




**Wakefield Road, Athersley
Proposed Residential Development
Transport Assessment**

September 2017 (Initial Issue)

Prepared on behalf of
Harworth

Quality Management

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1. Introduction

1.1.1 This Transport Assessment (TA) has been undertaken by Optima to consider the highways and transportation issues raised by an outline planning application for residential development. The Site is located to the east of Wakefield Road, Athersley, Barnsley. The location of the Site is shown on Figures 1 and 2 for the strategic and local highway networks respectively. An extract of the Site in relation to the wider highway network is shown in Image 1.1.

1.1.2 The proposed development, which is also referred to as the Site within this report, comprises of 220 residential dwellings. Further details of the development proposals are provided in Chapter 3.

1.1.3 The Site is proposed to be allocated for residential purposes comprising of 246 dwellings in the draft Local Plan (site H42). The site allocation in the preceding Unitary Development Plan (UDP) is 'safeguarded land'. However, the UDP is now out of date, with the National Planning Policy Framework (NPPF) taking precedence, including the presumption in favour of sustainable development. As such Barnsley Council have advised that they are willing to positively consider applications proposing the development of unallocated sites which are sustainably located and in accordance with the principles of the emerging Plan.

1.1.4 This report sets out the transport issues relating to the proposed development and identifies what measures will be provided to accommodate the anticipated transport impacts of the scheme. The TA considers the sustainability of the Site, reviewing the provision for, and quality of, facilities and connections to and from the surrounding areas. It covers a variety of topics and the document structure is as follows:

- Chapter 2 – describes the Site and the existing transport conditions;
- Chapter 3 – defines the development proposals including the access strategy;
- Chapter 4 – describes the accessibility of the Site by non-car modes including accessibility to local facilities/services;
- Chapter 5 – sets out the trip generation and distribution methodologies applied in the assessments of the highway network;
- Chapter 6 – provides a commentary of the assessments that have been undertaken to determine the impact of the development on the highway network; and
- Chapter 7 – highlights the conclusions of the report.

1.2 PRE APPLICATION DISCUSSIONS

1.2.1 Prior to the preparation of this report a Trip Generation, Distribution and Scoping Statement was submitted to AECOM (consultant to Barnsley Council) on 26th July 2017. The intention of this information was to agree that the scope of the capacity assessments.

1.2.2 The comments prepared by AECOM are attached at Appendix A, throughout this report Optima have either made changes as suggested by AECOM or provided additional evidence that supports the methodologies applied in the original scoping note.

1.2.3 The comments received from AECOM are summarised below for ease of reference:

- *“Whilst we agree with the principle of deriving a trip rate based on local flows, we recommend that these be compared to trip rates derived within TRICS to ensure that they are representative and applicable”;*



- *“Optima Highways have estimated the likely distribution based on 2011 census Journey to Work data for the Middle Super Output Area 007. However the proposed development site lies on the boundary with Middle Super Output Area 010, and we propose that a distribution based on the average of both areas be conducted”;*
- *“Further information on base traffic flows and growth factors should be provided to confirm the validity of the assessments”;*
- *“Optima are not proposing to assess the Wakefield Road / Laithes Lane junction given their predicted level of impact, although this should then be compared against a TRICS based approach”;*
- *“Once the exact trip generation can be agreed upon, a decision on which junctions should be assessed can be made, as an assessment based upon TRICS will likely increase the impact of the development”, and*
- *“The two committed developments will be taken into account within the background traffic growth, which is considered reasonable in this instance.”*



2. Existing Site Conditions

2.1.1 This chapter describes the Site and considers the existing conditions on the surrounding highway network for a range of transport modes. It includes a review of traffic count information and accident data.

2.2 EXISTING SITE

2.2.1 The Site is located in Athersley which is approximately 2.7km north of Barnsley Town Centre. The location of the proposed Site is shown on Figures 1 and 2 in relation to the strategic and local highway networks. An extract of Figure 2 showing the proposed development in relation to the wider Athersley area is shown in Image 2.1.

Image 2.1 Extract of Local Site Location Plan



2.3 EXISTING LOCAL HIGHWAY NETWORK

2.3.1 Vehicular access is proposed to be taken via Wakefield Road (A61) which has an average carriageway width of 9m along the site frontage. Wakefield Road is subject to a 30mph speed limit.

2.3.2 To the south of the existing farm access the footway abutting the boundary exceeds 2.0m in width along the entire site frontage.



2.3.3 To the north of the existing farm access the footway fluctuates between 1.8m and 2.0m, in this location the footway is set behind a grass verge that segregates the footway from the carriageway. This verge is 1.2m at its narrowest point next to the existing access and flares gradually to reach a maximum width of 7.5m at the entry to the roundabout to the north of the site.

2.3.4 On Wakefield Road opposite the site frontage there is a footway of 1.1m, however, the crossing points and the pedestrian provision on the southern flank of Wakefield Road ensures that the main pedestrian desire lines are catered for within the wider footway provision to the west. It should also be noted that improvements to the pedestrian connectivity are proposed as part of the application – these are discussed further in Chapter 3 of this report.

2.3.5 Wakefield Road provides vehicular connection to the south to Barnsley Town Centre and to the north through the residential areas of Athersley and Staincross before continuing on to Wakefield which is approximately 14km north of the proposed development. Image 2.2 below shows Wakefield Road looking south from the location of the proposed access position.

Image 2.2 Wakefield Road – View looking South



2.3.6 To the south of the Site, Wakefield Road first connects to Carlton Road (east) before connecting to Smithies Lane (west). The traffic is managed along this corridor through these two junctions by linked traffic signals. Full details of the operation of these traffic signals have been provided to Optima by Siemens who manage this part of the highway network on behalf of Barnsley. The highway network at this location has been subject to detailed capacity assessment which is described in Chapter 6 of this report. The layout of these junctions are enclosed in Appendix I.

2.3.7 Carlton Road which connects to Wakefield Road also joins Rotherham Road to the east of Wakefield Road. It connects via a signalised cross roads arrangements. Siemens have provided the signal operations which has formed the basis of the capacity models completed in Chapter 6 of this Transport Assessment. The layout of this junction is enclosed in Appendix J.



2.3.8 The A633 Rotherham Road meets Wakefield Road (A61) to the north of the site in the form of a roundabout the layout of which is shown on Figure 10.

2.3.9 Rotherham Road provides a route to the eastern outskirts of Barnsley.

2.4 EXISTING PEDESTRIAN AND CYCLE FACILITIES

2.4.1 The nearest local amenities are located to the north of the proposed development in the vicinity of the Wakefield Road/Laithes Lane junction. At this location there is a small shopping centre which includes a post office, supermarket, health centre, cash machine and several schools.

2.4.2 Access by foot to these services is provided by appropriate footway widths and signalised crossing facilities.

2.4.3 Footpath Number 1 that is a defined public right of way routes along the western boundary of the proposed development as shown in the image below. Links to this are proposed as part of the development with full details provided in Chapter 3.

Image 2.3 Public Right of Way (Extract from BMBC website)



2.4.4 It has been identified that the existing pedestrian connectivity, whilst considered to be satisfactory at present, would benefit from being improved by an additional signalised crossing across Wakefield Road to the north of the roundabout with Rotherham Road. It should be noted that an additional crossing is not required to mitigate the impact of the proposed development, however the proposals do offer the opportunity to enhance the existing provision for the local community.

2.4.5 The nearest local cycle route running west to east is available along Laithes Lane and connects to B6132. Furthermore many of the local roads are lightly trafficked and facilitate access for pedestrians and cyclists alike into, and around the Barnsley Town Centre.

2.4.6 The enclosed Figure 4 shows the vast populous areas that can be reached within a comfortable cycle distance of 30 minutes.



2.5 EXISTING BUS SERVICES/FACILITIES

2.5.1 The nearest bus stops are located on Doncaster Road approximately 200m southeast from the centre of the Site. The bus stops are located at the midpoint between the junction of Wakefield Road (A61) /Rotherham Road (A633) and Wakefield Road (A61)/ Carlton Road – both have a pole and timetables. The southbound bus stop is equipped with shelter and seating.

2.5.2 Bus services 1, 11 and 193 operate along Wakefield Road. A summary of the service routing past the bus stops on Wakefield Road (bus stop references 37050537 Northbound and 37055298 Southbound) is provided in Table 2.1 and 2.2.

Table 2.1 Wakefield Road (A61) Bus Service Summary NB

Service	Route	Service Frequency (One Way)	Days of Operation
Stop Brunswick Close - Stop ID: 37050537			
1	Barnsley, Interchange - Staincross	6 per hour	Weekday
		4 per hour	Saturday
		2 per hour	Sunday
11	Barnsley, Interchange - Staincross	6 per hour	Weekday
		4 per hour	Saturday
		2 per hour	Sunday
193	Barnsley - Wakefield	7 Service During Day (7:00 -17)	Weekday
		7 Service During Day (7:00 -17)	Saturday
		No Service	Sunday
478	Shaw Lane – Smithies (School Day Only)	3 Services from 15:09 to 16:09	Weekday
		No Service	Saturday
		No Service	Sunday
	Total services	13	Weekday
		9	Saturday
		4	Sunday



Table 2.2 A61 Wakefield Road SB

Service	Route	Service Frequency (One Way)	Days of Operation
Stop Rotherham Road - Stop ID: 37055298			
1	Staincross – Barnsley, Interchange	6 per hour	Weekday
		4per hour	Saturday
		2 per hour	Sunday
11	Staincross – Barnsley, Interchange	6 per hour	Weekday
		4per hour	Saturday
		2 per hour	Sunday
193	Wakefield - Barnsley	7 Service During Day (7:00 -17)	Weekday
		7 Service During Day (7:00 -17)	Saturday
		No Service	Sunday
478	Smithies - Shaw Lane (School Day Only)	3 Services from 15:09 to 16:09	School Day Only
		No Service	Saturday
		No Service	Sunday
	Total services	13 per hour	Weekday
		9 per hour	Saturday
		4 per hour	Sunday

2.5.3 During the weekday the services on Wakefield Road combine to provide an overall hourly frequency of 13 buses in each direction i.e. 26 bus services per hour two-way. These services operate for the vast majority of the day. Furthermore, the services provide regular connections to Barnsley, Interchange and hence onwards regional and national travel by both bus and rail.

2.5.4 On a Saturday the services combine to provide an overall hourly frequency of 9 bus in each direction i.e. 18 bus services per hour two- way.

2.5.5 On a Sunday the services combine to provide an overall hourly frequency of 4 bus in each direction i.e. 8 bus services per hour two-way.

2.5.6 In addition to the services on Wakefield Road adjacent to the Site, a further frequent service to and from Barnsley Interchange is available some 650m south of the Site, near to Wakefield Road / Smithies Lane Junction. Table 2.3 indicates additional bus services frequency.

Table 2.3 Wakefield Road / Smithies Lane Bus Service Summary

Service	Route	Service Frequency	Days of Operation
12	Smithies Lane – Barnsley Interchange	4 per hour	Weekday
		3 per hour	Saturday
		2 per hour	Sunday
12	Smithies Lane – Athersley South	4 per hour	Weekday
		3 per hour	Saturday
		2 per hour	Sunday

2.5.7 These additional bus services provide regular connections to the interchange in Barnsley. Further connections to the rest of the region and beyond are available from Barnsley.



2.5.8 It is concluded, based on the timetable information contained above, coupled with the convenient locations of the bus stops that are served by the aforementioned services, that buses provide a convenient alternative to car travel. It should be noted that travel by bus will be promoted through the comprehensive Travel Plan that accompanies this Transport Assessment.

2.6 RAIL FACILITIES

2.6.1 Barnsley Rail Station is located approximately 2.5km to the South of the Site. The station provides connection to Leeds, Sheffield every 20 minutes in each direction i.e. 6 two way connections per hour

2.6.2 Following connection to Leeds, Wakefield and Sheffield onward travel to national destinations is available.

2.6.3 From the proposed development connection to the station can be achieved by a 30 minute walk, a 10 minute cycle ride or a by a short 7 minute bus ride.

2.6.4 The station benefits from seating, shelters, ATM, a help point, timetable information and ramp access. A car park next to the station provides free car park for rail users only which includes 76 spaces plus 8 disabled parking spaces. Motorcycle spaces and cycle parking also provided.

2.6.5 Based on the information above it is clear that train travel provides a quick and convenient alternative for commuters who are travelling beyond the local area and this will be promoted through the implementation of the Travel Plan that supports the application.



2.7 EXISTING TRAFFIC COUNTS

2.7.1 Fully classified turning counts and queue length surveys have been undertaken at seven key locations on the local highway network. A summary of the surveys undertaken is provided in Table 2.4.

Table 2.4 Summary of Traffic Surveys

Location	Type	Date Undertaken	Survey Periods
1. Wakefield Road/ Laithes Lane	Fully Classified Manual Turning Count and Queue Length	Thursday 22 nd June 2017	07:00-10:00 & 16:00-19:00
2. Wakefield Road/ Rotherham Road (A633)	Fully Classified Manual Turning Count and Queue Length	Thursday 22 nd June 2017	07:00-10:00 & 16:00-19:00
3. Rotherham Road/ Carlton Road	Fully Classified Manual Turning Count and Queue Length	Thursday 22 nd June 2017	07:00-10:00 & 16:00-19:00
4. Wakefield Road/ Carlton Road	Fully Classified Manual Turning Count and Queue Length	Thursday 22 nd June 2017	07:00-10:00 & 16:00-19:00
5. Wakefield Road/ Smithies Lane	Fully Classified Manual Turning Count and Queue Length	Thursday 22 nd June 2017	07:00-10:00 & 16:00-19:00
6. Wensley Road (West) / Medical Centre	Fully Classified Manual Turning Count and Queue Length	Thursday 22 nd June 2017	07:00-10:00 & 16:00-19:00
7. Langset Road / Medical Centre	Fully Classified Manual Turning Count and Queue Length	Thursday 22 nd June 2017	07:00-10:00 & 16:00-19:00

2.7.2 In addition to the turning counts referred to above a detailed traffic survey was undertaken of the nearby New Lodge housing estate. The purpose of this survey was establish a bespoke residential trip rate to enable Optima to predict the volume of traffic that will be generated by the proposed development. Full details of this survey and methodology are contained in Chapter 5 if this report.

2.7.3 The traffic count surveys have identified the existing weekday morning and evening peak hour periods as follows:

- Weekday AM Peak – 07:45 to 08:45; and
- Weekday PM Peak – 17:00 to 18:00.

2.7.4 The surveyed AM and PM existing traffic flows are shown on Figures 10 and 11.



2.8 EXISTING ACCIDENT DATA ANALYSIS

2.8.1 Personal injury accident data has been obtained for the highway network in the vicinity of the Site for the most recently available five year period between 1st January 2011 and 31st December 2015. The study area includes Wakefield Road from its junctions with Smithies Lane to the south to its junction with Laithes (B6132) to the north and additional parallel Rotherham Road. The accident data, including a location plan, obtained from BMBC. It should be noted that Optima requested the accident data for the most recently available 5 year period. Optima were advised that the 5 year data provided is the most recent validated full five year block of information. The full accident data provided is attached at Appendix B.

2.8.2 For the five year period, there have been a total of 70 personal injury accidents within the study area – 13 of which were classified as serious, the remainder being slight in nature. No fatal accidents have been recorded within the study area.

2.8.3 A comprehensive analysis of the accident data can be found below in Tables 2.5 – 2.10.

Table 2.5 Personal Injury Accident Analysis – Severity

Severity	No of accidents	Percentage
Slight	57	81.5%
Serious	13	18.5%
Fatal	0	0%
Total	70	100%

2.8.4 Analysis on the severity of the accidents shows that up to 82% of the accident were result in slight injuries and 18% were serious. It is noted, there was no fatal accident in the past 5 years in the study area.

Table 2.6 Personal Injury Accident Analysis – Severity by year

Severity	2011	2012	2013	2014	2015	Total
Slight	12	11	6	17	11	57
Serious	2	1	3	5	2	13
Fatal	0	0	0	0	0	0
Total	14	12	9	22	13	70

Table 2.7 Personal Injury Accident Analysis – Lighting conditions

Lighting	No of accidents	Percentage
Dark	22	32%
Light	48	68%

Table 2.8 Personal Injury Accident Analysis – Road Surface

Surface	No of accidents	Percentage
Wet	15	24%
Dry	53	76%



Table 2.9 Personal Injury Accident Analysis – Vulnerable Road Users

VRU	No of accidents	Percentage
Pedestrian	16	23%
Cyclist	7	10%

Table 2.10 Personal Injury Accident Analysis – Causation

Year/Severity	2011		2012		2013		2014		2015		Total
	SL	SE	SL	SE	SL	SE	SL	SE	SL	SE	
Failed to look properly	6	0	5	0	3	1	14	2	5	1	37
Failed to judge vehicles path	4	1	1	0	2	1	8	1	2	1	21
Exceeding Speed limit	1	0	0	0	0	0	0	1	0	1	3
Careless/Reckless/In a hurry	2	0	0	0	1	0	3	1	1	0	8
Loss of control	1	0	1	0	0	0	0	0	2	0	4
Slippery Road	1	0	0	0	3	0	0	0	0	0	4
Impaired by alcohol	1	0	0	0	0	0	0	0	0	0	1
Poor turn or manoeuvre	0	0	0	1	0	0	0	1	0	0	2
Sudden braking	0	0	0	0	0	0	0	0	3	0	3
Driver error	1	0	0	0	0	0	1	0	1	0	3
Total	17	1	7	1	9	2	26	6	14	3	86

2.8.5 The following conclusions can be made:

- Total of 70 accidents over 5 years;
- Average of 14 accidents per year;
- 57 slight accidents (81.5%);
- 13 serious accident (18.5%);
- No fatal accidents recorded within the study area;
- No accidents have been recorded adjacent to the proposed Site access; and
- No accident trends have been identified.

2.8.6 Whilst any accident is regrettable, no accident trends or significant clusters away from junctions have been identified within the study area over a 5 year period. Although accidents have been recorded at the Wakefield Road/A61, the geometrical layout of this junction is not considered to have been a significant factor. Furthermore less than two accidents a year have occurred at this junction which is not considered high for a junction of this type, accommodating the traffic on an arterial route into a major town. Additionally there have been accidents at this junction involving vulnerable users.

2.8.7 The low incidence of accidents over a five year period combined with a number of causal factors and a variety of locations within the study area, lead to the conclusion that there are no specific concerns relating to either existing or future highway safety.



3. Development Proposals and Access Strategy

3.1.1 This section of the report provides details of the development scheme including the proposed access for vehicles, pedestrians and cyclists. As the scheme is an outline application, the on-site details are indicative only but demonstrate deliverability and adherence to local and national design guidance.

3.1.2 The proposed development is a residential scheme comprising up to 220 private dwellings along with associated parking, public realm area and infrastructure works.

3.1.3 The development proposals and an indicative scheme layout are shown on the architect's indicative layout enclosed at Appendix C.

3.1.4 The internal layout will be suitable for adoption by Barnsley Council.

3.1.5 The layout of the scheme embraces the design principles of Manual for Streets by prioritising pedestrian/cycle movements, creating a sense of place as well as acknowledging and preserving the character of Athersley.

3.2 PEDESTRIAN / CYCLE ACCESS

3.2.1 There are numerous options to gain access into the proposed development Site by foot as shown on the Architects drawing contained in Appendix C and also the pedestrian accessibility plan (Figure 3).

3.2.2 Three connections to PRow Footpath No 1 are shown through the western boundary, two pedestrian/cycle connections are shown through the northern boundary and in addition to the footways on the Site access an additional connection is provided at the southern end of the eastern boundary.

3.2.3 The masterplan has been designed in such a way that all of the properties can be directly accessed by foot/cycle thereby encouraging walking/cycling for short journeys. It has already been established in previous chapters that there are numerous local facilities in the local area that are all within the recommended walking distance (see Chapter 4), whilst additional services are available including those in Barnsley Town Centre.

3.2.4 The proposed development will not be vehicle dominated, and this principle would be taken forward for any future reserved matters application. There are numerous shared pedestrian/cycle/vehicle areas that would be delineated by varying surface treatments. This form of delineation along with the proposed road widths will reduce vehicular speeds thereby greatly reducing the risk of conflict between cars and vulnerable users.

3.2.5 In addition, the proposed internal layout will ensure that a design speed of 20mph is self-enforcing and this will create a sense of ownership to pedestrians and cyclists and create more cautious driving.

3.2.6 Finally, a major improvement is shown in the form of a signalised crossing on Wakefield Road to the north of the roundabout with Rotherham Road. This provision was presented at the public consultation event as was well received by members of the public that attended the event.

3.2.7 It is considered that provision of a signalised crossing will help promote trips on foot particularly to the schools and the local services. It is important to recognise that the proposed improvements will enhance journeys by foot for residents of the proposed development but also the existing residents of the area.

3.2.8 The proposed pelican crossing is shown on the drawing attached at Appendix D.



3.3 VEHICULAR ACCESS

3.3.1 Vehicle access to the proposed Site is proposed via a new priority junction on to Wakefield Road. The location of the proposed junction is shown on Drawing No 17053/GA/01 Rev A contained in Appendix D.

3.3.2 It should be noted through the pre-application discussions no reservations regarding the principle of a ghost island priority junction have been raised

3.3.3 The Site access is proposed in the form of a 3 arm ghost island priority junction with Wakefield Road, the existing dimensions of which are sufficient to accommodate a junction that conforms to the standards set out in Design Manual for Road and Bridges (DMRB) TD42/95, details of which are shown on the drawing attached at Appendix D and summarised below:

- 3.0m wide right turn lane;
- 3.1m wide through lanes;
- Hatch taper to existing centre line provided at 1 in 20.

3.3.4 The proposed minor arm of the new ghost island junction that will form the site access has been designed to the following standards:

- 6m radii;
- 5.5m carriageway width;
- 2.0m footways to both flanks;
- 2.4 x 40.0m visibility splays.

3.3.5 In addition to the site access junction arrangements set out above it is also proposed to provide additional improvements to the existing users of the highway network.

3.3.6 It is proposed as part of the development S278 works to provide an additional pedestrian refuge to facilitate the movement of pedestrians between the western flank of Wakefield Road and the bus stop on the opposite side of the road. The location of the pedestrian refuge is shown on the attached 17053/GA/01 Rev A.

3.3.7 To ensure that wheelchairs and pedestrians (especially those with push chairs) can safely cross it is also proposed to make some amendments to the bus layby. The bus layby is proposed to be reduced in depth so that it is half width. This has the benefit of providing a widened area for people to cross to when moving west to east across Wakefield Road. A further benefit is the improvement to timetable reliability, the provision of a half layby will make it easier for the bus to re-enter the carriageway as vehicles are more likely to give way.

3.3.8 The drawing attached at Appendix D shows that a maximum legal heavy goods vehicle can safely pass the pedestrian refuge and bus stop when a bus is waiting in the layby.

3.3.9 The existing speed limit of Wakefield Road in the vicinity of the proposed site access is 30mph and therefore visibility splays have been provided at 40.0m in accordance with Manual for Street and the South Yorkshire Residential Design Guide

3.3.10 Forward visibility on both approaches has been checked both vertically and horizontally and complies with standard.



3.3.11 The proposed site access can be delivered in either the developers land or within the adopted highway.

3.4 PARKING

3.4.1 Parking on site will accord with the BC Supplementary Planning Document on Parking (March 2012) with one space provided for 1 and 2 bedroom dwellings and 2 spaces provided for 3+ bedroom dwellings. Parking for visitors can be safely accommodated either on individual driveways, dedicated visitor bays or on-street.

3.4.2 The proposed provision of spaces on and off curtilage will ensure that the demand for parking on Site will not affect the local highway network operation or safety.

3.5 SERVICING

3.5.1 The internal residential layout has been designed to ensure that the servicing requirements of the development can be comfortably accommodated. Fire tenders are also able to get within 45.0m of the ground floor of all dwellings included as specified as a requirement in Section 6.7 of MfS.



4. Site Accessibility and Measures to Influence Travel Behaviour

4.1.1 This chapter describes the accessibility of the Site by non-car modes.

4.2 ACCESSIBILITY BY FOOT

4.2.1 As described in the previous chapter the measures proposed which will positively influence trips by foot include:

- Several boundary connections with the existing highway network to facilitate trips in all directions from (and through) the Site;
- Pedestrian refuges and half layby at bus stop to improve;
- A new pelican crossing to be provided across Wakefield Road; and
- Numerous internal links and pedestrian routes;

4.2.2 It should be noted that the above measures will not only benefit new residents of the development Site but also existing residents living on surrounding estates.

4.2.3 The residential design guide “Manual for Streets” (MfS) advises that *“walkable neighbourhoods are typically characterised by having a range of facilities within ten minutes (up to about 800m) walking distance of residential areas...”* (ref para 4.4.1). However, this is not regarded as an upper limit in MfS and reference is also made to walking offering *“the greatest potential to replace short car trips, particularly those under 2km”*. The acceptability of walking trips up to 2km (an approximate 25 minute walk time) is also supported in the IHT document “Providing for Journeys on Foot”.



4.2.4 Using GIS Network Analyst software typical walk times (up to 25 mins) to specific local facilities situated in close proximity to the proposed Site are shown on Figure 3, an extract of the Pedestrian Accessibility Plan is shown in Image 4.1.

Image 4.1 Extract of Pedestrian Accessibility Plan



4.2.5 This figure demonstrates that:

- The nearest primary school (Athersley South Primary School) is within approximately less than 5 minute walk distance of the centre of the Site;
- The nearest secondary school (Holy Trinity on Carlton Road) is approximately a 15 minute walk distance;
- Athersley North Local Centre can be reached within a 5 minute walk of the Site where numerous shops/facilities can be found including food retail, health centre, pharmacist, cash points, florists, library, pubs, banks, takeaways and barbers. In addition there is a post office, local stores and churches. As well as providing convenient services to local residents the majority of these facilities also provide accessible employment opportunities; and
- There are also a number of other employment/businesses located close to the south of the Site within approximately a 5 minute. Furthermore, Carlton Industrial Estate is within approximately 25-30 minute walk to the east of the Site.

4.2.6 It is therefore concluded that the proposed Site will provide excellent accessibility by foot to a wide range of services and facilities – all within a 5 to 25 minute walk.

4.2.7 Furthermore the Travel Plan will have a positive influence on the sustainable travel choices made by residents of the development Site.



4.3 ACCESSIBILITY BY CYCLE

4.3.1 As described in the previous chapter the measures proposed which will positively influence cycle trips include:

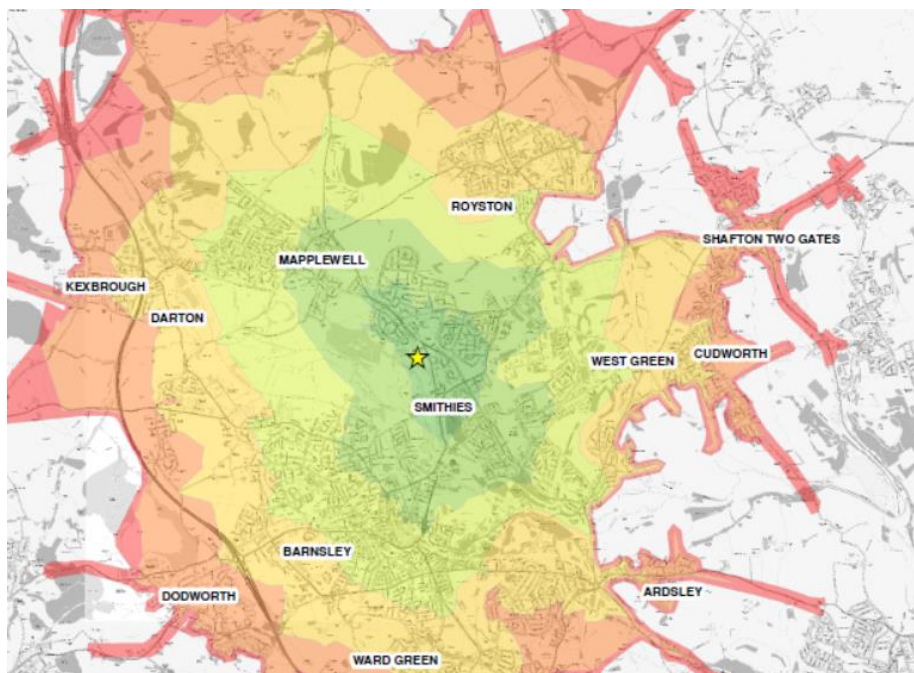
- Several boundary connections to facilitate trips in all directions from the Site which would provide a more convenient/attractive route to the Train Station, shops and facilities; and
- Numerous internal links and cycle routes.

4.3.2 It should be noted that all of the above measures will not only benefit new residents of the development Site but also existing residents living on surrounding estates.

4.3.3 Laithes Lane is classified as traffic free cycle routes on Barnsley Council’s Cycle Map and connect the Wakefield Road to Carlton and Carlton Industrial Estates.

4.3.4 Using GIS Network Analyst software typical walk times (up to 25 mins) to specific local facilities situated in close proximity to the proposed Site are shown on Figure 4. An extract of the cycle accessibility plan is shown in Image 4.2.

Image 4.2 Extract of Cycle Accessibility Plan



4.3.5 An acceptable and comfortable distance for general cycling trips is considered to be up to 5 kilometres as referred to in Local Transport Note 2/08 (published by the DfT). However, the same guidance also refers to commuting cycle trips up to 8km:

- All of the numerous shops and facilities within Athersley North, Smithies local centre including schools, healthcare and food stores can be reached within a 5 minute cycle of the Site;
- Barnsley town centre and its associated facilities is within a 15 minute cycle journey; and
- Carlton Industrial Estate is within a 5 minute cycle time where numerous additional employment opportunities are available.



4.3.6 It is therefore concluded that the proposed Site will provide excellent accessibility by cycle to a vast range of local services and facilities within a ten minute cycle ride as well as significant employment opportunities beyond the immediate local area including Carlton Industrial Estate.

4.3.7 Furthermore the Travel Plan will have a positive influence on the sustainable travel choices made by residents of the development Site.

4.4 ACCESSIBILITY BY BUS

4.4.1 The entire development Site can be reached within a 400m walk distance (which equates to an approximate 5 minute journey time) of the bus stops along Wakefield Road.

4.4.2 Typical walk times from the nearest bus stops to and through the proposed Site are as follows:

- The east boundary of the Site is within an approximate 100m distance of the Brunswick Close bus stops;
- The centre of the Site is within 300m distance from the existing Brunswick Close bus stops, which equates to a less than 5 minute walk; and
- The vast majority of the Site is within a 450m walk distance of a bus stop.

4.4.3 Indicative journey times from the Brunswick Close bus stops, (taken from timetable information) to the following destinations are as follows:

- Barnsley Interchange/Barnsley Town Centre – within a 7 minute journey time on average; and
- Staincross – just under a 4 minute journey time on average.

4.4.4 Therefore a regular bus service from the Wakefield Road stops will provide residents with access to interchanges in Barnsley as well as number of town and villages. Both of the above principle destinations (as well as others) provides accessibility to significant further employment opportunities beyond Athersley and the immediate local area.

4.4.5 It is therefore concluded that the proposed Site will provide accessibility by bus to a range of local services and facilities as well as to wider employment opportunities.

4.4.6 Furthermore the Travel Plan will have a positive influence on the sustainable travel choices made by residents of the development Site.

4.5 ACCESSIBILITY BY RAIL

4.5.1 The nearest Train Station in Barnsley is located approximately 2.5km to the South of the Site which is an approximate 30 minute walk or a 10 minute cycle.

4.5.2 The station provides connection to Leeds, Sheffield every 20 minutes. Wakefield Kirkgate is an approximate 15 minute journey time from Barnsley Station and the onward journey time to Leeds is a further 21 minutes. Additional hourly services are provided to Nottingham every hour.

4.5.3 Indicative journey times from Barnsley rail station, (taken from timetable information) to the following destinations are as follows:

- Wakefield Centre – a 15 minute journey time on average;
- Leeds City Centre – an approximate 36 minute journey time; and



- Sheffield City Centre – an approximate 28 minute journey time.

4.5.4 The station at Wakefield provides frequent onward connections to Manchester, Leeds, Sheffield, London and Edinburgh amongst other destinations.

4.5.5 It is therefore concluded that the proposed Site will provide accessibility by rail to a vast range of services, facilities and employment opportunities.

4.5.6 Furthermore the Travel Plan will have a positive influence on the sustainable travel choices made by residents of the development Site.

4.6 TRAVEL PLAN

4.6.1 In line with both local and national guidance a Travel Plan (TP) has been produced which includes a package of measures tailored to the needs of the Site aimed at promoting greener, cleaner travel choices and reducing the reliance on the car. The plan involves the development of a set of mechanisms, initiatives and targets that together can enable a development to reduce the impact of travel and transport on the environment, whilst also achieving a number of other benefits for residents i.e. health and financial.

4.7 ACCESSIBILITY SUMMARY

4.7.1 It is concluded that the proposed development Site provides good accessibility by foot, cycle and public transport and as such is in a sustainable location.



5. Trip Generations and Distributions

5.1 INTRODUCTION

5.1.1 This chapter sets out the trip generations and distribution methodologies associated with the proposed development Site.

5.1.2 Prior to the preparation of this report a Trip Generation, Distribution and Scoping Statement was submitted to AECOM (consultant to Barnsley Council) on 26th July 2017. The intention of this information was to agree that the scope of the capacity assessments.

5.1.3 The comments prepared by AECOM are attached at Appendix A, throughout this report Optima have either made changes as suggested by AECOM or provided additional evidence that supports the methodologies applied in the original scoping note.

5.1.4 The comments received from AECOM are summarised below for ease of reference:

- *“Whilst we agree with the principle of deriving a trip rate based on local flows, we recommend that these be compared to trip rates derived within TRICS to ensure that they are representative and applicable”;*
- *“Optima Highways have estimated the likely distribution based on 2011 census Journey to Work data for the Middle Super Output Area 007. However the proposed development site lies on the boundary with Middle Super Output Area 010, and we propose that a distribution based on the average of both areas be conducted”;*
- *“Further information on base traffic flows and growth factors should be provided to confirm the validity of the assessments”;*
- *“Optima are not proposing to assess the Wakefield Road / Laithes Lane junction given their predicted level of impact, although this should then be compared against a TRICS based approach”;*
- *“Once the exact trip generation can be agreed upon, a decision on which junctions should be assessed can be made, as an assessment based upon TRICS will likely increase the impact of the development”, and*
- *“The two committed developments will be taken into account within the background traffic growth, which is considered reasonable in this instance.”*

5.2 VEHICULAR TRIP GENERATIONS

5.2.1 To determine a representative and appropriate residential trip rate, a survey has been undertaken of the adjacent New Lodge housing estate to the north of the proposed development as shown on Figure 5. The survey was undertaken for a 7 days commencing 17th June 2017.

5.2.2 It should be noted that in order to ensure that the trip rate calculation is robust only the Tuesday, Wednesday and Thursday count information has been included.

5.2.3 The raw survey data is included at Appendix E. The spreadsheet includes the calculation that has been undertaken to arrive at the 3 day average flow from the southern and northern access points.

5.2.4 The automatic traffic counts included trips that were visiting the medical centre, however because the number of vehicles entering the medical centre are considered low they have not been deducted from the trip rate calculations further increasing the robustness.

5.2.5 When calculating trip rates in this manner it is necessary to ensure that the dwelling type of the surveyed houses are representative of those that are proposed.

5.2.6 Table 5.1 below shows the total number of houses and the type in the New Lodge estate.

Table 5.1 New Lodge Estate Schedule of House Types

Detached	Semi-detached	Bungalow	Terraced	Flat	Total
3	479	28	200	85	795

5.2.7 As it is unlikely that flats and bungalows will form a significant proportion of the proposed development. This, coupled with the fact, these dwellings are known to generate less peak hour traffic it has been decided to remove the bungalows and flats from the trip rate calculation. This results in a total number of units being used in the trip rate calculation being 682. Omitting the bungalows and flats represents an extremely robust calculation.

5.2.8 A summary of the total traffic arriving and departing New Lodge estate is shown in Table 5.2 below.

Table 5.2 Surveyed vehicles entering/exiting New Lodge estate

Time Period	Traffic Movements (Northern and Southern Access Combined)		
	Arrivals*	Departures*	Total*
AM PEAK	121	147	268
PM PEAK	177	123	299

*3 day average.

5.2.9 In order to calculate the trip rate per dwelling the surveyed trip generation is divided by 682 to calculate a bespoke local trip rate as shown in the table below.

Table 5.3 Bespoke New Lodge trip rate

Time Period	Bespoke Residential Vehicular Trip Rate		
	Arrivals	Departures	Total
AM PEAK	0.177	0.215	0.392
PM PEAK	0.259	0.180	0.439

5.2.10 The total vehicular trip rates shown above have then been multiplied by 220 (proposed maximum capacity of the Site) to calculate the total vehicular trip generations as shown in the table below for the AM and PM peaks respectively.

Table 5.4 Proposed AM & PM Vehicular Weekday Traffic Generation – 220 dwellings

Time Period	220 dwellings Traffic Generation		
	Arrivals	Departures	Total
AM PEAK	39	47	86
PM PEAK	57	40	97

5.2.11 It should be recognised that the trip rates used to predict the impact of the proposed development are considered robust given that they have not been discounted to account for the mode shift that would be delivered through the implementation of a Travel Plan as part of any planning permission that may be granted in the future.

5.2.12 Furthermore the trip rates will include vehicular journeys to schools, and given their proximity, couple with the new signalised crossing point, it is considered that a significant proportion of school trips will occur on foot.

5.3 TRIP GENERATION SENSITIVITY ASSESSMENT BASED ON TRICS

5.3.1 In AECOM's response to the scoping information they suggested that a TRICS based validation exercise be undertaken to ensure that the trip rates calculated using the bespoke methodology described above are representative.

5.3.2 Optima do not agree that this exercise is necessary and that bespoke information should always be used. The bespoke information has been calculated using an average of three days' surveys and therefore the sample size has been increased. Therefore Optima conclude that the bespoke trip rates are more representative than an average of surveys taken from a national database. Notwithstanding this Optima have undertaken a sensitivity test based on TRICS as requested.

5.3.3 The TRICS 7.3.3 online database has been interrogated for average trip rate. The time periods selected are the weekday morning (08:00-09:00) and evening (17:00-18:00) peak hour periods. Survey sites within the database have been chosen using the following parameters:

- Land use: Residential/Houses Privately Owned;
- Calculation options: Vehicular trip rates selected;
- Regions: Greater London and Irish sites excluded;
- Trip Rate Parameters: Number of Units above 50;
- Date range: 1st January 2011 to 28th September 2015 (latest six years);
- Days included: Monday to Friday;
- Location Type: Suburban and Edge of Town locations;

5.3.4 The TRICS outputs are attached for information. The resulting average weekday peak hour vehicular trip rates are shown in the table below:

Table 5.5 Average TRICS Vehicular Trip Rates – Residential Dwellings

Time Period	Total Vehicular Trip Rates (per dwelling)		
	Arrivals	Departures	Total
AM Peak 08:00-09:00	0.099	0.345	0.444
PM Peak 17:00-18:00	0.298	0.156	0.454

5.3.5 Utilising the average trip rates calculated from TRICS results in the total generations contained in the table below.

Table 5.6 Proposed New Farnley Site Trip Generations as included in the TA.

Time Period	Total Vehicular Trip Generations (220 dwellings)		
	Arrivals	Departures	Total
AM Peak 08:00-09:00	22	76	98
PM Peak 17:00-18:00	66	34	100

5.3.6 If the trip rates calculated using TRICS were used to predict the total development traffic it would result in an additional 12 two way trips in the AM peak hour period and 3 two way trips in the PM peak hour.

5.3.7 The small variation in trips gives comfort that the bespoke trip rate validates appropriately and therefore it is not proposed to use the TRICS based trip rates for the capacity assessments in subsequent sections of this report as it will not alter the conclusions of the report.

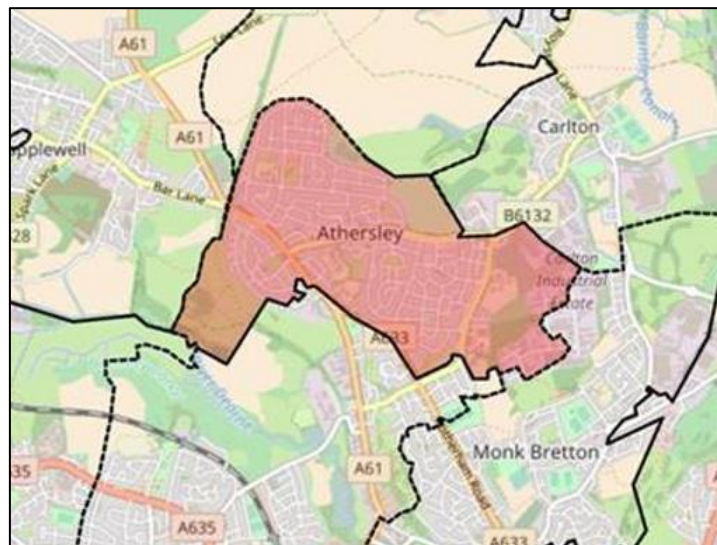
5.4 TRIP DISTRIBUTION AND ASSIGNMENT

5.4.1 The traffic distribution of the proposed development has been assessed based on local travel patterns contained within the 2011 census data, this information has been obtained from www.nomisweb.co.uk. The raw data collected covers the whole of the United Kingdom and as such it has not been appended to this report.

5.4.2 Application of the journey to work data from the census is considered to be an appropriate base for determining the peak hour distribution, on the basis that the majority of residential morning and evening peak hour trips will be journeys to and from work.

5.4.3 The proposed development is located within the Barnsley 007 Middle Layer Super Output Area (MSOA) as shown below.

Image 5.1 Middle Layer Super Output Area 007



5.4.4 The travel to work data for all of the residents who travel to work by car has been summarised on the spreadsheet attached at Appendix F. The travel to work by car information (raw data) that was originally interrogated included destinations across the United Kingdom i.e. the raw data had multiple destinations that had no recording of trips between Barnsley 007 and that particular destination. Therefore the Spreadsheet has been amended to only include wards in the UK that served as a journey to work destination for residents of Barnsley 007 as recorded in the 2011 Census. The exercise has been done simply to reduce the number of rows in the spreadsheet to include data that will influence the distributions.

5.4.5 The origins/destinations for the resident population living within the existing super output area have been interrogated in order to establish the geographic distribution of all journey to work by car driver trips. It is then necessary to assign the distributions to the surrounding local highway network utilising one of the following routes.

- Smithies Lane;
- Carlton Road;
- Rotherham Road
- Wakefield Road (north);
- Wakefield Road (south);
- Laithes Lane;
- Chatsworth Road; and
- Local Traffic i.e. does not exit the network on any of the routes listed above.

5.4.6 The assignment process as detailed on the Spreadsheet contained in Appendix F and produces the proposed vehicular distributions summarised in the table below. These distributions are to be applied to both the AM and PM peak hour development generated trips.

Table 5.7 Proposed Residential Vehicular Distribution - Route Assignment Summary

Smithies Lane	Carlton Road	Rotherham Road	Wakefield Road (n)	Wakefield Road (s)	Laithes Lane	Chatsworth Road	Local Traffic	Total
4.33%	4.17%	22.94%	27.53%	30.27%	9.44%	1.31%	0.00%	100%

5.4.7 The distribution of trips as shown in the table above can then be assigned onto the local highway network and a visual representation is shown on Figure 12.

5.4.8 To illustrate the specific distribution and routing of traffic to and from the development site, the values shown on Figure 12 have been applied to the trip generations in Tables 5.6 to produce the following residential trip generation diagrams:

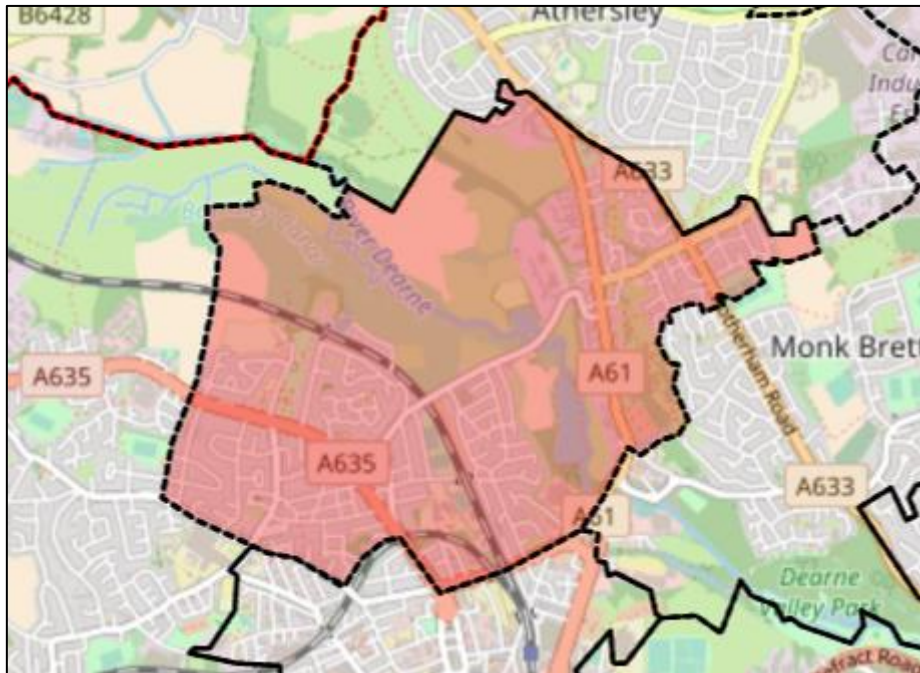
- Figure 13 - Proposed Weekday AM Peak Development Flows
- Figure 14 - Proposed Weekday PM Peak Development Flows

5.4.9 The distributions as detailed above validate well against existing traffic movements at the three junctions counted and as such the proposed routing of traffic through the network is deemed to represent a realistic scenario.

5.4.10 It is noted that AECOM suggest in their response to the scoping information that because the proposed development site is outside of the MSOA 007 and that MSOA 010 should also be utilised.

5.4.11 Optima did consider the use of data from MSOA 010 at the outset the location of which is shown in the image below.

Image 5.2 Middle Layer Super Output Area



5.4.12 It can be seen from the image above that the MSOA 010 does not include the significant residential area of Athersley. Athersley benefits from similar access to services. Therefore, Optima do not consider it appropriate to assess the distribution on MSOA 010 and have therefore not amended the distribution against that submitted with in the scoping information.

6. Identification of Impacts and Mitigation

6.1 INTRODUCTION

6.1.1 This chapter describes the impact of the development trips and identifies if any potential mitigation works are required.

6.1.2 As identified in the preceding sections of this report a scoping note has been submitted to Barnsley Council with a view to agreeing the methodologies that underpin the capacity assessments including in this Transport Assessment.

6.1.3 Optima have provided additional evidence that supports the use of the bespoke trip rates and the application of the trip distributions that were submitted in the scoping note. Therefore the proposed development traffic flows are the same as those submitted in the scoping note and they are shown on Figure 13 (AM) and 14 (PM) attached to this report.

6.1.4 Through the scoping note Optima set out which junctions they intended to assess as part of the application, these are as follows:

- Site access;
- Wakefield Road / Rotherham Road roundabout;
- Carlton Road / Wakefield Road signalised junction; and
- Wakefield Road / Smithies Lane signalised junction.

6.1.5 In their response to the scoping note AECOM (copy appended) stated:

“Once the exact trip generation can be agreed upon, a decision on which junctions should be assessed can be made, as an assessment based upon TRICS will likely increase the impact of the development”

6.1.6 The TRICS assessment resulted in a marginal increase in the trip rates which validated the bespoke trip rates based on the New Lodge Estate. Therefore the New Lodge Estate trip rates have been utilised and as such the conclusions set out in the scoping note relating to the extent of the study work remain. Therefore, the listed junctions above are those which are assessed in this chapter.

6.2 PEAK HOUR TRAFFIC COUNT

6.2.1 As referred to in Chapter 2, the 2017 traffic surveys identified the following existing weekday peak hour periods:

- Weekday AM Peak – 07:45 to 08:45; and
- Weekday PM Peak – 17:00 to 18:00.

6.2.2 The traffic survey flows for these periods are shown on Figures 10 and 11 for the morning and evening peak hours respectively and will be used to validate the junction models against the recorded queue lengths.

6.3 BASE TRAFFIC FLOWS

Committed Development Flows

6.3.1 Prior to preparation of the scoping information Optima requested details of committed developments that would require consideration in Optima’s Transport Assessment. AECOM advised that the following developments should be considered:

- 2016/1399/FUL – full planning consent given in February 2017 for a proposed Aldi foodstore on land to the east of Old Mill Lane, Barnsley; and
- 2014/0249 – outline permission granted in April 2014 for the erection of 250 residential dwellings on land off Wakefield Road. A reserved matters application was submitted in March 2016 (ref: 2016/0337) and is pending a decision.

6.3.2 However, Optima advised in the scoping note that it is not appropriate to model the direct impact of the committed development, as the respective reports for the above approvals did not consider the network under consideration in this Transport Assessment. AECOM concurred with this approach and state in their response to the scoping note (appended):

“The two committed developments will be taken into account within the background traffic growth, which is considered reasonable in this instance”.

Committed Highway Improvement Works

6.3.3 Optima requested (July 2017) details of any programmed highway improvement works that require consideration in this Transport Assessment. Barnsley have not confirmed that any such works require considering.

6.4 FUTURE ASSESSMENT YEAR AND TRAFFIC GROWTH

6.4.1 In accordance with the DfT guidelines on the preparation of Transport Assessments it is necessary to test the capacity of the local highway network for at least 5 years after the date of registration of the planning application hence the 2022 design year.

6.4.2 Traffic growth rates, between 2017 and 2022 have been obtained from TEMPRO v7.2. All TEMPRO information is contained in Appendix G which the trip rates applied summarised below:

Local Road Network (Using all road types within TEMPRO)

- 2017 – 2022 AM growth rate of 1.08%; and
- 2017 – 2022 PM growth rate of 1.08%.

6.4.3 Applying the identified growth rates to the 2017 traffic surveys shown in Figures 10 and 11 produce the 2022 count traffic flows shown on Figure 15 and 16.

6.5 DESIGN TRAFFIC FLOWS

6.5.1 Adding the proposed development trips described in Chapter 5 to the base traffic flows produces the design traffic flows and these are shown diagrammatically on Figures 17 and 18 for the morning and evening peak hours respectively.

6.5.2 It should be noted that these design traffic flows are considered to be robust for the following reasons:

- No discount has been applied to allow for the effect of the proposed measures to influence travel behaviour outlined in previous chapters (for new as well as existing trips);
- No discount has been applied to the development trip generations to allow for the effect of the proposed Travel Plan; and
- No reduction has been made to account for the effect of peak spreading.

6.6 OPERATIONAL ASSESSMENT OF HIGHWAY NETWORK

6.6.1 This section describes the junction capacity assessments which have been undertaken for the proposed residential scheme. Full software output data can be found at Appendix H.

Existing Carlton Road/Wakefield Road/Smithies Lane Linked Traffic Signals

6.6.2 The existing layout of the linked staggered T junctions is shown on the plan provided by Siemens in Appendix I and has been modelled using TRANSYT 15 software. The junction model has been calibrated using on site observations, RR67 calculated saturation flows, Siemens/Barnsley signal data and validated against recorded queue information. The recorded queue length data is attached at Appendix E.

6.6.3 The Site visit recorded a varied cycle time depending on vehicular demand, but was typically 120 seconds in length (i.e. 30 cycles in the peak hour). The pedestrian phase was demanded infrequently (seven times in AM and four times in PM) and the vehicular lost time for this has been taken account of by increasing the intergreen by 3 seconds from 7 to 10 seconds from stage 3 to stage 1.

6.6.4 The operation of the junction with the existing AM and PM 2017 peak hour counts has been modelled and the results are summarised in Table 6.1.

Table 6.1 Carlton Road/Wakefield Road/Smithies Lane Linked Signals 2017 Count Flows

Traffic Stream No.	Traffic Stream Description	AM			PM		
		DoS (%)	MMQ (PCU's)	Recorded MMQ	DoS (%)	MMQ (PCU's)	Recorded MMQ
A/1	Wakefield Rd NB	53	12	6	73	20	6
B/1	Smithies Lane	78	9	5	78	9	9
C/1	Wakefield Rd SB	63	15	15	53	12	7
D/1	Carlton Rd	74	13	8	63	10	16
E2/1	A61 NB Internal NS	29	1	1	41	2	2
E2/2	A61 NB Internal OS	47	6	3	56	5	3
F2/1	A61 SB Internal NS	48	8	8	46	8	6
F2/2	A61 SB Internal OS	64	6	6	62	4	5

6.6.5 It can be seen from the summary results contained in Table 6.1 that the junction operates below the desired practical capacity (90% DoS) on all arms of the junction.

6.6.6 The modelled queues are reflective of those recorded on site by an independent survey company and therefore the model is deemed to be representative of the existing situation.

6.6.7 The junction has then been modelled using the 2022 base traffic and the results are shown in Table 6.2.

Table 6.2 Carlton Road/Wakefield Road/Smithies Lane Linked Signals 2022 Base Flows

Traffic Stream No.	Traffic Stream Description	AM		PM	
		DoS (%)	MMQ (PCU's)	DoS (%)	MMQ (PCU's)
A/1	Wakefield Rd NB	59	14	78	23
B/1	Smithies Lane	77	9	87	11
C/1	Wakefield Rd SB	68	18	56	13
D/1	Carlton Rd	80	15	70	11
E2/1	A61 NB Internal NS	31	9	44	2
E2/2	A61 NB Internal OS	55	6	64	6
F2/1	A61 SB Internal NS	53	9	49	9
F2/2	A61 SB Internal OS	76	9	72	5

6.6.8 The addition of the traffic growth causes the operation of the junction to worsen slightly but it is still within capacity in this scenario.

6.6.9 The final assessment of the capacity of the junction is for the 2022 (with development) design scenario. The development traffic has been predicted in the preceding sections of this report and has been added to the 2022 base traffic to give the total design traffic. The results for the 2022 Design scenario are shown in Table 6.3.

Table 6.3 Carlton Road/Wakefield Road/Smithies Lane Linked Signals 2022 Design Flows

Traffic Stream No.	Traffic Stream Description	AM		PM	
		DoS (%)	MMQ (PCU's)	DoS (%)	MMQ (PCU's)
A/1	Wakefield Rd NB	62	15	81	25
B/1	Smithies Lane	74	9	84	11
C/1	Wakefield Rd SB	70	18	57	14
D/1	Carlton Rd	80	15	71	11
E2/1	A61 NB Internal NS	32	2	46	2
E2/2	A61 NB Internal OS	56	6	65	7
F2/1	A61 SB Internal NS	55	9	50	9
F2/2	A61 SB Internal OS	78	8	75	6

6.6.10 Table 6.3 summarises the results of the 2022 design scenario assessments for the AM and PM peaks. When compared with the 2022 base scenario the results show a slight increase in DoS and queuing at the junction. The junction continues to operate within the desired capacity in both peaks. Therefore no mitigation is proposed.

Existing Carlton Road/Rotherham Road Traffic Signals

6.6.11 The existing layout of the signalised crossroads junction is shown on the plan provided by Siemens in Appendix J and has been modelled using LINSIG v3 software. The junction model has been calibrated using on site observations, RR67 calculated saturation flows, Siemens/Barnsley

signal data and validated against recorded queue information. The recorded queue length data is attached at Appendix H.

6.6.12 The Site visit recorded a short cycle time depending on vehicular demand, but was typically 60 seconds in length (i.e. 60 cycles in the peak hour). The pedestrian phase was demanded eleven times in AM and thirteen times in PM and the vehicular lost time for this has been taken account of by increasing the intergreen by 4 seconds from 6 to 10 seconds between stage 2 and 1.

6.6.13 The operation of the junction with the existing AM and PM 2017 peak hour counts has been modelled and the results are summarised in Table 6.4

Table 6.4 Carlton Road/Rotherham Road Signals 2017 Count Flows

Traffic Stream No.	Traffic Stream Description	AM			PM		
		DoS (%)	MMQ (PCU's)	Recorded MMQ	DoS (%)	MMQ (PCU's)	Recorded MMQ
1/1	Rotherham Rd NB Lef	65.1	8	4	60.8	7	5
2/1	Carlton Rd EB	58.5	5	7	64.4	6	4
3/1	Rotherham Rd SB	41.0	4	3	49.3	5	6
4/1	Carlton Rd WB	76.2	8	5	62.2	6	6

6.6.14 It can be seen from the summary results contained in Table 6.4 that the junction operates below the desired practical capacity (90% DoS) on all arms of the junction.

6.6.15 The modelled queues are reflective of those recorded on site by an independent survey company and therefore the model is deemed to be representative of the existing situation.

6.6.16 The junction has then been modelled using the 2022 base traffic and the results are shown in Table 6.5.

Table 6.5 Carlton Road/Rotherham Road Signals 2022 Base Flows

Traffic Stream No.	Traffic Stream Description	AM		PM	
		DoS (%)	MMQ (PCU's)	DoS (%)	MMQ (PCU's)
1/1	Rotherham Rd NB Lef	72.0	9	66.1	8
2/1	Carlton Rd EB	63.1	6	69.7	7
3/1	Rotherham Rd SB	44.3	5	53.1	6
4/1	Carlton Rd WB	82.5	9	67.0	6

6.6.17 The addition of the traffic growth causes the operation of the junction to worsen slightly but it is still within capacity in this scenario.

6.6.18 The final assessment of the capacity of the junction is for the 2022 (with development) design scenario. The development traffic has been predicted in the preceding sections of this report and has been added to the 2022 base traffic to give the total design traffic. The results for the 2022 Design scenario are shown in Table 6.6.

Table 6.6 Carlton Road/Rotherham Road Signals 2022 Design Flows

Traffic Stream No.	Traffic Stream Description	AM		PM	
		DoS (%)	MMQ (PCU's)	DoS (%)	MMQ (PCU's)
1/1	Rotherham Rd NB Lef	72.8	10	67.4	9
2/1	Carlton Rd EB	63.5	6	70.0	7
3/1	Rotherham Rd SB	45.6	5	54.1	6.0
4/1	Carlton Rd WB	82.7	9	67.3	7

6.6.19 Table 6.6 summarises the results of the 2022 design scenario assessments for the AM and PM peaks. When compared with the 2022 base scenario the results show a slight increase in DoS and queuing at the junction. The junction continues to operate within the desired capacity in both peaks. Therefore no mitigation is proposed.

Existing Wakefield Road/Rotherham Road Roundabout

6.6.20 The existing roundabout arrangement is shown on the attached Figure 6. This junction has been modelled as a single junction and the traffic surveys have enabled the validation of the base model to ensure that all development scenarios that are modelled yield representative results. The junction has been modelled using Junctions 9 software.

6.6.21 As can be seen from the layout movements from Rotherham Road to Wakefield Road (south) are accommodated via a bypass lane. This element of the layout is reflected in the model.

6.6.22 Table 6.7 summarises the modelling results of the roundabout in the 2017 count scenario, full capacity output are attached at Appendix H.

Table 6.7 Wakefield Road/Rotherham Road Roundabout 2017 Count Flows

Movement	AM (07:45-08:45) Peak			PM (17:00-18:00) Peak		
	RFC	Q (PCU)	Observed Queue	RFC	Q (PCU)	Observed Queue
Wakefield Rd (N)	0.56	1	0	0.61	2	0
Rotherham	0.46	1	1	0.38	1	1
Wakefield Rd (S)	0.52	1	1	0.69	2	3

6.6.23 It can be seen from the results shown in Table 6.7 that the queues that the model predicts correlate very strongly with the observed queues (see raw survey data attached at Appendix E). It is therefore concluded that the model is an appropriate means of testing the impact of the proposed development traffic at this junction.

6.6.24 Table 6.8 below summarises the results when growth has been applied to the traffic counts to give the 2022 base traffic.

Table 6.8 Wakefield Road/Rotherham Road Roundabout 2022 Base Flows

Arm	AM (07:45-08:45) Peak		PM (17:00-18:00) Peak	
	RFC	Q (PCU)	RFC	Q (PCU)
Wakefield Rd (N)	0.61	2	0.66	2
Rotherham	0.51	1	0.41	1
Wakefield Rd (S)	0.57	1	0.76	3

6.6.25 With the addition of background traffic growth, as can be seen from the results in Table 6.8 the junction is predicted to continue to operate comfortably within the industry standard capacity threshold of 0.85.

6.6.26 The final scenario that requires modelling is that with the development traffic added to the 2022 base traffic. Table 6.9 summarises the modelling results for the 2022 design scenario.

Table 6.9 Wakefield Road/Rotherham Road Roundabout 2022 Design Flows

Arm	AM (07:45-08:45) Peak		PM (17:00-18:00) Peak	
	RFC	Q (PCU)	RFC	Q (PCU)
Wakefield Rd (N)	0.62	2	0.68	2
Rotherham	0.51	1	0.42	1
Wakefield Rd (S)	0.60	2	0.78	4

6.6.27 With the addition of the development traffic the junction continues to operate comfortably with a peak RFC value of 0.78 in the peak hour period. It should be recognised that the value of 0.78 represents a peak within the peak and therefore outside of this time the junction will operate even more efficiently.

6.6.28 The results contained within this section provide evidence that allows the conclusion that mitigation is not required at this junction and therefore none is proposed.

Proposed Site Access Arrangement

6.6.29 The final junction that requires modelling is the proposed site access, the layout of which has been modelled using the PICADY function in the JUNCTIONS 9 software. The layout of the proposed site access is shown on the drawing attached at Appendix D.

6.6.30 The junction has been modelled for the AM and PM peak hour with the 2022 Design traffic flows and the results are summarised in Table 6.10.

Table 6.10 Proposed Site Access - Design 2022

Movement	AM (07:45-08:45) Peak		PM (17:00-18:00) Peak	
	RFC	Q (PCU)	RFC	Q (PCU)
Site Access	0.12	0	0.12	0
Wakefield Road (RT)	0.04	0	0.07	0

6.6.31 The results in Table 6.10 show that the proposed Site access onto Wakefield Road operates with significant spare capacity during both the AM and PM peaks hours. No queuing is predicted across all arms of the junction in both peak hours.

6.6.32 Based on the work undertaken in this chapter it is concluded that it is not necessary to provide any mitigation to create additional highway capacity on the local highway network. It has also been demonstrated that the proposed site access arrangements are of an appropriate scale and form to accommodate the traffic predicted to be generated by the proposed development.

6.6.33 Furthermore the network assessments have been undertaken for a worst case scenario.

These assessments are considered to be a worst case for the following reasons;

- No discount has been applied to allow for the effect of the proposed measures to influence travel behaviour (for new as well as existing trips);
- No discount has been applied to the development trip generations to allow for the effect of the proposed Travel Plan in the assessments; and
- No discount has been applied to account for the effect of peak spreading.

7. Summary and Conclusions

7.1.1 This report has addressed the highways and transport issues raised by the outline planning application on land to the west of Wakefield Road, Athersley for the following development:

- Up to 220 residential dwellings; and
- The proposed access arrangements as shown on Optima Drawing 17053/GA/01.

7.1.2 The report has identified what measures will be taken to deal with the anticipated impacts of the scheme proposals and has defined what improvements and initiatives will be implemented to improve accessibility to the Site by all modes of travel.

7.1.3 The general scope of this TA has been agreed through the submission of a scoping note to the Barnsley Council, through scoping information prepared by Optima that was reviewed on behalf of Barnsley by AECOM. Through their response to the scoping information AECOM requested additional information was provided as part of the application. In this TA these requests have either been fulfilled by Optima or when Optima have not considered it appropriate justification has been provided.

7.1.4 Trips by sustainable modes for new and existing residents will be further enhanced and improved by the following measures:

- Potential for several boundary connections with the existing highway network to facilitate movement in all directions from (and through) the Site including connection to the public right of way to the south;
- A new pedestrian refuge providing connection to the existing southbound bus stop on the opposite side of Wakefield Road;
- A new signalised crossing to the north of the Wakefield Road/Rotherham Road roundabout;
- Reduction in the depth of the southbound bus stop on Wakefield Road opposite the Site. This measure will improve the timetable reliability of the bus as it will be easier for it to re-enter traffic; and
- Supplementary Travel Plan promotions and initiatives.

7.1.5 The location of the Site along with the implementation of the above measures results in the achievement of the following accessibility criteria:

- The nearest primary school (Athersley South Primary School) is within a 5 minute walk distance of the centre of the Site;
- The nearest secondary school (Holy Trinity on Carlton Road) is within a 15 minute walk distance;
- Athersley North Local Centre can be reached within a 5 minute walk of the Site where numerous shops/facilities can be found including food retail, health centre, pharmacist, cash points, florists, library, pubs, banks, takeaways and barbers. In addition there is a post office, local stores and churches. As well as providing convenient services to local residents the majority of these facilities also provide accessible employment opportunities;
- A number of other employment/businesses are located close to the south of the Site within approximately a 5 minute walk. Furthermore, Carlton Industrial Estate is within approximately 25-30 minute walk to the east of the Site;

- All of the numerous shops and facilities within Athersley North, Smithies local centre including schools, healthcare and food stores can be reached within a 5 minute cycle of the Site;
- Barnsley town centre and its associated facilities is within a 15 minute cycle journey;
- Carlton Industrial Estate is within a 5 minute cycle time where numerous additional employment opportunities are available;
- The east boundary of the Site is within an approximate 100m distance of the bus stops;
- The centre of the Site is within 300m distance from the existing Brunswick Close bus stops, which equates to a less than 5 minute walk.
- Barnsley Interchange/Barnsley Town Centre – within a 7 minute journey time on average; and
- Staincross –under a 4 minute journey time on average.

7.1.6 It is therefore concluded that the proposed Site will provide very good accessibility by foot, cycle and public transport to a vast range of services, facilities and employment opportunities.

7.1.7 Whilst the application is in outline the enclosed masterplan has been designed to embrace the principles set out in Manual for Streets

7.1.8 A review of the personal injury accident data has been undertaken for the study area, which has shown that there are no specific accident concerns. This conclusion is based on the infrequency and random nature/location of accidents over the most recently available five year period.

7.1.9 An assessment of predicted trip generations has been completed using a bespoke survey of a similar residential estate to the north of the proposed development i.e. the New Lodge Estate. These trips have then been distributed onto the local highway network based on census data.

7.1.10 Detailed capacity assessments have been undertaken at key locations on the local highway network. The following highway network has been assessed as part of this application:

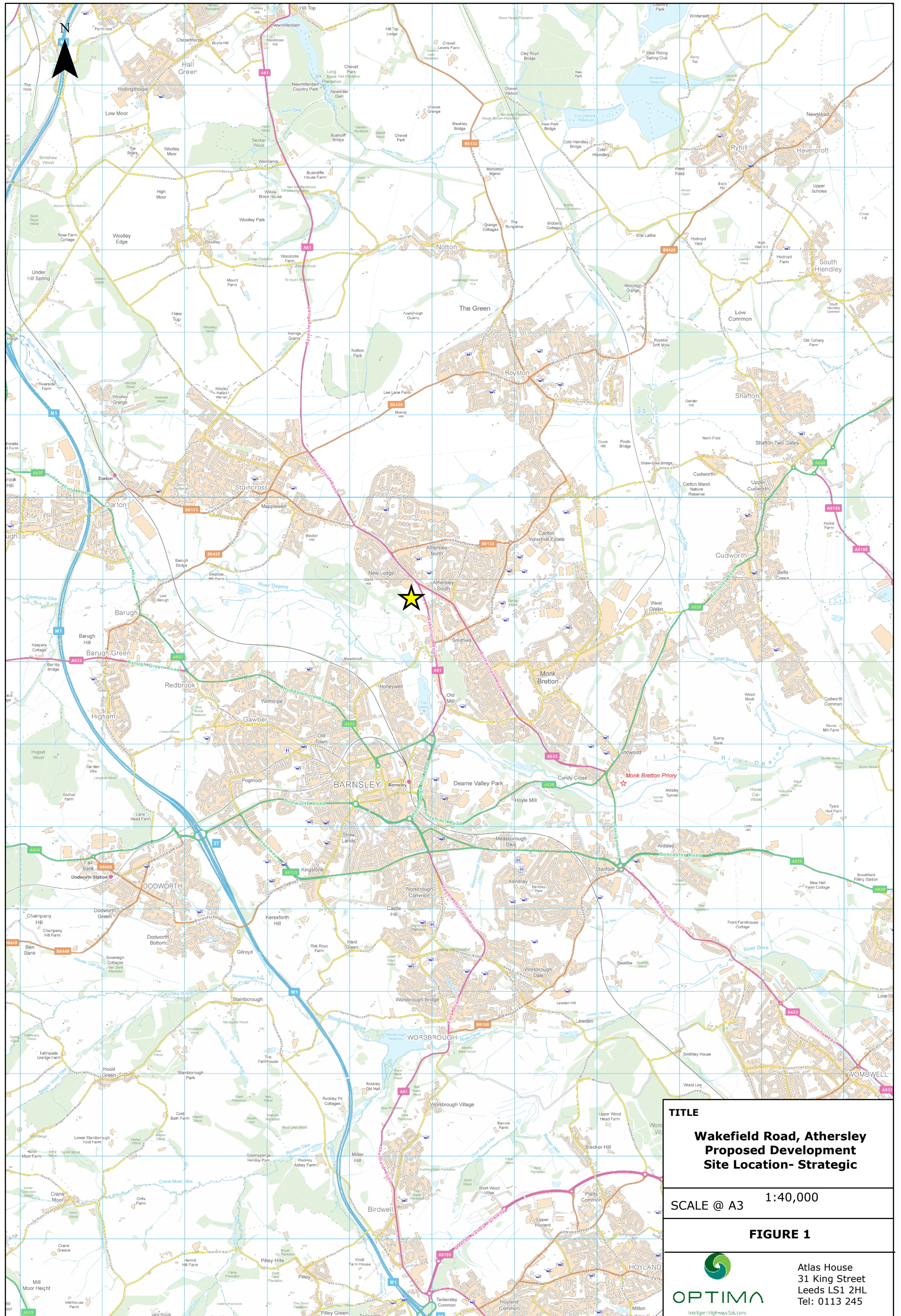
- Site access;
- Wakefield Road / Rotherham Road roundabout;
- Carlton Road / Wakefield Road signalised junction; and
- Wakefield Road / Smithies Lane signalised junction.

7.1.11 These assessments have shown that the existing highway infrastructure can comfortably accommodate the traffic that is estimated to be generated by the proposed development. Therefore is not proposed to provide any off-site mitigation as part of this application.

7.1.12 The proposed site access has been designed to meet the standards set out in Design Manual for Roads and Bridges TD 42/95 for priority junctions with ghost island right turn lanes. The capacity of the site access has been modelled in the 2022 design year and this has shown that the junction will operate efficiently and experience no queuing.

7.1.13 From the extensive work undertaken it is concluded that there are no reasons on highways or transport grounds why the development Site should not be granted outline planning permission for residential purposes.

Figures



TITLE
**Wakefield Road, Athersley
Proposed Development
Site Location- Strategic**

SCALE @ A3 1:40,000

FIGURE 1


Intelligent Highways Solutions

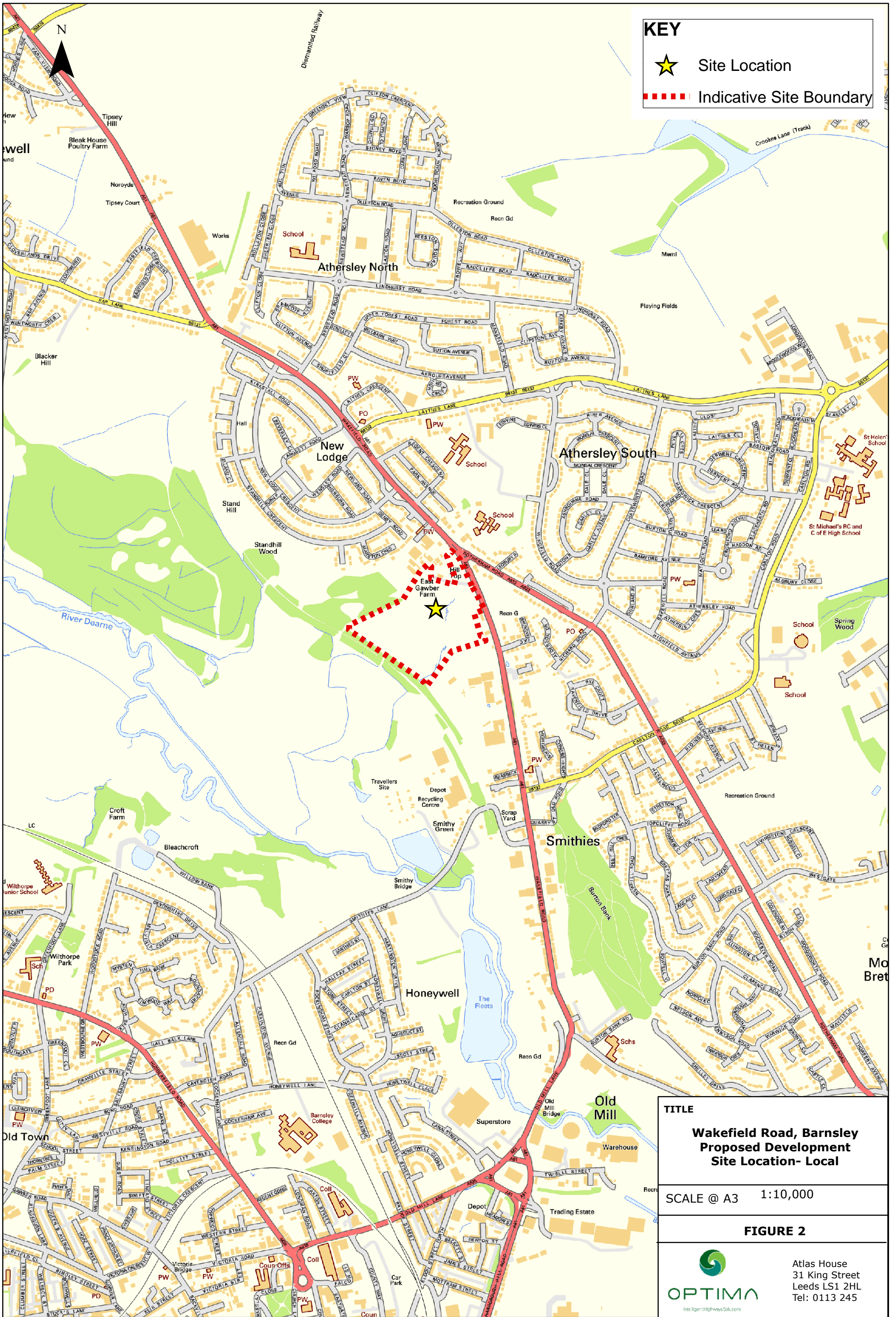
Atlas House
31 King Street
Leeds LS1 2HL
Tel: 0113 245

KEY



Site Location

Indicative Site Boundary

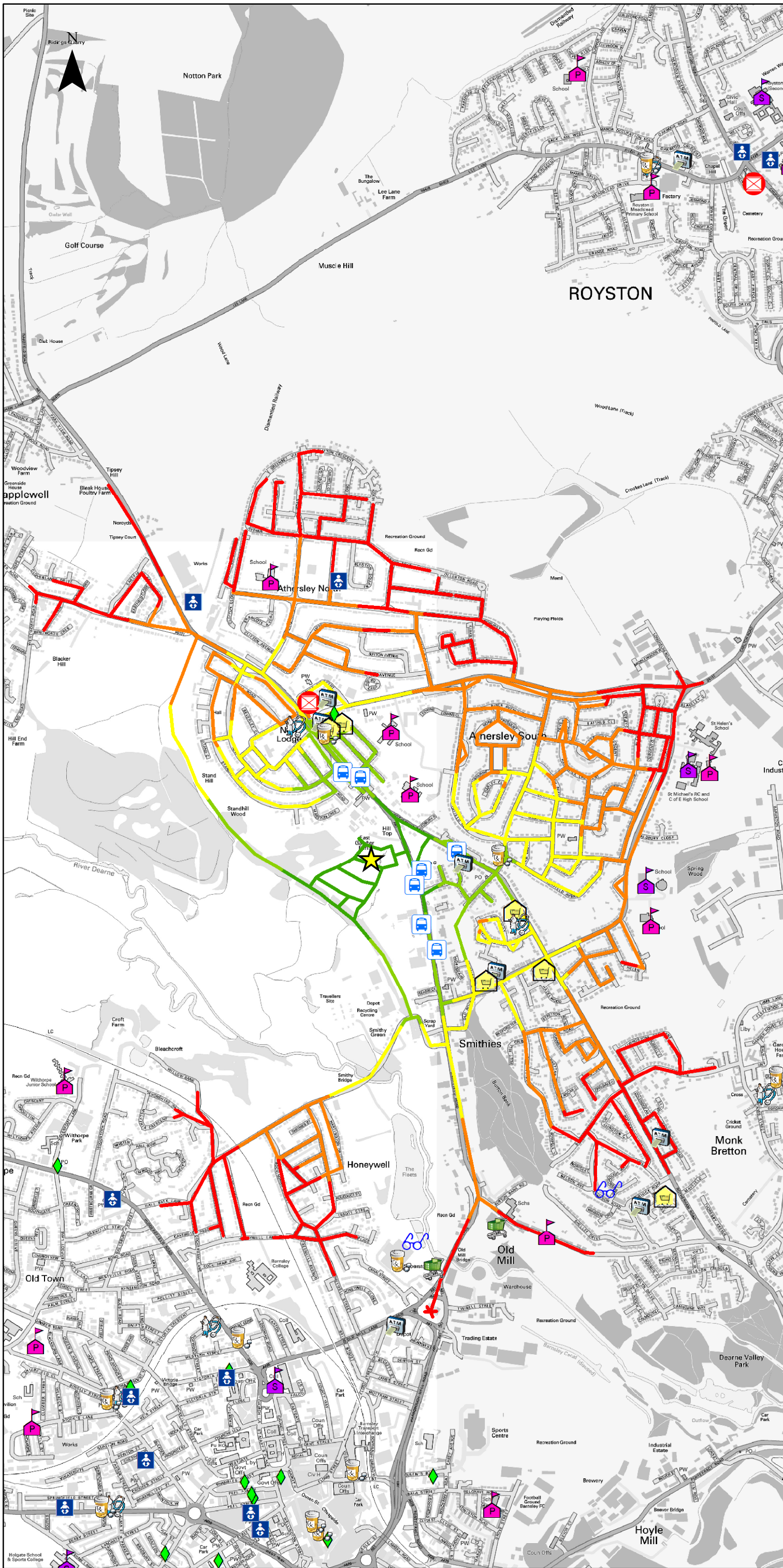


TITLE
**Wakefield Road, Barnsley
Proposed Development
Site Location- Local**












SCALE @ A3 1:10,000

FIGURE 2






Atlas House
31 King Street
Leeds LS1 2HL
Tel: 0113 245



KEY

-  Site Location
-  Nurseries
-  Primary School
-  Secondary School
-  Pharmacies
-  Dentists
-  GPs
-  Supermarket
-  Convenience Store
-  ATM
-  Post Office
-  Bus Stop
-  Opticians

**Pedestrian Accessibility
(Walk Speed 4.8kph)**

-  0-5 Minutes
-  5-10 Minutes
-  10-15 Minutes
-  15-20 Minutes
-  20-25 Minutes

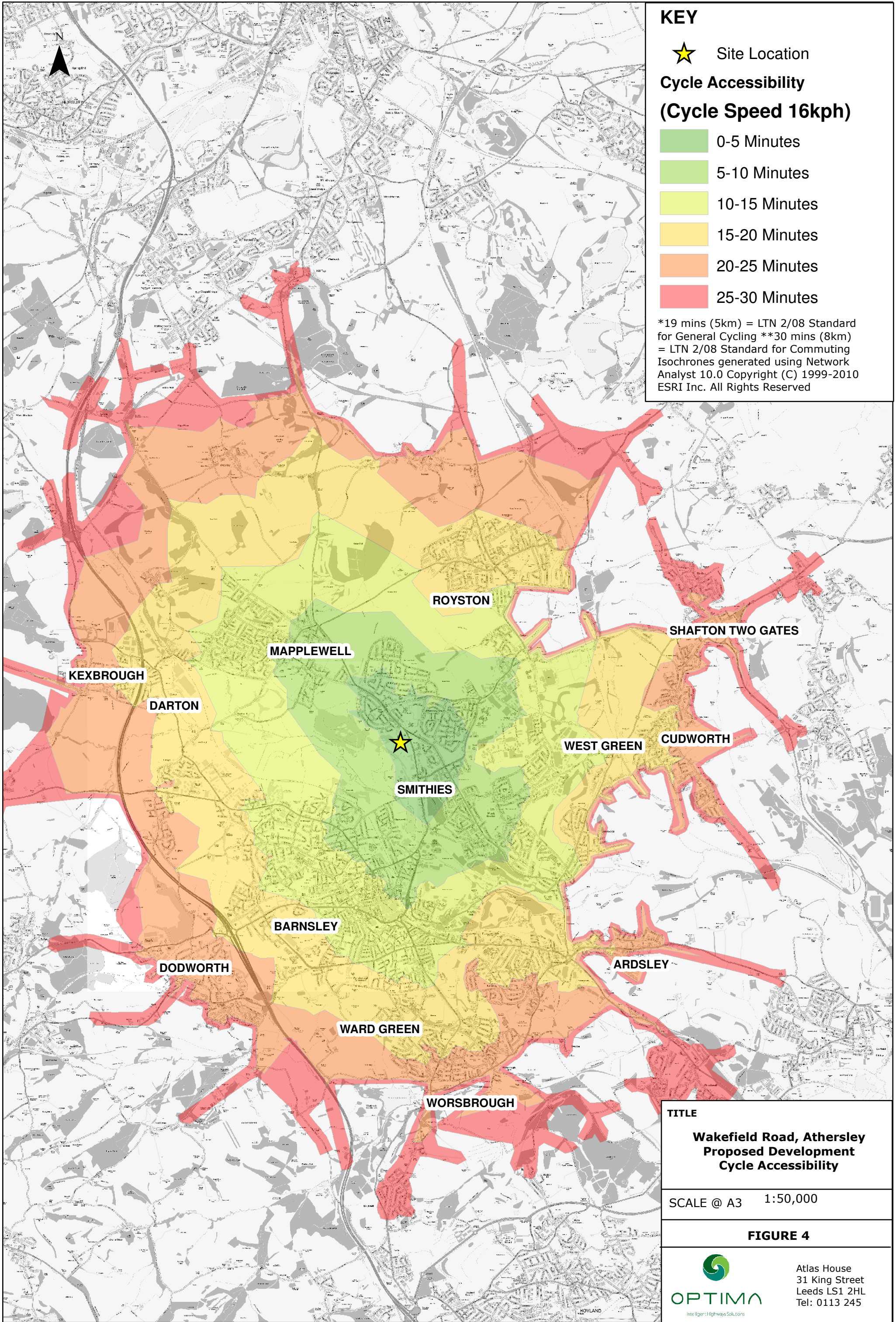
*25 Mins (2km) = IHT Standard in 'Providing for Journeys on Foot'
 Isochrones created using Network Analyst 10.0
 Copyright (C) 1999-2010 ESRI Inc. All Rights Reserved

TITLE
**Wakefield Road, Athersley
 Proposed Development
 Pedestrian Accessibility**

SCALE @ A3 1:15,000

FIGURE 3

 **OPTIMA**
 Atlas House
 31 King Street
 Leeds LS1 2HL
 Tel: 0113 245



KEY

★ Site Location

**Cycle Accessibility
(Cycle Speed 16kph)**

0-5 Minutes

5-10 Minutes

10-15 Minutes

15-20 Minutes

20-25 Minutes

25-30 Minutes

*19 mins (5km) = LTN 2/08 Standard for General Cycling **30 mins (8km) = LTN 2/08 Standard for Commuting Isochrones generated using Network Analyst 10.0 Copyright (C) 1999-2010 ESRI Inc. All Rights Reserved

Path: O:\Wakefield Road, Athersley\DRAWINGS\GIS\ARCEDITOR\Cycle Accessibility.mxd

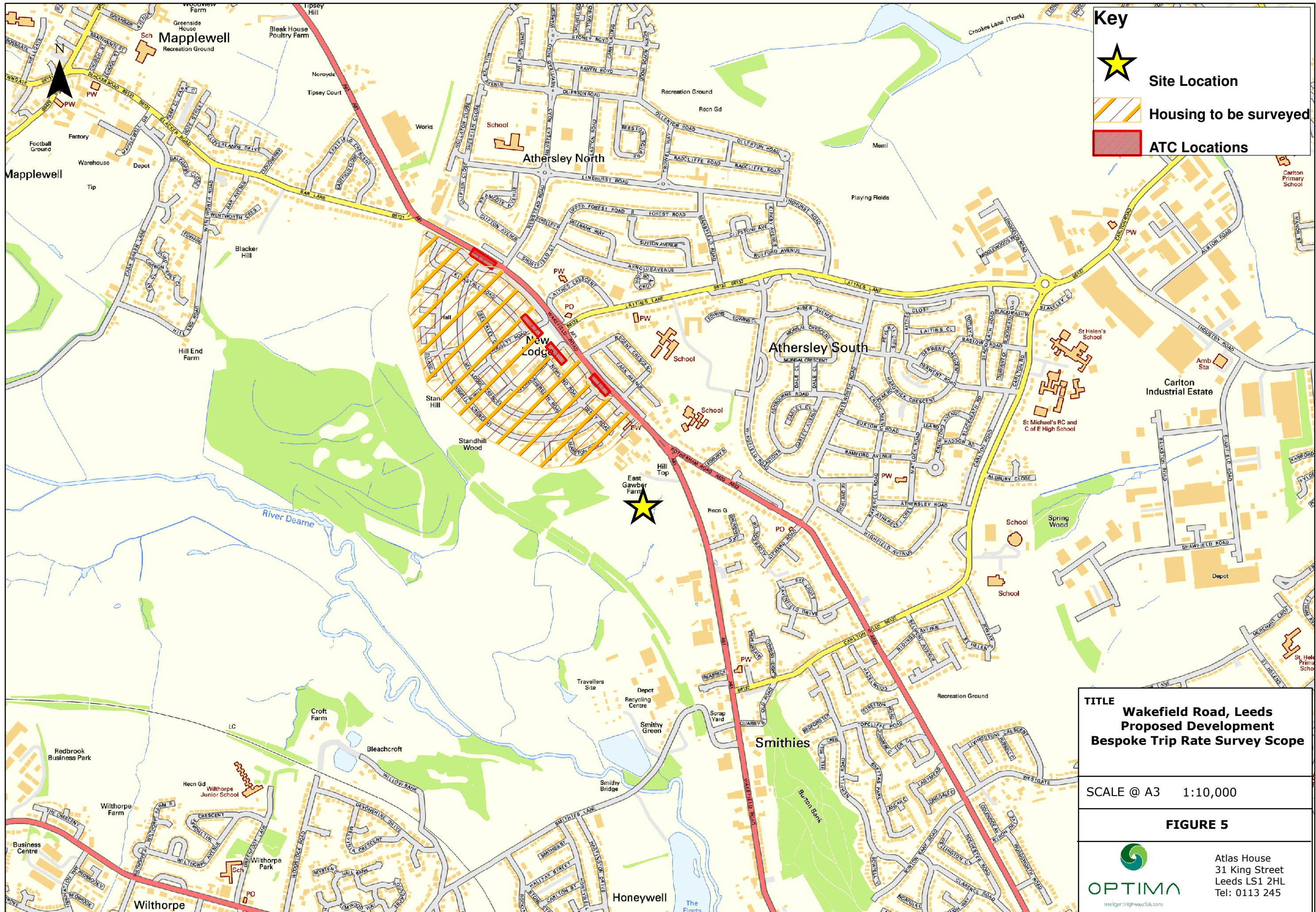
TITLE
Wakefield Road, Athersley
Proposed Development
Cycle Accessibility

SCALE @ A3 1:50,000

FIGURE 4



Atlas House
31 King Street
Leeds LS1 2HL
Tel: 0113 245



Key

-  Site Location
-  Housing to be surveyed
-  ATC Locations

TITLE
 Wakefield Road, Leeds
 Proposed Development
 Bespoke Trip Rate Survey Scope

