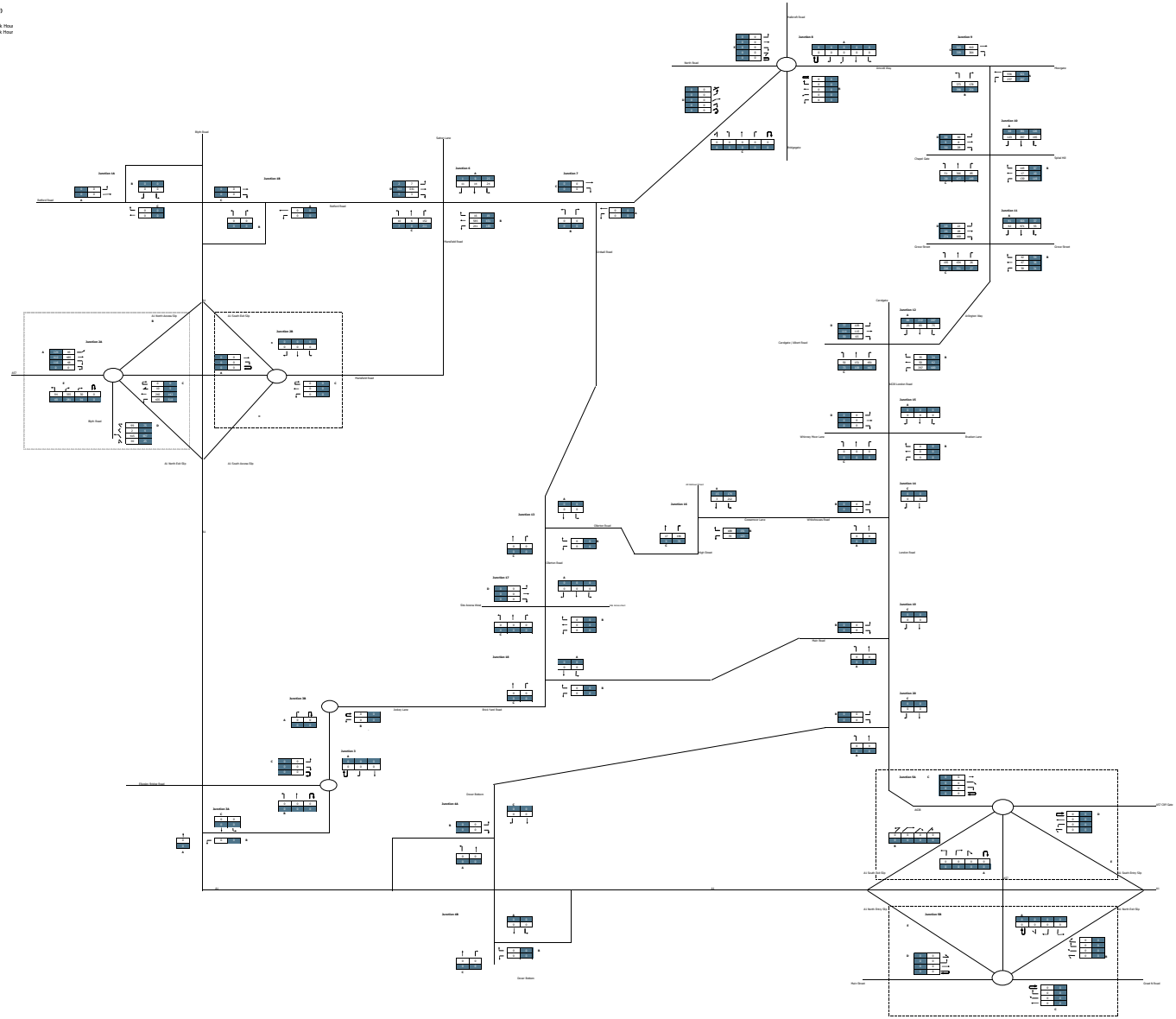


2021 BASE (PCU)

KEY

AM Morning Peak Hour

PM Evening Peak Hour

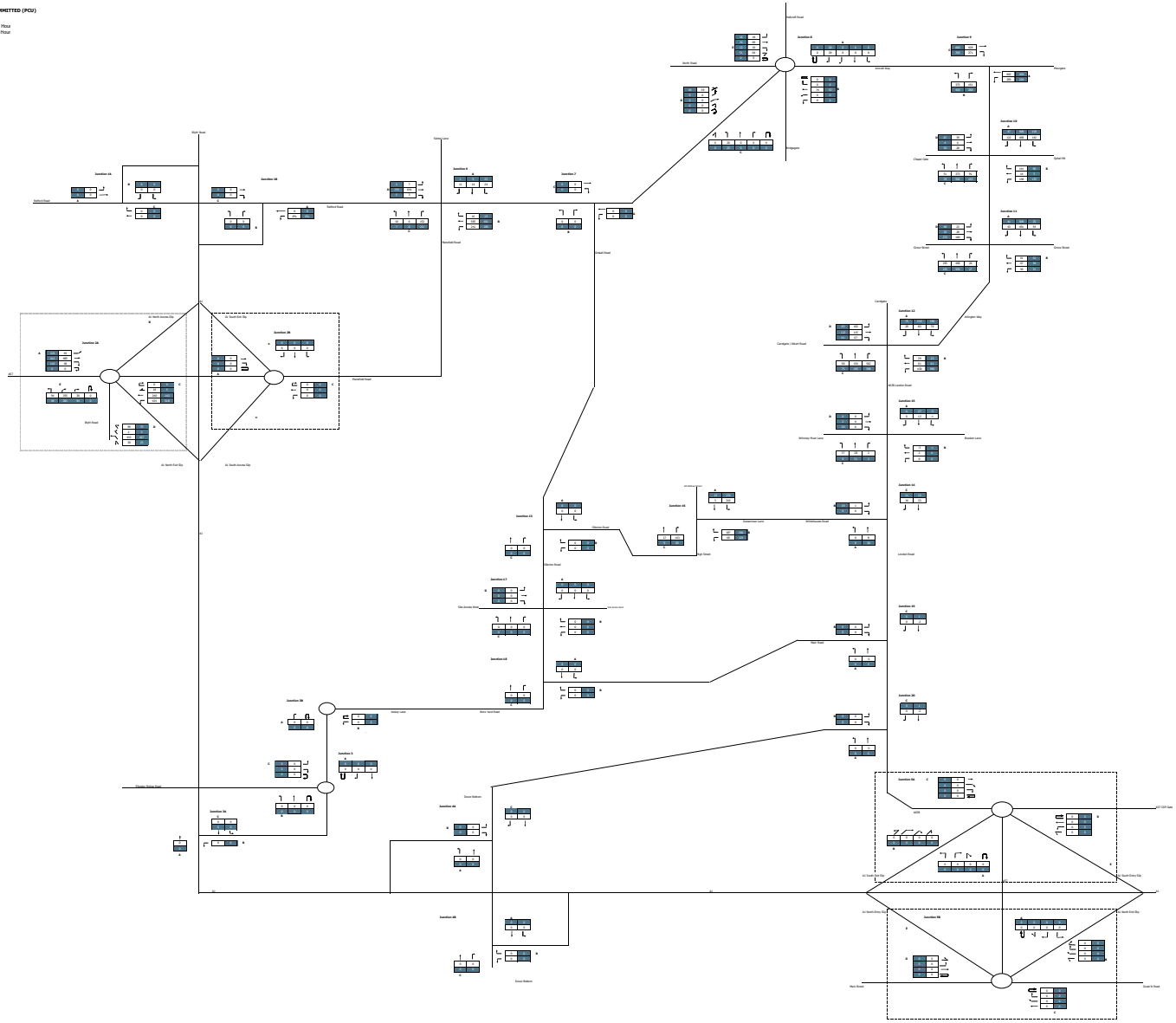


2031 BASE + COMMITTED (PCU)

KEY

AM Morning Peak Hour

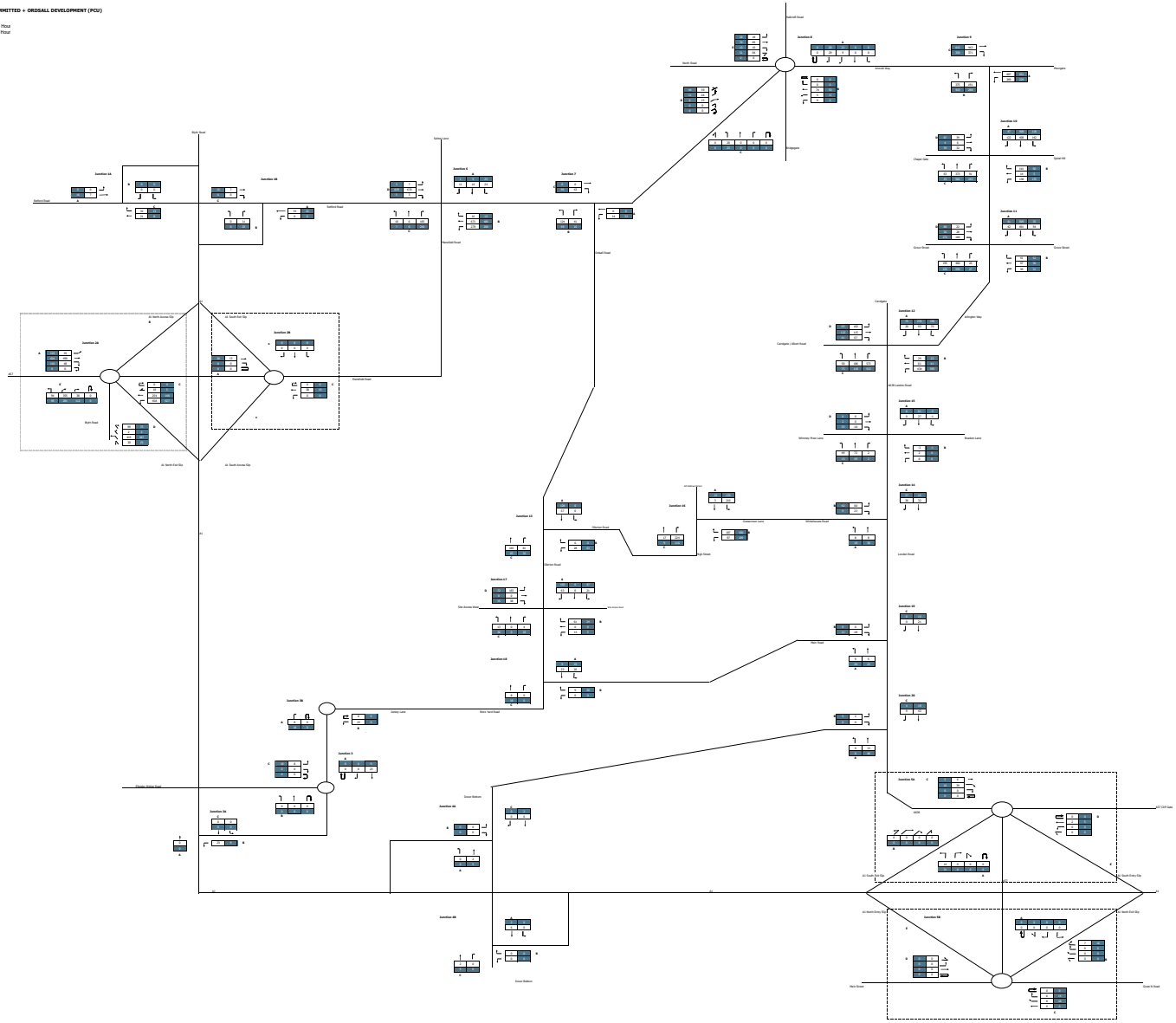
PM Evening Peak Hour



2031 BASE + COMMITTED + ORDSALL DEVELOPMENT (PCU)

KEY

AM	Morning Peak Hour
PM	Evening Peak Hour

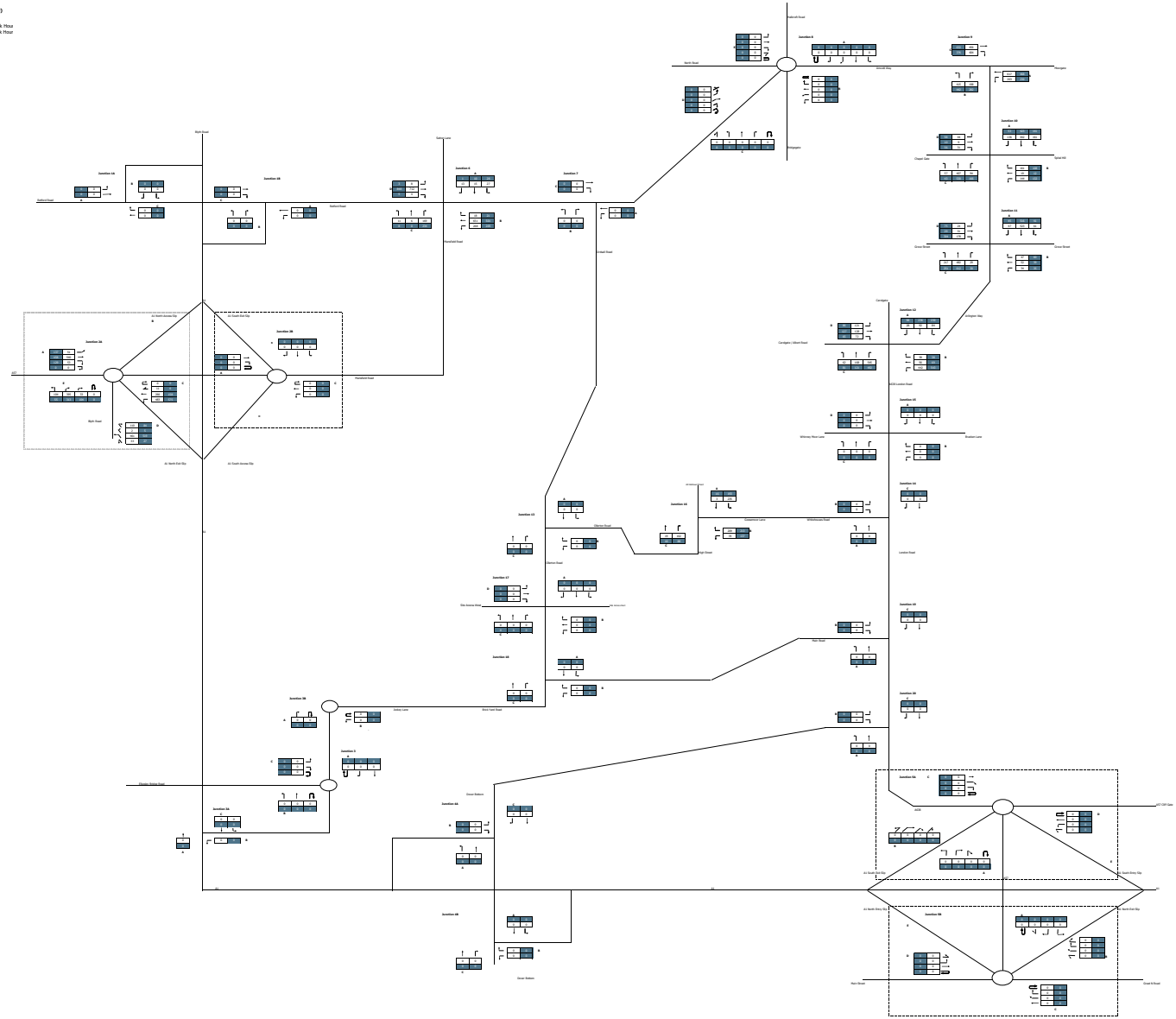


2031 BASE (PCU)

KEY

Morning Peak Hour

Evening Peak Hour

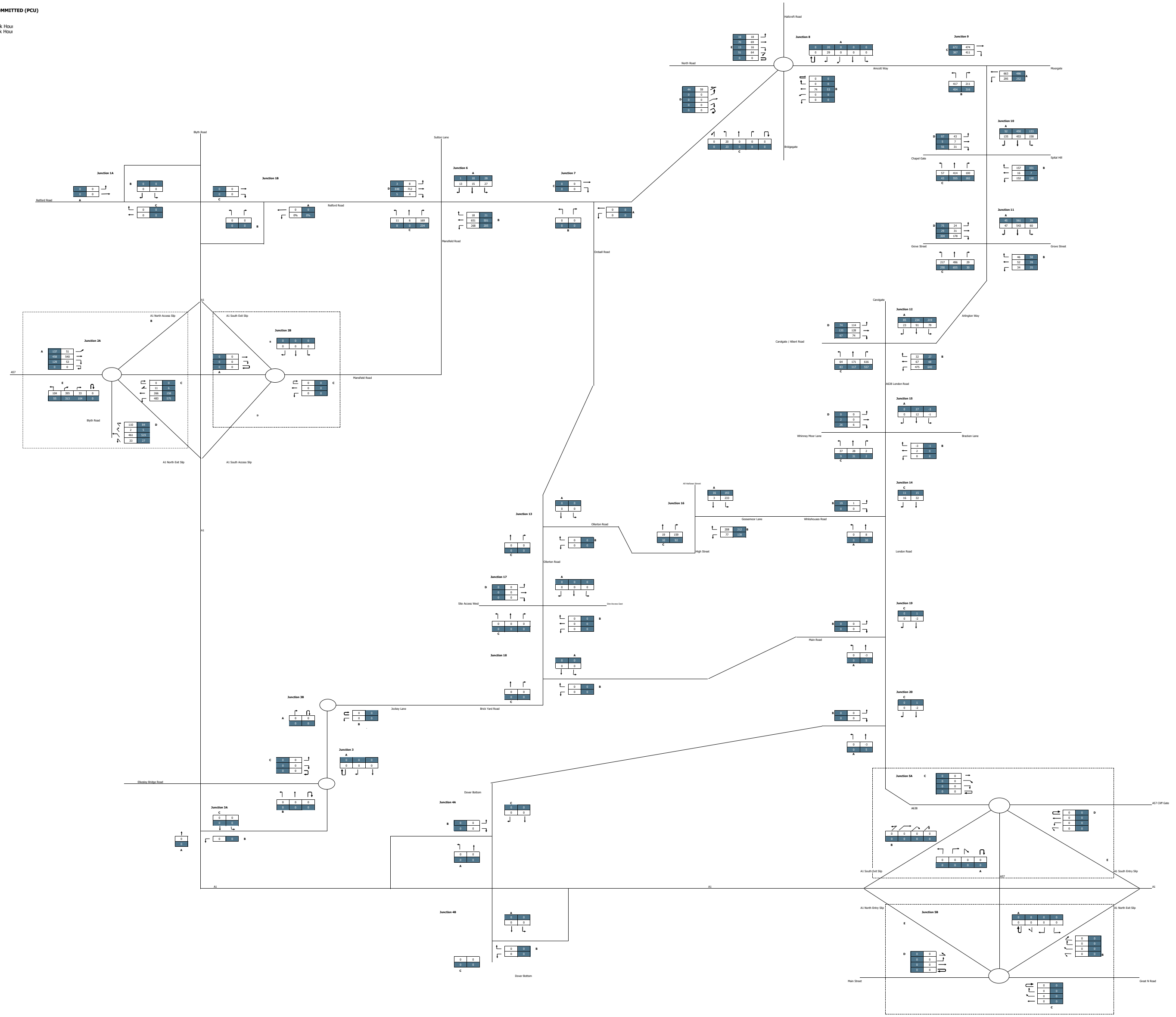


2031 BASE + COMMITTED (PCU)

KEY

x Morning Peak Hour

x Evening Peak Hour

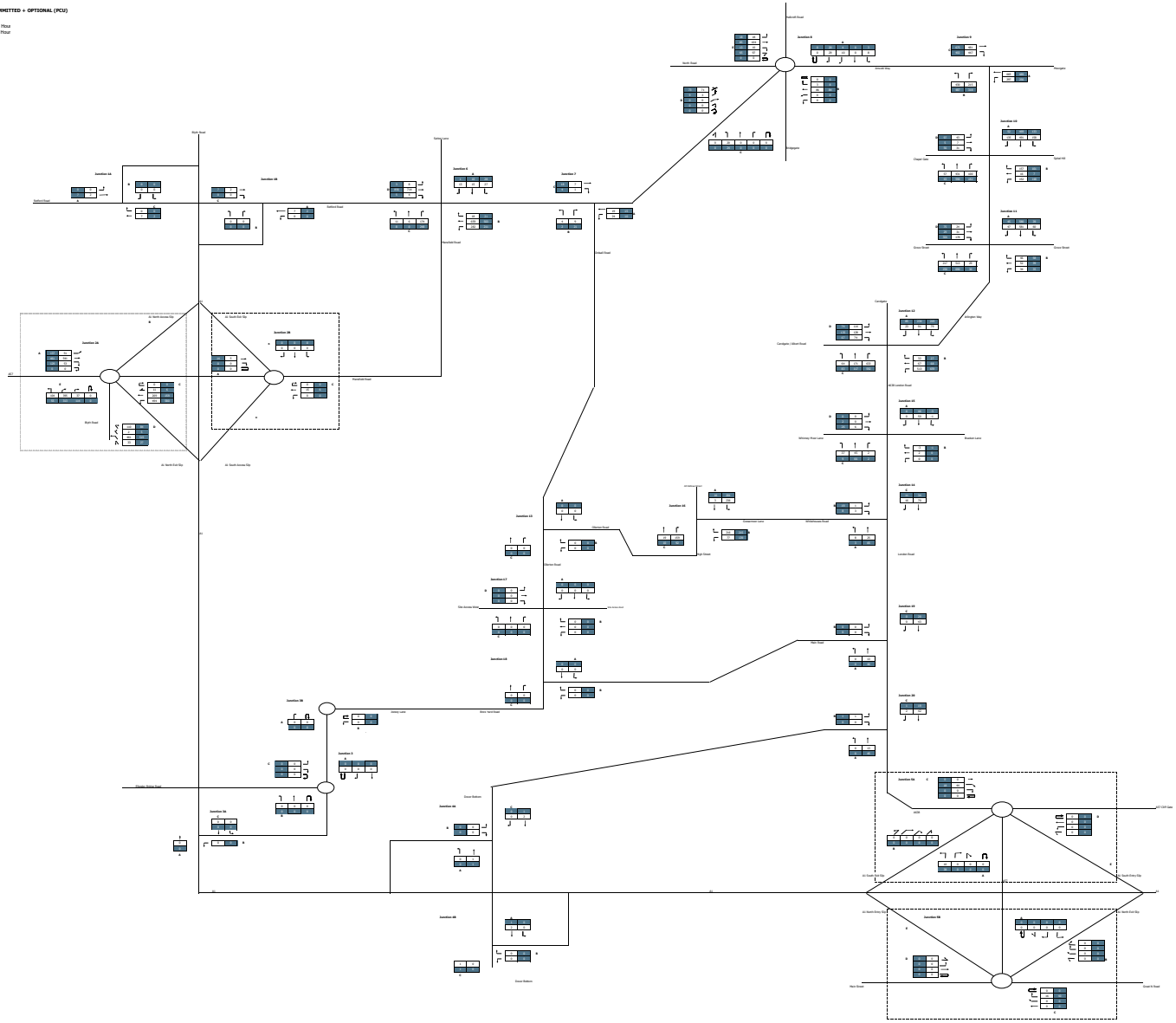


2031 BASE + COMMITTED + OPTIONAL (PCU)

KEY

AM Morning Peak Hour

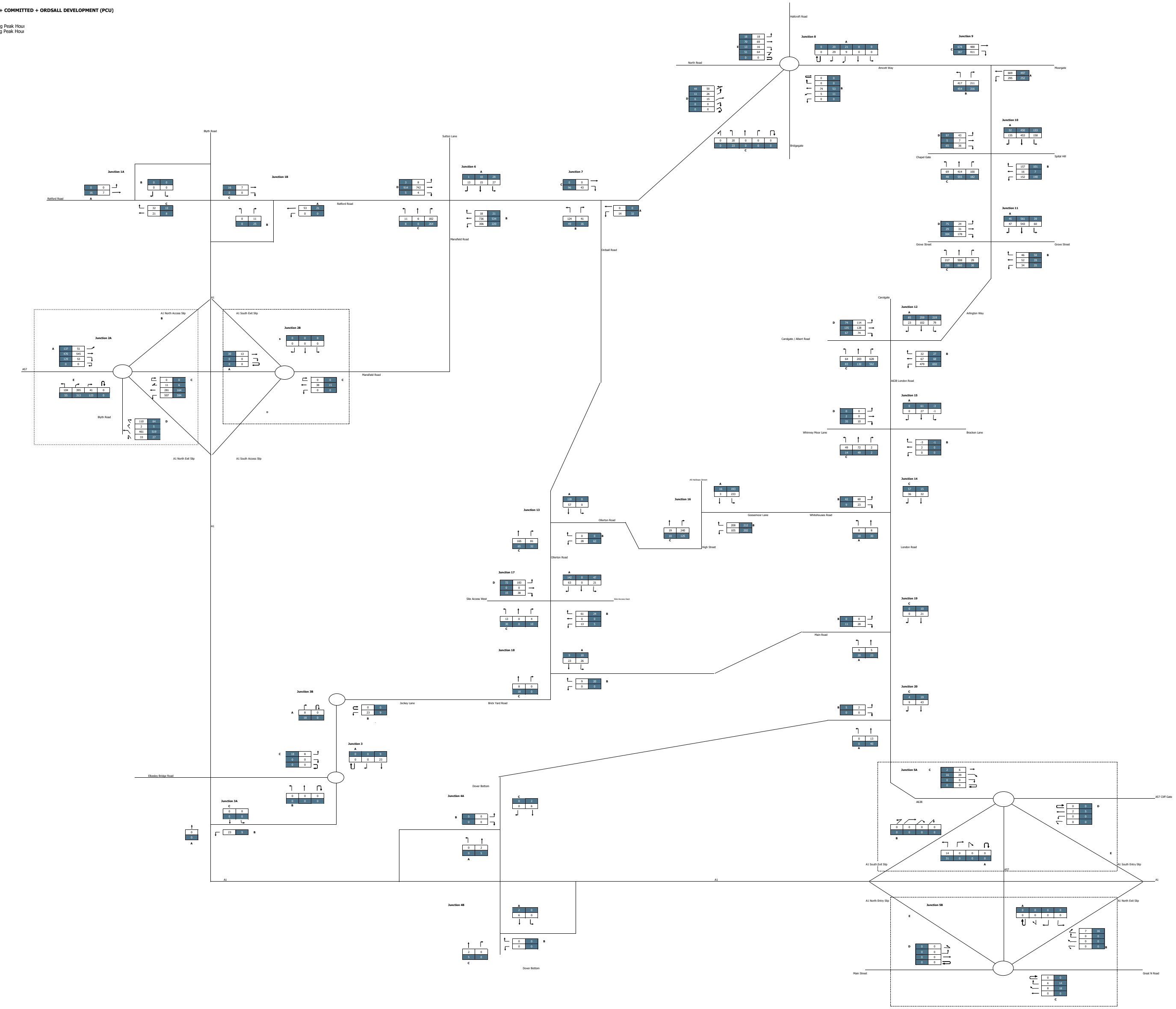
PM Evening Peak Hour



2031 Base + COMMITTED + ORDSALL DEVELOPMENT (PCU)

KEY

x Morning Peak Hour
x Evening Peak Hour

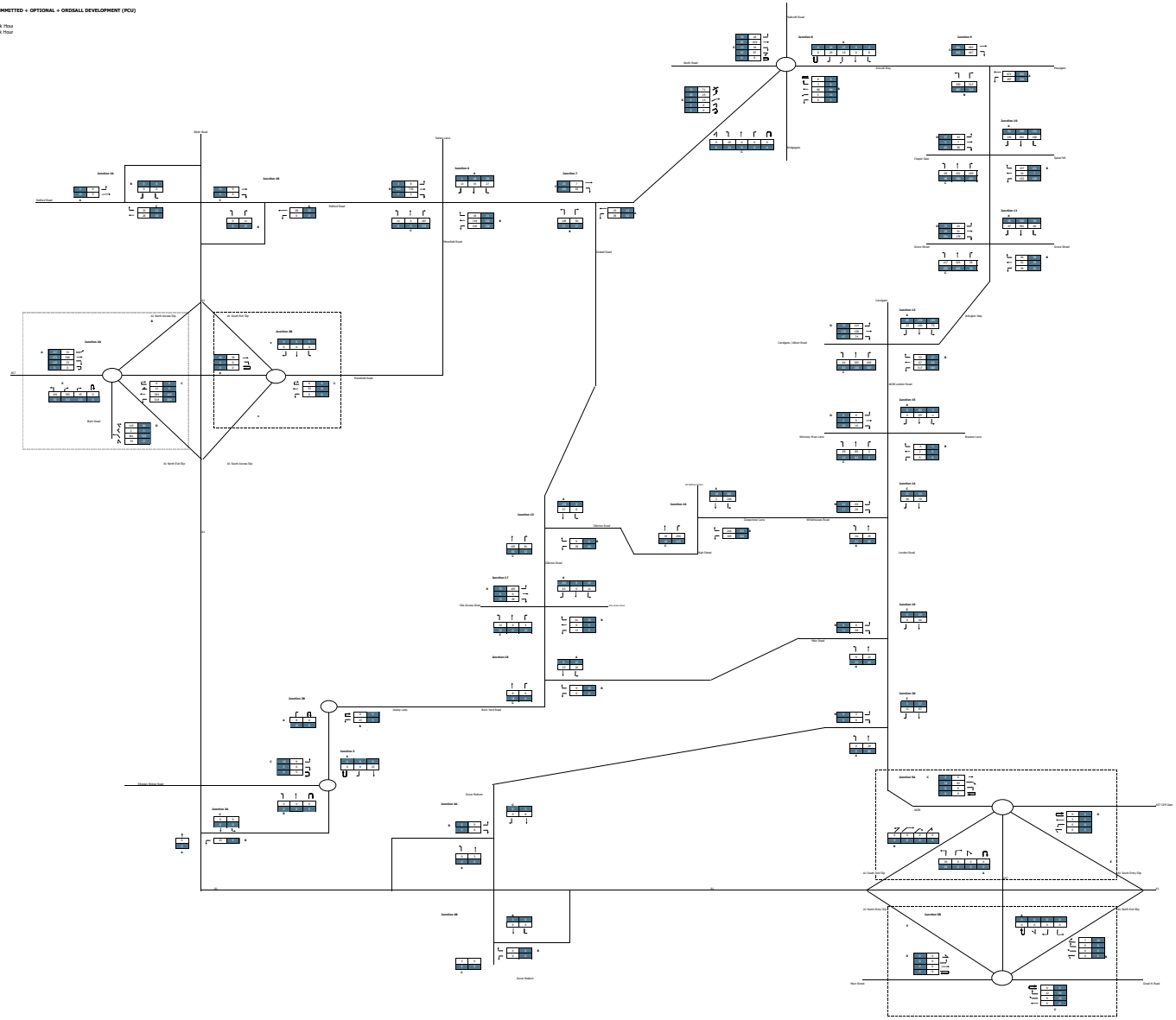


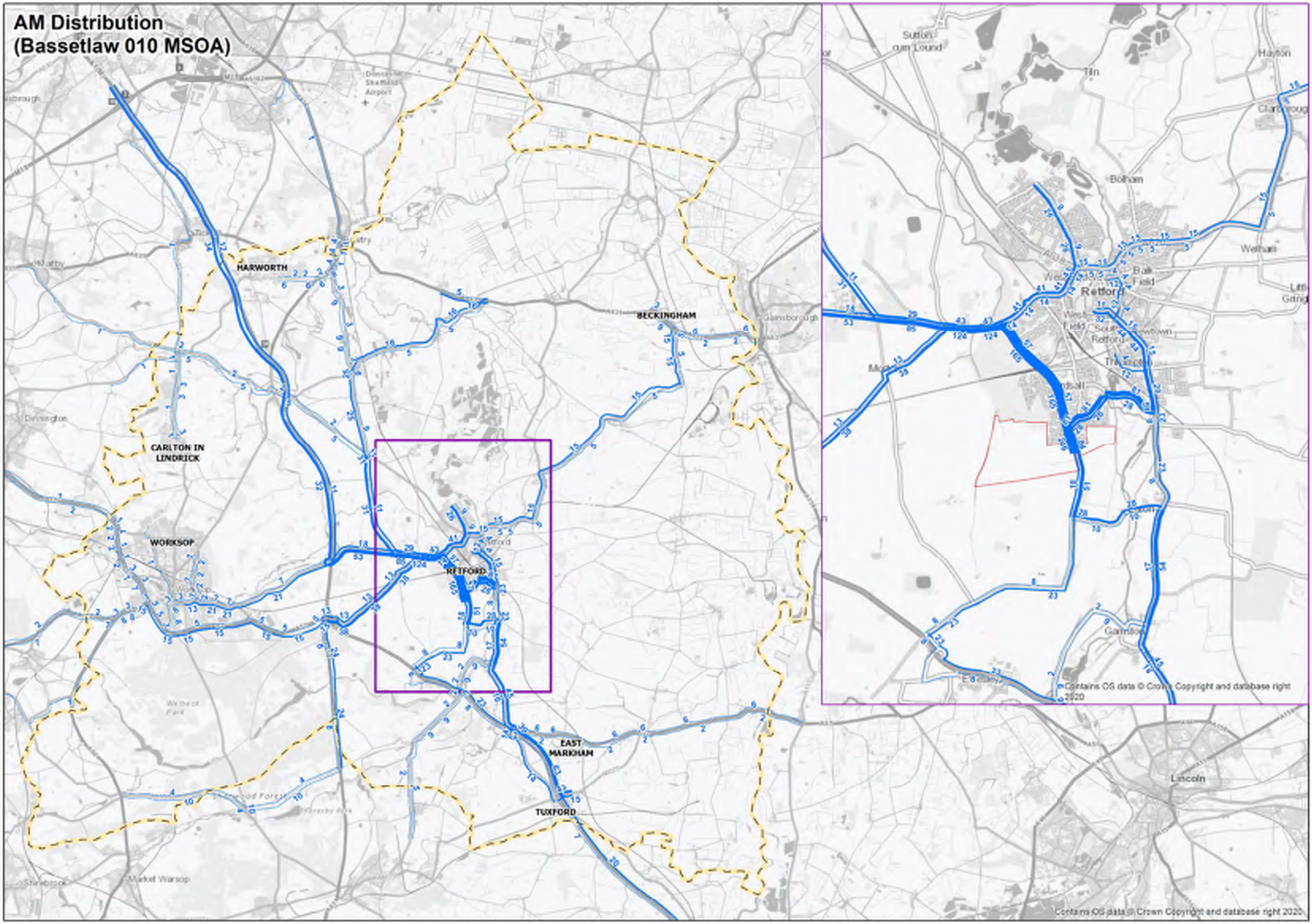
2031 BASE + COMMITTED + OPTIONAL + ORDSALL DEVELOPMENT (PCU)