SCALE @ A3 1:10,000

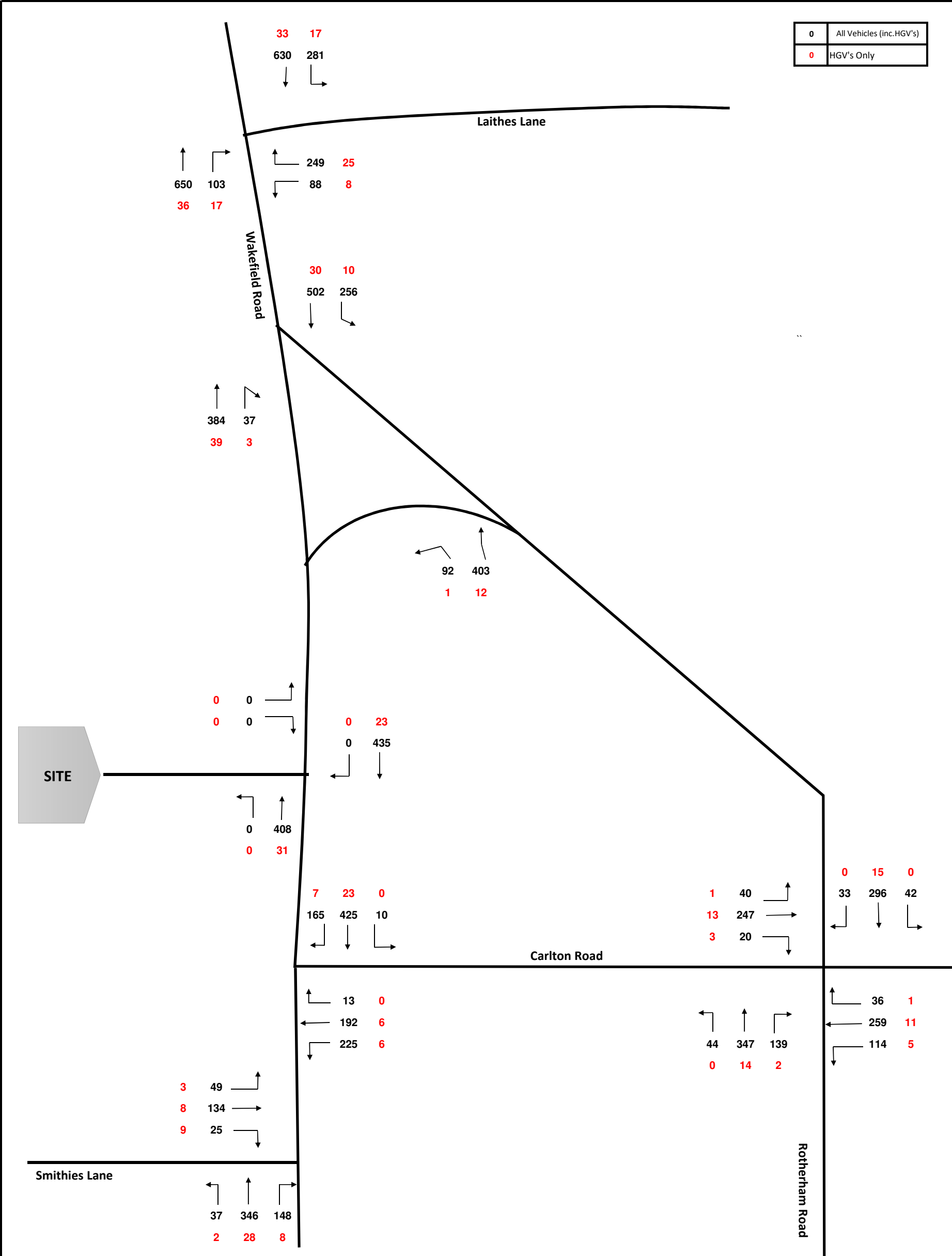
FIGURE 5

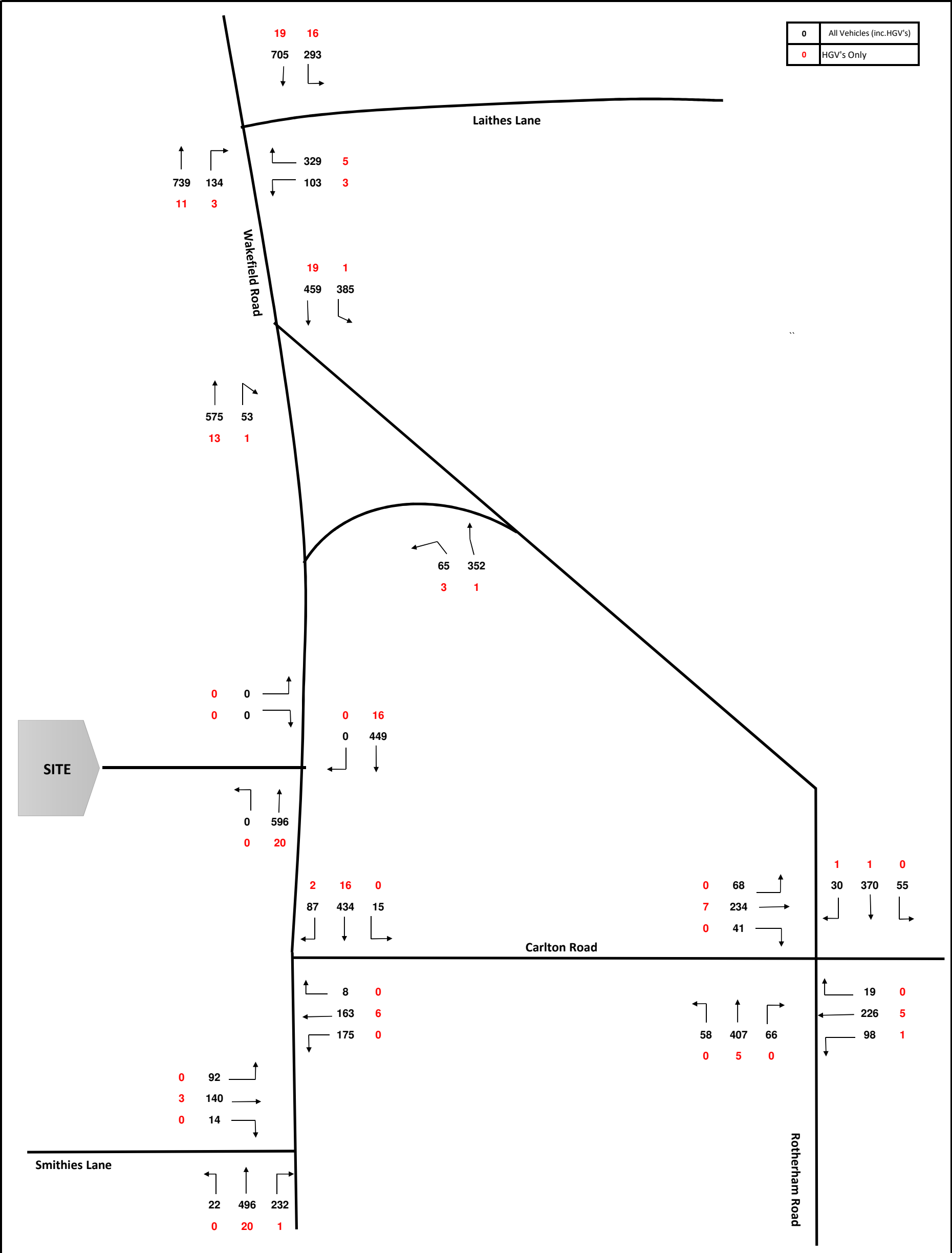


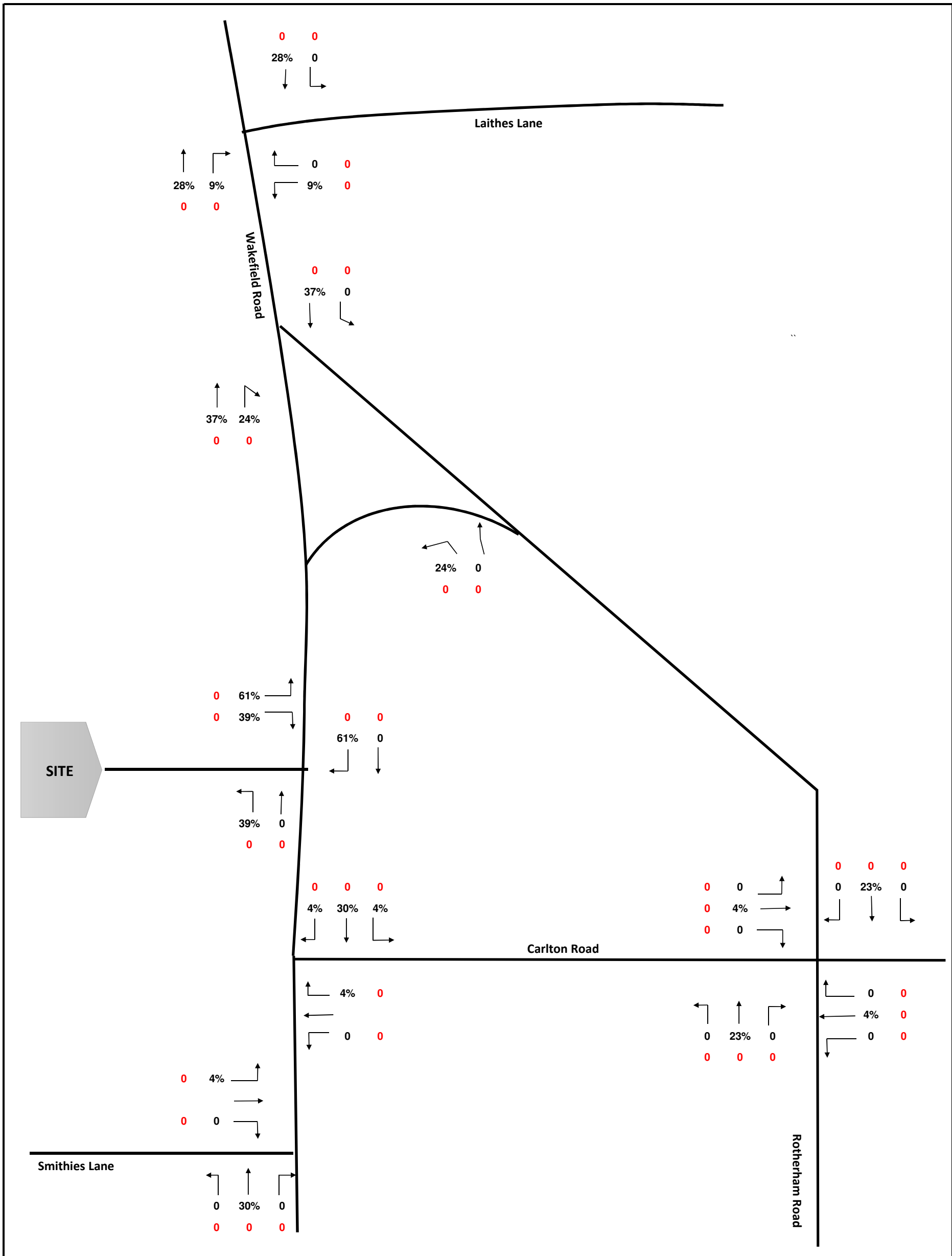
Atlas House
 31 King Street
 Leeds LS1 2HL
 Tel: 0113 245

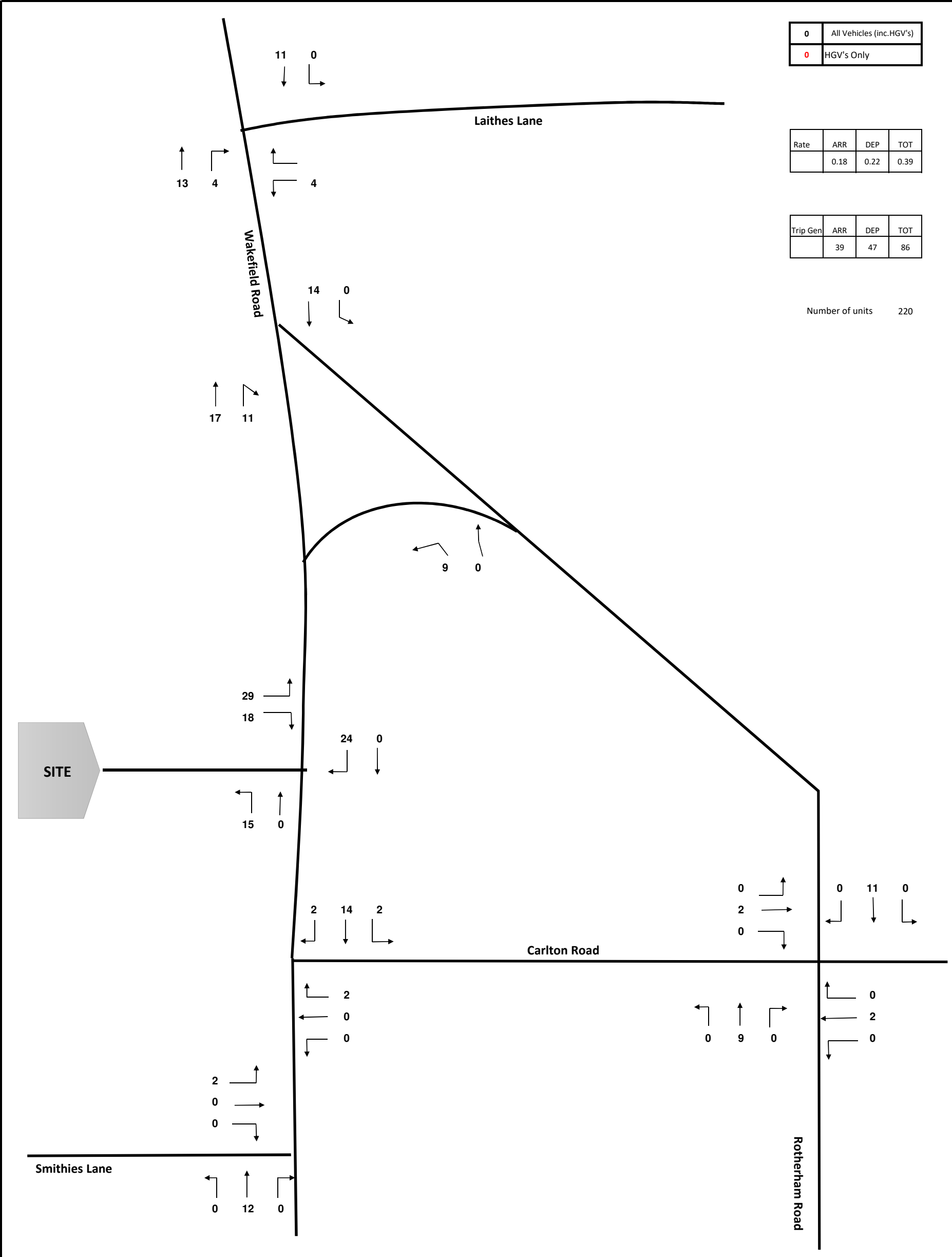
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0	HGV's Only







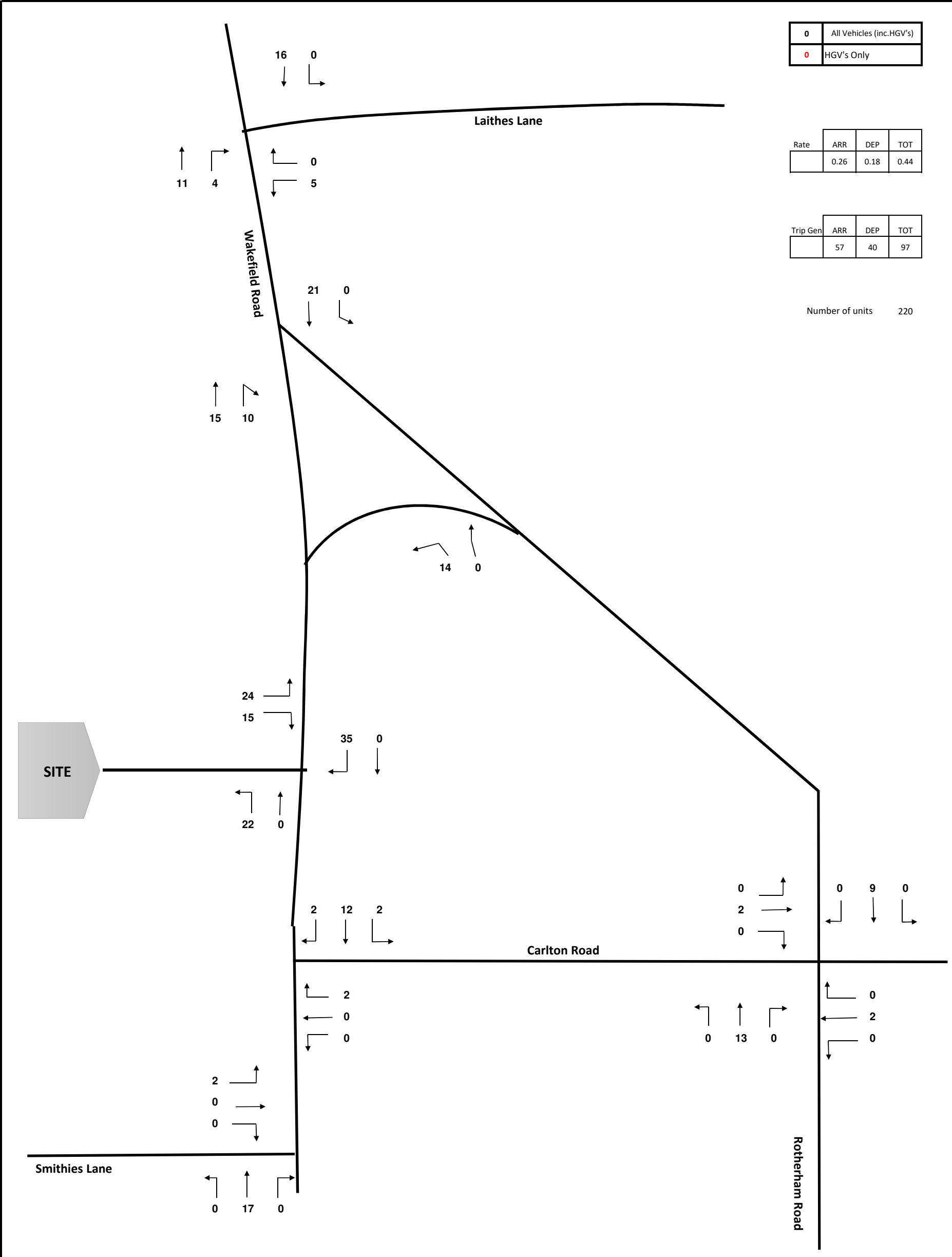


0	All Vehicles (inc.HGV's)
0	HGV's Only

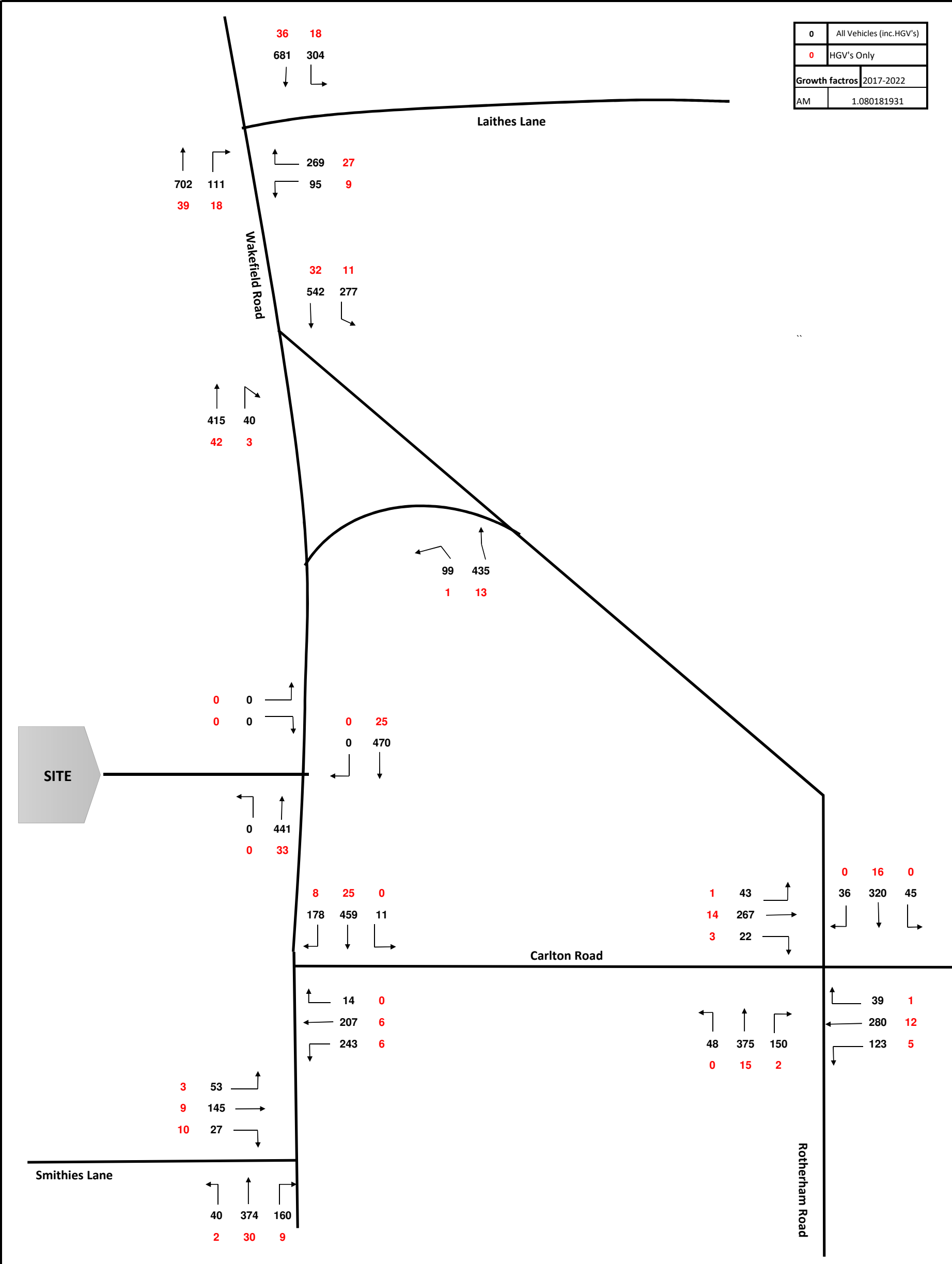
Rate	ARR	DEP	TOT
	0.18	0.22	0.39

Trip Gen	ARR	DEP	TOT
	39	47	86

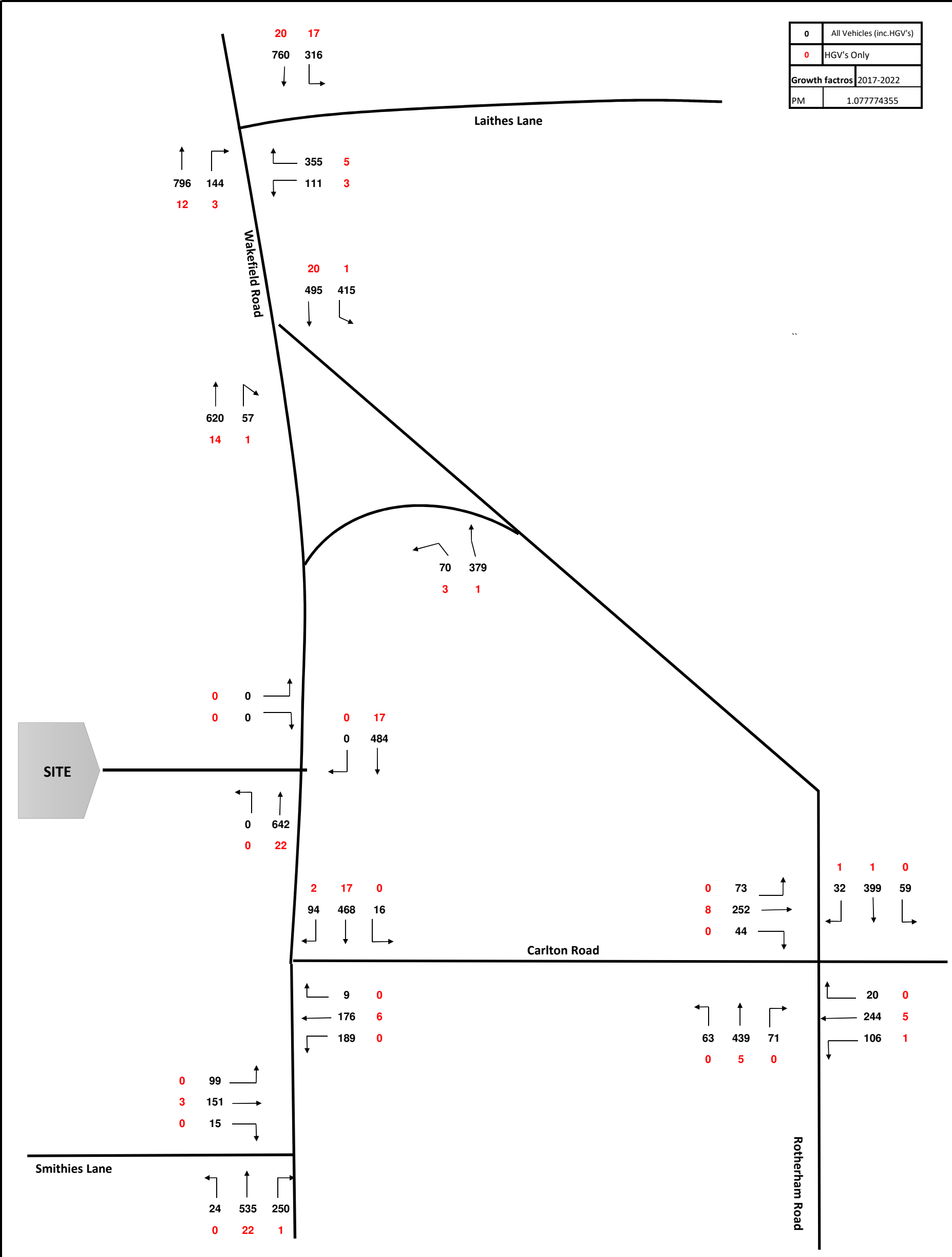
Number of units 220

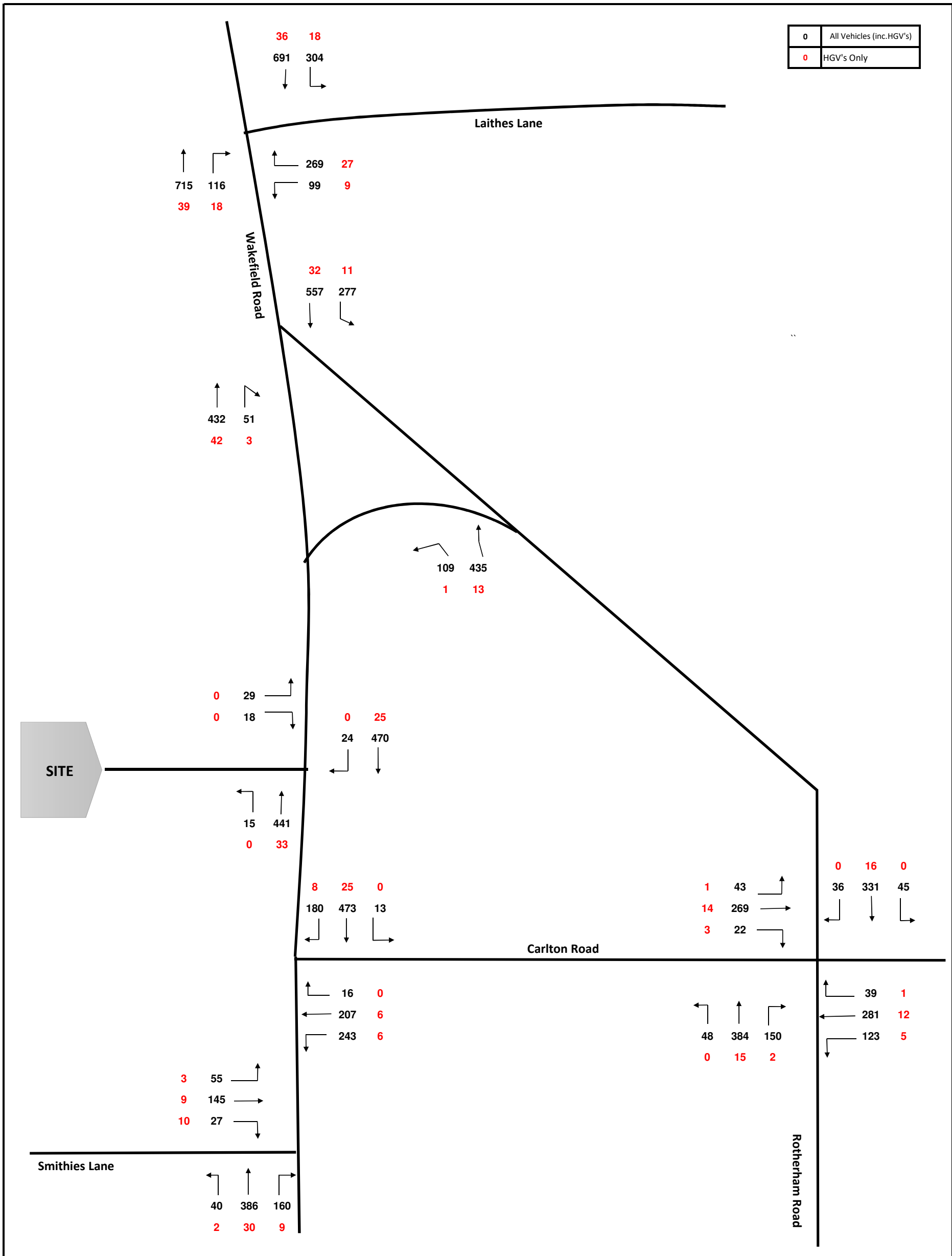


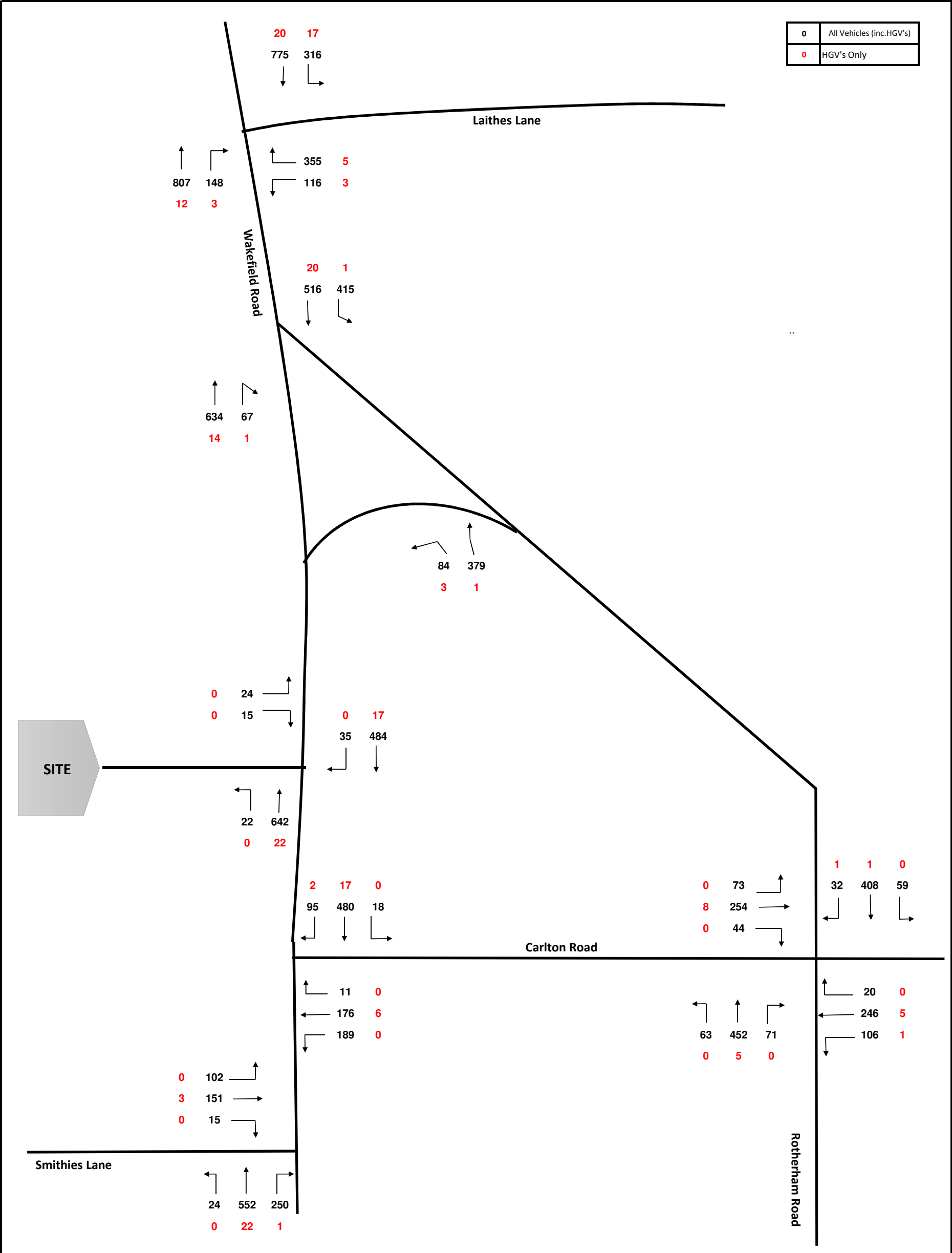
0	All Vehicles (inc.HGV's)
0	HGV's Only
Growth factors 2017-2022	
AM	1.080181931



0	All Vehicles (inc.HGV's)
0	HGV's Only
Growth factors 2017-2022	
PM	1.07774355







Appendices

Appendix A AECOM Scoping Response

Wakefield Road, Barnsley – Review of Optima Scoping Note

Client name
Barnsley Metropolitan
Borough Council

Project name
Wakefield Road, Athersley

Date
July 2017

Project number
60549427

Prepared by
Natasha Smithson

Approved by
Stephen Moss

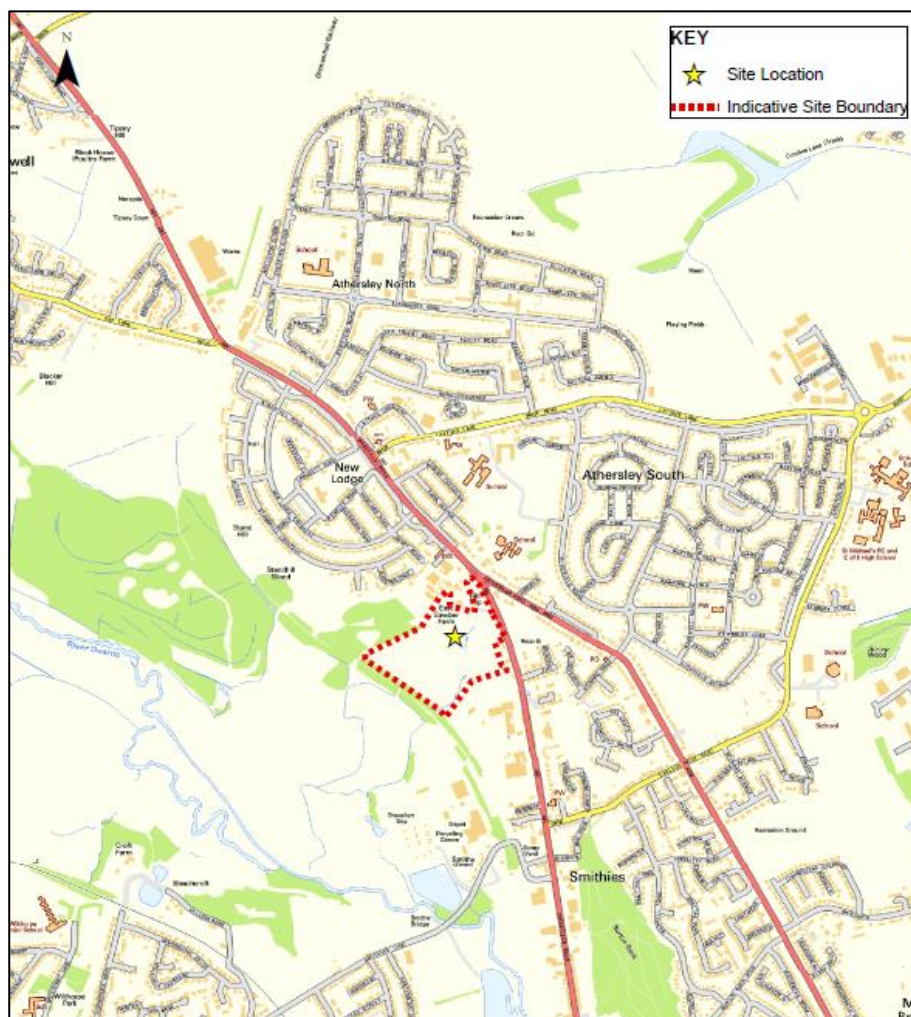
Revision History

Revision	Revision date	Details	Authorised	Name	Position
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Introduction

This Technical Note has been prepared in order to review the Scoping Note dated July 2017 as prepared by Optima Highways for a residential development consisting of 220 dwellings, and for ease of reference the site location, as given by Optima Highways can be shown below in **Figure 1**.

Figure 1: Site Location Plan (Optima Highways)



The proposed site lies to the west of Wakefield Road, on the southwestern edge of Athersley, Barnsley. The proposed site is bounded to the east by Wakefield Road, the north and south by commercial uses and east by the old railway line (now a public footpath). The 7.73ha site will comprise of 220 units.

The detailed review is set out within this Technical Note, but the key finding is that some further information should be provided before the impact of the development on the local road network can be agreed.

Trip Rates

Optima Highways commissioned a trip rate survey for the week commencing 17th June 2017 at the housing estate located north of the proposed site. An average daily trip rate was taken from the surveys completed on Tuesday, Wednesday and Thursday only.

Details were provided on the number and type of dwellings in this area, and are as follows:

Table 1: New Lodge Crescent Number and Type of Dwellings

Detached	Semi-detached	Bungalow	Terraced	Flat	Total
3	479	28	200	85	795

Flats and bungalows were discounted from the trip rate giving a total number of units of 682, to provide a representative trip rate.

The following table summarises the calculation to find the trip rate:

Table 2: New Lodge Crescent Trip Rate Calculation

	Northern				Southern				Total*		Trip Rate	
	Light Vehicle Trips*				Light Vehicle Trips*							
	AM		PM		AM		PM		AM	PM	AM	PM
Optima	Arr	Dep	Arr	Dep	Arr	Dep	Arr	Dep				
Highways	56	68	73	57	65	79	104	66	268	299	0.393	0.438

*three day average

The resultant trip rate was then applied to the number of dwellings to be built as part of the proposed development and this is as follows:

Table 3: Predicted Trip Generation for Proposed Development

	Trip Rate			Trip Generation			
	Arr	Dep	Tot	Arr	Dep	Tot	
AM	0.177	0.215	0.392	AM	39	47	86
PM	0.259	0.180	0.439	PM	57	40	97

Note: Number of Proposed Units 220

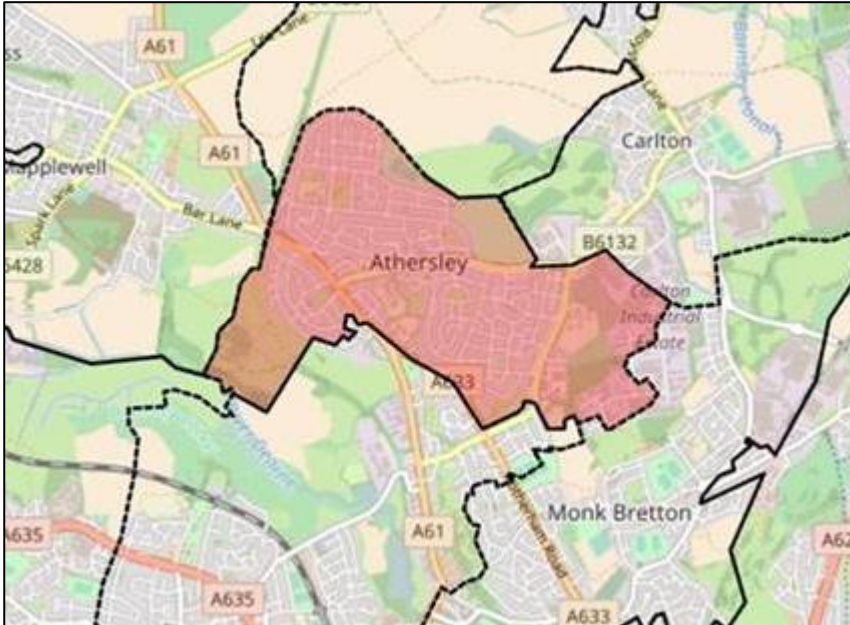
Therefore it is predicted by Optima Highways that during the AM peak hour 39 vehicles are expected to arrive and 47 depart, and during the PM peak 57 vehicles are expected to arrive and 40 depart.

Whilst we would agree with the principle of using local trip rates, these must be verified against TRICS to ensure that these are applicable, as the above are considered to be relatively low. Furthermore, we also understand that a sensitivity test using TRICS will also be undertaken and given the trip rates based upon local data this may then represent a more realistic assessment?

Trip Distribution

The development traffic distribution was determined from the 2011 census work resident population for Barnsley 007 Middle Super Output Area, as shown in Figure 2.

Figure 2: Barnsley 007 Middle Super Output Area



The proposed site lies just outside the boundary of the Middle Super Output Area 007, and within the Middle Super Output Area 010. As the proposed site lies on the boundary between two areas, it is considered that a distribution based on the average of both MSOA's would provide the most robust assessment.

Growth Rates

Whilst no growth factors are given, AECOM have derived the following growth rates:

Table 4: TEMPRO Growth Factors (AECOM)

	AM	PM
2017-2022	1.0842	1.0818

We advise that the growth rates used by Optima Highways be provided so that a comparison can be undertaken.

Operational Assessment

Table 5 summarises the impact of the proposed development in 2022, comparing the base scenario with base + development trips during the AM and PM peak hours at key junctions within the vicinity of the proposed site. Further information regarding how the base 2022 traffic flows were derived is required to ensure the validity of the following assessment.

Table 5: Proposed Development Impact

Junction	2022 Base*		2022 Design*		Increase in PCUs		Percentage Increase	
	AM	PM	AM	PM	AM	PM	AM	PM
Wakefield Road (N) with Laithes Lane	2308	2544	2340	2579	32	36	1.38%	1.40%
Wakefield Road (N) with Rotherham Rd	1911	2077	1964	2136	53	59	2.77%	2.85%
Carlton Rd with Rotherham Rd	1817	1824	1840	1850	23	26	1.29%	1.44%
Wakefield Road (S) with Smithies Lane	2019	2076	2052	2113	33	37	1.66%	1.80%

*Total PCUs used for comparison purposes

The comparison shows that the impact associated with the development is expected to be minimal with percentage increase below 5% in all instances. Optima Highways state that they intend to assess the following junctions:

- Site access;
- Mini roundabout arrangement connecting Wakefield Road and Rotherham Road;
- Linked traffic signals (2 nodes) connecting Smithies Lane, Wakefield Road and Carlton Road; and
- Traffic signals at Carlton Road and Wakefield Road.

For the following reasons, Optima Highways do not believe they should model the Wakefield Road / Laithes Lane junction:

- The traffic flows at this junction are only marginally higher than the threshold quoted in Guidance on Transport Assessments (GTA), which states that flows over 30 two way may not be material;
- The impact is significantly below the 5% industry standards materiality indicator;
- On site observations from two site visits demonstrate that the existing junction operates with spare capacity with all queues clearings; and
- The junction wasn't raised as a concern at the public consultation event held on 12th July 2017.

However, before the exact level of impact can be agreed, we will need to understand the number of trips based upon a TRICS approach as this is likely to increase the development traffic. Furthermore, the NPPF recognises an assessment based upon severity of impact rather than a more simple number or percentage increase.

Committed Development

AECOM provided Optima Highways with two committed developments within the vicinity of the site and are as follows:

- 2016/1399/FUL – full planning consent given in February 2017 for a proposed Aldi foodstore on land to the east of Old Mill Lane, Barnsley; and
- 2014/0249 – outline permission granted in April 2014 for the erection of 250 residential dwellings on land off Wakefield Road. A reserved matters application was submitted in March 2016 (ref: 2016/0337) and is pending a decision.

However, Optima Highways propose that their direct impact not be modelled, as the respective reports did not consider the network under consideration, and will instead be taken account as an addition to the background traffic growth.

This is considered to be an acceptable approach.

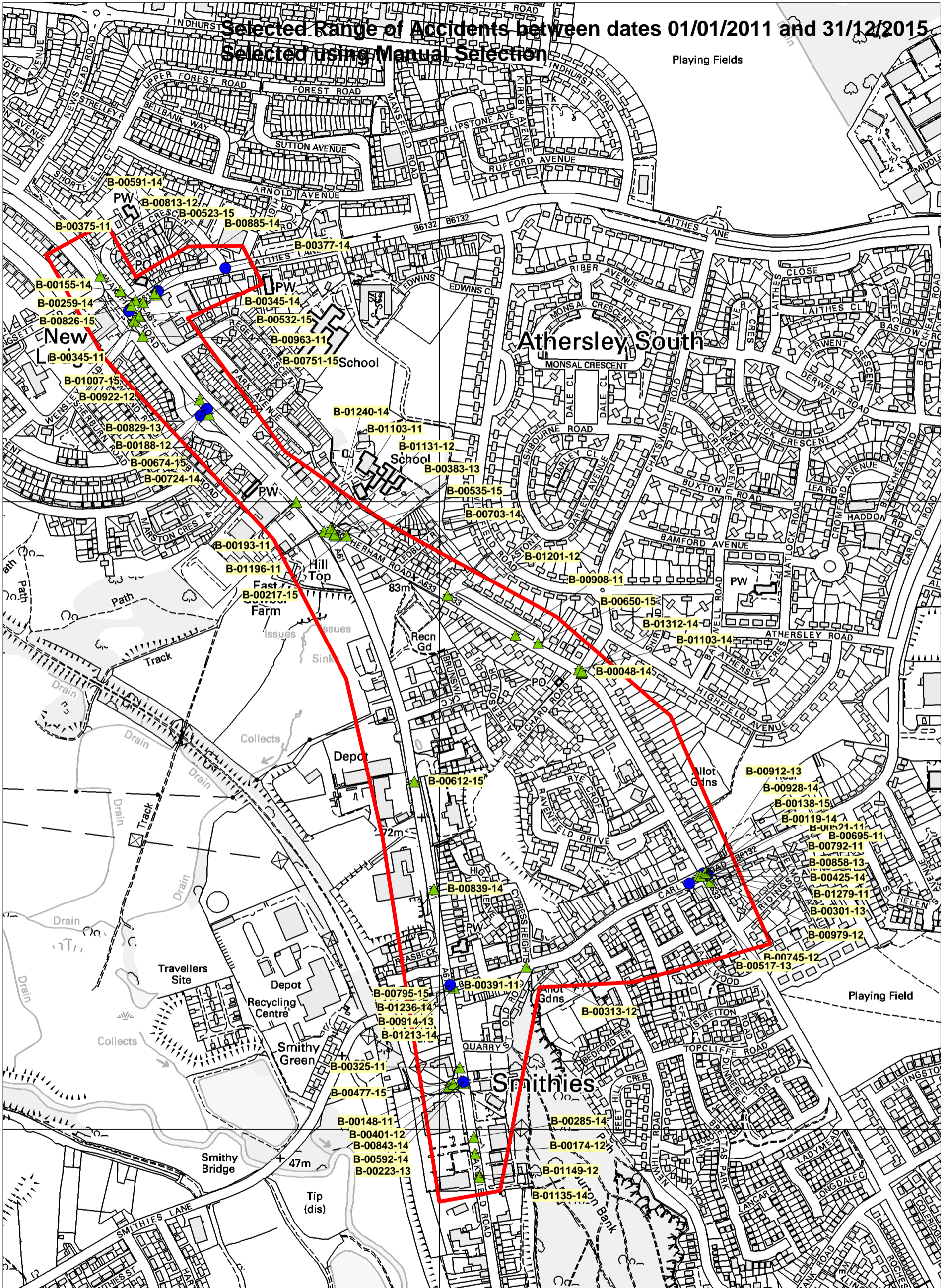
Summary and Conclusion

AECOM have reviewed the Scoping Note by Optima Highways on behalf of Barnsley Metropolitan Borough Council for a residential development consisting of 220 dwellings along Wakefield Road on the southwestern edge of Athersley, Barnsley, and our full comments above can be summarised as follows:

- Whilst we agree with the principle of deriving a trip rate based on local flows, we recommend that these be compared to trip rates derived within TRICS to ensure that they are representative and applicable;
- It is understood that a sensitivity test is being undertaken based upon TRICS data, and given the “local trip rates” we would consider that this may represent a more realistic assessment?
- Optima Highways have estimated the likely distribution based on 2011 census Journey to Work data for the Middle Super Output Area 007. However the proposed development site lies on the boundary with Middle Super Output Area 010, and we propose that a distribution based on the average of both areas be conducted;
- Further information on base traffic flows and growth factors should be provided to confirm the validity of the assessments;
- The following junctions have been considered to be assessed:
 - Site access;
 - Wakefield Road / Rotherham Road roundabout;
 - Carlton Road / Wakefield Road signalised junction; and
 - Wakefield Road / Smithies Lane signalised junction.
- Optima are not proposing to assess the Wakefield Road / Laithes Lane junction given their predicted level of impact, although this should then be compared against a TRICS based approach;
- Once the exact trip generation can be agreed upon, a decision on which junctions should be assessed can be made, as an assessment based upon TRICS will likely increase the impact of the development, and
- The two committed developments will be taken into account within the background traffic growth, which is considered reasonable in this instance..

Appendix B Accident Data

**Selected Range of Accidents between dates 01/01/2011 and 31/12/2015
Selected using Manual Selection**



**MAKING SOUTH YORKSHIRE
ROADS SAFER**

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South Yorkshire LTP Partnership
Licence No: 100019587 2017

Selected map area

SCALE	1 : 6000
DATE	15/06/2017
DRWG No.	
DRN BY	

AccsMap - Accident Analysis System

Accidents between dates 01/01/2011 and 31/12/2015 (60) months

Selection:

Notes:

Selected using Build Query : Local_auth = 'Barnsley'

Naseer Jamili - Optima Highways

B-00148-11 03/02/2011 Thursday Time: 1925 Vehicles 3 Casualties 1 Slight
 Easting: 435,034 Northing: 408,077
 Raining with high winds Road Surface: Wet/Damp Darkness: street lights present and lit
 Road Type: Single carriageway Speed Limit: 30

Location: WAKEFIELD RD SMITHIES J/W SMITHIES LN

Description: V1 TV ALONG A61 TW WAKEFIELD. V2 TURNED R FROM SMITHIES LN. V1 COLL WITH N/S OF V2 , THIS CAUSED V1 TO SLIDE INTO V3

Vehicle Reference: 1 Motorcycle over 50cc and up Going ahead

First point of impact: Front

Vehicle direction: W to E

Journey: Not known

Age of Driver : 18

Breath test: Not requested

Contributory Factors : 605 602 301 406 403

Casualty Reference: 1 Age: 18 Male Driver/rider Severity: Slight

Ped Dir: Ped Movement :

Ped Location:

Vehicle Reference: 2 Car Turning right

First point of impact: Nearside

Vehicle direction: N to W

Journey: Not known

Age of Driver : 27

Breath test: Negative

Contributory Factors : 605 602 301 406 403

Vehicle Reference: 3 Taxi Going ahead

First point of impact: Front

Vehicle direction: E to W

Journey: Journey as part of work

Age of Driver : 37

Breath test: Negative

Contributory Factors : 605 602 301 406 403

AccsMap - Accident Analysis System

Accidents between dates 01/01/2011 and 31/12/2015 (60) months

Selection:

Notes:

Selected using Build Query : Local_auth = 'Barnsley'

Naseer Jamili - Optima Highways

B-00193-11 25/02/2011 Friday Time: 2307 Vehicles 1 Casualties 1 Slight
Easting: 434,772 Northing: 408,999
Raining without high winds Road Surface: Wet/Damp Darkness: street lights present and lit
Road Type: Single carriageway Speed Limit: 30

Location: WAKEFIELD RD NEW LODGE 50 MTS FROM J/W ROTHERHAM RD
Description: V1 TV ALONG A61 FROM DIRC OF MAPPLEWELL TW SMITHIES. V1 SLOWS &
TURNS R INTO PUB CAR PARK & COLL WITH CAS.

Vehicle Reference: 1 Taxi Turning right
First point of impact: Front
Vehicle direction: Parked to Parked Journey: Journey as part of work
Age of Driver : 57 Breath test: Negative

Contributory Factors : 103 306 307 405 707 809

Casualty Reference: 1 Age: 62 Male Pedestrian Severity: Slight

Ped Dir: Pedestrian Ped Movement : Movement U/K
Ped Location: On Ped Crossing

AccsMap - Accident Analysis System

Accidents between dates 01/01/2011 and 31/12/2015 (60) months

Selection:

Notes:

Selected using Build Query : Local_auth = 'Barnsley'

Naseer Jamili - Optima Highways

B-00325-11 31/03/2011 Thursday Time: 2237 Vehicles 1 Casualties 1 Slight
Easting: 435,032 Northing: 408,098
Fine without high winds Road Surface: Dry Darkness: street lights present and lit
Road Type: Single carriageway Speed Limit: 30

Location: WAKEFIELD RD BARNSELY

Description: PED RAN ACROSS RD WITH A VEHICLE ONCOMING. FRONT N/S OF VEH HIT PED LEFT FOOT. VEH FAILED TO STOP.

Vehicle Reference: 1 Car Going ahead
First point of impact: Front
Vehicle direction: Parked to Parked Journey: Not known
Age of Driver : Breath test: Driver not contacted
Contributory Factors : 406 803

Casualty Reference: 1 Age: 28 Female Pedestrian Severity: Slight

Ped Dir: Pedestrian Ped Movement : Driver's offside

Ped Location: In carr elsewhere

AccsMap - Accident Analysis System

Accidents between dates 01/01/2011 and 31/12/2015 (60) months

Selection:

Notes:

Selected using Build Query : Local_auth = 'Barnsley'

Naseer Jamili - Optima Highways

B-00345-11 11/04/2011 Monday Time: 2100 Vehicles 2 Casualties 1 Serious
 Easting: 434,505 Northing: 409,303
 Fine without high winds Road Surface: Dry Darkness: street lights present and lit
 Road Type: Single carriageway Speed Limit: 30

Location: WAKEFIELD RD BARNSELY AT J/W LAITHES LN

Description: V1 TR THROUGH TF LGTS AS V2 (UNLICENCED MOT CYC) CONTRAVENED TF SIGNAL AND COLL WITH OFFSIDE OF V1.

Vehicle Reference: 1 Car Going ahead
 First point of impact: Offside
 Vehicle direction: E to W Journey: Not known
 Age of Driver : 18 Breath test: Not requested

Contributory Factors : 301

Vehicle Reference: 2 Motorcycle over 50cc and up Turning right
 First point of impact: Front
 Vehicle direction: N to S Journey: Not known
 Age of Driver : 28 Breath test: Not provided (medical)

Contributory Factors : 301

Casualty Reference: 1 Age: 28 Male Driver/rider Severity: Serious

Ped Dir: Ped Movement :

Ped Location:

AccsMap - Accident Analysis System

Accidents between dates 01/01/2011 and 31/12/2015 (60) months

Selection:

Notes:

Selected using Build Query : Local_auth = 'Barnsley'

Naseer Jamili - Optima Highways

B-00375-11 26/04/2011 Tuesday Time: 2100 Vehicles 1 Casualties 1 Slight
 Easting: 434,460 Northing: 409,359
 Fine without high winds Road Surface: Dry Darkness: street lights present and lit
 Road Type: Single carriageway Speed Limit: 30

Location: WAKEFIELD RD BARNSELY 20 MTS FROM LANGSETT RD

Description: 2 FEMALES WALKING IN RD, AS VEH ATTEMPTS TO PASS CASUALTY RAN INTO VEH.

Vehicle Reference: 1 Car Going ahead
 First point of impact: Front
 Vehicle direction: NW to SE Journey: Not known
 Age of Driver : 14 Breath test: Negative

Contributory Factors : 802

Casualty Reference: 1 Age: 16 Female Pedestrian Severity: Slight

Ped Dir: Pedestrian Ped Movement : Driver's nearside
 Ped Location: In carr elsewhere

AccsMap - Accident Analysis System

Accidents between dates 01/01/2011 and 31/12/2015 (60) months

Selection:

Notes:

Selected using Build Query : Local_auth = 'Barnsley'

Naseer Jamili - Optima Highways

B-00391-11 30/04/2011 Saturday Time: 1025 Vehicles 2 Casualties 1 Slight
 Easting: 435,017 Northing: 408,228
 Fine without high winds Road Surface: Dry Daylight: street lights present
 Road Type: Single carriageway Speed Limit: 30

Location: WAKEFIELD RD BARNSELY J/W CARLTON RD

Description: V1 TV ALONG WAKEFIELD RD INDICATED TO TURN R ONTO CARLTON RD.
 ONCOMING VEH FLASHED V1 TO TURN R, AS V1 BEGAN TO TURN R PEDAL
 CYCLIST (TV WITH HEAD DOWN) COLLIDED WITH FRONT N/S OF V1.

Vehicle Reference: 1 Car

Turning right

First point of impact: Nearside

Vehicle direction: S to E

Journey: Journey as part of work

Age of Driver : 53

Breath test: Driver not contacted

Contributory Factors : 405 701 203 602

Vehicle Reference: 2 Pedal cycle

Overtaking on nearside

First point of impact: Front

Vehicle direction: N to S

Journey: Not known

Age of Driver : 15

Breath test: Driver not contacted

Contributory Factors : 405 701 203 602

Casualty Reference: 1 Age: 15 Male Driver/rider Severity: Slight

Ped Dir: Ped Movement :

Ped Location:

AccsMap - Accident Analysis System

Accidents between dates 01/01/2011 and 31/12/2015 (60) months

Selection:

Notes:

Selected using Build Query : Local_auth = 'Barnsley'

Naseer Jamili - Optima Highways

B-00521-11 05/06/2011 Sunday Time: 2330 Vehicles 2 Casualties 1 Slight
 Easting: 435,421 Northing: 408,408
 Other Road Surface: Dry Darkness: street lights present and lit
 Road Type: Single carriageway Speed Limit: 30

Location: ROTHERHAM RD SMITHIES J/W CARLTON RD

Description: V1 TV DOWN CARLTON RD TW WAKEFIELD RD AT TRAFFIC LIGHT CONTROLLED
 JCT. DRIVER PROCEEDS ON GREEN LIGHT. V2 TV ACROSS JCT ALONG
 ROTHERHAM RD - DRIVER V2 STATES HE WAS ALSO ON GREEN LIGHT. VEH
 COLL IN CENTRE OF JCT.

Vehicle Reference: 1 Car Going ahead
 First point of impact: Nearside
 Vehicle direction: NE to SW Journey: Journey as part of work
 Age of Driver : 34 Breath test: Negative

Contributory Factors : 405 406

Vehicle Reference: 2 Car Going ahead
 First point of impact: Front
 Vehicle direction: SE to NW Journey: Not known
 Age of Driver : 76 Breath test: Not requested

Contributory Factors : 405 406

Casualty Reference: 1 Age: 76 Male Driver/rider Severity: Slight

Ped Dir: Ped Movement :

Ped Location:

AccsMap - Accident Analysis System

Accidents between dates 01/01/2011 and 31/12/2015 (60) months

Selection:

Notes:

Selected using Build Query : Local_auth = 'Barnsley'

Naseer Jamili - Optima Highways

B-00695-11 22/07/2011 Friday Time: 1610 Vehicles 1 Casualties 1 Slight
 Easting: 435,424 Northing: 408,408
 Fine without high winds Road Surface: Dry Daylight:street lights present
 Road Type: Single carriageway Speed Limit: 30

Location: CARLTON RD SMITHIES J/W ROTHERHAM RD

Description: V1 TV ALONG CARLTON RD THROUGH GREEN ATS WHEN PED CROSSED RD, V1
 RAN OVER PED FOOT

Vehicle Reference: 1 Car

Going ahead

First point of impact: Did not impact

Vehicle direction: S to N

Journey: Not known

Age of Driver :

Breath test: Driver not contacted

Contributory Factors : 802 803 808

Casualty Reference: 1 Age: 12 Female Pedestrian

Severity: Slight

Ped Dir: 9

Ped Movement : Movement U/K

Ped Location: On Ped Crossing

AccsMap - Accident Analysis System

Accidents between dates 01/01/2011 and 31/12/2015 (60) months

Selection:

Notes:

Selected using Build Query : Local_auth = 'Barnsley'

Naseer Jamili - Optima Highways

B-00792-11 22/08/2011 Monday Time: 2237 Vehicles 4 Casualties 2 Serious
 Easting: 435,420 Northing: 408,407
 Fine without high winds Road Surface: Dry Darkness: street lights present and lit
 Road Type: Single carriageway Speed Limit: 30

Location: CARLTON RD BARNSELY AT J/W ROTHERHAM RD

Description: DRIVER OF V1 SUFFERED A HEART ATTACK AND LOST CONTROL COLL WITH V4 CAUSING HIM TO COLL WITH V2, V1 THEN ROLLED INTO V3

Vehicle Reference: 1 Car Turning right
 First point of impact: Front
 Vehicle direction: NW to SE Journey: Not known
 Age of Driver : 62 Breath test: Not provided (medical)

Contributory Factors : 505 406 403

Casualty Reference: 1 Age: 62 Male Driver/rider Severity: Serious

Ped Dir: Ped Movement :

Ped Location:

Vehicle Reference: 2 Car Going ahead
 First point of impact: Front
 Vehicle direction: SE to NW Journey: Not known
 Age of Driver : 38 Breath test: Negative

Contributory Factors : 505 406 403

Casualty Reference: 2 Age: 38 Male Driver/rider Severity: Slight

Ped Dir: Ped Movement :

Ped Location:

Vehicle Reference: 3 Car Waiting to go ahead but held up
 First point of impact: Offside
 Vehicle direction: SE to NW Journey: Not known
 Age of Driver : 17 Breath test: Negative

Contributory Factors : 505 406 403

AccsMap - Accident Analysis System

Accidents between dates 01/01/2011 and 31/12/2015 (60) months

Selection:

Notes:

Selected using Build Query : Local_auth = 'Barnsley'

Naseer Jamili - Optima Highways

Vehicle Reference: 4 Car

Going ahead

First point of impact: Offside

Vehicle direction: Parked to Parked

Journey: Not known

Age of Driver : 21

Breath test: Negative

Contributory Factors : 505 406 403

B-00908-11 17/09/2011 Saturday Time: 0048 Vehicles 1 Casualties 1 Slight
 Easting: 435,121 Northing: 408,787
 Fine without high winds Road Surface: Dry Darkness: street lights present and lit
 Road Type: Single carriageway Speed Limit: 30

Location: ROTHERHAM RD ATHERSLEY

Description: V1 TV A633 WHEN VEH COLLIDED WITH KERB OF BOLLARD AREA IN CENTRAL RES OF RD. DRIVER LOST CONTROL & COLL WITH LAMP POST O/S NO. 148

Vehicle Reference: 1 Car

Going ahead right hand bend

First point of impact: Back

Vehicle direction: NW to SE

Journey: Not known

Age of Driver : 18

Breath test: Positive

Contributory Factors : 410 501

Casualty Reference: 1 Age: 19 Male Passenger Severity: Slight

Ped Dir: Ped Movement :

Ped Location:

AccsMap - Accident Analysis System

Accidents between dates 01/01/2011 and 31/12/2015 (60) months

Selection:

Notes:

Selected using Build Query : Local_auth = 'Barnsley'

Naseer Jamili - Optima Highways

B-01279-11 26/09/2011 Monday Time: 2000 Vehicles 2 Casualties 2 Slight
 Easting: 435,424 Northing: 408,406
 Fine without high winds Road Surface: Dry Darkness: street lights present and lit
 Road Type: Single carriageway Speed Limit: 30

Location: ROTHERHAM RD BARNSELY AT J/W CARLTON RD

Description: V1 TR THROUGH TF LGTS WHEN V2TURNED RGT ACC PATH OF V1 AND COLL OCC.

Vehicle Reference: 1 Car Going ahead
 First point of impact: Front
 Vehicle direction: NW to SE Journey: Not known
 Age of Driver : 24 Breath test: Not requested

Contributory Factors : 406 405

Casualty Reference: 1 Age: 29 Female Passenger Severity: Slight

Ped Dir: Ped Movement :

Ped Location:

Casualty Reference: 2 Age: 17 Female Passenger Severity: Slight

Ped Dir: Ped Movement :

Ped Location:

Vehicle Reference: 2 Car Turning right
 First point of impact: Offside
 Vehicle direction: SE to NE Journey: Not known
 Age of Driver : 41 Breath test: Not requested

Contributory Factors : 406 405

AccsMap - Accident Analysis System

Accidents between dates 01/01/2011 and 31/12/2015 (60) months

Selection:

Notes:

Selected using Build Query : Local_auth = 'Barnsley'

Naseer Jamili - Optima Highways

B-00963-11 06/10/2011 Thursday Time: 1755 Vehicles 2 Casualties 1 Slight

Easting: 434,528 Northing: 409,263

Raining with high winds Road Surface: Wet/Damp Daylight:street lights present

Road Type: Dual carriageway Speed Limit: 30

Location: WAKEFIELD RD ATHERSLEY J/W LAITHES LN

Description: V2 WAITING IN QUEUE OF TFON WAKEFIELD RD AT ATS J/W LAITHES LN.LIGHTS WERE AT RED. V1 APP, SLOWED DOWN AND THEN SAW LIGHTS CHANGE. DRIVER THOUGHT ALL CARS WERE MOVING AND FAILED TO REALISE V2 WAS STATIONARY. V1 COLL WITH REAR OF V2.

Vehicle Reference: 1 Car

Moving off

First point of impact: Front

Vehicle direction: SE to NW

Journey: Commuting to/from work

Age of Driver : 38

Breath test: Negative

Contributory Factors : 402

Vehicle Reference: 2 Car

Waiting to go ahead but held up

First point of impact: Back

Vehicle direction: SE to NW

Journey: Not known

Age of Driver : 33

Breath test: Negative

Contributory Factors : 402

Casualty Reference: 1 Age: 33 Male Driver/rider Severity: Slight

Ped Dir: Ped Movement :

Ped Location:

AccsMap - Accident Analysis System

Accidents between dates 01/01/2011 and 31/12/2015 (60) months

Selection:

Notes:

Selected using Build Query : Local_auth = 'Barnsley'

Naseer Jamili - Optima Highways

B-01103-11 17/11/2011 Thursday Time: 0822 Vehicles 2 Casualties 1 Slight

Easting: 434,828 Northing: 408,957

Fine without high winds Road Surface: Wet/Damp Daylight: street lights present

Road Type: Roundabout Speed Limit: 30

Location: WAKEFIELD RD BARNESLEY AT J/W ROTHERHAM RD RDBT

Description: V1 TR AROUND RDBT, V2 ENTERED RDBT AND COLL WITH N/S OF V1.

Vehicle Reference: 1 Car

Going ahead

First point of impact: Nearside

Vehicle direction: SW to E

Journey: Not known

Age of Driver : 38

Breath test: Driver not contacted

Contributory Factors : 405

Casualty Reference: 1 Age: 38 Female Driver/rider Severity: Slight

Ped Dir:

Ped Movement :

Ped Location:

Vehicle Reference: 2 Car

Going ahead

First point of impact: Front

Vehicle direction: N to E

Journey: Not known

Age of Driver : 72

Breath test: Driver not contacted

Contributory Factors : 405

AccsMap - Accident Analysis System

Accidents between dates 01/01/2011 and 31/12/2015 (60) months

Selection:

Notes:

Selected using Build Query : Local_auth = 'Barnsley'

Naseer Jamili - Optima Highways

B-01196-11 09/12/2011 Friday Time: 0114 Vehicles 1 Casualties 2 Slight
 Easting: 434,816 Northing: 408,952
 Raining with high winds Road Surface: Wet/Damp Darkness: street lights present and lit
 Road Type: Roundabout Speed Limit: 30

Location: WAKEFIELD RD BARNSELY

Description: V1 TV OUT OF TOWN NEGOTIATES MINI R/ABOUT & SKIDS ON SLIPPERY RD SURFACE. V1 LOOSES CONTROL & COLL WITH N/S BARRIER.

Vehicle Reference: 1 Car Turning left
 First point of impact: Front
 Vehicle direction: SE to NW Journey: Not known
 Age of Driver : 22 Breath test: Negative

Contributory Factors : 102 103 601

Casualty Reference: 1 Age: 22 Female Driver/rider Severity: Slight

Ped Dir: Ped Movement :

Ped Location:

Casualty Reference: 2 Age: 23 Male Passenger Severity: Slight

Ped Dir: Ped Movement :

Ped Location:

AccsMap - Accident Analysis System

Accidents between dates 01/01/2011 and 31/12/2015 (60) months

Selection:

Notes:

Selected using Build Query : Local_auth = 'Barnsley'

Naseer Jamili - Optima Highways

B-00174-12 24/02/2012 Friday Time: 1510 Vehicles 4 Casualties 1 Slight
 Easting: 435,057 Northing: 407,961
 Fine without high winds Road Surface: Dry Daylight:street lights present
 Road Type: Single carriageway Speed Limit: 30

Location: WAKEFIELD RD BARNSELY 100 MTS FROM SMITHIES LN

Description: TR STOPPING BUT V4 FAILED TO REACT IN TIME COLL WITH REAR OF V3
 PUSHING IT INTO V2 PUSHING IT INTO V1.

Vehicle Reference: 1 Car Waiting to go ahead but held up
 First point of impact: Back
 Vehicle direction: S to N Journey: Not known
 Age of Driver : 47 Breath test: Not provided (medical)
 Contributory Factors : 405 406

Vehicle Reference: 2 Car Waiting to go ahead but held up
 First point of impact: Back
 Vehicle direction: S to N Journey: Not known
 Age of Driver : 79 Breath test: Not provided (medical)
 Contributory Factors : 405 406

Vehicle Reference: 3 Car Waiting to go ahead but held up
 First point of impact: Back
 Vehicle direction: S to N Journey: Not known
 Age of Driver : 30 Breath test: Not provided (medical)
 Contributory Factors : 405 406

AccsMap - Accident Analysis System

Accidents between dates 01/01/2011 and 31/12/2015 (60) months

Selection:

Notes:

Selected using Build Query : Local_auth = 'Barnsley'

Naseer Jamili - Optima Highways

Vehicle Reference: 4 Car

Going ahead

First point of impact: Front

Vehicle direction: S to N

Journey: Not known

Age of Driver : 24

Breath test: Not provided (medical)

Contributory Factors : 405 406

Casualty Reference: 1 Age: 24 Female Driver/rider Severity: Slight

Ped Dir: Ped Movement :

Ped Location:

AccsMap - Accident Analysis System

Accidents between dates 01/01/2011 and 31/12/2015 (60) months

Selection:

Notes:

Selected using Build Query : Local_auth = 'Barnsley'

Naseer Jamili - Optima Highways

B-00188-12 02/03/2012 Friday Time: 0847 Vehicles 3 Casualties 1 Serious
 Easting: 434,629 Northing: 409,147
 Fine without high winds Road Surface: Dry Daylight: street lights present
 Road Type: Single carriageway Speed Limit: 30

Location: WAKEFIELD RD BARNSELY AT J/W NEW LODGE CRES

Description: V1 MOPED TR SE IN O/S/L OVTKING STATIONARY TF. V2 M/CAR WAS FLASHED
 OUT OF NEW LODGE CRES BY VEH IN STATIONARY TF, V2 TURNS R INTO PATH
 OF V1 THEN COLL REAR V3 M/CAR ALSO STAT IN QUE OF TRFC TRV SE TWDS
 BARNSELY.

Vehicle Reference: 1 Motorcycle 50cc and under Going ahead

First point of impact: Front

Vehicle direction: SE to NW

Journey: Commuting to/from work

Age of Driver : 16

Breath test: Not requested

Contributory Factors : 403 403

Casualty Reference: 1 Age: 16 Male Driver/rider Severity: Serious

Ped Dir: Ped Movement :

Ped Location:

Vehicle Reference: 2 Car Waiting to turn left

First point of impact: Nearside

Vehicle direction: W to SE

Journey: Commuting to/from work

Age of Driver : 23

Breath test: Not requested

Contributory Factors : 403 403

Vehicle Reference: 3 Car Waiting to go ahead but held up

First point of impact: Back

Vehicle direction: NW to SE

Journey: Commuting to/from work

Age of Driver : 40

Breath test: Not requested

Contributory Factors : 403 403

AccsMap - Accident Analysis System

Accidents between dates 01/01/2011 and 31/12/2015 (60) months

Selection:

Notes:

Selected using Build Query : Local_auth = 'Barnsley'

Naseer Jamili - Optima Highways

B-00745-12 02/03/2012 Friday Time: 1605 Vehicles 1 Casualties 1 Slight
Easting: 435,431 Northing: 408,394
Fine without high winds Road Surface: Dry Daylight: no street lighting
Road Type: Single carriageway Speed Limit: 30

Location: ROTHERHAM RD BARNSELY AT J/W CARLTON RD

Description: PED ALLEGES VEH CAME AROUND CORNER AS HE WAS HALF WAY ACC CARR
AND CLIPPED BACK OF HIS LEGS.

Vehicle Reference: 1 Van or Goods <= 3.5 tonnes Turning left

First point of impact: Front

Vehicle direction: E to S

Journey: Journey as part of work

Age of Driver :

Breath test: Driver not contacted

Contributory Factors : 999

Casualty Reference: 1 Age: 27 Male Pedestrian Severity: Slight

Ped Dir: 9 Ped Movement : Driver's offside

Ped Location: On Ped Crossing

AccsMap - Accident Analysis System

Accidents between dates 01/01/2011 and 31/12/2015 (60) months

Selection:

Notes:

Selected using Build Query : Local_auth = 'Barnsley'

Naseer Jamili - Optima Highways

B-00313-12 12/04/2012 Thursday Time: 1740 Vehicles 2 Casualties 1 Slight

Easting: 435,138 Northing: 408,258

Fine without high winds Road Surface: Wet/Damp Daylight:street lights present

Road Type: Single carriageway Speed Limit: 30

Location: CARLTON RD BARNSELY AT J/W OLD RD

Description: V2 EMERGED FROM JCT INTO PATH OF V1 AND COLL OCC.

Vehicle Reference: 1 Car

Going ahead

First point of impact: Nearside

Vehicle direction: NE to SW

Journey: Not known

Age of Driver : 32

Breath test: Not requested

Contributory Factors : 405

Casualty Reference: 1 Age: Female Passenger Severity: Slight

Ped Dir:

Ped Movement :

Ped Location:

Vehicle Reference: 2 Car

Going ahead

First point of impact: Front

Vehicle direction: S to NE

Journey: Not known

Age of Driver :

Breath test: Driver not contacted

Contributory Factors : 405

AccsMap - Accident Analysis System

Accidents between dates 01/01/2011 and 31/12/2015 (60) months

Selection:

Notes:

Selected using Build Query : Local_auth = 'Barnsley'

Naseer Jamili - Optima Highways

B-00401-12 03/05/2012 Thursday Time: 0855 Vehicles 4 Casualties 2 Slight
 Easting: 435,015 Northing: 408,068
 Fine without high winds Road Surface: Dry Daylight: street lighting unknown
 Road Type: Single carriageway Speed Limit: 30

Location: SMITHIES LN BARNSELY AT J/W WAKEFIELD RD

Description: V3 & V4 STATIONARY AT TF LGTS, V2 TURNING INTO SMITHIES LN PASSING V3 &
 V4. V1 APPROACHING STATIONARY TF LOST CONTROL ON LEFT HAND BD COLL
 WITH V2 BEFORE SWERVING INTO V3 PUSHING IT INTO V4.

Vehicle Reference: 1 Car Going ahead left hand bend
 First point of impact: Front
 Vehicle direction: W to E Journey: Taking pupil to/from school
 Age of Driver : 54 Breath test: Not requested

Contributory Factors : 410

Casualty Reference: 1 Age: 54 Female Driver/rider Severity: Slight

Ped Dir: Ped Movement :

Ped Location:

Vehicle Reference: 2 Car Going ahead
 First point of impact: Front
 Vehicle direction: N to W Journey: Not known
 Age of Driver : 52 Breath test: Not requested

Contributory Factors : 410

Vehicle Reference: 3 Other motor vehicle Waiting to go ahead but held up
 First point of impact: Offside
 Vehicle direction: W to E Journey: Not known
 Age of Driver : 39 Breath test: Not requested

Contributory Factors : 410

AccsMap - Accident Analysis System

Accidents between dates 01/01/2011 and 31/12/2015 (60) months

Selection:

Notes:

Selected using Build Query : Local_auth = 'Barnsley'

Naseer Jamili - Optima Highways

Vehicle Reference: 4 Other motor vehicle Waiting to go ahead but held up

First point of impact: Offside

Vehicle direction: W to E

Journey: Not known

Age of Driver : 52

Breath test: Not requested

Contributory Factors : 410

Casualty Reference: 2 Age: 52 Female Driver/rider Severity: Slight

Ped Dir: Ped Movement :

Ped Location:

B-00750-12 23/08/2012 Thursday Time: 1925 Vehicles 2 Casualties 1 Slight

Easting: 435,226 Northing: 408,726

Fine without high winds Road Surface: Dry Daylight:street lights present

Road Type: Single carriageway Speed Limit: 30

Location: ROTHERHAM RD BARNSELY AT JW CHATSWORTH RD

Description: V1 TURNED RGT ACC PATH OF V2 AND COLL OCC.

Vehicle Reference: 1 Car Turning right

First point of impact: Did not impact

Vehicle direction: SE to N

Journey: Not known

Age of Driver : 30

Breath test: Negative

Contributory Factors : 405 408

Vehicle Reference: 2 Motorcycle over 50cc and up Slowing or Stopping

First point of impact: Did not impact

Vehicle direction: SE to NW

Journey: Not known

Age of Driver : 26

Breath test: Negative

Contributory Factors : 405 408

Casualty Reference: 1 Age: 26 Male Driver/rider Severity: Slight

Ped Dir: Ped Movement :

Ped Location:

AccsMap - Accident Analysis System

Accidents between dates 01/01/2011 and 31/12/2015 (60) months

Selection:

Notes:

Selected using Build Query : Local_auth = 'Barnsley'

Naseer Jamili - Optima Highways

B-00813-12 11/09/2012 Tuesday Time: 1913 Vehicles 1 Casualties 1 Slight
 Easting: 434,549 Northing: 409,329
 Fine without high winds Road Surface: Dry Daylight:street lights present
 Road Type: Unknown Speed Limit: 30

Location: LAITHES LN CAR PARK BARNSELY

Description: V1 PULLED OUT OF CAR PARK AND BLINDED BY SUN COLL WITH A PED.

Vehicle Reference: 1 Car Turning right
 First point of impact: Offside
 Vehicle direction: S to E Journey: Commuting to/from work
 Age of Driver : 46 Breath test: Not requested

Contributory Factors : 706

Casualty Reference: 1 Age: 33 Male Pedestrian Severity: Slight

Ped Dir: 9 Ped Movement : Driver's offside

Ped Location: On Ped Crossing

AccsMap - Accident Analysis System

Accidents between dates 01/01/2011 and 31/12/2015 (60) months

Selection:

Notes:

Selected using Build Query : Local_auth = 'Barnsley'

Naseer Jamili - Optima Highways

B-00922-12 11/10/2012 Thursday Time: 0847 Vehicles 1 Casualties 1 Slight
 Easting: 434,514 Northing: 409,286
 Fine without high winds Road Surface: Dry Daylight: street lights present
 Road Type: Dual carriageway Speed Limit: 30

Location: WAKEFIELD RD NEW LODGE BARNESLEY J/W LAITHES LN

Description: VEH1 TV WAKEFIELD RD TW JUNC WITH LAITHES LN . PEDN RUNS INTO PATH OF VEH1 SLOW IMPACT OCCURS.

Vehicle Reference: 1 Car

Going ahead

First point of impact: Front

Vehicle direction: SE to NE

Journey: Commuting to/from work

Age of Driver : 25

Breath test: Negative

Contributory Factors : 802 804

Casualty Reference: 1 Age: 5 Male Pedestrian Severity: Slight

Ped Dir: Pedestrian Ped Movement : Driver's nearside

Ped Location: On Ped Crossing

AccsMap - Accident Analysis System

Accidents between dates 01/01/2011 and 31/12/2015 (60) months

Selection:

Notes:

Selected using Build Query : Local_auth = 'Barnsley'

Naseer Jamili - Optima Highways

B-00979-12 30/10/2012 Tuesday Time: 1100 Vehicles 1 Casualties 1 Slight

Easting: 435,412 Northing: 408,403

Fine without high winds Road Surface: Wet/Damp Daylight:street lights present

Road Type: Single carriageway Speed Limit: 30

Location: CARLTON RD SMITHIES AT J/W ROTHERHAM RD

Description: V1 TURNING R FROM ROTHERHAM RD ONTO CARLTON RD WHEN YOUNG BOY
RAN STRAIGHT INTO RD INTO PATH OF V1

Vehicle Reference: 1 Car Turning right

First point of impact: Offside

Vehicle direction: Parked to Parked Journey: Not known

Age of Driver : 22 Breath test: Not requested

Contributory Factors : 801

Casualty Reference: 1 Age: 11 Male Pedestrian Severity: Slight

Ped Dir: Ped Movement : Driver's offside

Ped Location: In carr elsewhere

AccsMap - Accident Analysis System

Accidents between dates 01/01/2011 and 31/12/2015 (60) months

Selection:

Notes:

Selected using Build Query : Local_auth = 'Barnsley'

Naseer Jamili - Optima Highways

B-01131-12 07/12/2012 Friday Time: 1941 Vehicles 2 Casualties 1 Slight

Easting: 434,825 Northing: 408,951

Raining without high winds Road Surface: Wet/Damp Darkness: street lights present and lit

Road Type: Roundabout Speed Limit: 30

Location: WAKEFIELD ROAD BARNESLEY J/W ROTHERHAM ROAD

Description: VEH 1 M CAR APPROACHING RNCBT JUNC WAKEFIELD RD AND ROTHERHAM RD.
VEH 2 MOPED TV ON RNCBT. VEH 1 PULLED ONTO RNCBT AND COLL VEH 2.

Vehicle Reference: 1 Car Moving off

First point of impact: Front

Vehicle direction: NW to SE Journey: Not known

Age of Driver : 69 Breath test: Not requested

Contributory Factors : 405 710

Vehicle Reference: 2 Motorcycle 50cc and under Going ahead

First point of impact: Nearside

Vehicle direction: NW to SE Journey: Journey as part of work

Age of Driver : 20 Breath test: Not requested

Contributory Factors : 405 710

Casualty Reference: 1 Age: 20 Female Driver/rider Severity: Slight

Ped Dir: Ped Movement :

Ped Location:

AccsMap - Accident Analysis System

Accidents between dates 01/01/2011 and 31/12/2015 (60) months

Selection:

Notes:

Selected using Build Query : Local_auth = 'Barnsley'

Naseer Jamili - Optima Highways

B-01149-12 11/12/2012 Tuesday Time: 1328 Vehicles 3 Casualties 5 Slight
 Easting: 435,064 Northing: 407,925
 Fine without high winds Road Surface: Dry Daylight: street lights present
 Road Type: Single carriageway Speed Limit: 30

Location: WAKEFIELD ROAD BARNSLEY

Description: ALL 3 VEHS TV ALONG WAKEFIELD RD AWAY FROM BARNSLEY IN SLOW
 MOVING TRAFFIC. V1 COLL WITH REAR OF V3 & V3 WAS SHUNTED INTO REAR
 OF V2.

Vehicle Reference: 1 Car Waiting to go ahead but held up
 First point of impact: Front
 Vehicle direction: S to N Journey: Journey as part of work
 Age of Driver : 64 Breath test: Not requested

Contributory Factors : 308 401 510

Casualty Reference: 1 Age: 64 Male Driver/rider Severity: Slight

Ped Dir: Ped Movement :

Ped Location:

Vehicle Reference: 2 Car Waiting to go ahead but held up
 First point of impact: Back
 Vehicle direction: S to N Journey: Commuting to/from work
 Age of Driver : 53 Breath test: Not requested

Contributory Factors : 308 401 510

Casualty Reference: 2 Age: 53 Male Driver/rider Severity: Slight

Ped Dir: Ped Movement :

Ped Location:

Casualty Reference: 4 Age: 45 Female Passenger Severity: Slight

Ped Dir: Ped Movement :

Ped Location:

AccsMap - Accident Analysis System

Accidents between dates 01/01/2011 and 31/12/2015 (60) months

Selection:

Notes:

Selected using Build Query : Local_auth = 'Barnsley'

Naseer Jamili - Optima Highways

Vehicle Reference: 3 Car

Waiting to go ahead but held up

First point of impact: Back

Vehicle direction: S to N

Journey: Commuting to/from work

Age of Driver : 22

Breath test: Not requested

Contributory Factors : 308 401 510

Casualty Reference: 3 Age: 22 Female Driver/rider Severity: Slight

Ped Dir: Ped Movement :

Ped Location:

Casualty Reference: 5 Age: 24 Male Passenger Severity: Slight

Ped Dir: Ped Movement :

Ped Location:

AccsMap - Accident Analysis System

Accidents between dates 01/01/2011 and 31/12/2015 (60) months

Selection:

Notes:

Selected using Build Query : Local_auth = 'Barnsley'

Naseer Jamili - Optima Highways

B-01201-12 27/12/2012 Thursday Time: 1820 Vehicles 2 Casualties 1 Slight

Easting: 435,013 Northing: 408,850

Fine without high winds Road Surface: Wet/Damp Darkness: street lights present and lit

Road Type: Single carriageway Speed Limit: 30

Location: ROTHERHAM RD BARNSELY

Description: V1 TV ROTHERHAM RD TW BURTON RD XRDS. V2 EXITS SIDE RD AND COLL WITH V1.

Vehicle Reference: 1 Car

Going ahead

First point of impact: Front

Vehicle direction: NW to SE

Journey: Not known

Age of Driver : 23

Breath test: Not requested

Contributory Factors :

Casualty Reference: 1 Age: 23 Male Driver/rider Severity: Slight

Ped Dir: Ped Movement :

Ped Location:

Vehicle Reference: 2 Car

Turning right

First point of impact: Offside

Vehicle direction: NE to SE

Journey: Journey as part of work

Age of Driver :

Breath test: Not requested

Contributory Factors :

Accidents between dates 01/01/2011 and 31/12/2015 (60) months

Selection:

Notes:

Selected using Build Query : Local_auth = 'Barnsley'

Naseer Jamili - Optima Highways

133597 05/02/2013 Tuesday Time: 0810 Vehicles 2 Casualties 1 Slight
 Easting: 435,226 Northing: 408,727
 Snowing without high winds Road Surface: Snow Daylight
 Road Type: Single carriageway Speed Limit: 40

Location: A 633 ROTHERHAM RD AT JUNCTION WITH CHATSWORTH RD BARNSELY SOUTH YORKSHIRE

Description: VEH1 TV DOWN HILL ON CHATSWORTH RD ON RD SURFACE COVERED WITH ICE & SNOW. VEH1 BRAKES & SKIDS INTO MAIN C.WAY ROTHERHAM RD COLL WITH VE2. VEH2 THEN SKIDS IN THE SNOW & COLL BT POLE

Vehicle Reference: 1 Car Waiting to go ahead but held up

First point of impact: Front

Vehicle direction: NE to SW

Journey: Commuting to/from work

Age of Driver : 38

Breath test:

Contributory Factors : 103

Vehicle Reference: 2 Car

Going ahead

First point of impact: Nearside

Vehicle direction: NW to SE

Journey: Commuting to/from work

Age of Driver : 25

Breath test:

Contributory Factors : 103

Casualty Reference: 1 Age: 25 Female Driver/rider Severity: Slight

Ped Dir: Ped Movement :

Ped Location:

AccsMap - Accident Analysis System

Accidents between dates 01/01/2011 and 31/12/2015 (60) months

Selection:

Notes:

Selected using Build Query : Local_auth = 'Barnsley'

Naseer Jamili - Optima Highways

B-00223-13 13/05/2013 Monday Time: 0928 Vehicles 2 Casualties 1 Slight
 Easting: 435,038 Northing: 408,073
 Fine without high winds Road Surface: Dry Daylight
 Road Type: Single carriageway Speed Limit: 30

Location: WAKEFIELD ROAD BARNSELY

Description: VEH1 PCV IN OFFSIDE LANE. VEH2 IN NEARSIDE LANE ADJACENT TO VEH1.
 BOTH VEHS IN TRAFFIC AT THE APPROACH TO TRAFFIC LIGHTS. AS LIGHTS
 CHANGE BOTH VEHS MOVE OFF. VEH2 MOVES TO THE OFFSIDE TO AVOID AN
 HGV AND COLLIDES WITH NEARSIDE OF VEH1.PASS IN VEH1 CAS1
 SUSTAINS SLIGHT INJURY

Vehicle Reference: 1 Bus or coach

Moving off

First point of impact: Nearside

Vehicle direction: N to S

Journey: Journey as part of work

Age of Driver : 54

Breath test: Driver not contacted

Contributory Factors : 405

Casualty Reference: 1 Age: 36 Female Passenger Severity: Slight

Ped Dir: Ped Movement :

Ped Location:

Vehicle Reference: 2 Car

Changing lane to right

First point of impact: Offside

Vehicle direction: N to S

Journey: Other

Age of Driver :

Breath test: Driver not contacted

Contributory Factors : 405

AccsMap - Accident Analysis System

Accidents between dates 01/01/2011 and 31/12/2015 (60) months

Selection:

Notes:

Selected using Build Query : Local_auth = 'Barnsley'

Naseer Jamili - Optima Highways

B-00517-13 27/05/2013 Monday Time: 1750 Vehicles 1 Casualties 1 Serious
 Easting: 435,398 Northing: 408,391
 Fine without high winds Road Surface: Dry Daylight
 Road Type: Single carriageway Speed Limit: 30

Location: ROTHERHAM RD BARNLSLEY

Description: VEH1 REVERSING SB OUT OF CAR PARK AT SIDE OF TESCO EXPRESS DOES NOT SEE CAS1 & REVERSES OVER HER FOOT

Vehicle Reference: 1 Car Reversing
 First point of impact: Offside
 Vehicle direction: S to N Journey: Not known
 Age of Driver : 34 Breath test: Driver not contacted

Contributory Factors : 803 710 704

Casualty Reference: 1 Age: 13 Female Pedestrian Severity: Serious

Ped Dir: Pedestrian Ped Movement : Driver's offside masked

Ped Location: On Ped Crossing

AccsMap - Accident Analysis System

Accidents between dates 01/01/2011 and 31/12/2015 (60) months

Selection:

Notes:

Selected using Build Query : Local_auth = 'Barnsley'

Naseer Jamili - Optima Highways

B-00301-13 11/06/2013 Tuesday Time: 2242 Vehicles 2 Casualties 1 Serious
 Easting: 435,425 Northing: 408,407
 Fine without high winds Road Surface: Dry Darkness: street lights present and lit
 Road Type: Single carriageway Speed Limit: 40

Location: ROTHERHAM RD BARNLSLEY

Description: V2 TRAVELLING FROM WAKEFIELD COLL WITH V1 COMING FROM CARLTON. V1 MAY HAVE CONTRAVENED RED LIGHT.

Vehicle Reference: 1 Motorcycle 50cc and under Going ahead
 First point of impact: Front
 Vehicle direction: NW to SE Journey: Not known
 Age of Driver : 55 Breath test: Negative

Contributory Factors : 301

Casualty Reference: 1 Age: 55 Female Driver/rider Severity: Serious

Ped Dir: Ped Movement :

Ped Location:

Vehicle Reference: 2 Car Going ahead
 First point of impact: Front
 Vehicle direction: NE to SW Journey: Journey as part of work
 Age of Driver : 45 Breath test: Negative

Contributory Factors : 301

AccsMap - Accident Analysis System

Accidents between dates 01/01/2011 and 31/12/2015 (60) months

Selection:

Notes:

Selected using Build Query : Local_auth = 'Barnsley'

Naseer Jamili - Optima Highways

B-00383-13 19/06/2013 Wednesda Time: 2103 Vehicles 2 Casualties 2 Slight
 Easting: 434,832 Northing: 408,947
 Unknown Road Surface: Dry Daylight
 Road Type: Roundabout Speed Limit: 30

Location: WAKEFIELD RD BARNSELY J/W ROTHERHAM RD

Description: V1 TV FROM ROTHERHAM RD ONTO RNDBT. V2 TV FROM WAKIEFIELD RD. V1 PULLS ONTO RNDBT AND COLL OCCURS WITH V2.

Vehicle Reference: 1 Car Going ahead
 First point of impact: Offside
 Vehicle direction: SE to NW Journey: Other
 Age of Driver : 26 Breath test: Not requested

Contributory Factors : 406

Casualty Reference: 1 Age: 26 Female Driver/rider Severity: Slight

Ped Dir: Ped Movement :

Ped Location:

Vehicle Reference: 2 Car Going ahead
 First point of impact: Front
 Vehicle direction: NW to SE Journey: Other
 Age of Driver : 50 Breath test: Not requested

Contributory Factors : 406

Casualty Reference: 2 Age: 50 Male Driver/rider Severity: Slight

Ped Dir: Ped Movement :

Ped Location:

AccsMap - Accident Analysis System

Accidents between dates 01/01/2011 and 31/12/2015 (60) months

Selection:

Notes:

Selected using Build Query : Local_auth = 'Barnsley'

Naseer Jamili - Optima Highways

B-00912-13 29/11/2013 Friday Time: 1715 Vehicles 1 Casualties 1 Slight
 Easting: 435,421 Northing: 408,405
 Fine without high winds Road Surface: Dry Darkness: street lights present and lit
 Road Type: Single carriageway Speed Limit: 30

Location: CARLTON ROAD BARNSELY J/W ROTHERHAM ROAD
 Description: V1 TRAV THROUGH JUNC SHOWING GREEN LIGHT, PED HAS CROSSED
 BETWEEN TWO STATIONARY VEH INTO THE PATH OF V1

Vehicle Reference: 1 Car Going ahead
 First point of impact: Front
 Vehicle direction: SW to NE Journey: Other
 Age of Driver : 37 Breath test: Not requested

Contributory Factors : 802

Casualty Reference: 1 Age: 14 Female Pedestrian Severity: Slight

Ped Dir: 9 Ped Movement : Driver's offside masked

Ped Location: In carr elsewhere

Accidents between dates 01/01/2011 and 31/12/2015 (60) months

Selection:

Notes:

Selected using Build Query : Local_auth = 'Barnsley'

Naseer Jamili - Optima Highways

B-00829-13 05/12/2013 Thursday Time: 1629 Vehicles 1 Casualties 1 Slight
 Easting: 434,618 Northing: 409,162
 Fine with high winds Road Surface: Dry Daylight
 Road Type: Single carriageway Speed Limit: 30

Location: WAKEFIELD RD BARNSELY

Description: VEH1 TRAV ALG C/WAY COLL CAS1 WHO RAN INTO C/WAY WITHOUT LOOKING

Vehicle Reference: 1 Car

Going ahead

First point of impact: Front

Vehicle direction: NW to SE

Journey: Commuting to/from work

Age of Driver : 56

Breath test: Negative

Contributory Factors : 808 802

Casualty Reference: 1 Age: 4 Female Pedestrian

Severity: Slight

Ped Dir: Pedestrian Ped Movement : Driver's offside

Ped Location: In carr elsewhere

AccsMap - Accident Analysis System

Accidents between dates 01/01/2011 and 31/12/2015 (60) months

Selection:

Notes:

Selected using Build Query : Local_auth = 'Barnsley'

Naseer Jamili - Optima Highways

B-00914-13 05/12/2013 Thursday Time: 2207 Vehicles 2 Casualties 1 Slight
 Easting: 435,017 Northing: 408,227
 Fine without high winds Road Surface: Dry Darkness: street lights present and lit
 Road Type: Single carriageway Speed Limit: 30

Location: WAKEFIELD ROAD BARNESLEY J/W CARLTON ROAD

Description: V1 & V2 TRAV IN OPPOSITE DIRECTIONS, V1 TRAV OUT OF BARNESLEY, V2 TWDS
 BARNESLEY, V1 HAS TURNED RIGHT INTO CARLTON RD AND HAS MIS-JUDGED
 V2'S SPEED AND THEY HAVE COLLIDED

Vehicle Reference: 1 Car

Turning right

First point of impact: Front

Vehicle direction: S to E

Journey: Journey as part of work

Age of Driver : 45

Breath test: Not requested

Contributory Factors : 103 103 406

Vehicle Reference: 2 Car

Going ahead

First point of impact: Front

Vehicle direction: N to S

Journey: Other

Age of Driver : 58

Breath test: Not requested

Contributory Factors : 103 103 406

Casualty Reference: 1 Age: 58 Female Driver/rider Severity: Slight

Ped Dir: Ped Movement :

Ped Location:

AccsMap - Accident Analysis System

Accidents between dates 01/01/2011 and 31/12/2015 (60) months

Selection:

Notes:

Selected using Build Query : Local_auth = 'Barnsley'

Naseer Jamili - Optima Highways

B-00858-13 06/12/2013 Friday Time: 1753 Vehicles 2 Casualties 1 Serious
 Easting: 435,427 Northing: 408,405
 Raining without high winds Road Surface: Wet/Damp Darkness: street lights present and lit
 Road Type: Single carriageway Speed Limit: 30

Location: ROTHERHAM ROAD SMITHIES J/W CARLTON ROAD
 Description: V1 TURNING RIGHT OUT OF JUNCTION AND COLL WITH V2 ON MAIN CARRIAGEWAY

Vehicle Reference: 1 Car Turning right
 First point of impact: Nearside
 Vehicle direction: NE to NW Journey: Journey as part of work
 Age of Driver : 27 Breath test: Negative
 Contributory Factors : 405

Vehicle Reference: 2 Pedal cycle Going ahead
 First point of impact: Front
 Vehicle direction: NW to SE Journey: Journey as part of work
 Age of Driver : 34 Breath test: Not requested
 Contributory Factors : 405

Casualty Reference: 1 Age: 34 Male Driver/rider Severity: Serious

Ped Dir: Ped Movement :

Ped Location:

AccsMap - Accident Analysis System

Accidents between dates 01/01/2011 and 31/12/2015 (60) months

Selection:

Notes:

Selected using Build Query : Local_auth = 'Barnsley'

Naseer Jamili - Optima Highways

B-00048-14 19/01/2014 Sunday Time: 0100 Vehicles 2 Casualties 1 Slight

Easting: 435,227 Northing: 408,728

Fine with high winds Road Surface: Wet/Damp Darkness: street lights present and lit

Road Type: Single carriageway Speed Limit: 30

Location: ROTHERHAM ROAD BARNSELY J/W CHATSWORTH ROAD

Description: VEH1 TV BARNSELY RD APPROACHING CHATSWORTH RD. VEH2 PULLS OUT OF JUNC INTO PATH OF VEH1.

Vehicle Reference: 1 Taxi Waiting to go ahead but held up

First point of impact: Front

Vehicle direction: NW to SE

Journey: Journey as part of work

Age of Driver : 50

Breath test: Negative

Contributory Factors : 405 605

Casualty Reference: 1 Age: 29 Female Passenger Severity: Slight

Ped Dir: Ped Movement :

Ped Location:

Vehicle Reference: 2 Car Turning right

First point of impact: Offside

Vehicle direction: NE to NW

Journey: Other

Age of Driver :

Breath test: Driver not contacted

Contributory Factors : 405 605

AccsMap - Accident Analysis System

Accidents between dates 01/01/2011 and 31/12/2015 (60) months

Selection:

Notes:

Selected using Build Query : Local_auth = 'Barnsley'

Naseer Jamili - Optima Highways

B-00119-14 07/02/2014 Friday Time: 1710 Vehicles 3 Casualties 4 Serious
 Easting: 435,424 Northing: 408,406
 Fine without high winds Road Surface: Wet/Damp Daylight
 Road Type: Single carriageway Speed Limit: 30

Location: CARLTON ROAD BARNSELY J/W ROTHERHAM ROAD

Description: V001, A 12SCC SCOOTER HAS TRAVELLED AT SPEED THROUGH THE TRAFFIC LIGHT JUNCTION. V002 HAS BEEN TRAVELLING IN THE OPPOSITE DIRECTION AND THE TWO VEHICLES HAVE BEEN IN COLLISION MID JUNCTION. V001 CONTINUES DOWNHILL AND HITS TWO PEDESTRIANS AN A PARKED CAR.

Vehicle Reference: 1 Motorcycle over 50cc and up Going ahead

First point of impact: Front

Vehicle direction: NE to SW

Journey: Other

Age of Driver : 18

Breath test: Negative

Contributory Factors : 602 601 406 306 301

Casualty Reference: 1 Age: 18 Male Driver/rider Severity: Serious

Ped Dir: Ped Movement :

Ped Location:

Casualty Reference: 3 Age: 17 Male Pedestrian Severity: Slight

Ped Dir: Pedestrian Ped Movement : Movement U/K

Ped Location: In car not crossing

Casualty Reference: 4 Age: 17 Male Pedestrian Severity: Slight

Ped Dir: Pedestrian Ped Movement : Movement U/K

Ped Location: On footpath / verge

AccsMap - Accident Analysis System

Accidents between dates 01/01/2011 and 31/12/2015 (60) months

Selection:

Notes:

Selected using Build Query : Local_auth = 'Barnsley'

Naseer Jamili - Optima Highways

Vehicle Reference: 2 Car

Turning right

First point of impact: Front

Vehicle direction: SW to SE

Journey: Other

Age of Driver : 42

Breath test: Negative

Contributory Factors : 602 601 406 306 301

Casualty Reference: 2 Age: 42 Female Driver/rider Severity: Slight

Ped Dir: Ped Movement :

Ped Location:

Vehicle Reference: 3 Car

Parked

First point of impact: Back

Vehicle direction: Parked to Parked

Journey: Other

Age of Driver : 28

Breath test: Driver not contacted

Contributory Factors : 602 601 406 306 301

AccsMap - Accident Analysis System

Accidents between dates 01/01/2011 and 31/12/2015 (60) months

Selection:

Notes:

Selected using Build Query : Local_auth = 'Barnsley'

Naseer Jamili - Optima Highways

B-00155-14 17/02/2014 Monday Time: 1745 Vehicles 1 Casualties 1 Slight
 Easting: 434,492 Northing: 409,335
 Raining without high winds Road Surface: Wet/Damp Daylight
 Road Type: Single carriageway Speed Limit: 30

Location: WAKEFIELD ROAD BARNESLEY J/W LAITHES LANE

Description: V1 APPROACHING JUNCTION WHEN C001 RAN INTO ROAD TO CROSS TO HIS FRIEND AND COLL WITH V1

Vehicle Reference: 1 Car

Moving off

First point of impact: Front

Vehicle direction: NW to SE

Journey: Commuting to/from work

Age of Driver : 53

Breath test: Negative

Contributory Factors : 701 802 808 803 809 701

Casualty Reference: 1 Age: 14 Male Pedestrian Severity: Slight

Ped Dir: Pedestrian Ped Movement : Driver's offside masked

Ped Location: Within 50m ped crossing

AccsMap - Accident Analysis System

Accidents between dates 01/01/2011 and 31/12/2015 (60) months

Selection:

Notes:

Selected using Build Query : Local_auth = 'Barnsley'

Naseer Jamili - Optima Highways

B-00285-14 15/03/2014 Saturday Time: 1237 Vehicles 2 Casualties 2 Slight
 Easting: 435,055 Northing: 407,987
 Unknown Road Surface: Dry Daylight
 Road Type: Single carriageway Speed Limit: 30

Location: WAKEFIELD ROAD BARNESLEY 80 MTS SMITHIES LANE

Description: TWO VEHS TV WAKEFIELD RD TW BARNESLEY. VEH1 BRAKED AND STOPPED DUE TO TRAFFIC AHEAD. VEH2 COLL INTO REAR OF VEH1.

Vehicle Reference: 1 Car Slowing or Stopping
 First point of impact: Back
 Vehicle direction: N to S Journey: Other
 Age of Driver : 48 Breath test: Negative

Contributory Factors : 406

Casualty Reference: 1 Age: 48 Female Driver/rider Severity: Slight

Ped Dir: Ped Movement :

Ped Location:

Casualty Reference: 2 Age: 9 Male Passenger Severity: Slight

Ped Dir: Ped Movement :

Ped Location:

Vehicle Reference: 2 Car Going ahead
 First point of impact: Front
 Vehicle direction: N to S Journey: Other
 Age of Driver : 23 Breath test: Negative

Contributory Factors : 406

AccsMap - Accident Analysis System

Accidents between dates 01/01/2011 and 31/12/2015 (60) months

Selection:

Notes:

Selected using Build Query : Local_auth = 'Barnsley'

Naseer Jamili - Optima Highways

B-00259-14 17/03/2014 Monday Time: 0910 Vehicles 2 Casualties 1 Slight
 Easting: 434,516 Northing: 409,320
 Fine without high winds Road Surface: Dry Daylight
 Road Type: Single carriageway Speed Limit: 30

Location: WAKEFIELD ROAD BARNESLEY J/W LAITHES LANE

Description: MOBILITY SCOOTER TV WAKEFIELD RD CROSSES JUNC TW THE CO-OP. VEH
 BEGINS TO TURN LT ALONG LAITHES LN AND FRONT OF TRAILER COLL WITH
 MOBILITY SCOOTER.

Vehicle Reference: 1 Goods >= 7.5 tonnes mgw Turning left

First point of impact: Nearside

Vehicle direction: NW to NE

Journey: Journey as part of work

Age of Driver : 59

Breath test: Negative

Contributory Factors : 405 406

Vehicle Reference: 2 Mobility Scooter

Going ahead

First point of impact: Front

Vehicle direction: NW to SE

Journey: Other

Age of Driver : 81

Breath test: Not requested

Contributory Factors : 405 406

Casualty Reference: 1 Age: 81 Male Driver/rider Severity: Slight

Ped Dir: Ped Movement :

Ped Location:

AccsMap - Accident Analysis System

Accidents between dates 01/01/2011 and 31/12/2015 (60) months

Selection:

Notes:

Selected using Build Query : Local_auth = 'Barnsley'

Naseer Jamili - Optima Highways

B-00345-14 15/04/2014 Tuesday Time: 1120 Vehicles 2 Casualties 2 Slight
 Easting: 434,522 Northing: 409,295
 Fine without high winds Road Surface: Dry Daylight
 Road Type: Single carriageway Speed Limit: 30

Location: WAKEFIELD ROAD BARNESLEY J/W LAITHES LANE

Description: VEH1 TV WAKEFIELD RD. VEH2 AHEAD STOPS. VEH1 COLL INTO REAR OF VEH2.

Vehicle Reference: 1 Car Waiting to go ahead but held up
 First point of impact: Front
 Vehicle direction: NW to SE Journey: Journey as part of work
 Age of Driver : 30 Breath test: Negative

Contributory Factors : 405 308

Vehicle Reference: 2 Car Waiting to go ahead but held up
 First point of impact: Back
 Vehicle direction: NW to SE Journey: Other
 Age of Driver : 37 Breath test: Negative

Contributory Factors : 405 308

Casualty Reference: 1 Age: 37 Female Driver/rider Severity: Slight

Ped Dir: Ped Movement :

Ped Location:

Casualty Reference: 2 Age: 11 Female Passenger Severity: Slight

Ped Dir: Ped Movement :

Ped Location:

AccsMap - Accident Analysis System

Accidents between dates 01/01/2011 and 31/12/2015 (60) months

Selection:

Notes:

Selected using Build Query : Local_auth = 'Barnsley'

Naseer Jamili - Optima Highways

B-00377-14 28/04/2014 Monday Time: 0820 Vehicles 1 Casualties 1 Serious
 Easting: 434,659 Northing: 409,371
 Fine without high winds Road Surface: Dry Daylight
 Road Type: Single carriageway Speed Limit: 30

Location: LAITHES LANE ATHERSLEY J/W LAITHES CRESCENT

Description: CAS RAN INTO RD AND COLL WITH OF OF VEH.

Vehicle Reference: 1 Car Going ahead
 First point of impact: Offside
 Vehicle direction: E to W Journey: Other
 Age of Driver : 40 Breath test: Negative

Contributory Factors : 802

Casualty Reference: 1 Age: 9 Male Pedestrian Severity: Serious

Ped Dir: Pedestrian Ped Movement : Driver's offside
 Ped Location: In car elsewhere

AccsMap - Accident Analysis System

Accidents between dates 01/01/2011 and 31/12/2015 (60) months

Selection:

Notes:

Selected using Build Query : Local_auth = 'Barnsley'

Naseer Jamili - Optima Highways

B-00425-14 11/05/2014 Sunday Time: 0010 Vehicles 2 Casualties 1 Slight
 Easting: 435,416 Northing: 408,403
 Fine without high winds Road Surface: Dry Darkness: street lights present and lit
 Road Type: Single carriageway Speed Limit: 30

Location: CARLTON ROAD BARNESLEY J/W ROTHERHAM ROAD

Description: V1 TURNS LEFT DOWN CARLTON ROAD. V2 TRAVELLING UP CARLTON ROAD.
AS V1 TURNS LEFT COLL WITH V2

Vehicle Reference: 1 Bus or coach Turning left
 First point of impact: Front
 Vehicle direction: SE to SW Journey: Journey as part of work
 Age of Driver : 24 Breath test: Negative
 Contributory Factors : 406 405 406

Vehicle Reference: 2 Motorcycle 50cc and under Waiting to go ahead but held up
 First point of impact: Front
 Vehicle direction: SW to NE Journey: Other
 Age of Driver : 19 Breath test: Not requested
 Contributory Factors : 406 405 406

Casualty Reference: 1 Age: 19 Female Driver/rider Severity: Slight

Ped Dir: Ped Movement :

Ped Location:

AccsMap - Accident Analysis System

Accidents between dates 01/01/2011 and 31/12/2015 (60) months

Selection:

Notes:

Selected using Build Query : Local_auth = 'Barnsley'

Naseer Jamili - Optima Highways

B-00592-14 15/05/2014 Thursday Time: 1730 Vehicles 2 Casualties 1 Slight
 Easting: 435,038 Northing: 408,076
 Fine without high winds Road Surface: Dry Daylight
 Road Type: Single carriageway Speed Limit: 30

Location: WAKEFIELD ROAD BARNSELY J/W SMITHIES LANE

Description: VEH1 TV WAKEFIELD RD TW BARNSELY ENTERS JUNC. VEH2 EXITS FROM SIDE RD INTO PATH OF VEH1.

Vehicle Reference: 1 Car Going ahead
 First point of impact: Offside
 Vehicle direction: N to S Journey: Other
 Age of Driver : 23 Breath test: Negative

Contributory Factors : 405 406

Vehicle Reference: 2 Motorcycle 50cc and under Going ahead
 First point of impact: Front
 Vehicle direction: W to S Journey: Other
 Age of Driver : 17 Breath test: Negative

Contributory Factors : 405 406

Casualty Reference: 1 Age: 17 Male Driver/rider Severity: Slight

Ped Dir: Ped Movement :

Ped Location:

AccsMap - Accident Analysis System

Accidents between dates 01/01/2011 and 31/12/2015 (60) months

Selection:

Notes:

Selected using Build Query : Local_auth = 'Barnsley'

Naseer Jamili - Optima Highways

B-00591-14 27/06/2014 Friday Time: 1720 Vehicles 2 Casualties 3 Slight
 Easting: 434,548 Northing: 409,333
 Fine without high winds Road Surface: Dry Daylight
 Road Type: Single carriageway Speed Limit: 30

Location: LAITHES LANE BARNESLEY 35 MTS WAKEFIELD ROAD

Description: V1 HAS DRIVEN FROM WAKEFIELD RD ONTO LAITHES RD INDICATING TO GO
 RIGHT INTO THE SMALL SHOPPING CENTRE, AS IT TURNED RIGHT V2 (BIKE)
 HAS COLLIDED WITH IT, RIDER INJURED AS WELL AS DRIVER IN V1 &
 PASSENGER

Vehicle Reference: 1 Car Turning right
 First point of impact: Nearside
 Vehicle direction: SW to SE Journey: Other
 Age of Driver : 54 Breath test: Not requested

Contributory Factors : 405

Casualty Reference: 1 Age: 54 Female Driver/rider Severity: Slight

Ped Dir: Ped Movement :

Ped Location:

Casualty Reference: 3 Age: 36 Female Passenger Severity: Slight

Ped Dir: Ped Movement :

Ped Location:

Vehicle Reference: 2 Motorcycle over 500cc Going ahead
 First point of impact: Front
 Vehicle direction: NE to SW Journey: Other
 Age of Driver : 22 Breath test: Not requested

Contributory Factors : 405

Casualty Reference: 2 Age: 22 Male Driver/rider Severity: Slight

Ped Dir: Ped Movement :

Ped Location:

AccsMap - Accident Analysis System

Accidents between dates 01/01/2011 and 31/12/2015 (60) months

Selection:

Notes:

Selected using Build Query : Local_auth = 'Barnsley'

Naseer Jamili - Optima Highways

B-00703-14 13/07/2014 Sunday Time: 2055 Vehicles 2 Casualties 1 Slight
 Easting: 434,835 Northing: 408,945
 Fine without high winds Road Surface: Dry Daylight
 Road Type: Roundabout Speed Limit: 30

Location: WAKEFIELD ROAD BARNSELY J/W ROTHERHAM ROAD
 Description: VEH2 NEGOTIATING RNCBT, VEH1[DRIVERS VISION AFFECTED BY LOW SUN]
 ENTERS RNCBT COLLIDING WITH N/SIDE VEH2.

Vehicle Reference: 1 Car Going ahead
 First point of impact: Front
 Vehicle direction: SE to NW Journey: Other
 Age of Driver : 27 Breath test: Not requested

Contributory Factors : 706 405 406 302

Vehicle Reference: 2 Motorcycle over 500cc Going ahead
 First point of impact: Nearside
 Vehicle direction: NW to S Journey: Other
 Age of Driver : 42 Breath test: Not provided (medical)

Contributory Factors : 706 405 406 302

Casualty Reference: 1 Age: 42 Male Driver/rider Severity: Slight

Ped Dir: Ped Movement :

Ped Location:

AccsMap - Accident Analysis System

Accidents between dates 01/01/2011 and 31/12/2015 (60) months

Selection:

Notes:

Selected using Build Query : Local_auth = 'Barnsley'

Naseer Jamili - Optima Highways

B-00724-14 04/08/2014 Monday Time: 0611 Vehicles 2 Casualties 1 Serious
 Easting: 434,619 Northing: 409,136
 Fine without high winds Road Surface: Dry Daylight
 Road Type: Single carriageway Speed Limit: 30

Location: NEW LODGE CRESCENT BARNESLEY J/W WAKEFIELD ROAD

Description: VEH2 M/CYCLE TURNING LEFT FROM WAKEFIELD ROAD ONTO NEW LODGE
 CRESC CROSSES ONTO OPPOSITE CARRIAGEWAY INTO PATH OF VEH2
 APPROACHING THE JUNCTION ALONG NEW LODGE CRESC AND COLLIDES WITH
 F/O/S VEH1

Vehicle Reference: 1 Taxi Slowing or Stopping
 First point of impact: Offside
 Vehicle direction: SW to NE Journey: Journey as part of work
 Age of Driver : 43 Breath test: Negative

Contributory Factors : 403 401

Vehicle Reference: 2 Motorcycle 50cc and under Turning left
 First point of impact: Front
 Vehicle direction: SE to SW Journey: Other
 Age of Driver : 16 Breath test: Not requested

Contributory Factors : 403 401

Casualty Reference: 1 Age: 16 Male Driver/rider Severity: Serious

Ped Dir: Ped Movement :

Ped Location:

AccsMap - Accident Analysis System

Accidents between dates 01/01/2011 and 31/12/2015 (60) months

Selection:

Notes:

Selected using Build Query : Local_auth = 'Barnsley'

Naseer Jamili - Optima Highways

B-00839-14 13/08/2014 Wednesda Time: 2000 Vehicles 2 Casualties 3 Slight
 Easting: 434,991 Northing: 408,382
 Fine without high winds Road Surface: Dry Daylight
 Road Type: Single carriageway Speed Limit: 30

Location: WAKEFIELD ROAD SMITHIES 92 MTS REASBECK TERRACE

Description: PED CYC EMERGED FROM DRIVEWAY INTO PATH OF V1 AND COLL OCC.

Vehicle Reference: 1 Car Going ahead
 First point of impact: Front
 Vehicle direction: N to S Journey: Pupil riding to/from school
 Age of Driver : 20 Breath test: Not requested

Contributory Factors : 602 607

Casualty Reference: 2 Age: 20 Female Driver/rider Severity: Slight

Ped Dir: Ped Movement :

Ped Location:

Casualty Reference: 3 Age: 49 Male Passenger Severity: Slight

Ped Dir: Ped Movement :

Ped Location:

Vehicle Reference: 2 Pedal cycle Going ahead
 First point of impact: Front
 Vehicle direction: W to E Journey: Other
 Age of Driver : 24 Breath test: Not requested

Contributory Factors : 602 607

Casualty Reference: 1 Age: 24 Male Driver/rider Severity: Slight

Ped Dir: Ped Movement :

Ped Location:

AccsMap - Accident Analysis System

Accidents between dates 01/01/2011 and 31/12/2015 (60) months

Selection:

Notes:

Selected using Build Query : Local_auth = 'Barnsley'

Naseer Jamili - Optima Highways

B-00843-14 14/09/2014 Sunday Time: 0030 Vehicles 2 Casualties 1 Serious
 Easting: 435,038 Northing: 408,075
 Fine without high winds Road Surface: Dry Darkness: street lights present and lit
 Road Type: Single carriageway Speed Limit: 30

Location: WAKEFIELD ROAD BARNSELY J/W SMITHIES LANE

Description: V1 MOBILITY SCOOTER COLL WITH REAR OF STATIONARY V2

Vehicle Reference: 1 Mobility Scooter Going ahead
 First point of impact: Front
 Vehicle direction: N to S Journey: Other
 Age of Driver : 58 Breath test: Not requested

Contributory Factors :

Casualty Reference: 1 Age: 58 Male Driver/rider Severity: Serious

Ped Dir: Ped Movement :

Ped Location:

Vehicle Reference: 2 Taxi Waiting to go ahead but held up
 First point of impact: Back
 Vehicle direction: N to S Journey: Other
 Age of Driver : 51 Breath test: Negative

Contributory Factors :

AccsMap - Accident Analysis System

Accidents between dates 01/01/2011 and 31/12/2015 (60) months

Selection:

Notes:

Selected using Build Query : Local_auth = 'Barnsley'

Naseer Jamili - Optima Highways

B-00885-14 22/09/2014 Monday Time: 1510 Vehicles 2 Casualties 1 Serious
 Easting: 434,552 Northing: 409,335
 Fine without high winds Road Surface: Dry Daylight
 Road Type: Single carriageway Speed Limit: 30

Location: LAITHES LANE BARNLSLEY 40 MTS WAKEFIELD ROAD

Description: VEH1 MOTOR SCOOTER COLL INTO REAR OF VEH2 WHICH WAS STAT IN TRAFFIC.

Vehicle Reference: 1 Motorcycle 50cc and under Going ahead

First point of impact: Front

Vehicle direction: NE to SW

Journey: Other

Age of Driver : 17

Breath test: Negative

Contributory Factors : 405

Casualty Reference: 1 Age: 17 Male Driver/rider Severity: Serious

Ped Dir: Ped Movement :

Ped Location:

Vehicle Reference: 2 Car Waiting to go ahead but held up

First point of impact: Back

Vehicle direction: NE to SW

Journey: Other

Age of Driver : 32

Breath test: Not requested

Contributory Factors : 405

AccsMap - Accident Analysis System

Accidents between dates 01/01/2011 and 31/12/2015 (60) months

Selection:

Notes:

Selected using Build Query : Local_auth = 'Barnsley'

Naseer Jamili - Optima Highways

B-00928-14 07/10/2014 Tuesday Time: 2110 Vehicles 2 Casualties 1 Slight
 Easting: 435,424 Northing: 408,409
 Fine without high winds Road Surface: Dry Darkness: street lights present and lit
 Road Type: Single carriageway Speed Limit: 30

Location: ROTHERHAM ROAD BARNSELY J/W CARLTON ROAD
 Description: V1 TURNING RIGHT FROM ROTHERHAM RD TO CARLTON RD. FLASHED BY UNKNOWN VEH. V2 UNDERTAKES UNKNOWN VEHICLE AND 2 COLLIDE. APPEARS NON-FAULT.

Vehicle Reference: 1 Car Turning right
 First point of impact: Front
 Vehicle direction: SE to NE Journey: Other
 Age of Driver : 54 Breath test: Not requested

Contributory Factors : 701 701 803 803

Vehicle Reference: 2 Motorcycle over 50cc and up Overtaking on nearside
 First point of impact: Front
 Vehicle direction: NW to SE Journey: Other
 Age of Driver : 59 Breath test: Not requested

Contributory Factors : 701 701 803 803

Casualty Reference: 1 Age: 59 Male Driver/rider Severity: Slight

Ped Dir: Ped Movement :

Ped Location:

AccsMap - Accident Analysis System

Accidents between dates 01/01/2011 and 31/12/2015 (60) months

Selection:

Notes:

Selected using Build Query : Local_auth = 'Barnsley'

Naseer Jamili - Optima Highways

B-01135-14 14/11/2014 Friday Time: 1030 Vehicles 2 Casualties 1 Slight
 Easting: 435,064 Northing: 407,923
 Fine without high winds Road Surface: Dry Daylight
 Road Type: Single carriageway Speed Limit: 30

Location: WAKEFIELD ROAD BARNESLEY 145 MTS SMITHIES LANE

Description: VEH'S IN STOP/START TRFC ON WAKEFIELD RD TRV SB , V2 FAILED TO REACT IN TIME AND COLL WITH REAR OF V1.

Vehicle Reference: 1 Car Moving off
 First point of impact: Back
 Vehicle direction: N to S Journey: Pupil riding to/from school
 Age of Driver : 59 Breath test: Not requested

Contributory Factors : 308 509

Casualty Reference: 1 Age: 59 Male Driver/rider Severity: Slight

Ped Dir: Ped Movement :

Ped Location:

Vehicle Reference: 2 Car Moving off
 First point of impact: Front
 Vehicle direction: N to S Journey: Journey as part of work
 Age of Driver : 31 Breath test: Not requested

Contributory Factors : 308 509

AccsMap - Accident Analysis System

Accidents between dates 01/01/2011 and 31/12/2015 (60) months

Selection:

Notes:

Selected using Build Query : Local_auth = 'Barnsley'

Naseer Jamili - Optima Highways

B-01103-14 17/11/2014 Monday Time: 1610 Vehicles 1 Casualties 1 Slight
 Easting: 435,222 Northing: 408,732
 Fine without high winds Road Surface: Dry Daylight
 Road Type: Single carriageway Speed Limit: 30

Location: ROTHERHAM ROAD BARNSELY J/W CHATSWORTH ROAD

Description: V1 WAS TRAVELLING ON ROTHERHAM ROAD WHEN A CHILD HAS RAN ACROSS THE ROAD INTO PATH OF V1 AND BEEN KNOCKED DOWN

Vehicle Reference: 1 Car

Going ahead

First point of impact: Front

Vehicle direction: NW to SE

Journey: Other

Age of Driver : 54

Breath test: Not requested

Contributory Factors : 405 802 808

Casualty Reference: 1 Age: 12 Female Pedestrian

Severity: Slight

Ped Dir: Pedestrian Ped Movement : Driver's nearside

Ped Location: In cent carr

Accidents between dates 01/01/2011 and 31/12/2015 (60) months

Selection:

Notes:

Selected using Build Query : Local_auth = 'Barnsley'

Naseer Jamili - Optima Highways

B-01213-14 04/12/2014 Thursday Time: 1330 Vehicles 2 Casualties 1 Slight
 Easting: 435,023 Northing: 408,225
 Fine without high winds Road Surface: Dry Daylight
 Road Type: Single carriageway Speed Limit: 30

Location: CARLTON ROAD SMITHIES J/W WAKEFIELD ROAD

Description: VEH1 & 2 STAT AT RED TRAFFIC LIGHT INTENDING TO TURN LT. VEH1 SETS OFF BUT STOPS. VEH2 COLL INTO REAR OF VEH1.

Vehicle Reference: 1 Car Turning left
 First point of impact: Back
 Vehicle direction: E to S Journey: Commuting to/from work
 Age of Driver : 20 Breath test: Negative
 Contributory Factors : 406 405

Vehicle Reference: 2 Car Turning left
 First point of impact: Front
 Vehicle direction: E to S Journey: Other
 Age of Driver : 91 Breath test: Negative
 Contributory Factors : 406 405

Casualty Reference: 1 Age: 91 Male Driver/rider Severity: Slight

Ped Dir: Ped Movement :

Ped Location:

AccsMap - Accident Analysis System

Accidents between dates 01/01/2011 and 31/12/2015 (60) months

Selection:

Notes:

Selected using Build Query : Local_auth = 'Barnsley'

Naseer Jamili - Optima Highways

B-01240-14 10/12/2014 Wednesda Time: 0830 Vehicles 2 Casualties 1 Slight
 Easting: 434,827 Northing: 408,957
 Fine with high winds Road Surface: Wet/Damp Daylight
 Road Type: Roundabout Speed Limit: 30

Location: WAKEFIELD ROAD NEW LODGE J/W ROTHERHAM ROAD

Description: VEH1 TV WAKEFIELD RD TW TOWN CENTRE IN LT LN IN ORDER TO NEG MINI
 RNDBT. VEH2 APPROACHED RNDBT AND DRIVER PRESUMED VEH1 WAS
 TURNING LT. BOTH VEHS ENTERED RNDBT AND A COLL OCCURRED.

Vehicle Reference: 1 Bus or coach

Going ahead

First point of impact: Front

Vehicle direction: NW to SE

Journey: Journey as part of work

Age of Driver : 22

Breath test: Negative

Contributory Factors : 406 404 405

Vehicle Reference: 2 Car

Going ahead

First point of impact: Offside

Vehicle direction: NW to SE

Journey: Taking pupil to/from school

Age of Driver : 27

Breath test: Negative

Contributory Factors : 406 404 405

Casualty Reference: 1 Age: 27 Female Driver/rider

Severity: Slight

Ped Dir:

Ped Movement :

Ped Location:

AccsMap - Accident Analysis System

Accidents between dates 01/01/2011 and 31/12/2015 (60) months

Selection:

Notes:

Selected using Build Query : Local_auth = 'Barnsley'

Naseer Jamili - Optima Highways

B-01236-14 13/12/2014 Saturday Time: 1940 Vehicles 2 Casualties 3 Slight
 Easting: 435,016 Northing: 408,228
 Raining without high winds Road Surface: Frost/Ice Darkness: street lights present and lit
 Road Type: Single carriageway Speed Limit: 30

Location: WAKEFIELD ROAD BARNESLEY J/W CARLTON ROAD

Description: V1 WAS DRIVING DOWN WAKEFIELD RD WHEN V2 CROSSED HIS PATH WHEN
 TURNING RIGHT AT JUNC. OF INCIDENT. V1 WAS UNABLE TO STOP AND V2 HIT
 IT. V1 SWERVED TO TRY AND AVOID V2 AND WENT THROUGH WALL OF A
 NEARBY GARDEN.

Vehicle Reference: 1 Car Going ahead
 First point of impact: Front
 Vehicle direction: N to S Journey: Other
 Age of Driver : 18 Breath test: Negative

Contributory Factors : 405 406 603

Casualty Reference: 2 Age: 16 Male Passenger Severity: Slight

Ped Dir: Ped Movement :
 Ped Location:

Vehicle Reference: 2 Car Turning right
 First point of impact: Front
 Vehicle direction: S to E Journey: Other
 Age of Driver : 17 Breath test: Negative

Contributory Factors : 405 406 603

Casualty Reference: 1 Age: 17 Male Driver/rider Severity: Slight

Ped Dir: Ped Movement :
 Ped Location:

Casualty Reference: 3 Age: 20 Female Passenger Severity: Slight

Ped Dir: Ped Movement :
 Ped Location:

Accidents between dates 01/01/2011 and 31/12/2015 (60) months

Selection:

Notes:

Selected using Build Query : Local_auth = 'Barnsley'

Naseer Jamili - Optima Highways

B-01312-14 23/12/2014 Tuesday Time: 1431 Vehicles 2 Casualties 1 Slight
 Easting: 435,227 Northing: 408,729
 Fine without high winds Road Surface: Dry Daylight
 Road Type: Single carriageway Speed Limit: 30

Location: ROTHERHAM ROAD ATHERSLEY J/W CHATSWORTH ROAD

Description: VEH1 STAT CHATSWORTH RD J/W ROTHERHAM RD. VEH2 TV TW BARNESLEY
 ALONG ROTHERHAM RD AS VEH1 EMERGES FROM JUNC INTO PATH OF VEH2
 AND COLL OCCURS.

Vehicle Reference: 1 Car

Turning right

First point of impact: Offside

Vehicle direction: NE to NW

Journey: Other

Age of Driver : 26

Breath test: Not requested

Contributory Factors : 406 405

Vehicle Reference: 2 Car

Going ahead

First point of impact: Front

Vehicle direction: NW to SE

Journey: Other

Age of Driver : 42

Breath test: Not requested

Contributory Factors : 406 405

Casualty Reference: 1 Age: 42 Female Driver/rider Severity: Slight

Ped Dir: Ped Movement :

Ped Location:

AccsMap - Accident Analysis System

Accidents between dates 01/01/2011 and 31/12/2015 (60) months

Selection:

Notes:

Selected using Build Query : Local_auth = 'Barnsley'

Naseer Jamili - Optima Highways

B-00138-15 11/02/2015 Wednesda Time: 1435 Vehicles 2 Casualties 4 Slight
 Easting: 435,423 Northing: 408,408
 Fine without high winds Road Surface: Dry Daylight
 Road Type: Single carriageway Speed Limit: 30

Location: ROTHERHAM ROAD MONK BRETTON J/W CARLTON ROAD

Description: VEH1 TV ROTHERHAM RD TW BURTON RD APPROACHING TRAFFIC LIGHTS.
 VEH2 TV FROM CARLTON RD IN DIRC OF CARLTON. COLL OCCURRED.

Vehicle Reference: 1 Car Going ahead
 First point of impact: Front
 Vehicle direction: NW to SE Journey: Other
 Age of Driver : 36 Breath test: Negative

Contributory Factors : 903

Casualty Reference: 1 Age: 36 Male Driver/rider Severity: Slight

Ped Dir: Ped Movement :

Ped Location:

AccsMap - Accident Analysis System

Accidents between dates 01/01/2011 and 31/12/2015 (60) months

Selection:

Notes:

Selected using Build Query : Local_auth = 'Barnsley'

Naseer Jamili - Optima Highways

Vehicle Reference: 2 Van or Goods <= 3.5 tonnes Going ahead

First point of impact: Nearside

Vehicle direction: SW to NE

Journey: Journey as part of work

Age of Driver : 35

Breath test: Not requested

Contributory Factors : 903

Casualty Reference: 2 Age: 30 Female Passenger Severity: Slight

Ped Dir: Ped Movement :

Ped Location:

Casualty Reference: 3 Age: 46 Male Passenger Severity: Slight

Ped Dir: Ped Movement :

Ped Location:

Casualty Reference: 4 Age: 47 Male Passenger Severity: Slight

Ped Dir: Ped Movement :

Ped Location:

AccsMap - Accident Analysis System

Accidents between dates 01/01/2011 and 31/12/2015 (60) months

Selection:

Notes:

Selected using Build Query : Local_auth = 'Barnsley'

Naseer Jamili - Optima Highways

B-00217-15 06/03/2015 Friday Time: 1230 Vehicles 3 Casualties 1 Slight
 Easting: 434,852 Northing: 408,945
 Unknown Road Surface: Dry Daylight
 Road Type: Roundabout Speed Limit: 30

Location: ROTHERHAM ROAD ATHERSLEY SOUTH J/W WAKEFIELD ROAD
 Description: V1 EXITED R/ABOUT ON WAKEFIELD RD & BRAKED & STOPPED DUE TO VEHICLE
 IN FRONT STOPPING. V2 STOPPED BEHIND V1 HOWEVER V3 COLLIDED WITH V2,
 PUSHING V2 INTO V1.

Vehicle Reference: 1 Car Slowing or Stopping
 First point of impact: Back
 Vehicle direction: NW to SE Journey: Other
 Age of Driver : 18 Breath test: Driver not contacted
 Contributory Factors : 410

Casualty Reference: 1 Age: 18 Female Driver/rider Severity: Slight

Ped Dir: Ped Movement :
 Ped Location:

Vehicle Reference: 2 Car Slowing or Stopping
 First point of impact: Back
 Vehicle direction: NW to SE Journey: Other
 Age of Driver : Breath test: Driver not contacted
 Contributory Factors : 410

Vehicle Reference: 3 Car Going ahead
 First point of impact: Front
 Vehicle direction: NW to SE Journey: Other
 Age of Driver : Breath test: Driver not contacted
 Contributory Factors : 410

AccsMap - Accident Analysis System

Accidents between dates 01/01/2011 and 31/12/2015 (60) months

Selection:

Notes:

Selected using Build Query : Local_auth = 'Barnsley'

Naseer Jamili - Optima Highways

B-00477-15 28/05/2015 Thursday Time: 1549 Vehicles 1 Casualties 1 Slight
 Easting: 435,022 Northing: 408,072
 Fine without high winds Road Surface: Dry Daylight
 Road Type: Single carriageway Speed Limit: 30

Location: SMITHIES LANE BARNSELY J/W WAKEFIELD ROAD

Description: VEH1 MOVES OFF FROM TRAFFIC LIGHTS. TRAFFIC AHEAD BRAKE SUDDENLY.
PASS ON VEH1 FALLS.

Vehicle Reference: 1 Bus or coach

Moving off

First point of impact: Did not impact

Vehicle direction: W to E

Journey: Journey as part of work

Age of Driver : 55

Breath test: Not requested

Contributory Factors : 408

Casualty Reference: 1 Age: 72 Male Passenger Severity: Slight

Ped Dir: Ped Movement :

Ped Location:

Accidents between dates 01/01/2011 and 31/12/2015 (60) months

Selection:

Notes:

Selected using Build Query : Local_auth = 'Barnsley'

Naseer Jamili - Optima Highways

B-00523-15 15/06/2015 Monday Time: 0835 Vehicles 2 Casualties 1 Slight
 Easting: 434,547 Northing: 409,332
 Fine without high winds Road Surface: Dry Daylight
 Road Type: Single carriageway Speed Limit: 30

Location: LAITHES LANE ATHERSLEY NORTH 35 MTS WAKEFIELD ROAD
 Description: VEH1 TURNING RT FROM LAITHES LN INTO CAR PARK. TRAFFIC STOPPED TO ALLOW VEH1 TO TURN. VEH2 TV DOWN INSIDE OF STAT TRAFFIC AND COLL OCCURRED WITH VEH1.

Vehicle Reference: 1 Car Turning right
 First point of impact: Front
 Vehicle direction: SW to SE Journey: Journey as part of work
 Age of Driver : 58 Breath test: Negative

Contributory Factors : 405 701

Vehicle Reference: 2 Car Overtaking on nearside
 First point of impact: Offside
 Vehicle direction: NE to SW Journey: Journey as part of work
 Age of Driver : 46 Breath test: Not requested

Contributory Factors : 405 701

Casualty Reference: 1 Age: 46 Male Driver/rider Severity: Slight

Ped Dir: Ped Movement :

Ped Location:

Accidents between dates 01/01/2011 and 31/12/2015 (60) months

Selection:

Notes:

Selected using Build Query : Local_auth = 'Barnsley'

Naseer Jamili - Optima Highways

B-00532-15 19/06/2015 Friday Time: 1735 Vehicles 2 Casualties 1 Slight
 Easting: 434,513 Northing: 409,289
 Fine without high winds Road Surface: Dry Daylight
 Road Type: Single carriageway Speed Limit: 30

Location: WAKEFIELD ROAD ATHERSLEY J/W LAITHES LANE

Description: VEH TV WAKEFIELD RD TV THRO TRAFFIC LIGHTS ON AMBER. PCYCLIST XING
 ON PED XING POSS ON RED AND A COLL OCCURS.

Vehicle Reference: 1 Car Going ahead
 First point of impact: Front
 Vehicle direction: SE to NW Journey: Journey as part of work
 Age of Driver : 34 Breath test: Negative
 Contributory Factors : 602

Vehicle Reference: 2 Pedal cycle Going ahead
 First point of impact: Nearside
 Vehicle direction: NE to SW Journey: Other
 Age of Driver : 12 Breath test: Not applicable
 Contributory Factors : 602

Casualty Reference: 1 Age: 12 Male Driver/rider Severity: Slight

Ped Dir: Ped Movement :

Ped Location:

AccsMap - Accident Analysis System

Accidents between dates 01/01/2011 and 31/12/2015 (60) months

Selection:

Notes:

Selected using Build Query : Local_auth = 'Barnsley'

Naseer Jamili - Optima Highways

B-00535-15 21/06/2015 Sunday Time: 1325 Vehicles 2 Casualties 2 Slight
 Easting: 434,833 Northing: 408,947
 Fine without high winds Road Surface: Dry Daylight
 Road Type: Roundabout Speed Limit: 30

Location: WAKEFIELD ROAD ATHERSLEY SOUTH J/W ROTHERHAM ROAD
 Description: VEH1 TV WAKEFIELD RD TW BARNSELY ENTERS RNDDBT INTENDING TO CONT
 ON TO WAKEFIELD RD. VEH2 TV ROTHERHAM RD TW WAKEFIELD ALSO
 ENTERS RNDDBT AND A COLL OCCURS WITH VEH1.

Vehicle Reference: 1 Car Going ahead
 First point of impact: Nearside
 Vehicle direction: NW to SE Journey: Other
 Age of Driver : 33 Breath test: Negative

Contributory Factors : 405 406

Casualty Reference: 1 Age: 33 Female Driver/rider Severity: Slight

Ped Dir: Ped Movement :

Ped Location:

Vehicle Reference: 2 Car Going ahead
 First point of impact: Front
 Vehicle direction: E to NW Journey: Other
 Age of Driver : 43 Breath test: Negative

Contributory Factors : 405 406

Casualty Reference: 2 Age: 43 Male Driver/rider Severity: Slight

Ped Dir: Ped Movement :

Ped Location:

AccsMap - Accident Analysis System

Accidents between dates 01/01/2011 and 31/12/2015 (60) months

Selection:

Notes:

Selected using Build Query : Local_auth = 'Barnsley'

Naseer Jamili - Optima Highways

B-00612-15 04/07/2015 Saturday Time: 1522 Vehicles 2 Casualties 1 Slight
 Easting: 434,960 Northing: 408,553
 Fine without high winds Road Surface: Dry Daylight
 Road Type: Single carriageway Speed Limit: 30

Location: WAKEFIELD ROAD BARNESLEY 30 MTS PRIMROSE BANK

Description: V2 PEDCYC COLL WITH PARKED V1

Vehicle Reference: 1 Car

Parked

First point of impact: Back

Vehicle direction: Parked to Parked

Journey: Other

Age of Driver : 38

Breath test: Not requested

Contributory Factors : 405

Vehicle Reference: 2 Pedal cycle

Going ahead

First point of impact: Front

Vehicle direction: S to N

Journey: Other

Age of Driver : 51

Breath test: Not requested

Contributory Factors : 405

Casualty Reference: 1 Age: 51 Male Driver/rider Severity: Slight

Ped Dir: Ped Movement :

Ped Location:

AccsMap - Accident Analysis System

Accidents between dates 01/01/2011 and 31/12/2015 (60) months

Selection:

Notes:

Selected using Build Query : Local_auth = 'Barnsley'

Naseer Jamili - Optima Highways

B-00650-15 16/07/2015 Thursday Time: 0835 Vehicles 2 Casualties 1 Slight
 Easting: 435,157 Northing: 408,774
 Fine without high winds Road Surface: Dry Daylight
 Road Type: Single carriageway Speed Limit: 30

Location: ROTHERHAM ROAD BARNESLEY J/W ROTHERHAM ROAD
 Description: VEH1 AT JUNC OF SERVICE RD & ROTHERHAM RD. P/CYCLIST2 TV ON
 PAVEMENT TW ATHERSLEY. A COLL OCCURRED.

Vehicle Reference: 1 Car Waiting to go ahead but held up
 First point of impact: Front
 Vehicle direction: NE to SW Journey: Journey as part of work
 Age of Driver : 57 Breath test: Not requested

Contributory Factors : 203 405 410

Vehicle Reference: 2 Pedal cycle Going ahead
 First point of impact: Offside
 Vehicle direction: SE to NW Journey: Pupil riding to/from school
 Age of Driver : 10 Breath test: Not applicable

Contributory Factors : 203 405 410

Casualty Reference: 1 Age: 10 Male Driver/rider Severity: Slight

Ped Dir: Ped Movement :

Ped Location:

AccsMap - Accident Analysis System

Accidents between dates 01/01/2011 and 31/12/2015 (60) months

Selection:

Notes:

Selected using Build Query : Local_auth = 'Barnsley'

Naseer Jamili - Optima Highways

B-00674-15 25/07/2015 Saturday Time: 1250 Vehicles 2 Casualties 1 Serious
 Easting: 434,630 Northing: 409,147
 Fine without high winds Road Surface: Dry Daylight
 Road Type: Single carriageway Speed Limit: 30

Location: WAKEFIELD ROAD BARNSELY J/W NEW LODGE CRESCENT

Description: VEH1 TURNS RT FROM NEW LODGE CRES ONTO WAKEFIELD RD. VEH2 OVTK
 SLOW MOVING TRAFFIC COLL WITH VEH1.

Vehicle Reference: 1 Car Turning right
 First point of impact: Front
 Vehicle direction: SW to SE Journey: Other
 Age of Driver : 19 Breath test: Negative

Contributory Factors : 306 701

Vehicle Reference: 2 Motorcycle over 125cc and up Overtaking moving vehicle on its offside
 First point of impact: Front
 Vehicle direction: NW to SE Journey: Other
 Age of Driver : 27 Breath test: Not requested

Contributory Factors : 306 701

Casualty Reference: 1 Age: 27 Male Driver/rider Severity: Serious

Ped Dir: Ped Movement :

Ped Location:

AccsMap - Accident Analysis System

Accidents between dates 01/01/2011 and 31/12/2015 (60) months

Selection:

Notes:

Selected using Build Query : Local_auth = 'Barnsley'

Naseer Jamili - Optima Highways

B-00751-15 26/08/2015 Wednesda Time: 2051 Vehicles 1 Casualties 1 Slight
Easting: 434,633 Northing: 409,138
Fine without high winds Road Surface: Dry Darkness: street lights present and lit
Road Type: Single carriageway Speed Limit: 30

Location: WAKEFIELD ROAD BARNESLEY J/W NEW LODGE CRESCENT

Description: PSV TV IN BUS LN ON WAKEFIELD RD TW J/W NEW LODGE CRES. DRIVER
BRAKES DUE TO UNKNOWN VEH AND PASS SUSTAINS INJ.

Vehicle Reference: 1 Bus or coach

Slowing or Stopping

First point of impact: Did not impact

Vehicle direction: SE to NW

Journey: Journey as part of work

Age of Driver : 57

Breath test: Not requested

Contributory Factors : 408

Casualty Reference: 1 Age: 64 Female Passenger Severity: Slight

Ped Dir: Ped Movement :

Ped Location:

Accidents between dates 01/01/2011 and 31/12/2015 (60) months

Selection:

Notes:

Selected using Build Query : Local_auth = 'Barnsley'

Naseer Jamili - Optima Highways

B-00795-15 09/09/2015 Wednesda Time: 1821 Vehicles 2 Casualties 1 Serious
 Easting: 435,017 Northing: 408,229
 Fine without high winds Road Surface: Dry Daylight
 Road Type: Single carriageway Speed Limit: 30

Location: WAKEFIELD ROAD BARNESLEY J/W CARLTON ROAD

Description: V1 TURNING RIGHT AT TRAFFOC LIGHTS ACROSS PATH OF V2

Vehicle Reference: 1 Car

Turning right

First point of impact: Front

Vehicle direction: S to E

Journey: Other

Age of Driver : 23

Breath test: Not requested

Contributory Factors : 405 406 605 710

Vehicle Reference: 2 Pedal cycle

Going ahead

First point of impact: Front

Vehicle direction: N to S

Journey: Other

Age of Driver : 21

Breath test: Not requested

Contributory Factors : 405 406 605 710

Casualty Reference: 1 Age: 21 Male Driver/rider Severity: Serious

Ped Dir: Ped Movement :

Ped Location:

Accidents between dates 01/01/2011 and 31/12/2015 (60) months

Selection:

Notes:

Selected using Build Query : Local_auth = 'Barnsley'

Naseer Jamili - Optima Highways

B-00826-15 18/09/2015 Friday Time: 1225 Vehicles 2 Casualties 3 Slight
 Easting: 434,509 Northing: 409,312
 Fine without high winds Road Surface: Dry Daylight
 Road Type: Single carriageway Speed Limit: 30

Location: WAKEFIELD RD BARNSELY SMITHIES LN

Description: VEH1 TV WAKEFIELD RD FROM DIRC OF TOWN TW JUNC WITH SMITHIES LN.
 VEH2 PULLS ACROSS FRONT OF VEH1 AND A COLL OCCURRED.

Vehicle Reference: 1 Car Going ahead
 First point of impact: Front
 Vehicle direction: W to E Journey: Other
 Age of Driver : 28 Breath test: Negative

Contributory Factors : 405 406

Casualty Reference: 1 Age: 28 Male Driver/rider Severity: Slight

Ped Dir: Ped Movement :

Ped Location:

Casualty Reference: 2 Age: 29 Male Passenger Severity: Slight

Ped Dir: Ped Movement :

Ped Location:

Vehicle Reference: 2 Car Turning right
 First point of impact: Front
 Vehicle direction: E to N Journey: Other
 Age of Driver : 57 Breath test: Negative

Contributory Factors : 405 406

Casualty Reference: 3 Age: 57 Male Driver/rider Severity: Slight

Ped Dir: Ped Movement :

Ped Location:

AccsMap - Accident Analysis System

Accidents between dates 01/01/2011 and 31/12/2015 (60) months

Selection:

Notes:

Selected using Build Query : Local_auth = 'Barnsley'

Naseer Jamili - Optima Highways

B-01007-15 05/11/2015 Thursday Time: 1110 Vehicles 2 Casualties 1 Slight
 Easting: 434,528 Northing: 409,317
 Fine without high winds Road Surface: Wet/Damp Daylight
 Road Type: Single carriageway Speed Limit: 30

Location: LAITHES LANE BARNESLEY J/W WAKEFIELD ROAD

Description: VEH1 TV LAITHES LN AND STOPS. VEH2 COLL INTO REAR OF VEH1.

Vehicle Reference: 1 Car Slowing or Stopping
 First point of impact: Back
 Vehicle direction: NE to SW Journey: Other
 Age of Driver : 68 Breath test: Not requested

Contributory Factors : 408 308 103

Casualty Reference: 1 Age: 66 Female Passenger Severity: Slight

Ped Dir: Ped Movement :

Ped Location:

Vehicle Reference: 2 Bus or coach Slowing or Stopping
 First point of impact: Front
 Vehicle direction: NE to SW Journey: Journey as part of work
 Age of Driver : 37 Breath test: Not requested

Contributory Factors : 408 308 103

AccsMap - Accident Analysis System

Accidents between dates 01/01/2011 and 31/12/2015 (60) months

Selection:

Notes:

Selected using Build Query : Local_auth = 'Barnsley'

Naseer Jamili - Optima Highways

Accidents involving:

Casualties:

	Fatal	Serious	Slight	Total
Motor vehicles only excluding 2-wheels	0	3	43	46
2-wheeled motor vehicles	0	7	8	15
Pedal cycles	0	2	5	7
Horses & other	0	1	1	2
Total	0	13	57	70

	Fatal	Serious	Slight	Total
Vehicle driver	0	2	34	36
Passenger	0	0	22	22
Motorcycle rider	0	7	8	15
Cyclist	0	2	5	7
Pedestrian	0	2	14	16
Other	0	0	0	0
Total	0	13	83	96

Appendix C Masterplan



10m WIDTH WOODLAND BUFFER TO REDUCE VISUAL IMPACT OF DEVELOPMENT TO VIEWS FROM THE NORTH AND PROVIDE ECOLOGICAL BENEFIT, MITIGATING THE EFFECTS OF VEGETATION REMOVAL ELSEWHERE ON THE SITE

STREET PATTERN AND ARRANGEMENT OF DWELLINGS DESIGNED TO RUN ALONG THE CONTOURS, MINIMISING GRADIENTS AND STEPS IN BUILT FORM

POTENTIAL CONNECTIONS TO PUBLIC FOOTPATH ON FORMER RAILWAY LINE

SERIES OF STEPPED SURFACE WATER ATTENUATION BASINS POSITIONED IN THE LOWEST PART OF THE SITE

FOOTPATH LINK TO DEFINITIVE PUBLIC FOOTPATH ROUTE ON BOUNDARY OF SITE

DENSELY VEGETATED FORMER RAILWAY CORRIDOR PROVIDES A SUBSTANTIAL SCREEN TO THE LOWER PARTS OF THE SITE

EXISTING POND RETAINED WITHIN OPEN SPACE

GATEWAY OPEN SPACE - RETAINING VIEWS OF EAST GAWBER HALL FROM THE MAIN ROAD JUNCTION

A MAXIMUM OF 5 PROPERTIES FRONTING WAKEFIELD ROAD TO BE SERVED BY A SHARED PRIVATE DRIVE

EXISTING PRIVATE ACCESS RETAINED TO No's 29 & 30

PRIMARY VEHICLE ACCESS POINT ON WAKEFIELD ROAD, APPROXIMATELY 45m SOUTH OF THE EXISTING ACCESS

EXISTING VEGETATION TO BE RETAINED WITHIN OPEN SPACE WHERE PRACTICAL

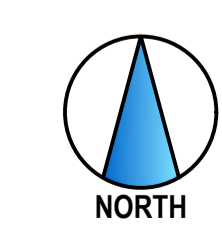
DWELLINGS FACING SITE BOUNDARY AND COMMERCIAL USES TO PROVIDE REAR GARDENS PROTECTED FROM NOISE

LOCATION OF PLAY SPACE

AREA OF VALLEY LANDFORM CONTAINING WATERCOURSE TO BE DEDICATED AS OPEN SPACE, RETAINING AND ENHANCING EXISTING ECOLOGICAL FEATURES

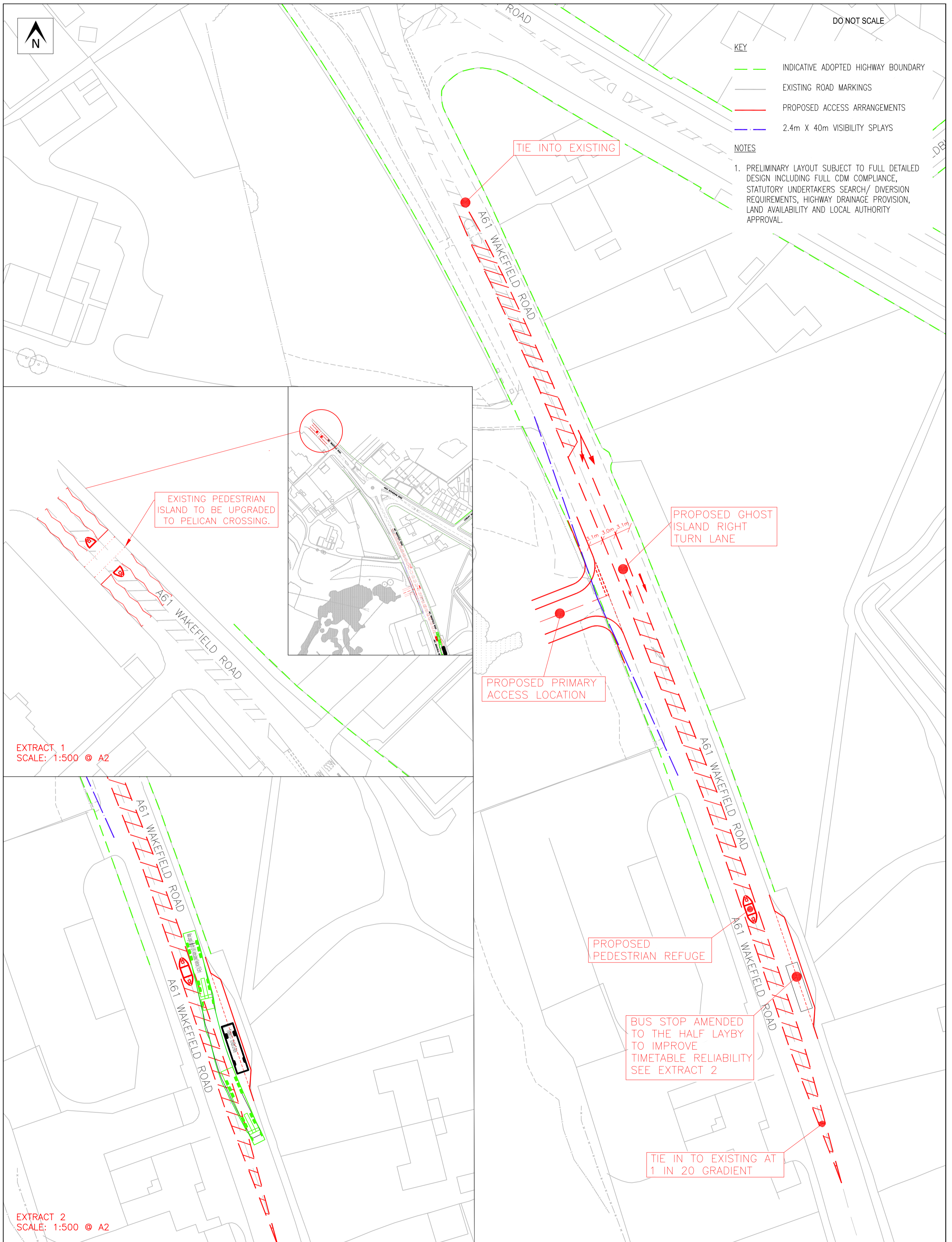
SUBSTANTIAL TREE BELT TO SOUTHERN BOUNDARY TO BE RETAINED TO PROVIDE SCREENING OF DEVELOPMENT AND NEIGHBOURING COMMERCIAL LAND USES

03 / ILLUSTRATIVE MASTERPLAN



CLIENT: HARWORTH ESTATES	DRAWING NUMBER: P17 5091 03
PROJECT: ATHERSLEY	SCALE @ A1: 1:1250
DRAWN: ILLUSTRATIVE MASTERPLAN	DATE: 02.10.17
CHECKED:	DATE:

Appendix D GA01 Rev B



EXTRACT 1
SCALE: 1:500 @ A2

EXTRACT 2
SCALE: 1:500 @ A2

REV	DATE	BY	DESCRIPTION	CHK	APP
B	22/09/17	NJ	MINOR AMENDMENTS	RAM	RAM
A	31/07/17	NJ	PROPOSED ACCESS RELOCATED	RAM	RAM

STATUS: PRELIMINARY

PROJECT	PROPOSED RESIDENTIAL DEVELOPMENT WAKEFIELD ROAD, ATHERSLEY
DRAWING TITLE	PROPOSED ACCESS ARRANGEMENTS AND PELICAN CROSSING

CLIENT	HARWORTH		
CHECKED	APPROVED	DRG No.	
RAM	RAM	17053/GA/01	
DRAWN BY:	SCALE @ A2	DATE	REV.
MEW	1:500	07/07/17	B



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Appendix E Survey Data

APPROACHING FROM: A61 WAKEFIELD ROAD (NORTH)

TIME / CLASS	LEFT TO FUNERAL DIRECTORS								STRAIGHT TO A633 ROTHERHAM ROAD								RIGHT TO A61 WAKEFIELD ROAD (SOUTH)								U-TURN TO A61 WAKEFIELD ROAD (NORTH)								TOTAL MOVEMENT FROM APPROACH
	PEDAL CYCLE	MOTOR CYCLE	CAR TAXI	LGV	OGV1	OGV2	BUS COACH	TOTAL	PEDAL CYCLE	MOTOR CYCLE	CAR TAXI	LGV	OGV1	OGV2	BUS COACH	TOTAL	PEDAL CYCLE	MOTOR CYCLE	CAR TAXI	LGV	OGV1	OGV2	BUS COACH	TOTAL	PEDAL CYCLE	MOTOR CYCLE	CAR TAXI	LGV	OGV1	OGV2	BUS COACH	TOTAL	
07:00 - 07:15	0	0	0	0	1	0	0	1	0	0	29	10	2	0	0	41	0	0	47	8	2	0	2	59	0	0	0	0	0	0	0	0	101
07:15 - 07:30	0	0	0	0	0	0	0	0	0	0	45	10	1	0	0	56	0	1	70	9	3	2	1	86	0	0	0	0	0	0	0	0	142
07:30 - 07:45	0	0	0	0	0	0	0	0	0	0	50	8	0	0	0	58	0	0	94	15	3	1	2	115	0	0	0	0	0	0	0	0	173
07:45 - 08:00	0	0	0	0	0	0	0	0	0	0	49	15	3	1	0	68	0	0	96	11	2	0	2	111	0	0	3	0	0	0	0	3	182
HOURLY TOTAL	0	0	0	0	1	0	0	1	0	0	173	43	6	1	0	223	0	1	307	43	10	3	7	371	0	0	3	0	0	0	3	598	
08:00 - 08:15	0	0	0	0	0	0	0	0	0	0	63	8	2	1	0	74	0	2	116	19	2	5	6	150	0	0	6	0	0	1	0	7	231
08:15 - 08:30	0	0	0	0	0	0	0	0	0	0	48	8	1	0	0	57	0	2	92	10	1	1	2	108	0	0	1	0	0	0	0	1	166
08:30 - 08:45	0	0	4	0	0	0	0	4	0	1	46	8	2	0	0	57	1	0	109	14	2	2	5	133	0	0	1	0	0	0	0	1	195
08:45 - 09:00	0	0	0	0	0	0	0	0	0	0	53	8	1	4	0	66	1	0	101	11	1	0	4	118	0	0	3	0	0	0	0	3	187
HOURLY TOTAL	0	0	4	0	0	0	0	4	0	1	210	32	6	5	0	254	2	4	418	54	6	8	17	509	0	0	11	0	0	1	0	12	779
09:00 - 09:15	0	0	0	0	0	0	0	0	0	0	63	10	3	0	0	76	0	1	131	11	1	2	3	149	0	0	2	0	0	0	0	2	227
09:15 - 09:30	0	0	0	0	0	0	0	0	0	0	59	7	2	0	0	68	0	0	127	6	2	3	4	142	0	0	0	0	0	0	0	0	210
09:30 - 09:45	0	0	0	0	0	0	0	0	0	0	49	7	3	1	0	60	1	1	107	8	6	1	2	126	0	0	0	0	0	0	0	0	186
09:45 - 10:00	0	0	1	0	0	0	0	1	0	0	59	4	0	0	0	63	0	0	103	11	6	3	4	127	0	0	0	1	0	0	0	1	192
HOURLY TOTAL	0	0	1	0	0	0	0	1	0	0	230	28	8	1	0	267	1	2	468	36	15	9	13	544	0	0	2	1	0	0	0	3	815
PERIOD TOTAL	0	0	5	0	1	0	0	6	0	1	613	103	20	7	0	744	3	7	1193	133	31	20	37	1424	0	0	16	1	0	1	0	18	2192

16:00 - 16:15	0	0	1	0	0	0	0	1	1	2	90	10	1	0	0	104	0	2	99	12	4	0	4	121	0	0	3	0	0	0	0	3	229
16:15 - 16:30	0	0	1	0	0	0	0	1	0	2	55	17	0	0	0	74	0	0	86	5	3	1	2	97	0	0	1	0	0	0	0	1	173
16:30 - 16:45	0	0	0	0	0	0	0	0	0	1	69	12	0	1	0	83	1	1	85	23	2	0	3	115	0	0	0	0	0	0	0	0	198
16:45 - 17:00	0	0	0	0	0	0	0	0	0	2	86	15	2	0	0	105	0	0	97	11	0	0	4	112	0	0	0	0	0	0	0	0	217
HOURLY TOTAL	0	0	2	0	0	0	0	2	1	7	300	54	3	1	0	366	1	3	367	51	9	1	13	445	0	0	4	0	0	0	4	817	
17:00 - 17:15	0	0	0	0	0	0	0	0	0	0	86	11	0	0	0	97	0	0	94	1	4	1	3	103	0	0	1	0	0	0	0	1	201
17:15 - 17:30	0	0	0	0	0	0	0	0	0	1	82	16	0	0	0	99	0	1	100	7	0	0	3	111	0	0	0	0	0	0	0	0	210
17:30 - 17:45	0	0	0	0	0	0	0	0	0	0	85	8	0	0	0	93	0	5	121	11	1	0	4	142	0	0	0	0	0	0	0	0	235
17:45 - 18:00	0	0	0	0	0	0	0	0	0	0	81	14	1	0	0	96	1	1	90	8	0	0	3	103	0	0	0	0	0	0	0	0	199
HOURLY TOTAL	0	0	0	0	0	0	0	0	0	1	334	49	1	0	0	385	1	7	405	27	5	1	13	459	0	0	1	0	0	0	0	1	845
18:00 - 18:15	0	0	0	0	0	0	0	0	0	2	64	11	0	0	0	77	0	0	95	6	1	0	6	108	0	0	0	0	0	0	0	0	185
18:15 - 18:30	0	0	0	0	0	0	0	0	0	2	61	7	0	0	0	70	0	0	114	9	0	0	2	125	0	0	0	0	0	0	0	0	195
18:30 - 18:45	0	0	0	0	0	0	0	0	0	0	60	5	0	0	0	65	0	1	110	5	0	0	4	120	0	0	0	0	0	0	0	0	185
18:45 - 19:00	0	0	0	0	0	0	0	0	0	2	83	7	0	0	0	92	0	0	93	4	2	2	1	102	0	0	0	0	0	0	0	0	194
HOURLY TOTAL	0	0	0	0	0	0	0	0	0	6	268	30	0	0	0	304	0	1	412	24	3	2	13	455	0	0	0	0	0	0	0	0	759

PERIOD TOTAL	0	0	2	0	0	0	0	2	1	14	902	133	4	1	0	1055	2	11	1184	102	17	4	39	1359	0	0	5	0	0	0	0	5	2421
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APPROACHING FROM: A633 ROTHERHAM ROAD

TIME / CLASS	LEFT TO A61 WAKEFIELD ROAD (SOUTH)								STRAIGHT TO A61 WAKEFIELD ROAD (NORTH)								RIGHT TO FUNERAL DIRECTORS								U-TURN TO A633 ROTHERHAM ROAD								TOTAL MOVEMENT FROM APPROACH
	PEDAL CYCLE	MOTOR CYCLE	CAR TAXI	LGV	OGV1	OGV2	BUS COACH	TOTAL	PEDAL CYCLE	MOTOR CYCLE	CAR TAXI	LGV	OGV1	OGV2	BUS COACH	TOTAL	PEDAL CYCLE	MOTOR CYCLE	CAR TAXI	LGV	OGV1	OGV2	BUS COACH	TOTAL	PEDAL CYCLE	MOTOR CYCLE	CAR TAXI	LGV	OGV1	OGV2	BUS COACH	TOTAL	
07:00 - 07:15	0	0	6	1	0	0	0	7	0	0	57	11	0	2	0	70	0	0	0	0	0	0	0	0	0	0	0	0	0	0	77		
07:15 - 07:30	0	0	9	2	0	0	0	11	0	1	70	22	2	0	0	95	0	0	0	0	0	0	0	0	0	0	0	0	0	0	106		
07:30 - 07:45	0	1	18	1	0	0	0	20	0	3	88	17	1	0	0	109	0	0	0	0	0	0	0	0	0	0	0	0	0	129			
07:45 - 08:00	0	0	10	2	0	0	0	12	0	2	78	18	1	0	0	99	0	0	0	0	0	0	0	0	0	1	0	0	0	112			
HOURLY TOTAL	0	1	43	6	0	0	0	50	0	6	293	68	4	2	0	373	0	0	0	0	0	0	0	0	0	1	0	0	1	424			
08:00 - 08:15	0	0	19	1	0	0	0	20	1	2	83	18	1	0	0	105	0	0	0	0	0	0	0	0	0	0	0	0	0	125			
08:15 - 08:30	0	0	28	0	0	0	0	28	0	1	88	12	5	0	2	108	0	0	0	0	0	0	0	0	0	0	0	0	0	136			
08:30 - 08:45	0	0	29	2	1	0	0	32	0	0	73	15	3	0	0	91	0	0	1	0	0	0	0	0	1	0	0	0	0	125			
08:45 - 09:00	0	0	33	3	0	1	0	37	1	0	62	10	2	0	0	75	0	0	0	0	0	0	0	0	0	0	0	0	0	112			
HOURLY TOTAL	0	0	109	6	1	1	0	117	2	3	306	55	11	0	2	379	0	0	1	0	0	0	0	1	0	0	1	0	0	1	498		
9:00 - 9:15	1	1	15	3	0	0	0	20	0	0	48	10	3	0	1	62	0	0	0	0	0	0	0	0	0	0	0	0	0	82			
9:15 - 9:30	0	0	13	0	2	0	0	15	0	0	54	7	2	1	0	64	0	0	0	0	0	0	0	0	0	0	0	0	0	79			
9:30 - 9:45	0	0	8	1	0	1	0	10	0	1	58	6	0	2	0	67	0	0	0	0	0	0	0	0	0	1	0	0	0	78			
9:45 - 10:00	0	0	8	0	0	0	0	8	0	1	46	8	2	0	0	57	0	0	0	0	0	0	0	0	0	0	0	0	0	65			
HOURLY TOTAL	1	1	44	4	2	1	0	53	0	2	206	31	7	3	1	250	0	0	0	0	0	0	0	0	0	0	0	0	1	304			
PERIOD TOTAL	1	2	196	16	3	2	0	220	2	11	805	154	22	5	3	1002	0	0	1	0	0	0	0	1	0	0	3	0	0	3	1226		
16:00 - 16:15	0	0	11	4	0	0	2	17	0	0	84	11	1	0	0	96	0	0	0	0	0	0	0	0	0	0	0	0	0	114			
16:15 - 16:30	0	1	8	1	0	0	0	10	0	1	83	14	2	0	0	100	0	0	1	0	0	0	0	1	0	0	0	0	0	111			
16:30 - 16:45	0	0	12	1	0	0	0	13	0	2	74	7	1	0	1	85	0	0	0	0	0	0	0	0	0	0	0	0	0	98			
16:45 - 17:00	0	0	10	1	1	0	0	12	0	1	78	13	0	0	0	92	0	0	0	0	0	0	0	0	0	0	0	0	0	104			
HOURLY TOTAL	0	1	41	7	1	0	2	52	0	4	319	45	4	0	1	373	0	0	1	0	0	0	0	1	0	0	1	0	0	1	427		
17:00 - 17:15	0	0	13	0	0	0	0	13	0	2	69	7	0	0	0	78	0	0	0	0	0	0	0	0	0	0	0	0	0	91			
17:15 - 17:30	0	0	18	0	0	1	0	19	0	1	81	7	0	0	0	89	0	0	0	0	0	0	0	0	0	0	0	0	0	108			
17:30 - 17:45	0	0	18	2	0	0	1	21	0	0	79	10	0	0	0	89	0	0	0	0	0	0	0	0	0	0	0	0	0	110			
17:45 - 18:00	0	0	10	1	0	0	1	12	0	2	82	11	1	0	0	96	0	0	0	0	0	0	0	0	0	0	0	0	0	108			
HOURLY TOTAL	0	0	59	3	0	1	2	65	0	5	311	35	1	0	0	352	0	0	0	0	0	0	0	0	0	0	0	0	0	417			
18:00 - 18:15	0	0	9	1	0	0	0	10	0	1	85	9	0	0	0	95	0	0	0	0	0	0	0	0	0	0	0	0	0	105			
18:15 - 18:30	0	0	9	0	0	0	0	9	0	1	68	9	1	0	0	79	0	0	0	0	0	0	0	0	0	0	0	0	0	88			
18:30 - 18:45	0	0	9	1	0	0	0	10	0	2	67	8	0	0	0	77	0	0	0	0	0	0	0	0	0	0	0	0	0	87			
18:45 - 19:00	0	0	7	1	0	0	1	9	0	1	55	6	0	0	0	62	0	0	0	0	0	0	0	0	0	0	0	0	0	71			
HOURLY TOTAL	0	0	34	3	0	0	1	38	0	5	275	32	1	0	0	313	0	0	0	0	0	0	0	0	0	0	0	0	0	351			
PERIOD TOTAL	0	1	134	13	1	1	5	155	0	14	905	112	6	0	1	1038	0	0	1	0	0	0	0	1	0	0	1	0	0	1	1195		

APPROACHING FROM: A61 WAKEFIELD ROAD (SOUTH)

TIME / CLASS	LEFT TO A61 WAKEFIELD ROAD (NORTH)								STRAIGHT TO FUNERAL DIRECTORS								RIGHT TO A633 ROTHERHAM ROAD								U-TURN TO A61 WAKEFIELD ROAD (SOUTH)								TOTAL MOVEMENT FROM APPROACH	
	PEDAL CYCLE	MOTOR CYCLE	CAR TAXI	LGV	OGV1	OGV2	BUS COACH	TOTAL	PEDAL CYCLE	MOTOR CYCLE	CAR TAXI	LGV	OGV1	OGV2	BUS COACH	TOTAL	PEDAL CYCLE	MOTOR CYCLE	CAR TAXI	LGV	OGV1	OGV2	BUS COACH	TOTAL	PEDAL CYCLE	MOTOR CYCLE	CAR TAXI	LGV	OGV1	OGV2	BUS COACH	TOTAL		
07:00 - 07:15	0	0	31	7	2	4	4	48	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	49
07:15 - 07:30	0	1	45	8	7	2	6	69	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	3	0	0	0	0	0	0	0	0	72	
07:30 - 07:45	1	0	70	14	6	5	5	101	0	0	0	0	0	0	0	0	0	0	4	0	0	0	1	5	1	0	0	0	0	0	0	1	107	
07:45 - 08:00	0	1	70	17	4	3	3	98	0	0	1	0	0	0	0	1	0	0	8	2	0	0	0	10	0	0	0	0	0	0	0	0	109	
HOURLY TOTAL	1	2	216	46	19	14	18	316	0	0	1	0	0	0	1	0	0	12	2	2	1	2	19	1	0	0	0	0	0	1	337			
08:00 - 08:15	0	2	80	14	1	2	6	105	0	0	0	0	0	0	0	0	0	0	3	3	1	0	1	8	0	0	0	0	0	0	0	0	113	
08:15 - 08:30	0	0	61	19	5	4	3	92	0	0	0	0	0	0	0	0	0	0	7	1	1	0	0	9	0	0	0	0	0	0	0	0	101	
08:30 - 08:45	0	1	68	12	3	2	3	89	0	0	1	0	0	0	0	1	0	0	9	1	0	0	0	10	0	0	1	1	0	0	0	2	102	
08:45 - 09:00	0	1	62	16	3	4	5	91	0	0	0	1	0	0	0	1	0	0	4	1	0	0	1	6	0	0	0	0	0	0	0	0	98	
HOURLY TOTAL	0	4	271	61	12	12	17	377	0	0	1	1	0	0	2	0	0	23	6	2	0	2	33	0	0	1	1	0	0	2	414			
9:00 - 9:15	0	0	68	9	5	2	2	86	0	0	0	0	0	0	0	0	0	0	4	1	0	0	0	5	0	0	2	0	0	0	0	2	93	
9:15 - 9:30	0	0	72	9	1	3	6	91	0	0	0	0	0	0	0	0	0	0	7	0	0	0	0	7	0	0	0	0	0	0	0	0	98	
9:30 - 9:45	0	0	75	18	7	3	3	106	0	0	0	0	0	0	0	0	0	0	2	1	1	1	0	5	0	0	0	0	0	0	0	0	111	
9:45 - 10:00	0	0	69	19	1	2	6	97	0	0	0	0	0	0	0	0	0	0	6	1	0	0	0	7	0	0	2	1	0	0	0	3	107	
HOURLY TOTAL	0	0	284	55	14	10	17	380	0	0	0	0	0	0	0	0	0	0	19	3	1	1	0	24	0	0	4	1	0	0	5	409		
PERIOD TOTAL	1	6	771	162	45	36	52	1073	0	0	2	1	0	0	3	0	0	54	11	5	2	4	76	1	0	5	2	0	0	0	8	1160		
16:00 - 16:15	0	1	128	13	1	1	5	149	0	0	1	0	0	0	1	0	0	1	7	0	0	0	8	0	0	0	0	0	0	0	0	0	158	
16:15 - 16:30	1	3	111	20	1	1	5	142	0	0	0	0	0	0	0	0	0	0	10	1	0	0	0	11	0	0	0	0	0	0	0	0	153	
16:30 - 16:45	0	0	151	15	0	0	4	170	0	0	0	0	0	0	0	0	0	5	1	0	0	0	6	0	0	1	0	0	0	0	1	177		
16:45 - 17:00	1	3	114	19	2	1	5	145	0	0	0	0	0	0	0	0	0	7	1	0	0	0	8	0	0	0	0	0	0	0	0	0	153	
HOURLY TOTAL	2	7	504	67	4	3	19	606	0	0	1	0	0	0	1	0	1	29	3	0	0	0	33	0	0	1	0	0	0	1	641			
17:00 - 17:15	2	2	136	12	1	1	2	156	0	0	0	0	0	0	0	0	0	6	0	0	0	0	6	0	0	0	0	0	0	0	0	0	162	
17:15 - 17:30	0	0	138	11	2	0	2	153	0	0	0	0	0	0	0	0	0	0	17	0	0	0	0	17	0	0	1	0	0	0	0	1	171	
17:30 - 17:45	1	0	106	5	0	0	3	115	0	0	0	0	0	0	0	0	0	1	10	1	1	0	13	0	0	0	0	0	0	0	0	0	128	
17:45 - 18:00	0	1	136	12	0	0	2	151	0	0	0	0	0	0	0	0	0	0	17	0	0	0	0	17	0	0	0	0	0	0	0	0	168	
HOURLY TOTAL	3	3	516	40	3	1	9	575	0	0	0	0	0	0	1	0	1	50	1	1	0	0	53	0	0	1	0	0	0	1	629			
18:00 - 18:15	0	2	129	8	0	1	3	143	0	0	0	1	0	0	0	1	0	0	18	1	0	0	0	19	0	0	0	0	0	0	0	0	163	
18:15 - 18:30	0	1	125	9	1	2	2	140	0	0	0	0	0	0	0	0	0	0	15	0	0	0	0	15	0	0	0	0	0	0	0	0	155	
18:30 - 18:45	0	0	106	10	0	0	1	117	0	0	0	0	0	0	0	0	0	0	9	0	0	0	0	9	0	0	0	0	0	0	0	0	126	
18:45 - 19:00	1	0	109	10	0	1	2	123	0	0	0	0	0	0	0	0	0	0	5	0	0	0	0	5	0	0	0	0	0	0	0	0	128	
HOURLY TOTAL	1	3	469	37	1	4	8	523	0	0	0	1	0	0	1	0	0	47	1	0	0	0	48	0	0	0	0	0	0	0	0	0	572	
PERIOD TOTAL	6	13	1489	144	8	8	36	1704	0	0	1	1	0	0	2	0	2	126	5	1	0	0	134	0	0	2	0	0	0	2	1842			

DATE: THURSDAY 22nd JUNE 2017

TURNING COUNT LOCATION: A61 WAKEFIELD ROAD / SMITHIES LANE / CARLTON ROAD

APPROACHING FROM: CARLTON ROAD

TIME / CLASS	LEFT TO A61 WAKEFIELD ROAD (SOUTH)								STRAIGHT TO SMITHIES LANE								RIGHT TO A61 WAKEFIELD ROAD (NORTH)								U-TURN TO CARLTON ROAD								TOTAL MOVEMENT FROM APPROACH									
	PEDAL CYCLE	MOTOR CYCLE	CAR TAXI	LGV	OGV1	OGV2	BUS COACH	TOTAL	PEDAL CYCLE	MOTOR CYCLE	CAR TAXI	LGV	OGV1	OGV2	BUS COACH	TOTAL	PEDAL CYCLE	MOTOR CYCLE	CAR TAXI	LGV	OGV1	OGV2	BUS COACH	TOTAL	PEDAL CYCLE	MOTOR CYCLE	CAR TAXI	LGV	OGV1	OGV2	BUS COACH	TOTAL										
07:45 - 08:00	0	0	61	12	2	0	1	76	0	0	41	4	1	0	1	47	0	0	5	4	0	0	0	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	132
08:00 - 08:15	0	1	48	6	0	0	0	55	0	0	45	7	0	1	1	54	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	110
08:15 - 08:30	0	0	39	5	2	0	0	46	0	0	42	3	1	0	0	46	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	93
08:30 - 08:45	0	1	41	5	0	0	1	48	0	0	39	5	0	0	1	45	0	0	1	1	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	95
HOURLY TOTAL	0	2	189	28	4	0	2	225	0	0	167	19	2	1	3	192	0	0	6	7	0	0	0	13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	430
17:00 - 17:15	0	0	50	5	0	0	0	55	0	0	37	3	1	0	1	42	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	98
17:15 - 17:30	0	1	31	9	0	0	0	41	0	0	45	1	0	0	1	47	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	88
17:30 - 17:45	0	0	29	5	0	0	0	34	0	0	33	4	1	0	1	39	0	0	3	1	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	77
17:45 - 18:00	0	1	43	1	0	0	0	45	0	1	32	1	0	0	1	35	0	0	3	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	83
HOURLY TOTAL	0	2	153	20	0	0	0	175	0	1	147	9	2	0	4	163	0	0	7	1	0	0	0	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	346

DATE: THURSDAY 22nd JUNE 2017

TURNING COUNT LOCATION: A61 WAKEFIELD ROAD / SMITHIES LANE / CARLTON ROAD

APPROACHING FROM: A61 WAKEFIELD ROAD (SOUTH)

TIME / CLASS	LEFT TO SMITHIES LANE								STRAIGHT TO A61 WAKEFIELD ROAD (NORTH)								RIGHT TO CARLTON ROAD								U-TURN TO A61 WAKEFIELD ROAD (SOUTH)								TOTAL MOVEMENT FROM APPROACH	
	PEDAL CYCLE	MOTOR CYCLE	CAR TAXI	LGV	OGV1	OGV2	BUS COACH	TOTAL	PEDAL CYCLE	MOTOR CYCLE	CAR TAXI	LGV	OGV1	OGV2	BUS COACH	TOTAL	PEDAL CYCLE	MOTOR CYCLE	CAR TAXI	LGV	OGV1	OGV2	BUS COACH	TOTAL	PEDAL CYCLE	MOTOR CYCLE	CAR TAXI	LGV	OGV1	OGV2	BUS COACH	TOTAL		
07:45 - 08:00	0	0	5	1	1	0	0	7	0	1	63	15	1	1	1	82	0	0	37	3	1	0	1	42	0	0	0	0	0	0	0	0	0	131
08:00 - 08:15	0	0	10	3	1	0	0	14	0	2	69	15	2	2	5	95	0	0	31	3	0	0	0	34	0	0	0	0	0	0	0	0	0	143
08:15 - 08:30	0	0	6	2	0	0	0	8	0	0	53	11	4	3	3	74	0	0	26	8	0	1	0	35	0	0	0	0	0	0	0	0	0	117
08:30 - 08:45	0	0	8	0	0	0	0	8	0	2	78	9	2	1	3	95	0	0	23	9	3	2	0	37	0	0	0	0	0	0	0	0	0	140
HOURLY TOTAL	0	0	29	6	2	0	0	37	0	5	263	50	9	7	12	346	0	0	117	23	4	3	1	148	0	0	0	0	0	0	0	0	0	531
17:00 - 17:15	0	0	4	2	0	0	0	6	0	2	119	6	2	0	2	131	0	0	39	7	0	0	0	46	0	0	0	0	0	0	0	0	0	183
17:15 - 17:30	0	0	3	1	0	0	0	4	0	0	110	17	2	0	3	132	0	0	43	2	0	0	0	45	0	0	0	0	0	0	0	0	0	181
17:30 - 17:45	0	0	8	0	0	0	0	8	1	0	97	1	2	0	4	105	0	1	52	8	0	1	0	62	0	0	0	0	0	0	0	0	0	175
17:45 - 18:00	0	0	3	1	0	0	0	4	0	0	115	8	0	0	5	128	0	1	70	8	0	0	0	79	0	0	0	0	0	0	0	0	0	211
HOURLY TOTAL	0	0	18	4	0	0	0	22	1	2	441	32	6	0	14	496	0	2	204	25	0	1	0	232	0	0	0	0	0	0	0	0	0	750

DATE: THURSDAY 22nd JUNE 2017

TURNING COUNT LOCATION: A61 WAKEFIELD ROAD / SMITHIES LANE / CARLTON ROAD

APPROACHING FROM: SMITHIES LANE

TIME / CLASS	LEFT TO A61 WAKEFIELD ROAD (NORTH)								STRAIGHT TO CARLTON ROAD								RIGHT TO A61 WAKEFIELD ROAD (SOUTH)								U-TURN TO SMITHIES LANE								TOTAL MOVEMENT FROM APPROACH	
	PEDAL CYCLE	MOTOR CYCLE	CAR TAXI	LGV	OGV1	OGV2	BUS COACH	TOTAL	PEDAL CYCLE	MOTOR CYCLE	CAR TAXI	LGV	OGV1	OGV2	BUS COACH	TOTAL	PEDAL CYCLE	MOTOR CYCLE	CAR TAXI	LGV	OGV1	OGV2	BUS COACH	TOTAL	PEDAL CYCLE	MOTOR CYCLE	CAR TAXI	LGV	OGV1	OGV2	BUS COACH	TOTAL		
07:45 - 08:00	0	0	7	5	1	1	0	14	0	0	32	6	1	0	1	40	0	0	2	2	2	3	0	9	0	0	0	0	0	0	0	0	0	63
08:00 - 08:15	0	0	8	4	1	0	0	13	0	0	24	3	3	0	1	31	0	0	4	1	2	1	0	8	0	0	0	0	0	0	0	0	0	52
08:15 - 08:30	0	0	9	2	0	0	0	11	0	0	26	4	0	0	1	31	0	0	1	3	0	1	0	5	0	0	0	0	0	0	0	0	0	47
08:30 - 08:45	0	0	7	4	0	0	0	11	2	0	23	6	0	0	1	32	0	0	2	1	0	0	0	3	0	0	0	0	0	0	0	0	0	46
HOURLY TOTAL	0	0	31	15	2	1	0	49	2	0	105	19	4	0	4	134	0	0	9	7	4	5	0	25	0	0	0	0	0	0	0	0	0	208
17:00 - 17:15	0	0	20	2	0	0	0	22	0	0	36	4	0	0	1	41	0	0	4	0	0	0	0	4	0	0	0	0	0	0	0	0	0	67
17:15 - 17:30	0	0	25	2	0	0	0	27	0	0	38	3	0	0	1	42	0	0	5	0	0	0	0	5	0	0	0	0	0	0	0	0	0	74
17:30 - 17:45	0	0	21	2	0	0	0	23	0	0	26	2	0	0	1	29	0	0	2	0	0	0	0	2	0	0	0	0	0	0	0	0	0	54
17:45 - 18:00	0	0	19	1	0	0	0	20	0	1	26	1	0	0	0	28	0	0	3	0	0	0	0	3	0	0	0	0	0	0	0	0	0	51
HOURLY TOTAL	0	0	85	7	0	0	0	92	0	1	126	10	0	0	3	140	0	0	14	0	0	0	0	14	0	0	0	0	0	0	0	0	0	246