KEY

AM Morning Peak Hour

PM Evening Peak Hour




AM Distribution
(Bassetlaw 010 MSOA)
HARWORTH
BECKINGHAM
CARLTON IN LINDRICK
WORKSOP
RETFORD
EAST MARKHAM
TUXFORD
Lincoln
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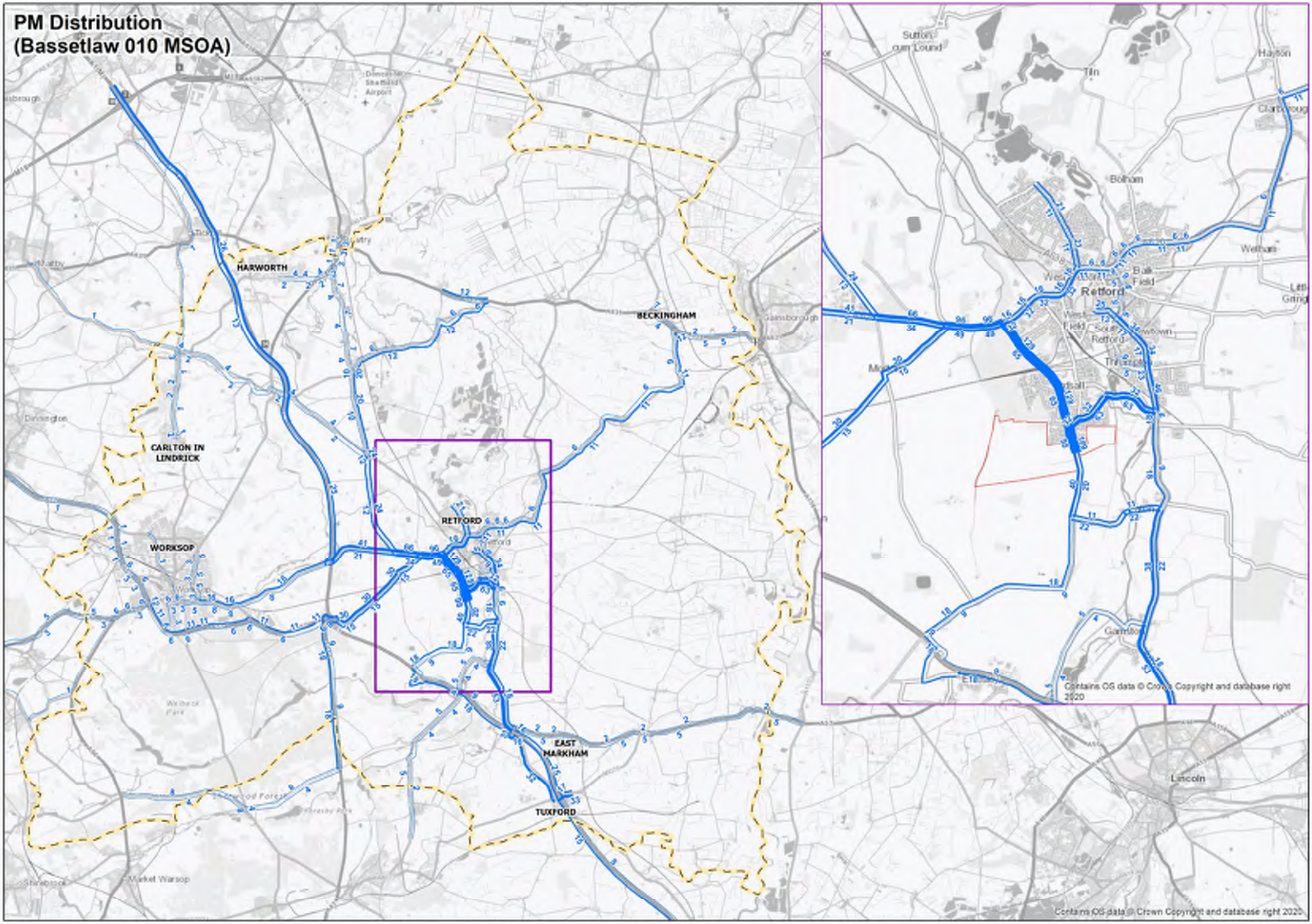
PM Distribution
(Bassetlaw 010 MSOA)
HARWORTH
BECKINGHAM
CARLTON IN LINDRICK
RETFORD
WORKSOP
EAST MARKHAM
TUXFORD
Lincoln
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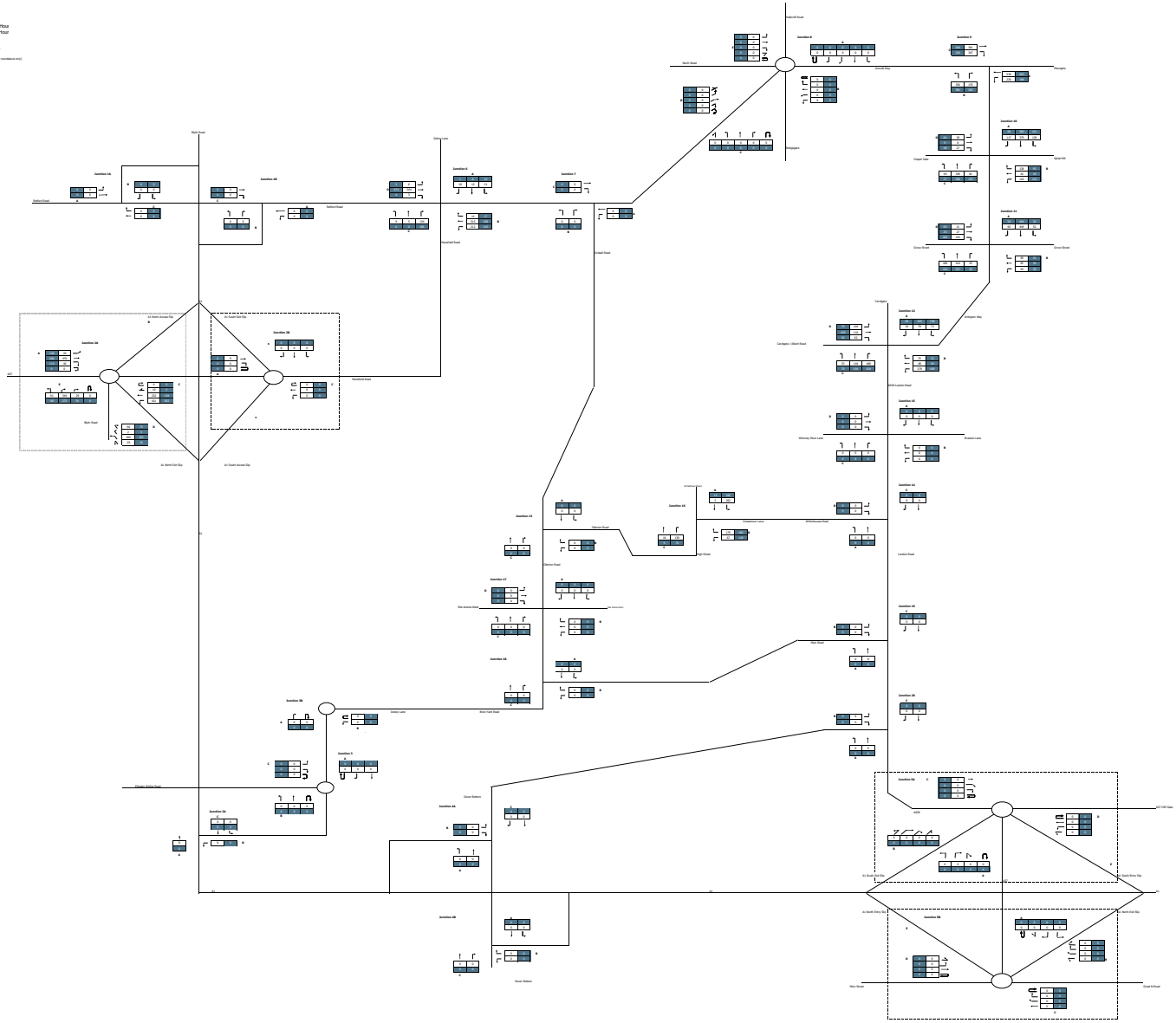
BASE COUNTS

KEY

Morning Peak Hour

Evening Peak Hour

Junction	Year of Survey
1	No survey
2	2019 (western roundabout only)
3	No survey
4	No survey
5	No survey
6	2013
7	No survey
8	2018
9	2018
10	2018
11	2018
12	2018
13	No survey
14	No survey
15	No survey
16	2018
17	No survey
18	No survey
19	No survey
20	No survey



Appendix J – Capacity Assessments

Junctions 9

ARCADY 9 - Roundabout Module

Version: 9.5.1.7462

For sales and distribution information, program advice and maintenance, contact TRL:
+44 (0)1344 379777 software@trl.co.uk www.trlsoftware.co.uk

Filename: A1 - A57 - A614 v2.j9
Path: \\Leicester12\3501Data\Projects\B023665 - Ordsall, Retford\06 - Calculations\06 - Capacity Assessments\01 - Existing Situation (Do Nothing)\01 - Junctions 9
Report generation date: 25/05/2021 12:13:36

Summary of junction performance

	AM				PM			
	Queue (PCU)	Delay (s)	RFC	LOS	Queue (PCU)	Delay (s)	RFC	LOS
	2021 Base + Committed							
Arm A	0.5	3.09	0.35	A	0.6	3.26	0.39	A
Arm C	0.8	3.97	0.45	A	0.8	4.03	0.45	A
Arm D	0.5	2.75	0.31	A	0.5	2.88	0.33	A
Arm E	0.4	2.76	0.29	A	0.3	2.56	0.25	A
	2031 Base + Committed							
Arm A	0.7	3.39	0.40	A	0.8	3.62	0.44	A
Arm C	1.0	4.38	0.50	A	1.0	4.47	0.50	A
Arm D	0.6	3.02	0.36	A	0.6	3.19	0.38	A
Arm E	0.5	3.02	0.33	A	0.4	2.76	0.28	A
	2031 Base + Committed + Optional							
Arm A	0.7	3.40	0.40	A	0.8	3.65	0.45	A
Arm C	1.1	4.46	0.51	A	1.0	4.50	0.51	A
Arm D	0.6	3.04	0.36	A	0.6	3.20	0.38	A
Arm E	0.5	3.03	0.33	A	0.4	2.78	0.29	A
	2031 Base + Committed + Development							
Arm A	0.7	3.43	0.40	A	0.8	3.71	0.46	A
Arm C	1.1	4.62	0.53	A	1.0	4.56	0.51	A
Arm D	0.6	3.08	0.36	A	0.6	3.22	0.38	A
Arm E	0.5	3.06	0.34	A	0.4	2.81	0.30	A
	2031 Base + Committed + Optional + Development							
Arm A	0.7	3.44	0.41	A	0.8	3.74	0.46	A
Arm C	1.2	4.72	0.54	A	1.1	4.60	0.52	A
Arm D	0.6	3.10	0.37	A	0.6	3.23	0.39	A
Arm E	0.5	3.08	0.34	A	0.4	2.83	0.30	A

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

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

File summary

File Description

Title	Ordsall, Retford
Location	A1 near Retford
Site number	2A
Date	25/03/2021
Version	
Status	(new file)
Identifier	
Client	Bassetlaw District Council
Jobnumber	B023665
Enumerator	WYG\benjamin.green
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

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D1	2021 Base + Committed	AM	ONE HOUR	07:45	09:15	15	✓
D2	2021 Base + Committed	PM	ONE HOUR	16:45	18:15	15	✓
D3	2031 Base + Committed	AM	ONE HOUR	07:45	09:15	15	✓
D4	2031 Base + Committed	PM	ONE HOUR	16:45	18:15	15	✓
D5	2031 Base + Committed + Optional	AM	ONE HOUR	07:45	09:15	15	✓
D6	2031 Base + Committed + Optional	PM	ONE HOUR	16:45	18:15	15	✓
D7	2031 Base + Committed + Development	AM	ONE HOUR	07:45	09:15	15	✓
D8	2031 Base + Committed + Development	PM	ONE HOUR	16:45	18:15	15	✓
D9	2031 Base + Committed + Optional + Development	AM	ONE HOUR	07:45	09:15	15	✓
D10	2031 Base + Committed + Optional + Development	PM	ONE HOUR	16:45	18:15	15	✓

Analysis Set Details

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

2021 Base + Committed, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		A, B, C, D, E	3.20	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Name	Description
A	A57	
B	A1 NB Onslip	
C	A1 Overbridge	
D	A1 NB Offslip	
E	A614 Blyth Road	

Roundabout Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	l' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit only
A	3.90	8.00	30.0	30.0	85.0	29.0	
B							✓
C	4.80	5.80	10.0	26.0	83.0	33.0	
D	7.40	8.25	2.0	34.0	86.0	35.0	
E	5.10	8.50	30.0	23.0	84.0	33.0	

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Final slope	Final intercept (PCU/hr)
A	0.522	2086
B		
C	0.464	1685
D	0.556	2358
E	0.549	2292

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

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D1	2021 Base + Committed	AM	ONE HOUR	07:45	09:15	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	✓	578	100.000
B					
C		ONE HOUR	✓	685	100.000
D		ONE HOUR	✓	546	100.000
E		ONE HOUR	✓	479	100.000

Origin-Destination Data

Demand (PCU/hr)

		To				
		A	B	C	D	E
From	A	0	45	485	0	48
	B	Exit-only	Exit-only	Exit-only	Exit-only	Exit-only
	C	240	10	0	0	435
	D	415	2	99	0	30
	E	94	355	30	0	0

Vehicle Mix

Heavy Vehicle Percentages

		To				
		A	B	C	D	E
From	A	0	0	0	0	0
	B	Exit-only	Exit-only	Exit-only	Exit-only	Exit-only
	C	0	0	0	0	0
	D	0	0	0	0	0
	E	0	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max 95th percentile Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
A	0.35	3.09	0.5	2.5	A	530	796
B							
C	0.45	3.97	0.8	1.8	A	629	943
D	0.31	2.75	0.5	1.8	A	501	752
E	0.29	2.76	0.4	1.3	A	440	659

Main Results for each time segment

07:45 - 08:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A	435	109	372	1892	0.230	434	562	0.0	0.3	2.467	A
B			497				309				
C	516	129	36	1669	0.309	514	461	0.0	0.4	3.114	A
D	411	103	550	2052	0.200	410	0	0.0	0.2	2.191	A
E	361	90	575	1976	0.182	360	385	0.0	0.2	2.225	A

08:00 - 08:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A	520	130	446	1854	0.280	519	673	0.3	0.4	2.698	A
B			595				370				
C	616	154	43	1665	0.370	615	552	0.4	0.6	3.426	A
D	491	123	658	1992	0.246	491	0	0.2	0.3	2.397	A
E	431	108	688	1914	0.225	430	461	0.2	0.3	2.425	A

08:15 - 08:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A	636	159	546	1801	0.353	636	824	0.4	0.5	3.087	A
B			728				453				
C	754	189	53	1661	0.454	753	675	0.6	0.8	3.962	A
D	601	150	806	1910	0.315	601	0	0.3	0.5	2.748	A
E	527	132	843	1830	0.288	527	564	0.3	0.4	2.763	A

08:30 - 08:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A	636	159	546	1801	0.353	636	825	0.5	0.5	3.090	A
B			729				454				
C	754	189	53	1661	0.454	754	676	0.8	0.8	3.970	A
D	601	150	807	1909	0.315	601	0	0.5	0.5	2.751	A
E	527	132	843	1829	0.288	527	565	0.4	0.4	2.764	A

08:45 - 09:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A	520	130	446	1853	0.280	520	674	0.5	0.4	2.703	A
B			596				371				
C	616	154	43	1665	0.370	617	553	0.8	0.6	3.435	A
D	491	123	660	1991	0.247	491	0	0.5	0.3	2.401	A
E	431	108	689	1914	0.225	431	462	0.4	0.3	2.428	A

09:00 - 09:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A	435	109	374	1891	0.230	436	564	0.4	0.3	2.473	A
B			499				310				
C	516	129	36	1669	0.309	516	463	0.6	0.4	3.127	A
D	411	103	552	2051	0.200	411	0	0.3	0.3	2.197	A
E	361	90	577	1975	0.183	361	387	0.3	0.2	2.229	A

Queue Variation Results for each time segment

07:45 - 08:00

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	0.30	0.00	0.00	0.30	0.30			N/A	N/A
B									
C	0.45	0.00	0.00	0.45	0.45			N/A	N/A
D	0.25	0.00	0.00	0.25	0.25			N/A	N/A
E	0.22	0.00	0.00	0.22	0.22			N/A	N/A

08:00 - 08:15

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	0.39	0.00	0.00	0.39	0.39			N/A	N/A
B									
C	0.58	0.09	0.81	1.36	1.43			N/A	N/A
D	0.33	0.00	0.00	0.33	0.33			N/A	N/A
E	0.29	0.00	0.00	0.29	0.29			N/A	N/A

08:15 - 08:30

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	0.54	0.03	0.25	0.54	0.54			N/A	N/A
B									
C	0.83	0.03	0.25	0.83	0.83			N/A	N/A
D	0.46	0.03	0.25	0.46	0.48			N/A	N/A
E	0.40	0.03	0.25	0.45	0.48			N/A	N/A

08:30 - 08:45

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	0.54	0.03	0.30	1.38	2.55			N/A	N/A
B									
C	0.83	0.03	0.27	0.83	1.81			N/A	N/A
D	0.46	0.03	0.32	1.41	1.82			N/A	N/A
E	0.40	0.03	0.33	1.30	1.33			N/A	N/A

08:45 - 09:00

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	0.39	0.00	0.00	0.39	0.39			N/A	N/A
B									
C	0.59	0.55	1.00	1.40	1.45			N/A	N/A
D	0.33	0.00	0.00	0.33	0.33			N/A	N/A
E	0.29	0.00	0.00	0.29	0.29			N/A	N/A

09:00 - 09:15

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	0.30	0.00	0.00	0.30	0.30			N/A	N/A
B									
C	0.45	0.00	0.00	0.45	0.45			N/A	N/A
D	0.25	0.00	0.00	0.25	0.25			N/A	N/A
E	0.22	0.00	0.00	0.22	0.22			N/A	N/A

2021 Base + Committed, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		A, B, C, D, E	3.26	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D2	2021 Base + Committed	PM	ONE HOUR	16:45	18:15	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	✓	652	100.000
B					
C		ONE HOUR	✓	665	100.000
D		ONE HOUR	✓	571	100.000
E		ONE HOUR	✓	424	100.000

Origin-Destination Data

Demand (PCU/hr)

		To				
		A	B	C	D	E
From	A	0	124	412	0	116
	B	Exit-only	Exit-only	Exit-only	Exit-only	Exit-only
	C	142	5	0	0	518
	D	467	4	75	0	25
	E	49	281	94	0	0

Vehicle Mix

Heavy Vehicle Percentages

		To				
		A	B	C	D	E
From	A	0	0	0	0	0
	B	Exit-only	Exit-only	Exit-only	Exit-only	Exit-only
	C	0	0	0	0	0
	D	0	0	0	0	0
	E	0	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max 95th percentile Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
A	0.39	3.26	0.6	2.7	A	598	897
B							
C	0.45	4.03	0.8	1.9	A	610	915
D	0.33	2.88	0.5	2.2	A	524	786
E	0.25	2.56	0.3	1.3	A	389	584

Main Results for each time segment

16:45 - 17:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A	491	123	345	1906	0.257	489	494	0.0	0.3	2.538	A
B			523				311				
C	501	125	87	1645	0.304	499	436	0.0	0.4	3.137	A
D	430	107	586	2032	0.212	429	0	0.0	0.3	2.244	A
E	319	80	520	2007	0.159	318	494	0.0	0.2	2.131	A

17:00 - 17:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A	586	147	412	1871	0.313	586	591	0.3	0.5	2.801	A
B			626				372				
C	598	149	104	1637	0.365	597	522	0.4	0.6	3.460	A
D	513	128	701	1968	0.261	513	0	0.3	0.4	2.474	A
E	381	95	623	1950	0.195	381	592	0.2	0.2	2.293	A

17:15 - 17:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A	718	179	505	1823	0.394	717	724	0.5	0.6	3.255	A
B			767				455				
C	732	183	128	1626	0.450	731	639	0.6	0.8	4.018	A
D	629	157	859	1880	0.334	628	0	0.4	0.5	2.873	A
E	467	117	762	1874	0.249	466	725	0.2	0.3	2.558	A

17:30 - 17:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A	718	179	505	1822	0.394	718	724	0.6	0.6	3.258	A
B			767				456				
C	732	183	128	1626	0.450	732	640	0.8	0.8	4.026	A
D	629	157	860	1880	0.334	629	0	0.5	0.5	2.876	A
E	467	117	763	1873	0.249	467	726	0.3	0.3	2.559	A

17:45 - 18:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A	586	147	413	1871	0.313	587	592	0.6	0.5	2.805	A
B			627				373				
C	598	149	104	1637	0.365	599	523	0.8	0.6	3.472	A
D	513	128	703	1967	0.261	514	0	0.5	0.4	2.480	A
E	381	95	624	1950	0.196	382	593	0.3	0.2	2.297	A

18:00 - 18:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A	491	123	346	1906	0.258	491	496	0.5	0.3	2.545	A
B			525				312				
C	501	125	87	1645	0.304	501	438	0.6	0.4	3.151	A
D	430	107	589	2031	0.212	430	0	0.4	0.3	2.249	A
E	319	80	522	2005	0.159	319	497	0.2	0.2	2.136	A

Queue Variation Results for each time segment

16:45 - 17:00

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	0.35	0.00	0.00	0.35	0.35			N/A	N/A
B									
C	0.44	0.00	0.00	0.44	0.44			N/A	N/A
D	0.27	0.00	0.00	0.27	0.27			N/A	N/A
E	0.19	0.00	0.00	0.19	0.19			N/A	N/A

17:00 - 17:15

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	0.45	0.00	0.00	0.45	0.45			N/A	N/A
B									
C	0.57	0.09	0.80	1.36	1.43			N/A	N/A
D	0.35	0.00	0.00	0.35	0.35			N/A	N/A
E	0.24	0.00	0.00	0.24	0.24			N/A	N/A

17:15 - 17:30

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	0.65	0.03	0.25	0.65	0.65			N/A	N/A
B									
C	0.81	0.03	0.25	0.81	0.81			N/A	N/A
D	0.50	0.03	0.25	0.50	0.50			N/A	N/A
E	0.33	0.03	0.25	0.45	0.48			N/A	N/A

17:30 - 17:45

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	0.65	0.03	0.29	1.04	2.73			N/A	N/A
B									
C	0.82	0.03	0.27	0.82	1.92			N/A	N/A
D	0.50	0.03	0.31	1.44	2.20			N/A	N/A
E	0.33	0.03	0.32	1.08	1.32			N/A	N/A

17:45 - 18:00

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	0.46	0.00	0.00	0.46	0.46			N/A	N/A
B									
C	0.58	0.55	1.00	1.40	1.45			N/A	N/A
D	0.35	0.00	0.00	0.35	0.35			N/A	N/A
E	0.24	0.00	0.00	0.24	0.24			N/A	N/A

18:00 - 18:15

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	0.35	0.00	0.00	0.35	0.35			N/A	N/A
B									
C	0.44	0.00	0.00	0.44	0.44			N/A	N/A
D	0.27	0.00	0.00	0.27	0.27			N/A	N/A
E	0.19	0.00	0.00	0.19	0.19			N/A	N/A

2031 Base + Committed, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		A, B, C, D, E	3.52	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D3	2031 Base + Committed	AM	ONE HOUR	07:45	09:15	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	✓	644	100.000
B					
C		ONE HOUR	✓	760	100.000
D		ONE HOUR	✓	606	100.000
E		ONE HOUR	✓	532	100.000

Origin-Destination Data

Demand (PCU/hr)

		To				
		A	B	C	D	E
From	A	0	51	540	0	53
	B	Exit-only	Exit-only	Exit-only	Exit-only	Exit-only
	C	266	11	0	0	483
	D	461	2	110	0	33
	E	104	395	33	0	0

Vehicle Mix

Heavy Vehicle Percentages

		To				
		A	B	C	D	E
From	A	0	0	0	0	0
	B	Exit-only	Exit-only	Exit-only	Exit-only	Exit-only
	C	0	0	0	0	0
	D	0	0	0	0	0
	E	0	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max 95th percentile Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
A	0.40	3.39	0.7	2.7	A	591	886
B							
C	0.50	4.38	1.0	1.5	A	697	1046
D	0.36	3.02	0.6	2.6	A	556	834
E	0.33	3.02	0.5	2.1	A	488	732

Main Results for each time segment

07:45 - 08:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A	485	121	414	1870	0.259	483	624	0.0	0.3	2.593	A
B			553				345				
C	572	143	40	1667	0.343	570	513	0.0	0.5	3.277	A
D	456	114	610	2019	0.226	455	0	0.0	0.3	2.301	A
E	401	100	638	1942	0.206	399	427	0.0	0.3	2.333	A

08:00 - 08:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A	579	145	495	1828	0.317	578	746	0.3	0.5	2.881	A
B			661				412				
C	683	171	48	1663	0.411	683	614	0.5	0.7	3.669	A
D	545	136	730	1952	0.279	544	0	0.3	0.4	2.557	A
E	478	120	764	1873	0.255	478	511	0.3	0.3	2.580	A

08:15 - 08:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A	709	177	606	1770	0.401	708	914	0.5	0.7	3.390	A
B			809				505				
C	837	209	58	1658	0.505	836	751	0.7	1.0	4.369	A
D	667	167	894	1861	0.359	667	0	0.4	0.6	3.012	A
E	586	146	935	1779	0.329	585	626	0.3	0.5	3.013	A

08:30 - 08:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A	709	177	607	1770	0.401	709	915	0.7	0.7	3.393	A
B			810				505				
C	837	209	58	1658	0.505	837	752	1.0	1.0	4.381	A
D	667	167	895	1860	0.359	667	0	0.6	0.6	3.016	A
E	586	146	936	1778	0.329	586	626	0.5	0.5	3.017	A

08:45 - 09:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A	579	145	496	1827	0.317	580	748	0.7	0.5	2.886	A
B			663				413				
C	683	171	48	1663	0.411	684	615	1.0	0.7	3.684	A
D	545	136	732	1951	0.279	545	0	0.6	0.4	2.562	A
E	478	120	765	1872	0.255	479	512	0.5	0.3	2.586	A

09:00 - 09:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A	485	121	415	1870	0.259	485	626	0.5	0.4	2.603	A
B			555				346				
C	572	143	40	1667	0.343	573	515	0.7	0.5	3.294	A
D	456	114	613	2017	0.226	457	0	0.4	0.3	2.307	A
E	401	100	641	1941	0.206	401	429	0.3	0.3	2.338	A

Queue Variation Results for each time segment

07:45 - 08:00

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	0.35	0.00	0.00	0.35	0.35			N/A	N/A
B									
C	0.52	0.52	1.00	1.40	1.45			N/A	N/A
D	0.29	0.00	0.00	0.29	0.29			N/A	N/A
E	0.26	0.00	0.00	0.26	0.26			N/A	N/A

08:00 - 08:15

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	0.46	0.00	0.00	0.46	0.46			N/A	N/A
B									
C	0.69	0.10	0.84	1.38	1.44			N/A	N/A
D	0.39	0.00	0.00	0.39	0.39			N/A	N/A
E	0.34	0.00	0.00	0.34	0.34			N/A	N/A

08:15 - 08:30

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	0.66	0.03	0.25	0.66	0.66			N/A	N/A
B									
C	1.01	0.03	0.26	1.01	1.01			N/A	N/A
D	0.56	0.03	0.25	0.56	0.56			N/A	N/A
E	0.49	0.03	0.25	0.49	0.49			N/A	N/A

08:30 - 08:45

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	0.67	0.03	0.28	0.98	2.75			N/A	N/A
B									
C	1.01	0.03	0.27	1.01	1.43			N/A	N/A
D	0.56	0.03	0.30	1.41	2.62			N/A	N/A
E	0.49	0.03	0.31	1.44	2.06			N/A	N/A

08:45 - 09:00

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	0.47	0.00	0.00	0.47	0.47			N/A	N/A
B									
C	0.70	0.55	1.00	1.40	1.45			N/A	N/A
D	0.39	0.00	0.00	0.39	0.39			N/A	N/A
E	0.34	0.00	0.00	0.34	0.34			N/A	N/A

09:00 - 09:15

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	0.35	0.00	0.00	0.35	0.35			N/A	N/A
B									
C	0.53	0.06	0.62	1.33	1.41			N/A	N/A
D	0.29	0.00	0.00	0.29	0.29			N/A	N/A
E	0.26	0.00	0.00	0.26	0.26			N/A	N/A

2031 Base + Committed, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		A, B, C, D, E	3.60	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D4	2031 Base + Committed	PM	ONE HOUR	16:45	18:15	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	✓	724	100.000
B					
C		ONE HOUR	✓	739	100.000
D		ONE HOUR	✓	635	100.000
E		ONE HOUR	✓	472	100.000

Origin-Destination Data

Demand (PCU/hr)

		To				
		A	B	C	D	E
From	A	0	137	458	0	129
	B	Exit-only	Exit-only	Exit-only	Exit-only	Exit-only
	C	158	6	0	0	575
	D	519	5	84	0	27
	E	55	313	104	0	0

Vehicle Mix

Heavy Vehicle Percentages

		To				
		A	B	C	D	E
From	A	0	0	0	0	0
	B	Exit-only	Exit-only	Exit-only	Exit-only	Exit-only
	C	0	0	0	0	0
	D	0	0	0	0	0
	E	0	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max 95th percentile Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
A	0.44	3.62	0.8	2.2	A	664	997
B							
C	0.50	4.47	1.0	1.5	A	678	1017
D	0.38	3.19	0.6	2.8	A	583	874
E	0.28	2.76	0.4	1.2	A	433	650

Main Results for each time segment

16:45 - 17:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A	545	136	384	1886	0.289	543	550	0.0	0.4	2.678	A
B			582				346				
C	556	139	97	1640	0.339	554	485	0.0	0.5	3.309	A
D	478	120	651	1996	0.240	477	0	0.0	0.3	2.367	A
E	355	89	580	1974	0.180	354	548	0.0	0.2	2.221	A

17:00 - 17:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A	651	163	460	1846	0.353	650	658	0.4	0.5	3.008	A
B			696				414				
C	664	166	116	1632	0.407	664	580	0.5	0.7	3.717	A
D	571	143	780	1924	0.297	570	0	0.3	0.4	2.659	A
E	424	106	693	1911	0.222	424	657	0.2	0.3	2.420	A

17:15 - 17:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A	797	199	563	1792	0.445	796	805	0.5	0.8	3.611	A
B			852				507				
C	814	203	142	1620	0.502	812	710	0.7	1.0	4.452	A
D	699	175	954	1827	0.383	698	0	0.4	0.6	3.187	A
E	520	130	849	1826	0.285	519	804	0.3	0.4	2.754	A

17:30 - 17:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A	797	199	564	1792	0.445	797	806	0.8	0.8	3.617	A
B			853				508				
C	814	203	142	1620	0.502	814	711	1.0	1.0	4.466	A
D	699	175	956	1827	0.383	699	0	0.6	0.6	3.192	A
E	520	130	850	1826	0.285	520	805	0.4	0.4	2.756	A

17:45 - 18:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A	651	163	461	1846	0.353	652	659	0.8	0.5	3.017	A
B			698				415				
C	664	166	116	1632	0.407	666	582	1.0	0.7	3.733	A
D	571	143	782	1923	0.297	572	0	0.6	0.4	2.666	A
E	424	106	695	1911	0.222	425	658	0.4	0.3	2.425	A

18:00 - 18:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A	545	136	386	1885	0.289	546	552	0.5	0.4	2.690	A
B			584				347				
C	556	139	97	1640	0.339	557	487	0.7	0.5	3.327	A
D	478	120	654	1994	0.240	478	0	0.4	0.3	2.375	A
E	355	89	582	1973	0.180	356	551	0.3	0.2	2.226	A

Queue Variation Results for each time segment

16:45 - 17:00

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	0.40	0.00	0.00	0.40	0.40			N/A	N/A
B									
C	0.51	0.51	1.00	1.40	1.45			N/A	N/A
D	0.31	0.00	0.00	0.31	0.31			N/A	N/A
E	0.22	0.00	0.00	0.22	0.22			N/A	N/A

17:00 - 17:15

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	0.54	0.07	0.71	1.34	1.42			N/A	N/A
B									
C	0.68	0.10	0.84	1.37	1.44			N/A	N/A
D	0.42	0.00	0.00	0.42	0.42			N/A	N/A
E	0.28	0.00	0.00	0.28	0.28			N/A	N/A

17:15 - 17:30

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	0.80	0.03	0.25	0.80	0.80			N/A	N/A
B									
C	1.00	0.03	0.26	1.00	1.00			N/A	N/A
D	0.62	0.03	0.25	0.62	0.62			N/A	N/A
E	0.40	0.03	0.25	0.45	0.48			N/A	N/A

17:30 - 17:45

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	0.80	0.03	0.27	0.80	2.22			N/A	N/A
B									
C	1.00	0.03	0.27	1.00	1.50			N/A	N/A
D	0.62	0.03	0.29	1.27	2.83			N/A	N/A
E	0.40	0.03	0.33	1.24	1.24			N/A	N/A

17:45 - 18:00

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	0.55	0.55	1.00	1.40	1.45			N/A	N/A
B									
C	0.69	0.55	1.00	1.40	1.45			N/A	N/A
D	0.42	0.00	0.00	0.42	0.42			N/A	N/A
E	0.29	0.00	0.00	0.29	0.29			N/A	N/A

18:00 - 18:15

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	0.41	0.00	0.00	0.41	0.41			N/A	N/A
B									
C	0.52	0.05	0.57	1.31	1.41			N/A	N/A
D	0.32	0.00	0.00	0.32	0.32			N/A	N/A
E	0.22	0.00	0.00	0.22	0.22			N/A	N/A

2031 Base + Committed + Optional, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		A, B, C, D, E	3.56	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D5	2031 Base + Committed + Optional	AM	ONE HOUR	07:45	09:15	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	✓	645	100.000
B					
C		ONE HOUR	✓	774	100.000
D		ONE HOUR	✓	606	100.000
E		ONE HOUR	✓	536	100.000

Origin-Destination Data

Demand (PCU/hr)

		To				
		A	B	C	D	E
From	A	0	51	541	0	53
	B	Exit-only	Exit-only	Exit-only	Exit-only	Exit-only
	C	269	11	0	0	494
	D	461	2	110	0	33
	E	104	395	37	0	0

Vehicle Mix

Heavy Vehicle Percentages

		To				
		A	B	C	D	E
From	A	0	0	0	0	0
	B	Exit-only	Exit-only	Exit-only	Exit-only	Exit-only
	C	0	0	0	0	0
	D	0	0	0	0	0
	E	0	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max 95th percentile Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
A	0.40	3.40	0.7	2.7	A	592	888
B							
C	0.51	4.46	1.1	1.5	A	710	1065
D	0.36	3.04	0.6	2.6	A	556	834
E	0.33	3.03	0.5	2.1	A	492	738

Main Results for each time segment

07:45 - 08:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A	486	121	417	1869	0.260	484	626	0.0	0.3	2.598	A
B			556				345				
C	583	146	40	1667	0.350	581	517	0.0	0.5	3.309	A
D	456	114	620	2013	0.227	455	0	0.0	0.3	2.310	A
E	404	101	640	1941	0.208	402	435	0.0	0.3	2.339	A

08:00 - 08:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A	580	145	499	1826	0.318	579	749	0.3	0.5	2.888	A
B			666				412				
C	696	174	48	1663	0.418	695	618	0.5	0.7	3.717	A
D	545	136	743	1945	0.280	544	0	0.3	0.4	2.570	A
E	482	120	766	1872	0.257	482	521	0.3	0.3	2.589	A

08:15 - 08:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A	710	178	610	1768	0.402	709	917	0.5	0.7	3.402	A
B			815				505				
C	852	213	58	1658	0.514	851	757	0.7	1.0	4.451	A
D	667	167	909	1852	0.360	667	0	0.4	0.6	3.034	A
E	590	148	938	1777	0.332	590	638	0.3	0.5	3.029	A

08:30 - 08:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A	710	178	611	1767	0.402	710	918	0.7	0.7	3.404	A
B			816				505				
C	852	213	58	1658	0.514	852	757	1.0	1.1	4.465	A
D	667	167	911	1852	0.360	667	0	0.6	0.6	3.038	A
E	590	148	939	1777	0.332	590	639	0.5	0.5	3.033	A

08:45 - 09:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A	580	145	500	1825	0.318	581	751	0.7	0.5	2.893	A
B			667				413				
C	696	174	48	1663	0.418	697	619	1.1	0.7	3.733	A
D	545	136	745	1944	0.280	545	0	0.6	0.4	2.575	A
E	482	120	768	1871	0.258	482	522	0.5	0.3	2.593	A

09:00 - 09:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A	486	121	418	1868	0.260	486	628	0.5	0.4	2.607	A
B			558				346				
C	583	146	40	1667	0.350	583	518	0.7	0.5	3.324	A
D	456	114	623	2011	0.227	457	0	0.4	0.3	2.315	A
E	404	101	643	1939	0.208	404	437	0.3	0.3	2.344	A

Queue Variation Results for each time segment

07:45 - 08:00

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	0.35	0.00	0.00	0.35	0.35			N/A	N/A
B									
C	0.53	0.53	1.00	1.40	1.45			N/A	N/A
D	0.29	0.00	0.00	0.29	0.29			N/A	N/A
E	0.26	0.00	0.00	0.26	0.26			N/A	N/A

08:00 - 08:15

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	0.46	0.00	0.00	0.46	0.46			N/A	N/A
B									
C	0.71	0.10	0.84	1.38	1.45			N/A	N/A
D	0.39	0.00	0.00	0.39	0.39			N/A	N/A
E	0.35	0.00	0.00	0.35	0.35			N/A	N/A

08:15 - 08:30

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	0.67	0.03	0.25	0.67	0.67			N/A	N/A
B									
C	1.05	0.03	0.26	1.05	1.05			N/A	N/A
D	0.56	0.03	0.25	0.56	0.56			N/A	N/A
E	0.49	0.03	0.25	0.49	0.49			N/A	N/A

08:30 - 08:45

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	0.67	0.03	0.28	0.97	2.74			N/A	N/A
B									
C	1.05	0.03	0.27	1.05	1.33			N/A	N/A
D	0.56	0.03	0.30	1.40	2.64			N/A	N/A
E	0.50	0.03	0.31	1.44	2.14			N/A	N/A

08:45 - 09:00

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	0.47	0.00	0.00	0.47	0.47			N/A	N/A
B									
C	0.72	0.52	0.98	1.40	1.45			N/A	N/A
D	0.39	0.00	0.00	0.39	0.39			N/A	N/A
E	0.35	0.00	0.00	0.35	0.35			N/A	N/A

09:00 - 09:15

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	0.35	0.00	0.00	0.35	0.35			N/A	N/A
B									
C	0.54	0.06	0.68	1.34	1.42			N/A	N/A
D	0.29	0.00	0.00	0.29	0.29			N/A	N/A
E	0.26	0.00	0.00	0.26	0.26			N/A	N/A

2031 Base + Committed + Optional, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		A, B, C, D, E	3.62	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D6	2031 Base + Committed + Optional	PM	ONE HOUR	16:45	18:15	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	✓	727	100.000
B					
C		ONE HOUR	✓	745	100.000
D		ONE HOUR	✓	635	100.000
E		ONE HOUR	✓	482	100.000

Origin-Destination Data

Demand (PCU/hr)

		To				
		A	B	C	D	E
From	A	0	137	461	0	129
	B	Exit-only	Exit-only	Exit-only	Exit-only	Exit-only
	C	159	6	0	0	580
	D	519	5	84	0	27
	E	55	313	114	0	0

Vehicle Mix

Heavy Vehicle Percentages

		To				
		A	B	C	D	E
From	A	0	0	0	0	0
	B	Exit-only	Exit-only	Exit-only	Exit-only	Exit-only
	C	0	0	0	0	0
	D	0	0	0	0	0
	E	0	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max 95th percentile Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
A	0.45	3.65	0.8	2.2	A	667	1001
B							
C	0.51	4.50	1.0	1.5	A	684	1025
D	0.38	3.20	0.6	2.8	A	583	874
E	0.29	2.78	0.4	1.4	A	442	663

Main Results for each time segment

16:45 - 17:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A	547	137	392	1882	0.291	546	550	0.0	0.4	2.691	A
B			592				346				
C	561	140	97	1640	0.342	559	495	0.0	0.5	3.323	A
D	478	120	656	1993	0.240	477	0	0.0	0.3	2.371	A
E	363	91	580	1974	0.184	362	552	0.0	0.2	2.232	A

17:00 - 17:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A	654	163	469	1841	0.355	653	658	0.4	0.5	3.027	A
B			708				414				
C	670	167	116	1632	0.410	669	592	0.5	0.7	3.738	A
D	571	143	785	1921	0.297	570	0	0.3	0.4	2.664	A
E	433	108	694	1911	0.227	433	661	0.2	0.3	2.435	A

17:15 - 17:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A	800	200	574	1786	0.448	799	806	0.5	0.8	3.644	A
B			867				507				
C	820	205	142	1620	0.506	819	725	0.7	1.0	4.489	A
D	699	175	961	1824	0.383	698	0	0.4	0.6	3.198	A
E	531	133	850	1826	0.291	530	809	0.3	0.4	2.779	A

17:30 - 17:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A	800	200	575	1786	0.448	800	807	0.8	0.8	3.651	A
B			868				508				
C	820	205	142	1620	0.506	820	726	1.0	1.0	4.503	A
D	699	175	962	1823	0.384	699	0	0.6	0.6	3.202	A
E	531	133	851	1825	0.291	531	810	0.4	0.4	2.780	A