Spot Queue Length at 5 min intervals (End of red)	A61 WAKEFIELD ROAD (NORTH)			CARLTON ROAD			A61 WAKEFIELD ROAD (SOUTH)					
	LANE 1 (N/S)			LANE 1 (N/S)			LANE 1 (N/S)			LANE 2		
	LIGHTS	HEAVIE S	QUEUE LENGTH H/M/A	LIGHTS	HEAVIE S	QUEUE LENGTH H/M/A	LIGHTS	HEAVIE S	QUEUE LENGTH H/M/A	LIGHTS	HEAVIE S	QUEUE LENGTH H/M/A
7:00	0	0	0	3	0	17	0	0	0	3	0	17
7:05	4	0	22	2	0	11	0	0	0	0	0	0
7:10	1	0	6	3	0	17	2	0	11	2	0	11
7:15	0	0	0	6	0	33	0	0	0	2	0	11
7:20	6	0	33	4	0	22	0	0	0	0	0	0
7:25	8	0	44	8	0	44	0	0	0	6	0	33
7:30	2	0	11	7	0	39	1	0	6	0	0	0
7:35	7	0	39	6	0	33	1	0	6	1	0	6
7:40	9	0	50	11	1	76	1	0	6	1	0	6
7:45	26	1	158	4	1	37	1	0	6	2	0	11
7:50	24	1	147	9	1	65	1	0	6	7	0	39
7:55	7	0	39	7	0	39	1	0	6	4	0	22
8:00	9	0	50	11	1	76	0	0	0	1	0	6
8:05	13	0	72	6	0	33	0	0	0	7	0	39
8:10	10	0	55	7	0	39	0	0	0	2	0	11
8:15	12	0	66	11	0	61	1	0	6	1	0	6
8:20	11	0	61	12	0	66	1	0	6	1	0	6
8:25	4	0	22	9	0	50	4	0	22	5	0	28
8:30	8	0	44	10	0	55	0	0	0	2	0	11
8:35	29	0	160	1	0	6	3	0	17	2	0	11
8:40	17	0	94	6	0	33	2	0	11	4	0	22
8:45	12	2	96	3	0	17	1	0	6	0	0	0
8:50	15	2	113	19	0	105	1	0	6	1	0	6
8:55	16	1	103	14	0	77	2	0	11	0	0	0
9:00	29	1	175	6	0	33	4	0	22	0	0	0
9:05	17	0	94	13	0	72	0	0	0	0	0	0
9:10	18	0	99	6	0	33	2	0	11	1	0	6
9:15	27	1	164	19	0	105	4	0	22	2	0	11
9:20	29	0	160	16	0	88	0	0	0	3	0	17
9:25	11	0	61	8	0	44	2	0	11	0	0	0
9:30	10	0	55	5	0	28	1	0	6	0	0	0
9:35	29	0	160	5	0	28	1	0	6	6	0	33
9:40	12	0	66	10	0	55	2	0	11	3	0	17
9:45	6	0	33	7	0	39	0	0	0	0	0	0
9:50	4	0	22	2	0	11	2	0	11	2	0	11
9:55	2	0	11	5	0	28	0	0	0	0	0	0

16:00	6	0	33	4	0	22	1	0	6	2	0	11
16:05	7	0	39	9	0	50	7	0	39	2	0	11
16:10	10	0	55	7	0	39	7	0	39	1	0	6
16:15	7	0	39	16	0	88	2	0	11	2	0	11
16:20	7	0	39	7	0	39	4	0	22	0	0	0
16:25	0	0	0	11	1	76	2	0	11	2	0	11
16:30	3	0	17	7	0	39	0	0	0	0	0	0
16:35	11	0	61	6	0	33	1	0	6	4	0	22
16:40	7	0	39	10	0	55	3	0	17	7	0	39
16:45	9	0	50	14	0	77	1	0	6	6	0	33
16:50	5	0	28	11	0	61	5	0	28	5	0	28
16:55	8	1	59	9	0	50	5	0	28	0	0	0
17:00	7	0	39	21	0	116	3	0	17	1	0	6
17:05	10	0	55	21	0	116	2	0	11	2	0	11
17:10	10	0	55	13	0	72	5	0	28	7	0	39
17:15	6	0	33	12	0	66	1	0	6	9	0	50
17:20	2	0	11	4	0	22	0	0	0	0	0	0
17:25	10	0	55	5	1	43	2	0	11	0	0	0
17:30	8	0	44	9	1	65	6	0	33	0	0	0
17:35	8	0	44	22	0	121	0	0	0	2	0	11
17:40	11	1	76	15	0	83	2	0	11	7	0	39
17:45	4	1	37	19	0	105	1	0	6	2	0	11
17:50	3	0	17	26	1	158	0	0	0	0	0	0
17:55	4	0	22	32	0	176	0	0	0	0	0	0
18:00	3	0	17	34	0	187	2	0	11	2	0	11
18:05	8	0	44	9	1	65	2	0	11	0	0	0
18:10	8	0	44	4	1	37	0	0	0	8	0	44
18:15	4	0	22	13	0	72	0	0	0	0	0	0
18:20	9	0	50	19	0	105	0	0	0	0	0	0
18:25	4	0	22	24	0	132	0	0	0	0	0	0
18:30	12	0	66	10	0	55	0	0	0	2	0	11
18:35	2	0	11	9	0	50	0	0	0	4	0	22
18:40	3	0	17	6	0	33	1	0	6	4	0	22
18:45	11	0	61	3	0	17	0	0	0	1	0	6
18:50	3	0	17	7	0	39	1	0	6	2	0	11
18:55	4	0	22	2	0	11	0	0	0	2	0	11

Spot Queue Length at 5 min intervals (End of red)	A61 WAKEFIELD ROAD (NORTH)						CAR GARAGE			A61 WAKEFIELD ROAD (SOUTH)			SMITHIES LANE		
	LANE 1 (N/S)			LANE 2			LANE 1 (N/S)			LANE 1 (N/S)			LANE 1 (N/S)		
	LIGHTS	HEAVIES	QUEUE LENGTH (H:MM)	LIGHTS	HEAVIES	QUEUE LENGTH (H:MM)	LIGHTS	HEAVIES	QUEUE LENGTH (H:MM)	LIGHTS	HEAVIES	QUEUE LENGTH (H:MM)	LIGHTS	HEAVIES	QUEUE LENGTH (H:MM)
7:00	2	0	11	1	0	6	0	0	0	1	0	6	0	0	0
7:05	1	0	6	1	0	6	0	0	0	0	0	0	5	0	28
7:10	2	0	11	0	0	0	0	0	0	3	0	17	0	0	0
7:15	0	0	0	1	0	6	0	0	0	8	0	44	4	0	22
7:20	1	0	6	0	0	0	0	0	0	10	0	55	8	0	44
7:25	2	0	11	2	0	11	0	0	0	6	0	33	0	0	0
7:30	7	0	39	0	0	0	0	0	0	3	0	17	1	0	6
7:35	8	0	44	3	0	17	0	0	0	8	1	59	8	0	44
7:40	11	0	61	12	0	66	0	0	0	3	1	32	3	0	17
7:45	12	1	81	7	0	39	0	0	0	11	0	61	7	0	39
7:50	9	1	65	5	0	28	0	0	0	2	0	11	5	0	28
7:55	7	0	39	11	0	61	0	0	0	6	0	33	7	0	39
8:00	1	0	6	11	0	61	0	0	0	2	0	11	8	0	44
8:05	4	0	22	16	0	88	0	0	0	8	0	44	1	0	6
8:10	10	0	55	0	0	0	0	0	0	3	0	17	2	0	11
8:15	7	0	39	4	0	22	0	0	0	7	0	39	3	0	17
8:20	6	0	33	7	0	39	0	0	0	6	0	33	8	0	44
8:25	10	0	55	12	0	66	0	0	0	4	1	37	7	0	39
8:30	9	0	50	2	0	11	0	0	0	1	1	21	5	0	28
8:35	11	0	61	1	0	6	0	0	0	2	1	26	2	0	11
8:40	0	1	15	1	0	6	0	0	0	6	1	48	3	0	17
8:45	6	0	33	4	0	22	0	0	0	0	0	0	5	0	28
8:50	1	1	21	2	0	11	0	0	0	5	0	28	0	0	0
8:55	4	0	22	2	0	11	0	0	0	7	1	54	2	0	11
9:00	3	0	17	3	0	17	0	0	0	2	1	26	2	0	11
9:05	5	1	43	4	0	22	0	0	0	1	0	6	5	0	28
9:10	10	0	55	10	0	55	0	0	0	12	0	66	3	0	17
9:15	0	0	0	2	0	11	0	0	0	8	0	44	2	0	11
9:20	14	0	77	9	0	50	0	0	0	5	0	28	3	0	17
9:25	11	0	61	7	0	39	0	0	0	9	0	50	6	0	33
9:30	0	0	0	1	0	6	0	0	0	3	0	17	4	0	22
9:35	0	0	0	7	0	39	0	0	0	2	0	11	7	0	39
9:40	2	0	11	2	0	11	0	0	0	7	0	39	9	0	50
9:45	16	0	88	1	0	6	0	0	0	10	0	55	4	0	22
9:50	3	0	17	6	0	33	0	0	0	1	0	6	1	0	6
9:55	4	0	22	1	0	6	0	0	0	1	0	6	1	0	6
16:00	6	0	33	4	0	22	0	0	0	3	0	17	10	0	55
16:05	1	0	6	0	0	0	0	0	0	2	0	11	4	0	22
16:10	5	0	28	10	0	55	0	0	0	12	0	66	11	0	61
16:15	6	0	33	5	0	28	0	0	0	2	1	26	4	0	22
16:20	12	0	66	8	0	44	0	0	0	20	1	125	10	0	55
16:25	1	0	6	9	0	50	0	0	0	28	0	154	10	0	55
16:30	3	0	17	1	0	6	0	0	0	1	0	6	5	0	28
16:35	3	1	32	4	0	22	0	0	0	4	0	22	12	0	66
16:40	4	1	37	1	0	6	0	0	0	11	0	61	10	0	55
16:45	4	0	22	2	0	11	0	0	0	19	0	105	6	0	33
16:50	11	0	61	2	0	11	0	0	0	7	0	39	10	0	55
16:55	3	0	17	5	0	28	0	0	0	1	0	6	5	0	28
17:00	5	0	28	6	0	33	0	0	0	6	0	33	11	0	61
17:05	0	0	0	6	0	33	0	0	0	11	0	61	7	0	39
17:10	15	0	83	8	0	44	0	0	0	2	0	11	7	0	39
17:15	6	0	33	12	0	66	0	0	0	4	0	22	9	0	50
17:20	9	0	50	1	0	6	0	0	0	6	0	33	13	0	72
17:25	4	0	22	4	0	22	0	0	0	7	1	54	6	0	33
17:30	4	0	22	4	0	22	0	0	0	8	1	59	13	0	72
17:35	5	0	28	3	0	17	0	0	0	1	0	6	10	0	55
17:40	2	1	26	5	0	28	0	0	0	3	0	17	13	0	72
17:45	5	1	43	2	0	11	0	0	0	13	0	72	11	0	61
17:50	6	0	33	6	0	33	0	0	0	2	0	11	5	0	28
17:55	6	0	33	7	0	39	0	0	0	3	0	17	7	0	39
18:00	5	1	43	2	0	11	0	0	0	13	0	72	7	0	39
18:05	7	0	39	2	0	11	0	0	0	13	0	72	9	0	50
18:10	6	0	33	5	0	28	0	0	0	1	0	6	7	0	39
18:15	4	0	22	0	0	0	0	0	0	7	0	39	6	0	33
18:20	1	0	6	0	0	0	0	0	0	6	1	48	12	0	66
18:25	0	0	0	1	0	6	0	0	0	5	1	43	6	0	33
18:30	9	0	50	7	0	39	0	0	0	7	0	39	8	0	44
18:35	5	0	28	4	0	22	0	0	0	12	0	66	1	0	6
18:40	7	0	39	9	0	50	0	0	0	8	0	44	11	0	61
18:45	5	0	28	4	0	22	0	0	0	8	0	44	2	0	11
18:50	4	0	22	1	0	6	0	0	0	6	0	33	4	0	22
18:55	4	0	22	0	0	0	0	0	0	12	0	66	1	0	6

Appendix F Spreadsheet SD1

SD1 - JOURNEY TO WORK DATA RESIDENT POPULATION DISTRIBUTION

place of work : 2011 super output area - middle layer	E02001515 : Barnsley 007	Percentage	Smithies Lane	Carlton Road	Rotherham Road(A633)	wakefield Road (N)	wakefield Road(S)	Lathies Lane	Chatsworth Road	Local	Total
Ashfield 010	2	0.12%					0.12%				0.12%
Barnsley 001	12	0.69%				0.52%		0.17%			0.69%
Barnsley 002	111	6.41%		4.17%				2.24%			6.41%
Barnsley 003	9	0.52%			0.26%			0.26%			0.52%
Barnsley 004	44	2.54%				2.54%					2.54%
Barnsley 005	42	2.43%					2.43%				2.43%
Barnsley 006	27	1.56%			1.56%						1.56%
Barnsley 007	115	6.64%			4.98%			1.66%			6.64%
Barnsley 008	6	0.35%			0.12%		0.10%	0.12%			0.35%
Barnsley 009	28	1.62%			0.97%		0.65%				1.62%
Barnsley 010	75	4.33%	4.33%								4.33%
Barnsley 011	35	2.02%			0.71%				1.31%		2.02%
Barnsley 012	96	5.55%				2.77%	2.77%				5.55%
Barnsley 013	170	9.82%					9.82%				9.82%
Barnsley 014	7	0.40%			0.20%			0.20%			0.40%
Barnsley 015	68	3.93%			2.95%		0.98%				3.93%
Barnsley 016	9	0.52%			0.13%		0.39%				0.52%
Barnsley 017	21	1.21%					1.21%				1.21%
Barnsley 018	18	1.04%			0.52%		0.52%				1.04%
Barnsley 019	23	1.33%				0.66%	0.66%				1.33%
Barnsley 020	15	0.87%			0.65%			0.22%			0.87%
Barnsley 021	23	1.33%			0.66%		0.66%				1.33%
Barnsley 022	16	0.92%			0.92%						0.92%
Barnsley 023	26	1.50%			1.13%		0.38%				1.50%
Barnsley 024	4	0.23%				0.17%	0.06%				0.23%
Barnsley 025	2	0.12%			0.06%			0.06%			0.12%
Barnsley 026	21	1.21%			0.91%		0.30%				1.21%
Barnsley 027	7	0.40%				0.20%	0.20%				0.40%
Barnsley 028	16	0.92%			0.46%		0.46%				0.92%
Barnsley 029	4	0.23%			0.12%		0.12%				0.23%
Barnsley 030	7	0.40%			0.20%		0.20%				0.40%
Bassetlaw 001	2	0.12%			0.06%		0.06%				0.12%
Bassetlaw 003	1	0.06%			0.03%		0.03%				0.06%
Bassetlaw 009	1	0.06%					0.06%				0.06%
Bedford 004	2	0.12%					0.12%				0.12%
Birmingham 023	1	0.06%					0.06%				0.06%
Blaby 006	1	0.06%					0.06%				0.06%
Bolsover 001	1	0.06%					0.06%				0.06%
Bolsover 003	1	0.06%					0.06%				0.06%
Bolsover 007	1	0.06%					0.06%				0.06%
Bradford 007	1	0.06%				0.06%					0.06%
Bradford 025	1	0.06%				0.06%					0.06%
Bradford 038	1	0.06%				0.06%					0.06%
Bradford 039	2	0.12%				0.12%					0.12%
Bradford 057	3	0.17%				0.17%					0.17%
Bradford 060	1	0.06%				0.06%					0.06%
Bury 008	3	0.17%				0.17%					0.17%
Calderdale 001	1	0.06%				0.06%					0.06%
Calderdale 010	1	0.06%				0.06%					0.06%
Calderdale 015	1	0.06%				0.06%					0.06%
Chesterfield 004	1	0.06%					0.06%				0.06%
Chesterfield 007	1	0.06%					0.06%				0.06%
Cornwall 070	1	0.06%					0.06%				0.06%
Cotswold 005	2	0.12%					0.12%				0.12%
Cotswold 007	1	0.06%					0.06%				0.06%
Craven 006	1	0.06%				0.06%					0.06%
Doncaster 003	2	0.12%						0.12%			0.12%
Doncaster 007	3	0.17%						0.17%			0.17%
Doncaster 008	1	0.06%						0.06%			0.06%
Doncaster 012	1	0.06%						0.06%			0.06%
Doncaster 013	1	0.06%						0.06%			0.06%
Doncaster 015	3	0.17%						0.17%			0.17%
Doncaster 019	2	0.12%						0.12%			0.12%
Doncaster 020	2	0.12%			0.12%						0.12%
Doncaster 021	1	0.06%			0.06%						0.06%
Doncaster 022	11	0.64%			0.32%			0.32%			0.64%
Doncaster 025	1	0.06%			0.03%			0.03%			0.06%
Doncaster 028	5	0.29%			0.14%			0.14%			0.29%
Doncaster 030	4	0.23%			0.23%						0.23%
Doncaster 032	2	0.12%			0.12%						0.12%
Doncaster 033	1	0.06%					0.06%				0.06%
Doncaster 034	1	0.06%			0.06%						0.06%

SD1 - JOURNEY TO WORK DATA RESIDENT POPULATION DISTRIBUTION

Doncaster 035	1	0.06%			0.06%						0.06%
Dudley 012	1	0.06%					0.06%				0.06%
Ealing 018	1	0.06%					0.06%				0.06%
East Dorset 005	6	0.35%					0.35%				0.35%
East Dorset 007	1	0.06%					0.06%				0.06%
East Riding of Yorkshire 013	1	0.06%			0.03%			0.03%			0.06%
East Riding of Yorkshire 038	2	0.12%			0.06%			0.06%			0.12%
Erewash 008	1	0.06%			0.06%						0.06%
Halton 008	1	0.06%			0.06%						0.06%
Harrogate 008	1	0.06%			0.06%						0.06%
Herefordshire 007	1	0.06%					0.06%				0.06%
Kirklees 002	3	0.17%			0.17%						0.17%
Kirklees 003	2	0.12%			0.12%						0.12%
Kirklees 005	2	0.12%			0.12%						0.12%
Kirklees 007	1	0.06%			0.06%						0.06%
Kirklees 009	3	0.17%			0.17%						0.17%
Kirklees 010	2	0.12%			0.12%						0.12%
Kirklees 011	2	0.12%			0.12%						0.12%
Kirklees 014	1	0.06%			0.06%						0.06%
Kirklees 015	1	0.06%			0.06%						0.06%
Kirklees 016	1	0.06%			0.06%						0.06%
Kirklees 017	3	0.17%			0.17%						0.17%
Kirklees 018	1	0.06%			0.06%						0.06%
Kirklees 019	4	0.23%			0.23%						0.23%
Kirklees 024	3	0.17%			0.17%						0.17%
Kirklees 029	1	0.06%			0.06%						0.06%
Kirklees 031	2	0.12%			0.12%						0.12%
Kirklees 033	1	0.06%			0.06%						0.06%
Kirklees 034	1	0.06%			0.06%						0.06%
Kirklees 039	1	0.06%			0.06%						0.06%
Kirklees 041	2	0.12%			0.12%						0.12%
Kirklees 042	1	0.06%			0.06%						0.06%
Kirklees 045	2	0.12%			0.12%						0.12%
Kirklees 046	1	0.06%			0.06%						0.06%
Kirklees 051	1	0.06%			0.06%						0.06%
Kirklees 054	5	0.29%			0.29%						0.29%
Kirklees 055	1	0.06%			0.06%						0.06%
Kirklees 057	5	0.29%			0.14%	0.14%					0.29%
Knowsley 005	1	0.06%			0.06%						0.06%
Leeds 007	1	0.06%			0.06%						0.06%
Leeds 018	1	0.06%			0.06%						0.06%
Leeds 034	1	0.06%			0.06%						0.06%
Leeds 052	1	0.06%			0.06%						0.06%
Leeds 057	2	0.12%			0.12%						0.12%
Leeds 063	3	0.17%			0.17%						0.17%
Leeds 070	2	0.12%			0.12%						0.12%
Leeds 071	1	0.06%			0.06%						0.06%
Leeds 073	1	0.06%			0.06%						0.06%
Leeds 075	1	0.06%			0.06%						0.06%
Leeds 082	2	0.12%			0.12%						0.12%
Leeds 085	1	0.06%			0.06%						0.06%
Leeds 087	2	0.12%			0.12%						0.12%
Leeds 091	3	0.17%			0.17%						0.17%
Leeds 093	2	0.12%			0.12%						0.12%
Leeds 096	3	0.17%			0.17%						0.17%
Leeds 098	1	0.06%			0.06%						0.06%
Leeds 099	2	0.12%			0.12%						0.12%
Leeds 102	3	0.17%			0.17%						0.17%
Leeds 104	2	0.12%			0.12%						0.12%
Leeds 106	4	0.23%			0.23%						0.23%
Leeds 111	15	0.87%			0.87%						0.87%
Leeds 112	23	1.33%			1.33%						1.33%
Liverpool 060	1	0.06%			0.06%						0.06%
Manchester 054	1	0.06%			0.06%						0.06%
Mid Sussex 004	1	0.06%					0.06%				0.06%
Newcastle-under-Lyme 014	1	0.06%			0.06%						0.06%
North East Derbyshire 001	1	0.06%					0.06%				0.06%
North Lincolnshire 006	2	0.12%			0.04%	0.04%	0.04%				0.11%
North Lincolnshire 010	1	0.06%			0.02%	0.02%	0.02%				0.06%
North Warwickshire 007	2	0.12%					0.12%				0.12%
Nottingham 040	1	0.06%					0.06%				0.06%
Pembrokeshire 003	1	0.06%					0.06%				0.06%
Peterborough 009	1	0.06%					0.06%				0.06%
Preston 009	1	0.06%			0.06%						0.06%
Reading 018	1	0.06%					0.06%				0.06%
Rochdale 001	1	0.06%					0.06%				0.06%

SD1 - JOURNEY TO WORK DATA RESIDENT POPULATION DISTRIBUTION

Rochdale 015	1	0.06%			0.06%				0.06%
Rotherham 001	8	0.46%		0.23%	0.23%				0.46%
Rotherham 002	40	2.31%		2.31%					2.31%
Rotherham 008	1	0.06%		0.06%					0.06%
Rotherham 009	5	0.29%		0.29%					0.29%
Rotherham 014	1	0.06%		0.06%					0.06%
Rotherham 016	7	0.40%				0.40%			0.40%
Rotherham 017	8	0.46%		0.46%					0.46%
Rotherham 018	2	0.12%		0.12%					0.12%
Rotherham 020	3	0.17%		0.17%					0.17%
Rotherham 021	2	0.12%		0.12%					0.12%
Rotherham 023	3	0.17%		0.17%					0.17%
Rotherham 025	2	0.12%				0.12%			0.12%
Rotherham 027	1	0.06%				0.06%			0.06%
Rotherham 028	2	0.12%				0.12%			0.12%
Rotherham 030	1	0.06%				0.06%			0.06%
Rotherham 031	1	0.06%				0.06%			0.06%
Rotherham 032	2	0.12%		0.12%					0.12%
Salford 030	1	0.06%			0.06%				0.06%
Selby 004	1	0.06%			0.03%		0.03%		0.06%
Selby 010	10	0.58%			0.29%		0.29%		0.58%
Sheffield 001	3	0.17%			0.09%	0.09%			0.17%
Sheffield 004	4	0.23%				0.23%			0.23%
Sheffield 005	2	0.12%				0.12%			0.12%
Sheffield 014	1	0.06%				0.06%			0.06%
Sheffield 017	3	0.17%				0.17%			0.17%
Sheffield 018	15	0.87%				0.87%			0.87%
Sheffield 020	1	0.06%				0.06%			0.06%
Sheffield 022	15	0.87%				0.87%			0.87%
Sheffield 027	5	0.29%				0.29%			0.29%
Sheffield 032	2	0.12%				0.12%			0.12%
Sheffield 036	1	0.06%				0.06%			0.06%
Sheffield 039	1	0.06%				0.06%			0.06%
Sheffield 040	1	0.06%				0.06%			0.06%
Sheffield 073	12	0.69%				0.69%			0.69%
Sheffield 074	2	0.12%				0.12%			0.12%
Sheffield 075	5	0.29%				0.29%			0.29%
Shropshire 015	1	0.06%				0.06%			0.06%
Shropshire 022	1	0.06%				0.06%			0.06%
Shropshire 034	14	0.81%				0.81%			0.81%
South Kesteven 001	1	0.06%		0.06%					0.06%
Southampton 019	1	0.06%				0.06%			0.06%
Stevenage 005	1	0.06%				0.06%			0.06%
Stockport 009	2	0.12%			0.12%				0.12%
Tameside 017	1	0.06%			0.06%				0.06%
Wakefield 003	2	0.12%			0.06%		0.06%		0.12%
Wakefield 004	2	0.12%			0.06%		0.06%		0.12%
Wakefield 005	2	0.12%			0.06%		0.06%		0.12%
Wakefield 006	5	0.29%			0.29%				0.29%
Wakefield 007	4	0.23%			0.23%				0.23%
Wakefield 008	5	0.29%			0.29%				0.29%
Wakefield 009	6	0.35%			0.35%				0.35%
Wakefield 010	5	0.29%			0.29%				0.29%
Wakefield 012	1	0.06%					0.06%		0.06%
Wakefield 013	7	0.40%			0.20%		0.20%		0.40%
Wakefield 014	13	0.75%			0.75%				0.75%
Wakefield 015	3	0.17%			0.09%		0.09%		0.17%
Wakefield 016	1	0.06%			0.03%		0.03%		0.06%
Wakefield 017	33	1.91%			1.91%				1.91%
Wakefield 019	13	0.75%			0.75%				0.75%
Wakefield 021	1	0.06%			0.06%				0.06%
Wakefield 022	4	0.23%			0.23%				0.23%
Wakefield 023	1	0.06%			0.03%		0.03%		0.06%
Wakefield 024	8	0.46%			0.23%		0.23%		0.46%
Wakefield 025	2	0.12%			0.12%				0.12%
Wakefield 027	1	0.06%			0.03%		0.03%		0.06%
Wakefield 028	9	0.52%			0.52%				0.52%
Wakefield 029	1	0.06%			0.06%				0.06%
Wakefield 030	26	1.50%			1.50%				1.50%
Wakefield 033	8	0.46%			0.46%				0.46%
Wakefield 034	1	0.06%					0.06%		0.06%
Wakefield 035	2	0.12%			0.12%				0.12%
Wakefield 036	8	0.46%			0.46%				0.46%
Wakefield 037	6	0.35%			0.35%				0.35%
Wakefield 038	18	1.04%			1.04%				1.04%
Wakefield 039	5	0.29%					0.29%		0.29%

SD1 - JOURNEY TO WORK DATA RESIDENT POPULATION DISTRIBUTION

Wakefield 040	1	0.06%						0.06%			0.06%
Wakefield 042	3	0.17%						0.17%			0.17%
Wakefield 043	12	0.69%						0.69%			0.69%
Wakefield 044	13	0.75%						0.75%			0.75%
Warrington 024	1	0.06%				0.06%					0.06%
West Dorset 009	1	0.06%					0.06%				0.06%
York 005	1	0.06%				0.06%					0.06%
York 006	1	0.06%				0.06%					0.06%
York 023	1	0.06%				0.06%					0.06%
Total	1,731	100.00%	4.33%	4.17%	22.94%	27.53%	30.27%	9.44%	1.31%	0.00%	100.00%

Appendix G TEMPRO

AM

Level Area Local Growth Figure

E02001518 Barnsley 010 1.08018193061181

The screenshot shows the TEMPro main form interface. On the left, there are dropdown menus for 'Data selections', 'Trip end selections', and 'Select time period:'. The 'Select time period' is set to 'Weekday AM peak period (0700 - 0955)'. The 'Trip end type' is set to 'Origin/Destination'. The main area displays 'Results' for 'NTM Traffic Growth Calculations'. A table shows the following data:

Level	Area	Local Growth Figure
E02001518	Barnsley 010	1.0802

The interface also includes a 'Select data type' section with radio buttons for 'Growth factors', 'Future year minus base year', 'Base year data', and 'Future year data'. A 'Results' table at the bottom right shows 'All Purposes' and 'Destination' with a value of 1.0809.

PM

Level Area Local Growth Figure

E02001518 Barnsley 010 1.0777743548192

The screenshot shows the TEMPro main form interface for the PM peak period. The 'Select time period' is set to 'Weekday PM peak period (1600 - 1859)'. The 'Trip end type' is set to 'Origin/Destination'. The main area displays 'Results' for 'NTM Traffic Growth Calculations'. A table shows the following data:

Level	Area	Local Growth Figure
E02001518	Barnsley 010	1.0778

The interface also includes a 'Select data type' section with radio buttons for 'Growth factors', 'Future year minus base year', 'Base year data', and 'Future year data'. A 'Results' table at the bottom right shows 'All Purposes' and 'Destination' with a value of 1.0591.

Appendix H Capacity Outputs

Junctions 9
PICADY 9 - Priority Intersection Module
Version: 9.0.2.5947 © Copyright TRL Limited, 2017
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Filename: Site Access.j9
Path: O:\Wakefield Road, Athersley\ANALYSIS\CAPACITY\Priority Junctions\Site Access
Report generation date: 27/09/2017 13:56:42

«Site Access - Design 2022, AM

- »Junction Network
- »Arms
- »Traffic Demand
- »Origin-Destination Data
- »Vehicle Mix
- »Results

Summary of junction performance

	AM			
	Queue (PCU)	Delay (s)	RFC	LOS
	Site Access - Design 2022			
Stream B-AC	0.1	9.66	0.12	A
Stream C-B	0.0	6.40	0.04	A

There are warnings associated with this model run - see the 'Data Errors and Warnings' tables.

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	SITE ACCESS
Location	
Site number	
Date	25/09/2017
Version	
Status	
Identifier	
Client	
Jobnumber	
Enumerator	NJ
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

Calculate Queue Percentiles	Calculate residual capacity	RFC Threshold	Average Delay threshold (s)	Queue threshold (PCU)
		0.85	36.00	20.00

Analysis Set Details

ID	Name	Network flow scaling factor (%)
A1	Site Access	100.000

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D1	Design 2022	AM	ONE HOUR	07:30	09:00	15

Site Access - Design 2022, 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.

Junction Network

Junctions

Junction	Name	Junction Type	Major road direction	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way	0.58	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Name	Description	Arm type
A	Wakefield Rd S		Major
B	Site Access		Minor
C	Wakefield Rd N		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Has right turn bay	Width for right turn (m)	Visibility for right turn (m)	Blocks?	Blocking queue (PCU)
C - Wakefield Rd N	6.30		✓	3.00	186.0		-

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 - Site Access	One lane	3.74	26	20

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
1	B-A	533	0.096	0.242	0.152	0.346
1	B-C	684	0.103	0.261	-	-
1	C-B	741	0.283	0.283	-	-

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

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - Wakefield Rd S		✓	489	100.000
B - Site Access		✓	47	100.000
C - Wakefield Rd N		✓	519	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A - Wakefield Rd S	B - Site Access	C - Wakefield Rd N
From	A - Wakefield Rd S	0	15	474
	B - Site Access	18	0	29
	C - Wakefield Rd N	495	24	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A - Wakefield Rd S	B - Site Access	C - Wakefield Rd N
From	A - Wakefield Rd S	0	0	0
	B - Site Access	0	0	0
	C - Wakefield Rd N	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max delay (s)	Max Queue (PCU)	Max LOS
B-AC	0.12	9.66	0.1	A
C-A				
C-B	0.04	6.40	0.0	A
A-B				
A-C				

Main Results for each time segment

07:30 - 07:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-AC	35	488	0.072	35	0.1	7.943	A
C-A	373			373			
C-B	18	637	0.028	18	0.0	5.818	A
A-B	11			11			
A-C	357			357			

07:45 - 08:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-AC	42	462	0.091	42	0.1	8.577	A
C-A	445			445			
C-B	22	616	0.035	22	0.0	6.050	A
A-B	13			13			
A-C	426			426			

08:00 - 08:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-AC	52	424	0.122	52	0.1	9.650	A
C-A	545			545			
C-B	26	588	0.045	26	0.0	6.404	A
A-B	17			17			
A-C	522			522			

08:15 - 08:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-AC	52	424	0.122	52	0.1	9.658	A
C-A	545			545			
C-B	26	588	0.045	26	0.0	6.404	A
A-B	17			17			
A-C	522			522			

08:30 - 08:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-AC	42	462	0.092	42	0.1	8.588	A
C-A	445			445			
C-B	22	616	0.035	22	0.0	6.051	A
A-B	13			13			
A-C	426			426			

08:45 - 09:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-AC	35	488	0.073	35	0.1	7.957	A
C-A	373			373			
C-B	18	637	0.028	18	0.0	5.819	A
A-B	11			11			
A-C	357			357			

Junctions 9
PICADY 9 - Priority Intersection Module
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Filename: Site Access.j9
Path: O:\Wakefield Road, Athersley\ANALYSIS\CAPACITY\Priority Junctions\Site Access
Report generation date: 27/09/2017 13:57:03

«Site Access - Design 2022, PM

- »Junction Network
- »Arms
- »Traffic Demand
- »Origin-Destination Data
- »Vehicle Mix
- »Results

Summary of junction performance

	PM			
	Queue (PCU)	Delay (s)	RFC	LOS
	Site Access - Design 2022			
Stream B-AC	0.1	11.26	0.12	B
Stream C-B	0.1	7.37	0.07	A

There are warnings associated with this model run - see the 'Data Errors and Warnings' tables.

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	SITE ACCESS
Location	
Site number	
Date	25/09/2017
Version	
Status	
Identifier	
Client	
Jobnumber	
Enumerator	NJ
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

Calculate Queue Percentiles	Calculate residual capacity	RFC Threshold	Average Delay threshold (s)	Queue threshold (PCU)
		0.85	36.00	20.00

Analysis Set Details

ID	Name	Network flow scaling factor (%)
A1	Site Access	100.000

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D2	Design 2022	PM	ONE HOUR	16:45	18:15	15

Site Access - Design 2022, 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.

Junction Network

Junctions

Junction	Name	Junction Type	Major road direction	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way	0.55	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Name	Description	Arm type
A	Wakefield Rd S		Major
B	Site Access		Minor
C	Wakefield Rd N		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Has right turn bay	Width for right turn (m)	Visibility for right turn (m)	Blocks?	Blocking queue (PCU)
C - Wakefield Rd N	6.30		✓	3.00	186.0		-

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 - Site Access	One lane	3.74	26	20

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
1	B-A	533	0.096	0.242	0.152	0.346
1	B-C	684	0.103	0.261	-	-
1	C-B	741	0.283	0.283	-	-

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

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - Wakefield Rd S		✓	686	100.000
B - Site Access		✓	39	100.000
C - Wakefield Rd N		✓	536	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A - Wakefield Rd S	B - Site Access	C - Wakefield Rd N
From	A - Wakefield Rd S	0	22	664
	B - Site Access	15	0	24
	C - Wakefield Rd N	501	35	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A - Wakefield Rd S	B - Site Access	C - Wakefield Rd N
From	A - Wakefield Rd S	0	0	0
	B - Site Access	0	0	0
	C - Wakefield Rd N	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max delay (s)	Max Queue (PCU)	Max LOS
B-AC	0.12	11.26	0.1	B
C-A				
C-B	0.07	7.37	0.1	A
A-B				
A-C				

Main Results for each time segment

16:45 - 17:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-AC	29	447	0.066	29	0.1	8.602	A
C-A	377			377			
C-B	26	595	0.044	26	0.0	6.331	A
A-B	17			17			
A-C	500			500			

17:00 - 17:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-AC	35	412	0.085	35	0.1	9.534	A
C-A	450			450			
C-B	31	566	0.056	31	0.1	6.730	A
A-B	20			20			
A-C	597			597			

17:15 - 17:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-AC	43	363	0.118	43	0.1	11.250	B
C-A	552			552			
C-B	39	527	0.073	38	0.1	7.369	A
A-B	24			24			
A-C	731			731			

17:30 - 17:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-AC	43	363	0.118	43	0.1	11.261	B
C-A	552			552			
C-B	39	527	0.073	39	0.1	7.369	A
A-B	24			24			
A-C	731			731			

17:45 - 18:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-AC	35	412	0.085	35	0.1	9.548	A
C-A	450			450			
C-B	31	566	0.056	32	0.1	6.732	A
A-B	20			20			
A-C	597			597			

18:00 - 18:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-AC	29	447	0.066	29	0.1	8.617	A
C-A	377			377			
C-B	26	595	0.044	26	0.0	6.334	A
A-B	17			17			
A-C	500			500			

<h1>Junctions 9</h1>
<h2>ARCADY 9 - Roundabout Module</h2>
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Filename: Wakefield Road - Rotherham Road.j9
Path: O:\Wakefield Road, Athersley\ANALYSIS\CAPACITY\Roundabouts
Report generation date: 26/09/2017 10:51:53

- »2017, AM Count
- »2017, PM Count
- »2022 Base, AM Count
- »2022 Base, PM Count
- »2022 Design, AM Count
- »2022 Design, PM Count

Summary of junction performance

	AM Count				PM Count			
	Queue (PCU)	Delay (s)	RFC	LOS	Queue (PCU)	Delay (s)	RFC	LOS
2017								
Arm 1	1.3	5.27	0.56	A	1.6	6.00	0.61	A
Arm 2	0.8	6.67	0.46	A	0.6	5.61	0.38	A
Arm 3	1.1	7.57	0.52	A	2.2	11.37	0.69	B
2022 Base								
Arm 1	1.5	5.90	0.61	A	1.9	6.87	0.66	A
Arm 2	1.0	7.56	0.51	A	0.7	6.09	0.41	A
Arm 3	1.3	8.68	0.57	A	3.0	14.57	0.76	B
2022 Design								
Arm 1	1.6	6.14	0.62	A	2.1	7.29	0.68	A
Arm 2	1.0	7.71	0.51	A	0.7	6.23	0.42	A
Arm 3	1.5	9.37	0.60	A	3.5	16.28	0.78	C

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	(untitled)
Location	
Site number	
Date	26/09/2017
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	OPTIMA\Optima
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

Calculate Queue Percentiles	Calculate residual capacity	RFC Threshold	Average Delay threshold (s)	Queue threshold (PCU)
		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)
D1	2017	AM Count	ONE HOUR	07:30	09:00	15
D2	2017	PM Count	ONE HOUR	16:45	18:15	15
D3	2022 Base	AM Count	ONE HOUR	07:30	09:00	15
D4	2022 Base	PM Count	ONE HOUR	16:45	18:15	15
D5	2022 Design	AM Count	ONE HOUR	07:30	09:00	15
D6	2022 Design	PM Count	ONE HOUR	16:45	18:15	15

Analysis Set Details

ID	Network flow scaling factor (%)
A1	100.000

2017, AM Count

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	Arm 1 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.

Junction Network

Junctions

Junction	Name	Junction Type	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout	1, 2, 3	6.28	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Name	Description
1	Wakefield Road (n)	
2	Rotherham Road	
3	Wakefield Road (s)	

Roundabout Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	I' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit only
1	3.20	6.10	37.6	21.9	24.1	46.0	
2	3.90	5.80	3.4	30.8	24.1	46.5	
3	3.60	5.10	4.1	18.8	24.1	43.0	

Bypass

Arm	Arm has bypass	Bypass utilisation (%)
1		
2	✓	100
3		

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Final slope	Final intercept (PCU/hr)
1	0.624	1589
2	0.574	1332
3	0.552	1237

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)
D1	2017	AM Count	ONE HOUR	07:30	09:00	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1		✓	798	100.000
2		✓	508	100.000
3		✓	463	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		1	2	3
From	1	0	266	532
	2	415	0	93
	3	423	40	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		1	2	3
From	1	0	0	0
	2	0	0	0
	3	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max delay (s)	Max Queue (PCU)	Max LOS
1	0.56	5.27	1.3	A
2	0.46	6.67	0.8	A
3	0.52	7.57	1.1	A

Main Results for each time segment

07:30 - 07:45

Arm	Total Demand (PCU/hr)	Bypass demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
1	601	0	30	1570	0.383	598	0.6	3.696	A
2	382	70	399	1103	0.283	311	0.4	4.532	A
3	349	0	311	1066	0.327	347	0.5	4.993	A

07:45 - 08:00

Arm	Total Demand (PCU/hr)	Bypass demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
1	717	0	36	1566	0.458	716	0.8	4.232	A

2	457	84	478	1058	0.353	372	0.5	5.245	A
3	416	0	372	1032	0.403	415	0.7	5.833	A

08:00 - 08:15

Arm	Total Demand (PCU/hr)	Bypass demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
1	879	0	44	1561	0.563	877	1.3	5.247	A
2	559	102	585	997	0.458	456	0.8	6.638	A
3	510	0	456	986	0.517	508	1.1	7.513	A

08:15 - 08:30

Arm	Total Demand (PCU/hr)	Bypass demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
1	879	0	44	1561	0.563	879	1.3	5.274	A
2	559	102	586	996	0.459	457	0.8	6.675	A
3	510	0	457	985	0.517	510	1.1	7.571	A

08:30 - 08:45

Arm	Total Demand (PCU/hr)	Bypass demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
1	717	0	36	1566	0.458	719	0.9	4.258	A
2	457	84	479	1057	0.353	374	0.6	5.279	A
3	416	0	374	1031	0.404	418	0.7	5.887	A

08:45 - 09:00

Arm	Total Demand (PCU/hr)	Bypass demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
1	601	0	30	1570	0.383	602	0.6	3.721	A
2	382	70	401	1102	0.283	313	0.4	4.565	A
3	349	0	313	1065	0.327	349	0.5	5.037	A

2017, PM Count

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	Arm 1 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.

Junction Network

Junctions

Junction	Name	Junction Type	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout	1, 2, 3	7.70	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)
D2	2017	PM Count	ONE HOUR	16:45	18:15	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1		✓	864	100.000
2		✓	421	100.000
3		✓	642	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		1	2	3
From	1	0	386	478
	2	353	0	68
	3	588	54	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		1	2	3
From	1	0	0	0
	2	0	0	0
	3	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max delay (s)	Max Queue (PCU)	Max LOS
1	0.61	6.00	1.6	A
2	0.38	5.61	0.6	A
3	0.69	11.37	2.2	B

Main Results for each time segment

16:45 - 17:00

Arm	Total Demand (PCU/hr)	Bypass demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
1	650	0	40	1563	0.416	648	0.7	3.920	A
2	317	51	358	1127	0.236	265	0.3	4.169	A
3	483	0	265	1091	0.443	480	0.8	5.861	A

17:00 - 17:15

Arm	Total Demand (PCU/hr)	Bypass demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
1	777	0	48	1558	0.498	776	1.0	4.592	A
2	378	61	429	1086	0.292	317	0.4	4.678	A
3	577	0	317	1062	0.543	576	1.2	7.370	A

17:15 - 17:30

Arm	Total Demand (PCU/hr)	Bypass demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
1	951	0	59	1552	0.613	949	1.6	5.951	A
2	464	75	525	1031	0.377	388	0.6	5.590	A
3	707	0	388	1023	0.691	703	2.2	11.100	B

17:30 - 17:45

Arm	Total Demand (PCU/hr)	Bypass demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
1	951	0	59	1551	0.613	951	1.6	5.997	A
2	464	75	526	1030	0.377	389	0.6	5.610	A
3	707	0	389	1023	0.691	707	2.2	11.368	B

17:45 - 18:00

Arm	Total Demand (PCU/hr)	Bypass demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
1	777	0	49	1558	0.499	779	1.0	4.635	A
2	378	61	431	1085	0.292	318	0.4	4.698	A
3	577	0	318	1062	0.544	581	1.2	7.546	A

18:00 - 18:15

Arm	Total Demand (PCU/hr)	Bypass demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
1	650	0	41	1563	0.416	652	0.7	3.955	A
2	317	51	360	1125	0.236	266	0.3	4.191	A
3	483	0	266	1091	0.443	485	0.8	5.960	A

2022 Base, AM Count

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	Arm 1 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.

Junction Network

Junctions

Junction	Name	Junction Type	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout	1, 2, 3	7.10	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)
D3	2022 Base	AM Count	ONE HOUR	07:30	09:00	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1		✓	862	100.000
2		✓	548	100.000
3		✓	500	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		1	2	3
From	1	0	288	574
	2	448	0	100
	3	457	43	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		1	2	3
From	1	0	0	0
	2	0	0	0
	3	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max delay (s)	Max Queue (PCU)	Max LOS
1	0.61	5.90	1.5	A
2	0.51	7.56	1.0	A
3	0.57	8.68	1.3	A

Main Results for each time segment

07:30 - 07:45

Arm	Total Demand (PCU/hr)	Bypass demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
1	649	0	32	1568	0.414	646	0.7	3.892	A
2	413	75	430	1085	0.311	335	0.4	4.788	A
3	376	0	335	1052	0.358	374	0.6	5.293	A

07:45 - 08:00

Arm	Total Demand (PCU/hr)	Bypass demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
1	775	0	39	1564	0.495	774	1.0	4.546	A
2	493	90	515	1037	0.389	402	0.6	5.667	A
3	449	0	402	1016	0.443	449	0.8	6.339	A

08:00 - 08:15

Arm	Total Demand (PCU/hr)	Bypass demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
1	949	0	47	1559	0.609	947	1.5	5.859	A
2	603	110	630	970	0.508	492	1.0	7.496	A
3	551	0	492	966	0.570	548	1.3	8.579	A

08:15 - 08:30

Arm	Total Demand (PCU/hr)	Bypass demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
1	949	0	47	1559	0.609	949	1.5	5.901	A
2	603	110	632	970	0.509	493	1.0	7.556	A
3	551	0	493	965	0.570	550	1.3	8.678	A

08:30 - 08:45

Arm	Total Demand (PCU/hr)	Bypass demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
1	775	0	39	1564	0.495	777	1.0	4.587	A
2	493	90	517	1035	0.389	404	0.6	5.717	A
3	449	0	404	1014	0.443	452	0.8	6.421	A

08:45 - 09:00

Arm	Total Demand (PCU/hr)	Bypass demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
1	649	0	32	1568	0.414	650	0.7	3.926	A
2	413	75	433	1084	0.311	338	0.5	4.832	A
3	376	0	338	1051	0.358	377	0.6	5.354	A

2022 Base, PM Count

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	Arm 1 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.

Junction Network

Junctions

Junction	Name	Junction Type	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout	1, 2, 3	9.27	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)
D4	2022 Base	PM Count	ONE HOUR	16:45	18:15	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1		✓	931	100.000
2		✓	451	100.000
3		✓	692	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		1	2	3
From	1	0	416	515
	2	378	0	73
	3	634	58	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		1	2	3
From	1	0	0	0
	2	0	0	0
	3	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max delay (s)	Max Queue (PCU)	Max LOS
1	0.66	6.87	1.9	A
2	0.41	6.09	0.7	A
3	0.76	14.57	3.0	B

Main Results for each time segment

16:45 - 17:00

Arm	Total Demand (PCU/hr)	Bypass demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
1	701	0	43	1561	0.449	698	0.8	4.153	A
2	340	55	386	1111	0.256	283	0.3	4.342	A
3	521	0	283	1081	0.482	517	0.9	6.345	A

17:00 - 17:15

Arm	Total Demand (PCU/hr)	Bypass demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
1	837	0	52	1556	0.538	836	1.2	4.987	A
2	405	66	462	1067	0.318	339	0.5	4.943	A
3	622	0	339	1050	0.592	620	1.4	8.331	A

17:15 - 17:30

Arm	Total Demand (PCU/hr)	Bypass demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
1	1025	0	63	1549	0.662	1022	1.9	6.792	A
2	497	80	565	1008	0.413	415	0.7	6.064	A
3	762	0	415	1008	0.756	756	2.9	13.944	B

17:30 - 17:45

Arm	Total Demand (PCU/hr)	Bypass demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
1	1025	0	64	1549	0.662	1025	1.9	6.871	A
2	497	80	567	1007	0.413	416	0.7	6.093	A
3	762	0	416	1008	0.756	762	3.0	14.568	B

17:45 - 18:00

Arm	Total Demand (PCU/hr)	Bypass demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
1	837	0	53	1556	0.538	840	1.2	5.050	A
2	405	66	465	1066	0.319	341	0.5	4.973	A
3	622	0	341	1049	0.593	628	1.5	8.665	A

18:00 - 18:15

Arm	Total Demand (PCU/hr)	Bypass demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
1	701	0	44	1561	0.449	702	0.8	4.198	A
2	340	55	389	1109	0.257	285	0.3	4.371	A
3	521	0	285	1080	0.482	523	0.9	6.488	A

2022 Design, AM Count

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	Arm 1 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.

Junction Network

Junctions

Junction	Name	Junction Type	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout	1, 2, 3	7.46	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)
D5	2022 Design	AM Count	ONE HOUR	07:30	09:00	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1		✓	877	100.000
2		✓	558	100.000
3		✓	528	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		1	2	3
From	1	0	288	589
	2	448	0	110
	3	474	54	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		1	2	3
From	1	0	0	0
	2	0	0	0
	3	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max delay (s)	Max Queue (PCU)	Max LOS
1	0.62	6.14	1.6	A
2	0.51	7.71	1.0	A
3	0.60	9.37	1.5	A

Main Results for each time segment

07:30 - 07:45

Arm	Total Demand (PCU/hr)	Bypass demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
1	660	0	40	1563	0.422	657	0.7	3.961	A
2	420	83	441	1079	0.313	335	0.5	4.830	A
3	398	0	335	1052	0.378	395	0.6	5.459	A

07:45 - 08:00

Arm	Total Demand (PCU/hr)	Bypass demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
1	788	0	48	1558	0.506	787	1.0	4.662	A
2	502	99	529	1029	0.391	402	0.6	5.735	A
3	475	0	402	1016	0.467	474	0.9	6.629	A

08:00 - 08:15

Arm	Total Demand (PCU/hr)	Bypass demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
1	966	0	59	1552	0.622	963	1.6	6.092	A
2	614	121	647	961	0.513	492	1.0	7.642	A
3	581	0	492	966	0.602	579	1.5	9.241	A

08:15 - 08:30

Arm	Total Demand (PCU/hr)	Bypass demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
1	966	0	59	1551	0.622	966	1.6	6.144	A
2	614	121	648	960	0.514	493	1.0	7.709	A
3	581	0	493	965	0.602	581	1.5	9.371	A

08:30 - 08:45

Arm	Total Demand (PCU/hr)	Bypass demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
1	788	0	49	1558	0.506	791	1.0	4.706	A
2	502	99	531	1028	0.392	404	0.7	5.792	A
3	475	0	404	1014	0.468	477	0.9	6.730	A

08:45 - 09:00

Arm	Total Demand (PCU/hr)	Bypass demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
1	660	0	41	1563	0.422	661	0.7	3.997	A
2	420	83	444	1077	0.313	338	0.5	4.875	A
3	398	0	338	1051	0.378	399	0.6	5.530	A

2022 Design, PM Count

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	Arm 1 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.

Junction Network

Junctions

Junction	Name	Junction Type	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout	1, 2, 3	10.07	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)
D6	2022 Design	PM Count	ONE HOUR	16:45	18:15	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1		✓	952	100.000
2		✓	465	100.000
3		✓	716	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		1	2	3
From	1	0	416	536
	2	378	0	87
	3	648	68	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		1	2	3
From	1	0	0	0
	2	0	0	0
	3	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max delay (s)	Max Queue (PCU)	Max LOS
1	0.68	7.29	2.1	A
2	0.42	6.23	0.7	A
3	0.78	16.28	3.5	C

Main Results for each time segment

16:45 - 17:00

Arm	Total Demand (PCU/hr)	Bypass demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
1	717	0	51	1557	0.460	713	0.8	4.251	A
2	350	65	402	1102	0.258	283	0.3	4.390	A
3	539	0	283	1081	0.499	535	1.0	6.553	A

17:00 - 17:15

Arm	Total Demand (PCU/hr)	Bypass demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
1	856	0	61	1551	0.552	854	1.2	5.159	A
2	418	78	481	1056	0.322	339	0.5	5.018	A
3	644	0	339	1050	0.613	641	1.5	8.758	A

17:15 - 17:30

Arm	Total Demand (PCU/hr)	Bypass demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
1	1048	0	74	1542	0.680	1045	2.1	7.185	A
2	512	96	588	995	0.418	415	0.7	6.202	A
3	788	0	415	1008	0.782	781	3.3	15.385	C

17:30 - 17:45

Arm	Total Demand (PCU/hr)	Bypass demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
1	1048	0	75	1542	0.680	1048	2.1	7.285	A
2	512	96	590	994	0.419	416	0.7	6.233	A
3	788	0	416	1008	0.782	788	3.5	16.277	C

17:45 - 18:00

Arm	Total Demand (PCU/hr)	Bypass demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
1	856	0	62	1550	0.552	859	1.2	5.238	A
2	418	78	484	1055	0.322	341	0.5	5.048	A
3	644	0	341	1049	0.613	651	1.6	9.197	A

18:00 - 18:15

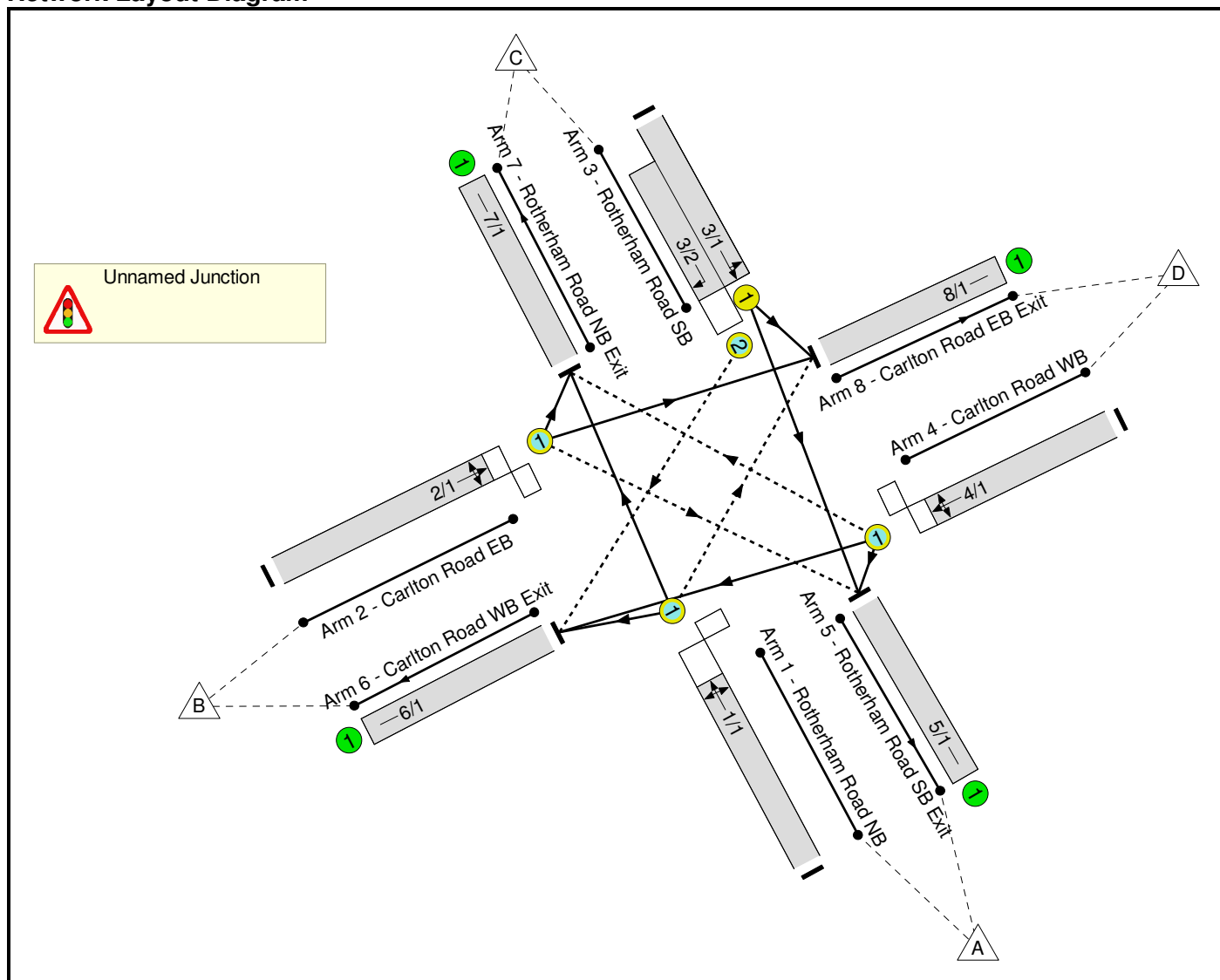
Arm	Total Demand (PCU/hr)	Bypass demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
1	717	0	51	1556	0.460	718	0.9	4.304	A
2	350	65	404	1100	0.259	285	0.4	4.418	A
3	539	0	285	1080	0.499	542	1.0	6.716	A

Full Input Data And Results
Full Input Data And Results

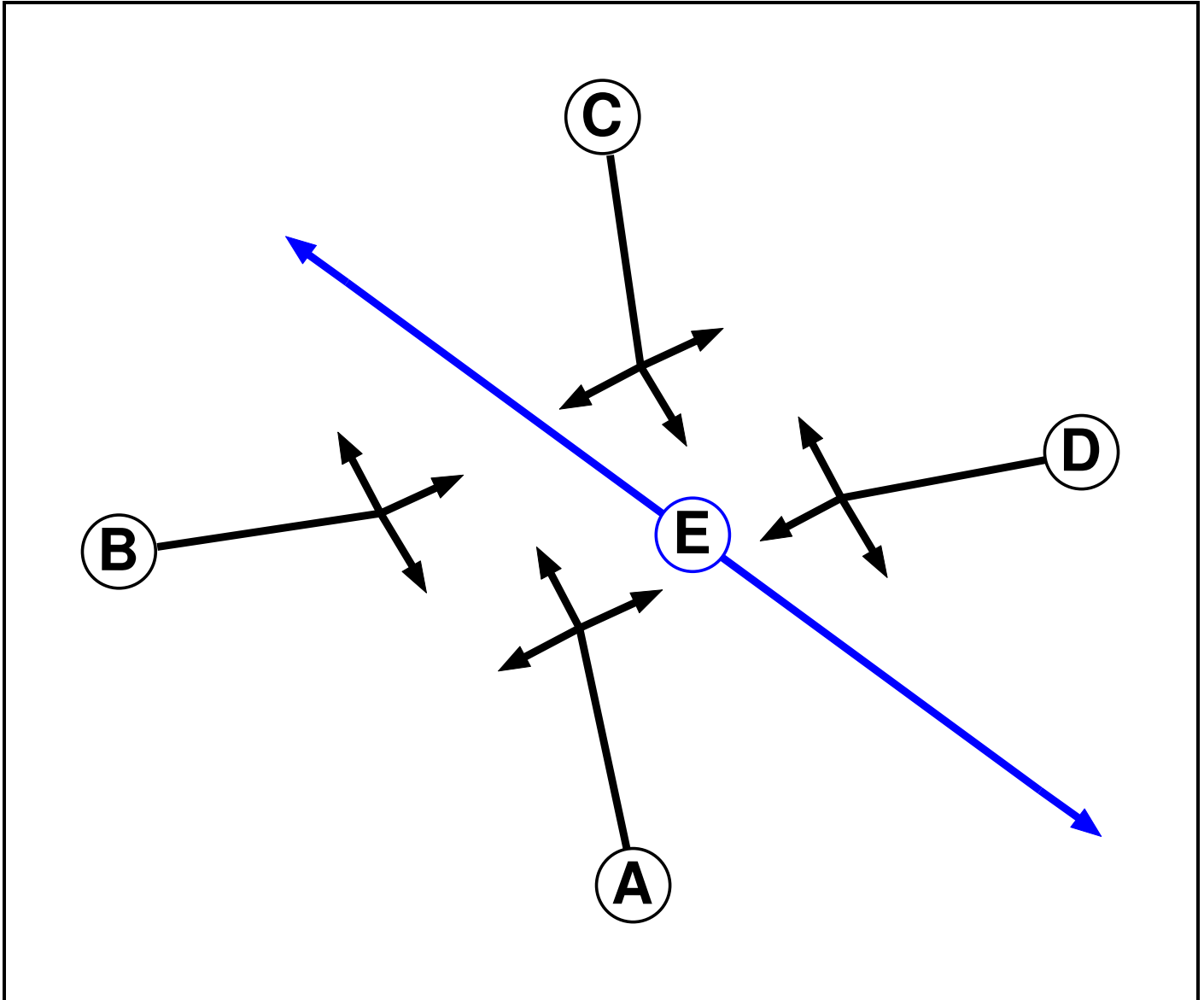
User and Project Details

Project:	Wakefield Rd, Athersley
Title:	Rotherham Rd/Carlton Rd
Location:	athersley
File name:	Rotherham Rd-Carlton Rd.lsg3x
Author:	SJP
Company:	Optima
Address:	
Notes:	Timings provided by Siemens, Junction spec provided by Barnsley Council, measurements for RR67 calculations taken on Site. Peds demanded 11 times in AM peak and 13 times in PM peak on 26th June. The lost time for phases A-D is 17s for each pedestrian demand equating to 187s and 221s respectively. 3s and 4S will be lost in the AM/PM based on 60 cycles of 60s and therefore the intergreen between stage 2 and 1 will be increased from 6s to 10s to replicate the lost time for the ped stage.

Network Layout Diagram



Phase Diagram



Phase Input Data

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

Full Input Data And Results

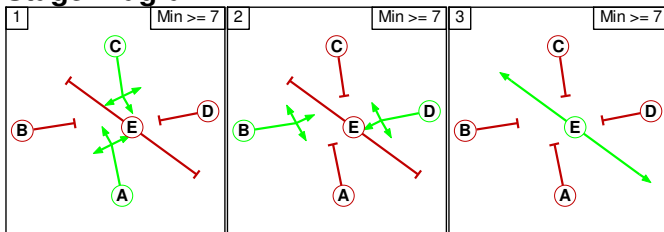
Phase Intergrens Matrix

Terminating Phase	Starting Phase					
		A	B	C	D	E
	A		6	-	6	7
	B	10		10	-	7
	C	-	6		6	7
	D	10	-	10		7
E	6	6	6	6		

Phases in Stage

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

Stage Diagram



Phase Delays

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

Prohibited Stage Change

From Stage	To Stage			
		1	2	3
	1		6	7
	2	10		7
3	6	6		

Full Input Data And Results

Give-Way Lane Input Data

Junction: Unnamed Junction											
Lane	Movement	Max Flow when Giving Way (PCU/Hr)	Min Flow when Giving Way (PCU/Hr)	Opposing Lane	Opp. Lane Coeff.	Opp. Mvmnts.	Right Turn Storage (PCU)	Non-Blocking Storage (PCU)	RTF	Right Turn Move up (s)	Max Turns in Intergreen (PCU)
1/1 (Rotherham Road NB)	8/1 (Right)	1439	0	3/1	1.09	To 5/1 (Ahead) To 8/1 (Left)	3.00	1.00	0.50	3	2.00
2/1 (Carlton Road EB)	5/1 (Right)	1439	0	4/1	1.09	All	2.00	1.00	0.50	2	2.00
3/2 (Rotherham Road SB)	6/1 (Right)	1439	0	1/1	1.09	To 6/1 (Left) To 7/1 (Ahead)	2.00	-	0.50	2	2.00
4/1 (Carlton Road WB)	7/1 (Right)	1439	0	2/1	1.09	To 7/1 (Left) To 8/1 (Ahead)	2.00	1.00	0.50	2	2.00

Full Input Data And Results

Lane Input Data

Junction: Unnamed Junction												
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 (Rotherham Road NB)	O	A	2	3	60.0	Geom	-	3.90	0.00	Y	Arm 6 Left	8.00
											Arm 7 Ahead	Inf
											Arm 8 Right	10.00
											Arm 5 Right	10.00
2/1 (Carlton Road EB)	O	B	2	3	60.0	Geom	-	3.80	2.00	Y	Arm 7 Left	8.00
											Arm 8 Ahead	Inf
3/1 (Rotherham Road SB)	U	C	2	3	60.0	Geom	-	3.20	0.00	Y	Arm 5 Ahead	Inf
											Arm 8 Left	8.00
3/2 (Rotherham Road SB)	O	C	2	3	11.0	Geom	-	3.40	0.00	Y	Arm 6 Right	10.00
											Arm 5 Left	8.00
4/1 (Carlton Road WB)	O	D	2	3	60.0	Geom	-	3.70	0.00	Y	Arm 6 Ahead	Inf
											Arm 7 Right	10.00
5/1 (Rotherham Road SB Exit)	U		2	3	60.0	Inf	-	-	-	-	-	-
6/1 (Carlton Road WB Exit)	U		2	3	60.0	Inf	-	-	-	-	-	-
7/1 (Rotherham Road NB Exit)	U		2	3	60.0	Inf	-	-	-	-	-	-
8/1 (Carlton Road EB Exit)	U		2	3	60.0	Inf	-	-	-	-	-	-

Traffic Flow Groups

Flow Group	Start Time	End Time	Duration	Formula
1: '2017 AM COUNT'	07:45	08:45	01:00	
2: '2017 PM COUNT'	17:00	18:00	01:00	
3: '2022 AM BASE'	07:45	08:45	01:00	
4: '2022 PM BASE'	17:00	18:00	01:00	
5: '2022 AM DESIGN'	07:45	08:45	01:00	
6: '2022 PM DESIGN'	17:00	18:00	01:00	

Full Input Data And Results

Scenario 1: '2017 AM COUNT' (FG1: '2017 AM COUNT', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

		Destination				
		A	B	C	D	Tot.
Origin	A	0	44	361	141	546
	B	23	0	41	260	324
	C	311	33	0	42	386
	D	119	270	37	0	426
	Tot.	453	347	439	443	1682

Traffic Lane Flows

Lane	Scenario 1: 2017 AM COUNT
Junction: Unnamed Junction	
1/1	546
2/1	324
3/1 (with short)	386(In) 353(Out)
3/2 (short)	33
4/1	426
5/1	453
6/1	347
7/1	439
8/1	443

Full Input Data And Results

Lane Saturation Flows

Junction: Unnamed Junction								
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 (Rotherham Road NB)	3.90	0.00	Y	Arm 6 Left	8.00	8.1 %	1903	1903
				Arm 7 Ahead	Inf	66.1 %		
				Arm 8 Right	10.00	25.8 %		
2/1 (Carlton Road EB)	3.80	2.00	Y	Arm 5 Right	10.00	7.1 %	1847	1847
				Arm 7 Left	8.00	12.7 %		
				Arm 8 Ahead	Inf	80.2 %		
3/1 (Rotherham Road SB)	3.20	0.00	Y	Arm 5 Ahead	Inf	88.1 %	1893	1893
				Arm 8 Left	8.00	11.9 %		
3/2 (Rotherham Road SB)	3.40	0.00	Y	Arm 6 Right	10.00	100.0 %	1700	1700
4/1 (Carlton Road WB)	3.70	0.00	Y	Arm 5 Left	8.00	27.9 %	1863	1863
				Arm 6 Ahead	Inf	63.4 %		
				Arm 7 Right	10.00	8.7 %		
5/1 (Rotherham Road SB Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
6/1 (Carlton Road WB Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
7/1 (Rotherham Road NB Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
8/1 (Carlton Road EB Exit Lane 1)	Infinite Saturation Flow						Inf	Inf

Scenario 2: '2017 PM COUNT' (FG2: '2017 PM COUNT', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

	Destination					
	A	B	C	D	Tot.	
Origin	A	0	58	412	66	536
	B	41	0	68	241	350
	C	371	31	0	55	457
	D	99	231	19	0	349
	Tot.	511	320	499	362	1692

Full Input Data And Results

Traffic Lane Flows

Lane	Scenario 2: 2017 PM COUNT
Junction: Unnamed Junction	
1/1	536
2/1	350
3/1 (with short)	457(In) 426(Out)
3/2 (short)	31
4/1	349
5/1	511
6/1	320
7/1	499
8/1	362

Lane Saturation Flows

Junction: Unnamed Junction								
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 (Rotherham Road NB)	3.90	0.00	Y	Arm 6 Left	8.00	10.8 %	1930	1930
				Arm 7 Ahead	Inf	76.9 %		
				Arm 8 Right	10.00	12.3 %		
2/1 (Carlton Road EB)	3.80	2.00	Y	Arm 5 Right	10.00	11.7 %	1813	1813
				Arm 7 Left	8.00	19.4 %		
				Arm 8 Ahead	Inf	68.9 %		
3/1 (Rotherham Road SB)	3.20	0.00	Y	Arm 5 Ahead	Inf	87.1 %	1889	1889
				Arm 8 Left	8.00	12.9 %		
3/2 (Rotherham Road SB)	3.40	0.00	Y	Arm 6 Right	10.00	100.0 %	1700	1700
4/1 (Carlton Road WB)	3.70	0.00	Y	Arm 5 Left	8.00	28.4 %	1870	1870
				Arm 6 Ahead	Inf	66.2 %		
				Arm 7 Right	10.00	5.4 %		
5/1 (Rotherham Road SB Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
6/1 (Carlton Road WB Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
7/1 (Rotherham Road NB Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
8/1 (Carlton Road EB Exit Lane 1)	Infinite Saturation Flow						Inf	Inf

Full Input Data And Results

Scenario 3: '2022 AM BASE' (FG3: '2022 AM BASE', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

		Destination				
		A	B	C	D	Tot.
Origin	A	0	48	390	152	590
	B	25	0	44	281	350
	C	336	36	0	45	417
	D	128	292	40	0	460
	Tot.	489	376	474	478	1817

Traffic Lane Flows

Lane	Scenario 3: 2022 AM BASE
Junction: Unnamed Junction	
1/1	590
2/1	350
3/1 (with short)	417(In) 381(Out)
3/2 (short)	36
4/1	460
5/1	489
6/1	376
7/1	474
8/1	478

Full Input Data And Results

Lane Saturation Flows

Junction: Unnamed Junction								
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 (Rotherham Road NB)	3.90	0.00	Y	Arm 6 Left	8.00	8.1 %	1902	1902
				Arm 7 Ahead	Inf	66.1 %		
				Arm 8 Right	10.00	25.8 %		
2/1 (Carlton Road EB)	3.80	2.00	Y	Arm 5 Right	10.00	7.1 %	1848	1848
				Arm 7 Left	8.00	12.6 %		
				Arm 8 Ahead	Inf	80.3 %		
3/1 (Rotherham Road SB)	3.20	0.00	Y	Arm 5 Ahead	Inf	88.2 %	1893	1893
				Arm 8 Left	8.00	11.8 %		
3/2 (Rotherham Road SB)	3.40	0.00	Y	Arm 6 Right	10.00	100.0 %	1700	1700
4/1 (Carlton Road WB)	3.70	0.00	Y	Arm 5 Left	8.00	27.8 %	1863	1863
				Arm 6 Ahead	Inf	63.5 %		
				Arm 7 Right	10.00	8.7 %		
5/1 (Rotherham Road SB Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
6/1 (Carlton Road WB Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
7/1 (Rotherham Road NB Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
8/1 (Carlton Road EB Exit Lane 1)	Infinite Saturation Flow						Inf	Inf

Scenario 4: '2022 PM BASE' (FG4: '2022 PM BASE', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

	Destination					
	A	B	C	D	Tot.	
Origin	A	0	63	444	71	578
	B	44	0	73	260	377
	C	400	33	0	59	492
	D	107	249	20	0	376
	Tot.	551	345	537	390	1823

Full Input Data And Results

Traffic Lane Flows

Lane	Scenario 4: 2022 PM BASE
Junction: Unnamed Junction	
1/1	578
2/1	377
3/1 (with short)	492(In) 459(Out)
3/2 (short)	33
4/1	376
5/1	551
6/1	345
7/1	537
8/1	390

Lane Saturation Flows

Junction: Unnamed Junction								
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 (Rotherham Road NB)	3.90	0.00	Y	Arm 6 Left	8.00	10.9 %	1930	1930
				Arm 7 Ahead	Inf	76.8 %		
				Arm 8 Right	10.00	12.3 %		
2/1 (Carlton Road EB)	3.80	2.00	Y	Arm 5 Right	10.00	11.7 %	1813	1813
				Arm 7 Left	8.00	19.4 %		
				Arm 8 Ahead	Inf	69.0 %		
3/1 (Rotherham Road SB)	3.20	0.00	Y	Arm 5 Ahead	Inf	87.1 %	1889	1889
				Arm 8 Left	8.00	12.9 %		
3/2 (Rotherham Road SB)	3.40	0.00	Y	Arm 6 Right	10.00	100.0 %	1700	1700
4/1 (Carlton Road WB)	3.70	0.00	Y	Arm 5 Left	8.00	28.5 %	1870	1870
				Arm 6 Ahead	Inf	66.2 %		
				Arm 7 Right	10.00	5.3 %		
5/1 (Rotherham Road SB Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
6/1 (Carlton Road WB Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
7/1 (Rotherham Road NB Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
8/1 (Carlton Road EB Exit Lane 1)	Infinite Saturation Flow						Inf	Inf

Full Input Data And Results

Scenario 5: '2022 AM DESIGN' (FG5: '2022 AM DESIGN', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

		Destination				
		A	B	C	D	Tot.
Origin	A	0	48	399	152	599
	B	25	0	44	283	352
	C	347	36	0	45	428
	D	128	293	40	0	461
	Tot.	500	377	483	480	1840

Traffic Lane Flows

Lane	Scenario 5: 2022 AM DESIGN
Junction: Unnamed Junction	
1/1	599
2/1	352
3/1 (with short)	428(In) 392(Out)
3/2 (short)	36
4/1	461
5/1	500
6/1	377
7/1	483
8/1	480

Full Input Data And Results

Lane Saturation Flows

Junction: Unnamed Junction								
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 (Rotherham Road NB)	3.90	0.00	Y	Arm 6 Left	8.00	8.0 %	1904	1904
				Arm 7 Ahead	Inf	66.6 %		
				Arm 8 Right	10.00	25.4 %		
2/1 (Carlton Road EB)	3.80	2.00	Y	Arm 5 Right	10.00	7.1 %	1848	1848
				Arm 7 Left	8.00	12.5 %		
				Arm 8 Ahead	Inf	80.4 %		
3/1 (Rotherham Road SB)	3.20	0.00	Y	Arm 5 Ahead	Inf	88.5 %	1894	1894
				Arm 8 Left	8.00	11.5 %		
3/2 (Rotherham Road SB)	3.40	0.00	Y	Arm 6 Right	10.00	100.0 %	1700	1700
4/1 (Carlton Road WB)	3.70	0.00	Y	Arm 5 Left	8.00	27.8 %	1864	1864
				Arm 6 Ahead	Inf	63.6 %		
				Arm 7 Right	10.00	8.7 %		
5/1 (Rotherham Road SB Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
6/1 (Carlton Road WB Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
7/1 (Rotherham Road NB Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
8/1 (Carlton Road EB Exit Lane 1)	Infinite Saturation Flow						Inf	Inf

Scenario 6: '2022 PM DESIGN' (FG6: '2022 PM DESIGN', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

	Destination					
	A	B	C	D	Tot.	
Origin	A	0	63	457	71	591
	B	44	0	73	262	379
	C	409	33	0	59	501
	D	107	251	20	0	378
	Tot.	560	347	550	392	1849

Full Input Data And Results

Traffic Lane Flows

Lane	Scenario 6: 2022 PM DESIGN
Junction: Unnamed Junction	
1/1	591
2/1	379
3/1 (with short)	501(In) 468(Out)
3/2 (short)	33
4/1	378
5/1	560
6/1	347
7/1	550
8/1	392

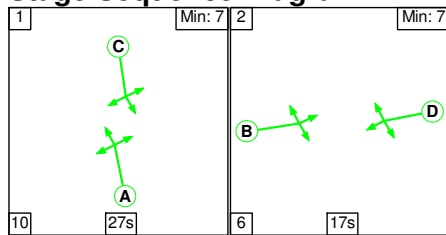
Lane Saturation Flows

Junction: Unnamed Junction								
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 (Rotherham Road NB)	3.90	0.00	Y	Arm 6 Left	8.00	10.7 %	1932	1932
				Arm 7 Ahead	Inf	77.3 %		
				Arm 8 Right	10.00	12.0 %		
2/1 (Carlton Road EB)	3.80	2.00	Y	Arm 5 Right	10.00	11.6 %	1814	1814
				Arm 7 Left	8.00	19.3 %		
				Arm 8 Ahead	Inf	69.1 %		
3/1 (Rotherham Road SB)	3.20	0.00	Y	Arm 5 Ahead	Inf	87.4 %	1890	1890
				Arm 8 Left	8.00	12.6 %		
3/2 (Rotherham Road SB)	3.40	0.00	Y	Arm 6 Right	10.00	100.0 %	1700	1700
4/1 (Carlton Road WB)	3.70	0.00	Y	Arm 5 Left	8.00	28.3 %	1871	1871
				Arm 6 Ahead	Inf	66.4 %		
				Arm 7 Right	10.00	5.3 %		
5/1 (Rotherham Road SB Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
6/1 (Carlton Road WB Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
7/1 (Rotherham Road NB Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
8/1 (Carlton Road EB Exit Lane 1)	Infinite Saturation Flow						Inf	Inf

Full Input Data And Results

Scenario 1: '2017 AM COUNT' (FG1: '2017 AM COUNT', Plan 1: 'Network Control Plan 1')

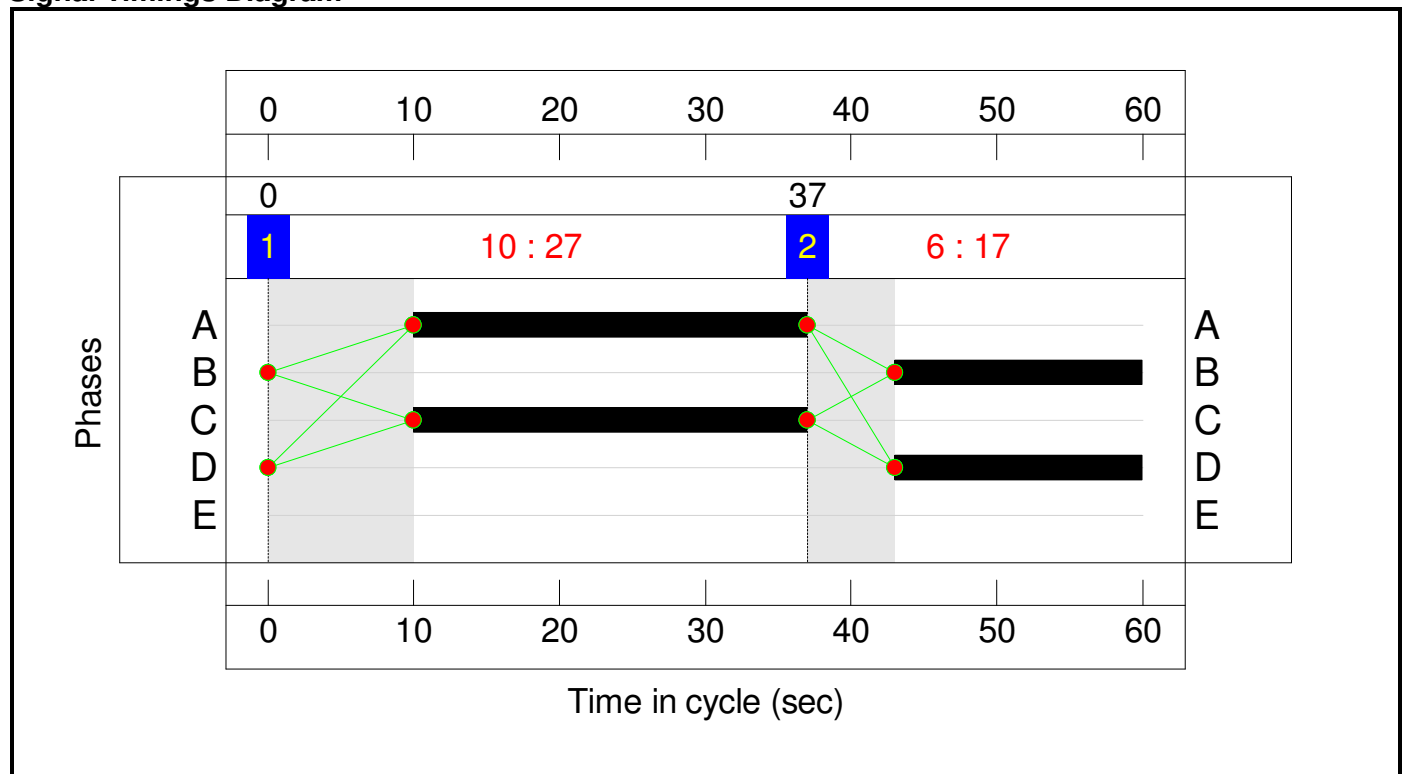
Stage Sequence Diagram



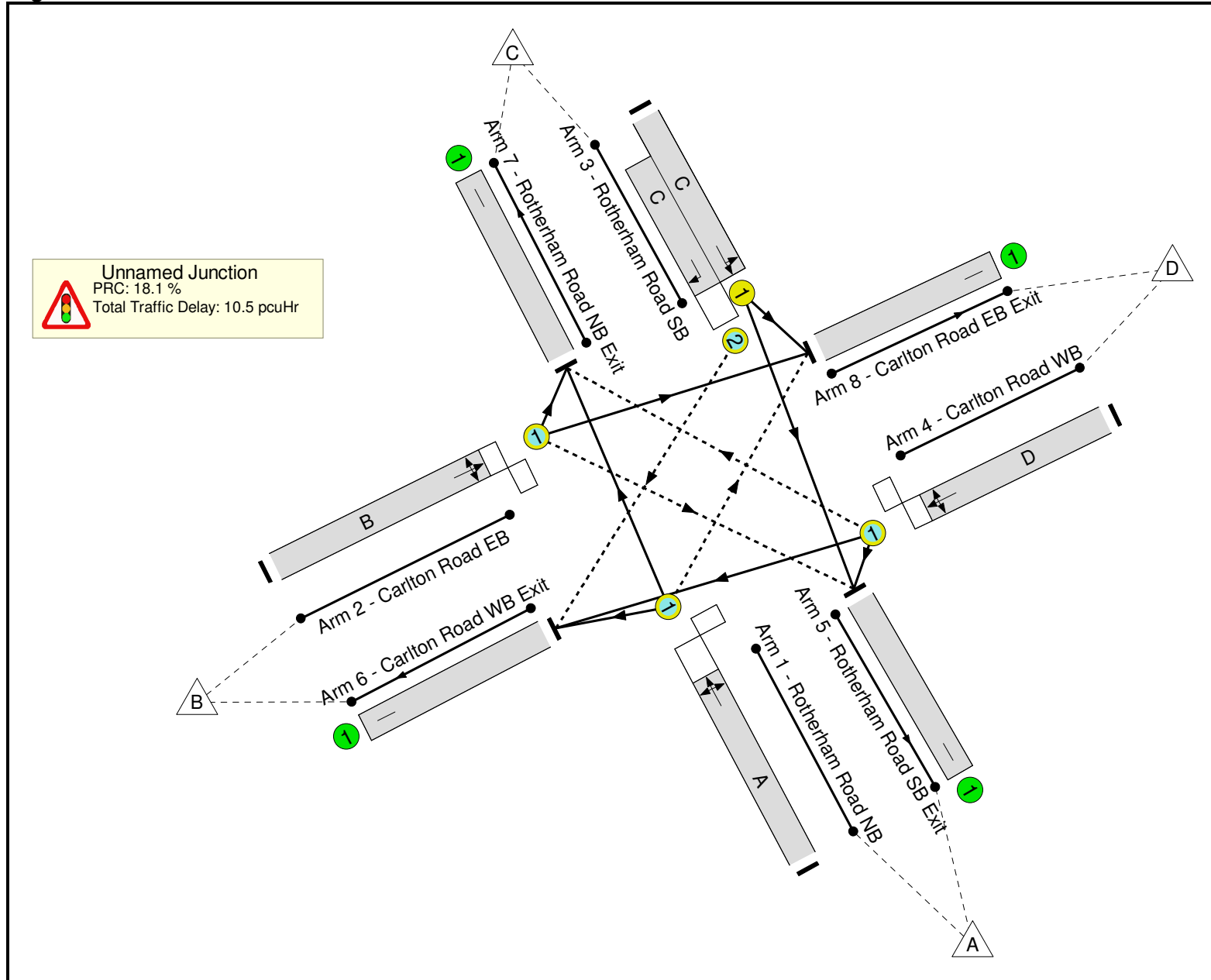
Stage Timings

Stage	1	2
Duration	27	17
Change Point	0	37

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: Rotherham Rd/Carlton Rd	-	-	N/A	-	-		-	-	-	-	-	-	76.2%
Unnamed Junction	-	-	N/A	-	-		-	-	-	-	-	-	76.2%
1/1	Rotherham Road NB Left Ahead Right	O	N/A	N/A	A		1	27	-	546	1903	839	65.1%
2/1	Carlton Road EB Right Left Ahead	O	N/A	N/A	B		1	17	-	324	1847	554	58.5%
3/1+3/2	Rotherham Road SB Ahead Right Left	U+O	N/A	N/A	C		1	27	-	386	1893:1700	860+80	41.0 : 41.0%
4/1	Carlton Road WB Left Ahead Right	O	N/A	N/A	D		1	17	-	426	1863	559	76.2%
5/1	Rotherham Road SB Exit	U	N/A	N/A	-		-	-	-	453	Inf	Inf	0.0%
6/1	Carlton Road WB Exit	U	N/A	N/A	-		-	-	-	347	Inf	Inf	0.0%
7/1	Rotherham Road NB Exit	U	N/A	N/A	-		-	-	-	439	Inf	Inf	0.0%
8/1	Carlton Road EB Exit	U	N/A	N/A	-		-	-	-	443	Inf	Inf	0.0%

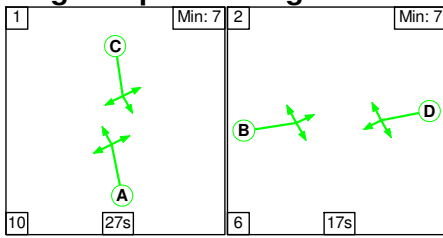
Full Input Data And Results

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network: Rotherham Rd/Calrton Rd	-	-	228	0	6	6.8	3.5	0.2	10.5	-	-	-	-
Unnamed Junction	-	-	228	0	6	6.8	3.5	0.2	10.5	-	-	-	-
1/1	546	546	136	0	5	1.9	0.9	0.1	2.9	19.0	7.1	0.9	8.1
2/1	324	324	23	0	0	1.6	0.7	0.0	2.3	26.0	4.5	0.7	5.2
3/1+3/2	386	386	33	0	0	1.1	0.3	0.0	1.5	13.6	3.8	0.3	4.2
4/1	426	426	36	0	1	2.3	1.6	0.0	3.9	32.6	6.4	1.6	8.0
5/1	453	453	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	347	347	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	439	439	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	443	443	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
<p>C1 PRC for Signalled Lanes (%): 18.1 Total Delay for Signalled Lanes (pcuHr): 10.55 Cycle Time (s): 60 PRC Over All Lanes (%): 18.1 Total Delay Over All Lanes(pcuHr): 10.55</p>													

Full Input Data And Results

Scenario 2: '2017 PM COUNT' (FG2: '2017 PM COUNT', Plan 1: 'Network Control Plan 1')