17:45 - 18:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A	654	163	470	1841	0.355	655	660	0.8	0.6	3.038	A
B			709				415				
C	670	167	116	1632	0.411	671	593	1.0	0.7	3.755	A
D	571	143	787	1920	0.297	572	0	0.6	0.4	2.670	A
E	433	108	696	1910	0.227	434	663	0.4	0.3	2.440	A

18:00 - 18:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A	547	137	393	1881	0.291	548	552	0.6	0.4	2.701	A
B			594				347				
C	561	140	97	1640	0.342	562	497	0.7	0.5	3.338	A
D	478	120	659	1992	0.240	478	0	0.4	0.3	2.379	A
E	363	91	583	1972	0.184	363	555	0.3	0.2	2.238	A

Queue Variation Results for each time segment

16:45 - 17:00

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	0.41	0.00	0.00	0.41	0.41			N/A	N/A
B									
C	0.52	0.52	1.00	1.40	1.45			N/A	N/A
D	0.31	0.00	0.00	0.31	0.31			N/A	N/A
E	0.22	0.00	0.00	0.22	0.22			N/A	N/A

17:00 - 17:15

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	0.55	0.07	0.72	1.34	1.42			N/A	N/A
B									
C	0.69	0.10	0.84	1.38	1.44			N/A	N/A
D	0.42	0.00	0.00	0.42	0.42			N/A	N/A
E	0.29	0.00	0.00	0.29	0.29			N/A	N/A

17:15 - 17:30

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	0.81	0.03	0.25	0.81	0.81			N/A	N/A
B									
C	1.02	0.03	0.26	1.02	1.02			N/A	N/A
D	0.62	0.03	0.25	0.62	0.62			N/A	N/A
E	0.41	0.03	0.25	0.45	0.48			N/A	N/A

17:30 - 17:45

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	0.81	0.03	0.27	0.81	2.16			N/A	N/A
B									
C	1.02	0.03	0.27	1.02	1.46			N/A	N/A
D	0.62	0.03	0.29	1.27	2.84			N/A	N/A
E	0.41	0.03	0.33	1.31	1.39			N/A	N/A

17:45 - 18:00

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	0.55	0.55	1.00	1.40	1.45			N/A	N/A
B									
C	0.70	0.55	1.00	1.40	1.45			N/A	N/A
D	0.42	0.00	0.00	0.42	0.42			N/A	N/A
E	0.29	0.00	0.00	0.29	0.29			N/A	N/A

18:00 - 18:15

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	0.41	0.00	0.00	0.41	0.41			N/A	N/A
B									
C	0.52	0.06	0.60	1.32	1.41			N/A	N/A
D	0.32	0.00	0.00	0.32	0.32			N/A	N/A
E	0.23	0.00	0.00	0.23	0.23			N/A	N/A

2031 Base + Committed + Development, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		A, B, C, D, E	3.64	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D7	2031 Base + Committed + Development	AM	ONE HOUR	07:45	09:15	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	✓	649	100.000
B					
C		ONE HOUR	✓	799	100.000
D		ONE HOUR	✓	606	100.000
E		ONE HOUR	✓	540	100.000

Origin-Destination Data

Demand (PCU/hr)

		To				
		A	B	C	D	E
From	A	0	51	545	0	53
	B	Exit-only	Exit-only	Exit-only	Exit-only	Exit-only
	C	281	11	0	0	507
	D	461	2	110	0	33
	E	104	395	41	0	0

Vehicle Mix

Heavy Vehicle Percentages

		To				
		A	B	C	D	E
From	A	0	0	0	0	0
	B	Exit-only	Exit-only	Exit-only	Exit-only	Exit-only
	C	0	0	0	0	0
	D	0	0	0	0	0
	E	0	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max 95th percentile Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
A	0.40	3.43	0.7	2.7	A	596	893
B							
C	0.53	4.62	1.1	1.5	A	733	1100
D	0.36	3.08	0.6	2.7	A	556	834
E	0.34	3.06	0.5	2.2	A	496	743

Main Results for each time segment

07:45 - 08:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A	489	122	420	1867	0.262	487	635	0.0	0.4	2.606	A
B			562				345				
C	602	150	40	1667	0.361	599	523	0.0	0.6	3.364	A
D	456	114	639	2003	0.228	455	0	0.0	0.3	2.325	A
E	407	102	649	1936	0.210	405	445	0.0	0.3	2.351	A

08:00 - 08:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A	583	146	502	1824	0.320	583	760	0.4	0.5	2.901	A
B			673				412				
C	718	180	48	1663	0.432	718	625	0.6	0.8	3.802	A
D	545	136	765	1932	0.282	544	0	0.3	0.4	2.593	A
E	485	121	777	1866	0.260	485	533	0.3	0.4	2.607	A

08:15 - 08:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A	715	179	615	1765	0.405	714	930	0.5	0.7	3.420	A
B			824				505				
C	880	220	58	1658	0.530	878	765	0.8	1.1	4.606	A
D	667	167	937	1837	0.363	667	0	0.4	0.6	3.073	A
E	595	149	951	1770	0.336	594	652	0.4	0.5	3.059	A

08:30 - 08:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A	715	179	615	1765	0.405	715	931	0.7	0.7	3.426	A
B			825				505				
C	880	220	58	1658	0.530	880	766	1.1	1.1	4.623	A
D	667	167	938	1836	0.363	667	0	0.6	0.6	3.078	A
E	595	149	952	1769	0.336	595	653	0.5	0.5	3.063	A

08:45 - 09:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A	583	146	503	1824	0.320	584	762	0.7	0.5	2.906	A
B			674				413				
C	718	180	48	1663	0.432	720	627	1.1	0.8	3.820	A
D	545	136	767	1931	0.282	545	0	0.6	0.4	2.598	A
E	485	121	779	1865	0.260	486	534	0.5	0.4	2.611	A

09:00 - 09:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A	489	122	421	1866	0.262	489	638	0.5	0.4	2.616	A
B			564				346				
C	602	150	40	1667	0.361	602	524	0.8	0.6	3.383	A
D	456	114	642	2001	0.228	457	0	0.4	0.3	2.333	A
E	407	102	652	1934	0.210	407	447	0.4	0.3	2.357	A

Queue Variation Results for each time segment

07:45 - 08:00

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	0.35	0.00	0.00	0.35	0.35			N/A	N/A
B									
C	0.56	0.55	1.00	1.40	1.45			N/A	N/A
D	0.29	0.00	0.00	0.29	0.29			N/A	N/A
E	0.26	0.00	0.00	0.26	0.26			N/A	N/A

08:00 - 08:15

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	0.47	0.00	0.00	0.47	0.47			N/A	N/A
B									
C	0.75	0.09	0.84	1.41	1.49			N/A	N/A
D	0.39	0.00	0.00	0.39	0.39			N/A	N/A
E	0.35	0.00	0.00	0.35	0.35			N/A	N/A

08:15 - 08:30

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	0.68	0.03	0.25	0.68	0.68			N/A	N/A
B									
C	1.12	0.03	0.26	1.12	1.12			N/A	N/A
D	0.57	0.03	0.25	0.57	0.57			N/A	N/A
E	0.50	0.03	0.25	0.50	0.50			N/A	N/A

08:30 - 08:45

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	0.68	0.03	0.28	0.93	2.73			N/A	N/A
B									
C	1.12	0.03	0.27	1.12	1.17			N/A	N/A
D	0.57	0.03	0.30	1.39	2.68			N/A	N/A
E	0.50	0.03	0.31	1.45	2.23			N/A	N/A

08:45 - 09:00

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	0.47	0.00	0.00	0.47	0.47			N/A	N/A
B									
C	0.77	0.51	0.98	1.40	1.45			N/A	N/A
D	0.39	0.00	0.00	0.39	0.39			N/A	N/A
E	0.35	0.00	0.00	0.35	0.35			N/A	N/A

09:00 - 09:15

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	0.36	0.00	0.00	0.36	0.36			N/A	N/A
B									
C	0.57	0.07	0.73	1.35	1.42			N/A	N/A
D	0.30	0.00	0.00	0.30	0.30			N/A	N/A
E	0.27	0.00	0.00	0.27	0.27			N/A	N/A

2031 Base + Committed + Development, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		A, B, C, D, E	3.67	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D8	2031 Base + Committed + Development	PM	ONE HOUR	16:45	18:15	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	✓	736	100.000
B					
C		ONE HOUR	✓	754	100.000
D		ONE HOUR	✓	635	100.000
E		ONE HOUR	✓	491	100.000

Origin-Destination Data

Demand (PCU/hr)

		To				
		A	B	C	D	E
From	A	0	137	470	0	129
	B	Exit-only	Exit-only	Exit-only	Exit-only	Exit-only
	C	164	6	0	0	584
	D	519	5	84	0	27
	E	55	313	123	0	0

Vehicle Mix

Heavy Vehicle Percentages

		To				
		A	B	C	D	E
From	A	0	0	0	0	0
	B	Exit-only	Exit-only	Exit-only	Exit-only	Exit-only
	C	0	0	0	0	0
	D	0	0	0	0	0
	E	0	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max 95th percentile Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
A	0.46	3.71	0.8	2.0	A	675	1013
B							
C	0.51	4.56	1.0	1.5	A	692	1038
D	0.38	3.22	0.6	2.8	A	583	874
E	0.30	2.81	0.4	1.5	A	451	676

Main Results for each time segment

16:45 - 17:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A	554	139	399	1878	0.295	552	554	0.0	0.4	2.712	A
B			605				346				
C	568	142	97	1640	0.346	566	508	0.0	0.5	3.344	A
D	478	120	662	1990	0.240	477	0	0.0	0.3	2.377	A
E	370	92	584	1972	0.187	369	555	0.0	0.2	2.245	A

17:00 - 17:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A	662	165	477	1837	0.360	661	663	0.4	0.6	3.059	A
B			724				414				
C	678	169	116	1632	0.415	677	608	0.5	0.7	3.770	A
D	571	143	793	1917	0.298	570	0	0.3	0.4	2.673	A
E	441	110	699	1909	0.231	441	665	0.2	0.3	2.453	A

17:15 - 17:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A	810	203	584	1781	0.455	809	812	0.6	0.8	3.701	A
B			886				507				
C	830	208	142	1620	0.513	829	744	0.7	1.0	4.545	A
D	699	175	971	1818	0.385	698	0	0.4	0.6	3.213	A
E	541	135	856	1823	0.297	540	813	0.3	0.4	2.807	A

17:30 - 17:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A	810	203	585	1781	0.455	810	813	0.8	0.8	3.707	A
B			887				508				
C	830	208	142	1620	0.513	830	745	1.0	1.0	4.560	A
D	699	175	972	1817	0.385	699	0	0.6	0.6	3.218	A
E	541	135	857	1822	0.297	541	815	0.4	0.4	2.808	A

17:45 - 18:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A	662	165	478	1837	0.360	663	664	0.8	0.6	3.068	A
B			726				415				
C	678	169	116	1632	0.415	679	610	1.0	0.7	3.787	A
D	571	143	795	1916	0.298	572	0	0.6	0.4	2.679	A
E	441	110	700	1908	0.231	442	666	0.4	0.3	2.456	A

18:00 - 18:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A	554	139	400	1877	0.295	555	556	0.6	0.4	2.724	A
B			607				347				
C	568	142	97	1640	0.346	568	510	0.7	0.5	3.362	A
D	478	120	666	1988	0.241	478	0	0.4	0.3	2.387	A
E	370	92	586	1970	0.188	370	558	0.3	0.2	2.251	A

Queue Variation Results for each time segment

16:45 - 17:00

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	0.42	0.00	0.00	0.42	0.42			N/A	N/A
B									
C	0.53	0.53	1.00	1.40	1.45			N/A	N/A
D	0.32	0.00	0.00	0.32	0.32			N/A	N/A
E	0.23	0.00	0.00	0.23	0.23			N/A	N/A

17:00 - 17:15

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	0.56	0.07	0.75	1.35	1.42			N/A	N/A
B									
C	0.71	0.10	0.84	1.38	1.45			N/A	N/A
D	0.42	0.00	0.00	0.42	0.42			N/A	N/A
E	0.30	0.00	0.00	0.30	0.30			N/A	N/A

17:15 - 17:30

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	0.83	0.03	0.25	0.83	0.83			N/A	N/A
B									
C	1.04	0.03	0.26	1.04	1.04			N/A	N/A
D	0.62	0.03	0.25	0.62	0.62			N/A	N/A
E	0.42	0.03	0.25	0.45	0.48			N/A	N/A

17:30 - 17:45

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	0.83	0.03	0.27	0.83	2.02			N/A	N/A
B									
C	1.05	0.03	0.27	1.05	1.40			N/A	N/A
D	0.62	0.03	0.29	1.26	2.84			N/A	N/A
E	0.42	0.03	0.33	1.34	1.51			N/A	N/A

17:45 - 18:00

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	0.57	0.55	1.00	1.40	1.45			N/A	N/A
B									
C	0.72	0.51	0.98	1.40	1.45			N/A	N/A
D	0.43	0.00	0.00	0.43	0.43			N/A	N/A
E	0.30	0.00	0.00	0.30	0.30			N/A	N/A

18:00 - 18:15

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	0.42	0.00	0.00	0.42	0.42			N/A	N/A
B									
C	0.53	0.06	0.64	1.33	1.41			N/A	N/A
D	0.32	0.00	0.00	0.32	0.32			N/A	N/A
E	0.23	0.00	0.00	0.23	0.23			N/A	N/A

2031 Base + Committed + Optional + Development, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		A, B, C, D, E	3.68	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D9	2031 Base + Committed + Optional + Development	AM	ONE HOUR	07:45	09:15	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	✓	650	100.000
B					
C		ONE HOUR	✓	813	100.000
D		ONE HOUR	✓	606	100.000
E		ONE HOUR	✓	544	100.000

Origin-Destination Data

Demand (PCU/hr)

		To				
		A	B	C	D	E
From	A	0	51	546	0	53
	B	Exit-only	Exit-only	Exit-only	Exit-only	Exit-only
	C	284	11	0	0	518
	D	461	2	110	0	33
	E	104	395	45	0	0

Vehicle Mix

Heavy Vehicle Percentages

		To				
		A	B	C	D	E
From	A	0	0	0	0	0
	B	Exit-only	Exit-only	Exit-only	Exit-only	Exit-only
	C	0	0	0	0	0
	D	0	0	0	0	0
	E	0	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max 95th percentile Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
A	0.41	3.44	0.7	2.7	A	596	895
B							
C	0.54	4.72	1.2	1.5	A	746	1119
D	0.37	3.10	0.6	2.7	A	556	834
E	0.34	3.08	0.5	2.3	A	499	749

Main Results for each time segment

07:45 - 08:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A	489	122	423	1866	0.262	488	637	0.0	0.4	2.611	A
B			566				345				
C	612	153	40	1667	0.367	610	526	0.0	0.6	3.398	A
D	456	114	650	1997	0.228	455	0	0.0	0.3	2.334	A
E	410	102	652	1935	0.212	408	453	0.0	0.3	2.358	A

08:00 - 08:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A	584	146	506	1822	0.321	584	763	0.4	0.5	2.907	A
B			677				412				
C	731	183	48	1663	0.439	730	630	0.6	0.8	3.854	A
D	545	136	778	1925	0.283	544	0	0.3	0.4	2.606	A
E	489	122	780	1864	0.262	489	542	0.3	0.4	2.617	A

08:15 - 08:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A	716	179	619	1763	0.406	715	934	0.5	0.7	3.431	A
B			829				505				
C	895	224	58	1658	0.540	894	771	0.8	1.2	4.697	A
D	667	167	952	1829	0.365	667	0	0.4	0.6	3.096	A
E	599	150	954	1768	0.339	598	664	0.4	0.5	3.075	A

08:30 - 08:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A	716	179	620	1763	0.406	716	935	0.7	0.7	3.437	A
B			830				505				
C	895	224	58	1658	0.540	895	772	1.2	1.2	4.716	A
D	667	167	953	1828	0.365	667	0	0.6	0.6	3.101	A
E	599	150	956	1768	0.339	599	665	0.5	0.5	3.079	A

08:45 - 09:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A	584	146	507	1822	0.321	585	764	0.7	0.5	2.914	A
B			679				413				
C	731	183	48	1663	0.439	732	631	1.2	0.8	3.874	A
D	545	136	780	1924	0.283	545	0	0.6	0.4	2.612	A
E	489	122	782	1863	0.262	490	544	0.5	0.4	2.621	A

09:00 - 09:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A	489	122	424	1865	0.262	490	640	0.5	0.4	2.620	A
B			568				346				
C	612	153	40	1667	0.367	613	528	0.8	0.6	3.420	A
D	456	114	653	1995	0.229	457	0	0.4	0.3	2.340	A
E	410	102	654	1933	0.212	410	455	0.4	0.3	2.365	A

Queue Variation Results for each time segment

07:45 - 08:00

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	0.35	0.00	0.00	0.35	0.35			N/A	N/A
B									
C	0.58	0.55	1.00	1.40	1.45			N/A	N/A
D	0.30	0.00	0.00	0.30	0.30			N/A	N/A
E	0.27	0.00	0.00	0.27	0.27			N/A	N/A

08:00 - 08:15

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	0.47	0.00	0.00	0.47	0.47			N/A	N/A
B									
C	0.78	0.09	0.84	1.14	1.14			N/A	N/A
D	0.39	0.00	0.00	0.39	0.39			N/A	N/A
E	0.35	0.00	0.00	0.35	0.35			N/A	N/A

08:15 - 08:30

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	0.68	0.03	0.25	0.68	0.68			N/A	N/A
B									
C	1.16	0.03	0.26	1.16	1.16			N/A	N/A
D	0.57	0.03	0.25	0.57	0.57			N/A	N/A
E	0.51	0.03	0.25	0.51	0.51			N/A	N/A

08:30 - 08:45

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	0.68	0.03	0.28	0.91	2.73			N/A	N/A
B									
C	1.17	0.03	0.27	1.17	1.17			N/A	N/A
D	0.57	0.03	0.30	1.39	2.70			N/A	N/A
E	0.51	0.03	0.31	1.45	2.30			N/A	N/A

08:45 - 09:00

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	0.47	0.00	0.00	0.47	0.47			N/A	N/A
B									
C	0.79	0.51	0.98	1.40	1.45			N/A	N/A
D	0.40	0.00	0.00	0.40	0.40			N/A	N/A
E	0.36	0.00	0.00	0.36	0.36			N/A	N/A

09:00 - 09:15

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	0.36	0.00	0.00	0.36	0.36			N/A	N/A
B									
C	0.58	0.07	0.74	1.35	1.42			N/A	N/A
D	0.30	0.00	0.00	0.30	0.30			N/A	N/A
E	0.27	0.00	0.00	0.27	0.27			N/A	N/A

2031 Base + Committed + Optional + Development, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		A, B, C, D, E	3.69	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D10	2031 Base + Committed + Optional + Development	PM	ONE HOUR	16:45	18:15	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	✓	739	100.000
B					
C		ONE HOUR	✓	760	100.000
D		ONE HOUR	✓	635	100.000
E		ONE HOUR	✓	501	100.000

Origin-Destination Data

Demand (PCU/hr)

		To				
		A	B	C	D	E
From	A	0	137	473	0	129
	B	Exit-only	Exit-only	Exit-only	Exit-only	Exit-only
	C	165	6	0	0	589
	D	519	5	84	0	27
	E	55	313	133	0	0

Vehicle Mix

Heavy Vehicle Percentages

		To				
		A	B	C	D	E
From	A	0	0	0	0	0
	B	Exit-only	Exit-only	Exit-only	Exit-only	Exit-only
	C	0	0	0	0	0
	D	0	0	0	0	0
	E	0	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max 95th percentile Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
A	0.46	3.74	0.8	2.0	A	678	1017
B							
C	0.52	4.60	1.1	1.5	A	697	1046
D	0.39	3.23	0.6	2.8	A	583	874
E	0.30	2.83	0.4	1.6	A	460	690

Main Results for each time segment

16:45 - 17:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A	556	139	406	1874	0.297	555	555	0.0	0.4	2.724	A
B			615				346				
C	572	143	97	1640	0.349	570	518	0.0	0.5	3.355	A
D	478	120	667	1987	0.241	477	0	0.0	0.3	2.381	A
E	377	94	585	1971	0.191	376	559	0.0	0.2	2.256	A

17:00 - 17:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A	664	166	486	1833	0.363	664	664	0.4	0.6	3.078	A
B			736				414				
C	683	171	116	1632	0.419	682	620	0.5	0.7	3.793	A
D	571	143	798	1914	0.298	570	0	0.3	0.4	2.679	A
E	450	113	700	1908	0.236	450	669	0.2	0.3	2.469	A

17:15 - 17:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A	814	203	595	1776	0.458	813	813	0.6	0.8	3.735	A
B			901				507				
C	837	209	142	1620	0.517	835	759	0.7	1.1	4.582	A
D	699	175	977	1815	0.385	698	0	0.4	0.6	3.224	A
E	552	138	857	1822	0.303	551	819	0.3	0.4	2.831	A

17:30 - 17:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A	814	203	596	1775	0.458	814	814	0.8	0.8	3.742	A
B			902				508				
C	837	209	142	1620	0.517	837	760	1.1	1.1	4.598	A
D	699	175	979	1814	0.385	699	0	0.6	0.6	3.229	A
E	552	138	858	1821	0.303	552	820	0.4	0.4	2.834	A

17:45 - 18:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A	664	166	487	1832	0.363	665	665	0.8	0.6	3.087	A
B			737				415				
C	683	171	116	1632	0.419	685	621	1.1	0.7	3.809	A
D	571	143	801	1913	0.298	572	0	0.6	0.4	2.685	A
E	450	113	701	1907	0.236	451	671	0.4	0.3	2.474	A

18:00 - 18:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A	556	139	408	1873	0.297	557	557	0.6	0.4	2.737	A
B			617				347				
C	572	143	97	1640	0.349	573	520	0.7	0.5	3.376	A
D	478	120	670	1985	0.241	478	0	0.4	0.3	2.389	A
E	377	94	587	1970	0.191	377	562	0.3	0.2	2.262	A

Queue Variation Results for each time segment

16:45 - 17:00

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	0.42	0.00	0.00	0.42	0.42			N/A	N/A
B									
C	0.53	0.53	1.00	1.40	1.45			N/A	N/A
D	0.32	0.00	0.00	0.32	0.32			N/A	N/A
E	0.24	0.00	0.00	0.24	0.24			N/A	N/A

17:00 - 17:15

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	0.57	0.08	0.75	1.35	1.43			N/A	N/A
B									
C	0.72	0.10	0.84	1.39	1.45			N/A	N/A
D	0.42	0.00	0.00	0.42	0.42			N/A	N/A
E	0.31	0.00	0.00	0.31	0.31			N/A	N/A

17:15 - 17:30

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	0.84	0.03	0.25	0.84	0.84			N/A	N/A
B									
C	1.06	0.03	0.26	1.06	1.06			N/A	N/A
D	0.62	0.03	0.25	0.62	0.62			N/A	N/A
E	0.43	0.03	0.25	0.45	0.48			N/A	N/A

17:30 - 17:45

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	0.84	0.03	0.27	0.84	1.97			N/A	N/A
B									
C	1.06	0.03	0.27	1.06	1.37			N/A	N/A
D	0.63	0.03	0.29	1.25	2.85			N/A	N/A
E	0.43	0.03	0.33	1.37	1.63			N/A	N/A

17:45 - 18:00

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	0.57	0.55	1.00	1.40	1.45			N/A	N/A
B									
C	0.73	0.51	0.98	1.40	1.45			N/A	N/A
D	0.43	0.00	0.00	0.43	0.43			N/A	N/A
E	0.31	0.00	0.00	0.31	0.31			N/A	N/A

18:00 - 18:15

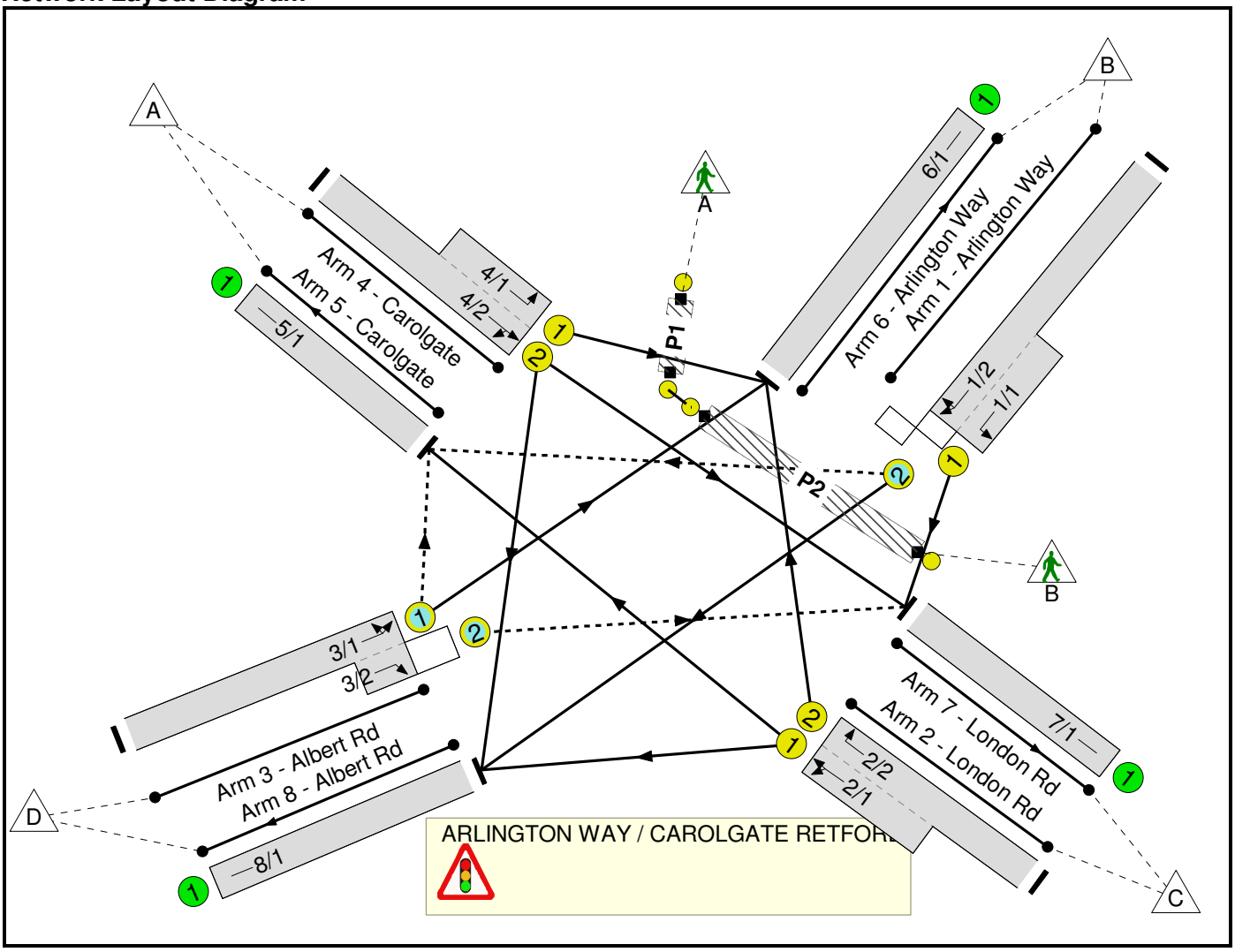
Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	0.42	0.00	0.00	0.42	0.42			N/A	N/A
B									
C	0.54	0.06	0.66	1.33	1.42			N/A	N/A
D	0.32	0.00	0.00	0.32	0.32			N/A	N/A
E	0.24	0.00	0.00	0.24	0.24			N/A	N/A

Full Input Data And Results

User and Project Details

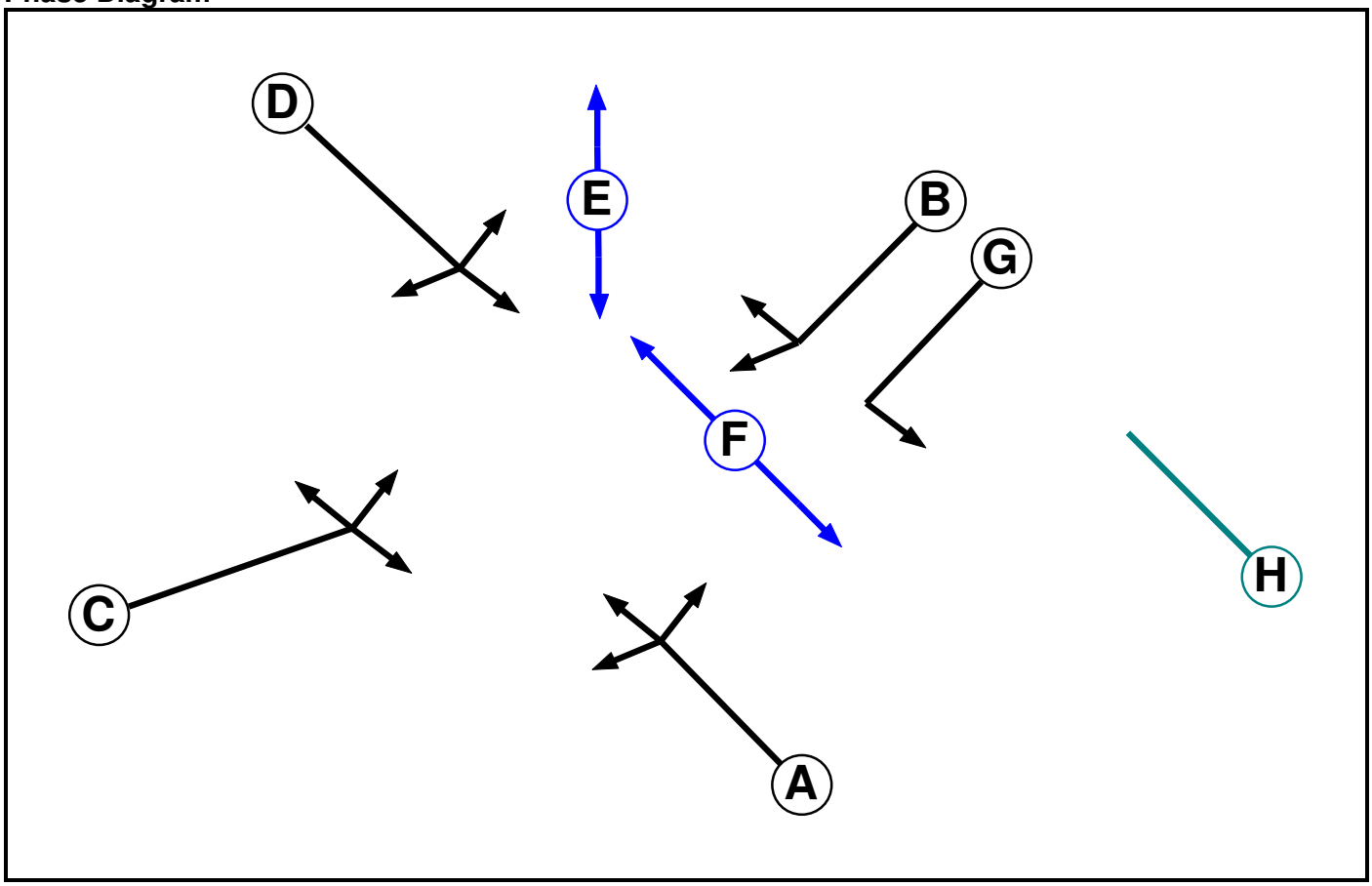
Project:	**B023665 - Ordsall, Retford**
Title:	**A638 Arlington Way / A638 London Road / Carolgate**
Location:	Retford
Client:	Bassetlaw District Council
Site Ref(s):	12
Additional detail:	
File name:	Arlington Way - Carolgate v2.lsg3x
Author:	Ben Green
Company:	Tetra Tech
Address:	Leicester

Network Layout Diagram



Full Input Data And Results

Phase Diagram



Phase Input Data

Phase Name	Phase Type	Assoc. Phase	Street Min	Cont Min
A	Traffic		7	7
B	Traffic		7	7
C	Traffic		7	7
D	Traffic		7	7
E	Pedestrian		6	6
F	Pedestrian		12	12
G	Traffic		4	4
H	Dummy		2	2

Full Input Data And Results

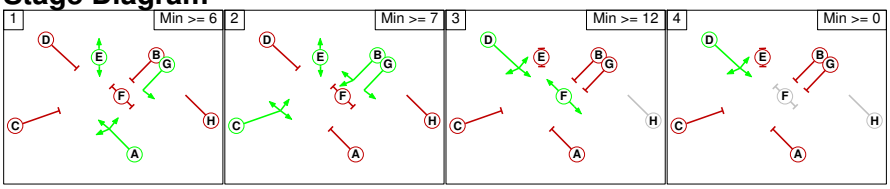
Phase Intergreens Matrix

Terminating Phase \ Starting Phase	A	B	C	D	E	F	G	H
A		7	7	8	-	9	-	-
B	5		-	6	-	8	-	6
C	5	-		6	-	8	-	6
D	5	6	6		5	-	6	-
E	-	-	-	6		-	-	6
F	17	18	18	-	-		18	-
G	-	-	-	6	-	5		-
H	-	6	6	-	5	-	-	

Phases in Stage

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

Stage Diagram



Phase Delays

Term. Stage	Start Stage	Phase	Type	Value	Cont value
3	1	D	Losing	12	12
3	2	D	Losing	12	12

Prohibited Stage Change

From Stage \ To Stage	1	2	3	4
1		7	9	8
2	5		8	6
3	18	18		0
4	6	6	0	

Full Input Data And Results

Give-Way Lane Input Data

Junction: ARLINGTON WAY / CAROLGATE RETFORD

Lane	Movement	Max Flow when Giving Way (PCU/Hr)	Min Flow when Giving Way (PCU/Hr)	Opposing Lane	Opp. Lane Coeff.	Opp. Mvmnts.	Right Turn Storage (PCU)	Non-Blocking Storage (PCU)	RTF	Right Turn Move up (s)	Max Turns in Intergreen (PCU)
1/2 (Arlington Way)	5/1 (Right)	1439	0	3/1	1.09	To 6/1 (Ahead)	2.00	1.00	0.50	2	2.00
3/1 (Albert Rd)	5/1 (Left)	715	0	1/2	0.30	To 5/1 (Right)	-	-	-	-	-
3/2 (Albert Rd)	7/1 (Right)	1439	0	1/2	1.09	To 8/1 (Ahead)	2.00	-	0.50	2	2.00
				1/1	1.09	All					

Full Input Data And Results

Lane Input Data

Junction: ARLINGTON WAY / CAROLGATE RETFORD												
Lane	**Lane Type**	**Phases**	**Start Disp.**	**End Disp.**	**Physical Length (PCU)**	**Sat Flow Type**	**Def User Saturation Flow (PCU/Hr)**	**Lane Width (m)**	**Gradient**	**Nearside Lane**	**Turns**	**Turning Radius (m)**
1/1 (Arlington Way)	U	G	2	3	5.6	Geom	-	3.10	0.00	Y	Arm 7 Left	18.00
1/2 (Arlington Way)	O	B	2	3	60.0	Geom	-	3.10	0.00	Y	Arm 5 Right	9.00
											Arm 8 Ahead	34.00
2/1 (London Rd)	U	A	2	3	6.1	Geom	-	4.00	0.00	Y	Arm 5 Ahead	Inf
											Arm 8 Left	29.00
2/2 (London Rd)	U	A	2	3	60.0	Geom	-	4.00	0.00	Y	Arm 6 Right	22.00
3/1 (Albert Rd)	O	C	2	3	60.0	Geom	-	3.00	0.00	Y	Arm 5 Left	15.00
											Arm 6 Ahead	33.00
3/2 (Albert Rd)	O	C	2	3	2.4	Geom	-	3.00	0.00	Y	Arm 7 Right	12.00
4/1 (Carolgate)	U	D	2	3	5.2	Geom	-	2.25	0.00	Y	Arm 6 Left	19.00
4/2 (Carolgate)	U	D	2	3	60.0	Geom	-	2.25	0.00	Y	Arm 7 Ahead	Inf
											Arm 8 Right	14.50
5/1 (Carolgate)	U		2	3	60.0	Inf	-	-	-	-	-	-
6/1 (Arlington Way)	U		2	3	60.0	Inf	-	-	-	-	-	-
7/1 (London Rd)	U		2	3	60.0	Inf	-	-	-	-	-	-
8/1 (Albert Rd)	U		2	3	60.0	Inf	-	-	-	-	-	-

Full Input Data And Results

Traffic Flow Groups

Flow Group	Start Time	End Time	Duration	Formula
1: '2021 Base+Comm - AM'	08:00	09:00	01:00	
2: '2021 Base+Comm - PM'	17:00	18:00	01:00	
3: '2031 Base+Comm - AM'	08:00	09:00	01:00	
4: '2031 Base+Comm - PM'	17:00	18:00	01:00	
5: '2031 Base+Comm+Opt - AM'	08:00	09:00	01:00	
6: '2031 Base+Comm+Opt - PM'	17:00	18:00	01:00	
7: '2031 Base+Comm+Dev - AM'	08:00	09:00	01:00	
8: '2031 Base+Comm+Dev - PM'	17:00	18:00	01:00	
9: '2031 Base+Comm+Opt+Dev - AM'	08:00	09:00	01:00	
10: '2031 Base+Comm+Opt+Dev - PM'	17:00	18:00	01:00	

Scenario 1: '2021 Base+Comm - AM' (FG1: '2021 Base+Comm - AM', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

		Destination				
		A	B	C	D	Tot.
Origin	A	0	70	80	20	170
	B	29	0	412	61	502
	C	146	508	0	56	710
	D	102	115	65	0	282
	Tot.	277	693	557	137	1664

Full Input Data And Results

Traffic Lane Flows

Lane	Scenario 1: 2021 Base+Comm - AM
Junction: ARLINGTON WAY / CAROLGATE RETFORD	
1/1 (short)	412
1/2 (with short)	502(In) 90(Out)
2/1 (short)	202
2/2 (with short)	710(In) 508(Out)
3/1 (with short)	282(In) 217(Out)
3/2 (short)	65
4/1 (short)	70
4/2 (with short)	170(In) 100(Out)
5/1	277
6/1	693
7/1	557
8/1	137

Full Input Data And Results

Lane Saturation Flows

Junction: ARLINGTON WAY / CAROLGATE RETFORD								
Lane	**Lane Width (m)**	**Gradient**	**Nearside Lane**	**Allowed Turns**	**Turning Radius (m)**	**Turning Prop.**	**Sat Flow (PCU/Hr)**	**Flared Sat Flow (PCU/Hr)**
1/1 (Arlington Way)	3.10	0.00	Y	Arm 7 Left	18.00	100.0 %	1777	1777
1/2 (Arlington Way)	3.10	0.00	Y	Arm 5 Right	9.00	32.2 %	1776	1776
				Arm 8 Ahead	34.00	67.8 %		
2/1 (London Rd)	4.00	0.00	Y	Arm 5 Ahead	Inf	72.3 %	1987	1987
				Arm 8 Left	29.00	27.7 %		
2/2 (London Rd)	4.00	0.00	Y	Arm 6 Right	22.00	100.0 %	1886	1886
3/1 (Albert Rd)	3.00	0.00	Y	Arm 5 Left	15.00	47.0 %	1788	1788
				Arm 6 Ahead	33.00	53.0 %		
3/2 (Albert Rd)	3.00	0.00	Y	Arm 7 Right	12.00	100.0 %	1702	1702
4/1 (Carolgate)	2.25	0.00	Y	Arm 6 Left	19.00	100.0 %	1705	1705
4/2 (Carolgate)	2.25	0.00	Y	Arm 7 Ahead	Inf	80.0 %	1803	1803
				Arm 8 Right	14.50	20.0 %		
5/1 (Carolgate Lane 1)	Infinite Saturation Flow						Inf	Inf
6/1 (Arlington Way Lane 1)	Infinite Saturation Flow						Inf	Inf
7/1 (London Rd Lane 1)	Infinite Saturation Flow						Inf	Inf
8/1 (Albert Rd Lane 1)	Infinite Saturation Flow						Inf	Inf

Scenario 2: '2021 Base+Comm - PM' (FG2: '2021 Base+Comm - PM', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

		Destination				
		A	B	C	D	Tot.
Origin	A	0	196	204	75	475
	B	23	0	544	61	628
	C	101	488	0	73	662
	D	65	122	59	0	246
	Tot.	189	806	807	209	2011

Full Input Data And Results

Traffic Lane Flows

Lane	Scenario 2: 2021 Base+Comm - PM
Junction: ARLINGTON WAY / CAROLGATE RETFORD	
1/1 (short)	544
1/2 (with short)	628(In) 84(Out)
2/1 (short)	174
2/2 (with short)	662(In) 488(Out)
3/1 (with short)	246(In) 187(Out)
3/2 (short)	59
4/1 (short)	196
4/2 (with short)	475(In) 279(Out)
5/1	189
6/1	806
7/1	807
8/1	209

Full Input Data And Results

Lane Saturation Flows

Junction: ARLINGTON WAY / CAROLGATE RETFORD								
Lane	**Lane Width (m)**	**Gradient**	**Nearside Lane**	**Allowed Turns**	**Turning Radius (m)**	**Turning Prop.**	**Sat Flow (PCU/Hr)**	**Flared Sat Flow (PCU/Hr)**
1/1 (Arlington Way)	3.10	0.00	Y	Arm 7 Left	18.00	100.0 %	1777	1777
1/2 (Arlington Way)	3.10	0.00	Y	Arm 5 Right	9.00	27.4 %	1786	1786
				Arm 8 Ahead	34.00	72.6 %		
2/1 (London Rd)	4.00	0.00	Y	Arm 5 Ahead	Inf	58.0 %	1972	1972
				Arm 8 Left	29.00	42.0 %		
2/2 (London Rd)	4.00	0.00	Y	Arm 6 Right	22.00	100.0 %	1886	1886
3/1 (Albert Rd)	3.00	0.00	Y	Arm 5 Left	15.00	34.8 %	1799	1799
				Arm 6 Ahead	33.00	65.2 %		
3/2 (Albert Rd)	3.00	0.00	Y	Arm 7 Right	12.00	100.0 %	1702	1702
4/1 (Carolgate)	2.25	0.00	Y	Arm 6 Left	19.00	100.0 %	1705	1705
4/2 (Carolgate)	2.25	0.00	Y	Arm 7 Ahead	Inf	73.1 %	1790	1790
				Arm 8 Right	14.50	26.9 %		
5/1 (Carolgate Lane 1)	Infinite Saturation Flow						Inf	Inf
6/1 (Arlington Way Lane 1)	Infinite Saturation Flow						Inf	Inf
7/1 (London Rd Lane 1)	Infinite Saturation Flow						Inf	Inf
8/1 (Albert Rd Lane 1)	Infinite Saturation Flow						Inf	Inf

Scenario 3: '2031 Base+Comm - AM' (FG3: '2031 Base+Comm - AM', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

		Destination				
		A	B	C	D	Tot.
Origin	A	0	79	91	23	193
	B	32	0	475	67	574
	C	171	616	0	64	851
	D	114	128	74	0	316
	Tot.	317	823	640	154	1934

Full Input Data And Results

Traffic Lane Flows

Lane	Scenario 3: 2031 Base+Comm - AM
Junction: ARLINGTON WAY / CAROLGATE RETFORD	
1/1 (short)	475
1/2 (with short)	574(In) 99(Out)
2/1 (short)	235
2/2 (with short)	851(In) 616(Out)
3/1 (with short)	316(In) 242(Out)
3/2 (short)	74
4/1 (short)	79
4/2 (with short)	193(In) 114(Out)
5/1	317
6/1	823
7/1	640
8/1	154

Full Input Data And Results

Lane Saturation Flows

Junction: ARLINGTON WAY / CAROLGATE RETFORD								
Lane	**Lane Width (m)**	**Gradient**	**Nearside Lane**	**Allowed Turns**	**Turning Radius (m)**	**Turning Prop.**	**Sat Flow (PCU/Hr)**	**Flared Sat Flow (PCU/Hr)**
1/1 (Arlington Way)	3.10	0.00	Y	Arm 7 Left	18.00	100.0 %	1777	1777
1/2 (Arlington Way)	3.10	0.00	Y	Arm 5 Right	9.00	32.3 %	1776	1776
				Arm 8 Ahead	34.00	67.7 %		
2/1 (London Rd)	4.00	0.00	Y	Arm 5 Ahead	Inf	72.8 %	1987	1987
				Arm 8 Left	29.00	27.2 %		
2/2 (London Rd)	4.00	0.00	Y	Arm 6 Right	22.00	100.0 %	1886	1886
3/1 (Albert Rd)	3.00	0.00	Y	Arm 5 Left	15.00	47.1 %	1788	1788
				Arm 6 Ahead	33.00	52.9 %		
3/2 (Albert Rd)	3.00	0.00	Y	Arm 7 Right	12.00	100.0 %	1702	1702
4/1 (Carolgate)	2.25	0.00	Y	Arm 6 Left	19.00	100.0 %	1705	1705
4/2 (Carolgate)	2.25	0.00	Y	Arm 7 Ahead	Inf	79.8 %	1802	1802
				Arm 8 Right	14.50	20.2 %		
5/1 (Carolgate Lane 1)	Infinite Saturation Flow						Inf	Inf
6/1 (Arlington Way Lane 1)	Infinite Saturation Flow						Inf	Inf
7/1 (London Rd Lane 1)	Infinite Saturation Flow						Inf	Inf
8/1 (Albert Rd Lane 1)	Infinite Saturation Flow						Inf	Inf

Scenario 4: '2031 Base+Comm - PM' (FG4: '2031 Base+Comm - PM', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

		Destination				
		A	B	C	D	Tot.
Origin	A	0	219	234	85	538
	B	27	0	640	68	735
	C	117	557	0	83	757
	D	74	135	67	0	276
	Tot.	218	911	941	236	2306

Full Input Data And Results

Traffic Lane Flows

Lane	Scenario 4: 2031 Base+Comm - PM
Junction: ARLINGTON WAY / CAROLGATE RETFORD	
1/1 (short)	640
1/2 (with short)	735(In) 95(Out)
2/1 (short)	200
2/2 (with short)	757(In) 557(Out)
3/1 (with short)	276(In) 209(Out)
3/2 (short)	67
4/1 (short)	219
4/2 (with short)	538(In) 319(Out)
5/1	218
6/1	911
7/1	941
8/1	236

Full Input Data And Results

Lane Saturation Flows

Junction: ARLINGTON WAY / CAROLGATE RETFORD								
Lane	**Lane Width (m)**	**Gradient**	**Nearside Lane**	**Allowed Turns**	**Turning Radius (m)**	**Turning Prop.**	**Sat Flow (PCU/Hr)**	**Flared Sat Flow (PCU/Hr)**
1/1 (Arlington Way)	3.10	0.00	Y	Arm 7 Left	18.00	100.0 %	1777	1777
1/2 (Arlington Way)	3.10	0.00	Y	Arm 5 Right	9.00	28.4 %	1784	1784
				Arm 8 Ahead	34.00	71.6 %		
2/1 (London Rd)	4.00	0.00	Y	Arm 5 Ahead	Inf	58.5 %	1973	1973
				Arm 8 Left	29.00	41.5 %		
2/2 (London Rd)	4.00	0.00	Y	Arm 6 Right	22.00	100.0 %	1886	1886
3/1 (Albert Rd)	3.00	0.00	Y	Arm 5 Left	15.00	35.4 %	1799	1799
				Arm 6 Ahead	33.00	64.6 %		
3/2 (Albert Rd)	3.00	0.00	Y	Arm 7 Right	12.00	100.0 %	1702	1702
4/1 (Carolgate)	2.25	0.00	Y	Arm 6 Left	19.00	100.0 %	1705	1705
4/2 (Carolgate)	2.25	0.00	Y	Arm 7 Ahead	Inf	73.4 %	1791	1791
				Arm 8 Right	14.50	26.6 %		
5/1 (Carolgate Lane 1)	Infinite Saturation Flow						Inf	Inf
6/1 (Arlington Way Lane 1)	Infinite Saturation Flow						Inf	Inf
7/1 (London Rd Lane 1)	Infinite Saturation Flow						Inf	Inf
8/1 (Albert Rd Lane 1)	Infinite Saturation Flow						Inf	Inf

Scenario 5: '2031 Base+Comm+Opt - AM' (FG5: '2031 Base+Comm+Opt - AM', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

		Destination				
		A	B	C	D	Tot.
Origin	A	0	79	91	23	193
	B	32	0	513	67	612
	C	171	633	0	64	868
	D	114	128	74	0	316
	Tot.	317	840	678	154	1989

Full Input Data And Results

Traffic Lane Flows

Lane	Scenario 5: 2031 Base+Comm+Opt - AM
Junction: ARLINGTON WAY / CAROLGATE RETFORD	
1/1 (short)	513
1/2 (with short)	612(In) 99(Out)
2/1 (short)	235
2/2 (with short)	868(In) 633(Out)
3/1 (with short)	316(In) 242(Out)
3/2 (short)	74
4/1 (short)	79
4/2 (with short)	193(In) 114(Out)
5/1	317
6/1	840
7/1	678
8/1	154

Full Input Data And Results

Lane Saturation Flows

Junction: ARLINGTON WAY / CAROLGATE RETFORD								
Lane	**Lane Width (m)**	**Gradient**	**Nearside Lane**	**Allowed Turns**	**Turning Radius (m)**	**Turning Prop.**	**Sat Flow (PCU/Hr)**	**Flared Sat Flow (PCU/Hr)**
1/1 (Arlington Way)	3.10	0.00	Y	Arm 7 Left	18.00	100.0 %	1777	1777
1/2 (Arlington Way)	3.10	0.00	Y	Arm 5 Right	9.00	32.3 %	1776	1776
				Arm 8 Ahead	34.00	67.7 %		
2/1 (London Rd)	4.00	0.00	Y	Arm 5 Ahead	Inf	72.8 %	1987	1987
				Arm 8 Left	29.00	27.2 %		
2/2 (London Rd)	4.00	0.00	Y	Arm 6 Right	22.00	100.0 %	1886	1886
3/1 (Albert Rd)	3.00	0.00	Y	Arm 5 Left	15.00	47.1 %	1788	1788
				Arm 6 Ahead	33.00	52.9 %		
3/2 (Albert Rd)	3.00	0.00	Y	Arm 7 Right	12.00	100.0 %	1702	1702
4/1 (Carolgate)	2.25	0.00	Y	Arm 6 Left	19.00	100.0 %	1705	1705
4/2 (Carolgate)	2.25	0.00	Y	Arm 7 Ahead	Inf	79.8 %	1802	1802
				Arm 8 Right	14.50	20.2 %		
5/1 (Carolgate Lane 1)	Infinite Saturation Flow						Inf	Inf
6/1 (Arlington Way Lane 1)	Infinite Saturation Flow						Inf	Inf
7/1 (London Rd Lane 1)	Infinite Saturation Flow						Inf	Inf
8/1 (Albert Rd Lane 1)	Infinite Saturation Flow						Inf	Inf

Scenario 6: '2031 Base+Comm+Opt - PM' (FG6: '2031 Base+Comm+Opt - PM', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

		Destination				
		A	B	C	D	Tot.
Origin	A	0	219	234	85	538
	B	27	0	659	68	754
	C	117	592	0	83	792
	D	74	135	67	0	276
	Tot.	218	946	960	236	2360

Full Input Data And Results

Traffic Lane Flows

Lane	Scenario 6: 2031 Base+Comm+Opt - PM
Junction: ARLINGTON WAY / CAROLGATE RETFORD	
1/1 (short)	659
1/2 (with short)	754(In) 95(Out)
2/1 (short)	200
2/2 (with short)	792(In) 592(Out)
3/1 (with short)	276(In) 209(Out)
3/2 (short)	67
4/1 (short)	219
4/2 (with short)	538(In) 319(Out)
5/1	218
6/1	946
7/1	960
8/1	236

Full Input Data And Results

Lane Saturation Flows

Junction: ARLINGTON WAY / CAROLGATE RETFORD								
Lane	**Lane Width (m)**	**Gradient**	**Nearside Lane**	**Allowed Turns**	**Turning Radius (m)**	**Turning Prop.**	**Sat Flow (PCU/Hr)**	**Flared Sat Flow (PCU/Hr)**
1/1 (Arlington Way)	3.10	0.00	Y	Arm 7 Left	18.00	100.0 %	1777	1777
1/2 (Arlington Way)	3.10	0.00	Y	Arm 5 Right	9.00	28.4 %	1784	1784
				Arm 8 Ahead	34.00	71.6 %		
2/1 (London Rd)	4.00	0.00	Y	Arm 5 Ahead	Inf	58.5 %	1973	1973
				Arm 8 Left	29.00	41.5 %		
2/2 (London Rd)	4.00	0.00	Y	Arm 6 Right	22.00	100.0 %	1886	1886
3/1 (Albert Rd)	3.00	0.00	Y	Arm 5 Left	15.00	35.4 %	1799	1799
				Arm 6 Ahead	33.00	64.6 %		
3/2 (Albert Rd)	3.00	0.00	Y	Arm 7 Right	12.00	100.0 %	1702	1702
4/1 (Carolgate)	2.25	0.00	Y	Arm 6 Left	19.00	100.0 %	1705	1705
4/2 (Carolgate)	2.25	0.00	Y	Arm 7 Ahead	Inf	73.4 %	1791	1791
				Arm 8 Right	14.50	26.6 %		
5/1 (Carolgate Lane 1)	Infinite Saturation Flow						Inf	Inf
6/1 (Arlington Way Lane 1)	Infinite Saturation Flow						Inf	Inf
7/1 (London Rd Lane 1)	Infinite Saturation Flow						Inf	Inf
8/1 (Albert Rd Lane 1)	Infinite Saturation Flow						Inf	Inf

Scenario 7: '2031 Base+Comm+Dev - AM' (FG7: '2031 Base+Comm+Dev - AM', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

		Destination				
		A	B	C	D	Tot.
Origin	A	0	79	102	23	204
	B	32	0	479	67	578
	C	203	628	0	64	895
	D	114	128	74	0	316
	Tot.	349	835	655	154	1993

Full Input Data And Results

Traffic Lane Flows

Lane	Scenario 7: 2031 Base+Comm+Dev - AM
Junction: ARLINGTON WAY / CAROLGATE RETFORD	
1/1 (short)	479
1/2 (with short)	578(In) 99(Out)
2/1 (short)	267
2/2 (with short)	895(In) 628(Out)
3/1 (with short)	316(In) 242(Out)
3/2 (short)	74
4/1 (short)	79
4/2 (with short)	204(In) 125(Out)
5/1	349
6/1	835
7/1	655
8/1	154

Full Input Data And Results

Lane Saturation Flows

Junction: ARLINGTON WAY / CAROLGATE RETFORD								
Lane	**Lane Width (m)**	**Gradient**	**Nearside Lane**	**Allowed Turns**	**Turning Radius (m)**	**Turning Prop.**	**Sat Flow (PCU/Hr)**	**Flared Sat Flow (PCU/Hr)**
1/1 (Arlington Way)	3.10	0.00	Y	Arm 7 Left	18.00	100.0 %	1777	1777
1/2 (Arlington Way)	3.10	0.00	Y	Arm 5 Right	9.00	32.3 %	1776	1776
				Arm 8 Ahead	34.00	67.7 %		
2/1 (London Rd)	4.00	0.00	Y	Arm 5 Ahead	Inf	76.0 %	1990	1990
				Arm 8 Left	29.00	24.0 %		
2/2 (London Rd)	4.00	0.00	Y	Arm 6 Right	22.00	100.0 %	1886	1886
3/1 (Albert Rd)	3.00	0.00	Y	Arm 5 Left	15.00	47.1 %	1788	1788
				Arm 6 Ahead	33.00	52.9 %		
3/2 (Albert Rd)	3.00	0.00	Y	Arm 7 Right	12.00	100.0 %	1702	1702
4/1 (Carolgate)	2.25	0.00	Y	Arm 6 Left	19.00	100.0 %	1705	1705
4/2 (Carolgate)	2.25	0.00	Y	Arm 7 Ahead	Inf	81.6 %	1806	1806
				Arm 8 Right	14.50	18.4 %		
5/1 (Carolgate Lane 1)	Infinite Saturation Flow						Inf	Inf
6/1 (Arlington Way Lane 1)	Infinite Saturation Flow						Inf	Inf
7/1 (London Rd Lane 1)	Infinite Saturation Flow						Inf	Inf
8/1 (Albert Rd Lane 1)	Infinite Saturation Flow						Inf	Inf

Scenario 8: '2031 Base+Comm+Dev - PM' (FG8: '2031 Base+Comm+Dev - PM', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

		Destination				
		A	B	C	D	Tot.
Origin	A	0	219	259	85	563
	B	27	0	650	68	745
	C	130	562	0	83	775
	D	74	135	67	0	276
	Tot.	231	916	976	236	2359

Full Input Data And Results

Traffic Lane Flows

Lane	Scenario 8: 2031 Base+Comm+Dev - PM
Junction: ARLINGTON WAY / CAROLGATE RETFORD	
1/1 (short)	650
1/2 (with short)	745(In) 95(Out)
2/1 (short)	213
2/2 (with short)	775(In) 562(Out)
3/1 (with short)	276(In) 209(Out)
3/2 (short)	67
4/1 (short)	219
4/2 (with short)	563(In) 344(Out)
5/1	231
6/1	916
7/1	976
8/1	236

Full Input Data And Results

Lane Saturation Flows

Junction: ARLINGTON WAY / CAROLGATE RETFORD								
Lane	**Lane Width (m)**	**Gradient**	**Nearside Lane**	**Allowed Turns**	**Turning Radius (m)**	**Turning Prop.**	**Sat Flow (PCU/Hr)**	**Flared Sat Flow (PCU/Hr)**
1/1 (Arlington Way)	3.10	0.00	Y	Arm 7 Left	18.00	100.0 %	1777	1777
1/2 (Arlington Way)	3.10	0.00	Y	Arm 5 Right	9.00	28.4 %	1784	1784
				Arm 8 Ahead	34.00	71.6 %		
2/1 (London Rd)	4.00	0.00	Y	Arm 5 Ahead	Inf	61.0 %	1975	1975
				Arm 8 Left	29.00	39.0 %		
2/2 (London Rd)	4.00	0.00	Y	Arm 6 Right	22.00	100.0 %	1886	1886
3/1 (Albert Rd)	3.00	0.00	Y	Arm 5 Left	15.00	35.4 %	1799	1799
				Arm 6 Ahead	33.00	64.6 %		
3/2 (Albert Rd)	3.00	0.00	Y	Arm 7 Right	12.00	100.0 %	1702	1702
4/1 (Carolgate)	2.25	0.00	Y	Arm 6 Left	19.00	100.0 %	1705	1705
4/2 (Carolgate)	2.25	0.00	Y	Arm 7 Ahead	Inf	75.3 %	1794	1794
				Arm 8 Right	14.50	24.7 %		
5/1 (Carolgate Lane 1)	Infinite Saturation Flow						Inf	Inf
6/1 (Arlington Way Lane 1)	Infinite Saturation Flow						Inf	Inf
7/1 (London Rd Lane 1)	Infinite Saturation Flow						Inf	Inf
8/1 (Albert Rd Lane 1)	Infinite Saturation Flow						Inf	Inf

Scenario 9: '2031 Base+Comm+Opt+Dev - AM' (FG9: '2031 Base+Comm+Opt+Dev - AM', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

		Destination				
		A	B	C	D	Tot.
Origin	A	0	79	102	23	204
	B	32	0	517	67	616
	C	203	645	0	64	912
	D	114	128	74	0	316
	Tot.	349	852	693	154	2048

Full Input Data And Results

Traffic Lane Flows

Lane	Scenario 9: 2031 Base+Comm+Opt+Dev - AM
Junction: ARLINGTON WAY / CAROLGATE RETFORD	
1/1 (short)	517
1/2 (with short)	616(In) 99(Out)
2/1 (short)	267
2/2 (with short)	912(In) 645(Out)
3/1 (with short)	316(In) 242(Out)
3/2 (short)	74
4/1 (short)	79
4/2 (with short)	204(In) 125(Out)
5/1	349
6/1	852
7/1	693
8/1	154

Full Input Data And Results

Lane Saturation Flows

Junction: ARLINGTON WAY / CAROLGATE RETFORD								
Lane	**Lane Width (m)**	**Gradient**	**Nearside Lane**	**Allowed Turns**	**Turning Radius (m)**	**Turning Prop.**	**Sat Flow (PCU/Hr)**	**Flared Sat Flow (PCU/Hr)**
1/1 (Arlington Way)	3.10	0.00	Y	Arm 7 Left	18.00	100.0 %	1777	1777
1/2 (Arlington Way)	3.10	0.00	Y	Arm 5 Right	9.00	32.3 %	1776	1776
				Arm 8 Ahead	34.00	67.7 %		
2/1 (London Rd)	4.00	0.00	Y	Arm 5 Ahead	Inf	76.0 %	1990	1990
				Arm 8 Left	29.00	24.0 %		
2/2 (London Rd)	4.00	0.00	Y	Arm 6 Right	22.00	100.0 %	1886	1886
3/1 (Albert Rd)	3.00	0.00	Y	Arm 5 Left	15.00	47.1 %	1788	1788
				Arm 6 Ahead	33.00	52.9 %		
3/2 (Albert Rd)	3.00	0.00	Y	Arm 7 Right	12.00	100.0 %	1702	1702
4/1 (Carolgate)	2.25	0.00	Y	Arm 6 Left	19.00	100.0 %	1705	1705
4/2 (Carolgate)	2.25	0.00	Y	Arm 7 Ahead	Inf	81.6 %	1806	1806
				Arm 8 Right	14.50	18.4 %		
5/1 (Carolgate Lane 1)	Infinite Saturation Flow						Inf	Inf
6/1 (Arlington Way Lane 1)	Infinite Saturation Flow						Inf	Inf
7/1 (London Rd Lane 1)	Infinite Saturation Flow						Inf	Inf
8/1 (Albert Rd Lane 1)	Infinite Saturation Flow						Inf	Inf

Scenario 10: '2031 Base+Comm+Opt+Dev - PM' (FG10: '2031 Base+Comm+Opt+Dev - PM', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

		Destination				
		A	B	C	D	Tot.
Origin	A	0	219	259	85	563
	B	27	0	669	68	764
	C	130	597	0	83	810
	D	74	135	67	0	276
	Tot.	231	951	995	236	2413

Full Input Data And Results

Traffic Lane Flows

Lane	Scenario 10: 2031 Base+Comm+Opt+Dev - PM
Junction: ARLINGTON WAY / CAROLGATE RETFORD	
1/1 (short)	669
1/2 (with short)	764(In) 95(Out)
2/1 (short)	213
2/2 (with short)	810(In) 597(Out)
3/1 (with short)	276(In) 209(Out)
3/2 (short)	67
4/1 (short)	219
4/2 (with short)	563(In) 344(Out)
5/1	231
6/1	951
7/1	995
8/1	236

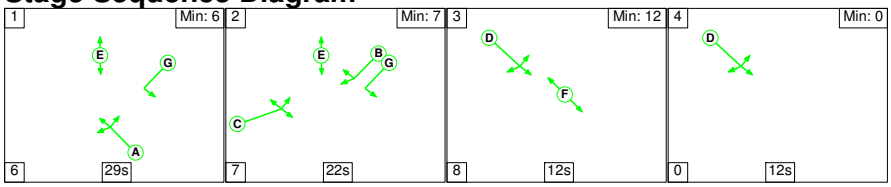
Full Input Data And Results

Lane Saturation Flows

Junction: ARLINGTON WAY / CAROLGATE RETFORD								
Lane	**Lane Width (m)**	**Gradient**	**Nearside Lane**	**Allowed Turns**	**Turning Radius (m)**	**Turning Prop.**	**Sat Flow (PCU/Hr)**	**Flared Sat Flow (PCU/Hr)**
1/1 (Arlington Way)	3.10	0.00	Y	Arm 7 Left	18.00	100.0 %	1777	1777
1/2 (Arlington Way)	3.10	0.00	Y	Arm 5 Right	9.00	28.4 %	1784	1784
				Arm 8 Ahead	34.00	71.6 %		
2/1 (London Rd)	4.00	0.00	Y	Arm 5 Ahead	Inf	61.0 %	1975	1975
				Arm 8 Left	29.00	39.0 %		
2/2 (London Rd)	4.00	0.00	Y	Arm 6 Right	22.00	100.0 %	1886	1886
3/1 (Albert Rd)	3.00	0.00	Y	Arm 5 Left	15.00	35.4 %	1799	1799
				Arm 6 Ahead	33.00	64.6 %		
3/2 (Albert Rd)	3.00	0.00	Y	Arm 7 Right	12.00	100.0 %	1702	1702
4/1 (Carolgate)	2.25	0.00	Y	Arm 6 Left	19.00	100.0 %	1705	1705
4/2 (Carolgate)	2.25	0.00	Y	Arm 7 Ahead	Inf	75.3 %	1794	1794
				Arm 8 Right	14.50	24.7 %		
5/1 (Carolgate Lane 1)	Infinite Saturation Flow						Inf	Inf
6/1 (Arlington Way Lane 1)	Infinite Saturation Flow						Inf	Inf
7/1 (London Rd Lane 1)	Infinite Saturation Flow						Inf	Inf
8/1 (Albert Rd Lane 1)	Infinite Saturation Flow						Inf	Inf

Scenario 1: '2021 Base+Comm - AM' (FG1: '2021 Base+Comm - AM', Plan 1: 'Network Control Plan 1')

Stage Sequence Diagram

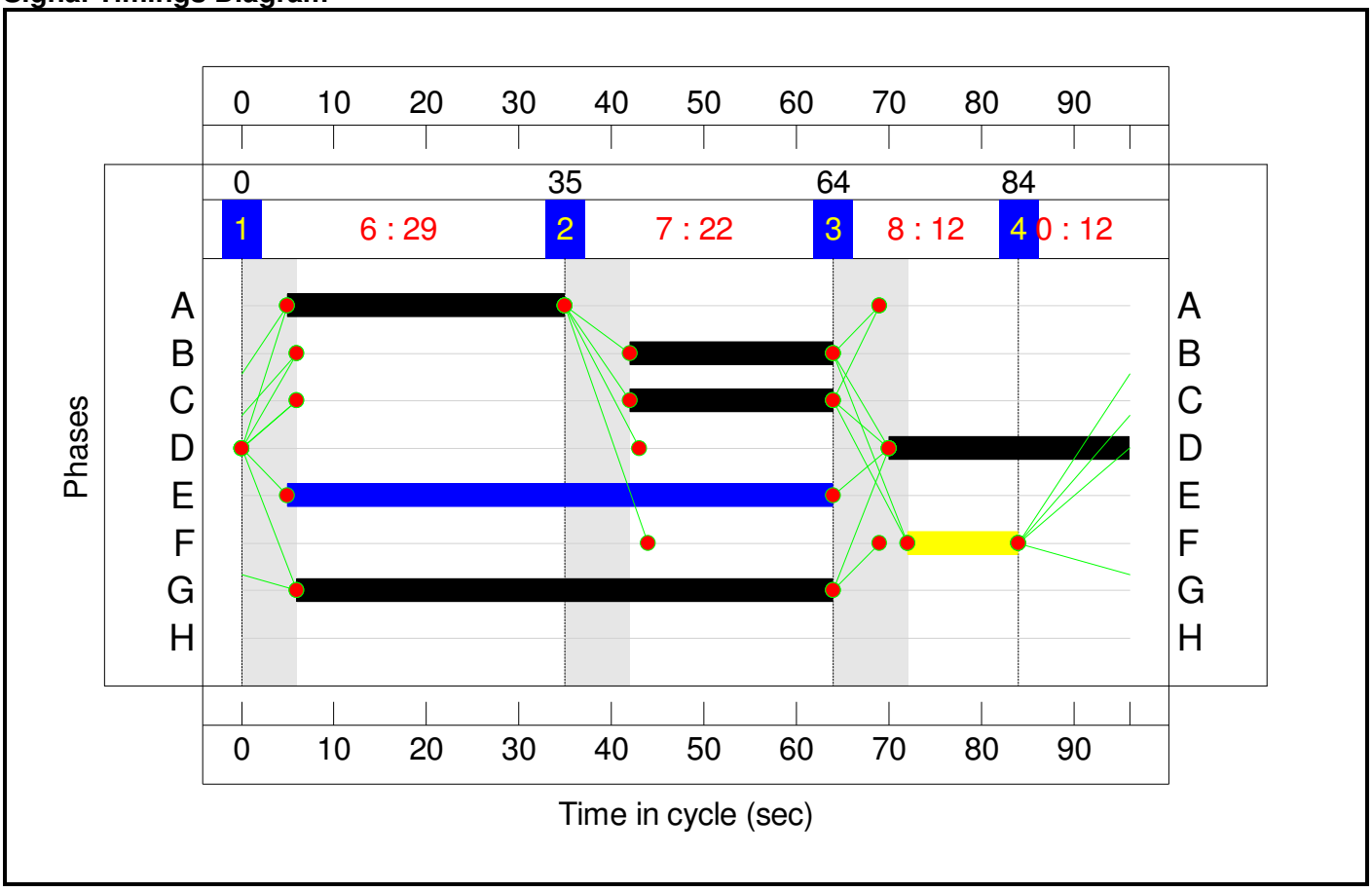


Stage Timings

Stage	1	2	3	4
Duration	29	22	12	12
Change Point	0	35	64	84

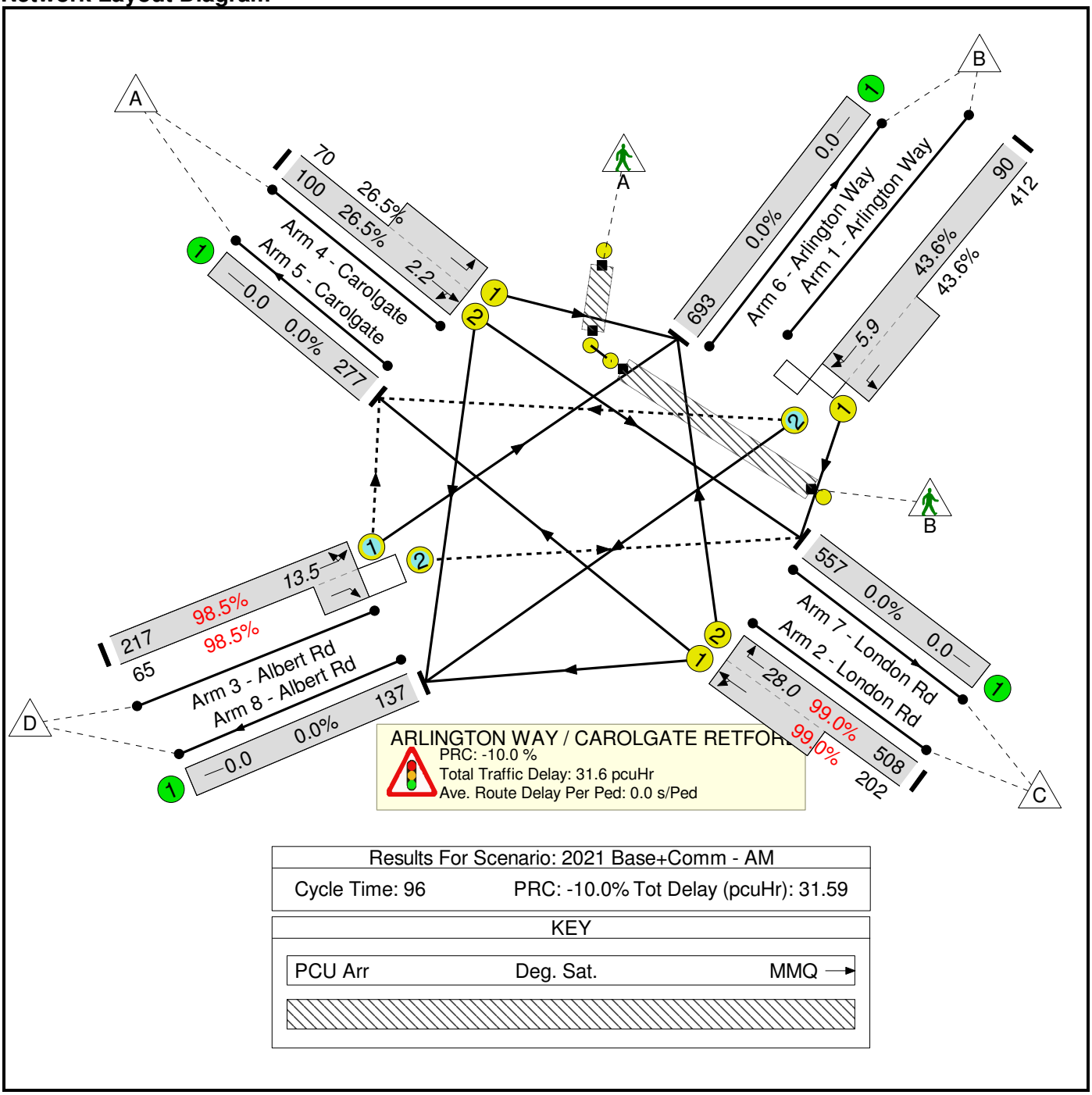
Full Input Data And Results

Signal Timings Diagram



Full Input Data And Results

Network Layout Diagram



Results For Scenario: 2021 Base+Comm - AM	
Cycle Time: 96	PRC: -10.0% Tot Delay (pcuHr): 31.59

KEY		
PCU Arr	Deg. Sat.	MMQ →

Full Input Data And Results

Network Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network: A638 Arlington Way / A638 London Road / Carolgate	-	-	**N/A**	-	-		-	-	-	-	-	-	**99.0%**
ARLINGTON WAY / CAROLGATE RETFORD	-	-	**N/A**	-	-		-	-	-	-	-	-	**99.0%**
1/2+1/1	Arlington Way Right Left Ahead	O+U	N/A	N/A	B G		1	22:58	-	502	1776:1777	207+946	43.6 : 43.6%
2/2+2/1	London Rd Ahead Right Left	U	N/A	N/A	A		1	30	-	710	1886:1987	513+204	99.0 : 99.0%
3/1+3/2	Albert Rd Left Ahead Right	O	N/A	N/A	C		1	22	-	282	1788:1702	220+66	98.5 : 98.5%
4/2+4/1	Carolgate Left Ahead Right	U	N/A	N/A	D		1	26	-	170	1803:1705	377+264	26.5 : 26.5%
5/1	Carolgate	U	N/A	N/A	-		-	-	-	277	Inf	Inf	0.0%
6/1	Arlington Way	U	N/A	N/A	-		-	-	-	693	Inf	Inf	0.0%
7/1	London Rd	U	N/A	N/A	-		-	-	-	557	Inf	Inf	0.0%
8/1	Albert Rd	U	N/A	N/A	-		-	-	-	137	Inf	Inf	0.0%
Ped Link: P1	Unnamed Ped Link	-	N/A	-	E		1	59	-	0	-	44250	0.0%
Ped Link: P2	Unnamed Ped Link	-	N/A	-	F		1	12	-	0	-	9000	0.0%

Full Input Data And Results

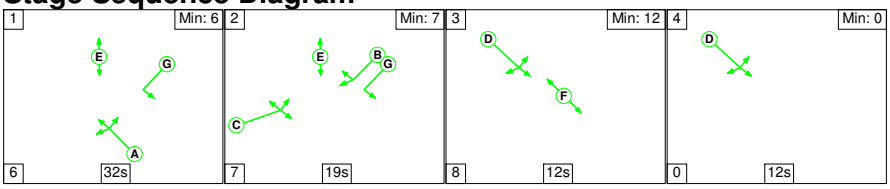
Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network: A638 Arlington Way / A638 London Road / Carolgate	**-**	**-**	**363**	**0**	**0**	**11.9**	**19.7**	**0.0**	**31.6**	**-**	**-**	**-**	**-**
ARLINGTON WAY / CAROLGATE RETFORD	**-**	**-**	**363**	**0**	**0**	**11.9**	**19.7**	**0.0**	**31.6**	**-**	**-**	**-**	**-**
1/2+1/1	502	502	29	0	0	1.8	0.4	0.0	2.2	15.6	5.5	0.4	5.9
2/2+2/1	710	710	-	-	-	6.0	11.7	-	17.8	90.0	16.3	11.7	28.0
3/1+3/2	282	282	334	0	0	2.8	7.4	0.0	10.2	130.8	6.1	7.4	13.5
4/2+4/1	170	170	-	-	-	1.2	0.2	-	1.4	29.9	2.0	0.2	2.2
5/1	277	277	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	693	693	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	557	557	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	137	137	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
Ped Link: P1	0	0	-	-	-	-	-	-	0.0	0.0	-	-	0.0
Ped Link: P2	0	0	-	-	-	-	-	-	0.0	0.0	-	-	0.0