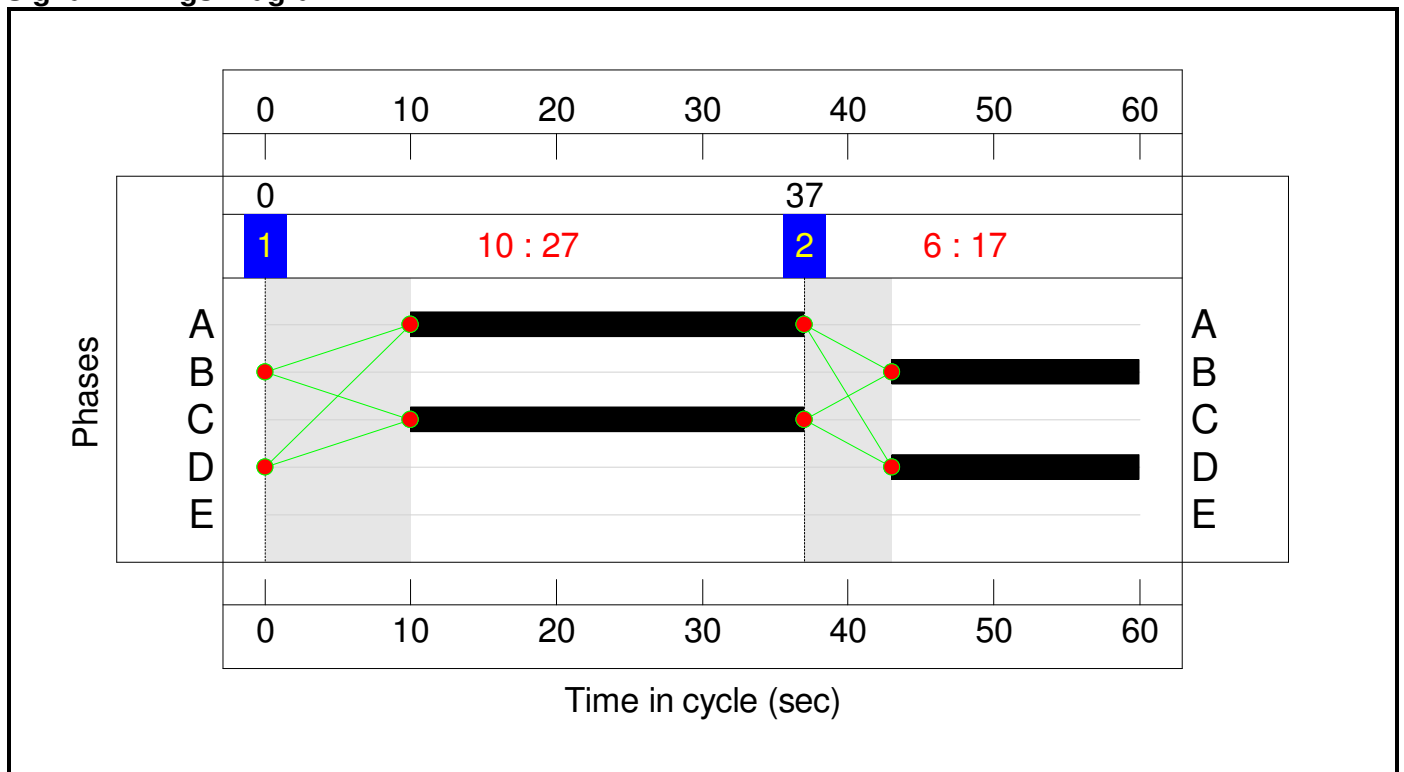
Stage Sequence Diagram



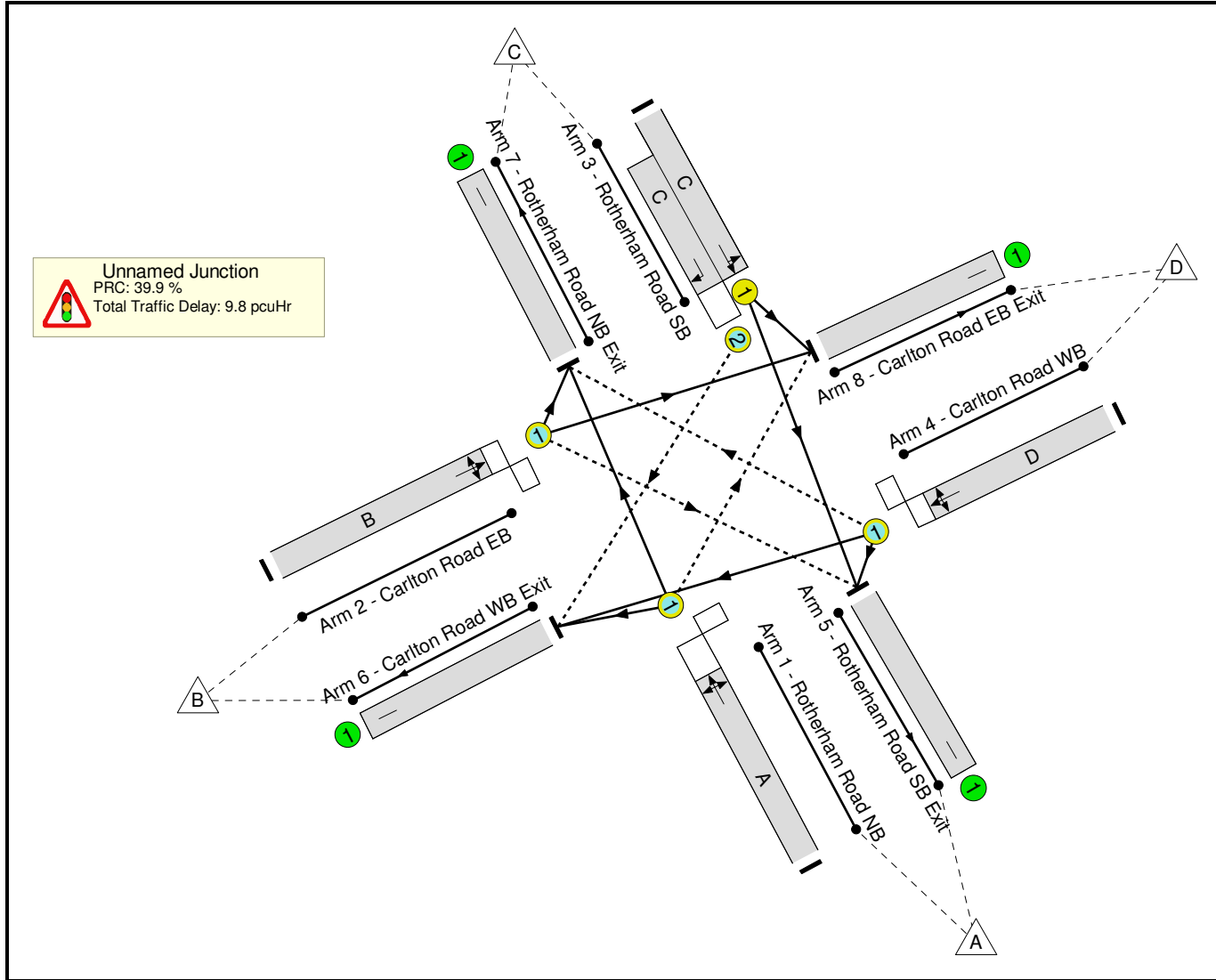
Stage Timings

Stage	1	2
Duration	27	17
Change Point	0	37

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: Rotherham Rd/Carlton Rd	-	-	N/A	-	-		-	-	-	-	-	-	64.4%
Unnamed Junction	-	-	N/A	-	-		-	-	-	-	-	-	64.4%
1/1	Rotherham Road NB Left Ahead Right	O	N/A	N/A	A		1	27	-	536	1930	881	60.8%
2/1	Carlton Road EB Right Left Ahead	O	N/A	N/A	B		1	17	-	350	1813	544	64.4%
3/1+3/2	Rotherham Road SB Ahead Right Left	U+O	N/A	N/A	C		1	27	-	457	1889:1700	864+63	49.3 : 49.3%
4/1	Carlton Road WB Left Ahead Right	O	N/A	N/A	D		1	17	-	349	1870	561	62.2%
5/1	Rotherham Road SB Exit	U	N/A	N/A	-		-	-	-	511	Inf	Inf	0.0%
6/1	Carlton Road WB Exit	U	N/A	N/A	-		-	-	-	320	Inf	Inf	0.0%
7/1	Rotherham Road NB Exit	U	N/A	N/A	-		-	-	-	499	Inf	Inf	0.0%
8/1	Carlton Road EB Exit	U	N/A	N/A	-		-	-	-	362	Inf	Inf	0.0%

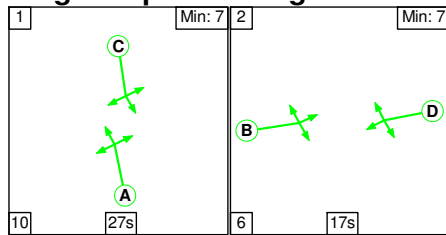
Full Input Data And Results

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network: Rotherham Rd/Calrton Rd	-	-	154	0	3	6.7	3.0	0.1	9.8	-	-	-	-
Unnamed Junction	-	-	154	0	3	6.7	3.0	0.1	9.8	-	-	-	-
1/1	536	536	64	0	2	1.8	0.8	0.1	2.6	17.4	6.6	0.8	7.3
2/1	350	350	40	0	1	1.8	0.9	0.1	2.7	28.0	5.1	0.9	5.9
3/1+3/2	457	457	31	0	0	1.4	0.5	0.0	1.9	14.8	4.9	0.5	5.3
4/1	349	349	19	0	0	1.8	0.8	0.0	2.6	26.8	4.9	0.8	5.8
5/1	511	511	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	320	320	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	499	499	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	362	362	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
C1		PRC for Signalled Lanes (%):		39.9	Total Delay for Signalled Lanes (pcuHr):		9.77	Cycle Time (s):		60			
		PRC Over All Lanes (%):		39.9	Total Delay Over All Lanes(pcuHr):		9.77						

Full Input Data And Results

Scenario 3: '2022 AM BASE' (FG3: '2022 AM BASE', Plan 1: 'Network Control Plan 1')

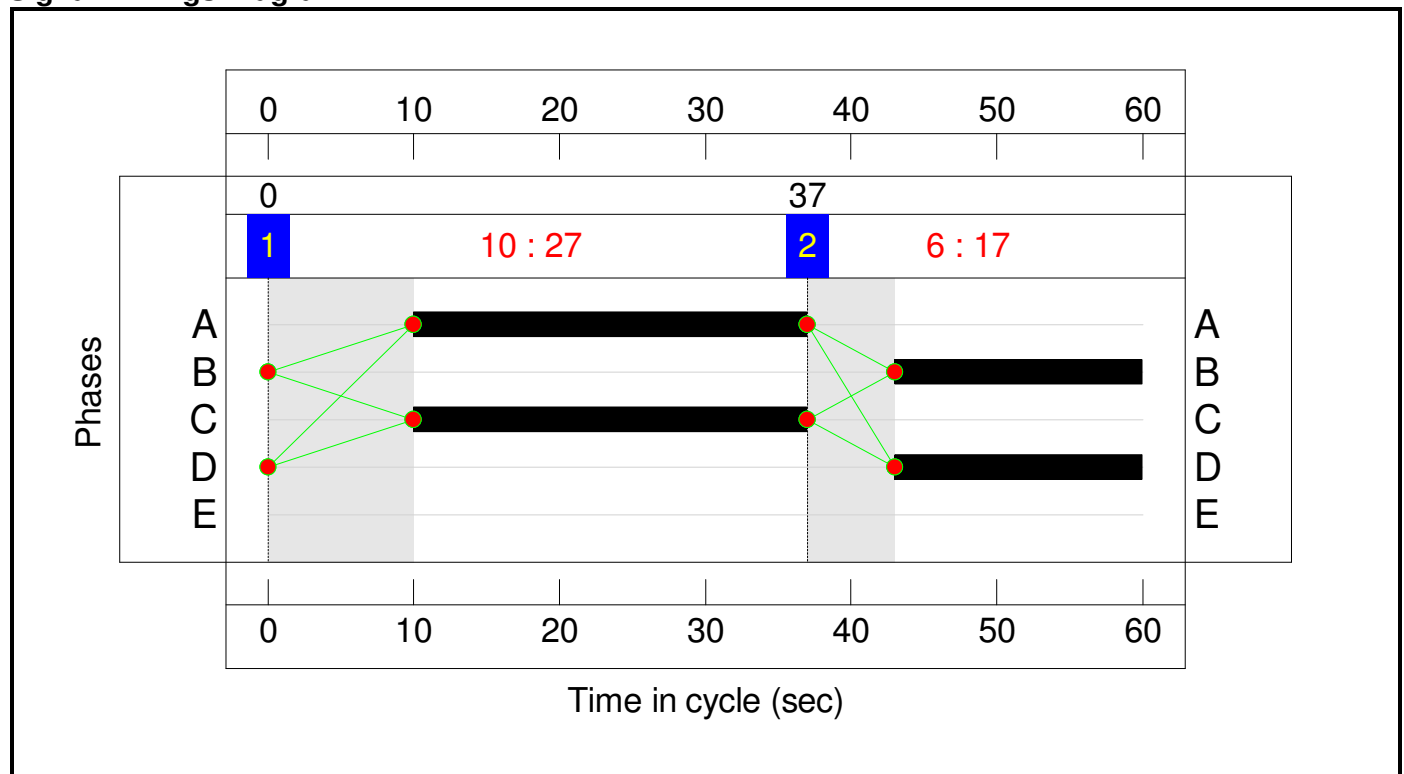
Stage Sequence Diagram



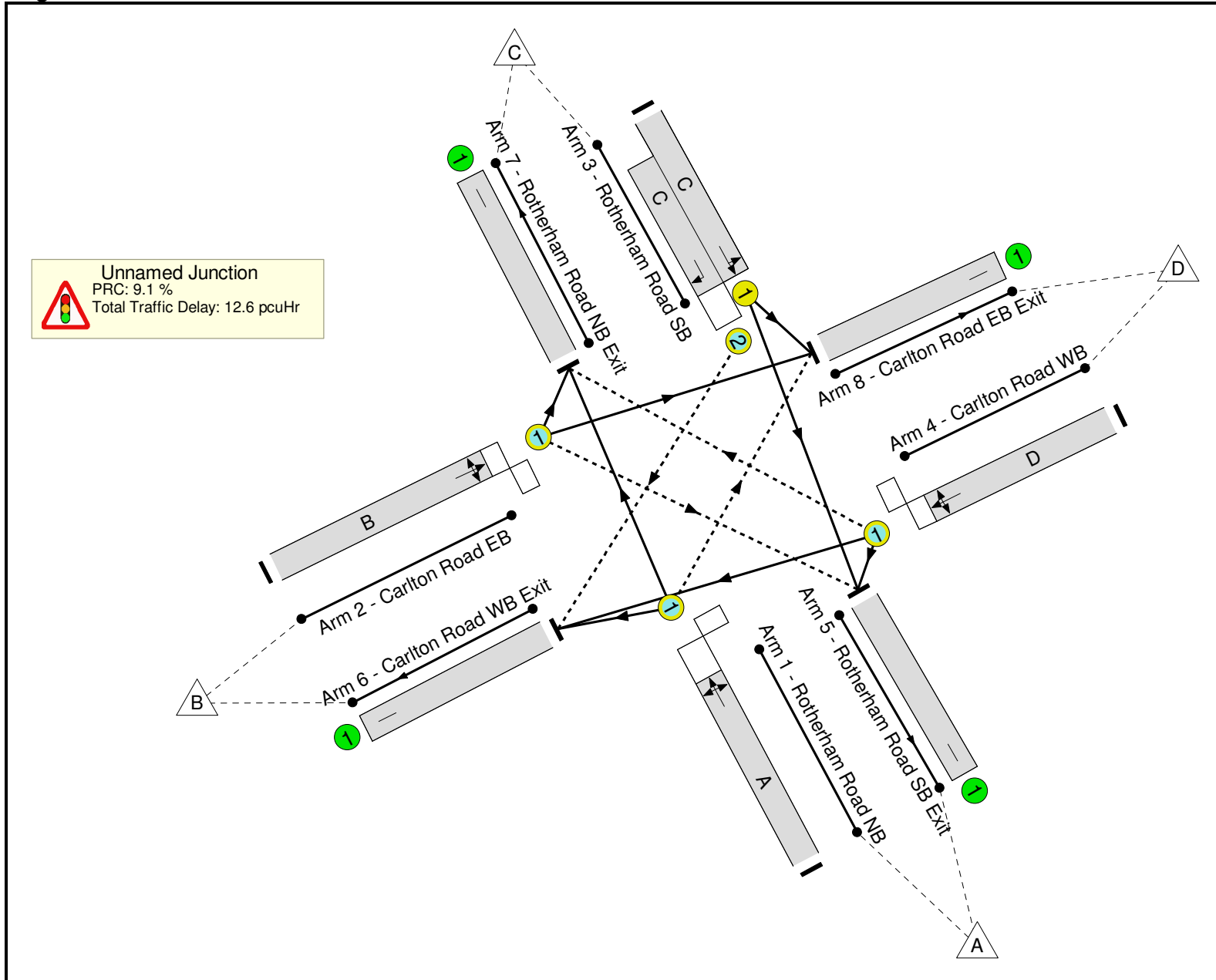
Stage Timings

Stage	1	2
Duration	27	17
Change Point	0	37

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: Rotherham Rd/Carlton Rd	-	-	N/A	-	-		-	-	-	-	-	-	82.5%
Unnamed Junction	-	-	N/A	-	-		-	-	-	-	-	-	82.5%
1/1	Rotherham Road NB Left Ahead Right	O	N/A	N/A	A		1	27	-	590	1902	820	72.0%
2/1	Carlton Road EB Right Left Ahead	O	N/A	N/A	B		1	17	-	350	1848	554	63.1%
3/1+3/2	Rotherham Road SB Ahead Right Left	U+O	N/A	N/A	C		1	27	-	417	1893:1700	860+81	44.3 : 44.3%
4/1	Carlton Road WB Left Ahead Right	O	N/A	N/A	D		1	17	-	460	1863	558	82.5%
5/1	Rotherham Road SB Exit	U	N/A	N/A	-		-	-	-	489	Inf	Inf	0.0%
6/1	Carlton Road WB Exit	U	N/A	N/A	-		-	-	-	376	Inf	Inf	0.0%
7/1	Rotherham Road NB Exit	U	N/A	N/A	-		-	-	-	474	Inf	Inf	0.0%
8/1	Carlton Road EB Exit	U	N/A	N/A	-		-	-	-	478	Inf	Inf	0.0%

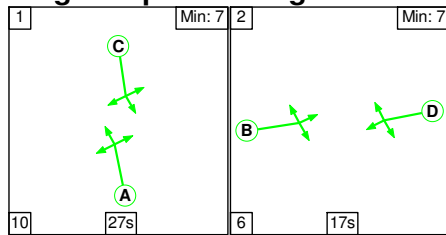
Full Input Data And Results

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network: Rotherham Rd/Calrton Rd	-	-	247	0	6	7.6	4.8	0.2	12.6	-	-	-	-
Unnamed Junction	-	-	247	0	6	7.6	4.8	0.2	12.6	-	-	-	-
1/1	590	590	147	0	5	2.1	1.3	0.1	3.5	21.3	8.0	1.3	9.3
2/1	350	350	25	0	0	1.8	0.8	0.0	2.7	27.4	5.0	0.8	5.8
3/1+3/2	417	417	36	0	0	1.2	0.4	0.0	1.6	14.0	4.2	0.4	4.6
4/1	460	460	39	0	1	2.5	2.3	0.0	4.8	37.5	7.0	2.3	9.3
5/1	489	489	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	376	376	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	474	474	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	478	478	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
<p>C1 PRC for Signalled Lanes (%): 9.1 Total Delay for Signalled Lanes (pcuHr): 12.56 Cycle Time (s): 60 PRC Over All Lanes (%): 9.1 Total Delay Over All Lanes(pcuHr): 12.56</p>													

Full Input Data And Results

Scenario 4: '2022 PM BASE' (FG4: '2022 PM BASE', Plan 1: 'Network Control Plan 1')

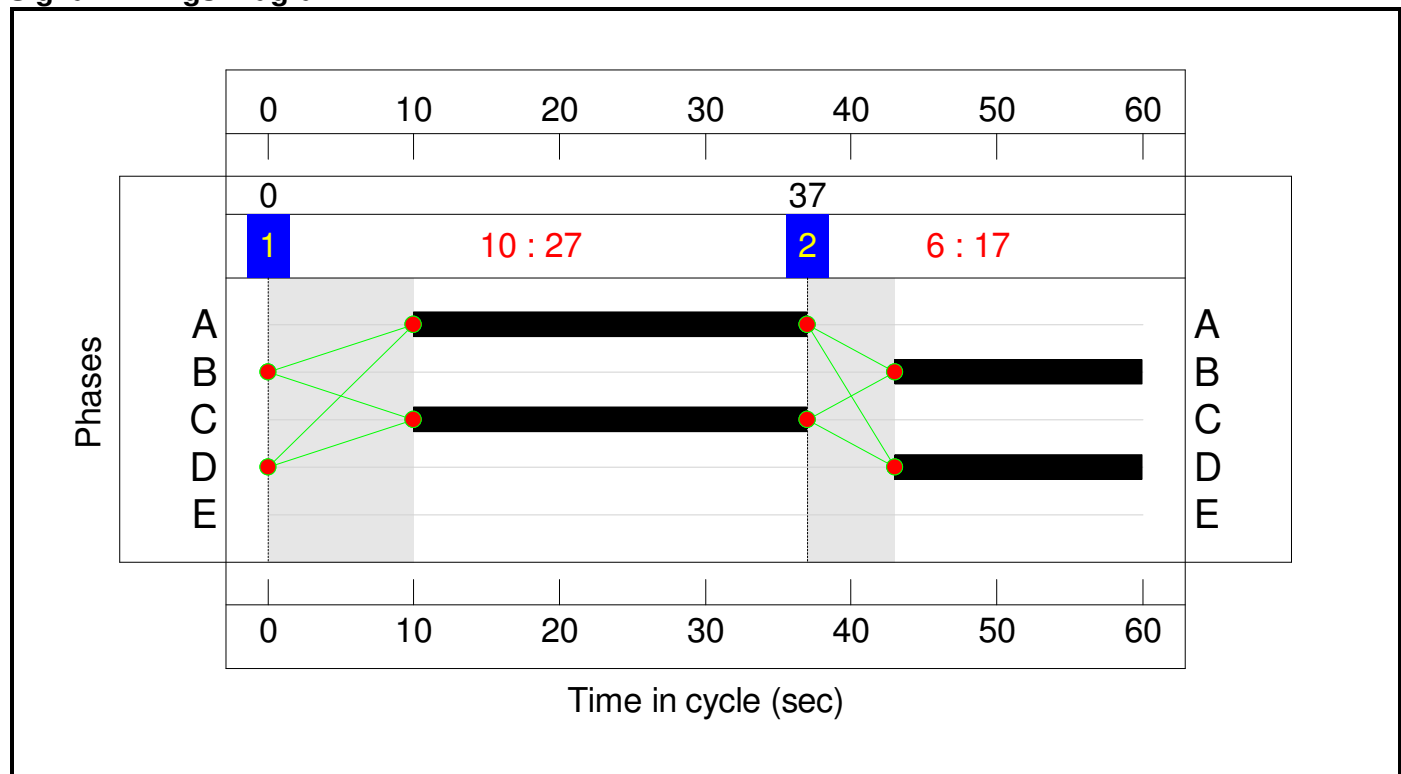
Stage Sequence Diagram



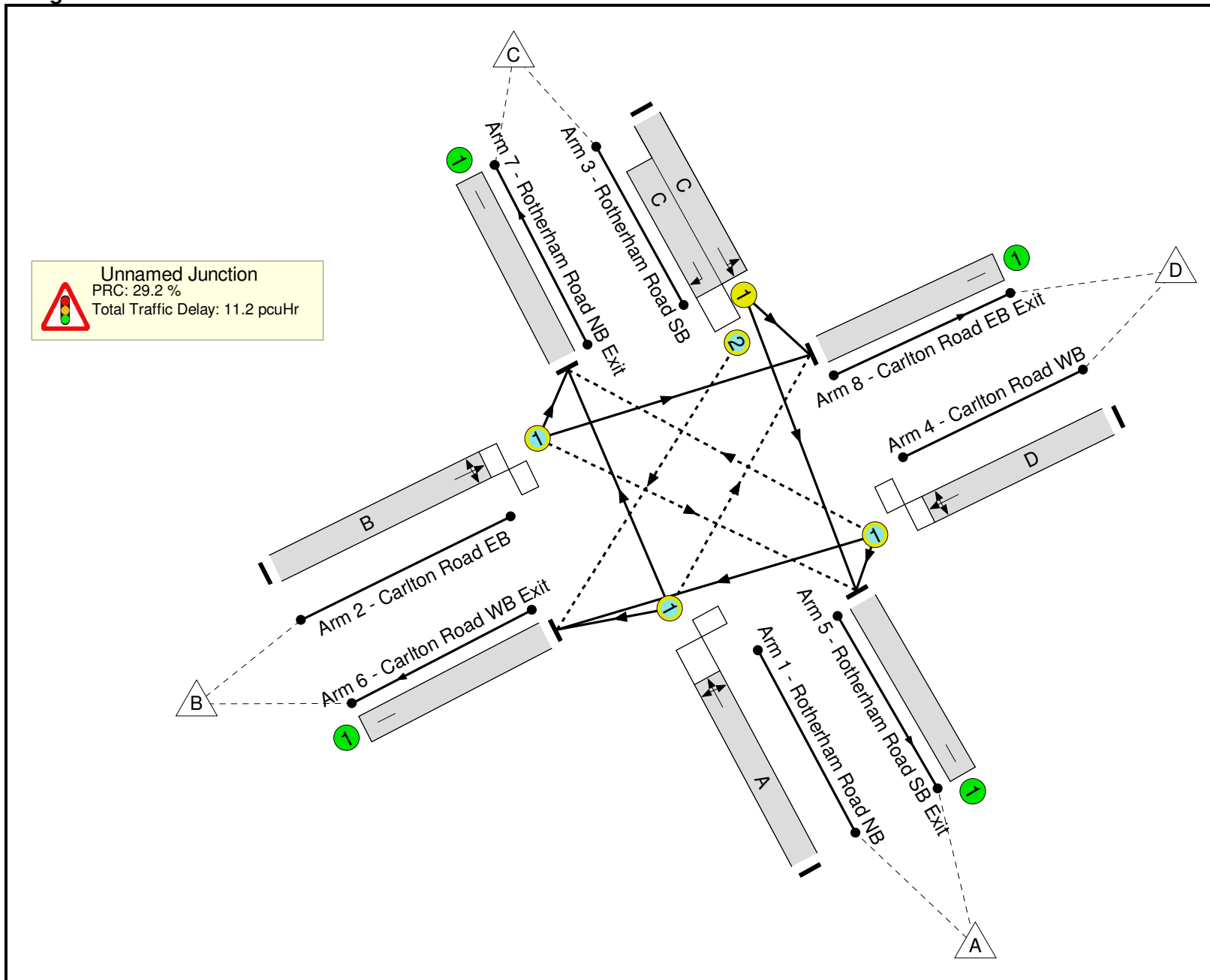
Stage Timings

Stage	1	2
Duration	27	17
Change Point	0	37

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: Rotherham Rd/Calrton Rd	-	-	N/A	-	-		-	-	-	-	-	-	69.7%
Unnamed Junction	-	-	N/A	-	-		-	-	-	-	-	-	69.7%
1/1	Rotherham Road NB Left Ahead Right	O	N/A	N/A	A		1	27	-	578	1930	874	66.1%
2/1	Carlton Road EB Right Left Ahead	O	N/A	N/A	B		1	17	-	377	1813	541	69.7%
3/1+3/2	Rotherham Road SB Ahead Right Left	U+O	N/A	N/A	C		1	27	-	492	1889:1700	864+62	53.1 : 53.1%
4/1	Carlton Road WB Left Ahead Right	O	N/A	N/A	D		1	17	-	376	1870	561	67.0%
5/1	Rotherham Road SB Exit	U	N/A	N/A	-		-	-	-	551	Inf	Inf	0.0%
6/1	Carlton Road WB Exit	U	N/A	N/A	-		-	-	-	345	Inf	Inf	0.0%
7/1	Rotherham Road NB Exit	U	N/A	N/A	-		-	-	-	537	Inf	Inf	0.0%
8/1	Carlton Road EB Exit	U	N/A	N/A	-		-	-	-	390	Inf	Inf	0.0%

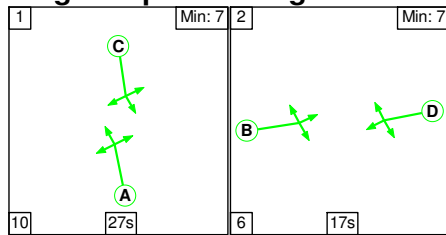
Full Input Data And Results

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network: Rotherham Rd/Calrton Rd	-	-	165	0	3	7.3	3.7	0.2	11.2	-	-	-	-
Unnamed Junction	-	-	165	0	3	7.3	3.7	0.2	11.2	-	-	-	-
1/1	578	578	69	0	2	2.0	1.0	0.1	3.0	18.7	7.2	1.0	8.2
2/1	377	377	43	0	1	1.9	1.1	0.1	3.1	30.0	5.6	1.1	6.7
3/1+3/2	492	492	33	0	0	1.5	0.6	0.0	2.1	15.3	5.4	0.6	5.9
4/1	376	376	20	0	0	1.9	1.0	0.0	3.0	28.3	5.4	1.0	6.4
5/1	551	551	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	345	345	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	537	537	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	390	390	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
C1			PRC for Signalled Lanes (%):	29.2	Total Delay for Signalled Lanes (pcuHr):	11.19	Cycle Time (s):		60				
			PRC Over All Lanes (%):	29.2	Total Delay Over All Lanes(pcuHr):	11.19							

Full Input Data And Results

Scenario 5: '2022 AM DESIGN' (FG5: '2022 AM DESIGN', Plan 1: 'Network Control Plan 1')

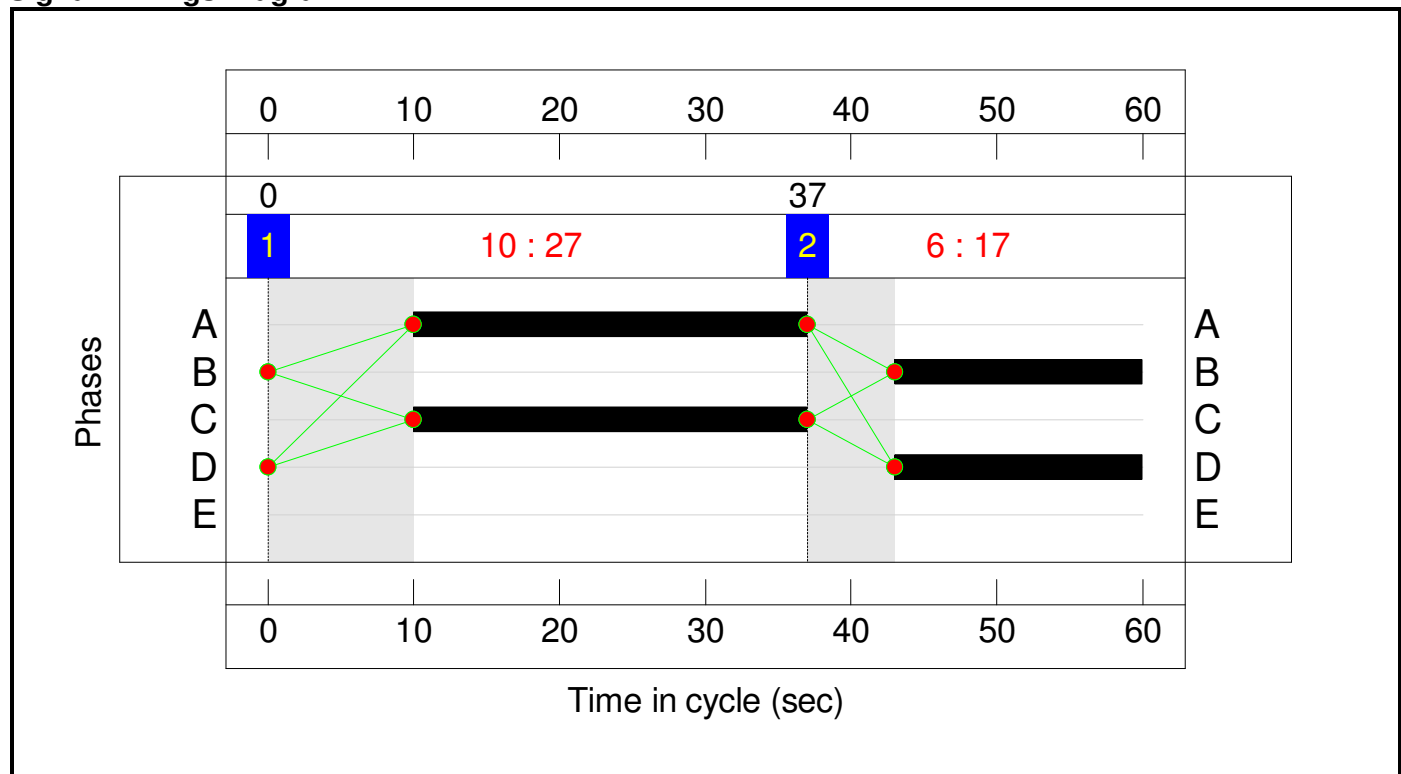
Stage Sequence Diagram



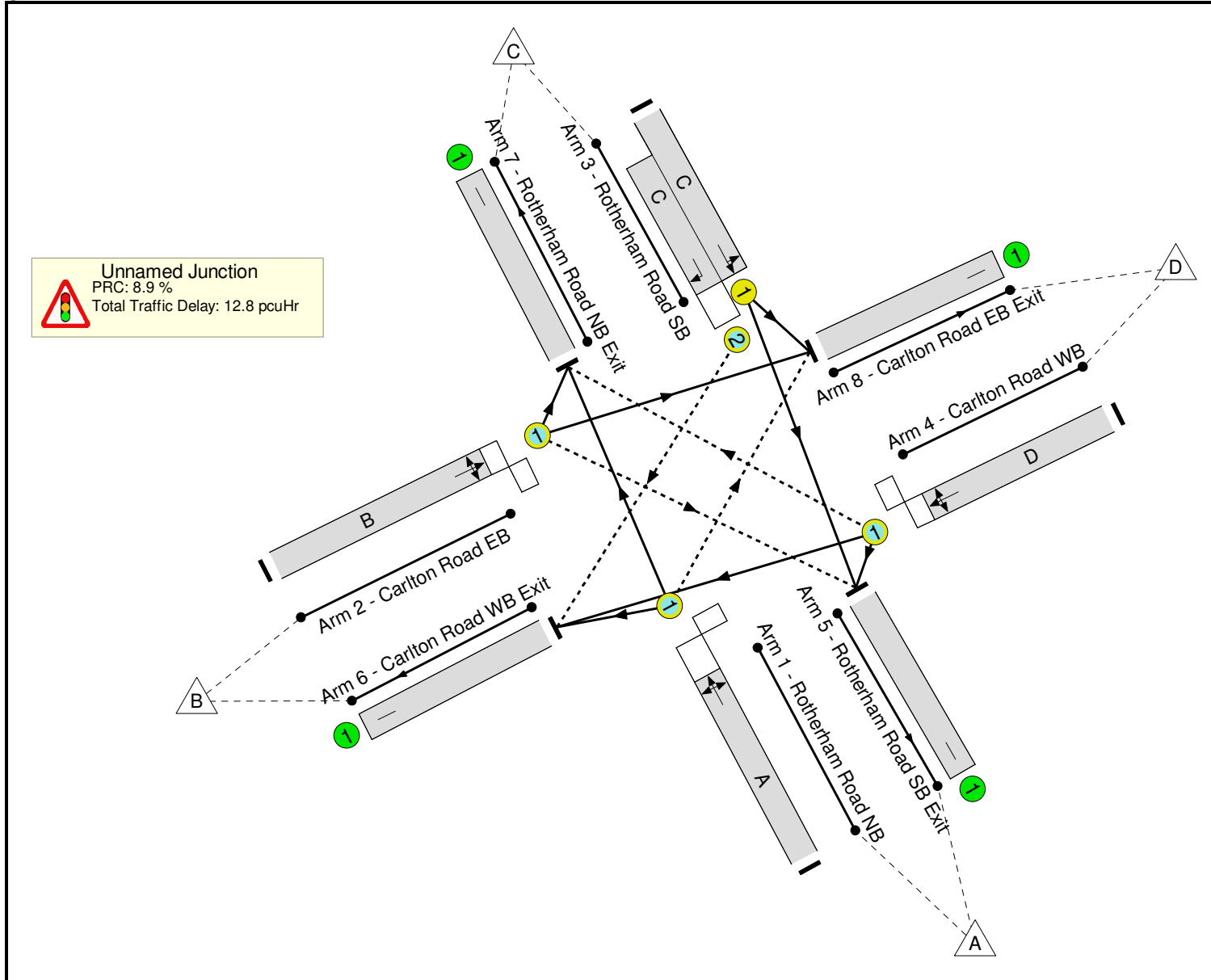
Stage Timings

Stage	1	2
Duration	27	17
Change Point	0	37

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: Rotherham Rd/Carlton Rd	-	-	N/A	-	-		-	-	-	-	-	-	82.7%
Unnamed Junction	-	-	N/A	-	-		-	-	-	-	-	-	82.7%
1/1	Rotherham Road NB Left Ahead Right	O	N/A	N/A	A		1	27	-	599	1904	822	72.8%
2/1	Carlton Road EB Right Left Ahead	O	N/A	N/A	B		1	17	-	352	1848	554	63.5%
3/1+3/2	Rotherham Road SB Ahead Right Left	U+O	N/A	N/A	C		1	27	-	428	1894:1700	860+79	45.6 : 45.6%
4/1	Carlton Road WB Left Ahead Right	O	N/A	N/A	D		1	17	-	461	1864	558	82.7%
5/1	Rotherham Road SB Exit	U	N/A	N/A	-		-	-	-	500	Inf	Inf	0.0%
6/1	Carlton Road WB Exit	U	N/A	N/A	-		-	-	-	377	Inf	Inf	0.0%
7/1	Rotherham Road NB Exit	U	N/A	N/A	-		-	-	-	483	Inf	Inf	0.0%
8/1	Carlton Road EB Exit	U	N/A	N/A	-		-	-	-	480	Inf	Inf	0.0%

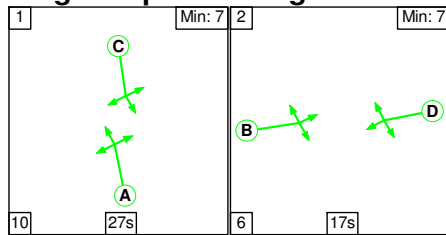
Full Input Data And Results

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network: Rotherham Rd/Calrton Rd	-	-	247	0	6	7.7	4.9	0.2	12.8	-	-	-	-
Unnamed Junction	-	-	247	0	6	7.7	4.9	0.2	12.8	-	-	-	-
1/1	599	599	147	0	5	2.2	1.3	0.1	3.6	21.6	8.2	1.3	9.5
2/1	352	352	25	0	0	1.8	0.9	0.0	2.7	27.5	5.0	0.9	5.8
3/1+3/2	428	428	36	0	0	1.3	0.4	0.0	1.7	14.2	4.4	0.4	4.8
4/1	461	461	39	0	1	2.5	2.3	0.0	4.8	37.7	7.0	2.3	9.3
5/1	500	500	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	377	377	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	483	483	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	480	480	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
<p>C1 PRC for Signalled Lanes (%): 8.9 Total Delay for Signalled Lanes (pcuHr): 12.79 Cycle Time (s): 60 PRC Over All Lanes (%): 8.9 Total Delay Over All Lanes(pcuHr): 12.79</p>													

Full Input Data And Results

Scenario 6: '2022 PM DESIGN' (FG6: '2022 PM DESIGN', Plan 1: 'Network Control Plan 1')

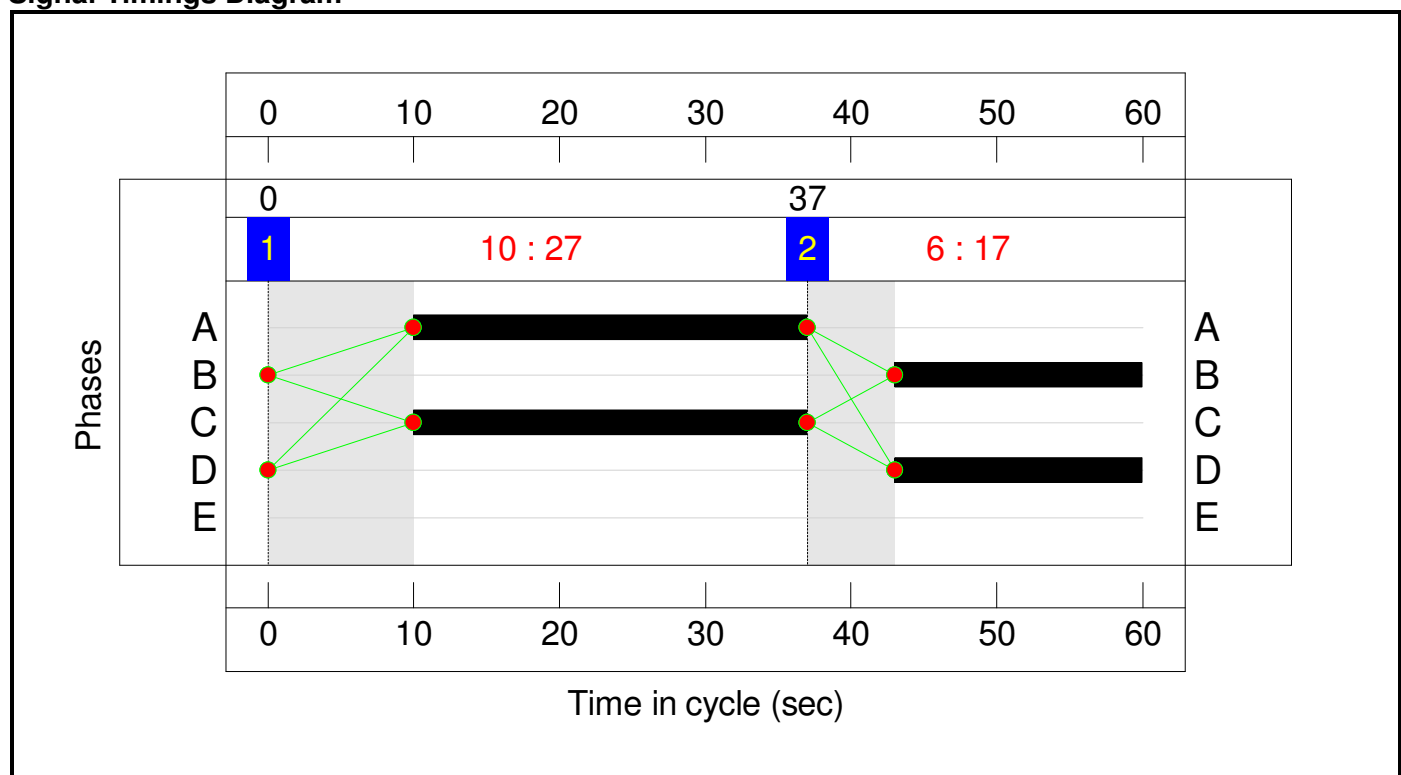
Stage Sequence Diagram



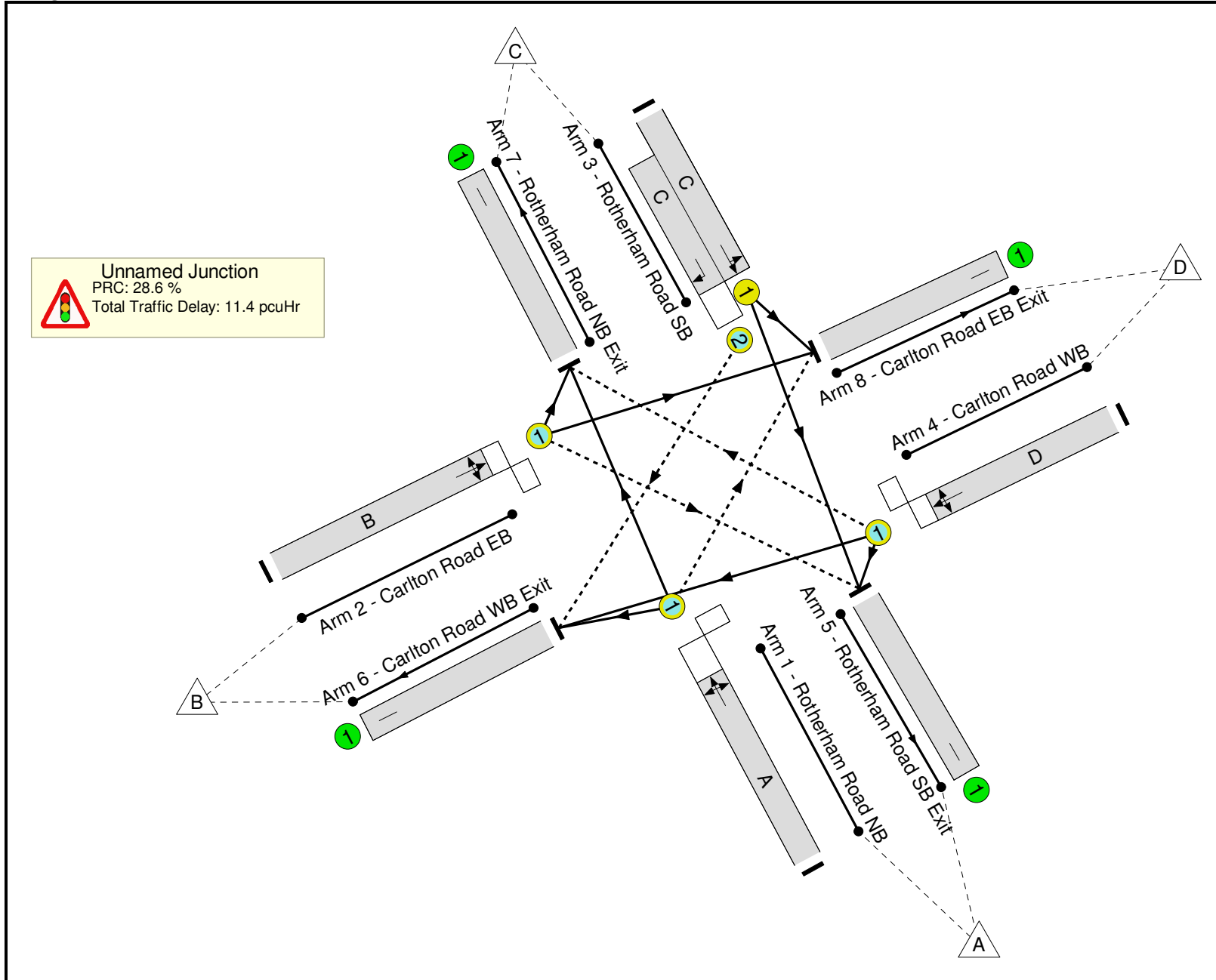
Stage Timings

Stage	1	2
Duration	27	17
Change Point	0	37

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: Rotherham Rd/Calrton Rd	-	-	N/A	-	-		-	-	-	-	-	-	70.0%
Unnamed Junction	-	-	N/A	-	-		-	-	-	-	-	-	70.0%
1/1	Rotherham Road NB Left Ahead Right	O	N/A	N/A	A		1	27	-	591	1932	876	67.4%
2/1	Carlton Road EB Right Left Ahead	O	N/A	N/A	B		1	17	-	379	1814	542	70.0%
3/1+3/2	Rotherham Road SB Ahead Right Left	U+O	N/A	N/A	C		1	27	-	501	1890:1700	864+61	54.1 : 54.1%
4/1	Carlton Road WB Left Ahead Right	O	N/A	N/A	D		1	17	-	378	1871	561	67.3%
5/1	Rotherham Road SB Exit	U	N/A	N/A	-		-	-	-	560	Inf	Inf	0.0%
6/1	Carlton Road WB Exit	U	N/A	N/A	-		-	-	-	347	Inf	Inf	0.0%
7/1	Rotherham Road NB Exit	U	N/A	N/A	-		-	-	-	550	Inf	Inf	0.0%
8/1	Carlton Road EB Exit	U	N/A	N/A	-		-	-	-	392	Inf	Inf	0.0%

Full Input Data And Results

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network: Rotherham Rd/Calrton Rd	-	-	165	0	3	7.5	3.8	0.2	11.4	-	-	-	-
Unnamed Junction	-	-	165	0	3	7.5	3.8	0.2	11.4	-	-	-	-
1/1	591	591	69	0	2	2.0	1.0	0.1	3.1	19.0	7.7	1.0	8.7
2/1	379	379	43	0	1	2.0	1.1	0.1	3.2	30.1	5.6	1.1	6.7
3/1+3/2	501	501	33	0	0	1.6	0.6	0.0	2.2	15.5	5.5	0.6	6.0
4/1	378	378	20	0	0	1.9	1.0	0.0	3.0	28.4	5.5	1.0	6.5
5/1	560	560	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	347	347	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	550	550	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	392	392	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
C1			PRC for Signalled Lanes (%): 28.6		PRC Over All Lanes (%): 28.6		Total Delay for Signalled Lanes (pcuHr): 11.43		Total Delay Over All Lanes(pcuHr): 11.43		Cycle Time (s): 60		

TRANSYT 15
Version: 15.1.1.3807 [] © Copyright TRL Limited, 2017
For sales and distribution information, program advice and maintenance, contact TRL: Tel: +44 (0)1344 770758 E-mail: software@trl.co.uk Web: http://www.trlsoftware.co.uk
The users of this computer program for the solution of an engineering problem are in no way relieved of their responsibility for the correctness of the solution

Last run: 26-Jul-17 1:30:47 PM
Analysis Set used for last run: A1 - Existing

Filename: Smithies Lane-A61.t15
Path: O:\Wakefield Road, Athersley\ANALYSIS\CAPACITY\Signals\TRANSYT\Smithies Lane-A61
Report generation date: 26-Jul-17 1:31:47 PM

File summary

File Description

Title	Smithies Lane-A61
Location	Barnsley
Site Number	
UTCRegion	
Driving Side	Left
Date	19-Jul-17
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	OPTIMA\Steven.Phillips
Description	Staggered left right signals on A61 with Smithies Lane and Carlton Road. Peds demanded 7 times in AM and 4 in PM. The lost time for peds is 15s per cycle and applying this to the demand and dividing over the 30 cycles provides an additional 3 s per cycle which has been added to the intergreen between stage 3 and 1.

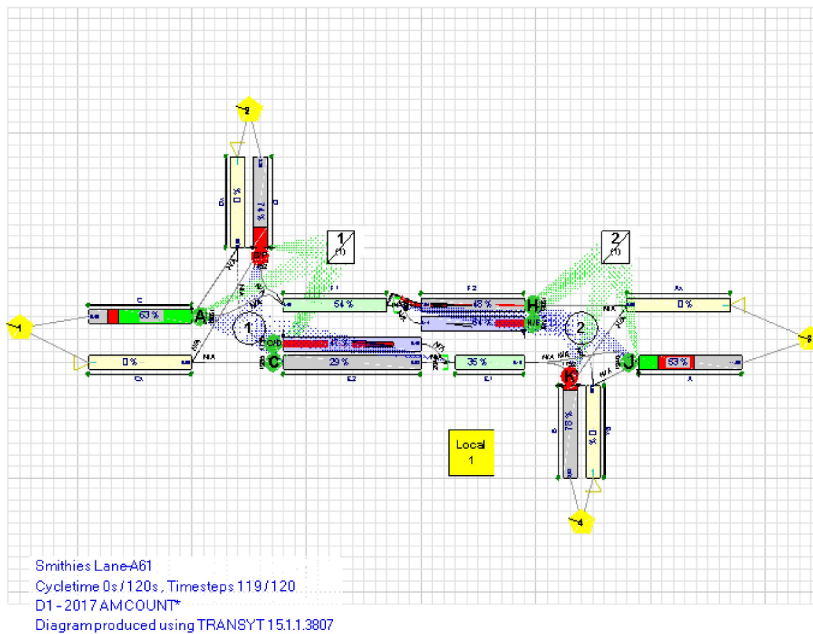
Units

Cost Units	Speed Units	Distance Units	Fuel Economy Units	Fuel Rate Units	Mass Units	Traffic Units Input	Traffic Units Results	Flow Units	Average Delay Units	Total Delay Units	Rate Of Delay Units
£	kph	m	mpg	l/h	kg	PCU	PCU	perHour	s	-Hour	perHour

Sorting

Show Names Instead of IDs (For Aimsun)	Sorting Direction	Sorting Type	Ignore Prefixes When Sorting	Link Grouping	Source Grouping
	Ascending	Numerical		Normal	Normal

Network Diagrams



A1 - Existing *: D1 - 2017 AM COUNT*

Summary

Data Errors and Warnings

No errors or warnings

Run Summary

Analysis	Run Start	Run Finish	Modelling Start Time	Network Cycle Time	Total Network Delay (PCU-)	Highest	Item with highest	Number of oversaturated	Percentage of oversaturated	Item with worst	Item with worst unsignalised	Item with worst	Network Within

Set Used	Time	Time	(HH:mm)	(s)	hr/hr	DOS (%)	DOS	Items	Items (%)	signalised PRC	PRC	overall PRC	Capacity
A1 - Existing	26-Jul-17 1:30:34 PM	26-Jul-17 1:30:47 PM	07:45	120	21.83	78.08	B/1	0	0	B/1	F1/1	B/1	✓

Analysis Set Details

Name	Description	Demand Set	Include In Report	Locked
Existing		D1	✓	

Demand Set Details

Demand Set	Name	Description	Composite	Demand Sets	Start Time (HH:mm)	Locked
D1	2017 AM COUNT				07:45	

Network Options

Network Timings

Network Cycle Time (s)	Restrict To SCOOT Cycle Times	Time Segment Length (min)	Number Of Time Segments	Modelled Time Period (min)
120		60	1	60

Signals Options

Start Displacement (s)	End Displacement (s)
2	3

Advanced

Phase Minimum Broken Penalty (£)	Phase Maximum Broken Penalty (£)	Intergreen Broken Penalty (£)	Starting Red-with-Amber (s)
10000.00	10000.00	10000.00	2

Traffic Options

Traffic Model	Vehicle Flow Scaling Factor (%)	Pedestrian Flow Scaling Factor (%)	Cruise Times Or Speeds
Platoon Dispersion (PDM)	100	100	Cruise Speeds

Advanced

Resolution	DOS Threshold (%)	Cruise Scaling Factor (%)	Use Link Stop Weightings	Use Link Delay Weightings	Exclude Pedestrian Links	Random Delay Mode	Type of Vehicle-in-Service	Type Of Random Parameter	PCU Length (m)	Calculate results for Path Segments
1	90	100	✓	✓		Complex	Uniform (TRANSYT)	Uniform (TRANSYT)	5.75	

Normal Parameters

Dispersion Type	Dispersion Coefficient	Travel Time Coefficient
Default	35	80

Normal Traffic Types

Name	PCU Factor
Normal	1.00

Bus Parameters

Name	PCU Factor	Dispersion Coefficient1	Dispersion Coefficient2	Acceleration (ms ⁻²)	Travel Time Coefficient1	Travel Time Coefficient2
Bus	1.00	70	15	0.47	30	85

Tram Parameters

Name	PCU Factor	Dispersion Coefficient1	Dispersion Coefficient2	Acceleration (ms ⁻²)	Travel Time Coefficient1	Travel Time Coefficient2
Tram	1.00	0	0	0.47	100	100

Pedestrian Parameters

Dispersion Type	Dispersion Coefficient	Travel Time Coefficient
Default	35	80

Optimisation Options

Enable Optimisation	Auto Redistribute	Optimisation Level	Enable Out Profile Accuracy
✓	✓	Offsets And Green Splits	✓

Advanced

Optimisation Type	Hill Climb Increments	OUTProfile Accuracy	Use Enhanced Optimisation	Auto Optimisation Order	Optimisation Order
Hill Climb (Fast)	15,40,-1,15,40,1,-1,1	50,50,5,5,0,5,0,5,0,05,0,05		✓	1,2

Economics

Vehicle Monetary Value Of Delay (£ per PCU-hr)	Vehicle Monetary Value Of Stops (£ per 100 stops)	Pedestrian Monetary Value Of Delay (£ per Ped-hr)
14.20	2.60	14.20

Traffic Nodes

Traffic Nodes

ID	Name	Description
1	(untitled)	
2	(untitled)	

Arms and Traffic Streams

Arms

Arm	Name	Description	Traffic Node

A	Wakefield Rd NB		2
B	Smithies Ln		2
C	Wakefield Rd SB		1
D	Carlton Rd		1
Ax	(untitled)		
Bx	(untitled)		
Cx	(untitled)		
Dx	(untitled)		
E1	A61 NB Internal Feeder		1
E2	A61 NB Internal		1
F1	A61 SB Internal Feeder		2
F2	A61 SB Internal		2

Traffic Streams

Arm	Traffic Stream	Name	Description	Auto Length	Length (m)	Has Restricted Flow	Saturation Flow Source	Saturation Flow (PCU/hr)	Cell Saturation Flow (PCU/hr)	Is Signal Controlled	Is Give Way	Traffic Type	Allow Nearside Turn On Red
A	1	Wakefield Rd NB			100.00	✓	SumOfLanes	1940		✓		Normal	
B	1	Smithies Ln			100.00	✓	SumOfLanes	1752		✓		Normal	
C	1	Wakefield Rd SB			100.00	✓	SumOfLanes	1939		✓		Normal	
D	1	Carlton Rd			100.00	✓	SumOfLanes	1752		✓		Normal	
Ax	1	(untitled)			100.00							Normal	
Bx	1	(untitled)			100.00							Normal	
Cx	1	(untitled)			100.00							Normal	
Dx	1	(untitled)			100.00							Normal	
E1	1	A61 NB Internal Feeder			54.00	✓	SumOfLanes	2045	2045			Normal	
E2	1	A61 NB Internal NS			60.00	✓	SumOfLanes	1935	1935	✓		Normal	
E2	2	A61 NB Internal OS			60.00	✓	SumOfLanes	1735	1735	✓	✓	Normal	
F1	1	A61 SB Internal Feeder			60.00	✓	SumOfLanes	1935	1935			Normal	
F2	1	A61 SB Internal NS			54.00	✓	SumOfLanes	1935	1935	✓		Normal	
F2	2	A61 SB Internal OS			54.00	✓	SumOfLanes	1743	1743	✓	✓	Normal	

Lanes

Arm	Traffic Stream	Lane	Name	Description	Use RR67	Surface Condition	Site Quality Factor	Gradient (%)	Width (m)	Use Connector Turning Radius	Proportion That Turn (%)	Turning Radius (m)	Nearside Lane	Saturation Flow (PCU/hr)
A	1	1	(untitled)		✓	N/A	N/A	0	3.40		5	10.00	✓	1940
B	1	1	(untitled)		✓	N/A	N/A	0	4.00		100	10.00	✓	1752
C	1	1	(untitled)		✓	N/A	N/A	0	3.30		2	10.00	✓	1939
D	1	1	(untitled)		✓	N/A	N/A	0	4.00		100	10.00	✓	1752
Ax	1	1	(untitled)							✓				
Bx	1	1	(untitled)							✓				
Cx	1	1	(untitled)							✓				
Dx	1	1	(untitled)							✓				
E1	1	1	(untitled)		✓	N/A	N/A	0	4.30		0	100.00	✓	2045
E2	1	1	(untitled)		✓	N/A	N/A	0	3.20		0	100.00	✓	1935
E2	2	1	(untitled)		✓	N/A	N/A	0	2.40		100	10.00		1735
F1	1	1	(untitled)		✓	N/A	N/A	0	3.20		0	100.00	✓	1935
F2	1	1	(untitled)		✓	N/A	N/A	0	3.20		0	100.00	✓	1935
F2	2	1	(untitled)		✓	N/A	N/A	0	2.50		100	10.00		1743

Modelling

Arm	Traffic Stream	Traffic Model	Stop Weighting Multiplier (%)	Delay Weighting Multiplier (%)	Assignment Cost Weighting (%)	Exclude From Results Calculation	Max Queue Storage (PCU)	Has Queue Limit	Queue Limit (PCU)	Excess Queue Penalty (£)	Has Degree Of Saturation Limit
A	1	NetworkDefault	100	100	100		0.00				
B	1	NetworkDefault	100	100	100		0.00				
C	1	NetworkDefault	100	100	100		0.00				
D	1	NetworkDefault	100	100	100		0.00				
Ax	1	NetworkDefault	100	100	100		0.00				
Bx	1	NetworkDefault	100	100	100		0.00				
Cx	1	NetworkDefault	100	100	100		0.00				
Dx	1	NetworkDefault	100	100	100		0.00				
E1	1	CTM	100	100	100		9.00				
E2	1	CTM	100	100	100		10.00	✓	10.00	0.00	
E2	2	CTM	100	100	100		10.00	✓	10.00	0.00	
F1	1	CTM	100	100	100		10.00				
F2	1	CTM	100	100	100		9.00	✓	9.00	0.00	
F2	2	CTM	100	100	100		9.00	✓	9.00	0.00	

Modelling - Advanced

Arm	Traffic Stream	Cruise Sensitivity Multiplier (%)	Initial Queue (PCU)	Type of Vehicle-in-Service	Vehicle-in-Service	Type Of Random Parameter	Random Parameter	Auto Cycle Time	Cycle Time
A	1	100	0.00	NetworkDefault	Not-Included	NetworkDefault	0.50	✓	120
B	1	100	0.00	NetworkDefault	Not-Included	NetworkDefault	0.50	✓	120
C	1	100	0.00	NetworkDefault	Not-Included	NetworkDefault	0.50	✓	120
D	1	100	0.00	NetworkDefault	Not-Included	NetworkDefault	0.50	✓	120
Ax	1	100	0.00	NetworkDefault	Not-Included	NetworkDefault	0.50	✓	120
Bx	1	100	0.00	NetworkDefault	Not-Included	NetworkDefault	0.50	✓	120
Cx	1	100	0.00	NetworkDefault	Not-Included	NetworkDefault	0.50	✓	120
Dx	1	100	0.00	NetworkDefault	Not-Included	NetworkDefault	0.50	✓	120
E1	1	100	0.00	NetworkDefault	Not-Included	NetworkDefault	0.50	✓	120
E2	1	100	0.00	NetworkDefault	Not-Included	NetworkDefault	0.50	✓	120
E2	2	100	0.00	NetworkDefault	Not-Included	NetworkDefault	0.50	✓	120
F1	1	100	0.00	NetworkDefault	Not-Included	NetworkDefault	0.50	✓	120
F2	1	100	0.00	NetworkDefault	Not-Included	NetworkDefault	0.50	✓	120
F2	2	100	0.00	NetworkDefault	Not-Included	NetworkDefault	0.50	✓	120

Normal - Modelling

Arm	Traffic Stream	Stop Weighting (%)	Delay Weighting (%)
A	1	100	100
B	1	100	100
C	1	100	100
D	1	100	100
Ax	1	100	100
Bx	1	100	100
Cx	1	100	100
Dx	1	100	100
E1	1	100	100
E2	1	100	100
E2	2	100	100
F1	1	100	100
F2	1	100	100
F2	2	100	100

Flows

Arm	Traffic Stream	Total Flow (PCU/hr)	Normal Flow (PCU/hr)
A	1	569	569
B	1	228	228
C	1	630	630
D	1	442	442
Ax	1	713	713
Bx	1	409	409
Cx	1	439	439
Dx	1	308	308
E1	1	724	724
E2	1	426	426
E2	2	298	298
F1	1	1049	1049
F2	1	679	679
F2	2	370	370

Signals

Arm	Traffic Stream	Controller Stream	Phase	Phase2 Enabled	Phase2
A	1	2	J		
B	1	2	K		
C	1	1	A		
D	1	1	B	✓	P
E2	1	1	C		
E2	2	1	C	✓	D
F2	1	2	H		
F2	2	2	H	✓	L

Entry Sources

Arm	Traffic Stream	Normal Cruise Time (seconds)	Normal Cruise Speed (kph)
A	1	12.00	30.00
B	1	12.00	30.00
C	1	12.00	30.00
D	1	12.00	30.00

Sources

Arm	Traffic Stream	Source	Source Type	Source Traffic Stream	Destination Traffic Stream	Normal Cruise Time (seconds)	Normal Cruise Speed (kph)	Auto Turning Radius	Traffic Turn Style	Turning Radius (m)
Ax	1	1	TrafficStream	F2/1	Ax/1	12.00	30.00	✓	Straight	Straight Movement
Bx	1	1	TrafficStream	A/1	Bx/1	12.00	30.00	✓	Nearside	25.04
Cx	1	1	TrafficStream	E2/1	Cx/1	12.00	30.00	✓	Straight	Straight Movement
Dx	1	1	TrafficStream	C/1	Dx/1	12.00	30.00	✓	Nearside	50.04
E1	1	1	TrafficStream	B/1	E1/1	6.48	30.00	✓	Nearside	25.04
E2	1	1	TrafficStream	E1/1	E2/1	7.20	30.00	✓	Straight	Straight Movement
E2	2	1	TrafficStream	E1/1	E2/2	7.20	30.00	✓	Straight	Straight Movement
F1	1	1	TrafficStream	D/1	F1/1	7.20	30.00	✓	Nearside	25.04
F2	1	1	TrafficStream	F1/1	F2/1	6.48	30.00	✓	Straight	Straight Movement
F2	2	1	TrafficStream	F1/1	F2/2	6.48	30.00	✓	Straight	Straight Movement
Ax	1	2	TrafficStream	B/1	Ax/1	12.00	30.00	✓	Offside	62.46
Bx	1	2	TrafficStream	F2/2	Bx/1	12.00	30.00	✓	Offside	67.37
Cx	1	2	TrafficStream	D/1	Cx/1	12.00	30.00	✓	Offside	74.96
Dx	1	2	TrafficStream	E2/2	Dx/1	12.00	30.00	✓	Offside	49.96
E1	1	2	TrafficStream	A/1	E1/1	6.48	30.00	✓	Straight	Straight Movement
F1	1	2	TrafficStream	C/1	F1/1	7.20	30.00	✓	Straight	Straight Movement

Give Way Data

Arm	Traffic Stream	Opposed Traffic	Use Step-wise Opposed Turn Model	Number Of Storage Spaces	Use Connector Turning Radius	Radius Of Turn (m)	Visibility Restricted
E2	2	Movement	✓	2		10.00	
F2	2	Movement	✓	2		10.00	

Give Way Data - Movements

Arm	Traffic Stream	Movement	Destination Traffic Stream	Max Flow (Unopposed) (PCU/hr)	Percentage Opposed (%)
E2	2	1	Dx/1	1735	100
F2	2	1	Bx/1	1743	100

Give Way Data - Movements - Conflicts

Arm	Traffic Stream	Movement	Destination Traffic Stream	Description	Controlling Type	Controlling Traffic Stream	Percentage Opposing (%)	Upstream Signals Visible	Conflict Shift	Conflict Duration
E2	2	1	Dx/1		TrafficStream	C/1	100	✓	0	0
F2	2	1	Bx/1		TrafficStream	A/1	100	✓	0	0

Local OD Matrix - Local Matrix: 1

Normal Input Flows (PCU/hr)

		To			
		1	2	3	4
From	1	0	10	448	172
	2	13	0	231	198
	3	374	156	0	39
	4	52	142	34	0

Bus Input Flows not shown as they are blank.

Tram Input Flows not shown as they are blank.

Pedestrian Input Flows not shown as they are blank.

Locations

OD Matrix	Location	Name	Entries	Exits
1	1	(untitled)	C/1	Cx/1
1	2	(untitled)	D/1	Dx/1
1	3	(untitled)	A/1	Ax/1
1	4	(untitled)	B/1	Bx/1

Normal Paths and Flows

OD Matrix	Path	Description	From Location	To Location	Path Items	Allocation Type	Normal Calculated Flow (PCU/hr)
1	1		1	2	C/1,Dx/1	Normal	10
1	2		1	3	C/1,F1/1,F2/1,Ax/1	Normal	448
1	3		1	4	C/1,F1/1,F2/2,Bx/1	Normal	172
1	4		2	1	D/1,Cx/1	Normal	13
1	5		2	3	D/1,F1/1,F2/1,Ax/1	Normal	231
1	6		2	4	D/1,F1/1,F2/2,Bx/1	Normal	198
1	7		3	4	A/1,Bx/1	Normal	39
1	9		3	1	A/1,E1/1,E2/1,Cx/1	Normal	374
1	10		3	2	A/1,E1/1,E2/2,Dx/1	Normal	156
1	11		4	3	B/1,Ax/1	Normal	34
1	12		4	1	B/1,E1/1,E2/1,Cx/1	Normal	52
1	13		4	2	B/1,E1/1,E2/2,Dx/1	Normal	142

Signal Timings

Network Default: 120s cycle time; 120 steps

Controller Stream 1

Controller Stream	Name	Description	Use Sequence	Cycle Time Source	Cycle Time (s)
1	(untitled)		1	NetworkDefault	120

Controller Stream 1 - Properties

Controller Stream	Manufacturer Name	Type	Model Number	(Telephone) Line Number	Site Number	Grid Reference	Gaining Delay Type
1	Unspecified						Absolute

Controller Stream 1 - Optimisation

Controller Stream	Allow Offset Optimisation	Allow Green Split Optimisation	Optimisation Level	Auto Redistribute	Enable Stage Constraint
1	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Offsets And Green Splits	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Phases

Controller Stream	Phase	Name	Minimum Green (s)	Maximum Green (s)	Relative Start Displacement (s)	Relative End Displacement (s)	Type
1	A	(untitled)	7	300	0	0	Not Specified
1	B	(untitled)	7	300	0	0	Not Specified
1	C	(untitled)	7	300	0	0	Not Specified
1	D	(untitled)	7	300	0	0	Not Specified
1	P	(untitled)	7	300	0	0	Not Specified

Library Stages

Controller Stream	Library Stage	Phases In Stage	User Stage Minimum (s)
1	1	A,C	61
1	2	C,D,P	14
1	3	B	14

Stage Sequences

Controller Stream	Sequence	Name	Multiple Cycling	Stage IDs	Stage Ends
1	1	(untitled)	Single	1,2,3	36,66,85

Resultant Stages

Controller Stream	Stage	Is Base Stage	Library Stage ID	Phases In This Stage	Stage Start (s)	Stage End (s)	Stage Duration (s)	User Stage Minimum (s)	Stage Minimum (s)
1	1	<input checked="" type="checkbox"/>	1	A,C	95	36	61	61	61
1	2	<input checked="" type="checkbox"/>	2	C,D,P	43	66	23	14	14
1	3	<input checked="" type="checkbox"/>	3	B	71	85	14	14	14

Resultant Phase Green Periods

Controller Stream	Phase	Green Period	Is Base Green Period	Start Time (s)	End Time (s)	Duration (s)
1	A	1	<input checked="" type="checkbox"/>	95	36	61
1	B	1	<input checked="" type="checkbox"/>	71	85	14
1	C	1	<input checked="" type="checkbox"/>	95	66	91
1	D	1	<input checked="" type="checkbox"/>	43	66	23
1	P	1	<input checked="" type="checkbox"/>	41	66	25

Intergreen Matrix for Controller Stream 1

		To				
		A	B	C	D	P
A		0				
				7	5	

From	B	10	10	5	
	C		5		
	D	5	5		
	P	3			

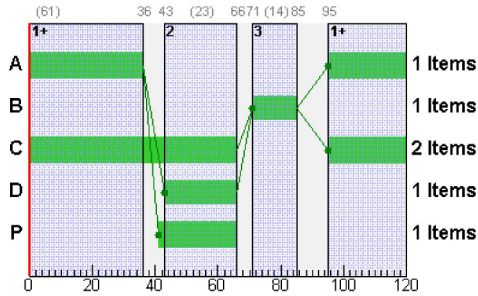
Interstage Matrix for Controller Stream 1

From	To		
	1	2	3
	1	0	7
	2	5	0
3	10	10	0

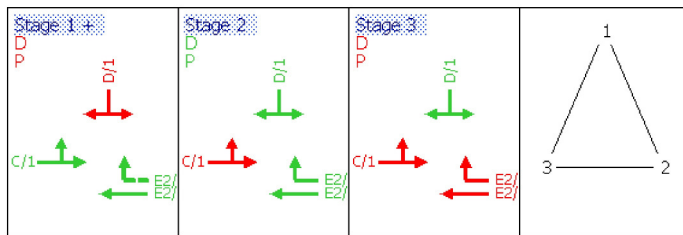
Banned Stage transitions for Controller Stream 1

From	To		
	1	2	3
	1		
	2		
3			

Phase Timings Diagram for Controller Stream 1



Stage Sequence Diagram for Controller Stream 1



Controller Stream 2

Controller Stream	Name	Description	Use Sequence	Cycle Time Source	Cycle Time (s)
2	(untitled)		1	NetworkDefault	120

Controller Stream 2 - Properties

Controller Stream	Manufacturer Name	Type	Model Number	(Telephone) Line Number	Site Number	Grid Reference	Gaining Delay Type
2	Unspecified						Absolute

Controller Stream 2 - Optimisation

Controller Stream	Allow Offset Optimisation	Allow Green Split Optimisation	Optimisation Level	Auto Redistribute	Enable Stage Constraint
2	✓	✓	Offsets And Green Splits	✓	

Phases

Controller Stream	Phase	Name	Minimum Green (s)	Maximum Green (s)	Relative Start Displacement (s)	Relative End Displacement (s)	Type
2	H	(untitled)	7	300	0	0	Not Specified
2	J	(untitled)	7	300	0	0	Not Specified
2	K	(untitled)	7	300	0	0	Not Specified
2	L	(untitled)	7	300	0	0	Not Specified

Library Stages

Controller Stream	Library Stage	Phases In Stage	User Stage Minimum (s)
2	1	H,J	61
2	2	H,L	13
2	3	K	13

Stage Sequences

Controller Stream	Sequence	Name	Multiple Cycling	Stage IDs	Stage Ends
2	1	(untitled)	Single	1,2,3	58,78,102

Resultant Stages

Controller Stream	Stage	Is Base Stage	Library Stage ID	Phases In This Stage	Stage Start (s)	Stage End (s)	Stage Duration (s)	User Stage Minimum (s)	Stage Minimum (s)
2	1	✓	1	H,J	112	58	66	61	61
2	2	✓	2	H,L	65	78	13	13	13
2	3	✓	3	K	83	102	19	13	13

Resultant Phase Green Periods

Controller Stream	Phase	Green Period	Is Base Green Period	Start Time (s)	End Time (s)	Duration (s)
2	H	1	✓	112	78	86

2	J	1	✓	112	58	66
2	K	1	✓	83	102	19
2	L	1	✓	65	78	13

Intergreen Matrix for Controller Stream 2

		To			
		H	J	K	L
From	H			5	7
	J			5	7
	K	10	10		7
	L	7	5		

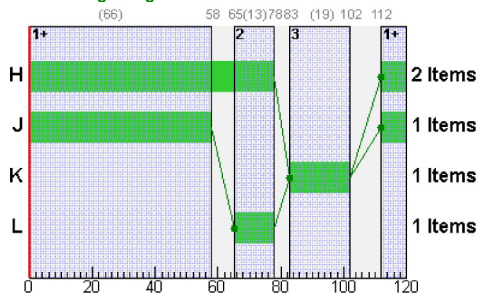
Interstage Matrix for Controller Stream 2

		To		
		1	2	3
From	1	0	7	5
	2	7	0	5
	3	10	10	0

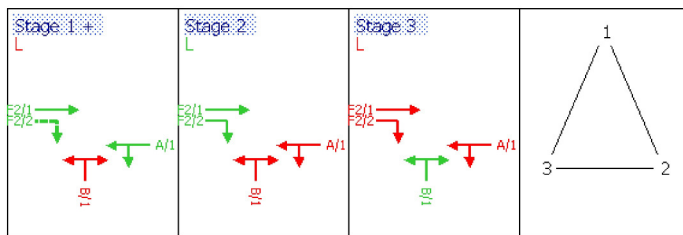
Banned Stage transitions for Controller Stream 2

		To		
		1	2	3
From	1			
	2			
	3			

Phase Timings Diagram for Controller Stream 2



Stage Sequence Diagram for Controller Stream 2



TRANSYT 12 Tables

Resultant Stages

ID	Stage	Is Base Stage	Library Stage ID	Phases In This Stage	TRANSYT Stage Start (s)	TRANSYT Preceding Interstage (s)	TRANSYT Stage Minimum (s)
1	1	✓	1	A,C	85	10	71
1	2	✓	2	C,D,P	36	7	21
1	3	✓	3	B	66	5	19
2	1	✓	1	H,J	102	10	71
2	2	✓	2	H,L	58	7	20
2	3	✓	3	K	78	5	18

Resultant Phase Green Periods

ID	ID	Green Period	TRANSYT Starting Stage (s)	TRANSYT Ending Stage (s)	TRANSYT Start Lag (s)	TRANSYT End Lag (s)
1	A	1	1	2	10	0
1	B	1	3	1	5	0
1	C	1	1	3	10	0
1	D	1	2	3	7	0
1	P	1	2	3	5	0
2	H	1	1	3	10	0
2	J	1	1	2	10	0
2	K	1	3	1	5	0
2	L	1	2	3	7	0

Stage Timings (TRANSYT 12 timings)

Network Default: 120s cycle time; 120 steps

Controller Stream	Number of Stages	Stage 1	Stage 2	Stage 3
1	3	85	36	66
2	3	102	58	78

Traffic Stream Green Times

Arm	Traffic Stream	Traffic Node	Controller Stream	Phase	Green Period 1		
					Start	End	Duration
A	1	2	2	J	112	58	66
B	1	2	2	K	83	102	19
C	1	1	1	A	95	36	61
D	1	1	1	B	71	85	14
E2	1	1	1	C	95	66	91
E2	2	1	1	C	95	66	91
F2	1	2	2	H	112	78	86
F2	2	2	2	H	112	78	86

Traffic Stream Results

Traffic Stream Results: Vehicle Summary

Time Segment	Arm	Traffic Stream	Degree Of Saturation (%)	Practical Reserve Capacity (%)	Calculated Flow Entering (PCU/hr)	Calculated Sat Flow (PCU/hr)	Actual Green (s per cycle)	Mean Delay Per Veh (s)	Mean Max Queue (PCU)	Utilised Storage (%)	Weighted Cost Of Delay (£ per hr)	Weighted Cost Of Stops (£ per hr)	Performance Index (£ per hr)
07:45-08:45	A	1	53	71	569	1940	66	18.39	11.99	68.92	41.29	4.42	45.70
07:45-08:45	B	1	78	15	228	1752	19	68.52	8.53	49.02	61.62	3.16	64.78
07:45-08:45	C	1	63	43	630	1939	61	23.79	15.40	88.58	59.12	5.68	64.80
07:45-08:45	D	1	74	22	442	1752	39	39.74	13.30	76.46	69.29	5.44	74.72
07:45-08:45	Ax	1	0	Unrestricted	713	Unrestricted	120	0.00	0.00	0.00	0.00	0.00	0.00
07:45-08:45	Bx	1	0	Unrestricted	409	Unrestricted	120	0.00	0.00	0.00	0.00	0.00	0.00
07:45-08:45	Cx	1	0	Unrestricted	439	Unrestricted	120	0.00	0.00	0.00	0.00	0.00	0.00
07:45-08:45	Dx	1	0	Unrestricted	308	Unrestricted	120	0.00	0.00	0.00	0.00	0.00	0.00
07:45-08:45	E1	1	35	154	724	2045	120	0.48	0.10	1.08	1.38	0.00	1.38
07:45-08:45	E2	1	29	213	426	1935	91	1.44	0.58	5.77	2.42	0.22	2.64
07:45-08:45	E2	2	47	90	298	820	91	26.26	6.40	64.05	30.86	2.38	33.25
07:45-08:45	F1	1	54	66	1049	1935	120	1.12	4.49	44.95	4.63	0.19	4.82
07:45-08:45	F2	1	48	86	679	1935	86	3.87	7.64	84.93	10.35	2.51	12.87
07:45-08:45	F2	2	64	42	370	803	86	19.93	6.14	68.17	29.09	2.47	31.56

Traffic Stream Results: Flows And Signals

Time Segment	Arm	Traffic Stream	Calculated Flow Entering (PCU/hr)	Calculated Flow Out (PCU/hr)	Flow Discrepancy (PCU/hr)	Adjusted Flow Warning	Calculated Sat Flow (PCU/hr)	Calculated Capacity (PCU/hr)	Degree Of Saturation (%)	DOS Threshold Exceeded	Practical Reserve Capacity (%)	Mean Modulus Of Error	Flow On Red Per Cycle (PCU)	Actual Green (s per cycle)	Effective Green (s per cycle)
07:45-08:45	A	1	569	569	0		1940	1083	53		71	0.00	0.0	66	67
07:45-08:45	B	1	228	228	0		1752	292	78		15	0.00	0.0	19	20
07:45-08:45	C	1	630	630	0		1939	1002	63		43	0.00	0.0	61	62
07:45-08:45	D	1	442	442	0		1752	599	74		22	0.00	0.0	39	41
07:45-08:45	Ax	1	713	713	0		Unrestricted	Unrestricted	0		Unrestricted	0.61	0.0	120	120
07:45-08:45	Bx	1	409	409	0		Unrestricted	Unrestricted	0		Unrestricted	0.76	0.0	120	120
07:45-08:45	Cx	1	439	439	0		Unrestricted	Unrestricted	0		Unrestricted	0.62	0.0	120	120
07:45-08:45	Dx	1	308	308	0		Unrestricted	Unrestricted	0		Unrestricted	0.98	0.0	120	120
07:45-08:45	E1	1	724	724	0		2045	2045	35		154	0.81	0.0	120	120
07:45-08:45	E2	1	426	426	0		1935	1484	29		213	0.73	0.0	91	92
07:45-08:45	E2	2	298	298	0		820	629	47		90	0.95	0.0	91	92
07:45-08:45	F1	1	1049	1049	0		1935	1932	54		66	0.65	0.0	120	120
07:45-08:45	F2	1	679	679	0		1935	1403	48		86	0.63	0.0	86	87
07:45-08:45	F2	2	370	370	0		803	582	64		42	0.69	0.0	86	87

Traffic Stream Results: Stops And Delays

Time Segment	Arm	Traffic Stream	Mean Cruise Time Per Veh (s)	Mean Delay Per Veh (s)	Uniform Delay (PCU-hr/hr)	Random Plus Oversat Delay (PCU-hr/hr)	Unweighted Cost Of Delay (£ per hr)	Weighted Cost Of Delay (£ per hr)	Mean Stops Per Veh (%)	Uniform Stops (Stops per hr)	Random Stops (Stops per hr)	Unweighted Cost Of Stops (£ per hr)	Weighted Cost Of Stops (£ per hr)
07:45-08:45	A	1	12.00	18.39	2.62	0.29	41.29	41.29	61.92	343.64	8.66	4.42	4.42
07:45-08:45	B	1	12.00	68.52	3.03	1.31	61.62	61.62	110.45	214.30	37.54	3.16	3.16
07:45-08:45	C	1	12.00	23.79	3.63	0.53	59.12	59.12	71.96	437.58	15.78	5.68	5.68
07:45-08:45	D	1	12.00	39.74	3.86	1.02	69.29	69.29	98.09	374.48	59.08	5.44	5.44
07:45-08:45	Ax	1	12.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
07:45-08:45	Bx	1	12.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
07:45-08:45	Cx	1	12.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
07:45-08:45	Dx	1	12.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
07:45-08:45	E1	1	6.48	0.48	0.00	0.10	1.38	1.38	0.00	0.00	0.00	0.00	0.00
07:45-08:45	E2	1	7.20	1.44	0.11	0.06	2.42	2.42	4.06	15.58	1.73	0.22	0.22
07:45-08:45	E2	2	7.20	26.26	1.96	0.21	30.86	30.86	63.82	183.83	6.34	2.38	2.38

08:45															
07:45-08:45	F1	1	7.20	1.12	0.00	0.32	4.63	4.63	1.42	5.23	9.63	0.19	0.19		
07:45-08:45	F2	1	6.48	3.87	0.50	0.23	10.35	10.35	29.53	193.74	6.78	2.51	2.51		
07:45-08:45	F2	2	6.48	19.93	1.50	0.55	29.09	29.09	53.32	165.16	32.11	2.47	2.47		

Traffic Stream Results: Queues And Blocking

Time Segment	Arm	Traffic Stream	Initial Queue (PCU)	Mean Max Queue (PCU)	Max Queue Storage (PCU)	Utilised Storage (%)	Average Link Excess Queue (PCU)	Average Limit Excess Queue (PCU)	Excess Queue Penalty (£ per hr)	Max End Of Green Queue (PCU)	Max End Of Red Queue (PCU)	Wasted Time Starvation (s per cycle)	Wasted Time Blocking Back (s per cycle)	Wasted Time Total (s per cycle)	Estimated Blocking
07:45-08:45	A	1	0.00	11.99	17.39	68.92	0.00	0.00	0.00	0.29	8.67	0.00	0.00	0.00	
07:45-08:45	B	1	0.00	8.53	17.39	49.02	0.00	0.00	0.00	1.31	7.64	0.00	0.00	0.00	
07:45-08:45	C	1	0.00	15.40	17.39	88.58	0.00	0.00	0.00	0.53	10.68	0.00	0.00	0.00	
07:45-08:45	D	1	0.00	13.30	17.39	76.46	0.00	0.00	0.00	1.02	10.23	0.00	0.00	0.00	
07:45-08:45	Ax	1	0.00	0.00	17.39	0.00	0.00	0.00	0.00			8.00	0.00	8.00	
07:45-08:45	Bx	1	0.00	0.00	17.39	0.00	0.00	0.00	0.00			26.00	0.00	26.00	
07:45-08:45	Cx	1	0.00	0.00	17.39	0.00	0.00	0.00	0.00			26.00	0.00	26.00	
07:45-08:45	Dx	1	0.00	0.00	17.39	0.00	0.00	0.00	0.00			53.00	0.00	53.00	
07:45-08:45	E1	1	0.00	0.10	9.00	1.08	0.00	0.00	0.00			33.00	0.00	33.00	
07:45-08:45	E2	1	0.00	0.58	10.00	5.77	0.00	0.00	0.00	0.06	0.58	14.00	0.00	14.00	
07:45-08:45	E2	2	0.00	6.40	10.00	64.05	0.00	0.00	0.00	0.21	0.43	0.00	0.00	0.00	
07:45-08:45	F1	1	0.00	4.49	10.00	44.95	0.00	0.00	0.00			17.00	0.18	17.18	
07:45-08:45	F2	1	0.00	7.64	9.00	84.93	0.00	0.00	0.00	0.23	3.92	4.00	0.00	4.00	
07:45-08:45	F2	2	0.00	6.14	9.00	68.17	0.00	0.00	0.00	0.55	2.43	4.00	0.00	4.00	

Traffic Stream Results: Journey Times

Time Segment	Arm	Traffic Stream	Distance Travelled (PCU-km/hr)	Time Spent (PCU-hr/hr)	Mean Journey Speed (kph)	JourneyTime (s)
07:45-08:45	A	1	56.90	4.80	11.84	30.39
07:45-08:45	B	1	22.80	5.10	4.47	80.52
07:45-08:45	C	1	63.00	6.26	10.06	35.79
07:45-08:45	D	1	44.20	6.35	6.96	51.74
07:45-08:45	Ax	1	71.30	2.38	30.00	12.00
07:45-08:45	Bx	1	40.90	1.36	30.00	12.00
07:45-08:45	Cx	1	43.90	1.46	30.00	12.00
07:45-08:45	Dx	1	30.80	1.03	30.00	12.00
07:45-08:45	E1	1	39.10	1.40	27.92	6.96
07:45-08:45	E2	1	25.56	1.02	25.00	8.64
07:45-08:45	E2	2	17.88	2.77	6.46	33.46
07:45-08:45	F1	1	62.94	2.42	25.96	8.32
07:45-08:45	F2	1	36.67	1.95	18.79	10.35
07:45-08:45	F2	2	19.98	2.71	7.36	26.41

Traffic Stream Results: Advanced

Time Segment	Arm	Traffic Stream	Degree Of Saturation Penalty (£ per hr)	Phase Min Max Penalty (£ per hr)	Intergreen Broken Penalty (£ per hr)	Stage Constraint Broken Penalty (£ per hr)	Ped Gap Accepting Penalty (£ per hr)	Warmed Up	Warmed Up Error	Mean Max Queue EoTS (PCU)	Max End Of Green Queue EoTS (PCU)	Max End Of Red Queue EoTS (PCU)	PCU Factor	Cost Of Penalties (£ per hr)	Unweighted Performance Index (£ per hr)	Performance Index (£ per hr)
07:45-08:45	A	1	0.00	0.00	0.00	0.00	0.00	✓	0.00	11.99	0.29	8.67	1.00	0.00	45.70	45.70
07:45-08:45	B	1	0.00	0.00	0.00	0.00	0.00	✓	0.00	8.57	1.35	7.68	1.00	0.00	64.78	64.78
07:45-08:45	C	1	0.00	0.00	0.00	0.00	0.00	✓	0.00	15.41	0.53	10.68	1.00	0.00	64.80	64.80
07:45-08:45	D	1	0.00	0.00	0.00	0.00	0.00	✓	0.00	13.31	1.03	10.24	1.00	0.00	74.72	74.72
07:45-08:45	Ax	1	0.00	0.00	0.00	0.00	0.00	✓	0.00	0.00			1.00	0.00	0.00	0.00
07:45-08:45	Bx	1	0.00	0.00	0.00	0.00	0.00	✓	0.00	0.00			1.00	0.00	0.00	0.00
07:45-08:45	Cx	1	0.00	0.00	0.00	0.00	0.00	✓	0.00	0.00			1.00	0.00	0.00	0.00
07:45-08:45	Dx	1	0.00	0.00	0.00	0.00	0.00	✓	0.00	0.00			1.00	0.00	0.00	0.00
07:45-08:45	E1	1	0.00	0.00	0.00	0.00	0.00	✓	0.00	0.10			1.00	0.00	1.38	1.38
07:45-08:45	E2	1	0.00	0.00	0.00	0.00	0.00	✓	0.00	0.58	0.06	0.58	1.00	0.00	2.64	2.64
07:45-08:45	E2	2	0.00	0.00	0.00	0.00	0.00	✓	0.00	6.41	0.21	0.43	1.00	0.00	33.25	33.25
07:45-08:45	F1	1	0.00	0.00	0.00	0.00	0.00	✓	0.00	4.50			1.00	0.00	4.82	4.82
07:45-08:45	F2	1	0.00	0.00	0.00	0.00	0.00	✓	0.00	7.64	0.23	3.92	1.00	0.00	12.87	12.87
07:45-08:45	F2	2	0.00	0.00	0.00	0.00	0.00	✓	0.00	6.14	0.55	2.43	1.00	0.00	31.56	31.56

Network Results

Run Summary

Analysis Set Used	Run Start Time	Run Finish Time	Modelling Start Time (HH:mm)	Network Cycle Time (s)	Total Network Delay (PCU-hr/hr)	Highest DOS (%)	Item with highest DOS	Number of oversaturated items	Percentage of oversaturated items (%)	Item with worst signalised PRC	Item with worst unsignalised PRC	Item with worst overall PRC	Network Within Capacity
A1 - Existing	26-Jul-17 1:30:34 PM	26-Jul-17 1:30:47 PM	07:45	120	21.83	78.08	B/1	0	0	B/1	F1/1	B/1	✓

Network Results: Vehicle Summary

Time Segment	Degree Of Saturation (%)	Practical Reserve Capacity (%)	Calculated Flow Entering (PCU/hr)	Actual Green (s per cycle)	Mean Delay Per Veh (s)	Weighted Cost Of Delay (£ per hr)	Weighted Cost Of Stops (£ per hr)	Performance Index (£ per hr)
07:45-08:45	78	15	7284	1259	10.79	310.04	26.47	336.51

Network Results: Pedestrian Summary

Time Segment	Degree Of Saturation (%)	Calculated Flow Entering (Ped/hr)	Actual Green (s per cycle)	Mean Delay Per Ped (s)	Weighted Cost Of Delay (£ per hr)	Performance Index (£ per hr)
07:45-08:45	0	0	0	0.00	0.00	0.00

Network Results: Flows And Signals

Time Segment	Calculated Flow Entering (PCU/hr)	Calculated Flow Out (PCU/hr)	Flow Discrepancy (PCU/hr)	Adjusted Flow Warning	Degree Of Saturation (%)	DOS Threshold Exceeded	Practical Reserve Capacity (%)	Actual Green (s per cycle)	Effective Green (s per cycle)
07:45-08:45	7284	7284	0		78		15	1259	1268

Network Results: Journey Times

Time Segment	Distance Travelled (PCU-km/hr)	Time Spent (PCU-hr/hr)	Mean Journey Speed (kph)
07:45-08:45	575.92	41.03	14.04

Point to Point Journey Time

Average Journey Time (s) for Local Matrix: 1

		To			
		1	2	3	4
From	1	0.0	47.8	65.7	89.8
	2	63.7	0.0	83.9	92.1
	3	58.1	74.7	0.0	42.4
	4	107.2	141.9	92.5	0.0

Path Journey Time

Path	From Location	To Location	Normal Calculated Flow (PCU/hr)	Normal Journey Time (s)	Calculated Total Flow (PCU/hr)	Avg Journey Time (s)
1	1	2	10	47.79	10	47.79
2	1	3	448	65.67	448	65.67
3	1	4	172	89.80	172	89.80
4	2	1	13	63.74	13	63.74
5	2	3	231	83.94	231	83.94
6	2	4	198	92.14	198	92.14
7	3	4	39	42.39	39	42.39
9	3	1	374	58.13	374	58.13
10	3	2	156	74.69	156	74.69
11	4	3	34	92.52	34	92.52
12	4	1	52	107.17	52	107.17
13	4	2	142	141.86	142	141.86

Final Prediction Table

Traffic Stream Results

Arm	Traffic Stream	Name	Traffic Node	SIGNALS			FLOWS		PERFORMANCE				PER PCU			QUEUES		WEIGHTS		PENALTIES
				Controller Stream	Phase	Phase2	Calculated Flow Entering (PCU/hr)	Calculated Sat Flow (PCU/hr)	Actual Green (s per cycle)	Wasted Time Total (s per cycle)	Degree Of Saturation (%)	Practical Reserve Capacity (%)	JourneyTime (s)	Mean Delay Per Veh (s)	Mean Stops Per Veh (%)	Mean Max Queue (PCU)	Max End Of Red Queue (PCU)	Delay Weighting Multiplier (%)	Stop Weighting Multiplier (%)	
A	1	Wakefield Rd NB	2	2	J		569	1940	66	0.00	53	71	30.39	18.39	61.92	11.99	8.67	100	100	0.00
B	1	Smithies Ln	2	2	K		228	1752	19	0.00	78	15	80.52	68.52	110.45	8.53	7.64	100	100	0.00
C	1	Wakefield Rd SB	1	1	A		630	1939	61	0.00	63	43	35.79	23.79	71.96	15.40	10.68	100	100	0.00
D	1	Carlton Rd	1	1	B	P	442	1752	39	0.00	74	22	51.74	39.74	98.09	13.30	10.23	100	100	0.00
Ax	1	(untitled)					713	Unrestricted	120	8.00	0	Unrestricted	12.00	0.00	0.00	0.00		100	100	0.00
Bx	1	(untitled)					409	Unrestricted	120	26.00	0	Unrestricted	12.00	0.00	0.00	0.00		100	100	0.00
Cx	1	(untitled)					439	Unrestricted	120	26.00	0	Unrestricted	12.00	0.00	0.00	0.00		100	100	0.00
Dx	1	(untitled)					308	Unrestricted	120	53.00	0	Unrestricted	12.00	0.00	0.00	0.00		100	100	0.00
E1	1	A61 NB Internal Feeder	1				724	2045	120	33.00	35	154	6.96	0.48	0.00	0.10		100	100	0.00
E2	1	A61 NB Internal NS	1	1	C		426	1935	91	14.00	29	213	8.64	1.44	4.06	0.58	0.58	100	100	0.00
E2	2	A61 NB Internal OS	1	1	C	D	298	820	91	0.00	47	90	33.46	26.26	63.82	6.40	0.43	100	100	0.00
F1	1	A61 SB Internal Feeder	2				1049	1935	120	17.18	54	66	8.32	1.12	1.42	4.49		100	100	0.00
F2	1	A61 SB Internal NS	2	2	H		679	1935	86	4.00	48	86	10.35	3.87	29.53	7.64	3.92	100	100	0.00
F2	2	A61 SB Internal OS	2	2	H	L	370	803	86	4.00	64	42	26.41	19.93	53.32	6.14	2.43	100	100	0.00

Network Results

	Distance Travelled (PCU-km/hr)	Time Spent (PCU-hr/hr)	Mean Journey Speed (kph)	Uniform Delay (PCU-hr/hr)	Random Plus Oversat Delay (PCU-hr/hr)	Weighted Cost Of Delay (£ per hr)	Weighted Cost Of Stops (£ per hr)	Excess Queue Penalty (£ per hr)	Performance Index (£ per hr)
Total	575.92	41.03	14.04	17.23	4.61	310.04	26.47	0.00	336.51
Bus	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tram	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pedestrians									
Other (Normal)	575.92	41.03	14.04	17.23	4.61	310.04	26.47	0.00	336.51

- B = at least one source for this link carries Bus
- T = at least one source for this link carries Tram

- *P* = this link is a pedestrian link
- *<* = adjusted flow warning (upstream links are over-saturated)
- *!* = DoS threshold exceeded
- *f* = average saturation flow for flared link
- *** = Traffic Stream - Normal, Bus or Tram Stop or Delay weighting has been set to a value other than 100%
- *^* = Traffic Stream - Normal, Bus or Tram Stop or Delay Path weighting has been set to a value other than 100%
- *+* = average link excess queue is greater than 0
- **P.I. = PERFORMANCE INDEX**

TRANSYT 15
Version: 15.1.1.3807 [] © Copyright TRL Limited, 2017
For sales and distribution information, program advice and maintenance, contact TRL: Tel: +44 (0)1344 770758 E-mail: software@trl.co.uk Web: http://www.trlsoftware.co.uk
The users of this computer program for the solution of an engineering problem are in no way relieved of their responsibility for the correctness of the solution

Last run: 26-Jul-17 1:33:35 PM
Analysis Set used for last run: A1 - Existing

Filename: Smithies Lane-A61.t15
Path: O:\Wakefield Road, Athersley\ANALYSIS\CAPACITY\Signals\TRANSYT\Smithies Lane-A61
Report generation date: 26-Jul-17 1:33:50 PM

File summary

File Description

Title	Smithies Lane-A61
Location	Barnsley
Site Number	
UTCRegion	
Driving Side	Left
Date	19-Jul-17
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	OPTIMA\Steven.Phillips
Description	Staggered left right signals on A61 with Smithies Lane and Carlton Road. Peds demanded 7 times in AM and 4 in PM. The lost time for peds is 15s per cycle and applying this to the demand and dividing over the 30 cycles provides an additional 3 s per cycle which has been added to the intergreen between stage 3 and 1.