C1 PRC for Signalled Lanes (%): -10.0 Total Delay for Signalled Lanes (pcuHr): 31.59 Cycle Time (s): 96
PRC Over All Lanes (%): -10.0 Total Delay Over All Lanes(pcuHr): 31.59

Full Input Data And Results

Scenario 2: '2021 Base+Comm - PM' (FG2: '2021 Base+Comm - PM', Plan 1: 'Network Control Plan 1')

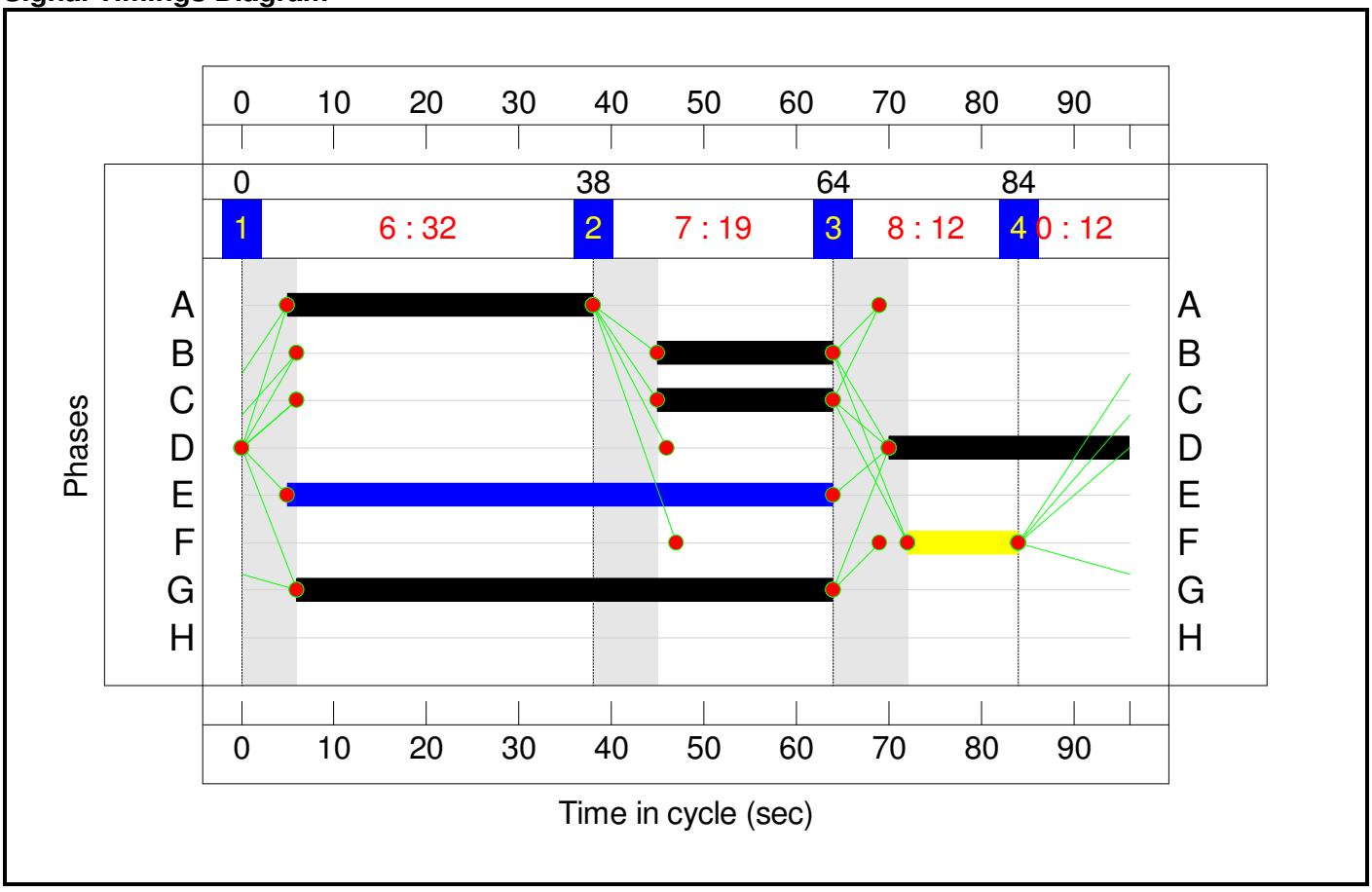
Stage Sequence Diagram



Stage Timings

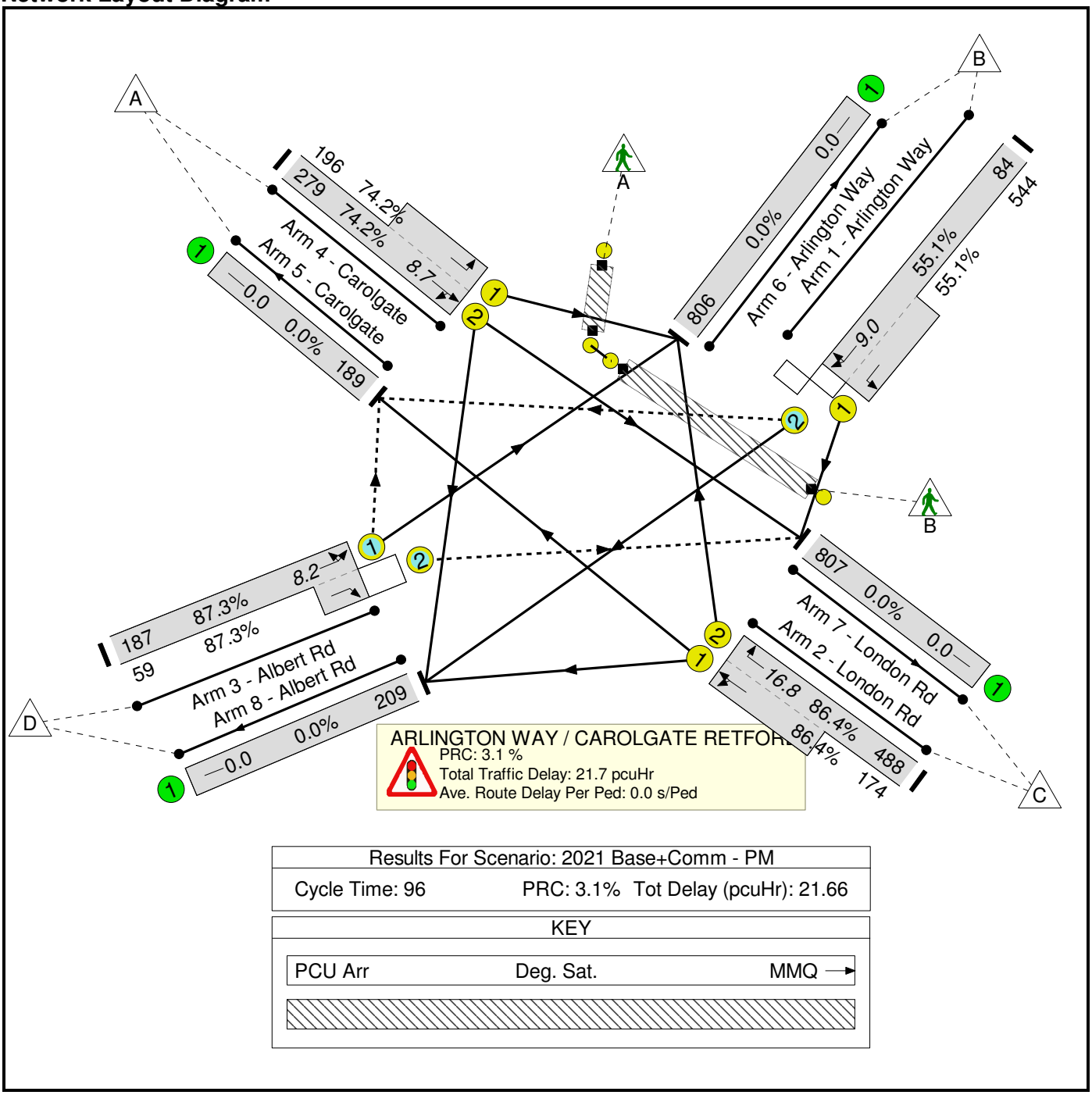
Stage	1	2	3	4
Duration	32	19	12	12
Change Point	0	38	64	84

Signal Timings Diagram



Full Input Data And Results

Network Layout Diagram



Results For Scenario: 2021 Base+Comm - PM		
Cycle Time: 96	PRC: 3.1%	Tot Delay (pcuHr): 21.66

KEY		
PCU Arr	Deg. Sat.	MMQ →

Full Input Data And Results

Network Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network: A638 Arlington Way / A638 London Road / Carolgate	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**87.3%**
ARLINGTON WAY / CAROLGATE RETFORD	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**87.3%**
1/2+1/1	Arlington Way Right Left Ahead	O+U	N/A	N/A	B G		1	19:58	-	628	1786:1777	152+987	55.1 : 55.1%
2/2+2/1	London Rd Ahead Right Left	U	N/A	N/A	A		1	33	-	662	1886:1972	565+201	86.4 : 86.4%
3/1+3/2	Albert Rd Left Ahead Right	O	N/A	N/A	C		1	19	-	246	1799:1702	214+68	87.3 : 87.3%
4/2+4/1	Carolgate Left Ahead Right	U	N/A	N/A	D		1	26	-	475	1790:1705	376+264	74.2 : 74.2%
5/1	Carolgate	U	N/A	N/A	-		-	-	-	189	Inf	Inf	0.0%
6/1	Arlington Way	U	N/A	N/A	-		-	-	-	806	Inf	Inf	0.0%
7/1	London Rd	U	N/A	N/A	-		-	-	-	807	Inf	Inf	0.0%
8/1	Albert Rd	U	N/A	N/A	-		-	-	-	209	Inf	Inf	0.0%
Ped Link: P1	Unnamed Ped Link	-	N/A	-	E		1	59	-	0	-	44250	0.0%
Ped Link: P2	Unnamed Ped Link	-	N/A	-	F		1	12	-	0	-	9000	0.0%

Full Input Data And Results

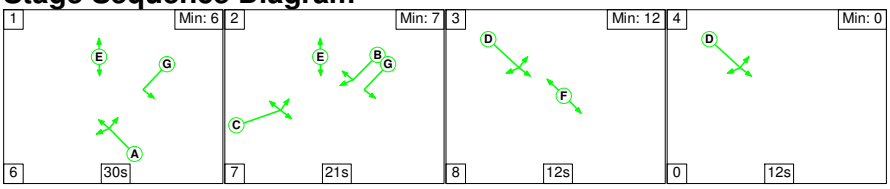
Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network: A638 Arlington Way / A638 London Road / Carolgate	**-**	**-**	**271**	**0**	**0**	**13.6**	**8.0**	**0.0**	**21.7**	**-**	**-**	**-**	**-**
ARLINGTON WAY / CAROLGATE RETFORD	**-**	**-**	**271**	**0**	**0**	**13.6**	**8.0**	**0.0**	**21.7**	**-**	**-**	**-**	**-**
1/2+1/1	628	628	23	0	0	2.3	0.6	0.0	2.9	16.6	8.4	0.6	9.0
2/2+2/1	662	662	-	-	-	5.0	3.0	-	8.0	43.5	13.8	3.0	16.8
3/1+3/2	246	246	248	0	0	2.5	3.0	0.0	5.5	80.7	5.3	3.0	8.2
4/2+4/1	475	475	-	-	-	3.8	1.4	-	5.3	39.8	7.3	1.4	8.7
5/1	189	189	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	806	806	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	807	807	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	209	209	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
Ped Link: P1	0	0	-	-	-	-	-	-	0.0	0.0	-	-	0.0
Ped Link: P2	0	0	-	-	-	-	-	-	0.0	0.0	-	-	0.0

C1 PRC for Signalled Lanes (%): 3.1 Total Delay for Signalled Lanes (pcuHr): 21.66 Cycle Time (s): 96
PRC Over All Lanes (%): 3.1 Total Delay Over All Lanes(pcuHr): 21.66

Full Input Data And Results

Scenario 3: '2031 Base+Comm - AM' (FG3: '2031 Base+Comm - AM', Plan 1: 'Network Control Plan 1')

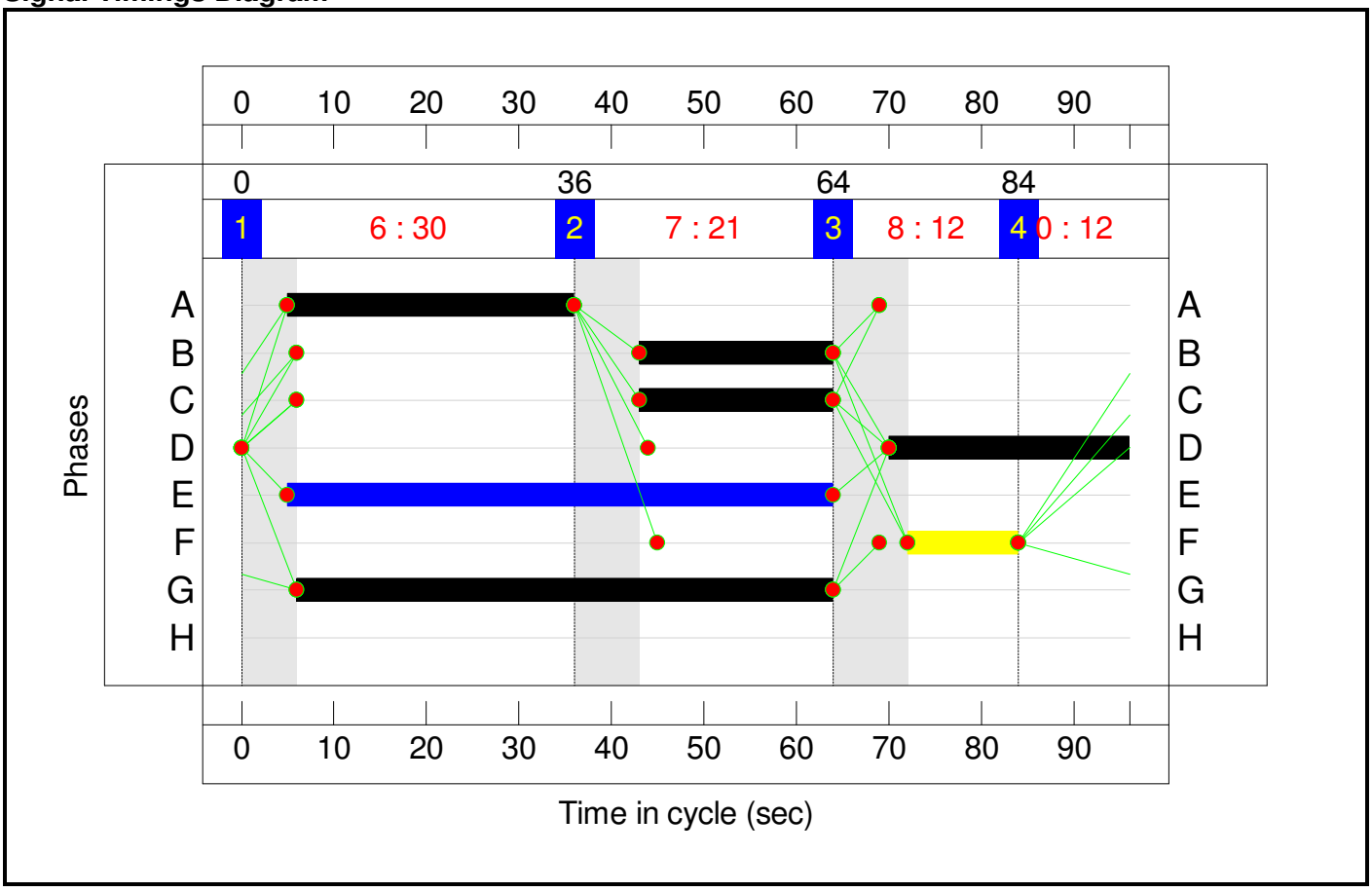
Stage Sequence Diagram



Stage Timings

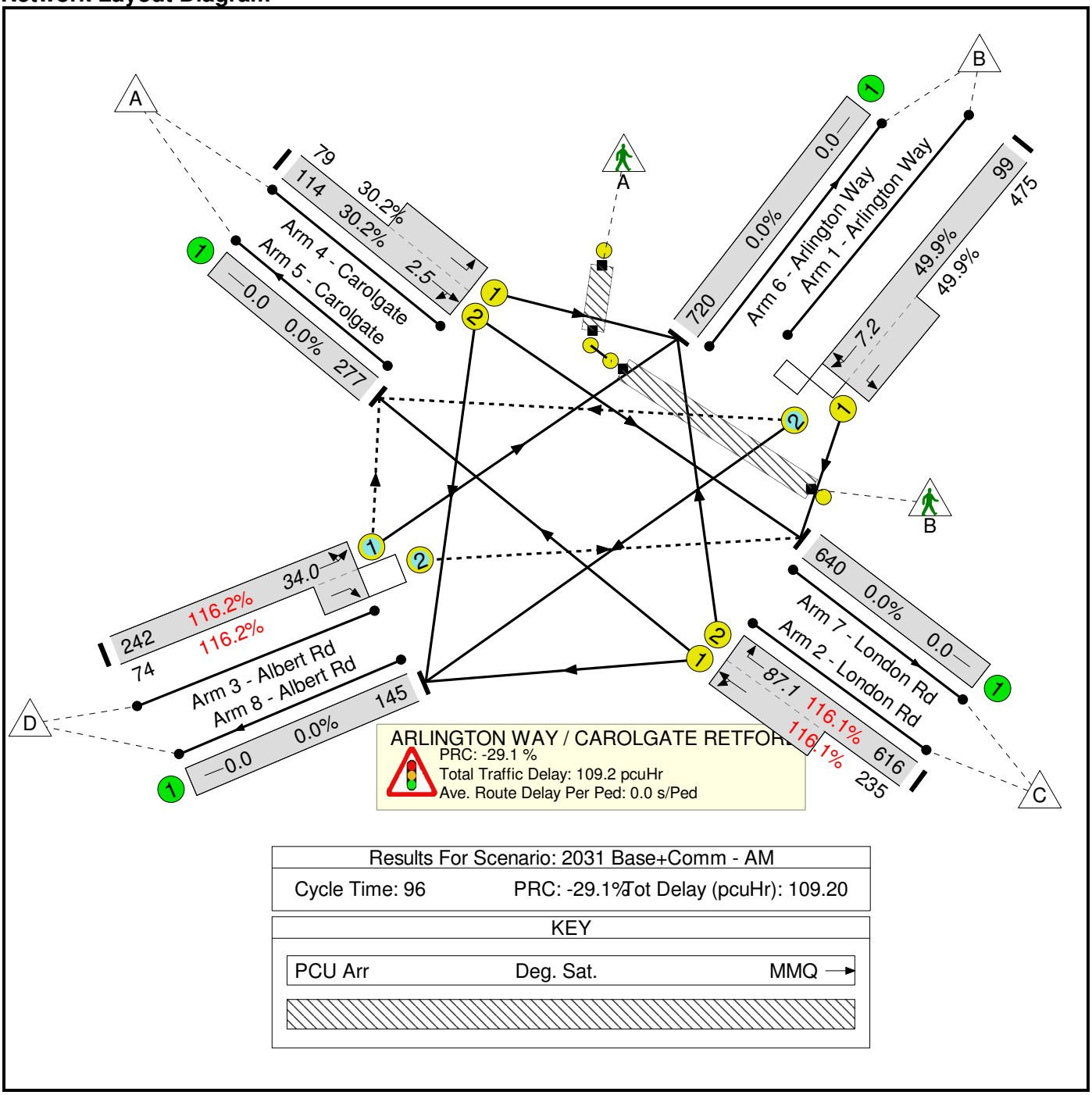
Stage	1	2	3	4
Duration	30	21	12	12
Change Point	0	36	64	84

Signal Timings Diagram



Full Input Data And Results

Network Layout Diagram



Results For Scenario: 2031 Base+Comm - AM	
Cycle Time: 96	PRC: -29.1% Tot Delay (pcuHr): 109.20

KEY		
PCU Arr	Deg. Sat.	MMQ

Full Input Data And Results

Network Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network: A638 Arlington Way / A638 London Road / Carolgate	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**116.2%**
ARLINGTON WAY / CAROLGATE RETFORD	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**116.2%**
1/2+1/1	Arlington Way Right Left Ahead	O+U	N/A	N/A	B G		1	21:58	-	574	1776:1777	198+952	49.9 : 49.9%
2/2+2/1	London Rd Ahead Right Left	U	N/A	N/A	A		1	31	-	851	1886:1987	531+202	116.1 : 116.1%
3/1+3/2	Albert Rd Left Ahead Right	O	N/A	N/A	C		1	21	-	316	1788:1702	208+64	116.2 : 116.2%
4/2+4/1	Carolgate Left Ahead Right	U	N/A	N/A	D		1	26	-	193	1802:1705	378+262	30.2 : 30.2%
5/1	Carolgate	U	N/A	N/A	-		-	-	-	317	Inf	Inf	0.0%
6/1	Arlington Way	U	N/A	N/A	-		-	-	-	823	Inf	Inf	0.0%
7/1	London Rd	U	N/A	N/A	-		-	-	-	640	Inf	Inf	0.0%
8/1	Albert Rd	U	N/A	N/A	-		-	-	-	154	Inf	Inf	0.0%
Ped Link: P1	Unnamed Ped Link	-	N/A	-	E		1	59	-	0	-	44250	0.0%
Ped Link: P2	Unnamed Ped Link	-	N/A	-	F		1	12	-	0	-	9000	0.0%

Full Input Data And Results

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network: A638 Arlington Way / A638 London Road / Carolgate	**-**	**-**	**375**	**0**	**0**	**20.9**	**88.3**	**0.0**	**109.2**	**-**	**-**	**-**	**-**
ARLINGTON WAY / CAROLGATE RETFORD	**-**	**-**	**375**	**0**	**0**	**20.9**	**88.3**	**0.0**	**109.2**	**-**	**-**	**-**	**-**
1/2+1/1	574	574	32	0	0	2.1	0.5	0.0	2.6	16.4	6.7	0.5	7.2
2/2+2/1	851	733	-	-	-	12.8	62.4	-	75.2	318.2	24.7	62.4	87.1
3/1+3/2	316	282	343	0	0	4.6	25.1	0.0	29.7	338.9	8.9	25.1	34.0
4/2+4/1	193	193	-	-	-	1.4	0.2	-	1.6	30.3	2.3	0.2	2.5
5/1	277	277	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	720	720	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	640	640	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	145	145	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
Ped Link: P1	0	0	-	-	-	-	-	-	0.0	0.0	-	-	0.0
Ped Link: P2	0	0	-	-	-	-	-	-	0.0	0.0	-	-	0.0

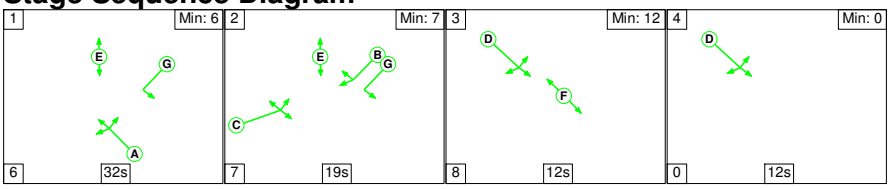
C1 PRC for Signalled Lanes (%): -29.1 Total Delay for Signalled Lanes (pcuHr): 109.20 Cycle Time (s): 96

PRC Over All Lanes (%): -29.1 Total Delay Over All Lanes(pcuHr): 109.20

Full Input Data And Results

Scenario 4: '2031 Base+Comm - PM' (FG4: '2031 Base+Comm - PM', Plan 1: 'Network Control Plan 1')

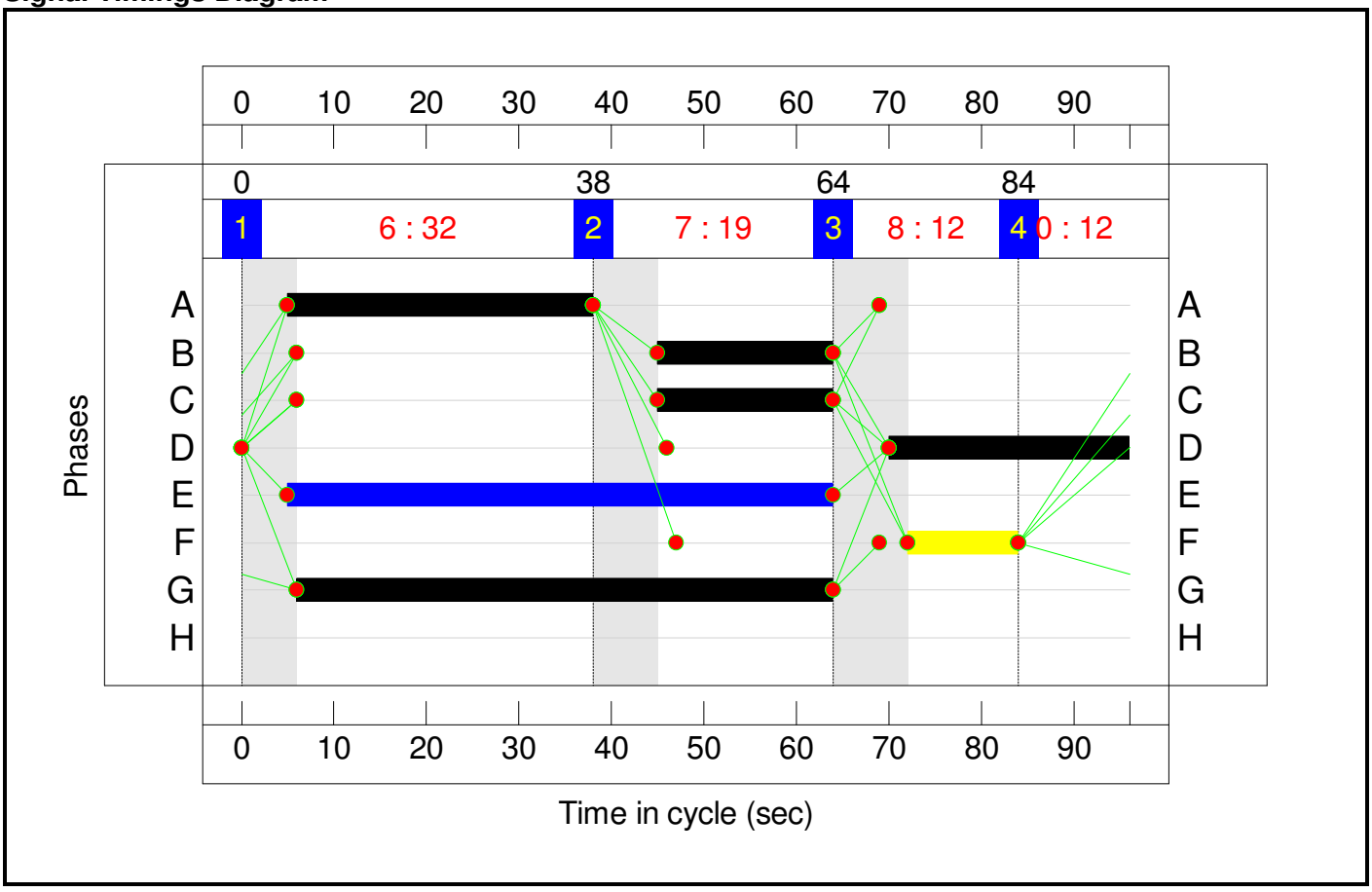
Stage Sequence Diagram



Stage Timings

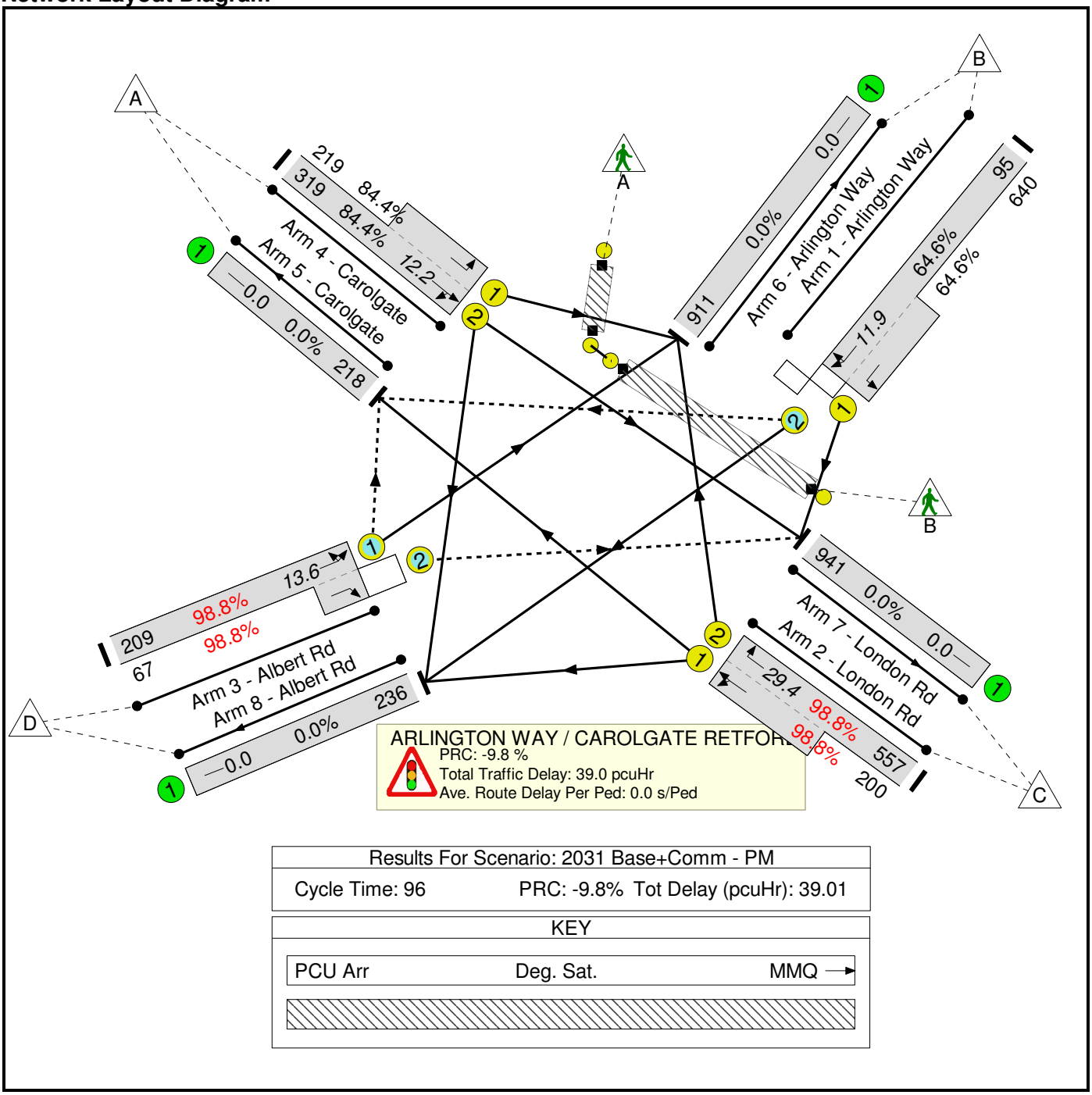
Stage	1	2	3	4
Duration	32	19	12	12
Change Point	0	38	64	84

Signal Timings Diagram



Full Input Data And Results

Network Layout Diagram



Results For Scenario: 2031 Base+Comm - PM	
Cycle Time: 96	PRC: -9.8% Tot Delay (pcuHr): 39.01

KEY		
PCU Arr	Deg. Sat.	MMQ →

Full Input Data And Results

Network Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network: A638 Arlington Way / A638 London Road / Carolgate	-	-	**N/A**	-	-		-	-	-	-	-	-	**98.8%**
ARLINGTON WAY / CAROLGATE RETFORD	-	-	**N/A**	-	-		-	-	-	-	-	-	**98.8%**
1/2+1/1	Arlington Way Right Left Ahead	O+U	N/A	N/A	B G		1	19:58	-	735	1784:1777	147+991	64.6 : 64.6%
2/2+2/1	London Rd Ahead Right Left	U	N/A	N/A	A		1	33	-	757	1886:1973	564+203	98.8 : 98.8%
3/1+3/2	Albert Rd Left Ahead Right	O	N/A	N/A	C		1	19	-	276	1799:1702	212+68	98.8 : 98.8%
4/2+4/1	Carolgate Left Ahead Right	U	N/A	N/A	D		1	26	-	538	1791:1705	378+259	84.4 : 84.4%
5/1	Carolgate	U	N/A	N/A	-		-	-	-	218	Inf	Inf	0.0%
6/1	Arlington Way	U	N/A	N/A	-		-	-	-	911	Inf	Inf	0.0%
7/1	London Rd	U	N/A	N/A	-		-	-	-	941	Inf	Inf	0.0%
8/1	Albert Rd	U	N/A	N/A	-		-	-	-	236	Inf	Inf	0.0%
Ped Link: P1	Unnamed Ped Link	-	N/A	-	E		1	59	-	0	-	44250	0.0%
Ped Link: P2	Unnamed Ped Link	-	N/A	-	F		1	12	-	0	-	9000	0.0%

Full Input Data And Results

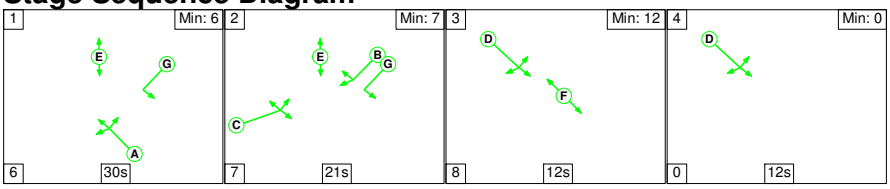
Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network: A638 Arlington Way / A638 London Road / Carolgate	**-**	**-**	**309**	**0**	**0**	**16.4**	**22.6**	**0.0**	**39.0**	**-**	**-**	**-**	**-**
ARLINGTON WAY / CAROLGATE RETFORD	**-**	**-**	**309**	**0**	**0**	**16.4**	**22.6**	**0.0**	**39.0**	**-**	**-**	**-**	**-**
1/2+1/1	735	735	27	0	0	2.8	0.9	0.0	3.7	18.3	11.0	0.9	11.9
2/2+2/1	757	757	-	-	-	6.1	11.6	-	17.7	84.2	17.8	11.6	29.4
3/1+3/2	276	276	282	0	0	2.9	7.5	0.0	10.5	136.6	6.1	7.5	13.6
4/2+4/1	538	538	-	-	-	4.5	2.6	-	7.1	47.5	9.6	2.6	12.2
5/1	218	218	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	911	911	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	941	941	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	236	236	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
Ped Link: P1	0	0	-	-	-	-	-	-	0.0	0.0	-	-	0.0
Ped Link: P2	0	0	-	-	-	-	-	-	0.0	0.0	-	-	0.0

C1 PRC for Signalled Lanes (%): -9.8 Total Delay for Signalled Lanes (pcuHr): 39.01 Cycle Time (s): 96
PRC Over All Lanes (%): -9.8 Total Delay Over All Lanes(pcuHr): 39.01

Full Input Data And Results

Scenario 5: '2031 Base+Comm+Opt - AM' (FG5: '2031 Base+Comm+Opt - AM', Plan 1: 'Network Control Plan 1')

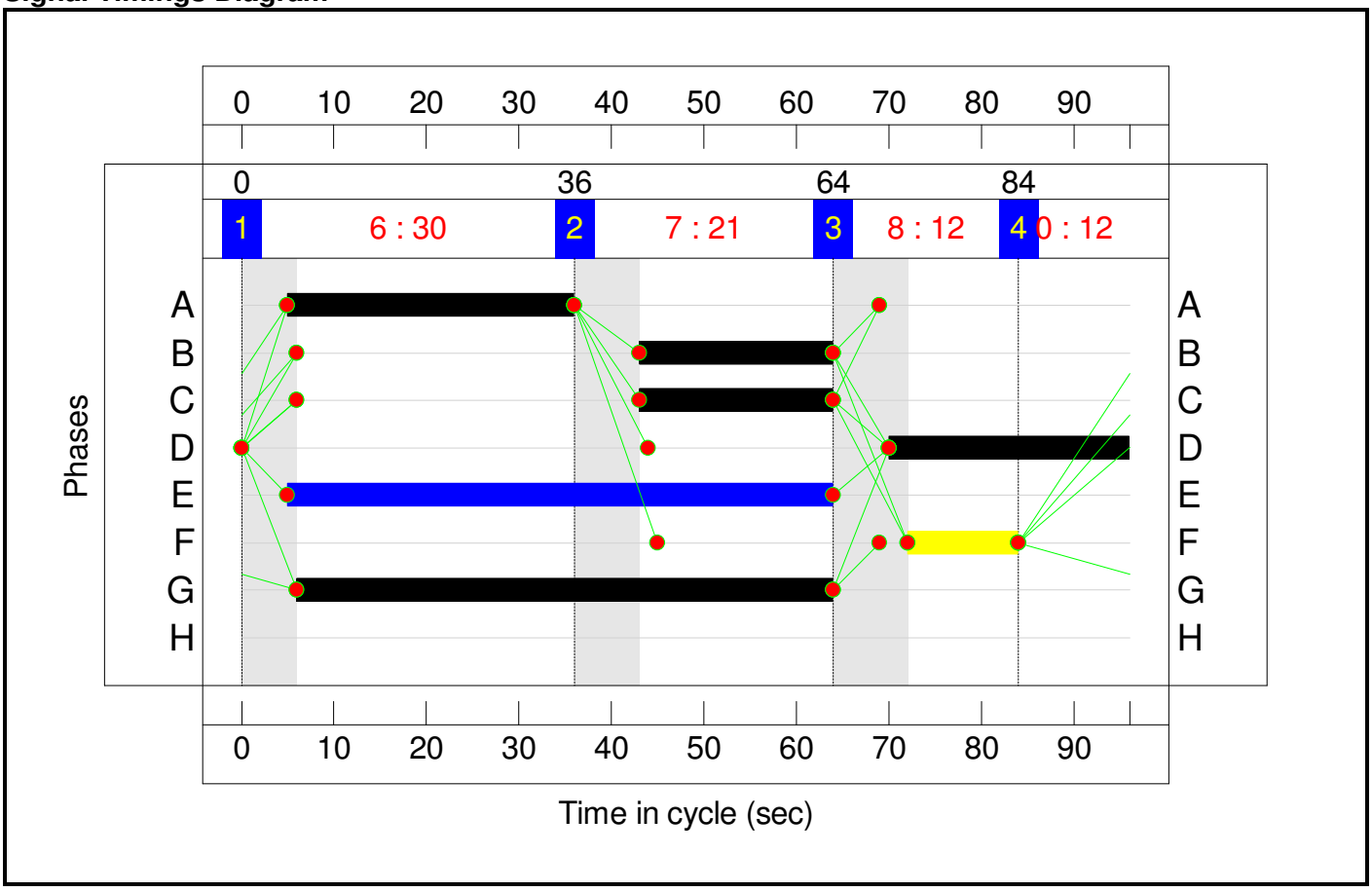
Stage Sequence Diagram



Stage Timings

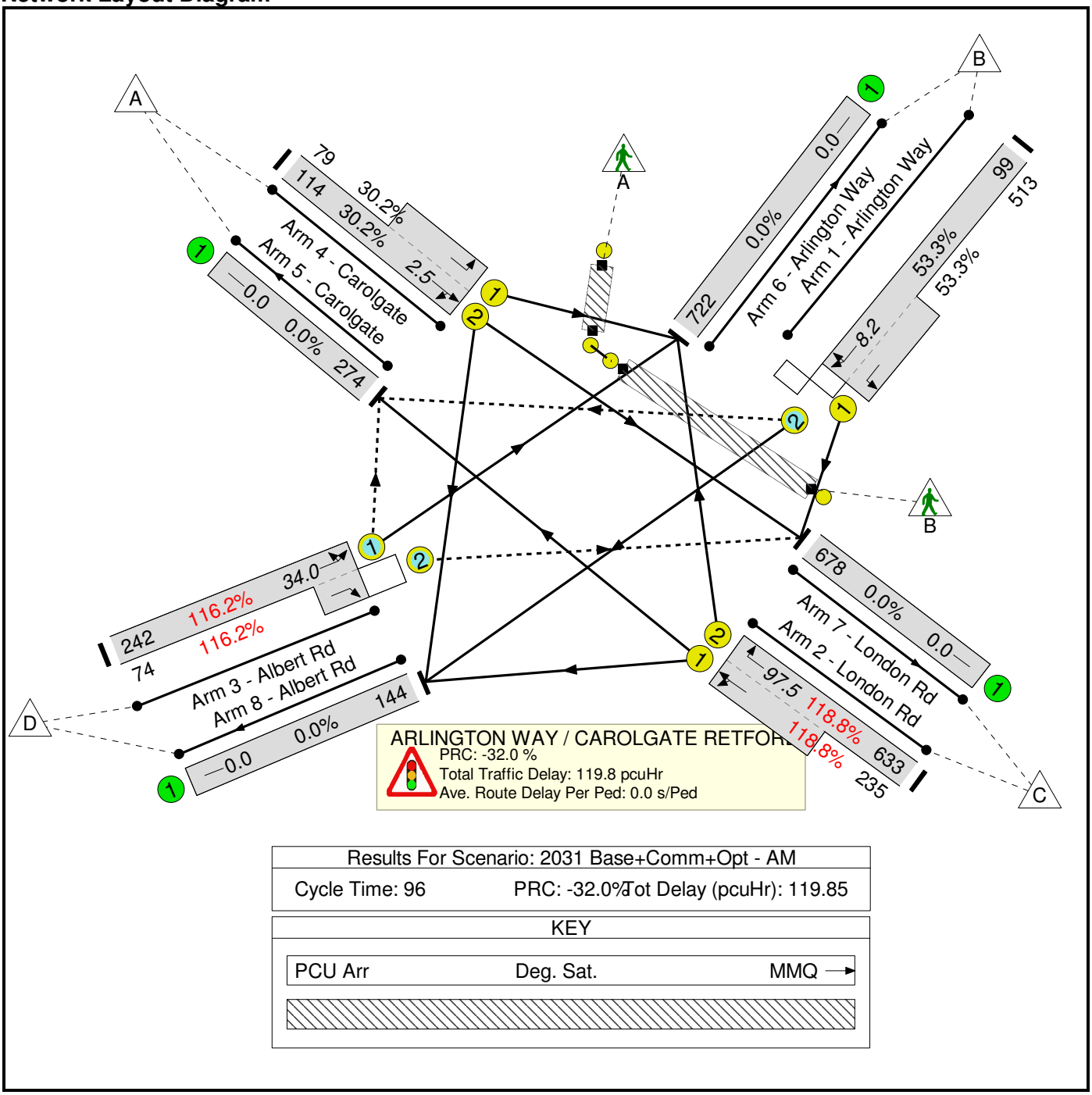
Stage	1	2	3	4
Duration	30	21	12	12
Change Point	0	36	64	84

Signal Timings Diagram



Full Input Data And Results

Network Layout Diagram



Results For Scenario: 2031 Base+Comm+Opt - AM		
Cycle Time: 96	PRC: -32.0%	Tot Delay (pcuHr): 119.85

KEY		
PCU Arr	Deg. Sat.	MMQ

Full Input Data And Results

Network Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network: A638 Arlington Way / A638 London Road / Carolgate	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**118.8%**
ARLINGTON WAY / CAROLGATE RETFORD	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**118.8%**
1/2+1/1	Arlington Way Right Left Ahead	O+U	N/A	N/A	B G		1	21:58	-	612	1776:1777	186+962	53.3 : 53.3%
2/2+2/1	London Rd Ahead Right Left	U	N/A	N/A	A		1	31	-	868	1886:1987	533+198	118.8 : 118.8%
3/1+3/2	Albert Rd Left Ahead Right	O	N/A	N/A	C		1	21	-	316	1788:1702	208+64	116.2 : 116.2%
4/2+4/1	Carolgate Left Ahead Right	U	N/A	N/A	D		1	26	-	193	1802:1705	378+262	30.2 : 30.2%
5/1	Carolgate	U	N/A	N/A	-		-	-	-	317	Inf	Inf	0.0%
6/1	Arlington Way	U	N/A	N/A	-		-	-	-	840	Inf	Inf	0.0%
7/1	London Rd	U	N/A	N/A	-		-	-	-	678	Inf	Inf	0.0%
8/1	Albert Rd	U	N/A	N/A	-		-	-	-	154	Inf	Inf	0.0%
Ped Link: P1	Unnamed Ped Link	-	N/A	-	E		1	59	-	0	-	44250	0.0%
Ped Link: P2	Unnamed Ped Link	-	N/A	-	F		1	12	-	0	-	9000	0.0%

Full Input Data And Results

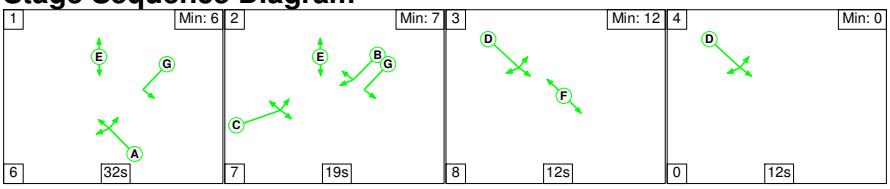
Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network: A638 Arlington Way / A638 London Road / Carolgate	**-**	**-**	**375**	**0**	**0**	**22.1**	**97.7**	**0.0**	**119.8**	**-**	**-**	**-**	**-**
ARLINGTON WAY / CAROLGATE RETFORD	**-**	**-**	**375**	**0**	**0**	**22.1**	**97.7**	**0.0**	**119.8**	**-**	**-**	**-**	**-**
1/2+1/1	612	612	32	0	0	2.3	0.6	0.0	2.8	16.6	7.6	0.6	8.2
2/2+2/1	868	730	-	-	-	13.9	71.8	-	85.6	355.2	25.8	71.8	97.5
3/1+3/2	316	282	343	0	0	4.6	25.1	0.0	29.7	338.9	8.9	25.1	34.0
4/2+4/1	193	193	-	-	-	1.4	0.2	-	1.6	30.3	2.3	0.2	2.5
5/1	274	274	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	722	722	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	678	678	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	144	144	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
Ped Link: P1	0	0	-	-	-	-	-	-	0.0	0.0	-	-	0.0
Ped Link: P2	0	0	-	-	-	-	-	-	0.0	0.0	-	-	0.0

C1 PRC for Signalled Lanes (%): -32.0 Total Delay for Signalled Lanes (pcuHr): 119.85 Cycle Time (s): 96
PRC Over All Lanes (%): -32.0 Total Delay Over All Lanes(pcuHr): 119.85

Full Input Data And Results

Scenario 6: '2031 Base+Comm+Opt - PM' (FG6: '2031 Base+Comm+Opt - PM', Plan 1: 'Network Control Plan 1')

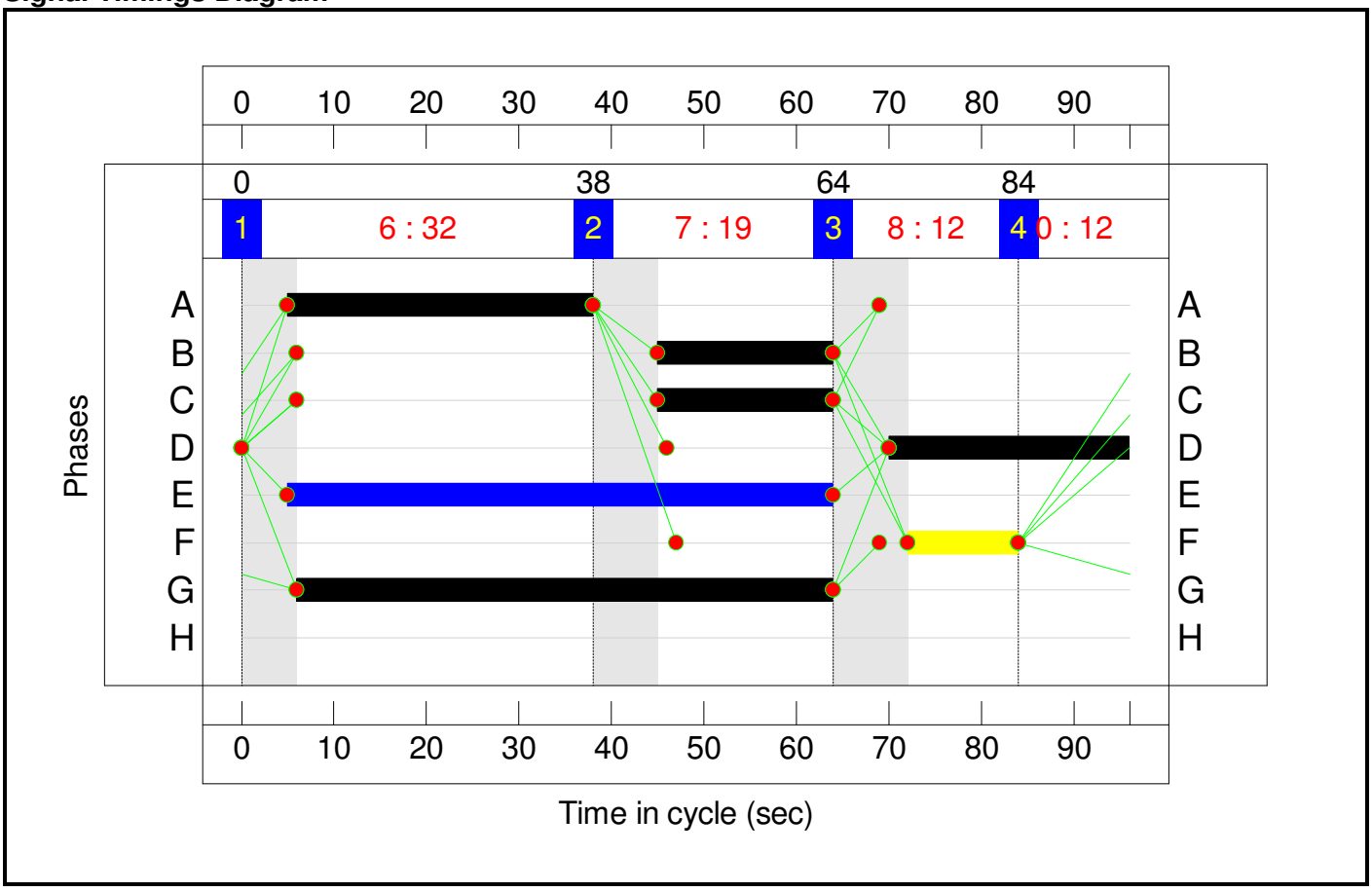
Stage Sequence Diagram



Stage Timings

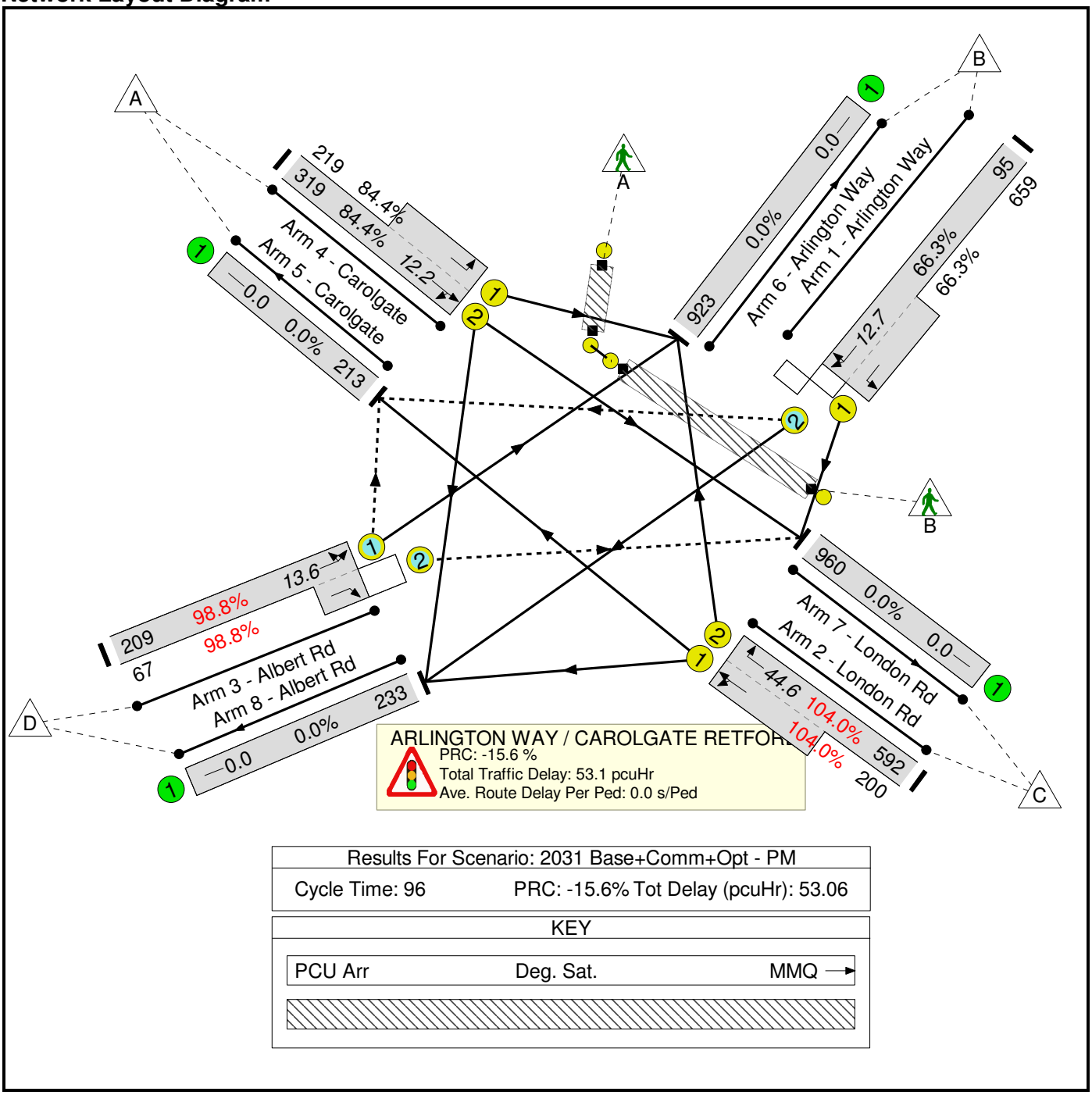
Stage	1	2	3	4
Duration	32	19	12	12
Change Point	0	38	64	84

Signal Timings Diagram



Full Input Data And Results

Network Layout Diagram



Results For Scenario: 2031 Base+Comm+Opt - PM	
Cycle Time: 96	PRC: -15.6% Tot Delay (pcuHr): 53.06

KEY		
PCU Arr	Deg. Sat.	MMQ →

Full Input Data And Results

Network Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network: A638 Arlington Way / A638 London Road / Carolgate	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**104.0%**
ARLINGTON WAY / CAROLGATE RETFORD	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**104.0%**
1/2+1/1	Arlington Way Right Left Ahead	O+U	N/A	N/A	B G		1	19:58	-	754	1784:1777	143+994	66.3 : 66.3%
2/2+2/1	London Rd Ahead Right Left	U	N/A	N/A	A		1	33	-	792	1886:1973	569+192	104.0 : 104.0%
3/1+3/2	Albert Rd Left Ahead Right	O	N/A	N/A	C		1	19	-	276	1799:1702	212+68	98.8 : 98.8%
4/2+4/1	Carolgate Left Ahead Right	U	N/A	N/A	D		1	26	-	538	1791:1705	378+259	84.4 : 84.4%
5/1	Carolgate	U	N/A	N/A	-		-	-	-	218	Inf	Inf	0.0%
6/1	Arlington Way	U	N/A	N/A	-		-	-	-	946	Inf	Inf	0.0%
7/1	London Rd	U	N/A	N/A	-		-	-	-	960	Inf	Inf	0.0%
8/1	Albert Rd	U	N/A	N/A	-		-	-	-	236	Inf	Inf	0.0%
Ped Link: P1	Unnamed Ped Link	-	N/A	-	E		1	59	-	0	-	44250	0.0%
Ped Link: P2	Unnamed Ped Link	-	N/A	-	F		1	12	-	0	-	9000	0.0%

Full Input Data And Results

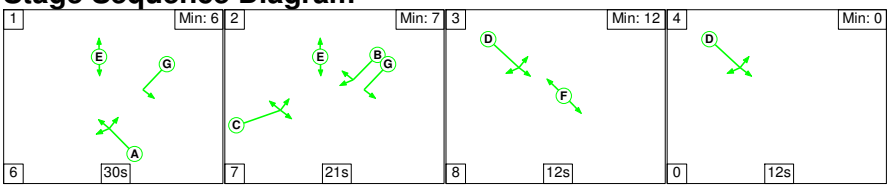
Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network: A638 Arlington Way / A638 London Road / Carolgate	**-**	**-**	**309**	**0**	**0**	**18.3**	**34.7**	**0.0**	**53.1**	**-**	**-**	**-**	**-**
ARLINGTON WAY / CAROLGATE RETFORD	**-**	**-**	**309**	**0**	**0**	**18.3**	**34.7**	**0.0**	**53.1**	**-**	**-**	**-**	**-**
1/2+1/1	754	754	27	0	0	2.9	1.0	0.0	3.9	18.6	11.8	1.0	12.7
2/2+2/1	792	761	-	-	-	7.9	23.7	-	31.6	143.5	21.0	23.7	44.6
3/1+3/2	276	276	282	0	0	2.9	7.5	0.0	10.5	136.7	6.1	7.5	13.6
4/2+4/1	538	538	-	-	-	4.5	2.6	-	7.1	47.5	9.6	2.6	12.2
5/1	213	213	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	923	923	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	960	960	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	233	233	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
Ped Link: P1	0	0	-	-	-	-	-	-	0.0	0.0	-	-	0.0
Ped Link: P2	0	0	-	-	-	-	-	-	0.0	0.0	-	-	0.0

C1 PRC for Signalled Lanes (%): -15.6 Total Delay for Signalled Lanes (pcuHr): 53.06 Cycle Time (s): 96
PRC Over All Lanes (%): -15.6 Total Delay Over All Lanes(pcuHr): 53.06

Full Input Data And Results

Scenario 7: '2031 Base+Comm+Dev - AM' (FG7: '2031 Base+Comm+Dev - AM', Plan 1: 'Network Control Plan 1')

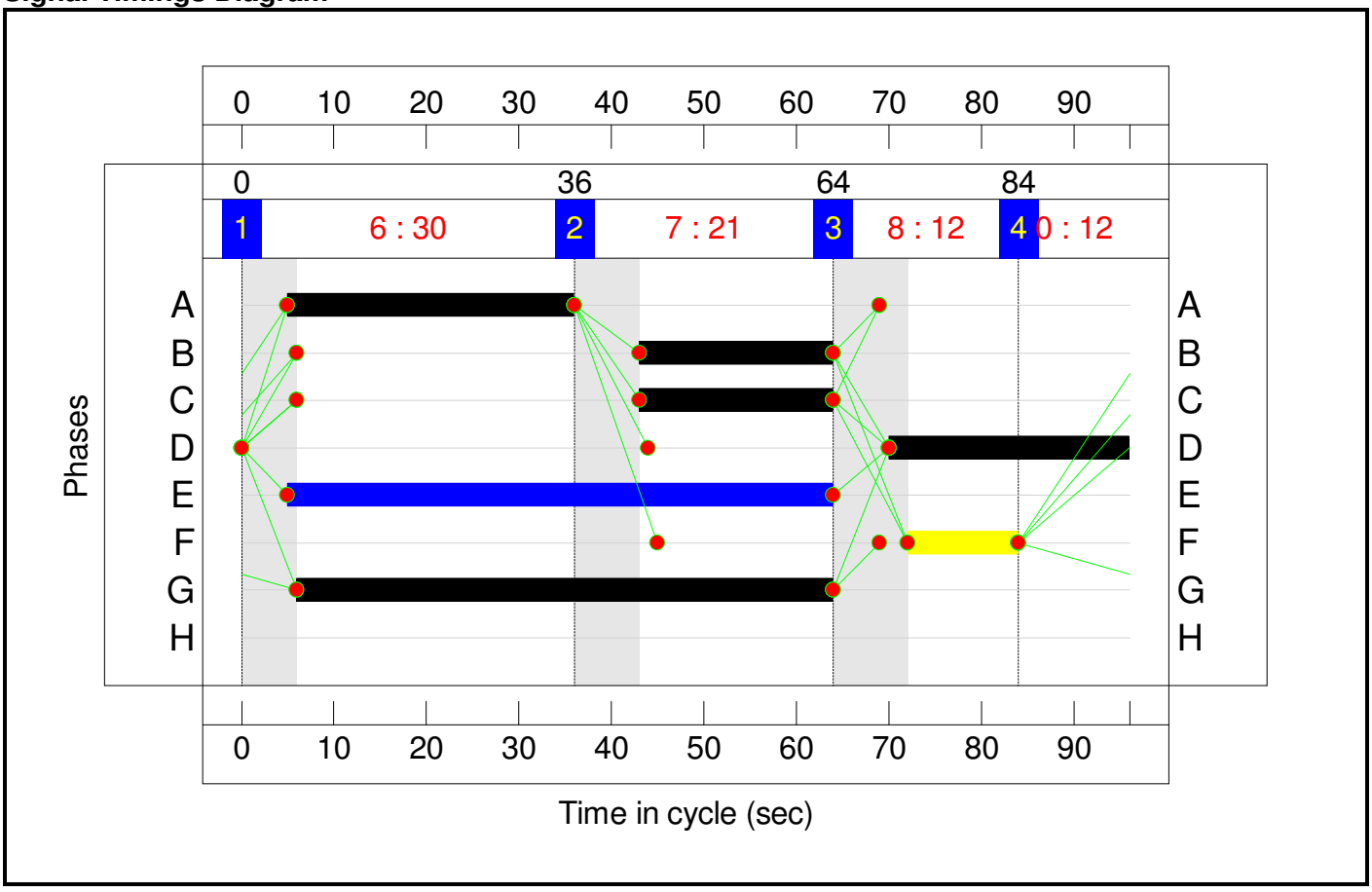
Stage Sequence Diagram



Stage Timings

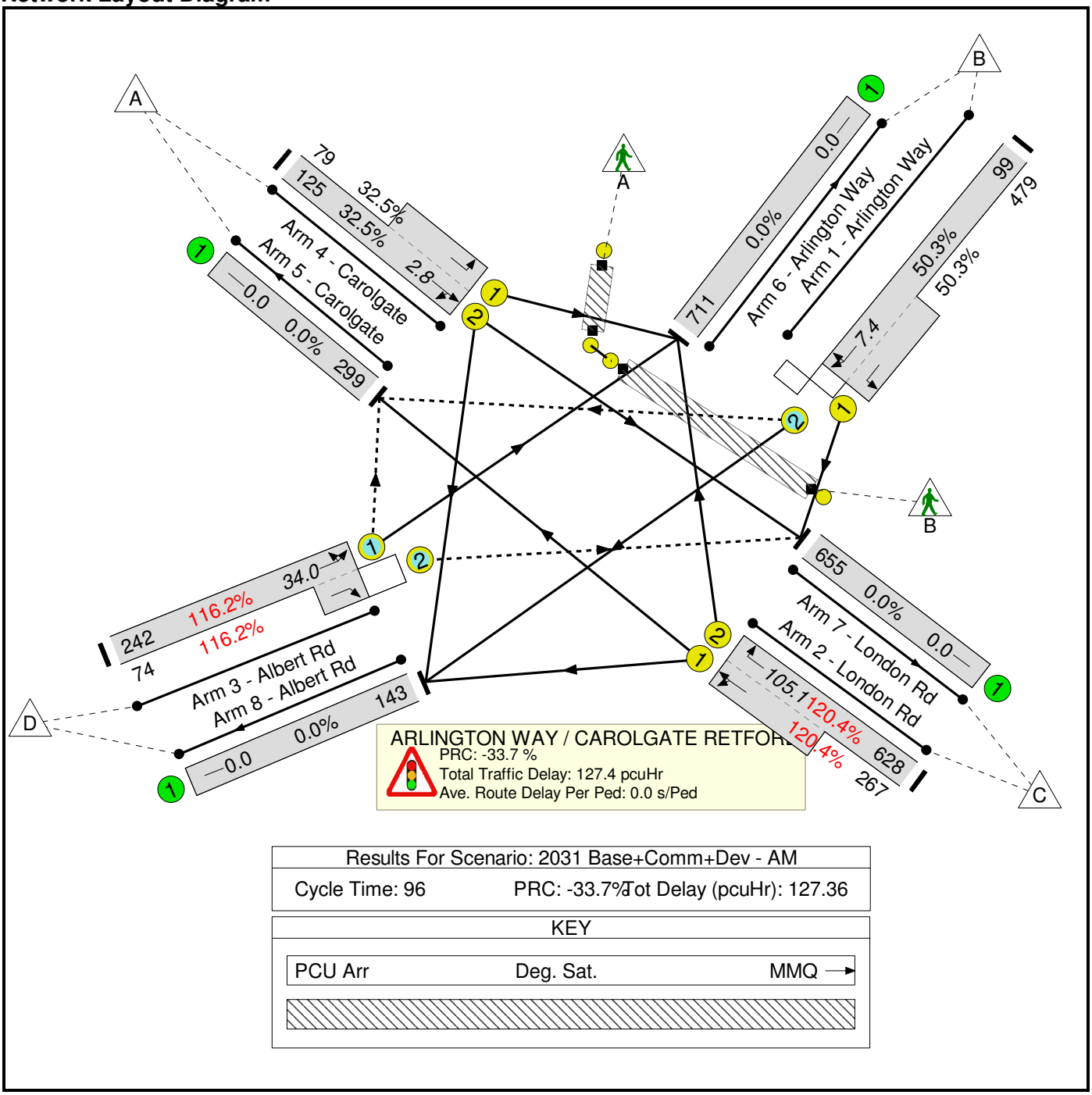
Stage	1	2	3	4
Duration	30	21	12	12
Change Point	0	36	64	84

Signal Timings Diagram



Full Input Data And Results

Network Layout Diagram



Results For Scenario: 2031 Base+Comm+Dev - AM		
Cycle Time: 96	PRC: -33.7%	Tot Delay (pcuHr): 127.36

KEY		
PCU Arr	Deg. Sat.	MMQ

Full Input Data And Results

Network Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network: A638 Arlington Way / A638 London Road / Carolgate	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**120.4%**
ARLINGTON WAY / CAROLGATE RETFORD	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**120.4%**
1/2+1/1	Arlington Way Right Left Ahead	O+U	N/A	N/A	B G		1	21:58	-	578	1776:1777	197+953	50.3 : 50.3%
2/2+2/1	London Rd Ahead Right Left	U	N/A	N/A	A		1	31	-	895	1886:1990	522+222	120.4 : 120.4%
3/1+3/2	Albert Rd Left Ahead Right	O	N/A	N/A	C		1	21	-	316	1788:1702	208+64	116.2 : 116.2%
4/2+4/1	Carolgate Left Ahead Right	U	N/A	N/A	D		1	26	-	204	1806:1705	385+243	32.5 : 32.5%
5/1	Carolgate	U	N/A	N/A	-		-	-	-	349	Inf	Inf	0.0%
6/1	Arlington Way	U	N/A	N/A	-		-	-	-	835	Inf	Inf	0.0%
7/1	London Rd	U	N/A	N/A	-		-	-	-	655	Inf	Inf	0.0%
8/1	Albert Rd	U	N/A	N/A	-		-	-	-	154	Inf	Inf	0.0%
Ped Link: P1	Unnamed Ped Link	-	N/A	-	E		1	59	-	0	-	44250	0.0%
Ped Link: P2	Unnamed Ped Link	-	N/A	-	F		1	12	-	0	-	9000	0.0%

Full Input Data And Results

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network: A638 Arlington Way / A638 London Road / Carolgate	**-**	**-**	**375**	**0**	**0**	**22.9**	**104.4**	**0.0**	**127.4**	**-**	**-**	**-**	**-**
ARLINGTON WAY / CAROLGATE RETFORD	**-**	**-**	**375**	**0**	**0**	**22.9**	**104.4**	**0.0**	**127.4**	**-**	**-**	**-**	**-**
1/2+1/1	578	578	32	0	0	2.1	0.5	0.0	2.6	16.4	6.9	0.5	7.4
2/2+2/1	895	744	-	-	-	14.7	78.5	-	93.2	375.1	26.6	78.5	105.1
3/1+3/2	316	282	343	0	0	4.6	25.1	0.0	29.7	338.9	8.9	25.1	34.0
4/2+4/1	204	204	-	-	-	1.5	0.2	-	1.7	30.6	2.6	0.2	2.8
5/1	299	299	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	711	711	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	655	655	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	143	143	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
Ped Link: P1	0	0	-	-	-	-	-	-	0.0	0.0	-	-	0.0
Ped Link: P2	0	0	-	-	-	-	-	-	0.0	0.0	-	-	0.0

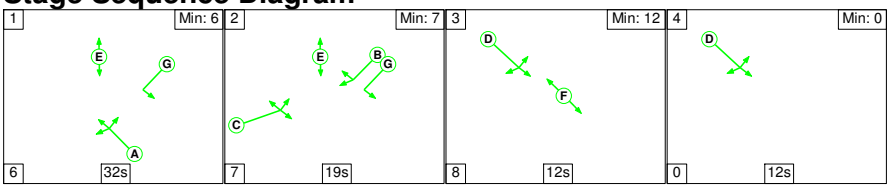
C1 PRC for Signalled Lanes (%): -33.7 Total Delay for Signalled Lanes (pcuHr): 127.36 Cycle Time (s): 96

PRC Over All Lanes (%): -33.7 Total Delay Over All Lanes(pcuHr): 127.36

Full Input Data And Results

Scenario 8: '2031 Base+Comm+Dev - PM' (FG8: '2031 Base+Comm+Dev - PM', Plan 1: 'Network Control Plan 1')

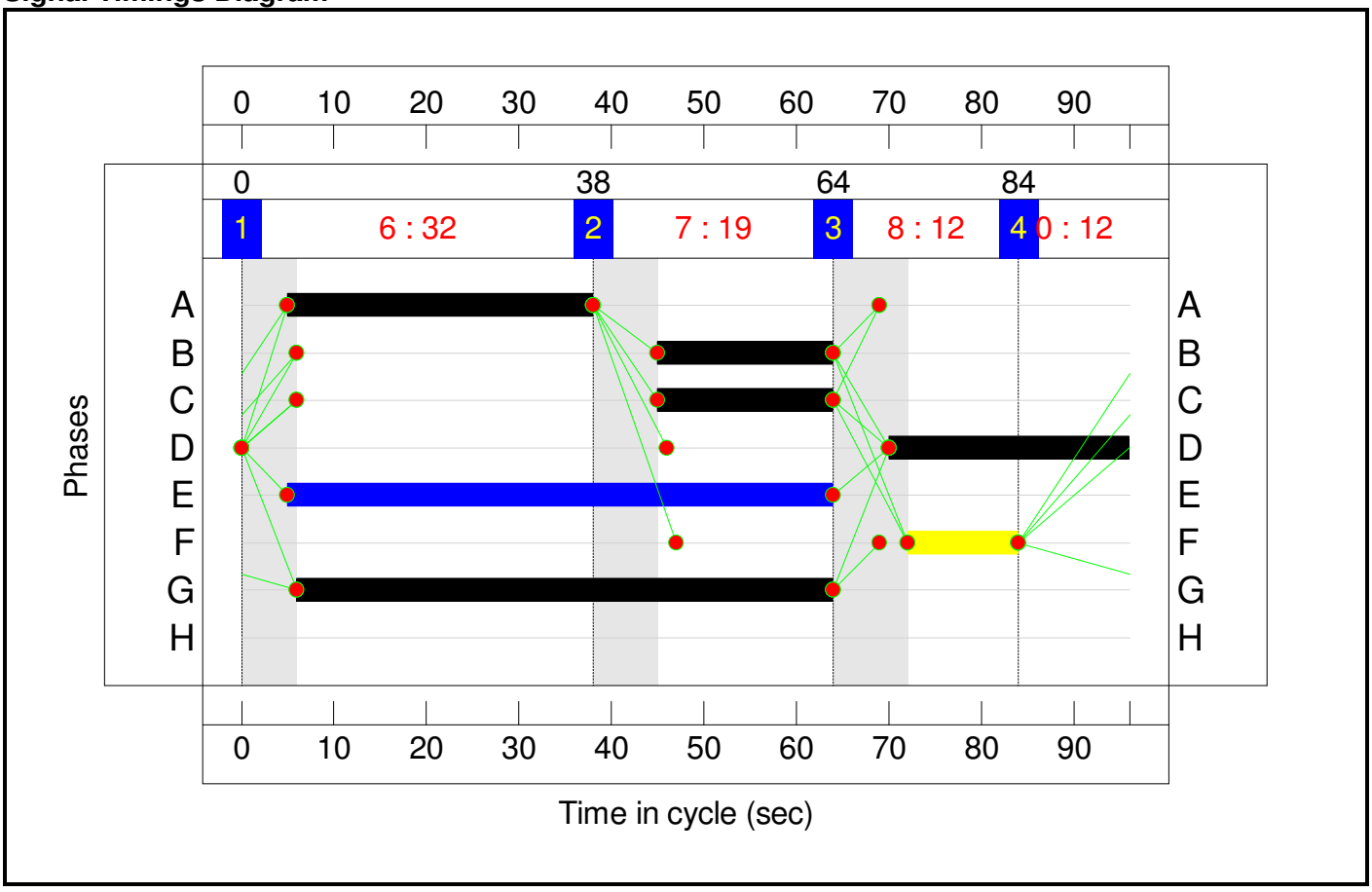
Stage Sequence Diagram



Stage Timings

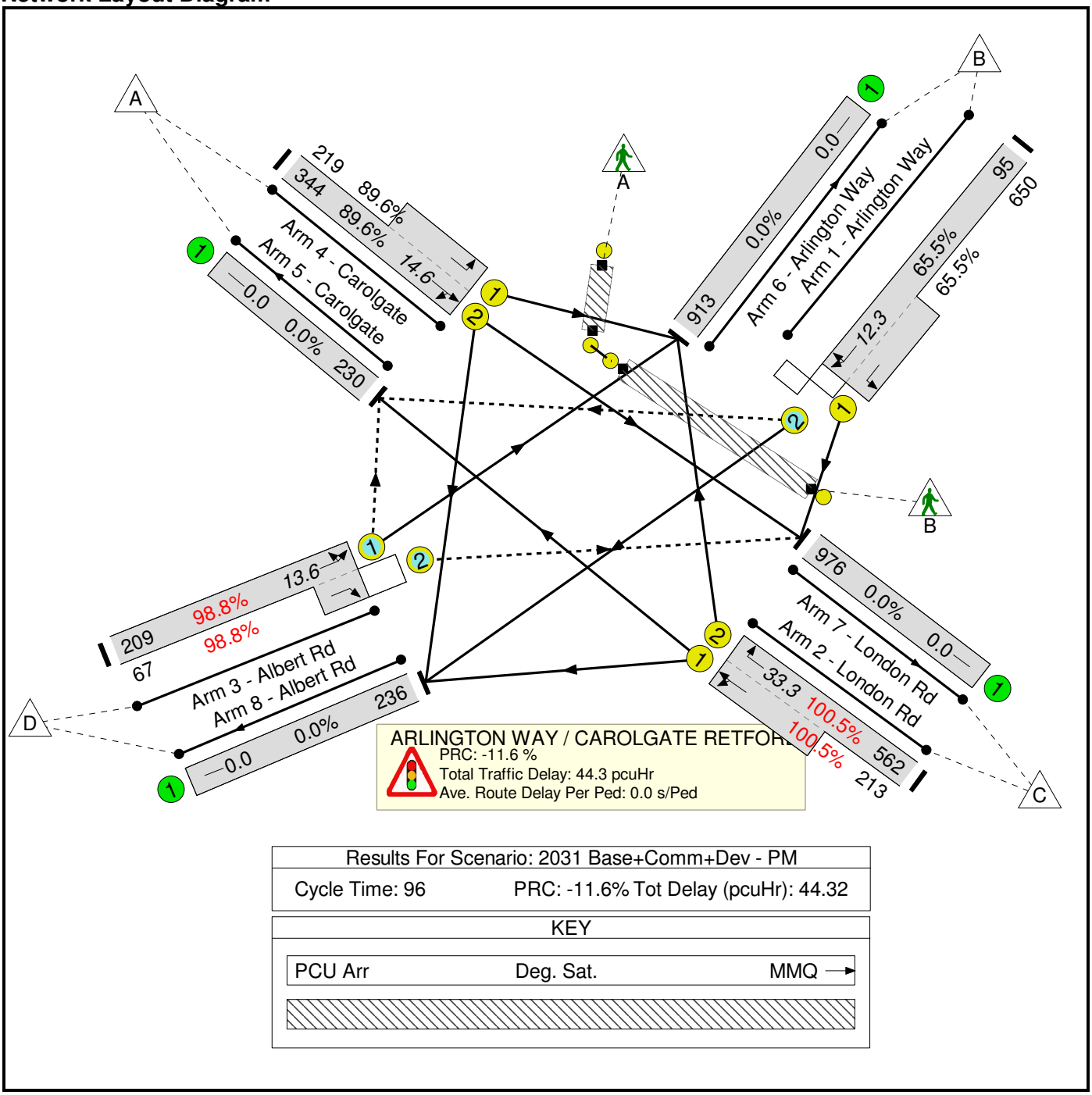
Stage	1	2	3	4
Duration	32	19	12	12
Change Point	0	38	64	84