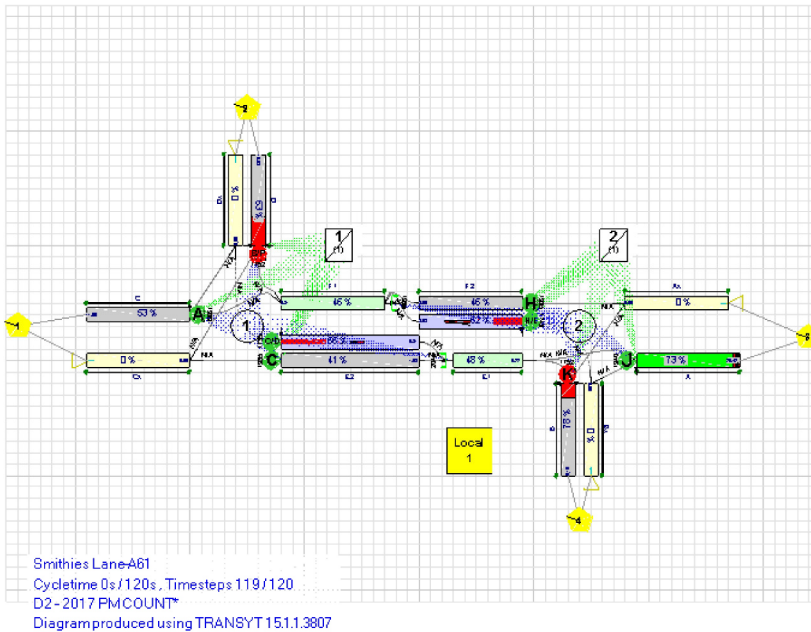
Units

Cost Units	Speed Units	Distance Units	Fuel Economy Units	Fuel Rate Units	Mass Units	Traffic Units Input	Traffic Units Results	Flow Units	Average Delay Units	Total Delay Units	Rate Of Delay Units
£	kph	m	mpg	l/h	kg	PCU	PCU	perHour	s	-Hour	perHour

Sorting

Show Names Instead of IDs (For Aimsun)	Sorting Direction	Sorting Type	Ignore Prefixes When Sorting	Link Grouping	Source Grouping
	Ascending	Numerical		Normal	Normal

Network Diagrams



A1 - Existing *: D2 - 2017 PM COUNT*

Summary

Data Errors and Warnings

No errors or warnings

Run Summary

Analysis	Run Start	Run Finish	Modelling Start Time	Network Cycle Time	Total Network Delay (PCU-)	Highest	Item with highest	Number of oversaturated	Percentage of oversaturated	Item with worst	Item with worst unsignalised	Item with worst	Network Within

Set Used	Time	Time	(HH:mm)	(s)	hr/hr	DOS (%)	DOS	Items	Items (%)	signalised PRC	PRC	overall PRC	Capacity
A1 - Existing	26-Jul-17 1:33:21 PM	26-Jul-17 1:33:35 PM	17:00	120	21.82	77.52	B/1	0	0	B/1	E1/1	B/1	✓

Analysis Set Details

Name	Description	Demand Set	Include In Report	Locked
Existing		D2	✓	

Demand Set Details

Demand Set	Name	Description	Composite	Demand Sets	Start Time (HH:mm)	Locked
D2	2017 PM COUNT				17:00	

Network Options

Network Timings

Network Cycle Time (s)	Restrict To SCOOT Cycle Times	Time Segment Length (min)	Number Of Time Segments	Modelled Time Period (min)
120		60	1	60

Signals Options

Start Displacement (s)	End Displacement (s)
2	3

Advanced

Phase Minimum Broken Penalty (£)	Phase Maximum Broken Penalty (£)	Intergreen Broken Penalty (£)	Starting Red-with-Amber (s)
10000.00	10000.00	10000.00	2

Traffic Options

Traffic Model	Vehicle Flow Scaling Factor (%)	Pedestrian Flow Scaling Factor (%)	Cruise Times Or Speeds
Platoon Dispersion (PDM)	100	100	Cruise Speeds

Advanced

Resolution	DOS Threshold (%)	Cruise Scaling Factor (%)	Use Link Stop Weightings	Use Link Delay Weightings	Exclude Pedestrian Links	Random Delay Mode	Type of Vehicle-in-Service	Type Of Random Parameter	PCU Length (m)	Calculate results for Path Segments
1	90	100	✓	✓		Complex	Uniform (TRANSYT)	Uniform (TRANSYT)	5.75	

Normal Parameters

Dispersion Type	Dispersion Coefficient	Travel Time Coefficient
Default	35	80

Normal Traffic Types

Name	PCU Factor
Normal	1.00

Bus Parameters

Name	PCU Factor	Dispersion Coefficient1	Dispersion Coefficient2	Acceleration (ms ⁻²)	Travel Time Coefficient1	Travel Time Coefficient2
Bus	1.00	70	15	0.47	30	85

Tram Parameters

Name	PCU Factor	Dispersion Coefficient1	Dispersion Coefficient2	Acceleration (ms ⁻²)	Travel Time Coefficient1	Travel Time Coefficient2
Tram	1.00	0	0	0.47	100	100

Pedestrian Parameters

Dispersion Type	Dispersion Coefficient	Travel Time Coefficient
Default	35	80

Optimisation Options

Enable Optimisation	Auto Redistribute	Optimisation Level	Enable Out Profile Accuracy
✓	✓	Offsets And Green Splits	✓

Advanced

Optimisation Type	Hill Climb Increments	OUTProfile Accuracy	Use Enhanced Optimisation	Auto Optimisation Order	Optimisation Order
Hill Climb (Fast)	15,40,-1,15,40,1,-1,1	50,50,5,5,0,5,0,5,0,0,5,0,0,5		✓	1,2

Economics

Vehicle Monetary Value Of Delay (£ per PCU-hr)	Vehicle Monetary Value Of Stops (£ per 100 stops)	Pedestrian Monetary Value Of Delay (£ per Ped-hr)
14.20	2.60	14.20

Traffic Nodes

Traffic Nodes

ID	Name	Description
1	(untitled)	
2	(untitled)	

Arms and Traffic Streams

Arms

Arm	Name	Description	Traffic Node

A	Wakefield Rd NB		2
B	Smithies Ln		2
C	Wakefield Rd SB		1
D	Carlton Rd		1
Ax	(untitled)		
Bx	(untitled)		
Cx	(untitled)		
Dx	(untitled)		
E1	A61 NB Internal Feeder		1
E2	A61 NB Internal		1
F1	A61 SB Internal Feeder		2
F2	A61 SB Internal		2

Traffic Streams

Arm	Traffic Stream	Name	Description	Auto Length	Length (m)	Has Restricted Flow	Saturation Flow Source	Saturation Flow (PCU/hr)	Cell Saturation Flow (PCU/hr)	Is Signal Controlled	Is Give Way	Traffic Type	Allow Nearside Turn On Red
A	1	Wakefield Rd NB			100.00	✓	SumOfLanes	1940		✓		Normal	
B	1	Smithies Ln			100.00	✓	SumOfLanes	1752		✓		Normal	
C	1	Wakefield Rd SB			100.00	✓	SumOfLanes	1939		✓		Normal	
D	1	Carlton Rd			100.00	✓	SumOfLanes	1752		✓		Normal	
Ax	1	(untitled)			100.00							Normal	
Bx	1	(untitled)			100.00							Normal	
Cx	1	(untitled)			100.00							Normal	
Dx	1	(untitled)			100.00							Normal	
E1	1	A61 NB Internal Feeder			54.00	✓	SumOfLanes	2045	2045			Normal	
E2	1	A61 NB Internal NS			60.00	✓	SumOfLanes	1935	1935	✓		Normal	
E2	2	A61 NB Internal OS			60.00	✓	SumOfLanes	1735	1735	✓	✓	Normal	
F1	1	A61 SB Internal Feeder			60.00	✓	SumOfLanes	1935	1935			Normal	
F2	1	A61 SB Internal NS			54.00	✓	SumOfLanes	1935	1935	✓		Normal	
F2	2	A61 SB Internal OS			54.00	✓	SumOfLanes	1743	1743	✓	✓	Normal	

Lanes

Arm	Traffic Stream	Lane	Name	Description	Use RR67	Surface Condition	Site Quality Factor	Gradient (%)	Width (m)	Use Connector Turning Radius	Proportion That Turn (%)	Turning Radius (m)	Nearside Lane	Saturation Flow (PCU/hr)
A	1	1	(untitled)		✓	N/A	N/A	0	3.40		5	10.00	✓	1940
B	1	1	(untitled)		✓	N/A	N/A	0	4.00		100	10.00	✓	1752
C	1	1	(untitled)		✓	N/A	N/A	0	3.30		2	10.00	✓	1939
D	1	1	(untitled)		✓	N/A	N/A	0	4.00		100	10.00	✓	1752
Ax	1	1	(untitled)							✓				
Bx	1	1	(untitled)							✓				
Cx	1	1	(untitled)							✓				
Dx	1	1	(untitled)							✓				
E1	1	1	(untitled)		✓	N/A	N/A	0	4.30		0	100.00	✓	2045
E2	1	1	(untitled)		✓	N/A	N/A	0	3.20		0	100.00	✓	1935
E2	2	1	(untitled)		✓	N/A	N/A	0	2.40		100	10.00		1735
F1	1	1	(untitled)		✓	N/A	N/A	0	3.20		0	100.00	✓	1935
F2	1	1	(untitled)		✓	N/A	N/A	0	3.20		0	100.00	✓	1935
F2	2	1	(untitled)		✓	N/A	N/A	0	2.50		100	10.00		1743

Modelling

Arm	Traffic Stream	Traffic Model	Stop Weighting Multiplier (%)	Delay Weighting Multiplier (%)	Assignment Cost Weighting (%)	Exclude From Results Calculation	Max Queue Storage (PCU)	Has Queue Limit	Queue Limit (PCU)	Excess Queue Penalty (£)	Has Degree Of Saturation Limit
A	1	NetworkDefault	100	100	100		0.00				
B	1	NetworkDefault	100	100	100		0.00				
C	1	NetworkDefault	100	100	100		0.00				
D	1	NetworkDefault	100	100	100		0.00				
Ax	1	NetworkDefault	100	100	100		0.00				
Bx	1	NetworkDefault	100	100	100		0.00				
Cx	1	NetworkDefault	100	100	100		0.00				
Dx	1	NetworkDefault	100	100	100		0.00				
E1	1	CTM	100	100	100		9.00				
E2	1	CTM	100	100	100		10.00	✓	10.00	0.00	
E2	2	CTM	100	100	100		10.00	✓	10.00	0.00	
F1	1	CTM	100	100	100		10.00				
F2	1	CTM	100	100	100		9.00	✓	9.00	0.00	
F2	2	CTM	100	100	100		9.00	✓	9.00	0.00	

Modelling - Advanced

Arm	Traffic Stream	Cruise Sensitivity Multiplier (%)	Initial Queue (PCU)	Type of Vehicle-in-Service	Vehicle-in-Service	Type Of Random Parameter	Random Parameter	Auto Cycle Time	Cycle Time
A	1	100	0.00	NetworkDefault	Not-Included	NetworkDefault	0.50	✓	120
B	1	100	0.00	NetworkDefault	Not-Included	NetworkDefault	0.50	✓	120
C	1	100	0.00	NetworkDefault	Not-Included	NetworkDefault	0.50	✓	120
D	1	100	0.00	NetworkDefault	Not-Included	NetworkDefault	0.50	✓	120
Ax	1	100	0.00	NetworkDefault	Not-Included	NetworkDefault	0.50	✓	120
Bx	1	100	0.00	NetworkDefault	Not-Included	NetworkDefault	0.50	✓	120
Cx	1	100	0.00	NetworkDefault	Not-Included	NetworkDefault	0.50	✓	120
Dx	1	100	0.00	NetworkDefault	Not-Included	NetworkDefault	0.50	✓	120
E1	1	100	0.00	NetworkDefault	Not-Included	NetworkDefault	0.50	✓	120
E2	1	100	0.00	NetworkDefault	Not-Included	NetworkDefault	0.50	✓	120
E2	2	100	0.00	NetworkDefault	Not-Included	NetworkDefault	0.50	✓	120
F1	1	100	0.00	NetworkDefault	Not-Included	NetworkDefault	0.50	✓	120
F2	1	100	0.00	NetworkDefault	Not-Included	NetworkDefault	0.50	✓	120
F2	2	100	0.00	NetworkDefault	Not-Included	NetworkDefault	0.50	✓	120

Normal - Modelling

Arm	Traffic Stream	Stop Weighting (%)	Delay Weighting (%)
A	1	100	100
B	1	100	100
C	1	100	100
D	1	100	100
Ax	1	100	100
Bx	1	100	100
Cx	1	100	100
Dx	1	100	100
E1	1	100	100
E2	1	100	100
E2	2	100	100
F1	1	100	100
F2	1	100	100
F2	2	100	100

Flows

Arm	Traffic Stream	Total Flow (PCU/hr)	Normal Flow (PCU/hr)
A	1	769	769
B	1	249	249
C	1	554	554
D	1	352	352
Ax	1	639	639
Bx	1	280	280
Cx	1	614	614
Dx	1	391	391
E1	1	982	982
E2	1	606	606
E2	2	376	376
F1	1	883	883
F2	1	625	625
F2	2	258	258

Signals

Arm	Traffic Stream	Controller Stream	Phase	Phase2 Enabled	Phase2
A	1	2	J		
B	1	2	K		
C	1	1	A		
D	1	1	B	✓	P
E2	1	1	C		
E2	2	1	C	✓	D
F2	1	2	H		
F2	2	2	H	✓	L

Entry Sources

Arm	Traffic Stream	Normal Cruise Time (seconds)	Normal Cruise Speed (kph)
A	1	12.00	30.00
B	1	12.00	30.00
C	1	12.00	30.00
D	1	12.00	30.00

Sources

Arm	Traffic Stream	Source	Source Type	Source Traffic Stream	Destination Traffic Stream	Normal Cruise Time (seconds)	Normal Cruise Speed (kph)	Auto Turning Radius	Traffic Turn Style	Turning Radius (m)
Ax	1	1	TrafficStream	F2/1	Ax/1	12.00	30.00	✓	Straight	Straight Movement
Bx	1	1	TrafficStream	A/1	Bx/1	12.00	30.00	✓	Nearside	25.04
Cx	1	1	TrafficStream	E2/1	Cx/1	12.00	30.00	✓	Straight	Straight Movement
Dx	1	1	TrafficStream	C/1	Dx/1	12.00	30.00	✓	Nearside	50.04
E1	1	1	TrafficStream	B/1	E1/1	6.48	30.00	✓	Nearside	25.04
E2	1	1	TrafficStream	E1/1	E2/1	7.20	30.00	✓	Straight	Straight Movement
E2	2	1	TrafficStream	E1/1	E2/2	7.20	30.00	✓	Straight	Straight Movement
F1	1	1	TrafficStream	D/1	F1/1	7.20	30.00	✓	Nearside	25.04
F2	1	1	TrafficStream	F1/1	F2/1	6.48	30.00	✓	Straight	Straight Movement
F2	2	1	TrafficStream	F1/1	F2/2	6.48	30.00	✓	Straight	Straight Movement
Ax	1	2	TrafficStream	B/1	Ax/1	12.00	30.00	✓	Offside	62.46
Bx	1	2	TrafficStream	F2/2	Bx/1	12.00	30.00	✓	Offside	67.37
Cx	1	2	TrafficStream	D/1	Cx/1	12.00	30.00	✓	Offside	74.96
Dx	1	2	TrafficStream	E2/2	Dx/1	12.00	30.00	✓	Offside	49.96
E1	1	2	TrafficStream	A/1	E1/1	6.48	30.00	✓	Straight	Straight Movement
F1	1	2	TrafficStream	C/1	F1/1	7.20	30.00	✓	Straight	Straight Movement

Give Way Data

Arm	Traffic Stream	Opposed Traffic	Use Step-wise Opposed Turn Model	Number Of Storage Spaces	Use Connector Turning Radius	Radius Of Turn (m)	Visibility Restricted
E2	2	Movement	✓	2		10.00	
F2	2	Movement	✓	2		10.00	

Give Way Data - Movements

Arm	Traffic Stream	Movement	Destination Traffic Stream	Max Flow (Unopposed) (PCU/hr)	Percentage Opposed (%)
E2	2	1	Dx/1	1735	100
F2	2	1	Bx/1	1743	100

Give Way Data - Movements - Conflicts

Arm	Traffic Stream	Movement	Destination Traffic Stream	Description	Controlling Type	Controlling Traffic Stream	Percentage Opposing (%)	Upstream Signals Visible	Conflict Shift	Conflict Duration
E2	2	1	Dx/1		TrafficStream	C/1	100	✓	0	0
F2	2	1	Bx/1		TrafficStream	A/1	100	✓	0	0

Local OD Matrix - Local Matrix: 1

Normal Input Flows (PCU/hr)

		To			
		1	2	3	4
From	1	0	15	450	89
	2	8	0	175	169
	3	514	233	0	22
	4	92	143	14	0

Bus Input Flows not shown as they are blank.

Tram Input Flows not shown as they are blank.

Pedestrian Input Flows not shown as they are blank.

Locations

OD Matrix	Location	Name	Entries	Exits
1	1	(untitled)	C/1	Cx/1
1	2	(untitled)	D/1	Dx/1
1	3	(untitled)	A/1	Ax/1
1	4	(untitled)	B/1	Bx/1

Normal Paths and Flows

OD Matrix	Path	Description	From Location	To Location	Path Items	Allocation Type	Normal Calculated Flow (PCU/hr)
1	1		1	2	C/1,Dx/1	Normal	15
1	2		1	3	C/1,F1/1,F2/1,Ax/1	Normal	450
1	3		1	4	C/1,F1/1,F2/2,Bx/1	Normal	89
1	4		2	1	D/1,Cx/1	Normal	8
1	5		2	3	D/1,F1/1,F2/1,Ax/1	Normal	175
1	6		2	4	D/1,F1/1,F2/2,Bx/1	Normal	169
1	7		3	4	A/1,Bx/1	Normal	22
1	9		3	1	A/1,E1/1,E2/1,Cx/1	Normal	514
1	10		3	2	A/1,E1/1,E2/2,Dx/1	Normal	233
1	11		4	3	B/1,Ax/1	Normal	14
1	12		4	1	B/1,E1/1,E2/1,Cx/1	Normal	92
1	13		4	2	B/1,E1/1,E2/2,Dx/1	Normal	143

Signal Timings

Network Default: 120s cycle time; 120 steps

Controller Stream 1

Controller Stream	Name	Description	Use Sequence	Cycle Time Source	Cycle Time (s)
1	(untitled)		1	NetworkDefault	120

Controller Stream 1 - Properties

Controller Stream	Manufacturer Name	Type	Model Number	(Telephone) Line Number	Site Number	Grid Reference	Gaining Delay Type
1	Unspecified						Absolute

Controller Stream 1 - Optimisation

Controller Stream	Allow Offset Optimisation	Allow Green Split Optimisation	Optimisation Level	Auto Redistribute	Enable Stage Constraint
1	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Offsets And Green Splits	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Phases

Controller Stream	Phase	Name	Minimum Green (s)	Maximum Green (s)	Relative Start Displacement (s)	Relative End Displacement (s)	Type
1	A	(untitled)	7	300	0	0	Not Specified
1	B	(untitled)	7	300	0	0	Not Specified
1	C	(untitled)	7	300	0	0	Not Specified
1	D	(untitled)	7	300	0	0	Not Specified
1	P	(untitled)	7	300	0	0	Not Specified

Library Stages

Controller Stream	Library Stage	Phases In Stage	User Stage Minimum (s)
1	1	A,C	61
1	2	C,D,P	14
1	3	B	14

Stage Sequences

Controller Stream	Sequence	Name	Multiple Cycling	Stage IDs	Stage Ends
1	1	(untitled)	Single	1,2,3	15,42,61

Resultant Stages

Controller Stream	Stage	Is Base Stage	Library Stage ID	Phases In This Stage	Stage Start (s)	Stage End (s)	Stage Duration (s)	User Stage Minimum (s)	Stage Minimum (s)
1	1	<input checked="" type="checkbox"/>	1	A,C	71	15	64	61	61
1	2	<input checked="" type="checkbox"/>	2	C,D,P	22	42	20	14	14
1	3	<input checked="" type="checkbox"/>	3	B	47	61	14	14	14

Resultant Phase Green Periods

Controller Stream	Phase	Green Period	Is Base Green Period	Start Time (s)	End Time (s)	Duration (s)
1	A	1	<input checked="" type="checkbox"/>	71	15	64
1	B	1	<input checked="" type="checkbox"/>	47	61	14
1	C	1	<input checked="" type="checkbox"/>	71	42	91
1	D	1	<input checked="" type="checkbox"/>	22	42	20
1	P	1	<input checked="" type="checkbox"/>	20	42	22

Intergreen Matrix for Controller Stream 1

		To				
		A	B	C	D	P
A		0				
				7	5	

From	B	10		10	5	
	C		5			
	D	5	5			
	P	3				

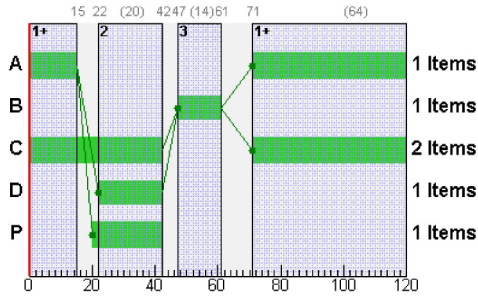
Interstage Matrix for Controller Stream 1

From	To		
	1	2	3
	1	0	7
	2	5	0
3	10	10	0

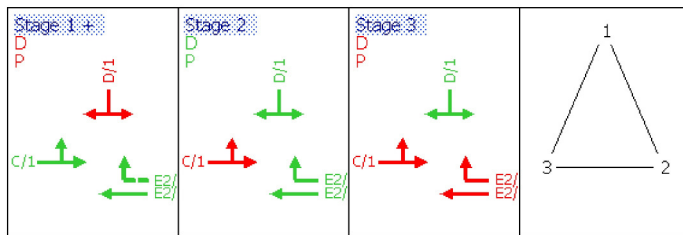
Banned Stage transitions for Controller Stream 1

From	To		
	1	2	3
	1		
	2		
3			

Phase Timings Diagram for Controller Stream 1



Stage Sequence Diagram for Controller Stream 1



Controller Stream 2

Controller Stream	Name	Description	Use Sequence	Cycle Time Source	Cycle Time (s)
2	(untitled)		1	NetworkDefault	120

Controller Stream 2 - Properties

Controller Stream	Manufacturer Name	Type	Model Number	(Telephone) Line Number	Site Number	Grid Reference	Gaining Delay Type
2	Unspecified						Absolute

Controller Stream 2 - Optimisation

Controller Stream	Allow Offset Optimisation	Allow Green Split Optimisation	Optimisation Level	Auto Redistribute	Enable Stage Constraint
2	✓	✓	Offsets And Green Splits	✓	

Phases

Controller Stream	Phase	Name	Minimum Green (s)	Maximum Green (s)	Relative Start Displacement (s)	Relative End Displacement (s)	Type
2	H	(untitled)	7	300	0	0	Not Specified
2	J	(untitled)	7	300	0	0	Not Specified
2	K	(untitled)	7	300	0	0	Not Specified
2	L	(untitled)	7	300	0	0	Not Specified

Library Stages

Controller Stream	Library Stage	Phases In Stage	User Stage Minimum (s)
2	1	H,J	61
2	2	H,L	13
2	3	K	13

Stage Sequences

Controller Stream	Sequence	Name	Multiple Cycling	Stage IDs	Stage Ends
2	1	(untitled)	Single	1,2,3	32,52,78

Resultant Stages

Controller Stream	Stage	Is Base Stage	Library Stage ID	Phases In This Stage	Stage Start (s)	Stage End (s)	Stage Duration (s)	User Stage Minimum (s)	Stage Minimum (s)
2	1	✓	1	H,J	88	32	64	61	61
2	2	✓	2	H,L	39	52	13	13	13
2	3	✓	3	K	57	78	21	13	13

Resultant Phase Green Periods

Controller Stream	Phase	Green Period	Is Base Green Period	Start Time (s)	End Time (s)	Duration (s)
2	H	1	✓	88	52	84

2	J	1	✓	88	32	64
2	K	1	✓	57	78	21
2	L	1	✓	39	52	13

Intergreen Matrix for Controller Stream 2

		To			
		H	J	K	L
From	H			5	
	J			5	7
	K	10	10		7
	L		7	5	

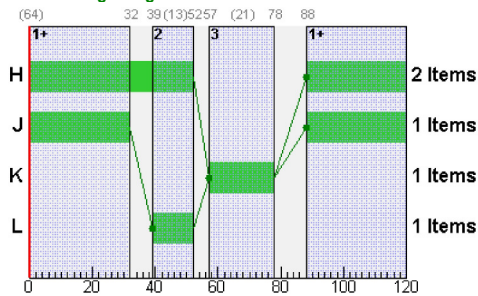
Interstage Matrix for Controller Stream 2

		To		
		1	2	3
From	1	0	7	5
	2	7	0	5
	3	10	10	0

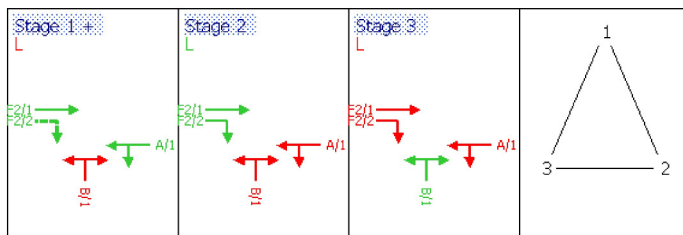
Banned Stage transitions for Controller Stream 2

		To		
		1	2	3
From	1			
	2			
	3			

Phase Timings Diagram for Controller Stream 2



Stage Sequence Diagram for Controller Stream 2



TRANSYT 12 Tables

Resultant Stages

ID	Stage	Is Base Stage	Library Stage ID	Phases In This Stage	TRANSYT Stage Start (s)	TRANSYT Preceding Interstage (s)	TRANSYT Stage Minimum (s)
1	1	✓	1	A,C	61	10	71
1	2	✓	2	C,D,P	15	7	21
1	3	✓	3	B	42	5	19
2	1	✓	1	H,J	78	10	71
2	2	✓	2	H,L	32	7	20
2	3	✓	3	K	52	5	18

Resultant Phase Green Periods

ID	ID	Green Period	TRANSYT Starting Stage (s)	TRANSYT Ending Stage (s)	TRANSYT Start Lag (s)	TRANSYT End Lag (s)
1	A	1	1	2	10	0
1	B	1	3	1	5	0
1	C	1	1	3	10	0
1	D	1	2	3	7	0
1	P	1	2	3	5	0
2	H	1	1	3	10	0
2	J	1	1	2	10	0
2	K	1	3	1	5	0
2	L	1	2	3	7	0

Stage Timings (TRANSYT 12 timings)

Network Default: 120s cycle time; 120 steps

Controller Stream	Number of Stages	Stage 1	Stage 2	Stage 3
1	3	61	15	42
2	3	78	32	52

Traffic Stream Green Times

Arm	Traffic Stream	Traffic Node	Controller Stream	Phase	Green Period 1		
					Start	End	Duration
A	1	2	2	J	88	32	64
B	1	2	2	K	57	78	21
C	1	1	1	A	71	15	64
D	1	1	1	B	47	61	14
E2	1	1	1	C	71	42	91
E2	2	1	1	C	71	42	91
F2	1	2	2	H	88	52	84
F2	2	2	2	H	88	52	84

Traffic Stream Results

Traffic Stream Results: Vehicle Summary

Time Segment	Arm	Traffic Stream	Degree Of Saturation (%)	Practical Reserve Capacity (%)	Calculated Flow Entering (PCU/hr)	Calculated Sat Flow (PCU/hr)	Actual Green (s per cycle)	Mean Delay Per Veh (s)	Mean Max Queue (PCU)	Utilised Storage (%)	Weighted Cost Of Delay (£ per hr)	Weighted Cost Of Stops (£ per hr)	Performance Index (£ per hr)
17:00-18:00	A	1	73	23	769	1940	64	25.50	20.42	117.44	77.35	7.46	84.81
17:00-18:00	B	1	78	16	249	1752	21	64.95	9.15	52.61	63.79	3.38	67.17
17:00-18:00	C	1	53	71	554	1939	64	19.55	11.99	68.94	42.73	4.42	47.15
17:00-18:00	D	1	63	42	352	1752	36	37.38	10.03	57.67	51.90	4.02	55.92
17:00-18:00	Ax	1	0	Unrestricted	639	Unrestricted	120	0.00	0.00	0.00	0.00	0.00	0.00
17:00-18:00	Bx	1	0	Unrestricted	280	Unrestricted	120	0.00	0.00	0.00	0.00	0.00	0.00
17:00-18:00	Cx	1	0	Unrestricted	614	Unrestricted	120	0.00	0.00	0.00	0.00	0.00	0.00
17:00-18:00	Dx	1	0	Unrestricted	391	Unrestricted	120	0.00	0.00	0.00	0.00	0.00	0.00
17:00-18:00	E1	1	48	87	982	2045	120	0.81	0.22	2.46	3.15	0.00	3.15
17:00-18:00	E2	1	41	120	606	1935	91	1.43	1.53	15.30	3.42	0.28	3.70
17:00-18:00	E2	2	56	62	376	881	91	18.36	5.31	53.08	27.23	2.01	29.25
17:00-18:00	F1	1	46	94	883	1935	120	1.03	3.31	33.10	3.59	0.67	4.26
17:00-18:00	F2	1	46	97	625	1935	84	3.95	8.00	88.86	9.74	2.73	12.47
17:00-18:00	F2	2	62	45	258	587	84	26.49	3.98	44.22	26.96	1.49	28.45

Traffic Stream Results: Flows And Signals

Time Segment	Arm	Traffic Stream	Calculated Flow Entering (PCU/hr)	Calculated Flow Out (PCU/hr)	Flow Discrepancy (PCU/hr)	Adjusted Flow Warning	Calculated Sat Flow (PCU/hr)	Calculated Capacity (PCU/hr)	Degree Of Saturation (%)	DOS Threshold Exceeded	Practical Reserve Capacity (%)	Mean Modulus Of Error	Flow On Red Per Cycle (PCU)	Actual Green (s per cycle)	Effective Green (s per cycle)
17:00-18:00	A	1	769	769	0		1940	1051	73		23	0.00	0.0	64	65
17:00-18:00	B	1	249	249	0		1752	321	78		16	0.00	0.0	21	22
17:00-18:00	C	1	554	554	0		1939	1050	53		71	0.00	0.0	64	65
17:00-18:00	D	1	352	352	0		1752	555	63		42	0.00	0.0	36	38
17:00-18:00	Ax	1	639	639	0		Unrestricted	Unrestricted	0		Unrestricted	0.68	0.0	120	120
17:00-18:00	Bx	1	280	280	0		Unrestricted	Unrestricted	0		Unrestricted	0.97	0.0	120	120
17:00-18:00	Cx	1	614	614	0		Unrestricted	Unrestricted	0		Unrestricted	0.63	0.0	120	120
17:00-18:00	Dx	1	391	391	0		Unrestricted	Unrestricted	0		Unrestricted	0.86	0.0	120	120
17:00-18:00	E1	1	982	982	0		2045	2045	48		87	0.73	0.0	120	120
17:00-18:00	E2	1	606	606	0		1935	1484	41		120	0.70	0.0	91	92
17:00-18:00	E2	2	376	376	0		881	676	56		62	0.78	0.0	91	92
17:00-18:00	F1	1	883	883	0		1935	1900	46		94	0.74	0.0	120	120
17:00-18:00	F2	1	625	625	0		1935	1371	46		97	0.67	0.0	84	85
17:00-18:00	F2	2	258	258	0		587	416	62		45	0.84	0.0	84	85

Traffic Stream Results: Stops And Delays

Time Segment	Arm	Traffic Stream	Mean Cruise Time Per Veh (s)	Mean Delay Per Veh (s)	Uniform Delay (PCU-hr/hr)	Random Plus Oversat Delay (PCU-hr/hr)	Unweighted Cost Of Delay (£ per hr)	Weighted Cost Of Delay (£ per hr)	Mean Stops Per Veh (%)	Uniform Stops (Stops per hr)	Random Stops (Stops per hr)	Unweighted Cost Of Stops (£ per hr)	Weighted Cost Of Stops (£ per hr)
17:00-18:00	A	1	12.00	25.50	4.46	0.99	77.35	77.35	77.38	565.74	29.31	7.46	7.46
17:00-18:00	B	1	12.00	64.95	3.23	1.27	63.79	63.79	108.36	233.28	36.55	3.38	3.38
17:00-18:00	C	1	12.00	19.55	2.72	0.29	42.73	42.73	63.66	343.92	8.77	4.42	4.42
17:00-18:00	D	1	12.00	37.38	3.11	0.54	51.90	51.90	91.15	288.95	31.91	4.02	4.02
17:00-18:00	Ax	1	12.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
17:00-18:00	Bx	1	12.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
17:00-18:00	Cx	1	12.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
17:00-18:00	Dx	1	12.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
17:00-18:00	E1	1	6.48	0.81	0.00	0.22	3.15	3.15	0.00	0.00	0.00	0.00	0.00
17:00-18:00	E2	1	7.20	1.43	0.10	0.14	3.42	3.42	3.71	18.24	4.22	0.28	0.28
17:00-18:00	E2	2	7.20	18.36	1.57	0.35	27.23	27.23	42.70	150.20	10.34	2.01	2.01

18:00															
17:00-18:00	F1	1	7.20	1.03	0.05	0.20	3.59	3.59	6.03	47.19	6.03	0.67	0.67		
17:00-18:00	F2	1	6.48	3.95	0.50	0.19	9.74	9.74	34.80	211.81	5.71	2.73	2.73		
17:00-18:00	F2	2	6.48	26.49	1.40	0.50	26.96	26.96	46.19	104.41	14.76	1.49	1.49		

Traffic Stream Results: Queues And Blocking

Time Segment	Arm	Traffic Stream	Initial Queue (PCU)	Mean Max Queue (PCU)	Max Queue Storage (PCU)	Utilised Storage (%)	Average Link Excess Queue (PCU)	Average Limit Excess Queue (PCU)	Excess Queue Penalty (£ per hr)	Max End Of Green Queue (PCU)	Max End Of Red Queue (PCU)	Wasted Time Starvation (s per cycle)	Wasted Time Blocking Back (s per cycle)	Wasted Time Total (s per cycle)	Estimated Blocking
17:00-18:00	A	1	0.00	20.42	17.39	117.44	0.19	0.00	0.00	0.99	12.73	0.00	0.00	0.00	
17:00-18:00	B	1	0.00	9.15	17.39	52.61	0.00	0.00	0.00	1.27	8.04	0.00	0.00	0.00	
17:00-18:00	C	1	0.00	11.99	17.39	68.94	0.00	0.00	0.00	0.29	8.76	0.00	0.00	0.00	
17:00-18:00	D	1	0.00	10.03	17.39	57.67	0.00	0.00	0.00	0.54	8.17	0.00	0.00	0.00	
17:00-18:00	Ax	1	0.00	0.00	17.39	0.00	0.00	0.00	0.00			13.00	0.00	13.00	
17:00-18:00	Bx	1	0.00	0.00	17.39	0.00	0.00	0.00	0.00			62.00	0.00	62.00	
17:00-18:00	Cx	1	0.00	0.00	17.39	0.00	0.00	0.00	0.00			25.00	0.00	25.00	
17:00-18:00	Dx	1	0.00	0.00	17.39	0.00	0.00	0.00	0.00			45.00	0.00	45.00	
17:00-18:00	E1	1	0.00	0.22	9.00	2.46	0.00	0.00	0.00			33.00	0.00	33.00	
17:00-18:00	E2	1	0.00	1.53	10.00	15.30	0.00	0.00	0.00	0.14	0.75	9.00	0.00	9.00	
17:00-18:00	E2	2	0.00	5.31	10.00	53.08	0.00	0.00	0.00	0.35	0.82	0.00	0.00	0.00	
17:00-18:00	F1	1	0.00	3.31	10.00	33.10	0.00	0.00	0.00			17.00	2.17	19.17	
17:00-18:00	F2	1	0.00	8.00	9.00	88.86	0.00	0.00	0.00	0.19	4.02	4.00	0.00	4.00	
17:00-18:00	F2	2	0.00	3.98	9.00	44.22	0.00	0.00	0.00	0.50	1.94	1.00	0.00	1.00	

Traffic Stream Results: Journey Times

Time Segment	Arm	Traffic Stream	Distance Travelled (PCU-km/hr)	Time Spent (PCU-hr/hr)	Mean Journey Speed (kph)	JourneyTime (s)
17:00-18:00	A	1	76.90	8.01	9.60	37.50
17:00-18:00	B	1	24.90	5.32	4.68	76.95
17:00-18:00	C	1	55.40	4.86	11.41	31.55
17:00-18:00	D	1	35.20	4.83	7.29	49.38
17:00-18:00	Ax	1	63.90	2.13	30.00	12.00
17:00-18:00	Bx	1	28.00	0.93	30.00	12.00
17:00-18:00	Cx	1	61.40	2.05	30.00	12.00
17:00-18:00	Dx	1	39.10	1.30	30.00	12.00
17:00-18:00	E1	1	53.03	1.99	26.66	7.29
17:00-18:00	E2	1	36.36	1.45	25.03	8.63
17:00-18:00	E2	2	22.56	2.67	8.45	25.56
17:00-18:00	F1	1	52.98	2.02	26.24	8.23
17:00-18:00	F2	1	33.75	1.81	18.64	10.43
17:00-18:00	F2	2	13.93	2.36	5.90	32.97

Traffic Stream Results: Advanced

Time Segment	Arm	Traffic Stream	Degree Of Saturation Penalty (£ per hr)	Phase Min Max Penalty (£ per hr)	Intergreen Broken Cycle Penalty (£ per hr)	Stage Constraint Broken Penalty (£ per hr)	Ped Gap Accepting Penalty (£ per hr)	Warmed Up	Warmed Up Error	Mean Max Queue EoTS (PCU)	Max End Of Green Queue EoTS (PCU)	Max End Of Red Queue EoTS (PCU)	PCU Factor	Cost Of Penalties (£ per hr)	Unweighted Performance Index (£ per hr)	Performance Index (£ per hr)
17:00-18:00	A	1	0.00	0.00	0.00	0.00	0.00	✓	0.00	20.43	0.99	12.74	1.00	0.00	84.81	84.81
17:00-18:00	B	1	0.00	0.00	0.00	0.00	0.00	✓	0.00	9.18	1.30	8.08	1.00	0.00	67.17	67.17
17:00-18:00	C	1	0.00	0.00	0.00	0.00	0.00	✓	0.00	11.99	0.29	8.76	1.00	0.00	47.15	47.15
17:00-18:00	D	1	0.00	0.00	0.00	0.00	0.00	✓	0.00	10.03	0.55	8.17	1.00	0.00	55.92	55.92
17:00-18:00	Ax	1	0.00	0.00	0.00	0.00	0.00	✓	0.00	0.00			1.00	0.00	0.00	0.00
17:00-18:00	Bx	1	0.00	0.00	0.00	0.00	0.00	✓	0.00	0.00			1.00	0.00	0.00	0.00
17:00-18:00	Cx	1	0.00	0.00	0.00	0.00	0.00	✓	0.00	0.00			1.00	0.00	0.00	0.00
17:00-18:00	Dx	1	0.00	0.00	0.00	0.00	0.00	✓	0.00	0.00			1.00	0.00	0.00	0.00
17:00-18:00	E1	1	0.00	0.00	0.00	0.00	0.00	✓	0.00	0.22			1.00	0.00	3.15	3.15
17:00-18:00	E2	1	0.00	0.00	0.00	0.00	0.00	✓	0.00	1.53	0.14	0.75	1.00	0.00	3.70	3.70
17:00-18:00	E2	2	0.00	0.00	0.00	0.00	0.00	✓	0.00	5.31	0.35	0.82	1.00	0.00	29.25	29.25
17:00-18:00	F1	1	0.00	0.00	0.00	0.00	0.00	✓	0.00	3.31			1.00	0.00	4.26	4.26
17:00-18:00	F2	1	0.00	0.00	0.00	0.00	0.00	✓	0.00	8.00	0.19	4.02	1.00	0.00	12.47	12.47
17:00-18:00	F2	2	0.00	0.00	0.00	0.00	0.00	✓	0.00	3.98	0.50	1.94	1.00	0.00	28.45	28.45

Network Results

Run Summary

Analysis Set Used	Run Start Time	Run Finish Time	Modelling Start Time (HH:mm)	Network Cycle Time (s)	Total Network Delay (PCU-hr/hr)	Highest DOS (%)	Item with highest DOS	Number of oversaturated items	Percentage of oversaturated items (%)	Item with worst signalised PRC	Item with worst unsignalised PRC	Item with worst overall PRC	Network Within Capacity
A1 - Existing	26-Jul-17 1:33:21 PM	26-Jul-17 1:33:35 PM	17:00	120	21.82	77.52	B/1	0	0	B/1	E1/1	B/1	✓

Network Results: Vehicle Summary

Time Segment	Degree Of Saturation (%)	Practical Reserve Capacity (%)	Calculated Flow Entering (PCU/hr)	Actual Green (s per cycle)	Mean Delay Per Veh (s)	Weighted Cost Of Delay (£ per hr)	Weighted Cost Of Stops (£ per hr)	Performance Index (£ per hr)
17:00-18:00	78	16	7578	1255	10.37	309.85	26.47	336.32

Network Results: Pedestrian Summary

Time Segment	Degree Of Saturation (%)	Calculated Flow Entering (Ped/hr)	Actual Green (s per cycle)	Mean Delay Per Ped (s)	Weighted Cost Of Delay (£ per hr)	Performance Index (£ per hr)
17:00-18:00	0	0	0	0.00	0.00	0.00

Network Results: Flows And Signals

Time Segment	Calculated Flow Entering (PCU/hr)	Calculated Flow Out (PCU/hr)	Flow Discrepancy (PCU/hr)	Adjusted Flow Warning	Degree Of Saturation (%)	DOS Threshold Exceeded	Practical Reserve Capacity (%)	Actual Green (s per cycle)	Effective Green (s per cycle)
17:00-18:00	7578	7578	0		78		16	1255	1264

Network Results: Journey Times

Time Segment	Distance Travelled (PCU-km/hr)	Time Spent (PCU-hr/hr)	Mean Journey Speed (kph)
17:00-18:00	597.41	41.73	14.31

Point to Point Journey Time

Average Journey Time (s) for Local Matrix: 1

		To			
		1	2	3	4
From	1	0.0	43.6	61.7	99.9
	2	61.4	0.0	81.5	94.5
	3	65.5	75.6	0.0	49.5
	4	104.4	132.8	88.9	0.0

Path Journey Time

Path	From Location	To Location	Normal Calculated Flow (PCU/hr)	Normal Journey Time (s)	Calculated Total Flow (PCU/hr)	Avg Journey Time (s)
1	1	2	15	43.55	15	43.55
2	1	3	450	61.71	450	61.71
3	1	4	89	99.91	89	99.91
4	2	1	8	61.38	8	61.38
5	2	3	175	81.48	175	81.48
6	2	4	169	94.46	169	94.46
7	3	4	22	49.50	22	49.50
9	3	1	514	65.50	514	65.50
10	3	2	233	75.62	233	75.62
11	4	3	14	88.95	14	88.95
12	4	1	92	104.41	92	104.41
13	4	2	143	132.78	143	132.78

Final Prediction Table

Traffic Stream Results

Arm	Traffic Stream	Name	Traffic Node	SIGNALS			FLOWS		PERFORMANCE				PER PCU			QUEUES		WEIGHTS		PENALTIES
				Controller Stream	Phase	Phase2	Calculated Flow Entering (PCU/hr)	Calculated Sat Flow (PCU/hr)	Actual Green (s per cycle)	Wasted Time Total (s per cycle)	Degree Of Saturation (%)	Practical Reserve Capacity (%)	JourneyTime (s)	Mean Delay Per Veh (s)	Mean Stops Per Veh (%)	Mean Max Queue (PCU)	Max End Of Red Queue (PCU)	Delay Weighting Multiplier (%)	Stop Weighting Multiplier (%)	
A	1	Wakefield Rd NB	2	2	J		769 <	1940	64	0.00	73	23	37.50	25.50	77.38	20.42 +	12.73	100	100	0.00
B	1	Smithies Ln	2	2	K		249	1752	21	0.00	78	16	76.95	64.95	108.36	9.15	8.04	100	100	0.00
C	1	Wakefield Rd SB	1	1	A		554	1939	64	0.00	53	71	31.55	19.55	63.66	11.99	8.76	100	100	0.00
D	1	Carlton Rd	1	1	B	P	352	1752	36	0.00	63	42	49.38	37.38	91.15	10.03	8.17	100	100	0.00
Ax	1	(untitled)					639	Unrestricted	120	13.00	0	Unrestricted	12.00	0.00	0.00	0.00		100	100	0.00
Bx	1	(untitled)					280	Unrestricted	120	62.00	0	Unrestricted	12.00	0.00	0.00	0.00		100	100	0.00
Cx	1	(untitled)					614	Unrestricted	120	25.00	0	Unrestricted	12.00	0.00	0.00	0.00		100	100	0.00
Dx	1	(untitled)					391	Unrestricted	120	45.00	0	Unrestricted	12.00	0.00	0.00	0.00		100	100	0.00
E1	1	A61 NB Internal Feeder	1				982	2045	120	33.00	48	87	7.29	0.81	0.00	0.22		100	100	0.00
E2	1	A61 NB Internal NS	1	1	C		606	1935	91	9.00	41	120	8.63	1.43	3.71	1.53	0.75	100	100	0.00
E2	2	A61 NB Internal OS	1	1	C	D	376	881	91	0.00	56	62	25.56	18.36	42.70	5.31	0.82	100	100	0.00
F1	1	A61 SB Internal Feeder	2				883	1935	120	19.17	46	94	8.23	1.03	6.03	3.31		100	100	0.00
F2	1	A61 SB Internal NS	2	2	H		625	1935	84	4.00	46	97	10.43	3.95	34.80	8.00	4.02	100	100	0.00
F2	2	A61 SB Internal OS	2	2	H	L	258	587	84	1.00	62	45	32.97	26.49	46.19	3.98	1.94	100	100	0.00

Network Results

	Distance Travelled (PCU-km/hr)	Time Spent (PCU-hr/hr)	Mean Journey Speed (kph)	Uniform Delay (PCU-hr/hr)	Random Plus Oversat Delay (PCU-hr/hr)	Weighted Cost Of Delay (£ per hr)	Weighted Cost Of Stops (£ per hr)	Excess Queue Penalty (£ per hr)	Performance Index (£ per hr)
Total	597.41	41.73	14.31	17.13	4.69	309.85	26.47	0.00	336.32
Bus	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tram	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pedestrians									
Other (Normal)	597.41	41.73	14.31	17.13	4.69	309.85	26.47	0.00	336.32

- B = at least one source for this link carries Bus
- T = at least one source for this link carries Tram

- *P* = this link is a pedestrian link
- *<* = adjusted flow warning (upstream links are over-saturated)
- *!* = DoS threshold exceeded
- *f* = average saturation flow for flared link
- *** = Traffic Stream - Normal, Bus or Tram Stop or Delay weighting has been set to a value other than 100%
- *^* = Traffic Stream - Normal, Bus or Tram Stop or Delay Path weighting has been set to a value other than 100%
- *+* = average link excess queue is greater than 0
- **P.I.** = **PERFORMANCE INDEX**

TRANSYT 15
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Last run: 26-Jul-17 1:36:54 PM
Analysis Set used for last run: A1 - Existing

Filename: Smithies Lane-A61.t15
Path: O:\Wakefield Road, Athersley\ANALYSIS\CAPACITY\Signals\TRANSYT\Smithies Lane-A61
Report generation date: 26-Jul-17 1:38:14 PM

File summary

File Description

Title	Smithies Lane-A61
Location	Barnsley
Site Number	
UTCRegion	
Driving Side	Left
Date	19-Jul-17
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	OPTIMA\Steven.Phillips
Description	Staggered left right signals on A61 with Smithies Lane and Carlton Road. Peds demanded 7 times in AM and 4 in PM. The lost time for peds is 15s per cycle and applying this to the demand and dividing over the 30 cycles provides an additional 3 s per cycle which has been added to the intergreen between stage 3 and 1.

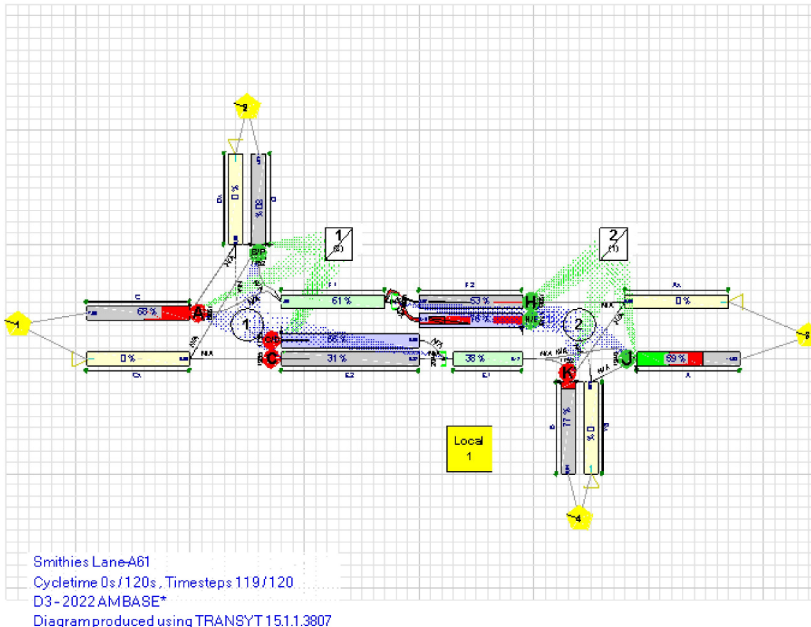
Units

Cost Units	Speed Units	Distance Units	Fuel Economy Units	Fuel Rate Units	Mass Units	Traffic Units Input	Traffic Units Results	Flow Units	Average Delay Units	Total Delay Units	Rate Of Delay Units
£	kph	m	mpg	l/h	kg	PCU	PCU	perHour	s	-Hour	perHour

Sorting

Show Names Instead of IDs (For Aimsun)	Sorting Direction	Sorting Type	Ignore Prefixes When Sorting	Link Grouping	Source Grouping
	Ascending	Numerical		Normal	Normal

Network Diagrams



A1 - Existing *: D3 - 2022 AM BASE*

Summary

Data Errors and Warnings

No errors or warnings

Run Summary

Analysis	Run Start	Run	Modelling	Network	Total Network	Highest	Item with	Number of	Percentage of	Item with worst	Item with worst	Item with worst	Network

Set Used	Time	Finish Time	Start Time (HH:mm)	Cycle Time (s)	Delay (PCU-hr/hr)	DOS (%)	highest DOS	oversaturated items	oversaturated items (%)	signalised PRC	unsignalised PRC	overall PRC	Within Capacity
A1 - Existing	26-Jul-17 1:36:37 PM	26-Jul-17 1:36:54 PM	07:45	120	28.55	79.52	D/1	0	0	D/1	F/1	D/1	✓

Analysis Set Details

Name	Description	Demand Set	Include In Report	Locked
Existing		D3	✓	

Demand Set Details

Demand Set	Name	Description	Composite	Demand Sets	Start Time (HH:mm)	Locked
D3	2022 AM BASE				07:45	

Network Options

Network Timings

Network Cycle Time (s)	Restrict To SCOOT Cycle Times	Time Segment Length (min)	Number Of Time Segments	Modelled Time Period (min)
120		60	1	60

Signals Options

Start Displacement (s)	End Displacement (s)
2	3

Advanced

Phase Minimum Broken Penalty (£)	Phase Maximum Broken Penalty (£)	Intergreen Broken Penalty (£)	Starting Red-with-Amber (s)
10000.00	10000.00	10000.00	2

Traffic Options

Traffic Model	Vehicle Flow Scaling Factor (%)	Pedestrian Flow Scaling Factor (%)	Cruise Times Or Speeds
Platoon Dispersion (PDM)	100	100	Cruise Speeds

Advanced

Resolution	DOS Threshold (%)	Cruise Scaling Factor (%)	Use Link Stop Weightings	Use Link Delay Weightings	Exclude Pedestrian Links	Random Delay Mode	Type of Vehicle-in-Service	Type Of Random Parameter	PCU Length (m)	Calculate results for Path Segments
1	90	100	✓	✓		Complex	Uniform (TRANSYT)	Uniform (TRANSYT)	5.75	

Normal Parameters

Dispersion Type	Dispersion Coefficient	Travel Time Coefficient
Default	35	80

Normal Traffic Types

Name	PCU Factor
Normal	1.00

Bus Parameters

Name	PCU Factor	Dispersion Coefficient1	Dispersion Coefficient2	Acceleration (ms ⁻²)	Travel Time Coefficient1	Travel Time Coefficient2
Bus	1.00	70	15	0.47	30	85

Tram Parameters

Name	PCU Factor	Dispersion Coefficient1	Dispersion Coefficient2	Acceleration (ms ⁻²)	Travel Time Coefficient1	Travel Time Coefficient2
Tram	1.00	0	0	0.47	100	100

Pedestrian Parameters

Dispersion Type	Dispersion Coefficient	Travel Time Coefficient
Default	35	80

Optimisation Options

Enable Optimisation	Auto Redistribute	Optimisation Level	Enable Out Profile Accuracy
✓	✓	Offsets And Green Splits	✓

Advanced

Optimisation Type	Hill Climb Increments	OUTProfile Accuracy	Use Enhanced Optimisation	Auto Optimisation Order	Optimisation Order
Hill Climb (Fast)	15,40,-1,15,40,1,-1,1	50,50,5,5,0,5,0,5,0,05,0,05		✓	1,2

Economics

Vehicle Monetary Value Of Delay (£ per PCU-hr)	Vehicle Monetary Value Of Stops (£ per 100 stops)	Pedestrian Monetary Value Of Delay (£ per Ped-hr)
14.20	2.60	14.20

Traffic Nodes

Traffic Nodes

ID	Name	Description
1	(untitled)	
2	(untitled)	

Arms and Traffic Streams

Arms

Arm	Name	Description	Traffic Node

A	Wakefield Rd NB		2
B	Smithies Ln		2
C	Wakefield Rd SB		1
D	Carlton Rd		1
Ax	(untitled)		
Bx	(untitled)		
Cx	(untitled)		
Dx	(untitled)		
E1	A61 NB Internal Feeder		1
E2	A61 NB Internal		1
F1	A61 SB Internal Feeder		2
F2	A61 SB Internal		2

Traffic Streams

Arm	Traffic Stream	Name	Description	Auto Length	Length (m)	Has Restricted Flow	Saturation Flow Source	Saturation Flow (PCU/hr)	Cell Saturation Flow (PCU/hr)	Is Signal Controlled	Is Give Way	Traffic Type	Allow Nearside Turn On Red
A	1	Wakefield Rd NB			100.00	✓	SumOfLanes	1940		✓		Normal	
B	1	Smithies Ln			100.00	✓	SumOfLanes	1752		✓		Normal	
C	1	Wakefield Rd SB			100.00	✓	SumOfLanes	1939		✓		Normal	
D	1	Carlton Rd			100.00	✓	SumOfLanes	1752		✓		Normal	
Ax	1	(untitled)			100.00							Normal	
Bx	1	(untitled)			100.00							Normal	
Cx	1	(untitled)			100.00							Normal	
Dx	1	(untitled)			100.00							Normal	
E1	1	A61 NB Internal Feeder			54.00	✓	SumOfLanes	2045	2045			Normal	
E2	1	A61 NB Internal NS			60.00	✓	SumOfLanes	1935	1935	✓		Normal	
E2	2	A61 NB Internal OS			60.00	✓	SumOfLanes	1735	1735	✓	✓	Normal	
F1	1	A61 SB Internal Feeder			60.00	✓	SumOfLanes	1935	1935			Normal	
F2	1	A61 SB Internal NS			54.00	✓	SumOfLanes	1935	1935	✓		Normal	
F2	2	A61 SB Internal OS			54.00	✓	SumOfLanes	1743	1743	✓	✓	Normal	

Lanes

Arm	Traffic Stream	Lane	Name	Description	Use RR67	Surface Condition	Site Quality Factor	Gradient (%)	Width (m)	Use Connector Turning Radius	Proportion That Turn (%)	Turning Radius (m)	Nearside Lane	Saturation Flow (PCU/hr)
A	1	1	(untitled)		✓	N/A	N/A	0	3.40		5	10.00	✓	1940
B	1	1	(untitled)		✓	N/A	N/A	0	4.00		100	10.00	✓	1752
C	1	1	(untitled)		✓	N/A	N/A	0	3.30		2	10.00	✓	1939
D	1	1	(untitled)		✓	N/A	N/A	0	4.00		100	10.00	✓	1752
Ax	1	1	(untitled)							✓				
Bx	1	1	(untitled)							✓				
Cx	1	1	(untitled)							✓				
Dx	1	1	(untitled)							✓				
E1	1	1	(untitled)		✓	N/A	N/A	0	4.30		0	100.00	✓	2045
E2	1	1	(untitled)		✓	N/A	N/A	0	3.20		0	100.00	✓	1935
E2	2	1	(untitled)		✓	N/A	N/A	0	2.40		100	10.00		1735
F1	1	1	(untitled)		✓	N/A	N/A	0	3.20		0	100.00	✓	1935
F2	1	1	(untitled)		✓	N/A	N/A	0	3.20		0	100.00	✓	1935
F2	2	1	(untitled)		✓	N/A	N/A	0	2.50		100	10.00		1743

Modelling

Arm	Traffic Stream	Traffic Model	Stop Weighting Multiplier (%)	Delay Weighting Multiplier (%)	Assignment Cost Weighting (%)	Exclude From Results Calculation	Max Queue Storage (PCU)	Has Queue Limit	Queue Limit (PCU)	Excess Queue Penalty (£)	Has Degree Of Saturation Limit
A	1	NetworkDefault	100	100	100		0.00				
B	1	NetworkDefault	100	100	100		0.00				
C	1	NetworkDefault	100	100	100		0.00				
D	1	NetworkDefault	100	100	100		0.00				
Ax	1	NetworkDefault	100	100	100		0.00				
Bx	1	NetworkDefault	100	100	100		0.00				
Cx	1	NetworkDefault	100	100	100		0.00				
Dx	1	NetworkDefault	100	100	100		0.00				
E1	1	CTM	100	100	100		9.00				
E2	1	CTM	100	100	100		10.00	✓	10.00	0.00	
E2	2	CTM	100	100	100		10.00	✓	10.00	0.00	
F1	1	CTM	100	100	100		10.00				
F2	1	CTM	100	100	100		9.00	✓	9.00	0.00	
F2	2	CTM	100	100	100		9.00	✓	9.00	0.00	

Modelling - Advanced

Arm	Traffic Stream	Cruise Sensitivity Multiplier (%)	Initial Queue (PCU)	Type of Vehicle-in-Service	Vehicle-in-Service	Type Of Random Parameter	Random Parameter	Auto Cycle Time	Cycle Time
A	1	100	0.00	NetworkDefault	Not-Included	NetworkDefault	0.50	✓	120
B	1	100	0.00	NetworkDefault	Not-Included	NetworkDefault	0.50	✓	120
C	1	100	0.00	NetworkDefault	Not-Included	NetworkDefault	0.50	✓	120
D	1	100	0.00	NetworkDefault	Not-Included	NetworkDefault	0.50	✓	120
Ax	1	100	0.00	NetworkDefault	Not-Included	NetworkDefault	0.50	✓	120
Bx	1	100	0.00	NetworkDefault	Not-Included	NetworkDefault	0.50	✓	120
Cx	1	100	0.00	NetworkDefault	Not-Included	NetworkDefault	0.50	✓	120
Dx	1	100	0.00	NetworkDefault	Not-Included	NetworkDefault	0.50	✓	120
E1	1	100	0.00	NetworkDefault	Not-Included	NetworkDefault	0.50	✓	120
E2	1	100	0.00	NetworkDefault	Not-Included	NetworkDefault	0.50	✓	120
E2	2	100	0.00	NetworkDefault	Not-Included	NetworkDefault	0.50	✓	120
F1	1	100	0.00	NetworkDefault	Not-Included	NetworkDefault	0.50	✓	120
F2	1	100	0.00	NetworkDefault	Not-Included	NetworkDefault	0.50	✓	120
F2	2	100	0.00	NetworkDefault	Not-Included	NetworkDefault	0.50	✓	120

Normal - Modelling

Arm	Traffic Stream	Stop Weighting (%)	Delay Weighting (%)
A	1	100	100
B	1	100	100
C	1	100	100
D	1	100	100
Ax	1	100	100
Bx	1	100	100
Cx	1	100	100
Dx	1	100	100
E1	1	100	100
E2	1	100	100
E2	2	100	100
F1	1	100	100
F2	1	100	100
F2	2	100	100

Flows

Arm	Traffic Stream	Total Flow (PCU/hr)	Normal Flow (PCU/hr)
A	1	615	615
B	1	247	247
C	1	681	681
D	1	476	476
Ax	1	770	770
Bx	1	441	441
Cx	1	474	474
Dx	1	334	334
E1	1	783	783
E2	1	460	460
E2	2	323	323
F1	1	1132	1132
F2	1	733	733
F2	2	399	399

Signals

Arm	Traffic Stream	Controller Stream	Phase	Phase2 Enabled	Phase2
A	1	2	J		
B	1	2	K		
C	1	1	A		
D	1	1	B	✓	P
E2	1	1	C		
E2	2	1	C	✓	D
F2	1	2	H		
F2	2	2	H	✓	L

Entry Sources

Arm	Traffic Stream	Normal Cruise Time (seconds)	Normal Cruise Speed (kph)
A	1	12.00	30.00
B	1	12.00	30.00
C	1	12.00	30.00
D	1	12.00	30.00

Sources

Arm	Traffic Stream	Source	Source Type	Source Traffic Stream	Destination Traffic Stream	Normal Cruise Time (seconds)	Normal Cruise Speed (kph)	Auto Turning Radius	Traffic Turn Style	Turning Radius (m)
Ax	1	1	TrafficStream	F2/1	Ax/1	12.00	30.00	✓	Straight	Straight Movement
Bx	1	1	TrafficStream	A/1	Bx/1	12.00	30.00	✓	Nearside	25.04
Cx	1	1	TrafficStream	E2/1	Cx/1	12.00	30.00	✓	Straight	Straight Movement
Dx	1	1	TrafficStream	C/1	Dx/1	12.00	30.00	✓	Nearside	50.04
E1	1	1	TrafficStream	B/1	E1/1	6.48	30.00	✓	Nearside	25.04
E2	1	1	TrafficStream	E1/1	E2/1	7.20	30.00	✓	Straight	Straight Movement
E2	2	1	TrafficStream	E1/1	E2/2	7.20	30.00	✓	Straight	Straight Movement
F1	1	1	TrafficStream	D/1	F1/1	7.20	30.00	✓	Nearside	25.04
F2	1	1	TrafficStream	F1/1	F2/1	6.48	30.00	✓	Straight	Straight Movement
F2	2	1	TrafficStream	F1/1	F2/2	6.48	30.00	✓	Straight	Straight Movement
Ax	1	2	TrafficStream	B/1	Ax/1	12.00	30.00	✓	Offside	62.46
Bx	1	2	TrafficStream	F2/2	Bx/1	12.00	30.00	✓	Offside	67.37
Cx	1	2	TrafficStream	D/1	Cx/1	12.00	30.00	✓	Offside	74.96
Dx	1	2	TrafficStream	E2/2	Dx/1	12.00	30.00	✓	Offside	49.96
E1	1	2	TrafficStream	A/1	E1/1	6.48	30.00	✓	Straight	Straight Movement
F1	1	2	TrafficStream	C/1	F1/1	7.20	30.00	✓	Straight	Straight Movement

Give Way Data

Arm	Traffic Stream	Opposed Traffic	Use Step-wise Opposed Turn Model	Number Of Storage Spaces	Use Connector Turning Radius	Radius Of Turn (m)	Visibility Restricted
E2	2	Movement	✓	2		10.00	
F2	2	Movement	✓	2		10.00	

Give Way Data - Movements

Arm	Traffic Stream	Movement	Destination Traffic Stream	Max Flow (Unopposed) (PCU/hr)	Percentage Opposed (%)
E2	2	1	Dx/1	1735	100
F2	2	1	Bx/1	1743	100

Give Way Data - Movements - Conflicts

Arm	Traffic Stream	Movement	Destination Traffic Stream	Description	Controlling Type	Controlling Traffic Stream	Percentage Opposing (%)	Upstream Signals Visible	Conflict Shift	Conflict Duration
E2	2	1	Dx/1		TrafficStream	C/1	100	✓	0	0
F2	2	1	Bx/1		TrafficStream	A/1	100	✓	0	0

Local OD Matrix - Local Matrix: 1

Normal Input Flows (PCU/hr)

		To			
		1	2	3	4
From	1	0	11	484	186
	2	14	0	249	213
	3	404	169	0	42
	4	56	154	37	0

Bus Input Flows not shown as they are blank.

Tram Input Flows not shown as they are blank.

Pedestrian Input Flows not shown as they are blank.

Locations

OD Matrix	Location	Name	Entries	Exits
1	1	(untitled)	C/1	Cx/1
1	2	(untitled)	D/1	Dx/1
1	3	(untitled)	A/1	Ax/1
1	4	(untitled)	B/1	Bx/1

Normal Paths and Flows

OD Matrix	Path	Description	From Location	To Location	Path Items	Allocation Type	Normal Calculated Flow (PCU/hr)
1	1		1	2	C/1,Dx/1	Normal	11
1	2		1	3	C/1,F1/1,F2/1,Ax/1	Normal	484
1	3		1	4	C/1,F1/1,F2/2,Bx/1	Normal	186
1	4		2	1	D/1,Cx/1	Normal	14
1	5		2	3	D/1,F1/1,F2/1,Ax/1	Normal	249
1	6		2	4	D/1,F1/1,F2/2,Bx/1	Normal	213
1	7		3	4	A/1,Bx/1	Normal	42
1	9		3	1	A/1,E1/1,E2/1,Cx/1	Normal	404
1	10		3	2	A/1,E1/1,E2/2,Dx/1	Normal	169
1	11		4	3	B/1,Ax/1	Normal	37
1	12		4	1	B/1,E1/1,E2/1,Cx/1	Normal	56
1	13		4	2	B/1,E1/1,E2/2,Dx/1	Normal	154

Signal Timings

Network Default: 120s cycle time; 120 steps

Controller Stream 1

Controller Stream	Name	Description	Use Sequence	Cycle Time Source	Cycle Time (s)
1	(untitled)		1	NetworkDefault	120

Controller Stream 1 - Properties

Controller Stream	Manufacturer Name	Type	Model Number	(Telephone) Line Number	Site Number	Grid Reference	Gaining Delay Type
1	Unspecified						Absolute

Controller Stream 1 - Optimisation

Controller Stream	Allow Offset Optimisation	Allow Green Split Optimisation	Optimisation Level	Auto Redistribute	Enable Stage Constraint
1	✓	✓	Offsets And Green Splits	✓	

Phases

Controller Stream	Phase	Name	Minimum Green (s)	Maximum Green (s)	Relative Start Displacement (s)	Relative End Displacement (s)	Type
1	A	(untitled)	7	300	0	0	Not Specified
1	B	(untitled)	7	300	0	0	Not Specified
1	C	(untitled)	7	300	0	0	Not Specified
1	D	(untitled)	7	300	0	0	Not Specified
1	P	(untitled)	7	300	0	0	Not Specified

Library Stages

Controller Stream	Library Stage	Phases In Stage	User Stage Minimum (s)
1	1	A,C	61
1	2	C,D,P	14
1	3	B	14

Stage Sequences

Controller Stream	Sequence	Name	Multiple Cycling	Stage IDs	Stage Ends
1	1	(untitled)	Single	1,2,3	76,106,5

Resultant Stages

Controller Stream	Stage	Is Base Stage	Library Stage ID	Phases In This Stage	Stage Start (s)	Stage End (s)	Stage Duration (s)	User Stage Minimum (s)	Stage Minimum (s)
1	1	✓	1	A,C	15	76	61	61	61
1	2	✓	2	C,D,P	83	106	23	14	14
1	3	✓	3	B	111	5	14	14	14

Resultant Phase Green Periods

Controller Stream	Phase	Green Period	Is Base Green Period	Start Time (s)	End Time (s)	Duration (s)
1	A	1	✓	15	76	61
1	B	1	✓	111	5	14
1	C	1	✓	15	106	91
1	D	1	✓	83	106	23
1	P	1	✓	81	106	25

Intergreen Matrix for Controller Stream 1

		To				
		A	B	C	D	P
A		0		7	5	

From	B	10	10	5	
	C		5		
	D	5	5		
	P	3			

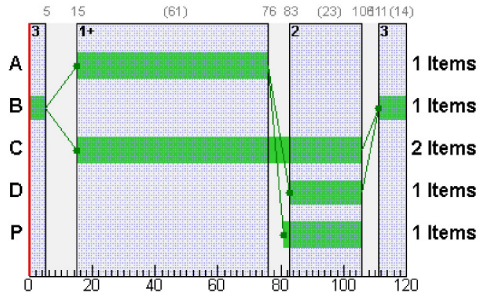
Interstage Matrix for Controller Stream 1

From	To		
	1	2	3
	1	0	7
	2	5	0
3	10	10	0

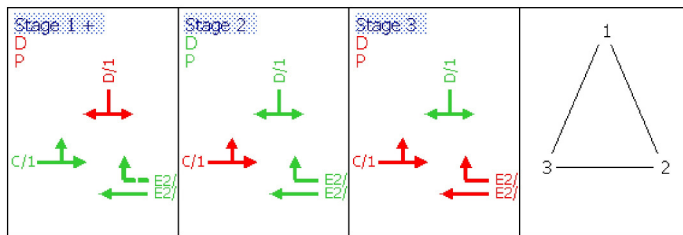
Banned Stage transitions for Controller Stream 1

From	To		
	1	2	3
	1		
	2		
3			

Phase Timings Diagram for Controller Stream 1



Stage Sequence Diagram for Controller Stream 1



Controller Stream 2

Controller Stream	Name	Description	Use Sequence	Cycle Time Source	Cycle Time (s)
2	(untitled)		1	NetworkDefault	120

Controller Stream 2 - Properties

Controller Stream	Manufacturer Name	Type	Model Number	(Telephone) Line Number	Site Number	Grid Reference	Gaining Delay Type
2	Unspecified						Absolute

Controller Stream 2 - Optimisation

Controller Stream	Allow Offset Optimisation	Allow Green Split Optimisation	Optimisation Level	Auto Redistribute	Enable Stage Constraint
2	✓	✓	Offsets And Green Splits	✓	

Phases

Controller Stream	Phase	Name	Minimum Green (s)	Maximum Green (s)	Relative Start Displacement (s)	Relative End Displacement (s)	Type
2	H	(untitled)	7	300	0	0	Not Specified
2	J	(untitled)	7	300	0	0	Not Specified
2	K	(untitled)	7	300	0	0	Not Specified
2	L	(untitled)	7	300	0	0	Not Specified

Library Stages

Controller Stream	Library Stage	Phases In Stage	User Stage Minimum (s)
2	1	H,J	61
2	2	H,L	13
2	3	K	13

Stage Sequences

Controller Stream	Sequence	Name	Multiple Cycling	Stage IDs	Stage Ends
2	1	(untitled)	Single	1,2,3	52,72,98

Resultant Stages

Controller Stream	Stage	Is Base Stage	Library Stage ID	Phases In This Stage	Stage Start (s)	Stage End (s)	Stage Duration (s)	User Stage Minimum (s)	Stage Minimum (s)
2	1	✓	1	H,J	108	52	64	61	61
2	2	✓	2	H,L	59	72	13	13	13
2	3	✓	3	K	77	98	21	13	13

Resultant Phase Green Periods

Controller Stream	Phase	Green Period	Is Base Green Period	Start Time (s)	End Time (s)	Duration (s)
2	H	1	✓	108	72	84

2	J	1	✓	108	52	64
2	K	1	✓	77	98	21
2	L	1	✓	59	72	13

Intergreen Matrix for Controller Stream 2

		To			
		H	J	K	L
From	H			5	7
	J			5	7
	K	10	10		7
	L	7	5		

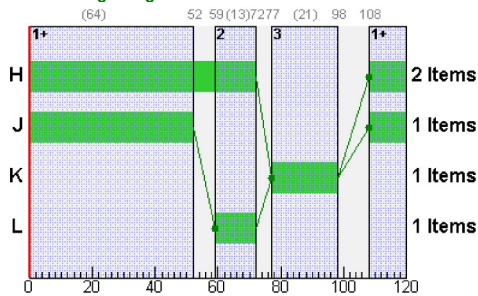
Interstage Matrix for Controller Stream 2

		To		
		1	2	3
From	1	0	7	5
	2	7	0	5
	3	10	10	0

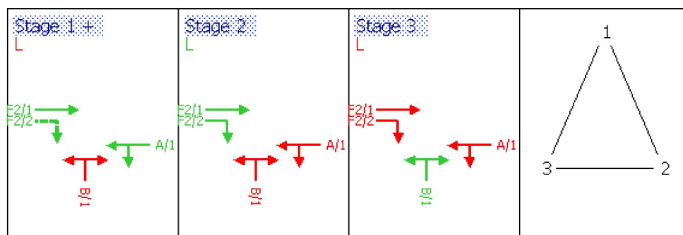
Banned Stage transitions for Controller Stream 2

		To		
		1	2	3
From	1			
	2			
	3			

Phase Timings Diagram for Controller Stream 2



Stage Sequence Diagram for Controller Stream 2



TRANSYT 12 Tables

Resultant Stages

ID	Stage	Is Base Stage	Library Stage ID	Phases In This Stage	TRANSYT Stage Start (s)	TRANSYT Preceding Interstage (s)	TRANSYT Stage Minimum (s)
1	1	✓	1	A,C	5	10	71
1	2	✓	2	C,D,P	76	7	21
1	3	✓	3	B	106	5	19
2	1	✓	1	H,J	98	10	71
2	2	✓	2	H,L	52	7	20
2	3	✓	3	K	72	5	18

Resultant Phase Green Periods

ID	ID	Green Period	TRANSYT Starting Stage (s)	TRANSYT Ending Stage (s)	TRANSYT Start Lag (s)	TRANSYT End Lag (s)
1	A	1	1	2	10	0
1	B	1	3	1	5	0
1	C	1	1	3	10	0
1	D	1	2	3	7	0
1	P	1	2	3	5	0
2	H	1	1	3	10	0
2	J	1	1	2	10	0
2	K	1	3	1	5	0
2	L	1	2	3	7	0

Stage Timings (TRANSYT 12 timings)

Network Default: 120s cycle time; 120 steps

Controller Stream	Number of Stages	Stage 1	Stage 2	Stage 3
1	3	5	76	106
2	3	98	52	72

Traffic Stream Green Times

Arm	Traffic Stream	Traffic Node	Controller Stream	Phase	Green Period 1		
					Start	End	Duration
A	1	2	2	J	108	52	64
B	1	2	2	K	77	98	21
C	1	1	1	A	15	76	61
D	1	1	1	B	111	5	14
E2	1	1	1	C	15	106	91
E2	2	1	1	C	15	106	91
F2	1	2	2	H	108	72	84
F2	2	2	2	H	108	72	84

Traffic Stream Results

Traffic Stream Results: Vehicle Summary

Time Segment	Arm	Traffic Stream	Degree Of Saturation (%)	Practical Reserve Capacity (%)	Calculated Flow Entering (PCU/hr)	Calculated Sat Flow (PCU/hr)	Actual Green (s per cycle)	Mean Delay Per Veh (s)	Mean Max Queue (PCU)	Utilised Storage (%)	Weighted Cost Of Delay (£ per hr)	Weighted Cost Of Stops (£ per hr)	Performance Index (£ per hr)
07:45-08:45	A	1	59	54	615	1940	64	20.86	14.08	80.95	50.61	5.18	55.79
07:45-08:45	B	1	77	17	247	1752	21	64.30	9.04	51.96	62.64	3.33	65.97
07:45-08:45	C	1	68	32	681	1939	61	25.39	17.55	100.92	68.19	6.45	74.64
07:45-08:45	D	1	80	13	476	1752	39	43.77	14.97	86.11	82.19	5.83	88.01
07:45-08:45	Ax	1	0	Unrestricted	770	Unrestricted	120	0.00	0.00	0.00	0.00	0.00	0.00
07:45-08:45	Bx	1	0	Unrestricted	441	Unrestricted	120	0.00	0.00	0.00	0.00	0.00	0.00
07:45-08:45	Cx	1	0	Unrestricted	474	Unrestricted	120	0.00	0.00	0.00	0.00	0.00	0.00
07:45-08:45	Dx	1	0	Unrestricted	334	Unrestricted	120	0.00	0.00	0.00	0.00	0.00	0.00
07:45-08:45	E1	1	38	135	783	2045	120	0.55	0.12	1.32	1.69	0.00	1.69
07:45-08:45	E2	1	31	190	460	1935	91	6.58	9.32	93.21	11.94	3.47	15.41
07:45-08:45	E2	2	55	65	323	771	91	25.53	5.56	55.64	32.52	2.09	34.61
07:45-08:45	F1	1	61	49	1132	1935	120	1.59	1.90	19.05	7.09	0.58	7.67
07:45-08:45	F2	1	53	68	733	1935	84	7.19	8.57	95.20	20.78	3.22	24.00
07:45-08:45	F2	2	76	18	399	739	84	43.05	9.16	101.83	67.76	3.45	71.21

Traffic Stream Results: Flows And Signals

Time Segment	Arm	Traffic Stream	Calculated Flow Entering (PCU/hr)	Calculated Flow Out (PCU/hr)	Flow Discrepancy (PCU/hr)	Adjusted Flow Warning	Calculated Sat Flow (PCU/hr)	Calculated Capacity (PCU/hr)	Degree Of Saturation (%)	DOS Threshold Exceeded	Practical Reserve Capacity (%)	Mean Modulus Of Error	Flow On Red Per Cycle (PCU)	Actual Green (s per cycle)	Effective Green (s per cycle)
07:45-08:45	A	1	615	615	0		1940	1051	59		54	0.00	0.0	64	65
07:45-08:45	B	1	247	247	0		1752	321	77		17	0.00	0.0	21	22
07:45-08:45	C	1	681	681	0		1939	1002	68		32	0.00	0.0	61	62
07:45-08:45	D	1	476	476	0		1752	599	80		13	0.00	0.0	39	41
07:45-08:45	Ax	1	770	770	0		Unrestricted	Unrestricted	0		Unrestricted	0.70	0.0	120	120
07:45-08:45	Bx	1	441	441	0		Unrestricted	Unrestricted	0		Unrestricted	0.88	0.0	120	120
07:45-08:45	Cx	1	474	474	0		Unrestricted	Unrestricted	0		Unrestricted	0.86	0.0	120	120
07:45-08:45	Dx	1	334	334	0		Unrestricted	Unrestricted	0		Unrestricted	0.93	0.0	120	120
07:45-08:45	E1	1	783	783	0		2045	2045	38		135	0.80	0.0	120	120
07:45-08:45	E2	1	460	460	0		1935	1484	31		190	0.75	0.0	91	92
07:45-08:45	E2	2	323	323	0		771	591	55		65	0.91	0.0	91	92
07:45-08:45	F1	1	1132	1132	0		1935	1868	61		49	0.60	0.0	120	120
07:45-08:45	F2	1	733	733	0		1935	1371	53		68	0.57	0.0	84	85
07:45-08:45	F2	2	399	399	0		739	523	76		18	0.61	0.0	84	85

Traffic Stream Results: Stops And Delays

Time Segment	Arm	Traffic Stream	Mean Cruise Time Per Veh (s)	Mean Delay Per Veh (s)	Uniform Delay (PCU-hr/hr)	Random Plus Oversat Delay (PCU-hr/hr)	Unweighted Cost Of Delay (£ per hr)	Weighted Cost Of Delay (£ per hr)	Mean Stops Per Veh (%)	Uniform Stops (Stops per hr)	Random Stops (Stops per hr)	Unweighted Cost Of Stops (£ per hr)	Weighted Cost Of Stops (£ per hr)
07:45-08:45	A	1	12.00	20.86	3.15	0.41	50.61	50.61	67.12	400.53	12.27	5.18	5.18
07:45-08:45	B	1	12.00	64.30	3.20	1.22	62.64	62.64	107.62	230.68	35.14	3.33	3.33
07:45-08:45	C	1	12.00	25.39	4.09	0.72	68.19	68.19	75.50	492.89	21.29	6.45	6.45
07:45-08:45	D	1	12.00	43.77	4.30	1.49	82.19	82.19	97.61	421.02	43.62	5.83	5.83
07:45-08:45	Ax	1	12.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
07:45-08:45	Bx	1	12.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
07:45-08:45	Cx	1	12.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
07:45-08:45	Dx	1	12.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
07:45-08:45	E1	1	6.48	0.55	0.00	0.12	1.69	1.69	0.00	0.00	0.00	0.00	0.00
07:45-08:45	E2	1	7.20	6.58	0.77	0.07	11.94	11.94	60.17	274.68	2.09	3.47	3.47
07:45-08:45	E2	2	7.20	25.53	1.96	0.33	32.52	32.52	51.65	157.09	9.74	2.09	2.09

08:45															
07:45-08:45	F1	1	7.20	1.59	0.03	0.46	7.09	7.09	4.09	32.37	13.89	0.58	0.58		
07:45-08:45	F2	1	6.48	7.19	1.16	0.31	20.78	20.78	35.05	247.76	9.17	3.22	3.22		
07:45-08:45	F2	2	6.48	43.05	3.59	1.19	67.76	67.76	68.93	240.23	34.80	3.45	3.45		

Traffic Stream Results: Queues And Blocking

Time Segment	Arm	Traffic Stream	Initial Queue (PCU)	Mean Max Queue (PCU)	Max Queue Storage (PCU)	Utilised Storage (%)	Average Link Excess Queue (PCU)	Average Limit Excess Queue (PCU)	Excess Queue Penalty (£ per hr)	Max End Of Green Queue (PCU)	Max End Of Red Queue (PCU)	Wasted Time Starvation (s per cycle)	Wasted Time Blocking Back (s per cycle)	Wasted Time Total (s per cycle)	Estimated Blocking
07:45-08:45	A	1	0.00	14.08	17.39	80.95	0.00	0.00	0.00	0.41	9.81	0.00	0.00	0.00	
07:45-08:45	B	1	0.00	9.04	17.39	51.96	0.00	0.00	0.00	1.22	7.94	0.00	0.00	0.00	
07:45-08:45	C	1	0.00	17.55	17.39	100.92	0.00	0.00	0.00	0.72	11.69	0.00	0.00	0.00	
07:45-08:45	D	1	0.00	14.97	17.39	86.11	0.00	0.00	0.00	2.19	11.40	0.00	0.00	0.00	
07:45-08:45	Ax	1	0.00	0.00	17.39	0.00	0.00	0.00	0.00			11.00	0.00	11.00	
07:45-08:45	Bx	1	0.00	0.00	17.39	0.00	0.00	0.00	0.00			31.00	0.00	31.00	
07:45-08:45	Cx	1	0.00	0.00	17.39	0.00	0.00	0.00	0.00			36.00	0.00	36.00	
07:45-08:45	Dx	1	0.00	0.00	17.39	0.00	0.00	0.00	0.00			51.00	0.00	51.00	
07:45-08:45	E1	1	0.00	0.12	9.00	1.32	0.00	0.00	0.00			33.00	0.00	33.00	
07:45-08:45	E2	1	0.00	9.32	10.00	93.21	0.00	0.00	0.00	0.07	6.56	24.00	0.00	24.00	
07:45-08:45	E2	2	0.00	5.56	10.00	55.64	0.00	0.00	0.00	0.33	2.76	11.00	0.00	11.00	
07:45-08:45	F1	1	0.00	1.90	10.00	19.05	0.00	0.00	0.00			13.00	4.13	17.13	
07:45-08:45	F2	1	0.00	8.57	9.00	95.20	0.00	0.00	0.00	0.31	7.35	9.00	0.00	9.00	
07:45-08:45	F2	2	0.00	9.16	9.00	101.83	0.01	0.01	0.00	1.19	5.74	0.00	0.00	0.00	

Traffic Stream Results: Journey Times

Time Segment	Arm	Traffic Stream	Distance Travelled (PCU-km/hr)	Time Spent (PCU-hr/hr)	Mean Journey Speed (kph)	JourneyTime (s)
07:45-08:45	A	1	61.50	5.61	10.95	32.86
07:45-08:45	B	1	24.70	5.23	4.72	76.30
07:45-08:45	C	1	68.10	7.07	9.63	37.39
07:45-08:45	D	1	47.60	7.37	6.45	55.77
07:45-08:45	Ax	1	77.00	2.57	30.00	12.00
07:45-08:45	Bx	1	44.10	1.47	30.00	12.00
07:45-08:45	Cx	1	47.40	1.58	30.00	12.00
07:45-08:45	Dx	1	33.40	1.11	30.00	12.00
07:45-08:45	E1	1	42.28	1.53	27.67	7.03
07:45-08:45	E2	1	27.60	1.76	15.67	13.78
07:45-08:45	E2	2	19.38	2.94	6.60	32.73
07:45-08:45	F1	1	67.92	2.76	24.58	8.79
07:45-08:45	F2	1	39.58	2.78	14.23	13.67
07:45-08:45	F2	2	21.55	5.49	3.92	49.53

Traffic Stream Results: Advanced

Time Segment	Arm	Traffic Stream	Degree Of Saturation Penalty (£ per hr)	Phase Min Max Penalty (£ per hr)	Intergreen Broken Penalty (£ per hr)	Stage Constraint Broken Penalty (£ per hr)	Ped Gap Accepting Penalty (£ per hr)	Warmed Up	Warmed Up Error	Mean Max Queue EoTS (PCU)	Max End Of Green Queue EoTS (PCU)	Max End Of Red Queue EoTS (PCU)	PCU Factor	Cost Of Penalties (£ per hr)	Unweighted Performance Index (£ per hr)	Performance Index (£ per hr)
07:45-08:45	A	1	0.00	0.00	0.00	0.00	0.00	✓	0.00	14.08	0.41	9.81	1.00	0.00	55.79	55.79
07:45-08:45	B	1	0.00	0.00	0.00	0.00	0.00	✓	0.00	9.07	1.25	7.97	1.00	0.00	65.97	65.97
07:45-08:45	C	1	0.00	0.00	0.00	0.00	0.00	✓	0.00	17.55	0.72	11.69	1.00	0.00	74.64	74.64
07:45-08:45	D	1	0.00	0.00	0.00	0.00	0.00	✓	0.00	15.00	2.22	11.43	1.00	0.00	88.01	88.01
07:45-08:45	Ax	1	0.00	0.00	0.00	0.00	0.00	✓	0.00	0.00			1.00	0.00	0.00	0.00
07:45-08:45	Bx	1	0.00	0.00	0.00	0.00	0.00	✓	0.00	0.00			1.00	0.00	0.00	0.00
07:45-08:45	Cx	1	0.00	0.00	0.00	0.00	0.00	✓	0.00	0.00			1.00	0.00	0.00	0.00
07:45-08:45	Dx	1	0.00	0.00	0.00	0.00	0.00	✓	0.00	0.00			1.00	0.00	0.00	0.00
07:45-08:45	E1	1	0.00	0.00	0.00	0.00	0.00	✓	0.00	0.12			1.00	0.00	1.69	1.69
07:45-08:45	E2	1	0.00	0.00	0.00	0.00	0.00	✓	0.00	9.32	0.07	6.56	1.00	0.00	15.41	15.41
07:45-08:45	E2	2	0.00	0.00	0.00	0.00	0.00	✓	0.00	5.56	0.33	2.76	1.00	0.00	34.61	34.61
07:45-08:45	F1	1	0.00	0.00	0.00	0.00	0.00	✓	0.00	1.91			1.00	0.00	7.67	7.67
07:45-08:45	F2	1	0.00	0.00	0.00	0.00	0.00	✓	0.00	8.57	0.31	7.35	1.00	0.00	24.00	24.00
07:45-08:45	F2	2	0.00	0.00	0.00	0.00	0.00	✓	0.00	9.18	1.20	5.76	1.00	0.00	71.21	71.21

Network Results

Run Summary

Analysis Set Used	Run Start Time	Run Finish Time	Modelling Start Time (HH:mm)	Network Cycle Time (s)	Total Network Delay (PCU-hr/hr)	Highest DOS (%)	Item with highest DOS	Number of oversaturated items	Percentage of oversaturated items (%)	Item with worst signalised PRC	Item with worst unsignalised PRC	Item with worst overall PRC	Network Within Capacity
A1 - Existing	26-Jul-17 1:36:37 PM	26-Jul-17 1:36:54 PM	07:45	120	28.55	79.52	D/1	0	0	D/1	F1/1	D/1	✓

Network Results: Vehicle Summary

Time Segment	Degree Of Saturation (%)	Practical Reserve Capacity (%)	Calculated Flow Entering (PCU/hr)	Actual Green (s per cycle)	Mean Delay Per Veh (s)	Weighted Cost Of Delay (£ per hr)	Weighted Cost Of Stops (£ per hr)	Performance Index (£ per hr)
07:45-08:45	80	13	7868	1255	13.06	405.40	33.59	439.00

Network Results: Pedestrian Summary

Time Segment	Degree Of Saturation (%)	Calculated Flow Entering (Ped/hr)	Actual Green (s per cycle)	Mean Delay Per Ped (s)	Weighted Cost Of Delay (£ per hr)	Performance Index (£ per hr)
07:45-08:45	0	0	0	0.00	0.00	0.00

Network Results: Flows And Signals

Time Segment	Calculated Flow Entering (PCU/hr)	Calculated Flow Out (PCU/hr)	Flow Discrepancy (PCU/hr)	Adjusted Flow Warning	Degree Of Saturation (%)	DOS Threshold Exceeded	Practical Reserve Capacity (%)	Actual Green (s per cycle)	Effective Green (s per cycle)
07:45-08:45	7868	7868	0		80		13	1255	1264

Network Results: Journey Times

Time Segment	Distance Travelled (PCU-km/hr)	Time Spent (PCU-hr/hr)	Mean Journey Speed (kph)
07:45-08:45	622.11	49.29	12.62

Point to Point Journey Time

Average Journey Time (s) for Local Matrix: 1

		To			
		1	2	3	4
From	1	0.0	49.4	70.1	93.8
	2	67.8	0.0	93.5	138.3
	3	66.4	102.4	0.0	44.9
	4	104.1	108.6	88.3	0.0

Path Journey Time

Path	From Location	To Location	Normal Calculated Flow (PCU/hr)	Normal Journey Time (s)	Calculated Total Flow (PCU/hr)	Avg Journey Time (s)
1	1	2	11	49.39	11	49.39
2	1	3	484	70.11	484	70.11
3	1	4	186	93.84	186	93.84
4	2	1	14	67.77	14	67.77
5	2	3	249	93.54	249	93.54
6	2	4	213	138.27	213	138.27
7	3	4	42	44.86	42	44.86
9	3	1	404	66.36	404	66.36
10	3	2	169	102.36	169	102.36
11	4	3	37	88.30	37	88.30
12	4	1	56	104.15	56	104.15
13	4	2	154	108.57	154	108.57

Final Prediction Table

Traffic Stream Results

Arm	Traffic Stream	Name	Traffic Node	SIGNALS			FLOWS		PERFORMANCE				PER PCU			QUEUES		WEIGHTS		PENALTIES
				Controller Stream	Phase	Phase2	Calculated Flow Entering (PCU/hr)	Calculated Sat Flow (PCU/hr)	Actual Green (s per cycle)	Wasted Time Total (s per cycle)	Degree Of Saturation (%)	Practical Reserve Capacity (%)	JourneyTime (s)	Mean Delay Per Veh (s)	Mean Stops Per Veh (%)	Mean Max Queue (PCU)	Max End Of Red Queue (PCU)	Delay Weighting Multiplier (%)	Stop Weighting Multiplier (%)	
A	1	Wakefield Rd NB	2	2	J		615	1940	64	0.00	59	54	32.86	20.86	67.12	14.08	9.81	100	100	0.00
B	1	Smithies Ln	2	2	K		247	1752	21	0.00	77	17	76.30	64.30	107.62	9.04	7.94	100	100	0.00
C	1	Wakefield Rd SB	1	1	A		681 <	1939	61	0.00	68	32	37.39	25.39	75.50	17.55 +	11.69	100	100	0.00
D	1	Carlton Rd	1	1	B	P	476	1752	39	0.00	80	13	55.77	43.77	97.61	14.97	11.40	100	100	0.00
Ax	1	(untitled)					770	Unrestricted	120	11.00	0	Unrestricted	12.00	0.00	0.00	0.00		100	100	0.00
Bx	1	(untitled)					441	Unrestricted	120	31.00	0	Unrestricted	12.00	0.00	0.00	0.00		100	100	0.00
Cx	1	(untitled)					474	Unrestricted	120	36.00	0	Unrestricted	12.00	0.00	0.00	0.00		100	100	0.00
Dx	1	(untitled)					334	Unrestricted	120	51.00	0	Unrestricted	12.00	0.00	0.00	0.00		100	100	0.00
E1	1	A61 NB Internal Feeder	1				783	2045	120	33.00	38	135	7.03	0.55	0.00	0.12		100	100	0.00
E2	1	A61 NB Internal NS	1	1	C		460	1935	91	24.00	31	190	13.78	6.58	60.17	9.32	6.56	100	100	0.00
E2	2	A61 NB Internal OS	1	1	C	D	323	771	91	11.00	55	65	32.73	25.53	51.65	5.56	2.76	100	100	0.00
F1	1	A61 SB Internal Feeder	2				1132	1935	120	17.13	61	49	8.79	1.59	4.09	1.90		100	100	0.00
F2	1	A61 SB Internal NS	2	2	H		733	1935	84	9.00	53	68	13.67	7.19	35.05	8.57	7.35	100	100	0.00
F2	2	A61 SB Internal OS	2	2	H	L	399 <	739	84	0.00	76	18	49.53	43.05	68.93	9.16 +	5.74	100	100	0.00

Network Results

	Distance Travelled (PCU-km/hr)	Time Spent (PCU-hr/hr)	Mean Journey Speed (kph)	Uniform Delay (PCU-hr/hr)	Random Plus Oversat Delay (PCU-hr/hr)	Weighted Cost Of Delay (£ per hr)	Weighted Cost Of Stops (£ per hr)	Excess Queue Penalty (£ per hr)	Performance Index (£ per hr)
Total	622.11	49.29	12.62	22.25	6.30	405.40	33.59	0.00	439.00
Bus	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tram	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pedestrians									
Other (Normal)	622.11	49.29	12.62	22.25	6.30	405.40	33.59	0.00	439.00

- B = at least one source for this link carries Bus
- T = at least one source for this link carries Tram

- *P* = this link is a pedestrian link
- *<* = adjusted flow warning (upstream links are over-saturated)
- *!* = DoS threshold exceeded
- *f* = average saturation flow for flared link
- *** = Traffic Stream - Normal, Bus or Tram Stop or Delay weighting has been set to a value other than 100%
- *^* = Traffic Stream - Normal, Bus or Tram Stop or Delay Path weighting has been set to a value other than 100%
- *+* = average link excess queue is greater than 0
- *P.I.* = **PERFORMANCE INDEX**

TRANSYT 15
Version: 15.1.1.3807 [] © Copyright TRL Limited, 2017
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Last run: 26-Jul-17 1:39:16 PM
Analysis Set used for last run: A1 - Existing

Filename: Smithies Lane-A61.t15
Path: O:\Wakefield Road, Athersley\ANALYSIS\CAPACITY\Signals\TRANSYT\Smithies Lane-A61
Report generation date: 26-Jul-17 1:39:29 PM

File summary

File Description

Title	Smithies Lane-A61
Location	Barnsley
Site Number	
UTCRegion	
Driving Side	Left
Date	19-Jul-17
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	OPTIMA\Steven.Phillips
Description	Staggered left right signals on A61 with Smithies Lane and Carlton Road. Peds demanded 7 times in AM and 4 in PM. The lost time for peds is 15s per cycle and applying this to the demand and dividing over the 30 cycles provides an additional 3 s per cycle which has been added to the intergreen between stage 3 and 1.