Signal Timings Diagram



Full Input Data And Results

Network Layout Diagram



Results For Scenario: 2031 Base+Comm+Dev - PM	
Cycle Time: 96	PRC: -11.6% Tot Delay (pcuHr): 44.32

KEY		
PCU Arr	Deg. Sat.	MMQ

Full Input Data And Results

Network Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network: A638 Arlington Way / A638 London Road / Carolgate	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**100.5%**
ARLINGTON WAY / CAROLGATE RETFORD	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**100.5%**
1/2+1/1	Arlington Way Right Left Ahead	O+U	N/A	N/A	B G		1	19:58	-	745	1784:1777	145+993	65.5 : 65.5%
2/2+2/1	London Rd Ahead Right Left	U	N/A	N/A	A		1	33	-	775	1886:1975	559+212	100.5 : 100.5%
3/1+3/2	Albert Rd Left Ahead Right	O	N/A	N/A	C		1	19	-	276	1799:1702	212+68	98.8 : 98.8%
4/2+4/1	Carolgate Left Ahead Right	U	N/A	N/A	D		1	26	-	563	1794:1705	384+244	89.6 : 89.6%
5/1	Carolgate	U	N/A	N/A	-		-	-	-	231	Inf	Inf	0.0%
6/1	Arlington Way	U	N/A	N/A	-		-	-	-	916	Inf	Inf	0.0%
7/1	London Rd	U	N/A	N/A	-		-	-	-	976	Inf	Inf	0.0%
8/1	Albert Rd	U	N/A	N/A	-		-	-	-	236	Inf	Inf	0.0%
Ped Link: P1	Unnamed Ped Link	-	N/A	-	E		1	59	-	0	-	44250	0.0%
Ped Link: P2	Unnamed Ped Link	-	N/A	-	F		1	12	-	0	-	9000	0.0%

Full Input Data And Results

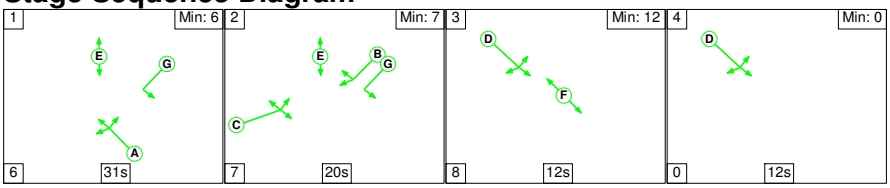
Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network: A638 Arlington Way / A638 London Road / Carolgate	**-**	**-**	**309**	**0**	**0**	**17.1**	**27.2**	**0.0**	**44.3**	**-**	**-**	**-**	**-**
ARLINGTON WAY / CAROLGATE RETFORD	**-**	**-**	**309**	**0**	**0**	**17.1**	**27.2**	**0.0**	**44.3**	**-**	**-**	**-**	**-**
1/2+1/1	745	745	27	0	0	2.9	0.9	0.0	3.8	18.5	11.4	0.9	12.3
2/2+2/1	775	771	-	-	-	6.5	14.8	-	21.3	99.0	18.4	14.8	33.3
3/1+3/2	276	276	282	0	0	2.9	7.5	0.0	10.5	136.6	6.1	7.5	13.6
4/2+4/1	563	563	-	-	-	4.9	3.9	-	8.7	55.7	10.8	3.9	14.6
5/1	230	230	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	913	913	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	976	976	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	236	236	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
Ped Link: P1	0	0	-	-	-	-	-	-	0.0	0.0	-	-	0.0
Ped Link: P2	0	0	-	-	-	-	-	-	0.0	0.0	-	-	0.0

C1 PRC for Signalled Lanes (%): -11.6 Total Delay for Signalled Lanes (pcuHr): 44.32 Cycle Time (s): 96
PRC Over All Lanes (%): -11.6 Total Delay Over All Lanes(pcuHr): 44.32

Full Input Data And Results

Scenario 9: '2031 Base+Comm+Opt+Dev - AM' (FG9: '2031 Base+Comm+Opt+Dev - AM', Plan 1: 'Network Control Plan 1')

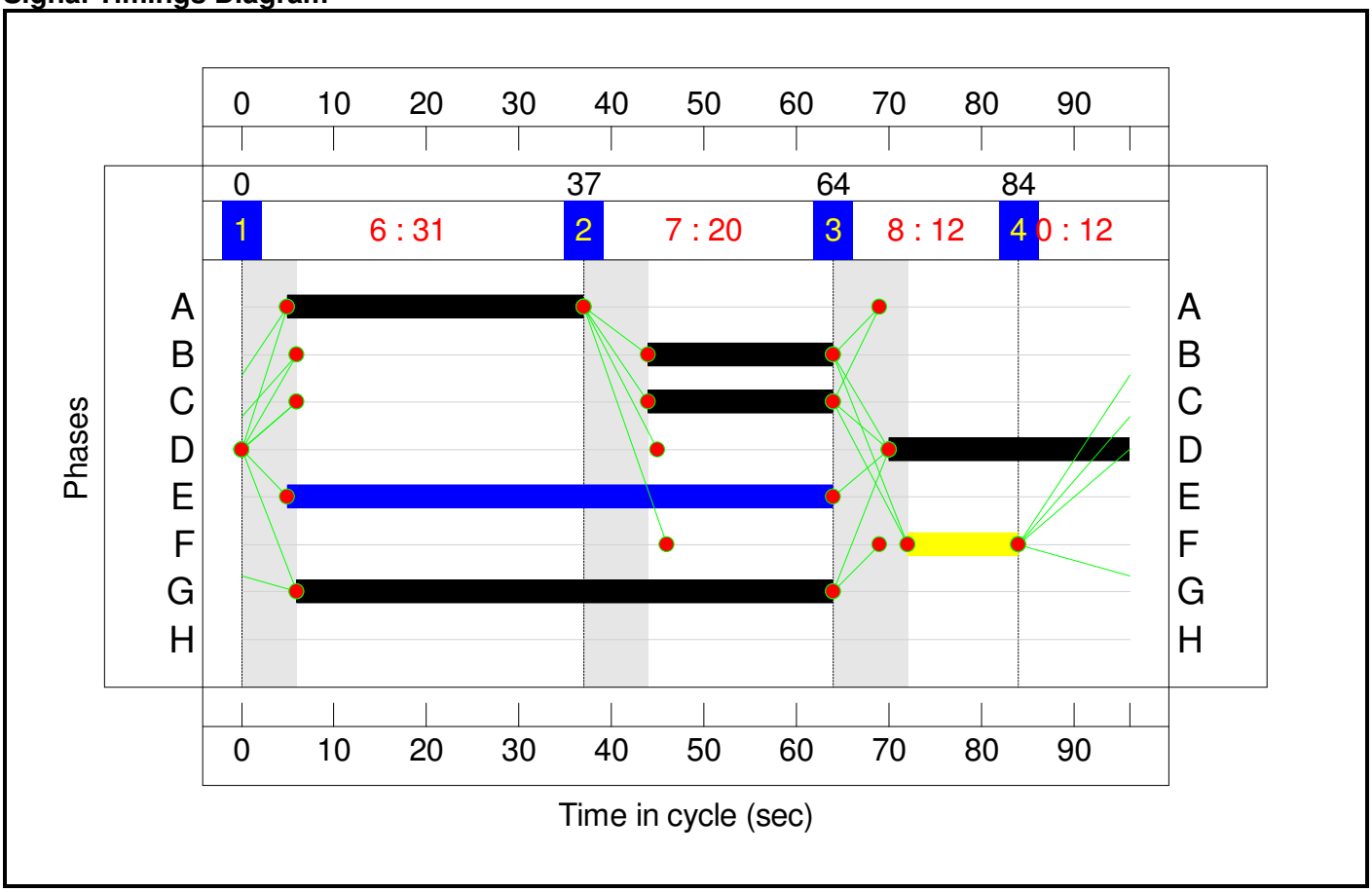
Stage Sequence Diagram



Stage Timings

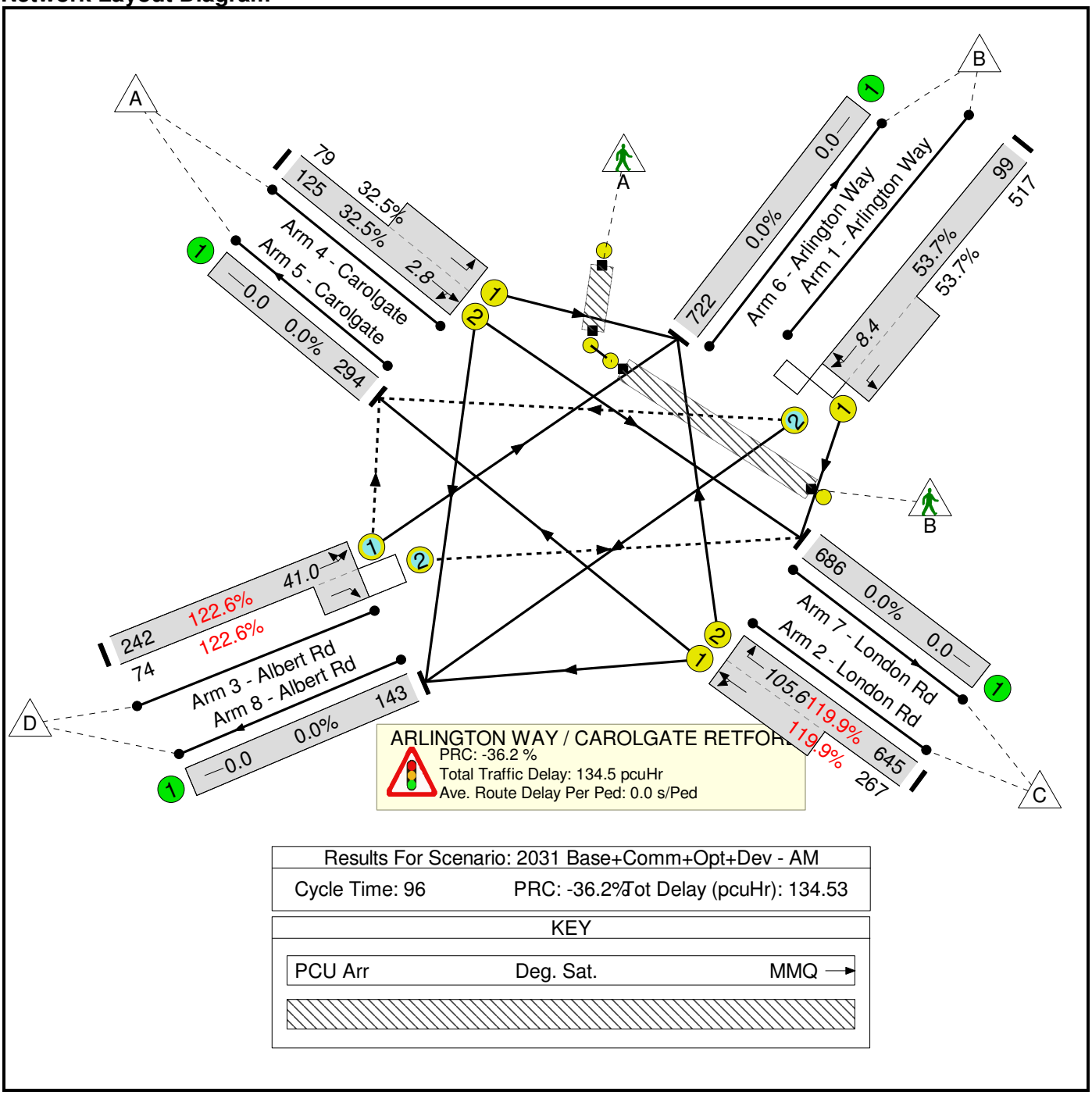
Stage	1	2	3	4
Duration	31	20	12	12
Change Point	0	37	64	84

Signal Timings Diagram



Full Input Data And Results

Network Layout Diagram



Full Input Data And Results

Network Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network: A638 Arlington Way / A638 London Road / Carolgate	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**122.6%**
ARLINGTON WAY / CAROLGATE RETFORD	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**122.6%**
1/2+1/1	Arlington Way Right Left Ahead	O+U	N/A	N/A	B G		1	20:58	-	616	1776:1777	184+963	53.7 : 53.7%
2/2+2/1	London Rd Ahead Right Left	U	N/A	N/A	A		1	32	-	912	1886:1990	538+223	119.9 : 119.9%
3/1+3/2	Albert Rd Left Ahead Right	O	N/A	N/A	C		1	20	-	316	1788:1702	197+60	122.6 : 122.6%
4/2+4/1	Carolgate Left Ahead Right	U	N/A	N/A	D		1	26	-	204	1806:1705	385+243	32.5 : 32.5%
5/1	Carolgate	U	N/A	N/A	-		-	-	-	349	Inf	Inf	0.0%
6/1	Arlington Way	U	N/A	N/A	-		-	-	-	852	Inf	Inf	0.0%
7/1	London Rd	U	N/A	N/A	-		-	-	-	693	Inf	Inf	0.0%
8/1	Albert Rd	U	N/A	N/A	-		-	-	-	154	Inf	Inf	0.0%
Ped Link: P1	Unnamed Ped Link	-	N/A	-	E		1	59	-	0	-	44250	0.0%
Ped Link: P2	Unnamed Ped Link	-	N/A	-	F		1	12	-	0	-	9000	0.0%

Full Input Data And Results

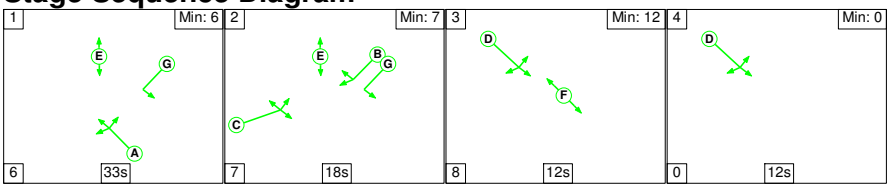
Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network: A638 Arlington Way / A638 London Road / Carolgate	**-**	**-**	**351**	**0**	**0**	**23.6**	**110.9**	**0.0**	**134.5**	**-**	**-**	**-**	**-**
ARLINGTON WAY / CAROLGATE RETFORD	**-**	**-**	**351**	**0**	**0**	**23.6**	**110.9**	**0.0**	**134.5**	**-**	**-**	**-**	**-**
1/2+1/1	616	616	32	0	0	2.3	0.6	0.0	2.9	16.8	7.8	0.6	8.4
2/2+2/1	912	761	-	-	-	14.7	78.5	-	93.2	367.7	27.1	78.5	105.6
3/1+3/2	316	264	320	0	0	5.1	31.6	0.0	36.8	418.8	9.4	31.6	41.0
4/2+4/1	204	204	-	-	-	1.5	0.2	-	1.7	30.6	2.6	0.2	2.8
5/1	294	294	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	722	722	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	686	686	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	143	143	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
Ped Link: P1	0	0	-	-	-	-	-	-	0.0	0.0	-	-	0.0
Ped Link: P2	0	0	-	-	-	-	-	-	0.0	0.0	-	-	0.0

C1 PRC for Signalled Lanes (%): -36.2 Total Delay for Signalled Lanes (pcuHr): 134.53 Cycle Time (s): 96
PRC Over All Lanes (%): -36.2 Total Delay Over All Lanes(pcuHr): 134.53

Full Input Data And Results

Scenario 10: '2031 Base+Comm+Opt+Dev - PM' (FG10: '2031 Base+Comm+Opt+Dev - PM', Plan 1: 'Network Control Plan 1')

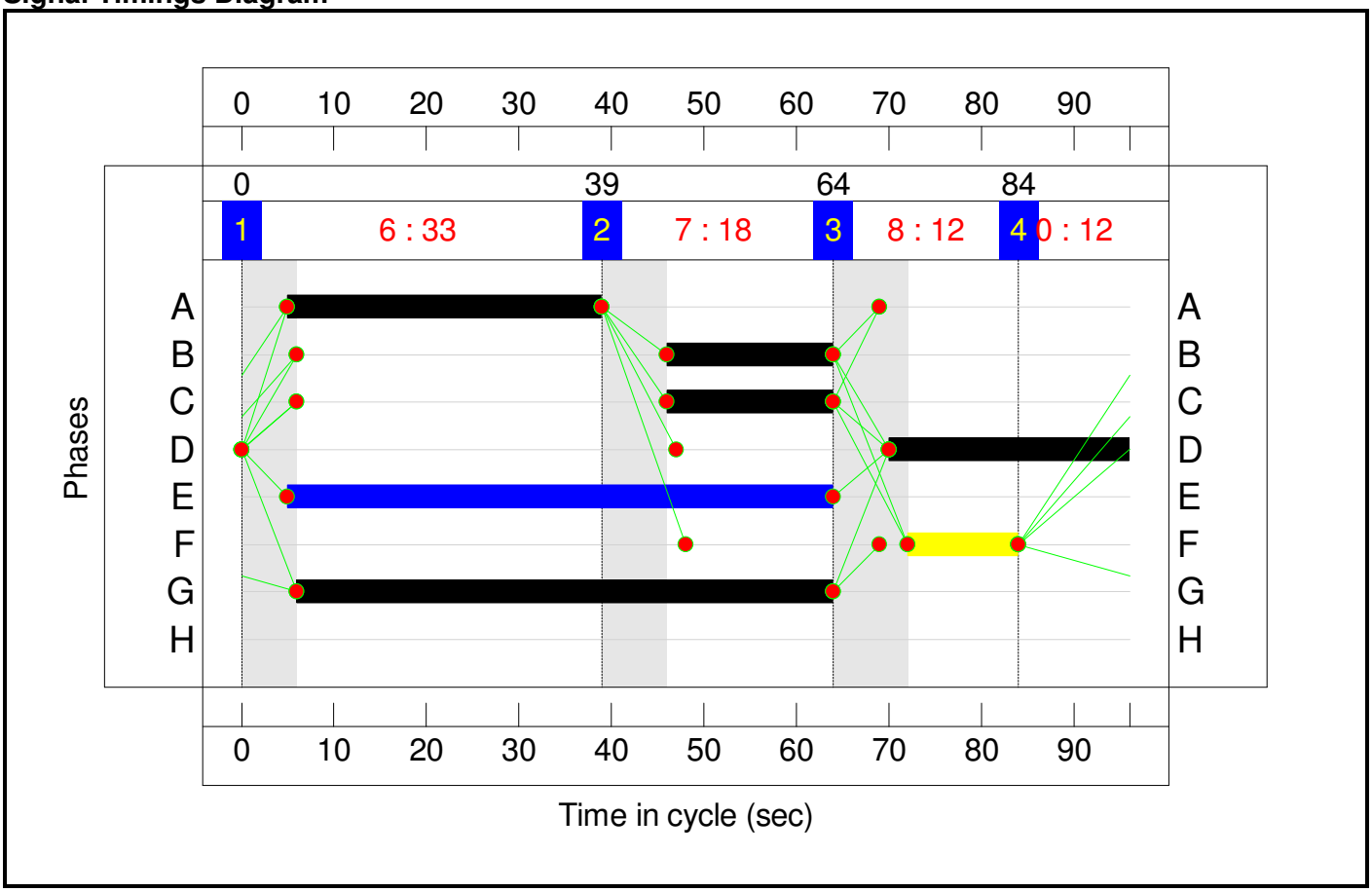
Stage Sequence Diagram



Stage Timings

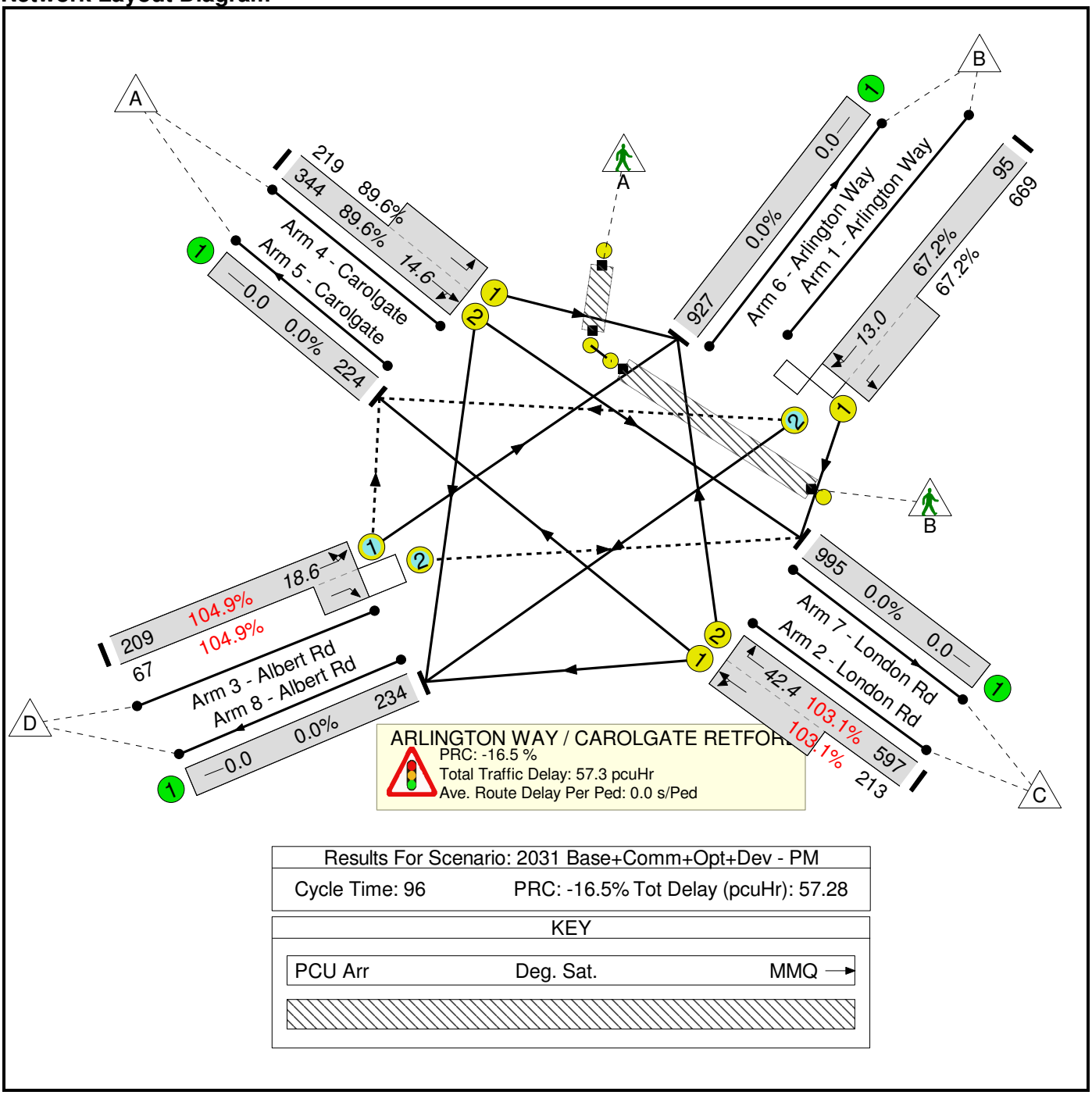
Stage	1	2	3	4
Duration	33	18	12	12
Change Point	0	39	64	84

Signal Timings Diagram



Full Input Data And Results

Network Layout Diagram



Results For Scenario: 2031 Base+Comm+Opt+Dev - PM	
Cycle Time: 96	PRC: -16.5% Tot Delay (pcuHr): 57.28

KEY		
PCU Arr	Deg. Sat.	MMQ →

Full Input Data And Results

Network Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network: A638 Arlington Way / A638 London Road / Carolgate	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**104.9%**
ARLINGTON WAY / CAROLGATE RETFORD	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**104.9%**
1/2+1/1	Arlington Way Right Left Ahead	O+U	N/A	N/A	B G		1	18:58	-	764	1784:1777	141+995	67.2 : 67.2%
2/2+2/1	London Rd Ahead Right Left	U	N/A	N/A	A		1	34	-	810	1886:1975	579+207	103.1 : 103.1%
3/1+3/2	Albert Rd Left Ahead Right	O	N/A	N/A	C		1	18	-	276	1799:1702	199+64	104.9 : 104.9%
4/2+4/1	Carolgate Left Ahead Right	U	N/A	N/A	D		1	26	-	563	1794:1705	384+244	89.6 : 89.6%
5/1	Carolgate	U	N/A	N/A	-		-	-	-	231	Inf	Inf	0.0%
6/1	Arlington Way	U	N/A	N/A	-		-	-	-	951	Inf	Inf	0.0%
7/1	London Rd	U	N/A	N/A	-		-	-	-	995	Inf	Inf	0.0%
8/1	Albert Rd	U	N/A	N/A	-		-	-	-	236	Inf	Inf	0.0%
Ped Link: P1	Unnamed Ped Link	-	N/A	-	E		1	59	-	0	-	44250	0.0%
Ped Link: P2	Unnamed Ped Link	-	N/A	-	F		1	12	-	0	-	9000	0.0%

Full Input Data And Results

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network: A638 Arlington Way / A638 London Road / Carolgate	**-**	**-**	**302**	**0**	**0**	**18.8**	**38.4**	**0.0**	**57.3**	**-**	**-**	**-**	**-**
ARLINGTON WAY / CAROLGATE RETFORD	**-**	**-**	**302**	**0**	**0**	**18.8**	**38.4**	**0.0**	**57.3**	**-**	**-**	**-**	**-**
1/2+1/1	764	764	27	0	0	3.0	1.0	0.0	4.0	18.9	11.9	1.0	13.0
2/2+2/1	810	786	-	-	-	7.6	21.4	-	29.1	129.2	21.0	21.4	42.4
3/1+3/2	276	266	275	0	0	3.3	12.1	0.0	15.5	201.8	6.5	12.1	18.6
4/2+4/1	563	563	-	-	-	4.9	3.9	-	8.7	55.7	10.8	3.9	14.6
5/1	224	224	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	927	927	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	995	995	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	234	234	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
Ped Link: P1	0	0	-	-	-	-	-	-	0.0	0.0	-	-	0.0
Ped Link: P2	0	0	-	-	-	-	-	-	0.0	0.0	-	-	0.0

C1 PRC for Signalled Lanes (%): -16.5 Total Delay for Signalled Lanes (pcuHr): 57.28 Cycle Time (s): 96
PRC Over All Lanes (%): -16.5 Total Delay Over All Lanes(pcuHr): 57.28

Junctions 9

PICADY 9 - Priority Intersection Module

Version: 9.5.1.7462

Filename: High Street - Goosemoor Lane v2.j9
Path: \\Leicester12\3501Data\Projects\B023665 - Ordsall, Retford\06 - Calculations\06 - Capacity Assessments\01 - Existing Situation (Do Nothing)\01 - Junctions 9
Report generation date: 25/05/2021 16:27:22

Summary of junction performance

	AM				PM			
	Queue (PCU)	Delay (s)	RFC	LOS	Queue (PCU)	Delay (s)	RFC	LOS
	2021 Base + Committed							
Stream B-AC	1.4	17.74	0.58	C	1.9	20.07	0.66	C
Stream C-AB	0.4	8.60	0.28	A	0.2	7.37	0.16	A
	2031 Base + Committed							
Stream B-AC	1.9	22.01	0.66	C	2.7	26.55	0.74	D
Stream C-AB	0.5	9.11	0.31	A	0.2	7.60	0.18	A
	2031 Base + Committed + Optional							
Stream B-AC	2.0	23.47	0.68	C	2.9	27.47	0.75	D
Stream C-AB	0.5	9.13	0.32	A	0.2	7.63	0.18	A
	2031 Base + Committed + Development							
Stream B-AC	2.8	30.16	0.75	D	5.4	45.86	0.86	E
Stream C-AB	0.9	11.89	0.48	B	0.3	8.24	0.24	A
	2031 Base + Committed + Optional + Development							
Stream B-AC	3.1	32.99	0.77	D	5.7	48.37	0.87	E
Stream C-AB	0.9	11.92	0.48	B	0.3	8.28	0.24	A

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

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

File summary

File Description

Title	Ordsall, Retford
Location	Retford
Site number	16
Date	25/03/2021
Version	
Status	(new file)
Identifier	
Client	Bassetlaw District Council
Jobnumber	B023665
Enumerator	WYG\benjamin.green
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

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D1	2021 Base + Committed	AM	ONE HOUR	07:45	09:15	15	✓
D2	2021 Base + Committed	PM	ONE HOUR	16:45	18:15	15	✓
D3	2031 Base + Committed	AM	ONE HOUR	07:45	09:15	15	✓
D4	2031 Base + Committed	PM	ONE HOUR	16:45	18:15	15	✓
D5	2031 Base + Committed + Optional	AM	ONE HOUR	07:45	09:15	15	✓
D6	2031 Base + Committed + Optional	PM	ONE HOUR	16:45	18:15	15	✓
D7	2031 Base + Committed + Development	AM	ONE HOUR	07:45	09:15	15	✓
D8	2031 Base + Committed + Development	PM	ONE HOUR	16:45	18:15	15	✓
D9	2031 Base + Committed + Optional + Development	AM	ONE HOUR	07:45	09:15	15	✓
D10	2031 Base + Committed + Optional + Development	PM	ONE HOUR	16:45	18:15	15	✓

Analysis Set Details

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

2021 Base + Committed, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way		9.23	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Name	Description	Arm type
A	All Hallows Street		Major
B	Goosemoor Lane		Minor
C	High Street		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Has right turn bay	Visibility for right turn (m)	Blocks?	Blocking queue (PCU)
C	6.60			86.0	✓	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	3.10	22	64

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
B-A	521	0.092	0.234	0.147	0.334
B-C	671	0.100	0.253	-	-
C-B	624	0.235	0.235	-	-

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

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

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

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D1	2021 Base + Committed	AM	ONE HOUR	07:45	09:15	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	✓	213	100.000
B		ONE HOUR	✓	256	100.000
C		ONE HOUR	✓	160	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A	B	C
From	A	0	210	3
	B	187	0	69
	C	17	143	0

Vehicle Mix

Heavy Vehicle Percentages

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

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max 95th percentile Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-AC	0.58	17.74	1.4	4.4	C	235	352
C-AB	0.28	8.60	0.4	1.6	A	135	202
C-A						12	18
A-B						193	289
A-C						3	4

Main Results for each time segment

07:45 - 08:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	193	48	507	0.380	190	0.0	0.6	11.280	B
C-AB	110	28	595	0.185	109	0.0	0.2	7.401	A
C-A	10	3			10				
A-B	158	40			158				
A-C	2	0.56			2				

08:00 - 08:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	230	58	498	0.463	229	0.6	0.8	13.363	B
C-AB	132	33	589	0.224	132	0.2	0.3	7.868	A
C-A	12	3			12				
A-B	189	47			189				
A-C	3	0.67			3				

08:15 - 08:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	282	70	484	0.582	280	0.8	1.3	17.420	C
C-AB	163	41	581	0.280	162	0.3	0.4	8.583	A
C-A	13	3			13				
A-B	231	58			231				
A-C	3	0.83			3				

08:30 - 08:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	282	70	484	0.582	282	1.3	1.4	17.740	C
C-AB	163	41	581	0.280	163	0.4	0.4	8.598	A
C-A	13	3			13				
A-B	231	58			231				
A-C	3	0.83			3				

08:45 - 09:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	230	58	497	0.463	232	1.4	0.9	13.666	B
C-AB	132	33	589	0.224	132	0.4	0.3	7.891	A
C-A	12	3			12				
A-B	189	47			189				
A-C	3	0.67			3				

09:00 - 09:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	193	48	507	0.380	194	0.9	0.6	11.536	B
C-AB	110	28	595	0.185	110	0.3	0.2	7.438	A
C-A	10	3			10				
A-B	158	40			158				
A-C	2	0.56			2				

Queue Variation Results for each time segment

07:45 - 08:00

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	0.60	0.55	1.00	1.40	1.45			N/A	N/A
C-AB	0.23	0.00	0.00	0.23	0.23			N/A	N/A

08:00 - 08:15

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	0.84	0.21	0.95	1.42	1.48			N/A	N/A
C-AB	0.29	0.00	0.00	0.29	0.29			N/A	N/A

08:15 - 08:30

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	1.33	0.03	0.28	1.33	4.14			N/A	N/A
C-AB	0.39	0.03	0.26	0.46	0.49			N/A	N/A

08:30 - 08:45

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	1.36	0.03	0.28	1.36	4.39			N/A	N/A
C-AB	0.40	0.03	0.31	1.29	1.57			N/A	N/A

08:45 - 09:00

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	0.88	0.06	0.75	1.58	1.97			N/A	N/A
C-AB	0.30	0.00	0.00	0.30	0.30			N/A	N/A

09:00 - 09:15

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	0.63	0.04	0.45	1.49	1.61			N/A	N/A
C-AB	0.23	0.00	0.00	0.23	0.23			N/A	N/A

2021 Base + Committed, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way		11.65	B

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D2	2021 Base + Committed	PM	ONE HOUR	16:45	18:15	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	✓	189	100.000
B		ONE HOUR	✓	315	100.000
C		ONE HOUR	✓	92	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A	B	C
From	A	0	174	15
	B	190	0	125
	C	9	83	0

Vehicle Mix

Heavy Vehicle Percentages

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

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max 95th percentile Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-AC	0.66	20.07	1.9	8.3	C	289	434
C-AB	0.16	7.37	0.2	0.5	A	77	116
C-A						7	11
A-B						160	239
A-C						14	21

Main Results for each time segment

16:45 - 17:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	237	59	540	0.439	234	0.0	0.8	11.641	B
C-AB	63	16	595	0.106	63	0.0	0.1	6.760	A
C-A	6	2			6				
A-B	131	33			131				
A-C	11	3			11				

17:00 - 17:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	283	71	534	0.530	282	0.8	1.1	14.192	B
C-AB	76	19	589	0.128	76	0.1	0.1	7.005	A
C-A	7	2			7				
A-B	156	39			156				
A-C	13	3			13				

17:15 - 17:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	347	87	525	0.660	344	1.1	1.8	19.493	C
C-AB	93	23	582	0.160	93	0.1	0.2	7.364	A
C-A	8	2			8				
A-B	192	48			192				
A-C	17	4			17				

17:30 - 17:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	347	87	525	0.660	347	1.8	1.9	20.067	C
C-AB	93	23	582	0.160	93	0.2	0.2	7.367	A
C-A	8	2			8				
A-B	192	48			192				
A-C	17	4			17				

17:45 - 18:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	283	71	534	0.530	286	1.9	1.2	14.680	B
C-AB	76	19	589	0.128	76	0.2	0.2	7.016	A
C-A	7	2			7				
A-B	156	39			156				
A-C	13	3			13				

18:00 - 18:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	237	59	540	0.439	239	1.2	0.8	11.994	B
C-AB	63	16	595	0.106	63	0.2	0.1	6.776	A
C-A	6	2			6				
A-B	131	33			131				
A-C	11	3			11				

Queue Variation Results for each time segment

16:45 - 17:00

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	0.76	0.55	1.00	1.40	1.45			N/A	N/A
C-AB	0.12	0.00	0.00	0.12	0.12			N/A	N/A

17:00 - 17:15

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	1.09	0.14	1.04	1.67	1.94			N/A	N/A
C-AB	0.15	0.00	0.00	0.15	0.15			N/A	N/A

17:15 - 17:30

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	1.83	0.03	0.30	1.83	8.28			N/A	N/A
C-AB	0.19	0.03	0.26	0.46	0.49			N/A	N/A

17:30 - 17:45

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	1.88	0.03	0.28	1.88	6.20			N/A	N/A
C-AB	0.19	0.03	0.26	0.46	0.49			N/A	N/A

17:45 - 18:00

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	1.16	0.06	0.68	2.60	3.73			N/A	N/A
C-AB	0.15	0.00	0.00	0.15	0.15			N/A	N/A

18:00 - 18:15

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	0.80	0.04	0.42	1.79	2.76			N/A	N/A
C-AB	0.12	0.00	0.00	0.12	0.12			N/A	N/A

2031 Base + Committed, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way		11.11	B

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D3	2031 Base + Committed	AM	ONE HOUR	07:45	09:15	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	✓	236	100.000
B		ONE HOUR	✓	285	100.000
C		ONE HOUR	✓	178	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A	B	C
From	A	0	233	3
	B	208	0	77
	C	19	159	0

Vehicle Mix

Heavy Vehicle Percentages

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

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max 95th percentile Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-AC	0.66	22.01	1.9	8.5	C	262	392
C-AB	0.31	9.11	0.5	2.0	A	151	226
C-A						13	19
A-B						214	321
A-C						3	4

Main Results for each time segment

07:45 - 08:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	215	54	502	0.427	212	0.0	0.7	12.282	B
C-AB	123	31	592	0.207	122	0.0	0.3	7.642	A
C-A	11	3			11				
A-B	175	44			175				
A-C	2	0.56			2				

08:00 - 08:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	256	64	491	0.522	255	0.7	1.1	15.140	C
C-AB	147	37	585	0.252	147	0.3	0.3	8.205	A
C-A	13	3			13				
A-B	209	52			209				
A-C	3	0.67			3				

08:15 - 08:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	314	78	477	0.658	311	1.1	1.8	21.301	C
C-AB	182	45	577	0.315	181	0.3	0.5	9.082	A
C-A	14	4			14				
A-B	257	64			257				
A-C	3	0.83			3				

08:30 - 08:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	314	78	477	0.658	314	1.8	1.9	22.007	C
C-AB	182	45	577	0.315	182	0.5	0.5	9.108	A
C-A	14	4			14				
A-B	257	64			257				
A-C	3	0.83			3				

08:45 - 09:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	256	64	491	0.522	259	1.9	1.1	15.717	C
C-AB	147	37	586	0.252	148	0.5	0.3	8.235	A
C-A	13	3			13				
A-B	209	52			209				
A-C	3	0.67			3				

09:00 - 09:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	215	54	502	0.428	216	1.1	0.8	12.669	B
C-AB	123	31	592	0.207	123	0.3	0.3	7.687	A
C-A	11	3			11				
A-B	175	44			175				
A-C	2	0.56			2				

Queue Variation Results for each time segment

07:45 - 08:00

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	0.73	0.55	1.00	1.40	1.45			N/A	N/A
C-AB	0.26	0.00	0.00	0.26	0.26			N/A	N/A

08:00 - 08:15

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	1.06	0.15	1.03	1.58	1.86			N/A	N/A
C-AB	0.34	0.00	0.00	0.34	0.34			N/A	N/A

08:15 - 08:30

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	1.81	0.03	0.30	2.03	8.46			N/A	N/A
C-AB	0.46	0.03	0.26	0.46	0.49			N/A	N/A

08:30 - 08:45

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	1.86	0.03	0.29	1.86	6.79			N/A	N/A
C-AB	0.47	0.03	0.30	1.36	2.03			N/A	N/A

08:45 - 09:00

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	1.13	0.05	0.63	2.52	3.64			N/A	N/A
C-AB	0.35	0.00	0.00	0.35	0.35			N/A	N/A

09:00 - 09:15

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	0.76	0.04	0.41	1.72	2.68			N/A	N/A
C-AB	0.27	0.00	0.00	0.27	0.27			N/A	N/A

2031 Base + Committed, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way		15.15	C

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D4	2031 Base + Committed	PM	ONE HOUR	16:45	18:15	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	✓	209	100.000
B		ONE HOUR	✓	351	100.000
C		ONE HOUR	✓	102	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A	B	C
From	A	0	193	16
	B	212	0	139
	C	10	92	0

Vehicle Mix

Heavy Vehicle Percentages

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

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max 95th percentile Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-AC	0.74	26.55	2.7	14.0	D	322	483
C-AB	0.18	7.60	0.2	0.9	A	86	129
C-A						8	12
A-B						177	266
A-C						15	22

Main Results for each time segment

16:45 - 17:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	264	66	537	0.492	260	0.0	0.9	12.856	B
C-AB	70	18	592	0.119	70	0.0	0.1	6.886	A
C-A	7	2			7				
A-B	145	36			145				
A-C	12	3			12				

17:00 - 17:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	316	79	530	0.595	314	0.9	1.4	16.492	C
C-AB	84	21	586	0.143	84	0.1	0.2	7.172	A
C-A	8	2			8				
A-B	174	43			174				
A-C	14	4			14				

17:15 - 17:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	386	97	520	0.743	382	1.4	2.6	25.068	D
C-AB	103	26	577	0.179	103	0.2	0.2	7.590	A
C-A	9	2			9				
A-B	212	53			212				
A-C	18	4			18				

17:30 - 17:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	386	97	520	0.743	386	2.6	2.7	26.548	D
C-AB	103	26	577	0.179	103	0.2	0.2	7.599	A
C-A	9	2			9				
A-B	212	53			212				
A-C	18	4			18				

17:45 - 18:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	316	79	530	0.596	320	2.7	1.5	17.554	C
C-AB	84	21	586	0.143	84	0.2	0.2	7.181	A
C-A	8	2			8				
A-B	174	43			174				
A-C	14	4			14				

18:00 - 18:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	264	66	537	0.492	266	1.5	1.0	13.423	B
C-AB	70	18	592	0.119	70	0.2	0.1	6.904	A
C-A	7	2			7				
A-B	145	36			145				
A-C	12	3			12				

Queue Variation Results for each time segment

16:45 - 17:00

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	0.94	0.55	1.00	1.40	1.45			N/A	N/A
C-AB	0.13	0.00	0.00	0.13	0.13			N/A	N/A

17:00 - 17:15

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	1.41	0.11	1.17	2.59	3.34			N/A	N/A
C-AB	0.17	0.00	0.00	0.17	0.17			N/A	N/A

17:15 - 17:30

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	2.62	0.03	0.33	5.51	14.00			N/A	N/A
C-AB	0.22	0.03	0.26	0.46	0.49			N/A	N/A

17:30 - 17:45

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	2.74	0.03	0.30	2.74	11.86			N/A	N/A
C-AB	0.22	0.03	0.27	0.49	0.92			N/A	N/A

17:45 - 18:00

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	1.54	0.05	0.47	3.95	6.29			N/A	N/A
C-AB	0.17	0.00	0.00	0.17	0.17			N/A	N/A

18:00 - 18:15

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	1.00	0.04	0.37	2.49	4.40			N/A	N/A
C-AB	0.14	0.00	0.00	0.14	0.14			N/A	N/A

2031 Base + Committed + Optional, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way		11.80	B

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D5	2031 Base + Committed + Optional	AM	ONE HOUR	07:45	09:15	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	✓	239	100.000
B		ONE HOUR	✓	293	100.000
C		ONE HOUR	✓	178	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A	B	C
From	A	0	236	3
	B	216	0	77
	C	19	159	0

Vehicle Mix

Heavy Vehicle Percentages

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

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max 95th percentile Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-AC	0.68	23.47	2.0	9.8	C	269	403
C-AB	0.32	9.13	0.5	2.0	A	151	226
C-A						13	19
A-B						217	325
A-C						3	4

Main Results for each time segment

07:45 - 08:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	221	55	501	0.441	218	0.0	0.8	12.587	B
C-AB	123	31	591	0.208	122	0.0	0.3	7.652	A
C-A	11	3			11				
A-B	178	44			178				
A-C	2	0.56			2				

08:00 - 08:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	263	66	490	0.538	262	0.8	1.1	15.697	C
C-AB	147	37	585	0.252	147	0.3	0.3	8.217	A
C-A	13	3			13				
A-B	212	53			212				
A-C	3	0.67			3				

08:15 - 08:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	323	81	475	0.679	319	1.1	2.0	22.589	C
C-AB	182	45	576	0.315	181	0.3	0.5	9.102	A
C-A	14	4			14				
A-B	260	65			260				
A-C	3	0.83			3				

08:30 - 08:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	323	81	475	0.679	322	2.0	2.0	23.471	C
C-AB	182	45	576	0.315	182	0.5	0.5	9.126	A
C-A	14	4			14				
A-B	260	65			260				
A-C	3	0.83			3				

08:45 - 09:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	263	66	490	0.538	267	2.0	1.2	16.387	C
C-AB	147	37	585	0.252	148	0.5	0.3	8.246	A
C-A	13	3			13				
A-B	212	53			212				
A-C	3	0.67			3				

09:00 - 09:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	221	55	500	0.441	222	1.2	0.8	13.024	B
C-AB	123	31	591	0.208	123	0.3	0.3	7.696	A
C-A	11	3			11				
A-B	178	44			178				
A-C	2	0.56			2				

Queue Variation Results for each time segment

07:45 - 08:00

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	0.77	0.55	1.00	1.40	1.45			N/A	N/A
C-AB	0.26	0.00	0.00	0.26	0.26			N/A	N/A

08:00 - 08:15

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	1.12	0.14	1.06	1.74	1.99			N/A	N/A
C-AB	0.34	0.00	0.00	0.34	0.34			N/A	N/A

08:15 - 08:30

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	1.97	0.03	0.31	2.83	9.77			N/A	N/A
C-AB	0.47	0.03	0.26	0.47	0.49			N/A	N/A

08:30 - 08:45

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	2.04	0.03	0.29	2.04	7.83			N/A	N/A
C-AB	0.47	0.03	0.30	1.36	2.04			N/A	N/A

08:45 - 09:00

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	1.21	0.05	0.56	2.80	4.15			N/A	N/A
C-AB	0.35	0.00	0.00	0.35	0.35			N/A	N/A

09:00 - 09:15

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	0.81	0.04	0.40	1.86	2.98			N/A	N/A
C-AB	0.27	0.00	0.00	0.27	0.27			N/A	N/A

2031 Base + Committed + Optional, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way		15.51	C

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D6	2031 Base + Committed + Optional	PM	ONE HOUR	16:45	18:15	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	✓	217	100.000
B		ONE HOUR	✓	354	100.000
C		ONE HOUR	✓	102	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A	B	C
From	A	0	201	16
	B	215	0	139
	C	10	92	0

Vehicle Mix

Heavy Vehicle Percentages

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

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max 95th percentile Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-AC	0.75	27.47	2.9	14.6	D	325	487
C-AB	0.18	7.63	0.2	0.9	A	86	129
C-A						8	12
A-B						184	277
A-C						15	22

Main Results for each time segment

16:45 - 17:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	267	67	536	0.497	263	0.0	1.0	13.006	B
C-AB	70	18	590	0.119	70	0.0	0.1	6.905	A
C-A	7	2			7				
A-B	151	38			151				
A-C	12	3			12				

17:00 - 17:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	318	80	529	0.602	316	1.0	1.4	16.784	C
C-AB	84	21	584	0.144	84	0.1	0.2	7.196	A
C-A	8	2			8				
A-B	181	45			181				
A-C	14	4			14				

17:15 - 17:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	390	97	519	0.751	385	1.4	2.7	25.824	D
C-AB	103	26	575	0.180	103	0.2	0.2	7.623	A
C-A	9	2			9				
A-B	221	55			221				
A-C	18	4			18				

17:30 - 17:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	390	97	519	0.751	389	2.7	2.9	27.471	D
C-AB	103	26	575	0.180	103	0.2	0.2	7.629	A
C-A	9	2			9				
A-B	221	55			221				
A-C	18	4			18				

17:45 - 18:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	318	80	529	0.602	323	2.9	1.6	17.944	C
C-AB	84	21	584	0.144	84	0.2	0.2	7.205	A
C-A	8	2			8				
A-B	181	45			181				
A-C	14	4			14				

18:00 - 18:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	267	67	536	0.498	269	1.6	1.0	13.600	B
C-AB	70	18	590	0.119	70	0.2	0.1	6.922	A
C-A	7	2			7				
A-B	151	38			151				
A-C	12	3			12				

Queue Variation Results for each time segment

16:45 - 17:00

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	0.96	0.55	1.00	1.40	1.45			N/A	N/A
C-AB	0.14	0.00	0.00	0.14	0.14			N/A	N/A

17:00 - 17:15

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	1.45	0.11	1.18	2.69	3.52			N/A	N/A
C-AB	0.17	0.00	0.00	0.17	0.17			N/A	N/A

17:15 - 17:30

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	2.72	0.03	0.34	5.96	14.60			N/A	N/A
C-AB	0.22	0.03	0.26	0.46	0.49			N/A	N/A

17:30 - 17:45

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	2.85	0.03	0.30	2.85	12.71			N/A	N/A
C-AB	0.22	0.03	0.27	0.49	0.94			N/A	N/A

17:45 - 18:00

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	1.58	0.05	0.46	4.09	6.59			N/A	N/A
C-AB	0.17	0.00	0.00	0.17	0.17			N/A	N/A

18:00 - 18:15

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	1.02	0.04	0.37	2.54	4.56			N/A	N/A
C-AB	0.14	0.00	0.00	0.14	0.14			N/A	N/A

2031 Base + Committed + Development, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way		15.33	C

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D7	2031 Base + Committed + Development	AM	ONE HOUR	07:45	09:15	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	✓	236	100.000
B		ONE HOUR	✓	313	100.000
C		ONE HOUR	✓	259	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A	B	C
From	A	0	233	3
	B	208	0	105
	C	19	240	0

Vehicle Mix

Heavy Vehicle Percentages

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

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max 95th percentile Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-AC	0.75	30.16	2.8	14.0	D	287	431
C-AB	0.48	11.89	0.9	3.2	B	227	341
C-A						10	16
A-B						214	321
A-C						3	4

Main Results for each time segment

07:45 - 08:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	236	59	496	0.475	232	0.0	0.9	13.485	B
C-AB	185	46	592	0.313	183	0.0	0.5	8.780	A
C-A	10	2			10				
A-B	175	44			175				
A-C	2	0.56			2				

08:00 - 08:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	281	70	482	0.584	280	0.9	1.3	17.639	C
C-AB	222	56	585	0.380	222	0.5	0.6	9.880	A
C-A	11	3			11				
A-B	209	52			209				
A-C	3	0.67			3				

08:15 - 08:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	345	86	462	0.745	340	1.3	2.6	28.147	D
C-AB	274	69	577	0.475	273	0.6	0.9	11.803	B
C-A	11	3			11				
A-B	257	64			257				
A-C	3	0.83			3				

08:30 - 08:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	345	86	462	0.746	344	2.6	2.8	30.157	D
C-AB	274	69	577	0.475	274	0.9	0.9	11.889	B
C-A	11	3			11				
A-B	257	64			257				
A-C	3	0.83			3				

08:45 - 09:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	281	70	481	0.585	287	2.8	1.5	18.954	C
C-AB	222	56	586	0.380	223	0.9	0.6	9.977	A
C-A	10	3			10				
A-B	209	52			209				
A-C	3	0.67			3				

09:00 - 09:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	236	59	495	0.476	238	1.5	0.9	14.107	B
C-AB	185	46	592	0.313	186	0.6	0.5	8.887	A
C-A	10	2			10				
A-B	175	44			175				
A-C	2	0.56			2				

Queue Variation Results for each time segment

07:45 - 08:00

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	0.88	0.55	1.00	1.40	1.45			N/A	N/A
C-AB	0.46	0.00	0.00	0.46	0.46			N/A	N/A

08:00 - 08:15

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	1.35	0.11	1.14	2.39	2.99			N/A	N/A
C-AB	0.61	0.55	1.00	1.40	1.45			N/A	N/A

08:15 - 08:30

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	2.62	0.03	0.35	5.95	14.01			N/A	N/A
C-AB	0.90	0.03	0.26	0.90	0.90			N/A	N/A

08:30 - 08:45

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	2.76	0.03	0.30	3.07	12.89			N/A	N/A
C-AB	0.91	0.03	0.28	0.91	3.24			N/A	N/A

08:45 - 09:00

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	1.47	0.05	0.46	3.79	6.04			N/A	N/A
C-AB	0.63	0.08	0.78	1.36	1.43			N/A	N/A

09:00 - 09:15

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	0.93	0.04	0.36	2.28	4.16			N/A	N/A
C-AB	0.47	0.04	0.41	1.24	1.37			N/A	N/A

2031 Base + Committed + Development, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way		26.43	D

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D8	2031 Base + Committed + Development	PM	ONE HOUR	16:45	18:15	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	✓	209	100.000
B		ONE HOUR	✓	414	100.000
C		ONE HOUR	✓	135	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A	B	C
From	A	0	193	16
	B	212	0	202
	C	10	125	0

Vehicle Mix

Heavy Vehicle Percentages

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

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max 95th percentile Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-AC	0.86	45.86	5.4	29.4	E	380	570
C-AB	0.24	8.24	0.3	1.4	A	117	175
C-A						7	11
A-B						177	266
A-C						15	22

Main Results for each time segment

16:45 - 17:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	312	78	546	0.571	307	0.0	1.3	14.729	B
C-AB	95	24	592	0.161	95	0.0	0.2	7.230	A
C-A	6	2			6				
A-B	145	36			145				
A-C	12	3			12				

17:00 - 17:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	372	93	538	0.691	369	1.3	2.1	20.822	C
C-AB	114	29	586	0.195	114	0.2	0.2	7.628	A
C-A	7	2			7				
A-B	174	43			174				
A-C	14	4			14				

17:15 - 17:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	456	114	528	0.864	445	2.1	4.9	38.865	E
C-AB	140	35	577	0.243	140	0.2	0.3	8.229	A
C-A	8	2			8				
A-B	212	53			212				
A-C	18	4			18				

17:30 - 17:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	456	114	528	0.864	454	4.9	5.4	45.864	E
C-AB	140	35	577	0.243	140	0.3	0.3	8.242	A
C-A	8	2			8				
A-B	212	53			212				
A-C	18	4			18				

17:45 - 18:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	372	93	538	0.691	384	5.4	2.4	24.909	C
C-AB	114	29	586	0.195	114	0.3	0.2	7.644	A
C-A	7	2			7				
A-B	174	43			174				
A-C	14	4			14				

18:00 - 18:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	312	78	546	0.571	316	2.4	1.4	15.900	C
C-AB	95	24	592	0.161	96	0.2	0.2	7.256	A
C-A	6	2			6				
A-B	145	36			145				
A-C	12	3			12				

Queue Variation Results for each time segment

16:45 - 17:00

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	1.28	0.55	1.00	1.40	1.45			N/A	N/A
C-AB	0.19	0.00	0.00	0.19	0.19			N/A	N/A

17:00 - 17:15

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	2.09	0.10	1.36	4.63	6.31			N/A	N/A
C-AB	0.24	0.00	0.00	0.24	0.24			N/A	N/A

17:15 - 17:30

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	4.88	0.05	0.63	13.97	23.60			N/A	N/A
C-AB	0.32	0.03	0.26	0.46	0.48			N/A	N/A

17:30 - 17:45

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	5.42	0.04	0.38	13.37	29.40			N/A	N/A
C-AB	0.32	0.03	0.31	1.13	1.45			N/A	N/A

17:45 - 18:00

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	2.40	0.04	0.42	6.58	11.80			N/A	N/A
C-AB	0.25	0.00	0.00	0.25	0.25			N/A	N/A

18:00 - 18:15

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	1.38	0.03	0.33	3.07	7.06			N/A	N/A
C-AB	0.20	0.00	0.00	0.20	0.20			N/A	N/A

2031 Base + Committed + Optional + Development, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way		16.54	C

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D9	2031 Base + Committed + Optional + Development	AM	ONE HOUR	07:45	09:15	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	✓	239	100.000
B		ONE HOUR	✓	321	100.000
C		ONE HOUR	✓	259	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A	B	C
From	A	0	236	3
	B	216	0	105
	C	19	240	0

Vehicle Mix

Heavy Vehicle Percentages

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

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max 95th percentile Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-AC	0.77	32.99	3.1	15.5	D	295	442
C-AB	0.48	11.92	0.9	3.2	B	227	341
C-A						10	16
A-B						217	325
A-C						3	4

Main Results for each time segment

07:45 - 08:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	242	60	494	0.489	238	0.0	0.9	13.868	B
C-AB	185	46	591	0.313	183	0.0	0.5	8.791	A
C-A	10	2			10				
A-B	178	44			178				
A-C	2	0.56			2				

08:00 - 08:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	289	72	480	0.601	287	0.9	1.4	18.419	C
C-AB	222	56	585	0.380	222	0.5	0.6	9.897	A
C-A	11	3			11				
A-B	212	53			212				
A-C	3	0.67			3				

08:15 - 08:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	353	88	460	0.768	348	1.4	2.9	30.374	D
C-AB	274	69	576	0.476	273	0.6	0.9	11.834	B
C-A	11	3			11				
A-B	260	65			260				
A-C	3	0.83			3				

08:30 - 08:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	353	88	460	0.768	353	2.9	3.1	32.993	D
C-AB	274	69	576	0.476	274	0.9	0.9	11.920	B
C-A	11	3			11				
A-B	260	65			260				
A-C	3	0.83			3				

08:45 - 09:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	289	72	479	0.602	295	3.1	1.6	20.062	C
C-AB	222	56	585	0.380	223	0.9	0.6	9.993	A
C-A	10	3			10				
A-B	212	53			212				
A-C	3	0.67			3				

09:00 - 09:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	242	60	493	0.490	244	1.6	1.0	14.576	B
C-AB	185	46	591	0.313	186	0.6	0.5	8.898	A
C-A	10	2			10				
A-B	178	44			178				
A-C	2	0.56			2				

Queue Variation Results for each time segment

07:45 - 08:00

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	0.93	0.55	1.00	1.40	1.45			N/A	N/A
C-AB	0.46	0.00	0.00	0.46	0.46			N/A	N/A

08:00 - 08:15

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	1.44	0.11	1.17	2.68	3.50			N/A	N/A
C-AB	0.61	0.55	1.00	1.40	1.45			N/A	N/A

08:15 - 08:30

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	2.91	0.04	0.36	7.20	15.49			N/A	N/A
C-AB	0.91	0.03	0.26	0.91	0.91			N/A	N/A

08:30 - 08:45

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	3.08	0.03	0.31	4.25	15.18			N/A	N/A
C-AB	0.92	0.03	0.28	0.92	3.25			N/A	N/A

08:45 - 09:00

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	1.59	0.04	0.44	4.17	6.85			N/A	N/A
C-AB	0.64	0.08	0.78	1.36	1.43			N/A	N/A

09:00 - 09:15

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	0.99	0.04	0.35	2.43	4.63			N/A	N/A
C-AB	0.47	0.04	0.41	1.24	1.37			N/A	N/A

2031 Base + Committed + Optional + Development, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way		27.60	D

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D10	2031 Base + Committed + Optional + Development	PM	ONE HOUR	16:45	18:15	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	✓	217	100.000
B		ONE HOUR	✓	417	100.000
C		ONE HOUR	✓	135	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A	B	C
From	A	0	201	16
	B	215	0	202
	C	10	125	0

Vehicle Mix

Heavy Vehicle Percentages

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

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max 95th percentile Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-AC	0.87	48.37	5.7	31.2	E	383	574
C-AB	0.24	8.28	0.3	1.5	A	117	175
C-A						7	11
A-B						184	277
A-C						15	22

Main Results for each time segment

16:45 - 17:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	314	78	545	0.576	309	0.0	1.3	14.929	B
C-AB	95	24	590	0.161	95	0.0	0.2	7.250	A
C-A	6	2			6				
A-B	151	38			151				
A-C	12	3			12				

17:00 - 17:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	375	94	537	0.698	371	1.3	2.2	21.286	C
C-AB	114	29	584	0.195	114	0.2	0.2	7.655	A
C-A	7	2			7				
A-B	181	45			181				
A-C	14	4			14				

17:15 - 17:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	459	115	526	0.873	447	2.2	5.1	40.441	E
C-AB	140	35	575	0.244	140	0.2	0.3	8.269	A
C-A	8	2			8				
A-B	221	55			221				
A-C	18	4			18				

17:30 - 17:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	459	115	526	0.873	457	5.1	5.7	48.367	E
C-AB	140	35	575	0.244	140	0.3	0.3	8.282	A
C-A	8	2			8				
A-B	221	55			221				
A-C	18	4			18				

17:45 - 18:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	375	94	537	0.698	388	5.7	2.5	25.902	D
C-AB	114	29	584	0.195	114	0.3	0.2	7.672	A
C-A	7	2			7				
A-B	181	45			181				
A-C	14	4			14				

18:00 - 18:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	314	78	545	0.576	318	2.5	1.4	16.175	C
C-AB	95	24	590	0.161	96	0.2	0.2	7.277	A
C-A	6	2			6				
A-B	151	38			151				
A-C	12	3			12				

Queue Variation Results for each time segment

16:45 - 17:00

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	1.31	0.55	1.00	1.40	1.45			N/A	N/A
C-AB	0.19	0.00	0.00	0.19	0.19			N/A	N/A

17:00 - 17:15

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	2.16	0.10	1.38	4.79	6.56			N/A	N/A
C-AB	0.24	0.00	0.00	0.24	0.24			N/A	N/A

17:15 - 17:30

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	5.13	0.05	0.84	14.73	24.34			N/A	N/A
C-AB	0.32	0.03	0.26	0.46	0.48			N/A	N/A

17:30 - 17:45

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	5.75	0.04	0.39	14.86	31.19			N/A	N/A
C-AB	0.33	0.03	0.31	1.14	1.45			N/A	N/A

17:45 - 18:00

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	2.49	0.04	0.42	6.81	12.31			N/A	N/A
C-AB	0.25	0.00	0.00	0.25	0.25			N/A	N/A

18:00 - 18:15

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	1.41	0.03	0.33	3.09	7.25			N/A	N/A
C-AB	0.20	0.00	0.00	0.20	0.20			N/A	N/A

Appendix K – Possible Main Road Traffic Calming Measures

Key:

- New Refuges
- Location of traffic calming measure

PRELIMINARY ISSUE

P01	PRELIMINARY FIRST ISSUE	09.04.2021	ASG	RH	ASG

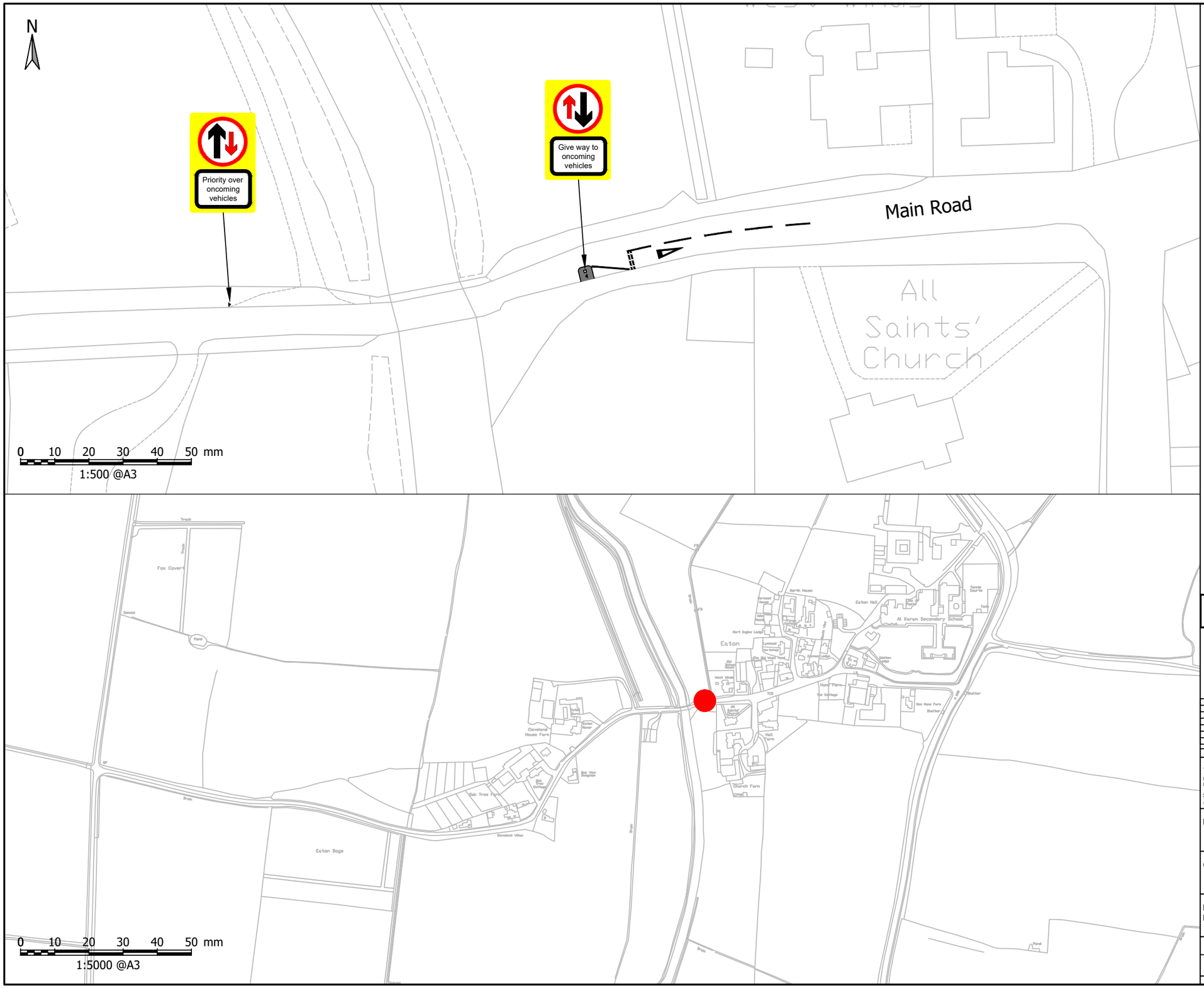
Tetra Tech Leicester
Executive Park, Avalon Way, Anstey,
Leicester, United Kingdom, LE7 7GR
Tel: +44 (0)11 6234 8000
www.tetratecheurope.com

Bassetlaw District Council

Ordsall Transport Assessment

Potential Traffic Calming Measures
Main Road, Eaton Village

B023665	ASG 9 April 2021	RH 9 April 2021	ASG 9 April 2021	1:1000	S2		
B023665	TTE	00	XX	SK	O	0007	P01



Key:

- New Refuges
- Location of possible half chicane traffic calming features

PRELIMINARY ISSUE

P01	PRELIMINARY FIRST ISSUE	09.04.2021	ASG	RH	ASG

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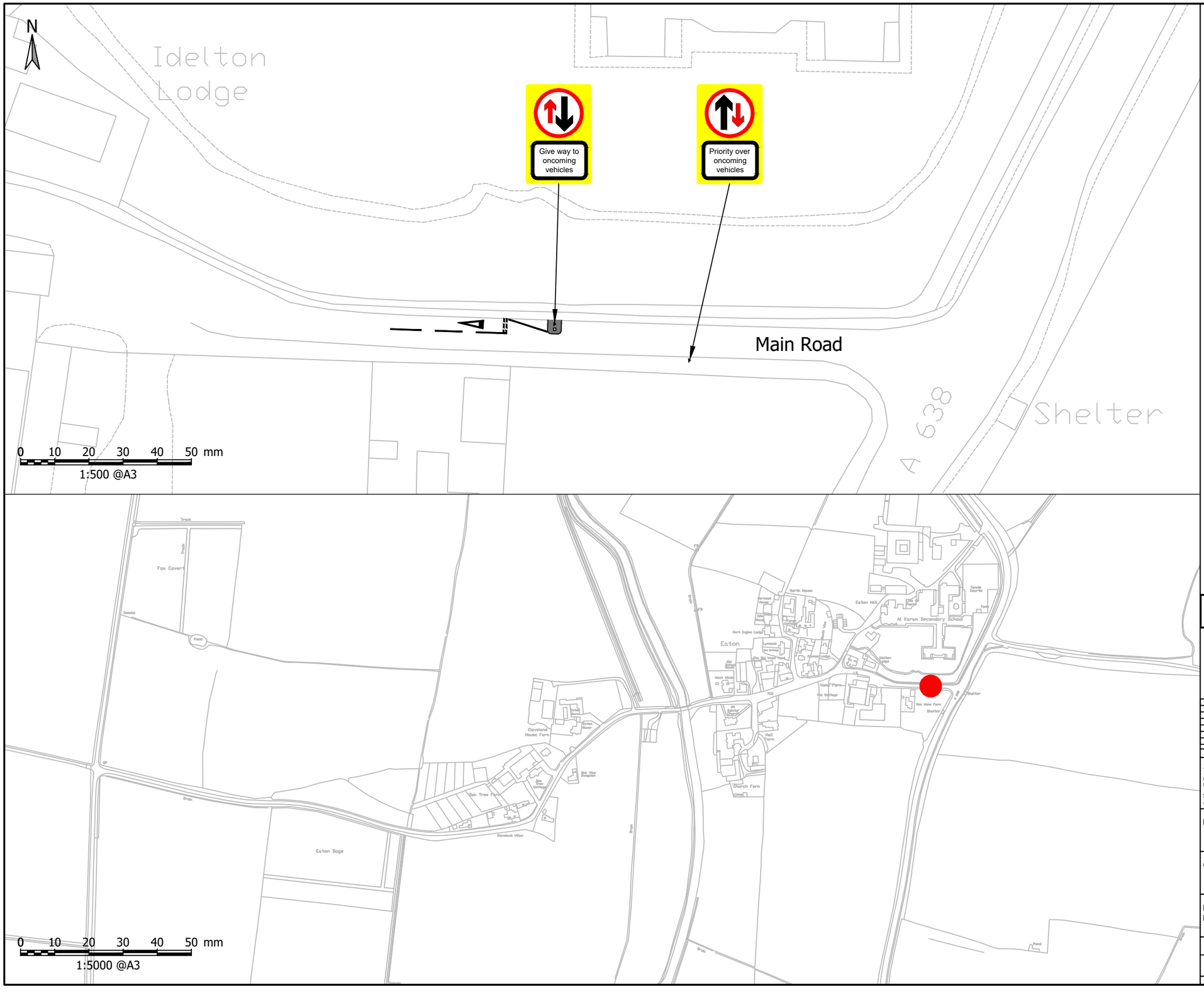
Main Road, Eaton Village

B023665	ASG 9 April 2021	RH 9 April 2021	ASG 9 April 2021	1:1000		S2
B023665	TTE	00	XX	SK	O	0008	P01



Key:

- New Refuges
- Location of possible half chicane traffic calming features

PRELIMINARY ISSUE

P01	PRELIMINARY FIRST ISSUE	09.04.2021	ASG	RH	ASG

Tetra Tech Leicester
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Tel: +44 (0)11 6234 8000
www.tetratecheurope.com

TETRA TECH

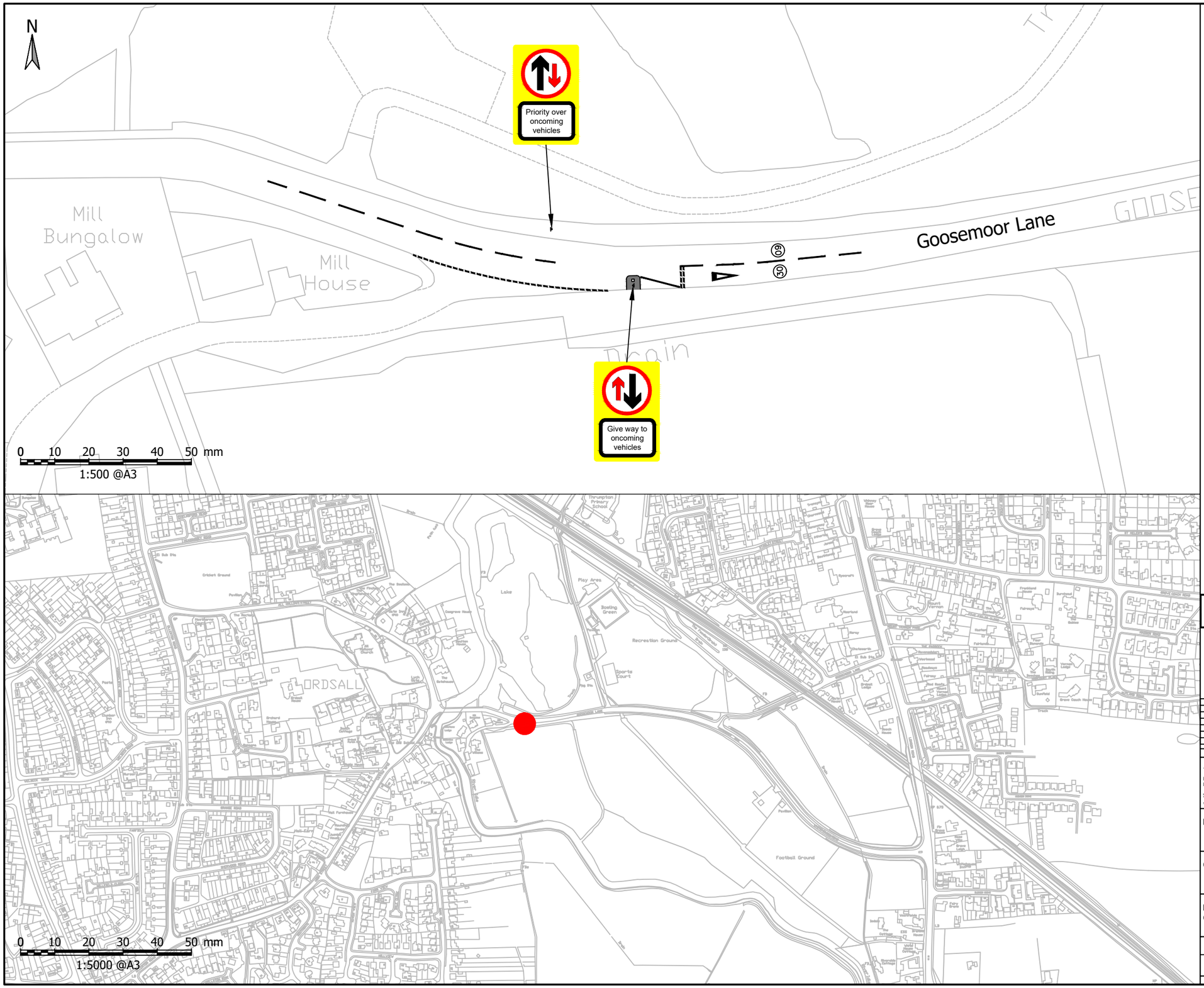
Bassetlaw District Council

Ordsall Transport Assessment

Potential Traffic Calming Measures
Main Road, Eaton Village

B023665	ASG 9 April 2021	RH 9 April 2021	ASG 9 April 2021	1:1000		S2

B023665	TTE	00	XX	SK	O	0009	P01



Key:

- New Refuges
- Location of possible half chicane traffic calming features

PRELIMINARY ISSUE

P01	PRELIMINARY FIRST ISSUE	09.04.2021	ASG	RH	ASG

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Tel: +44 (0)11 6234 8000
www.tetratecheurope.com

Bassetlaw District Council

Ordsall Transport Assessment

Potential Traffic Calming Measures
Goosemoor Lane, Ordsall

B023665	ASG 9 April 2021	RH 9 April 2021	ASG 9 April 2021			1:1000	S2
B023665	TTE	00	XX	SK	O	0010	P01