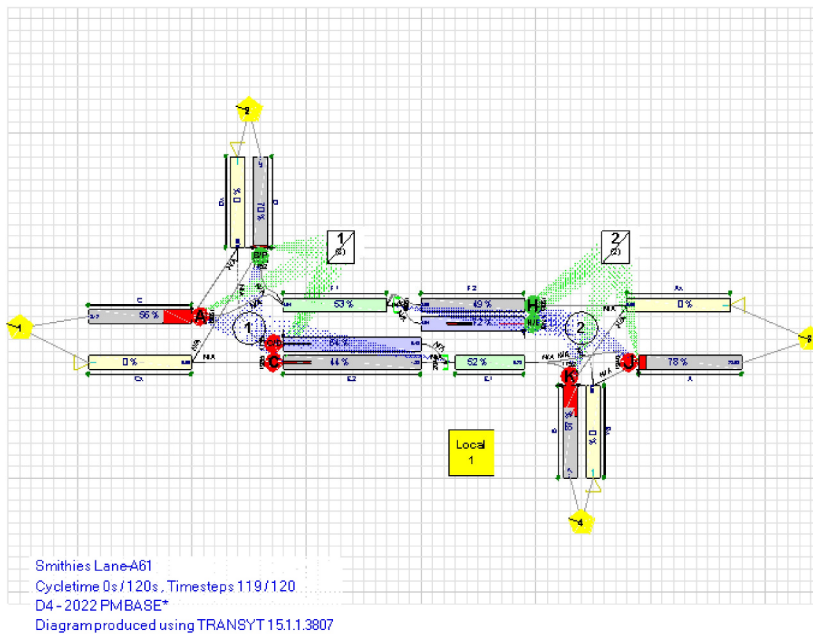
Units

Cost Units	Speed Units	Distance Units	Fuel Economy Units	Fuel Rate Units	Mass Units	Traffic Units Input	Traffic Units Results	Flow Units	Average Delay Units	Total Delay Units	Rate Of Delay Units
£	kph	m	mpg	l/h	kg	PCU	PCU	perHour	s	-Hour	perHour

Sorting

Show Names Instead of IDs (For Aimsun)	Sorting Direction	Sorting Type	Ignore Prefixes When Sorting	Link Grouping	Source Grouping
	Ascending	Numerical		Normal	Normal

Network Diagrams



A1 - Existing *: D4 - 2022 PM BASE*

Summary

Data Errors and Warnings

No errors or warnings

Run Summary

Analysis	Run Start	Run Finish	Modelling Start Time	Network Cycle Time	Total Network Delay (PCU-)	Highest	Item with highest	Number of oversaturated	Percentage of oversaturated	Item with worst	Item with worst unsignalised	Item with worst	Network Within

Set Used	Time	Time	(HH:mm)	(s)	hr/hr	DOS (%)	DOS	Items	Items (%)	signalised PRC	PRC	overall PRC	Capacity
A1 - Existing	26-Jul-17 1:39:00 PM	26-Jul-17 1:39:16 PM	17:00	120	27.55	87.41	B/1	0	0	B/1	F1/1	B/1	✓

Analysis Set Details

Name	Description	Demand Set	Include In Report	Locked
Existing		D4	✓	

Demand Set Details

Demand Set	Name	Description	Composite	Demand Sets	Start Time (HH:mm)	Locked
D4	2022 PM BASE				17:00	

Network Options

Network Timings

Network Cycle Time (s)	Restrict To SCOOT Cycle Times	Time Segment Length (min)	Number Of Time Segments	Modelled Time Period (min)
120		60	1	60

Signals Options

Start Displacement (s)	End Displacement (s)
2	3

Advanced

Phase Minimum Broken Penalty (£)	Phase Maximum Broken Penalty (£)	Intergreen Broken Penalty (£)	Starting Red-with-Amber (s)
10000.00	10000.00	10000.00	2

Traffic Options

Traffic Model	Vehicle Flow Scaling Factor (%)	Pedestrian Flow Scaling Factor (%)	Cruise Times Or Speeds
Platoon Dispersion (PDM)	100	100	Cruise Speeds

Advanced

Resolution	DOS Threshold (%)	Cruise Scaling Factor (%)	Use Link Stop Weightings	Use Link Delay Weightings	Exclude Pedestrian Links	Random Delay Mode	Type of Vehicle-in-Service	Type Of Random Parameter	PCU Length (m)	Calculate results for Path Segments
1	90	100	✓	✓		Complex	Uniform (TRANSYT)	Uniform (TRANSYT)	5.75	

Normal Parameters

Dispersion Type	Dispersion Coefficient	Travel Time Coefficient
Default	35	80

Normal Traffic Types

Name	PCU Factor
Normal	1.00

Bus Parameters

Name	PCU Factor	Dispersion Coefficient1	Dispersion Coefficient2	Acceleration (ms ⁻²)	Travel Time Coefficient1	Travel Time Coefficient2
Bus	1.00	70	15	0.47	30	85

Tram Parameters

Name	PCU Factor	Dispersion Coefficient1	Dispersion Coefficient2	Acceleration (ms ⁻²)	Travel Time Coefficient1	Travel Time Coefficient2
Tram	1.00	0	0	0.47	100	100

Pedestrian Parameters

Dispersion Type	Dispersion Coefficient	Travel Time Coefficient
Default	35	80

Optimisation Options

Enable Optimisation	Auto Redistribute	Optimisation Level	Enable Out Profile Accuracy
✓	✓	Offsets And Green Splits	✓

Advanced

Optimisation Type	Hill Climb Increments	OUTProfile Accuracy	Use Enhanced Optimisation	Auto Optimisation Order	Optimisation Order
Hill Climb (Fast)	15,40,-1,15,40,1,-1,1	50,50,5,5,0,5,0,5,0,0,5,0,0,5		✓	1,2

Economics

Vehicle Monetary Value Of Delay (£ per PCU-hr)	Vehicle Monetary Value Of Stops (£ per 100 stops)	Pedestrian Monetary Value Of Delay (£ per Ped-hr)
14.20	2.60	14.20

Traffic Nodes

Traffic Nodes

ID	Name	Description
1	(untitled)	
2	(untitled)	

Arms and Traffic Streams

Arms

Arm	Name	Description	Traffic Node

A	Wakefield Rd NB		2
B	Smithies Ln		2
C	Wakefield Rd SB		1
D	Carlton Rd		1
Ax	(untitled)		
Bx	(untitled)		
Cx	(untitled)		
Dx	(untitled)		
E1	A61 NB Internal Feeder		1
E2	A61 NB Internal		1
F1	A61 SB Internal Feeder		2
F2	A61 SB Internal		2

Traffic Streams

Arm	Traffic Stream	Name	Description	Auto Length	Length (m)	Has Restricted Flow	Saturation Flow Source	Saturation Flow (PCU/hr)	Cell Saturation Flow (PCU/hr)	Is Signal Controlled	Is Give Way	Traffic Type	Allow Nearside Turn On Red
A	1	Wakefield Rd NB			100.00	✓	SumOfLanes	1940		✓		Normal	
B	1	Smithies Ln			100.00	✓	SumOfLanes	1752		✓		Normal	
C	1	Wakefield Rd SB			100.00	✓	SumOfLanes	1939		✓		Normal	
D	1	Carlton Rd			100.00	✓	SumOfLanes	1752		✓		Normal	
Ax	1	(untitled)			100.00							Normal	
Bx	1	(untitled)			100.00							Normal	
Cx	1	(untitled)			100.00							Normal	
Dx	1	(untitled)			100.00							Normal	
E1	1	A61 NB Internal Feeder			54.00	✓	SumOfLanes	2045	2045			Normal	
E2	1	A61 NB Internal NS			60.00	✓	SumOfLanes	1935	1935	✓		Normal	
E2	2	A61 NB Internal OS			60.00	✓	SumOfLanes	1735	1735	✓	✓	Normal	
F1	1	A61 SB Internal Feeder			60.00	✓	SumOfLanes	1935	1935			Normal	
F2	1	A61 SB Internal NS			54.00	✓	SumOfLanes	1935	1935	✓		Normal	
F2	2	A61 SB Internal OS			54.00	✓	SumOfLanes	1743	1743	✓	✓	Normal	

Lanes

Arm	Traffic Stream	Lane	Name	Description	Use RR67	Surface Condition	Site Quality Factor	Gradient (%)	Width (m)	Use Connector Turning Radius	Proportion That Turn (%)	Turning Radius (m)	Nearside Lane	Saturation Flow (PCU/hr)
A	1	1	(untitled)		✓	N/A	N/A	0	3.40		5	10.00	✓	1940
B	1	1	(untitled)		✓	N/A	N/A	0	4.00		100	10.00	✓	1752
C	1	1	(untitled)		✓	N/A	N/A	0	3.30		2	10.00	✓	1939
D	1	1	(untitled)		✓	N/A	N/A	0	4.00		100	10.00	✓	1752
Ax	1	1	(untitled)							✓				
Bx	1	1	(untitled)							✓				
Cx	1	1	(untitled)							✓				
Dx	1	1	(untitled)							✓				
E1	1	1	(untitled)		✓	N/A	N/A	0	4.30		0	100.00	✓	2045
E2	1	1	(untitled)		✓	N/A	N/A	0	3.20		0	100.00	✓	1935
E2	2	1	(untitled)		✓	N/A	N/A	0	2.40		100	10.00		1735
F1	1	1	(untitled)		✓	N/A	N/A	0	3.20		0	100.00	✓	1935
F2	1	1	(untitled)		✓	N/A	N/A	0	3.20		0	100.00	✓	1935
F2	2	1	(untitled)		✓	N/A	N/A	0	2.50		100	10.00		1743

Modelling

Arm	Traffic Stream	Traffic Model	Stop Weighting Multiplier (%)	Delay Weighting Multiplier (%)	Assignment Cost Weighting (%)	Exclude From Results Calculation	Max Queue Storage (PCU)	Has Queue Limit	Queue Limit (PCU)	Excess Queue Penalty (£)	Has Degree Of Saturation Limit
A	1	NetworkDefault	100	100	100		0.00				
B	1	NetworkDefault	100	100	100		0.00				
C	1	NetworkDefault	100	100	100		0.00				
D	1	NetworkDefault	100	100	100		0.00				
Ax	1	NetworkDefault	100	100	100		0.00				
Bx	1	NetworkDefault	100	100	100		0.00				
Cx	1	NetworkDefault	100	100	100		0.00				
Dx	1	NetworkDefault	100	100	100		0.00				
E1	1	CTM	100	100	100		9.00				
E2	1	CTM	100	100	100		10.00	✓	10.00	0.00	
E2	2	CTM	100	100	100		10.00	✓	10.00	0.00	
F1	1	CTM	100	100	100		10.00				
F2	1	CTM	100	100	100		9.00	✓	9.00	0.00	
F2	2	CTM	100	100	100		9.00	✓	9.00	0.00	

Modelling - Advanced

Arm	Traffic Stream	Cruise Sensitivity Multiplier (%)	Initial Queue (PCU)	Type of Vehicle-in-Service	Vehicle-in-Service	Type Of Random Parameter	Random Parameter	Auto Cycle Time	Cycle Time
A	1	100	0.00	NetworkDefault	Not-Included	NetworkDefault	0.50	✓	120
B	1	100	0.00	NetworkDefault	Not-Included	NetworkDefault	0.50	✓	120
C	1	100	0.00	NetworkDefault	Not-Included	NetworkDefault	0.50	✓	120
D	1	100	0.00	NetworkDefault	Not-Included	NetworkDefault	0.50	✓	120
Ax	1	100	0.00	NetworkDefault	Not-Included	NetworkDefault	0.50	✓	120
Bx	1	100	0.00	NetworkDefault	Not-Included	NetworkDefault	0.50	✓	120
Cx	1	100	0.00	NetworkDefault	Not-Included	NetworkDefault	0.50	✓	120
Dx	1	100	0.00	NetworkDefault	Not-Included	NetworkDefault	0.50	✓	120
E1	1	100	0.00	NetworkDefault	Not-Included	NetworkDefault	0.50	✓	120
E2	1	100	0.00	NetworkDefault	Not-Included	NetworkDefault	0.50	✓	120
E2	2	100	0.00	NetworkDefault	Not-Included	NetworkDefault	0.50	✓	120
F1	1	100	0.00	NetworkDefault	Not-Included	NetworkDefault	0.50	✓	120
F2	1	100	0.00	NetworkDefault	Not-Included	NetworkDefault	0.50	✓	120
F2	2	100	0.00	NetworkDefault	Not-Included	NetworkDefault	0.50	✓	120

Normal - Modelling

Arm	Traffic Stream	Stop Weighting (%)	Delay Weighting (%)
A	1	100	100
B	1	100	100
C	1	100	100
D	1	100	100
Ax	1	100	100
Bx	1	100	100
Cx	1	100	100
Dx	1	100	100
E1	1	100	100
E2	1	100	100
E2	2	100	100
F1	1	100	100
F2	1	100	100
F2	2	100	100

Flows

Arm	Traffic Stream	Total Flow (PCU/hr)	Normal Flow (PCU/hr)
A	1	832	832
B	1	268	268
C	1	597	597
D	1	380	380
Ax	1	689	689
Bx	1	302	302
Cx	1	665	665
Dx	1	421	421
E1	1	1061	1061
E2	1	656	656
E2	2	405	405
F1	1	952	952
F2	1	674	674
F2	2	278	278

Signals

Arm	Traffic Stream	Controller Stream	Phase	Phase2 Enabled	Phase2
A	1	2	J		
B	1	2	K		
C	1	1	A		
D	1	1	B	✓	P
E2	1	1	C		
E2	2	1	C	✓	D
F2	1	2	H		
F2	2	2	H	✓	L

Entry Sources

Arm	Traffic Stream	Normal Cruise Time (seconds)	Normal Cruise Speed (kph)
A	1	12.00	30.00
B	1	12.00	30.00
C	1	12.00	30.00
D	1	12.00	30.00

Sources

Arm	Traffic Stream	Source	Source Type	Source Traffic Stream	Destination Traffic Stream	Normal Cruise Time (seconds)	Normal Cruise Speed (kph)	Auto Turning Radius	Traffic Turn Style	Turning Radius (m)
Ax	1	1	TrafficStream	F2/1	Ax/1	12.00	30.00	✓	Straight	Straight Movement
Bx	1	1	TrafficStream	A/1	Bx/1	12.00	30.00	✓	Nearside	25.04
Cx	1	1	TrafficStream	E2/1	Cx/1	12.00	30.00	✓	Straight	Straight Movement
Dx	1	1	TrafficStream	C/1	Dx/1	12.00	30.00	✓	Nearside	50.04
E1	1	1	TrafficStream	B/1	E1/1	6.48	30.00	✓	Nearside	25.04
E2	1	1	TrafficStream	E1/1	E2/1	7.20	30.00	✓	Straight	Straight Movement
E2	2	1	TrafficStream	E1/1	E2/2	7.20	30.00	✓	Straight	Straight Movement
F1	1	1	TrafficStream	D/1	F1/1	7.20	30.00	✓	Nearside	25.04
F2	1	1	TrafficStream	F1/1	F2/1	6.48	30.00	✓	Straight	Straight Movement
F2	2	1	TrafficStream	F1/1	F2/2	6.48	30.00	✓	Straight	Straight Movement
Ax	1	2	TrafficStream	B/1	Ax/1	12.00	30.00	✓	Offside	62.46
Bx	1	2	TrafficStream	F2/2	Bx/1	12.00	30.00	✓	Offside	67.37
Cx	1	2	TrafficStream	D/1	Cx/1	12.00	30.00	✓	Offside	74.96
Dx	1	2	TrafficStream	E2/2	Dx/1	12.00	30.00	✓	Offside	49.96
E1	1	2	TrafficStream	A/1	E1/1	6.48	30.00	✓	Straight	Straight Movement
F1	1	2	TrafficStream	C/1	F1/1	7.20	30.00	✓	Straight	Straight Movement

Give Way Data

Arm	Traffic Stream	Opposed Traffic	Use Step-wise Opposed Turn Model	Number Of Storage Spaces	Use Connector Turning Radius	Radius Of Turn (m)	Visibility Restricted
E2	2	Movement	✓	2		10.00	
F2	2	Movement	✓	2		10.00	

Give Way Data - Movements

Arm	Traffic Stream	Movement	Destination Traffic Stream	Max Flow (Unopposed) (PCU/hr)	Percentage Opposed (%)
E2	2	1	Dx/1	1735	100
F2	2	1	Bx/1	1743	100

Give Way Data - Movements - Conflicts

Arm	Traffic Stream	Movement	Destination Traffic Stream	Description	Controlling Type	Controlling Traffic Stream	Percentage Opposing (%)	Upstream Signals Visible	Conflict Shift	Conflict Duration
E2	2	1	Dx/1		TrafficStream	C/1	100	✓	0	0
F2	2	1	Bx/1		TrafficStream	A/1	100	✓	0	0

Local OD Matrix - Local Matrix: 1

Normal Input Flows (PCU/hr)

		To			
		1	2	3	4
From	1	0	16	485	96
	2	9	0	189	182
	3	557	251	0	24
	4	99	154	15	0

Bus Input Flows not shown as they are blank.

Tram Input Flows not shown as they are blank.

Pedestrian Input Flows not shown as they are blank.

Locations

OD Matrix	Location	Name	Entries	Exits
1	1	(untitled)	C/1	Cx/1
1	2	(untitled)	D/1	Dx/1
1	3	(untitled)	A/1	Ax/1
1	4	(untitled)	B/1	Bx/1

Normal Paths and Flows

OD Matrix	Path	Description	From Location	To Location	Path Items	Allocation Type	Normal Calculated Flow (PCU/hr)
1	1		1	2	C/1,Dx/1	Normal	16
1	2		1	3	C/1,F1/1,F2/1,Ax/1	Normal	485
1	3		1	4	C/1,F1/1,F2/2,Bx/1	Normal	96
1	4		2	1	D/1,Cx/1	Normal	9
1	5		2	3	D/1,F1/1,F2/1,Ax/1	Normal	189
1	6		2	4	D/1,F1/1,F2/2,Bx/1	Normal	182
1	7		3	4	A/1,Bx/1	Normal	24
1	9		3	1	A/1,E1/1,E2/1,Cx/1	Normal	557
1	10		3	2	A/1,E1/1,E2/2,Dx/1	Normal	251
1	11		4	3	B/1,Ax/1	Normal	15
1	12		4	1	B/1,E1/1,E2/1,Cx/1	Normal	99
1	13		4	2	B/1,E1/1,E2/2,Dx/1	Normal	154

Signal Timings

Network Default: 120s cycle time; 120 steps

Controller Stream 1

Controller Stream	Name	Description	Use Sequence	Cycle Time Source	Cycle Time (s)
1	(untitled)		1	NetworkDefault	120

Controller Stream 1 - Properties

Controller Stream	Manufacturer Name	Type	Model Number	(Telephone) Line Number	Site Number	Grid Reference	Gaining Delay Type
1	Unspecified						Absolute

Controller Stream 1 - Optimisation

Controller Stream	Allow Offset Optimisation	Allow Green Split Optimisation	Optimisation Level	Auto Redistribute	Enable Stage Constraint
1	✓	✓	Offsets And Green Splits	✓	

Phases

Controller Stream	Phase	Name	Minimum Green (s)	Maximum Green (s)	Relative Start Displacement (s)	Relative End Displacement (s)	Type
1	A	(untitled)	7	300	0	0	Not Specified
1	B	(untitled)	7	300	0	0	Not Specified
1	C	(untitled)	7	300	0	0	Not Specified
1	D	(untitled)	7	300	0	0	Not Specified
1	P	(untitled)	7	300	0	0	Not Specified

Library Stages

Controller Stream	Library Stage	Phases In Stage	User Stage Minimum (s)
1	1	A,C	61
1	2	C,D,P	14
1	3	B	14

Stage Sequences

Controller Stream	Sequence	Name	Multiple Cycling	Stage IDs	Stage Ends
1	1	(untitled)	Single	1,2,3	88,114,13

Resultant Stages

Controller Stream	Stage	Is Base Stage	Library Stage ID	Phases In This Stage	Stage Start (s)	Stage End (s)	Stage Duration (s)	User Stage Minimum (s)	Stage Minimum (s)
1	1	✓	1	A,C	23	88	65	61	61
1	2	✓	2	C,D,P	95	114	19	14	14
1	3	✓	3	B	119	13	14	14	14

Resultant Phase Green Periods

Controller Stream	Phase	Green Period	Is Base Green Period	Start Time (s)	End Time (s)	Duration (s)
1	A	1	✓	23	88	65
1	B	1	✓	119	13	14
1	C	1	✓	23	114	91
1	D	1	✓	95	114	19
1	P	1	✓	93	114	21

Intergreen Matrix for Controller Stream 1

		To				
		A	B	C	D	P
A		0			7	5

From	B	10	10	5	
	C		5		
	D	5	5		
	P	3			

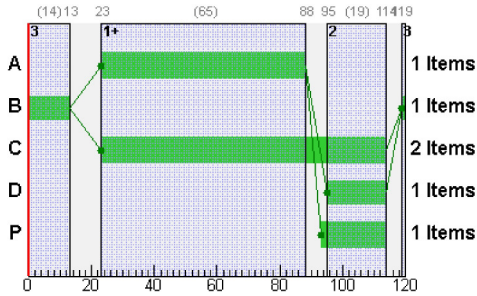
Interstage Matrix for Controller Stream 1

From	To		
	1	2	3
	1	0	7
	2	5	0
3	10	10	0

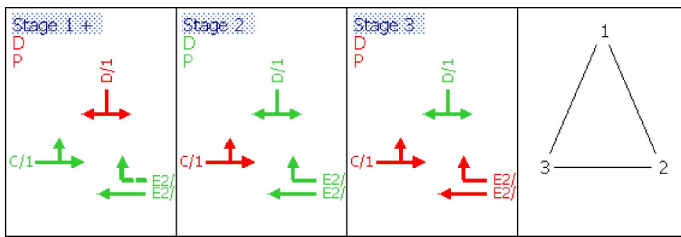
Banned Stage transitions for Controller Stream 1

From	To		
	1	2	3
	1		
	2		
3			

Phase Timings Diagram for Controller Stream 1



Stage Sequence Diagram for Controller Stream 1



Controller Stream 2

Controller Stream	Name	Description	Use Sequence	Cycle Time Source	Cycle Time (s)
2	(untitled)		1	NetworkDefault	120

Controller Stream 2 - Properties

Controller Stream	Manufacturer Name	Type	Model Number	(Telephone) Line Number	Site Number	Grid Reference	Gaining Delay Type
2	Unspecified						Absolute

Controller Stream 2 - Optimisation

Controller Stream	Allow Offset Optimisation	Allow Green Split Optimisation	Optimisation Level	Auto Redistribute	Enable Stage Constraint
2	✓	✓	Offsets And Green Splits	✓	

Phases

Controller Stream	Phase	Name	Minimum Green (s)	Maximum Green (s)	Relative Start Displacement (s)	Relative End Displacement (s)	Type
2	H	(untitled)	7	300	0	0	Not Specified
2	J	(untitled)	7	300	0	0	Not Specified
2	K	(untitled)	7	300	0	0	Not Specified
2	L	(untitled)	7	300	0	0	Not Specified

Library Stages

Controller Stream	Library Stage	Phases In Stage	User Stage Minimum (s)
2	1	H,J	61
2	2	H,L	13
2	3	K	13

Stage Sequences

Controller Stream	Sequence	Name	Multiple Cycling	Stage IDs	Stage Ends
2	1	(untitled)	Single	1,2,3	112,12,37

Resultant Stages

Controller Stream	Stage	Is Base Stage	Library Stage ID	Phases In This Stage	Stage Start (s)	Stage End (s)	Stage Duration (s)	User Stage Minimum (s)	Stage Minimum (s)
2	1	✓	1	H,J	47	112	65	61	61
2	2	✓	2	H,L	119	12	13	13	13
2	3	✓	3	K	17	37	20	13	13

Resultant Phase Green Periods

Controller Stream	Phase	Green Period	Is Base Green Period	Start Time (s)	End Time (s)	Duration (s)
2	H	1	✓	47	12	85

2	J	1	✓	47	112	65
2	K	1	✓	17	37	20
2	L	1	✓	119	12	13

Intergreen Matrix for Controller Stream 2

		To			
		H	J	K	L
From	H			5	
	J			5	7
	K	10	10		7
	L		7	5	

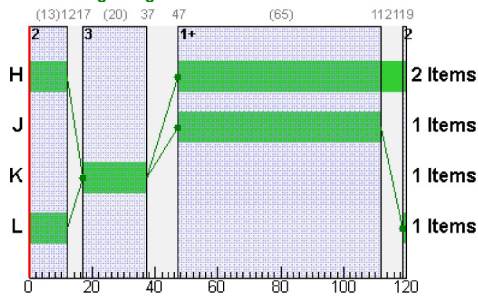
Interstage Matrix for Controller Stream 2

		To		
		1	2	3
From	1	0	7	5
	2	7	0	5
	3	10	10	0

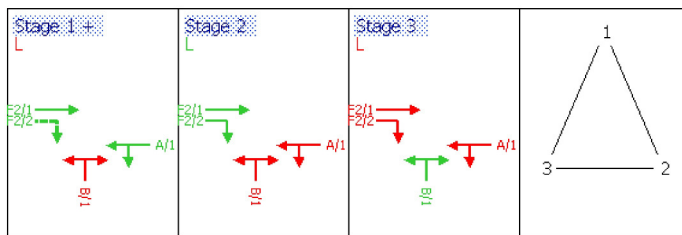
Banned Stage transitions for Controller Stream 2

		To		
		1	2	3
From	1			
	2			
	3			

Phase Timings Diagram for Controller Stream 2



Stage Sequence Diagram for Controller Stream 2



TRANSYT 12 Tables

Resultant Stages

ID	Stage	Is Base Stage	Library Stage ID	Phases In This Stage	TRANSYT Stage Start (s)	TRANSYT Preceding Interstage (s)	TRANSYT Stage Minimum (s)
1	1	✓	1	A,C	13	10	71
1	2	✓	2	C,D,P	88	7	21
1	3	✓	3	B	114	5	19
2	1	✓	1	H,J	37	10	71
2	2	✓	2	H,L	112	7	20
2	3	✓	3	K	12	5	18

Resultant Phase Green Periods

ID	ID	Green Period	TRANSYT Starting Stage (s)	TRANSYT Ending Stage (s)	TRANSYT Start Lag (s)	TRANSYT End Lag (s)
1	A	1	1	2	10	0
1	B	1	3	1	5	0
1	C	1	1	3	10	0
1	D	1	2	3	7	0
1	P	1	2	3	5	0
2	H	1	1	3	10	0
2	J	1	1	2	10	0
2	K	1	3	1	5	0
2	L	1	2	3	7	0

Stage Timings (TRANSYT 12 timings)

Network Default: 120s cycle time; 120 steps

Controller Stream	Number of Stages	Stage 1	Stage 2	Stage 3
1	3	13	88	114
2	3	37	112	12

Traffic Stream Green Times

Arm	Traffic Stream	Traffic Node	Controller Stream	Phase	Green Period 1		
					Start	End	Duration
A	1	2	2	J	47	112	65
B	1	2	2	K	17	37	20
C	1	1	1	A	23	88	65
D	1	1	1	B	119	13	14
E2	1	1	1	C	23	114	91
E2	2	1	1	C	23	114	91
F2	1	2	2	H	47	12	85
F2	2	2	2	H	47	12	85

Traffic Stream Results

Traffic Stream Results: Vehicle Summary

Time Segment	Arm	Traffic Stream	Degree Of Saturation (%)	Practical Reserve Capacity (%)	Calculated Flow Entering (PCU/hr)	Calculated Sat Flow (PCU/hr)	Actual Green (s per cycle)	Mean Delay Per Veh (s)	Mean Max Queue (PCU)	Utilised Storage (%)	Weighted Cost Of Delay (£ per hr)	Weighted Cost Of Stops (£ per hr)	Performance Index (£ per hr)
17:00-18:00	A	1	78	15	832	1940	65	27.14	23.08	132.71	89.07	8.47	97.54
17:00-18:00	B	1	87	3	268	1752	20	82.81	11.21	64.46	87.54	4.12	91.65
17:00-18:00	C	1	56	61	597	1939	65	19.69	13.12	75.46	46.37	4.84	51.22
17:00-18:00	D	1	70	28	380	1752	35	41.05	11.37	65.40	61.53	4.64	66.17
17:00-18:00	Ax	1	0	Unrestricted	689	Unrestricted	120	0.00	0.00	0.00	0.00	0.00	0.00
17:00-18:00	Bx	1	0	Unrestricted	302	Unrestricted	120	0.00	0.00	0.00	0.00	0.00	0.00
17:00-18:00	Cx	1	0	Unrestricted	665	Unrestricted	120	0.00	0.00	0.00	0.00	0.00	0.00
17:00-18:00	Dx	1	0	Unrestricted	421	Unrestricted	120	0.00	0.00	0.00	0.00	0.00	0.00
17:00-18:00	E1	1	52	73	1061	2045	120	0.95	0.28	3.10	3.97	0.00	3.97
17:00-18:00	E2	1	44	104	656	1935	91	2.84	1.88	18.85	7.34	0.71	8.05
17:00-18:00	E2	2	64	41	405	825	91	21.27	6.48	64.75	33.97	2.43	36.40
17:00-18:00	F1	1	53	70	952	1935	120	2.29	4.94	49.44	8.59	1.82	10.42
17:00-18:00	F2	1	49	85	674	1935	85	5.84	8.55	94.97	15.54	3.21	18.75
17:00-18:00	F2	2	72	25	278	540	85	33.98	4.54	50.43	37.26	2.14	39.40

Traffic Stream Results: Flows And Signals

Time Segment	Arm	Traffic Stream	Calculated Flow Entering (PCU/hr)	Calculated Flow Out (PCU/hr)	Flow Discrepancy (PCU/hr)	Adjusted Flow Warning	Calculated Sat Flow (PCU/hr)	Calculated Capacity (PCU/hr)	Degree Of Saturation (%)	DOS Threshold Exceeded	Practical Reserve Capacity (%)	Mean Modulus Of Error	Flow On Red Per Cycle (PCU)	Actual Green (s per cycle)	Effective Green (s per cycle)
17:00-18:00	A	1	832	832	0		1940	1067	78		15	0.00	0.0	65	66
17:00-18:00	B	1	268	268	0		1752	307	87		3	0.00	0.0	20	21
17:00-18:00	C	1	597	597	0		1939	1066	56		61	0.00	0.0	65	66
17:00-18:00	D	1	380	380	0		1752	540	70		28	0.00	0.0	35	37
17:00-18:00	Ax	1	689	689	0		Unrestricted	Unrestricted	0		Unrestricted	0.68	0.0	120	120
17:00-18:00	Bx	1	302	302	0		Unrestricted	Unrestricted	0		Unrestricted	1.06	0.0	120	120
17:00-18:00	Cx	1	665	665	0		Unrestricted	Unrestricted	0		Unrestricted	0.61	0.0	120	120
17:00-18:00	Dx	1	421	421	0		Unrestricted	Unrestricted	0		Unrestricted	0.85	0.0	120	120
17:00-18:00	E1	1	1061	1061	0		2045	2045	52		73	0.69	0.0	120	120
17:00-18:00	E2	1	656	656	0		1935	1484	44		104	0.66	0.0	91	92
17:00-18:00	E2	2	405	405	0		825	632	64		41	0.74	0.0	91	92
17:00-18:00	F1	1	952	952	0		1935	1799	53		70	0.70	0.0	120	120
17:00-18:00	F2	1	674	674	0		1935	1387	49		85	0.68	0.0	85	86
17:00-18:00	F2	2	278	278	0		540	387	72		25	0.82	0.0	85	86

Traffic Stream Results: Stops And Delays

Time Segment	Arm	Traffic Stream	Mean Cruise Time Per Veh (s)	Mean Delay Per Veh (s)	Uniform Delay (PCU-hr/hr)	Random Plus Oversat Delay (PCU-hr/hr)	Unweighted Cost Of Delay (£ per hr)	Weighted Cost Of Delay (£ per hr)	Mean Stops Per Veh (%)	Uniform Stops (Stops per hr)	Random Stops (Stops per hr)	Unweighted Cost Of Stops (£ per hr)	Weighted Cost Of Stops (£ per hr)
17:00-18:00	A	1	12.00	27.14	4.92	1.36	89.07	89.07	81.19	635.35	40.18	8.47	8.47
17:00-18:00	B	1	12.00	82.81	3.59	2.58	87.54	87.54	122.46	256.25	71.95	4.12	4.12
17:00-18:00	C	1	12.00	19.69	2.91	0.35	46.37	46.37	64.67	375.47	10.59	4.84	4.84
17:00-18:00	D	1	12.00	41.05	3.51	0.82	61.53	61.53	97.34	322.32	47.57	4.64	4.64
17:00-18:00	Ax	1	12.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
17:00-18:00	Bx	1	12.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
17:00-18:00	Cx	1	12.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
17:00-18:00	Dx	1	12.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
17:00-18:00	E1	1	6.48	0.95	0.00	0.28	3.97	3.97	0.00	0.00	0.00	0.00	0.00
17:00-18:00	E2	1	7.20	2.84	0.34	0.18	7.34	7.34	8.62	51.29	5.24	0.71	0.71
17:00-18:00	E2	2	7.20	21.27	1.83	0.56	33.97	33.97	47.90	177.23	16.76	2.43	2.43

18:00															
17:00-18:00	F1	1	7.20	2.29	0.31	0.30	8.59	8.59	15.26	136.44	8.88	1.82	1.82		
17:00-18:00	F2	1	6.48	5.84	0.86	0.23	15.54	15.54	38.01	249.31	6.86	3.21	3.21		
17:00-18:00	F2	2	6.48	33.98	1.74	0.89	37.26	37.26	61.26	144.34	25.97	2.14	2.14		

Traffic Stream Results: Queues And Blocking

Time Segment	Arm	Traffic Stream	Initial Queue (PCU)	Mean Max Queue (PCU)	Max Queue Storage (PCU)	Utilised Storage (%)	Average Link Excess Queue (PCU)	Average Limit Excess Queue (PCU)	Excess Queue Penalty (£ per hr)	Max End Of Green Queue (PCU)	Max End Of Red Queue (PCU)	Wasted Time Starvation (s per cycle)	Wasted Time Blocking Back (s per cycle)	Wasted Time Total (s per cycle)	Estimated Blocking
17:00-18:00	A	1	0.00	23.08	17.39	132.71	0.61	0.00	0.00	1.36	13.84	0.00	0.00	0.00	
17:00-18:00	B	1	0.00	11.21	17.39	64.46	0.00	0.00	0.00	2.58	9.95	0.00	0.00	0.00	
17:00-18:00	C	1	0.00	13.12	17.39	75.46	0.00	0.00	0.00	0.35	9.31	0.00	0.00	0.00	
17:00-18:00	D	1	0.00	11.37	17.39	65.40	0.00	0.00	0.00	0.82	9.16	0.00	0.00	0.00	
17:00-18:00	Ax	1	0.00	0.00	17.39	0.00	0.00	0.00	0.00			10.00	0.00	10.00	
17:00-18:00	Bx	1	0.00	0.00	17.39	0.00	0.00	0.00	0.00			67.00	0.00	67.00	
17:00-18:00	Cx	1	0.00	0.00	17.39	0.00	0.00	0.00	0.00			22.00	0.00	22.00	
17:00-18:00	Dx	1	0.00	0.00	17.39	0.00	0.00	0.00	0.00			47.00	0.00	47.00	
17:00-18:00	E1	1	0.00	0.28	9.00	3.10	0.00	0.00	0.00			33.00	0.00	33.00	
17:00-18:00	E2	1	0.00	1.88	10.00	18.85	0.00	0.00	0.00	0.18	1.88	12.00	0.00	12.00	
17:00-18:00	E2	2	0.00	6.48	10.00	64.75	0.00	0.00	0.00	0.56	1.33	0.00	0.00	0.00	
17:00-18:00	F1	1	0.00	4.94	10.00	49.44	0.00	0.00	0.00			17.00	8.43	25.43	
17:00-18:00	F2	1	0.00	8.55	9.00	94.97	0.00	0.00	0.00	0.23	7.91	8.00	0.00	8.00	
17:00-18:00	F2	2	0.00	4.54	9.00	50.43	0.00	0.00	0.00	0.89	2.65	4.00	0.00	4.00	

Traffic Stream Results: Journey Times

Time Segment	Arm	Traffic Stream	Distance Travelled (PCU-km/hr)	Time Spent (PCU-hr/hr)	Mean Journey Speed (kph)	JourneyTime (s)
17:00-18:00	A	1	83.20	9.05	9.20	39.14
17:00-18:00	B	1	26.80	7.06	3.80	94.81
17:00-18:00	C	1	59.70	5.26	11.36	31.69
17:00-18:00	D	1	38.00	5.60	6.79	53.05
17:00-18:00	Ax	1	68.90	2.30	30.00	12.00
17:00-18:00	Bx	1	30.20	1.01	30.00	12.00
17:00-18:00	Cx	1	66.50	2.22	30.00	12.00
17:00-18:00	Dx	1	42.10	1.40	30.00	12.00
17:00-18:00	E1	1	57.29	2.19	26.17	7.43
17:00-18:00	E2	1	39.36	1.83	21.52	10.04
17:00-18:00	E2	2	24.30	3.20	7.59	28.47
17:00-18:00	F1	1	57.12	2.51	22.76	9.49
17:00-18:00	F2	1	36.40	2.31	15.77	12.32
17:00-18:00	F2	2	15.01	3.12	4.80	40.46

Traffic Stream Results: Advanced

Time Segment	Arm	Traffic Stream	Degree Of Saturation Penalty (£ per hr)	Phase Min Max Penalty (£ per hr)	Intergreen Broken Penalty (£ per hr)	Stage Constraint Broken Penalty (£ per hr)	Ped Gap Accepting Penalty (£ per hr)	Warmed Up	Warmed Up Error	Mean Max Queue EoTS (PCU)	Max End Of Green Queue EoTS (PCU)	Max End Of Red Queue EoTS (PCU)	PCU Factor	Cost Of Penalties (£ per hr)	Unweighted Performance Index (£ per hr)	Performance Index (£ per hr)
17:00-18:00	A	1	0.00	0.00	0.00	0.00	0.00	✓	0.00	23.09	1.37	13.85	1.00	0.00	97.54	97.54
17:00-18:00	B	1	0.00	0.00	0.00	0.00	0.00	✓	0.00	11.41	2.77	10.14	1.00	0.00	91.65	91.65
17:00-18:00	C	1	0.00	0.00	0.00	0.00	0.00	✓	0.00	13.12	0.36	9.31	1.00	0.00	51.22	51.22
17:00-18:00	D	1	0.00	0.00	0.00	0.00	0.00	✓	0.00	11.38	0.83	9.17	1.00	0.00	66.17	66.17
17:00-18:00	Ax	1	0.00	0.00	0.00	0.00	0.00	✓	0.00	0.00			1.00	0.00	0.00	0.00
17:00-18:00	Bx	1	0.00	0.00	0.00	0.00	0.00	✓	0.00	0.00			1.00	0.00	0.00	0.00
17:00-18:00	Cx	1	0.00	0.00	0.00	0.00	0.00	✓	0.00	0.00			1.00	0.00	0.00	0.00
17:00-18:00	Dx	1	0.00	0.00	0.00	0.00	0.00	✓	0.00	0.00			1.00	0.00	0.00	0.00
17:00-18:00	E1	1	0.00	0.00	0.00	0.00	0.00	✓	0.00	0.28			1.00	0.00	3.97	3.97
17:00-18:00	E2	1	0.00	0.00	0.00	0.00	0.00	✓	0.00	1.88	0.18	1.88	1.00	0.00	8.05	8.05
17:00-18:00	E2	2	0.00	0.00	0.00	0.00	0.00	✓	0.00	6.48	0.57	1.33	1.00	0.00	36.40	36.40
17:00-18:00	F1	1	0.00	0.00	0.00	0.00	0.00	✓	0.00	4.94			1.00	0.00	10.42	10.42
17:00-18:00	F2	1	0.00	0.00	0.00	0.00	0.00	✓	0.00	8.55	0.23	7.91	1.00	0.00	18.75	18.75
17:00-18:00	F2	2	0.00	0.00	0.00	0.00	0.00	✓	0.00	4.55	0.90	2.66	1.00	0.00	39.40	39.40

Network Results

Run Summary

Analysis Set Used	Run Start Time	Run Finish Time	Modelling Start Time (HH:mm)	Network Cycle Time (s)	Total Network Delay (PCU-hr/hr)	Highest DOS (%)	Item with highest DOS	Number of oversaturated items	Percentage of oversaturated items (%)	Item with worst signalised PRC	Item with worst unsignalised PRC	Item with worst overall PRC	Network Within Capacity
A1 - Existing	26-Jul-17 1:39:00 PM	26-Jul-17 1:39:16 PM	17:00	120	27.55	87.41	B/1	0	0	B/1	F1/1	B/1	✓

Network Results: Vehicle Summary

Time Segment	Degree Of Saturation (%)	Practical Reserve Capacity (%)	Calculated Flow Entering (PCU/hr)	Actual Green (s per cycle)	Mean Delay Per Veh (s)	Weighted Cost Of Delay (£ per hr)	Weighted Cost Of Stops (£ per hr)	Performance Index (£ per hr)
17:00-18:00	87	3	8180	1257	12.12	391.18	32.37	423.56

Network Results: Pedestrian Summary

Time Segment	Degree Of Saturation (%)	Calculated Flow Entering (Ped/hr)	Actual Green (s per cycle)	Mean Delay Per Ped (s)	Weighted Cost Of Delay (£ per hr)	Performance Index (£ per hr)
17:00-18:00	0	0	0	0.00	0.00	0.00

Network Results: Flows And Signals

Time Segment	Calculated Flow Entering (PCU/hr)	Calculated Flow Out (PCU/hr)	Flow Discrepancy (PCU/hr)	Adjusted Flow Warning	Degree Of Saturation (%)	DOS Threshold Exceeded	Practical Reserve Capacity (%)	Actual Green (s per cycle)	Effective Green (s per cycle)
17:00-18:00	8180	8180	0		87		3	1257	1266

Network Results: Journey Times

Time Segment	Distance Travelled (PCU-km/hr)	Time Spent (PCU-hr/hr)	Mean Journey Speed (kph)
17:00-18:00	644.88	49.04	13.15

Point to Point Journey Time

Average Journey Time (s) for Local Matrix: 1

		To			
		1	2	3	4
From	1	0.0	43.7	66.7	116.0
	2	65.1	0.0	84.4	102.5
	3	68.9	82.1	0.0	51.1
	4	122.4	150.7	106.8	0.0

Path Journey Time

Path	From Location	To Location	Normal Calculated Flow (PCU/hr)	Normal Journey Time (s)	Calculated Total Flow (PCU/hr)	Avg Journey Time (s)
1	1	2	16	43.69	16	43.69
2	1	3	485	66.74	485	66.74
3	1	4	96	115.95	96	115.95
4	2	1	9	65.05	9	65.05
5	2	3	189	84.43	189	84.43
6	2	4	182	102.46	182	102.46
7	3	4	24	51.14	24	51.14
9	3	1	557	68.94	557	68.94
10	3	2	251	82.15	251	82.15
11	4	3	15	106.81	15	106.81
12	4	1	99	122.40	99	122.40
13	4	2	154	150.66	154	150.66

Final Prediction Table

Traffic Stream Results

Arm	Traffic Stream	Name	Traffic Node	SIGNALS			FLOWS		PERFORMANCE				PER PCU			QUEUES		WEIGHTS		PENALTIES
				Controller Stream	Phase	Phase2	Calculated Flow Entering (PCU/hr)	Calculated Sat Flow (PCU/hr)	Actual Green (s per cycle)	Wasted Time Total (s per cycle)	Degree Of Saturation (%)	Practical Reserve Capacity (%)	JourneyTime (s)	Mean Delay Per Veh (s)	Mean Stops Per Veh (%)	Mean Max Queue (PCU)	Max End Of Red Queue (PCU)	Delay Weighting Multiplier (%)	Stop Weighting Multiplier (%)	
A	1	Wakefield Rd NB	2	2	J		832 <	1940	65	0.00	78	15	39.14	27.14	81.19	23.08 +	13.84	100	100	0.00
B	1	Smithies Ln	2	2	K		268	1752	20	0.00	87	3	94.81	82.81	122.46	11.21	9.95	100	100	0.00
C	1	Wakefield Rd SB	1	1	A		597	1939	65	0.00	56	61	31.69	19.69	64.67	13.12	9.31	100	100	0.00
D	1	Carlton Rd	1	1	B	P	380	1752	35	0.00	70	28	53.05	41.05	97.34	11.37	9.16	100	100	0.00
Ax	1	(untitled)					689	Unrestricted	120	10.00	0	Unrestricted	12.00	0.00	0.00	0.00		100	100	0.00
Bx	1	(untitled)					302	Unrestricted	120	67.00	0	Unrestricted	12.00	0.00	0.00	0.00		100	100	0.00
Cx	1	(untitled)					665	Unrestricted	120	22.00	0	Unrestricted	12.00	0.00	0.00	0.00		100	100	0.00
Dx	1	(untitled)					421	Unrestricted	120	47.00	0	Unrestricted	12.00	0.00	0.00	0.00		100	100	0.00
E1	1	A61 NB Internal Feeder	1				1061	2045	120	33.00	52	73	7.43	0.95	0.00	0.28		100	100	0.00
E2	1	A61 NB Internal NS	1	1	C		656	1935	91	12.00	44	104	10.04	2.84	8.62	1.88	1.88	100	100	0.00
E2	2	A61 NB Internal OS	1	1	C	D	405	825	91	0.00	64	41	28.47	21.27	47.90	6.48	1.33	100	100	0.00
F1	1	A61 SB Internal Feeder	2				952	1935	120	25.43	53	70	9.49	2.29	15.26	4.94		100	100	0.00
F2	1	A61 SB Internal NS	2	2	H		674	1935	85	8.00	49	85	12.32	5.84	38.01	8.55	7.91	100	100	0.00
F2	2	A61 SB Internal OS	2	2	H	L	278	540	85	4.00	72	25	40.46	33.98	61.26	4.54	2.65	100	100	0.00

Network Results

	Distance Travelled (PCU-km/hr)	Time Spent (PCU-hr/hr)	Mean Journey Speed (kph)	Uniform Delay (PCU-hr/hr)	Random Plus Oversat Delay (PCU-hr/hr)	Weighted Cost Of Delay (£ per hr)	Weighted Cost Of Stops (£ per hr)	Excess Queue Penalty (£ per hr)	Performance Index (£ per hr)
Total	644.88	49.04	13.15	20.01	7.54	391.18	32.37	0.00	423.56
Bus	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tram	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pedestrians									
Other (Normal)	644.88	49.04	13.15	20.01	7.54	391.18	32.37	0.00	423.56

- B = at least one source for this link carries Bus
- T = at least one source for this link carries Tram

- P = this link is a pedestrian link
- < = adjusted flow warning (upstream links are over-saturated)
- I = DoS threshold exceeded
- f = average saturation flow for flared link
- * = Traffic Stream - Normal, Bus or Tram Stop or Delay weighting has been set to a value other than 100%
- ^ = Traffic Stream - Normal, Bus or Tram Stop or Delay Path weighting has been set to a value other than 100%
- + = average link excess queue is greater than 0
- P.I. = PERFORMANCE INDEX

TRANSYT 15
Version: 15.1.1.3807 [] © Copyright TRL Limited, 2017
For sales and distribution information, program advice and maintenance, contact TRL: Tel: +44 (0)1344 770758 E-mail: software@trl.co.uk Web: http://www.trlsoftware.co.uk
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Last run: 26-Jul-17 1:40:50 PM
Analysis Set used for last run: A1 - Existing

Filename: Smithies Lane-A61.t15
Path: O:\Wakefield Road, Athersley\ANALYSIS\CAPACITY\Signals\TRANSYT\Smithies Lane-A61
Report generation date: 26-Jul-17 1:42:18 PM

File summary

File Description

Title	Smithies Lane-A61
Location	Barnsley
Site Number	
UTCRegion	
Driving Side	Left
Date	19-Jul-17
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	OPTIMA\Steven.Phillips
Description	Staggered left right signals on A61 with Smithies Lane and Carlton Road. Peds demanded 7 times in AM and 4 in PM. The lost time for peds is 15s per cycle and applying this to the demand and dividing over the 30 cycles provides an additional 3 s per cycle which has been added to the intergreen between stage 3 and 1.

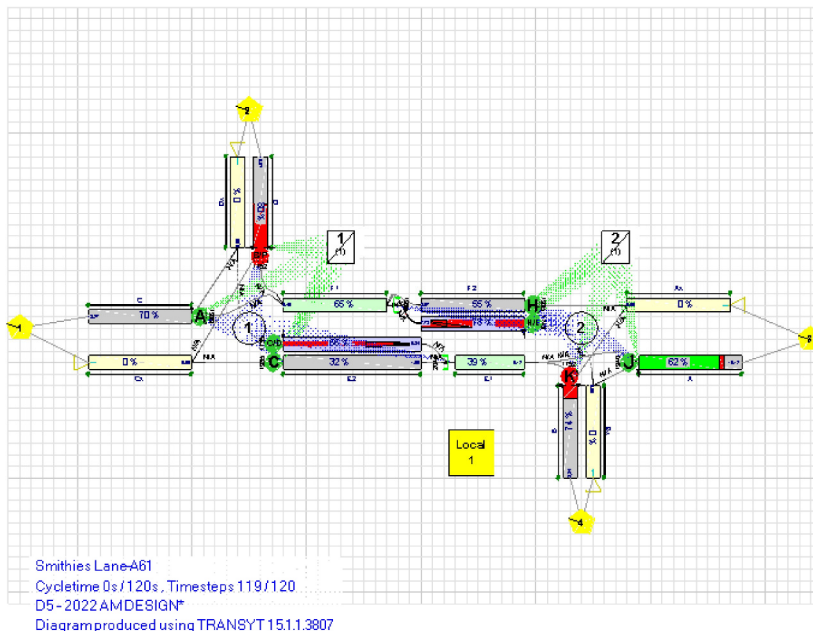
Units

Cost Units	Speed Units	Distance Units	Fuel Economy Units	Fuel Rate Units	Mass Units	Traffic Units Input	Traffic Units Results	Flow Units	Average Delay Units	Total Delay Units	Rate Of Delay Units
£	kph	m	mpg	l/h	kg	PCU	PCU	perHour	s	-Hour	perHour

Sorting

Show Names Instead of IDs (For Aimsun)	Sorting Direction	Sorting Type	Ignore Prefixes When Sorting	Link Grouping	Source Grouping
	Ascending	Numerical		Normal	Normal

Network Diagrams



A1 - Existing *: D5 - 2022 AM DESIGN*

Summary

Data Errors and Warnings

No errors or warnings

Run Summary

Analysis	Run Start	Run Finish	Modelling Start Time	Network Cycle Time	Total Network Delay (PCU-)	Highest	Item with highest	Number of oversaturated	Percentage of oversaturated	Item with worst	Item with worst unsignalised	Item with worst	Network Within

Set Used	Time	Time	(HH:mm)	(s)	hr/hr	DOS (%)	DOS	Items	Items (%)	signalised PRC	PRC	overall PRC	Capacity
A1 - Existing	26-Jul-17 1:40:31 PM	26-Jul-17 1:40:50 PM	07:45	120	28.62	79.85	D/1	0	0	D/1	F1/1	D/1	✓

Analysis Set Details

Name	Description	Demand Set	Include In Report	Locked
Existing		D5	✓	

Demand Set Details

Demand Set	Name	Description	Composite	Demand Sets	Start Time (HH:mm)	Locked
D5	2022 AM DESIGN				07:45	

Network Options

Network Timings

Network Cycle Time (s)	Restrict To SCOOT Cycle Times	Time Segment Length (min)	Number Of Time Segments	Modelled Time Period (min)
120		60	1	60

Signals Options

Start Displacement (s)	End Displacement (s)
2	3

Advanced

Phase Minimum Broken Penalty (£)	Phase Maximum Broken Penalty (£)	Intergreen Broken Penalty (£)	Starting Red-with-Amber (s)
10000.00	10000.00	10000.00	2

Traffic Options

Traffic Model	Vehicle Flow Scaling Factor (%)	Pedestrian Flow Scaling Factor (%)	Cruise Times Or Speeds
Platoon Dispersion (PDM)	100	100	Cruise Speeds

Advanced

Resolution	DOS Threshold (%)	Cruise Scaling Factor (%)	Use Link Stop Weightings	Use Link Delay Weightings	Exclude Pedestrian Links	Random Delay Mode	Type of Vehicle-in-Service	Type Of Random Parameter	PCU Length (m)	Calculate results for Path Segments
1	90	100	✓	✓		Complex	Uniform (TRANSYT)	Uniform (TRANSYT)	5.75	

Normal Parameters

Dispersion Type	Dispersion Coefficient	Travel Time Coefficient
Default	35	80

Normal Traffic Types

Name	PCU Factor
Normal	1.00

Bus Parameters

Name	PCU Factor	Dispersion Coefficient1	Dispersion Coefficient2	Acceleration (ms ⁻²)	Travel Time Coefficient1	Travel Time Coefficient2
Bus	1.00	70	15	0.47	30	85

Tram Parameters

Name	PCU Factor	Dispersion Coefficient1	Dispersion Coefficient2	Acceleration (ms ⁻²)	Travel Time Coefficient1	Travel Time Coefficient2
Tram	1.00	0	0	0.47	100	100

Pedestrian Parameters

Dispersion Type	Dispersion Coefficient	Travel Time Coefficient
Default	35	80

Optimisation Options

Enable Optimisation	Auto Redistribute	Optimisation Level	Enable Out Profile Accuracy
✓	✓	Offsets And Green Splits	✓

Advanced

Optimisation Type	Hill Climb Increments	OUTProfile Accuracy	Use Enhanced Optimisation	Auto Optimisation Order	Optimisation Order
Hill Climb (Fast)	15,40,-1,15,40,1,-1,1	50,50,5,5,0,5,0,5,0,0,5,0,0,5		✓	1,2

Economics

Vehicle Monetary Value Of Delay (£ per PCU-hr)	Vehicle Monetary Value Of Stops (£ per 100 stops)	Pedestrian Monetary Value Of Delay (£ per Ped-hr)
14.20	2.60	14.20

Traffic Nodes

Traffic Nodes

ID	Name	Description
1	(untitled)	
2	(untitled)	

Arms and Traffic Streams

Arms

Arm	Name	Description	Traffic Node

A	Wakefield Rd NB		2
B	Smithies Ln		2
C	Wakefield Rd SB		1
D	Carlton Rd		1
Ax	(untitled)		
Bx	(untitled)		
Cx	(untitled)		
Dx	(untitled)		
E1	A61 NB Internal Feeder		1
E2	A61 NB Internal		1
F1	A61 SB Internal Feeder		2
F2	A61 SB Internal		2

Traffic Streams

Arm	Traffic Stream	Name	Description	Auto Length	Length (m)	Has Restricted Flow	Saturation Flow Source	Saturation Flow (PCU/hr)	Cell Saturation Flow (PCU/hr)	Is Signal Controlled	Is Give Way	Traffic Type	Allow Nearside Turn On Red
A	1	Wakefield Rd NB			100.00	✓	SumOfLanes	1940		✓		Normal	
B	1	Smithies Ln			100.00	✓	SumOfLanes	1752		✓		Normal	
C	1	Wakefield Rd SB			100.00	✓	SumOfLanes	1939		✓		Normal	
D	1	Carlton Rd			100.00	✓	SumOfLanes	1752		✓		Normal	
Ax	1	(untitled)			100.00							Normal	
Bx	1	(untitled)			100.00							Normal	
Cx	1	(untitled)			100.00							Normal	
Dx	1	(untitled)			100.00							Normal	
E1	1	A61 NB Internal Feeder			54.00	✓	SumOfLanes	2045	2045			Normal	
E2	1	A61 NB Internal NS			60.00	✓	SumOfLanes	1935	1935	✓		Normal	
E2	2	A61 NB Internal OS			60.00	✓	SumOfLanes	1735	1735	✓	✓	Normal	
F1	1	A61 SB Internal Feeder			60.00	✓	SumOfLanes	1935	1935			Normal	
F2	1	A61 SB Internal NS			54.00	✓	SumOfLanes	1935	1935	✓		Normal	
F2	2	A61 SB Internal OS			54.00	✓	SumOfLanes	1743	1743	✓	✓	Normal	

Lanes

Arm	Traffic Stream	Lane	Name	Description	Use RR67	Surface Condition	Site Quality Factor	Gradient (%)	Width (m)	Use Connector Turning Radius	Proportion That Turn (%)	Turning Radius (m)	Nearside Lane	Saturation Flow (PCU/hr)
A	1	1	(untitled)		✓	N/A	N/A	0	3.40		5	10.00	✓	1940
B	1	1	(untitled)		✓	N/A	N/A	0	4.00		100	10.00	✓	1752
C	1	1	(untitled)		✓	N/A	N/A	0	3.30		2	10.00	✓	1939
D	1	1	(untitled)		✓	N/A	N/A	0	4.00		100	10.00	✓	1752
Ax	1	1	(untitled)							✓				
Bx	1	1	(untitled)							✓				
Cx	1	1	(untitled)							✓				
Dx	1	1	(untitled)							✓				
E1	1	1	(untitled)		✓	N/A	N/A	0	4.30		0	100.00	✓	2045
E2	1	1	(untitled)		✓	N/A	N/A	0	3.20		0	100.00	✓	1935
E2	2	1	(untitled)		✓	N/A	N/A	0	2.40		100	10.00		1735
F1	1	1	(untitled)		✓	N/A	N/A	0	3.20		0	100.00	✓	1935
F2	1	1	(untitled)		✓	N/A	N/A	0	3.20		0	100.00	✓	1935
F2	2	1	(untitled)		✓	N/A	N/A	0	2.50		100	10.00		1743

Modelling

Arm	Traffic Stream	Traffic Model	Stop Weighting Multiplier (%)	Delay Weighting Multiplier (%)	Assignment Cost Weighting (%)	Exclude From Results Calculation	Max Queue Storage (PCU)	Has Queue Limit	Queue Limit (PCU)	Excess Queue Penalty (£)	Has Degree Of Saturation Limit
A	1	NetworkDefault	100	100	100		0.00				
B	1	NetworkDefault	100	100	100		0.00				
C	1	NetworkDefault	100	100	100		0.00				
D	1	NetworkDefault	100	100	100		0.00				
Ax	1	NetworkDefault	100	100	100		0.00				
Bx	1	NetworkDefault	100	100	100		0.00				
Cx	1	NetworkDefault	100	100	100		0.00				
Dx	1	NetworkDefault	100	100	100		0.00				
E1	1	CTM	100	100	100		9.00				
E2	1	CTM	100	100	100		10.00	✓	10.00	0.00	
E2	2	CTM	100	100	100		10.00	✓	10.00	0.00	
F1	1	CTM	100	100	100		10.00				
F2	1	CTM	100	100	100		9.00	✓	9.00	0.00	
F2	2	CTM	100	100	100		9.00	✓	9.00	0.00	

Modelling - Advanced

Arm	Traffic Stream	Cruise Sensitivity Multiplier (%)	Initial Queue (PCU)	Type of Vehicle-in-Service	Vehicle-in-Service	Type Of Random Parameter	Random Parameter	Auto Cycle Time	Cycle Time
A	1	100	0.00	NetworkDefault	Not-Included	NetworkDefault	0.50	✓	120
B	1	100	0.00	NetworkDefault	Not-Included	NetworkDefault	0.50	✓	120
C	1	100	0.00	NetworkDefault	Not-Included	NetworkDefault	0.50	✓	120
D	1	100	0.00	NetworkDefault	Not-Included	NetworkDefault	0.50	✓	120
Ax	1	100	0.00	NetworkDefault	Not-Included	NetworkDefault	0.50	✓	120
Bx	1	100	0.00	NetworkDefault	Not-Included	NetworkDefault	0.50	✓	120
Cx	1	100	0.00	NetworkDefault	Not-Included	NetworkDefault	0.50	✓	120
Dx	1	100	0.00	NetworkDefault	Not-Included	NetworkDefault	0.50	✓	120
E1	1	100	0.00	NetworkDefault	Not-Included	NetworkDefault	0.50	✓	120
E2	1	100	0.00	NetworkDefault	Not-Included	NetworkDefault	0.50	✓	120
E2	2	100	0.00	NetworkDefault	Not-Included	NetworkDefault	0.50	✓	120
F1	1	100	0.00	NetworkDefault	Not-Included	NetworkDefault	0.50	✓	120
F2	1	100	0.00	NetworkDefault	Not-Included	NetworkDefault	0.50	✓	120
F2	2	100	0.00	NetworkDefault	Not-Included	NetworkDefault	0.50	✓	120

Normal - Modelling

Arm	Traffic Stream	Stop Weighting (%)	Delay Weighting (%)
A	1	100	100
B	1	100	100
C	1	100	100
D	1	100	100
Ax	1	100	100
Bx	1	100	100
Cx	1	100	100
Dx	1	100	100
E1	1	100	100
E2	1	100	100
E2	2	100	100
F1	1	100	100
F2	1	100	100
F2	2	100	100

Flows

Arm	Traffic Stream	Total Flow (PCU/hr)	Normal Flow (PCU/hr)
A	1	627	627
B	1	249	249
C	1	699	699
D	1	478	478
Ax	1	784	784
Bx	1	443	443
Cx	1	490	490
Dx	1	336	336
E1	1	797	797
E2	1	474	474
E2	2	323	323
F1	1	1148	1148
F2	1	747	747
F2	2	401	401

Signals

Arm	Traffic Stream	Controller Stream	Phase	Phase2 Enabled	Phase2
A	1	2	J		
B	1	2	K		
C	1	1	A		
D	1	1	B	✓	P
E2	1	1	C		
E2	2	1	C	✓	D
F2	1	2	H		
F2	2	2	H	✓	L

Entry Sources

Arm	Traffic Stream	Normal Cruise Time (seconds)	Normal Cruise Speed (kph)
A	1	12.00	30.00
B	1	12.00	30.00
C	1	12.00	30.00
D	1	12.00	30.00

Sources

Arm	Traffic Stream	Source	Source Type	Source Traffic Stream	Destination Traffic Stream	Normal Cruise Time (seconds)	Normal Cruise Speed (kph)	Auto Turning Radius	Traffic Turn Style	Turning Radius (m)
Ax	1	1	TrafficStream	F2/1	Ax/1	12.00	30.00	✓	Straight	Straight Movement
Bx	1	1	TrafficStream	A/1	Bx/1	12.00	30.00	✓	Nearside	25.04
Cx	1	1	TrafficStream	E2/1	Cx/1	12.00	30.00	✓	Straight	Straight Movement
Dx	1	1	TrafficStream	C/1	Dx/1	12.00	30.00	✓	Nearside	50.04
E1	1	1	TrafficStream	B/1	E1/1	6.48	30.00	✓	Nearside	25.04
E2	1	1	TrafficStream	E1/1	E2/1	7.20	30.00	✓	Straight	Straight Movement
E2	2	1	TrafficStream	E1/1	E2/2	7.20	30.00	✓	Straight	Straight Movement
F1	1	1	TrafficStream	D/1	F1/1	7.20	30.00	✓	Nearside	25.04
F2	1	1	TrafficStream	F1/1	F2/1	6.48	30.00	✓	Straight	Straight Movement
F2	2	1	TrafficStream	F1/1	F2/2	6.48	30.00	✓	Straight	Straight Movement
Ax	1	2	TrafficStream	B/1	Ax/1	12.00	30.00	✓	Offside	62.46
Bx	1	2	TrafficStream	F2/2	Bx/1	12.00	30.00	✓	Offside	67.37
Cx	1	2	TrafficStream	D/1	Cx/1	12.00	30.00	✓	Offside	74.96
Dx	1	2	TrafficStream	E2/2	Dx/1	12.00	30.00	✓	Offside	49.96
E1	1	2	TrafficStream	A/1	E1/1	6.48	30.00	✓	Straight	Straight Movement
F1	1	2	TrafficStream	C/1	F1/1	7.20	30.00	✓	Straight	Straight Movement

Give Way Data

Arm	Traffic Stream	Opposed Traffic	Use Step-wise Opposed Turn Model	Number Of Storage Spaces	Use Connector Turning Radius	Radius Of Turn (m)	Visibility Restricted
E2	2	Movement	✓	2		10.00	
F2	2	Movement	✓	2		10.00	

Give Way Data - Movements

Arm	Traffic Stream	Movement	Destination Traffic Stream	Max Flow (Unopposed) (PCU/hr)	Percentage Opposed (%)
E2	2	1	Dx/1	1735	100
F2	2	1	Bx/1	1743	100

Give Way Data - Movements - Conflicts

Arm	Traffic Stream	Movement	Destination Traffic Stream	Description	Controlling Type	Controlling Traffic Stream	Percentage Opposing (%)	Upstream Signals Visible	Conflict Shift	Conflict Duration
E2	2	1	Dx/1		TrafficStream	C/1	100	✓	0	0
F2	2	1	Bx/1		TrafficStream	A/1	100	✓	0	0

Local OD Matrix - Local Matrix: 1

Normal Input Flows (PCU/hr)

		To			
		1	2	3	4
From	1	0	13	498	188
	2	16	0	249	213
	3	416	169	0	42
	4	58	154	37	0

Bus Input Flows not shown as they are blank.

Tram Input Flows not shown as they are blank.

Pedestrian Input Flows not shown as they are blank.

Locations

OD Matrix	Location	Name	Entries	Exits
1	1	(untitled)	C/1	Cx/1
1	2	(untitled)	D/1	Dx/1
1	3	(untitled)	A/1	Ax/1
1	4	(untitled)	B/1	Bx/1

Normal Paths and Flows

OD Matrix	Path	Description	From Location	To Location	Path Items	Allocation Type	Normal Calculated Flow (PCU/hr)
1	1		1	2	C/1,Dx/1	Normal	13
1	2		1	3	C/1,F1/1,F2/1,Ax/1	Normal	498
1	3		1	4	C/1,F1/1,F2/2,Bx/1	Normal	188
1	4		2	1	D/1,Cx/1	Normal	16
1	5		2	3	D/1,F1/1,F2/1,Ax/1	Normal	249
1	6		2	4	D/1,F1/1,F2/2,Bx/1	Normal	213
1	7		3	4	A/1,Bx/1	Normal	42
1	9		3	1	A/1,E1/1,E2/1,Cx/1	Normal	416
1	10		3	2	A/1,E1/1,E2/2,Dx/1	Normal	169
1	11		4	3	B/1,Ax/1	Normal	37
1	12		4	1	B/1,E1/1,E2/1,Cx/1	Normal	58
1	13		4	2	B/1,E1/1,E2/2,Dx/1	Normal	154

Signal Timings

Network Default: 120s cycle time; 120 steps

Controller Stream 1

Controller Stream	Name	Description	Use Sequence	Cycle Time Source	Cycle Time (s)
1	(untitled)		1	NetworkDefault	120

Controller Stream 1 - Properties

Controller Stream	Manufacturer Name	Type	Model Number	(Telephone) Line Number	Site Number	Grid Reference	Gaining Delay Type
1	Unspecified						Absolute

Controller Stream 1 - Optimisation

Controller Stream	Allow Offset Optimisation	Allow Green Split Optimisation	Optimisation Level	Auto Redistribute	Enable Stage Constraint
1	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Offsets And Green Splits	<input checked="" type="checkbox"/>	

Phases

Controller Stream	Phase	Name	Minimum Green (s)	Maximum Green (s)	Relative Start Displacement (s)	Relative End Displacement (s)	Type
1	A	(untitled)	7	300	0	0	Not Specified
1	B	(untitled)	7	300	0	0	Not Specified
1	C	(untitled)	7	300	0	0	Not Specified
1	D	(untitled)	7	300	0	0	Not Specified
1	P	(untitled)	7	300	0	0	Not Specified

Library Stages

Controller Stream	Library Stage	Phases In Stage	User Stage Minimum (s)
1	1	A,C	61
1	2	C,D,P	14
1	3	B	14

Stage Sequences

Controller Stream	Sequence	Name	Multiple Cycling	Stage IDs	Stage Ends
1	1	(untitled)	Single	1,2,3	5,35,54

Resultant Stages

Controller Stream	Stage	Is Base Stage	Library Stage ID	Phases In This Stage	Stage Start (s)	Stage End (s)	Stage Duration (s)	User Stage Minimum (s)	Stage Minimum (s)
1	1	<input checked="" type="checkbox"/>	1	A,C	64	5	61	61	61
1	2	<input checked="" type="checkbox"/>	2	C,D,P	12	35	23	14	14
1	3	<input checked="" type="checkbox"/>	3	B	40	54	14	14	14

Resultant Phase Green Periods

Controller Stream	Phase	Green Period	Is Base Green Period	Start Time (s)	End Time (s)	Duration (s)
1	A	1	<input checked="" type="checkbox"/>	64	5	61
1	B	1	<input checked="" type="checkbox"/>	40	54	14
1	C	1	<input checked="" type="checkbox"/>	64	35	91
1	D	1	<input checked="" type="checkbox"/>	12	35	23
1	P	1	<input checked="" type="checkbox"/>	10	35	25

Intergreen Matrix for Controller Stream 1

		To				
		A	B	C	D	P
A		0				
				7	5	

From	B	10	10	5	
	C		5		
	D	5	5		
	P	3			

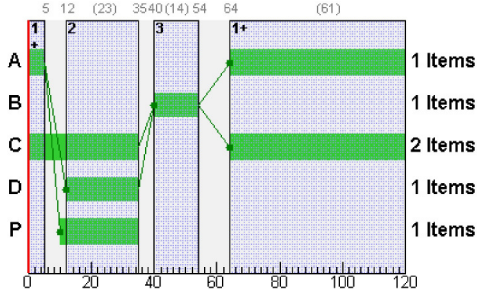
Interstage Matrix for Controller Stream 1

From	To		
	1	2	3
	1	0	7
	2	5	0
3	10	10	0

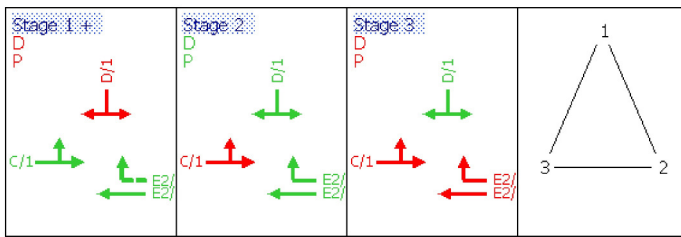
Banned Stage transitions for Controller Stream 1

From	To		
	1	2	3
	1		
	2		
3			

Phase Timings Diagram for Controller Stream 1



Stage Sequence Diagram for Controller Stream 1



Controller Stream 2

Controller Stream	Name	Description	Use Sequence	Cycle Time Source	Cycle Time (s)
2	(untitled)		1	NetworkDefault	120

Controller Stream 2 - Properties

Controller Stream	Manufacturer Name	Type	Model Number	(Telephone) Line Number	Site Number	Grid Reference	Gaining Delay Type
2	Unspecified						Absolute

Controller Stream 2 - Optimisation

Controller Stream	Allow Offset Optimisation	Allow Green Split Optimisation	Optimisation Level	Auto Redistribute	Enable Stage Constraint
2	✓	✓	Offsets And Green Splits	✓	

Phases

Controller Stream	Phase	Name	Minimum Green (s)	Maximum Green (s)	Relative Start Displacement (s)	Relative End Displacement (s)	Type
2	H	(untitled)	7	300	0	0	Not Specified
2	J	(untitled)	7	300	0	0	Not Specified
2	K	(untitled)	7	300	0	0	Not Specified
2	L	(untitled)	7	300	0	0	Not Specified

Library Stages

Controller Stream	Library Stage	Phases In Stage	User Stage Minimum (s)
2	1	H,J	61
2	2	H,L	13
2	3	K	13

Stage Sequences

Controller Stream	Sequence	Name	Multiple Cycling	Stage IDs	Stage Ends
2	1	(untitled)	Single	1,2,3	35,56,83

Resultant Stages

Controller Stream	Stage	Is Base Stage	Library Stage ID	Phases In This Stage	Stage Start (s)	Stage End (s)	Stage Duration (s)	User Stage Minimum (s)	Stage Minimum (s)
2	1	✓	1	H,J	93	35	62	61	61
2	2	✓	2	H,L	42	56	14	13	13
2	3	✓	3	K	61	83	22	13	13

Resultant Phase Green Periods

Controller Stream	Phase	Green Period	Is Base Green Period	Start Time (s)	End Time (s)	Duration (s)
2	H	1	✓	93	56	83

2	J	1	✓	93	35	62
2	K	1	✓	61	83	22
2	L	1	✓	42	56	14

Intergreen Matrix for Controller Stream 2

		To			
		H	J	K	L
From	H			5	
	J			5	7
	K	10	10		7
	L		7	5	

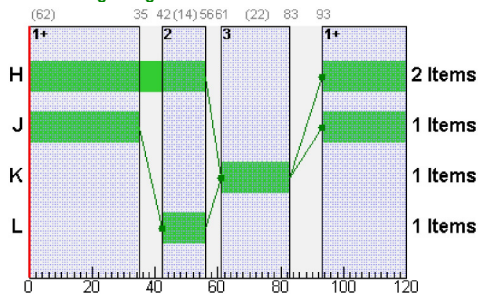
Interstage Matrix for Controller Stream 2

		To		
		1	2	3
From	1	0	7	5
	2	7	0	5
	3	10	10	0

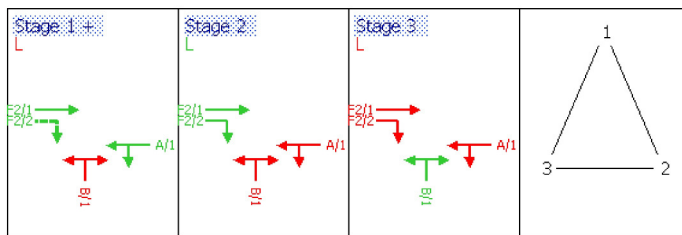
Banned Stage transitions for Controller Stream 2

		To		
		1	2	3
From	1			
	2			
	3			

Phase Timings Diagram for Controller Stream 2



Stage Sequence Diagram for Controller Stream 2



TRANSYT 12 Tables

Resultant Stages

ID	Stage	Is Base Stage	Library Stage ID	Phases In This Stage	TRANSYT Stage Start (s)	TRANSYT Preceding Interstage (s)	TRANSYT Stage Minimum (s)
1	1	✓	1	A,C	54	10	71
1	2	✓	2	C,D,P	5	7	21
1	3	✓	3	B	35	5	19
2	1	✓	1	H,J	83	10	71
2	2	✓	2	H,L	35	7	20
2	3	✓	3	K	56	5	18

Resultant Phase Green Periods

ID	ID	Green Period	TRANSYT Starting Stage (s)	TRANSYT Ending Stage (s)	TRANSYT Start Lag (s)	TRANSYT End Lag (s)
1	A	1	1	2	10	0
1	B	1	3	1	5	0
1	C	1	1	3	10	0
1	D	1	2	3	7	0
1	P	1	2	3	5	0
2	H	1	1	3	10	0
2	J	1	1	2	10	0
2	K	1	3	1	5	0
2	L	1	2	3	7	0

Stage Timings (TRANSYT 12 timings)

Network Default: 120s cycle time; 120 steps

Controller Stream	Number of Stages	Stage 1	Stage 2	Stage 3
1	3	54	5	35
2	3	83	35	56

Traffic Stream Green Times

Arm	Traffic Stream	Traffic Node	Controller Stream	Phase	Green Period 1		
					Start	End	Duration
A	1	2	2	J	93	35	62
B	1	2	2	K	61	83	22
C	1	1	1	A	64	5	61
D	1	1	1	B	40	54	14
E2	1	1	1	C	64	35	91
E2	2	1	1	C	64	35	91
F2	1	2	2	H	93	56	83
F2	2	2	2	H	93	56	83

Traffic Stream Results

Traffic Stream Results: Vehicle Summary

Time Segment	Arm	Traffic Stream	Degree Of Saturation (%)	Practical Reserve Capacity (%)	Calculated Flow Entering (PCU/hr)	Calculated Sat Flow (PCU/hr)	Actual Green (s per cycle)	Mean Delay Per Veh (s)	Mean Max Queue (PCU)	Utilised Storage (%)	Weighted Cost Of Delay (£ per hr)	Weighted Cost Of Stops (£ per hr)	Performance Index (£ per hr)
07:45-08:45	A	1	62	46	627	1940	62	22.82	15.12	86.94	56.43	5.54	61.97
07:45-08:45	B	1	74	21	249	1752	22	60.48	8.84	50.82	59.40	3.26	62.66
07:45-08:45	C	1	70	29	699	1939	61	26.03	18.27	105.07	71.76	6.73	78.49
07:45-08:45	D	1	80	13	478	1752	39	44.06	15.07	86.64	83.08	5.87	88.95
07:45-08:45	Ax	1	0	Unrestricted	784	Unrestricted	120	0.00	0.00	0.00	0.00	0.00	0.00
07:45-08:45	Bx	1	0	Unrestricted	443	Unrestricted	120	0.00	0.00	0.00	0.00	0.00	0.00
07:45-08:45	Cx	1	0	Unrestricted	490	Unrestricted	120	0.00	0.00	0.00	0.00	0.00	0.00
07:45-08:45	Dx	1	0	Unrestricted	336	Unrestricted	120	0.00	0.00	0.00	0.00	0.00	0.00
07:45-08:45	E1	1	39	131	797	2045	120	0.56	0.12	1.38	1.77	0.00	1.77
07:45-08:45	E2	1	32	182	474	1935	91	2.75	1.59	15.93	5.14	0.60	5.74
07:45-08:45	E2	2	56	61	323	756	91	27.33	6.34	63.35	34.82	2.41	37.23
07:45-08:45	F1	1	65	38	1148	1935	120	4.19	9.46	94.59	18.99	3.46	22.45
07:45-08:45	F2	1	55	63	747	1935	83	7.06	8.67	96.34	20.81	3.26	24.07
07:45-08:45	F2	2	78	15	401	730	83	34.27	7.78	86.44	54.21	3.08	57.29

Traffic Stream Results: Flows And Signals

Time Segment	Arm	Traffic Stream	Calculated Flow Entering (PCU/hr)	Calculated Flow Out (PCU/hr)	Flow Discrepancy (PCU/hr)	Adjusted Flow Warning	Calculated Sat Flow (PCU/hr)	Calculated Capacity (PCU/hr)	Degree Of Saturation (%)	DOS Threshold Exceeded	Practical Reserve Capacity (%)	Mean Modulus Of Error	Flow On Red Per Cycle (PCU)	Actual Green (s per cycle)	Effective Green (s per cycle)
07:45-08:45	A	1	627	627	0		1940	1019	62		46	0.00	0.0	62	63
07:45-08:45	B	1	249	249	0		1752	336	74		21	0.00	0.0	22	23
07:45-08:45	C	1	699	699	0		1939	1002	70		29	0.00	0.0	61	62
07:45-08:45	D	1	478	478	0		1752	599	80		13	0.00	0.0	39	41
07:45-08:45	Ax	1	784	784	0		Unrestricted	Unrestricted	0		Unrestricted	0.61	0.0	120	120
07:45-08:45	Bx	1	443	443	0		Unrestricted	Unrestricted	0		Unrestricted	0.87	0.0	120	120
07:45-08:45	Cx	1	490	490	0		Unrestricted	Unrestricted	0		Unrestricted	0.73	0.0	120	120
07:45-08:45	Dx	1	336	336	0		Unrestricted	Unrestricted	0		Unrestricted	1.01	0.0	120	120
07:45-08:45	E1	1	797	797	0		2045	2045	39		131	0.81	0.0	120	120
07:45-08:45	E2	1	474	474	0		1935	1484	32		182	0.78	0.0	91	92
07:45-08:45	E2	2	323	323	0		756	579	56		61	0.91	0.0	91	92
07:45-08:45	F1	1	1148	1148	0		1935	1763	65		38	0.59	0.0	120	120
07:45-08:45	F2	1	747	747	0		1935	1355	55		63	0.63	0.0	83	84
07:45-08:45	F2	2	401	401	0		730	511	78		15	0.65	0.0	83	84

Traffic Stream Results: Stops And Delays

Time Segment	Arm	Traffic Stream	Mean Cruise Time Per Veh (s)	Mean Delay Per Veh (s)	Uniform Delay (PCU-hr/hr)	Random Plus Oversat Delay (PCU-hr/hr)	Unweighted Cost Of Delay (£ per hr)	Weighted Cost Of Delay (£ per hr)	Mean Stops Per Veh (%)	Uniform Stops (Stops per hr)	Random Stops (Stops per hr)	Unweighted Cost Of Stops (£ per hr)	Weighted Cost Of Stops (£ per hr)
07:45-08:45	A	1	12.00	22.82	3.48	0.49	56.43	56.43	70.43	427.00	14.62	5.54	5.54
07:45-08:45	B	1	12.00	60.48	3.16	1.02	59.40	59.40	104.46	230.36	29.74	3.26	3.26
07:45-08:45	C	1	12.00	26.03	4.26	0.80	71.76	71.76	76.81	513.20	23.72	6.73	6.73
07:45-08:45	D	1	12.00	44.06	4.33	1.52	83.08	83.08	97.90	423.32	44.64	5.87	5.87
07:45-08:45	Ax	1	12.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
07:45-08:45	Bx	1	12.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
07:45-08:45	Cx	1	12.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
07:45-08:45	Dx	1	12.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
07:45-08:45	E1	1	6.48	0.56	0.00	0.12	1.77	1.77	0.00	0.00	0.00	0.00	0.00
07:45-08:45	E2	1	7.20	2.75	0.29	0.07	5.14	5.14	10.08	45.55	2.25	0.60	0.60
07:45-08:45	E2	2	7.20	27.33	2.10	0.35	34.82	34.82	59.56	181.99	10.38	2.41	2.41

08:45															
07:45-08:45	F1	1	7.20	4.19	0.73	0.60	18.99	18.99	24.01	257.60	18.07	3.46	3.46		
07:45-08:45	F2	1	6.48	7.06	1.13	0.34	20.81	20.81	34.82	249.97	10.11	3.26	3.26		
07:45-08:45	F2	2	6.48	34.27	2.44	1.37	54.21	54.21	61.27	205.56	40.15	3.08	3.08		

Traffic Stream Results: Queues And Blocking

Time Segment	Arm	Traffic Stream	Initial Queue (PCU)	Mean Max Queue (PCU)	Max Queue Storage (PCU)	Utilised Storage (%)	Average Link Excess Queue (PCU)	Average Limit Excess Queue (PCU)	Excess Queue Penalty (£ per hr)	Max End Of Green Queue (PCU)	Max End Of Red Queue (PCU)	Wasted Time Starvation (s per cycle)	Wasted Time Blocking Back (s per cycle)	Wasted Time Total (s per cycle)	Estimated Blocking
07:45-08:45	A	1	0.00	15.12	17.39	86.94	0.00	0.00	0.00	0.49	10.42	0.00	0.00	0.00	
07:45-08:45	B	1	0.00	8.84	17.39	50.82	0.00	0.00	0.00	1.02	7.73	0.00	0.00	0.00	
07:45-08:45	C	1	0.00	18.27	17.39	105.07	0.02	0.00	0.00	0.80	12.06	0.00	0.00	0.00	
07:45-08:45	D	1	0.00	15.07	17.39	86.64	0.00	0.00	0.00	2.28	11.48	0.00	0.00	0.00	
07:45-08:45	Ax	1	0.00	0.00	17.39	0.00	0.00	0.00	0.00			9.00	0.00	9.00	
07:45-08:45	Bx	1	0.00	0.00	17.39	0.00	0.00	0.00	0.00			30.00	0.00	30.00	
07:45-08:45	Cx	1	0.00	0.00	17.39	0.00	0.00	0.00	0.00			25.00	0.00	25.00	
07:45-08:45	Dx	1	0.00	0.00	17.39	0.00	0.00	0.00	0.00			57.00	0.00	57.00	
07:45-08:45	E1	1	0.00	0.12	9.00	1.38	0.00	0.00	0.00			34.00	0.00	34.00	
07:45-08:45	E2	1	0.00	1.59	10.00	15.93	0.00	0.00	0.00	0.07	1.58	22.00	0.00	22.00	
07:45-08:45	E2	2	0.00	6.34	10.00	63.35	0.00	0.00	0.00	0.35	0.96	0.00	0.00	0.00	
07:45-08:45	F1	1	0.00	9.46	10.00	94.59	0.00	0.00	0.00			17.00	10.65	27.65	
07:45-08:45	F2	1	0.00	8.67	9.00	96.34	0.00	0.00	0.00	0.34	8.61	8.00	0.00	8.00	
07:45-08:45	F2	2	0.00	7.78	9.00	86.44	0.00	0.00	0.00	1.37	4.63	4.00	0.00	4.00	

Traffic Stream Results: Journey Times

Time Segment	Arm	Traffic Stream	Distance Travelled (PCU-km/hr)	Time Spent (PCU-hr/hr)	Mean Journey Speed (kph)	JourneyTime (s)
07:45-08:45	A	1	62.70	6.06	10.34	34.82
07:45-08:45	B	1	24.90	5.01	4.97	72.48
07:45-08:45	C	1	69.90	7.38	9.47	38.03
07:45-08:45	D	1	47.80	7.44	6.42	56.06
07:45-08:45	Ax	1	78.40	2.61	30.00	12.00
07:45-08:45	Bx	1	44.30	1.48	30.00	12.00
07:45-08:45	Cx	1	49.00	1.63	30.00	12.00
07:45-08:45	Dx	1	33.60	1.12	30.00	12.00
07:45-08:45	E1	1	43.04	1.56	27.61	7.04
07:45-08:45	E2	1	28.44	1.31	21.71	9.95
07:45-08:45	E2	2	19.38	3.10	6.26	34.53
07:45-08:45	F1	1	68.88	3.63	18.96	11.39
07:45-08:45	F2	1	40.34	2.81	14.36	13.54
07:45-08:45	F2	2	21.65	4.54	4.77	40.75

Traffic Stream Results: Advanced

Time Segment	Arm	Traffic Stream	Degree Of Saturation Penalty (£ per hr)	Phase Min Max Penalty (£ per hr)	Intergreen Broken Penalty (£ per hr)	Stage Constraint Broken Penalty (£ per hr)	Ped Gap Accepting Penalty (£ per hr)	Warmed Up	Warmed Up Error	Mean Max Queue EoTS (PCU)	Max End Of Green Queue EoTS (PCU)	Max End Of Red Queue EoTS (PCU)	PCU Factor	Cost Of Penalties (£ per hr)	Unweighted Performance Index (£ per hr)	Performance Index (£ per hr)
07:45-08:45	A	1	0.00	0.00	0.00	0.00	0.00	✓	0.00	15.12	0.49	10.42	1.00	0.00	61.97	61.97
07:45-08:45	B	1	0.00	0.00	0.00	0.00	0.00	✓	0.00	8.86	1.04	7.75	1.00	0.00	62.66	62.66
07:45-08:45	C	1	0.00	0.00	0.00	0.00	0.00	✓	0.00	18.28	0.80	12.06	1.00	0.00	78.49	78.49
07:45-08:45	D	1	0.00	0.00	0.00	0.00	0.00	✓	0.00	15.10	2.31	11.51	1.00	0.00	88.95	88.95
07:45-08:45	Ax	1	0.00	0.00	0.00	0.00	0.00	✓	0.00	0.00			1.00	0.00	0.00	0.00
07:45-08:45	Bx	1	0.00	0.00	0.00	0.00	0.00	✓	0.00	0.00			1.00	0.00	0.00	0.00
07:45-08:45	Cx	1	0.00	0.00	0.00	0.00	0.00	✓	0.00	0.00			1.00	0.00	0.00	0.00
07:45-08:45	Dx	1	0.00	0.00	0.00	0.00	0.00	✓	0.00	0.00			1.00	0.00	0.00	0.00
07:45-08:45	E1	1	0.00	0.00	0.00	0.00	0.00	✓	0.00	0.12			1.00	0.00	1.77	1.77
07:45-08:45	E2	1	0.00	0.00	0.00	0.00	0.00	✓	0.00	1.59	0.07	1.58	1.00	0.00	5.74	5.74
07:45-08:45	E2	2	0.00	0.00	0.00	0.00	0.00	✓	0.00	6.34	0.35	0.96	1.00	0.00	37.23	37.23
07:45-08:45	F1	1	0.00	0.00	0.00	0.00	0.00	✓	0.00	9.46			1.00	0.00	22.45	22.45
07:45-08:45	F2	1	0.00	0.00	0.00	0.00	0.00	✓	0.00	8.67	0.34	8.61	1.00	0.00	24.07	24.07
07:45-08:45	F2	2	0.00	0.00	0.00	0.00	0.00	✓	0.00	7.81	1.40	4.65	1.00	0.00	57.29	57.29

Network Results

Run Summary

Analysis Set Used	Run Start Time	Run Finish Time	Modelling Start Time (HH:mm)	Network Cycle Time (s)	Total Network Delay (PCU-hr/hr)	Highest DOS (%)	Item with highest DOS	Number of oversaturated items	Percentage of oversaturated items (%)	Item with worst signalised PRC	Item with worst unsignalised PRC	Item with worst overall PRC	Network Within Capacity
A1 - Existing	26-Jul-17 1:40:31 PM	26-Jul-17 1:40:50 PM	07:45	120	28.62	79.85	D/1	0	0	D/1	F1/1	D/1	✓

Network Results: Vehicle Summary

Time Segment	Degree Of Saturation (%)	Practical Reserve Capacity (%)	Calculated Flow Entering (PCU/hr)	Actual Green (s per cycle)	Mean Delay Per Veh (s)	Weighted Cost Of Delay (£ per hr)	Weighted Cost Of Stops (£ per hr)	Performance Index (£ per hr)
07:45-08:45	80	13	7996	1252	12.89	406.41	34.21	440.61

Network Results: Pedestrian Summary

Time Segment	Degree Of Saturation (%)	Calculated Flow Entering (Ped/hr)	Actual Green (s per cycle)	Mean Delay Per Ped (s)	Weighted Cost Of Delay (£ per hr)	Performance Index (£ per hr)
07:45-08:45	0	0	0	0.00	0.00	0.00

Network Results: Flows And Signals

Time Segment	Calculated Flow Entering (PCU/hr)	Calculated Flow Out (PCU/hr)	Flow Discrepancy (PCU/hr)	Adjusted Flow Warning	Degree Of Saturation (%)	DOS Threshold Exceeded	Practical Reserve Capacity (%)	Actual Green (s per cycle)	Effective Green (s per cycle)
07:45-08:45	7996	7996	0		80		13	1252	1261

Network Results: Journey Times

Time Segment	Distance Travelled (PCU-km/hr)	Time Spent (PCU-hr/hr)	Mean Journey Speed (kph)
07:45-08:45	632.33	49.70	12.72

Point to Point Journey Time

Average Journey Time (s) for Local Matrix: 1

		To			
		1	2	3	4
From	1	0.0	50.0	77.8	117.0
	2	68.1	0.0	88.1	106.2
	3	64.1	79.7	0.0	46.8
	4	99.3	135.5	84.5	0.0

Path Journey Time

Path	From Location	To Location	Normal Calculated Flow (PCU/hr)	Normal Journey Time (s)	Calculated Total Flow (PCU/hr)	Avg Journey Time (s)
1	1	2	13	50.03	13	50.03
2	1	3	498	77.79	498	77.79
3	1	4	188	117.04	188	117.04
4	2	1	16	68.06	16	68.06
5	2	3	249	88.14	249	88.14
6	2	4	213	106.17	213	106.17
7	3	4	42	46.82	42	46.82
9	3	1	416	64.11	416	64.11
10	3	2	169	79.73	169	79.73
11	4	3	37	84.48	37	84.48
12	4	1	58	99.29	58	99.29
13	4	2	154	135.55	154	135.55

Final Prediction Table

Traffic Stream Results

Arm	Traffic Stream	Name	Traffic Node	SIGNALS			FLOWS		PERFORMANCE				PER PCU			QUEUES		WEIGHTS		PENALTIES
				Controller Stream	Phase	Phase2	Calculated Flow Entering (PCU/hr)	Calculated Sat Flow (PCU/hr)	Actual Green (s per cycle)	Wasted Time Total (s per cycle)	Degree Of Saturation (%)	Practical Reserve Capacity (%)	JourneyTime (s)	Mean Delay Per Veh (s)	Mean Stops Per Veh (%)	Mean Max Queue (PCU)	Max End Of Red Queue (PCU)	Delay Weighting Multiplier (%)	Stop Weighting Multiplier (%)	
A	1	Wakefield Rd NB	2	2	J		627	1940	62	0.00	62	46	34.82	22.82	70.43	15.12	10.42	100	100	0.00
B	1	Smithies Ln	2	2	K		249	1752	22	0.00	74	21	72.48	60.48	104.46	8.84	7.73	100	100	0.00
C	1	Wakefield Rd SB	1	1	A		699 <	1939	61	0.00	70	29	38.03	26.03	76.81	18.27 +	12.06	100	100	0.00
D	1	Carlton Rd	1	1	B	P	478	1752	39	0.00	80	13	56.06	44.06	97.90	15.07	11.48	100	100	0.00
Ax	1	(untitled)					784	Unrestricted	120	9.00	0	Unrestricted	12.00	0.00	0.00	0.00		100	100	0.00
Bx	1	(untitled)					443	Unrestricted	120	30.00	0	Unrestricted	12.00	0.00	0.00	0.00		100	100	0.00
Cx	1	(untitled)					490	Unrestricted	120	25.00	0	Unrestricted	12.00	0.00	0.00	0.00		100	100	0.00
Dx	1	(untitled)					336	Unrestricted	120	57.00	0	Unrestricted	12.00	0.00	0.00	0.00		100	100	0.00
E1	1	A61 NB Internal Feeder	1				797	2045	120	34.00	39	131	7.04	0.56	0.00	0.12		100	100	0.00
E2	1	A61 NB Internal NS	1	1	C		474	1935	91	22.00	32	182	9.95	2.75	10.08	1.59	1.58	100	100	0.00
E2	2	A61 NB Internal OS	1	1	C	D	323	756	91	0.00	56	61	34.53	27.33	59.56	6.34	0.96	100	100	0.00
F1	1	A61 SB Internal Feeder	2				1148	1935	120	27.65	65	38	11.39	4.19	24.01	9.46		100	100	0.00
F2	1	A61 SB Internal NS	2	2	H		747	1935	83	8.00	55	63	13.54	7.06	34.82	8.67	8.61	100	100	0.00
F2	2	A61 SB Internal OS	2	2	H	L	401	730	83	4.00	78	15	40.75	34.27	61.27	7.78	4.63	100	100	0.00

Network Results

	Distance Travelled (PCU-km/hr)	Time Spent (PCU-hr/hr)	Mean Journey Speed (kph)	Uniform Delay (PCU-hr/hr)	Random Plus Oversat Delay (PCU-hr/hr)	Weighted Cost Of Delay (£ per hr)	Weighted Cost Of Stops (£ per hr)	Excess Queue Penalty (£ per hr)	Performance Index (£ per hr)
Total	632.33	49.70	12.72	21.92	6.70	406.41	34.21	0.00	440.61
Bus	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tram	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pedestrians									
Other (Normal)	632.33	49.70	12.72	21.92	6.70	406.41	34.21	0.00	440.61

- B = at least one source for this link carries Bus
- T = at least one source for this link carries Tram

- *P* = this link is a pedestrian link
- *<* = adjusted flow warning (upstream links are over-saturated)
- *!* = DoS threshold exceeded
- *f* = average saturation flow for flared link
- *+* = Traffic Stream - Normal, Bus or Tram Stop or Delay weighting has been set to a value other than 100%
- *^* = Traffic Stream - Normal, Bus or Tram Stop or Delay Path weighting has been set to a value other than 100%
- *+* = average link excess queue is greater than 0
- **P.I. = PERFORMANCE INDEX**

Set Used	Time	Time	(HH:mm)	(s)	hr/hr	DOS (%)	DOS	Items	Items (%)	signalised PRC	PRC	overall PRC	Capacity
A1 - Existing	26-Jul-17 1:43:17 PM	26-Jul-17 1:43:34 PM	17:00	120	28.51	84.37	B/1	0	0	B/1	F1/1	B/1	✓

Analysis Set Details

Name	Description	Demand Set	Include In Report	Locked
Existing		D6	✓	

Demand Set Details

Demand Set	Name	Description	Composite	Demand Sets	Start Time (HH:mm)	Locked
D6	2022 PM DESIGN				17:00	

Network Options

Network Timings

Network Cycle Time (s)	Restrict To SCOOT Cycle Times	Time Segment Length (min)	Number Of Time Segments	Modelled Time Period (min)
120		60	1	60

Signals Options

Start Displacement (s)	End Displacement (s)
2	3

Advanced

Phase Minimum Broken Penalty (£)	Phase Maximum Broken Penalty (£)	Intergreen Broken Penalty (£)	Starting Red-with-Amber (s)
10000.00	10000.00	10000.00	2

Traffic Options

Traffic Model	Vehicle Flow Scaling Factor (%)	Pedestrian Flow Scaling Factor (%)	Cruise Times Or Speeds
Platoon Dispersion (PDM)	100	100	Cruise Speeds

Advanced

Resolution	DOS Threshold (%)	Cruise Scaling Factor (%)	Use Link Stop Weightings	Use Link Delay Weightings	Exclude Pedestrian Links	Random Delay Mode	Type of Vehicle-in-Service	Type Of Random Parameter	PCU Length (m)	Calculate results for Path Segments
1	90	100	✓	✓		Complex	Uniform (TRANSYT)	Uniform (TRANSYT)	5.75	

Normal Parameters

Dispersion Type	Dispersion Coefficient	Travel Time Coefficient
Default	35	80

Normal Traffic Types

Name	PCU Factor
Normal	1.00

Bus Parameters

Name	PCU Factor	Dispersion Coefficient1	Dispersion Coefficient2	Acceleration (ms ⁻²)	Travel Time Coefficient1	Travel Time Coefficient2
Bus	1.00	70	15	0.47	30	85

Tram Parameters

Name	PCU Factor	Dispersion Coefficient1	Dispersion Coefficient2	Acceleration (ms ⁻²)	Travel Time Coefficient1	Travel Time Coefficient2
Tram	1.00	0	0	0.47	100	100

Pedestrian Parameters

Dispersion Type	Dispersion Coefficient	Travel Time Coefficient
Default	35	80

Optimisation Options

Enable Optimisation	Auto Redistribute	Optimisation Level	Enable Out Profile Accuracy
✓	✓	Offsets And Green Splits	✓

Advanced

Optimisation Type	Hill Climb Increments	OUTProfile Accuracy	Use Enhanced Optimisation	Auto Optimisation Order	Optimisation Order
Hill Climb (Fast)	15,40,-1,15,40,1,-1,1	50,50,5,5,0,5,0,5,0,0,5,0,0,5		✓	1,2

Economics

Vehicle Monetary Value Of Delay (£ per PCU-hr)	Vehicle Monetary Value Of Stops (£ per 100 stops)	Pedestrian Monetary Value Of Delay (£ per Ped-hr)
14.20	2.60	14.20

Traffic Nodes

Traffic Nodes

ID	Name	Description
1	(untitled)	
2	(untitled)	

Arms and Traffic Streams

Arms

Arm	Name	Description	Traffic Node

A	Wakefield Rd NB		2
B	Smithies Ln		2
C	Wakefield Rd SB		1
D	Carlton Rd		1
Ax	(untitled)		
Bx	(untitled)		
Cx	(untitled)		
Dx	(untitled)		
E1	A61 NB Internal Feeder		1
E2	A61 NB Internal		1
F1	A61 SB Internal Feeder		2
F2	A61 SB Internal		2

Traffic Streams

Arm	Traffic Stream	Name	Description	Auto Length	Length (m)	Has Restricted Flow	Saturation Flow Source	Saturation Flow (PCU/hr)	Cell Saturation Flow (PCU/hr)	Is Signal Controlled	Is Give Way	Traffic Type	Allow Nearside Turn On Red
A	1	Wakefield Rd NB			100.00	✓	SumOfLanes	1940		✓		Normal	
B	1	Smithies Ln			100.00	✓	SumOfLanes	1752		✓		Normal	
C	1	Wakefield Rd SB			100.00	✓	SumOfLanes	1939		✓		Normal	
D	1	Carlton Rd			100.00	✓	SumOfLanes	1752		✓		Normal	
Ax	1	(untitled)			100.00							Normal	
Bx	1	(untitled)			100.00							Normal	
Cx	1	(untitled)			100.00							Normal	
Dx	1	(untitled)			100.00							Normal	
E1	1	A61 NB Internal Feeder			54.00	✓	SumOfLanes	2045	2045			Normal	
E2	1	A61 NB Internal NS			60.00	✓	SumOfLanes	1935	1935	✓		Normal	
E2	2	A61 NB Internal OS			60.00	✓	SumOfLanes	1735	1735	✓	✓	Normal	
F1	1	A61 SB Internal Feeder			60.00	✓	SumOfLanes	1935	1935			Normal	
F2	1	A61 SB Internal NS			54.00	✓	SumOfLanes	1935	1935	✓		Normal	
F2	2	A61 SB Internal OS			54.00	✓	SumOfLanes	1743	1743	✓	✓	Normal	

Lanes

Arm	Traffic Stream	Lane	Name	Description	Use RR67	Surface Condition	Site Quality Factor	Gradient (%)	Width (m)	Use Connector Turning Radius	Proportion That Turn (%)	Turning Radius (m)	Nearside Lane	Saturation Flow (PCU/hr)
A	1	1	(untitled)		✓	N/A	N/A	0	3.40		5	10.00	✓	1940
B	1	1	(untitled)		✓	N/A	N/A	0	4.00		100	10.00	✓	1752
C	1	1	(untitled)		✓	N/A	N/A	0	3.30		2	10.00	✓	1939
D	1	1	(untitled)		✓	N/A	N/A	0	4.00		100	10.00	✓	1752
Ax	1	1	(untitled)							✓				
Bx	1	1	(untitled)							✓				
Cx	1	1	(untitled)							✓				
Dx	1	1	(untitled)							✓				
E1	1	1	(untitled)		✓	N/A	N/A	0	4.30		0	100.00	✓	2045
E2	1	1	(untitled)		✓	N/A	N/A	0	3.20		0	100.00	✓	1935
E2	2	1	(untitled)		✓	N/A	N/A	0	2.40		100	10.00		1735
F1	1	1	(untitled)		✓	N/A	N/A	0	3.20		0	100.00	✓	1935
F2	1	1	(untitled)		✓	N/A	N/A	0	3.20		0	100.00	✓	1935
F2	2	1	(untitled)		✓	N/A	N/A	0	2.50		100	10.00		1743

Modelling

Arm	Traffic Stream	Traffic Model	Stop Weighting Multiplier (%)	Delay Weighting Multiplier (%)	Assignment Cost Weighting (%)	Exclude From Results Calculation	Max Queue Storage (PCU)	Has Queue Limit	Queue Limit (PCU)	Excess Queue Penalty (£)	Has Degree Of Saturation Limit
A	1	NetworkDefault	100	100	100		0.00				
B	1	NetworkDefault	100	100	100		0.00				
C	1	NetworkDefault	100	100	100		0.00				
D	1	NetworkDefault	100	100	100		0.00				
Ax	1	NetworkDefault	100	100	100		0.00				
Bx	1	NetworkDefault	100	100	100		0.00				
Cx	1	NetworkDefault	100	100	100		0.00				
Dx	1	NetworkDefault	100	100	100		0.00				
E1	1	CTM	100	100	100		9.00				
E2	1	CTM	100	100	100		10.00	✓	10.00	0.00	
E2	2	CTM	100	100	100		10.00	✓	10.00	0.00	
F1	1	CTM	100	100	100		10.00				
F2	1	CTM	100	100	100		9.00	✓	9.00	0.00	
F2	2	CTM	100	100	100		9.00	✓	9.00	0.00	

Modelling - Advanced

Arm	Traffic Stream	Cruise Sensitivity Multiplier (%)	Initial Queue (PCU)	Type of Vehicle-in-Service	Vehicle-in-Service	Type Of Random Parameter	Random Parameter	Auto Cycle Time	Cycle Time
A	1	100	0.00	NetworkDefault	Not-Included	NetworkDefault	0.50	✓	120
B	1	100	0.00	NetworkDefault	Not-Included	NetworkDefault	0.50	✓	120
C	1	100	0.00	NetworkDefault	Not-Included	NetworkDefault	0.50	✓	120
D	1	100	0.00	NetworkDefault	Not-Included	NetworkDefault	0.50	✓	120
Ax	1	100	0.00	NetworkDefault	Not-Included	NetworkDefault	0.50	✓	120
Bx	1	100	0.00	NetworkDefault	Not-Included	NetworkDefault	0.50	✓	120
Cx	1	100	0.00	NetworkDefault	Not-Included	NetworkDefault	0.50	✓	120
Dx	1	100	0.00	NetworkDefault	Not-Included	NetworkDefault	0.50	✓	120
E1	1	100	0.00	NetworkDefault	Not-Included	NetworkDefault	0.50	✓	120
E2	1	100	0.00	NetworkDefault	Not-Included	NetworkDefault	0.50	✓	120
E2	2	100	0.00	NetworkDefault	Not-Included	NetworkDefault	0.50	✓	120
F1	1	100	0.00	NetworkDefault	Not-Included	NetworkDefault	0.50	✓	120
F2	1	100	0.00	NetworkDefault	Not-Included	NetworkDefault	0.50	✓	120
F2	2	100	0.00	NetworkDefault	Not-Included	NetworkDefault	0.50	✓	120

Normal - Modelling

Arm	Traffic Stream	Stop Weighting (%)	Delay Weighting (%)
A	1	100	100
B	1	100	100
C	1	100	100
D	1	100	100
Ax	1	100	100
Bx	1	100	100
Cx	1	100	100
Dx	1	100	100
E1	1	100	100
E2	1	100	100
E2	2	100	100
F1	1	100	100
F2	1	100	100
F2	2	100	100

Flows

Arm	Traffic Stream	Total Flow (PCU/hr)	Normal Flow (PCU/hr)
A	1	849	849
B	1	271	271
C	1	612	612
D	1	382	382
Ax	1	701	701
Bx	1	303	303
Cx	1	687	687
Dx	1	423	423
E1	1	1081	1081
E2	1	676	676
E2	2	405	405
F1	1	965	965
F2	1	686	686
F2	2	279	279

Signals

Arm	Traffic Stream	Controller Stream	Phase	Phase2 Enabled	Phase2
A	1	2	J		
B	1	2	K		
C	1	1	A		
D	1	1	B	✓	P
E2	1	1	C		
E2	2	1	C	✓	D
F2	1	2	H		
F2	2	2	H	✓	L

Entry Sources

Arm	Traffic Stream	Normal Cruise Time (seconds)	Normal Cruise Speed (kph)
A	1	12.00	30.00
B	1	12.00	30.00
C	1	12.00	30.00
D	1	12.00	30.00

Sources

Arm	Traffic Stream	Source	Source Type	Source Traffic Stream	Destination Traffic Stream	Normal Cruise Time (seconds)	Normal Cruise Speed (kph)	Auto Turning Radius	Traffic Turn Style	Turning Radius (m)
Ax	1	1	TrafficStream	F2/1	Ax/1	12.00	30.00	✓	Straight	Straight Movement
Bx	1	1	TrafficStream	A/1	Bx/1	12.00	30.00	✓	Nearside	25.04
Cx	1	1	TrafficStream	E2/1	Cx/1	12.00	30.00	✓	Straight	Straight Movement
Dx	1	1	TrafficStream	C/1	Dx/1	12.00	30.00	✓	Nearside	50.04
E1	1	1	TrafficStream	B/1	E1/1	6.48	30.00	✓	Nearside	25.04
E2	1	1	TrafficStream	E1/1	E2/1	7.20	30.00	✓	Straight	Straight Movement
E2	2	1	TrafficStream	E1/1	E2/2	7.20	30.00	✓	Straight	Straight Movement
F1	1	1	TrafficStream	D/1	F1/1	7.20	30.00	✓	Nearside	25.04
F2	1	1	TrafficStream	F1/1	F2/1	6.48	30.00	✓	Straight	Straight Movement
F2	2	1	TrafficStream	F1/1	F2/2	6.48	30.00	✓	Straight	Straight Movement
Ax	1	2	TrafficStream	B/1	Ax/1	12.00	30.00	✓	Offside	62.46
Bx	1	2	TrafficStream	F2/2	Bx/1	12.00	30.00	✓	Offside	67.37
Cx	1	2	TrafficStream	D/1	Cx/1	12.00	30.00	✓	Offside	74.96
Dx	1	2	TrafficStream	E2/2	Dx/1	12.00	30.00	✓	Offside	49.96
E1	1	2	TrafficStream	A/1	E1/1	6.48	30.00	✓	Straight	Straight Movement
F1	1	2	TrafficStream	C/1	F1/1	7.20	30.00	✓	Straight	Straight Movement

Give Way Data

Arm	Traffic Stream	Opposed Traffic	Use Step-wise Opposed Turn Model	Number Of Storage Spaces	Use Connector Turning Radius	Radius Of Turn (m)	Visibility Restricted
E2	2	Movement	✓	2		10.00	
F2	2	Movement	✓	2		10.00	

Give Way Data - Movements

Arm	Traffic Stream	Movement	Destination Traffic Stream	Max Flow (Unopposed) (PCU/hr)	Percentage Opposed (%)
E2	2	1	Dx/1	1735	100
F2	2	1	Bx/1	1743	100

Give Way Data - Movements - Conflicts

Arm	Traffic Stream	Movement	Destination Traffic Stream	Description	Controlling Type	Controlling Traffic Stream	Percentage Opposing (%)	Upstream Signals Visible	Conflict Shift	Conflict Duration
E2	2	1	Dx/1		TrafficStream	C/1	100	✓	0	0
F2	2	1	Bx/1		TrafficStream	A/1	100	✓	0	0

Local OD Matrix - Local Matrix: 1

Normal Input Flows (PCU/hr)

		To			
		1	2	3	4
From	1	0	18	497	97
	2	11	0	189	182
	3	574	251	0	24
	4	102	154	15	0

Bus Input Flows not shown as they are blank.

Tram Input Flows not shown as they are blank.

Pedestrian Input Flows not shown as they are blank.

Locations

OD Matrix	Location	Name	Entries	Exits
1	1	(untitled)	C/1	Cx/1
1	2	(untitled)	D/1	Dx/1
1	3	(untitled)	A/1	Ax/1
1	4	(untitled)	B/1	Bx/1

Normal Paths and Flows

OD Matrix	Path	Description	From Location	To Location	Path Items	Allocation Type	Normal Calculated Flow (PCU/hr)
1	1		1	2	C/1,Dx/1	Normal	18
1	2		1	3	C/1,F1/1,F2/1,Ax/1	Normal	497
1	3		1	4	C/1,F1/1,F2/2,Bx/1	Normal	97
1	4		2	1	D/1,Cx/1	Normal	11
1	5		2	3	D/1,F1/1,F2/1,Ax/1	Normal	189
1	6		2	4	D/1,F1/1,F2/2,Bx/1	Normal	182
1	7		3	4	A/1,Bx/1	Normal	24
1	9		3	1	A/1,E1/1,E2/1,Cx/1	Normal	574
1	10		3	2	A/1,E1/1,E2/2,Dx/1	Normal	251
1	11		4	3	B/1,Ax/1	Normal	15
1	12		4	1	B/1,E1/1,E2/1,Cx/1	Normal	102
1	13		4	2	B/1,E1/1,E2/2,Dx/1	Normal	154

Signal Timings

Network Default: 120s cycle time; 120 steps

Controller Stream 1

Controller Stream	Name	Description	Use Sequence	Cycle Time Source	Cycle Time (s)
1	(untitled)		1	NetworkDefault	120

Controller Stream 1 - Properties

Controller Stream	Manufacturer Name	Type	Model Number	(Telephone) Line Number	Site Number	Grid Reference	Gaining Delay Type
1	Unspecified						Absolute

Controller Stream 1 - Optimisation

Controller Stream	Allow Offset Optimisation	Allow Green Split Optimisation	Optimisation Level	Auto Redistribute	Enable Stage Constraint
1	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Offsets And Green Splits	<input checked="" type="checkbox"/>	

Phases

Controller Stream	Phase	Name	Minimum Green (s)	Maximum Green (s)	Relative Start Displacement (s)	Relative End Displacement (s)	Type
1	A	(untitled)	7	300	0	0	Not Specified
1	B	(untitled)	7	300	0	0	Not Specified
1	C	(untitled)	7	300	0	0	Not Specified
1	D	(untitled)	7	300	0	0	Not Specified
1	P	(untitled)	7	300	0	0	Not Specified

Library Stages

Controller Stream	Library Stage	Phases In Stage	User Stage Minimum (s)
1	1	A,C	61
1	2	C,D,P	14
1	3	B	14

Stage Sequences

Controller Stream	Sequence	Name	Multiple Cycling	Stage IDs	Stage Ends
1	1	(untitled)	Single	1,2,3	8,34,53

Resultant Stages

Controller Stream	Stage	Is Base Stage	Library Stage ID	Phases In This Stage	Stage Start (s)	Stage End (s)	Stage Duration (s)	User Stage Minimum (s)	Stage Minimum (s)
1	1	<input checked="" type="checkbox"/>	1	A,C	63	8	65	61	61
1	2	<input checked="" type="checkbox"/>	2	C,D,P	15	34	19	14	14
1	3	<input checked="" type="checkbox"/>	3	B	39	53	14	14	14

Resultant Phase Green Periods

Controller Stream	Phase	Green Period	Is Base Green Period	Start Time (s)	End Time (s)	Duration (s)
1	A	1	<input checked="" type="checkbox"/>	63	8	65
1	B	1	<input checked="" type="checkbox"/>	39	53	14
1	C	1	<input checked="" type="checkbox"/>	63	34	91
1	D	1	<input checked="" type="checkbox"/>	15	34	19
1	P	1	<input checked="" type="checkbox"/>	13	34	21

Intergreen Matrix for Controller Stream 1

		To				
		A	B	C	D	P
A		0			7	5

From	B	10	10	5	
	C	5			
	D	5	5		
	P	3			

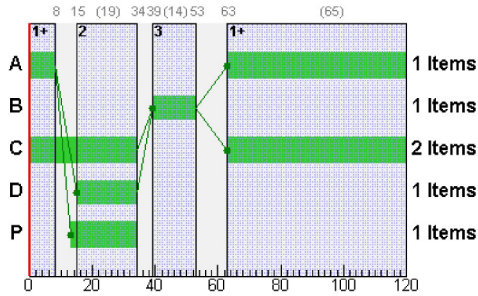
Interstage Matrix for Controller Stream 1

From	To		
	1	2	3
	1	0	7
	2	5	0
3	10	10	0

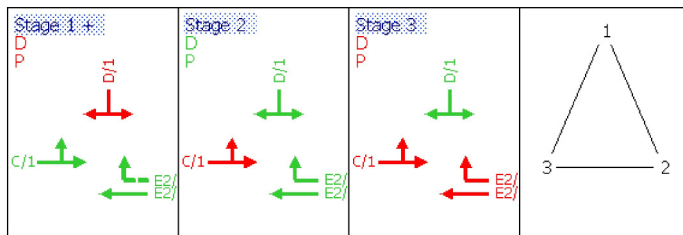
Banned Stage transitions for Controller Stream 1

From	To		
	1	2	3
	1		
	2		
3			

Phase Timings Diagram for Controller Stream 1



Stage Sequence Diagram for Controller Stream 1



Controller Stream 2

Controller Stream	Name	Description	Use Sequence	Cycle Time Source	Cycle Time (s)
2	(untitled)		1	NetworkDefault	120

Controller Stream 2 - Properties

Controller Stream	Manufacturer Name	Type	Model Number	(Telephone) Line Number	Site Number	Grid Reference	Gaining Delay Type
2	Unspecified						Absolute

Controller Stream 2 - Optimisation

Controller Stream	Allow Offset Optimisation	Allow Green Split Optimisation	Optimisation Level	Auto Redistribute	Enable Stage Constraint
2	✓	✓	Offsets And Green Splits	✓	

Phases

Controller Stream	Phase	Name	Minimum Green (s)	Maximum Green (s)	Relative Start Displacement (s)	Relative End Displacement (s)	Type
2	H	(untitled)	7	300	0	0	Not Specified
2	J	(untitled)	7	300	0	0	Not Specified
2	K	(untitled)	7	300	0	0	Not Specified
2	L	(untitled)	7	300	0	0	Not Specified

Library Stages

Controller Stream	Library Stage	Phases In Stage	User Stage Minimum (s)
2	1	H,J	61
2	2	H,L	13
2	3	K	13

Stage Sequences

Controller Stream	Sequence	Name	Multiple Cycling	Stage IDs	Stage Ends
2	1	(untitled)	Single	1,2,3	32,52,78

Resultant Stages

Controller Stream	Stage	Is Base Stage	Library Stage ID	Phases In This Stage	Stage Start (s)	Stage End (s)	Stage Duration (s)	User Stage Minimum (s)	Stage Minimum (s)
2	1	✓	1	H,J	88	32	64	61	61
2	2	✓	2	H,L	39	52	13	13	13
2	3	✓	3	K	57	78	21	13	13

Resultant Phase Green Periods

Controller Stream	Phase	Green Period	Is Base Green Period	Start Time (s)	End Time (s)	Duration (s)
2	H	1	✓	88	52	84

2	J	1	✓	88	32	64
2	K	1	✓	57	78	21
2	L	1	✓	39	52	13

Intergreen Matrix for Controller Stream 2

		To			
		H	J	K	L
From	H			5	
	J			5	7
	K	10	10		7
	L		7	5	

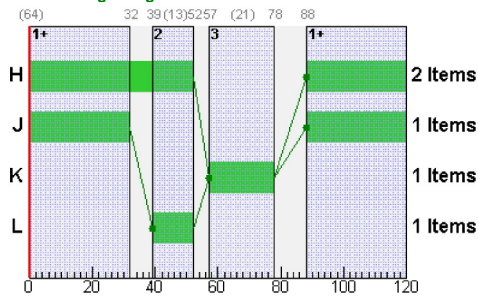
Interstage Matrix for Controller Stream 2

		To		
		1	2	3
From	1	0	7	5
	2	7	0	5
	3	10	10	0

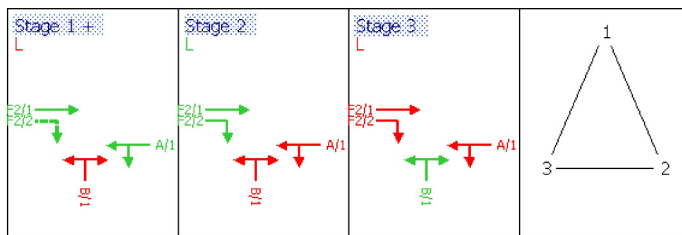
Banned Stage transitions for Controller Stream 2

		To		
		1	2	3
From	1			
	2			
	3			

Phase Timings Diagram for Controller Stream 2



Stage Sequence Diagram for Controller Stream 2



TRANSYT 12 Tables

Resultant Stages

ID	Stage	Is Base Stage	Library Stage ID	Phases In This Stage	TRANSYT Stage Start (s)	TRANSYT Preceding Interstage (s)	TRANSYT Stage Minimum (s)
1	1	✓	1	A,C	53	10	71
1	2	✓	2	C,D,P	8	7	21
1	3	✓	3	B	34	5	19
2	1	✓	1	H,J	78	10	71
2	2	✓	2	H,L	32	7	20
2	3	✓	3	K	52	5	18

Resultant Phase Green Periods

ID	ID	Green Period	TRANSYT Starting Stage (s)	TRANSYT Ending Stage (s)	TRANSYT Start Lag (s)	TRANSYT End Lag (s)
1	A	1	1	2	10	0
1	B	1	3	1	5	0
1	C	1	1	3	10	0
1	D	1	2	3	7	0
1	P	1	2	3	5	0
2	H	1	1	3	10	0
2	J	1	1	2	10	0
2	K	1	3	1	5	0
2	L	1	2	3	7	0

Stage Timings (TRANSYT 12 timings)

Network Default: 120s cycle time; 120 steps

Controller Stream	Number of Stages	Stage 1	Stage 2	Stage 3
1	3	53	8	34
2	3	78	32	52

Traffic Stream Green Times

Arm	Traffic Stream	Traffic Node	Controller Stream	Phase	Green Period 1		
					Start	End	Duration
A	1	2	2	J	88	32	64
B	1	2	2	K	57	78	21
C	1	1	1	A	63	8	65
D	1	1	1	B	39	53	14
E2	1	1	1	C	63	34	91
E2	2	1	1	C	63	34	91
F2	1	2	2	H	88	52	84
F2	2	2	2	H	88	52	84

Traffic Stream Results

Traffic Stream Results: Vehicle Summary

Time Segment	Arm	Traffic Stream	Degree Of Saturation (%)	Practical Reserve Capacity (%)	Calculated Flow Entering (PCU/hr)	Calculated Sat Flow (PCU/hr)	Actual Green (s per cycle)	Mean Delay Per Veh (s)	Mean Max Queue (PCU)	Utilised Storage (%)	Weighted Cost Of Delay (£ per hr)	Weighted Cost Of Stops (£ per hr)	Performance Index (£ per hr)
17:00-18:00	A	1	81	11	849	1940	64	29.45	24.53	141.07	98.61	9.03	107.64
17:00-18:00	B	1	84	7	271	1752	21	74.48	10.70	61.52	79.61	3.95	83.56
17:00-18:00	C	1	57	57	612	1939	65	20.02	13.64	78.46	48.32	5.03	53.35
17:00-18:00	D	1	71	27	382	1752	35	41.24	11.45	65.83	62.14	4.68	66.82
17:00-18:00	Ax	1	0	Unrestricted	701	Unrestricted	120	0.00	0.00	0.00	0.00	0.00	0.00
17:00-18:00	Bx	1	0	Unrestricted	303	Unrestricted	120	0.00	0.00	0.00	0.00	0.00	0.00
17:00-18:00	Cx	1	0	Unrestricted	687	Unrestricted	120	0.00	0.00	0.00	0.00	0.00	0.00
17:00-18:00	Dx	1	0	Unrestricted	423	Unrestricted	120	0.00	0.00	0.00	0.00	0.00	0.00
17:00-18:00	E1	1	53	70	1081	2045	120	0.99	0.30	3.29	4.20	0.00	4.20
17:00-18:00	E2	1	46	98	676	1935	91	2.89	1.95	19.50	7.72	0.73	8.45
17:00-18:00	E2	2	65	38	405	808	91	22.20	6.52	65.16	35.46	2.45	37.91
17:00-18:00	F1	1	54	66	965	1935	120	2.65	5.89	58.86	10.09	2.03	12.11
17:00-18:00	F2	1	50	80	686	1935	84	6.23	8.58	95.29	16.85	3.22	20.07
17:00-18:00	F2	2	75	20	279	526	84	38.08	5.71	63.43	41.90	2.36	44.26

Traffic Stream Results: Flows And Signals

Time Segment	Arm	Traffic Stream	Calculated Flow Entering (PCU/hr)	Calculated Flow Out (PCU/hr)	Flow Discrepancy (PCU/hr)	Adjusted Flow Warning	Calculated Sat Flow (PCU/hr)	Calculated Capacity (PCU/hr)	Degree Of Saturation (%)	DOS Threshold Exceeded	Practical Reserve Capacity (%)	Mean Modulus Of Error	Flow On Red Per Cycle (PCU)	Actual Green (s per cycle)	Effective Green (s per cycle)
17:00-18:00	A	1	849	849	0		1940	1051	81		11	0.00	0.0	64	65
17:00-18:00	B	1	271	271	0		1752	321	84		7	0.00	0.0	21	22
17:00-18:00	C	1	612	612	0		1939	1066	57		57	0.00	0.0	65	66
17:00-18:00	D	1	382	382	0		1752	540	71		27	0.00	0.0	35	37
17:00-18:00	Ax	1	701	701	0		Unrestricted	Unrestricted	0		Unrestricted	0.69	0.0	120	120
17:00-18:00	Bx	1	303	303	0		Unrestricted	Unrestricted	0		Unrestricted	1.10	0.0	120	120
17:00-18:00	Cx	1	687	687	0		Unrestricted	Unrestricted	0		Unrestricted	0.62	0.0	120	120
17:00-18:00	Dx	1	423	423	0		Unrestricted	Unrestricted	0		Unrestricted	0.84	0.0	120	120
17:00-18:00	E1	1	1081	1081	0		2045	2045	53		70	0.69	0.0	120	120
17:00-18:00	E2	1	676	676	0		1935	1484	46		98	0.67	0.0	91	92
17:00-18:00	E2	2	405	405	0		808	620	65		38	0.73	0.0	91	92
17:00-18:00	F1	1	965	965	0		1935	1783	54		66	0.69	0.0	120	120
17:00-18:00	F2	1	686	686	0		1935	1371	50		80	0.69	0.0	84	85
17:00-18:00	F2	2	279	279	0		526	372	75		20	0.81	0.0	84	85

Traffic Stream Results: Stops And Delays

Time Segment	Arm	Traffic Stream	Mean Cruise Time Per Veh (s)	Mean Delay Per Veh (s)	Uniform Delay (PCU-hr/hr)	Random Plus Oversat Delay (PCU-hr/hr)	Unweighted Cost Of Delay (£ per hr)	Weighted Cost Of Delay (£ per hr)	Mean Stops Per Veh (%)	Uniform Stops (Stops per hr)	Random Stops (Stops per hr)	Unweighted Cost Of Stops (£ per hr)	Weighted Cost Of Stops (£ per hr)
17:00-18:00	A	1	12.00	29.45	5.29	1.66	98.61	98.61	84.81	670.98	49.04	9.03	9.03
17:00-18:00	B	1	12.00	74.48	3.56	2.04	79.61	79.61	116.17	256.88	57.95	3.95	3.95
17:00-18:00	C	1	12.00	20.02	3.02	0.38	48.32	48.32	65.52	389.50	11.49	5.03	5.03
17:00-18:00	D	1	12.00	41.24	3.54	0.84	62.14	62.14	97.72	324.66	48.63	4.68	4.68
17:00-18:00	Ax	1	12.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
17:00-18:00	Bx	1	12.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
17:00-18:00	Cx	1	12.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
17:00-18:00	Dx	1	12.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
17:00-18:00	E1	1	6.48	0.99	0.00	0.30	4.20	4.20	0.00	0.00	0.00	0.00	0.00
17:00-18:00	E2	1	7.20	2.89	0.35	0.19	7.72	7.72	8.65	52.79	5.70	0.73	0.73
17:00-18:00	E2	2	7.20	22.20	1.89	0.61	35.46	35.46	48.22	177.18	18.09	2.45	2.45

18:00															
17:00-18:00	F1	1	7.20	2.65	0.39	0.32	10.09	10.09	16.75	152.08	9.54	2.03	2.03		
17:00-18:00	F2	1	6.48	6.23	0.94	0.25	16.85	16.85	37.49	249.68	7.49	3.22	3.22		
17:00-18:00	F2	2	6.48	38.08	1.87	1.08	41.90	41.90	67.46	156.78	31.43	2.36	2.36		

Traffic Stream Results: Queues And Blocking

Time Segment	Arm	Traffic Stream	Initial Queue (PCU)	Mean Max Queue (PCU)	Max Queue Storage (PCU)	Utilised Storage (%)	Average Link Excess Queue (PCU)	Average Limit Excess Queue (PCU)	Excess Queue Penalty (£ per hr)	Max End Of Green Queue (PCU)	Max End Of Red Queue (PCU)	Wasted Time Starvation (s per cycle)	Wasted Time Blocking Back (s per cycle)	Wasted Time Total (s per cycle)	Estimated Blocking
17:00-18:00	A	1	0.00	24.53	17.39	141.07	0.93	0.00	0.00	1.66	14.63	0.00	0.00	0.00	
17:00-18:00	B	1	0.00	10.70	17.39	61.52	0.00	0.00	0.00	2.04	9.42	0.00	0.00	0.00	
17:00-18:00	C	1	0.00	13.64	17.39	78.46	0.00	0.00	0.00	0.38	9.56	0.00	0.00	0.00	
17:00-18:00	D	1	0.00	11.45	17.39	65.83	0.00	0.00	0.00	0.85	9.22	0.00	0.00	0.00	
17:00-18:00	Ax	1	0.00	0.00	17.39	0.00	0.00	0.00	0.00			11.00	0.00	11.00	
17:00-18:00	Bx	1	0.00	0.00	17.39	0.00	0.00	0.00	0.00			69.00	0.00	69.00	
17:00-18:00	Cx	1	0.00	0.00	17.39	0.00	0.00	0.00	0.00			21.00	0.00	21.00	
17:00-18:00	Dx	1	0.00	0.00	17.39	0.00	0.00	0.00	0.00			47.00	0.00	47.00	
17:00-18:00	E1	1	0.00	0.30	9.00	3.29	0.00	0.00	0.00			33.00	0.00	33.00	
17:00-18:00	E2	1	0.00	1.95	10.00	19.50	0.00	0.00	0.00	0.19	1.94	12.00	0.00	12.00	
17:00-18:00	E2	2	0.00	6.52	10.00	65.16	0.00	0.00	0.00	0.61	1.38	0.00	0.00	0.00	
17:00-18:00	F1	1	0.00	5.89	10.00	58.86	0.00	0.00	0.00			17.00	9.45	26.45	
17:00-18:00	F2	1	0.00	8.58	9.00	95.29	0.00	0.00	0.00	0.25	8.26	8.00	0.00	8.00	
17:00-18:00	F2	2	0.00	5.71	9.00	63.43	0.00	0.00	0.00	1.08	2.92	4.00	0.00	4.00	

Traffic Stream Results: Journey Times

Time Segment	Arm	Traffic Stream	Distance Travelled (PCU-km/hr)	Time Spent (PCU-hr/hr)	Mean Journey Speed (kph)	JourneyTime (s)
17:00-18:00	A	1	84.90	9.77	8.69	41.45
17:00-18:00	B	1	27.10	6.51	4.16	86.48
17:00-18:00	C	1	61.20	5.44	11.24	32.02
17:00-18:00	D	1	38.20	5.65	6.76	53.24
17:00-18:00	Ax	1	70.10	2.34	30.00	12.00
17:00-18:00	Bx	1	30.30	1.01	30.00	12.00
17:00-18:00	Cx	1	68.70	2.29	30.00	12.00
17:00-18:00	Dx	1	42.30	1.41	30.00	12.00
17:00-18:00	E1	1	58.37	2.24	26.04	7.47
17:00-18:00	E2	1	40.56	1.90	21.40	10.09
17:00-18:00	E2	2	24.30	3.31	7.35	29.40
17:00-18:00	F1	1	57.90	2.64	21.93	9.85
17:00-18:00	F2	1	37.04	2.42	15.30	12.71
17:00-18:00	F2	2	15.07	3.45	4.36	44.56

Traffic Stream Results: Advanced

Time Segment	Arm	Traffic Stream	Degree Of Saturation Penalty (£ per hr)	Phase Min Max Penalty (£ per hr)	Intergreen Broken Penalty (£ per hr)	Stage Constraint Broken Penalty (£ per hr)	Ped Gap Accepting Penalty (£ per hr)	Warmed Up	Warmed Up Error	Mean Max Queue EoTS (PCU)	Max End Of Green Queue EoTS (PCU)	Max End Of Red Queue EoTS (PCU)	PCU Factor	Cost Of Penalties (£ per hr)	Unweighted Performance Index (£ per hr)	Performance Index (£ per hr)
17:00-18:00	A	1	0.00	0.00	0.00	0.00	0.00	✓	0.00	24.55	1.68	14.65	1.00	0.00	107.64	107.64
17:00-18:00	B	1	0.00	0.00	0.00	0.00	0.00	✓	0.00	10.81	2.15	9.53	1.00	0.00	83.56	83.56
17:00-18:00	C	1	0.00	0.00	0.00	0.00	0.00	✓	0.00	13.65	0.39	9.57	1.00	0.00	53.35	53.35
17:00-18:00	D	1	0.00	0.00	0.00	0.00	0.00	✓	0.00	11.46	0.86	9.23	1.00	0.00	66.82	66.82
17:00-18:00	Ax	1	0.00	0.00	0.00	0.00	0.00	✓	0.00	0.00			1.00	0.00	0.00	0.00
17:00-18:00	Bx	1	0.00	0.00	0.00	0.00	0.00	✓	0.00	0.00			1.00	0.00	0.00	0.00
17:00-18:00	Cx	1	0.00	0.00	0.00	0.00	0.00	✓	0.00	0.00			1.00	0.00	0.00	0.00
17:00-18:00	Dx	1	0.00	0.00	0.00	0.00	0.00	✓	0.00	0.00			1.00	0.00	0.00	0.00
17:00-18:00	E1	1	0.00	0.00	0.00	0.00	0.00	✓	0.00	0.30			1.00	0.00	4.20	4.20
17:00-18:00	E2	1	0.00	0.00	0.00	0.00	0.00	✓	0.00	1.95	0.19	1.94	1.00	0.00	8.45	8.45
17:00-18:00	E2	2	0.00	0.00	0.00	0.00	0.00	✓	0.00	6.52	0.61	1.38	1.00	0.00	37.91	37.91
17:00-18:00	F1	1	0.00	0.00	0.00	0.00	0.00	✓	0.00	5.89			1.00	0.00	12.11	12.11
17:00-18:00	F2	1	0.00	0.00	0.00	0.00	0.00	✓	0.00	8.58	0.25	8.26	1.00	0.00	20.07	20.07
17:00-18:00	F2	2	0.00	0.00	0.00	0.00	0.00	✓	0.00	5.73	1.10	2.94	1.00	0.00	44.26	44.26

Network Results

Run Summary

Analysis Set Used	Run Start Time	Run Finish Time	Modelling Start Time (HH:mm)	Network Cycle Time (s)	Total Network Delay (PCU-hr/hr)	Highest DOS (%)	Item with highest DOS	Number of oversaturated items	Percentage of oversaturated items (%)	Item with worst signalised PRC	Item with worst unsignalised PRC	Item with worst overall PRC	Network Within Capacity
A1 - Existing	26-Jul-17 1:43:17 PM	26-Jul-17 1:43:34 PM	17:00	120	28.51	84.37	B/1	0	0	B/1	F1/1	B/1	✓

Network Results: Vehicle Summary

Time Segment	Degree Of Saturation (%)	Practical Reserve Capacity (%)	Calculated Flow Entering (PCU/hr)	Actual Green (s per cycle)	Mean Delay Per Veh (s)	Weighted Cost Of Delay (£ per hr)	Weighted Cost Of Stops (£ per hr)	Performance Index (£ per hr)
17:00-18:00	84	7	8320	1255	12.34	404.91	33.48	438.38

Network Results: Pedestrian Summary

Time Segment	Degree Of Saturation (%)	Calculated Flow Entering (Ped/hr)	Actual Green (s per cycle)	Mean Delay Per Ped (s)	Weighted Cost Of Delay (£ per hr)	Performance Index (£ per hr)
17:00-18:00	0	0	0	0.00	0.00	0.00

Network Results: Flows And Signals

Time Segment	Calculated Flow Entering (PCU/hr)	Calculated Flow Out (PCU/hr)	Flow Discrepancy (PCU/hr)	Adjusted Flow Warning	Degree Of Saturation (%)	DOS Threshold Exceeded	Practical Reserve Capacity (%)	Actual Green (s per cycle)	Effective Green (s per cycle)
17:00-18:00	8320	8320	0		84		7	1255	1264

Network Results: Journey Times

Time Segment	Distance Travelled (PCU-km/hr)	Time Spent (PCU-hr/hr)	Mean Journey Speed (kph)
17:00-18:00	656.04	50.38	13.02

Point to Point Journey Time

Average Journey Time (s) for Local Matrix: 1

		To			
		1	2	3	4
From	1	0.0	44.0	68.0	121.6
	2	65.2	0.0	84.9	106.3
	3	71.3	85.0	0.0	53.4
	4	114.2	144.0	98.5	0.0

Path Journey Time

Path	From Location	To Location	Normal Calculated Flow (PCU/hr)	Normal Journey Time (s)	Calculated Total Flow (PCU/hr)	Avg Journey Time (s)
1	1	2	18	44.02	18	44.02
2	1	3	497	68.02	497	68.02
3	1	4	97	121.58	97	121.58
4	2	1	11	65.24	11	65.24
5	2	3	189	84.93	189	84.93
6	2	4	182	106.33	182	106.33
7	3	4	24	53.45	24	53.45
9	3	1	574	71.34	574	71.34
10	3	2	251	84.97	251	84.97
11	4	3	15	98.48	15	98.48
12	4	1	102	114.16	102	114.16
13	4	2	154	144.05	154	144.05

Final Prediction Table

Traffic Stream Results

Arm	Traffic Stream	Name	Traffic Node	SIGNALS			FLOWS		PERFORMANCE				PER PCU			QUEUES		WEIGHTS		PENALTIES
				Controller Stream	Phase	Phase2	Calculated Flow Entering (PCU/hr)	Calculated Sat Flow (PCU/hr)	Actual Green (s per cycle)	Wasted Time Total (s per cycle)	Degree Of Saturation (%)	Practical Reserve Capacity (%)	JourneyTime (s)	Mean Delay Per Veh (s)	Mean Stops Per Veh (%)	Mean Max Queue (PCU)	Max End Of Red Queue (PCU)	Delay Weighting Multiplier (%)	Stop Weighting Multiplier (%)	
A	1	Wakefield Rd NB	2	2	J		849 <	1940	64	0.00	81	11	41.45	29.45	84.81	24.53 +	14.63	100	100	0.00
B	1	Smithies Ln	2	2	K		271	1752	21	0.00	84	7	86.48	74.48	116.17	10.70	9.42	100	100	0.00
C	1	Wakefield Rd SB	1	1	A		612	1939	65	0.00	57	57	32.02	20.02	65.52	13.64	9.56	100	100	0.00
D	1	Carlton Rd	1	1	B	P	382	1752	35	0.00	71	27	53.24	41.24	97.72	11.45	9.22	100	100	0.00
Ax	1	(untitled)					701	Unrestricted	120	11.00	0	Unrestricted	12.00	0.00	0.00	0.00		100	100	0.00
Bx	1	(untitled)					303	Unrestricted	120	69.00	0	Unrestricted	12.00	0.00	0.00	0.00		100	100	0.00
Cx	1	(untitled)					687	Unrestricted	120	21.00	0	Unrestricted	12.00	0.00	0.00	0.00		100	100	0.00
Dx	1	(untitled)					423	Unrestricted	120	47.00	0	Unrestricted	12.00	0.00	0.00	0.00		100	100	0.00
E1	1	A61 NB Internal Feeder	1				1081	2045	120	33.00	53	70	7.47	0.99	0.00	0.30		100	100	0.00
E2	1	A61 NB Internal NS	1	1	C		676	1935	91	12.00	46	98	10.09	2.89	8.65	1.95	1.94	100	100	0.00
E2	2	A61 NB Internal OS	1	1	C	D	405	808	91	0.00	65	38	29.40	22.20	48.22	6.52	1.38	100	100	0.00
F1	1	A61 SB Internal Feeder	2				965	1935	120	26.45	54	66	9.85	2.65	16.75	5.89		100	100	0.00
F2	1	A61 SB Internal NS	2	2	H		686	1935	84	8.00	50	80	12.71	6.23	37.49	8.58	8.26	100	100	0.00
F2	2	A61 SB Internal OS	2	2	H	L	279	526	84	4.00	75	20	44.56	38.08	67.46	5.71	2.92	100	100	0.00

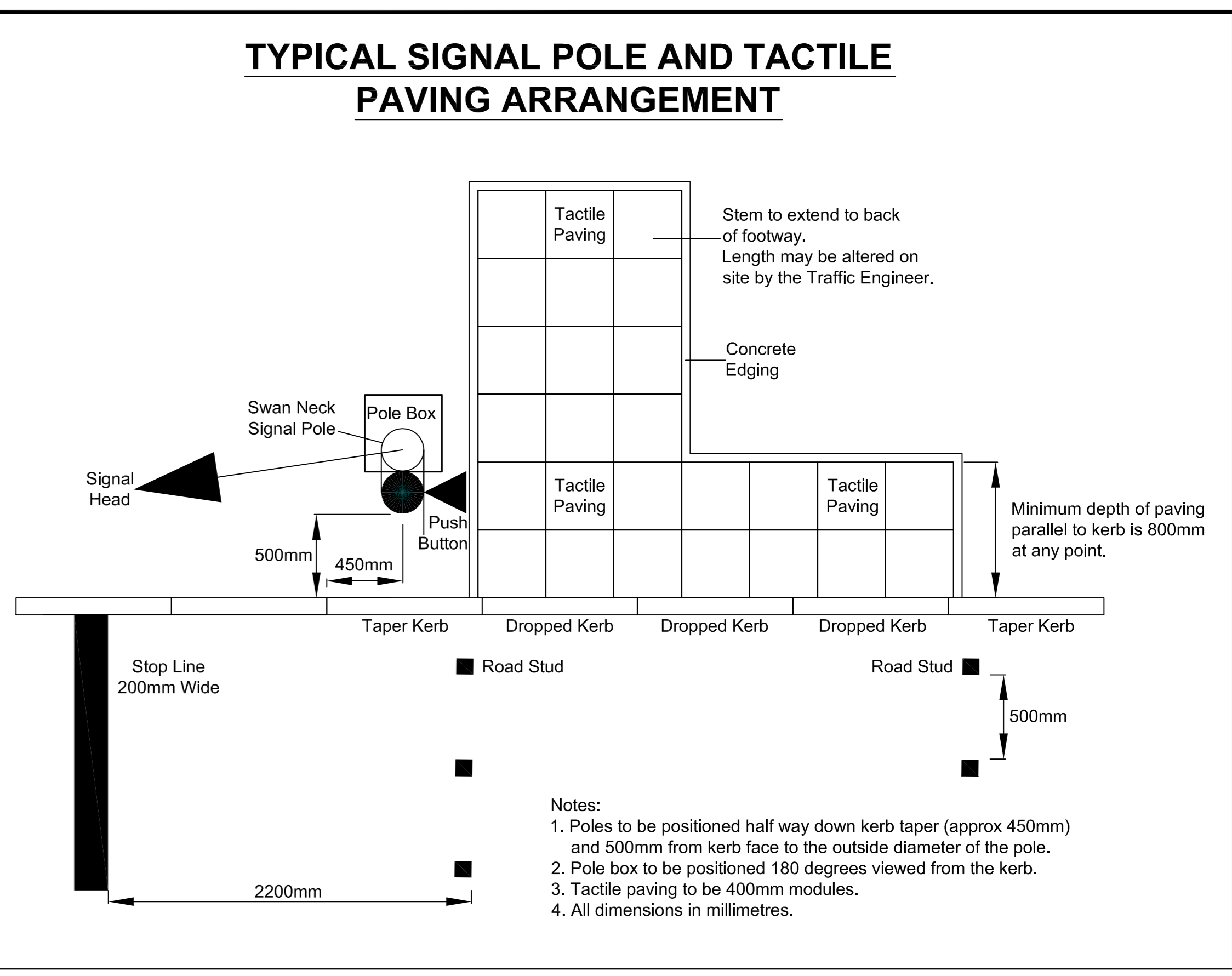
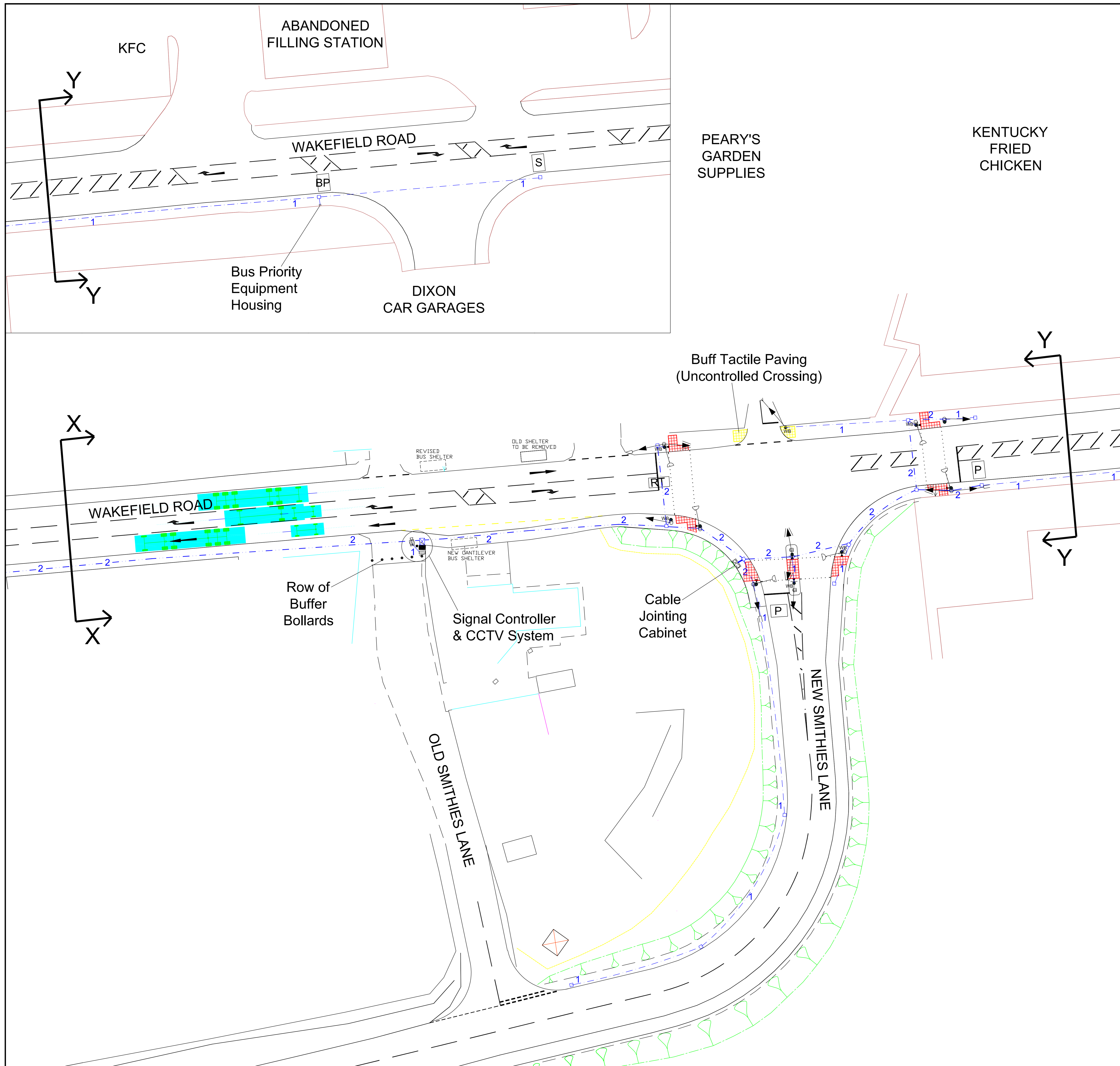
Network Results

	Distance Travelled (PCU-km/hr)	Time Spent (PCU-hr/hr)	Mean Journey Speed (kph)	Uniform Delay (PCU-hr/hr)	Random Plus Oversat Delay (PCU-hr/hr)	Weighted Cost Of Delay (£ per hr)	Weighted Cost Of Stops (£ per hr)	Excess Queue Penalty (£ per hr)	Performance Index (£ per hr)
Total	656.04	50.38	13.02	20.85	7.67	404.91	33.48	0.00	438.38
Bus	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tram	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pedestrians									
Other (Normal)	656.04	50.38	13.02	20.85	7.67	404.91	33.48	0.00	438.38

- B = at least one source for this link carries Bus
- T = at least one source for this link carries Tram

- *P* = this link is a pedestrian link
- *<* = adjusted flow warning (upstream links are over-saturated)
- *!* = DoS threshold exceeded
- *f* = average saturation flow for flared link
- *** = Traffic Stream - Normal, Bus or Tram Stop or Delay weighting has been set to a value other than 100%
- *^* = Traffic Stream - Normal, Bus or Tram Stop or Delay Path weighting has been set to a value other than 100%
- *+* = average link excess queue is greater than 0
- **P.I. = PERFORMANCE INDEX**

Appendix I Carlton RD/Wakefield RD/Smithies Lane Linked Signals Layout



- #### KEY
- 1 Single 100mm Signal Duct (PC1)
 - 2 Two Way 100mm Signal Duct (PC2)
 - 4 Four Way 100mm Signal Duct (PC4)
 - Ex. ? Existing ducting to be used
 - Wide Based Signal Poles to be serviced by Single 100mm Duct (PC1)
 - 450 x 450 Chamber (AC/1/450)
 - 450 x 450 Pole Box (PB/2/450)
 - 600 x 600 Chamber (AC/1/600)
 - 900 x 450 Chamber (AC/1/900) Including Controller Base and Supply Pillars
 - Tactile Paving 400mm Modules, Red Colour for Controlled, Buff for Uncontrolled - See Inset Detail for Installation
 - Buffer Ballards to Prevent Access, 900mm High
- Access Chambers See : BCD/1232D And Above
 Controller Base And Service Pillar See : BCD/1233D
 Ducting See : BCD/1236E
 White Lining For Indicative Purposes Only
- IMPORTANT NOTICE**
 ENSURE THAT DRAW ROPES ARE INSTALLED IN DUCT RUNS. DUCT RUNS WITH A WIDE BASED SIGNAL POLES MUST HAVE THE DRAW ROPE TAKEN TO THE TOP OF THE SIGNAL POLE WHERE IT SHOULD BE TIED OFF READY FOR CABLE INSTALLATION.
- NOT TO SCALE

Rev.	By	Amendments	Date

BARNSELEY
Metropolitan Borough Council

Project
A61 QUALITY BUS CORRIDOR
SMITHIES LN / CARLTON RD

Drawing title
DUCTING AND TACTILE PAVING ARRANGEMENT - PLAN B

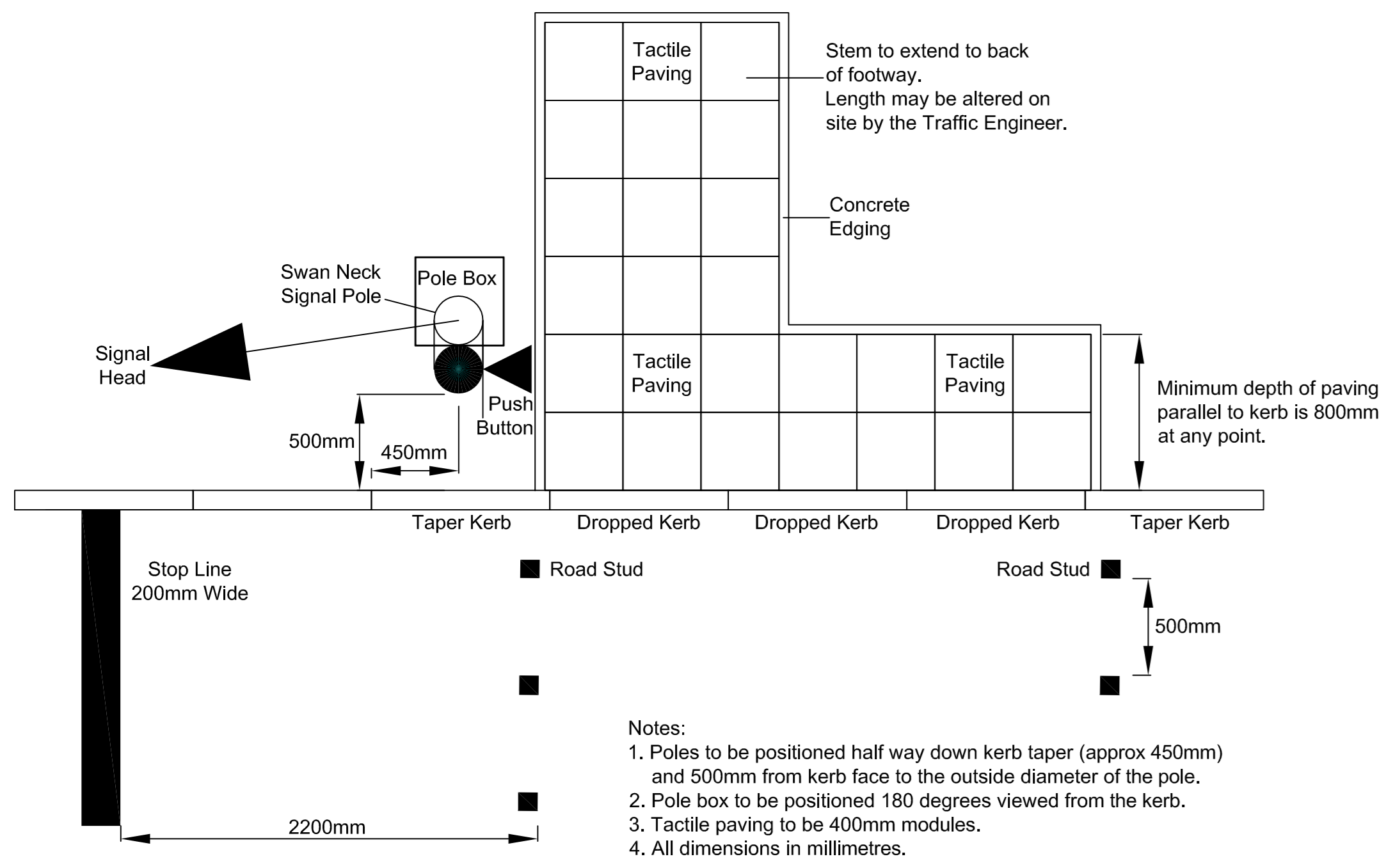
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Drawing No. HD/61.68.2/111	Revision	File
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TYPICAL SIGNAL POLE AND TACTILE PAVING ARRANGEMENT

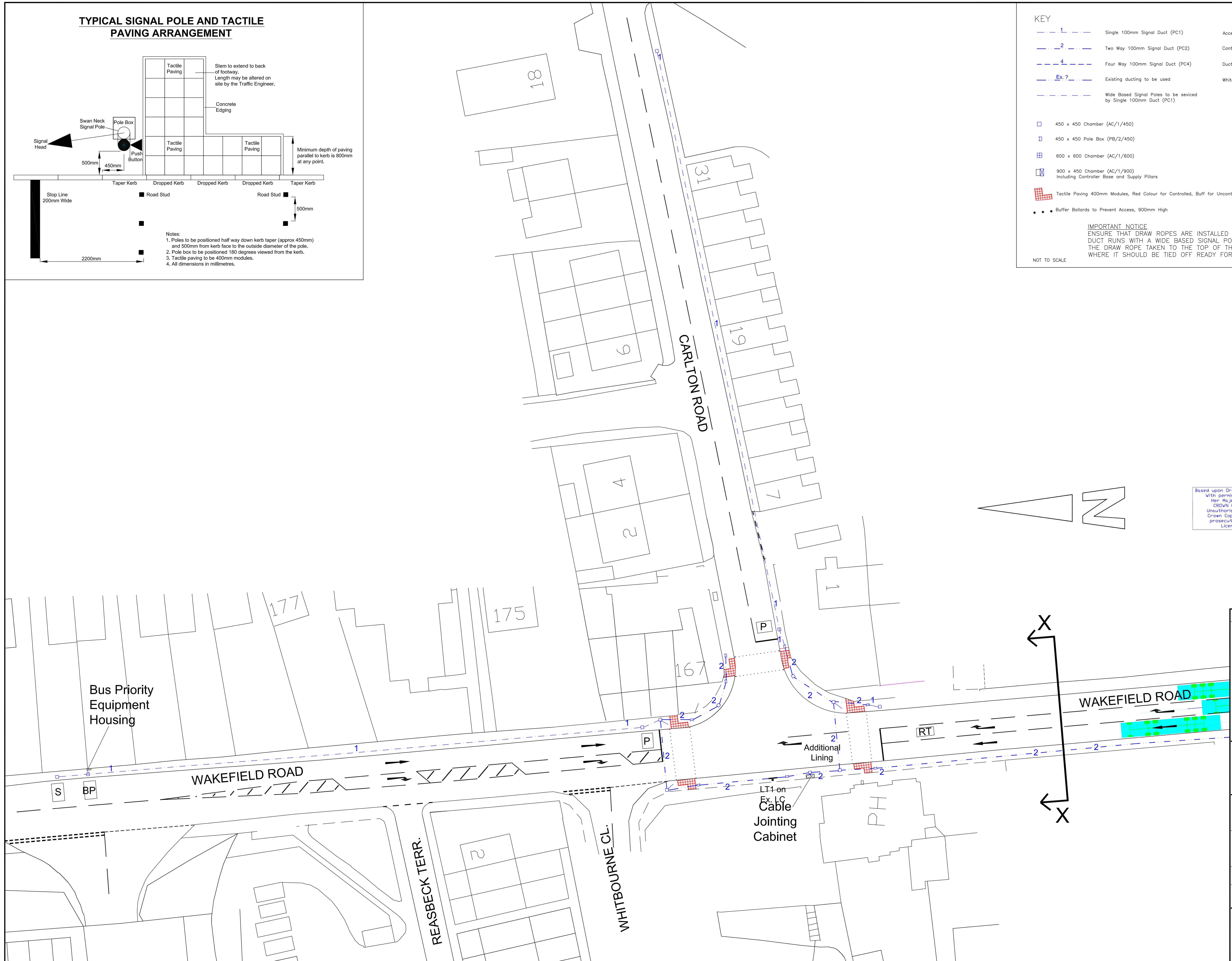


KEY

- 1 Single 100mm Signal Duct (PC1)
 - 2 Two Way 100mm Signal Duct (PC2)
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 - Ex. ? Existing ducting to be used
 - Wide Based Signal Poles to be serviced by Single 100mm Duct (PC1)
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 - 900 x 450 Chamber (AC/1/900) Including Controller Base and Supply Pillars
 - Tactile Paving 400mm Modules, Red Colour for Controlled, Buff for Uncontrolled - See Inset Detail for Installation
 - Buffer Ballards to Prevent Access, 900mm High
- Access Chambers See : BCD/12320 And Above
 Controller Base And Service Pillar See : BCD/12330
 Ducting See : BCD/1236E
 White Lining For Indicative Purposes Only

IMPORTANT NOTICE
 ENSURE THAT DRAW ROPES ARE INSTALLED IN DUCT RUNS.
 DUCT RUNS WITH A WIDE BASED SIGNAL POLES MUST HAVE THE DRAW ROPE TAKEN TO THE TOP OF THE SIGNAL POLE WHERE IT SHOULD BE TIED OFF READY FOR CABLE INSTALLATION.

NOT TO SCALE



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Project
 A61 QUALITY BUS CORRIDOR
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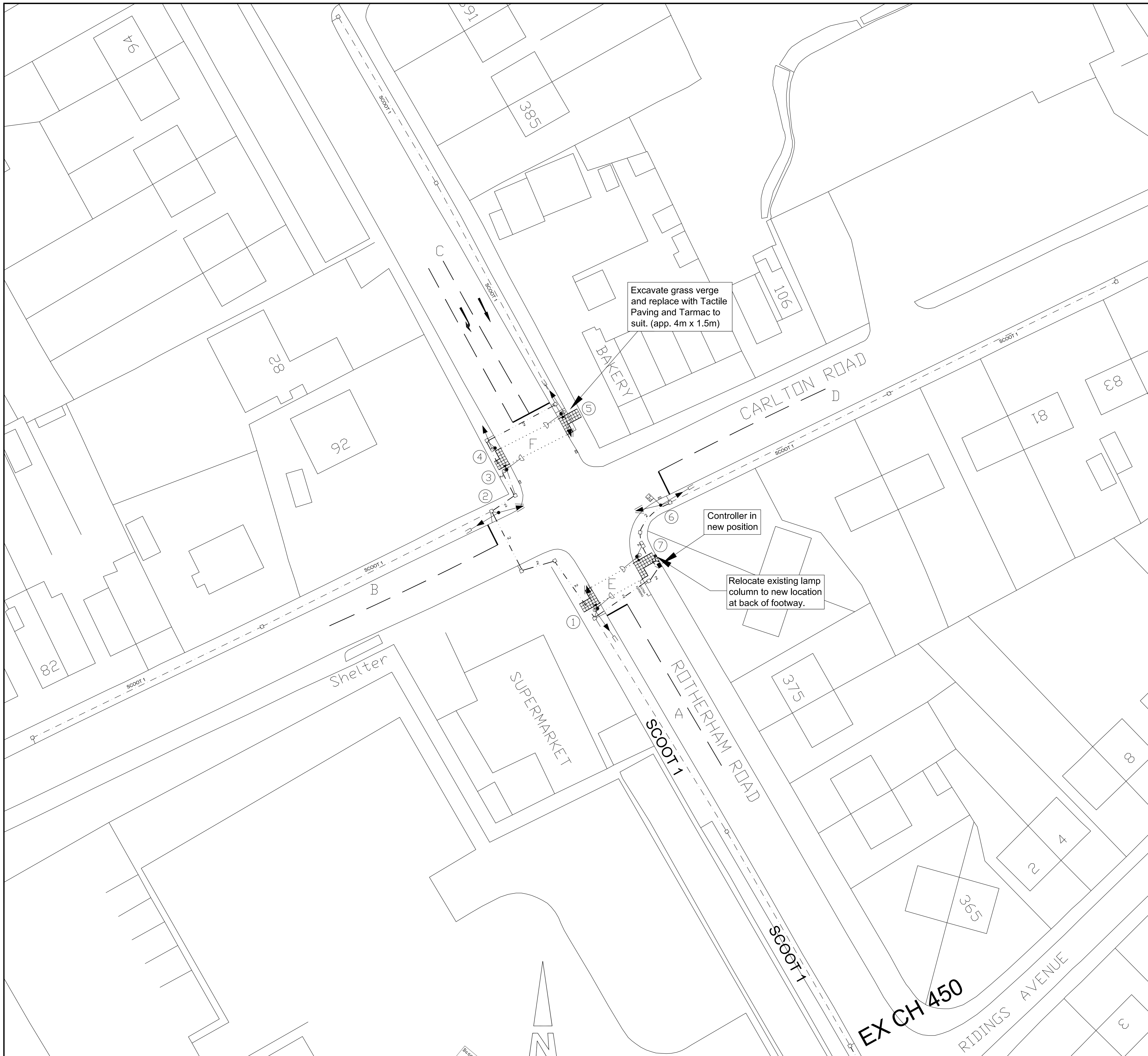
Drawing title
 DUCTING AND TACTILE PAVING ARRANGEMENT - PLAN A

Scale	Drawn	Checked	Date
1:200	LJA		SEPT01

Drawing No.	Revision	File
HD/61.68.2/110		

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Appendix J Carlton Road/Rotherham Road Signals Layout



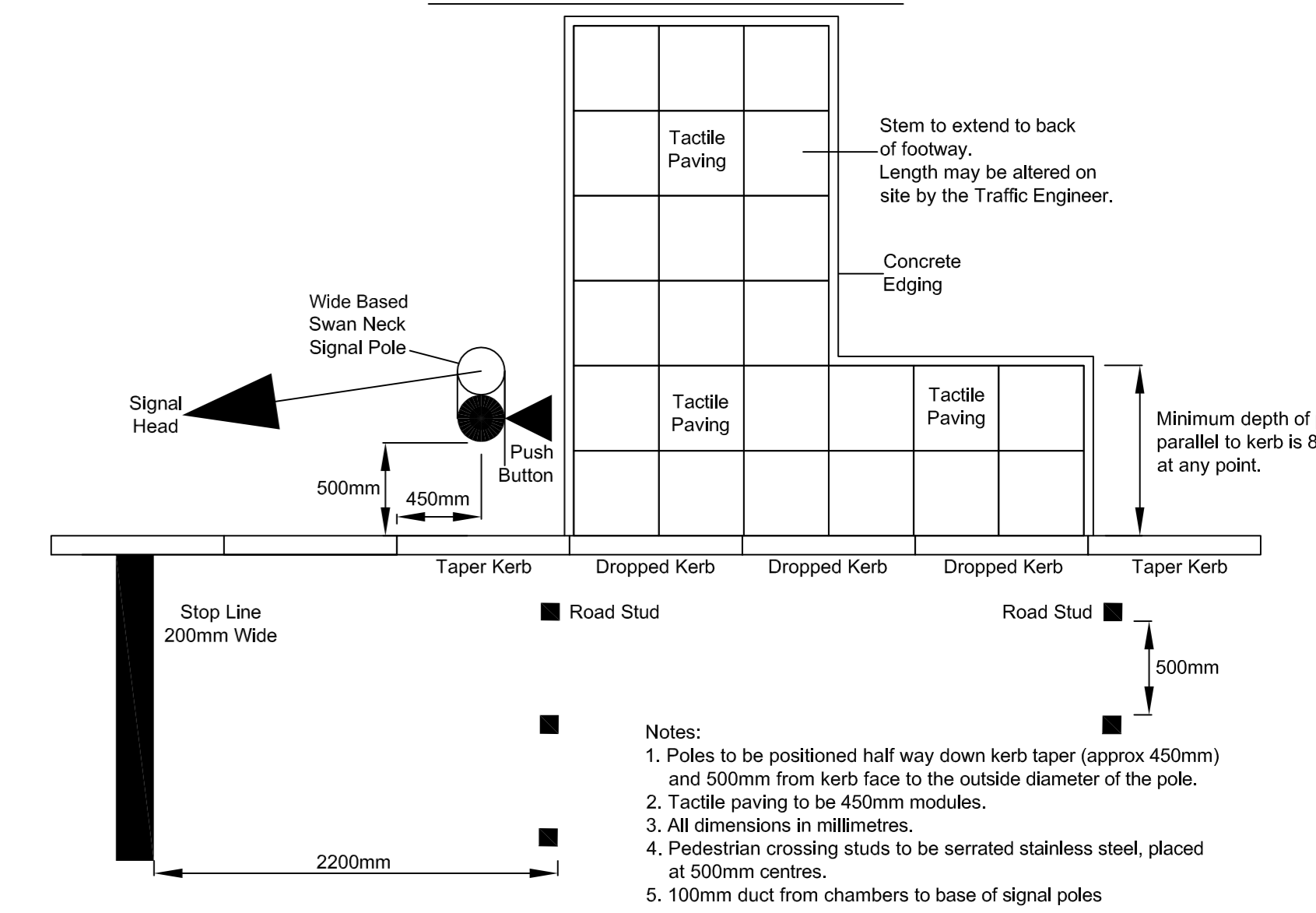
Ducting & Tactile Paving

- SCOOT 1** — One Way 100mm Signal Duct (PC1)
Ducting for Future Scoot / UTC Detection.
No Cables to be Laid in Ducts.
- — — — — One Way 100mm Signal Duct (PC1)
Between Chambers and Signal Poles and
From Chambers to Edge of Carriageway to
Service Detector Loops
- 2** — — — — — Two Way 100mm Signal Duct (PC2)
- NOTES:**
1. REFER TO KEY ABOVE FOR DETAILS OF DUCTING AND CHAMBERS ETC.
2. FOR ACCESS CHAMBERS SEE STANDARD DETAIL BCD/12320
3. FOR CONTROLLER BASE SEE STANDARD DETAIL BCD/12330
4. FOR DUCTING SEE STANDARD DETAIL BCD/1236E
5. DRAW RIPS TO EXTEND BETWEEN CHAMBERS AND UP TO THE TOPS OF TRAFFIC SIGNAL POLES.
- 450 x 450 Chamber (AC/1/450)
NOTE - Terminating Chamber on SCOOT
Ducting Approximately 75m from Stoplines
- 900 x 450 Chamber (AC/1/900)
Including Controller Base
Power Supply Termination Point
Holds Cabinet Type 210
(If Supply to be Metered)
- Red Colour Tactile Paving,
450mm Modules. See Inset Typical Detail
- NOT TO SCALE

Signal Key

- Wide Based Signal Pole
 - Wide Based Cranked (Swan Necked) Signal Pole
 - RAG Primary Head (Type 1)
 - RAG Secondary Head (Type 1)
 - RG Pedestrian Head (Type 7)
 - Microwave Vehicle Detector
 - Low Voltage Push Button Unit - Inc. Tactile Unit
 - Controller and Electricity Service Cabinet (Holds Type 210)
 - ① Pole Number
 - Presence Loop (Not to be Cut)
 - SCOOT Loop (Not to be Cut)
 - Photoelectric Cell
- Additional Notes**
- For details of Traffic Signal Loops see Standard Detail BCD/1234C.
 - For position of signal poles see inset detail.
 - For details of Controller Base and Y.E Supply Cabinet see Standard Detail BCD/1233D.
- NOT TO SCALE

TYPICAL SIGNAL POLE AND TACTILE PAVING ARRANGEMENT



Lining Notes

- All road markings refer to the Traffic Signs Regulations and General Directions 1994.
- All road markings to be laid in accordance with BS EN 1871, BS EN 1824, BS EN 1436.
- Exact location of road markings to be determined by Traffic Engineer on site.
- Pedestrian crossing studs to be at 500mm centres, in white thermoplastic material - due to road condition (Dia.1055).
- All centre lines to be white, 4m line, 2m gap, 100mm wide. (Dia. 1004) - 5 No. on each approach.
- All signal stop lines to be white, 200mm wide (Dia.1001).

General Notes

The junction will be resurfaced in next years highway maintenance programme.
Junction to run on Microwave Vehicle Detectors only.
Loops are not to be cut.

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Rev.	By	Amendments	Date



Project			
CARLTON RD / ROTHERHAM RD			
Drawing title			
J0006 SIGNAL REFURBISHMENT			
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